



**Request for Clean Water Act
Section 401 Water Quality Certification
Washington State Department of Ecology**
Phone: (360) 407-6076 or E-mail: ecyrefedpermits@ecy.wa.gov

AGENCY USE ONLY
Date Received: **2/17/2023**
Aquatics ID No.: **127823**
Team: **NWRO**
Valid Request: **2/17/2023**

This Section 401 Water Quality Certification (WQC) Request form identifies information needed in order to review and process a Section 401 WQC Request. Please see Department of Ecology’s (Ecology) [webpage](#) for more information about the Section 401 WQC Request process.

Submit this Section 401 WQC Request form along with a [Joint Aquatic Resources Permit Application](#) (JARPA) and supporting information¹ to ecyrefedpermits@ecy.wa.gov and copy the federal permitting agency.

A. Federal Permit or License Reference Number, if known: NWS-2021-887

Department of Ecology (Ecology) Aquatics ID Number, if known: _____

Project Name: Milltown Island Restoration Project **County:** Skagit -

B. Project Proponent Name: Chris Gourley – Washington Department of Fish and Wildlife

C. Documentation showing that the Pre-Filing Meeting Request was submitted at least 30 days prior to submitting this Section 401 WQC Request. Attach either of the following:

- E-mail acknowledgement of receipt from Ecology
- Copy of previously submitted Pre-Filing Meeting Request Form

D. A completed, signed, and dated JARPA should be submitted with this form.

Did you attach a JARPA? Yes No

E. The following is a list of documents needed for Ecology’s WQC review, along with a brief explanation. Depending on the project, additional information may be requested.

Please let us know what information you are submitting with this WQC request form.

Required for all projects:

1. State Environmental Policy Act (SEPA) determination and/or checklist:
 - Final SEPA determination attached
 - SEPA determination pending
 - Exempt from SEPA (see [SEPA Guidance](#))
 - SEPA is not required (e.g., federal agency projects)

¹ To submit documents over 25MB, e-mail ecyrefedpermits@ecy.wa.gov to request a secure link.

To request an ADA accommodation, contact Ecology by phone at (360) 407-6076 or email at ecyrefedpermits@ecy.wa.gov, or visit <https://ecology.wa.gov/accessibility>.
For Relay Service or TTY call 711 or 877-833-6341.

Si necesita este formulario en español, por favor, llámenos a (360) 407-6076
o envíenos un correo electrónico a: ecyrefedpermits@ecy.wa.gov

2. Project drawings attached:

- Vicinity map
- Plan view
- Cross-section(s)
- Plan set
- Other: _____

3. Best management practices and construction methodology, provided in the attached:

- JARPA
- Water Quality Monitoring and Protection Plan (WQMPP)
- Project drawings, sheets: _____
- Mitigation Plan pages: Self-mitigating project; all sheets _____
- Other document(s): _____

Notes:

- This is needed for in-water work (below ordinary high water mark), including wetlands.
- Describe best management practices to be implemented to protect water quality.
- Describe construction sequencing and methodology.

4. Water quality monitoring, provided in the attached:

- Water Quality Monitoring Plan (WQMP).
- Water Quality Monitoring and Protection Plan (WQMPP is similar to WQMP, but includes best management practices).
- Other (please identify location, such as JARPA, Part 8): _____

Notes:

- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- A plan is needed when conducting work in a waterbody (e.g., creek, ditch, river, lake, pond, marine, estuarine).
- Include water quality parameters such as turbidity, oil sheen, pH (e.g., poured in-place concrete, concrete demolition), etc.
- See [State Water Quality Standards for Surface Waters](#) (Chapter 173-201A-200 or -210 WAC)
- If needed, templates are available.

Required depending on the project type:

5. Erosion and sediment control for upland work (above ordinary high water mark) that addresses stormwater during construction and long-term:

This information is included in the attached:

- JARPA
- Project drawings, sheets: _____
- Stormwater Pollution Prevention Plan, pages: _____
- Mitigation Plan, pages: _____
- Other document(s): _____

6. Wetland report, including the attached:

- Wetland delineation report
- Delineation data sheets
- Wetland rating forms

Notes:

- Needed when there is a discharge (dewatering, excavation or fill) to wetlands.
- Report needs to include both a wetland delineation and rating.
- Include delineation data sheets and rating forms.
- For more information see [wetland delineation resources](#) and [hiring a qualified wetland professional](#).
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.

7. Mitigation, avoidance and minimization

- Wetland [avoidance and minimization checklist](#)
- Other aquatic resource avoidance and minimization demonstration
- Mitigation Plan
- Other: _____

Notes:

- Wetland [avoidance and minimization webpage](#).

8. Mitigation plan, provided in the attached:

- Riparian Planting and Monitoring Plan (Needed when riparian vegetation is removed or modified)
- Wetland or stream/other aquatic resource Mitigation Plan
- Wetland Mitigation Bank Use Plan (use when proposing mitigation bank use)
- In-Lieu Fee (ILF) Use Plan (use when proposing ILF mitigation)
- Project drawings, sheets: _Self-mitigating project_____
- Other: _____

Notes:

- Needed to offset impacts to wetland, stream, marine, or other aquatic habitat.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- For more information, see [wetland compensatory mitigation](#).

9. Dredging

- Dredging Plan attached
- Suitability Determination attached

Notes:

- Needed when sediments will be dredged for maintenance, navigation, or other purposes.
- Covers in-water disposal and sediment anti-degradation.
- Dredging Plan should include dredge footprint and depth, dredge type, best management practices, disposal plan, off-loading plan for upland disposal, etc.
- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- For information on suitability determinations, see [Dredged Material Management Office](#).

10. Dewatering

- Dewatering Plan attached

Notes:

- Needed for complex in-water work or management of excavated/dredged material.

- Include language in the plans that allows Ecology to review and approve all substantive changes to a plan prior to implementation.
- May also be required for some excavation projects.

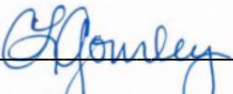
F. Required Certification Statements:

The project proponent hereby certifies that all information contained herein is true, accurate, and complete, to the best of my knowledge and belief.

Initial CG

The project proponent hereby requests that the certifying authority review and take action on this CWA 401 certification request within the applicable reasonable period of time.

Initial CG

Signature:  Date: 02/17/2023

Print Name: Christina L Gourley



WASHINGTON STATE

Joint Aquatic Resources Permit Application (JARPA) Form^{1,2} [\[help\]](#)

USE BLACK OR BLUE INK TO ENTER ANSWERS IN THE WHITE SPACES BELOW.



US Army Corps of Engineers®
Seattle District

AGENCY USE ONLY

Date received: 2/17/2023 SFT Link
Rec'd Section 401 Request Form
 Agency reference #: _____
 Tax Parcel #(s): _____

Part 1—Project Identification

1. Project Name (A name for your project that you create. Examples: Smith's Dock or Seabrook Lane Development) [\[help\]](#)

WDFW Milltown Island Estuary Restoration Project

Part 2—Applicant

The person and/or organization responsible for the project. [\[help\]](#)

2a. Name (Last, First, Middle)

Gourley, Christina L (Chris)

2b. Organization (If applicable)

Washington Department of Fish and Wildlife

2c. Mailing Address (Street or PO Box)

600 Capitol Way North

2d. City, State, Zip

Olympia, WA 98501

2e. Phone (1)

360-790-3118

2f. Phone (2)

2g. Fax

2h. E-mail

chris.gourley@dfw.wa.gov

¹Additional forms may be required for the following permits:

- If your project may qualify for Department of the Army authorization through a Regional General Permit (RGP), contact the U.S. Army Corps of Engineers for application information (206) 764-3495.
- Not all cities and counties accept the JARPA for their local Shoreline permits. If you need a Shoreline permit, contact the appropriate city or county government to make sure they accept the JARPA.

²To access an online JARPA form with [\[help\]](#) screens, go to

http://www.epermitting.wa.gov/site/alias_resourcecenter/jarpa_jarpa_form/9984/jarpa_form.aspx.

For other help, contact the Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.

Part 3—Authorized Agent or Contact

Person authorized to represent the applicant about the project. (Note: Authorized agent(s) must sign 11b of this application.) [\[help\]](#)

3a. Name (Last, First, Middle)			
3b. Organization (If applicable)			
3c. Mailing Address (Street or PO Box)			
3d. City, State, Zip			
3e. Phone (1)	3f. Phone (2)	3g. Fax	3h. E-mail

Part 4—Property Owner(s)

Contact information for people or organizations owning the property(ies) where the project will occur. Consider both **upland and aquatic** ownership because the upland owners may not own the adjacent aquatic land. [\[help\]](#)

- Same as applicant. (Skip to Part 5.)
- Repair or maintenance activities on existing rights-of-way or easements. (Skip to Part 5.)
- There are multiple upland property owners. Complete the section below and fill out [JARPA Attachment A](#) for each additional property owner.
- Your project is on Department of Natural Resources (DNR)-managed aquatic lands. If you don't know, contact the DNR at (360) 902-1100 to determine aquatic land ownership. If yes, complete [JARPA Attachment E](#) to apply for the Aquatic Use Authorization.

4a. Name (Last, First, Middle)			
4b. Organization (If applicable)			
4c. Mailing Address (Street or PO Box)			
4d. City, State, Zip			
4e. Phone (1)	4f. Phone (2)	4g. Fax	4h. E-mail

Part 5–Project Location(s)

Identifying information about the property or properties where the project will occur. [\[help\]](#)

- There are multiple project locations (e.g. linear projects). Complete the section below and use [JARPA Attachment B](#) for each additional project location.

5a. Indicate the type of ownership of the property. (Check all that apply.) [help]			
<input type="checkbox"/> Private <input type="checkbox"/> Federal <input checked="" type="checkbox"/> Publicly owned (state, county, city, special districts like schools, ports, etc.) <input type="checkbox"/> Tribal <input type="checkbox"/> Department of Natural Resources (DNR) – managed aquatic lands (Complete JARPA Attachment E)			
5b. Street Address (Cannot be a PO Box. If there is no address, provide other location information in 5p.) [help]			
See Section 5p.			
5c. City, State, Zip (If the project is not in a city or town, provide the name of the nearest city or town.) [help]			
Conway, WA 98238			
5d. County [help]			
Skagit County			
5e. Provide the section, township, and range for the project location. [help]			
¼ Section	Section	Township	Range
	30 and 31	33 N	4 E
5f. Provide the latitude and longitude of the project location. [help]			
<ul style="list-style-type: none"> Example: 47.03922 N lat. / -122.89142 W long. (Use decimal degrees - NAD 83) 			
48.312754, -122.352019			
5g. List the tax parcel number(s) for the project location. [help]			
<ul style="list-style-type: none"> The local county assessor's office can provide this information. 			
P17495, P17496, P17502, P17504, P17505, P17520, P17522, P17531, P17532, P17534			
5h. Contact information for all adjoining property owners. (If you need more space, use JARPA Attachment C.) [help]			
Name	Mailing Address	Tax Parcel # (if known)	
NA-Steamboat and Tom Moore sloughs			

5i. List all wetlands on or adjacent to the project location. [\[help\]](#)

Wetland A, a freshwater tidal wetland, encompasses the entire northern portion of the island except for an elevated levee along the eastern boundary. Wetland A is separated from the southern portion of the island by a defined change in vegetation and habitat types. The southern portion of the island is likely estuarine and no project activities are planned in that area at this time.

5j. List all waterbodies (other than wetlands) on or adjacent to the project location. [\[help\]](#)

Steamboat Slough is located to the west of Milltown Island and Tom Moore Slough is located to the east of the island. These sloughs are part of a matrix of habitats making up the lower South Fork Skagit River at the Skagit Bay estuary.

5k. Is any part of the project area within a 100-year floodplain? [\[help\]](#)

Yes No Don't know

5l. Briefly describe the vegetation and habitat conditions on the property. [\[help\]](#)

The site has a distinct transition between the external boundary of the island, which is characterized by higher elevations and woody vegetation, and the internal marsh surface, which is uniformly an herbaceous, freshwater tidal wetland with elevations below high tide line.

The site has historically been partitioned into three distinct “cells” that are separated by historical cross dikes on the island. The “north cell” is a higher elevation (8–9.5 feet NAVD88) wetland dominated by reed canarygrass and cattail. The northern portion of this cell contains few tide channels and has limited direct connections to Steamboat or Tom Moore sloughs. This has caused standing water to be impounded in the wetland at an elevation between ~9 and 10 feet NAVD88. The “central cell,” which is separated from the north cell by a historical cross dike has slightly lower elevations relative to the north cell and has more direct tidal outlets to both Tom Moore and Steamboat sloughs. Unlike the north cell, this portion of the island fills and drains with daily flood and ebb tides. This cell primarily drains through a large tide channel on its southern boundary. The “southern cell” was never subject to farming or to other direct anthropogenic modifications. It is treated as a reference marsh that is mostly undisturbed habitat. The southern cell is not included in the project area.

5m. Describe how the property is currently used. [\[help\]](#)

The island is largely unmanaged, due to difficult access and movement once on island. WDFW constructed several waterfowl blinds and maintains vegetation to facilitate access routes to the blinds. The agency also manages weeds on the island and has recently seeded native forbs. Additionally, a series of restoration actions have been implemented by Skagit River System Cooperative, WDFW, and other stakeholders in 1999, 2004, 2006, 2007, 2011, and 2014 on the site.

5n. Describe how the adjacent properties are currently used. [\[help\]](#)

Besides the sloughs, which are used by recreational and commercial vessels, the island is largely surrounded by lands used for recreation and agricultural activities. In addition, Pioneer Highway located east of Tom Moore Slough as is a BNSF railway. West of the island, a diked/drained and farmed mid-channel island owned by WDFW is slated for estuary restoration to the north/northwest of Steamboat Slough and estuary to the west/southwest of Steamboat Slough.

5o. Describe the structures (above and below ground) on the property, including their purpose(s) and current condition. [\[help\]](#)

Along a borrow ditch parallel to Tom Moore Slough, two, 30-inch CMP culverts are slated for removal. The culverts (not shown on WDFW SalmonScape), which are likely not fish passable, carry flow through the perimeter levee and will be replaced by an open channel. Further to the south, another two 30-inch culverts (not shown on WDFW SalmonScape) slated for removal are located in a channel and are likely a remnant of an old road on the island.

5p. Provide driving directions from the closest highway to the project location, and attach a map. [\[help\]](#)

From Mount Vernon, travel south on I-5 and take Exit 218. Turn right (west) on Milltown Road until it terminates at a boat launch located west of the intersection of Milltown Road and Pioneer Highway. Access to the site is only available via boat.

Part 6—Project Description

6a. Briefly summarize the overall project. You can provide more detail in 6b. [\[help\]](#)

The major design elements include creation of blind tide channels, levee-lowering zones, scrub-shrub and forested planting mounds, and blind channel alcoves. The design includes 13 new channel networks totaling approximately 9,050 linear-feet with 12 new direct breach locations to South Fork Skagit River distributaries; these channel networks include 37 blind channel alcoves off the primary and secondary tide channels. The existing levee will be lowered or breached to tidal and riverine flows at 20 locations, removing approximately 2.5 acres of levee. Three tidal headwater areas, each encompassing approximately 0.5-acre, will be created and will have outlets to tidal channels. There will be approximately 12 acres of native vegetation planting, with a majority of planting focused on the creation of scrub-shrub and forested tidal wetlands.

6b. Describe the purpose of the project and why you want or need to perform it. [\[help\]](#)

The restoration project at Milltown Island will:

1. Improve tidal exchange and riverine influence on the site by removing levee/dike and constructing additional channel connections.
2. Reduce invasive vegetation (reed canarygrass and cattail) and encourage native plant communities.
3. Improve the quantity and quality of rearing habitat for juvenile salmonids.

6c. Indicate the project category. (Check all that apply) [\[help\]](#)

- Commercial Residential Institutional Transportation Recreational
 Maintenance Environmental Enhancement

6d. Indicate the major elements of your project. (Check all that apply) [\[help\]](#)

<input type="checkbox"/> Aquaculture <input type="checkbox"/> Bank Stabilization <input type="checkbox"/> Boat House <input type="checkbox"/> Boat Launch <input type="checkbox"/> Boat Lift <input type="checkbox"/> Bridge <input type="checkbox"/> Bulkhead <input type="checkbox"/> Buoy <input type="checkbox"/> Channel Modification	<input type="checkbox"/> Culvert <input type="checkbox"/> Dam / Weir <input checked="" type="checkbox"/> Dike / Levee / Jetty <input type="checkbox"/> Ditch <input type="checkbox"/> Dock / Pier <input type="checkbox"/> Dredging <input type="checkbox"/> Fence <input type="checkbox"/> Ferry Terminal <input type="checkbox"/> Fishway	<input type="checkbox"/> Float <input type="checkbox"/> Floating Home <input type="checkbox"/> Geotechnical Survey <input type="checkbox"/> Land Clearing <input type="checkbox"/> Marina / Moorage <input type="checkbox"/> Mining <input type="checkbox"/> Outfall Structure <input type="checkbox"/> Piling/Dolphin <input type="checkbox"/> Raft	<input type="checkbox"/> Retaining Wall (upland) <input type="checkbox"/> Road <input type="checkbox"/> Scientific Measurement Device <input type="checkbox"/> Stairs <input type="checkbox"/> Stormwater facility <input type="checkbox"/> Swimming Pool <input type="checkbox"/> Utility Line
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Other: Habitat restoration, including: excavate blind tidal channels, lower levees, create planting mounds, and create channel alcoves.

6e. Describe how you plan to construct each project element checked in 6d. Include specific construction methods and equipment to be used. [\[help\]](#)

- Identify where each element will occur in relation to the nearest waterbody.
- Indicate which activities are within the 100-year floodplain.

The entire island is located within the 100-year floodplain of the South Fork Skagit River.

Construction equipment will likely include barges, tow boats, cranes, excavators, graders, bulldozers, dump trucks, and various small amphibious vehicles.

Access and Staging

Construction access on Milltown Island must be accomplished using shallow draft barges appropriate for navigation on the SF Skagit River. Potential launch points include the Skagit Wildlife Area Headquarters Boat Launch or the public boat ramp at Conway. Coordination with private landowners may allow contractors to use the boat ramp on Tom Moore Slough adjacent to the Milltown Road intersection. Regardless of the access point, barges will need to be small enough to be navigable in Tom Moore Slough, which narrows to approximately 60 to 65 feet in some locations and must be able to operate in water less than 5 feet deep. The barge should have spuds to anchor in place during loading and unloading of equipment onto Milltown Island. The deck barges will transport heavy equipment (e.g., excavators) to approved staging areas on the Island. A small towboat, with experienced captain and crew, will be necessary to transport the barge and its equipment up and downriver. Barge access routes are identified on the plans (Sheet 5), as are waterways that are navigable by small watercraft (e.g., small outboard motor boat). These smaller waterways could be used to transport personnel around the site but should not be used to transport equipment or materials.

Ten barge “landing” locations are identified on the Sheet 5 where loading and unloading of equipment will take place. The barge will anchor in place at all 10 barge landing locations and equipment will be transported onto Milltown Island by crane or will be driven onto the island using the low angle landing detailed in the design plans, if possible. Some large equipment may not fit on the deck of barges and may need to be transported to the island in pieces and assembled on site. Staging areas will need to be cleared before equipment is loaded off the barge, the locations of these temporary staging areas are shown in the design plans (Sheet 5) and are located on/near the footprint of proposed levee lowering zones. Temporary access and staging areas should only be constructed in locations identified in the plans.

In addition, five locations labeled as “low angle landings” are shown on Sheet 6 and will be established as landing areas for loading and unloading equipment and for post-project recreational and vegetation management access. The low angle landing areas should be a minimum of 15 feet wide, gently ramped (10:1 slope), and compacted to allow small boats to land and amphibious equipment to roll on and off the island. SRSC, not under this contract, will assess revegetation needs.

The contractor will construct the project once equipment has been transported onto the island and staging areas have been established. Travel on site shall be limited to the temporary access roads shown in the plans (Sheet 5), which were drawn along the alignment of proposed channels and on the top of existing levees where necessary. In the wetland, the contractor will need to utilize amphibious equipment that can operate in shallow standing water and soft organic soils. The island will not be isolated from tides or river flows, so construction is subject to difficult conditions. WDFW has successfully navigated the island by foot and with small amphibious tracked equipment (“Marsh Masters”).

Tide Channels

Blind tide channels are expected to provide important habitat for juvenile Chinook Salmon. Existing tide channels were shown to support an abundance of juvenile Chinook Salmon and Coho Salmon and some juvenile Chum Salmon during 2020 monitoring efforts. Proposed channel locations were selected to minimize swim distance to the nearest available distributary and improve hydraulic connectivity on portions of the island that were identified as impaired by existing conditions hydraulic modeling. Channels were located to avoid

existing native vegetation and beaver dams, and they tie into the mapped locations of existing beaver channels and ponds to improve connectivity between these habitats. Tide channel widths were designed using a composite allometric model and were compared to predictions from allometric data in the SF Skagit River delta. Primary tide channels generally have a bottom width that varies between 12 and 24 feet at the outlet and narrow to 6 to 9 feet at three-fourths of the total channel length. Secondary channels tie into primary tide channel elevations and have bottom widths between 4 and 12 feet. Channel elevations were designed using the SF Skagit River delta allometric model, which predicts elevations for the thalweg at a quarter, half, and three-quarters down the tide channel length. This model was developed by Greg Hood, Ph.D.

Channels were designed a minimum of 3 feet deep relative to high tide line for the entirety of the channel length to achieve habitat conditions known to be used by juvenile Chinook and other salmonids. We compared the proposed channel elevations in the northern cell to measured (existing) and proposed (modeled) water surface elevations on the marsh during mean spring flow with spring tides. Channels 2, 11, and 14 were used as representative samples since the other channels were sized with similar elevations. This analysis ensured that the tide channels will be inundated during the entire tide cycle. Aquatic vegetation is expected to establish along the margins of the channels and form scattered vegetative communities within the channels.

Blind Channel Alcoves

Some primary and secondary tide channels will have “blind channel alcoves” connected to them. These are intended to be short (20 to 30 feet long) pilot channels that may evolve to become longer tide channels as the site develops after construction. The alcoves are a cost-effective way to encourage the formation of a dendritic tide channel system and will be optimal for construction access and ease. They will be graded at a constant elevation that matches the existing thalweg elevation of their adjoining channel. The alcoves will have a 4-foot bottom width with the same side slopes specified as the tide channels.

Tidal Headwaters

The project will create three tidal headwater areas in the central portions of the island. Headwaters areas will tie into existing grade and have an approximate top area of 0.5-acre each. Side slopes will be at 5:1 to a bottom elevation of 8.0 feet NAVD88. The bottom of the tidal headwater areas will encompass approximately 0.15-acre and outlet to tidal channels to prevent fish stranding.

Levee Lowering

Levee-lowering zones either occur adjacent to a proposed tide channel or in a location identified by hydraulic modeling. This design feature is intended to improve tidal and fluvial connectivity by eliminating artificial barriers that are preventing important geomorphic processes on the island. The levee-lowering zones are predicted to increase sheet flow on and off the island, particularly during spring tides, and increase the distribution of sediment, wood, and high-energy flows on the island during flood events. The levee-lowering areas tie into existing wetland elevations and will be revegetated.

Wetland Habitat Mounds

Wetland habitat mounds will be created and constructed from material provided by channel excavation, tidal headwaters excavations, and levee lowering. The mounds will be planted with native species in multiple banded elevation zones that were identified in vegetation studies by scientists at Skagit River System Cooperative. The mounds were strategically located to minimize impacts on existing habitat and increase topographic and vegetative heterogeneity. All habitat mounds will be constructed to elevations below 15 feet NAVD88 and will remain wetland. WDFW’s wetland delineation of the island determined that wetland conditions persisted to elevations of 16 feet NAVD88; therefore, a conservative estimate of 15 feet NAVD88 would maintain wetland habitat. The top of mounds will not be inundated during typical tides or spring tide

events; however, wetland conditions are expected to persist throughout the entire mound. Some king tides and large river floods will overtop the mounds. Mound elevations will vary (i.e., below elevation 15 feet NAVD88), as will their footprint, but side slopes are will generally maintain a 3:1 slope. Installed vegetation will be appropriate for a given mound elevation and expected inundation frequency. Skagit River System Cooperative will plant the mounds.

Habitat complexity on the island, through mound construction, is intended to increase vegetative structure and diversity and was identified by Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) as an important component to restore functions and processes on Milltown Island.

Temporary Erosion and Sediment Control, Water Management

The contractor will need to construct channels, levee lowering, wetland habitat mounds, and alcove areas carefully to avoid excessive turbidity and water pollution. Since the construction zone is not isolated from tidal processes, work-area isolation will be difficult to impossible. Instead of attempting to isolate work zones from inundation, the contractor will need to complete most work during low- to mid-tide when water is partially drained from the site. Cofferdams and appropriately-sized pumps may be required during construction of tide channels so that sections of the channels can be dewatered and constructed sequentially. This will improve the ease of construction and limit turbidity running off the site. Generally, tide channels will be constructed during low tides and connected before high tides arrive at the site. The contractor should keep the channels functioning as isolated ponds as long as possible, so that sediment disturbed by construction activities has a chance to settle and disperse. Contractors should also have turbidity curtains and materials for cofferdams available and ready to use at all times in case emergency actions are needed for repair or water treatment. Staging areas and all access routes that are on an existing levee footprint may be outlined with approved BMPs to isolate these work zones from tide channels and the SF Skagit distributaries, as needed.

6f. What are the anticipated start and end dates for project construction? (Month/Year) [\[help\]](#)

- If the project will be constructed in phases or stages, use [JARPA Attachment D](#) to list the start and end dates of each phase or stage.

Start Date: July 2023 End Date: October 2024 See JARPA Attachment D

6g. Fair market value of the project, including materials, labor, machine rentals, etc. [\[help\]](#)

\$2.0M

6h. Will any portion of the project receive federal funding? [\[help\]](#)

- If **yes**, list each agency providing funds.

Yes No Don't know

Part 7–Wetlands: Impacts and Mitigation

- Check here if there are wetlands or wetland buffers on or adjacent to the project area.
(If there are none, skip to Part 8.) [\[help\]](#)

7a. Describe how the project has been designed to avoid and minimize adverse impacts to wetlands. [\[help\]](#)

Not applicable

Temporary disturbance to wetlands resulting from the restoration project is associated with the following activities: 1) barge docking and loading zones, access roads, and staging areas; 2) tidal channels; 3) levee lowering; and 4) wetland habitat mounds.

The 10 barge docking and loading zones needed for construction will be a minimum width of 15 feet wide and will be compacted to facilitate construction equipment access. Post-construction, they will be restored to pre-construction conditions. The low-angle landing areas will remain to facilitate future planting and maintenance activities. Temporary access roads and staging areas will be located within the footprints of proposed channel alignments to minimize disturbance to wetland habitat.

Tidal channels are designed to be self-sustaining and sized to provide habitat for a variety of fish species including salmonids in addition to terrestrial species. Aquatic or wetland vegetation is anticipated to establish along the perimeter and sporadically within the interior of these channels.

The majority of levee located on the island was delineated as wetland; levee lowering will increase tidal exchange while also maintaining wetland conditions that will be planted with native woody species.

All wetland habitat mounds will be constructed to a top elevation not to exceed 15 feet NAVD88, thereby maintaining wetland conditions.

7b. Will the project impact wetlands? [\[help\]](#)

Yes No Don't know

7c. Will the project impact wetland buffers? [\[help\]](#)

Yes No Don't know

7d. Has a wetland delineation report been prepared? [\[help\]](#)

- **If Yes**, submit the report, including data sheets, with the JARPA package.

Yes No A wetland delineation report and basis of design report accompany the JARPA submittal package and detail existing site conditions, functions, and functional lift associated with the project.

7e. Have the wetlands been rated using the Western Washington or Eastern Washington Wetland Rating System? [\[help\]](#)

- **If Yes**, submit the wetland rating forms and figures with the JARPA package.

Yes No Don't know

7f. Have you prepared a mitigation plan to compensate for any adverse impacts to wetlands? [\[help\]](#)

- **If Yes**, submit the plan with the JARPA package and answer 7g.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Don't know

The purpose of the project is the restoration of 220 acres of wetland and associated habitat functions on the north and central portions of the island. See Section 6e and design plan sheets for details.

7g. Summarize what the mitigation plan is meant to accomplish, and describe how a watershed approach was used to design the plan. [\[help\]](#)

The restoration project at Milltown Island will enhance and connect existing habitats and remove impediments to natural processes so that estuarine habitats important to Chinook and other salmonids are self-sustaining and resilient to climate change.

Skagit River System Cooperative will revegetate habitat mounds. Revegetation efforts will be slightly delayed (6 months-1 year) to allow site conditions to establish and species selection and plant layouts to be modified to reflect on-the-ground conditions rather than anticipated site conditions. The intent of the planting delay is to help ensure more successful plant establishment and growth.

Milltown Island was included as one of many sites where conceptual designs were developed through the PSNERP in partnership with WDFW and the U.S. Army Corps of Engineers. The PSNERP approach focused on identifying stressors and then addressing those with management actions. Conceptual designs for Milltown Island, dated May 2012, depict both full restoration and partial restoration alternatives that called for a combination of additional dike removal, excavating a higher density of active marsh channels, improving connectivity to perimeter sloughs, and manipulating the topography to increase habitat function and diversity. The proposed project includes all of those actions and has located features to optimally address stressors while minimizing disturbance to existing intact habitats and being cost-effective.

7h. Use the table below to list the type and rating of each wetland impacted, the extent and duration of the impact, and the type and amount of mitigation proposed. Or if you are submitting a mitigation plan with a similar table, you can state (below) where we can find this information in the plan. [\[help\]](#)

Activity (fill, drain, excavate, flood, etc.)	Wetland Name ¹	Wetland type and rating category ²	Impact area (sq. ft. or Acres)	Duration of impact ³	Proposed mitigation type ⁴	Wetland mitigation area (sq. ft. or acres)
Low Angle Landing	Milltown Island	Freshwater, Tidal Fringe/II	0.15 ac	Permanent	Self-mitigating	NA
Temporary Access Roads	Milltown Island	Freshwater, Tidal Fringe/II	0.50 ac	Temporary	Channel creation in same footprint	NA
Staging Areas	Milltown Island	Freshwater, Tidal Fringe/II	0.64 ac	Temporary	Channel creation in same footprint	NA
Tidal Channels	Milltown Island	Freshwater, Tidal Fringe/II	1.03 ac	Permanent	Self-mitigating	NA
Levee Lowering	Milltown Island	Freshwater, Tidal Fringe/II	2.4 ac	Permanent	Self-mitigating	NA
Wetland Habitat Mounds	Milltown Island	Freshwater, Tidal Fringe/II	3.0	Temporary	Self-mitigating	NA

¹ If no official name for the wetland exists, create a unique name (such as "Wetland 1"). The name should be consistent with other project documents, such as a wetland delineation report.

² Ecology wetland category based on current Western Washington or Eastern Washington Wetland Rating System. Provide the wetland rating forms with the JARPA package.

³ Indicate the days, months or years the wetland will be measurably impacted by the activity. Enter "permanent" if applicable.

⁴ Creation (C), Re-establishment/Rehabilitation (R), Enhancement (E), Preservation (P), Mitigation Bank/In-lieu fee (B)

Page number(s) for similar information in the mitigation plan, if available: _____
7i. For all filling activities identified in 7h, describe the source and nature of the fill material, the amount in cubic yards that will be used, and how and where it will be placed into the wetland. [help]
The project will not import any material; see Section 6e for a discussion of mound construction.
7j. For all excavating activities identified in 7h, describe the excavation method, type and amount of material in cubic yards you will remove, and where the material will be disposed. [help]
See Sections 6e, 8d, and/or 8e for a discussion of tidal channel excavations and levee lowering details.

Part 8–Waterbodies (other than wetlands): Impacts and Mitigation

In Part 8, “waterbodies” refers to non-wetland waterbodies. (See Part 7 for information related to wetlands.) [\[help\]](#)

Check here if there are waterbodies on or adjacent to the project area. (If there are none, skip to Part 9.)

8a. Describe how the project is designed to avoid and minimize adverse impacts to the aquatic environment. [help]
<input type="checkbox"/> Not applicable
At multiple locations across the island, proposed tidal channels will intersect or tie into existing tidal channels and at some locations, replace the existing tidal channel with a larger (i.e., wider, deeper, and/or longer) channel. Disturbance associated with these activities will be temporary.
8b. Will your project impact a waterbody or the area around a waterbody? [help]
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

8c. Have you prepared a mitigation plan to compensate for the project's adverse impacts to non-wetland waterbodies? [\[help\]](#)

- **If Yes**, submit the plan with the JARPA package and answer 8d.
- **If No, or Not applicable**, explain below why a mitigation plan should not be required.

Yes No Don't know

The purpose of the project is restoration of tidal channel and associated habitat functions on 220 acres in the north and central portions of the island. See Section 6e and design plan sheets for details.

8d. Summarize what the mitigation plan is meant to accomplish. Describe how a watershed approach was used to design the plan.

- If you already completed 7g you do not need to restate your answer here. [\[help\]](#)

Thirteen tidal channels will be constructed on the island to restore natural processes and improve hydrologic and habitat functions on the site. The follow discussion details the intent of each channel system:

Tidal Channels 1-3: These channels were selected to improve connectivity between Steamboat Slough and the northern wetland area where water surface elevations were observed not to drain at low tide. Hydraulic modeling showed that this portion of the wetland is the most isolated from tidal and riverine processes and therefore has the most to gain from restoration both in terms of creating channel habitat available for fish on daily tides/flows and in terms of increasing dynamic processes during larger events. There are no existing mapped tide channels in this region of Milltown Island, and there was no observed fish use during 2020 monitoring efforts. The area has previously been identified as a promising opportunity to improve fish access because there would be little to no disturbance to existing functional fish habitat or native wetland vegetation. The channels will also create new channel habitat for fish in an area that is currently not used by salmonids. Channels 2 and 3 were designed to connect to mapped locations of known beaver ponds and beaver channels. Proposed conditions hydraulic modeling provided evidence that all three channel locations would drain and fill independently and be sustained by tidal processes.

Tidal Channel 5: Channel 5 was identified as a potential solution to long swim distances in the central cell of Milltown Island. The channel follows the footprint of a small existing channel that ends at the riverward side of the fluvial levee adjacent to Steamboat Slough. It connects this existing channel to the wetland and to an existing channel network in the central cell. This will provide a direct link between the flooded portions of the wetland and Steamboat Slough in a location where swim distances currently exceed 1,000 feet in either direction.

Tidal Channels 6: Channel 6 is seen as a cost-effective and low-disturbance location to improve connectivity between Steamboat Slough and an existing large tide channel.

Tidal Channels 8: Channel 8 follows the footprint of an existing tide channel waterward of the levee that drains into Tom Moore Slough. The location of Tidal Channel 8A will break up the linear drainage ditch network in the central portion of the wetland. The existing tide channel will be widened and connected to the central portion of the wetland through levee-lowering location 7. It will tie into one of the major drainage ditches that will be plugged with sediment on its downstream end so flow is routed into the new channel. This will increase channel sinuosity to be more consistent with natural forms and improve hydraulic connectivity for fish access.

Tidal Channels 9: Channel 9 has been proposed to improve connectivity to Tom Moore Slough along a section of the central portion of wetland that is disconnected from Tom Moore Slough by an

approximately 1,500-foot continuous levee. The levee prevents direct fish access to the marsh, with fish swim distances exceeding 1,000 feet. This channel alignment will connect to a system of existing tide channel ponds, but will not disturb functional tide channel habitat.

Tidal Channels 9A: Existing conditions hydraulic modeling indicated a majority of tidal prism from the northern cell drained into Tom Moore Slough from the existing breach just north of this proposed channel. Channel 9A will capture some of the flow that concentrates in the existing channel, which will alleviate high velocities observed there, while functioning to maintain this new channel habitat. The channel will be a secondary location where the existing levee along Tom Moore Slough is breached. It will tie into an existing tide channel on its south branch and into an existing pond to the north.

Tidal Channels 10: Channel 10 will improve connectivity to Tom Moore Slough and is seen as a cost-effective location to breach the existing levee and connect to an existing internal tide channel network.

Tidal Channels 11: Channel 11 is an ideal and cost-effective location for a levee breach into Tom Moore Slough because there are existing channel networks on either side of a very narrow portion of the human constructed levee. The breach will connect these two channels and replace a failing culvert that is not fish passable.

Tidal Channels 12: Channel 12 will provide direct connectivity from an existing breach and tide channel along Tom Moore Slough to a series of beaver-excavated channels and ponds in some of the lowest-elevation portions of the site. There are no existing channels directly connecting Tom Moore Slough to the internal network of beaver ponds and channels.

Tidal Channels 14: Channel 14 will activate during river flood events to convey sediment, wood, and high-energy scouring flows onto Milltown Island. The channel will improve floodplain connectivity to the northern portion of the wetland. An existing natural flood path will be used for the channel alignment. This channel will function similarly to the existing floodplain channel that was created in 2006 (Channel 14A) but will have an inlet large enough to prevent large woody debris buildup and sedimentation. This was the observed mechanism that caused the channel created in 2006 to close.

Tidal Channels 14A: The design proposes to expand the existing channel, which was constructed during 2006 blasting efforts. Actions will include removing the observed channel blockage (i.e., LWD) at the inlet along Steamboat Slough and deepening the channel by 2 to 4 feet so that it is available to fish during most river flows. This is a cost-effective location to provide salmonid access to an existing habitat feature.

See Section 7g for a discussion regarding a watershed approach.

8e. Summarize impact(s) to each waterbody in the table below. [\[help\]](#)

Activity (clear, dredge, fill, pile drive, etc.)	Waterbody name ¹	Impact location ²	Duration of impact ³	Amount of material (cubic yards) to be placed in or removed from waterbody	Area (sq. ft. or linear ft.) of waterbody directly affected
Excavate/Expand Tidal Channel	Proposed Channel 2	Steamboat Slough Tidal Channel	Temporary	642 CY	289 LF
Excavate/Expand Tidal Channel	Proposed Channel 3	Steamboat Slough Tidal Channel	Temporary	11 CY	12 LF

Excavate/Expand Tidal Channel	Proposed Channel 5	Steamboat Slough Tidal Channel	Temporary	22 CY	40 LF
Excavate/Expand Tidal Channel	Proposed Channel 8	Tom Moore/Steamboat Slough and Tidal Channel	Temporary	499 CY	844 LF
Excavate/Expand Tidal Channel	Proposed Channel 9	Tom Moore Slough and Tidal Channel	Temporary	31 CY	70 LF
Excavate/Expand Tidal Channel	Proposed Channel 9A	Tom Moore Slough and Tidal Channel	Temporary	96 CY	28 LF
Excavate/Expand Tidal Channel	Proposed Channel 10	Tom Moore Slough Tidal Channel	Temporary	9 CY	10 LF
Excavate/Expand Tidal Channel	Proposed Channel 11	Tom Moore Slough Tidal Channel	Temporary	207 CY	80 LF
Excavate/Expand Tidal Channel	Proposed Channel 12	Tom Moore Slough Tidal Channel	Temporary	7 CY	10 LF
Excavate/Expand Tidal Channel	Proposed Channel 14	Steamboat Slough Tidal Channel	Temporary	595 CY	268 LF
Excavate/Expand Tidal Channel	Proposed Channel 14A	Steamboat Slough Tidal Channel	Temporary	835 CY	564 LF
Ditch Plug (fill)	Unnamed drainage ditch	Tom Moore Slough Tidal Channel	Temporary	90 CY	65 LF

¹ If no official name for the waterbody exists, create a unique name (such as "Stream 1") The name should be consistent with other documents provided.

² Indicate whether the impact will occur in or adjacent to the waterbody. If adjacent, provide the distance between the impact and the waterbody and indicate whether the impact will occur within the 100-year flood plain.

³ Indicate the days, months or years the waterbody will be measurably impacted by the work. Enter "permanent" if applicable.

8f. For all activities identified in 8e, describe the source and nature of the fill material, amount (in cubic yards) you will use, and how and where it will be placed into the waterbody. [\[help\]](#)

Aside from a soil plug that will be installed in a drainage ditch located near the inlet of Channel 8, fill material is not proposed within existing channels. The top elevation of the soil plug will reach elevation 13 feet NAVD88, so it will become wetland habitat. Within the drainage ditch, the plug measures approximately 65 linear feet and occupies about 1,100 square feet of ditch.

8g. For all excavating or dredging activities identified in 8e, describe the method for excavating or dredging, type and amount of material you will remove, and where the material will be disposed. [\[help\]](#)

Excavators will be used to create tidal channels and material will be used to create habitat mounds around the site. See Section 6e for methods and Section 8e for volumes.

Part 9–Additional Information

Any additional information you can provide helps the reviewer(s) understand your project. Complete as much of this section as you can. It is ok if you cannot answer a question.

9a. If you have already worked with any government agencies on this project, list them below. [\[help\]](#)

Agency Name	Contact Name	Phone	Most Recent Date of Contact
Corps	Daisy Douglass	206-764-6903	August 2021
WDFW	Bob Warinner	360-305-6726	August 2021
Department of Ecology	Chris Luerkens	360-255-4399	September 2021

9b. Are any of the wetlands or waterbodies identified in Part 7 or Part 8 of this JARPA on the Washington Department of Ecology’s 303(d) List? [\[help\]](#)

- If **Yes**, list the parameter(s) below.
- If you don’t know, use Washington Department of Ecology’s Water Quality Assessment tools at: <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Assessment-of-state-waters-303d>.

Yes No

Category 4C waters: Steamboat Slough, Tom Moore Slough, island cross ditches

9c. What U.S. Geological Survey Hydrological Unit Code (HUC) is the project in? [\[help\]](#)

- Go to <http://cfpub.epa.gov/surf/locate/index.cfm> to help identify the HUC.

1711000702-Skagit River-Frontal Skagit Bay

9d. What Water Resource Inventory Area Number (WRIA #) is the project in? [\[help\]](#)

- Go to <https://ecology.wa.gov/Water-Shorelines/Water-supply/Water-availability/Watershed-look-up> to find the WRIA #.

3-Lower Skagit-Samish

9e. Will the in-water construction work comply with the State of Washington water quality standards for turbidity? [\[help\]](#)

- Go to <https://ecology.wa.gov/Water-Shorelines/Water-quality/Freshwater/Surface-water-quality-standards/Criteria> for the standards.

Yes No Not applicable

9f. If the project is within the jurisdiction of the Shoreline Management Act, what is the local shoreline environment designation? [\[help\]](#)

- If you don't know, contact the local planning department.
- For more information, go to: <https://ecology.wa.gov/Water-Shorelines/Shoreline-coastal-management/Shoreline-coastal-planning/Shoreline-laws-rules-and-cases>.

Urban Natural Aquatic Conservancy Other: Rural Conservancy-Skagit Floodway

9g. What is the Washington Department of Natural Resources Water Type? [\[help\]](#)

- Go to <http://www.dnr.wa.gov/forest-practices-water-typing> for the Forest Practices Water Typing System.

Shoreline Fish Non-Fish Perennial Non-Fish Seasonal

9h. Will this project be designed to meet the Washington Department of Ecology's most current stormwater manual? [\[help\]](#)

- **If No**, provide the name of the manual your project is designed to meet.

Yes No

Name of manual: _____

9i. Does the project site have known contaminated sediment? [\[help\]](#)

- **If Yes**, please describe below.

Yes No

9j. If you know what the property was used for in the past, describe below. [\[help\]](#)

Milltown Island is a heavily modified landscape that was converted from tidal habitats to agricultural land in the late 1800s through diking and drainage. WDFW acquired the land between 1950 and 1973. Agricultural practices halted in the mid-1970s after a large flood destroyed the only bridge to the island over Tom Moore Slough and several flood events caused dike breaches. The land has been managed for waterfowl and invasive vegetation as discussed in Section 5m.

9k. Has a cultural resource (archaeological) survey been performed on the project area? [\[help\]](#)

- **If Yes**, attach it to your JARPA package.

Yes No

9l. Name each species listed under the federal Endangered Species Act that occurs in the vicinity of the project area or might be affected by the proposed work. [\[help\]](#)

Steelhead trout
Chinook Salmon
Bull trout/ Dolly Varden
Gray Wolf
Marbled Murrelet
Streaked Horned Lark
Yellow-Billed Cuckoo
Oregon Spotted Frog

9m. Name each species or habitat on the Washington Department of Fish and Wildlife's Priority Habitats and Species List that might be affected by the proposed work. [\[help\]](#)

Waterfowl concentrations
Freshwater Forested/Shrub Wetland
Big and Little Brown bat
Yuma myotis
Chum Salmon/Fall run Chum Salmon
Chinook Salmon (Summer and Spring runs)
Steelhead trout/Summer/Winter
Coho Salmon
Sockeye Salmon
Kokanee Salmon
Pink Salmon/odd year
Resident coastal cutthroat trout
Bull trout
Rainbow trout

Part 10–SEPA Compliance and Permits

Use the resources and checklist below to identify the permits you are applying for.

- Online Project Questionnaire at <http://apps.oria.wa.gov/opas/>.
- Governor's Office for Regulatory Innovation and Assistance at (800) 917-0043 or help@oria.wa.gov.
- For a list of addresses to send your JARPA to, click on [agency addresses for completed JARPA](#).

10a. Compliance with the State Environmental Policy Act (SEPA). (Check all that apply.) [\[help\]](#)

- For more information about SEPA, go to **Error! Hyperlink reference not valid.**<https://ecology.wa.gov/regulations-permits/SEPA-environmental-review>.

A copy of the SEPA determination or letter of exemption is included with this application.

A SEPA determination is pending with _____ (lead agency). The expected decision date is _____.

I am applying for a Fish Habitat Enhancement Exemption. (Check the box below in 10b.) [\[help\]](#)

- This project is exempt (choose type of exemption below).
 - Categorical Exemption. Under what section of the SEPA administrative code (WAC) is it exempt?

 - Other: _____

SEPA is pre-empted by federal law.

10b. Indicate the permits you are applying for. (Check all that apply.) [\[help\]](#)

LOCAL GOVERNMENT

Local Government Shoreline permits:

- Substantial Development Conditional Use Variance
- Shoreline Exemption Type (explain): WAC 173-27-040(2)(p)

Other City/County permits:

- Floodplain Development Permit Critical Areas Ordinance

STATE GOVERNMENT

Washington Department of Fish and Wildlife:

- Hydraulic Project Approval (HPA) Fish Habitat Enhancement Exemption – [Attach Exemption Form](#)

Washington Department of Natural Resources:

- Aquatic Use Authorization
Complete [JARPA Attachment E](#) and submit a check for \$25 payable to the Washington Department of Natural Resources.
Do not send cash.

Washington Department of Ecology:

- Section 401 Water Quality Certification Non-Federally Regulated Waters

FEDERAL AND TRIBAL GOVERNMENT

United States Department of the Army (U.S. Army Corps of Engineers):

- Section 404 (discharges into waters of the U.S.) Section 10 (work in navigable waters)

United States Coast Guard:

For projects or bridges over waters of the United States, contact the U.S. Coast Guard at: d13-pf-d13bridges@uscg.mil

- Bridge Permit Private Aids to Navigation (or other non-bridge permits)

United States Environmental Protection Agency:

- Section 401 Water Quality Certification (discharges into waters of the U.S.) on tribal lands where tribes do not have treatment as a state (TAS)

Tribal Permits: (Check with the tribe to see if there are other tribal permits, e.g., Tribal Environmental Protection Act, Shoreline Permits, Hydraulic Project Permits, or other in addition to CWA Section 401 WQC)

- Section 401 Water Quality Certification (discharges into waters of the U.S.) where the tribe has treatment as a state (TAS).

Part 11—Authorizing Signatures

Signatures are required before submitting the JARPA package. The JARPA package includes the JARPA form, project plans, photos, etc. [\[help\]](#)

11a. Applicant Signature (required) [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities, and I agree to start work only after I have received all necessary permits.

I hereby authorize the agent named in Part 3 of this application to act on my behalf in matters related to this application. CG (initial)

By initialing here, I state that I have the authority to grant access to the property. I also give my consent to the permitting agencies entering the property where the project is located to inspect the project site or any work related to the project. CG (initial)

Christina L Gourley
Applicant Printed Name


Applicant Signature

07/15/22
Date

11b. Authorized Agent Signature [\[help\]](#)

I certify that to the best of my knowledge and belief, the information provided in this application is true, complete, and accurate. I also certify that I have the authority to carry out the proposed activities and I agree to start work only after all necessary permits have been issued.

Authorized Agent Printed Name

Authorized Agent Signature

Date

11c. Property Owner Signature (if not applicant) [\[help\]](#)

Not required if project is on existing rights-of-way or easements (provide copy of easement with JARPA).

I consent to the permitting agencies entering the property where the project is located to inspect the project site or any work. These inspections shall occur at reasonable times and, if practical, with prior notice to the landowner.

Property Owner Printed Name

Property Owner Signature

Date

18 U.S.C §1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly falsifies, conceals, or covers up by any trick, scheme, or device a material fact or makes any false, fictitious, or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious, or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than 5 years or both.

If you require this document in another format, contact the Governor's Office for Regulatory Innovation and Assistance (ORIA) at (800) 917-0043. People with hearing loss can call 711 for Washington Relay Service. People with a speech disability can call (877) 833-6341. ORIA publication number: ORIA-16-011 rev. 09/2018



WASHINGTON DEPARTMENT OF FISH AND WILDLIFE

SKAGIT WLA, MILLTOWN ISLAND UNIT RESTORATION ST:R206:2021-1

PROPERTY INFORMATION:	
ADDRESS:	MILLTOWN ISLAND WASHINGTON 98273
COUNTY:	SKAGIT
PARCEL #:	P17495, P17496, P17502, P17504, P17520, P17531, P17532, P17534
LAT:	48.316599
LONG:	-122.350552
TOWNSHIP:	33N
RANGE:	4E
SECTION:	30 & 31

SURVEY DATUM
 HORIZONTAL: NAD 1983 US STATE PLANE WASHINGTON NORTH ZONE
 VERTICAL: NAVD88
 UNITS: US FEET

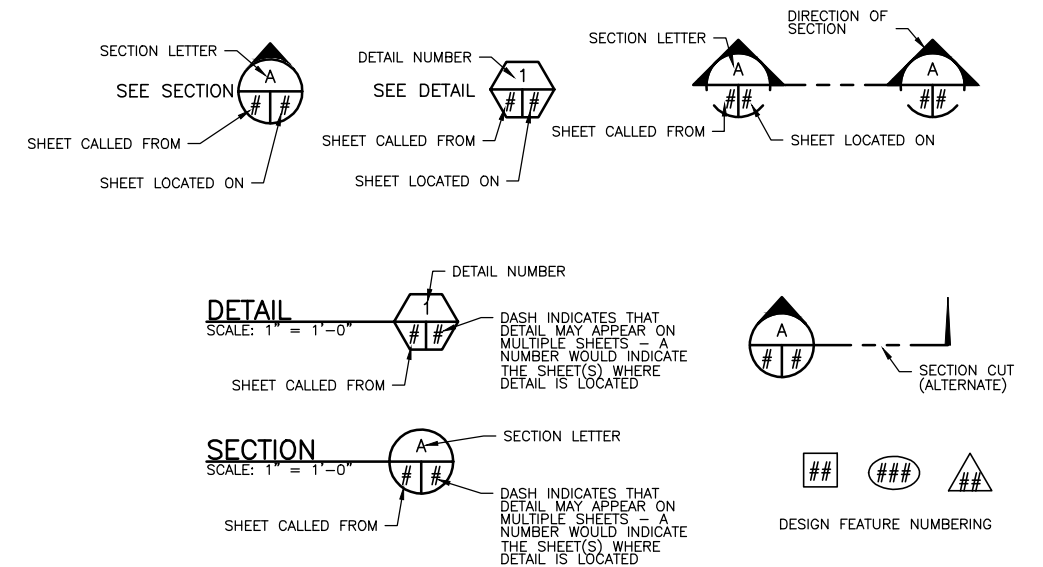
NOTE: FOR TIDAL PREDICTIONS, USE THE CRESCENT HARBOR GAGE (9447952) AND CALCULATE NAVD88 WATER SURFACE ELEVATION AS FOLLOWS: NAVD88 = X - 2.2 FT; WHERE X IS THE PREDICTED WATER SURFACE ELEVATION ON MLLW DATUM.

INDEX

SHEET NO.

1. G0.1 COVER SHEET
2. G0.2 GENERAL NOTES
3. G0.3 STATE AND VICINITY MAP
4. G0.4 EXISTING SITE MAP
5. G0.5 ACCESS-STAGING-TESC
6. C0.1 OVERVIEW SITE PLAN
7. C0.2 SITE PLAN 1
8. C0.3 SITE PLAN 2
9. C0.4 SITE PLAN 3
10. C0.5 SITE PLAN 4
11. C0.6 SITE PLAN 5
12. C0.7 PLANTING PLAN (BY OTHERS)
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14. C0.9 PROFILES AND SECTIONS
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SHEET SYMBOLS



UNAUTHORIZED CHANGES & USES
 THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.



PROJECT NO.
ST:R206:2021-1

SHEET	OF
1	15

ABBREVIATIONS

AB	AGGREGATE BASE	(N)	NEW
AC	ACRE	N	NORTH
APPROX	APPROXIMATE	NIC	NOT IN CONTRACT
BM	BENCHMARK	NTS	NOT TO SCALE
CAP	CORRUGATED ALUMINUM PIPE	OC	ON CENTER
CC	CENTER TO CENTER	OD	OUTSIDE DIAMETER
CF	CUBIC FOOT	PIP	PRESSURE IRRIGATION PIPE
CFS	CUBIC FOOT PER SECOND	PP	POWER POLE
CL	CENTERLINE	PSI	POUNDS PER SQUARE INCH
CMP	CORRUGATED METAL PIPE	PVC	POLYVINYL CHLORIDE
CMPA	CORRUGATED METAL ARCH PIPE	QTY	QUANTITY
CONC	CONCRETE	R	RIGHT
CP	CONTROL POINT	RCB	REINFORCED CONCRETE BOX
CY	CUBIC YARD	RD	ROAD
DEMO	DEMOLISH	REF	REFERENCE DIMENSION
DIA	DIAMETER	REQD	REQUIRED
DP	PIPE DIAMETER	ROW	RIGHT OF WAY
DR	RISER DIAMETER	S	SOUTH
DU	DUCKS UNLIMITED, INC.	SCH	SCHEDULE
D/S	DOWNSTREAM	SS	STAINLESS STEEL
E	EAST	SDR	STANDARD DIMENSION RATIO
EG	EXISTING GROUND	SF	SQUARE FEET
EL	ELEVATION	SHT	SHEET
EX, EXIST	EXISTING	SP	SPECIAL
FRG	FINAL ROUGH GRADE	SPECS	SPECIFICATIONS
FG	FINISHED GRADE	SY	SQUARE YARD
FL	FLOWLINE	STA	STATION
FT	FOOT, FEET	STD	STANDARD
FTG	FITTING, FOOTING	TBD	TO BE DETERMINED BY ENGINEER
GA	GAUGE	TBM	TEMPORARY BENCHMARK
GB	GRADE BREAK	TE	TOP ELEVATION
H	HEIGHT	TEMP	TEMPORARY
HDPE	HIGH-DENSITY POLYETHYLENE	TOL	TOP OF LEVEE
ID	INSIDE DIAMETER	TOB	TOP OF BERM
IE	INVERT ELEVATION	TYP	TYPICAL
IN	INCH, INCHES	USA	UNDERGROUND SERVICE ALERT
INV	INVERT	U/S	UPSTREAM
IPS	IRON PIPE SIZE	VLV	VALVE
L	LENGTH, LEFT	W	WIDTH, WEST (WHERE APPLICABLE)
LBF	POUNDS-FORCE	W /	WITH
LF	LINEAR FEET	WCS	WATER CONTROL STRUCTURE
MAINT	MAINTENANCE	WS	WATER SURFACE
MAX	MAXIMUM	WSEL	WATER SURFACE ELEVATION
MIN	MINIMUM	WWF	WELDED WIRE FABRIC
MISC	MISCELLANEOUS	X:1	SLOPE, HORIZONTAL:VERTICAL

SURVEY POINT DESCRIPTORS

CTBM	BENCH MARK (PERMANENT)	RDSH	ROAD SHOULDER
CTBT	BENCH MARK (TEMPORARY)	RDSN	ROAD SIGN
CTCP	SURVEY CONTROL POINT (PERMANENT)	RDMO	ROAD, TOE OF SLOPE
CTCT	SURVEY CONTROL POINT (TEMPORARY)	RDTA	ROAD, TOP OF SLOPE
DIFL	DITCH FLOWLINE	SDMH	STORM DRAIN, MANHOLE
DIGB	DITCH GRADE BREAK	SDPI	STORM DRAIN, PIPE INVERT
DITO	DITCH TOE	SDPT	STORM DRAIN, PIPE TOP
DITP	DITCH TOP	SSMH	SANITARY SEWER, MANHOLE
ELBX	ELECTRIC, BOX OR PULLBOX	SWFL	SWALE FLOWLINE
ELGY	ELECTRIC, GUY WIRE	SWGB	SWALE GRADE BREAK
ELPP	ELECTRIC, POWER POLE	SWTO	SWALE TOE
ELSN	ELECTRIC, WARNING SIGN	SWTP	SWALE TOP
ELTR	ELECTRIC, TRANSFORMER	TFBL	TOPO FEATURE, BUILDING
ELTW	ELECTRIC, TOWER	TFBR	TOPO FEATURE, BRUSH
ELVT	ELECTRIC, VAULT	TFCO	TOPO FEATURE, CONCRETE (PAD, SLAB, ETC.)
FNAP	FENCE ANGLE POINT	TFFL	TOPO FEATURE, FLOWLINE
FNCR	FENCE CORNER	TFGB	TOPO FEATURE, GRADE BREAK
FNGT	FENCE GATE	TFGS	TOPO FEATURE, GROUND SHOT
FNLN	FENCE LINE	TFRK	TOPO FEATURE, ROCK OR ROCKY AREA BOUNDARY
IRCO	IRRIGATION CONCRETE PAD	TFTL	TOPO FEATURE, TREE LINE
IRCP	IRRIGATION CONTROL PANEL	TFTO	TOPO FEATURE, GRADE BREAK AT TOE
IRPI	IRRIGATION PIPE INVERT	TFTP	TOPO FEATURE, GRADE BREAK AT TOP
IRPM	IRRIGATION PUMP	TFTR	TOPO FEATURE, TREE
IRPT	IRRIGATION PIPE TOP	WAEW	EDGE OF WATER
IRVL	IRRIGATION VALVE	WAHW	HIGH WATER MARK
IRWL	IRRIGATION WELL	WAUW	UNDER WATER GROUND SHOT
LVCL	LEVEE CENTERLINE	WAWS	WATER SURFACE
LVGB	LEVEE GRADE BREAK	WCFL	WATER CONTROL STRUCTURE, FLOWLINE/INVERT AT STRUCTURE
LVTO	LEVEE TOE OF SLOPE	WCFR	WATER CONTROL STRUCTURE, FRAME TOP
LVTP	LEVEE TOP OF SLOPE	WCHW	WATER CONTROL STRUCTURE, HEADWALL
RDCL	ROAD, CENTERLINE	WCPI	WATER CONTROL STRUCTURE, PIPE INVERT AT OUTLET
RDED	ROAD, EDGE OF DIRT ROAD	WCPT	WATER CONTROL STRUCTURE, PIPE TOP AT OUTLET
RDEG	ROAD, EDGE OF GRAVEL ROAD	WCST	WATER CONTROL STRUCTURE, TOP OF STRUCTURE
RDEP	ROAD, EDGE OF PAVED ROAD	WCWW	WATER CONTROL STRUCTURE, WING WALL
RDBG	ROAD GRADE BREAK		

LEGEND & STANDARD SYMBOLS

	EXISTING FEATURES		PROPOSED FEATURES
	1' EXISTING CONTOURS		1' PROPOSED CONTOURS
	5' EXISTING CONTOURS		5' PROPOSED CONTOURS
	ROADS		LEVEE LOWERING BOUNDARY
	PARCELS		BLIND CHANNEL ALCOVES
	EXISTING TIDE CHANNELS		PARALLEL WETLAND HABITAT MOUNDS
	EXISTING BEAVER CHANNELS		WETLAND HABITAT MOUNDS
	EXISTING PONDS		LEVEE LOWERING NUMBER
	HIGH TIDE LINE (HTL)		CHANNEL NUMBER
	WETLAND BOUNDARY		TIDAL HEADWATER NUMBER
	BEAVER DAM		
	2FT CULVERT		

CHANNEL & FEATURE QUANTITIES

CHANNEL	LENGTH (FT)	AREA (SF)	AVERAGE WIDTH (FT)	VOLUME (CY)	AVERAGE DEPTH (FT)	VOLUME(CY)/LF
1	700	9,825	14.0	1,840	1.7	2.63
1A	500	3,550	7.1	400	1.0	0.80
1B	175	1,030	5.9	105	0.9	0.60
1C	200	1,410	7.1	170	1.1	0.85
2	1,025	14,600	14.2	2,560	1.6	2.50
2A	415	3,090	7.4	345	1.0	0.83
2B	160	1,360	8.5	160	1.1	1.00
2C	270	760	2.8	180	2.1	0.67
3	530	5,840	11.0	920	1.4	1.74
5	690	8,020	11.6	1,200	1.3	1.74
5A	80	500	6.3	50	0.9	0.63
5B	100	600	6.0	60	0.9	0.60
6	180	2,000	11.1	300	1.4	1.67
8	440	9,370	21.3	1,345	1.3	3.06
8A	450	6,530	14.5	560	0.8	1.24
9	440	6,130	13.9	1,375	2.0	3.13
9A	300	4,310	14.4	975	2.0	3.25
9B	220	1,780	8.1	215	1.1	0.98
10	110	1,650	15.0	285	1.6	2.59
11	100	2,320	23.2	380	1.5	3.80
12	200	1,585	7.9	180	1.0	0.90
12A	60	315	5.3	30	0.9	0.50
14	650	10,740	16.5	2,080	1.7	3.20
14A	600	8,250	13.8	960	1.0	1.60
T1	-	26,635	-	1,540	0.5	-
T2	-	21,125	-	960	0.4	-
T3	-	22,210	-	720	0.3	-

GENERAL NOTES

- WASHINGTON DEPARTMENT OF FISH & WILDLIFE MAKES NO REPRESENTATIONS AS TO THE EXISTENCE OR NONEXISTENCE OF UTILITIES. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH THE PROVISIONS OF ALL APPLICABLE UTILITY NOTIFICATION REGULATIONS. THE CONTRACTOR WILL BE LIABLE FOR ANY DAMAGE TO UTILITIES CAUSED BY CONSTRUCTION ACTIVITIES.
- THE ENGINEER DOES NOT REPRESENT THAT THE LOCATION OF UTILITIES SHOWN ON THE PLANS ARE EXACT OR COMPLETE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE PRESENCE OF, ACTUAL LOCATIONS OF AND MAKE PROVISIONS FOR ALL WATERCOURSES AND UTILITIES. THE CONTRACTOR SHALL VERIFY LOCATION, DEPTH AND HEIGHT. THEIR VERIFICATION SHALL BE COORDINATED BY THE CONTRACTOR WITH THE APPROPRIATE UTILITY COMPANY.
- THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD POWER LINES. VERIFY LOCATION IN THE FIELD AND PROTECT IN PLACE.
- THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND STATE REQUIREMENTS RELATIVE TO THE NOTIFICATION OF THE APPLICABLE UNDERGROUND SERVICE ALERT.
- AT LEAST 2 WORKING DAYS PRIOR TO BEGINNING ANY DIGGING OR EXCAVATION WORK, THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT TO DETERMINE LOCATIONS OF EXISTING UTILITIES.
- IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR THE CONDITIONS OF THE JOB SITE INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK. THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH OCCUPATIONAL SAFETY LAWS, INCLUDING THE DESIGN AND CONSTRUCTION OF PROPER SHORING OF TRENCHES. THE DUTIES OF THE PROJECT ENGINEER DO NOT INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY IN, ON, OR NEAR THE JOB SITE.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE KNOWLEDGEABLE ABOUT THE PROJECT SPECIFICATIONS AND PERMITS. ALL WORK SHALL BE COMPLETED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL HAVE COPIES OF THE MOST CURRENT APPROVED PLANS, SPECIFICATIONS AND PERMIT CONDITIONS ON SITE DURING ALL WORK OPERATIONS.
- THE PROJECT SITE AND ADJACENT AREAS CONTAIN SENSITIVE HABITAT AREAS FOR PROTECTED WILDLIFE, AND MAY INCLUDE ENDANGERED SPECIES. THE CONTRACTOR SHALL PROTECT WILDLIFE AND WATER QUALITY, AND MINIMIZE POSSIBLE AIR, WATERWAY, AND SUBSOIL CONTAMINATION OR POLLUTION OR OTHER UNDESIRABLE EFFECTS.
- SHOULD IT APPEAR THAT THE WORK TO BE DONE, OR ANY MATTER RELATIVE THERETO, IS NOT SUFFICIENTLY DETAILED OR EXPLAINED ON THESE PLANS OR IN THE SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE CONSTRUCTION MANAGER FOR SUCH FURTHER EXPLANATIONS AS MAY BE NECESSARY.
- SHOULD THE CONTRACTOR FIND ANY DISCREPANCIES BETWEEN THE CONDITIONS EXISTING IN THE FIELD AND THE INFORMATION SHOWN ON THE DRAWINGS, THEY SHALL NOTIFY THE CONSTRUCTION MANAGER BEFORE PROCEEDING WITH CONSTRUCTION.
- THE HIGH TIDE LINE (HTL) WAS APPROXIMATED AS THE HIGHEST ASTRONOMICAL TIDE (HAT) AS RECORDED AT SNEEOOSH POINT NOAA HARMONIC GAGE ON 01/04/2018 15:30. HAT OF 12.9 FT MLLW WAS CONVERTED TO 15.6 FT NAVD88 USING NOAA VDATUM.
- ONLY TRACKED AND OR FLOATING EQUIPMENT SHALL BE ALLOWED FOR TRAVEL ON THE EXISTING MARSH SURFACE. NO WHEELED EQUIPMENT. MAXIMUM GROUND PRESSURE OF 3.5 PSI FOR TRACKED EXCAVATORS AND 6.5 PSI FOR LOADED (8 CY) TRACKED HAUL EQUIPMENT.

EARTHWORK QUANTITIES

TOTAL EXCAVATION: 29,875 CUBIC YARDS
 TOTAL FILL: 29,875 CUBIC YARDS

UNAUTHORIZED CHANGES & USES
 THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.

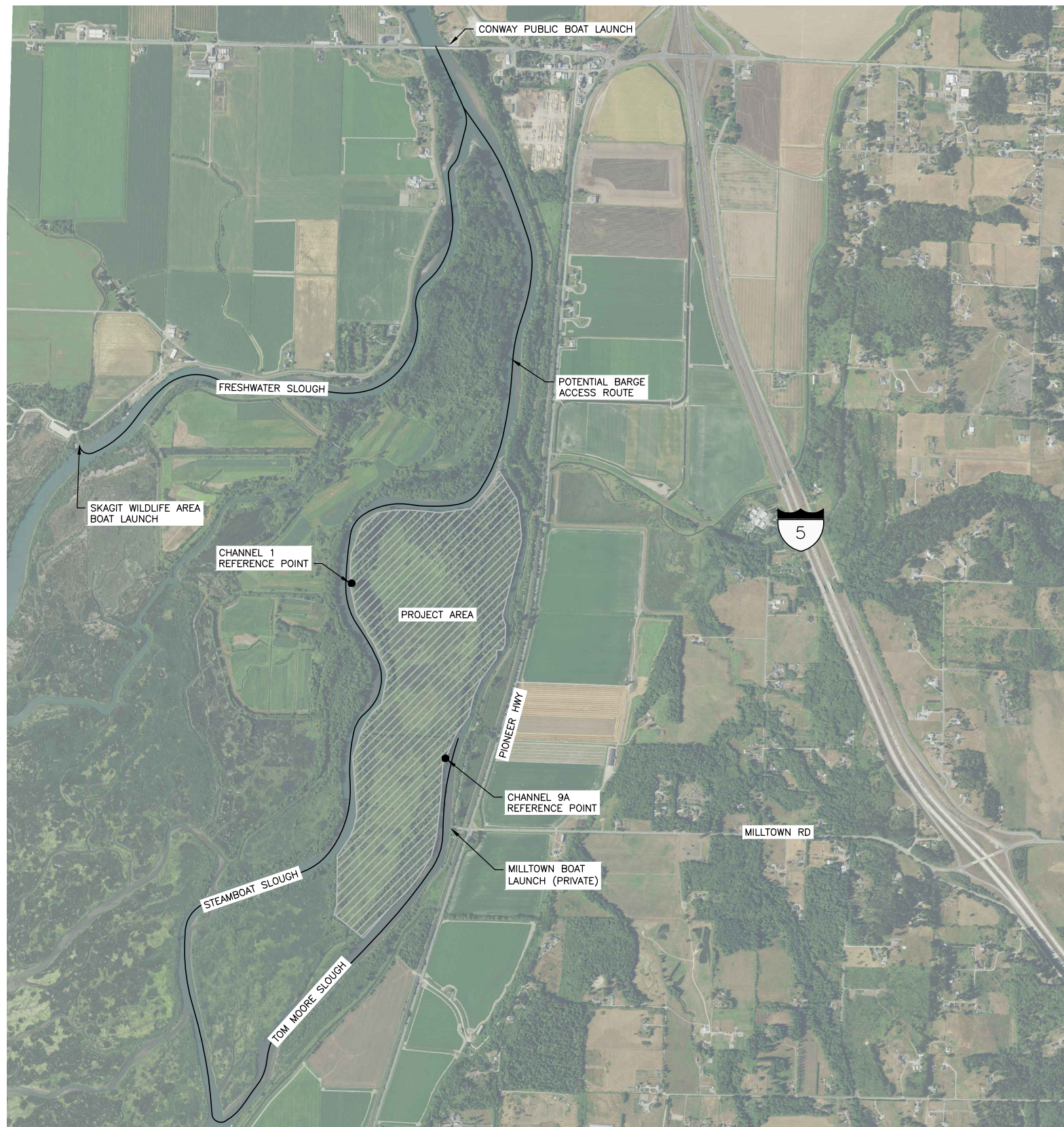


WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



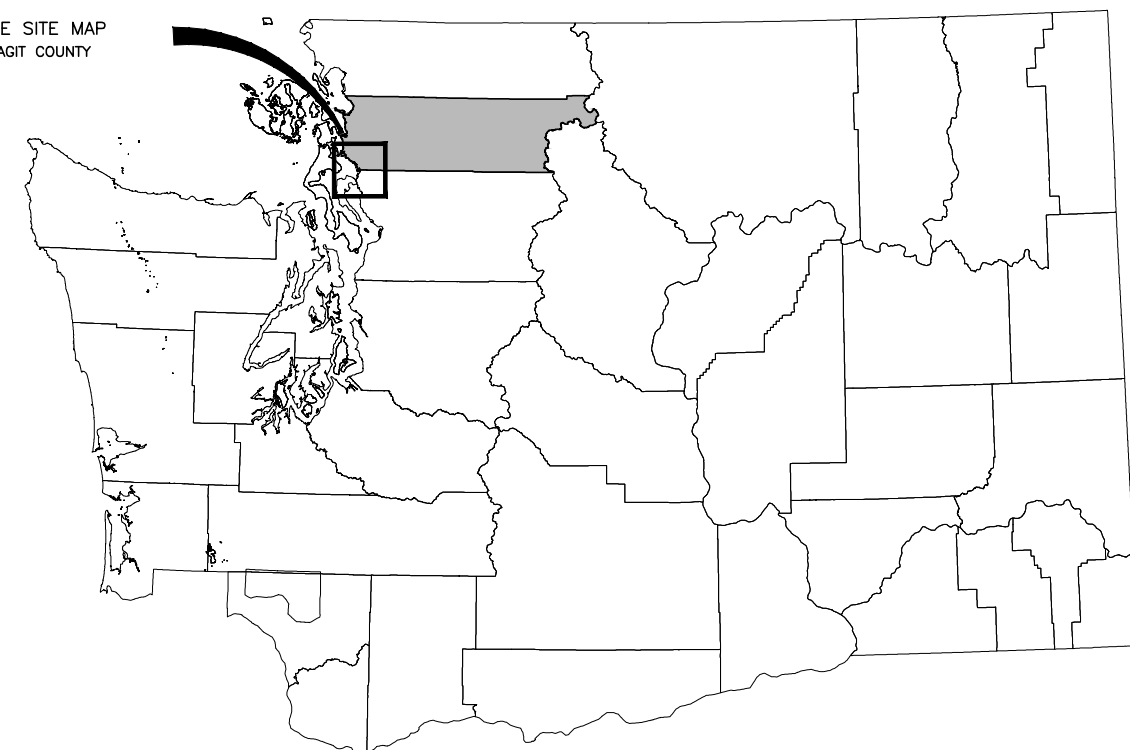
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APPROVED AND RELEASED FOR CONSTRUCTION			
CHIEF ENGINEER	DATE:		
PROGRAM	DATE:		
DESIGNED BY	DE	CHECKED BY	ND
DRAWN BY	ND/JZ	DATE	06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT		PROJECT NO. ST:R206:2021-1	
RESTORATION		SHEET OF	
GO.2		2 15	
GENERAL NOTES			



SITE ACCESS MAP
NOT TO SCALE

SEE SITE MAP
SKAGIT COUNTY



WASHINGTON

VICINITY MAP
NOT TO SCALE

BARGE LAUNCH POINTS		
BARGE LAUNCH	DISTANCE FROM CHANNEL 1 REFERENCE POINT (MILES)	DISTANCE FROM CHANNEL 9A REFERENCE POINT (MILES)
MILLTOWN BOAT LAUNCH	3.0	0.2
CONWAY BOAT LAUNCH	2.0	5.0
SKAGIT WILDLIFE AREA BOAT LAUNCH	3.6	6.7

NOTE: WATERBORNE ACCESS VIA BARGE IS THE RESPONSIBILITY OF THE CONTRACTOR AND IS COVERED AS A CONTRACT BID ITEM.

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WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



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CHIEF ENGINEER	DATE:	DESIGNED BY DE	
PROGRAM	DATE:	CHECKED BY ND	
		DRAWN BY ND/JZ	
		DATE 06/30/2022	

SKAGIT WLA, MILLTOWN ISLAND UNIT

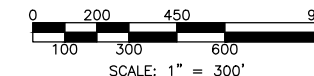
RESTORATION

GO.3

STATE AND VICINITY MAP

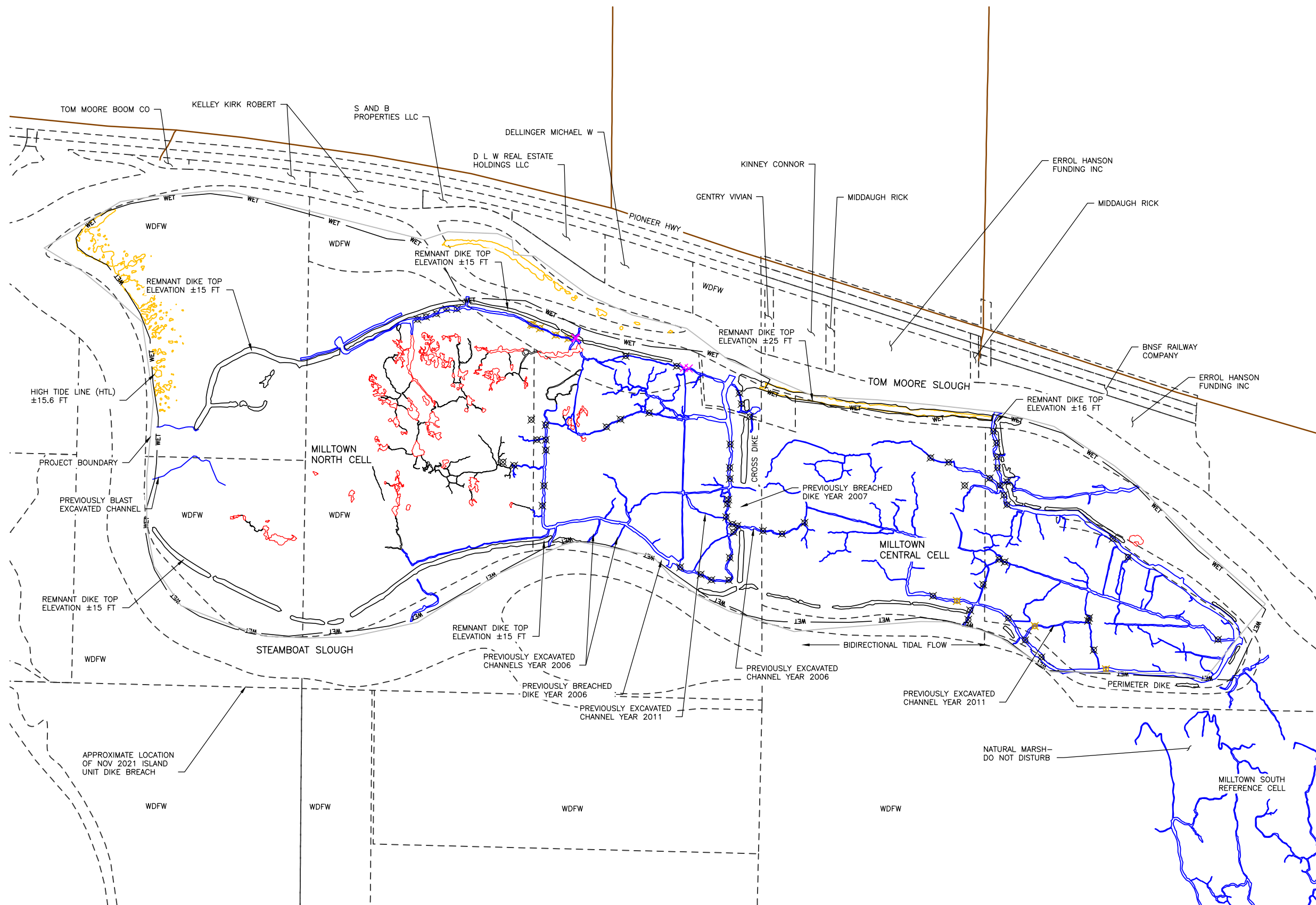
PROJECT NO.
ST:R206:2021-1

SHEET OF
3 **15**



LEGEND

- ⊗ EXISTING FEATURES
- ⊗ BEAVER DAM
- ⊗ OLD DAM
- ⊗ EXISTING CULVERT
- ROADS
- LEVEE TOP BOUNDARY
- - - PARCELS
- EXISTING TIDE CHANNELS
- EXISTING BEAVER CHANNELS
- EXISTING PONDS
- HIGH TIDE LINE (HTL)
- WETLAND BOUNDARY



NOTES

1. EXISTING LOCATIONS OF TIDE CHANNELS, BEAVER CHANNELS, PONDS, AND BEAVER DAMS FROM SRSC 2019 AND 2020 STUDY.
2. AERIAL IMAGERY FROM 2019 AND ACCESSED FROM USGS EARTH EXPLORER.
3. TOPOGRAPHIC DATA IS FROM 2012 LIDAR, 2019 SRSC SURVEY, AND 2020 CARDNO SURVEY. TOM MOORE AND STEAMBOAT SLOUGH BATHYMETRY FROM 2012 USGS AND 2014 USACE SONAR STUDIES.
4. ALL PARCELS ON MILLTOWN ISLAND ARE OWNED BY THE STATE DEPARTMENT OF GAME. ALL OTHER PARCELS ARE LABELED WITH OWNERS.

UNAUTHORIZED CHANGES & USES
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WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



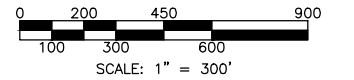
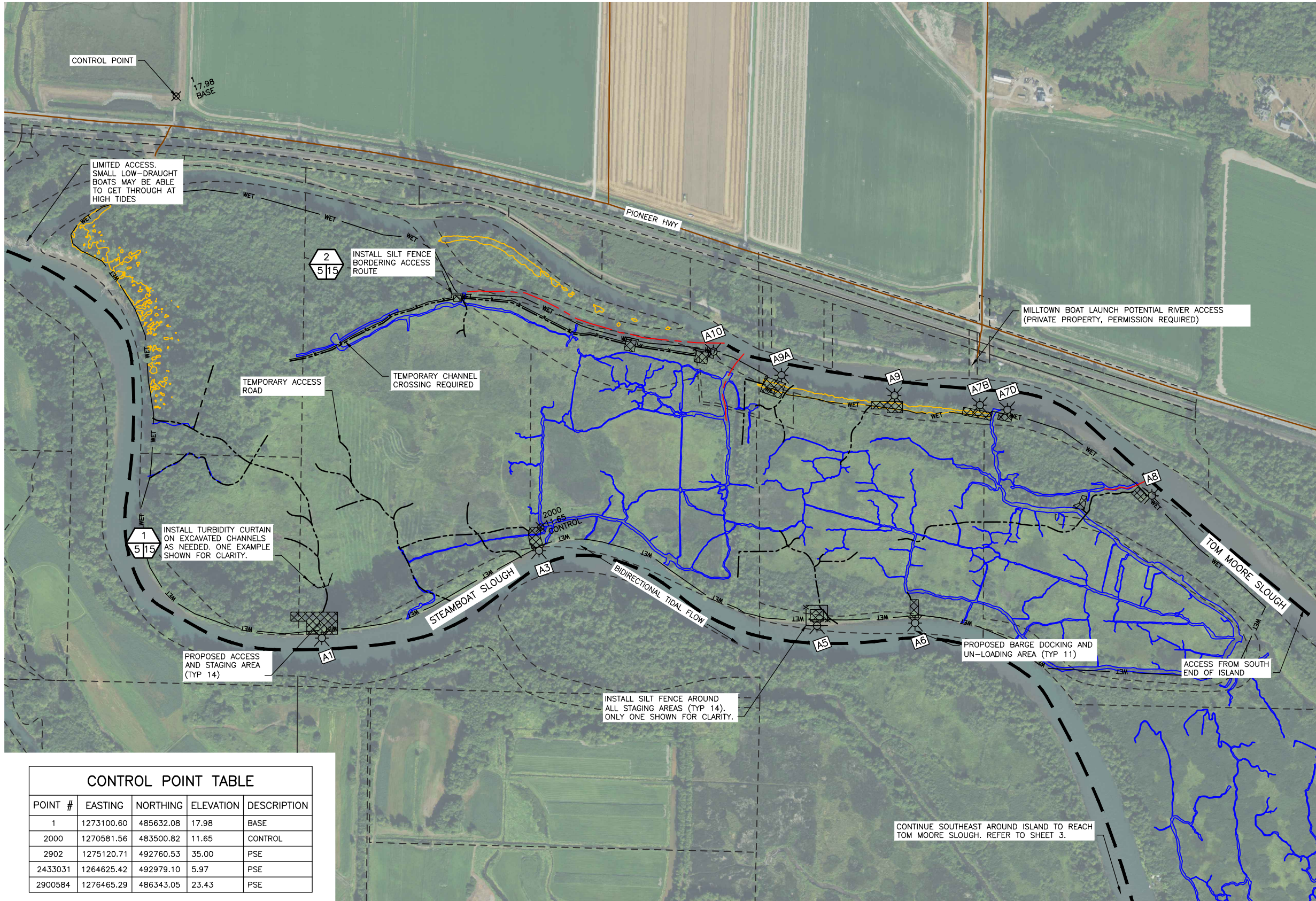
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CHIEF ENGINEER	DATE:		
PROGRAM	DATE:		

DESIGNED BY DE
CHECKED BY ND
DRAWN BY ND/JZ
DATE 06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION
G0.4
EXISTING SITE MAP

PROJECT NO.
ST:R206:2021-1
SHEET 4 OF 15



LEGEND

- EXISTING FEATURES**
- ROADS
 - - - PARCELS
 - EXISTING TIDE CHANNELS
 - 1' EXISTING CONTOURS
 - 5' EXISTING CONTOURS
 - HIGH TIDE LINE (HTL)
 - WETLAND BOUNDARY
 - ⊗ CONTROL POINT
- PROPOSED FEATURES**
- BARGE ACCESS
 - SMALL WATERCRAFT ACCESS
 - - - TEMPORARY ACCESS ROADS
 - TURBIDITY CURTAIN
 - SILT FENCE
 - ▨ STAGING AREA
 - ☀ BARGE DOCKING AND LOADING ZONES

NOTES

1. THE CONTRACTOR SHOULD EXPECT THAT BEAVER EXCAVATED CHANNELS, PONDS, AND TIDE CHANNELS EXTEND FARTHER THAN SHOWN ON THIS PLAN. THE CONTRACTOR SHALL AVOID DISTURBANCE OF BEAVER LODGES, CHANNELS, AND PONDS TO THE GREATEST EXTENT POSSIBLE. CHANNEL CONDITIONS AND LOCATIONS MAY HAVE CHANGED. CONTRACTOR MUST VERIFY ROUTES PRIOR TO CONSTRUCTION.
2. ACCESS AND STAGING SHALL BE LIMITED TO THOSE ROUTES, STOCKPILING AREAS, AND BARGE LOADING ZONES SHOWN ON THESE PLANS.
3. ONLY TRACKED AND OR FLOATING EQUIPMENT SHALL BE ALLOWED FOR TRAVEL ON THE EXISTING MARSH SURFACE. NO WHEELED EQUIPMENT. MAXIMUM GROUND PRESSURE OF 3.5 PSI FOR TRACKED EXCAVATORS AND 6.5 PSI FOR LOADED (8 CY) TRACKED HAUL EQUIPMENT.
4. EXCAVATED MATERIAL SHALL BE PLACED ON THE NEAREST SHOWN HABITAT MOUND ON THESE PLANS TO LIMIT DISTURBANCE.
5. TEMPORARY ACCESS ROADS SHALL BE LIMITED TO THE CONSTRUCTION BOUNDARIES OF PROPOSED CHANNELS AND LEVEE LOWERING AREAS EXCEPT AS SPECIFIED ON THIS SHEET. REFER TO SHEETS 7-11.
6. EXISTING TREES WHICH DO NOT DIRECTLY CONFLICT WITH A CHANNEL OR LEVEE LOWERING AREA SHALL NOT BE REMOVED WITHOUT APPROVAL FROM THE PROJECT REPRESENTATIVE. THE SHOWN STAGING AREAS SHALL BE IMPLEMENTED TO MINIMIZE DISTURBANCE TO EXISTING NATIVE TREES.
7. SOME OR ALL OF THE PROPOSED WORK OCCURS IN LOW ELEVATION MARSH THAT IS PERMANENTLY OR INTERMITTENTLY INUNDATED WITH WATER. THE SITE IS SUBJECT TO DAILY TIDES AND HIGH RIVER FLOWS THAT MUST BE TAKEN INTO CONSIDERATION DURING CONSTRUCTION. FLOATING EQUIPMENT WILL LIKELY BE REQUIRED. IT IS UNLIKELY THE WORK AREA WILL BE DE-WATERED DURING MUCH OF CONSTRUCTION.
8. PSE CONTROL POINTS LOCATED OFF THIS MAP.
9. BARGE DOCKING AND LOADING ZONES ARE TEMPORARY ANCHOR POINTS FOR SMALL DECK BARGES WITH SPUDS TO LOAD/UNLOAD CONSTRUCTION EQUIPMENT TO THE APPROVED STAGING AREAS. CONTRACTOR MUST FIELD VERIFY ALL WATER ROUTES AND ACCESSIBILITY.

UNAUTHORIZED CHANGES & USES
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POINT #	EASTING	NORTHING	ELEVATION	DESCRIPTION
1	1273100.60	485632.08	17.98	BASE
2000	1270581.56	483500.82	11.65	CONTROL
2902	1275120.71	492760.53	35.00	PSE
2433031	1264625.42	492979.10	5.97	PSE
2900584	1276465.29	486343.05	23.43	PSE

WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



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CHIEF ENGINEER	DATE:		
PROGRAM	DATE:		
DESIGNED BY	DE	CHECKED BY	ND
DRAWN BY	ND/JZ	DATE	06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION

G0.5

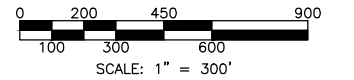
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PROJECT NO.

ST:R206:2021-1

SHEET OF

5 15

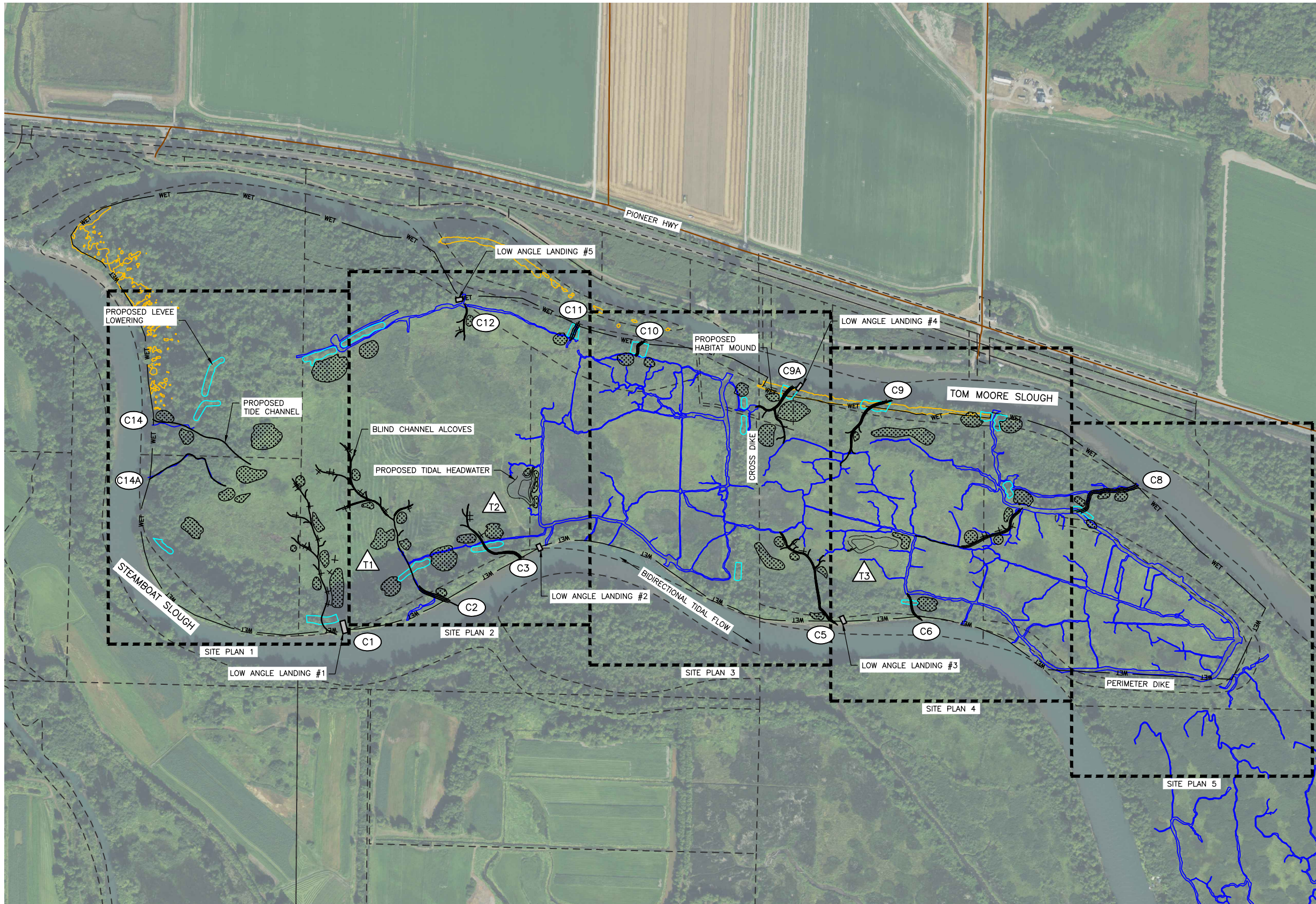


LEGEND

- EXISTING FEATURES
- ROADS
- PARCELS
- EXISTING TIDE CHANNELS
- 1' EXISTING CONTOURS
- 5' EXISTING CONTOURS
- HIGH TIDE LINE (HTL)
- WETLAND BOUNDARY

- PROPOSED FEATURES
- 1' PROPOSED CONTOURS
- 5' PROPOSED CONTOURS
- LEVEE LOWERING BOUNDARY

- C# CHANNEL NETWORK NUMBER
- T# TIDAL HEADWATER NUMBER



NOTES

1. FOR DETAILED SITE PLANS REFER TO SHEETS 7-11.
2. EXISTING LOCATIONS OF TIDE CHANNELS, BEAVER CHANNELS, PONDS, AND BEAVER DAMS FROM SRSC 2019 AND 2020 STUDY.
3. TOPOGRAPHIC DATA IS FROM 2012 LIDAR, 2019 SRSC SURVEY, AND 2020 CARDNO SURVEY. TOM MOORE AND STEAMBOAT SLOUGH BATHYMETRY FROM 2012 USGS AND 2014 USACE SONAR STUDIES.
4. ONLY TRACKED AND OR FLOATING EQUIPMENT SHALL BE ALLOWED FOR TRAVEL ON THE EXISTING MARSH SURFACE. NO WHEELED EQUIPMENT. MAXIMUM GROUND PRESSURE OF 3.5 PSI FOR TRACKED EXCAVATORS AND 6.5 PSI FOR LOADED (8 CY) TRACKED HAUL EQUIPMENT.

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WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



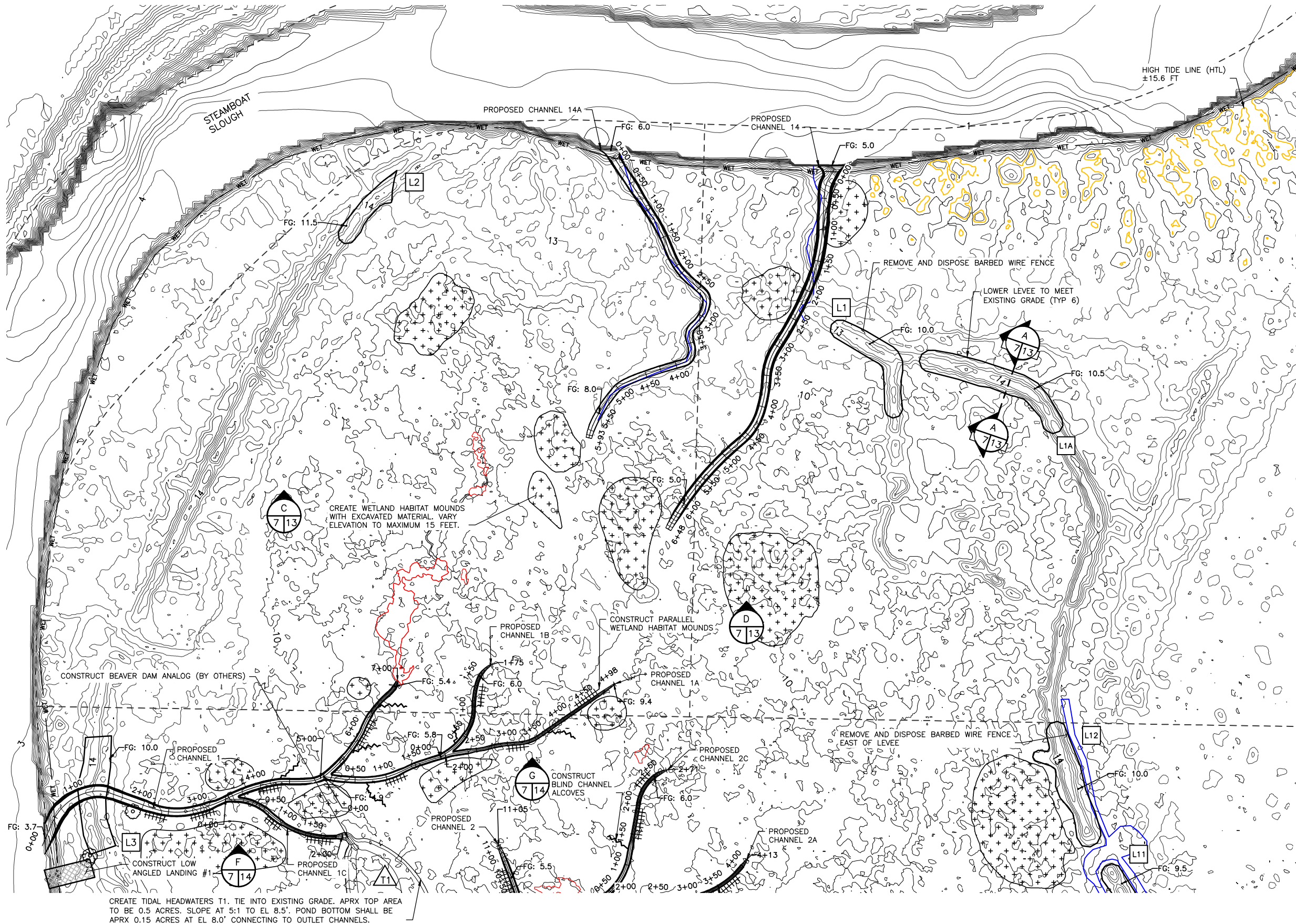
SYM	DATE	REVISION DESCRIPTION	BY
APPROVED AND RELEASED FOR CONSTRUCTION			
CHIEF ENGINEER		DATE:	
PROGRAM		DATE:	
DESIGNED BY	DE	CHECKED BY	ND
DRAWN BY	ND/JZ	DATE	06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION
 C0.1
 OVERVIEW SITE PLAN

PROJECT NO.
 ST:R206:2021-1

SHEET OF
 6 15



0 40 80 160 240
20 60 120 180
SCALE: 1" = 80'

LEGEND

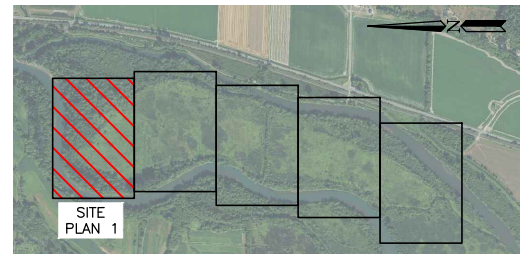
EXISTING FEATURES

- BEAVER DAM
- 2FT CULVERT
- ROADS
- PARCELS
- EXISTING TIDE CHANNELS
- EXISTING BEAVER CHANNELS
- EXISTING PONDS
- HIGH TIDE LINE (HTL)
- WETLAND BOUNDARY
- 1' EXISTING CONTOURS
- 5' EXISTING CONTOURS
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE

PROPOSED FEATURES

- 1' PROPOSED CONTOURS
- 5' PROPOSED CONTOURS
- LEVEE LOWERING BOUNDARY
- BLIND CHANNEL ALCOVES
- PARALLEL WETLAND HABITAT MOUNDS
- WETLAND HABITAT MOUNDS
- LEVEE LOWERING NUMBER

- NOTES**
- EXISTING LOCATIONS OF TIDE CHANNELS, BEAVER CHANNELS, PONDS, AND BEAVER DAMS FROM SRSC 2019 AND 2020 STUDY.
 - TOPOGRAPHIC DATA IS FROM 2012 LIDAR, 2019 SRSC SURVEY, AND 2020 CARDNO SURVEY. TOM MOORE AND STEAMBOAT SLOUGH BATHYMETRY FROM 2012 USGS AND 2014 USACE SONAR STUDIES.
 - ONLY TRACKED AND/OR FLOATING EQUIPMENT SHALL BE ALLOWED FOR TRAVEL ON THE EXISTING MARSH SURFACE. NO WHEELED EQUIPMENT. MAXIMUM GROUND PRESSURE OF 3.5 PSI FOR TRACKED EXCAVATORS AND 6.5 PSI FOR LOADED (8 CY) TRACKED HAUL EQUIPMENT.
 - TREE LOCATIONS ARE APPROXIMATE AND INCOMPLETE. A FULL VEGETATION SURVEY WAS NOT COMPLETED. THE CONTRACTOR SHOULD EXPECT TO ENCOUNTER MORE TREES THAN SHOWN ON THESE PLANS.
 - DO NOT DISTURB ROOTS OF ANY CONIFERS THAT CONFLICT WITH CHANNEL GRADING. CONTRACTOR MUST MEANDER AROUND CONIFERS WHEN ENCOUNTERED. DO NOT DISTURB ANY TREE WITH DBH >30" UNLESS APPROVAL IS PROVIDED BY THE OWNERS REPRESENTATIVE OR ENGINEER.
 - DO NOT CUT TREES >6" DIAMETER. PUSH TREES OVER IN PLACE LEAVING ROOTS ANCHORED WHERE POSSIBLE.
 - SEE SHEET 13 DETAILED NOTES ON PLACEMENT OF EXCAVATED SOIL (TOPSOIL) FOR WETLAND HABITAT MOUNDS AND PARALLEL WETLAND HABITAT MOUNDS.



INSET MAP

UNAUTHORIZED CHANGES & USES
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.



WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



SYMBOL	DATE	REVISION DESCRIPTION	BY
2/2SYM		APPROVED AND RELEASED FOR CONSTRUCTION	
CHIEF ENGINEER	DATE:		
PROGRAM	DATE:		
DESIGNED BY	DE		
CHECKED BY	ND		
DRAWN BY	ND/JZ		
DATE	06/30/2022		

SKAGIT WLA, MILLTOWN ISLAND UNIT

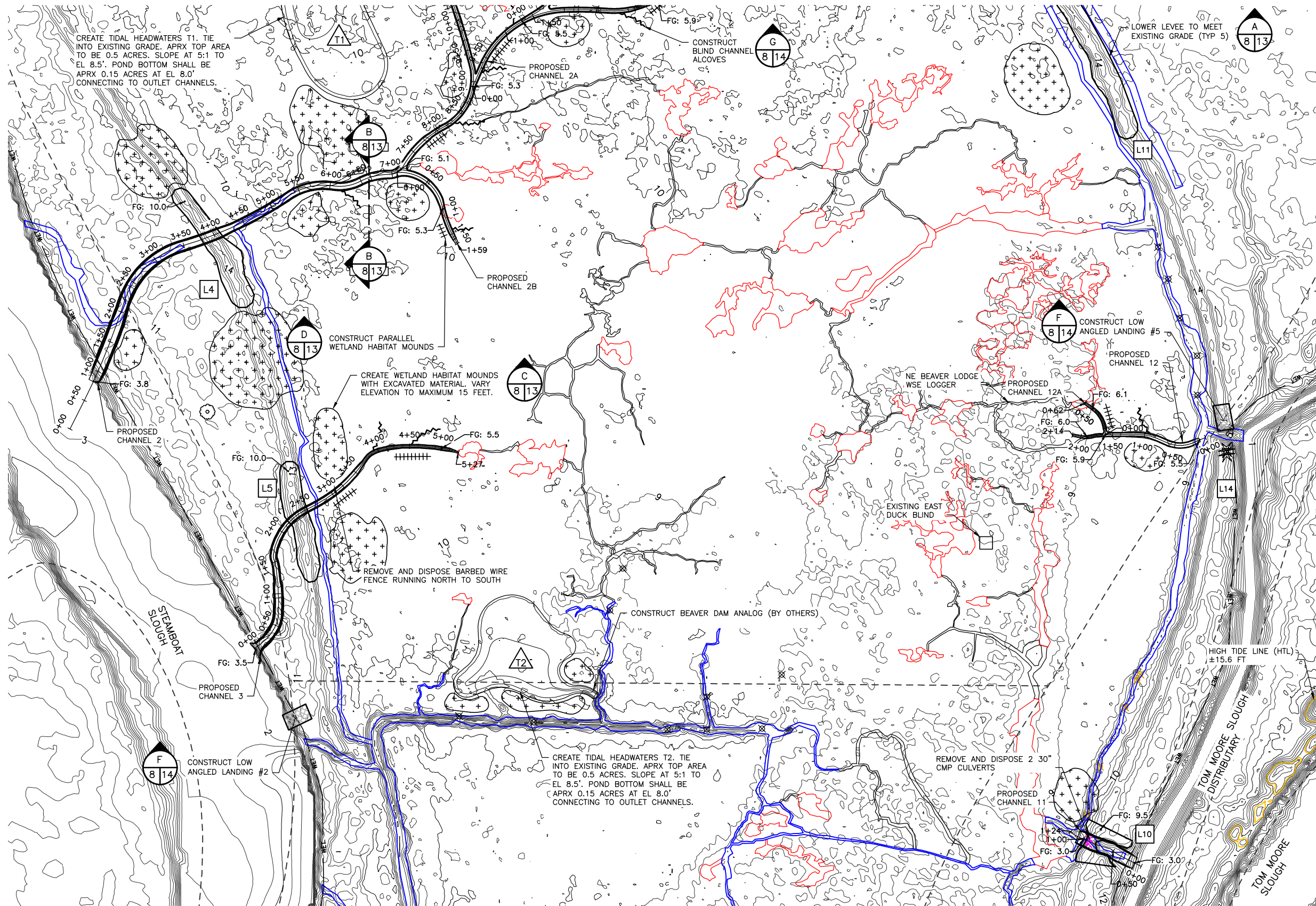
RESTORATION

C0.2

SITE PLAN 1

PROJECT NO.
ST:R206:2021-1

SHEET 7 OF 15

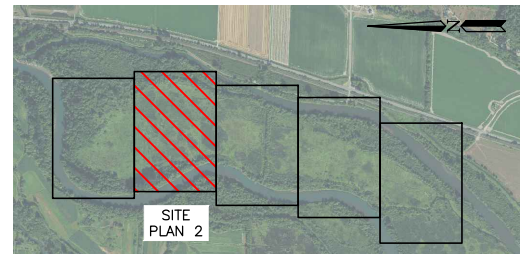


0 40 80 160 240
20 60 120 180
SCALE: 1" = 80'

LEGEND

	EXISTING FEATURES
	BEAVER DAM
	2FT CULVERT
	ROADS
	PARCELS
	EXISTING TIDE CHANNELS
	EXISTING BEAVER CHANNELS
	EXISTING PONDS
	HIGH TIDE LINE (HTL)
	WETLAND BOUNDARY
	1' EXISTING CONTOURS
	5' EXISTING CONTOURS
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
	PROPOSED FEATURES
	1' PROPOSED CONTOURS
	5' PROPOSED CONTOURS
	LEVEE LOWERING BOUNDARY
	BLIND CHANNEL ALCOVES
	PARALLEL WETLAND HABITAT MOUNDS
	WETLAND HABITAT MOUNDS
	L#

- NOTES**
- EXISTING LOCATIONS OF TIDE CHANNELS, BEAVER CHANNELS, PONDS, AND BEAVER DAMS FROM SRSC 2019 AND 2020 STUDY.
 - TOPOGRAPHIC DATA IS FROM 2012 LIDAR, 2019 SRSC SURVEY, AND 2020 CARDNO SURVEY. TOM MOORE AND STEAMBOAT SLOUGH BATHYMETRY FROM 2012 USGS AND 2014 USACE SONAR STUDIES.
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 - TREE LOCATIONS ARE APPROXIMATE AND INCOMPLETE. A FULL VEGETATION SURVEY WAS NOT COMPLETED. THE CONTRACTOR SHOULD EXPECT TO ENCOUNTER MORE TREES THAN SHOWN ON THESE PLANS.
 - DO NOT DISTURB ROOTS OF ANY CONIFERS THAT CONFLICT WITH CHANNEL GRADING. CONTRACTOR MUST MEANDER AROUND CONIFERS WHEN ENCOUNTERED. DO NOT DISTURB ANY TREE WITH DBH >30" UNLESS APPROVAL IS PROVIDED BY THE OWNERS REPRESENTATIVE OR ENGINEER.
 - DO NOT CUT TREES >6" DIAMETER. PUSH TREES OVER IN PLACE LEAVING ROOTS ANCHORED WHERE POSSIBLE.
 - SEE SHEET 13 DETAILED NOTES ON PLACEMENT OF EXCAVATED SOIL (TOPSOIL) FOR WETLAND HABITAT MOUNDS AND PARALLEL WETLAND HABITAT MOUNDS.



INSET MAP

UNAUTHORIZED CHANGES & USES
THE ENGINEER PREPARING THESE PLANS WILL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES MUST BE IN WRITING AND MUST BE APPROVED BY THE PREPARER OF THESE PLANS.



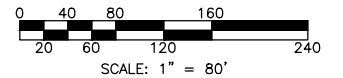
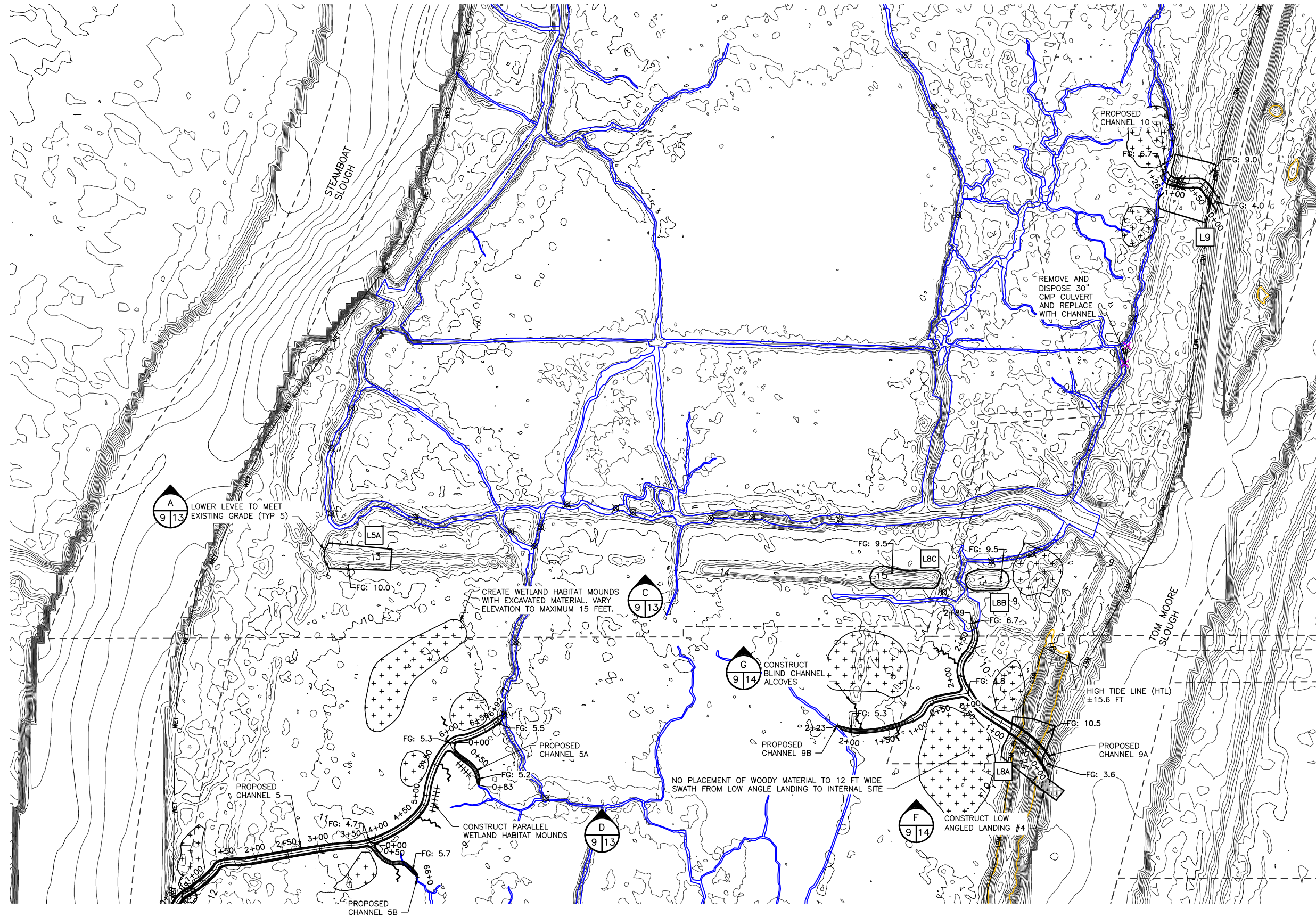
WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



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APPROVED AND RELEASED FOR CONSTRUCTION			
CHIEF ENGINEER		DATE:	
PROGRAM		DATE:	
DESIGNED BY	DE	CHECKED BY	ND
DRAWN BY	ND/JZ	DATE	06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT
RESTORATION
C0.3
SITE PLAN 2

PROJECT NO.
ST:R206:2021-1
SHEET 8 OF 15

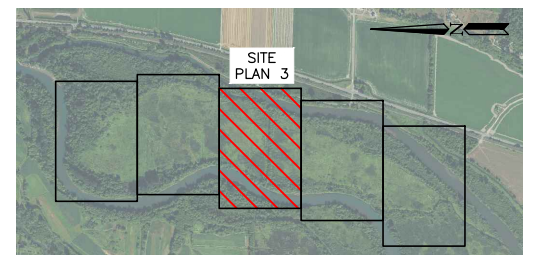


LEGEND

- | | |
|--------------------------|---------------------------------|
| EXISTING FEATURES | |
| | BEAVER DAM |
| | 2FT CULVERT |
| | ROADS |
| | PARCELS |
| | EXISTING TIDE CHANNELS |
| | EXISTING BEAVER CHANNELS |
| | EXISTING PONDS |
| | HIGH TIDE LINE (HTL) |
| | WETLAND BOUNDARY |
| | 1' EXISTING CONTOURS |
| | 5' EXISTING CONTOURS |
| | EXISTING DECIDUOUS TREE |
| | EXISTING CONIFEROUS TREE |
| PROPOSED FEATURES | |
| | 1' PROPOSED CONTOURS |
| | 5' PROPOSED CONTOURS |
| | LEVEE LOWERING BOUNDARY |
| | BLIND CHANNEL ALCOVES |
| | PARALLEL WETLAND HABITAT MOUNDS |
| | WETLAND HABITAT MOUNDS |
| | LEVEE LOWERING NUMBER |

NOTES

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INSET MAP

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WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



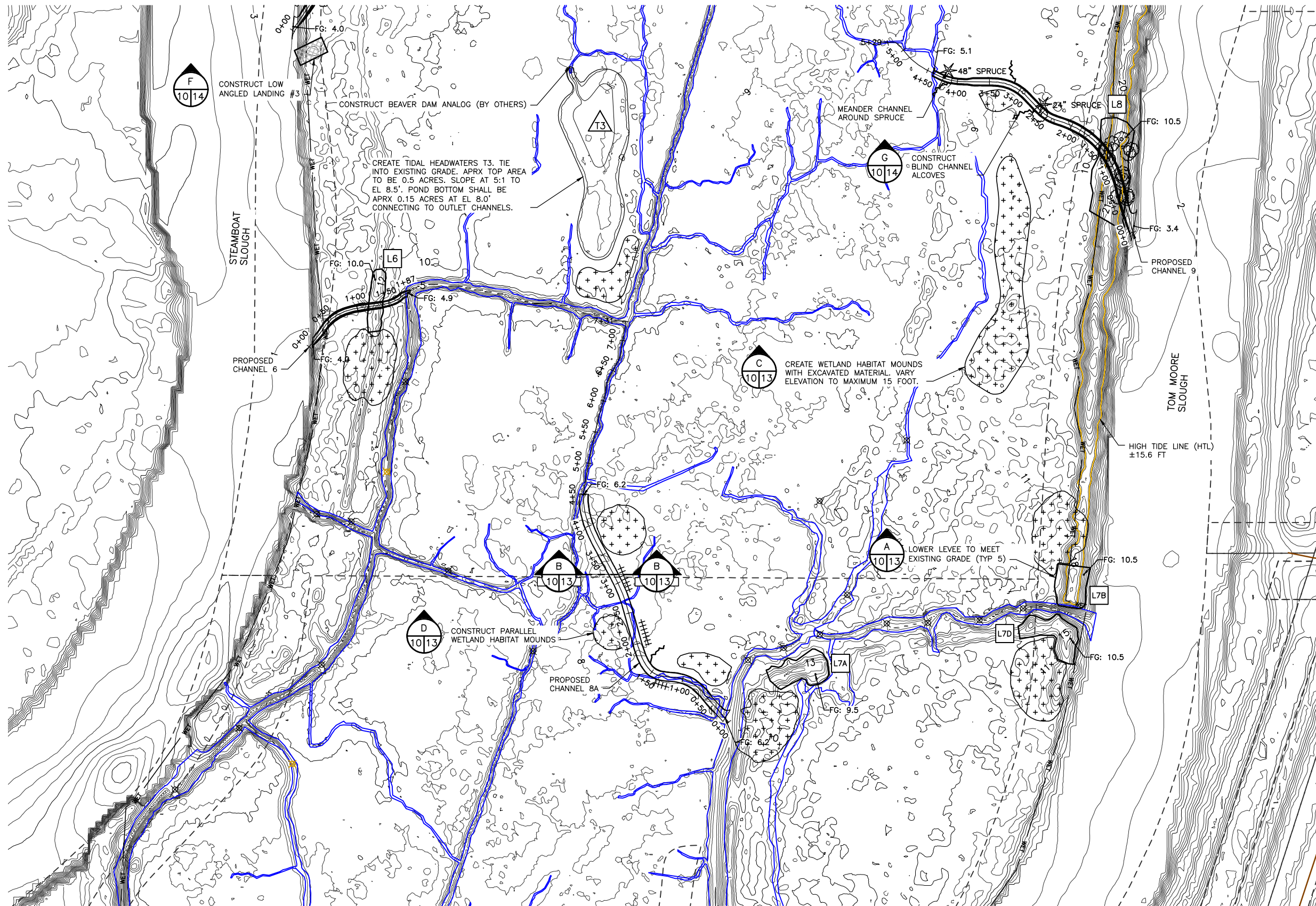
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SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION
C0.4
SITE PLAN 3

PROJECT NO.
ST:R206:2021-1

SHEET OF
9 15



0 40 80 160 240
SCALE: 1" = 80'

LEGEND

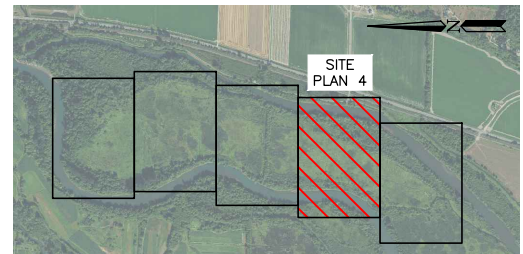
EXISTING FEATURES

- BEAVER DAM
- 2FT CULVERT
- ROADS
- PARCELS
- EXISTING TIDE CHANNELS
- EXISTING BEAVER CHANNELS
- EXISTING PONDS
- HIGH TIDE LINE (HTL)
- WETLAND BOUNDARY
- 1' EXISTING CONTOURS
- 5' EXISTING CONTOURS
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE

PROPOSED FEATURES

- 1' PROPOSED CONTOURS
- 5' PROPOSED CONTOURS
- LEVEE LOWERING BOUNDARY
- BLIND CHANNEL ALCOVES
- PARALLEL WETLAND HABITAT MOUNDS
- WETLAND HABITAT MOUNDS
- LEVEE LOWERING NUMBER

- NOTES**
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INSET MAP

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PROGRAM		DATE:	
DESIGNED BY	DE	DATE	06/30/2022
CHECKED BY	ND		
DRAWN BY	ND/JZ		

SKAGIT WLA, MILLTOWN ISLAND UNIT

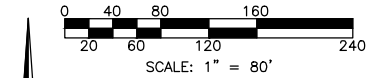
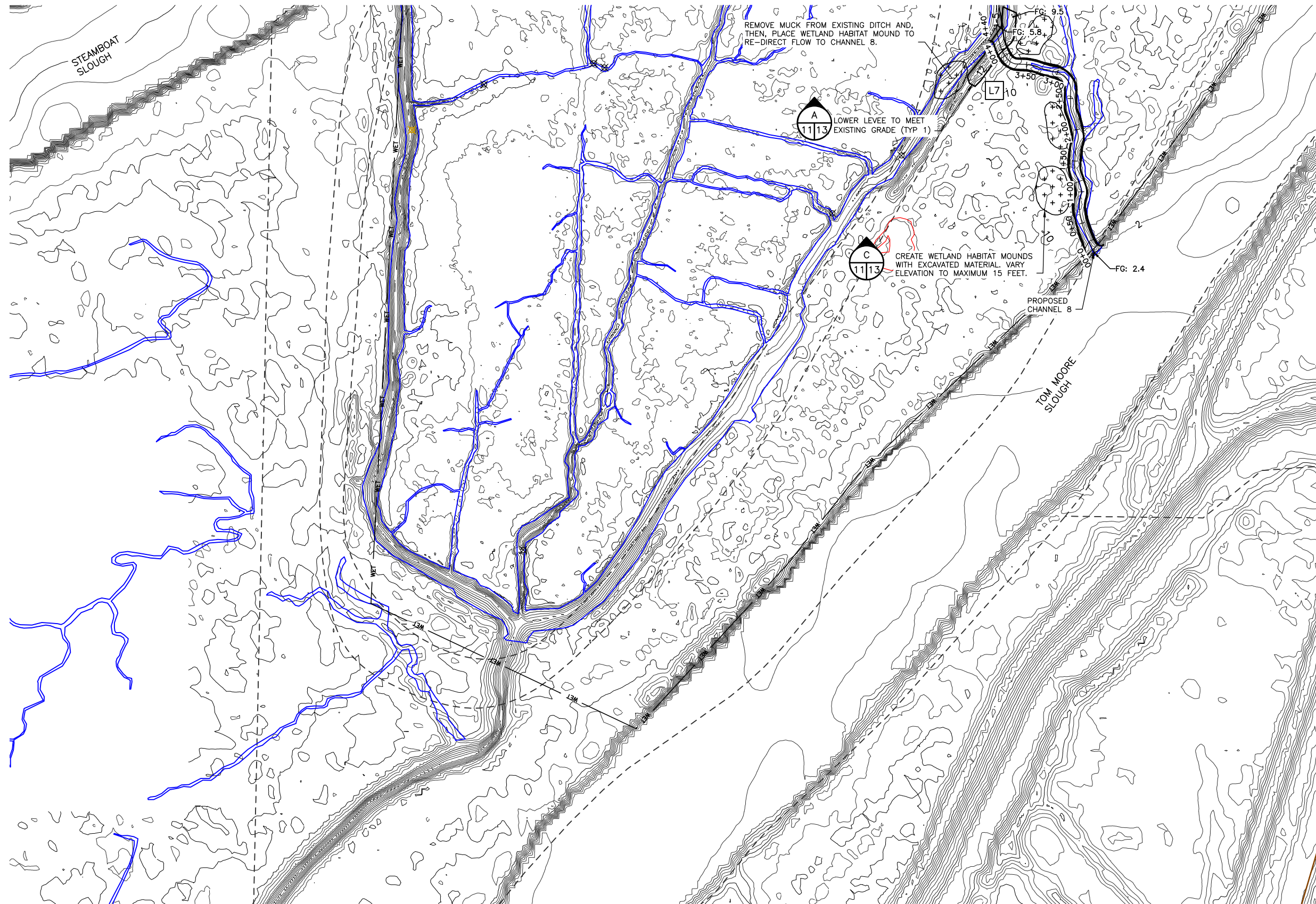
RESTORATION

C0.5

SITE PLAN 4

PROJECT NO.
ST:R206:2021-1

SHEET 10 OF 15



LEGEND

EXISTING FEATURES	
	BEAVER DAM
	2FT CULVERT
	ROADS
	PARCELS
	EXISTING TIDE CHANNELS
	EXISTING BEAVER CHANNELS
	EXISTING PONDS
	HIGH TIDE LINE (HTL)
	WETLAND BOUNDARY
	1' EXISTING CONTOURS
	5' EXISTING CONTOURS
	EXISTING DECIDUOUS TREE
	EXISTING CONIFEROUS TREE
PROPOSED FEATURES	
	1' PROPOSED CONTOURS
	5' PROPOSED CONTOURS
	LEVEE LOWERING BOUNDARY
	BLIND CHANNEL ALCOVES
	PARALLEL WETLAND HABITAT MOUNDS
	WETLAND HABITAT MOUNDS
	LEVEE LOWERING NUMBER

- NOTES**
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INSET MAP

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WASHINGTON DEPARTMENT OF
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DESIGNED BY	DE	DATE	
CHECKED BY	ND	DATE	
DRAWN BY	ND/JZ	DATE	
		DATE	06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION

C0.6

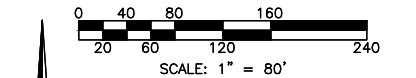
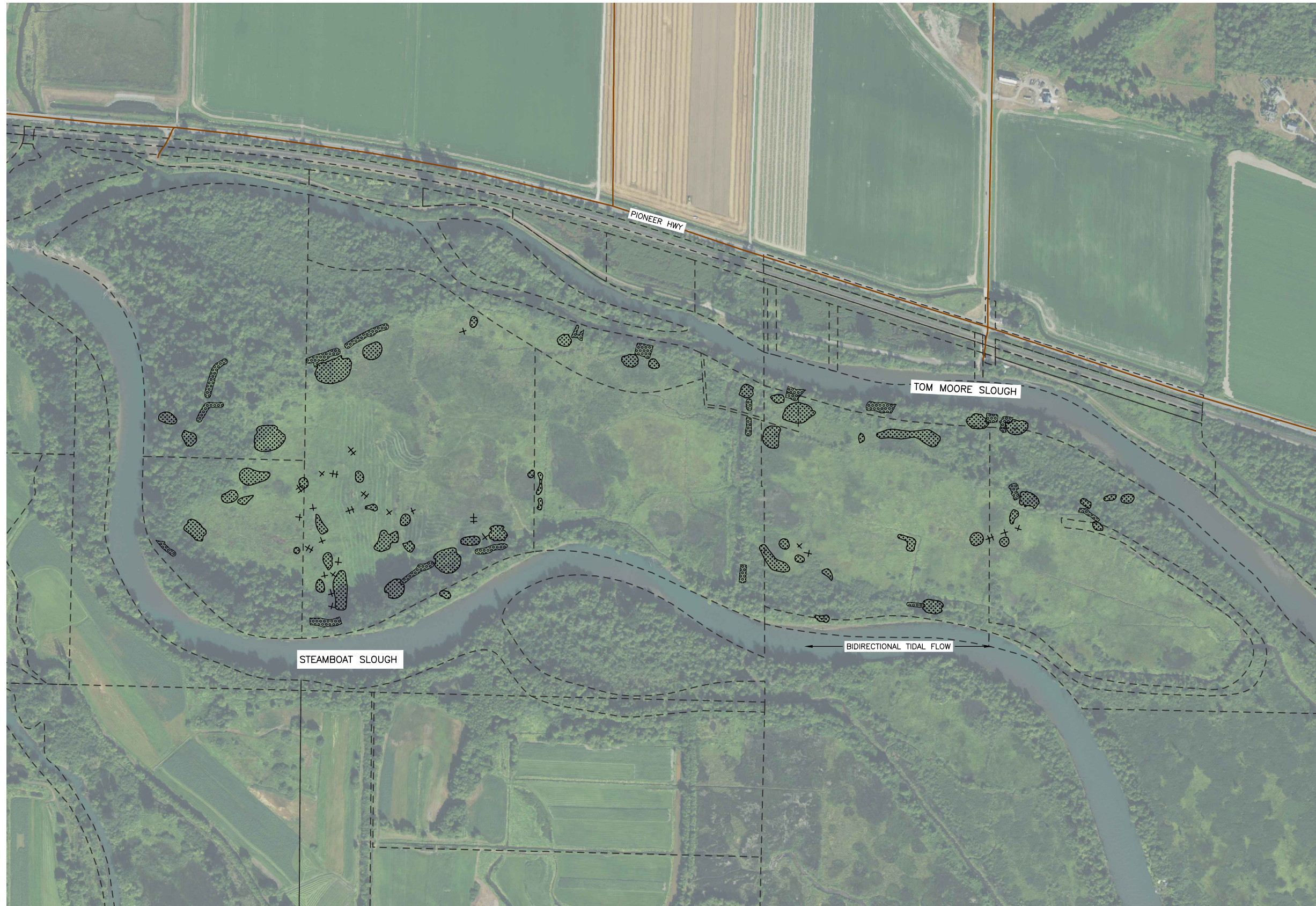
SITE PLAN 5

PROJECT NO.

ST:R206:2021-1

SHEET OF

11 15



LEGEND

	EXISTING FEATURES
	ROADS
	PARCELS
PROPOSED FEATURES	
	PARALLEL WETLAND HABITAT MOUNDS
	WETLAND HABITAT MOUNDS
	LEVEE LOWERING PLANTING AREA

NOTES

1. PLANTING PLAN IN DEVELOPMENT BY THE SKAGIT RIVER SYSTEM COOPERATIVE (SRSC), REFER TO HABITAT MOUND TYPICAL SECTIONS ON SHEET 13 AND DETAILS ON SHEET 14 FOR TYPICAL PLANTING ZONES AND ELEVATIONS.
2. ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES (I.E. LEVEE LOWERING AND HABITAT MOUNDS) WILL BE DENSELY PLANTED WITH A NATIVE VEGETATION COMMUNITY APPROPRIATE TO THAT ELEVATION BAND.
3. PLANTING WILL COMMENCE IN THE FALL OR WINTER FOLLOWING CONSTRUCTION AND WILL NOT BE IN THE CONSTRUCTION CONTRACT. PLANTING TO BE DONE BY SRSC OR ANOTHER PARTY.
4. THE PLANTING ZONES SHOWN HERE ARE PRELIMINARY AND ARE LIMITED TO THE DISTURBANCE AREAS IMPACTED BY GRADING. ADDITIONAL PLANTING IMPROVEMENTS ARE IN DEVELOPMENT BY SRSC.

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FISH & WILDLIFE



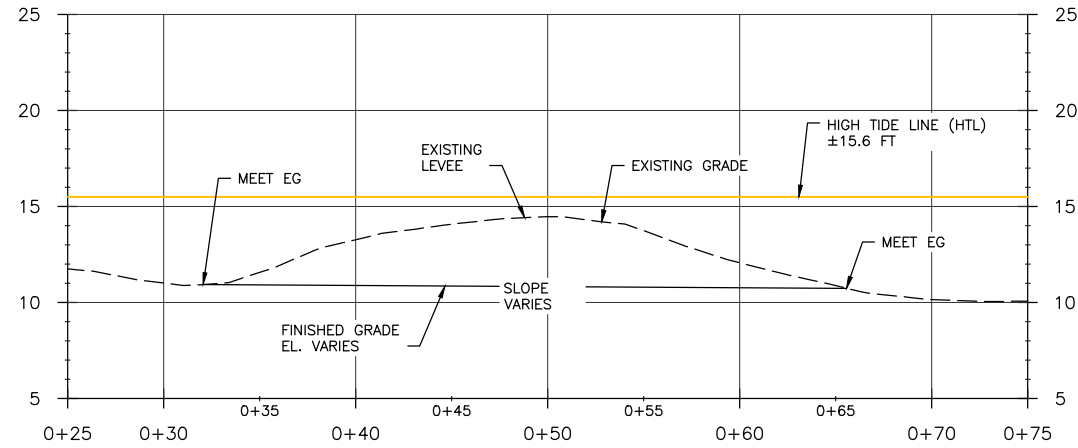
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APPROVED AND RELEASED FOR CONSTRUCTION			
CHIEF ENGINEER		DATE:	DESIGNED BY DE
PROGRAM		DATE:	CHECKED BY ND
			DRAWN BY ND/JZ
			DATE 06/30/2022

SKAGIT WLA, MILLTOWN ISLAND UNIT
 RESTORATION
 C0.8
 PLANTING PLAN (BY OTHERS)

PROJECT NO. ST:R206:2021-1	
SHEET 12	OF 15

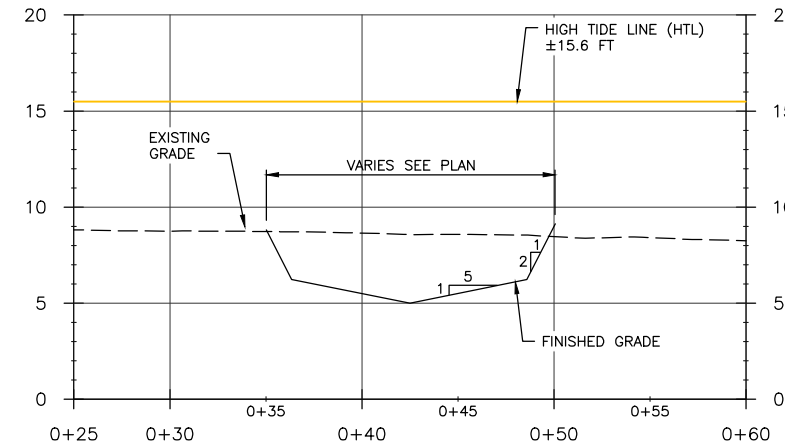
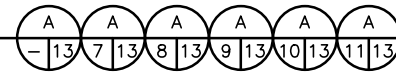
NOTES

- HABITAT MOUND PLANTING SCHEDULE IN DEVELOPMENT BY THE SKAGIT RIVER SYSTEM COOPERATIVE (SRSC).
- TIDE CHANNEL ELEVATIONS, GRADES AND WIDTHS WERE DEVELOPED USING ALLOMETRIC RELATIONSHIPS OBSERVED IN THE SOUTH FORK SKAGIT RIVER DELTA. REFER TO SITE PLANS 7-11 FOR EXACT GEOMETRY.
- LEEVE LOWERING AREAS SHOULD BE CONSTRUCTED TO HAVE SOME NATURAL VARIATION IN MICRO-TOPOGRAPHY AND SHOULD NOT BE COMPACTED.



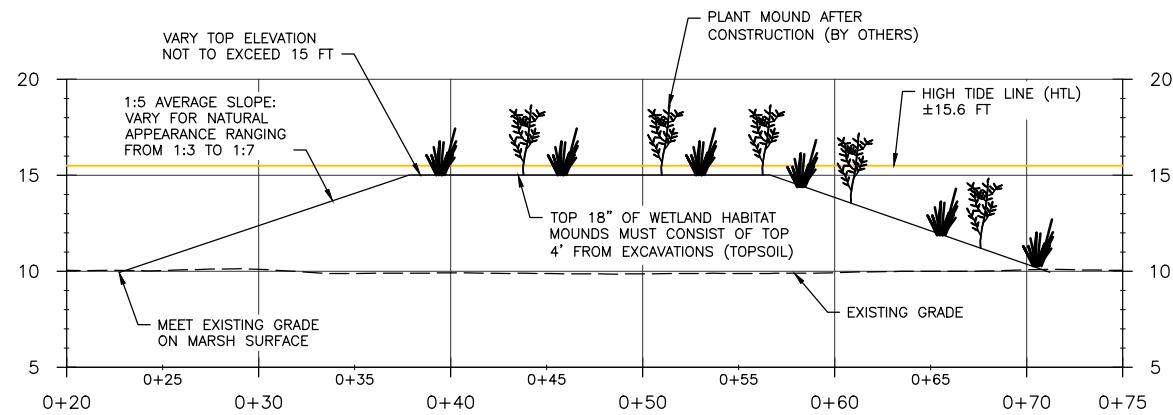
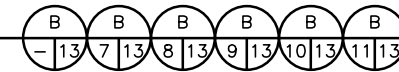
LEEVE LOWERING TYPICAL SECTION

SCALE: 1" = 5'



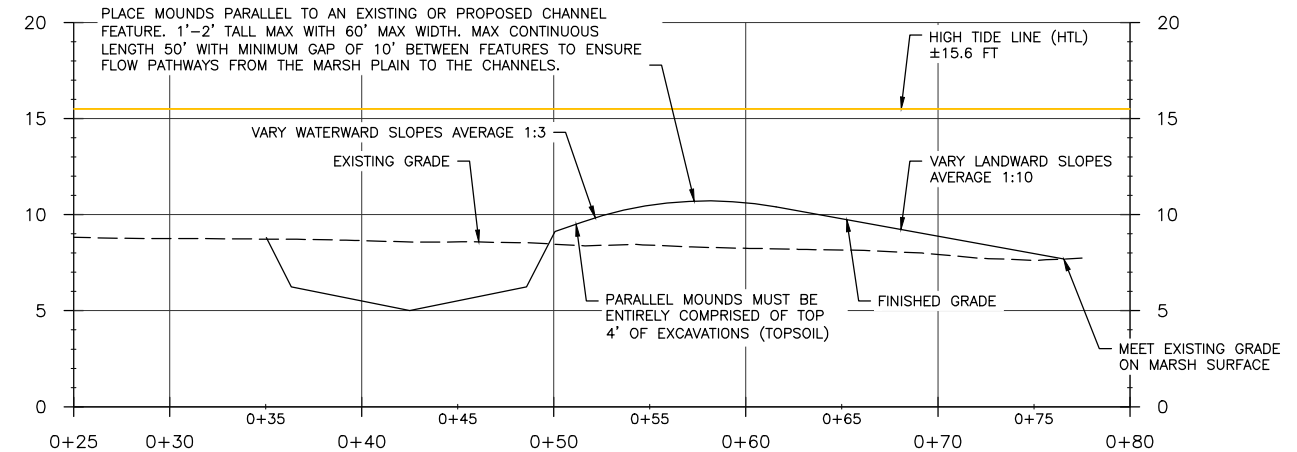
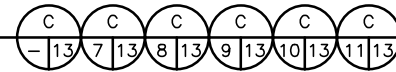
TIDE CHANNEL TYPICAL SECTION

SCALE: 1" = 5'



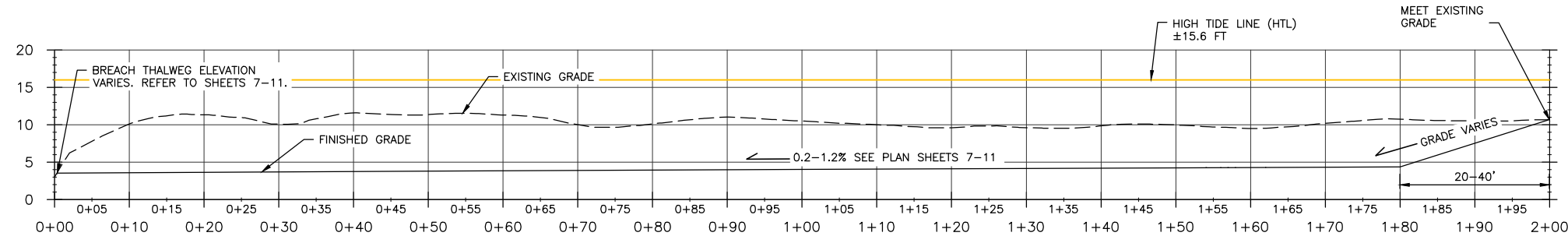
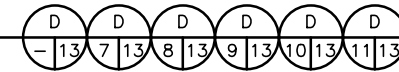
WETLAND HABITAT MOUND TYPICAL SECTION

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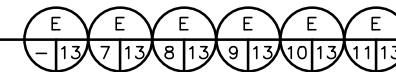
PARALLEL HABITAT MOUND TYPICAL SECTION

SCALE: 1" = 5'



TIDE CHANNEL TYPICAL PROFILE

SCALE: 1" = 10'



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WASHINGTON DEPARTMENT OF
FISH & WILDLIFE



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SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION

C0.8

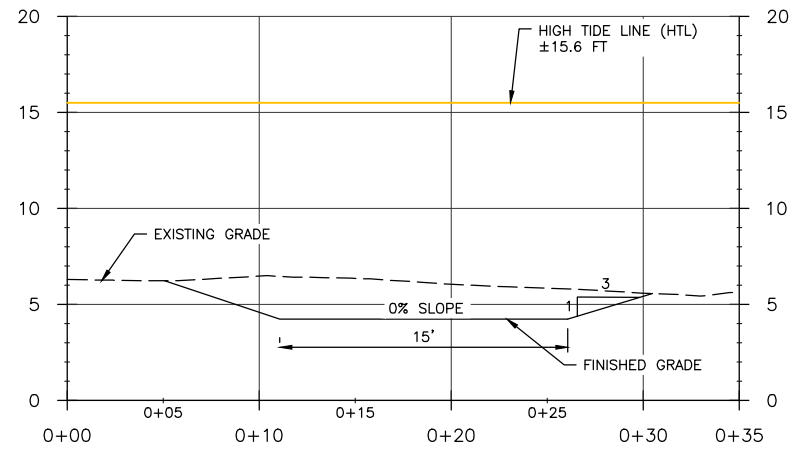
PROFILES AND SECTIONS

PROJECT NO.

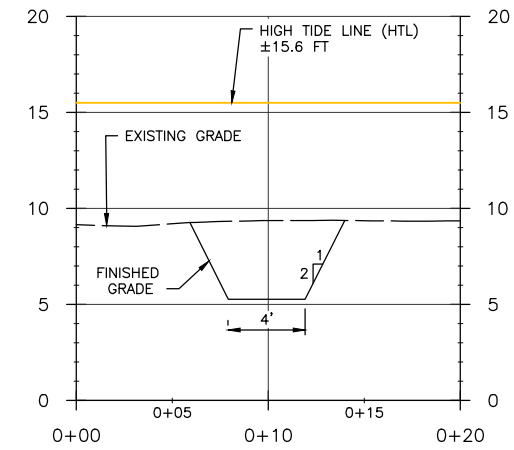
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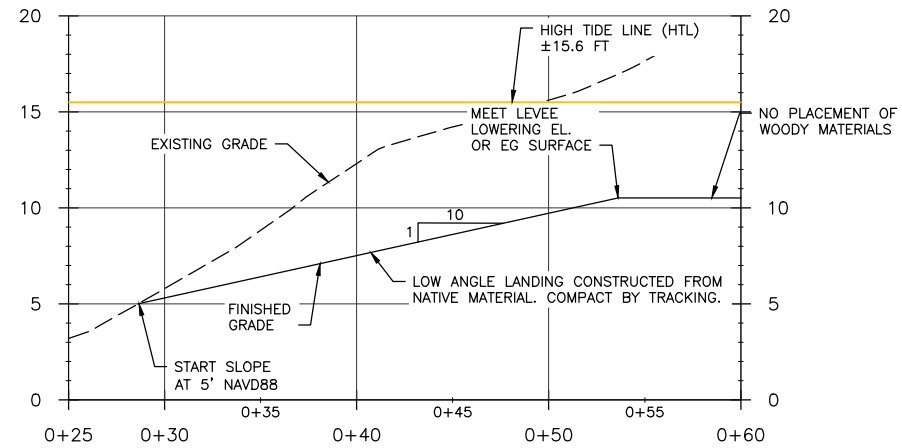
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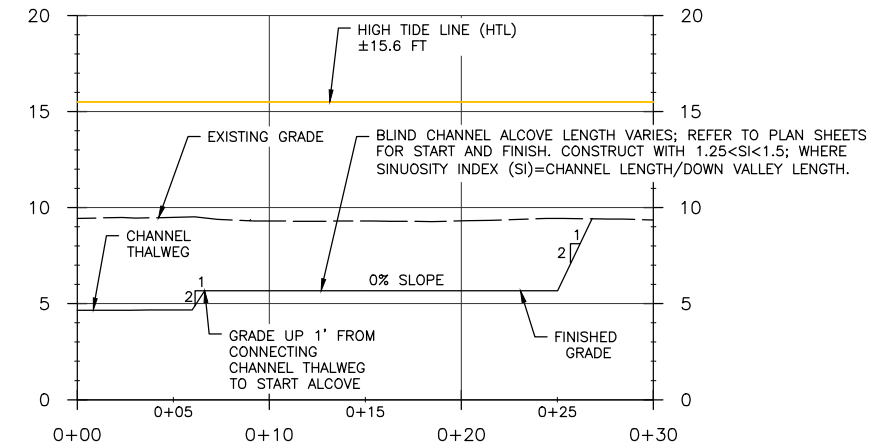
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SECTION



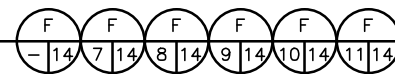
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PROFILE

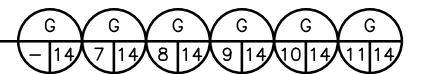
LOW ANGLE LANDING TYPICAL SECTION

SCALE: 1" = 5'



BLIND CHANNEL ALCOVE TYPICAL SECTION

SCALE: 1" = 5'



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SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION

C0.9

PROFILES AND SECTIONS

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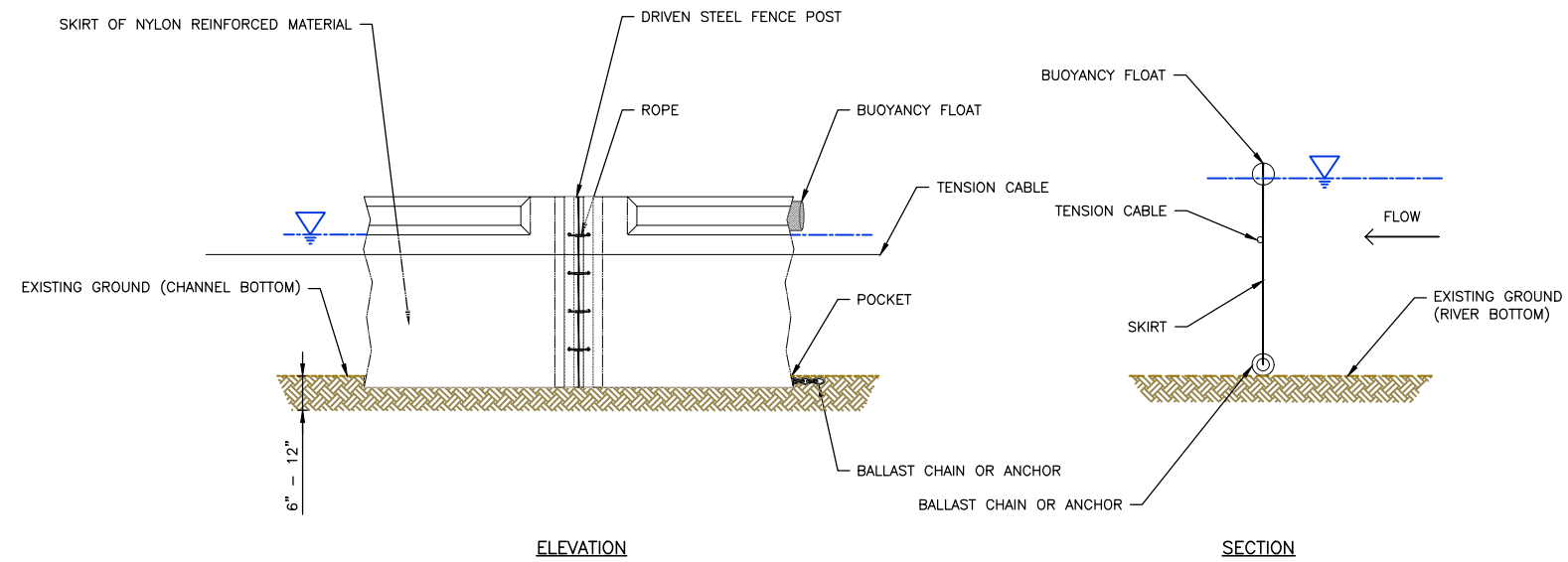
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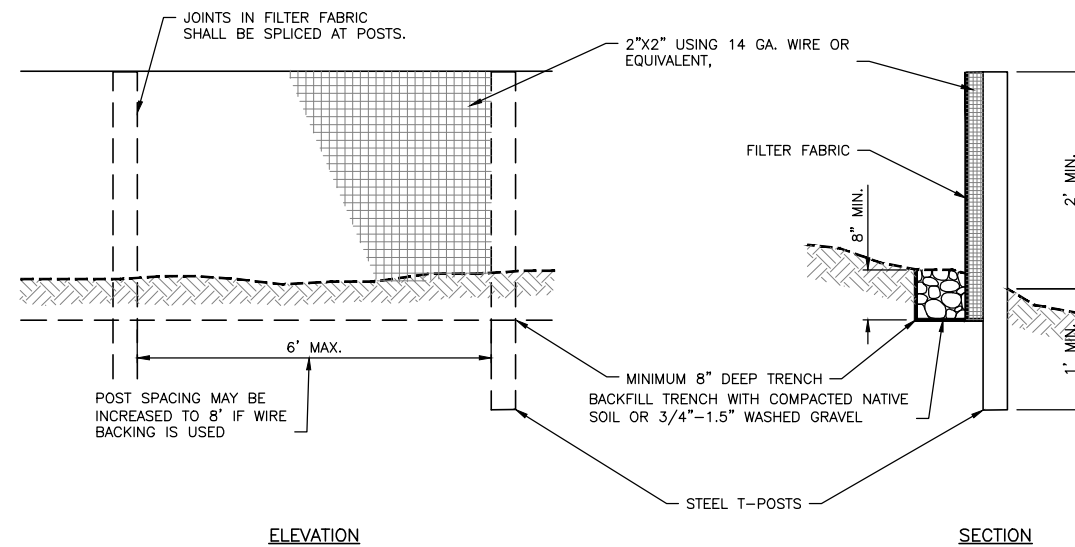
14 15

NOTES

1. THE CONTRACTOR SHALL EXPECT MUCH OF THE WORK SITE TO BE INUNDATED WITH 1-2 FEET OF WATER ON A DAILY BASIS DURING HIGH TIDE AND SHOULD NOT EXPECT TO DE-WATER THE WORK AREA. LOW GROUND PRESSURE AND AMPHIBIOUS EQUIPMENT (E.G. FLOATING EXCAVATORS) WILL BE NECESSARY TO COMPLETE CONSTRUCTION.
2. USE OF TEMPORARY EROSION AND SEDIMENT CONTROL BMPs SHOWN ON THIS SHEET WILL BE AT THE DISCRETION OF THE CONTRACTOR AND SHOULD NOT BE RELIED ON SOLELY FOR WATER EXCLUSION AND OR TREATMENT. THESE DETAILS SHALL BE USED IN CONJUNCTION WITH OTHER BEST MANAGEMENT PRACTICES.
3. THE CONTRACTOR SHOULD UTILIZE TIME PERIODS DURING LOW AND MID-TIDES TO COMPLETE A MAJORITY OF PROJECT WORK TO PREVENT TURBID WATER RUNOFF.
4. TIDE CHANNEL EXCAVATION SHOULD NOT BE DIRECTLY CONNECTED TO TOM MOORE OR STEAMBOAT SLOUGH'S DURING CONSTRUCTION, BUT SHOULD PROGRESS AS A SERIES OF ISOLATED PONDS TO ENCOURAGE SEDIMENT DEPOSITION AND TO PREVENT CHANNELIZATION OF FLOW PRIOR TO COMPLETION.



TURBIDITY CURTAIN
NOT TO SCALE



NOTES:

1. FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE.

SILT FENCE
NOT TO SCALE

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SKAGIT WLA, MILLTOWN ISLAND UNIT

RESTORATION
C0.10
TESC DETAILS

PROJECT NO.
ST:R206:2021-1

SHEET OF
15 15