Progress Report

Project: Lummi Island Scenic Estates Community Club

Wilson Project Number: 2022-120

Service Dates: Through 1/31/2024

LISECC Staff/Board Responsibilities:

Responsibility	Timeline
Nick to provide contact info for the people at the Dam Safety Office so Brian can start coordinating about our plans for the new raw water pipe crossing the dam	As soon as feasible
Provide authorization to proceed with WesTech bench-scale testing proposal for TOC/DOC removal ($7500)	As soon as feasible

SMALL WATER SYSTEM MANAGEMENT PLAN ASSISTANCE

All Tasks: no change from previous progress report.

PRE-DESIGN

Complete

PRELIMINARY ENGINEERING REPORT

- Project Report that will be submitted to DOH is being refined to better detail raw water pumping system design, potential GAC system design.
- Brian has access to RD Apply application and associated ePER, and will be progressing with filling out relevant sections of the application.

ENVIRONMENTAL REPORT

- No work on this phase yet – will begin on this soon now that a recommended project alternative scope has been settled and the project extents are known and can be assessed with respect to environmental considerations.

USDA-RD LOAN APPLICATION

- Brian, Melanie, Allison, and Jim met with USDA-RD representatives on 8/23 to discuss the project and logistics of loan application.

WILSON ENGINEERING, LLC 805 Dupont Street, Suite 7, Bellingham, WA 98225 **T** (360) 733-6100 **F** (360) 647-9061 www.wilsonengineering.com

- Application is underway.
- Updated 1/25/24: LISECC and Wilson met with USDA-RD about BABA waiver. Currently following up with more detailed letter from WesTech and deadline for material procurement.

USDA-RD LOAN IMPLEMENTATION

Task 1. Coordinate Attorney review of construction contract:

- Will complete after loan application has been submitted and construction contract documents are complete and approved by DOH and LISECC board (final task of this contract).

TOPOGRAPHICAL SURVEY COORDINATION & BASE DRAWING

Task 1. Coordination with Jepson & Associates:

- Updated 1/5/24: Jepson provided CAD file of draft topographic survey on 12/21/2023.

Task 2. Data Integration and Drafting to reference survey basemap:

- Updated 1/5/24: Wilson has incorporated Jepson CAD file into basemap for creation of the 60% design plans.

PERMITTING

- SEPA checklist draft has been completed. Needs some refining as design proceeds.
- Updated 11/8: Preapplication packet: Pre-app meeting where we discussed all WC permitting required for the project occurred on 10/3. Pre-app findings were provided by County on 10/25. Wilson reviewing findings.
    - Update 1/5/24: the main piece of coordination with the County will be once we finalize that new impervious area will exceed 2,000 sq ft and stormwater report will be triggered.
- Started coordination with Ecology regarding changes to backwash discharge and whether changes will be needed to backwash discharge permit.
- Update 1/5/24: Need to get in touch with Dam Safety Office folks to discuss raw water pumping and piping and determine if any permits are needed for that work. Awaiting contact info from Nick.

PREPARE CONSTRUCTION DOCUMENTS

Task 1. Design - selecting and sizing equipment (pumping systems, membrane package plant, ancillary components):

- Updated 12/1: We have a working model of the equipment and piping inside the new water treatment plant building. Will continue to update and refine as design proceeds. The major recent modification is that we have determined that the building needs to be sized to allow for potential Granular Activated Carbon (GAC) treatment downstream of the membranes to reduce dissolved organic material that can be a disinfection by-product pre-cursor. This building expansion is being detailed (with associated costs).
- With direction on duplex raw water pump system, fully redundant membrane skids, each 100 gpm, and Contact Time piping direction, we are proceeding with sizing these components.
    - 2 membrane treatment skids (full redundancy).

- Updated 1/5/24: Raw water pumping system design concept has been discussed and further detailed via emails. Consensus has been reached that skid-style duplex pump station is a good basis of design. Design details continue to be worked on, including raising intake screen and coordination on screen spray cleaning details.

– Updated 1/31/24: Organics treatment:
  - DOH questioned if Granular Activated Carbon (GAC) could be needed for organic Disinfection By-Product (DBP)-precursor removal.
    - Design team is coordinating with WesTech regarding expected DOC removal with coagulant. WesTech sent a proposal for jar/benchtop testing to determine expected % removal, but indicated that achieving the same % removal as the existing treatment plant is unlikely with coagulant and membranes alone. Cost is $7500 plus freight costs.
      - Wilson Engineering recommends proceeding with this proposal to make progress on whether GAC will likely be needed or not. It would need to be paid for by LISECC directly – this was not an anticipated cost at the time of project scoping.
    - GAC would add significant expense to the project, both capital (need bigger building), and operational (GAC material replacement is frequent and relatively high cost).
    - Nick has been collecting raw and filtered DOC samples from current filtration operations to quantify current organics removal, and provided updated results in January. This helps provide a baseline understanding of removal. We are assessing these results with respect to DBP measurements, which will help inform targets for organics removal in new water treatment plant.
    - We would like the order of operations with respect to potential GAC treatment topic to be: proceed with bench-scale testing with WesTech to assess organics removal (upon informal concurrence with DOH), and use that to either determine that we will proceed to full scale installation without GAC (but with space and provisions should GAC be necessary later), or if we need to do bench-scale GAC testing.

Task 2. Geotechnical Report for Building Foundation Design:

– Geotechnical report is complete. Updated 12/11: Geotechnical engineer indicated that they can review our design for stormwater dispersion (required with larger building and exceeding new impervious threshold as discussed below) and provide any recommendations with respect to dispersion. Initial discussions indicate dispersion, directed away from the steep slope, would likely be feasible.

Task 3. Stormwater Memo documenting no need for Stormwater Report:

– Updated 11/8: Initial equipment layout models indicate that the building area may need to be increased from 20'x30' to approximately 24'x42', which will increase new impervious area to 2,108 square feet. This exceeds the 2,000 square foot threshold where stormwater design and permitting become more involved than currently scoped in design contract. Likely will require a stormwater report (roughly $5,000 in engineering costs) and dispersion infrastructure on the order of $10,000 during construction.

Task 4. Construction Stormwater Pollution Prevention Plan:

- Will include in 60% design.

Task 5. 30% Plans and Construction Cost Estimate:

- 30% Design Plans and associated Construction Cost Estimate have been completed and provided to LISECC for review and comment. August 10 received feedback from water treatment committee. Currently incorporating that feedback.
    - Will provide detailed cost estimate of construction administration tasks and costs in the near future per request from 30% design meeting.

Task 6. 60% Plans and further progress of plans, estimate, and specifications: Progressing from 30% design to 60% design currently.

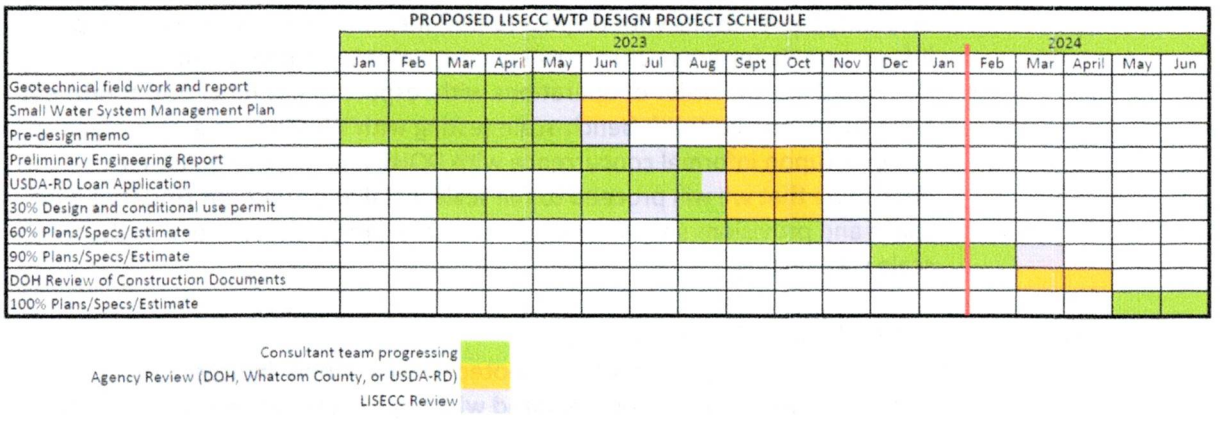
Electrical Engineering Design.

- Electrical engineer provided 30% design construction cost estimate and is working on plans that will be included in the 60% design set.

Structural Engineering.

- Initial discussions of building design.

OVERALL SCHEDULE STATUS:

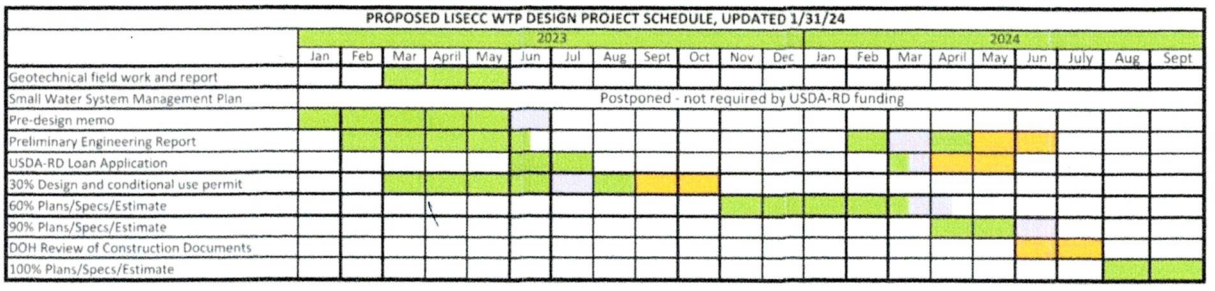


Note that schedule is showing we are behind on preliminary engineering report, loan application. We recognize this and will work to complete these items in a timely manner, but as design has progressed, we think that having the design and estimated construction costs better refined by being further along with design will be beneficial for the loan application (less uncertainty in costs). Applications are accepted on a rolling basis, so submitting this in the coming months should be fine.

Also note that progress on 60% plans/specs/estimate is delayed based on supplementary topographic survey information delay (it was provided in late December 2023) and questions about whether a BABA waiver will be issued. We have tried to tow a fine line between making progress but not spending so much time on detailed design that large funds would be spent, in

the small chance that a BABA waiver could not be issued and funding could need to be re-assessed.

Based on the above, we will not be able to catch up on schedule and submit 90% plans/specs to DOH at the end of February. Below is a proposed update to the project schedule. It reflects an approximate 3 month delay due to receipt of topographic survey in December 2023 instead of August 2023 as originally anticipated, and due to BABA waiver concerns/delay/application. Please let us know any feedback on the proposed schedule update.



POTENTIAL ISSUES / CONCERNS:

- Flagged potential concern about building footprint increasing and exceeding impervious area threshold where stormwater design would become more in-depth.
- Flagged concern about potential GAC treatment.
- Flagged concern about BABA waiver for membrane treatment system.
- Schedule update.