SEPA[1] Environmental Checklist

Purpose of checklist

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization, or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. **You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown.** You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to **all parts of your proposal**, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for lead agencies

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B, plus the Supplemental Sheet for Nonproject Actions (Part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in "Part B: Environmental Elements" that do not contribute meaningfully to the analysis of the proposal.

[1] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/Checklist-guidance

A.Background

Find help answering background questions[2]

1. **Name of proposed project, if applicable:**

   Decatur Island Solar Array Project (project)

2. **Name of applicant:**

   Orcas Power & Light Cooperative (OPALCO)

3. **Address and phone number of applicant and contact person:**

   OPALCO, Russell Guerry
   183 Mount Baker Road, Eastsound, WA 98245
   (360) 376-3500

4. **Date checklist prepared:**

   June 2025. Updated November/December 2025.

5. **Agency requesting checklist:**

   San Juan County Community Development Department

6. **Proposed timing of schedule (including phasing, if applicable):**

   Contingent upon permit approvals anticipated in Q1 2026, project construction is anticipated to commence following receipt of permits and continue through the end of 2026. Construction would last for approximately 3 months. The project duration is only a likely representation of what the actual schedule may be. Variations and delays in work timing may occur due to funding changes, contractor delays, or adverse weather conditions. All construction activities would occur during daylight hours.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   No further development is planned.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   A Critical Areas Report, a Cultural Resources Assessment, a Geotechnical Report, and an EQ-1 Form have been prepared for the project. Best management practices (BMPs) would be applied throughout project activities to limit impacts on habitats and wildlife. Although there are wetlands and wetland buffers on the project site, they would not be affected by project activities.

9. **Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

   No other applications are pending that would directly affect the property in this proposal.

[2] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-A-Background

10. List any government approvals or permits that will be needed for your proposal, if known.

The following permits are expected to be applied for and received:

- San Juan County Land Use Permit
- San Juan County Building Permit
- San Juan County Clearing and Grading Permit
- Washington State Department of Ecology Section 402 National Pollutant Discharge and Elimination System (NPDES) Permit/Construction Stormwater General Permit and Stormwater Pollution Prevention Plan (SWPPP)
- Washington State Department of Natural Resources (DNR) Forest Practices Permit
- NEPA Categorical Exclusion (EQ-1) Form
- Boundary Line Adjustment

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

Orcas Power & Light Cooperative (OPALCO) has been exploring local power generation options to ensure resilience, reliability, and the ability to support beneficial electrification and regulatory energy goals.

OPALCO was awarded a $1M grant to support the expansion and improvement of an existing solar array and battery microgrid on Decatur Island through the Decatur Island Solar Array project (project). Grant funding is provided by the United States (U.S.) Department of Energy (DOE) and contracted by the Washington State Department of Commerce - Energy Division - Clean Energy Fund, to support Low Income Community Solar Deployment.

Project activities would take place on the 6.36-acre southwest corner (Area or Phase A) and on the 2.19-acre northeast corner (Area or Phase B) of the approximately 18-acre OPALCO-owned San Juan County tax assessor parcel 152232002000 (project site). To complete project activities, approximately 5.9 acres of the southwest corner and 2.19 acres of the northeast corner would be cleared of existing trees and shrubs, and graded.

The new approximately 3,050 panel solar array in Area A and 1,420 panel solar array in Area B (4,470 total) would then be installed over approximately 8.09 acres and connected to the existing microgrid on the northwest corner of the parcel through a transmission cable. The resulting expansion would create a community solar array of approximately 2.59 megawatts (MW) DC.

The project would completely avoid wetlands and wetland buffers, and all disturbed ground would be reseeded or revegetated following construction activities (**Attachment 1**). A 6-foot-tall fence with 1 foot of barbed wire (total height of 7 feet) would be installed around the perimeter of the solar arrays, and a minimum 10-foot-wide landscape buffer (San Juan County Code [SJCC] 18.60.160) would be installed on the southwest side of the project parcel (Area A) along Armitage Road.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

The project site is on Decatur Island in San Juan County, Washington. Decatur Island is a 3.5 square mile (mile^2) (9.1 square kilometer ([km^2]) island in the Salish Sea, a large estuary connected to the Pacific Ocean by the Strait of Juan de Fuca, and spans Washington (United States) and British Columbia (Canada) waters. Decatur Island is approximately 65 miles (105 km) north of Seattle and 33 miles (53 km) south of the Canadian border.

The solar array expansion would be located south of Decatur Head Drive, between Armitage Road and Thatcher Pass Road/Bowers Boulevard, and project activities would occur on parcel 152232002000 in Section 22 of Township 35 North, Range 1 West. A total of approximately 3,050 solar panels would be installed on the southwest corner of the parcel (Area A) plus approximately 1,420 solar panels on the northeast corner of the parcel (Area B) and connected via transmission cable(s) to an existing substation and transformer on the northwest corner of the parcel. The final area occupied by the new solar panels on the southwest corner of OPALCO tax parcel 152232002000 would be around 5.9 acres. The final area occupied by the new solar panels on the northeast corner of the parcel would be around 2.19 acres.

Existing residences on adjacent parcels would remain, and all project activities would occur on private property owned by OPALCO, so no county, state, or federal lands would be impacted.

Preliminary Site Design Plan and Landscape Plan: **Attachment 1**

Vicinity Map: **Attachment 2**

Topographic Map: **Attachment 3**

B.Environmental Elements

1. Earth

Find help answering earth questions[3]

a. General description of the site:

Circle or highlight one: Flat, rolling, hilly, steep slopes, mountainous, other:

[3] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-earth

b. What is the steepest slope on the site (approximate percent slope)?

The maximum slope on the site is approximately 15 percent.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them, and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The Natural Resources Conservation Service (NRCS) maps soils within the project areas as Whidbey-Hoypus Complex, 2 to 15 percent slopes (Prime Farmland if irrigated; NRCS 2025).

The Whidbey soil series consists of gravelly loam on forested hillslopes of glacial drift plains, and is not rated as hydric. The parent materials of this soil type are moderately well-drained soils formed in glacial drift over dense glaciomarine deposits. The typical pedon (profile) of the Whidbey series consists of:

- **Oi-horizon (0 to 2 inches [0 to 5 cm]):** Slightly decomposed plant material; abrupt smooth boundary.
- **A-horizon (2 to 6 inches [5 to 15 cm]):** Dark brown (10YR 3/3) gravelly loam; moderate fine subangular blocky structure; soft; common very fine, many fine, and few medium and coarse roots; 15 percent gravel and 10 percent cobbles; clear wavy boundary.
- **Bw-horizon (6 to 20 inches [15 to 51 cm]):** Brown (10YR 5/3) very gravelly sandy loam; weak fine subangular blocky structure; soft; common very fine, fine, and medium and few coarse roots; 45 percent gravel and 5 percent cobbles; clear wavy boundary.
- **Bg-horizon (20 to 37 inches [51 to 94 cm]):** Brown (10YR 5/3) very gravelly sandy loam; moderate fine subangular blocky structure; slightly hard; few very fine and fine roots between peds; common iron depletions and iron-manganese masses in matrix; 45 percent gravel and 5 percent cobbles; abrupt wavy boundary.
- **2Cd horizon (37 to 59 inches [94 to 152 cm]):** Light olive brown (2.5Y 5/3) gravelly sandy loam, olive brown (2.5Y 4/3) moist; massive; hard, firm, nonsticky, nonplastic; few very fine irregular pores; common distinct weakly cemented brownish yellow (10YR6/6), yellowish brown (10YR 5/6) moist, iron-manganese masses in matrix; common distinct weakly cemented light gray (10YR7/2), light brownish gray (10YR 6/2) moist, iron depletions in matrix; 25 percent gravel; neutral (pH 6.9).

The Hoypus soil series consists of gravelly sandy loam in forested areas located on forested hillslopes and glacial outwash plains and is not rated as hydric. The parent

materials of this soil type are somewhat excessively drained soils formed in glacial outwash. The typical pedon of the Hoypus series consists of:

- **Oi-horizon (0 to 1 inch [0 to 3 cm]):** Slightlyed needles and twigs; abrupt smooth boundary.
- **A-horizon (1 to 5 inches [3 to 13 cm]):** Very dark brown (10YR 2/2) sandy loam; weak fine subangular blocky structure; soft; many very fine to medium and common coarse roots; 10 percent gravel; clear wavy boundary.
- **Bw1-horizon (5 to 20 inches [13 to 51 cm])**: Dark yellowish brown (10YR 3/4) loamy sand; single grained; loose; many fine, medium and common coarse roots; 10 percent gravel; clear wavy boundary.
- **Bw2-horizon (20 to 36 inches [51 to 91 cm]):** Dark brown (10YR 3/3) very gravelly loamy sand, single grained; loose; common fine roots; 55 percent gravel; clear wavy boundary.
- **C-horizon (36 to 60 inches [91 to 152 cm]):** Variegated colors 50 percent light, 30 percent dark, 20 percent medium, extremely gravelly sand; single grained; loose; few fine roots; 60 percent gravel, 5 percent cobbles.

The soils of the project site are formed from Pleistocene-aged glacial deposits. For the soils mapped in the project areas, the A-horizon is relatively thin, extending to an approximate depth of 6 inches (15 cm) below the surface.

Neither the Whidbey nor Hoypus components of the complex are designated as having a hydric rating.

For more information about local soils, see **Attachment 4**.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No. According to the Washington State Department of Ecology (Ecology) Shoreline Slope Stability dataset, the project site has stable slopes (Ecology 2023). Field observations did not indicate any obvious surface indications or history of unstable soils in the immediate vicinity of the proposed project.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Clearing and grading of 5.9 acres of the project Area A and 2.19 acres of Area B would remove soils up to 3- to 4- feet deep around the project site in order to develop a flat surface on which to install the solar array. Based on current earthwork estimates, Area A would require approximately 2,118 cubic yards of cut and 27 cubic yards of fill, resulting in a net removal of approximately 2,091 cubic yards of soil. Area B would require approximately 43 cubic yards of cut and 5 cubic yards of fill, resulting in a net removal of approximately 38 cubic yards of soil. All removed soils would be compacted and redistributed as a 3-inch layer across the graded area, and none would be removed from the project site.

f. Could erosion occur because of clearing, construction, or use? If so, generally describe.

Yes. Erosion could occur during earthwork-disturbing activities that include clearing and grading. Stormwater site plans have been prepared in accordance with Chapter 3 of Volume 1 of the Stormwater Management Manual for Western Washington (SMMWW). The contractor would also develop Construction Stormwater Pollution Prevention Plan (SWPPP) and would be expected to keep it on-site at all times. The SWPPP would meet all requirements outlined in the SMMWW, including erosion and sediment control requirements. Temporary BMPs would be implemented to avoid and minimize erosion impacts. If erosion occurs, it would be of a temporary nature and would be confined to the disturbed construction zone.

Once construction is complete, the solar facility would not be an ongoing source of sediment and erosion.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

Approximately 0.06 acres of impervious surface would be created at Area A due to the installation of the posts of the frames that the solar panels would be mounted upon. Of the 5.9 acres at Area A that would be cleared and graded for the project, 1.0 percent would transition to impervious surface following project activities.

Approximately 0.02 acres of impervious surface would be created at Area B due to the installation of the posts of the frames that the solar panels would be mounted upon. Of the 2.19 acres at Area B that would be cleared and graded for the project, 0.9 percent would transition to impervious surface following project activities.

The remainder of the cleared and graded site would be reseeded between and under the panels. Upon the establishment of these forbs and grasses, no pollution generating impervious surfaces would be on-site.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any.

As described in answer to question f, stormwater site plans have been prepared for the site, and a SWPPP would also be developed. During construction, the contractor would abide by the SWPPP.

Project and contractor staff would be educated on BMPs for all construction activities on-site, including the following potential BMPs to reduce or control erosion or other impacts on the earth:

- Marking limits of the clearing areas to prevent unnecessary disturbance.
- Establishing construction area access points to reduce soil compaction and erosion.
- Controlling flow rates of stormwater runoff to prevent erosion.
- Installing sediment controls such as silt fences, sediment basins, or other methods to protect water quality.

- Stabilizing soils by applying mulch, hydroseeding, or erosion control blankets to prevent soil displacement.
- Scheduling ground-disturbing work during dry periods when feasible to reduce erosion potential.
- Regularly inspecting and maintaining all erosion and sediment control BMPs throughout construction.
- Implementing spill prevention and containment procedures to avoid contamination of soils.
- The project site would be re-seeded with a native grass seed mix following clearing and grading activities.

2. Air

Find help answering air questions[4]

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Emissions to the air resulting from the proposal would be from the vehicles and equipment used during construction. The clearing, grading, and trenching on the project site may produce localized increases in dust and airborne particulate matter. Heavy machinery used for general construction would emit exhaust, and would likely include a forklift, construction trucks, trailers, pickup trucks, an excavator, a mini excavator, a grader, and a horizonal directional drilling (HDD) rig.

Following construction, no ongoing air emissions would be associated with the project. Negligible emissions would occur during periodic maintenance activities, which are already occurring under existing conditions. Some benefit is expected because solar power replaces other energy sources (e.g., natural gas) that do produce emissions.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

During construction activities, the contractor would be required to use current construction practices and adhere to all applicable federal, state, and local air quality regulations. These regulations cover temporary construction conditions such as dust and fuel emissions.

[4] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-Air

BMPs for dust control would be employed to reduce the spread of particulate matter if/as required. All vehicles utilized by the project and its contractors would be licensed, and compliant with the rules and regulations for vehicle emissions. All mechanical equipment would be selected to ensure that applicable federal, state, and local regulations are met. The potential adverse impacts on air quality are minimal.

Of note, according to EPA non-attainment and maintenance area designations, San Juan County is not listed as a maintenance or non-attainment area for any criteria pollutants. The county is in attainment for all applicable National Ambient Air Quality Standards (NAAQS), including ozone (8-hour), lead, sulfur dioxide (SO_2 1-hour), particulate matter ($PM_{2.5}$ and PM_{10}), carbon monoxide (CO), and nitrogen dioxide (NO_2).

3. Water

Find help answering water questions[5]

a. Surface:

Find help answering surface water questions[6]

1. Is there any surface water body on or in the immediate vicinity of the site (including-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

No wetlands have been mapped by the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI), Washington Department of Fish and Wildlife (WDFW), or San Juan County either on or within 300 feet of the project area. The nearest wetland mapped by NWI is approximately 0.3 mile (0.5 km) southwest of the project site.

Environmental Science Associates (ESA) biologists identified and delineated portions of nine wetlands in the project site. The wetlands and types are listed below, and more information about them can be found in **Attachment 4**.

- **Wetland A:** Palustrine Forested (PFO), Category III, 0.244 acre, 150-foot buffer.
- **Wetland B:** PFO, Palustrine Emergent (PEM), Category III, 0.439 acre, 150-foot buffer.
- **Wetland C:** PFO, Palustrine Unconsolidated Bottom (PUB), Category II, 0.255 acre, 300-foot buffer.
- **Wetland D**: Palustrine Scrub-Shrub (PSS), PEM, Category III, 0.081 acre, 150-foot buffer.
- **Wetland E:** PFO, PEM, Category III, 0.060 acre, 150-foot buffer.

[5] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water
[6] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Surface-water

- **Wetland F:** PFO, Category III, 0.006 acre, buffer exempt (small size).
- **Wetland G**: PEM, Category III, 0.017 acre, buffer exempt (small size).
- **Wetland H:** PEM, Category III, 0.020 acre, buffer exempt (small size).
- **Wetland I:** PEM, Category III, 0.099 acre, 150-foot buffer.

2. **Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.**

   Project work would be completed up to but not inside of wetland buffers, which in most cases are within 150 feet of the wetlands. See **Attachment 1** and **Attachment 4** for a preliminary site design plan and the critical areas report.

3. **Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.**

   None.

4. **Will the proposal require surface water withdrawals or diversions? Give a general description, purpose, and approximate quantities if known.**

   No.

5. **Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.**

   No. According to FEMA flood maps, the project site is located in Zone X 'Area of Minimal Flood Hazard'.

6. **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

   No. The proposed project does not involve any discharges of waste materials to surface waters. During construction, stormwater Best Management Practices (BMPs) would be implemented to prevent sediment or pollutants from entering nearby waters. These BMPs would be consistent with the requirements of the Washington State Department of Ecology's Stormwater Management Manual for Western Washington. For long-term operations, the project would similarly adhere to applicable Ecology stormwater standards (as applicable) to ensure proper stormwater treatment and control.

b. Ground:
Find help answering ground water questions[7]

1. **Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate**

[7] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-3-Water/Environmental-elements-Groundwater

quantities withdrawn from the well. Will water be discharged to groundwater? Give a general description, purpose, and approximate quantities if known.

No.

2. **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (domestic sewage; industrial, containing the following chemicals…; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

None, not applicable. The project does not involve the discharge of any waste materials into the ground. In addition, the facility would remain unstaffed.

c. Water Runoff (including stormwater):

1. **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The project would maintain drainage patterns and convey stormwater to a proposed new detention pond in the western part of the project Area A. The detention pond would be installed along the west edge of the project Area A with outflow into an existing roadside ditch with outfall protection in accordance with Volume I of the SMMWW. The minimum bottom area would be at least 2,400 square feet. All runoff would flow through vegetation prior to reaching the detention pond. Additionally, the detention pond would provide treatment as the pond bottom would be located 0.5 feet below the outlet. This pond would manage the post-development runoff.

Under existing conditions at Area B, stormwater from the basin flows to the northwest, eventually making it to the wetland area or the roadside ditch on the south side of Decatur Drive. The project Area B would maintain drainage patterns and convey stormwater using a swale to the northwestern part of the project area. A rip rap pad would be installed in the northwest corner of the project area. Vegetation, a swale, and a riprap pad would provide runoff treatment. Treated stormwater would then discharge into the wetland area and the existing roadside ditch, as it does under existing conditions. Runoff would flow through thick vegetation prior leaving the site. Any runoff that is captured by the graded swale on the north side of the project would be directed to a riprap pad that would dissipate flows prior to leaving the site. This project limits the post-developed flow rates so much so, that it is considered flow control exempt based on the SWMMWW requirements. In the case of this project, the discharges rates are small enough to preserve the natural drainage systems.

2. **Could waste materials enter ground or surface waters? If so, generally describe.**

Although the project would involve typical ground disturbance associated with construction, wastewater, pollutants, or contaminants would not be discharged off-site. The project would obtain coverage under Ecology's Construction Stormwater General Permit and implement best management practices (BMPs) to prevent sediment or

pollutant discharge to any water resources. No direct discharges to surface or groundwater are expected.

3. Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

No. The project is to be developed as a solar farm which is unique when evaluating stormwater and runoff because although there is an increase in the impervious surface area above the ground due to the panels, and a 0.06 acre increase in Area A and 0.02 acre increase in Area B due to the installation of the solar panel mounting frame poles, the ground surface itself remains predominantly pervious.

Solar panels create less impervious surface than other similarly sized structures due to the design of the panels which are raised above the ground and therefore maintain the existing vegetation and soil conditions beneath. This design feature, called "disconnection," allows the flow off the impervious surface to vegetated ground where the flow is infiltrated. Therefore, solar development is unique in the three-dimensional flow of stormwater; stormwater both flows along the impervious panel surface and can also infiltrate under the panel through pervious ground cover. The design of the panels allows water running off one row of panels to run across the ground and be absorbed in the ground located under adjacent panels. See Figure 1 below.

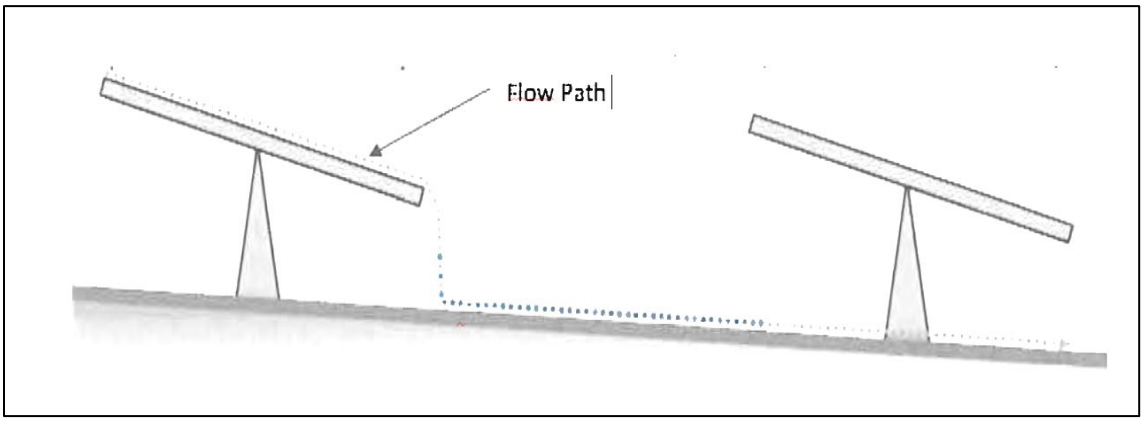


Figure 1. Water flow and infiltration from disconnected surface.

The Great Plains Institute, in conjunction with The University of Minnesota, National Renewable Energy Laboratory, and Fresh Energy, published a report titled "Best Practices: Photovoltaic Stormwater Management Research and Testing (PV-SMaRT)" outlining methodology for addressing the potential runoff increase created by solar farm development. Using this methodology, it was determined that there would be no increase in runoff generated from this solar project. See **Attachment 6**, the Stormwater Report, for more information.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

The contractor would develop a SWPPP and would keep it on-site at all times. Temporary BMPs would be implemented to avoid and minimize erosion and sedimentation impacts. Appropriate BMPs would be applied through the project site. Stormwater during construction would be filtered either through the ground or fabric filter fencing, or other similar BMPs. Temporary BMPs may also include but are not limited to: straw wattles, compost socks, construction entrances, secondary containment, and good housekeeping. No off-site discharges to ground or surface water would occur.

The contractor would be required to provide redundant and/or backup equipment including pumps, generators, tanks, and filters needed to maintain water quality standards throughout the construction site. Spill containment materials would be readily available on-site in case of an accidental spill. The project site would be re-vegetated with native grasses and forbs following clearing and grading activities. Re-vegetation would reduce and control the runoff patterns of water on the project site following the completion of construction activities.

As described above, one detention pond would be installed along the west edge of the project area with outflow into an existing roadside ditch with outfall protection. The minimum bottom area would be at least 2,400 square feet. All runoff would flow through vegetation prior to reaching the detention pond. Additionally, the detention pond would provide treatment as the pond bottom would be located 0.5 feet below the outlet (**Attachment 6**).

4. Plants

Find help answering plants questions

a. Check the types of vegetation found on the site:

☒ **deciduous tree: alder, maple, aspen, other**

☒ **evergreen tree: fir, cedar, pine, other**

☒ **shrubs**

☐ **grass**

☐ **pasture**

☐ **crop or grain**

☐ **orchards, vineyards, or other permanent crops.**

☒ **wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other**

☐ **water plants: water lily, eelgrass, milfoil, other**

☐ **other types of vegetation**

The project site is primarily second-growth forest, with the exception of an OPALCO substation and associated solar array to the northwest and storage facilities to the northeast. The undeveloped area supports a mix of forested wetland and upland habitat.

The forested canopy is dominated by species such as Douglas-fir (*Pseudotsuga menziesii*), grand fir (*Abies grandis*), western hemlock (*Tsuga heterophylla*), western redcedar (*Thuja plicata*), and red alder (*Alnus rubra*) with a well-developed understory of salal (*Gaultheria shallon*), oceanspray (*Holodiscus discolor*), and Nootka rose (*Rosa nutkana*). Herbaceous species that are prevalent throughout the study area are western swordfern (*Polystichum munitum*), slough sedge (*Carex obnupta*), common bentgrass (*Agrostis stolonifera*), and soft rush (*Juncus effusus*). Areas that have been disturbed either by road/utility corridor maintenance or development are dominated by non-native invasive reed canarygrass (*Phalaris arundinacea*).

According to the Washington Natural Heritage Program (WNHP), there are no rare plants on Decatur Island (WNHP 2025).

b. What kind and amount of vegetation will be removed or altered?

Approximately 8.09 acres on parcel 152232002000 (Areas A and B) would be cleared of trees and shrubs. No clearing would occur in wetlands or wetland buffers.

c. List threatened and endangered species known to be on or near the site.

There are no known threatened or endangered plant species known to be on or near the project site. According to the WNHP, there are no rare plants on Decatur Island (WNHP 2025). According to the USFWS Information for Planning and Consultation (IPaC) system, there are no threatened or endangered plants in the project area (USFWS 2025).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any.

After construction, all cleared land in the project areas would be reseeded/revegetated using a native meadow seed mix. The seed mix was previously used on the original solar array portion of the project site and would be created to be cohesive with site soils and native species.

Landscaping would be installed to form a filtered screen along the project area boundary between the project site and Armitage Road along the southwest edge of the parcel. Per SJCC 18.60.160, the landscape filtered screen would be a minimum of 3 m (10 feet) in width and consist of:

- A mix of evergreen and deciduous trees and shrubs generally interspersed throughout the landscape strip, spaced to create a filtered screen.
- 50 percent deciduous trees and 30 percent evergreen trees.
- Trees provided at the rate of one per 20 linear feet of landscape strip and spaced no more than 30 feet apart on center.
- Shrubs provided at the rate of one per 4 linear feet of landscape strip and spaced no more than 8 feet apart on center.

A Landscape Plan has been written and submitted with the project application (**Attachment 1**). The resulting re-vegetation and landscaping would reduce the visual aesthetic change from the road or neighboring residence of the site. Landscaping on the site would be maintained as outlined in SJCC 18.60.160 for the duration of the project.

e. List all noxious weeds and invasive species known to be on or near the site.

Common noxious weeds in the San Juan Islands region include:

- Himalayan blackberry (*Rubus armeniacus*)
- Scotch broom (*Cytisus scoparius*)
- English ivy (*Hedera helix*)

The non-native invasive reed canarygrass (*Phalaris arundinacea*) is common on the project site. Other invasive species within the project site include Himalayan blackberry, velvetgrass (*Holcus lanatus*), crabgrass (*Digitaria sanguinalis*), creeping bentgrass (*Agrostis stolonifera*), bull thistle (*Cirsium vulgare*), and common dandelion (*Taraxicum officianale*).

5. Animals

Find help answering animal questions[8]

a. List any birds and other animals that have been observed on or near the site or are known to be on or near the site.

Examples include:

- **Birds: hawk, heron, eagle, songbirds, other:**
- **Mammals: deer, bear, elk, beaver, other:**
- **Fish: bass, salmon, trout, herring, shellfish, other:**

Black-tailed deer, racoons, raptors, and great blue herons potentially use the site. There are no fish-bearing streams on Decatur Island according to the Statewide Washington Integrated Fish Distribution (SWIFD) dataset (NWIFC 2025). There are no bird hotspots on Decatur Island according to eBird, a crowdsourced birding database (eBird 2025).

b. List any threatened and endangered species known to be on or near the site.

The following federally listed species have the potential to be active in the project area, although there is no critical habitat in the project area, no appropriate habitat for the species, and their presence is not expected (IPaC 2025):

- Marbled murrelet (*Brachyramphus marmoratus*), threatened
- Yellow-billed cuckoo (*Coccyzus americanus*), threatened
- Bull trout (*Salvelinus confluentus),* threatened

[8] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-5-Animals

- Island marble butterfly (*Euchloe ausonides insulatnus)*, endangered
- Monarch butterfly (*Danaus plexippus*), proposed threatened
- Suckley's cuckoo bumble bee (*Bombus suckleyi*), proposed endangered

The Washington State Priority Habitats and Species (PHS) has a listing in the project area (WDFW 2025a):

- Townsend's big-eared bat (*Corynorhinus townsendii*)

The species is mapped at the Township level, which means all of Decatur Island is mapped as potential habitat.

c. Is the site part of a migration route? If so, explain.

This site is not part of a species-specific migration route.

(Note that all of western Washington is part of the Pacific Flyway. The Pacific Flyway is a major north–south flyway for migratory birds in the Americas, extending from Alaska to Patagonia).

d. Proposed measures to preserve or enhance wildlife, if any.

There would be an effort to preserve WDFW PHS Townsend's big-eared bat habitat (typically hidden during the day as these are nocturnal mammals) in the project area. Townsend's big-eared bats are known to roost in large snags with basal hollows, caves, abandoned mines, buildings, tunnels, and bridges (WDFW 2025b). Several large snags were observed throughout the project site, especially in the southeast portion of parcel 152232002000 where no work is proposed. Although no bats were observed during the wetland delineation and site visit, potential suitable habitat likely occurs in the project area.

Townsend's big-eared bat could be affected by the project if large snags that serve as roosting sites are removed from the project area. Construction activities could disturb the bats and displace them from their habitat. All displacement from noise would be temporary and limited to the approximately 3-month construction period. SJCC 18.35.135 identifies additional recommendations and requirements for protecting species and habitats. For the Townsend's big-eared bat, the following protection methods are noted: *"In areas with roosting or feeding Townsend's big-eared bats, avoid pesticide use and the removal of large dead trees"* (SJCC 18.35.135.A, Table 1). It was recommended that the project avoids the removal of large snags with hollows and cavities, especially in the southern and southeastern portions of the project area, to the greatest extent feasible.

Of the federally listed species with the potential to be in the project area, no efforts to preserve or enhance wildlife, outside of the revegetation of the site with native grass, would occur because there is no critical habitat for the federally listed species in the project area. Due to this, no effects to the above species from project activities are expected. This conclusion is based on the temporary and localized nature of construction,

the absence of suitable habitat within or near the project area, and the lack of chemical inputs or hydrological disturbances associated with the proposed expansion. Specifically for each species identified above:

- **Marbled Murrelet:** This species nests in mature and old-growth coniferous forests, typically inland and near the coast, and forages in marine environments. The project site is composed of second-growth forest and lacks the large-diameter nesting trees required for breeding. Additionally, the limited duration (3 months) and typical noise levels of construction activities are unlikely to disturb any individuals that may occur in the broader region. There is no marine or shoreline component to the project.

- **Yellow-billed Cuckoo:** This species typically inhabits large tracts of riparian woodlands with dense cover and is extremely rare and presumed extirpated from breeding in Washington. The project area does not contain riparian habitat or the willow-cottonwood gallery forests that cuckoos require for nesting or foraging. No observations have been recorded in San Juan County, and no suitable habitat is present on or adjacent to the project footprint.

- **Bull Trout:** There are no streams, rivers, or other aquatic habitats in or near the project area that would support bull trout at any life stage.

- **Island Marble Butterfly:** Although this species is endemic to San Juan and nearby islands, it requires specific host plants—Brassica species, *Sisymbrium altissimum*, and *Lepidium virginicum*—and open prairie or grassland habitat, particularly coastal bluff or prairie areas. While performing the wetland delineation in February 2025 and during a site visit in March 2025, ESA biologists actively searched for suitable host plants and did not find any. The project area is characterized by previously disturbed second-forest, which lacks suitable larval host plants and the open structure needed for oviposition or nectaring. No herbicides or pesticides would be used, avoiding indirect toxicity.

- **Monarch Butterfly:** Monarchs are associated with milkweed species (*Asclepias* spp.) for reproduction and migrate through portions of Washington. The project site does not support milkweed and contains minimal flowering vegetation for adult foraging. The temporary nature of construction, absence of chemical use, and lack of larval host plants make the project unlikely to affect monarchs.

- **Suckley's Cuckoo Bumble Bee**: This parasitic bumble bee is dependent on healthy populations of host species such as *Bombus occidentalis*, which in turn require diverse, flowering plant communities. The project area consists of second-growth forest with limited forb or flower cover and does not represent high-quality foraging or nesting habitat. The project would not involve herbicide/pesticide application, and the relatively small footprint and short duration of construction are unlikely to affect any bumble bee populations, if present.

e. List any invasive animal species known to be on or near the site.

None.

6. Energy and natural resources

Find help answering energy and natural resource questions[9]

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

The proposed project would be connected to the existing microgrid located on the northwest corner of parcel 152232002000. Energy generated by the solar panels would be transmitted to the microgrid transformer and substation, and the project would require a marginal amount of additional energy to operate monitoring, control, and production activities.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

No.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any.

None, not applicable. The solar array expansion would generate energy, and there is an existing substation and transformer on the northwest corner of parcel 152232002000.

7. Environmental health

Health Find help with answering environmental health questions[10]

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur because of this proposal? If so, describe.

The project parcels have no records or reasonable indications of contamination in the past.

1. Describe any known or possible contamination at the site from present or past uses.

Based on a review of Google Maps and associated imagery, the project area has no evidence of land use with the potential for high contamination (Google 2025). In 2005, a small area was cleared toward the southern end of the property, and a gravel pit, which still exists today, was created on-site (Google 2025).

[9] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-6-Energy-natural-resou
[10] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-7-Environmental-health

There is evidence of dumping of waste and abandoned vehicles on the property, especially in the northeast corner, so there is potential for minor surface contamination to have occurred in that discrete location.

According to the Toxic Cleanup dataset, approximately 650 m (2,130 feet) northwest of the project area, clean-up activities have begun at the Coastal Construction Clean-Up site (Ecology 2025). These activities would not impact the project area.

There are no Superfund sites on Decatur Island, nor are there toxic releases or brownfields within 0.4 km (0.25 mile) of the project area (EPA 2025a).

2. **Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.**

   According to the National Pipeline Mapping System, there are no gas transmission or hazardous liquid pipelines in San Juan County (NPMS 2025).

   There is no known contamination at the project site. The parcel was previously undeveloped with some evidence of clearing and dumping of waste and abandoned vehicles.

3. **Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.**

   Any chemicals associated with the onsite construction vehicles would be managed and maintained by the contractor. During construction, equipment such as excavators, forklifts, and graders may store and use diesel and hydraulic fluids. Pick-up trucks may also store and use unleaded gasoline or diesel fuel; however, no refueling of these pick-up trucks would occur on-site. Daily checks of equipment for leaks would be performed.

   The contractor may also use solvents, sealers, adhesives, paint, or other typical construction materials in the course of project completion. The contractor would be required to transport, store, use, and dispose of hazardous chemicals properly. Disposal of any project waste material would occur at an approved waste site.

4. **Describe special emergency services that might be required.**

   None. The proposed project is not anticipated to require the use of special emergency services. Standard police, fire, and rescue services already serve the area.

5. **Proposed measures to reduce or control environmental health hazards, if any.**

   Normal safety practices required by federal, state, and local regulations, including OSHA requirements, electrical safety codes, and industry-standard construction practices, would apply to all construction work. Standard minimization measures and BMPs include:

- Erosion and sediment control measures consistent with the SWPPP to prevent pollutants from entering surface waters.
- Proper management of hazardous materials, including fuels, oils, and equipment lubricants, with secondary containment and spill-response procedures in place.
- All equipment to be used for construction activities would be cleaned and inspected prior to arriving at the project site, to ensure no potentially hazardous materials are exposed, no leaks are present, and the equipment is functioning properly.
- Construction equipment would be inspected daily to ensure there are no leaks of hydraulic fluids, fuel, lubricants, or other petroleum products.
- Should a leak be detected on heavy equipment used for the project, the equipment would be immediately removed from the area and not used again until adequately repaired.

The abandoned vehicles would be removed from the site and appropriately disposed of off island at a licensed scrap facility.

Noise

1. **What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?**

   Noise from existing traffic on Armitage Road, Decatur Head Drive, and Bowes Boulevard is present within the project parcels, although it is expected to be minimal and to have no effect on the project.

2. **What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site)?**

   Short-term noise would consist of construction noise generated from: (1) felling and clearing of trees and shrubs, (2) grading, (3) installation of solar panels and mounting systems, and (4) cable installation via trenching and HDD. The installation process would take a maximum of 3 months to complete and only occur during working hours of approximately 8:00 a.m. – 5:00 p.m.

   Long-term noise impacts would be minimal to none. Once per month, maintenance staff would continue to visit the project site to inspect the solar array or perform maintenance or repairs. As needed, someone would visit the site to perform landscaping/trimming. The solar array and microgrid themselves do not generate noise.

3. **Proposed measures to reduce or control noise impacts, if any:**

   The project area lies within San Juan County, and the county does not have a single, countywide regulation for construction hours, nor does Decatur Island. However, night work is not proposed.

8. Land and shoreline use

Find help answering land and shoreline use questions[11]

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

See **Attachment 2** for a figure outlining roads and tax parcels in and around the project area.

- Project parcel 152232002000 contains the existing solar array in the northwest corner, it is currently a forested property and would be used as the site for the solar expansion on the southwest corner and northeast corner of the parcel.
- Adjacent to the west, parcel 152232004000 is owned by San Juan County Public Works.
- Adjacent to the south, parcel 152233002000 is privately owned by the Loveless Family LLC.
- Adjacent to the east, parcel 152232001000 is owned by a private homeowner and residence.
- Adjacent to the northeast, parcel 152232003000 is owned by Inter Island Telephone Co Inc and is currently used to support San Juan County telecommunications.
- A boundary line adjustment (BLA) has been submitted which includes portions of parcel 152232005000 in the newly configured parcel 15223202000.

The proposed project would not affect the current land uses on nearby or adjacent properties.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses because of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

There is no recorded history of the project area being used for farmland, and the property is currently forested. Per SJCC 18.30.010 and the San Juan County Comprehensive Plan (San Juan County 2022), Rural General Use, Goal Land Use 27, the parcel is designated as Rural General Use (RGU). Zero acres would be converted to nonfarm or nonforest use.

1. **Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how?**

   No.

[11] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-8-Land-shoreline-use

c. Describe any structures on the site.

The northwest corner of tax parcel 152232002000 has been developed with a substation, solar array, and storage facilities.

d. Will any structures be demolished? If so, what?

No structures would be demolished or removed from the project site.

e. What is the current zoning classification of the site?

The parcel is classified as Rural General Use (RGU).

f. What is the current comprehensive plan designation of the site?

The designated land use of project parcel 152232002000 is RGU and the site is owned by OPALCO.

g. If applicable, what is the current shoreline master program designation of the site?

Based on the 2021 San Juan County Shoreline Master Program, there is no designation for the project parcels (San Juan County 2021). The project site is not located within 200 ft of a resource protected by the Shoreline Master Program.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

All of San Juan County is a Critical Aquifer Recharge Area in compliance with San Juan County's Critical Areas Ordinance (SJCC 18.35.080). However, the project does not propose to use any groundwater from the project site.

i. Approximately how many people would reside or work in the completed project?

No people would reside or work in the completed project. Maintenance crews would visit the site approximately one time per month for regular maintenance and routine inspections. As needed, someone would visit the site to perform landscaping/trimming.

j. Approximately how many people would the completed project displace?

No people would be displaced by the project.

k. Proposed measures to avoid or reduce displacement impacts, if any.

Not applicable – no displacement impacts.

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any.

This project is consistent with all existing land uses and plans.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

Not applicable. The project would not have impacts on agricultural lands. The project site is not currently in active agricultural use. It is proposed as an expansion of an existing solar facility. The property is located far from urban support services and lacks access to nearby farm support infrastructure. There are no existing on-farm infrastructure

investments on or near the project site. Additionally, the parcel is not part of a larger, contiguous, commonly owned landholding of sufficient size to support a viable farming operation. The project site would occupy approximately 8.55 acres of land (with 8.09 acres of solar panels) and would not interfere with surrounding land management or harvest.

9. Housing

Find help answering housing questions[12]

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units are associated with this project.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units would be eliminated as a result of this project.

c. Proposed measures to reduce or control housing impacts, if any:

There are no housing impacts associated with this project.

10. Aesthetics

Find help answering aesthetics questions[13]

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest structure proposed on the property is a new fence to surround each solar array expansion area. The fence would be approximately 2.3 m (7 feet) tall to prevent unauthorized entry.

The solar array building materials include the solar array panels made from multiple materials including silicon, glass, and aluminum, which are held up by a metal mounting frame.

b. What views in the immediate vicinity would be altered or obstructed?

The view of the project site prior to project activities includes a wooded area with evergreen trees. Approximately 8.09 acres of the parcel, outside of wetlands, critical areas, and buffers, would be cleared of vegetation, graded, and replanted with a native grass-seed mixture to prepare for the installation of the solar array expansion.

The entire solar array would be surrounded by a 2.3-m (7-foot) fence, and the southwest side of Area A along Armitage Road would include a 3.3-m (10-foot) landscape buffer planted with trees, shrubs, and other vegetation to reduce visual aesthetic impacts from

[12] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-9-Housing
[13] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-10-Aesthetics

the project. The new fence and landscape buffer would be the new view of the project site from the road. Visual simulations prepared for the project are included in **Attachment 7**.

c. Proposed measures to reduce or control aesthetic impacts, if any:

To reduce the aesthetic impact, all cleared land in the project area would be re-vegetated using a native meadow grass/forb seed mix. The seed mix was previously used on the existing solar array portion of the project site and would be created to be cohesive with site soils and native species.

Landscaping would be installed along Armitage Road adjacent to Area A to form a filtered screen along the project area boundary between the project site, nearby roads, and for residents travelling past the project area (see **Attachment 7**). Per SJCC 18.60.160, the landscape filtered screen would be 3 m (10 feet) in width and consist of:

- A mix of evergreen and deciduous trees and shrubs generally interspersed throughout the landscape strip, spaced to create a filtered screen.
- Approximately 50 percent deciduous trees and 30 percent evergreen trees.
- Trees provided at the rate of one per 20 linear feet of landscape strip and spaced no more than 30 feet apart on center.
- Shrubs provided at the rate of one per 4 linear feet of landscape strip and spaced no more than 8 feet apart on center.

Further, OPALCO would remove the previously abandoned vehicles and major debris on the property to clean up the site (see **Attachment 7**).

At the end of the project's life, OPALCO would restore the site according to a formal, approved decommissioning plan.

11. Light and glare

Find help answering light and glare questions[14]

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

During construction, the project would generate minimal to no temporary light and no glare. All construction activities are anticipated to occur during daylight hours. If temporary task lighting is required for construction safety or visibility late in the day, it would be limited and directional, to reduce and avoid off-site light spill.

Solar arrays have the potential to cause glare when sunlight is at a low angle, such as in the mornings or evenings. Typically, this is momentary glint (a momentary flash of bright light).

[14] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-11-Light-glare

b. Could light or glare from the finished project be a safety hazard or interfere with views?

The entire solar array would be surrounded by a 2.3-m (7-foot) fence, and on the southwest side of the site along Armitage Road, a 3.3-m (10-foot) landscape buffer would be planted with trees, shrubs, and other vegetation to reduce visual aesthetic impacts from the project, including potential glare off of solar panels. Because of the fence and landscape buffer, and the very limited/remote residential setting of the project site and low traffic volumes on Armitage Road, the glare would not be a safety hazard or interfere with views.

More information about potential glare can be found in the Provisional Use Permit (PPROV0-18-0018) for the original Decatur solar project in the northeast corner of the parcel. A glare study was completed in 2018 for the original Decatur Community Solar Array. The study evaluated the potential for solar photovoltaic (PV) panels to create glare affecting nearby residential structures or users of the Decatur Shores Airstrip. The study concluded that there would be no adverse effects from glare on adjacent residential structures or on users of the Decatur Shores Airstrip.

The study noted that solar photovoltaic panels are designed to absorb, rather than reflect, light, and that solar energy facilities located away from the immediate vicinity of airfields are unlikely to present problems of glare to pilots. Additionally, no evidence was identified from existing solar energy projects worldwide indicating reported problems of glare affecting pilots.

The analysis also relied on a fact sheet prepared in 2014 by the Meister Consultants Group for the International City/County Management Association addressing solar panels and glare for local government consideration. This publication explains that a common misconception about solar PV panels is that they inherently cause excessive glare. In reality, light absorption, rather than reflection, is central to the function of solar PV panels, which are designed to absorb solar radiation and convert it to electricity. Modern PV panels are constructed of dark-colored materials and are treated with anti-reflective coatings, resulting in very low reflectivity (reported to be as little as two percent of incoming sunlight), comparable to water and less than soil or wood shingles (SEIA/Sandia 2013).

c. What existing off-site sources of light or glare may affect your proposal?

No off-site light sources or glare would affect this project.

d. Proposed measures to reduce or control light and glare impacts, if any:

The project would schedule construction activities during daylight hours to avoid the need for nighttime construction lighting.

Both project areas would be surrounded by a 2.3-m (7-foot) fence, and on the southwest side of Area A, a 3.3-m (10-foot) landscape buffer would be planted along Armitage Road with trees, shrubs, and other vegetation to reduce visual aesthetic impacts from the project, including potential glare off of solar panels.

12. Recreation

Find help answering recreation questions

a. What designated and informal recreational opportunities are in the immediate vicinity?

The parcel is surrounded by other private parcels and is not accessible to the public for recreation.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No, the proposed project would not displace any existing recreational opportunities.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None, as recreation would not be impacted.

13. Historic and cultural preservation

Find help answering historic and cultural preservation questions[15]

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers? If so, specifically describe.

ESA completed a Cultural Resources Assessment in May 2025. This report has been submitted to the Washington State Department of Archaeology and Historic Preservation (DAHP). There are no recorded buildings, structures, or sites located on or near the project site that are currently listed in or eligible for listing in the National Register of Historic Places (NRHP) or the Washington Heritage Register (WHR) (DAHP 2025). DAHP concurrence is provided as **Attachment 5**.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

To date, no archaeological sites, cemeteries, or disclosed properties identified by Tribes as having traditional religious and cultural importance or significance (also referred to as Traditional Cultural Places by the National Park Service) within or adjacent to the project boundaries have been recorded with DAHP (DAHP 2025).

ESA completed a Cultural Resources Assessment of the project site in May 2025, which included pedestrian survey, archaeological monitoring of excavation of five geotechnical pits, and excavation of a series of auger probes (Hannah and Bumback 2025). No archaeological or other cultural resources were found on-site as a result of the survey. Prior to this assessment, two other surveys have been conducted within the project boundaries; neither resulted in the identification of cultural resources (Baldwin and

[15] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-13-Historic-cultural-p

Chambers 2014; Bumback 2018). The nearest recorded archaeological site is a precontact-era site located approximately 0.4 mile from the project area (DAHP 2025).

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

ESA conducted extensive background research, conducted an archaeological survey, and monitored the geotechnical investigation to identify cultural and historic resources. ESA reviewed past cultural resources assessments, recorded archaeological sites, ethnographic studies, inventoried historic resources (buildings, districts, structures, objects, and sites), archival records (historical maps, aerial imagery, landowner records and census data, published histories), geological maps, soils surveys, and other environmental reports.

These sources were reviewed to identify any cultural resources, including archaeological sites, cemeteries, or Traditional Cultural Places, within the project boundaries, and assess the probability for unrecorded resources, along with the project area's context of historic architecture. The following specific repositories were consulted: the Washington Information System for Architectural and Archaeological Records Data (WISAARD) database maintained by DAHP, Washington State Digital Archives, U.S. Census Bureau records, San Juan County Assessor records, ESA's reference library, and the county library system.

In addition, ESA contacted cultural resources technical staff at the Lummi Nation, Samish Indian Nation, Snoqualmie Tribe of Indians, Suquamish Tribe, Swinomish Indian Tribal Community, and Tulalip Tribes via letter and email on March 18, 2025, to request information regarding cultural resources within the project area.

Both the Suquamish Tribe and the Snoqualmie Tribe of Indians responded to communications. The Suquamish Tribe responded on March 18, 2025, with the following comment:

"Thank you for consulting with the Suquamish Indian Tribe and introducing us to the proposed Decatur Island Solar Array Project in San Juan County. The Suquamish Tribe's Archaeology and Historic Preservation Program has reviewed the information provided and agrees with OPALCO's definition of the Area of Potential Effects. Please keep us updated as the project moves forward and provide us with the results of any archaeological field surveys conducted within the project APE."

The Snoqualmie Tribe of Indians responded on March 20, 2025, with the following comment:

"Thank you for the opportunity to review and comment. Based on the information provided and our understanding of the project and its APE we defer to more proximate tribes related to the above mentioned project. However, please be aware that if the scope of the project or the parameters for defining the APE change we reserve the right to modify our current position."

Copies of this correspondence can be shared upon request. No response has been received to date from the other Tribal Nations.

On March 31, 2025, Stacy Bumback, MA, conducted a field survey of the APE using standard pedestrian survey methods, monitored the excavation of four geotechnical pits, and excavated a series of auger probes. Archaeological monitoring of the geotechnical test pits was used to better assess the deeper soil deposits and develop a broader depositional context to assess the potential for archaeological deposits to be present. The subsurface survey consisted of ten auger probes. Five geotechnical test pits were also monitored. No archaeological resources were observed during the survey or geotechnical monitoring for the project.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

There are no known resources within the project site. Based on the fact that no archaeological sites or historic resources were identified, there are no proposed measures to avoid, minimize, or compensate for loss, changes to, or disturbance to resources.

It is possible that unanticipated cultural resource materials may be encountered during construction. In the unlikely event that cultural resources are observed during implementation of the project, work will be temporarily suspended at that location, and a professional archaeologist will be consulted in addition to DAHP, the Federal Lead Agency, and affected Tribes. At all times during construction, state laws regarding cultural resources, including Archaeological Sites and Resources (Revised Code of Washington [RCW] 27.53), Indian Graves and Records (RCW 27.44), Human Remains (RCW 68.50), and Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60), will be followed as required by law if archaeological sites or human remains are discovered. Based on the results of the analysis, measures to avoid, minimize, or compensate for the loss of, changes to, and disturbance to resources will be determined based on the nature, location, and potential impacts on any archaeological resource.

OPALCO is seeking federal funding for the project. Use of federal funds requires that the project comply with Section 106 of the National Historic Preservation Act. The Section 106 review process requires consultation between OPALCO, on behalf of the federal agency, and DAHP and Affected Tribes regarding potential impacts on cultural resources, which include archaeological resources and historic buildings and structures. OPALCO has completed consultation with DAHP (DAHP Project Tracking Code 2025-03-01575) and Affected Tribes, and the project has resulted in a finding of no historic properties affected. DAHP concurred with these findings on May 19, 2025.

ESA's Cultural Resources Assessment of the project site as part of the Section 106 review (Hannah and Bumback 2025). No cultural resources were identified as a result of the survey or the geotechnical monitoring. Review of stratigraphy and surface indicators, as well as historic aerial imagery, indicates that the project site has been heavily disturbed by clearing and development and that glacial outwash deposits are relatively shallow. No

soil development or buried surfaces were identified, and there is limited potential for as-yet unidentified cultural deposits (Hannah and Bumback 2025).

14. Transportation

Find help with answering transportation questions[16]

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

The site is surrounded on three sides by roads: Armitage Road (west), Decatur Head Drive (north), and Bowes Boulevard (east) (**Attachment 1; Attachment 2**). There are five preexisting roads to the project parcel, and one proposed unpaved road to support clearing activities in the project area in the southwest corner of the parcel, which would be graded and planted with native vegetation following the completion of clearing activities. There would also be one proposed unpaved access road in Area B to support clearing and maintenance activities.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

Decatur Island is not serviced by public transit. There is no public ferry access to the Island; the island is privately owned and only private boats or chartered transportation can be used to travel there.

c. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle, or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The project does not propose construction or improvements to any public roads, pedestrian pathways, bicycle facilities, or state transportation infrastructure.

The project includes the creation of one new unpaved forest road that would be installed prior to clearing activities in Area A. This road would be for private use only and would be graded and planted with native vegetation following the completion of clearing activities. There would be one unpaved gravel access road in Area B that would be installed prior to clearing activities and left after construction to allow periodic maintenance access.

d. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

Decatur Island has one private airport known as Decatur (Jones) Airport, which requires permission to use prior to landing. It is approximately an 0.8 km (0.5 mile) drive from the project site. Decatur Island has one county boat ramp on the east side of the island for boat launches, and all transportation to and from the island is private or charter only.

The project would not use air, water, or rail transportation.

[16] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-B-Environmental-elements/Environmental-elements-14-Transportation

e. **How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?**

The project site is currently being used for a community solar project, and the project would expand upon what is currently there. Regular maintenance at the solar site typically includes one visit per month, and that number is expected to stay the same following the completion of the proposed expansion. The type of vehicles would typically be non-passenger. As needed, someone would visit the site to perform landscaping/trimming.

f. **Will the proposal interfere with, affect, or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.**

The small amount of vehicle traffic associated with the project would not interfere with the movement of any agricultural or forest products in the area.

g. **Proposed measures to reduce or control transportation impacts, if any:**

The small amount of traffic associated with this project is negligible and no measures are proposed.

15. Public services

Find help answering public service questions[17]

a. **Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.**

No. The project is being added onto an existing solar array, so public service needs in the area would remain the same.

b. **Proposed measures to reduce or control direct impacts on public services, if any.**

Not applicable – there is no daily, sustained, or significant need for public services as a result of this project.

16. Utilities

Find help answering utilities questions[18]

a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:**

Electricity is currently available on-site, and there is a well.

[17] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-15-public-services
[18] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-b-environmental-elements/environmental-elements-16-utilities

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No new utilities are proposed for the project.

C.Signature

Find help about who should sign[19]

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

X _____

Type name of signee: Russell Guerry

Position and agency/organization: Manager of Operations and Engineering / OPALCO

Date submitted: 06/24/2025

Date updated: 12/12/2025

[19] https://ecology.wa.gov/Regulations-Permits/SEPA/Environmental-review/SEPA-guidance/SEPA-checklist-guidance/SEPA-Checklist-Section-C-Signature

References

Baldwin, Garth L., and Jennifer Chambers. 2014. Cultural Resources Assessment for the OPALCO Decatur Island Sub Bonneville Tap Project, Decatur Island, San Juan County, Washington. Prepared for Orcas Power & Light Cooperative by Drayton Archaeology, Bellingham. On file, DAHP, Olympia.

Bumback, Stacy L. 2018. Cultural Resources Study of the Decatur Energy Storage Project, Decatur Island, San Juan County, Washington. Prepared for Orcas Power & Light Cooperative by Jacobs Engineering Group, Bellevue. On file, DAHP, Olympia.

DAHP (Department of Archaeology and Historic Preservation). 2025. Washington Information System for Architectural and Archaeological Records Data (WISAARD). Secure database. Accessed April 10, 2025. http://www.dahp.wa.gov/.

eBird. 2025. Region: Island County, Washington, United States. Accessed May 12, 2025 at https://ebird.org/region/US-WA-029.

Ecology (Washington State Department of Ecology). 2023. Shoreline Slope Stability Dataset. Accessed May 12, 2025. https://geo.wa.gov/maps/7791d3fb452e4d77a08b47e5d9c5f3a1/about.

_____. 2025. What's in My Neighborhood: Toxic Cleanup mapper. Accessed May 12, 2025. https://apps.ecology.wa.gov/neighborhood/?lat=47.500000&lon=-121.000000&zoom=7&radius=false.

EPA (Environmental Protection Agency). 2025a. Cleanups in My Community Mapper. Accessed May 12, 2025. https://map22.epa.gov/cimc/WA.

_____. 2025b. EnviroAtlas Interactive Map. Accessed May 12, 2025. https://enviroatlas.epa.gov/enviroatlas/interactivemap/.

Google. 2025. Google Maps view of Decatur Island, San Juan Islands, Washington. Timeline data. Accessed May 12, 2025. https://www.google.com/maps/@48.503143,-122.8027903,995m/data=!3m1!1e3?entry=ttu&g_ep=EgoyMDI1MDUxNS4wIKXMDSoASAFQAw%3D%3D

Hannah, Kate, and Stacy Bumback. 2025. Decatur Island Solar Array Project Cultural Resources Assessment, Decatur Island, San Juan County, Washington. Prepared for Orcas Power and Light Cooperative by Environmental Science Associates, Seattle. On file, DAHP, Olympia.

Meister Consultants Group. 2014. Solar and Glare. Fact Sheet.

National Pipeline Mapping System (NPMS). 2025. NPMS – Home, Pipeline and Hazardous Materials Safety Administration (PHMSA), https://www.npms.phmsa.dot.gov/.

NRCS (Natural Resources Conservation Service). 2025. Web soil survey. http://websoilsurvey.sc.egov.usda.gov/. Accessed February 24, 2025.

NWIFC (Northwest Indian Fisheries Commission). *Washington Department of Fish and Wildlife Statewide Integrated Fish Distribution*. https://nwifc.org/about-us/habitat/sshiap/. Accessed May 12, 2025.

San Juan County. 2022. Comprehensive Plan. Accessed May 12, 2025. https://www.sanjuancountywa.gov/510/Comprehensive-Plan

_____. 2021. San Juan County Shoreline Master Program. Accessed May 12, 2025. https://www.sanjuancountywa.gov/578/Shoreline-Master-Program.

Solar Energy Industries Association (SEIA) & Sandia National Laboratories. 2013. Solar Photovoltaics and Glare: FAA Webinar Slides. Available at: http://www.seia.org/sites/default/files/resources/Final%20FAA%20Webinar%20Slides%20August%202013.pdf

USFWS (United States Fish and Wildlife Service). 2025. Information for Planning and Consultation (IPaC). Accessed May 12, 2025 at https://ipac.ecosphere.fws.gov/.

WDFW (Washington Department of Fish and Wildlife). 2025a. Priority Habitats and Species online mapping. https://geodataservices.wdfw.wa.gov/hp/phs/. Accessed February 24, 2025.

_____. 2025b. *Townsend's big-eared bat.* https://wdfw.wa.gov/species-habitats/species/corynorhinus-townsendii#desc-range. Accessed March 20, 2025.

WHNP (Washington Natural Heritage Program). 2025. WNHP Data Explorer. Accessed May 12, 2025. https://experience.arcgis.com/experience/174566100f2a47bebe56db3f0f78b5d9/page/Rare-Plant-and-Ecosystem-Locations.

D.Supplemental sheet for nonproject actions

Find help for the nonproject actions worksheet[20]

Do not use this section for project actions.

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment.

When answering these questions, be aware of the extent the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. **How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?**

    - **Proposed measures to avoid or reduce such increases are:**

2. **How would the proposal be likely to affect plants, animals, fish, or marine life?**

    - **Proposed measures to protect or conserve plants, animals, fish, or marine life are:**

3. **How would the proposal be likely to deplete energy or natural resources?**

    - **Proposed measures to protect or conserve energy and natural resources are:**

4. **How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection, such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?**

    - **Proposed measures to protect such resources or to avoid or reduce impacts are:**

5. **How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?**

[20] https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/sepa-checklist-guidance/sepa-checklist-section-d-non-project-actions

- **Proposed measures to avoid or reduce shoreline and land use impacts are:**

6. **How would the proposal be likely to increase demands on transportation or public services and utilities?**

   - **Proposed measures to reduce or respond to such demand(s) are:**

7. **Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.**

SEPA CHECKLIST

Attachment 1 – Preliminary Site Design and Landscape Plans

Cushing Terrell
[redacted]
[redacted]

ABBREVIATIONS

&	AND	AVE.	AVENUE	CO	CLEANOUT	HP	HIGH POINT	PCC	POINT OF CONTINUED CURVE	SS	SANITARY SEWER
@	AT	BLVD.	BOULEVARD	CONC.	CONCRETE	IE	INVERT ELEVATION	PERF.	PERFORATED	SSMH	SANITARY SEWER MANHOLE
~	APPROXIMATELY	CIR.	CIRLCE	CP	CONTROL POINT	INV	INVERT	PI	POINT OF INTERSECTION	STA	STATION
℄	CENTERLINE	HWY.	HIGHWAY	CS	CURB STOP	L	LENGTH	PNT	POINT	SWTD	STORMWATER TREATMENT DEVICE
°	DEGREE	LN.	LANE	DIP	DUCTILE IRON PIPE	LD	LANDSCAPE DRAIN	PPC	PINK PLASTIC CAP	TBC	TOP BACK OF CURB
Ø	DIAMETER	PL.	PLACE	DIA.	DIAMETER	LF	LINEAL FEET	PRC	POINT OF REVERSE CURVE	TFM	TOP OF FORCE MAIN
'	FOOT	RD.	ROAD	EA.	EACH	LP	LOW POINT	PROP.	PROPOSED	TOC	TOP OF CONCRETE
"	INCH	ST.	STREET	E.W.	EACH WAY	LT	LEFT	PSI	POUNDS PER SQUARE INCH	TOW	TOP OF WALL
#	NUMBER	TR.	TRAIL	EG	EXISTING GRADE	LVC	LENGTH OF VERTICAL CURVE	PT	POINT OF TANGENT	TWL	TOP OF WATER LINE
%	PERCENT			ELEV	ELEVATION	MAX.	MAXIMUM	PV	PAVEMENT	TYP	TYPICAL
±	PLUS OR MINUS	ACR	ALUMINUM CAPPED REBAR	EOP	EDGE OF PAVEMENT	MIN.	MINIMUM	PVC	POLYVINYL CHLORIDE PIPE	VAR	VARIES
℄	PROPERTY LINE	ADD'L	ADDITIONAL	EVCE	END VERTICAL CURB ELEVATION	MISC.	MISCELLANEOUS	PVI	POINT OF VERTICAL INTERSECTION	W/	WITH
		APPROX.	APPROXIMATE	EVCS	END VERTICAL CURB ELEVATION			R	RADIUS	X-ING	CROSSING
E	EAST OR EASTING	ASS'Y	ASSEMBLY	EX	EXISTING			RBR	REBAR	YPC	YELLOW PLASTIC CAPPED REBAR
N	NORTH OR NORTHING	B/B	BACK OF CURB TO BACK OF CURB	FETS	FLARED END TERMINAL SECTION	MISD.	NUMBER	RCAP	REINFORCED CONCRETE ARCH PIPE		
NE	NORTHEAST	BLDG	BUILDING	FFE	FINISHED FLOOR ELEVATION	NTS	NOT TO SCALE	RCP	REINFORCED CONCRETE PIPE		
NW	NORTHWEST	BOC	BOTTOM OF CONCRETE	FG	FINISHED GRADE	O.C.	ON CENTER	R-O-W	RIGHT-OF-WAY		
S	SOUTH	BVCE	BEGIN VERTICAL CURVE ELEVATION	FL	FLOWLINE	OCR	ORANGE CAPPED REBAR	RPC	RED PLASTIC CAPPED REBAR		
SE	SOUTHEAST	BVCS	BEGIN VERTICAL CURVE STATION	FM	FORCE MAIN	O.S.H.A.	OCCUPATIONAL SAFETY HEALTH	RT	RIGHT		
SW	SOUTHWEST	CB	CURB BOX	FND	FOUND		ADMINISTRATION	SD	STORM DRAIN		
W	WEST	CL	CENTERLINE	FT	FOOT	OFF	OFFSET	SDMH	STORM DRAIN MANHOLE		
		CMP	CORRUGATED METAL PIPE	GND	GROUND	PC	POINT OF CURVATURE	SERV.	SERVICE		

GENERAL CONSTRUCTION NOTES

1. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL WORK MUST CONFORM TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST EDITION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS REQUIRED FOR CONSTRUCTION ACTIVITIES.
3. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING THE STORM WATER POLLUTION AND PREVENTION PLAN (SWPPP) AND FOR FILING THE NOTICE OF INTENT WITH THE WASHINGTON DEPARTMENT OF ECOLOGY AND SAN JUAN COUNTY.
4. THE CONTRACTOR MUST RESTORE ALL ROADWAY SURFACES TO EQUAL OR BETTER CONDITION THAN EXISTING PRIOR TO EXCAVATION, AS DETERMINED BY THE PROJECT ENGINEER.
5. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT THEIR EXPENSE. EROSION MUST BE CONTROLLED IN ACCORDANCE WITH THE SWPPP REGULATIONS AS WELL AS THE 2025 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.
6. THE CONTRACTOR MUST NOTIFY ONE CALL FOR ONSITE UTILITY LOCATION. ALL EXISTING UTILITIES MUST BE MARKED BEFORE DIGGING.
7. THE CONTRACTOR MUST NOTIFY THE SAN JUAN COUNTY PUBLIC WORKS AND THE PROJECT ENGINEER A MINIMUM OF 72 HOURS PRIOR TO BEGINNING ANY WORK IN THE PUBLIC RIGHT-OF-WAY.
8. THE CONTRACTOR MUST REFERENCE ALL SURVEY MONUMENTS, SECTION CORNERS, ¼ CORNERS AND PROPERTY CORNERS PRIOR TO BEGINNING CONSTRUCTION. ANY MONUMENTS DISTURBED OR OBLITERATED DURING CONSTRUCTION MUST BE REPLACED BY A LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR MUST VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCEMENT OR CONTINUATION OF CONSTRUCTION ACTIVITIES.
10. THE CONTRACTOR MUST IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHT-OF-WAYS AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.
11. CONSTRUCTION WORK ZONE TRAFFIC SIGNS MUST BE FURNISHED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE REGULATORY AGENCIES HAVING JURISDICTION. A TRAFFIC CONTROL PLAN, PREPARED BY THE CONTRACTOR, MAY BE REQUIRED BY THE CITY OR STATE. "CONSTRUCTION AHEAD" WARNING SIGNS ARE TO BE INSTALLED ALONG ADJACENT ROADS OR DRIVEWAYS. FLASHERS WITH CAUTION TAPE ARE TO BE INSTALLED WHERE ANY CONSTRUCTION ACTIVITY CROSSES A SIDEWALK OR PEDESTRIAN PATH IN THE SPECIFICATIONS AND ANY OR ALL LOCAL REGULATIONS.
12. THE CONTRACTOR IS RESPONSIBLE FOR IMPORTING AND/OR EXPORTING ALL MATERIAL AS REQUIRED TO PROPERLY GRADE THIS SITE TO FINISHED ELEVATIONS. DISPOSAL OF EXCESS MATERIAL MUST CONFORM TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST EDITION.
13. A GEOTECHNICAL REPORT BY GEOTEST, INC. IS AVAILABLE UPON REQUEST FROM THE OWNER. THE CONTRACTOR IS STRONGLY ENCOURAGE TO REVIEW THE REPORT. THE REPORT AND ITS RECOMMENDATIONS ARE INCLUDED BY REFERENCE TO THESE PLANS AND CONSTRUCTION AGREEMENT.

GENERAL GRADING NOTES:

1. SITE GRADING MUST NOT PROCEED UNTIL THE SWPPP HAS BEEN IMPLEMENTED.
2. ALL EARTHWORK AND GRADING MUST PROCEED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

GENERAL UTILITY NOTES:

1. EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATES AND MUST FIELD VERIFY THE EXISTENCE, LOCATION, DEPTH, SIZE, LINE AND GRADE OF EXISTING UTILITY CONNECTIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES DUE TO FAILURE TO LOCATE OR PROVIDE PROPER PROTECTION WHEN LOCATION IS KNOWN.
2. THE CONTRACTOR MUST MAINTAIN SERVICE OF ALL EXISTING UTILITIES. IF SAID SERVICE IS DAMAGED, THE CONTRACTOR MUST IMMEDIATELY REPAIR THE DAMAGE AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST ADJUST ALL NEW MANHOLES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY MANHOLES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR OR ANY SUBCONTRACTOR MUST BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR. THIS WORK IS INCIDENTAL TO THE PROJECT.
4. STORM PIPE INSTALLATION, MANHOLE CONNECTIONS, AND BEDDING REQUIREMENTS MUST MEET THE MOST STRINGENT SPECIFICATIONS BETWEEN THE MANUFACTURER'S RECOMMENDATIONS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST EDITION.

DECATUR ISLAND, WASHINGTON
ORCAS POWER & LIGHT COOPERATIVE
DECATUR ISLAND MICROGRID DESIGN

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10.24.2025
PROJ# | OPALCO_PV
DESIGNED BY | T.STANICH
DRAWN BY | T. STANICH
REVIEWED BY | M. JOYCE
REVISIONS
1 2025.10.31 Rev1

ABBREVIATIONS &
CONSTRUCTION NOTES

C1.00

SURVEY SYMBOL LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
	PROJECT CONTROL POINT	
	SECTION CORNER	
	QUARTER CORNER	
	PROPERTY CORNER	
	CALCULATED POINT	
	INTERSECTION MONUMENT	

SITE SYMBOL LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
	BOLLARD	
	SIGN	
	TRUNCATED DOME PANEL	
	MAILBOX	
	DECIDUOUS TREE	
	CONIFEROUS TREE	
	SHRUB	
	BUSH	
TP ##	TEST PIT	
PT ##	PERCOLATION TEST	
MW ##	MONITORING WELL	
	DRILL HOLE	

WATER UTILITY SYMBOL LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
W	WATER MANHOLE	W
HYD	FIRE HYDRANT	HYD
	BLOWOFF HYDRANT	
WM	WATER METER	WM
WV	WATER VALVE	WV
	AIR RELIEF VALVE	
	CURB STOP	
	REDUCER	
	WATER FITTING: CROSS	
	WATER FITTING: TEE	
	WATER FITTING: 11.25° ELBOW	
	WATER FITTING: 22.5° ELBOW	
	WATER FITTING: 45° ELBOW	
	WATER FITTING: 90° ELBOW	
	WATER END CAP	
	SPRINKLER HEAD	
IRR	IRRIGATION VALVE	IRR
IRR	IRRIGATION CONTROL BOX	IRR

SANITARY SEWER UTILITY SYMBOL LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
S	SANITARY SEWER MANHOLE	S
CO	SANITARY SEWER CLEANOUT	CO
	SANITARY SEWER END CAP	

STORM DRAIN UTILITY SYMBOL LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
D	STORM DRAIN MANHOLE	D
	STORMWATER TREATMENT UNIT	
	STORMWATER CURB INLET	
	48" Ø MANHOLE W/ FLAT GRATE INLET	
	48" Ø INLET W/ CURB INLET	
	BEEHIVE INLET	
	30" Ø MANHOLE W/ FLAT GRATE INLET	
	30" Ø MANHOLE W/ CURB INLET	
	LANDSCAPE DRAIN	
CO	STORMWATER CLEANOUT	CO
	STORMWATER END CAP	
	CONCRETE FETS	
	METAL/PLASTIC FETS	

DRY UTILITY SYMBOL LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION
	UTILITY POLE
	GUY WIRE ANCHOR POLE
	LIGHT POLE
	STREET LIGHT
C	COMMUNICATIONS MANHOLE
C	COMMUNICATIONS PULL BOX
T	TELEPHONE PEDESTAL
F	FIBER OPTIC PULL BOX
E	ELECTRIC MANHOLE
EM	ELECTRIC UTILITY METER
EB	ELECTRIC PULL POX
G	NATURAL GAS MANHOLE
GM	NATURAL GAS UTILITY METER
GV	NATURAL GAS VALVE
	UTILITY MARKER

LINE STYLE LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
CONTOUR TEXT	MAJOR CONTOUR	CONTOUR TEXT
CONTOUR TEXT	MINOR CONTOUR	CONTOUR TEXT
	SECTION LINE	
	RIGHT-OF-WAY BOUNDARY	
	PROPERTY LINE	
	EASEMENT	
	PROJECT BOUNDARY	
	CHAINLINK FENCE	
	PRIVACY FENCE	
X X	BARBED WIRE FENCE	X X
	CURB AND GUTTER	
	CENTERLINE	
	ASPHALT EDGE	
	GRAVEL EDGE	
	CONCRETE EDGE	
	BUILDING	
	BREAKLINE	
	DRAINAGE FLOWLINE	

LINE STYLE LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
AW AW	ABANDONED WATER MAIN	AW AW
##W ##W	##-INCH WATER MAIN	##W ##W
AWS AWS	ABANDONED WATER SERVICE	AWS AWS
WS WS	WATER SERVICE	WS WS
##FS ##FS	##-INCH FIRE SERVICE	##FS ##FS
IRR IRR	IRRIGATION LINE	IRR IRR
	IRRIGATION SLEEVE - MAINLINE	
	IRRIGATION SLEEVE - LATERAL	
AS AS	ABANDONED SANITARY SEWER MAIN	AS AS
##S ##S	##-INCH SANITARY SEWER MAIN	##S ##S
SS SS	SANITARY SEWER SERVICE	SS SS
AFM AFM	ABANDONED FORCE MAIN	AFM AFM
FM FM	SANITARY SEWER FORCE MAIN	FM FM
ASD ASD	ABANDONED STORM DRAIN MAIN	ASD ASD
##D ##D	##-INCH STORM DRAIN MAIN	##D ##D
	CULVERT	
LD LD	LANDSCAPE DRAIN	LD LD
RD RD	ROOF DRAIN	RD RD

LINE STYLE LEGEND

EXISTING FEATURE	FEATURE DESCRIPTION	PROPOSED FEATURE
UGP UGP	UNDERGROUND POWER	UGP UGP
OHP OHP	OVERHEAD POWER	OHP OHP
C C	UNDERGROUND COMMUNICATION	C C
OC OC	OVERHEAD COMMUNICATION	OC OC
T T	UNDERGROUND TELEPHONE	T T
OT OT	OVERHEAD TELEPHONE	OT OT
FO FO	UNDERGROUND FIBER OPTIC	FO FO
CBL CBL	UNDERGROUND CABLE TV	CBL CBL
G G	NATURAL GAS	G G
AG AG	ABANDONED NATURAL GAS	AG AG

Cushing Terrell
[redacted]
[redacted]

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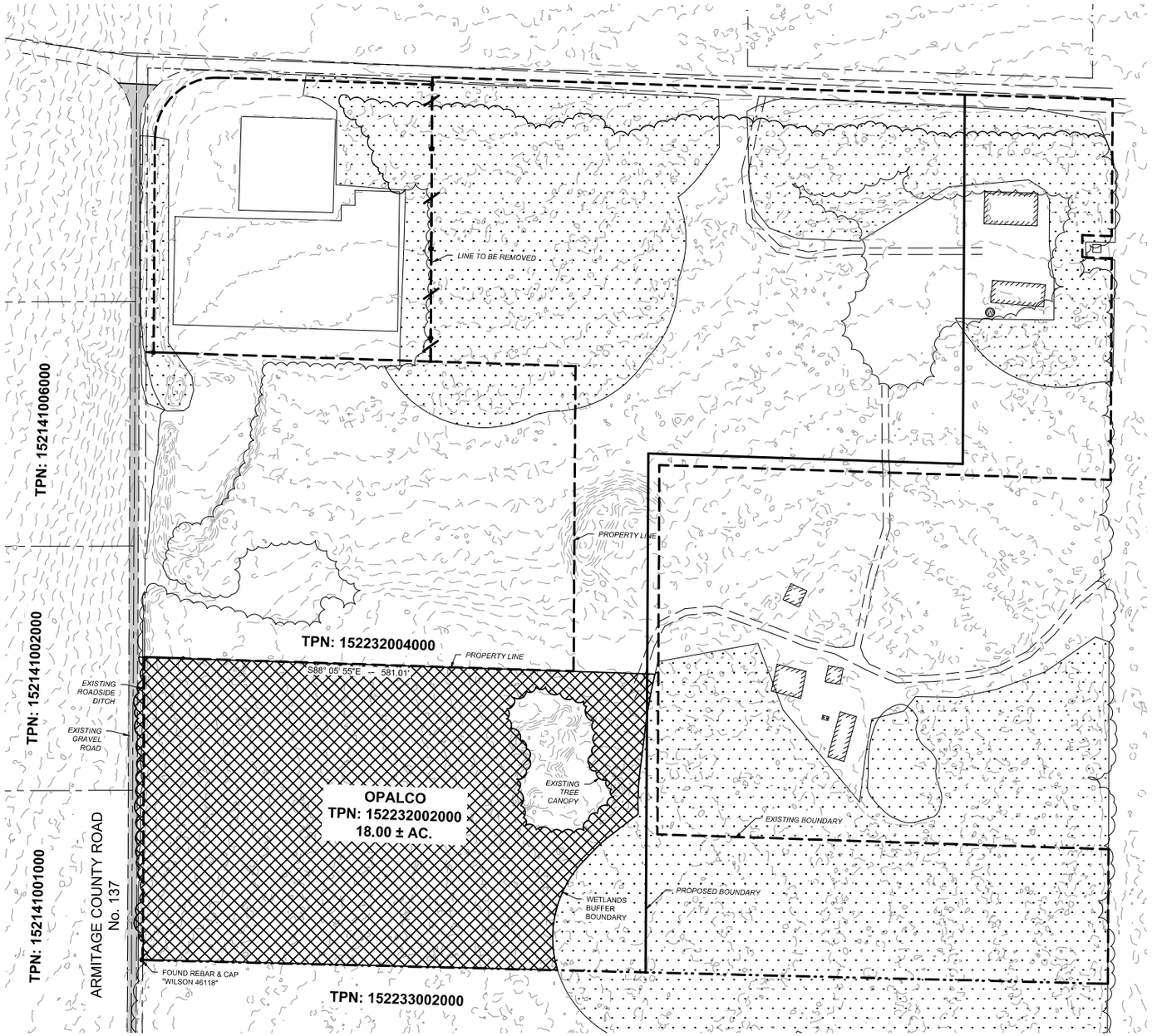
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10.24.2025
PROJ# | OPALCO_PV
DESIGNED BY | T. STANICH
DRAWN BY | T. STANICH
REVIEWED BY | M. JOYCE
REVISIONS
1 2025.10.31 Rev1

LEGENDS

C1.01



LEGEND

- CLEAR & GRUB EXISTING VEGETATION
- PROPOSED PROPERTY LINE
- SUBJECT PROPERTY LINE
- PROPERTY LINE TO BE REMOVED

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1 2025.10.24 Rev1

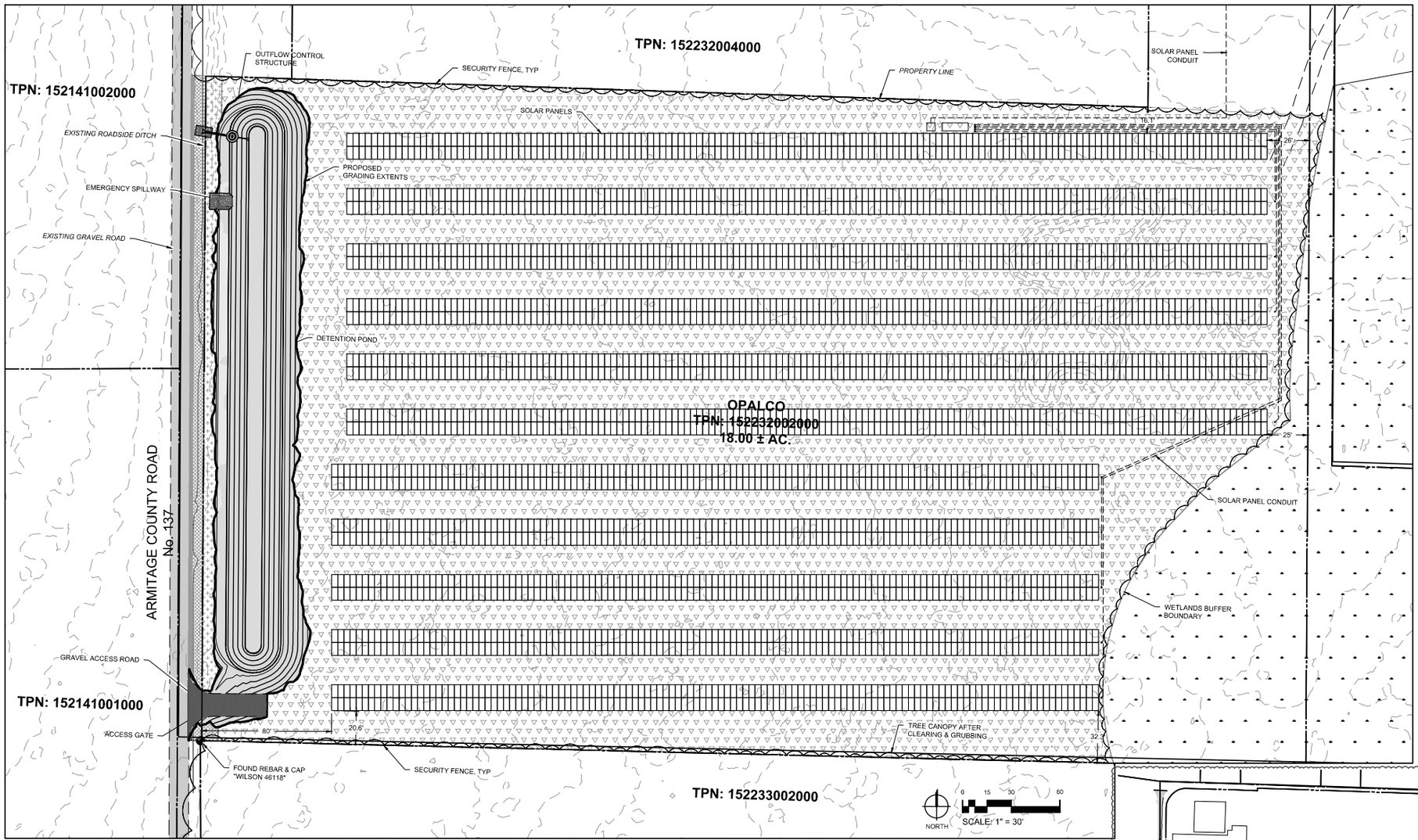
NORTH

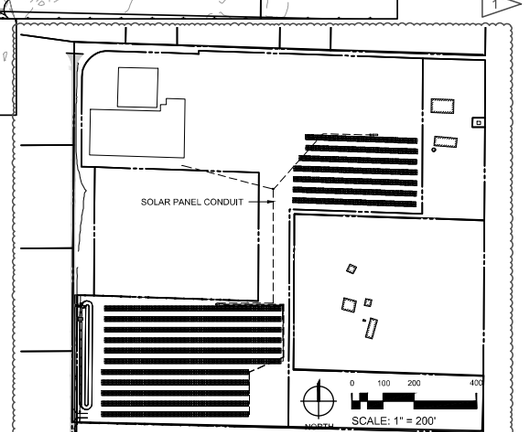
0 35 70 140
SCALE: 1" = 70'

EXISTING SITE MAP & DEMOLITION PLAN

C1.02

11/4/2025 8:47 AM | L:\OPALCO_PV\BIM\CAD\Cornell\DWG\CT UPDATES\SHEETS\OPALCO_C1.02.dwg





1

EARTHWORK QUANTITIES

CUT: 2,118 CY
FILL: 27 CY
NET CUT: 2,091 CY

EARTHWORK QUANTITIES WERE CALCULATED FROM EXISTING GROUND WITH NO TOPSOIL REMOVAL AND NO SHRINK/SWELL FACTORS APPLIED.

LEGEND

FILL

CUT

NATIVE SEED MIX

LANDSCAPE BUFFER

DETENTION POND EROSION CONTROL SEED MIX

LOW-GROWING MIX

11/7/2025 1:35 PM | L:\OPALCO_PV\BIM\CAD\Cores\ENGVIGCT UPDATES\SHEETS\OPALCO_C1.03.dwg

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[redacted]

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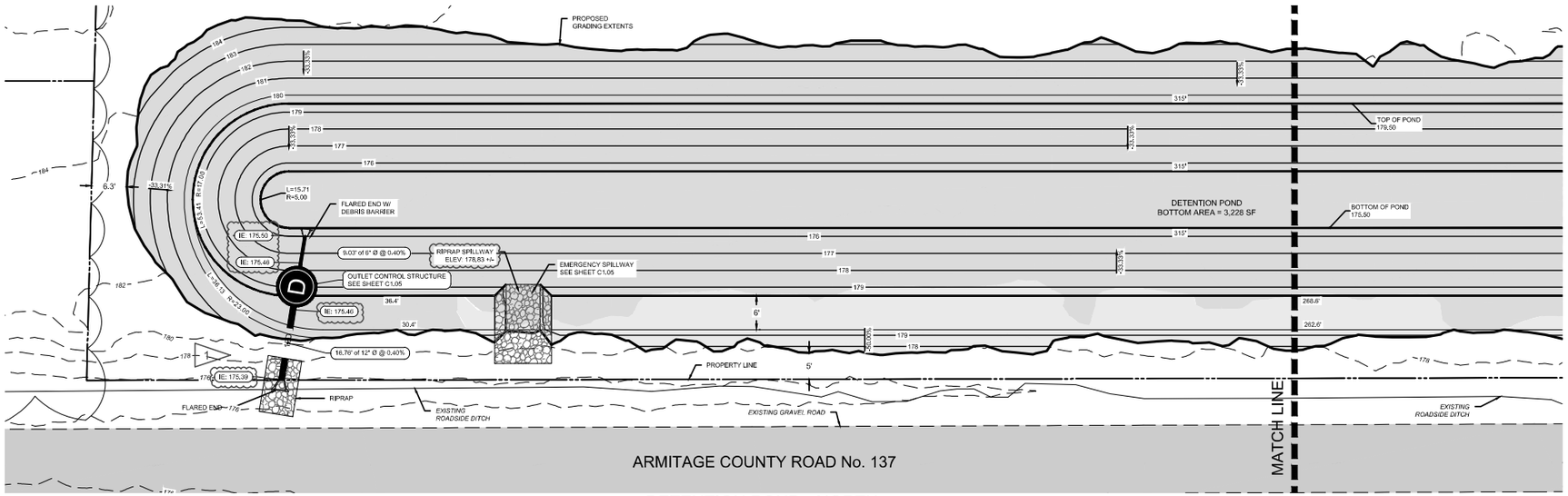
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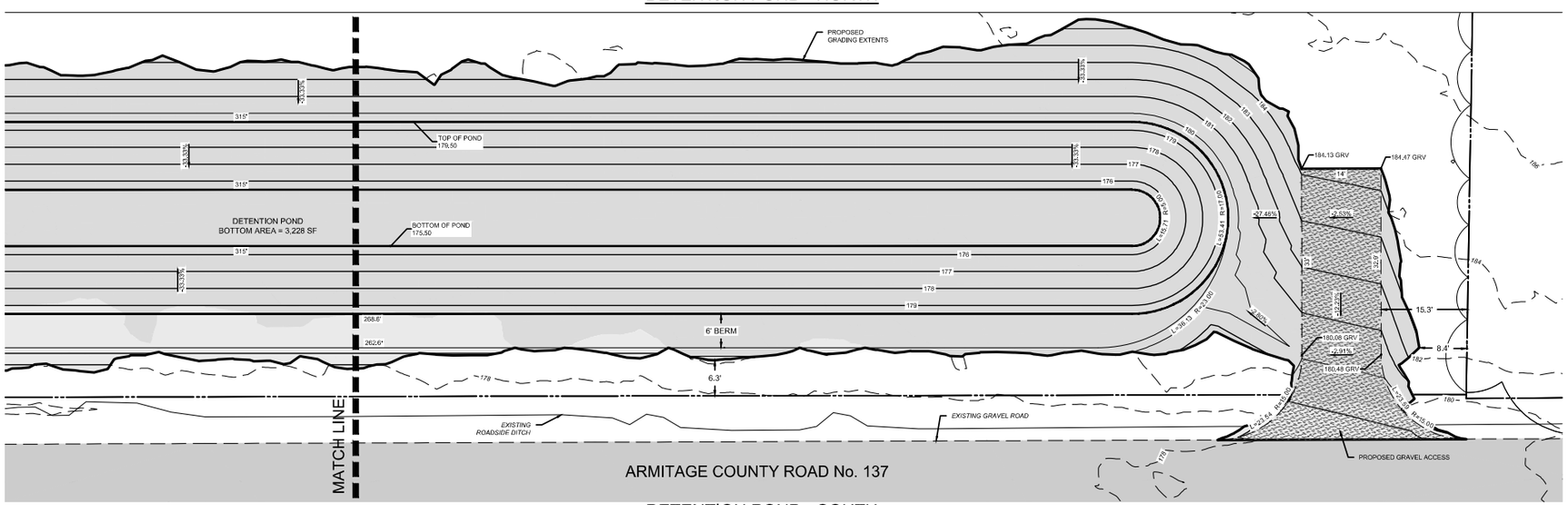
PROPOSED SITE MAP

C1.03

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[redacted]
[redacted]



DETENTION POND - NORTH



DETENTION POND - SOUTH

NORTH

SCALE: 1" = 10'

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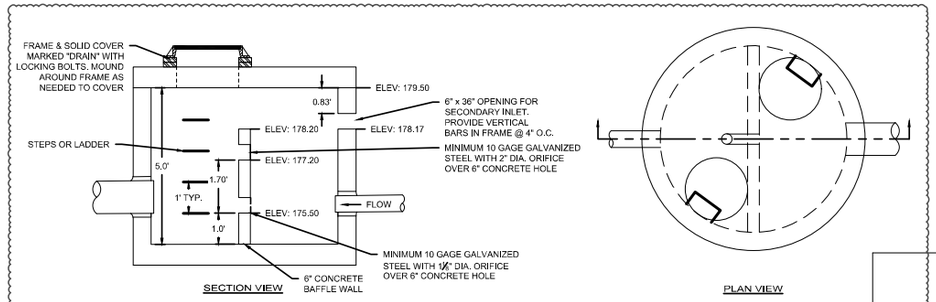
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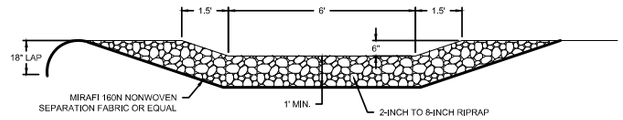
DETENTION POND GRADING MAP

C1.04

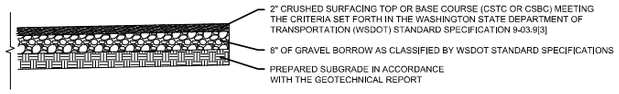
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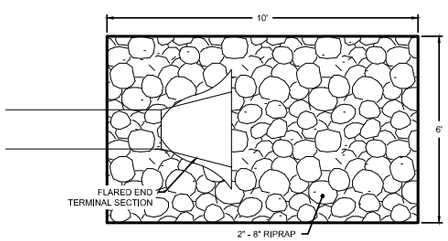
1 OUTFALL CONTROL STRUCTURE
SCALE: NTS



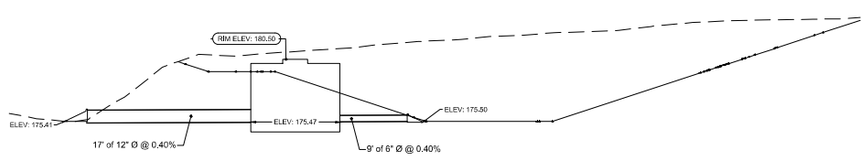
2 EMERGENCY SPILLWAY DETAIL
SCALE: NTS



3 GRAVEL ACCESS ROAD SECTION
SCALE: NTS



4 OUTLET PROTECTION DETAIL
SCALE: NTS



5 DETENTION POND SECTION VIEW
SCALE: NTS

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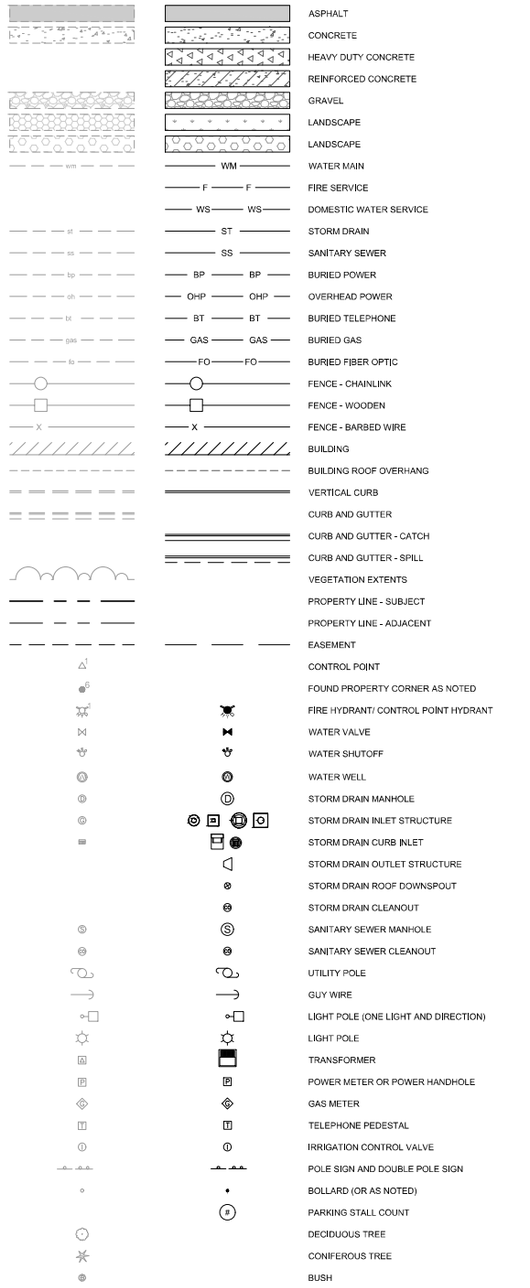
DETAILS

C1.05

ABBREVIATIONS

@	AT	LT	LEFT
AB	ABANDONED	MEG	MATCH EXISTING GRADE
AHJ	AUTHORITIES HAVING JURISDICTION	MH	MANHOLE
APPROX	APPROXIMATE	MTR	METER
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	NTS	NOT TO SCALE
BC	BACK OF CURB	OC	ON CENTER
BCR	BACK OF CURB RADIUS	OH, OHP	OVERHEAD, OVERHEAD POWER
BM	BENCHMARK	OHU	OVERHEAD UTILITIES
BOT	BOTTOM	PB	PULL BOX
BP	BURIED POWER	PC	POINT OF CURVATURE
BT	BURIED TELEPHONE	PIP	PROTECT IN PLACE
BW	BOTTOM OF WALL	℄, PL	PROPERTY LINE
C&G	CURB & GUTTER	PP	POWER POLE
CATV, TV	CABLE TELEVISION	PRC	POINT OF REVERSE CURVE
CI	CAST IRON	PT	POINT OF TANGENCY
CIPP	CURED IN PLACE PIPE	PVC	POLYVINYL CHLORIDE PIPE
℄, CL	CENTERLINE	RCP	REINFORCED CONCRETE PIPE
CMP	CORRUGATED METAL PIPE	RIM	RIM OF MANHOLE LID OR GRATE
CO	CLEANOUT	ROW	RIGHT OF WAY
D, DIA	DIAMETER	SF	SQUARE FOOT, SQUARE FEET
DG	DECOMPOSED GRANITE	SP	SPECIAL PROVISIONS
DI	DUCTILE IRON	SS	SANITARY SEWER
DIP	DUCTILE IRON PIPE	SSMH	SANITARY SEWER MANHOLE
DOM	DOMESTIC WATER	ST	STORM DRAIN
DW	DRIVEWAY	STA	STATION
DWG	DRAWING	STCB	STORM CATCH BASIN
EG	EXISTING GRADE	STCI	STORM CURB INLET
ELEC, E	ELECTRIC	STD	STANDARD
EL, ELEV	ELEVATION	STMH	STORM MANHOLE
EOP, EP	EDGE OF PAVEMENT	STYD	STORM YARD DRAIN
ESCP	EROSION AND SEDIMENT CONTROL PLAN	SW	SIDEWALK
EX	EXISTING	SWPPP	STORMWATER POLLUTION PREVENTION PLAN
FC	FACE OF CURB	SY	SQUARE YARD
FG	FINISHED GRADE	T, TEL	TELEPHONE
FH, HYD	FIRE HYDRANT	TA	TOP OF ASPHALT
FL	FLOW LINE	TBC	TOP BACK OF CURB
FT	FOOT, FEET	TC	TOP OF CONCRETE
G	GAS	TEMP	TEMPORARY
GM	GAS METER	TRANS	TRANSITION
GV	GAS VALVE	TW	TOP OF WALL
GW	GUY WIRE	TYP	TYPICAL
HP	HIGH PRESSURE	VCP	VITRIFIED CLAY PIPE
IE	INVERT ELEVATION	WM	WATER MAIN
INT	INTERSECTION	WV	WATER VALVE
IRR	IRRIGATION	W/	WITH
L	LENGTH	Δ	DELTA
LF	LINEAL FOOT, LINEAR FEET		
LS	LANDSCAPING		

LEGEND



ASPHALT
CONCRETE
HEAVY DUTY CONCRETE
REINFORCED CONCRETE
GRAVEL
LANDSCAPE
LANDSCAPE
WATER MAIN
FIRE SERVICE
DOMESTIC WATER SERVICE
STORM DRAIN
SANITARY SEWER
BURIED POWER
OVERHEAD POWER
BURIED TELEPHONE
BURIED GAS
BURIED FIBER OPTIC
FENCE - CHAINLINK
FENCE - WOODEN
FENCE - BARBED WIRE
BUILDING
BUILDING ROOF OVERHANG
VERTICAL CURB
CURB AND GUTTER
CURB AND GUTTER - CATCH
CURB AND GUTTER - SPILL
VEGETATION EXTENTS
PROPERTY LINE - SUBJECT
PROPERTY LINE - ADJACENT
EASEMENT
CONTROL POINT
FOUND PROPERTY CORNER AS NOTED
FIRE HYDRANT/ CONTROL POINT HYDRANT
WATER VALVE
WATER SHUTOFF
WATER WELL
STORM DRAIN MANHOLE
STORM DRAIN INLET STRUCTURE
STORM DRAIN CURB INLET
STORM DRAIN OUTLET STRUCTURE
STORM DRAIN ROOF DOWNSPOUT
STORM DRAIN CLEANOUT
SANITARY SEWER MANHOLE
SANITARY SEWER CLEANOUT
UTILITY POLE
GUY WIRE
LIGHT POLE (ONE LIGHT AND DIRECTION)
LIGHT POLE
TRANSFORMER
POWER METER OR POWER HANDHOLE
GAS METER
TELEPHONE PEDESTAL
IRRIGATION CONTROL VALVE
POLE SIGN AND DOUBLE POLE SIGN
BOLLARD (OR AS NOTED)
PARKING STALL COUNT
DECIDUOUS TREE
CONIFEROUS TREE
BUSH

NOTE: ALL EXISTING LAYERS SUBJECT TO DEMOLITION TO BE SHOWN DARKER THAN INDICATED IN THIS LEGEND.

GENERAL CONSTRUCTION NOTES

1. UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS, ALL WORK MUST CONFORM TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST EDITION.
2. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITS REQUIRED FOR CONSTRUCTION ACTIVITIES.
3. CONTRACTOR IS RESPONSIBLE FOR DEVELOPING THE STORM WATER POLLUTION AND PREVENTION PLAN (SWPPP) AND FOR FILING THE NOTICE OF INTENT WITH THE WASHINGTON DEPARTMENT OF ECOLOGY AND SAN JUAN COUNTY.
4. THE CONTRACTOR MUST RESTORE ALL ROADWAY SURFACES TO EQUAL OR BETTER CONDITION THAN EXISTING PRIOR TO EXCAVATION, AS DETERMINED BY THE PROJECT ENGINEER.
5. THE CONTRACTOR IS RESPONSIBLE FOR CONTROLLING DUST AND EROSION DURING CONSTRUCTION AT THEIR EXPENSE. EROSION MUST BE CONTROLLED IN ACCORDANCE WITH THE SWPPP REGULATIONS AS WELL AS THE 2025 STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON.
6. THE CONTRACTOR MUST NOTIFY ONE CALL FOR ONSITE UTILITY LOCATION. ALL EXISTING UTILITIES MUST BE MARKED BEFORE DIGGING.
7. THE CONTRACTOR MUST NOTIFY THE SAN JUAN COUNTY PUBLIC WORKS AND THE PROJECT ENGINEER A MINIMUM OF 72 HOURS PRIOR TO BEGINNING ANY WORK IN THE PUBLIC RIGHT-OF-WAY.
8. THE CONTRACTOR MUST REFERENCE ALL SURVEY MONUMENTS, SECTION CORNERS, ¼ CORNERS AND PROPERTY CORNERS PRIOR TO BEGINNING CONSTRUCTION. ANY MONUMENTS DISTURBED OR OBLITERATED DURING CONSTRUCTION MUST BE REPLACED BY A LICENSED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR MUST VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION PRIOR TO COMMENCEMENT OR CONTINUATION OF CONSTRUCTION ACTIVITIES.
10. THE CONTRACTOR MUST IMMEDIATELY CLEAN UP ANY CONSTRUCTION MATERIALS INADVERTENTLY DEPOSITED ON EXISTING STREETS, SIDEWALKS, OR OTHER PUBLIC RIGHT-OF-WAYS AND MAKE SURE STREETS AND WALKWAYS ARE CLEANED AT THE END OF EACH WORKING DAY.
11. CONSTRUCTION WORK ZONE TRAFFIC SIGNS MUST BE FURNISHED, INSTALLED, AND MAINTAINED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE REGULATORY AGENCIES HAVING JURISDICTION. A TRAFFIC CONTROL PLAN, PREPARED BY THE CONTRACTOR, MAY BE REQUIRED BY THE CITY OR STATE. "CONSTRUCTION AHEAD" WARNING SIGNS ARE TO BE INSTALLED ALONG ADJACENT ROADS OR DRIVEWAYS. FLASHERS WITH CAUTION TAPE ARE TO BE INSTALLED WHERE ANY CONSTRUCTION ACTIVITY CROSSES A SIDEWALK OR PEDESTRIAN PATH IN THE SPECIFICATIONS AND ANY OR ALL LOCAL REGULATIONS.
12. THE CONTRACTOR IS RESPONSIBLE FOR IMPORTING AND/OR EXPORTING ALL MATERIAL AS REQUIRED TO PROPERLY GRADE THIS SITE TO FINISHED ELEVATIONS. DISPOSAL OF EXCESS MATERIAL MUST CONFORM TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST EDITION.
13. A GEOTECHNICAL REPORT BY GEOTEST, INC. IS AVAILABLE UPON REQUEST FROM THE OWNER. THE CONTRACTOR IS STRONGLY ENCOURAGE TO REVIEW THE REPORT. THE REPORT AND ITS RECOMMENDATIONS ARE INCLUDED BY REFERENCE TO THESE PLANS AND CONSTRUCTION AGREEMENT.

GENERAL GRADING NOTES:

1. SITE GRADING MUST NOT PROCEED UNTIL THE SWPPP HAS BEEN IMPLEMENTED.
2. ALL EARTHWORK AND GRADING MUST PROCEED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT.

GENERAL UTILITY NOTES:

1. EXISTING UNDERGROUND INSTALLATIONS & PRIVATE UTILITIES ARE INDICATED ACCORDING TO THE BEST INFORMATION AVAILABLE TO THE ENGINEER. THE ENGINEER DOES NOT GUARANTEE THE ACCURACY OF SUCH INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR UTILITY LOCATES AND MUST FIELD VERIFY THE EXISTENCE, LOCATION, DEPTH, SIZE, LINE AND GRADE OF EXISTING UTILITY CONNECTIONS PRIOR TO CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO THE EXISTING UTILITIES DUE TO FAILURE TO LOCATE OR PROVIDE PROPER PROTECTION WHEN LOCATION IS KNOWN.
2. THE CONTRACTOR MUST MAINTAIN SERVICE OF ALL EXISTING UTILITIES. IF SAID SERVICE IS DAMAGED, THE CONTRACTOR MUST IMMEDIATELY REPAIR THE DAMAGE AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR MUST ADJUST ALL NEW MANHOLES TO FINAL GRADE UPON COMPLETION OF ALL CONSTRUCTION. ANY MANHOLES DAMAGED OR OTHERWISE DISTURBED BY THE CONTRACTOR OR ANY SUBCONTRACTOR MUST BE REPAIRED AT THE EXPENSE OF THE CONTRACTOR. THIS WORK IS INCIDENTAL TO THE PROJECT.
4. STORM PIPE INSTALLATION, MANHOLE CONNECTIONS, AND BEDDING REQUIREMENTS MUST MEET THE MOST STRINGENT SPECIFICATIONS BETWEEN THE MANUFACTURER'S RECOMMENDATIONS AND THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, LATEST EDITION.

Call before you Dig
AVOID CUTTING UNDERGROUND UTILITY LINES. IT'S COSTLY.
Call 811

Cushing Terrell

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ORCAS POWER & LIGHT COOPERATIVE
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12.8.2025
PROJ# | OPALCO_PV
DESIGNED BY | T. STANICH
DRAWN BY | T. STANICH
REVIEWED BY | M. JOYCE
REVISIONS

GENERAL PROJECT LEGEND

C000



NORTH

0 35 70 140

SCALE: 1" = 70'

LEGEND

- CLEAR & GRUB EXISTING VEGETATION
- PROPOSED PROPERTY LINE
- SUBJECT PROPERTY LINE
- PROPERTY LINE TO BE REMOVED

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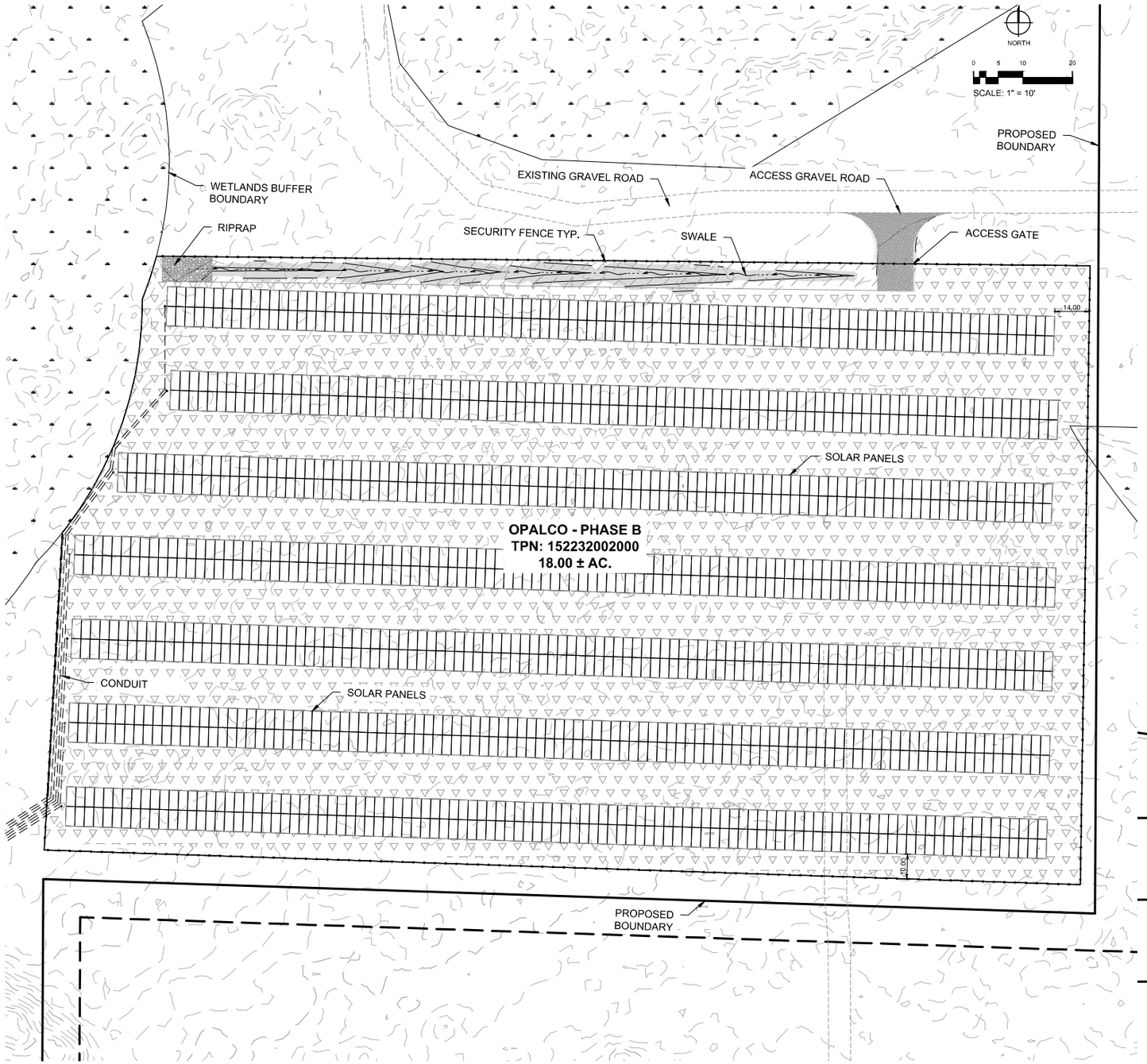
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DRAWN BY | T.STANICH
REVIEWED BY | M. JOYCE
REVISIONS

EXISTING SITE & DEMOLITION PLAN

C030



EARTHWORK QUANTITIES

CUT: 43.12 CY
FILL: 5.06 CY
NET CUT: 38.06 CY

EARTHWORK QUANTITIES WERE CALCULATED FROM EXISTING GROUND WITH NO TOPSOIL REMOVAL AND NO SHRINK/SWELL FACTORS APPLIED.

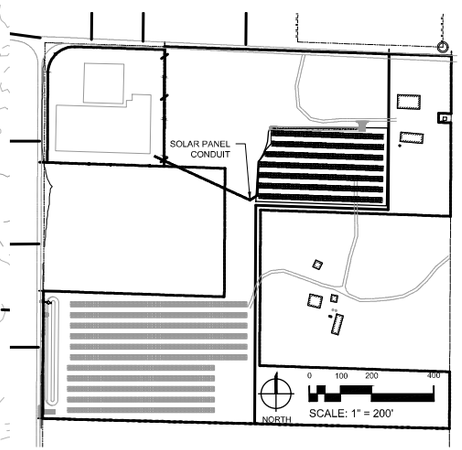
NATIVE SEED MIX

EROSION CONTROL SEED MIX

LEGEND

FILL

CUT



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[redacted]
[redacted]

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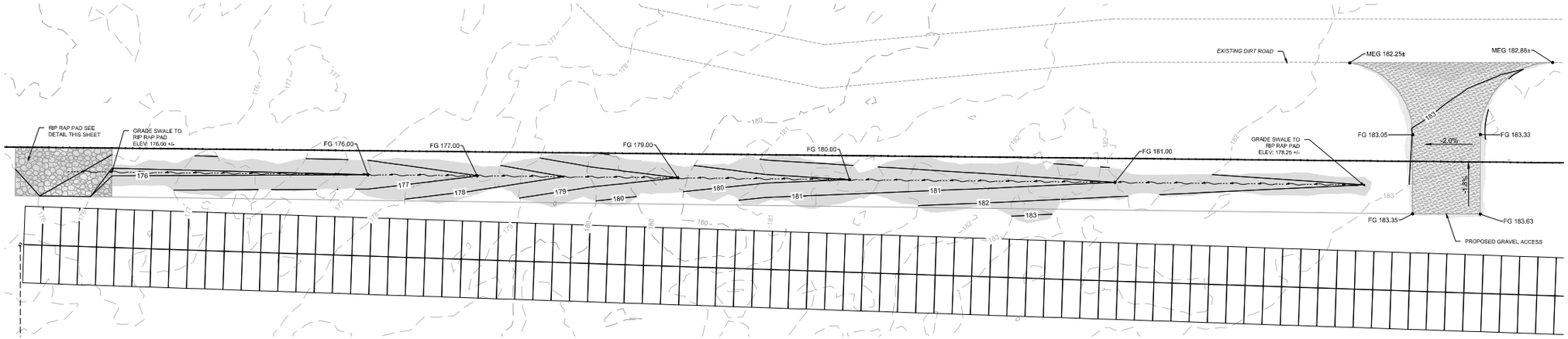
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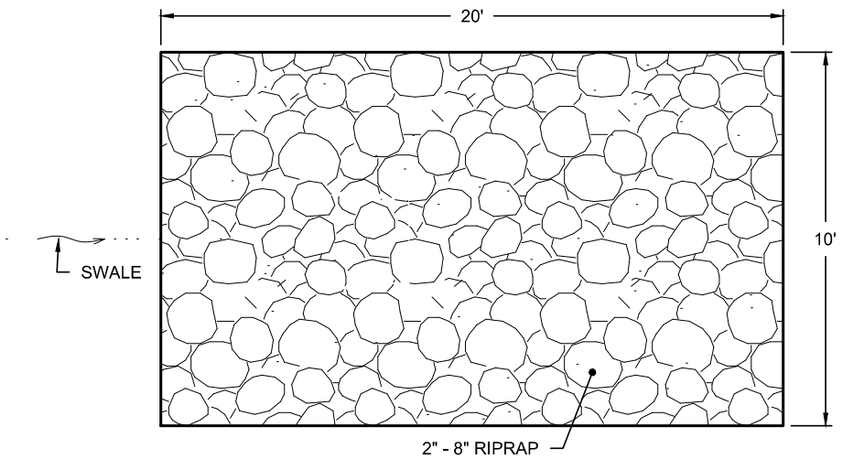
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REVIEWED BY | M. JOYCE
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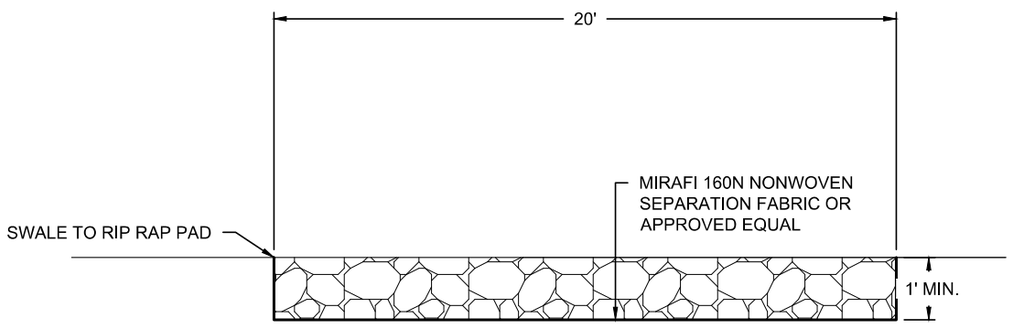
SITE PLAN

C100

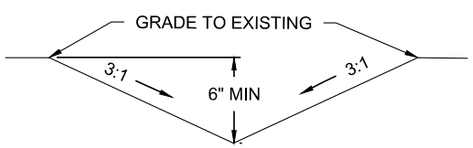




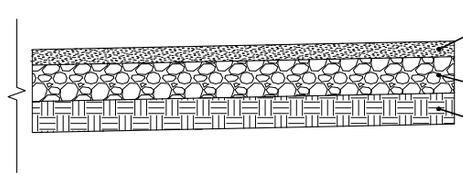
1 C200 RIPRAP - PLAN VIEW



2 C200 RIPRAP - PROFILE VIEW



3 C200 GRADED SWALE



4 C200 ACCESS ROAD SECTION

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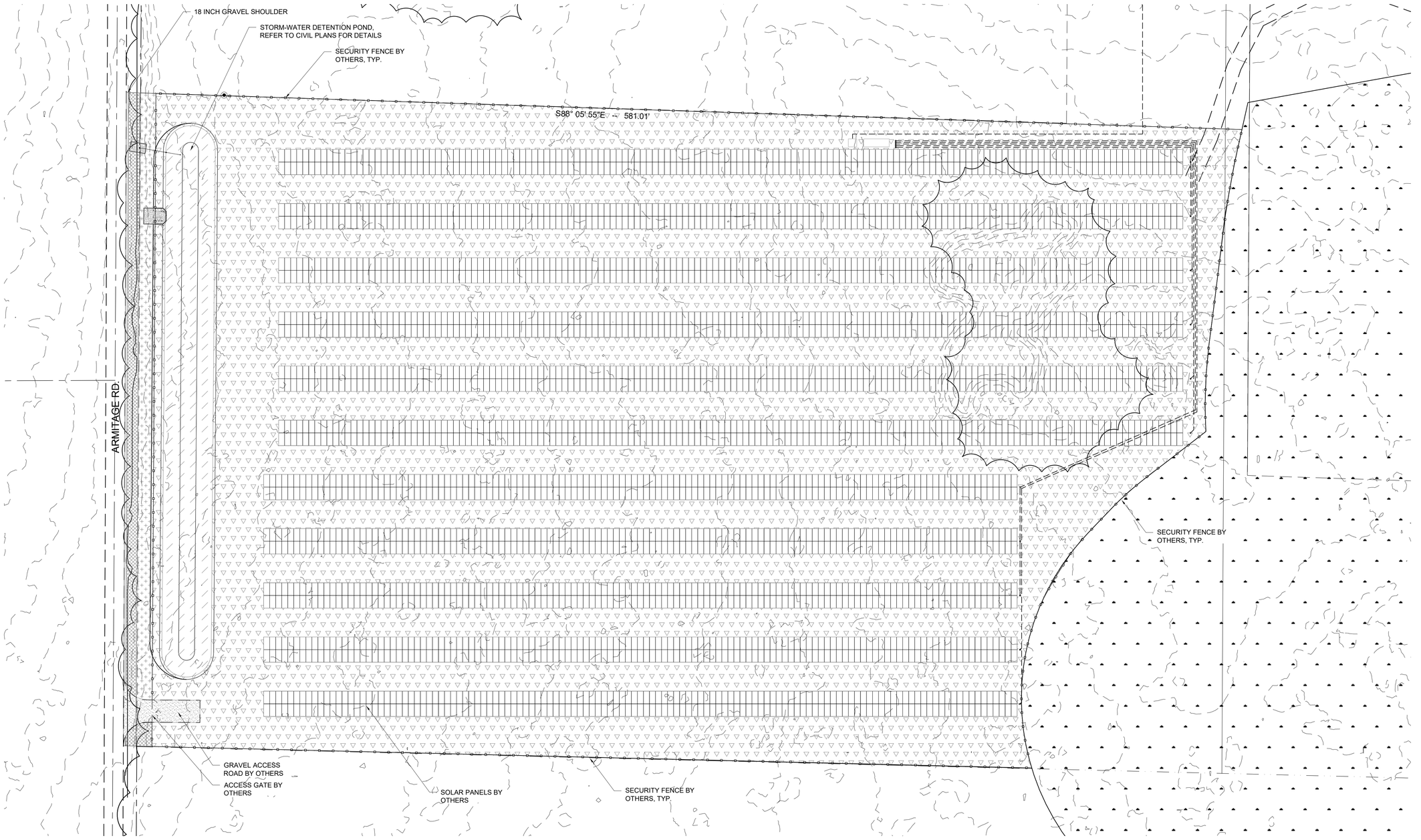
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DRAWN BY | T. STANICH
REVIEWED BY | M. JOYCE
REVISIONS
-

GRADING PLAN & DETAILS

C200



NORTH

1 L001 LANDSCAPE SITE PLAN - AREA A

0 15 30 60

SCALE: 1" = 30'

GENERAL NOTES

1. SEE SHEET L100 FOR PLANTING SCHEDULE AND NOTES.
2. SEE SHEET L201 FOR LANDSCAPE DETAILS.
3. PROTECT EXISTING VEGETATION IN PLANTING AREAS NOT INDICATED FOR REMOVAL.
4. LIMIT OF PLANTING EQUALS LIMIT OF CONSTRUCTION DISTURBANCE. EXISTING PLANTING AREAS LOCATED OUTSIDE OF PLANTING LIMITS THAT ARE DISTURBED BY CONSTRUCTION SHALL MEET AND MATCH EXISTING CONDITIONS.
5. ASSUMPTION OF WATERING SCHEDULE:
   - 5.1.1. 1-2 WEEKS AFTER PLANTING, WATER DAILY.
   - 5.1.2. 3-12 WEEKS AFTER PLANTING, WATER EVERY 2 TO 3 DAYS.
   - 5.1.3. AFTER 12 WEEKS, WATER WEEKLY BETWEEN MAY 1 AND SEPTEMBER 30 IN THE FIRST 3 YEARS, OR AS DIRECTED BY OWNER REPRESENTATIVE.

LEGEND

- LANDSCAPE BUFFER: 3,708 SF
- LOW-GROWING MIX: 2,724 SF
  CONTAINS SHRUB SPECIES WITH MATURE HEIGHT UNDER 36"
- BIORETENTION SEED MIX: 10,520 SF (0.24 ACRE)
- NATIVE SEED MIX: 148,912 SF (3.4 ACRE)

Cushing Terrell.

Jacobs

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DECATUR ISLAND MICROGRID

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PERMIT SET

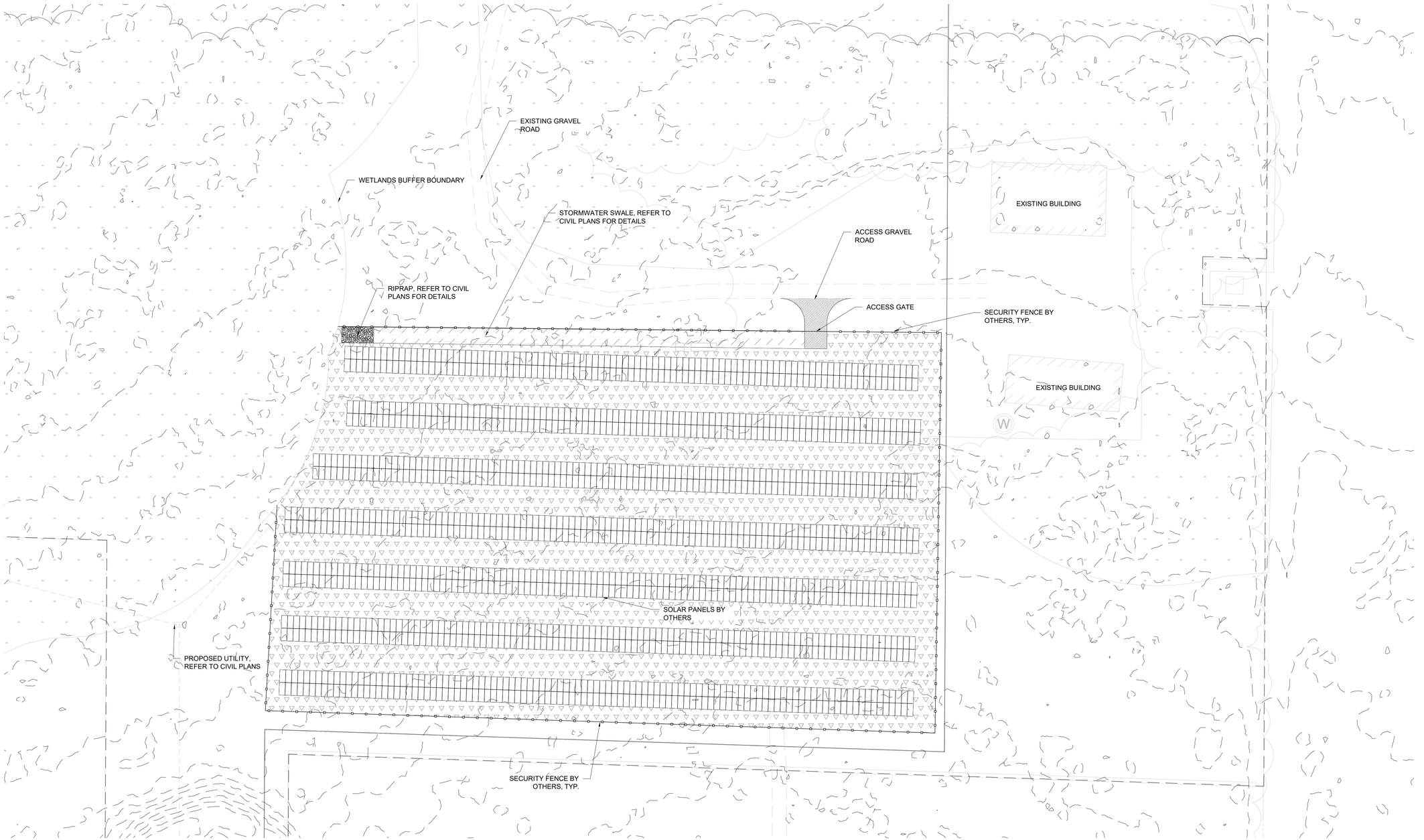
12.03.2025
DRAWN BY | L. PAN
CHECKED BY | G. BERGMAN
REVISIONS

811 Know what's below. Call before you dig.

NOT FOR CONSTRUCTION - PERMIT SET

LANDSCAPE SITE PLAN - AREA A

L001



1 L002 LANDSCAPE SITE PLAN - AREA B

NORTH

0 15 30 60

SCALE: 1" = 30'

GENERAL NOTES

1. SEE SHEET L100 FOR PLANTING SCHEDULE AND NOTES.
2. SEE SHEET L201 FOR LANDSCAPE DETAILS.
3. PROTECT EXISTING VEGETATION IN PLANTING AREAS NOT INDICATED FOR REMOVAL.
4. LIMIT OF PLANTING EQUALS LIMIT OF CONSTRUCTION DISTURBANCE. EXISTING PLANTING AREAS LOCATED OUTSIDE OF PLANTING LIMITS THAT ARE DISTURBED BY CONSTRUCTION SHALL MEET AND MATCH EXISTING CONDITIONS.
5. ASSUMPTION OF WATERING SCHEDULE:
   - 5.1.1. 1-2 WEEKS AFTER PLANTING, WATER DAILY.
   - 5.1.2. 3-12 WEEKS AFTER PLANTING, WATER EVERY 2 TO 3 DAYS.
   - 5.1.3. AFTER 12 WEEKS, WATER WEEKLY BETWEEN MAY 1 AND SEPTEMBER 30 IN THE FIRST 3 YEARS, OR AS DIRECTED BY OWNER REPRESENTATIVE.

LEGEND

DETENTION POND EROSION CONTROL SEED MIX: 2,820 SF

NATIVE SEED MIX: 53,543 SF (1.23 ACRE)

Cushing Terrell.

Jacobs

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ORCAS POWER & LIGHT COOPERATIVE
DECATUR ISLAND MICROGRID

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LANDSCAPE SITE PLAN - AREA B

L002

PLANT SCHEDULE

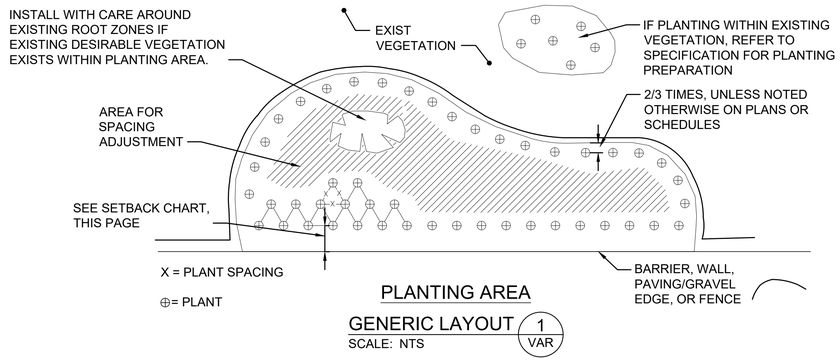
TYPE	BOTANICAL NAME	COMMON NAME	SIZE	SIZE / REMARKS
TREE	ACER CIRCINATUM	VINE MAPLE	6'-8' HT, B&B/ CONT.	MULTI-STEM SPECIMENS W/ MIN. 3 STEMS; FULL AND DENSE FOLIAGE TO CENTER AND BASE
TREE	MALUS FUSCA	PACIFIC CRABAPPLE	6'-8' HT, B&B/ CONT.	HEAVY CLUMP, MULTI-STEM SPECIMENS W/ MIN. 3 STEMS MIN; FULL AND DENSE FOLIAGE TO CENTER AND BASE
TREE	PINUS CONTORTA	SHORE PINE	6' HT MIN., B&B	STRONG CENTRAL LEADER, FULL FOLIAGE TO CENTER AND BASE
TREE	AMELANCHIER ALNIFOLIA	SERVICEBERRY	4'-6' HT, B&B/ CONT.	TREE FORM; STRONG CENTRAL LEADER, FULL FOLIAGE TO CENTER AND BASE
SHRUB	RIBES SANGUINEUM	RED-FLOWERING CURRANT	#2 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	SYMPHORICARPOS ALBUS	COMMON SNOWBERRY	#1 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	#5 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	MAHONIA NERVOSA	LOW OREGON GRAPE	#1 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	MYRICA CALIFORNICA	PACIFIC WAX MYRTLE	4'-6' HT, B&B/ CONT.	DENSE FOLIAGE TO CENTER AND BASE; FULL BRANCHING AND HARDENED GROWTH
SHRUB	ROSA GYMNOCARPA	BALD HIP ROSE	#2 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	GAULTHERIA SHALLON	SALAL	#2 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	#2 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK	#1 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	#1 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
SHRUB	ACHILLEA MILLEFOLIUM	WESTERN YARROW	#1 CONT.	FULL, NATURAL FORM, WELL BRANCHED AND WELL ROOTED
BIORETENTION SEED MIX	30% - DESCHAMPSIA CESPITOSA	TUFTED HAIRGRASS	SEEDING RATE: 1 LBS /1000 SF	T.B.D.
	30% - CAREX OBNUPTA	SLOUGH SEDGE		
	20% - CAREX STIPATA	SAWBEAK SEDGE		
	10% - JUNCUS EFFUSUS	COMMON RUSH		
	10% - FESTUCA IDAHOENSIS	ROEMER'S FESCUE		
NATIVE SEED MIX	6% ACHILLEA MILLEFOLIUM	WHITE YARROW	SEEDING RATE: 1 LBS /ACRES	T.B.D.
	2% CAMASSIA LEICHTLINII	LARGE CAMAS		
	3% CAMASSIA QUAMASH	COMMON CAMAS		
	6% CLARKIA AMOENA	FAREWELL TO SPRING		
	2% TRIFOLIUM WORMSKIOLDII	SPRINGBANK CLOVER		
	6% GILLIA CAPITATA	GLOBE GILIA		
	2% GRINDELIA INTEGRIFOLIA	PUGET SOUND GUM WEED		
	3% LUPINUS RIVULARIS	RIVERBANK LUPINE		
	3% ERIOPHYLLUM LANATUM	SUN FLOWER		
	2% POTENTILLA GRACILIS	SLENDER CINQUEFOIL		
	1% PLECTRITIS CONGESTA	SEABLUSH		
	2% SYMPHYOTRICHUM DOUGLASII	DOUGLAS ASTER		
	1% AQUILEGIA FORMOSA	WESTERN COLUMBINE		
	6% LUPINUS BICOLOR	BICOLOR LUPINE		
	7% PRUNELLA VULGARIS LANCEOLATA	COMMON SELFHEAL		
	1% RANUNCULUS OCCIDENTALIS	WESTERN BUTTERCUP		
	4% SOLIDAGO CANADENSIS LEPIDA	CANADA GOLDENROD		
	15% DANTHONIA CALIFORNICA	CALIFORNIA OATGRASS		
	14% FESTUCA ROEMERI	ROEMER'S FESCUE		
	14% KOELERIA MACRANTHA	PRAIRIE JUNEGRASS		

*SHRUB SPECIES WITH MATURE HEIGHT UNDER 36"

PLANT MATERIAL SETBACK CHART

PLANT MATERIAL	EDGE OF PAVEMENT/ GRAVEL*	FENCE	LIGHT POLE	OVERHEAD POWER CENTERLINE	DRAINAGE STRUCTURE	UNDERGROUND SEWER/WATER LINE
GROUNDCOVER / PERENNIALS / EMERGENTS	1'	1'	1'	-	-	-
SMALL SHRUB/FERN	0.866 X SPACING	1	1'	-	-	-
MEDIUM SHRUB	2.6'	2'	2'	-	2.5'	-
TALL SHRUB	3'	2'	3'	-	5'	5
CONTAINER TREE	7'	3'	15'	20'	5'	5'
B&B TREE	4.5'	3'	15'	20'	5'	5'

*OFFSET DISTANCE FOR PLANT MATERIAL SHALL BE MEASURED FROM EDGE OF GRAVEL OR OTHER FEATURES AS DIRECTED BY OWNER OR OWNER'S REPRESENTATIVE. THE SETBACKS ABOVE ARE MINIMUM SETBACKS FROM CENTER OF PLANT MATERIAL (TRUNK OR STEM) TO FEATURE LISTED IN EACH COLUMN. TYPICAL SETBACKS FOR PLANT MATERIAL APPLY UNLESS OTHERWISE ADJUSTED BY THE OWNER OR OWNER'S REPRESENTATIVE DURING LAYOUT AND STAKING OF PLANT LOCATIONS.



PLANTING AREA GENERIC LAYOUT 1 VAR
SCALE: NTS

1. ALL PLANT MATERIAL SPECIFICATIONS FOR SIZE AND CONDITION ARE MINIMUM REQUIREMENTS, AND ARE IN ACCORDANCE WITH THE CURRENT EDITION OF "AMERICAN STANDARDS FOR NURSERY STOCK". IF A CONFLICT OCCURS BETWEEN THESE SPECIFICATIONS AND THE "A.S.N.S.", THESE SPECIFICATIONS SHALL APPLY.

2. ALL CONTAINERIZED PLANTS SHALL HAVE ROOT SYSTEMS WHICH FULLY FILL THE CONTAINER WITHOUT HAVING ROOTS THAT CIRCLE THE POT.

3. IMMEDIATELY BEFORE INSTALLATION, PLANT'S ROOTS THAT ARE BROKEN, DAMAGED, OR TWISTED SHALL BE PRUNED. MATTED OR CIRCLING ROOTS OF CONTAINERIZED PLANTS MUST BE PRUNED OR STRAIGHTENED AND THE SIDES OF THE ROOTBALL SHALL BE ROUGHENED FROM TOP TO BOTTOM TO A DEPTH OF APPROXIMATELY ONE HALF INCH IN TWO TO FOUR PLACES.

4. COORDINATE WITH OWNER OR OWNER'S REPRESENTATIVE TO INCLUDE TREE PROTECTION MEASURES AS PART OF SITE PREPARATION PLANS. USE CARE TO PROTECT ROOTS OF EXISTING TREES. PLANT OUTSIDE THE DRIP LINE OF EXISTING TREES.

PLANTING NOTES:

1. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE QUANTITIES REQUIRED TO MEET THE SPECIFIED PLANT SPACING, PERCENTAGES LISTED INDICATE PERCENTAGE OF TOTAL PLANTING AREA TO RECEIVE PLANTING MATERIALS.
2. BRING ANY DISCREPANCIES WITH THE DRAWINGS AND/OR SPECS & SITE CONDITIONS TO THE ATTENTION OF OWNER'S REP PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. LOCATE ALL OVERHEAD AND UNDERGROUND UTILITIES PRIOR TO BEGINNING CONSTRUCTION.
4. FIELD STAKE OR DEMARCATE PLANTING LOCATIONS FOR OWNER'S REP REVIEW AND APPROVAL PRIOR TO INSTALLATION.
5. MAINTAIN A MINIMUM 2FT CLEARANCE BETWEEN ALL LANDSCAPE BUFFER AND EXISTING/PROPOSED UTILITY LIDS.
6. COORDINATE PLANTING LOCATIONS WITH TEMPORARY IRRIGATION SYSTEM (IF USED) TO AVOID ANY CONFLICTS.
7. APPLY PLANT MATERIAL SETBACKS FROM THIS DRAWINGS AND ALL OTHER APPLICABLE PLANT CLEARANCES FROM UTILITIES, VAULTS, AND OTHER OBSTRUCTIONS WITHIN PLANTING AREA TO AVOID CONFLICTS.
8. INSTALL SHRUBS AND GROUNDCOVERS IN A TRIANGULAR PATTERN AT SPACING SHOWN IN DRAWINGS AND/OR THE PLANT SCHEDULE

Cushing Terrell.

Jacobs

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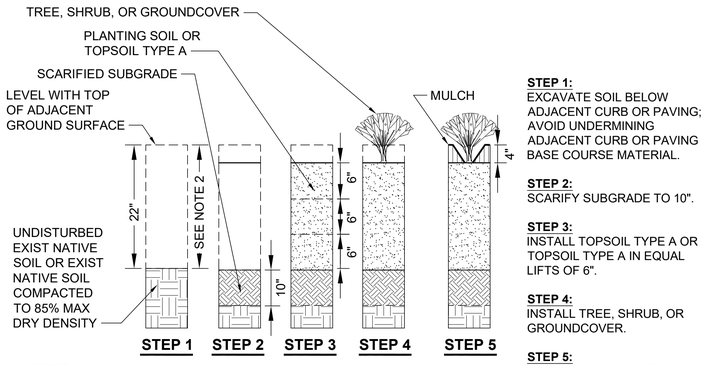
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PLANT SCHEDULE & NOTES

L100



STEP 1:
EXCAVATE SOIL BELOW ADJACENT CURB OR PAVING; AVOID UNDERMINING ADJACENT CURB OR PAVING BASE COURSE MATERIAL.

STEP 2:
SCARIFY SUBGRADE TO 10".

STEP 3:
INSTALL TOPSOIL TYPE A OR TOPSOIL TYPE A IN EQUAL LIFTS OF 6".

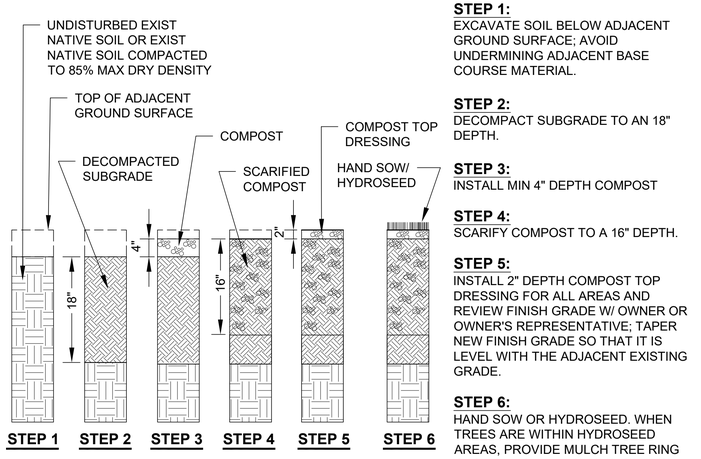
STEP 4:
INSTALL TREE, SHRUB, OR GROUNDCOVER.

STEP 5:
INSTALL 4" DEPTH MEDIUM WOOD CHIP MULCH.

NOTES:

1. VERIFY UTILITY LOCATIONS BEFORE SOIL PREPARATION TO AVOID ANY CONFLICTS. PROTECT EXISTING UTILITIES AS REQUIRED.
2. MEDIUM WOOD CHIP MULCH SHALL BE INSTALLED TO A 4" DEPTH.

1 L201 SOIL PREPARATION IN PLANTING AREA
Scale: N.T.S.



STEP 1:
EXCAVATE SOIL BELOW ADJACENT GROUND SURFACE; AVOID UNDERMINING ADJACENT BASE COURSE MATERIAL.

STEP 2:
DECOMPACT SUBGRADE TO AN 18" DEPTH.

STEP 3:
INSTALL MIN 4" DEPTH COMPOST

STEP 4:
SCARIFY COMPOST TO A 16" DEPTH.

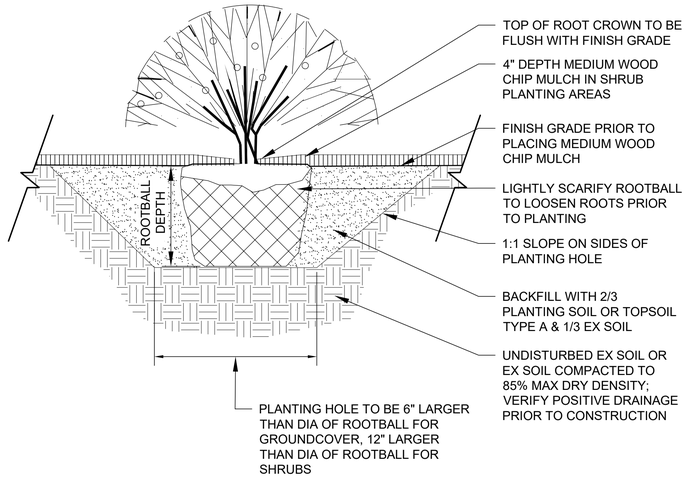
STEP 5:
INSTALL 2" DEPTH COMPOST TOP DRESSING FOR ALL AREAS AND REVIEW FINISH GRADE W/ OWNER OR OWNER'S REPRESENTATIVE; TAPER NEW FINISH GRADE SO THAT IT IS LEVEL WITH THE ADJACENT EXISTING GRADE.

STEP 6:
HAND SOW OR HYDROSEED. WHEN TREES ARE WITHIN HYDROSEED AREAS, PROVIDE MULCH TREE RING PER TREE PLANTING AS SHOWN ON PLAN.

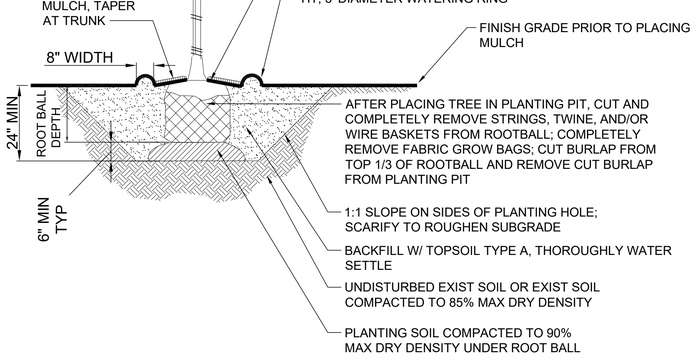
NOTES:

1. APPLY STEPS 5 & 6 ONLY TO AREAS RECEIVING THE BIORETENTION SEED MIX

2 L201 SOIL PREPARATION IN SEEDED AREA
Scale: N.T.S.



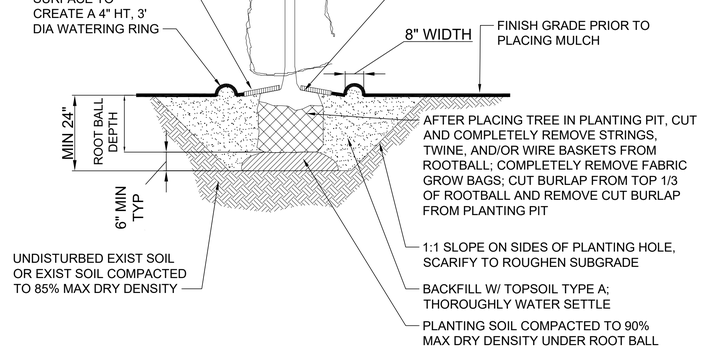
3 L201 SHRUB AND GROUNDCOVER PLANTING
Scale: N.T.S.



NOTES:

1. PROVIDE A MIN 5'-0" DIAMETER MULCH RING AROUND TREES LOCATED OUTSIDE OF CONTINUOUS PLANTING AREAS.

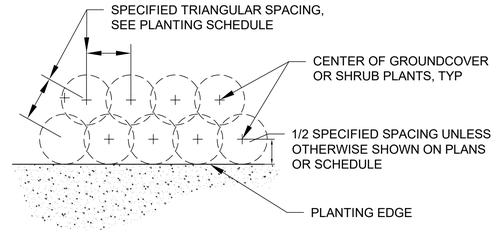
4 L201 DECIDUOUS TREE PLANTING
Scale: N.T.S.



NOTES:

1. PROVIDE A MIN 5'-0" DIAMETER MULCH RING AROUND TREES LOCATED OUTSIDE OF CONTINUOUS PLANTING AREAS.

5 L201 CONIFER TREE PLANTING
Scale: N.T.S.



6 L201 TYPICAL PLANTING LAYOUT
Scale: N.T.S.

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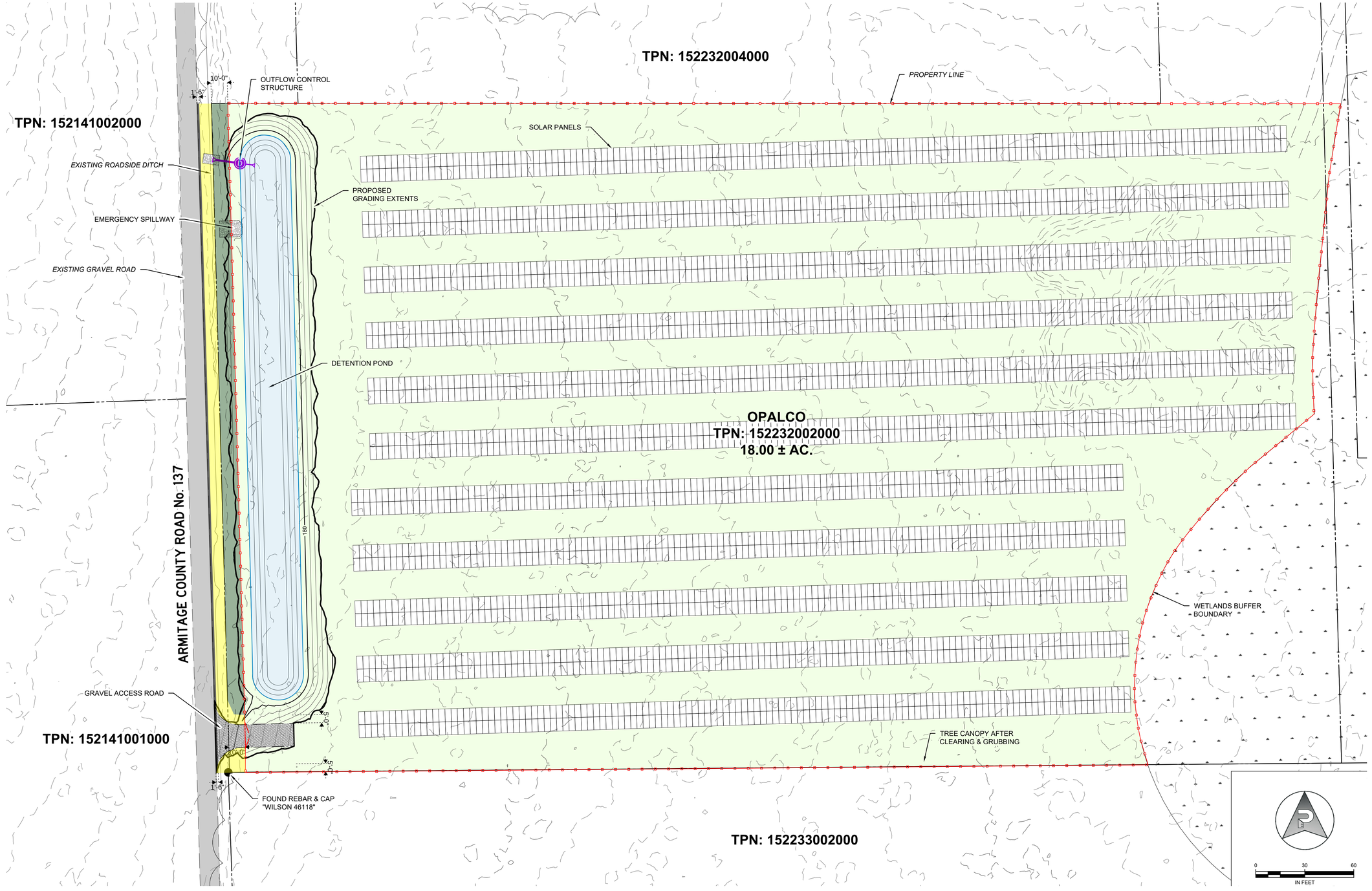
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LANDSCAPE DETAILS

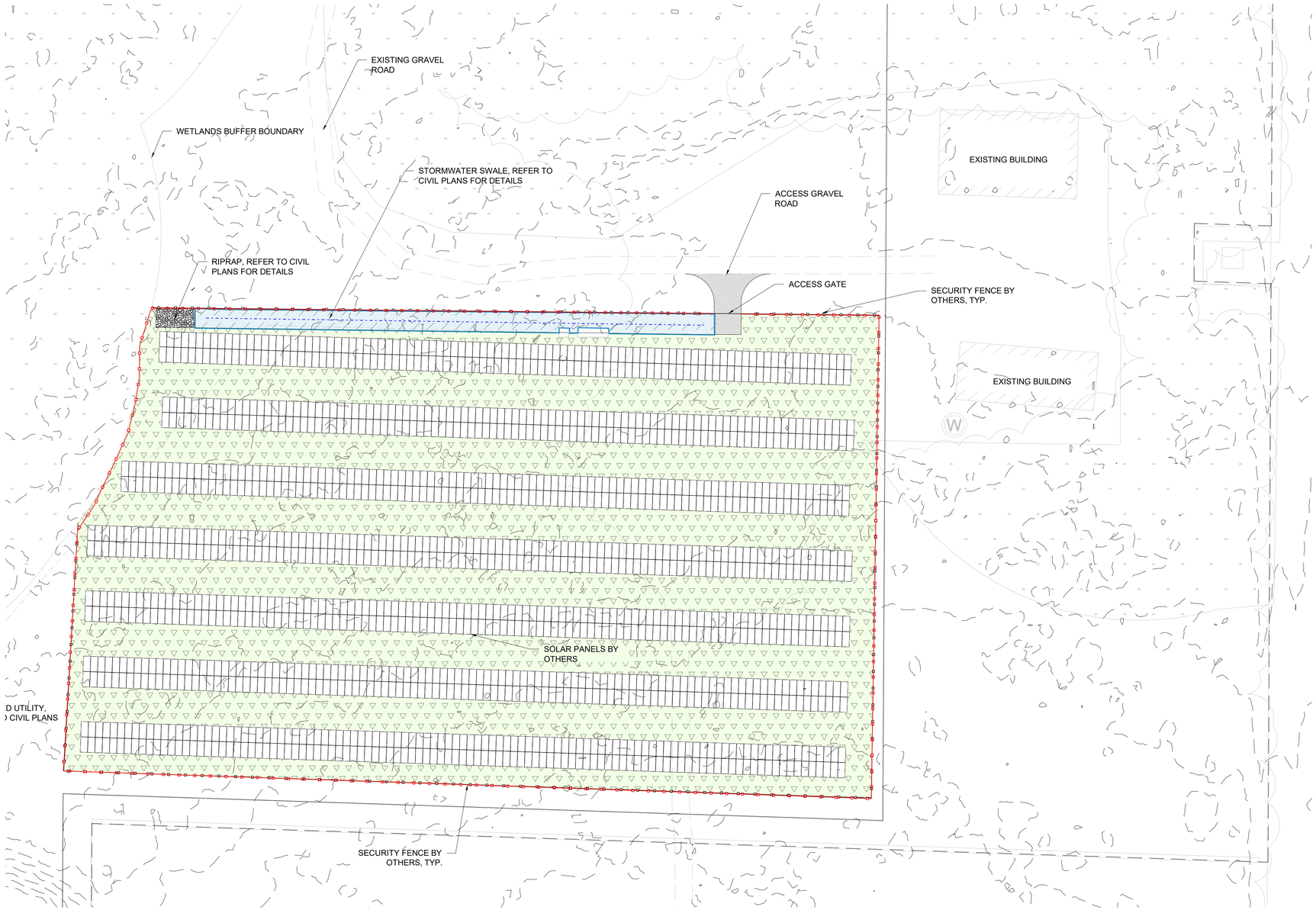
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CONCEPTUAL LANDSCAPE PLAN - AREA A(DRAFT)

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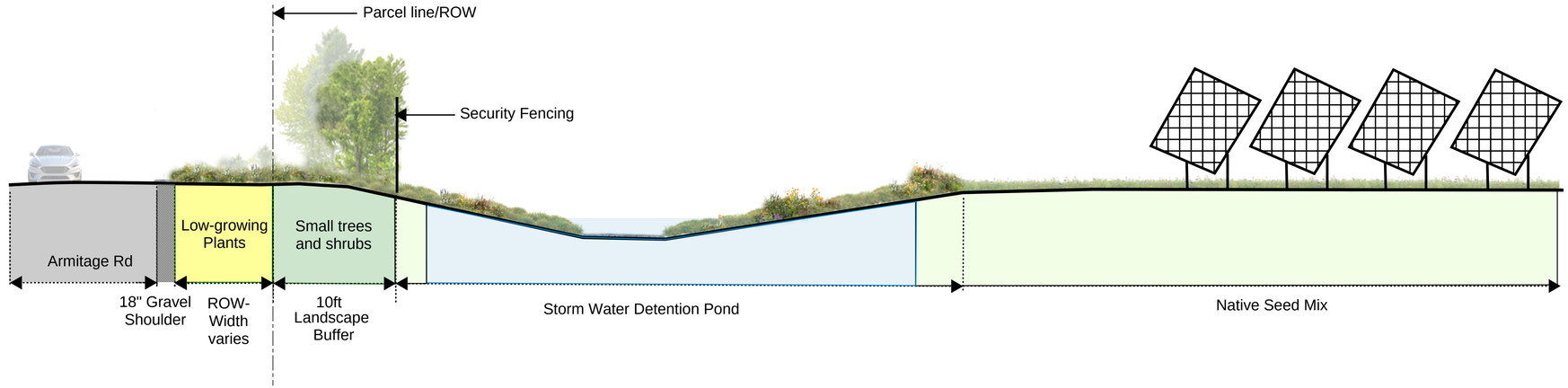
LEGEND

- SECURITY FENCING
- NATIVE SEED MIX
- BIORETENTION SEED MIX

CONCEPTUAL LANDSCAPE PLAN - AREA B(DRAFT)

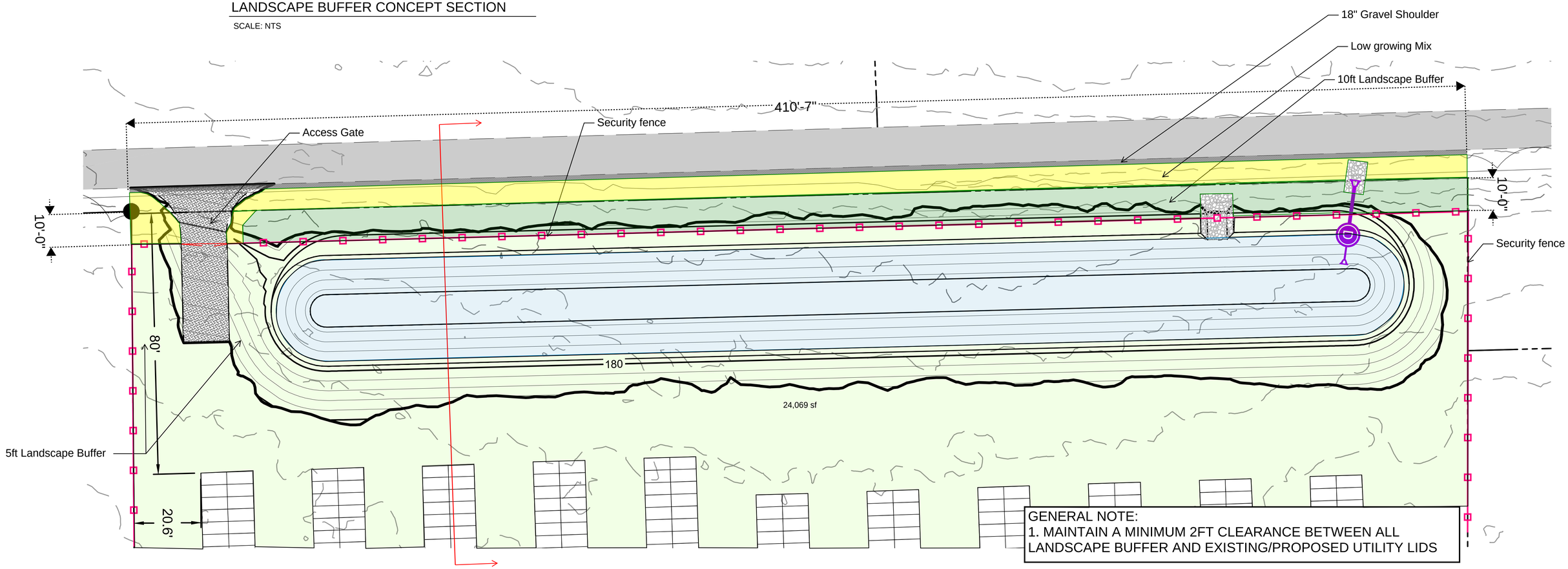
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LANDSCAPE BUFFER CONCEPT SECTION

SCALE: NTS

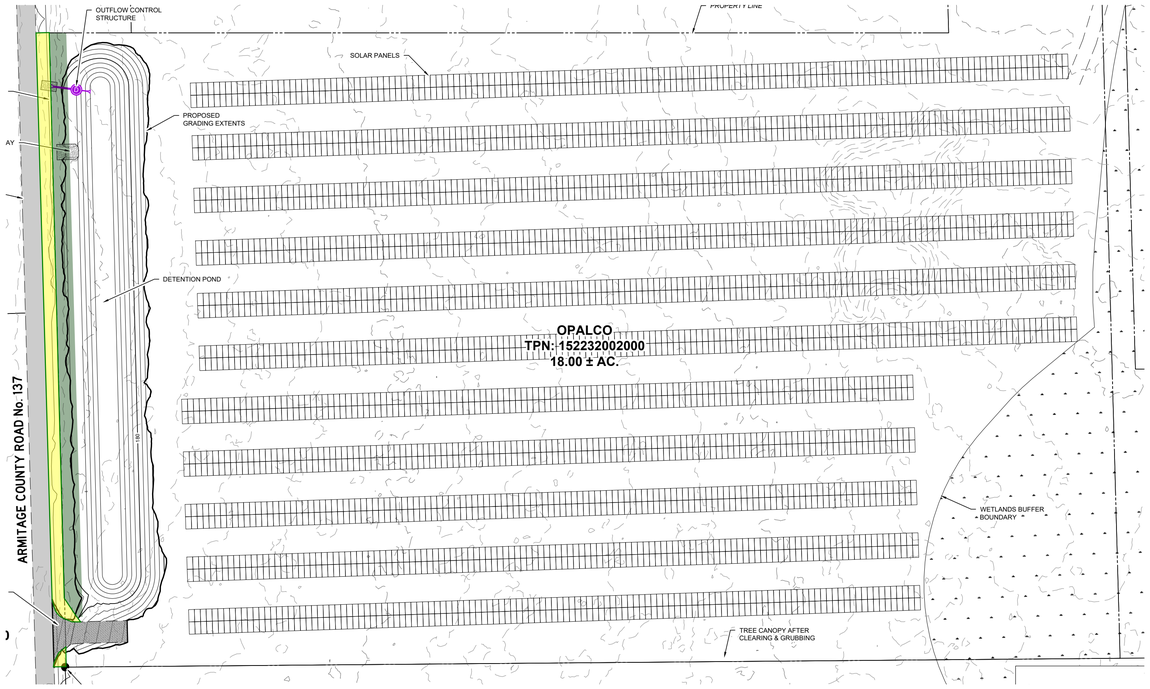


CONCEPTUAL LANDSCAPE PLAN (DRAFT)

SCALE: 1"=15'-0"

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Trees



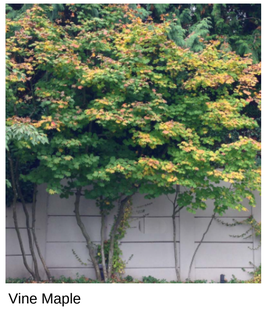
Pacific Crabapple



Shore Pine



Serviceberry



Vine Maple

Notes:
Low-growing mix contains species with mature height under 36".

Shrubs and Groundcovers



Red Flowering Current



Ocean Spray



Snowberry



Salal



Pacific Wax Myrtle



Evergreen Huckleberry



Tall Oregon Grape



Low Oregon Grape



Baldhip Rose



Kinnikinnick



Western Sword Fern

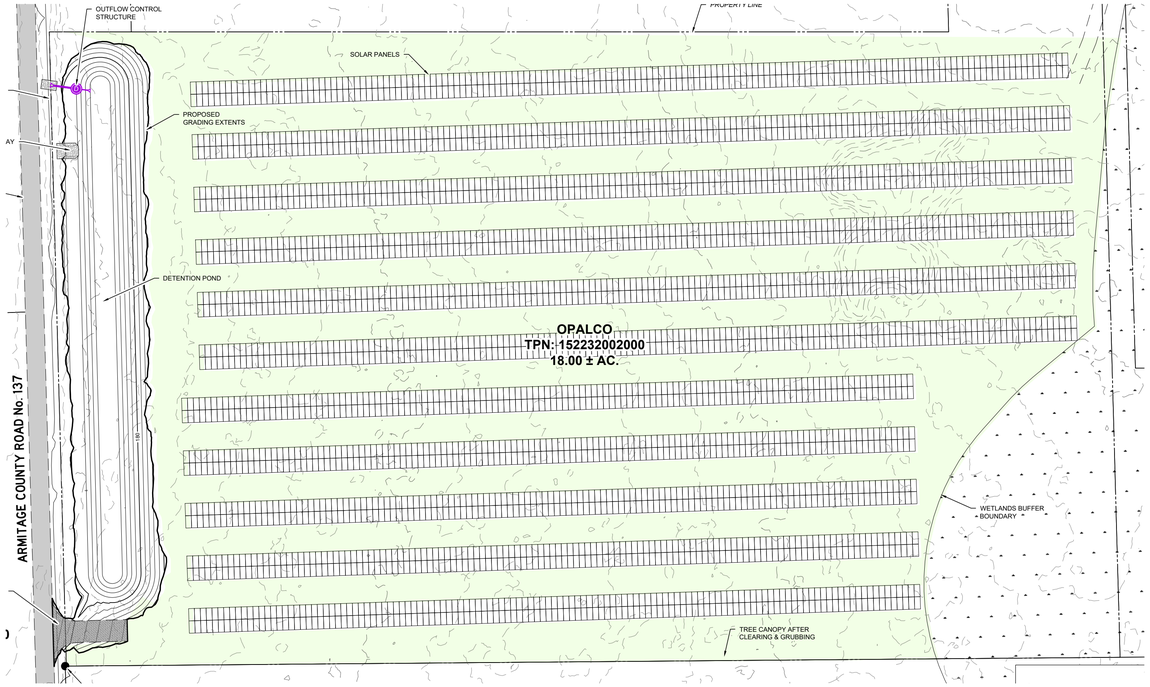


Western Yarrow

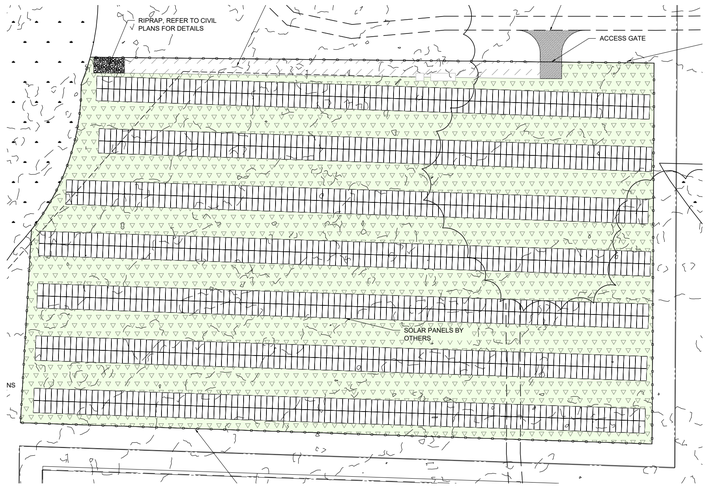
CONCEPTUAL LANDSCAPE PLAN (DRAFT)

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NATIVE SEED MIX - AREA A



NATIVE SEED MIX - AREA B

OPALCO POLLINATOR MEADOW: DECATUR
WHIDBEY-HOYPUS SOIL COMPLEX (San Juan gravel loam - all native species)

Species/Variety	Percent of mix (%)	Target bulk seed/ft²	Number acres acres	total pounds lbs seed
Forbs				
Achillea millefolium (Western Yarrow)	6.0%	3.60	0.33	0.02
Camassia leichtlinii (Large Camas)	2.0%	1.20	0.33	0.35
Camassia quamash (Common Camas)	3.0%	1.80	0.33	0.22
Clarkia amoena (Farewell to Spring)	6.0%	3.60	0.33	0.05
Trifolium wormskioldii (Springbank Clover)	2.0%	1.20	0.33	0.02
Gilia capitata (Globe Gilia)	6.0%	3.60	0.33	0.05
Grindelia integrifolia (Gumweed)	2.0%	1.20	0.33	0.14
Lupinus rivularis (Riverbank Lupine)	3.0%	1.80	0.33	0.89
Eriophyllum lanatum (Wooly Sunflower)	3.0%	1.80	0.33	0.01
Potentilla gracilis (Slender Cinquefoil)	2.0%	1.20	0.33	0.01
Plectritis congesta (Seablush)	1.0%	0.60	0.33	0.02
Symphyotrichum douglasii (Douglas Aster)	2.0%	1.20	0.33	0.00
Aquilegia formosa (Western Columbine)	1.0%	0.60	0.33	0.03
Lupinus bicolor (Bicolor Lupine)	6.0%	3.60	0.33	1.78
Prunella vulgaris ssp. lanceolata (Common Selfheal)	7.0%	4.20	0.33	0.11
Ranunculus occidentalis (Western Buttercup)	1.0%	0.60	0.33	0.04
Solidago canadensis lepida (Canada Goldenrod)	4.0%	2.40	0.33	0.01
Grasses				
Danthonia californica (California Oatgrass)	15.0%	9.00	0.33	0.92
Festuca roemeri (Roemer's Fescue)	14.0%	8.40	0.33	0.24
Koeleria macrantha (Prairie Junegrass)	14.0%	8.40	0.33	1.36
TOTALS:	100.00%	60.00	0.33	6.29
TOTAL PRICE: $974 (plus tax)				


Slender Cinquefoil


Sringbank Clover


Gillia capitata


Grindelia integrifolia

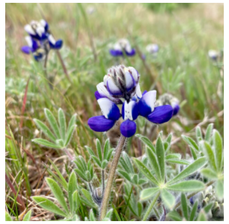

Lupinus rivularis


Wooly Sunflower


Farewell to spring

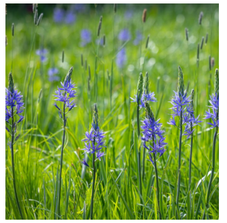

Large Camas


Western Yarrow


Bicolor Lupine


Common Selfheal


Western buttercup


Common Camas


Seablush


Douglas Aster

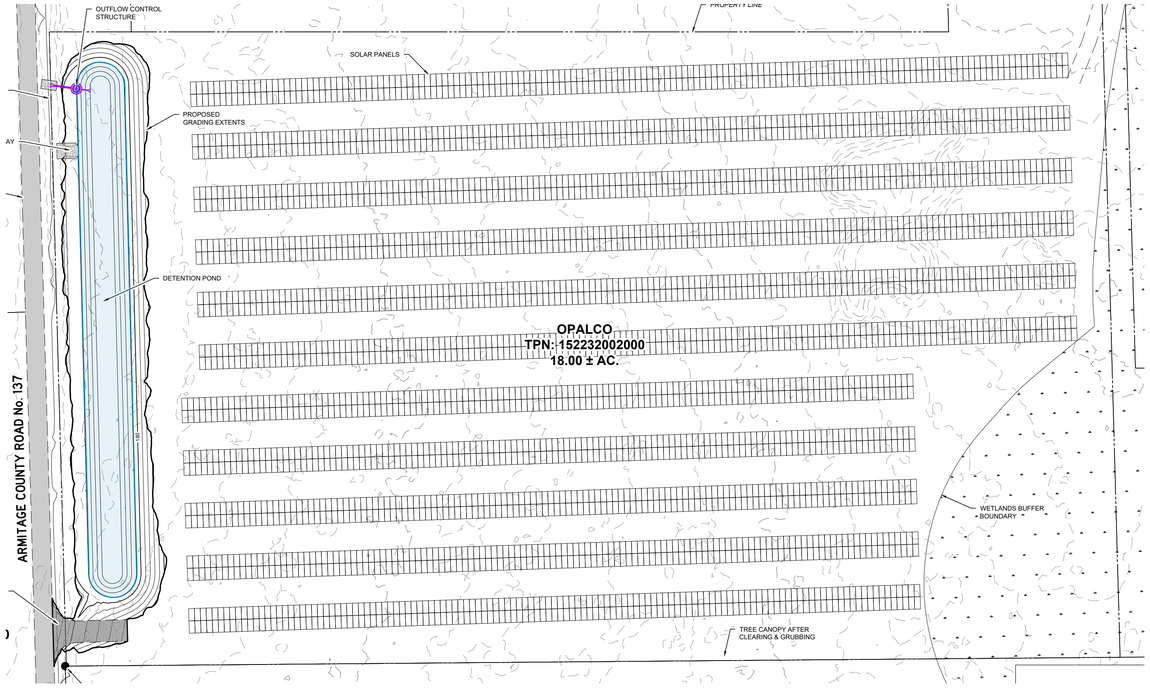

Canada Goldenrod


Western Columbine

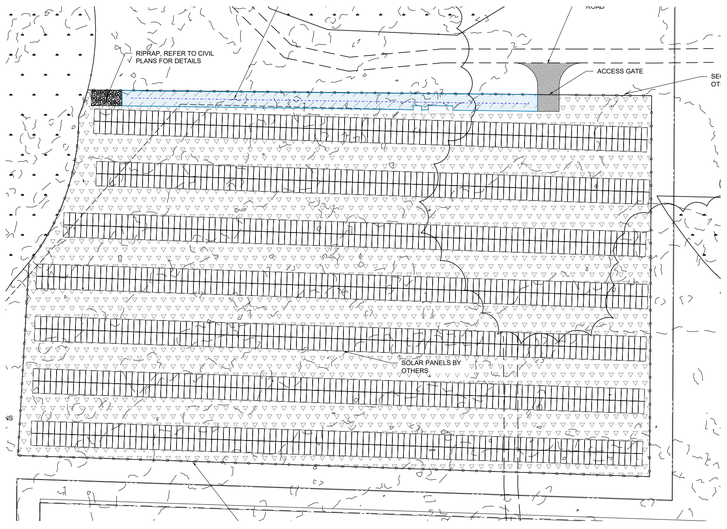
CONCEPTUAL LANDSCAPE PLAN (DRAFT)

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BIORETENTION SEED MIX - AREA A



BIORETENTION SEED MIX - AREA B

Grasses, Sedges and Rushes



Tufted Hairgrass



Slough Sedge



Sawbeak Sedge



Common Rush



Roemer's Fescue

CONCEPTUAL LANDSCAPE PLAN (DRAFT)

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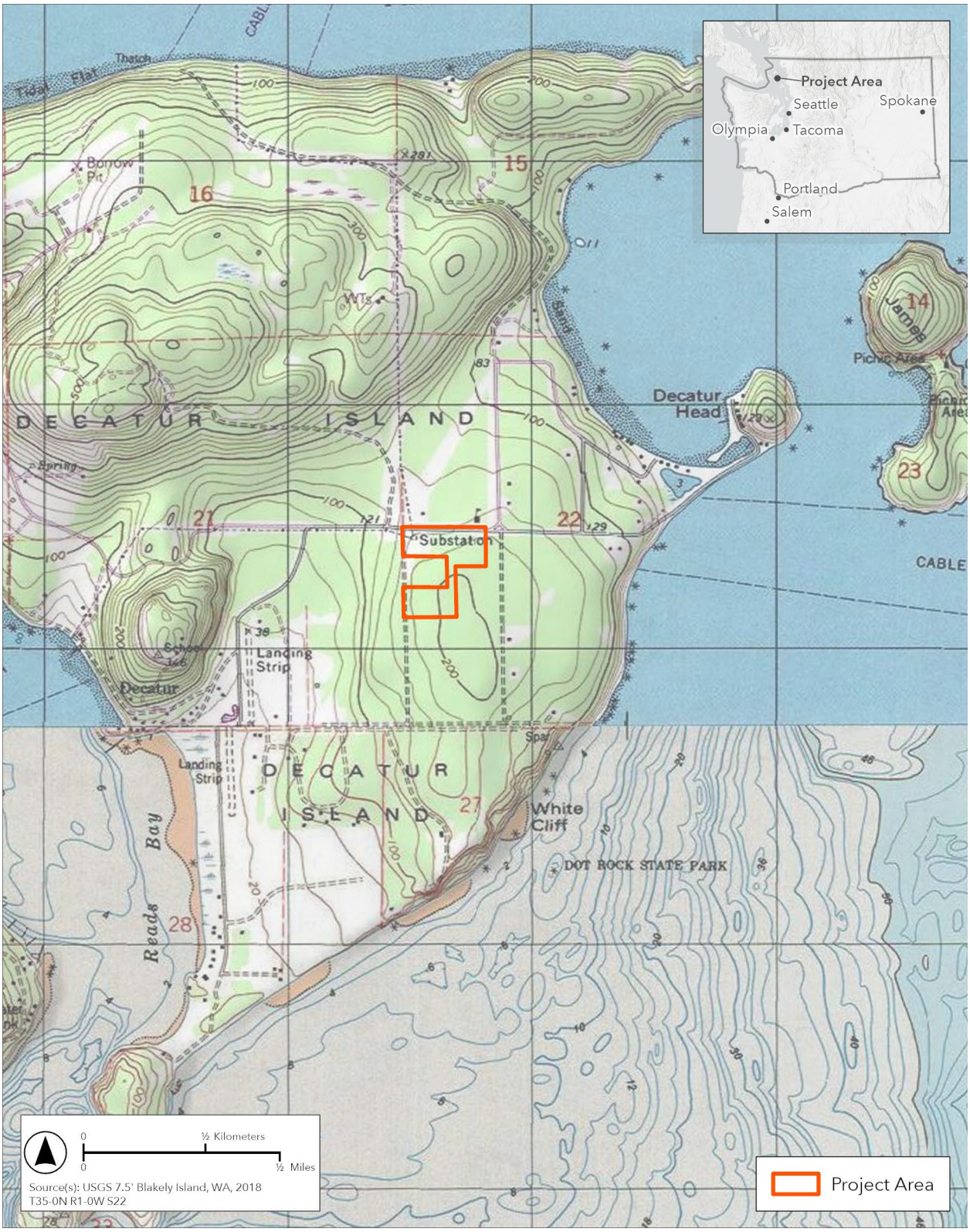
SEPA CHECKLIST

Attachment 2 – Vicinity Map



SEPA CHECKLIST

Attachment 3 – Topographic Map



SEPA CHECKLIST

Attachment 4 – Critical Areas Report

Not appended, for brevity.

SEPA CHECKLIST

Attachment 5 – DAHP Concurrence

Allyson Brooks Ph.D., Director
State Historic Preservation Officer

May 19, 2025

Stacy Bumback
Regional Director/Senior Archaeologist
Environmental Science Associates,

In future correspondence please refer to:
Project Tracking Code: 2025-03-01575
Property: Decatur Island Solar Array Project
Re: No Historic Properties Affected

Dear Stacy Bumback:

Thank you for contacting the Washington State Department of Archaeology and Historic Preservation (DAHP) regarding the above referenced proposal. This action has been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800. Our review is based upon documentation provided in your submittal.

We concur that no historic resources will be affected by the current project as proposed.

As a result of our concurrence, further contact with DAHP on this proposal is not necessary. Please continue to consult with the previously identified Tribes as indicated in your correspondence and report. If new information about affected resources becomes available and/or the project scope of work changes significantly, please resume consultation as our assessment may be revised. Also, if any archaeological resources are uncovered during construction, please halt work immediately in the area of discovery and contact the appropriate Native American Tribes and DAHP for further consultation.

Thank you for the opportunity to review and comment. If you have any questions, please feel free to contact me.

Sincerely,

Catherine Oberheim

Catherine Oberheim, M.A.
Energy Archaeologist
(360) 972-4616
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SEPA CHECKLIST

Attachment 6 – Stormwater Report

Not appended, for brevity.

SEPA CHECKLIST

Attachment 7 – Visual Simulations



Visual simulation of what the site is expected to look like from Armitage Road (looking north) after the plant establishment period.



Visual simulation of what the site is expected to look like from Armitage Road (looking south) after the plant establishment period.




Old vehicles and debris will be removed to restore and improve the condition of the property. (Before and after shown above; left and right figure, respectively).




Old vehicles and debris will be removed to restore and improve the condition of the property. (Before and after shown above; left and right figure, respectively).