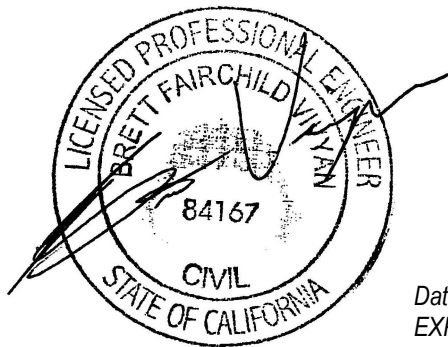


WOOD CREEK PHASE III RESTORATION PROJECT – REVEGETATION

ATTACHMENT B – TECHNICAL SPECIFICATIONS



Date: 4/23/2025
EXP: 9/30/2026

ATTACHMENT B – TECHNICAL SPECIFICATIONS

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SECTION 01 11 00

SUMMARY OF WORK

PART 1 GENERAL

1.01 WORK COVERED BY CONTRACT DOCUMENTS

A. General:

1. The Contract Documents describe the Work to be performed under this Contract which includes, but is not limited to, furnishing all tools, equipment, materials, supplies, and manufactured articles for the Project. It shall also include the furnishing of all transportation and services, including fuel, power, water, and essential communications necessary for the performance of all labor, work, or other operations required for the performance of the Contract in accordance with the Contract Documents.
2. The Landscape Contractor, also referred hereinafter as Contractor, should carefully review all sections of the Specifications in order to completely understand the Work and all constraints including schedule, environmental, permit and material requirements.
3. Contractor is encouraged to proceed in an orderly and expeditious manner based on the constraints shown on the Drawings and described in the Specifications. All Work is to be constructed in strict accordance with the Contract Drawings and Specifications and subject to the terms and conditions of the Contract.
4. The earthwork associated with this project will be completed by a separate General Earthwork Contractor.

- B. The Contractor shall completely review, be familiar with and adhere to the terms of all permits and agency approvals for this project. Attachment C to the bid package contain a summary of many, but possibly not all, of the most significant permit conditions that need to be actively complied with by Contractor. NRLT will be providing the Contractor copies of permits, certifications, or authorizations from the following agencies including, but not limited to: California Department of Fish and Wildlife; U.S. Army Corps of Engineers; North Coast Regional Water Quality Control Board; the U.S. Fish and Wildlife Service; National Marine Fisheries Service; California Coastal Commission; and Humboldt County Planning and Building Department. Copies of all permits are available from NRLT and will remain at the project site throughout the duration of construction. The Contractor is also responsible for adhering to all conditions provided in the Water Pollution Control Plan (WPCP) that will be prepared by the General Earthwork Contractor and shall also remain at the Project Site.

- C. Contractor shall obtain all other necessary permits and comply with them and all other applicable Local, State, and Federal laws and regulations. However, no additional permits are anticipated to be required by the Contractor.

D. Location of the Work:

1. The project is located in Humboldt County near Freshwater, CA. A Vicinity Map is provided on the cover sheet of the drawings that illustrate the location of the project. The design drawings provide information regarding the limits of the project and its topography.

E. Technical Data and Other Reports:

1. Electronic Data: Upon request and subject to signing a release of liability, the following computer-generated data will be provided. The data will be provided within an AutoCAD 2018 Drawing (version 2020 or newer) or as XML data or as determined appropriate by NRLT.
 - a. Planting Zones as shown on the plans
2. Limited Reliance by Contractor on *Technical Data Authorized*: Contractor may rely upon the general accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against NRLT or Construction Manager, or any of their Related Entities with respect to:
 - a. The completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto; or
 - b. Other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 - c. Any Contractor interpretation of or conclusion drawn from any "technical data" or any such other data, interpretations, opinions, or information.

F. Contractor's Duties:

1. Except as specifically noted, provide and pay for:
 - a. Labor, materials, and equipment.
 - b. Tools, construction equipment, and machinery.
 - c. Water and utilities required for revegetation.
 - d. All other facilities and services necessary for proper execution and completion of Work.
2. Pay legally required sales, consumer, and use taxes.
3. Conform to the requirements of the project permits.
4. Secure and pay for, as necessary for proper execution and completion of the Work, all other applicable permits and licenses.

5. Give required notices.
6. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of the Work.
7. Promptly submit written notice to Construction Manager of observed variance of Contract Documents from legal requirements.
8. If any Subcontractor or person employed by the Contractor shall appear to the Construction Manager to be incompetent or to act in a disorderly or improper manner, he shall be discharged immediately on the requisition of the Construction Manager, and such person shall not again be employed on the Work.
9. The Contractor is responsible for providing construction staking and surveying as required for the job. NRLT will provide available control point information and an electronic file of the finished design surface and alignments as needed for the purpose of construction staking.

1.02 CONTRACT DESCRIPTION

A. General:

1. All Work is contained in this Contract. The limits of Work are shown in the Contract Drawings and described in these Specifications. It will be the Contractor's responsibility to coordinate their activities to resolve conflicts.
2. All risk of loss, damage or diminution to the Work shall rest with Contractor until final acceptance of the Work by NRLT.

B. Work conducted includes, but is not limited to:

1. Plant material propagation
2. Solarization of designated areas in Invasive Control Area
3. Flagging planting areas
4. Excavating planting holes
5. Installing foliage protection cages
6. Installing plants
7. Seed/mulch areas disturbed by the Contractor
8. Maintain plants until commencement of plant establishment period
9. Plant establishment period maintenance

1.03 SPECIAL REQUIREMENTS

A. General:

1. The propagation of vegetation, installation of vegetation, maintenance of vegetation, and treatment of limited invasive vegetation areas referred hereinafter as Construction or Revegetation, is entirely on private property. The Contractor will be required to coordinate their schedule with the Construction Manager personnel to ensure a minimum of interruptions to private property owners. Should field conditions or property owners warrant the postponement of the revegetation of a portion of the Project Area as determined by the Construction Manager, the Contractor shall be prepared to resume work at an alternative location in the Project Area as field conditions and property owners permit and shall not be claimed as a delay by the Contractor.
2. The revegetation IS HIGHLY SENSITIVE TO CONSTRAINTS RELATED TO PHYSICAL SITE CONDITIONS, ENVIRONMENTAL PERMITS, TIDE AND WEATHER CONDITIONS.
3. Biological restrictions: Prior to start of construction, the Construction Manager will arrange for a qualified biologist to give Contractor's staff a presentation regarding special status species and restrictions.
4. Contractor shall field-verify all existing site conditions prior to the commencement of work and report any discrepancies to the Construction Manager. Should existing conditions differ from those shown or indicated, or if it appears that these plans do not adequately detail the work to be done, Contractor shall notify the Construction Manager prior to continuing with any related work. No allowance will be made on Contractor's behalf for any extra expense resulting from failure or neglect in determining the conditions under which work is to be performed. Noted dimensions take precedence over scale.
5. Quantities of items, length of project, and site conditions shown in the plans are approximate. All materials shall be furnished and installed by the Contractor unless otherwise noted.
6. Contractor agrees to assume sole and complete responsibility for the job site during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify, and hold NRLT, GHD, and their representatives harmless from any and all liability, real and/or alleged, in conjunction with the performance of this project.
7. Contractor shall be held responsible for any and all damages to existing structures, roads, and utilities during construction. All damage shall be restored to equal or better condition at the Contractor's expense.
8. A set of signed contract documents (plans and specifications) will be kept at all times at the job site on which all changes or variations in the work are to be recorded and/or corrected daily and submitted to the owner when the work to be done is completed.
9. Contractor shall notify the Construction Manager at least 72 hours in advance of commencement of any part of the work and shall coordinate construction schedule accordingly.
10. The design features shown on these design plans shall not be altered or modified in any way during construction without the expressed, written direction and approval of the Construction Manager.

11. Any information derived from the maps, plans, specifications, profiles, drawings or from the engineer will not relieve the Contractor from any risk or from fulfilling the terms of the contract.
12. No work shall be performed outside of the designated areas without the approval of the Construction Manager.
13. The Contractor is responsible for coordinating additional staging areas with NRLT beyond what is shown on the plans.
14. Upon completion of the construction project, the Contractor shall leave the project area free of debris and unused material unless noted otherwise all damage caused by the Contractor shall be restored to an "as good or better" condition.
15. The Contractor shall protect existing survey monuments within work limits. Any monument damaged by the Contractor shall be reset in accordance with the California professional land surveyors act.
16. The Contractor shall immediately notify the Construction Manager upon discovering discrepancies, errors or omissions in the plans. Prior to proceeding, the discrepancy shall be resolved to the satisfaction of the Construction Manager.
17. Hours of work: the Contractor shall conduct all work between the hours of 7:00 a.m. and 7:00 p.m., Monday through Friday. A working day is defined as Monday through Friday excluding weekends and holidays. Weekend and holiday work will only be conducted after prior authorization from NRLT. If weekend/holiday work is authorized, it shall be limited to 9:00 a.m. - 6 p.m. equipment delivery shall be during hours of work. For the exception of site ingress/egress, construction activities within 200 ft of residential structures shall be limited to 8:30 am - 5:00 pm.
18. Contractor shall maintain daily communications with the Construction Manager to discuss details of implementation, order of work, methods of minimizing environmental impacts and other relevant components of construction. Contractor and NRLT representative shall meet daily on-site to discuss project details.
19. Any modifications from plans need to be completed and/or approved by the Construction Manager prior to implementation.
20. Contractor shall comply with all project permits. The Construction Manager will provide a copy of the permits to the awarded Contractor. Permit conditions have been provided in the contract documents and it shall be the responsibility of the Contractor to review and understand the conditions relevant to the construction activities.
21. Project permits shall remain on site at all times.
22. No shutdown of the project site is anticipated. However, unforeseeable fire, geo-hazard conditions, or rains could require the Construction Manager to suspend construction activities at all or part of the site for safety reasons at no cost to NRLT or their representatives.

1.04 CONTRACT METHOD

- A. The Contractor shall include the requirements of the General Conditions of the Contract as a part of all of its subcontract agreements.
- B. All work as identified and described in the construction drawings and Specifications. In the case that there are discrepancies between Drawings and Specifications, Specifications take precedence over drawings.

1.05 UNDERGROUND FACILITIES

- A. The Contractor shall exercise care in installing plants to avoid damage to existing underground facilities. This shall include potholing and hand digging in those areas where underground facilities are known to exist until they have been sufficiently located to avoid damage to the facilities.
 - 1. Existing potable water distribution lines are located along the Felt Road roadway.
- B. No additional compensation shall be provided the Contractor for compliance with the provisions of this section for the damage and repair of such facilities due to the lack of care.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION [NOT USED]

END OF SECTION 01 11 00

SECTION 01 14 19

USE OF SITE

PART 1 GENERAL

1.01 DESCRIPTION

- A. Related Requirements specified elsewhere:
 - 1. Section 31 17 09 – Revegetation Planting
 - 2. Section 31 17 10 – Plant Establishment Period
 - 3. Section 31 17 11 – Invasive Control Area Treatments

1.02 INFORMATION ON SITE CONDITIONS

- A. Information obtained by the Construction Manager regarding site conditions, existing facilities, and similar data are shown on the Plans and are from the information made available by NRLT. Exact location and completeness are not guaranteed.
- B. Construction activities are limited to the limits of planting areas shown on drawings and the access locations.

1.03 CONTRACTOR'S RESPONSIBILITIES

- A. NRLT has entered into agreements with property owners within the planting areas. These agreements allow the Contractor's use of these areas in accordance to the plans and specifications. The Contractor is responsible to execute the work within these areas in accordance to the plans and specifications.
- B. If additional areas beyond the limits of planting areas shown on the plans such as staging areas and access locations are desired by the Contractor to execute the work, the Contractor shall first receive authorization from the Construction Manager. Contractor shall obtain all necessary permissions and approvals for use of these areas and shall submit a signed statement from the property owner granting permission and holding NRLT harmless from any and all damages that may result from the Contractor's use of the site.
- C. The Contractor shall satisfy their self as to the nature and location of the work, the general and local conditions, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, work in sensitive environment and uncertainties of weather, tidal variations, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this contract.
- D. The Contractor further shall satisfy their self as to the character, quality, and quantity of materials to be encountered from inspecting the site, any exploratory work done by NRLT, as well as from information presented by the Plans and Specifications made a part of this contract. Any failure by the Contractor to acquaint himself with all the available information available as part of the Bid Documents or referenced in the Bid Documents

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will not relieve him from responsibility for properly estimating the difficulty or cost of successfully performing the work.

- E. The Contractor shall note that that heavy truck and equipment operations may cause damage in staging and access areas. The Contractor shall restore these areas back to pre-project conditions or better. Damage caused by Contractor's operations shall be repaired by the Contractor at no additional cost to NRLT or property owner.

1.04 USE OF SITE AND ACCESS ROADS

- A. The Contractor shall:
 - 1. Conduct all operations with the least possible obstruction and inconvenience to the public and adjacent landowners.
 - 2. Have under construction no greater length or amount of work than can be continuously and vigorously prosecuted properly with due regards to the rights of the public.
 - 3. To the extent possible, finish each section before beginning work on the next.
 - 4. Be cognizant of other construction projects within the vicinity that may create traffic delays to trucks transporting fill material between the Project and offsite disposal sites.
 - 5. Assume full responsibility for protection and safekeeping of products stored on premises.
- B. Manage construction worker parking and access to avoid impeding access for emergency vehicles and local area residents.
- C. Protect the rights of abutting property owners by:
 - 1. Planning and conducting construction operations so that the least inconvenience as possible is caused to abutting property owners;
 - 2. Prohibit access of staff and Subcontractors to properties abutting the project site, except as approved in writing by the Construction Manager.
- D. Access to Private Properties:
 - 1. No public road closure is expected for the Project. Contractor shall maintain access for local vehicular and pedestrian traffic to private properties along the main access road to the project site.
- E. The Contractor shall be responsible for providing adequate safeguards, safety devices, and protective equipment, and for taking any other needed actions to protect the life, health, and safety of the public, and to protect property in connection with the performance of the work covered by the Contract.
- F. The Contractor shall stage materials and equipment in designated staging and stockpile areas as shown on the plans.
- G. Staging in permitted areas shall be at the Contractor's risk. NRLT or their representatives shall not be held liable for any damage to or loss of materials or equipment located within

these areas or at any location on the project site(s).

- H. Access to worksite: Contractor and Contractor's employees and subcontractors shall use access routes as indicated on project plans.
- I. **Contractor shall exercise caution when carrying out invasive control treatments in Invasive Control Area to minimize the potential spread of invasive species throughout the Project site.**
- J. After demobilization, Contractor shall repair any damage to existing roads and property to pre-existing conditions or better.
- K. The Contractor shall remediate disturbed areas at the conclusion of use. The Construction Manager reserves the right to require the Contractor to repair damage where disturbance occurred. Restore staging areas to pre-existing conditions or better.
- L. Revegetation activities shall be prohibited from unnecessarily disturbing aquatic habitat. Disturbance such as dewatering of any existing ditches, channels and other ponded water areas is prohibited.
- M. The Contractor shall utilize the existing construction entrances as shown on the plans. The construction entrance installed shall not impede drainage and the Contractor shall repair/maintain as needed. The construction entrances shall be left in place after the completion of construction unless otherwise noted.
- N. All equipment and personnel shall access the worksite via the construction entrances and access routes shown on the plans.
- O. The project site is surrounded by working rangeland containing free-roam cows and bulls. All gates, if present, should be closed upon entering and exiting any part of the site, regardless of condition upon arrival, unless otherwise directed by the Construction Manager.
- P. Contractor shall be aware the project is located on private lands and county right-of-way and therefore all activities shall remain within limits shown on plans and all advancement within the limits shall be pre-authorized by the Construction Manager.

1.05 PROTECTION OF NATURAL FEATURES

- A. Avoid impacts to vegetation outside the limits of planting. No access or construction permitted outside of the designated work / access zones without prior approval from the Construction Manager.
- B. Confine all operations to limits shown for the project. Prevent damage to natural surroundings. Restore damaged areas, repairing or replacing damaged trees and plants, at no additional expense to NRLT.
- C. Do not remove, injure, or destroy trees or other plants without prior approval of the Construction Manager. Consult with the Construction Manager and remove agreed upon roots and branches that interfere with construction. All pruning of canopy or cutting of roots will be done under the supervision of the Construction Manager or their representative, and shall be done as set forth by the National Arborist Association or the International Society of Arboriculture.

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- D. If the Contractor destroys or injures trees and shrubs designated for protection or outside of the work limits, the Contractor shall replant at a 3:1 ratio as directed by the Construction Manager.
- E. Water quality of all creeks must be maintained through the implementation of a Water Pollution Control Plan (WPCP) that includes measures for controlling erosion and preventing fuel spills.
- F. As specified in Section 01 57 00, the Contractor shall take all preventative measures to protect the staging areas from contamination due to oil or fuel spills or any other contaminants. The Contractor will submit to the Construction Manager for approval a Spill Prevention and Response Plan. Any leaks or spills which occur on the project site shall be fully removed from the project site. If contamination occurs, the Contractor shall immediately notify the Construction Manager, and decontaminate the area to the satisfaction of the Construction Manager, prior to further improvement or further construction activities in general.
- G. All staging and laydown areas disturbed by the Contractor or construction or construction related activities shall be restored to their pre-existing state or in accordance with these Specifications.

1.06 PROTECTION OF PROPERTY AND LANDSCAPE

- A. Preserve public and private property, and protect monuments established for the purpose of perpetuating horizontal, vertical, cadastral, or boundary control. When necessary to destroy a monument, reestablish the monument according to applicable state statute or by the direction of the Construction Manager. The Contractor shall notify the Construction Manager of any monument that may need to be destroyed. If the Construction Manager determines that the destruction of the monument is unavoidable, Construction Manager will arrange for resetting the monument and associated costs. If a monument is destroyed by the Contractor's negligence or without the Construction Manager's approval the Contractor shall pay for resetting the monument.
- B. Existing Utilities:
 - 1. Contractor shall be responsible for locating and preventing damage to known utilities or utility support structures. If damage occurs to utilities, Contractor shall repair utility at no additional expense to NRLT.
- C. Protect utilities from construction operations: 48 hours before beginning work in an area, the Contractor shall notify Underground Service Alert (USA), at 1-800-227-2600, to determine locations of existing utilities. Cooperate with utility owners to expedite the relocation or adjustment of their utilities to minimize interruption of service and duplication of work.
- D. If the work requires removing or relocating a utility, the contract will assign the task to the Contractor or the utility owner. When this task is assigned to the utility owner and work is not complete before the Contractor begins work, the Contractor shall immediately notify the Construction Manager in writing.
- E. Any authorized agent of the Owner or utility owners may enter the site to repair, rearrange, alter, or connect their equipment. The Contractor shall cooperate with such efforts and shall avoid creating delays or hindrances to those doing the work. As needed, the Contractor shall arrange to coordinate work schedules.

- F. If utility services are interrupted as a result of damage by the construction, immediately notify the utility owner, the Construction Manager, and other proper authorities. Cooperate with them until service is restored. Do not work around fire hydrants until provisions for continued service are made and approved by the local fire authority.
- G. The Contractor shall protect private or public property on or in the vicinity of the work site. The Contractor shall ensure that it is not removed, damaged, destroyed, or prevented from being used unless the contract so specifies.
- H. Fencing: The Contractor shall maintain existing fencing to remain and install temporary fencing as deemed necessary to maintain a safe worksite and to preserve livestock, pasture, or property when working through or adjacent to private property.
- I. Livestock and Gate Control: Contractor shall follow all Construction Manager's instructions regarding gate closure. Contractor is liable for all damages resulting from any and all improper gate closure instructions.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION [NOT USED]

END OF SECTION 01 14 19

SECTION 01 15 00

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.01 GENERAL

- A. Unless otherwise specified in other individual sections of these specifications, quantities of work shall be determined from measurements or dimensions in horizontal planes.
- B. Units of measurement shall be in accordance with U.S. Standard Measures.
- C. See Section 8 of the general conditions for special provisions related to progress payments and payment schedule to the contractor.
- D. The measurement and payment items are listed below:
 - 1. The payments to the Contractor are based on the following items. It is the intent that the scope of the description of the following items encompasses the entire scope of the work as shown on the plans and described in the specifications. The bid amounts shall be for complete in place installations.

1.02 BASE BID SCHEDULE

A. Item 1 – Year 1 Plant Propagation

Measurement for this item shall be on a LUMP SUM basis. Payment shall correspond to percent complete as confirmed by NRLT. The contract price paid for this item shall include full compensation for furnishing all plant material, delivery to project site, maintenance of plants until they are installed, mobilization/demobilization, permit compliance, coordinating with NRLT.

B. Item 2 – Year 1 Small Container Planting

Measurement for this item shall be on a LUMP SUM basis. Payment shall correspond to percent complete as confirmed by NRLT. The contract price paid for this item shall include full compensation for furnishing all labor, materials, tools, equipment, submittals and incidentals, and for performing all Work involved in furnishing all small container planting location layout, small container plant installation, watering basin preparation, foliage protection, initial irrigation event, mulch installation, other Work as shown on Drawings, repair seeding/mulching damaged areas, maintenance of plants until commencement of plant establishment period, mobilization/demobilization, permit compliance, developing as-built drawings, coordinating with NRLT.

C. Item 3 – Year 1 Wetland Plug and Willow Stake Planting

Measurement for this item shall be on a LUMP SUM basis. Payment shall correspond to percent complete as confirmed by NRLT. The contract price paid for this item shall include full compensation for furnishing all labor, materials, tools, equipment, submittals and incidentals, and for performing all Work involved in furnishing all wetland plugs and willow stake planting location layout, willow plugs and willow stake plant installation, watering basin preparation, foliage protection, initial irrigation event, mulch installation, other Work as shown on Drawings, repair seeding/mulching damaged areas, maintenance of plants until

commencement of plant establishment period, mobilization/demobilization, permit compliance, developing as-built drawings, coordinating with NRLT.

D. Item 4 – Year 1 Plant Establishment Period Maintenance

Measurement for this item shall be on a LUMP SUM basis. Payment shall correspond to percent complete as confirmed by NRLT. The contract price paid for Work under this item shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals, and for performing all Work involved in planning, preparation, and execution of maintenance, as shown on Drawings, as specified in these technical specifications, and as directed by NRLT. The plant establishment period shall initiate upon the plant installation acceptance and include mulch replenishment, inspections, removal of dead plant material, replacement of dead plants with the same or similar plant species, conducting non-native/invasive plant control, foliage protection maintenance, upkeep and final removal and disposal of items indicated, recording of activities in a maintenance logbook, mobilization/demobilization, permit compliance, coordinating with NRLT and general maintenance of plants installed in year 1.

E. Item 5 – Year 2 Plant Propagation

Measurement for this item shall be on a LUMP SUM basis. The specific measurement and payment requirements for this item shall be the same as for Item 1 but apply to Year 2 plantings as shown on the drawings.

F. Item 6 – Year 2 Invasive Control Area Treatment

Measurement for this item shall be on a LUMP SUM basis. The Payment shall correspond to percent complete as confirmed by NRLT. The contract price paid for this item shall include full compensation for furnishing all labor, materials, tools, equipment, submittals and incidentals, and for performing all Work involved in installing and maintaining invasive control treatments in the Invasive Control Treatment Area during Year 2, consisting of pre-work wildlife relocation survey (for common species), tamping down of invasive vegetation, covering and securing invasive vegetation with materials identified in the specifications, maintenance checks and replacement of treatment materials, removal and disposal of invasive vegetation treatment materials, mobilization/demobilization, permit compliance, coordinating with NRLT.

G. Item 7 – Year 2 Small Container Planting

Measurement for this item shall be on a LUMP SUM basis. The specific measurement and payment requirements for this item shall be the same as for Item 2 but apply to Year 2 plantings as shown on the drawings.

H. Item 8 – Year 2 Wetland Plug and Willow Stake Planting

Measurement for this item shall be on a LUMP SUM basis. The specific measurement and payment requirements for this item shall be the same as for Item 3 but apply to Year 2 plantings as shown on the drawings.

I. Item 9 – Year 2 Plant Establishment Period Maintenance

Measurement for this item shall be on a LUMP SUM basis. The specific measurement and payment requirements for this item shall be the same as for Item 4 but apply to Year 2 plantings as shown on the drawings.

J. Item 10 – Year 3 Invasive Control Area Treatment

Measurement for this item shall be on a LUMP SUM basis. The specific measurement and payment requirements for this item shall be the same as for Item 6 but apply to Year 3 plantings as shown on the drawings.

1.03 ADDITIVE BID SCHEDULE

A. Item A1 – Maintenance Event

Measurement for this item shall be on a DAY basis defined as four (4) laborers for one (1) working eight (8) hour day. Payment shall include full compensation for labor, tools, and supervision necessary to complete additional maintenance activities described in Section 31 17 10 – Plant Establishment Period Maintenance, subsection 3.11 – Optional Additive Maintenance Event and as directed by NRLT within the project area but outside the areas subject to the plant establishment period maintenance.

B. Item A2 – Supply and Install Additional Small Container Plants Year 3 or 4

Measurement for this item shall be on a LUMP SUM basis. The requirement is to supply container plants on site and ready for planting equivalent to 10% of the total number of the container plants installed in Year 2. NRLT shall choose the mix of container species to be acquired which will be similar to the species distribution originally planted in Year 2. Award of this item will be at the discretion of NRLT and is intended to replace any dead wetland plugs or dead willow stakes following the Year-1 and Year-2 Plant Establishment Periods and does not relieve the contractor of replacing dead container plants as required in the Plant Establishment Period Maintenance bid item.

C. Item A3 – Supply and Install Additional Wetland Plugs and Willow Stakes Year 3 or 4

Measurement for this item shall be on a LUMP SUM basis. The requirement is to supply and install wetland plugs equivalent to 5% of the total number of wetland plugs installed in Year 2 and supply and install willow stakes equivalent to 10% of the total number of willow stakes installed in Year 2 in locations specified by NRLT. Award of this item will be at the discretion of NRLT and is intended to replace any dead wetland plugs or dead willow stakes following the Year-1 and Year-2 Plant Establishment Periods and does not relieve the contractor of replacing dead wetland plugs or dead willow stakes as required in the Plant Establishment Period Maintenance bid item.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION [NOT USED]

END OF SECTION 01 15 00

SECTION 01 30 00

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Coordination and project conditions
- B. Field Construction Managing
- C. Pre-bid meeting
- D. Preconstruction meeting
- E. Progress meetings
- F. Environmental compliance training

1.02 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 Measurement and Payment.

1.03 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of Project to ensure efficient and orderly sequence of installation of revegetation elements.

1.04 PRE-BID MEETING

- A. Prior to awarding the Contract, a Pre-Bid meeting will occur as established in the Advertisement for Bids. The Pre-Bid meeting shall be attended by NRLT representatives and any other parties requested by the Contractor or the Construction Manager.

1.05 PRE-PLANTING MEETING

- A. Construction Manager will schedule meeting after Notice of Award.
- B. Prior to the commencement of Work at the site, a Pre-planting meeting will be held at a mutually agreed time and place.
- C. The purpose of the meeting is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established.
- D. The Construction Manager will preside at the Pre-planting Meeting and will arrange for keeping the minutes and distributing the minutes to all persons in attendance.
- E. Agenda (Tentative):
 - 1. Notice to Proceed date.
 - 2. Submission of list of Subcontractors.

3. Critical work sequencing.
4. Designation of personnel representing parties in Contract, and Construction Manager.
5. Scheduling.
6. Use of premises by NRLT and Contractor.
7. Environmental compliance.
8. Owner's requirements and occupancy.
9. Site Safety Contractor's assignments for safety and first aid.
10. Procedures for maintaining record as-built documents.

1.06 PROGRESS MEETINGS

- A. The Construction Manager shall schedule, arrange and conduct progress meetings. These meetings shall be conducted once per week, or as mutually agreed by Contractor and NRLT and shall be attended by the Contractor's superintendent and representatives of key Subcontractors, utilities, and others, who are active in the execution of the Work. The purpose of these meetings shall be to review the Contractor's schedule provided in accordance with this Section, resolve conflicts, and in general, coordinate and expedite the execution of the Work.
- B. Construction Manager will make arrangements for meetings, prepare agenda with copies for participants, preside at meetings and record the meeting minutes.
- C. Attendance Required: Job superintendent, key subcontractors, NRLT, Construction Manager, as appropriate to agenda topics for each meeting.

1.07 ENVIRONMENTAL COMPLIANCE TRAINING

- A. All personnel working on site will be required to participate in a short briefing by the Construction Manager and qualified biologist about 1) the presence of federally and state-listed bird, fish, amphibian, reptile, mammalian, and Plant species at the site, 2) non disturbance areas; 3) construction windows and effects on sequencing of work; 4) buffers between construction activities and breeding/nesting areas; 5) pre-construction and construction clearance surveys and construction monitoring requirements prior to initiating and continuing work in construction work areas, including the potential necessity for trapping or seining and relocation; 6) Need to halt work if potential special status species located by Contractor or representative and notify the Construction Manager before proceeding with work; 7) Requirements for minimizing other environmental impacts, including noise, traffic, etc.; and 8) The possible presence of archaeological or cultural resources and need to halt work if suspected archaeological or historic resources are found and notify the Construction Manager before proceeding with work.
- B. Contractor shall ensure that all on-site workers and Contractors understand and agree to observe the standards for work outlined in project permits.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION [NOT USED]

END OF SECTION 01 30 00

SECTION 01 57 00

ENVIRONMENTAL REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Permit Compliance
- B. Spill Prevention
- C. Related Sections
 - 1. Attachment C – Permit Conditions
 - 2. Section 31 17 11 – Invasive Control Area Treatments

1.02 MEASUREMENT AND PAYMENT

- A. Refer to Section 01 15 00 Measurement and Payment.

1.03 SUBMITTAL REQUIREMENTS

- A. Spill Prevention and Response Plan
 - 1. Prior to beginning of work and within five (5) working days after date of the Award of Contract, the Contractor shall prepare and submit for approval by the Construction Manager, a Spill Prevention and Response Plan to regulate the use of hazardous and toxic materials, such as fuels and lubricants for construction equipment. The Construction Manager will review, approve, and oversee implementation of the Spill Prevention and Response Plan.
 - 2. The Contractor's Spill Prevention and Response Plan must include: 1) spill cleanup procedures; 2) worker training; and 3) impact avoidance measures.
 - 3. As part of the Plan, the Contractor shall indicate fueling areas for equipment and shall be a minimum of 100 feet away from coastal waters unless the Contractor receives written permission from the Construction Manager.

1.04 GENERAL PROJECT-WIDE MEASURES

- A. Contractor shall comply with all provisions of any additional federal, state and local permits necessary to complete the project.
- B. NRLT has been issued project permits from multiple regulatory agencies including but not limited to:
 - 1. North Coast Regional Water Quality Control Board 401 Water Quality Certification,
 - 2. California Department of Fish and Wildlife Streambed Alteration Agreement,
 - 3. California Department of Fish and Wildlife Restoration Management Permit

Northcoast Regional Land Trust

Wood Creek Phase III Restoration Project – Revegetation

4. County of Humboldt Conditional Use Permit,
 5. County of Humboldt Grading Permit,
 6. California Coastal Commission Consistency Determination for habitat improvement projects,
 7. U.S. Fish and Wildlife Service's Programmatic Biological Opinion,
 8. National Marine Fisheries Service's Programmatic Biological Opinion, and
 9. U.S. Army Corps of Engineers 404
- C. The Contractor, Contractor's staff and Contractor's subcontractors shall be fully informed of the requirements of these permits and environmental regulatory documents as well as rules, regulations, and conditions that may govern the Contractor's operations in the project area and shall conduct the work accordingly. The Contractor shall comply with all project permit and environmental regulatory document requirements. The project permits and environmental regulatory documents have been included in the contract documents. For the Contractor's convenience a summary of relevant conditions have been tabulated in Attachment C. The Contractor is responsible to conduct the work in accordance with all project permits and environmental documents.
- D. The Contractor shall comply with all other permit conditions, including construction windows, restrictions on work approach related to special status species and archaeologically significant resource areas, buffer zones related to special status species, pre-construction and construction clearance surveys, daily site clearances, and construction monitoring.
- E. All personnel working on site will be required to participate in a short briefing by Construction Manager and qualified biologist about 1) the presence of federally and state- listed bird, fish, amphibian, reptile, mammalian, and Plant species at the site, 2) avoidance areas; 3) construction windows and effects on sequencing of work; 4) buffers between construction activities and breeding/nesting areas; 5) pre-construction and construction clearance surveys and construction monitoring requirements prior to initiating and continuing work in construction work areas, including the potential necessity for trapping or seining and relocation; 6) Need to halt work if potential special status species located by Contractor or representative and notify Construction Manager before proceeding with work; 7) Requirements for minimizing other environmental impacts, including noise, traffic, etc.; and 8) The possible presence of archaeological or cultural resources and need to halt work if suspected archaeological or historic resources are found and notify the Construction Manager before proceeding with work.
- F. Contractor shall ensure that all on-site workers and Contractors understand and agree to observe the standards for work outlined in project permits.
- G. Hazardous Materials
10. Work Cessation in the Event Suspected Hazardous Materials are Encountered. Project construction Contractors shall stop all work in the area of any suspected soil or groundwater contamination, or any unearthing of storage drums or other potential sources of hazardous materials/wastes. The Contractor shall then comply with Article 10, Section 2 of the General Conditions.
- H. Trucks leaving the project area shall have tires free of sediment to prevent/minimize sediment from being tracked onto public roadways.

- I. Contractor shall comply with all project permits. NRLT will provide a copy of the permits to the awarded Contractor. Permit conditions have been provided in the contract documents and it shall be the responsibility of the Contractor to review and understand the conditions relevant to vegetation clearing activities.
- J. Project permits shall remain on site at all times.
- K. Prior to commencement, Contractor shall participate in environmental awareness training provided by NRLT or a qualified biologist.
- L. All construction vehicles or equipment shall be checked and maintained daily to prevent leaks of fuels and/or lubricants.
- M. Contractor shall minimize idling time to 5 minutes for all trucks and maintain properly tuned equipment with factory-equipped mufflers.
- N. It is the responsibility of the Contractor to minimize erosion and prevent the transport of sediment
- O. Additional erosion/sediment BMPs beyond what is shown on the plans and listed above may be required to comply with project permits and it shall be the responsibility of the Contractor to implement additional BMPs as needed and as directed by NRLT at no additional expense to NRLT.
- P. It will be the responsibility of the Contractor to fix any deficiencies indicated by NRLT to prevent erosion and control sediment.
- Q. Contractor shall prevent ground disturbance during planting and ingress/egress activities. to prevent rutting and erosion, the Contractor shall utilize light-weight, tracked equipment and mats as needed. If ground disturbance does occur, Contractor shall immediately implement erosion/sediment control BMPs as directed by NRLT to prevent soil erosion. at a minimum, all disturbed areas shall be mulched with a weed-free sterile rice straw and placed to provide complete cover over disturbed areas.
- R. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, other organic material or earthen material from any construction related activity shall be allowed to enter into the active Freshwater Slough or be placed where it may be washed by rainfall into Freshwater Slough or any waterways.
- S. If, at any time, an unauthorized discharge of debris to surface water occurs, or any water quality problem arises, the associated project activities shall cease immediately until adequate BMPs are implemented, including stopping work. The regional water board will be notified by NRLT promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.

1.05 WATER POLLUTION CONTROL PLAN (WPCP)

- B. A Water Pollution Control Plan (WPCP) shall be developed for this project by the General Earthwork Contractor following Order No. 2009-0009-DWQ and NPDES No. CAS000002.
- C. The Contractor is responsible for complying with the requirements of the WPCP as it relates to invasive removal and revegetation activities and shall adjust and/or install any additional BMPs necessary to control water pollution, soil erosion and siltation.

- D. The WPCP must remain on site for the full duration of the work. The Contractor shall review and abide by the instructions contained in the WPCP. The Contractor shall adjust BMPs to maintain in compliance. The Contractor shall be liable for any fines issued to the project or to NRLT by the SWRCB for noncompliance. The Contractor shall hold NRLT harmless for any fines or sanctions caused by the Contractor's actions or inactions regarding compliance with the permit or erosion control provisions of the Contract Documents and WPCP.

PART 2 PRODUCTS [NOT USED]

PART 3 EXECUTION

3.01 PER THE WPCP

3.02 SPECIAL CONSTRUCTION REQUIREMENTS

- A. It is the responsibility of the Contractor to minimize erosion and prevent the transport of sediment to streams and sensitive areas.
- B. At a minimum, the Contractor shall employ best management practices (BMPs) as described in the WPCP.
- C. If discrepancies occur between these specifications, plans, WPCP, material referenced herein or manufacturers recommendations, then the most protective shall apply.
- D. It is the responsibility of the Contractor to fix any erosion, sediment, pollution, & waste control deficiencies identified by the Construction Manager.
- E. Other selected disturbed earth areas shall be treated using appropriate erosion control measures per plans specifications and WPCP.
- F. Additional erosion/sediment BMPs beyond what has been implemented may be required to comply with project permits and it shall be the responsibility of the Contractor to implement additional BMPs as needed and as directed by the construction manager at no additional expense to NRLT.
- G. Changes to the WPCP may be made to respond to field conditions. Changes shall be noted on the plan when made.
- H. Contractor shall comply with the project WPCP as required to ensure that water quality in Wood Creek and its tributaries is not degraded during construction activities and until the disturbed areas are stabilized and erosion potential is minimized. The WPCP details erosion and sediment BMPs that will be implemented to prevent entry of storm water runoff into the excavation site, entrainment of excavated contaminated materials leaving the site, and entry of polluted storm water runoff into coastal waters during transportation and storage of excavated materials. BMPs that the Contractor shall implement as part of the WPCP include:
 - 1. Preservation of existing vegetation shall occur to the maximum extent practicable.
 - 2. Sediment sources shall be controlled using materials and methods specified in the WPCP.
 - 3. Erosion control may include seeding, mulching, erosion control blankets, plastic coverings, and geotextiles that shall be implemented after completion of construction activities and pursuant to the WPCP.

4. Construction materials, debris, and waste will not be placed or stored where it can enter into or be washed by rainfall into waters of the U.S./State.
5. Appropriate vehicle storage, fueling, maintenance and cleaning areas shall be designated and maintained to prevent discharge of pollutants. Upland areas will be used for equipment refueling. If equipment must be washed, washing shall occur where wash water cannot flow into wetlands or waters of the U.S./States.
6. Equipment when not in use shall be stored outside of the slough channel and outside areas of tidal influence.
7. All construction equipment will be maintained to prevent leaks of fuels, lubricants or other fluids into the slough. Service and refueling procedures will not be conducted where there is potential for fuel spills to seep or wash into the slough.
8. Stationary equipment such as motors, pumps, generators, compressors, and welders, located within a dry portion of the stream channel or adjacent to the stream channel shall be positioned over drip pans. The Contractor shall have spill containment materials located at the site, with operators trained in spill control procedures.
9. Extreme caution will be used when handling and/or storing chemicals and hazardous wastes (e.g., fuel and hydraulic fluid) near waterways, and any and all applicable laws and regulations will be followed. Appropriate materials shall be on site to prevent and manage spills. Contractor shall comply with the WPCP, Emergency Spill Plan and Emergency Spill Response Plan and other relevant permit conditions.
10. Covered and secured storage areas for potentially toxic materials shall be provided. all hazardous material containers should be placed in secondary containment.
11. All construction vehicles or equipment shall be checked and maintained daily to prevent leaks of fuels and/or lubricants.
12. No debris, soil, silt, sand, bark, slash, sawdust, rubbish, oil or petroleum products, other organic material or earthen material from any construction related activity shall be allowed to enter into the active Wood Creek or be placed where it may be washed by rainfall into Wood Creek or any waterways.
13. If, at any time, an unauthorized discharge of debris to surface water occurs, or any water quality problem arises, the associated project activities shall cease immediately until adequate BMPs are implemented, including stopping work. the regional water board will be notified by the construction manager promptly and in no case more than 24 hours after the unauthorized discharge or water quality problem arises.
14. The plans may not cover all the situations that arise during construction due to unanticipated field conditions. Variations may be made to the plan in the field subject to the approval of or at the direction of the Construction Manager.
15. Prior to final acceptance all areas of the site will be vegetated or permanently stabilized and all temporary sediment control measures that were installed by the Contractor shall be removed.

END OF SECTION 01 57 00

SECTION 31 17 09

REVEGETATION PLANTING

PART 1 GENERAL

1.01. GENERAL

- A. The DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation Technical Specifications shall apply to all of the work of every Section or sub-Section of these Specifications as if fully repeated in each.
- B. Work specified herein and shown on the Drawings applies to the Year-1 and Year-2 installation of the Wood Creek Phase III - Felt Ranch Restoration Project (which includes an establishment period in Year-3). All work shall be sequenced and completed as specified within these Technical Specifications.
- C. Due to construction design, project work for the Wood Creek Phase III - Felt Ranch Restoration Project will be phased over a period of two (2) years, with an additional year of plant establishment maintenance. Year-1 planting and associated 1-year plant establishment will begin Fall 2025. Year-2 invasive control area treatments will begin Spring 2026, and Year-2 planting, and associated 1-year plant establishment for Year-1 plantings will begin Fall 2026. Year-3 invasive control area treatments will begin Spring 2027, and associated 1-year plant establishment for Year-2 planting will begin Fall 2027. Timing for revegetation planting (including installation), invasive control area treatments, and plant establishment shall be as follows.
 - 1. Year-1 small container planting: 1 November through 15 December 2025
 - 2. Year-1 wetland plug and willow stake planting: 1 January through 15 February 2026
 - 3. Year-1 plant establishment period: From completion of small container planting (December 2025) through one (1) year from completion of wetland plug and willow stake installation (February 2027)
 - 4. Year-2 invasive control area treatments in Invasive Control Treatment Area 1 April through 15 November 2026
 - 5. Year-2 small container planting: 1 November through 15 December 2026
 - 6. Year-2 wetland plug and willow stake planting: 1 January through 15 February 2027
 - 7. Year-2 plant establishment period: From completion of small container planting (Dec 2026) through February 2028 (occurring in Year-3)
 - 8. Year-3 invasive control area treatments in Invasive Control Treatment Area 1 April through 15 November 2027
 - 9. Plant species and quantities to be acquired for each year of construction are shown in the Planting Plans.
 - 10. The areas of Year-1 and Year-2 construction, planting and establishment periods are shown on the Planting Plans.

11. The areas of Year-2 and Year-3 invasive control area treatments are shown on the Invasive Plant Management Plan (Attachment D)
- D. Provide all material, labor, equipment, and services to perform the work as shown on the Drawings and as specified herein. The work of this Section includes but is not limited to:
 1. Flagging riparian forest, active berm and wetland planting areas (Year-1 and as needed in Year-2).
 2. Excavating planting holes (Year-1 and Year-2).
 3. Installing foliage protection cages (Year-1 and Year-2).
 4. Installing small container plants (Year-1 and Year-2).
 5. Installing plug container plants (Year-1 and Year-2).
 6. Installing mulch (Year-1 and Year-2).
 7. Installing willow stakes (Year-1 and Year-2).
 8. Maintaining plants until commencement of 1-year plant establishment period (Year-1 and Year-2).
 9. Installing invasive plant treatment materials (Year-2 and Year-3)
- 1.02. MEASUREMENT AND PAYMENT
 - A. Measurement and payment for Revegetation (also termed as “construction”) shall be included in the Bid Item to which it relates. No additional measurement or payment will be made for the requirement of this Section.
- 1.03. RELATED TECHNICAL SECTIONS
 - A. Section 31 17 10 - PLANT ESTABLISHMENT PERIOD MAINTENANCE
 - B. Section 31 17 11 - INVASIVE CONTROL AREA TREATMENTS
- 1.04. REFERENCE STANDARDS
 - A. Nomenclature
 1. *Western Garden Book*, Sunset Publishing Co., Menlo Park, CA.
 2. *The Jepson Manual: Vascular Plants of California*, Second Edition, University of California Press, Berkeley, CA.
 3. *Hortus Third*, The Staff of the L.H. Bailey Hortorium. 1976. Macmillan Publishing Co., New York
 - B. Plant Material Standards
 1. *American Standard for Nursery Stock*, ANSI Z60.1. American Nursery and Landscape Association, 1250 Eye Street NW, Suite 500, Washington, DC 20005.

C. Sudden Oak Death Regulated Host Species

1. *APHIS List of Regulated Hosts and Plants Proven or Associated with Phytophthora ramorum*, September 2022 edition or later; United States Department of Agriculture Animal and Plant Health Inspection Service, available online at:
https://www.aphis.usda.gov/plant_health/plant_pest_info/pram/downloads/pdf_files/usdaprlst.pdf

D. Relevant sections of the California Department of Transportation (Caltrans), Standard Specifications, 2018 Edition.

- E. All standards shall include the latest additions and amendments as of the date of advertisement for bids.

1.05. SUBMITTALS

- A. General: Submittals to be in accordance with the requirements of DIVISION 01 -GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Specifications.

- B. Contractor shall submit a schedule of work and proposed sequence of plant installation by planting area for approval by NRLT.

- C. Contractor shall submit samples and miscellaneous materials to NRLT prior to application as follows:

1. Imported Mulch

- a. One-half (1/2) cubic foot sample.
- b. Manufacturer's receipt that describes the provenance and constituents of wood bark mulch and certifies that it meets the specification described in this SECTION. Receipt shall certify that mulch does not contain noxious weeds or originate from a Sudden Oak Death host plant species derived from a quarantined county.

D. Access Plan

1. Contractor shall submit a site access plan showing sequencing of site access, staging and work in order to limit ground disturbance.

E. As-Built Drawings

1. Prepare hand marked-up record plans indicating plant type, quantity, size and location. Use Drawings as a background for the As-Built drawings.
2. Submit to NRLT within ten (10) working days of start of Work in SECTION 31 17 10 PLANT ESTABLISHMENT PERIOD MAINTENANCE

1.06. DEFINITIONS

- A. NRLT: NRLT or person designated by NRLT to make Project decisions and monitor the work compliance.
- B. Native Site Soil: Onsite native soil excavated during the performance of this Work.

- C. Native Backfill: Onsite native soil used to backfill excavations and planting holes.

1.07. PROJECT CONDITIONS

- A. Project site may be a shared site with the general earthwork contractor or other disciplines. Planting work shall be coordinated between work disciplines to ensure conflicts do not arise.
- B. Revegetation planting may occur during saturated soil conditions. Contractor shall provide and employ plywood, mats, mudboots, or other materials/methods approved by NRLT to protect riparian and wetland surfaces from damage created by foot traffic. Any damage shall be repaired at Contractor's own expense. Contractor shall re-mulch all previously seeded areas disturbed by Work.
- C. NRLT reserves the right to temporarily delay or postpone work if wet conditions or excessive ground disturbance has prevented or may prevent the establishment of seed and hinder the earthwork contractor's Water Pollution Control Plan (WPCP) compliance.
- D. Wet conditions on access roads and planting areas may affect access, timing, and sequencing of work. Contractor shall coordinate with NRLT for approval of vehicular access and footpath routes.
- E. Use of heavy equipment is not permitted; Revegetation Planting work shall be completed by hand crews only and use of lightweight equipment will be limited to dry-upland areas only and subject to prior authorization from NRLT.
- F. Contractor shall exercise caution when carrying out invasive control treatments in Invasive Control Area to minimize the potential spread of invasive species throughout the Project site.**

1.08. TIMING AND COORDINATION

- A. Timing of plant installation is subject to the timeframes and moisture conditions specified in sub-Sections 3.04 – SMALL CONTAINER AND WETLAND PLUG PLANT INSTALLATION.
- B. Order of Work: The following approximate order of work is assumed for the revegetation work. More detailed timing information is provided in these Specifications.
 - 1. Layout of planting areas (Year 1 and 2).
 - 2. Delivery of small container plants (Year 1 and 2).
 - 3. Fabrication of foliage protection cages (Year 1 and 2).
 - 4. Invasive control area treatments acquisition and installation of solarization materials as shown in the Invasive Plant Management Plan (1 April – 15 November) (Year 2 and 3)
 - 5. Installation of small container plants, mulch, and foliage protection cages, as shown in the Drawings (1 November – 15 December) (Year 1 and 2).
 - 6. Delivery of plug container plants and willow stakes (Year 1 and 2).
 - 7. Willow stake and wetland plug installation; (1 January - 15 February) (Year 1 and 2).
 - 8. Seeding of damaged areas (Year 1 and 2).
 - 9. Commencement of plant establishment period (Year 2 and 3).

1.09. DELIVERY, STORAGE, AND HANDLING

- A. Contractor shall be responsible for procurement, delivery, coordination and proper storage of of small container, plug container plant, and willow stake delivery to the Project site with NRLT at least fourteen (14) working days prior to plant installation.
- B. Contractor shall be responsible for delivery and proper storage of Contractor-supplied seed.
- C. Contractor shall be responsible for the proper storage, handling, and protection of plant materials once they are at the Project site.
- D. Contractor shall maintain plant materials in a healthy condition at all times. Contractor shall protect plants from sun and drying winds. Plants that cannot be installed immediately upon delivery shall be kept in the shade, watered, and kept in a deer-proof enclosure to prevent browsing.
- E. Contractor shall be responsible for replacement of any damaged plant material, as determined by NRLT, at no expense to NRLT.

1.10. SUBSTITUTIONS

- A. Container Plants
 - 1. NRLT reserves the option of substituting similar sizes and species of container (small and plug) plants.
 - 2. Contractor shall install substitutions at no additional cost to NRLT.

PART 2 PLANT MATERIAL COLLECTION, PROPAGATION AND INSTALLATION

2.01. COLLECTION AND PROPAGATION

- A. All plant propagules shall originate from populations within the Humboldt Bay watersheds within 10 miles of the project site.
- B. The collection of propagules for each plant species shall be varied in both location and time to capture the species' genetic diversity. Propagules for each species shall be collected:
 - o from locations at least 0.5 to 1 mile apart.
 - o from locations which have at least 30 individuals of each species viable for collection.
 - o evenly from each individual plant (e.g. collect from multiple sides and differing heights). No more than 30% of each individual plant's seeds or branches shall be collected.
 - o during 2 to 3 events at least 1 week apart during each species' collection window, unless the species collection window is more limited (in such cases submit for approval by NRLT)
- C. The source populations shall be from locations that exhibit similar environmental conditions (e.g., slope, aspect, soil, and hydrology) as those found within the project site.
- D. The following restrictions apply to propagule collection related to sudden oak death (*Phytophthora ramorum*) disease:
 - o Propagules shall only originate from areas free of sudden oak death disease. A regularly updated map of areas where *P. ramorum* infection has been confirmed is available online at <http://www.oakmapper.org/>.

- Nursery shall familiarize themselves with the symptoms of sudden oak death and avoid collecting potentially infected material that may occur in areas not yet reported to contain sudden oak death. Diagnostic guides to sudden oak death can be found online at the California Oak Mortality Task Force website: (<https://www.suddenoakdeath.org/hosts-and-symptoms/>)
- If collection occurs within 2 miles of a confirmed sudden oak death occurrence or where the Nursery identifies an occurrence of sudden oak death, the Nursery shall take precautions and sanitize equipment as described online at the California Oak Mortality Task Force website: (<https://www.suddenoakdeath.org/sanitation-and-reducing-spread/>)
- Propagules of host plants for *P. ramorum* that are collected and/or grown in the counties of Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma are subject to state and federal regulations regarding control of this pathogen (See Section 3700. Oak Mortality Disease Control of the California Department of Food and Agriculture Plant Quarantine Manual).
- Nurseries in the above regulated-counties shall have a current compliance agreement with the California Department of Food and Agriculture Plant Health and Pest Prevention Services to be eligible to supply this Project with propagules of regulated *P. ramorum* host plants as well as non-regulated plants in soil quarantined counties.

E. The Contractor's nursery shall be responsible for securing access to collection sites.

2.02. ACCEPTANCE OF CONTRACTOR PROVIDED PLANT MATERIAL

- A. Within 30 days of completion of collection, the contractor's nursery will be required to submit evidence of compliance with these specifications, including a map and/or list of collection event locations and timing, and precautions taken.
- B. NRL will inspect the plant materials on site at the time of delivery to project site. Container plants shall be labeled with appropriate plant tags indicating the species and provenance. At the time of inspection, NRLT reserves the right to reject any plant materials not meeting the above specifications or lacking healthy vigor (including portions of ANSI Z60.1 "American Standard for Nursery Stock" applicable to native plant material for habitat restoration). The Contractor's nursery shall replace rejected plant materials with suitable materials at no additional cost to NRLT.

2.03. CONTAINER PLANTS

- A. Small and plug container plant materials shall be supplied by the Contractor. The Contractor shall coordinate delivery and store and maintain container plants per sub-Section Delivery, Storage, and Handling.

2.04. WILLOW STAKES

- A. Willow stakes shall be supplied by the Contractor. The Contractor shall coordinate delivery and store and maintain willow stakes per sub-Section Delivery, Storage, and Handling.

2.05. MULCH

- A. Mulch
 - 1. Contractor is responsible for furnishing imported mulch as required. Acceptable mulch may be comprised of wood chips, tree bark chips, shredded bark, or any combination thereof that meets the following standards.

- a. Shall not contain noxious weeds or originate from a Sudden Oak Death host plant species derived from a quarantined county.
- b. The particle size of wood chip mulch shall be between 1/2 and 4 inches long and not less than 3/8 inch wide and 1/16 inch thick. At least eighty-five (85) percent, by volume, of wood chip mulch shall conform to the sizes specified.
- c. Shredded bark shall be a mixture of bark and wood and shall have a particle size between 1/8 inch and 1/2 inch in diameter and one (1) inch to eight (8) inches long. At least seventy-five (75) percent, by volume, of shredded bark shall conform to the sizes specified.
- d. Mulch shall be free of salt, foreign materials, and other harmful substances.
- e. 'Gorilla hair' mulch is not acceptable.

2.06. FOLIAGE PROTECTION CAGES

- A. Per detail on drawings.
- B. Contractor may submit alternative materials and details for approval to NRLT.

2.07. SEED AND STRAW MULCH

A. Seed – General

- 1. Seed and straw mulch shall be applied to all areas incidentally disturbed by the Contractor.
- 2. Seeds shall be obtained from regionally appropriate sources. Seed collected from within coastal Humboldt County is preferable. Seed from outside this limit shall be approved by NRLT. Contractor shall coordinate with NRLT prior to seeding to obtain seed submittal approval. Seed may be available from Pacific Coast Seed, 1925 N MacArthur Dr #100, Tracy, CA (925) 373-4417; Hedgerow Farms, 21905 County Road 88, Winters, CA (530) 662- 6847; S&S Seeds, Inc., 6155 Carpinteria Ave, Carpinteria, CA (805) 684-0436; Lerner Seeds, 230 Grove Rd, Bolinas, CA (415) 868-9407, Sunmark Seeds, 12775 NE Marx St, Portland, OR (503) 241-7333; or approved equal.
- 3. All seed shall be provided by the Contractor. Seed shall be procured of the species and proportions presented in the following tables for areas of application:

Table 1. Wetland Seed Mix

Scientific Name	Common Name	Pounds of Pure Live Seed/Acre
<i>Deschampsia cespitosa</i> ssp. <i>cespitosa</i>	Tufted hairgrass	4
<i>Eleocharis macrostachys</i>	Spike rush	2
<i>Elymus X Triticum</i>	Regreen hybrid wheatgrass	10
<i>Festuca rubra</i>	Red fescue	4
<i>Hordeum brachyantherum</i>	Meadow barley	4
<i>Juncus effusus</i>	Pacific soft rush	2
<i>Symphyotrichum chilense</i>	California aster	1
Total		27

Table 2. Upland Seed Mix

Scientific Name	Common Name	Pounds of Pure Live Seed/Acre
<i>Achillea millefolium</i>	Yarrow	1
<i>Bromus carinatus</i>	California brome	4
<i>Elymus glaucus</i>	Blue wildrye	4
<i>Elymus triticoides</i>	Creeping blue wildrye	4
<i>Elymus X Triticum</i>	Regreen hybrid wheatgrass	10
<i>Festuca rubra</i>	Red fescue	4
<i>Symphyotrichum chilense</i>	California aster	1
Total		28

- B. Straw: Straw shall be either rice or wheat derived from irrigated cropland. Straw shall not contain glass, plastic, metal, rocks, or other inorganic material. Straw shall not have been used previously for any other use and shall be certified weed free. Straw shall be applied at a rate of 2,000 pounds per acre.
- C. Tackifier: Tackifier shall be non-asphaltic, non-toxic to plants and wildlife, and non-staining to rock surfaces. Tackifier shall be in powder form, may be re-emulsifiable, and shall be a processed organic adhesive derivative of *Plantago insularis* (per ASTM D7047-04) used as a soil binder, manufactured to be suitable for seeding applications. Non-asphaltic tackifier shall be applied at a rate of 120 pounds per acre. Crimping is an alternative method subject to NRLT approval.

2.07. Water

- A. All waters sources associated with this contract shall be pre-approved by NRLT.

PART 3 EXECUTION

3.01. FIELD QUALITY CONTROL

- A. Contractor shall request and receive approval from NRLT prior to commencement of Work in this SECTION.
- B. Contractor shall inspect Project site and become familiar with any access requirements, access restrictions, and any other site conditions.
- C. Contractor shall notify NRLT, in writing, of location and soil conditions encountered that Contractor considers detrimental to the growth of plant material.
 - 1. When detrimental conditions are uncovered, planting shall be discontinued until instructions to resolve these conditions are received from NRLT.
- D. Contractor shall coordinate with NRLT to schedule inspections at the following stages per DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Technical Specifications.
 - 1. Layout and flagging of planting areas.
 - 2. Inspection and acceptance of soil conditions, prior to planting.
 - 3. Inspection and acceptance of small and wetland plug container plants and willow stakes at the time of delivery.
 - 4. During periods of active plant installation, Contractor shall schedule weekly onsite Project meetings with NRLT to inspect wetland plug, small container plant, and willow stake installation. Contractor shall correct any deficiencies to NRLT's satisfaction.
 - 5. Acceptance of revegetation planting per DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Technical Specifications.
- E. Progress Inspections: In addition to the inspections specified, NRLT may make periodic progress inspections.
- F. NRLT reserves the right to take and analyze samples of materials for conformity to these Specifications at any time.

3.02. LAYOUT OF PLANTING AREAS

- A. NRLT reserves the right to make minor adjustments in the layout of planting areas.
- B. Coordination with NRLT
 - 1. Each planting area shall be flagged by Contractor and approved by NRLT.
 - a. Contractor shall use a clearly visible, unique, colored flag for each species of container plant and willow stake.
 - b. Due to the high density of plantings, flagging of individual wetland plug locations will not be required.
 - 2. Contractor shall contact NRLT at least five (5) working days prior to flagging so NRLT can be present.
 - 3. Contractor shall maintain flags in location until final acceptance of REVEGETATION PLANTING.

3.03. PLANT INSTALLATION – GENERAL

- A. Contractor shall supply wetland plugs, small container plants, and willow stakes per sub-Section Delivery, Storage, and Handling.
- B. Contractor shall not install plants prior to review and acceptance of plant material by NRLT upon delivery of plant material to Project site, or install plant material that has been rejected for any reason.
- C. Contractor shall not begin plant installation prior to approval of planting layout per Sub-Section Layout of Planting Areas.
- D. Installation of small container plants, plug container plants, and willow stakes shall occur when the soil becomes moist to a depth of eight (8) inches or to a depth acceptable by NRLT. Prior to planting, Contractor shall request and receive approval from NRLT that the soil moisture is adequate.
- E. Given the soil moisture requirement and site access limitations, it is possible that planting will occur in a short window within the aforementioned timeframe, after soil moisture becomes appropriate and before flooding at Project site makes planting conditions difficult.
- F. Contractor shall not plant under unfavorable weather conditions. Ambient temperatures shall be between thirty-five (35) and ninety (80) degrees Fahrenheit and wind velocity shall not exceed thirty (30) miles per hour.
- G. Contractor shall take measures to minimize soil disturbance during installation and maintenance of plants. Planting shall initiate in the areas furthest from the access point. This is intended to minimize disturbance of installed plants. Additional efforts shall be made to limit trampling of planting areas, including restricting foot traffic to a single-track pathway around the perimeter of each planting area, rather than crisscrossing the planting areas in multiple locations. Workers shall leave the main path only to perform work at specific locales within the planting areas.

3.04. SMALL CONTAINER AND WETLAND PLUG PLANT INSTALLATION

- A. Timing
 - 1. Small container plants shall be installed between 1 November and 15 December unless otherwise permitted in writing by NRLT.
 - 2. Wetland plug container plants shall be installed between 1 January and 15 February unless otherwise permitted in writing by NRLT.
- B. Planting Hole Excavation
 - 1. Planting Holes for Small Container Plants
 - a. Planting holes shall be constructed as shown on the Drawings.
 - b. Prior to planting hole excavation, all grasses and weeds shall be hand pulled from surface of where planting hole will be excavated.
 - c. Planting holes may be excavated by hand digging, auguring, or by drilling. Water jets shall not be used for the excavation of planting holes. If excavating under existing trees, Contractor shall minimize damage to existing tree roots.

2. Planting Holes for Plug Container Plants

- a. Planting holes shall be constructed as shown on the Drawings.
 - b. Planting holes shall be excavated by hand digging. Water jets shall not be used for the excavation of planting holes.
3. Remove all rocks greater than three (3) inches in diameter from the excavated native soils. Where rock or other hard material prohibits holes from being excavated to the dimensions specified, new holes shall be excavated and the abandoned holes shall be backfilled with the excavated material.
4. If necessary, scarify the sides and bottom of planting holes to eliminate glazed surfaces.

C. Planting Hole Backfilling

1. Backfill bottom of planting hole with native site soil so that crown of plant is at specified height as shown on the Drawings. Soil under root ball shall be compacted by hand to prevent settlement.
2. Lightly compact the backfill to remove air spaces between roots and soil.

D. Wetland Plug and Small Container Plant Installation

1. Immediately prior to planting, wetland plug and small container plants shall be thoroughly moistened.
2. Remove plants from containers in such a manner that the root ball is not broken.
3. Gently loosen lower one-third (1/3) of root ball prior to installation.
4. Install plants immediately after removal from the container, and minimize exposure of root ball to the air while placing root ball in the ground.
5. Install plants in such a manner that roots are not restricted or distorted.
6. Install plants in the center of the planting hole and so that their root crowns are slightly above grade (approximately 1/4 inch) following planting, soil settlement, and initial irrigation.
7. Backfill the planting hole and lightly compact to remove air spaces between roots and soil.
8. Take care to avoid over-compaction of the soil, particularly if soil is damp.
9. Small Container Plants: Slope surface away from plant to drain and form 4-inch high watering basin as shown on the Drawings.
10. Wetland Plugs: Form a 1-inch high mound on the downhill side of wetland plugs as shown on the Drawings.

E. Mulch at Small Container Plants

1. Prior to mulch application Contractor shall verify mulch pile is clear of vegetation and hand pull all vegetation from mulch prior to application.
2. Contractor shall spread a three (3) inch thick layer of mulch in a three (3)-foot diameter area around all small container plants.
3. Mulch shall be pulled three (3) inches away in all directions from small container plant stems.

F. Foliage Protection Cage Installation at Small Container Plants

1. Contractor shall construct and install foliage protection cages around small container plants of species shown on the Drawings.

For those plant species requiring a foliage protection cage (species shown on the Drawings), the cage shall be fabricated prior to plant installation. Foliage protection cages shall be installed the same day as the plant material in order to provide immediate protection for the plant. Any other timetable for this work must be approved by NRLT.

2. Construction of foliage protection cages shall be as follows:
 - a. Install two (2) wood stakes vertically into the soil as shown on the Drawings.
 - b. Create a cylinder with the wire mesh as shown on the Drawings. Overlap seams sufficiently and install fasteners to secure wire together. The base of the wire mesh cage shall be flush with the soil surface at its highest point.

G. Contractor shall maintain wetland plug and small container plants until commencement of work in SECTION 31 17 10 - PLANT ESTABLISHMENT PERIOD MAINTENANCE.

3.05. WILLOW STAKE INSTALLATION

A. Timing

1. Willow stakes shall be installed between 1 January and 15 February unless otherwise permitted in writing by NRLT.
2. Willow stakes shall be soaked in water a minimum of one (1) day and up to a maximum five (5) days between delivery by NRLT and installation unless otherwise specified herein.

B. Stake Installation

1. Willow stakes shall be installed directly into native site soil.
2. Stakes shall be pounded into the soil with the pointed basal end down and with leaf bud scars pointing up.
3. Stakes shall be planted vertically with two-thirds (2/3) of the stake's length below ground as shown on the Drawings.
4. After installation, the top one (1) to two (2) inches of each stake shall be cut square using sharp loppers or pruning shears to remove damaged surface. The stake shall be replaced if more than three (3) inches of splitting occurs down the stem.

C. Contractor shall maintain willow stakes until commencement of work in SECTION 31 17 10 - PLANT ESTABLISHMENT PERIOD MAINTENANCE.

3.06. RE-SEEDING AND RE-MULCHING DISTURBED AREAS

- A. All previously seeded areas incidentally disturbed by revegetation plant installation activities shall be re-seeded and re-mulched using the appropriate seed mix for the planting area as shown in Tables 1 and 2 of this SECTION.
- B. Re-seeding and re-mulching of areas incidentally disturbed by the contractor shall occur upon completion of each phase of planting.
- C. Methods of seeding and straw mulching shall be approved by NRLT.

3.07. SITE CLEAN-UP

- A. Contractor shall cleanup Project site following planting activities as follows and as directed by NRLT.
 - 1. Clean Project site and work area of all containers, packaging, and other debris resulting from plant installation operations.
 - 2. All plant containers shall be recycled or made available for reuse by native nurseries or the California Native Plant Society North Coast Chapter.
 - 3. Dispose of all debris legally at licensed disposal facilities.
 - 4. Clean all surfaces not designated for treatment and remove all residues resulting from mixing, applying, or equipment flushing.
 - 5. Remove temporary items.

3.08. ACCEPTANCE OF REVEGETATION PLANTING

- A. Acceptance of Work: NRLT will accept work when all improvements and corrective work have been performed as specified and to the satisfaction of NRLT.
- B. Following inspection and acceptance of the completed work in this SECTION, work described in Section 31 17 10 PLANT ESTABLISHMENT PERIOD MAINTENANCE shall begin.

END OF SECTION 31 17 09

SECTION 31 17 10

PLANT ESTABLISHMENT PERIOD MAINTENANCE

PART 1 GENERAL

1.01. SUMMARY

- A. The DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation Technical Specifications shall apply to all of the work of every SECTION or sub-Section of these Specifications as if fully repeated in each.
- B. Work specified herein and shown on the Drawings applies to the Year-1, and Year-2 installation of the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation. All work shall be sequenced and completed as specified within these Technical Specifications.
- C. Provide all material, labor, and equipment necessary to perform the work for the 1-year plant establishment periods as shown on the Drawings and as specified herein. Separate 1-year plant establishment periods shall occur following the Year-1 and Year-2 installations. For each plant establishment period, the work of this SECTION includes but is not limited to:
 - 1. Conducting monthly maintenance inspections.
 - 2. Preparing maintenance logbook.
 - 3. Installing replacement small container and plug container plants.
 - 4. Installing replacement willow stakes.
 - 5. Conducting weed control.
 - 6. Mulch replenishment.
 - 7. Maintaining foliage protection cages.

1.02. MEASUREMENT AND PAYMENT

- A. Measurement and payment for Plant Establishment Period Maintenance shall be included in the Bid Item to which it relates. No additional measurement or payment will be made for the requirement of this section.

1.03. RELATED TECHNICAL SECTIONS

- A. SECTION 31 17 09 - REVEGETATION PLANTING.

1.04. REFERENCE STANDARDS

- A. Nomenclature: *The Jepson Manual: Vascular Plants of California, Second Edition*, University of California Press, Berkeley, CA.
- B. Plant Material Standards: *American Standard for Nursery Stock*, American National Standards Institute (ANSI) Z60.1-2004; American Nursery and Landscape Association.

C. Control of Non-Native Noxious and Invasive Plant Species

1. *Salt River Ecosystem Restoration Project Invasive Plant Control for Dense-flowered Cordgrass and Reed Canarygrass*, 2012, H.T. Harvey & Associates.
2. *The Weed Workers Handbook: A Guide to Techniques for Removing Bay Area Invasive Plants*, 2004, the Watershed Project and the California Invasive Plant Council (Cal IPC) available online at: <https://www.cal-ipc.org/resources/library/publications/wwh/>
3. *Invasive Plants of California's Wildlands*, 2000, edited by C.C. Bossard, J.M. Randall, and M.C. Hoshovsky, University of California Press.
4. *Integrated Vegetation Management (IVM)*, ANSI A300 (Part 7), 2018.
5. *California Invasive Plant Inventory*, the California Invasive Plant Council (Cal IPC) available online at: <http://www.cal-ipc.org/ip/inventory/>
6. *Invasive Weeds of Humboldt County: A Guide for Concerned Citizens (2nd edition)*, 2010, Humboldt County Weed Management Area. Available online at: <https://www.cal-ipc.org/wp-content/uploads/2017/03/httpswww.cal-ipc.orgdocsWMApdfInvasiveWeedsofHumboldtCounty.pdf.pdf>
7. *Weed Control Methods Handbook: Tools & Techniques for Use in Natural Areas*, 2001, Tu, Mandy, Callie Hurd, and John M. Randall, The Nature Conservancy.
8. *Weed Control in Natural Areas in the Western United States*, 2013, UC Davis Weed Research and Information Center.

- D. All standards shall include the latest additions and amendments as of the date of advertisement for bids.

1.05. SUBMITTALS

- A. General: Submittals to be in accordance with the requirements of DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation Specifications.
- B. Year-1 Maintenance Summary
1. Marked-up As-Built drawings (submitted per SECTION 31 17 09 - REVEGETATION PLANTING, Section 1.05 (E)) indicating installed plant type, quantity, size and location.
 2. Submit to NRLT within ten (10) working days of completion of Work in this SECTION.
- C. Contractor shall submit the following:
1. Prior to the commencement of the 1-year plant establishment periods, Contractor shall submit a proposed maintenance schedule.
 2. Contractor shall submit to NRLT verification that replacement plant material has been secured within thirty (30) days of Notice to Proceed.
 3. Prior to the commencement of weed control (and non-native noxious and invasive plant control as requested per sub-Section 3.11 Optional Additive Maintenance Event), Contractor's proposed manual and/or chemical control methods.

4. On a monthly basis, a logbook of revegetation site maintenance activities as described in sub-Section Maintenance Logbook. Monthly logbook entries shall be submitted ten (10) days prior to monthly maintenance inspections.

1.06. QUALITY CONTROL

- A. Contractor shall appoint a superintendent who shall be onsite during the entire duration of work throughout each year of the 1-year plant establishment period.

1.07. PROJECT CONDITIONS

- A. Plant establishment period maintenance work may occur during saturated soil conditions, particularly within wetland and riparian habitats. Where wet soil or flooded conditions exist, Contractor shall provide and employ plywood, mats, mudboots, or other method approved by NRLT to protect soils and vegetation from damage created by foot traffic.
- B. NRLT reserves the right to temporarily delay or postpone work if excessive ground disturbance has prevented or may prevent the establishment of seed and hinder the Earthwork contract's Water Pollution Control Plan (WPCP) compliance.
- C. Wet conditions on access roads and planting areas may affect access, timing, and sequencing of work. Contractor shall coordinate with NRLT for approval of vehicular access.
- D. Use of heavy equipment is not permitted; Revegetation Planting work shall be completed by hand crews only.
- E. Contractor shall exercise caution when carrying out invasive control treatments in Invasive Control Area to minimize the potential spread of invasive species throughout the Project site.**

1.08. GENERAL COORDINATION

- A. Contractor shall request approval from NRLT for commencement of the 1-year plant establishment periods after Year-1 work and Year-2 work of REVEGETATION PLANTING is complete. Each 1-year plant establishment period shall begin upon written notice of acceptance by NRLT and continue for a minimum of one (1) year.
- B. Contractor shall provide all equipment, labor, and materials required to perform the required maintenance as described in this SECTION during the 1-year plant establishment period.
- C. Prior to each maintenance event, Contractor shall:
 1. Contact NRLT regarding the location, type of work to be done, and the equipment to be used.
- D. Contractor shall request approval from NRLT for completion of the 1-year plant establishment period. Completion of the 1-year plant establishment period shall be confirmed in writing by NRLT.

1.09. TIMING OF WORK

- A. Contractor shall determine the detailed maintenance schedule and submit it to NRLT for approval. The maintenance schedule will vary depending on weather conditions.
- B. During the plant establishment period, the following approximate timeframes are assumed for the work. More detailed timing information is provided in these Specifications.

1. Monthly maintenance inspections.
2. Monthly maintenance logbook (submitted ten (10) days prior to maintenance inspection)
3. Weed control (January, March, April, May, July, September, and November).
4. Replacement small container plant installation (1 November – 15 December).
5. Replacement plug container plant installation (1 January – 15 February)
6. Replacement willow stake installation (1 January – 15 February)
7. Mulch replenishment (as needed).
8. Foliage protection cages (as needed).

PART 2 PRODUCTS

2.01. GENERAL

- A. Materials not conforming to these Specifications and requirements shall remain the property of Contractor and shall be removed from Project site at no additional cost to NRLT.

2.02. REPLACEMENT SMALL CONTAINER PLANTS, WETLAND PLUGS, AND WILLOW STAKES

- A. The Contractor is responsible for furnishing replacement willow stakes, wetland plug, and small container plants that will be installed during the 1-year plant establishment periods as per the Measurement and Payment Section 01 15 00.
- B. Per sub-Section Submittals, Contractor shall submit to NRLT verification that replacement plant material has been secured within thirty (30) days of Notice to Proceed.
- C. Contractor shall supply and install replacement small container plants, wetland plugs, and willow stakes in accordance with the Measurement and Payment Section. The following will apply to sourced plant material:
 1. All plant material shall originate from populations within the Humboldt Bay watersheds and within ten (10) miles of the coast.
 2. The source populations of plant material shall be from locations that exhibit similar environmental conditions (e.g., slope, aspect, soil, and hydrology) as those found within the Felt Ranch project site.
 3. If adequate and suitable plant material are not available based on the above criteria, NRLT reserves the right to exchange the plant material for plant material of the same or lesser quantity or value.
 4. All container sizes shall be as shown on the Drawings.
- D. NRLT may modify species composition and ratios of species composition based on the results of the required plant survival monitoring and request that certain species be replanted at a higher ratio than others.

2.03. MULCH

- A. Mulch shall be per SECTION 32 92 00 - REVEGETATION PLANTING, Sub-Section 3.04. E.
- B. Contractor shall provide replenishment mulch at the direction of NRLT.

PART 3 EXECUTION

3.01. FIELD QUALITY CONTROL

- A. Contractor shall inspect Project site and become familiar with any access requirements, access restrictions, and any other site conditions.
- B. Contractor shall request and receive approval from NRLT prior to commencement of plant establishment period maintenance work.
- C. Contractor shall coordinate with NRLT to schedule inspections at the following stages per DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation Technical Specifications.
 - 1. Monthly maintenance inspections.
 - 2. Replacement small container plant installation.
 - 3. Replacement plug container plant installation.
 - 4. Replacement willow stake installation.
 - 5. Weed control inspections.
 - 6. Acceptance of plant establishment period maintenance per DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation Technical Specifications.
- D. Progress Inspections: In addition to the inspections specified, NRLT may make periodic progress inspections.
- E. If NRLT determines that significant problems are present at Project site, then additional maintenance inspections will be scheduled until NRLT determines that these problems are resolved.

3.02. MAINTENANCE LOGBOOK

- A. Contractor shall record all maintenance activities and observations in a maintenance logbook, which shall include the following records.
 - 1. For all entries, the following basic information shall be provided:
 - a. Date when work occurred.
 - b. Location and area(s) where work occurred within Project site.
 - c. Materials, techniques, and equipment used.
 - d. Amount of time spent working in each area.
 - 2. Location(s) of weed control and mulch application within planting basins.

3. Type, quantity, and concentration of herbicide applied (including location of application).
 4. Location(s) and quantity of water applied for irrigation of replacement and all other plants installed as part of the work.
- B. Contractor shall submit the maintenance logbook to NRLT at least ten (10) working days prior to the monthly maintenance inspection.

3.03. MAINTENANCE INSPECTIONS

- A. Contractor shall schedule monthly onsite inspections (per Sub-Sections Timing of Work) with NRLT. Topics for review and discussion shall include, at a minimum, replacement plantings, weed control, foliage protection, and potential for supplemental irrigation or non-native noxious and invasive plant control.
- B. During each maintenance inspection, Contractor shall photo-document Project site conditions.
- C. Contractor shall correct any deficiencies to NRLT's satisfaction.

3.04. REPLACEMENT CONTAINER PLANT INSTALLATION COORDINATION

- A. Container planting shall occur when the soil becomes moist to a depth of eight (8) inches or to a depth acceptable by NRLT. Prior to planting, Contractor shall request and receive approval from NRLT that the soil moisture is adequate.
- B. Contractor shall be responsible for coordination and timing of plant material delivery to Project site. NRLT will review container plants upon delivery at Project site. Contractor shall notify NRLT five (5) working days prior to plant delivery to coordinate this review. NRLT reserves the right to approve or reject any materials delivered to Project site.
- C. Once plants are delivered to Project site, Contractor shall be responsible for the proper storage, handling, and protection of plants. Contractor shall maintain plants in a healthy condition at all times and shall protect them from sun, drying winds, and deer browsing. Plants that cannot be planted immediately upon delivery shall be kept in the shade, watered, and protected.
- D. Planting areas to receive replacement plants shall be coordinated with NRLT.

3.05. REPLACEMENT SMALL CONTAINER AND PLUG PLANT INSTALLATION

- A. Contractor shall replace all dead container plants or otherwise empty basins from within the Year-1 planting area during the Year-1 establishment period, and shall replace all dead container plants or otherwise empty basins from within the Year-2 planting area during the Year-2 establishment period..
- B. Contractor shall flag individual plant locations of replacement plants. Each species shall have a unique flag. Layout of replacement plants shall be approved by NRLT.
- C. Timing
1. In Riparian, Invasive Control Area, Hummock Tops, and Upland planting areas: Contractor shall install replacement container plants between 1 November and 15 December, or as otherwise approved by NRLT.
 2. Wetland Planting Areas: Contractor shall install replacement wetland plugs between 1 January and 15 February, or as otherwise approved by NRLT.

- D. Replacement container plants and wetland plugs shall be installed per SECTION 31 17 09 - REVEGETATION PLANTING, sub-Section 3.04 Small Container and Wetland Plug Plant Installation.

3.06. WILLOW STAKE REPLACEMENT

- A. Contractor shall replace all dead willow stakes or otherwise missing stakes from within the Year-1 planting area during the Year-1 establishment period, and shall replace all dead container plants or otherwise empty basins from within the Year-2 planting area during the Year-2 establishment period..
- B. Contractor shall install replacement willow stakes between 1 January and 15 February, or as otherwise approved by NRLT.
- C. Contractor shall flag individual plant locations of replacement plants. Layout of replacement plants shall be approved by NRLT.
- D. Replacement willow stakes shall be installed per SECTION 31 17 09 - REVEGETATION PLANTING, sub-Section 3.05 Willow Stake Installation.

3.07. WEED CONTROL

- A. Throughout the 1-year plant establishment periods, Contractor shall control herbaceous vegetation at riparian and wetland planting areas and around each installed small container plant as follows.
 - 1. Timing
 - a. Weeding shall occur on an as-needed basis. Weeds shall be maintained as follows.
 - i. Whenever weeds become established within a five (5)-foot diameter of an installed small container plant and within a three (3)-foot diameter of installed willow stakes or wetland plugs.
 - ii. When weeds reach an average height of eight (8) inches in revegetation areas.
 - 2. Contractor shall not damage or remove recruiting native vegetation in any revegetation planting area without direct approval from NRLT. Contractor shall train crew members to differentiate native plants from non-native plants.
 - 3. Weeds shall be controlled through mulching as well as manual, and mechanical control methods as follows:
 - a. Mulch shall be added in a three (3)-foot diameter area around the base of container plantings as necessary to maintain the three (3)-inch thick layer.
 - b. Weeds within a three (3)-foot diameter area around the base of all plants shall be hand-pulled.
 - c. Other weeds, including non-native grasses and forbs, within the revegetation planting areas shall be maintained at a height below eight (8) inches using a 'weed eater.' Contractor shall request the approval of NRLT prior to using weed whips and mowers.

- B. Contractor shall coordinate with NRLT if non-native noxious and invasive species establish in the planting areas to determine the appropriate removal timing and method per sub-Section 3.11 - Optional Additive Maintenance Event in this Section.

3.08. FOLIAGE PROTECTION CAGE MAINTENANCE

- A. Contractor shall maintain foliage protection cages around plants as directed by NRLT.
- B. Maintenance of foliage protection cages throughout the 1-year plant establishment periods shall be as follows:
 - 1. Cages shall be maintained in a vertical orientation and the bottom set flush with the soil surface.
 - 2. Contractor shall repair foliage protection cages damaged by severe erosion, wind, browsing or burrowing animals, flooding, theft, vandalism, or deficiencies in workmanship. Repairs may include reconstructing or re-staking a damaged portion of the protection cage, in addition to replacing missing ties.
 - 3. Damaged foliage protection cages shall be replaced or repaired in a timely manner per SECTION 31 17 09 - REVEGETATION PLANTING, sub-Section 2.06 Foliage Protection Cages and per the direction of NRLT, including seasonal restrictions.
 - 4. Contractor shall remove a cage when it restricts the tree's growth as determined by NRLT. Care shall be taken to minimize damage to plants when removing the cage. If necessary, cages shall be cut so that plants shall not be damaged when the protection cages are removed. Contractor shall recycle or dispose of protective hardware properly off-site.

3.09. SITE CLEAN-UP FOLLOWING MAINTENANCE ACTIVITIES

- A. Contractor shall clean-up Project site following maintenance activities as follows and as directed by NRLT.
 - 1. Trash may attract sensitive wildlife species and their predators. Following the completion of each maintenance activity, Contractor shall remove all trash and construction debris from Project site.
 - 2. All plant containers shall be recycled or made available for reuse by native nurseries or the California Native Plant Society North Coast Chapter.
 - 3. Dispose of all debris legally at licensed disposal facilities.
 - 4. Costs incurred due to clean-up operations shall be included for the various items of work and no separate payment will be made thereof.
 - 5. Remove temporary items.
 - 6. Restore any areas disturbed by maintenance activities.

3.10. ACCEPTANCE OF PLANT ESTABLISHMENT PERIOD MAINTENANCE

- A. Acceptance of Work: NRLT will accept work when all improvements and corrective work have been performed as specified and to the satisfaction of NRLT.

- B. Inspection and acceptance of the completed work will end the respective year's plant establishment period maintenance.

3.11. OPTIONAL ADDITIVE MAINTENANCE EVENT

- A. At the discretion of NRLT, Contractor shall provide the equivalent of four (4) laborers for one (1) working eight (8) hour day. Laborers may be directed by NRLT to conduct non-native noxious and invasive plant control or additional weed control.
- B. As directed by NRLT, Contractor shall employ the following for non-native noxious and invasive plant control.
 - 1. Contractor shall control non-native noxious and invasive plants in riparian forest, active bench, active berm, and wetland planting areas, including but not limited to:
 - a. All species with High or Moderate rankings in the California Invasive Plant Council's (Cal-IPC) Northwest list. Examples include:
 - i. Bull thistle (*Cirsium vulgare*)
 - ii. Canada thistle (*Cirsium arvense*)
 - iii. Cotonaster (*Cotoneaster* sp.)
 - iv. Dense-flowered cordgrass (*Spartina densiflora*).
 - v. English ivy (*Hedera helix*)
 - vi. Fennel (*Foeniculum vulgare*)
 - vii. Harding grass (*Phalaris aquatica*)
 - viii. Himalayan blackberry (*Rubus armeniacus*).
 - ix. Italian thistle (*Carduus pycnocephalus*)
 - x. Purple loosestrife (*Lythrum salicaria*)
 - xi. Reed canarygrass (*Phalaris arundinacea*).
 - b. Other species of concern not specifically listed above, which Contractor shall control, are:
 - i. Blessed milkthistle (*Silybum marianum*)
 - ii. Bristly ox-tongue (*Helminthotheca echioides*)
 - iii. Curly dock (*Rumex crispus*)
 - iv. Common gorse (*Ulex europaea*)
 - v. Foxglove (*Digitalis pupurea*)
 - vi. French, Scotch, and Spanish broom (*Genista* and *Cytisus* spp.)
 - vii. Japanese and Himalayan knotweed (*Polygonum* spp.)

- viii. Pampas Grass (*Cortadera* spp.)
 - ix. Periwinkle (*Vinca major*)
 - x. Poison hemlock (*Conium maculatum*)
 - xi. Tansy ragwort (*Senecio jacobaea*)
 - xii. Wild radish (*Raphanus sativus*)
 - xiii. Yellow starthistle (*Centaurea solstitialis*)
- 2. Contractor shall maintain the site such that non-native invasive cover does not exceed 5% and non-native cover does not exceed 15% within restoration project boundary. Maintenance activities to control non-native cover shall not limit or compromise the health and vigor of the native vegetation.
 - 3. Contractor shall request and receive approval from NRLT prior to employing any manual and mechanical methods to control non-native noxious and invasive plants as described below. Control measures will be authorized by NRLT depending on the species, the abundance and distribution of the species, and the location within Project site relative to wetlands or other sensitive resources.
 - 4. All proposed control methods shall only be employed with the approval of NRLT.
 - 5. Contractor shall use care and minimize damage to and protect all existing and naturally recruiting native woody vegetation.
- 3.12. OPTIONAL ADDITIVE ITEM - SUPPLY AND INSTALL ADDITIONAL WETLAND PLUGS AND WILLOW STAKES YEAR 3 OR 4
- A. At the discretion of NRLT, Contractor shall supply and install wetland plugs equivalent to 5% of the total number of wetland plugs installed in Year-2, and supply and install willow stakes equivalent to 10% of the total number of willow stakes installed in Year-2.
 - B. Species assemblage of willow plugs and willow stakes shall be based upon the Year-2 planting palette, and approved by NRLT.
 - C. Wetland plugs and willow stakes shall be planted in Year-3 or Year-4 in locations specified by NRLT.
 - D. Wetland plugs and willow stakes shall be propagated, delivered, and installed following the specifications in 31 17 09 – Revegetation Planting.
 - E. Plant materials are intended to replace dead wetland plugs or willow stakes following the Year-1 and Year-2 Plant Establishment Periods, and does not relieve the contractor of replacing dead wetland plugs and dead willow stakes as required in the Plant Establishment Period Maintenance bid item specifications.
- 3.13. OPTIONAL ADDITIVE ITEM - SUPPLY AND INSTALL ADDITIONAL SMALL CONTAINER PLANTS YEAR 3 OR 4
- A. At the discretion of NRLT, Contractor shall supply and install small container plants equivalent to 10% of the total number of small container plants installed in Year 2.

- B. Species assemblage of small container plants shall be based upon the Year-2 planting palette, and approved by NRLT.
- C. Small container plants shall be planted in Year 3 or 4 in locations specified by NRLT.
- D. Small container plants shall be propagated, delivered, and installed following the specifications in 31 17 09 – Revegetation Planting.
- E. Plant materials are intended to replace dead small container plants following the Year-1 and Year-2 Plant Establishment Periods, and does not relieve the contractor of replacing dead small container plants as required in the Plant Establishment Period Maintenance bid item specifications.

END OF SECTION 31 17 10

SECTION 31 17 11

INVASIVE CONTROL AREA TREATMENTS

PART 1 GENERAL

1.01. GENERAL

- A. The DIVISION 01 - GENERAL CONDITIONS developed for the Wood Creek Phase III - Felt Ranch Restoration Project Revegetation Technical Specifications shall apply to all of the work of every Section or sub-Section of these Specifications as if fully repeated in each.
- B. Work specified herein and shown on the Drawings applies to the Year-1 and Year-2 installation of the Wood Creek Phase III - Felt Ranch Restoration Project. All work shall be sequenced and completed as specified within these Technical Specifications.
- C. Due to construction design, project work for the Wood Creek Phase III - Felt Ranch Restoration Project will be phased over multiple years. Invasive Control Area treatments will occur in Year 2(2026) and Year 3 (2027).
- D. Invasive Control Area Treatments shall include solarization of reed canarygrass and shall adhere to Attachment D – Invasive Plant Management Plan, and the details within these Technical Specifications.
- E. Year 2 Invasive Control Area Treatments shall be installed between 1 April and 15 April 2026, and be removed between 1 November and 15 November 2026.
- F. Year 3 Invasive Control Area Treatments shall be installed between 1 April and 15 April, 2027 and be removed between 1 November and 15 November 2027.
- G. Approximately 0.25 acre of invasive vegetation shall be treated each year, comprised of five distinct stands as shown in Figure 4 of Attachment D – Invasive Plant Management Plan.

PART 2 MATERIALS

- A. Contractor shall furnish the following materials to treat five distinct stands of invasive reed canarygrass totaling approximately 0.25 acres:
 - 1. black plastic sheeting that is at least 4 mil thick;
 - 2. landscape nails of adequate quantity to anchor the plastic sheeting intermittently;
 - 3. sand bags of adequate quantity to create a perimeter around the black plastic sheeting and to anchor throughout the middle of each stand;
 - 4. reed canarygrass tamping material to flatten biomass.

PART 3 EXECUTION

SOLARIZATION IN INVASIVE CONTROL AREA

Northcoast Regional Land Trust

Wood Creek Phase III Restoration Project - Revegetation

- A. Between April 1-15, 2026, the reed canarygrass stands delineated for treatment shall be flagged for the Contractor.
- B. Between April 1-15, 2026 the reed canarygrass stands to be treated shall be surveyed for amphibians or other animals by NRLT qualified biologist. Wildlife will be relocated out of the treatment area.
- C. After the wildlife relocation survey is completed, the reed canary grass stand shall be tamped down as tightly to the ground as is feasible using manual methods (plank of wood or comparable tool).
- D. Immediately after tamping, the stand of reed canarygrass shall be covered with black plastic solarizing material to the edge of the stands and at least one foot beyond the stand boundary and tightly secured at the edges with nails and sandbags. The central portions of the treated area shall also be strategically covered with sandbags in such a way to keep the material from ripping in wind events. The covering by the solarization material will deprive the stand of light, killing the adult plant and rhizomes.
- E. The Invasive Control Treatment Area shall be revisited monthly and replaced as needed to meet the intent.
- F. Starting November 1 and finishing up to November 15, 2026, solarization materials shall be removed from the site and disposed of by the contractor.
- G. The same schedule will be implemented for Year 3 Invasive Treatment Control Area in 2027.
- H. Following the completion of the invasive control area treatments by 15 November 2027, each reed canary grass stand selected for this treatment shall be densely revegetated with native willow stakes between 1 January and 15 February 2028 to encourage strongly competitive native species to shade out the populations over time. Willow stake spacing in the invasive control area treatments should be 5 feet apart.

END OF SECTION 31 17 11