US EPA Region 9
75 Hawthorn Street
San Francisco, CA 94105

June 22, 2023

Attention: Ms. Brooklyn James

Project: Crescent Mills Industrial Site/Indian Valley Wood Utilization Campus
15690 California Highway 89
Crescent Mills, California

Transmittal: Revised Addendum to Final Removal Action Workplan

Dear Ms. James:

Sierra Streams Institute (SSI) has prepared this Draft Addendum to the August 2019 *Final Removal Action Workplan* (RAW) *for the Crescent Mills Industrial Site/Indian Valley Wood Utilization Campus located at 15690 California Highway 89, Crescent Mills, California*. The RAW was prepared by Sierra Streams Institute (SSI) for the Sierra Institute for Community and Environment (Sierra Institute). This RAW Addendum was prepared to describe proposed cleanup activities beginning in the 2023 construction season which will be performed under EPA Brownfields Cleanup Grant # 98T42101-0 for the property. The proposed cleanup activities beginning in 2023 will be performed in the southern stockpiles area of the approximately 26.27-acre former lumber mill property. The referenced 2019 Final RAW was prepared for the entire property.

This RAW Addendum summarizes the remedial methods outlined in the RAW, the proposed scope of forthcoming cleanup activities, identifies variance from the recommended remedial actions outlined in the RAW, and provides a discussion of issues related to the proposed scope of cleanup activities and recommendations regarding grading methods and future site reuse. A Draft Grading Plan for the Southern Stockpiles Area prepared by Hinds Engineering is attached **(Appendix A).** The Draft Grading Plan is currently under review by the Plumas County Building Department.

If you have any questions regarding this RAW Addendum, please contact the undersigned and Danielle Berry at the Sierra Institute.

Sincerely,

Sierra Streams Institute

Kyle Leach, P.G. 7108
Project Geologist

Addendum to Final Removal Action Workplan for: Sierra Institute for Community and Environment's Indian Valley Wood Utilization Campus.

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Introduction

The subject property, a former lumber mill site located at 15690 California Highway 89, Crescent Mills, California, has been the subject of several environmental investigations and a 2019 *Site Characterization Report and Removal Action Workplan* (RAW) prepared by Sierra Streams Institute (SSI) for the current property owner, Sierra Institute for Community and the Environment (SI). The 2019 RAW was prepared by a Registered Professional Geologist for the cleanup of the entire 26-acre property. The RAW was reviewed for technical accuracy and regulatory compliance by a third-party Engineering firm (EKI Engineering) and reviewed and approved for completeness by US EPA Region 9 staff.

The property is currently undergoing remediation funded by four US EPA Brownfield Cleanup Grants awarded to Sierra Institute for specific sites within the 26-acre property. Cleanup Grant Site 1 covers approximately 6 acres in the northeast and east central portions of the property, Grant Site 2 covers approximately 6 acres in the northwest and west, Grant Site 3 covers approximately 5 acres in the northeast and east central and Grant Site 4, the subject of this RAW Addendum covers approximately 9 acres at the south end of the property.

Cleanup of Grant Sites 1 and 2 have been completed or nearly completed, cleanup of Site 3 is ongoing and cleanup of Grant Site 4 is planned to commence in late summer or fall of 2023 with funding from a 2022 Brownfields Cleanup Grant (# 98T42101-0). This RAW Addendum was prepared to address Grant Site 4 cleanup activities and variances from the approved 2019 RAW for the property.

Summary of Cleanup Activities Completed to Date

The scope of the selected remedial alternative outlined in the 2019 RAW includes a phased approach to site remediation and redevelopment. Clean fill soil excavated from on-site borrow areas with uncontaminated subsurface soil is to be placed as fill over areas where existing soil contaminant levels exceed remedial goals. The scope also includes the excavation of stockpiles consisting of wood waste and soil in areas within the 100-year floodplain and the placement of the material in areas of the Site above the assumed 100-year flood elevation.

Previous cleanup phases for the property have involved excavation of soil and wood waste stockpiles from the northeastern portion of the property which was placed as fill on the top of the largest southern wood waste stockpile. Clean soil was excavated from borrow areas along the eastern central portion of the property and placed as fill over areas in the northern, western, and central portions of the property (Grant Sites 1, 2, and 3) where surface soil contaminant levels exceeded remedial goals. Imported concrete rubble generated from the demolition of structures in the 2021 Dixie Fire was crushed and placed as clean aggregate fill in the west-central portion of the property.

Proposed Scope of 2023 Cleanup Activities

The proposed 2023 cleanup activities in the Southern Stockpiles area to be completed with funding from Cleanup Grant 4 cover an approximately 9-acre area at the southern end of the property. Site features in this area include three soil and wood waste stockpiles, an undeveloped open soil surfaced area, a concrete pad with a 14-inch well, and the southern end of the borrow pits/ infiltration basins along the east side of the property. An unlined ditch directs runoff around the west, south, and east sides of the property in a counterclockwise direction into a pond known as the Log Deck Recycling Pond which is generally dry except during periods of high runoff or wet and freezing conditions.

Results of comprehensive sampling during the *Targeted Site Investigation* prepared by Geosyntec in 2017) (included as Appendix A to the RAW), indicated one of the three stockpiles, Stockpile 6 (SP-6), the largest stockpile in the southern end of the area had arsenic at concentrations exceeding the site cleanup goal of 9.8 milligrams per kilogram. The large stockpile has an approximate volume of 45,000 cubic yards (cy) including approximately 15,000 cy which was moved from the east-central portion of the property to the top of the stockpile during cleanup activities in 2019.

The proposed scope of the 2023 cleanup will include the regrading of Stockpile SP-6, the largest stockpile in the Southern Stockpiles area, and the placement of clean cover soil on the regraded stockpile. The proposed source of the clean cover soil is native soil to be excavated from borrow areas located beneath the southern and southwest portions of Stockpile SP-6. Stockpile soil above the borrow areas will first be temporarily moved to the top of the stockpile. Borrow soil will be excavated from below the original surface grade (elevation 3608 ft to 3509 ft). The soil in these subsurface areas has been documented to be below remedial goals for the target contaminants arsenic and hydrocarbons as documented in SSI's February 2018 Report of Additional Site Characterization Results for Southern Portion of Crescent Mills Industrial Site. (included as Appendix B to the RAW).

The proposed borrow areas will not extend below the anticipated depth to first groundwater and will be backfilled with selected wood waste soil with relatively low organic content which will be segregated during regrading of the southern stockpile. A 12-inch minimum cap consisting of compacted clean soil generated from the borrow pits will be placed over the top surface and sidewalls of the regraded stockpile. The project also includes drainage improvements to the ditch surrounding the southern portion of the property and erosion control measures. Cleanup work performed by contractors will be overseen by Sierra Streams Institute or Sierra Institute staff or other qualified professionals.

The attached *Grading Plan for the Southern Stockpiles Area* ***(Appendix A)*** shows the proposed borrow areas and finish contours of the regraded stockpile and presents a summary of grading procedures, general notes, and construction and drainage control procedures to be followed by contractors. **Appendix B** depicts current site features and locations of trenches and sample

locations along with relevant analytical results and depths to groundwater. **Appendix C** is a Cross Section that shows the regraded stockpile and borrow area elevations, anticipated depths to groundwater, and other relevant features.

Variance from August 2019 Final RAW

The proposed 2023 cleanup activities are generally consistent with the selected remedial methods outlined in the 2019 RAW with the following exceptions. Although the proposed scope of 2023 cleanup described in the attached Grading Plan **(Appendix A)** and outlined above involves capping of contaminated soil with clean soil excavated from onsite borrow areas, the scope in the RAW does not include placement of a clean soil cap over arsenic impacted stockpiles. The scope also varies in the proposed use of wood waste stockpile soil as subsurface backfill in the clean fill borrow areas. The selected cleanup described in the RAW does not include using wood waste soil as fill within borrow pits excavated below the original ground surface. The borrow areas to be backfilled are not to exceed depths of 6 feet below the original ground surface or the depth of first groundwater, whichever is shallower. The top surface of the regraded stockpile including the 12-inch cap will have a minimum elevation of 3516 feet MSL which generally corresponds with the assumed base flood elevation for the property.

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Proposed Site Re-Use

The proposed reuse for the property as outlined in the RAW is to *redevelop the Crescent Mills site into an integrated wood products campus. The campus will utilize a variety of technologies to generate value-added wood products out of low-value woody material generated from local forest lands during restoration and fire risk reduction efforts. Possible businesses to be developed include a dried and packaged firewood operation, a cross-laminated timber production facility, a bioenergy facility that will sell electricity to Pacific Gas & Electric pursuant to the Bioenergy Market Adjusting Tariff program, and a wood chip processing business to supply biomass boilers to be installed around the county*.

Based on recent site reuse decisions and local needs, the proposed site reuse for the regraded southern stockpile may include a native plant nursery with an undetermined number of greenhouses and or shade structures with dirt or gravel floors. Plants grown at the nursery would be used for restoration projects at Lassen Volcanic National Park and other restoration projects throughout Plumas and Lassen Counties. Other areas of the Southern Stockpiles Area would be left undeveloped and used for the growing and storage of container plants. Future site reuse may include other “non-habitable” structures or a “laydown yard” for material storage. No “permanent structures” or structures with significant foundations or footings are proposed at this time. This re-use would be generally consistent with other reuse plans presented in the RAW and with the human health risk assessment considering that the nursery

would involve growing above-ground container plants and no plants would be grown in the regraded site soil or cap.

Environmental Discussion

Environmental concerns related to the proposed placement of wood waste soil as fill below the original surface grade but above groundwater include the assumed depth to groundwater and total arsenic concentrations and arsenic solubility in the buried material. A review of available groundwater data and SSI and SI's observations at the property since 2018 suggest depths to first groundwater generally increase from north to south across the 26-acre property. The *Targeted Site Investigation* (Geosyntec, 2017) stated "Groundwater at the Site and at the adjacent property to the north was reported at shallow depths from approximately 5 to 10 feet below ground surface (bgs) during past investigations" For the purposes of this discussion bgs refers to below the original ground surface (preconstruction elevation of undisturbed soil excluding stockpiles which ranges from 3510 to 3511 feet above mean sea level (MSL) in the northern and central portions of the property to 3508 to 3509 feet MSL in the southern portion of the property. Static groundwater was observed at a depth of approximately 5.5 feet bgs in one trench advanced in the east-central portion of the Site by SSI in June 2018 (a period of relatively high seasonal groundwater). Groundwater was not observed in several other trenches advanced to 5.5 feet depth or greater.

Two trenches advanced during the June 2018 investigation were located immediately to the northeast and east of the proposed southern stockpile (SP-6) re-grading area. A review of trench logs from the investigation indicated no groundwater or soil staining was observed to a depth of 5.5 feet below the ground surface in either trench. Observations of the Log Deck Recycling Pond (located to the northeast of the southern stockpile) over the past 5 years have shown relatively rapid infiltration of ponded runoff which rarely remained above the base of the pond (elevation 3501 feet or approximately 2 feet below the base of the proposed 6-foot deep borrow areas) except during periods of freeze or minor flooding across the property. An abandoned well located approximately 200 feet to the northeast of the southern stockpile had a measured depth to static groundwater of approximately 14 feet bgs (approximate elevation 3496 feet) before it was redeveloped and capped in April 2022.

Available evidence suggests groundwater in the southern stockpile area is likely to be encountered at depths of approximately 8 feet to 14 feet below ground surface in areas surrounding the stockpile including the proposed borrow area locations. The proposed 2023 Grading Plan includes observation of borrow excavation activities by a qualified professional and requires that the borrow pit is not to extend to depths to, or below any indication of shallow groundwater.

The 2017 Targeted Site Investigation included sampling and analysis of three soil samples obtained from the southern stockpile (SP-6) or material which was moved to the top of the stockpile in 2019 (Stockpiles SP-16 and SP-17) for total arsenic. Sampling was performed by

Geosyntec using Integrated Sampling Methodology (ISM). Results indicated total arsenic at 25 milligrams per kilogram (mg/kg), 9.9 mg/kg, and 11 mg/kg respectively for the southern stockpile SP-6 and the two relocated stockpiles SP-16 and SP-17, all slightly or moderately exceeding the site-specific background arsenic cleanup goal of 9.8 mg/kg. The two samples with the highest total arsenic concentrations, samples from SP6 and SP-17 were also analyzed for soluble arsenic. Soluble arsenic was not detected in either sample. These results indicate soluble arsenic would not be likely to impact groundwater in the event that seasonal shallow groundwater or rainwater comes in contact with the wood waste soil used as subsurface backfill for the borrow pits. **Appendix B** depicts current site features and locations of trenches, sample locations with relevant analytical results, and depths to groundwater.

Geotechnical Discussion

Geotechnical issues related to the proposed scope of 2023 grading include potential settlement of the wood waste soil fill in the regraded stockpiles due to decomposition of the wood waste, and differential settlement between the majority of the regraded stockpile (up to 7 feet thickness of wood waste soil) and below the proposed borrow pits (up to 13 feet thickness of wood waste soil).

SSI conducted an *Additional Site Characterization Investigation of the Southern Portion of Crescent Mills Industrial Site* in February 2018 (Appendix B of the RAW). Seven trenches (excavations extending to the base of stockpiles) and eight potholes (excavations extending into the upper portion of stockpiles) were advanced in soil and wood waste stockpiles located in areas of the southern portion of the property where only limited previous sampling had been performed. The bulk of the larger Stockpile SP-6 (the stockpile proposed for regrading), generally consisted of fine sand and silt with decomposed organic layers of varying thickness which were disseminated within relatively inorganic sands and silts. A mounded area in the southwestern portion of the stockpile consisted of sandy gravel with varying amounts of wood waste.

Geotechnical testing of two composite samples obtained from trenches advanced within stockpile SP-6 indicated 4.5% organic and 5.4% organic material. Somewhat higher organic content (visually estimated at 5 to 10% organics) may be present in material moved from stockpiles along the east side of the property to the top of SP-16 in 2019.

A conservative estimate of the maximum possible settlement resulting from eventual decomposition of organics in placed fill (in feet) = % organic X depth of fill containing organics = Assuming 7% organic content times a fill depth of 7 feet (final grade of regraded stockpile SP-6) to 13 feet (maximum depth of organic containing fill including backfill of the onsite borrow area) = 0.49 feet of settlement beneath the main portion of the regraded stockpile to 0.91 feet of settlement beneath regraded fill above the backfilled borrow areas.

However, we would expect the majority of settlement of the existing fill-in stockpile SP-6 has occurred over a relatively short period of time following the placement of the stockpile (in the early 2000s) under its own weight after the placement of material. Some settlement resulting from continued compaction/consolidation may occur over time, however, additional settlement would likely be minimal (fractions of an inch per foot of fill) given that grading and compaction will be performed in accordance with the California Building Code.

Permits and Institutional Controls

Provided that the procedures presented in the 2023 Grading Plan and the scope and recommendations outlined below are followed, the proposed scope of 2023 cleanup activities appears to be in compliance with all applicable Federal State and County requirements. Permitting requirements were evaluated in the 2019 RAW for the entire 26-acre property which includes the proposed 2023 grading areas.

The following permits, regulations, and Institutional Controls will apply to the proposed cleanup of the Southern Stockpiles Area:

National Environmental Protection Act (NEPA): The Assessment of Brownfields Cleanup Alternatives (ABCA) prepared by the Sierra Institute for Community and Environment in 2019 is considered the NEPA document for cleanup activities on the property. The ABCA evaluated several cleanup alternatives including the selected alternative Capping and Institutional Controls. This alternative is detailed in the RAW and will be implemented as described in this document.

National Historic Preservation Act (NHPA): A *Cultural Resources Records Search and Sensitivity Assessment for the Proposed Remediation of the Crescent Mills Industrial Site* was prepared in July 2019 to satisfy NHPA Requirements. The report concludes that the site has very low potential to contain either surface or subsurface archaeological remains and that the proposed project will have no effect on historic properties as those are defined under the NHPA or the California Environmental Quality Act.

Clean Water Act: The Clean Water Act, as set forth in Section 230 of CFR Title 40, pertains to flood-prone areas and wetlands. Flood-prone areas have been identified in the proposed remedial action areas. No wetlands were identified on the property. The open SWPPP includes the application of appropriate BMPs which will be implemented during remediation and remedial activities will comply with Section 230 of CFR Title 40.

Stormwater Pollution Prevention Plan (SWPPP): Two SWPPPs have been prepared for the site. A Construction General Permit applies to all cleanup activities at the site. An industrial General permit is also in effect for site reuse activities. Both permits are open and will be followed during the proposed remedial activities in the Southern Stockpiles area.

California Environmental Quality Act (CEQA): Plumas County is designated in the RAW as the lead agency under CEQA. Plumas County indicated to Sierra Institute that the cleanup of the property does not constitute a change in land use (the property is zoned heavy industrial and the proposed reuse is industrial) and thus preparation of a CEQA document for the site cleanup was not required by the County.

County Grading Permit: Sierra Institute has an open grading permit with the Plumas County Building Department to perform grading activities associated with the cleanup of the property. The attached Draft Southern Stockpiles Grading Plan (**Appendix A**) has been submitted to Plumas County for review and will be considered an update to the existing grading permit. Cleanup of the Southern Stockpile area will be consistent with the grading permit and county requirements.

Northern Sierra Air Quality Management District: The dust control and decontamination plan (Appendix F of the RAW) indicates air monitoring is required during the grading of the wood waste stockpile material or other contaminated soil and suppression of visible dust (by wetting) is required during excavation and grading of clean borrow soil. Perimeter Air Monitoring was performed during previous work in the northern portion of the property and will be performed during the regrading of the southern stockpiles.

Institutional Controls:

The selected remedial alternative outlined in the RAW includes institutional controls to provide long-term protection of future property occupants and environmental conditions. After completion of all remedial activities at the property, a Cleanup Completion Report will be prepared which will include an As-Built map of the property indicating the locations and thickness of clean soil caps covering areas of remaining buried contamination for the entire property. The map will also include notations depicting the thickness of buried wood waste in the Southern Stockpiles regraded area including the area and thickness of the proposed borrow area. A land use covenant (LUC) will be filed with Plumas County to "run with the land" which will include the As-Built map and will require notification to future land owners or leaseholders and will require environmental review and supervision of any excavation or grading of cleanup areas under the supervision of a qualified professional. An Operation and Maintenance Plan will also be filed with Plumas County and will include annual inspections by the property owner to identify and if necessary, repair any breaches of the soil cap or other activities that compromise the remedial remedy.

Conclusions

A review of the 2019 RAW indicates the proposed scope of 2023 grading activities are generally consistent with the selected remedial alternative presented in the RAW with the exception that clean soil will be used to cap a soil wood waste stockpile and that selected wood waste soil generated from the regraded stockpile will be used as backfill for borrow areas situated beneath

the regraded stockpile. Total arsenic concentrations in the material proposed to be buried are slightly to moderately elevated above site-specific background arsenic concentrations (9.9 mg/kg to 25 mg/kg arsenic compared with the site-specific background (cleanup goal) of 9.8 mg/kg and no soluble arsenic was detected. Thus, in our opinion, the burial of compacted wood waste soil below the original surface grade and above the first incidence of groundwater would be protective of groundwater. However, due to the presence of decomposed wood waste, the regraded stockpile material may not be suitable for use as structural fill and some future settlement may occur.

Provided that the procedures presented in the 2023 Grading Plan and the scope and recommendations outlined below are followed, the proposed scope of 2023 cleanup activities appears to be in compliance with all applicable Federal, State, and County permitting requirements.

Recommendations

The following measures are recommended to minimize geotechnical impacts resulting from the grading and compaction of wood waste soil at various depths:

- During initial excavation and temporary stockpiling of wood waste soil to expose the proposed borrow areas in the southern and southwestern portions of stockpile SP-6 , a qualified geologist or engineer should observe the excavated material and segregate material with higher course grained content and lower organic content. This material should be prioritized for use as compacted backfill for portions of the borrow areas below the original ground surface in order to reduce the potential settlement of deeper fill areas.
- During the excavation of borrow material to be used as structural fill cover soil, depths of the borrow pit should be closely monitored so that the borrow areas do not extend more than 6 feet below the original ground surface and do not extend to the first incidence of groundwater or stained soil indicative of seasonal high groundwater, whichever is shallower.
- Following the excavation of the borrow areas and before the borrow area backfill is placed, the perimeter of the borrow areas should be surveyed using a handheld GPS Unit with sub-meter accuracy or equivalent survey methods. Survey data will be included in an As-Built map to be prepared after grading is complete. The thickness of buried fill beneath the borrow areas and adjacent portions of the regraded stockpile will be noted on the As-Built which will be included with the Land Use Covenant to be filed with Plumas County.
- As specified in the attached Draft Grading Plan **(Appendix A),** performance compaction of backfill material in the borrow areas and regraded stockpile should be monitored by a qualified professional and must be in compliance with the 2019 California Building Code Appendix J, with the exception that unavoidable organic

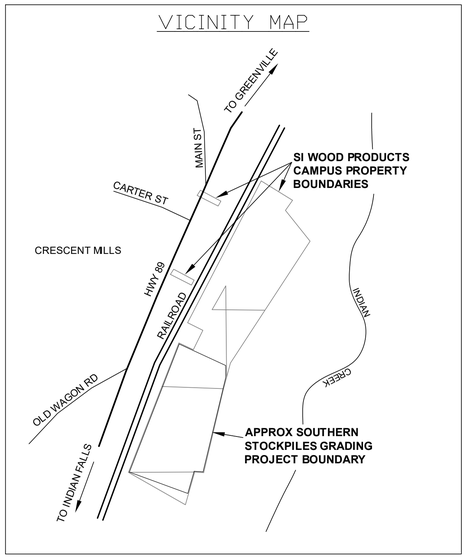
materials will be present in the fill. If pockets of fill with higher organic content or larger woody debris are observed, the organic material should be removed or spread over as wide an area as possible in order to reduce the potential for differential settlement.

- Although the current proposed site reuse does not include the construction of “habitable” or “permanent” structures or structures with large footings or foundations, any future structures constructed on the regraded stockpile should be designed by a qualified Civil or Geotechnical Engineer with input from a geotechnical investigation. Any habitable or permanent structures would likely require a specialized foundation design considering the possibility of future settlement of underlying soil.

APPENDIX A:

Draft Southern Stockpiles Grading Plan

VICINITY MAP



ABBREVIATIONS

APPROX, ~	APPROXIMATELY
BMP	BASE MANAGEMENT PRACTICE
CY	CUBIC YARDS
EL/ELEV	ELEVATION
(E)/(P)	EXISTING/PROPOSED
MAX/MIN	MAXIMUM/MINIMUM
O-CUT/FILL	ORGANIC CUT/FILL
S-CUT/FILL	STRUCTURAL CUT/FILL
SI	SIERRA INSTITUTE
TYP	TYPICAL
"	INCHES
'	FEET

CUT/FILL QUANTITY ESTIMATES

ORGANIC CUT/FILL:
TOP OF STOCKPILE O-CUT = 19,450 CY
BORROW AREA O-CUT = 700 CY
NORTH PILES CAP O-FILL = 3,430 CY
BORROW AREA REFILL = 7,990 CY
STOCKPILE EXPANSION O-FILL = 8,730 CY

STUCTURAL CUT/FILL:
BORROW AREA S-CUT = 7,990 CY
STOCKPILE CAP S-FILL = 7,060 CY
BORROW AREA CAP S-FILL = 930 CY

*ALL ESTIMATES +/- 15%

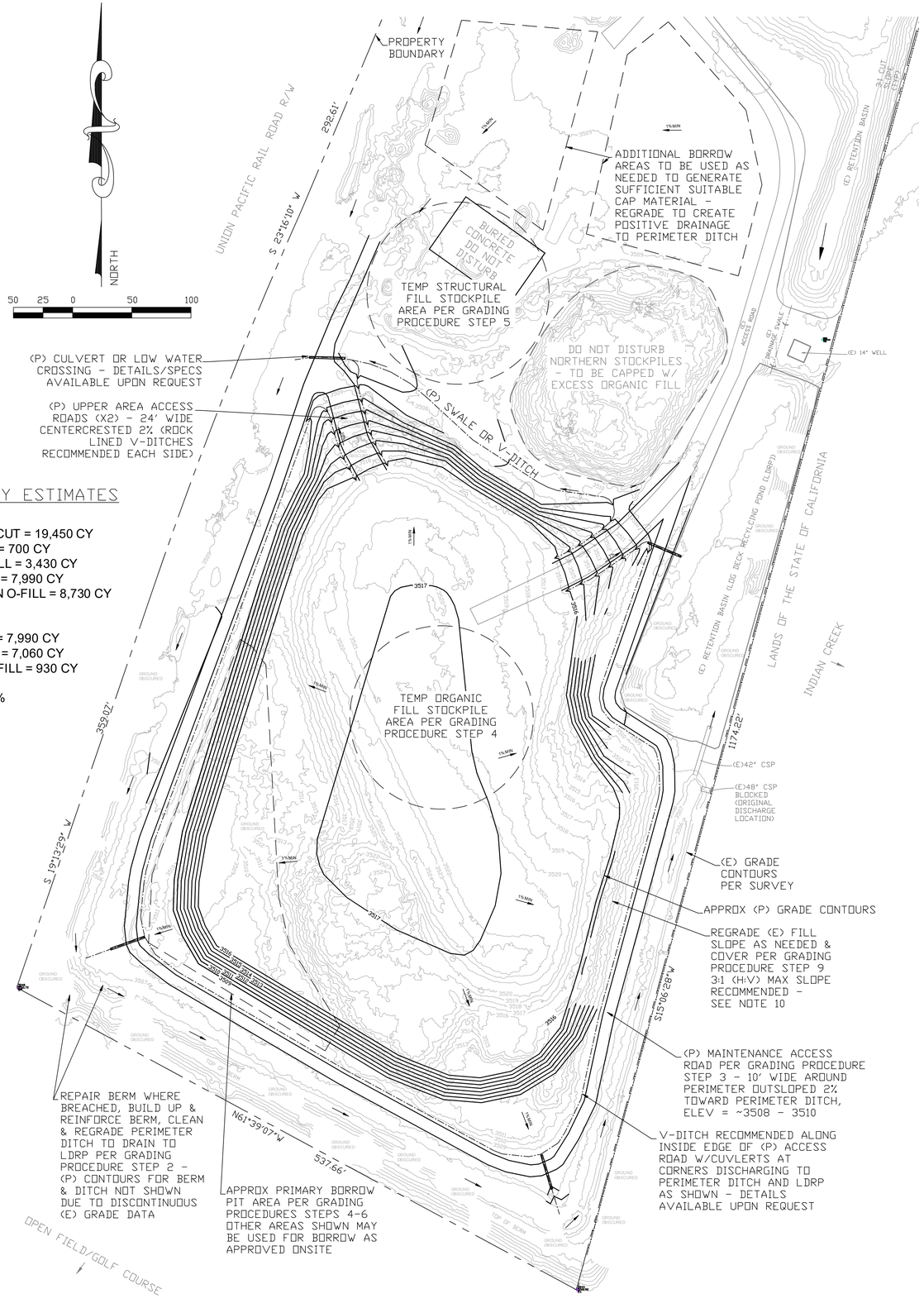
GRADING PROCEDURE SUMMARY

1. Install temporary erosion control BMPs per Note 13.
2. Improve existing perimeter ditch and berm system - clear sediment and vegetation from perimeter ditch, regrade ditch to slope in the counter-clockwise direction as shown, and expand ditch where space availability allows; rebuild/build up/reinforce perimeter containment berm where needed - berm top elevation to be 3509' min throughout (ditch/berm alignment may be modified as needed).
3. Grade access road between perimeter ditch & stockpile.
4. Remove organic fill from primary borrow pit area shown (southwest corner) to allow access to clean structural fill below (expected to exist below ~3509' elev).
5. Excavate clean structural fill (below ~3509' elev) from primary borrow area and other borrow areas shown as needed and stockpile where shown. Borrow pits shall not exceed depth to groundwater (~3503' elev or less if evidence of shallower groundwater is observed).
6. Backfill borrow pit(s) with organic fill stockpile material with performance compaction. Cap with 12" min clean structural fill.
7. Regrade stockpile to approx 3615' elevation expanding stockpile top surface elevation as shown via benching and placement/compaction of organic fill per Note 8.
8. Cap regraded stockpile with 12" min clean structural fill to 3516' +/- min elevation compacted to 95% relative compaction; crown/slope finish grade to slope radially outward at 1% min.
9. Cover all stockpile slopes with clean organic or structural fill.
10. Install permanent erosion control BMPs per Note 14.
11. Surface access roads w/4-6" Caltrans Class 2 aggregate base.

LICENSED PROFESSIONAL ENGINEER — GROUP — RICHARD — HINDS — C 88952 — CIVIL — STATE OF CALIFORNIA

Electronic Copy

Signature Applied Electronically on: 4/14/2023



SOUTHERN STOCKPILES GRADING PLAN

NOTES

GENERAL

1. This Grading Plan for the southern stockpiles area of the Sierra Institute Wood Products Campus utilizes existing grade contour data produced by Dan Bastian (PE/PLS) and applies the grading plan description, details, and procedures outlined by Kyle Leach, PG (Project Geologist for the Sierra Streams Institute) to depict proposed changes to grades in the vicinity of the southern stockpiles area, associated drainage provisions (to ensure positive drainage and maintain or increase stormwater conveyance and retention capacity in the area), and construction procedures, with the aim of the work being to cap the previously studied contaminated southern stockpiles with 1-2 feet of clean fill derived from native subsoil in the area while creating as much usable space above the estimated BFE (as estimated previously by others) in the area as possible, balancing cut and fill, and providing two points of access to the resulting usable area.
2. Vicinity Map retraced from Plumas County GIS database; property boundaries, easements, and (E) features per survey/site map drawings by Dan Bastian and NST Engineering - see original drawing files/maps for additional information on base map data sources, elevation datums, survey controls, etc.; locations of all (E) and (P) features shown should be considered approximate and field-verified as needed.

CONSTRUCTION

3. It is the owner's/contractor's responsibility to ensure no existing utilities will be impacted by the proposed work. Call 811 - Underground Service Alert, 48 hours min prior to start of construction.
4. It is the owner's/contractor's responsiblity to ensure that all required permits are acquired and complied with throughout project construction, including coordination of required inspections; work under this plan is expected to be permitted under an existing grading permit issued by Plumas County.
5. It is the owner's/contractor's responsibility to verify locations, property boundaries, easement boundaries, etc., onsite as needed to ensure all setbacks and other applicable requirements are met.
6. All project work shall be performed by qualified professionals under the supervision of Kyle Leach, PG, and/or Sierra Institute staff applying applicable construction BMPs and shall be performed in accordance CBC Appendix J and all other applicable regulations and standards; Plan shown may be adapted in the field as needed subject to approval of the authorities having jurisdiction.
7. For all grading areas, the ground surface shall be prepared prior to start of grading by removing vegetation and other unsuitable materials. Removed vegetation shall be removed from the site or processed onsite in accordance with applicable regulations and guidelines.
8. For areas to receive fill, the ground surface shall be prepared to receive fill by scarifying the ground to facilitate bonding with the fill material. For sloped areas to receive fill, the ground surface shall be further prepared by benching in accordance with CBC Sec. J107.3 prior to placing fill. All fill shall be screened and analyzed for arsenic prior to use, shall be free of frozen or other deleterious material and rocks exceeding 12" diameter, and shall be placed and compacted in lifts of 12" max depth.
9. Finish grades shall transition smoothly to adjacent undisturbed grades in a fashion that does not cause concentration of sheet flow runoff.
10. Cut and fill slopes shall not exceed 2:1 (H:V); 3:1 max is recommended.

DRAINAGE AND EROSION CONTROL

11. Owner/contractor shall employ all basic construction stormwater BMPs, including minimizing area of disturbance, protecting existing vegetation, good housekeeping, dust control, tracking control/sweeping, etc., as needed.
12. Drainage Design Summary: Resulting usable area shall be crowned with 1% min outward slope to ensure positive drainage/avoid ponding of stormwater in the area; access roads to the resulting usable area shall be center-crested 2% to stormwater conveyance or retention features (ditch system, basins); (P) perimeter maintenance access road shall be outsloped 2%; v-ditch along inside edge of road is recommended w/culverts connecting to perimeter ditch where needed; (E) perimeter ditch system shall be regraded and expanded as site constraints allow and associated berms shall be built up and/or reinforced as needed to minimize risk of breaching. Details and other resources are available upon request. The intent of the drainage design is to prevent concentration of sheet flow runoff and maximize onsite stormwater retention/infiltration so as to minimize offsite runoff and erosion risk.
13. Temporary Erosion Control: sediment control BMPs including silt fence shall be installed in suitable locations surrounding proposed grading areas prior to the start of construction; contractor shall minimize exposure of disturbed soils to precipitation and stormwater runoff to the extent practicable, shall cover soil stockpiles during significant storm events, &shall deploy additional temporary straw wattles and/or silt fence as needed to prevent sediment transport offsite and/or into waterways; details available upon request.
14. Permanent Erosion Control: all disturbed areas shall be hydroseeded or hydromulched and final BMPs including straw wattles shall be installed surrounding regraded stockpiles and on-contour along finish grade slopes; contact Engineer for additional specifications and/or details as needed.
15. In the event that drainage issues or erosion are observed during construction, it shall be the contractor's responsibility to take corrective action as soon as practicable to minimize impacts and discharge of sediment-laden runoff from the site.
16. Upon project completion, it shall be the owner's responsibility to monitor and maintain all drainage features as needed to ensure continued function and prevent impacts.

REVISIONS

DATE	DESCRIPTION

PROPERTY OWNER:
SIERRA INSTITUTE
APNS 111-050-065 THROUGH 067,
111-103-001, 111-170-019,
111-102-007, & 111-084-004

GRADING PLAN
SOUTHERN STOCKPILES AREA
SI WOOD PRODUCTS CAMPUS

HINDS ENGINEERING
PO BOX 1421
GRAEAGLE, CA 96103
PH: (530) 401-0000
ENGINEERING LIC. #C88952

DRAWN:GRH
CHECKED:KL
DATE:04.14.23
SCALE: 1"=50'

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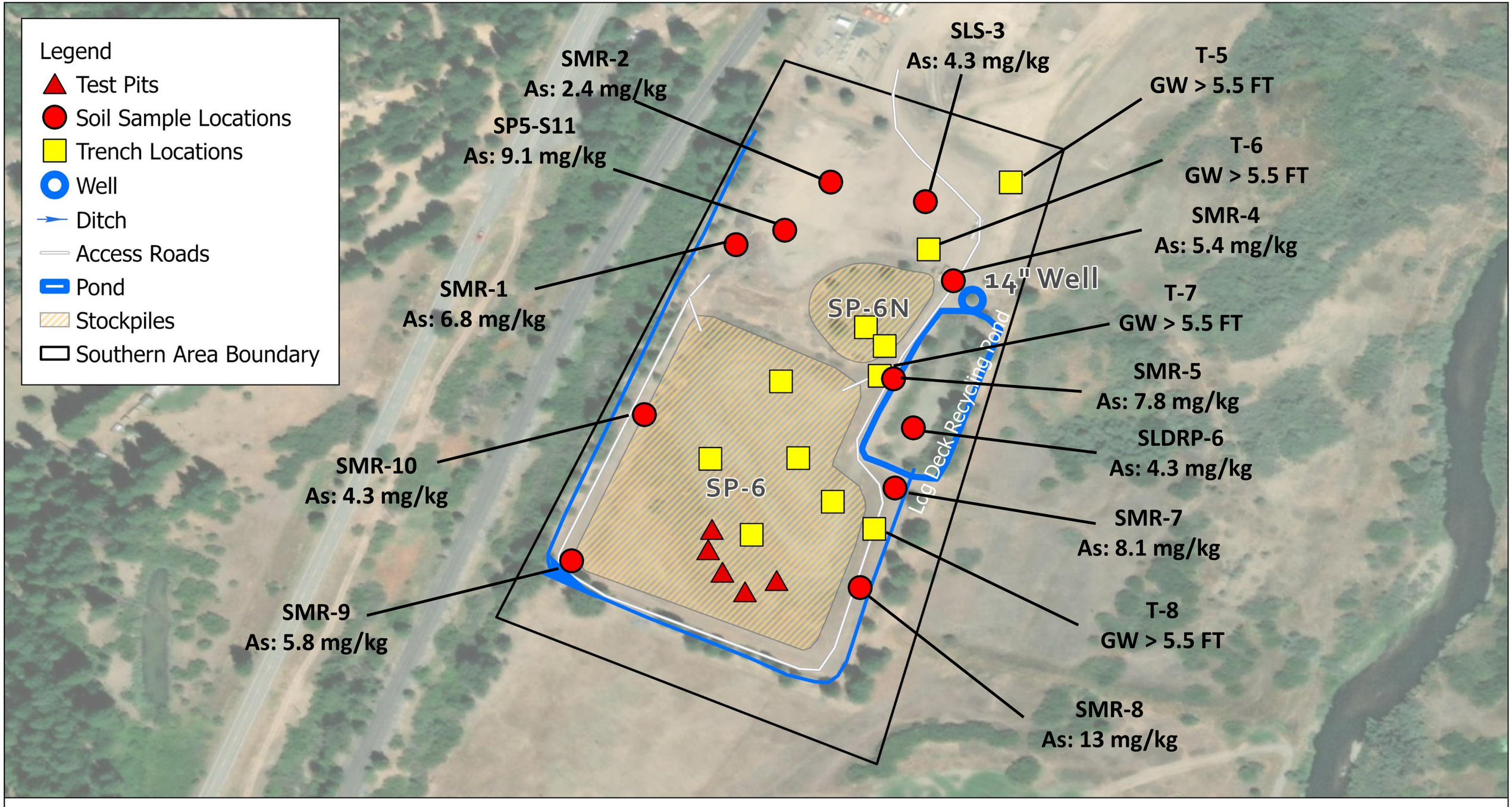
OF 1 SHEETS

APPENDIX B:

Current site features and locations of trenches and sample locations along with relevant analytical results and depths to groundwater.



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Crescent Mills Brownfield Cleanup Southern Stockpiles Area Removal Action Workplan Addendum

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Miles

SIERRA Streams INSTITUTE

APPENDIX C:

Cross Section showing the regraded stockpile and borrow area elevations, anticipated depths to groundwater and other relevant features.

Crescent Mills Brownfield Cleanup Southern Stockpiles Area
Removal Action Workplan Addendum
Cross-section Through Regraded Southern Stockpile SP-6