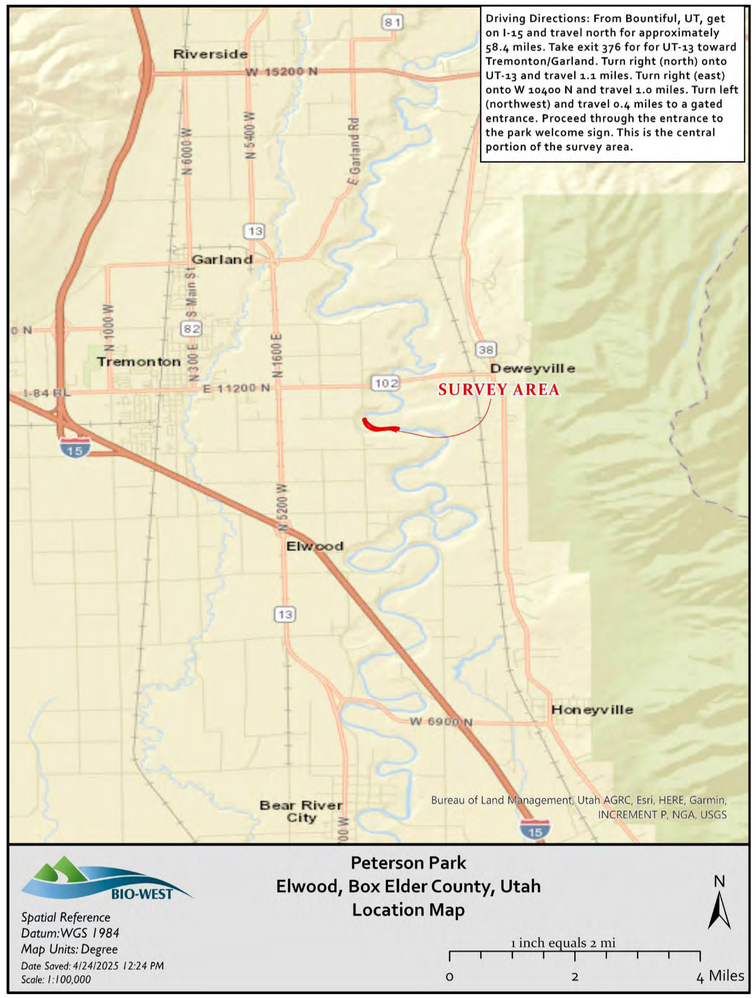
Petersen Park Recreation Area
Bank Stabilization Project

10730 North 4400 West
Tremonton, Utah



SHEET ASSEMBLY ORDER

SHEET IDENTIFIER	BINDING ORDER	SHEET TITLE
G 01	01	COVER SHEET
G 02	02	GENERAL NOTES
G 03	03	GENERAL NOTES
G 04	04	GENERAL NOTES
LS 01	05	LANDSCAPE SITE PLAN
LP 01	06	LANDSCAPE PLANTING PLAN
LI 01	07	LANDSCAPE IRRIGATION PLAN
DT 01	08	LANDSCAPE DETAILS
DT 02	09	LANDSCAPE DETAILS
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DT 07	14	LANDSCAPE DETAILS
DT 08	15	LANDSCAPE DETAILS

Utah State Plane; NAD83 datum, North Zone, US Foot

NOTE: PLANS ARE INTENDED TO BE PRINTED IN COLOR

ALLRED RESTORATION

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

NO.	REVISIONS	BY	DATE

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PH: 435.227.0333
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LANDSCAPE ARCHITECT
LICENSED
Sandy Davenport
No. 6677105
SANDRA DAVENPORT
4-13-2026
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
DRAWN
DESIGNED
APPROVED
QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA
BANK STABILIZATION
10730 North 4400 West
Tremonton, UT 84337

COVER SHEET

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GENERAL INFORMATION NOTES

Project Limits

All construction activity shall be confined to the project limit of disturbance including any staging/stockpile areas. Do not disturb, fill, excavate or work beyond project limits of disturbance without written permission from the Property Owner.

Permits and Regulatory Compliance

Permits

The Contractor is required to comply with all construction related requirements in each permit issued for the project. This includes the Floodplain Development Permit, the State of Utah Stream Alteration Permit, and the Federal 404 RGP-16 Permit that are the responsibility of the Owner to obtain.

The Contractor is responsible for obtaining the Utah Pollution Discharge Elimination System (UPDES) Storm Water General Permit for Construction Activities (UTR300000) Permit and submitting the NOI. A copy of the permit's Storm Water Pollution Prevention Plan must be submitted to the local storm water jurisdiction for review and approval, it must be updated during required inspections, and the updated permit is required to be on site during the construction period.

The Contractor shall comply with all permit conditions associated with work within jurisdictional waters and floodplain areas. Construction activities shall remain within the permitted limits of disturbance and shall not expand beyond the approved construction footprint without written authorization from the Owner's Representative.

The Contractor in coordination with the Owner's Representative shall provide reasonable access for regulatory agency inspection when requested.

Water Rights

The Owner shall be responsible for obtaining and implementing any temporary modifications to existing water rights, including conversion to non-consumptive use as required for construction activities.

The Contractor shall verify that all necessary water rights and approvals are in place prior to performing any work involving diversion, pumping, or use of water associated with the project.

The Contractor shall not proceed with work requiring water use until confirmation is received that appropriate water rights are in place.

The Contractor assumes responsibility for coordinating construction activities in a manner consistent with approved water rights and shall be responsible for any impacts resulting from unauthorized water use.

Wetlands Protection

Fill material shall not be placed in any existing wetlands, either within or outside the project limits, unless specifically authorized by project permits and approved by the Owner.

Survey and Control

Site Mapping

Basis of bearing is Utah State Plane; NAD83 datum, North Zone, US Foot. Verification of survey mapping is the responsibility of the Contractor.

Survey Staking

Survey staking is the responsibility of the Contractor. The Contractor may obtain CAD files from the Preparer for staking and layout purposes. The Contractor is responsible to set the baseline survey control grade and confirm it with the Owner's Representative.

Utilities

Utility locations have not been surveyed. It is the responsibility of the Contractor to perform all utility locations at least 48 hours prior to excavation, call 1(800) 662-4111. It is the responsibility of the Contractor to protect all existing sewer, water, gas and electric utilities encountered in the work. Any relocation or improvements of utilities shall be accurately noted on as-built drawings and issued to the Owner's Representative at the completion of the project.

Temporary Construction Facilities

All temporary utilities and facilities shall be the responsibility of the Contractor. A construction trailer is not required. Potable water is not available on site and shall be provided by the Contractor.

The Contractor is responsible for job site conditions and the safety for human life during the course of construction. This requirement shall apply continuously during the period of construction and is not limited to normal working hours.

Environmental and Stormwater Protection

Storm Water Pollution Prevention Plan Notes

The Contractor is responsible for implementing and utilizing Best Management Practices (BMPs) to prevent storm water runoff and water pollution during construction activities. The Contractor is responsible for supplying equipment and plans that provide both dust and fire control during project construction. Use caution when working in areas along the river to minimize sediment inputs. If potential hazardous materials are encountered, contact the Owner's Representative immediately.

Additional water quality and erosion control measures may be required.

Equipment operating near the river shall minimize disturbance to the channel bed and banks. To the extent practicable, heavy equipment shall operate from the top of bank or designated access routes without the need for heavy machinery in the channel and work in a way to minimize erosion and sediment runoff to the river.

Fueling, equipment maintenance, and storage of petroleum products shall not occur within 100 feet of the river unless approved by the Owner's Representative. Spill containment materials shall be available on site at all times and any spill shall be immediately contained and reported to the Owner's Representative.

Construction activities adjacent to flowing water shall be conducted in a manner that minimizes turbidity and sediment discharge to the river. Work shall occur in a timely manner and during low flow to minimize erosion and sediment inputs.

River Bank Restoration Construction Guidance

This project involves river bank restoration work that requires specialized construction methods intended to restore natural bank stability and vegetation. Contractors shall review project plans and details carefully and conduct work in a manner to successfully stabilize and revegetate the banks and repair all existing lawn sod, parking and road surfaces, and repair the irrigation system.

This work occurs at the river and bank interface and requires special care for safety and to prevent excavation and construction activities from introducing sediment into the water.

The SOX containment system, bank shaping, sloping, and terracing are integral components of the erosion control strategy for this project and shall be implemented as shown in the project plans. Construction activities shall be performed during low flow conditions starting early July 2026 and finishing late summer, and seed/mulch/plant November - December 2026 or as otherwise approved by the Owner's Respresentative. Bear River water elevations can fluctuate during the construction period. Conditions will be assessed with the Owners Representative during the construction period and slight adjustments to bench elevations may be necessary.

The Contractor shall conduct all excavation, grading, and material placement activities in a manner that minimizes disturbance to the river and prevents migration of excavated materials into the active channel.

Construction activities shall minimize disturbance to the existing river channel, bank soils, and surrounding vegetation. Equipment access to the bank shall be limited to designated access routes and work areas.

Heavy equipment shall operate from stable ground whenever practicable.

Direct equipment operation within the active channel shall be avoided.

Disturbed bank soils shall be handled carefully to preserve soil structure and promote successful revegetation. Soil compaction shall be avoided.

Completed restoration work including graded banks, installed SOX containment system, erosion control materials, and vegetation shall be protected from damage caused by equipment traffic or installation of the irrigation system.

The Contractor shall coordinate restoration activities with the Owner's Representative including bank grading, temporary soil root ball storage, erosion control, and vegetation installation to ensure successful revegetation and stabilized bank conditions.

Demolition

Locate and verify all utility line locations prior to demolition and report any conflicts to the Owner's Representative.

Clearing and Grubbing

Under the direction of the Owner's Representative, salvage desirable shrubs and root balls to be moved and transplanted to another location in the project area. Shrubs to be salvaged will be flagged by Owners Representative prior to construction, green flagging for transplanting during construction and pink flagging for grubbing and removal. All existing vegetation not in designated excavation areas and not designated for removal shall be protected in place. Vegetation damaged outside of the limits of disturbance shall be replaced by the Contractor at their own expense.

Salvaged shrubs and root balls shall be temporarily stored in moist shaded locations and protected from drying. Root balls shall remain moist and shall be replanted as soon as practicable following removal.

The Contractor shall avoid unnecessary disturbance to the root zones of vegetation designated to remain. Equipment traffic, stockpiling of materials, and excavation activities shall be limited within these protected areas.

Earthwork and Grading

Site Earthwork and Grading

The Contractor is responsible for all site earthwork and grading activities to meet designs identified in plans and details, which are intended to show final result of design and anticipated water elevations during low flow. With Owner's Representative approval, modification may be made to suit job site conditions encountered during construction.

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4/13/2026
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QA/QC

Owner:
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GENERAL NOTES

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Backfill and embankment material shall be composed of suitable excavated and/or imported soils.

Existing topsoil shall be excavated and salvaged by Contractor for use in final grading and landscaping activities.

Earthwork associated with river bank restoration shall be performed in a manner that preserves soil structure and promotes vegetation establishment. Over-compaction of restored bank soils shall be avoided.

Bank grading shall create a natural appearing surface consistent with design intent. Minor surface irregularities are acceptable and expected to mimic natural bank conditions.

Excavated native soils suitable for restoration work may be reused within the project area as directed by the Owner's Representative.

Construction Spoils and Waste Handling

Items encountered below grade and not shown on the drawings shall be brought to the attention of the Owner's Representative. All construction spoils and waste are the responsibility of the Contractor and shall be disposed of at an approved location.

Excavated materials designated for reuse within the restoration area shall be stockpiled in locations approved by the Owner's Representative and protected from erosion and sediment transport.

Site Construction Notes

All planting and seeding activities, except for the seeding incorporated into the SOX containment system backfilling, shall occur in November-December 2026 or as otherwise approved by the Owner's Representative.

Where ground conditions are damp and equipment traffic would result in excessive ground compaction and rutting, use construction mats to access active work areas.

Use a water truck or other suitable watering device as needed to control dust.

Inspect paved roads adjacent to the project site regularly for mud tracking; sweep roadways as needed and ensure roads are left clean at the end of each shift.

The Contractor shall keep job site area clean, hazard free and dispose of all debris, rubbish and construction waste, and remove all abandoned materials from the site. All disturbed staging and access areas shall be restored to pre-construction conditions. The Contractor is responsible to clean up and reclaim (regrade, sod, or seed, and mulch) construction areas at the completion of the project.

Construction activities shall follow a sequence that generally includes excavation, vegetation clearing and salvage, installation of Post Assisted Log Structure (PALS), earthwork and bank shaping, SOX containment system and soil placement, installation of additional stabilization measures, and planting and vegetation work along a river bank with deep water in the channel.

Construction shall be suspended during periods when saturated soil conditions would result in erosion, excessive rutting, compaction, or damage to restored banks.

Irrigation System

The irrigation system shall be repaired where lines are sticking out of the bank, modified, or reconstructed as required to provide irrigation to the project area following grading and soil placement, and before sod and riparian vegetation installation.

Irrigation system work shall be completed in a timely manner to support existing vegetation and establishment of seeded and planted areas.

The irrigation system shall be integrated with the existing system and shall operate within the limitations of available flow and system capacity.

Installation and repair of irrigation components shall be performed in a manner that avoids damage to completed grading, soil surfaces, SOX containment system, and installed vegetation.

Any damage to restored areas, SOX containment system, erosion control materials, or plantings caused by trenching for irrigation system work shall be repaired by the Contractor to the satisfaction of the Owner's Representative.

Revegetation Plans - Sod, Seeding and Mulching, Cuttings and

A revegetation plan has been developed to include upland grass sod, native riparian seed mix, native riparian sod and waddles, native cuttings, and native plantings. The native riparian sod and waddles, native cuttings, and native plantings shall be from sources within a 200-mile radius of the project location at similar elevations.

Local cuttings (i.e., live cuttings), shrubs, and other plant materials shown on the plans shall be installed in accordance with the project drawings and standard planting methods needed to maximize revegetation success. See below for procurement of local native riparian seed, sod, waddles, cuttings and plantings.

Live cuttings have been harvested and secured at the nursery mentioned below. Cuttings shall be obtained, handled, transported, and installed on-site in a manner that maintains plant viability and success.

Live cuttings shall be installed with the bud orientation facing upward and embedded into moist soil conditions to promote rooting.

Openings in the SOX containment system required for plantings shall be created using a handheld blow torch or similar heat-cutting device. Openings shall be formed by melting or fusing the containment mesh to prevent unraveling and maintain the structural integrity of the SOX containment system.

A majority of the live cutting length shall be installed below finished grade to saturated conditions.

On steep river bank slopes where access from land is impractical, live cuttings and plantings may be installed from a boat. Planting holes may be created using a metal soil probe or hydro-stinger device operated from the bank or vessel.

When planting with the hydro-stinger or any other method to make holes in soil covered with the SOX containment system, a handheld blow torch or similar heat-cutting device shall be used to create openings between 0.5”-12” in width for cutting and planting installation. Openings shall be formed by melting or fusing the containment mesh to prevent unraveling and maintain the structural integrity of the SOX containment system.

Cuttings and plantings shall be embedded to the required depth to ensure contact with moist soils and promote rooting.

Local cuttings have been secured by High Mountain Nursery located in Heber City Utah. Contact number: 435-731-0107

Contractor is responsible for procurement and installation of seed, hydro-mulch, native sod, waddles, cuttings and plantings.

Soil Moisture and Planting Conditions

Vegetation installation shall occur in the fall when soil moisture conditions are suitable to support plant establishment.

Planting soils shall be moist but not saturated.

If soils become excessively dry, water shall be applied to planting areas during installation to support plant viability.

Installed vegetation shall be protected from drying and disturbance during establishment.

SOX Bioengineered Shoreline Stabilization System

This project includes installation of a modular HDPE mesh shoreline stabilization system commonly referred to as ShoreSOX or DredgeSOX (SOX containment system) anchored by 1,600 T-posts for 2,000 feet of installation.

The system consists of a knitted HDPE containment mesh designed to hold earthen materials to remain stable and promote vegetation establishment.

The containment system incorporates built-in structural anchoring channels that tether the system to anchors installed in stable ground behind the shoreline.

The system shall be installed in accordance with manufacturer installation guidance and project drawings, under the direction of the Owner's Representative. A SOX trainer will be onsite during construction of the SOX system to help with installation.

Contractor is responsible for purchase, shipping, storage, and installation of the SOX system with installation directed by the SOX trainer or certified representatives and as noted on project documents. Contractor shall consider the lead time, estimated at 4 to 6 weeks, to procure SOX materials. Contact information for SOX is as follows:

Greg Navalance
SOX Erosion Solutions
Regional Technical Expert - New Markets US
Main: 724-584-7165
Office: 561-501-0057
email: gnavalance@soxerosion.com

Anchoring Requirements

Two rows of anchors shall be installed in stable substrate behind the shoreline.

Anchors shall generally be spaced approximately 3 feet apart.

The bottom row establishes shoreline alignment while the upper row prevents undermining.

Anchor rows shall be staggered.

Tethering and Structural Connections

Portable field sewing equipment shall be used as required to close ends of the SOX containment system and to join adjacent sections of the containment mesh. Sewing shall be performed in a manner that maintains continuity and structural integrity of the SOX containment system. A SOX trainer will be onsite with a sewing machine during construction of the SOX system to help with installation.

The system structural roping channels shall be tethered to installed anchors using braided polypropylene rope.

The lower structural channel shall connect to each bottom anchor and alternating top anchors.

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LICENSED LANDSCAPE ARCHITECT
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SANDRA DAVENPORT
4/13/2026
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
DRAWN
DESIGNED
APPROVED
QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA BANK STABILIZATION
10730 North 4400 West
Tremonton, UT 84337

GENERAL NOTES

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GENERAL INFORMATION NOTES (CONTINUED)

The upper structural channel shall connect to each top anchor.

Side structural channels may connect modular sections or provide lateral stabilization.

With Owner's Representative approval, a handheld blow torch or similar heat-cutting device shall be used to create openings in the SOX containment system where required for plantings, connections, or other penetrations. Openings shall be formed by melting or fusing the containment mesh to prevent unraveling and maintain the structural integrity of the SOX containment system.

Fill Material Requirements

The SOX containment system shall be filled with suitable earthen materials with approximately 70% coarse sand and 30% compost mixture. Contractor to provide material submittal for Owner's Representative approval prior to procurement and placement.

Fill materials shall have particle sizes greater than 150 microns.

Fill shall be placed gradually during installation.

Water shall be introduced during the filling process using a trash pump or similar equipment to hydraulically convey, mobilize, and consolidate fill material within the SOX containment system.

Fill material shall be staged along the uphill edge or designated fill opening of the installed SOX containment system to allow efficient hydraulic placement into the containment system.

The Contractor shall coordinate placement and delivery of fill material such that sufficient material is continuously available to complete filling operations without interruption.

Additional fill material and placement equipment shall be readily available to supplement initial stockpiles if required to achieve the specified grades and fully fill the containment system.

The hydraulic filling process shall be performed in a controlled manner to minimize segregation of materials and ensure uniform distribution of fill within the SOX containment system.

The final step prior to completing the filling of the SOX containment system shall include the addition of riparian seed mixed with the final portion of fill material so that seed is distributed across the upper surface of the fill material in coordination with Owners Representative.

Shaping and Final Surface

The filled system shall be shaped to match the bank slopes shown in the project drawings. The flexible mesh system allows shaping to mimic natural shoreline geometry.

The final surface shall be prepared for vegetation establishment following filling.

All disturbed surfaces shall be revegetated.

Drawing Notes

Gravel Ramp Use

The gravel ramp is intended for pedestrian access to the river only. The ramp is not intended for motorized watercraft access or launching.

PALS

PALS posts shall be 10 to 15 feet in length and shall have a minimum diameter of 6 inches throughout their length. One end of each post shall be sharpened to facilitate installation by driving into the substrate up to 7.5 feet deep.

Installation of PALS posts may require specialized equipment, including but not limited to track-mounted excavators with post driving or auger attachments, or other equipment capable of safely and effectively advancing posts into the substrate.

PALS posts shall be driven to a depth sufficient to achieve stability, generally a minimum of one-half of the total post length embedded below existing grade unless otherwise shown in the project details.

Protection of SOX Containment System

The limits of the installed SOX containment system shall be clearly flagged or otherwise marked in the field prior to irrigation system installation and other post-construction activities.

The Contractor shall coordinate with irrigation system installers and other trades to ensure the SOX containment system is protected from disturbance or damage during subsequent work.

Equipment access, staking, trenching, and other activities associated with irrigation system installation shall be performed in a manner that avoids damage to the SOX containment system.

Any damage to the SOX containment system caused by subsequent construction activities shall be repaired by the Contractor at no additional cost to the Owner.

ABBREVIATIONS

APPROX	APPROXIMATE
AVG	AVERAGE
BM	BENCHMARK
CAL	CALIPER
CL	CENTERLINE
CY	CUBIC YARD
DIA	DIAMETER
EG	EXISTING GRADE
EL	ELEVATION
EXIST	EXISTING
FG	FINISH GRADE
GB	GRADE BREAK
HORIZ	HORIZONTAL
HP	HIGH POINT
IN	INCHES
LF	LINEAR FEET
LP	LOW POINT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
REQ'D	REQUIRED
ROW	RIGHT OF WAY
SF	SQUARE FOOT
SHT	SHEET
STA	STATION
TYP	TYPICAL
VERT	VERTICAL

All construction, materials, and workmanship shall conform to the latest edition of the Utah Chapter APWA Manual of Standard Specifications and Standard Plans, along with all current supplements and local municipal amendments.

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GENERAL NOTES

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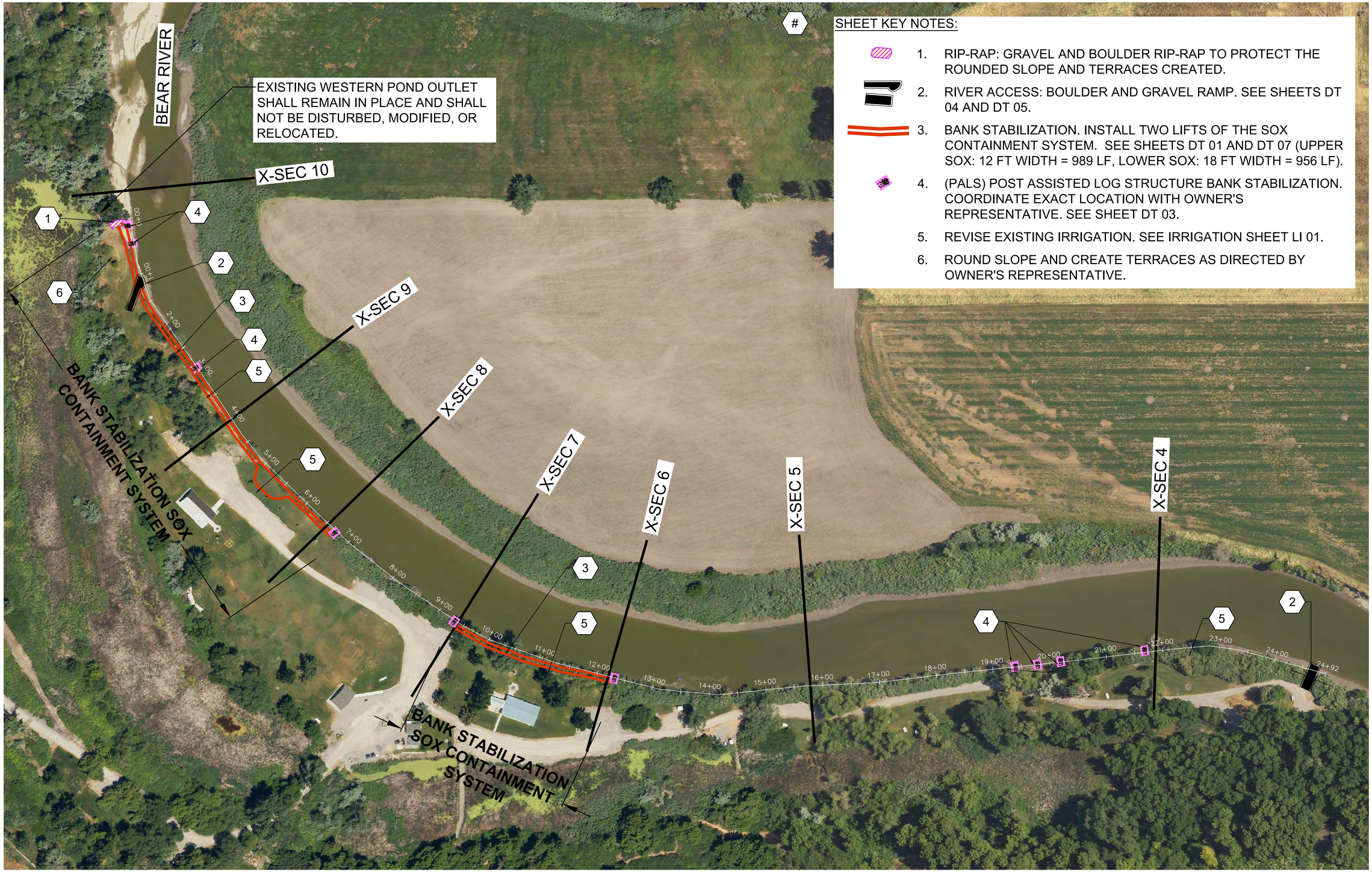

SHEET KEY NOTES:

1. RIP-RAP: GRAVEL AND BOULDER RIP-RAP TO PROTECT THE ROUNDED SLOPE AND TERRACES CREATED.
2. RIVER ACCESS: BOULDER AND GRAVEL RAMP. SEE SHEETS DT 04 AND DT 05.
3. BANK STABILIZATION. INSTALL TWO LIFTS OF THE SOX CONTAINMENT SYSTEM. SEE SHEETS DT 01 AND DT 07 (UPPER SOX: 12 FT WIDTH = 989 LF, LOWER SOX: 18 FT WIDTH = 956 LF).
4. (PALS) POST ASSISTED LOG STRUCTURE BANK STABILIZATION. COORDINATE EXACT LOCATION WITH OWNER'S REPRESENTATIVE. SEE SHEET DT 03.
5. REVISE EXISTING IRRIGATION. SEE IRRIGATION SHEET LI 01.
6. ROUND SLOPE AND CREATE TERRACES AS DIRECTED BY OWNER'S REPRESENTATIVE.

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PETERSEN PARK RECREATION AREA
BANK STABILIZATION
10730 North 4400 West
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SITE PLAN

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LS-01

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ALLRED RESTORATION

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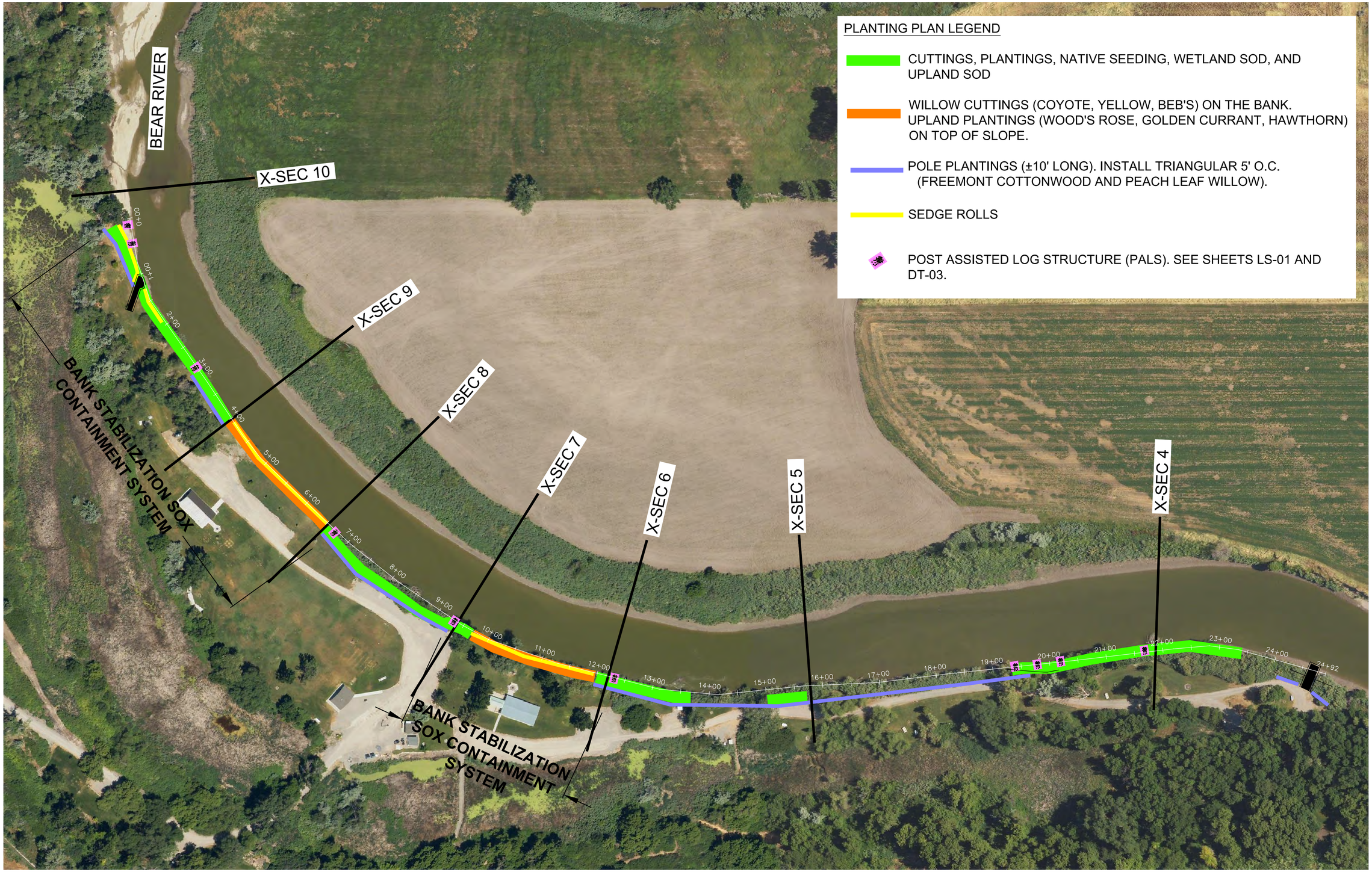

PLANTING PLAN LEGEND

- CUTTINGS, PLANTINGS, NATIVE SEEDING, WETLAND SOD, AND UPLAND SOD
- WILLOW CUTTINGS (COYOTE, YELLOW, BEB'S) ON THE BANK. UPLAND PLANTINGS (WOOD'S ROSE, GOLDEN CURRANT, HAWTHORN) ON TOP OF SLOPE.
- POLE PLANTINGS (±10' LONG). INSTALL TRIANGULAR 5' O.C. (FREEMONT COTTONWOOD AND PEACH LEAF WILLOW).
- SEDGE ROLLS
- POST ASSISTED LOG STRUCTURE (PALS). SEE SHEETS LS-01 AND DT-03.

0 160 320 Feet

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PLANTING PLAN

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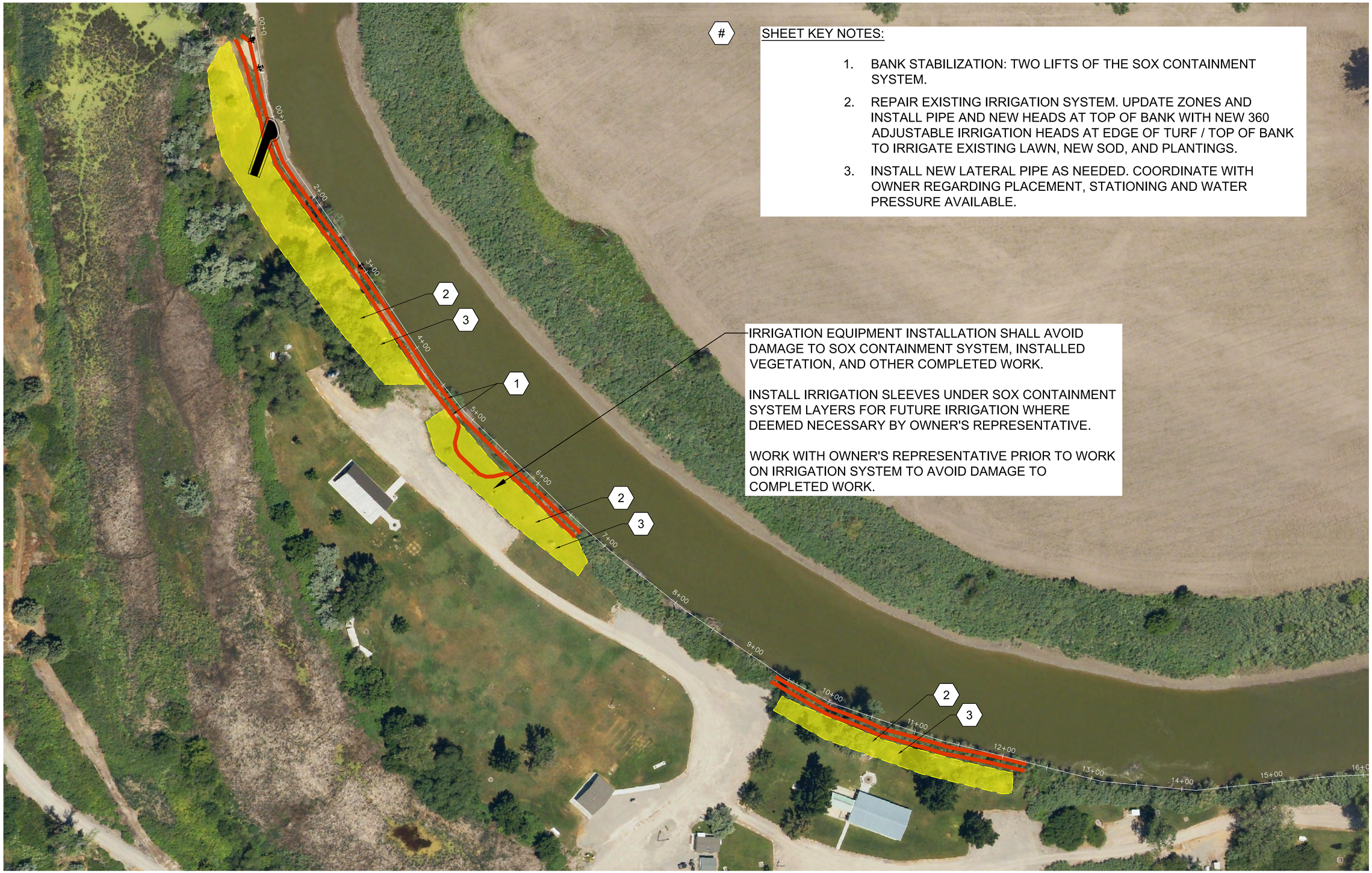

SHEET KEY NOTES:

1. BANK STABILIZATION: TWO LIFTS OF THE SOX CONTAINMENT SYSTEM.
2. REPAIR EXISTING IRRIGATION SYSTEM. UPDATE ZONES AND INSTALL PIPE AND NEW HEADS AT TOP OF BANK WITH NEW 360 ADJUSTABLE IRRIGATION HEADS AT EDGE OF TURF / TOP OF BANK TO IRRIGATE EXISTING LAWN, NEW SOD, AND PLANTINGS.
3. INSTALL NEW LATERAL PIPE AS NEEDED. COORDINATE WITH OWNER REGARDING PLACEMENT, STATIONING AND WATER PRESSURE AVAILABLE.

IRRIGATION EQUIPMENT INSTALLATION SHALL AVOID DAMAGE TO SOX CONTAINMENT SYSTEM, INSTALLED VEGETATION, AND OTHER COMPLETED WORK.

INSTALL IRRIGATION SLEEVES UNDER SOX CONTAINMENT SYSTEM LAYERS FOR FUTURE IRRIGATION WHERE DEEMED NECESSARY BY OWNER'S REPRESENTATIVE.

WORK WITH OWNER'S REPRESENTATIVE PRIOR TO WORK ON IRRIGATION SYSTEM TO AVOID DAMAGE TO COMPLETED WORK.

0 100 200 Feet

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IRRIGATION PLAN

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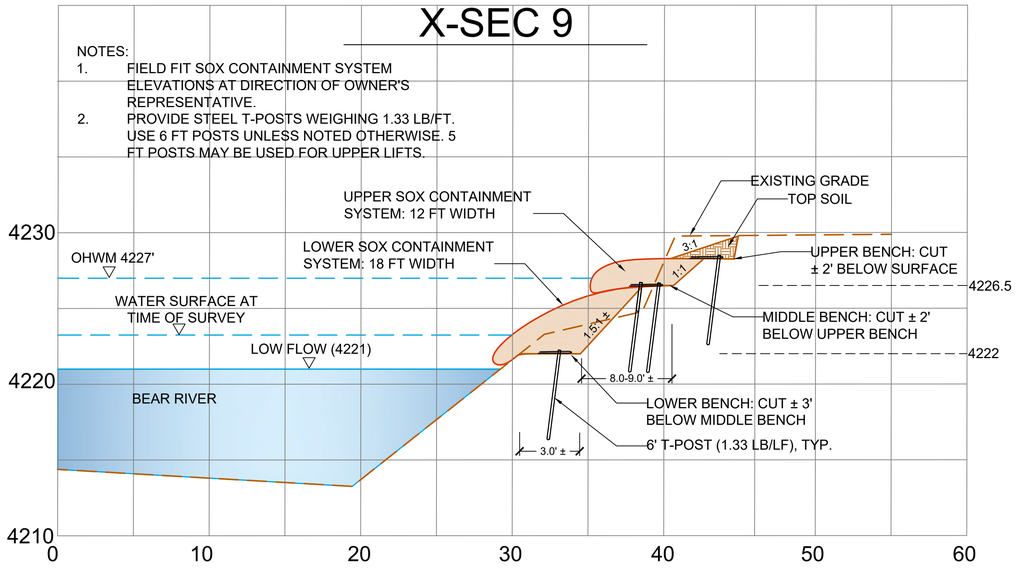
7

X-SEC 9



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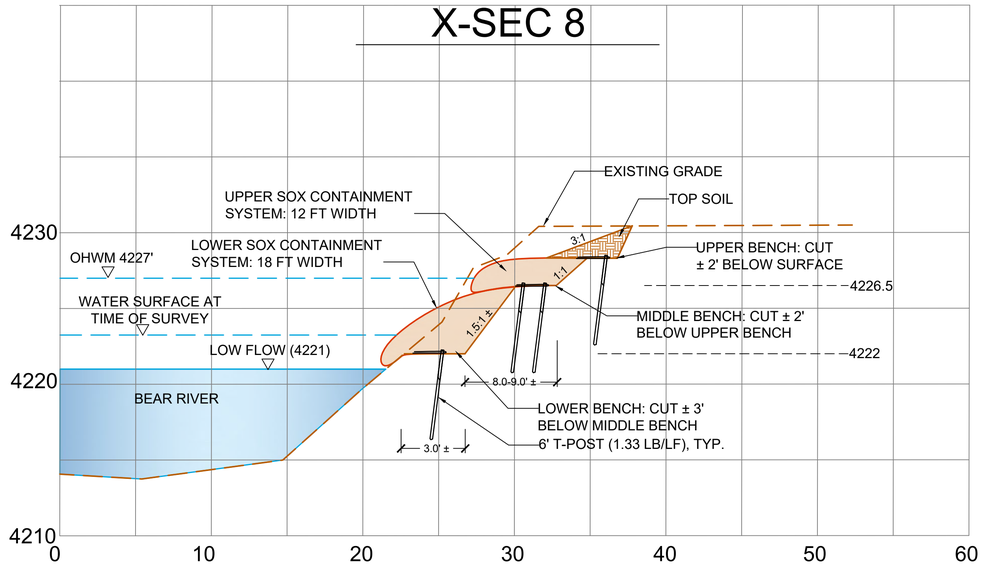

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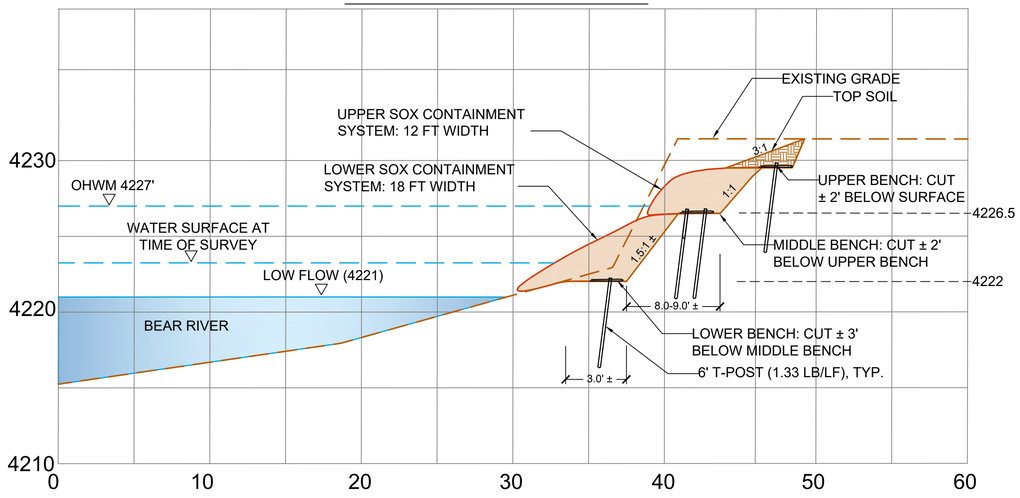

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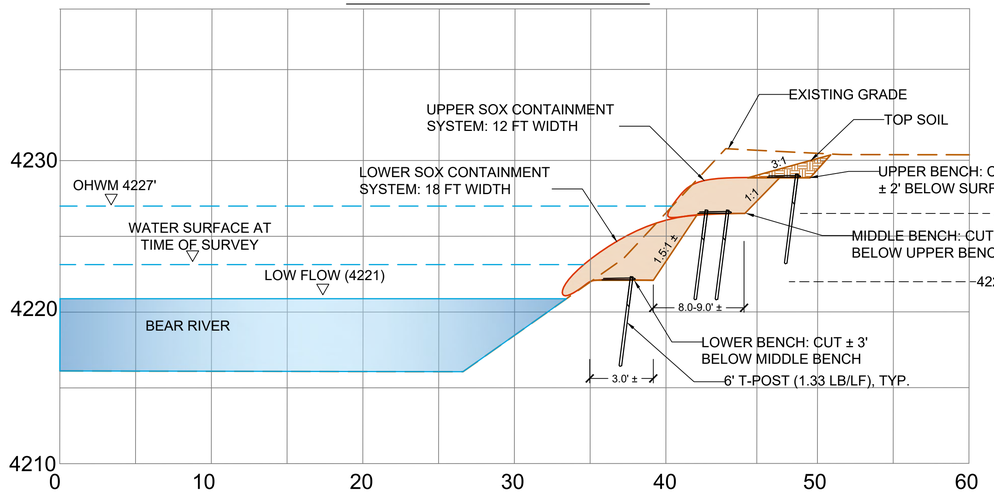

SOX CONTAINMENT SYSTEM

SCALE: 1:5

1

ALLRED RESTORATION

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

NO.	REVISIONS	BY	DATE

FORSGREN Associates Inc.
95 WEST 100 SOUTH, STE. 115, LOGAN, UT 84321
PH: 435.227.0333
FAX: 435.227.0334

LICENSED LANDSCAPE ARCHITECT
No. 6677105
SANDRA DAVENPORT
4-13-2026
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
DRAWN
DESIGNED
APPROVED
QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA
BANK STABILIZATION
10730 North 4400 West
Tremonton, UT 84337

DETAILS

SHEET NO:
DT-01

DATE:
4-13-2026

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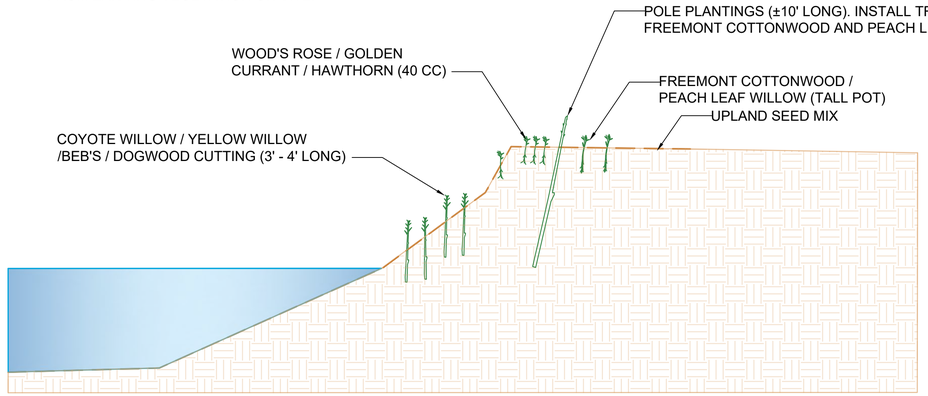
8

NOTE: REVEGETATION WILL INCLUDE TRANSPLANTS FROM EXISTING VEGETATION ON SITE.

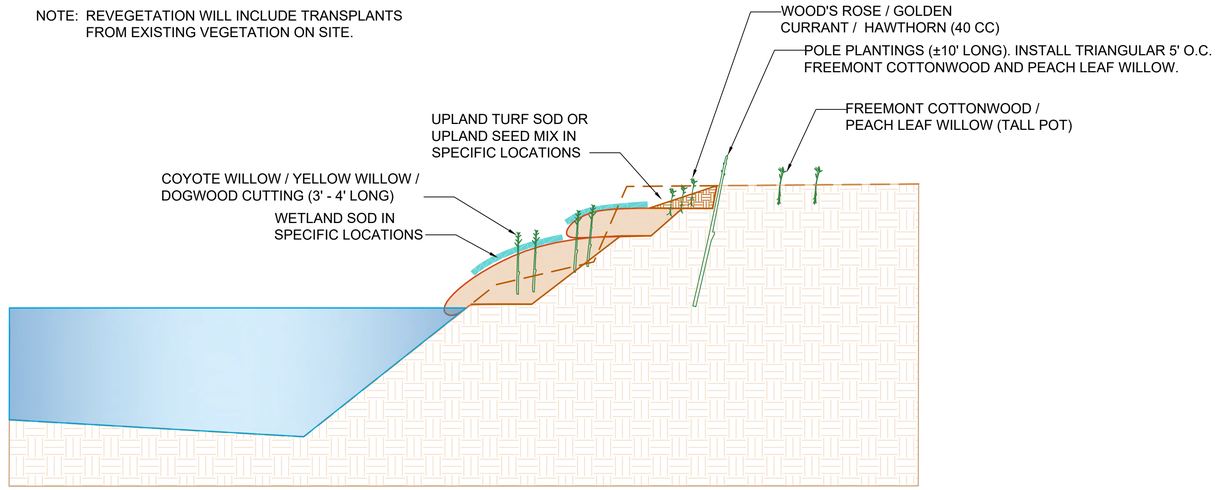


TYPICAL REVEGETATION

SCALE: 1:5

1

NOTE: REVEGETATION WILL INCLUDE TRANSPLANTS FROM EXISTING VEGETATION ON SITE.



TYPICAL REVEGETATION WITH SOX CONTAINMENT SYSTEM

SCALE: 1:5

2

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LICENSED LANDSCAPE ARCHITECT
No. 6677105
SANDRA DAVENPORT
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
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APPROVED
QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

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BANK STABILIZATION
10730 North 4400 West
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DETAILS

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ALLRED RESTORATION

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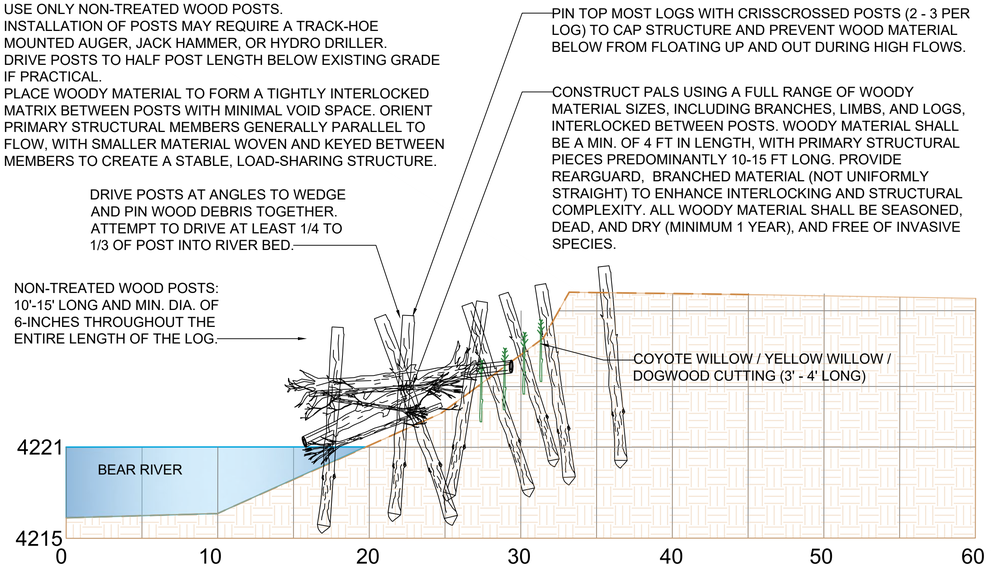
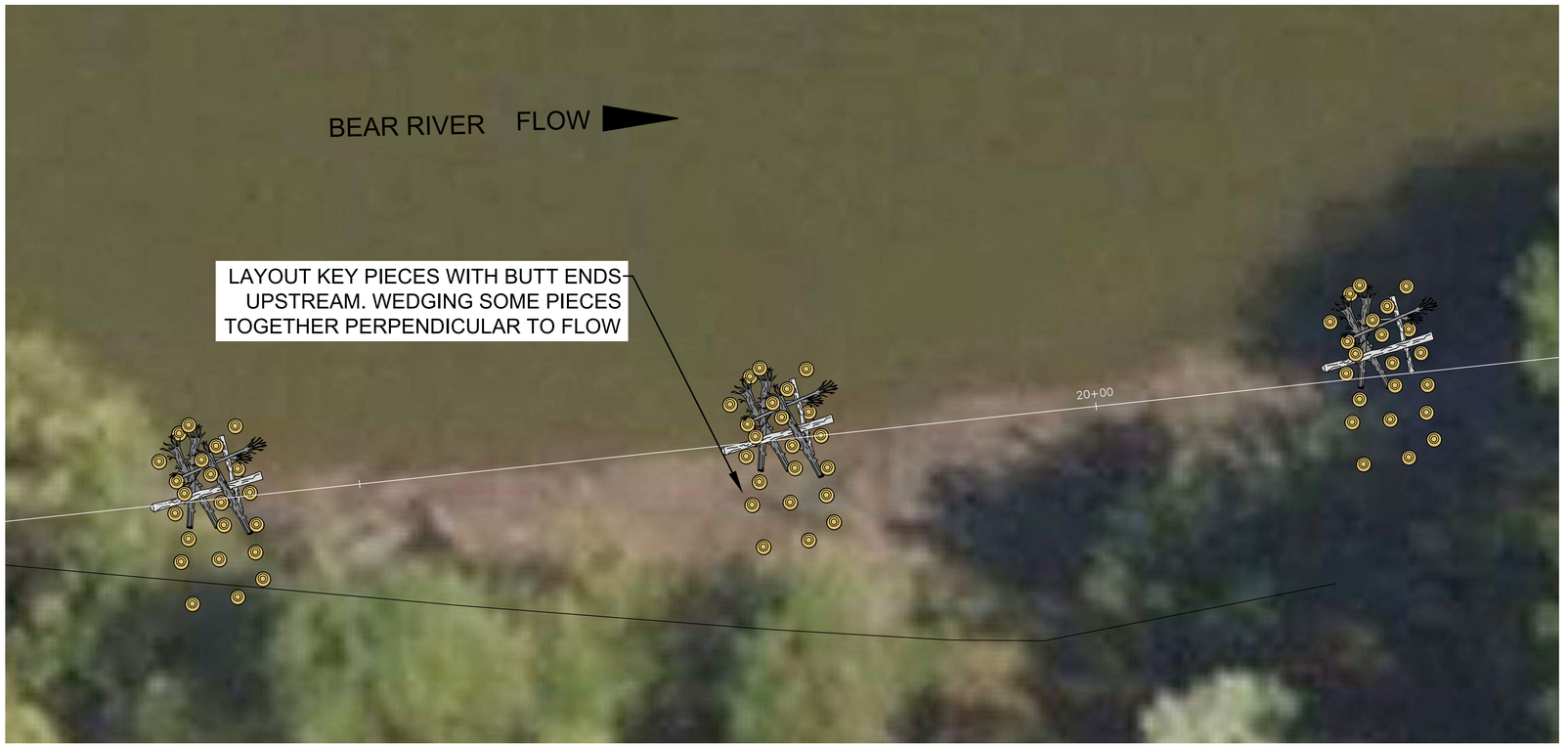
NOTES:

1. USE ONLY NON-TREATED WOOD POSTS.
2. INSTALLATION OF POSTS MAY REQUIRE A TRACK-HOE MOUNTED AUGER, JACK HAMMER, OR HYDRO DRILLER.
3. DRIVE POSTS TO HALF POST LENGTH BELOW EXISTING GRADE IF PRACTICAL.
4. PLACE WOODY MATERIAL TO FORM A TIGHTLY INTERLOCKED MATRIX BETWEEN POSTS WITH MINIMAL VOID SPACE. ORIENT PRIMARY STRUCTURAL MEMBERS GENERALLY PARALLEL TO FLOW, WITH SMALLER MATERIAL WOVEN AND KEYED BETWEEN MEMBERS TO CREATE A STABLE, LOAD-SHARING STRUCTURE.





POST ASSISTED LOG STRUCTURE (PALS) 1

SCALE: 1:5

ALLRED RESTORATION

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LICENSED LANDSCAPE ARCHITECT
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SANDRA DAVENPORT
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10730 North 4400 West
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DETAILS

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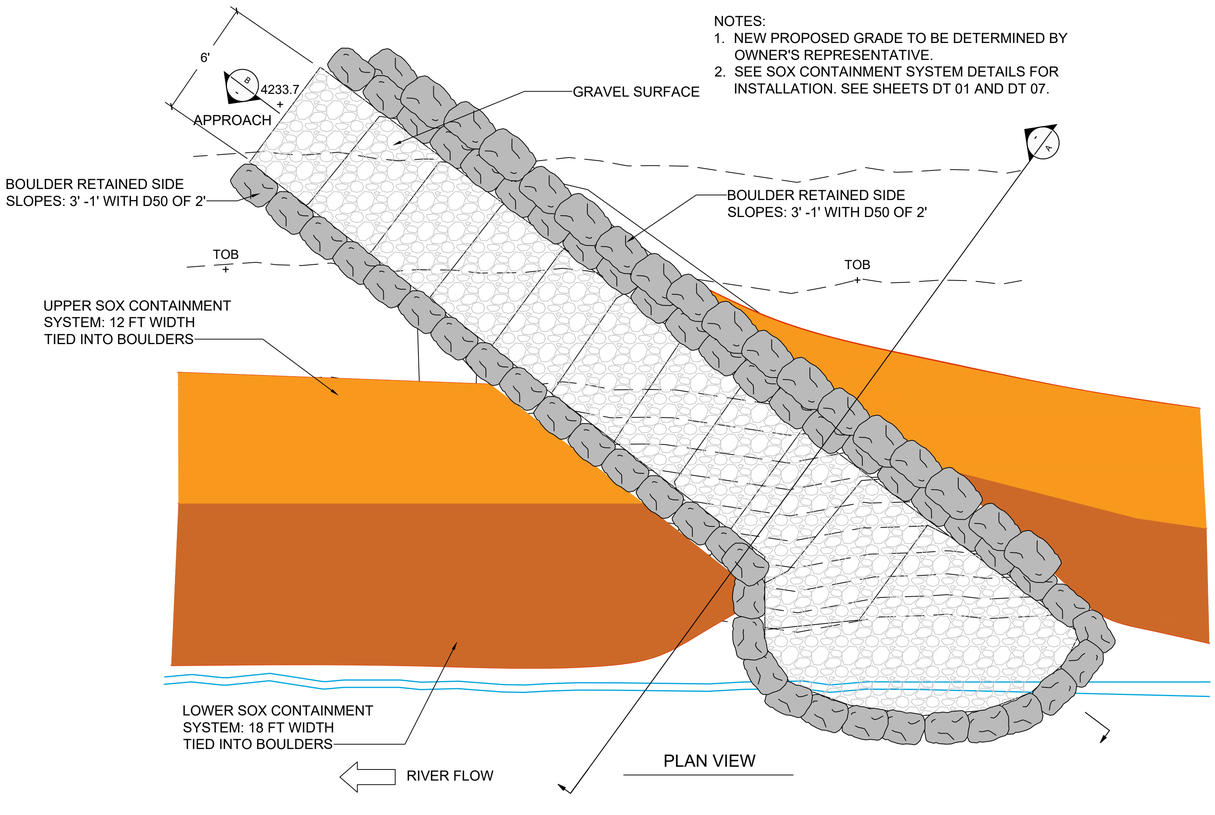

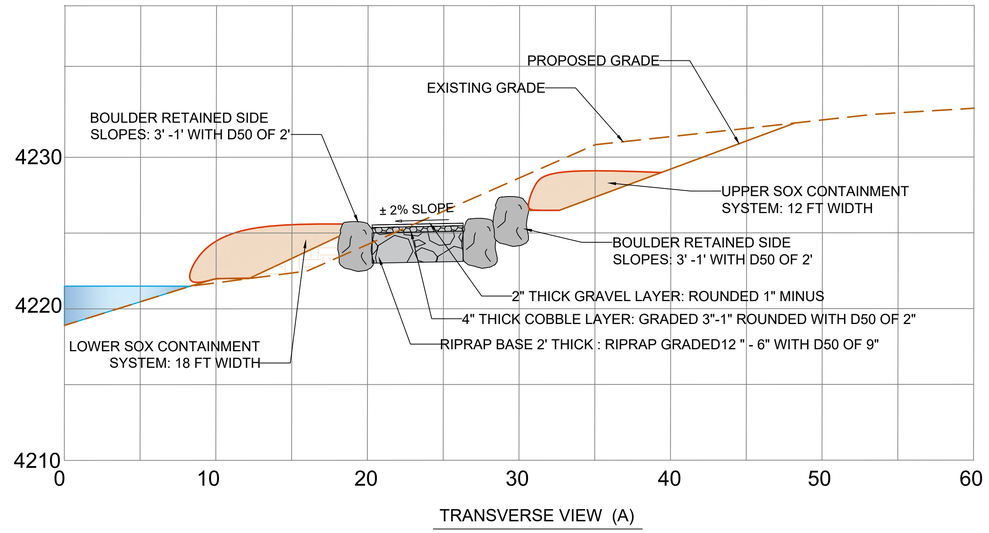

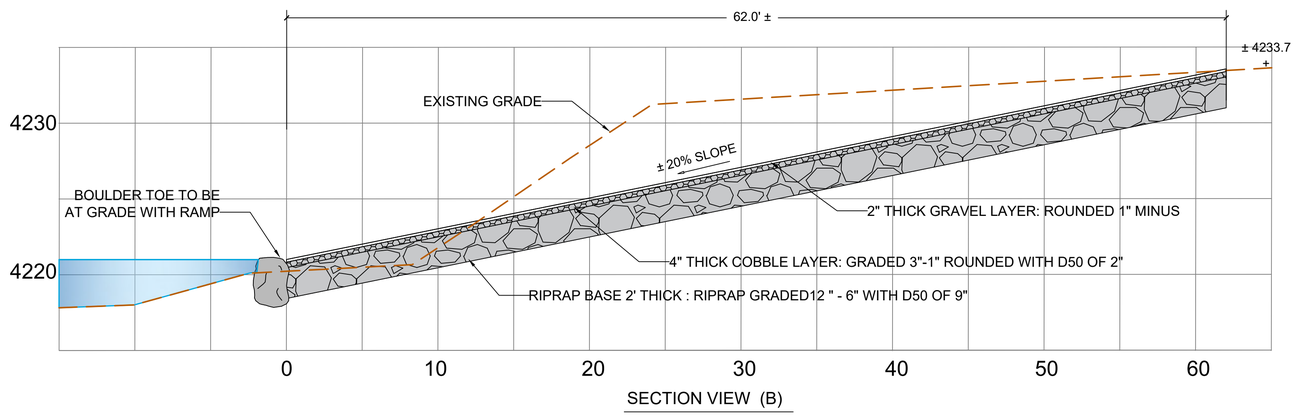

RIVER ACCESS / UPPER GRAVEL RAMP

1

SCALE: N.T.S.

NO.	REVISIONS	BY	DATE

FORSGREN Associates Inc.
95 WEST 100 SOUTH, STE. 115, LOGAN, UT 84321
PH: 435.227.0333 FAX: 435.227.0334

LICENSED LANDSCAPE ARCHITECT
Sandy Davenport
No. 6677105
SANDRA DAVENPORT
4-13-2026
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
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DESIGNED
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QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA
BANK STABILIZATION
10730 North 4400 West
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4-13-2026

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ALLRED RESTORATION

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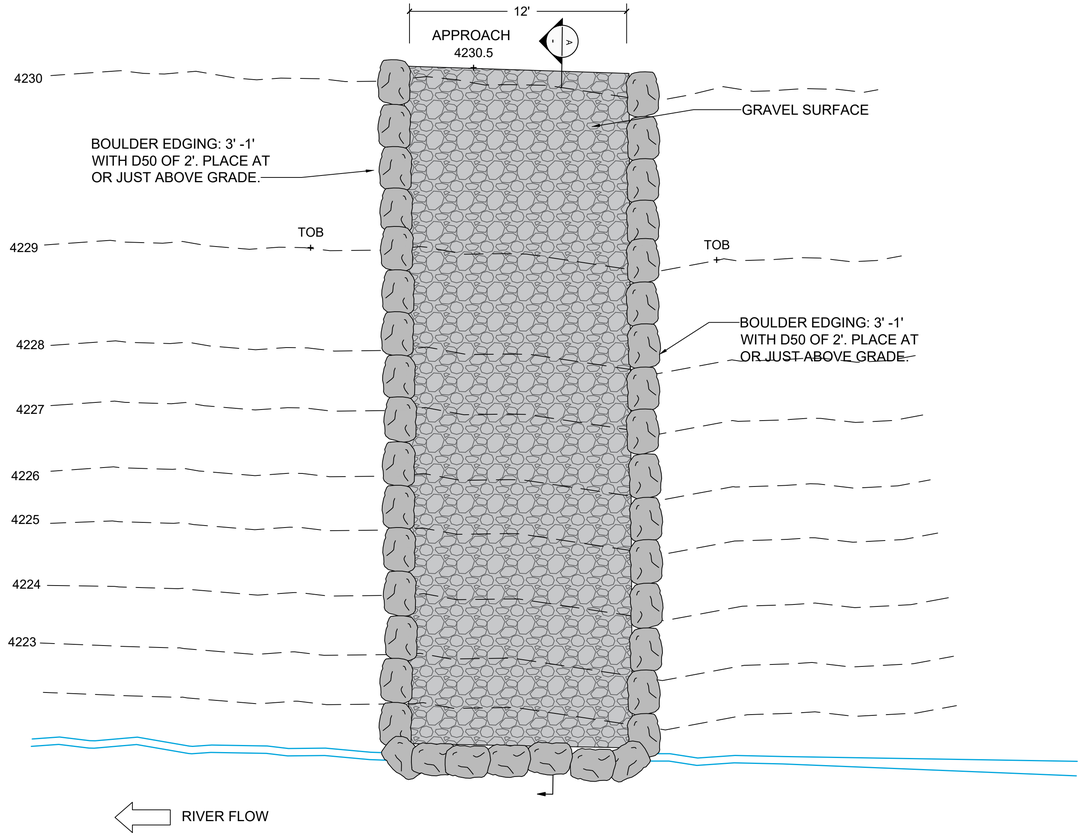
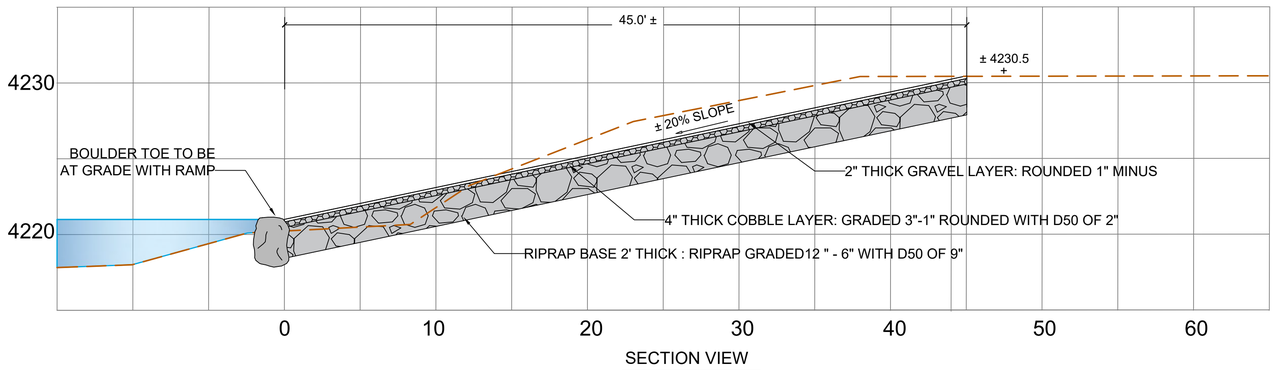


PLAN VIEW



SECTION VIEW

RIVER ACCESS / LOWER GRAVEL RAMP

1

SCALE: N.T.S.

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FORSGREN Associates Inc.
95 WEST 100 SOUTH, STE. 115, LOGAN, UT 84321
PH: 435.227.0333
FAX: 435.227.0334

LANDSCAPE ARCHITECT
LICENSED
Sandy Davenport
No. 6677105
SANDRA DAVENPORT
APPROVED
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
DRAWN
DESIGNED
APPROVED
QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA
BANK STABILIZATION
10730 North 4400 West
Tremonton, UT 84337

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ALLRED RESTORATION

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NATIVE RIPARIAN PLANTINGS, CUTTINGS, SEDGE ROLE, AND SEDGE SOD INSTALATION COST INCLUDED

PLANT NO.	SPECIES NAME			CONTAINER SIZES											
	BOTANICAL NAME	COMMON NAME	GROWTH FORM	40" Tall Pot	2 Gallon	1 Gallon	60 Cl 16" Deep	40 Cl 14" Deep	10 Cl 6" Deep	PL50 4" Deep	Cuttings (3-5')	Cuttings (3-5') from boat	Pole Plantings (6-7')	6"X8' Coir Sedge Roll	3'X6' Coir Sedge Sod
1	*Populus angustifolia*	Fremont cottonwood	Tree	40	20	20	20		200		200	200	400		
2	*Salix amygdaloides*	Peachleaf willow	Tree	30	20	30	20		200		200	200	300		
3	*Betula occidentalis*	Water birch	Tree		100	100	100	100	100						
4	*Cornus sericea*	Redosier dogwood	Shrub	10	20	20	20		400		100	100	100		
5	*Salix exigua*	Coyote willow	Shrub						200		100	100	100		
6	*Salix lutea*	Yellow willow	Shrub/Tree	10	10	20	40	40	400		400	400	200		
7	*Salix bebbiana*	Bebb's willow	Shrub/Tree	10	10	20	40	40	400		400	400	200		
8	*Crataegus douglasii*	Black Hawthorn	Shrub/Tree		100	100		100	200						
9	*Woods Rose*	Woods rose	Shrub			100		100	300						
10	*Ribes aureum*	Golden current	Shrub		100	200	100	100	200						
11	*Asclepias speciosa*	Showy milkweed	Perennial					100	200						
12	*Leymus cinereus*	Great Basin wildrye	Grass					100	300	400					
13	*Pascopyrum smithii*	Western wheatgrass	Grass					100	300	400					
14	*Psuedoregnaria spi*	Bluebunch wheatgras	Grass					100	300	400					
15	*Achnatherum hyme*	Indian ricegrass	Grass					100	300	400					
16	*Juncas arcticus*	Arctic rush	Wetland short					100	400	500				5	20
17	*Eleocharis palustris*	Common spikerush	Wetland short					100	400	500				10	30
18	*Carex praegracilis*	Clustered field sedge	Wetland short					100	400	500				10	30
19	*Carex nebraskecen*	Nebraska sedge	Wetland short					100	400	500				5	20
20	*Carex aquatilis*	Water sedge	Wetland short					100	400	500				5	20
21	*Schoenoplectus pur*	Common threesquar	Wetland tall					100	300	400				10	10
22	*Schoenoplectus act*	Hardstem bulrush	Wetland tall					100	300	400				10	10
Total				100	380	610	340	1680	6600	4900	1400	1400	1300	55	140

NATIVE RIPARIAN SEED MIX

SEED NO.	SPECIES NAME		Broadcast Seed			
	BOTANICAL NAME	COMMON NAME	Number of seeds per pound	Pounds of pure live seed per	Percent of mix	Seeds per square foot
1	*Carex praegracilis*	Clustered field sedge	664,900	0.75	15.35%	11
2	*Leymus cinereus*	Great Basin wildrye	130,000	3.00	12.01%	9
3	*Elymus trachycaulus*	Slender wheatgrass	159,000	2.00	9.79%	7
4	*Pascopyrum smithii*	Western wheatgrass	110,000	3.00	10.16%	8
5	*Carex nebrascensis*	Nebraska sedge	444,000	1.00	13.67%	10
6	*Symphyotrichum asc*	Western aster	2,500,000	0.25	19.24%	14
7	*Geranium viscosissin*	Wild geranium	52,000	6.00	9.61%	7
8	*Vicia americana*	American vetch	33,000	10.00	10.16%	8
	TOTAL			**26.00**	**100.00%**	**75**

NOTE:

ON-SITE CUTTINGS HAVE BEEN HARVESTED BY HIGH MOUNTAIN NURSERY, HEBER CITY, UTAH. CONTACT NUMBER: 435-731-0107

ALLRED RESTORATION

BIO-WEST
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FORSGREN Associates Inc.
95 WEST 100 SOUTH, STE. 115, LOGAN, UT 84321
PH: 435.227.0333
FAX: 435.227.0334

LANDSCAPE ARCHITECT
LICENSE NO. 6677105
SANDRA DAVENPORT
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO. | DRAWN | DESIGNED | APPROVED | QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA BANK STABILIZATION
10730 North 4400 West
Tremonton, UT 84337

DETAILS

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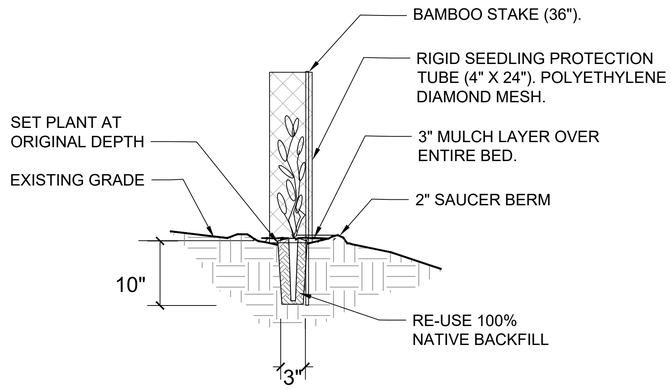


DEEPOT (D-40) AND TALL POT PLANTING DETAIL

SCALE: NTS

1

TREE PLANTING NOTES:

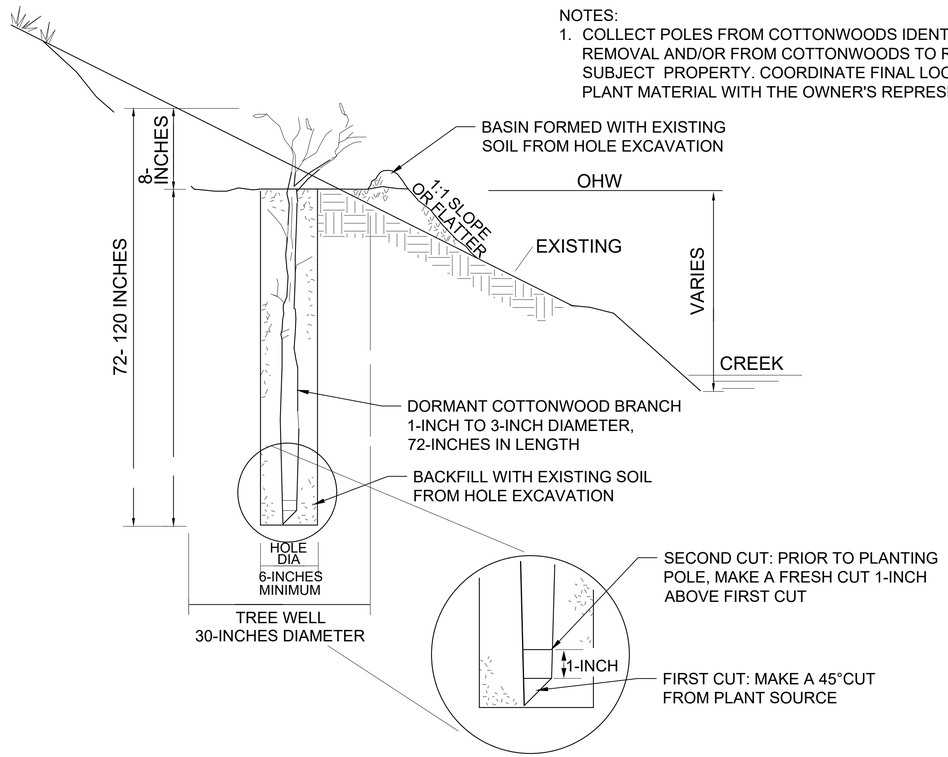
1. WATER TREE SUFFICIENTLY AT PLANTING 5-10 GAL./1" TRUNK DIA.
2. ALL TREES MUST BE INSTALLED AND MAINTAINED AT TRUE VERTICAL.

TREE PLANTING DETAIL

SCALE: NTS

2

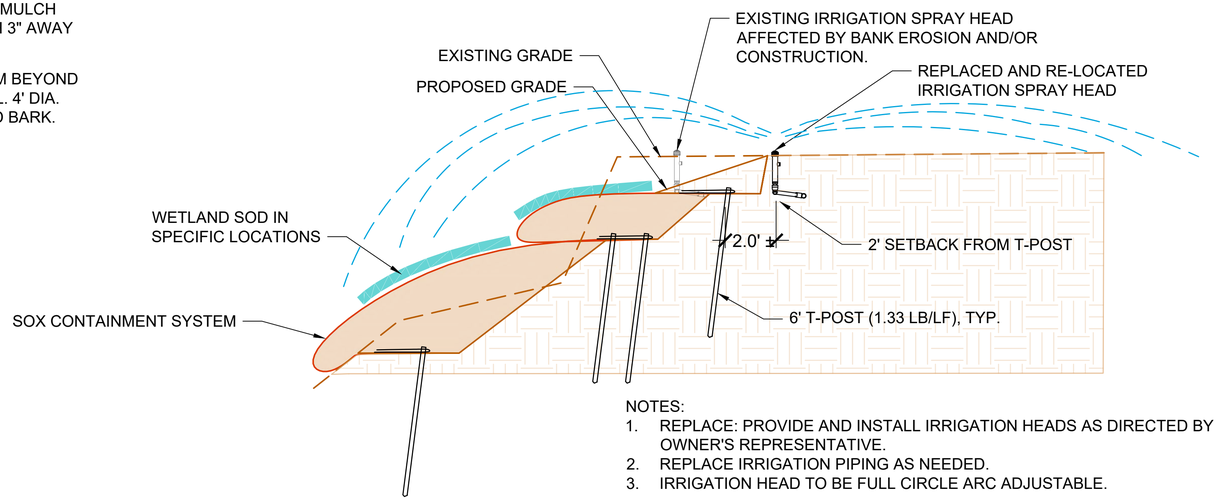
NOTES:
1. COLLECT POLES FROM COTTONWOODS IDENTIFIED FOR REMOVAL AND/OR FROM COTTONWOODS TO REMAIN ON SUBJECT PROPERTY. COORDINATE FINAL LOCATION OF ALL PLANT MATERIAL WITH THE OWNER'S REPRESENTATIVE.



POLE PLANTING DETAIL

SCALE: NTS

3



NOTES:
1. REPLACE: PROVIDE AND INSTALL IRRIGATION HEADS AS DIRECTED BY OWNER'S REPRESENTATIVE.
2. REPLACE IRRIGATION PIPING AS NEEDED.
3. IRRIGATION HEAD TO BE FULL CIRCLE ARC ADJUSTABLE.

IRRIGATION HEAD RE-LOCATION OR REPLACEMENT

SCALE: NTS

4

ALLRED RESTORATION

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NO.	REVISIONS	BY	DATE

FORSGREN Associates Inc.
95 WEST 100 SOUTH, STE. 115, LOGAN, UT 84321
PH: 435.227.0333
FAX: 435.227.0334

LICENSED LANDSCAPE ARCHITECT
No. 6677105
SANDRA DAVENPORT
11-14-2025
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
DRAWN
DESIGNED
APPROVED
QA/QC

Owner:
The Church of Jesus Christ of Latter-day Saints

PETERSEN PARK RECREATION AREA
BANK STABILIZATION
10730 North 4400 West
Tremonton, UT 84337

DETAILS

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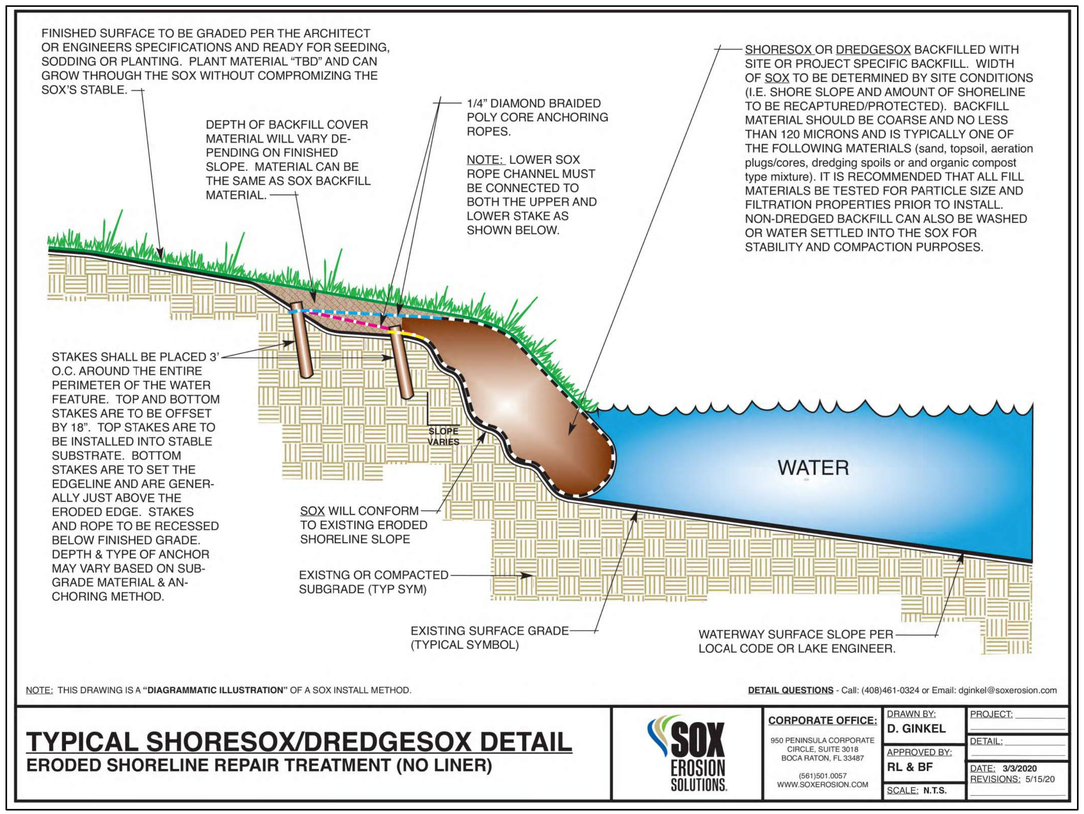
MANUFACTURE DRAWINGS:

THESE DRAWINGS ARE PROVIDED FOR REFERENCE AND INSTALLATION DETAILS ONLY.

THEY ARE NOT SPECIFIC TO THIS PROJECT SITE.



NOTE: THIS DRAWING IS A **"DIAGRAMMATIC ILLUSTRATION"** OF A SOX INSTALL METHOD.

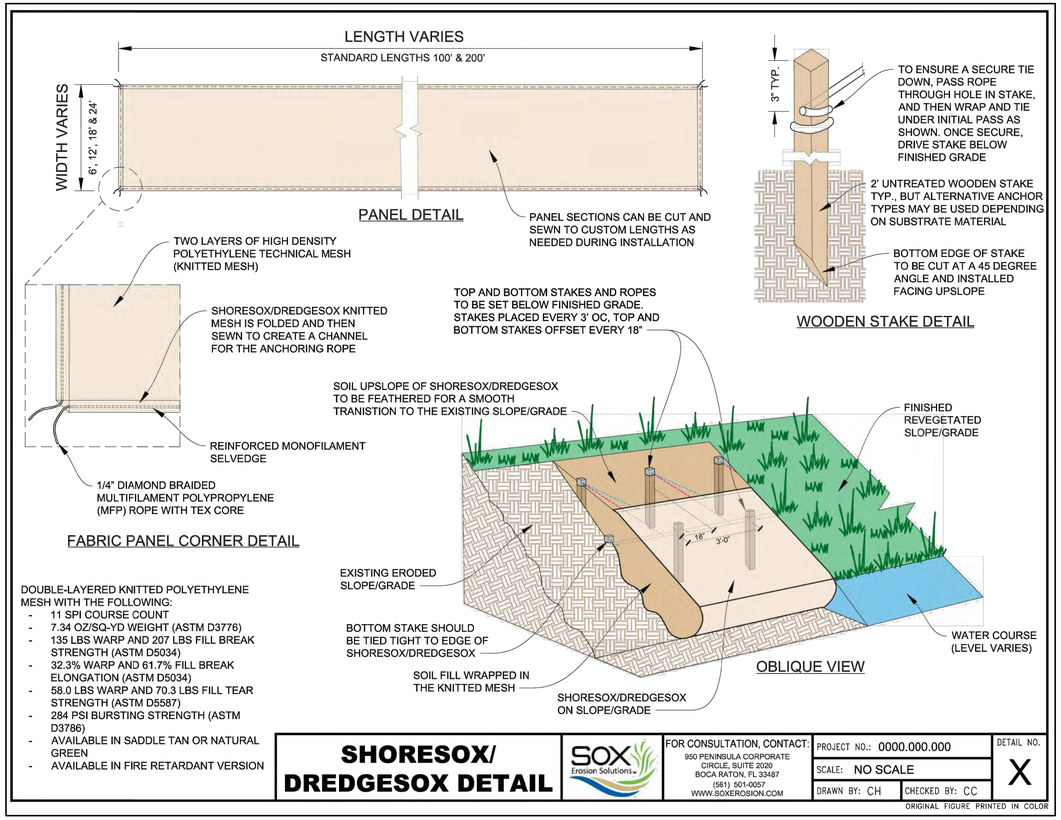
DETAIL QUESTIONS - Call: (408)461-0324 or Email: dginkel@soxerosion.com

TYPICAL SHORESOX/DREDGESOX DETAIL
ERODED SHORELINE REPAIR TREATMENT (NO LINER)

SOX EROSION SOLUTIONS.

CORPORATE OFFICE:
950 PENINSULA CORPORATE CIRCLE, SUITE 2018
BOCA RATON, FL 33487
(561)501.0057
WWW.SOXEROSION.COM

DRAWN BY: **D. GINKEL**
APPROVED BY: **RL & BF**
SCALE: **N.T.S.**
PROJECT:
DETAIL:
DATE: **3/3/2020**
REVISIONS: 5/15/20



DOUBLE-LAYERED KNITTED POLYETHYLENE MESH WITH THE FOLLOWING:
- 11 SPI COURSE COUNT
- 7.34 OZ/SQ-YD WEIGHT (ASTM D3776)
- 135 LBS WARP AND 207 LBS FILL BREAK STRENGTH (ASTM D5034)
- 32.3% WARP AND 61.7% FILL BREAK ELONGATION (ASTM D5034)
- 58.0 LBS WARP AND 70.3 LBS FILL TEAR STRENGTH (ASTM D5587)
- 284 PSI BURSTING STRENGTH (ASTM D3786)
- AVAILABLE IN SADDLE TAN OR NATURAL GREEN
- AVAILABLE IN FIRE RETARDANT VERSION

SHORESOX/ DREDGESOX DETAIL

SOX Erosion Solutions

FOR CONSULTATION, CONTACT:
950 PENINSULA CORPORATE CIRCLE, SUITE 2020
BOCA RATON, FL 33487
(561) 501-0057
WWW.SOXEROSION.COM

PROJECT NO.: 0000.000.000
SCALE: NO SCALE
DRAWN BY: CH
CHECKED BY: CC
DETAIL NO.: X

ORIGINAL FIGURE PRINTED IN COLOR

TYPICAL MANUFACTER'S SHORESOX INSTALLATION DETIALS 1

NOTE: PROJECT INSTALLATION DIFFERS

ALLRED RESTORATION

BIO-WEST
1063 West 1400 North • Logan, Utah 84321 • 435-752-4202

NO.	REVISIONS	BY	DATE

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95 WEST 100 SOUTH, STE. 115, LOGAN, UT 84321
PH: 435.227.0333 FAX: 435.227.0334

LICENSED LANDSCAPE ARCHITECT
Sandy Davenport
No. 6677105
SANDRA DAVENPORT
4/6/2026
ELECTRONIC SEAL
STATE OF UTAH

PROJECT NO.
DRAWN
DESIGNED
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Owner:
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