

# Attachment B

Figures





PATH: U:\PSO\Projects\Clients\7132- Groys Harbor Conservation District\217-7132-001 Satsop RB Protection\995vca\CADD\DWG  
 PLOTTED BY: alencia DATE: Friday, July 30, 2021 2:00:55 PM  
 LAYOUT: G2

**LEGEND**

DESCRIPTION	PROPOSED	EXISTING
MAJOR CONTOURS		
MINOR CONTOURS		
2022 PROJECTED BANKLINE		
2023 PROJECTED BANKLINE		
SHADOW LINE		
AREA OF POTENTIAL EFFECT		
RIPARIAN VEGETATION LIMIT		
SHORELINE BUFFER		
PARCEL BOUNDARY		
TEMP ACCESS ROAD		

**LEGEND**

DESCRIPTION	PROPOSED	EXISTING
CONTINUOUS LOG ROW		
LOG JACK		
LOG JACK SPUR		
STAGING/ STOCKPILING AREA		
LOG JACK SPUR EXCAVATED AREA		

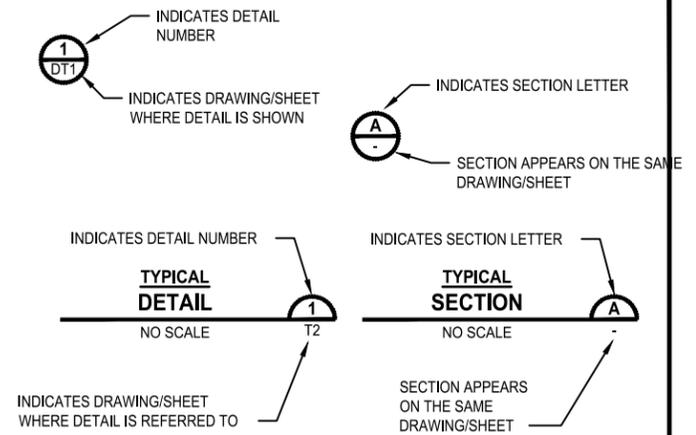
**DATUM**

VERTICAL DATUM NAVD88

**ABBREVIATIONS**

AC	ACRE
APE	AREA OF POTENTIAL EFFECT
APPROX	APPROXIMATE
CL	CENTERLINE
CLR	CLEAR, CLEARANCE
CONST	CONSTRUCT, CONSTRUCTION
CY	CUBIC YARD
DT	DETAIL
DWG	DRAWING
EA	EACH
ENGR	ENGINEER
EXIST	EXISTING
FIG	FIGURE
FT	FEET, FOOT
IN	INCH
LWM	LARGE WOODY MATERIAL
NTS	NOT TO SCALE
OHWM	ORDINARY HIGH WATER MARK
REQD	REQUIRED
SF	SQUARE FEET
SPEC	SPECIFICATION
STA	STATION
T	TON
TEMP	TEMPORARY
TESC	TEMPORARY EROSION SEDIMENT CONTROL
TOB	TOP OF BANK
TYP	TYPICAL
U	UPSIDE DOWN
WSEL	WATER SURFACE ELEVATION
WT	WEIGHT

**DETAIL AND SECTION DESIGNATION**



**PERMIT REVIEW SET  
NOT FOR CONSTRUCTION**

REVISIONS	DATE	BY	DESIGNED
			CFO
			DRAWN
			CFO
			CHECKED
			RSR
			APPROVED
			####

ONE INCH AT FULL SCALE, IF NOT, SCALE ACCORDINGLY
FILE NAME PS7132001G-01
JOB No. 217-7132-001
DATE 08/21

PRELIMINARY



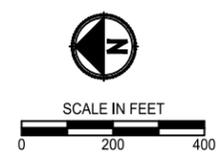
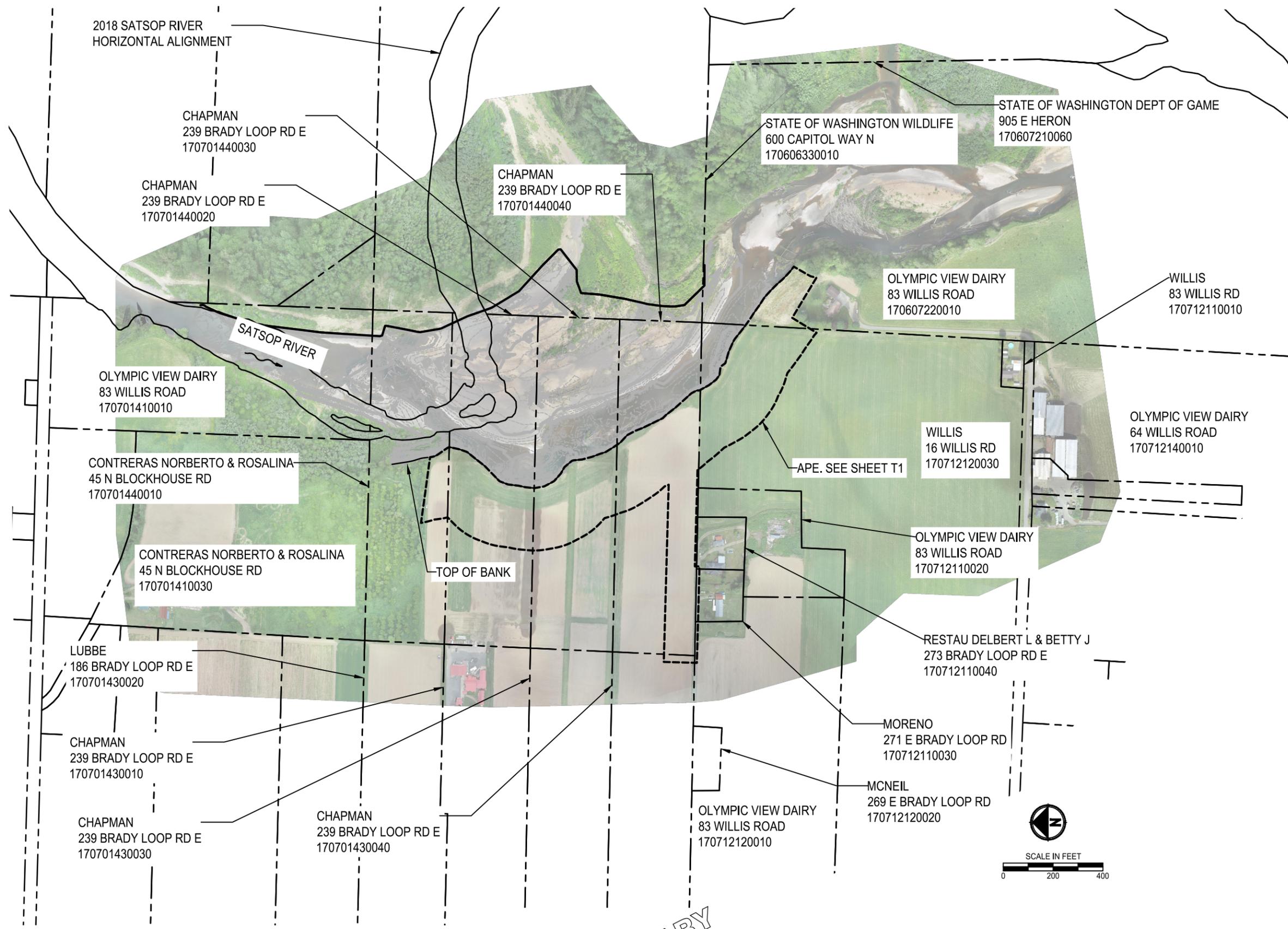
PROJECT NAME  LOWER SATSOP RIGHT BANK CONSERVATION PROJECT MONTESANO, WA
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<b>GENERAL NOTES, LEGEND, AND ABBREVIATIONS</b>
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DRAWING NO. 2 OF 14
<b>G2</b>

U:\VPSO\Projects\7132-001 Satop RB Protection\995ca\CADD\DWG PLOTTED BY: aleandria DATE: Friday, July 30, 2021 2:54:08 PM  
 LAYOUT: C1

- NOTES**
1. SURVEY AND AERIAL IMAGERY COMPLETED JUNE 4, 2021.
  2. PARCEL DATA INCLUDES: OWNER, ADDRESS, AND PARCEL NUMBER.



PRELIMINARY

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NOT FOR CONSTRUCTION**

REVISIONS	DATE	BY	DESIGNED	DRAWN	CHECKED	APPROVED
			RSR	CFO	###	###

ONE INCH AT FULL SCALE,  
 IF NOT, SCALE ACCORDINGLY  
 FILE NAME  
 PS7132001C-01  
 JOB No.  
 217-7132-001  
 DATE  
 08/21

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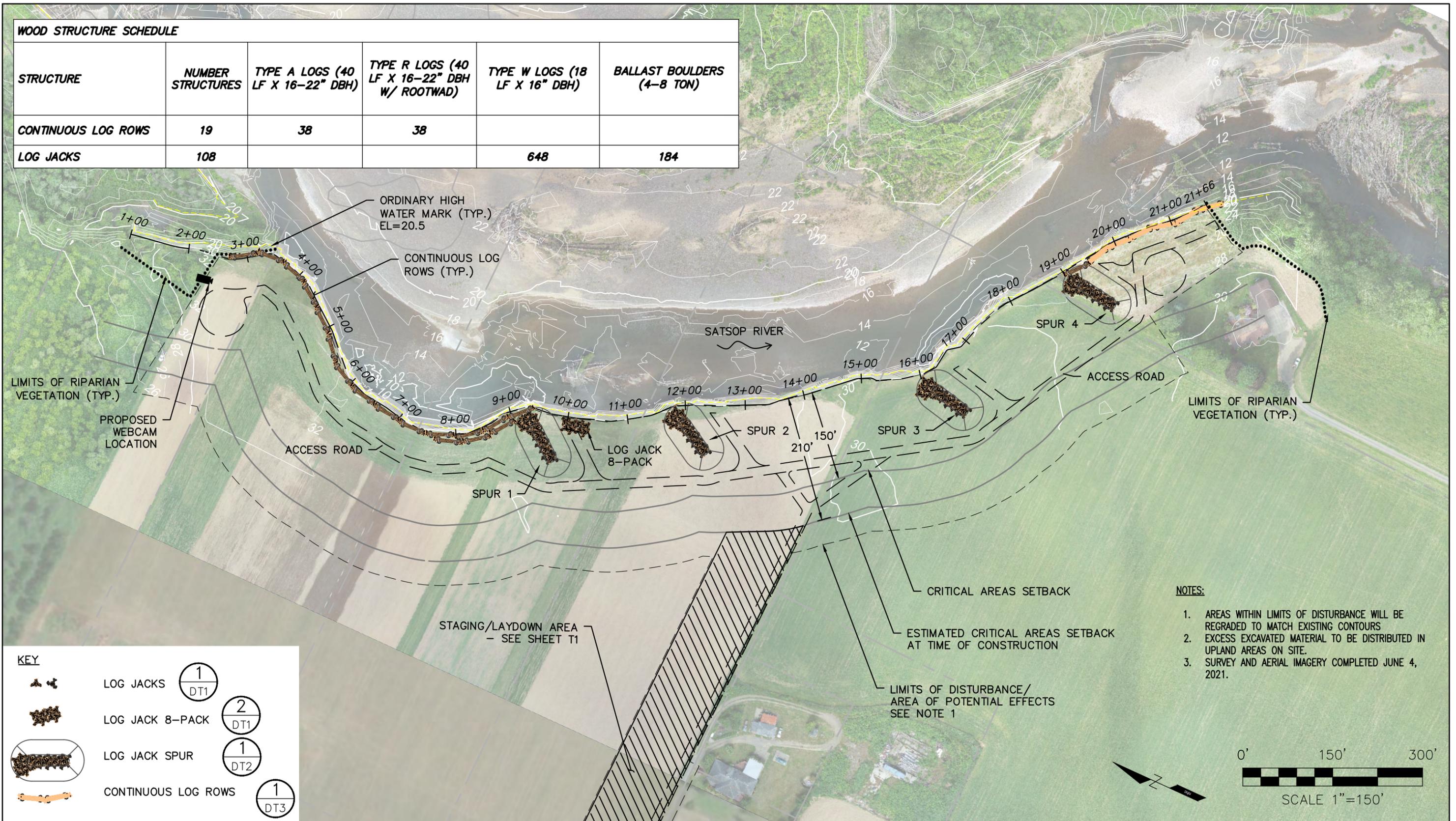
PROJECT NAME  
**LOWER SATSOP RIGHT BANK  
 CONSERVATION PROJECT**  
 MONTESANO, WA

EXISTING SITE PLAN

DRAWING NO.  
 3 OF 14  
**C1**

**WOOD STRUCTURE SCHEDULE**

STRUCTURE	NUMBER STRUCTURES	TYPE A LOGS (40 LF X 16-22" DBH)	TYPE R LOGS (40 LF X 16-22" DBH W/ ROOTWAD)	TYPE W LOGS (18 LF X 16" DBH)	BALLAST BOULDERS (4-8 TON)
CONTINUOUS LOG ROWS	19	38	38		
LOG JACKS	108			648	184



**KEY**

- LOG JACKS (1 DT1)
- LOG JACK 8-PACK (2 DT1)
- LOG JACK SPUR (1 DT2)
- CONTINUOUS LOG ROWS (1 DT3)

- NOTES:**
- AREAS WITHIN LIMITS OF DISTURBANCE WILL BE REGRADED TO MATCH EXISTING CONTOURS
  - EXCESS EXCAVATED MATERIAL TO BE DISTRIBUTED IN UPLAND AREAS ON SITE.
  - SURVEY AND AERIAL IMAGERY COMPLETED JUNE 4, 2021.



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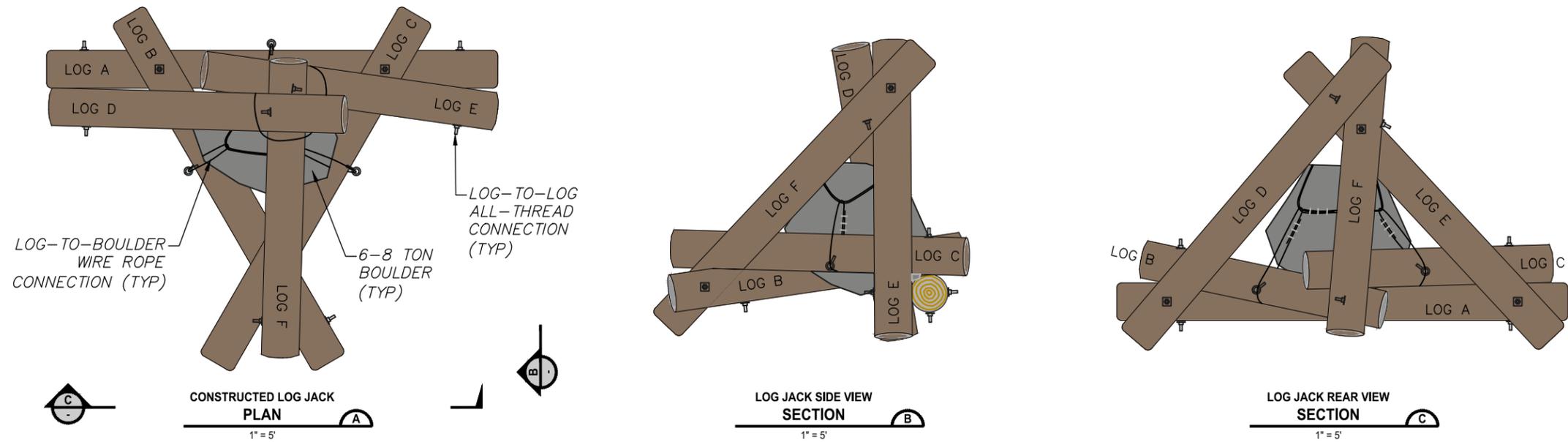
**nhc**  
northwest hydraulic consultants  
12787 gateway drive south  
tukwila, washington 98168-3308  
phone: (206) 241-6000  
fax: (206) 439-2420

PRELIMINARY - NOT FOR CONSTRUCTION

Job: 2006723
Rev:
Drft: CB
Chkd: JL
Date: 30Jul21

Lower Satsop Right Bank Conservation Project  
**SITE PLAN - PROPOSED**  
Shoreline Permit

C2

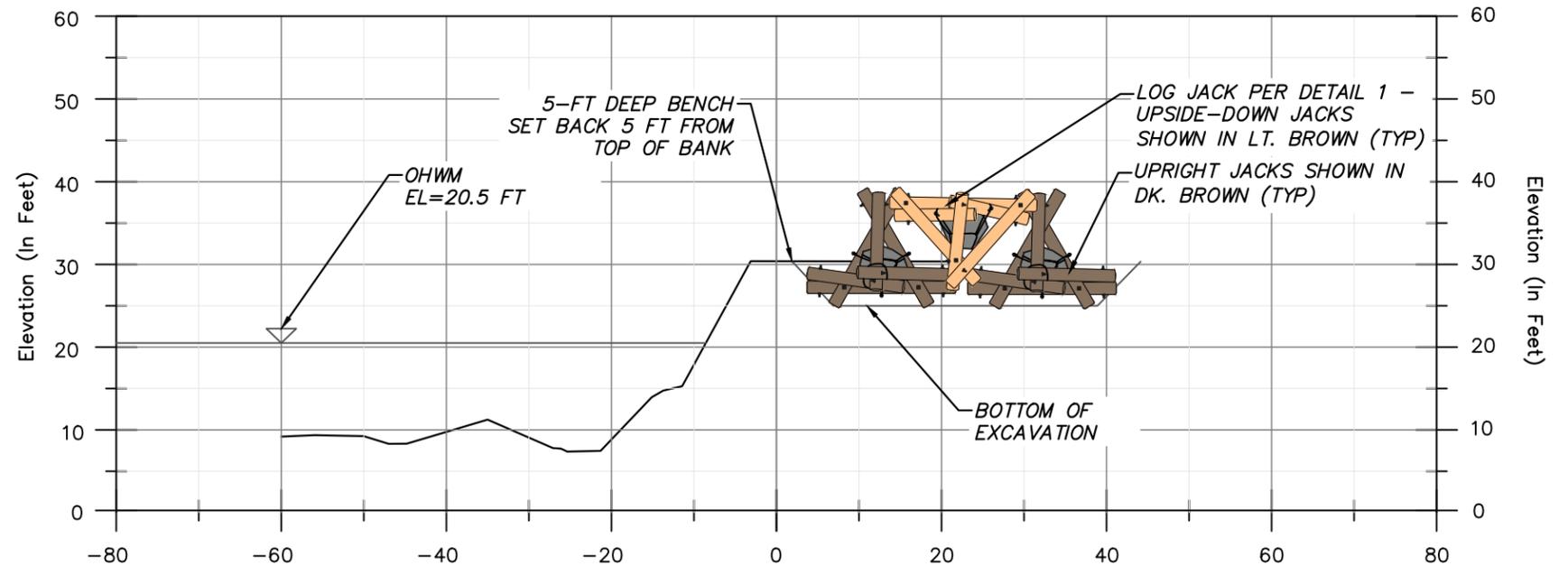


THE LOG JACK IN THE IMAGE ABOVE IS TYPICAL AND FOR ILLUSTRATION ONLY. DISCREPANCIES EXIST BETWEEN THE IMAGE AND THE LOG JACK DESIGN. SLASH NOT SHOWN FOR CLARITY.

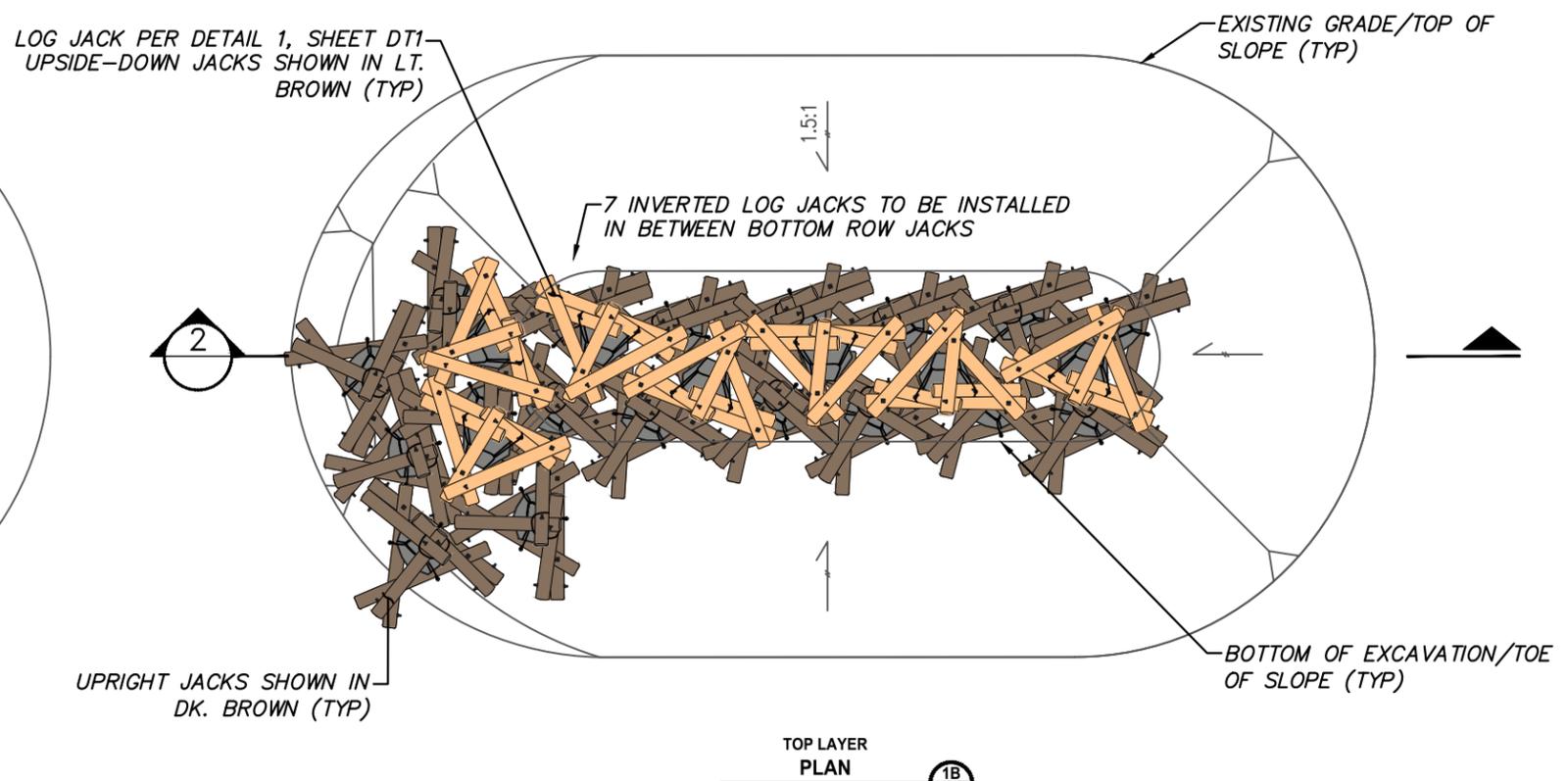
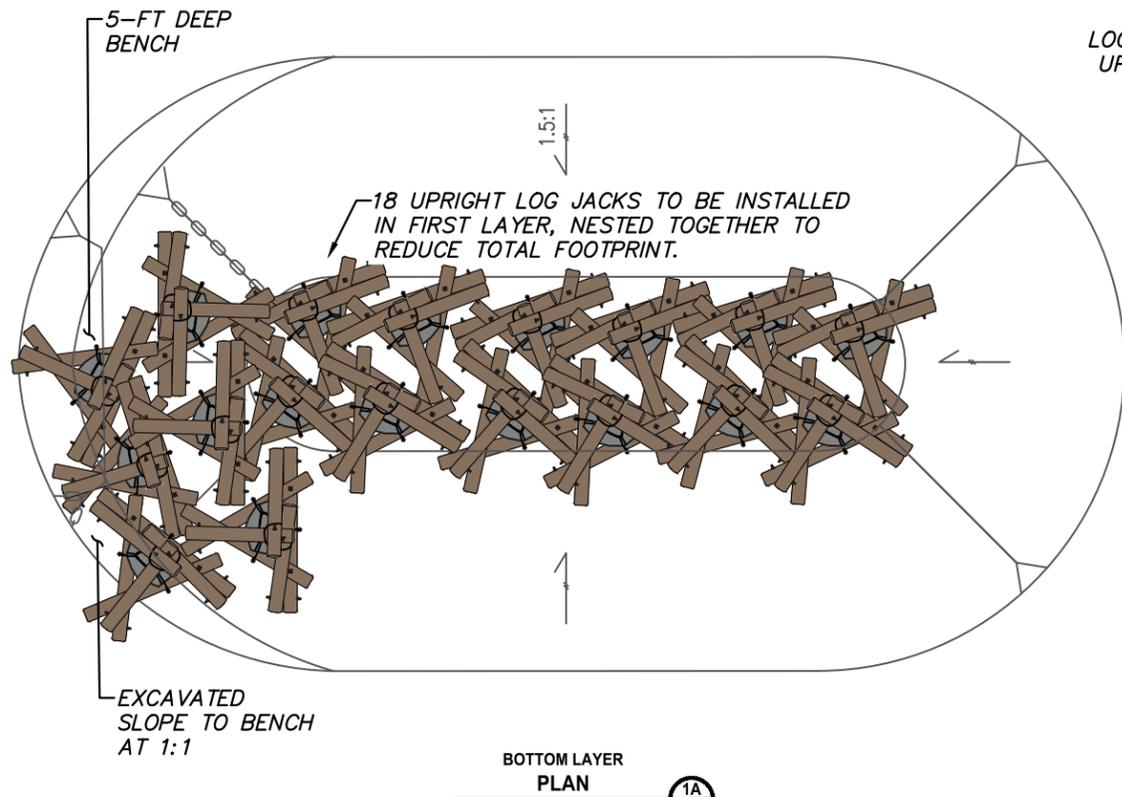
**1 LOG JACK UNIT - TYPICAL PLAN & SECTION VIEWS**  
SCALE: 1"=20'

**NOTES FOR LOG JACK CONSTRUCTION:**

1. LOG JACKS SHALL BE CONSTRUCTED FROM DOUGLAS FIR, WESTERN RED CEDAR OR SITKA SPRUCE, 18 FEET IN LENGTH AND 16 TO 22 INCHES IN DIAMETER.
2. 6-8 TON BOULDERS SHALL BE USED FOR LOG JACK BALLAST.
3. LOGS AND BOULDERS ARE NOT SYMMETRICAL AND HAVE NATURALLY OCCURRING VARIATIONS THAT NECESSITATE CUSTOM FITTING. THE CONTRACTOR WILL MODIFY THE LOG-TO-LOG AND LOG-TO-BOULDER CONNECTIONS SO THAT THE COMPLETED JACK IS A TIGHT AND COMPACT UNIT. THERE SHOULD BE NO PLAY IN THE LOG- TO-LOG CONNECTIONS. THE BOULDER SHOULD BE SECURELY CONTAINED WITHIN AND IN CONTACT WITH A MINIMUM OF 5 LOGS.
4. REMOVE ALL BARK BETWEEN LOG- TO-LOG CONNECTIONS.
5. FOR ALL LOG-TO-LOG CONNECTIONS, USE CHAINSAW LOG DEBARKER OR SIMILAR SO THAT ONE LOG NESTLES INTO THE OTHER. THE LOG- TO-LOG CONNECTION MUST NOT BE A SINGLE POINT OF CONTACT. A TYPICAL LOG NOTCH WILL BE ~1 0" WIDE BY ~2" DEEP CUT AT THE APPROPRIATE ANGLE.
6. ALL LOG-TO-LOG ALL-THREAD CONNECTIONS MUST BE MADE THROUGH THE CENTER OF THE LOG WITH A MINIMUM OF 18" BETWEEN THE ALL-THREAD AND THE LOG END.
7. FOR ALL LOG-TO-LOG CONNECTIONS, PEEN THE ALL-THREAD TO A DEPTH OF 1/2 THE THREAD DEPTH IN TWO OPPOSING LOCATIONS IMMEDIATELY AGAINST THE NUT. LEAVE NO MORE THAN 3" OF ALL-THREAD EXPOSED PAST THE NUT.
8. WIRE ROPE SHOULD BE MECHANICALLY TENSIONED TO ~3/4 OF THE ROPE WORKING LOAD. FOR LOG JACKS PLACED UPSIDE DOWN, THE TOPS OF LOGS D, E, AND F SHOULD BE TRIMMED TO AN EVEN HEIGHT, LEAVING A MINIMUM OF 18" BEYOND THE CONNECTION POINTS.
9. COMPLETED LOG JACKS CAN BE TRIMMED DURING PLACEMENT TO FACILITATE FITTING THEM ADJACENT TO ONE ANOTHER, LEAVING A MINIMUM OF 18" BEYOND THE CONNECTION POINTS.



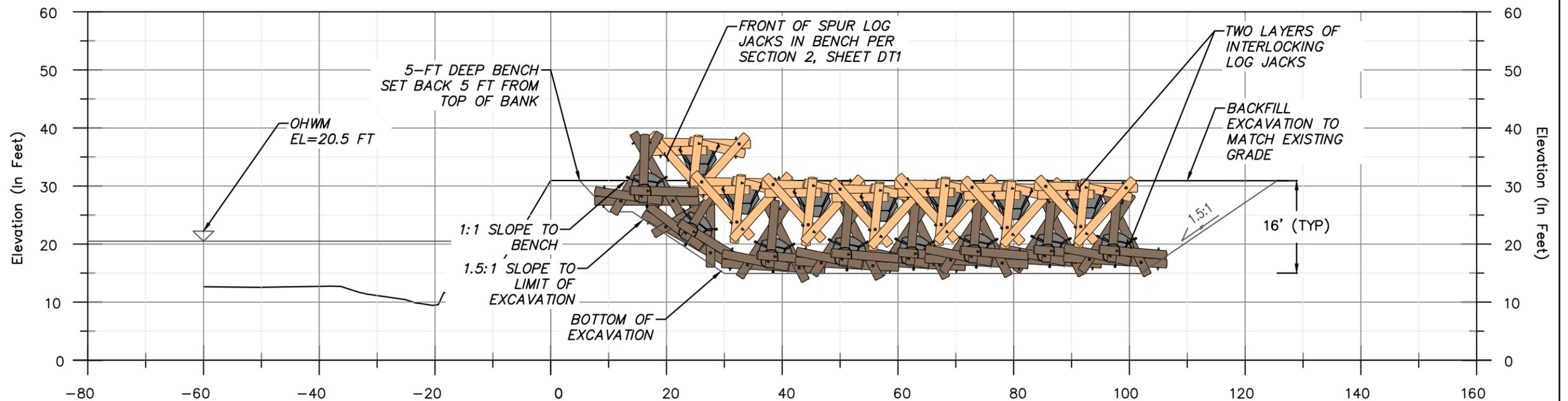
**2 LOG JACK 8-PACK - SECTION**  
SCALE: 1"=20'



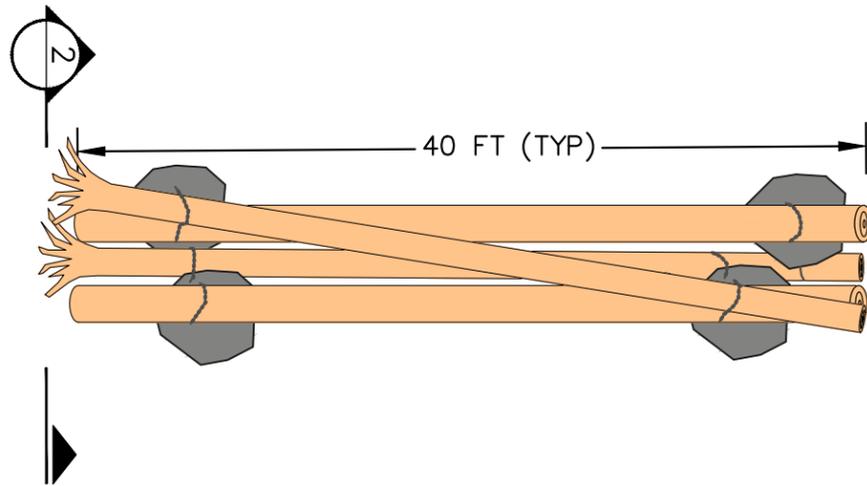
1 LOG JACK SPUR - PLAN  
SCALE: 1"=20'

NOTES ON LOG JACK SPUR CONSTRUCTION:

- LOG JACKS ARE HELD TOGETHER BY FRICTION IN THE SPUR CONFIGURATION - NO ANCHORING BETWEEN ADJACENT UNITS WILL OCCUR.
- ALL EXCAVATED SLOPES ARE 1.5:1 UNLESS NOTED OTHERWISE
- PACK SLASH INTO JACK VOIDS BEFORE BACKFILLING
- STOCKPILE EXCAVATED SOILS AND BACKFILL EXCAVATION TO MATCH EXISTING CONTOURS.



2 LOG JACK SPUR - SECTION  
SCALE: 1"=20'

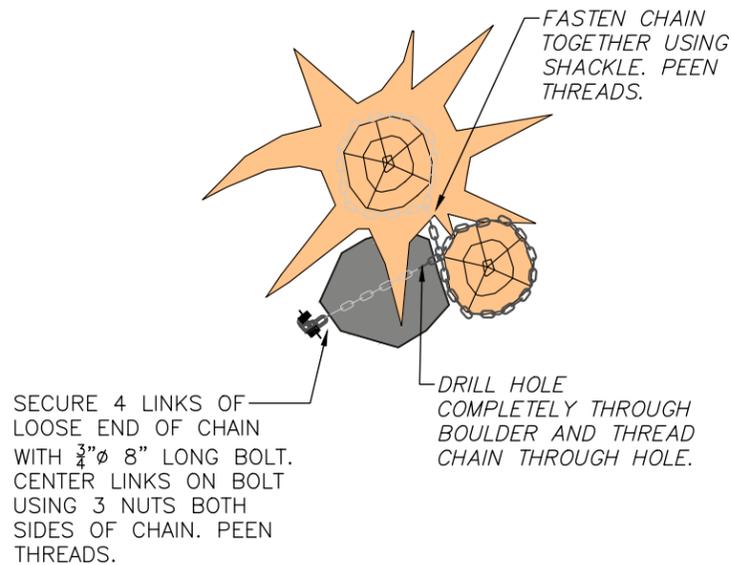


**NOTES FOR CONTINUOUS LOG ROWS:**

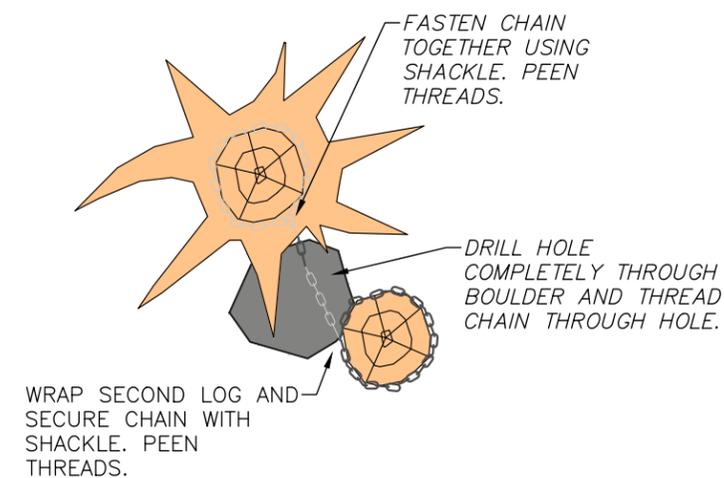
1. EACH UNIT CONSISTS OF FOUR LOGS (TWO WITH ROOTWADS) AND FOUR BALLAST BOULDERS CONNECTED WITH CHAIN.
2. ASSEMBLED UNITS WILL BE INSTALLED WITHIN A 5 FOOT DEEP TRENCH, SET BACK MINIMUM 5 FEET FROM TOP OF BANK.
3. UNITS WILL BE INSTALLED END-TO-END, ADJACENT UNITS WILL NOT BE CHAINED OR CONNECTED TOGETHER.

**1** CONTINUOUS LOG ROW UNIT - PLAN  
SCALE: 1"=20'

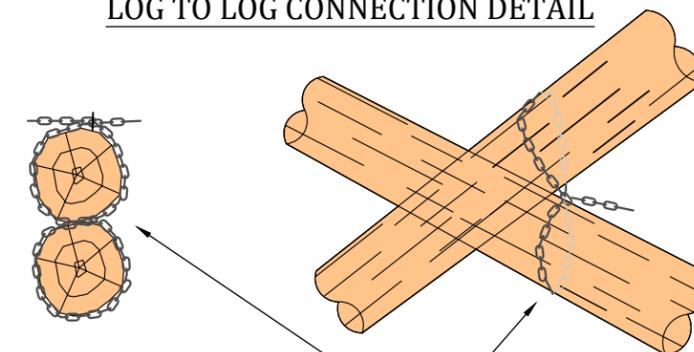
**LOG TO LOG TO BOULDER CONNECTION DETAIL**



**LOG TO BOULDER TO LOG CONNECTION DETAIL**

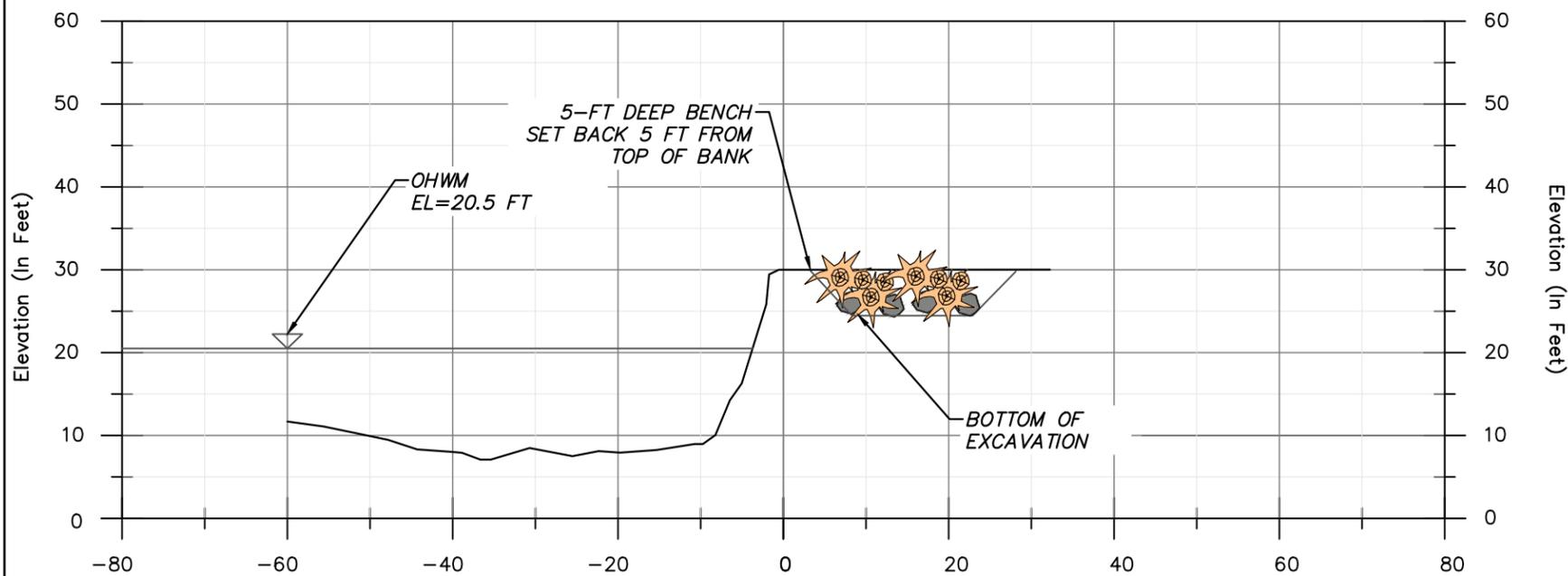


**LOG TO LOG CONNECTION DETAIL**



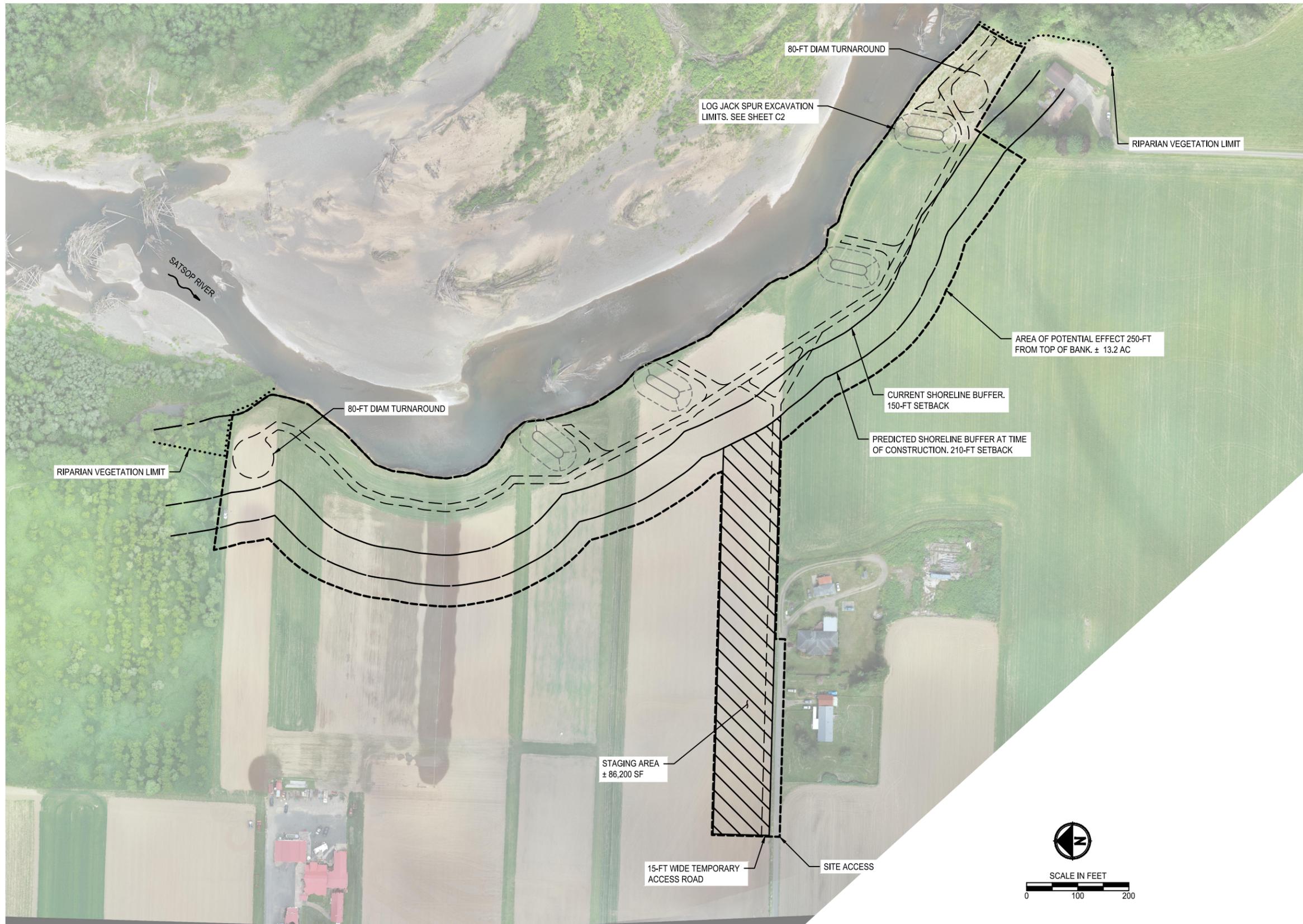
**NOTES FOR LOG TO BOULDER AND LOG TO LOG CONNECTIONS:**

- PROVIDE 2" DEEP NOTCH AND SEAT CHAIN WITHIN THE GROOVE. USE STAPLES TO SECURE CHAIN WITHIN NOTCH.
- BOULDERS AS CLOSE TO EACH LOG AS POSSIBLE, NO SLACK IN THE CHAIN UNLESS OTHERWISE NOTED.

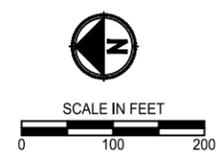


**2** CONTINUOUS LOG ROW INSTALLATION - SECTION  
SCALE: 1"=20'

PATH: U:\PSO\Projects\Clients\7132- Groye Harbor Conservation District\217-7132-001 Satop RB Protection\995ca\CADD\DWG PLOTTED BY: aleanda DATE: Friday, July 30, 2021 2:57:17 PM  
 LAYOUT: T1



- NOTES**
1. SURVEY AND AERIAL IMAGERY COMPLETED JUNE 4, 2021.
  2. SITE ACCESS SHALL BE FROM THE WILLIS PROPERTY'S PRIVATE ROAD.
  3. TEMPORARY ACCESS ROAD SHALL BE 15-FT WIDE AND CONSIST OF GEOTEXTILE AND HOG FUEL (WOOD CHIPS). ACCESS ROAD SHALL BE INSTALLED AND MAINTAINED THROUGH THE DURATION OF THE PROJECT AND REMOVED PRIOR TO THE END OF THE 3-YEAR MAINTENANCE PERIOD. FOLLOWING REMOVAL, AREA WILL BE RESTORED TO PRE-EXISTING CONDITIONS AND RE-SEEDDED WITH PASTURE GRASS OR CROP.
  4. GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED AND MAINTAINED THROUGH THE DURATION OF THE PROJECT.
  5. WILLOW WATTLES OR OTHER BIOENGINEERING TECHNIQUES MAY BE INSTALLED AT UNDETERMINED LOCATIONS ALONG THE BANK FOLLOWING EROSION AS STRUCTURES SLUFF DOWN TO THE RIVERBANK, PER THE ADAPTIVE MANAGEMENT PLAN.
  6. MAINTENANCE AGREEMENT AND/ OR TEMPORARY ACCESS/ CONSTRUCTION EASEMENT WILL BE IN PLACE BETWEEN APPLICANT AND LANDOWNERS PRIOR TO CONSTRUCTION.



**PERMIT REVIEW SET  
NOT FOR CONSTRUCTION**

REVISIONS	DATE	BY	DESIGNED
			RSR
			CFO
			RSR
			####

ONE INCH AT FULL SCALE, IF NOT, SCALE ACCORDINGLY

FILE NAME: PS7132001T-01  
 JOB No: 217-7132-001  
 DATE: 08/21

PRELIMINARY



PROJECT NAME  
**LOWER SATSOP RIGHT BANK  
 CONSERVATION PROJECT**  
 MONTESANO, WA

**STAGING AND ACCESS PLAN**

DRAWING NO.  
12 OF 14

**T1**