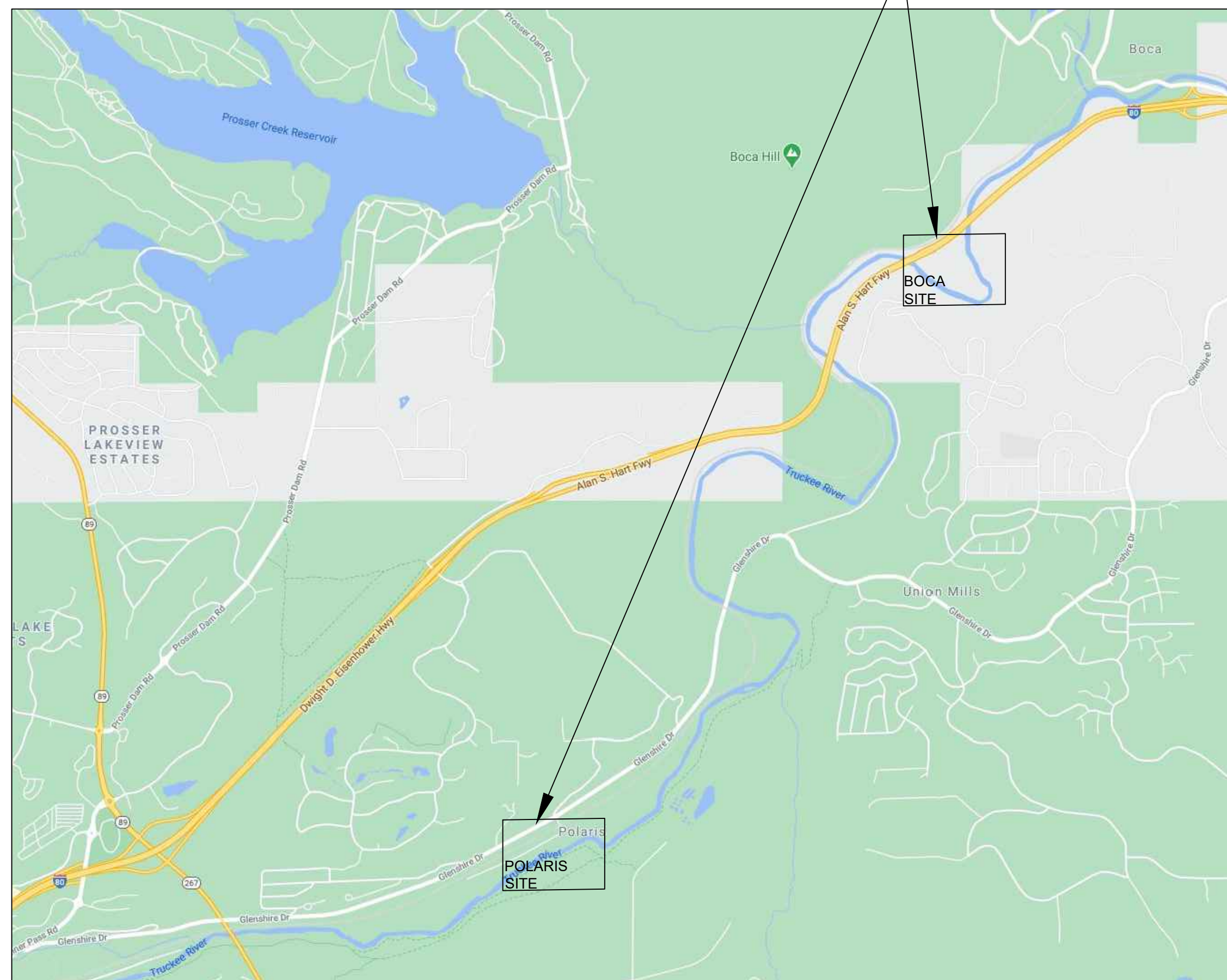


TRUCKEE RIVER WILDLIFE AREA RESTORATION PROJECT

NEVADA COUNTY, CA

VICINITY MAP

NOT TO SCALE



SITE LOCATION

BOCA SITE MAP

NOT TO SCALE



~~POLARIS SITE MAP~~

NOT TO SCALE



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DESIGNED:

CAROL Y. BEAHAN, P.E., WILDSCAPE ENGINEERING, INC.

PROJECT PARTNERS:



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GENERAL NOTES

- CONTRACTOR SHALL HAVE STAMPED PLANS IN THEIR POSSESSION PRIOR TO COMMENCEMENT OF WORK.
- CONTOURS SHOWN ARE FROM LIDAR DATA OBTAINED FROM "2019 PALEO-OUTBURST FLOODS IN THE TRUCKEE RIVER CANYON, CA". FEEHAN, S. 2019. NATIONAL CENTER FOR AIRBORNE LASER MAPPING (NCALM) AND RTK SURVEYS CONDUCTED SEPTEMBER 23-24, 2020 (BOCA SITE) AND SEPTEMBER 29, 2020 AND OCTOBER 27, 2020 (POLARIS SITE).
- UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AT 811 AT LEAST 48 HOURS PRIOR TO START OF CONSTRUCTION TO ASSURE UTILITY AVOIDANCE.
- VEHICLE ACCESS, PARKING AND MATERIAL STORAGE SHALL BE RESTRICTED TO DESIGNATED ACCESS AND STAGING AREAS AS SHOWN ON THE PLANS. FOR ANY ADDITIONAL AREAS CONTRACTOR MUST ACQUIRE WRITTEN APPROVAL FROM TRCKEE RIVER WATERSHED COUNCIL (TRWC) CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE (CDFW) AND TAHOE-TRUCKEE SANITATION AGENCY (TTSA) REPRESENTATIVE PRIOR TO USE.
- CONTRACTOR SHALL APPLY WATER AS NEEDED FOR THE ALLEVIATION AND PREVENTION OF DUST NUISANCE.
- CONTRACTOR SHALL ACQUIRE AND ADHERE TO ALL ENCROACHMENT PERMITS, LICENSES AND AGENCY APPROVALS PRIOR TO PERFORMANCE OF THE WORK.
- CONTRACTOR SHALL POSSESS AND COMPLY WITH ALL RELEVANT PERMITS INCLUDING BUT NOT NECESSARILY LIMITED TO THE REGIONAL WATER QUALITY CONTROL BOARD 401 AND STORM WATER POLLUTION PREVENTION PLAN, ARMY CORPS OF ENGINEERS 404 PERMIT, CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE STREAMBED ALTERATION AGREEMENT, AND NEVADA COUNTY PERMITS.
- CONTRACTOR SHALL PROVIDE A MINIMUM 72-HOUR NOTICE TO TRWC, CDFW, AND TTSA REPRESENTATIVE PRIOR TO MOBILIZING ON SITE OR INITIATING WORK.
- CONSTRUCTION SHALL TAKE PLACE ON WEEKDAYS BETWEEN THE HOURS OF 7:00AM AND 6:30 PM UNLESS OTHERWISE APPROVED BY TRWC, CDFW AND TTSA ON A CASE BY CASE BASIS.
- ALL NATURAL GRADED AREAS SHALL TRANSITION SMOOTHLY TO ADJACENT FEATURES AND GRADES AND MEET FINISH GRADE AS SHOWN ON THE PLANS +/- 0.1 FEET IN THE VERTICAL AND +/- 0.2 FEET IN THE HORIZONTAL.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SIGNS, BARRICADES, OR OTHER DEVICES NECESSARY TO CONTROL PEDESTRIAN AND VEHICLE TRAFFIC THROUGH THE CONSTRUCTION AREA AND FOR PUBLIC SAFETY IN ACCORDANCE WITH THESE PLANS, THE STANDARD SPECIFICATIONS, AND NEVADA COUNTY REQUIREMENTS.
- AS BUILTS: THE CONTRACTOR SHALL MAINTAIN A SET OF PLANS ONSITE SHOWING "AS CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE PROJECT THE CONTRACTOR SHALL SUPPLY THE TRWC, CDFW AND TTSA REPRESENTATIVE WITH A SET OF PLANS MARKED UP, REFLECTING THE "AS CONSTRUCTED" MODIFICATIONS.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING ALL TEMPORARY EROSION CONTROL MEASURES RELEVANT TO THIS PROJECT AND IN ACCORDANCE WITH THE APPROVED STORM WATER POLLUTION PREVENTION PLAN (SWPPP).
- SOURCES OF CONSTRUCTION WATER FOR THE PROJECT ARE TBD.
- CONTRACTOR SHALL POSSESS A CLASS "A" LICENSE. CONTRACTOR SHALL ACQUIRE AND ADHERE TO ALL ENCROACHMENT PERMITS, LICENSES AND AGENCY APPROVALS PRIOR TO PERFORMANCE OF THE WORK.
- ALL EXISTING VEGETATION SHALL BE PROTECTED UNLESS OTHERWISE NOTED FOR REMOVAL ON THE PLANS OR APPROVED IN THE FIELD BY THE ENGINEER.
- ALL AREAS DISTURBED BY CONSTRUCTION ACTIVITIES SHALL BE REVEGETATED BY THE CONTRACTOR IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
- ALL EXCESS MATERIAL FROM THE PROJECT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF OR RECYCLED AT AN APPROVED SITE.
- THE PROJECT SITES ARE ACTIVELY USED RECREATION SITES. THE CONTRACTOR SHALL TAKE ADEQUATE MEASURES TO PROTECT AND KEEP THE PUBLIC OUT OF ACTIVE WORK AREAS. NOTIFY THE ENGINEER AT LEAST 72 HOURS PRIOR TO ANY ANTICIPATED TRAIL OR ROAD CLOSURE AND PROVIDE ADEQUATE SIGNAGE.
- CONSTRUCTION IN THE CREEK CHANNELS SHALL BE CONDUCTED SOMETIME BETWEEN TBD AND TBD WHEN BASE FLOWS ARE AT THEIR LOWEST. MONITORING OF DAM RELEASES AND CLOSE COORDINATION WITH TRWC WILL ALSO BE NEEDED TO TIME IN-CHANNEL WORK AT THE MOST APPROPRIATE TIME.

21. PROVIDE AND MAINTAIN TEMPORARY TOILET FACILITIES IN ACCORDANCE WITH STATE HEALTH DEPARTMENT AND COUNTY REQUIREMENTS. DO NOT LOCATE TEMPORARY TOILET FACILITIES ADJACENT TO A NATURAL WATER SOURCE, IN A WETLAND OR RIPARIAN AREA, OR IN A LOCATION TO CAUSE A PUBLIC HEALTH HAZARD, CONTAMINATION OR NUISANCE. AT COMPLETION OF WORK, REMOVE TOILET FROM PROJECT SITE.

22. ALL GRADED AREAS SHALL MEET FINISH GRADE AS SHOWN ON THE DRAWINGS, +/-0.10 FEET IN THE VERTICAL AND +/- 0.20 FEET IN THE HORIZONTAL WITH AN EQUAL BALANCE OF OVER-EXCAVATED AND UNDER-EXCAVATED AREAS AND VOLUMES SO THAT THE PROJECT GRADES ARE NOT UNIFORMLY SHIFTED OR BIASED IN ONE HORIZONTAL OR VERTICAL DIRECTION OVER THE OTHER.

23. THE CONTRACTOR SHALL CLEANUP SPILLS IMMEDIATELY AND NOTIFY APPROPRIATE AGENCIES OF SPILLS AND CLEANUP PROCEDURES. ALL STAGING, STORAGE, AND REFUELING AREAS AND ANY EQUIPMENT REPAIR OR SIMILAR ACTIVITY WILL ONLY TAKE PLACE IN DESIGNATED STAGING AREAS.

24. TREE REMOVAL PLACEHOLDER
NUMBER OF TREES NEEDED TO BE REMOVED FOR CONSTRUCTION

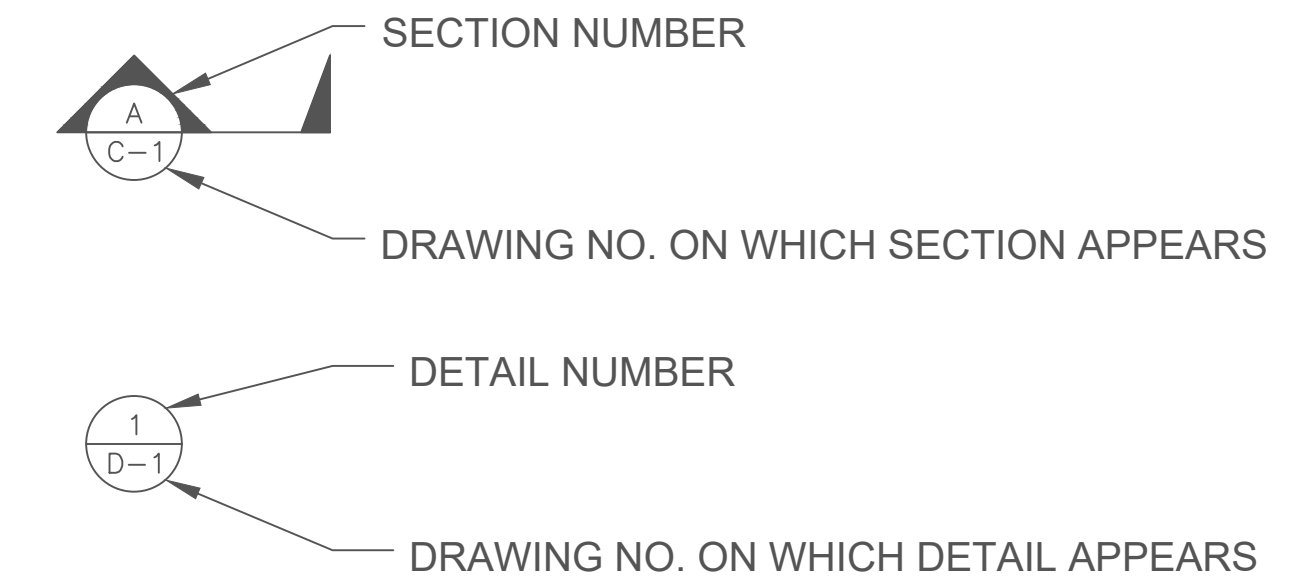
LEGEND:	
	EX MINOR CONTOUR
	EX MAJOR CONTOUR
	PROPOSED GRADE
	PROJECT AREA
	LIMIT OF DISTURBANCE
	RIGHT BANK
	LEFT BANK
	CHANNEL CENTER
	EX TRAIL
	EX ROAD
	PROPOSED TRAIL
	EX HISTORIC FEATURE
	TEMP ACCESS
	SEDIMENT BARRIER
	EXCLUSION FENCE
	TEMP STAGING/STORAGE
	TEMP. SANITATION FACILITY
	CUT
	FILL
	BIOTECHNICAL TREATMENT
	BOLDER WEIR
	BOLDER/LOG BANK PROTECTION
	ROAD DECOMMISSIONED

VERTICAL AND HORIZONTAL CONTROLS

VERTICAL CONTROL IS NAVD 88 (GEOID 12B)

HORIZONTAL CONTROL IS CALIFORNIA STATE PLANE, ZONE 2, NAD 83, FEET

DRAWING SYMBOLS



ABBREVIATIONS

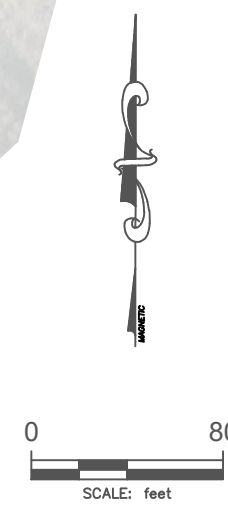
AC	ASPHALT CONCRETE
AB	AGGREGATE BASE
APPROX/~	APPROXIMATELY
CL	CENTERLINE
CONC	CONCRETE
DBH	DIAMETER BREST HEIGHT
DIAM	DIAMETER
EG	EXISTING GRADE
EX	EXISTING
EL	ELEVATION
FT	FEET
ENF	EL DORADO NATIONAL FOREST
INV	INVERT
LB	LEFT BANK
LOD	LIMIT OF DISTURBANCE
MAX/MIN	MAXIMUM/MINIMUM
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
PR	PROPOSED GRADE
RB	RIGHT BANK
RC	RELATIVE COMPACTION
RSP	ROCK SLOPE PROTECTION
STA	STATION
TBD	TO BE DETERMINED
TYP	TYPICAL
VERT	VERTICAL
W/	WITH
WSE	WATER SURFACE ELEVATION
#	NUMBER
%	PERCENT
'	FEET
"	INCHES
@	AT
3:1	HORIZONTAL TO VERTICAL SLOPE

CONTACT THE ENGINEER FOR SYMBOLS OR ABBREVIATIONS NOT SHOWN

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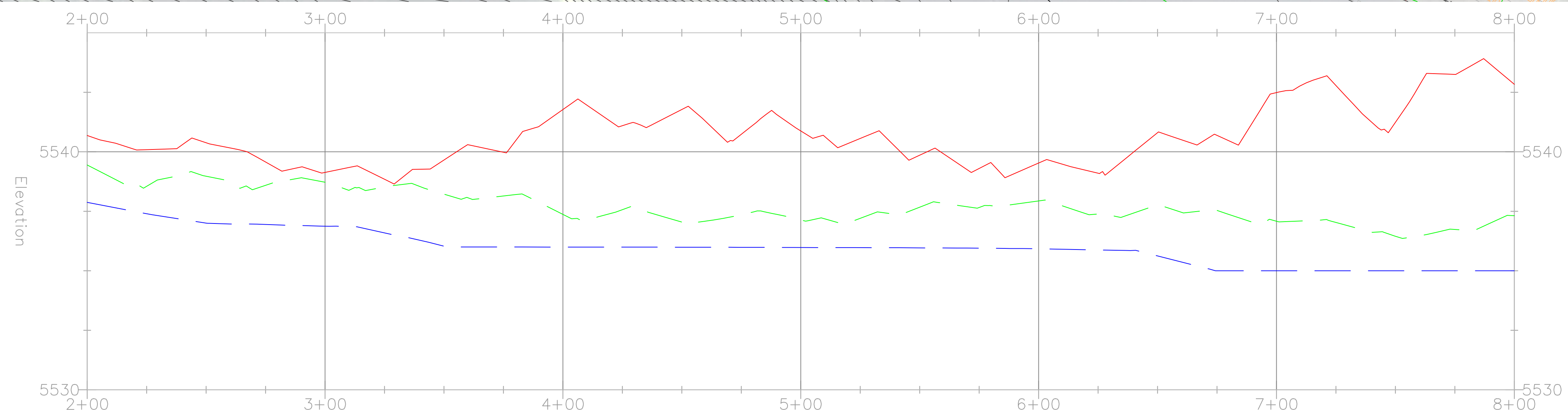
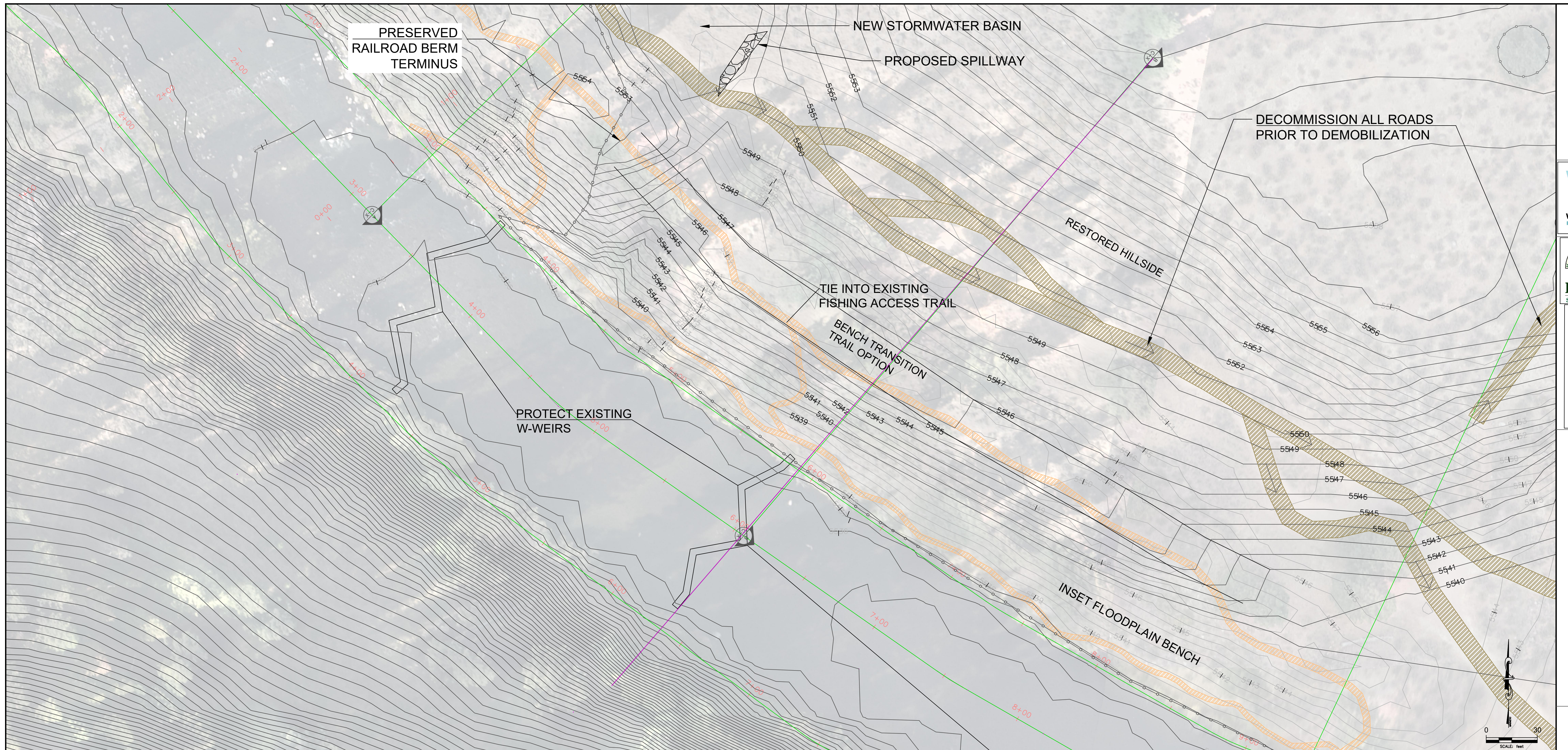
Boca Staging & Access

TRUCKEE RIVER WILDLIFE AREA

NOTES:

DRAWN BY: JAVEA
CHECKED BY: CB
DATE PREPARED: 04/02/2021

G-3



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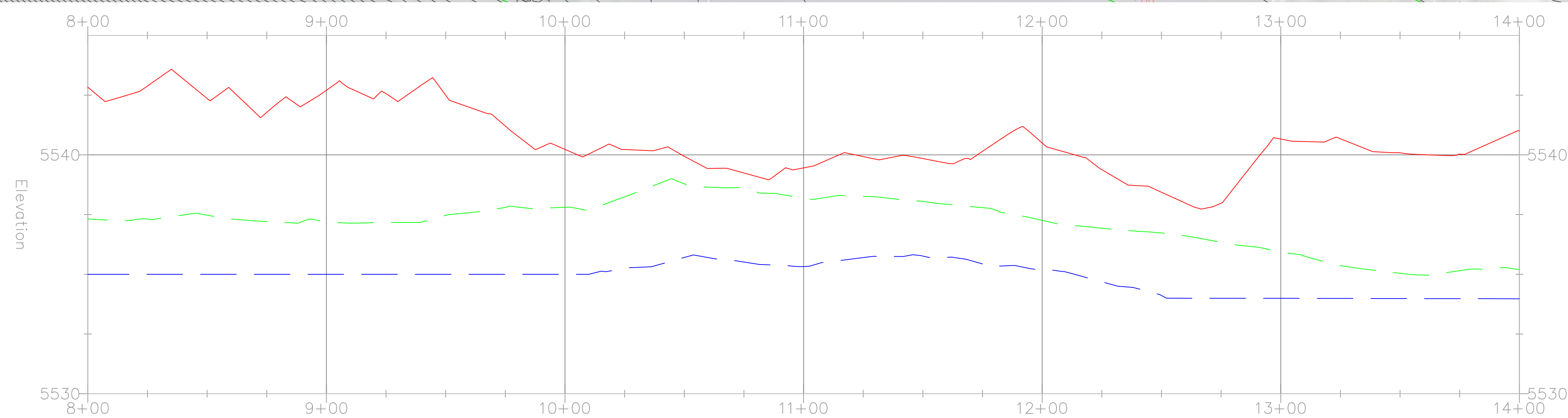
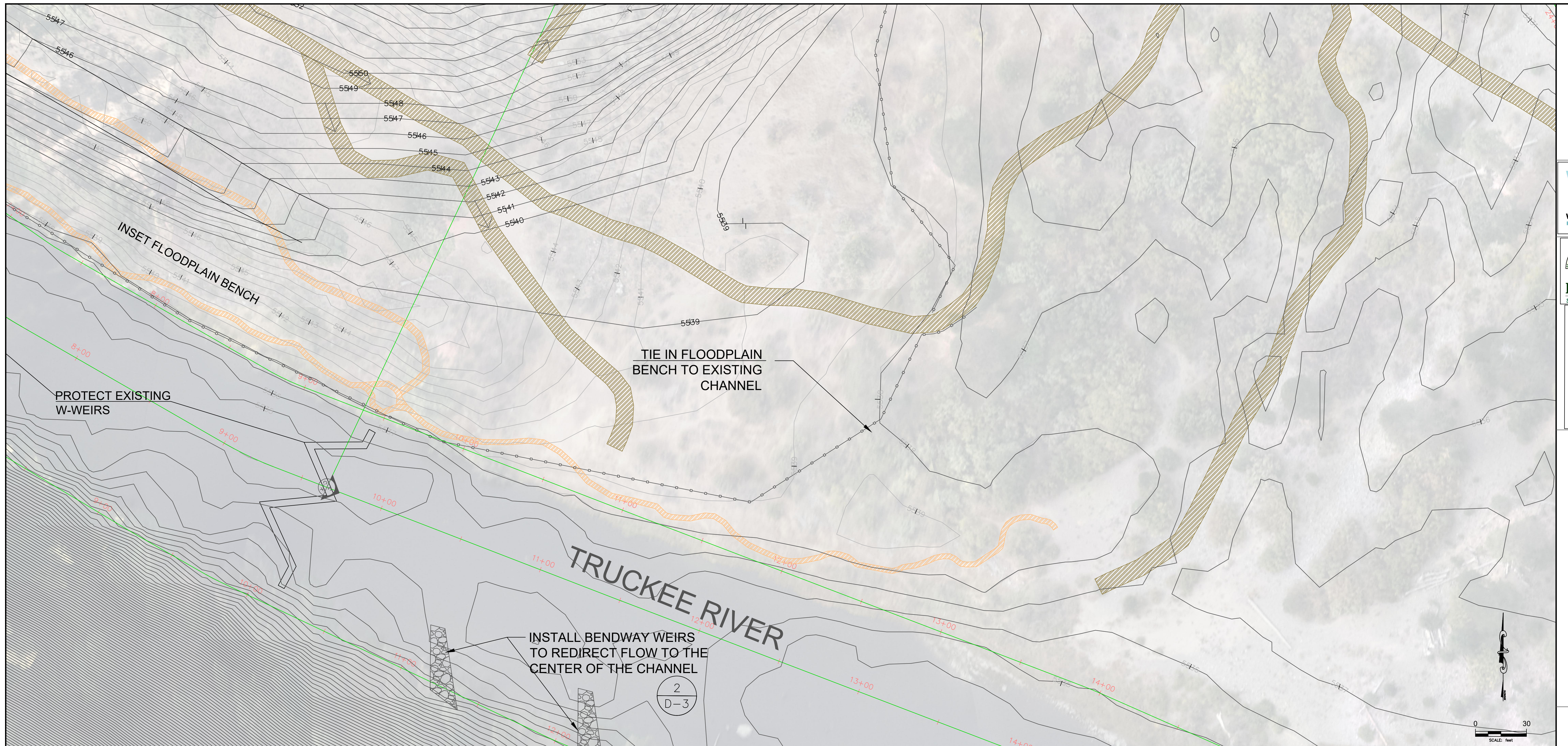


Boca Plan & Profile

TRUCKEE RIVER WILDLIFE AREA

NOTES:

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CHECKED BY: CB
DATE PREPARED: 04/02/2021



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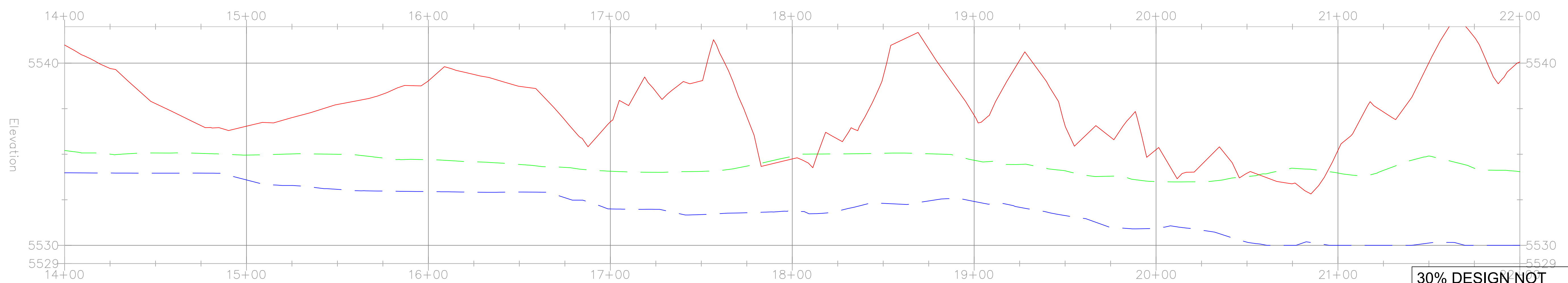
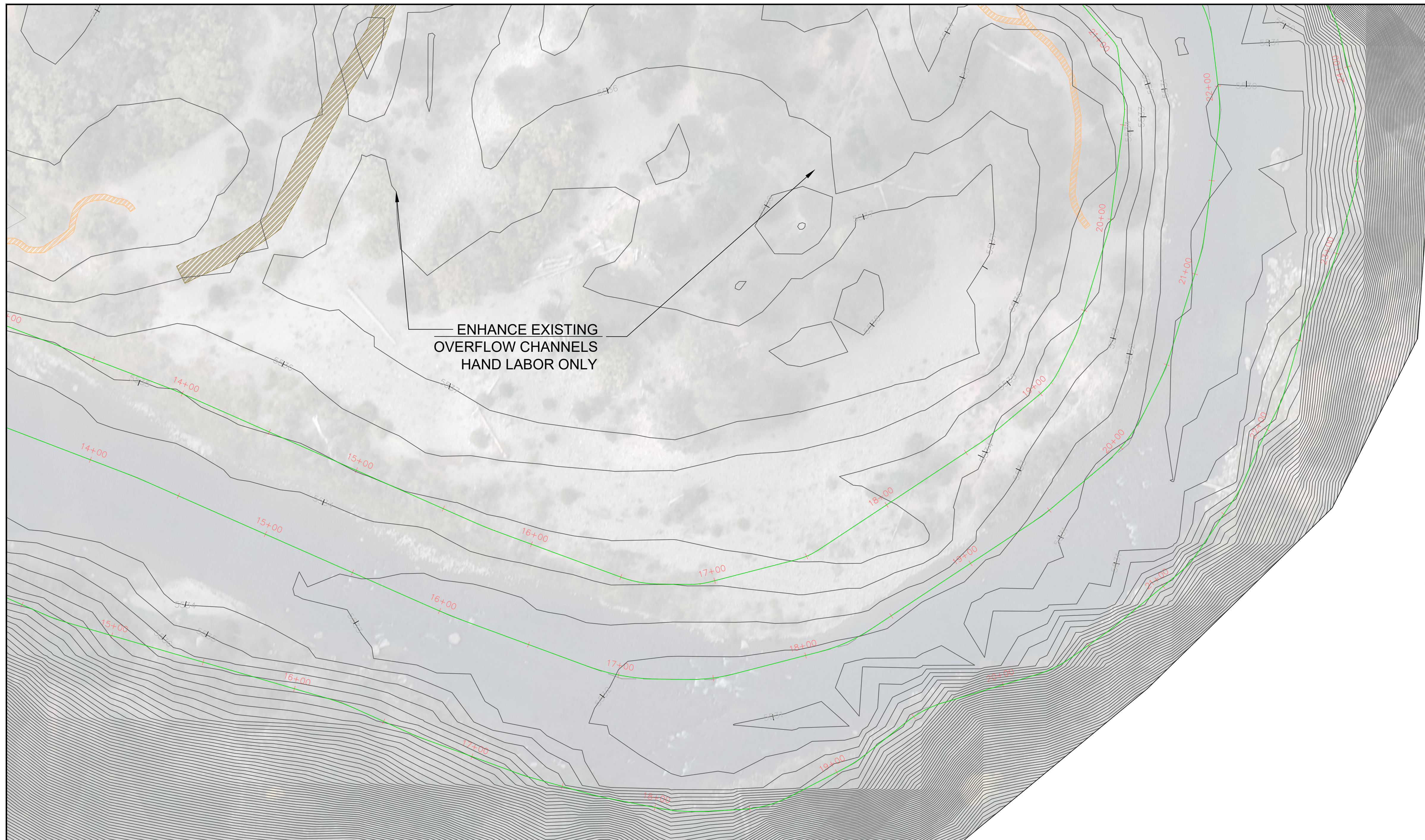


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TRUCKEE RIVER WILDLIFE AREA

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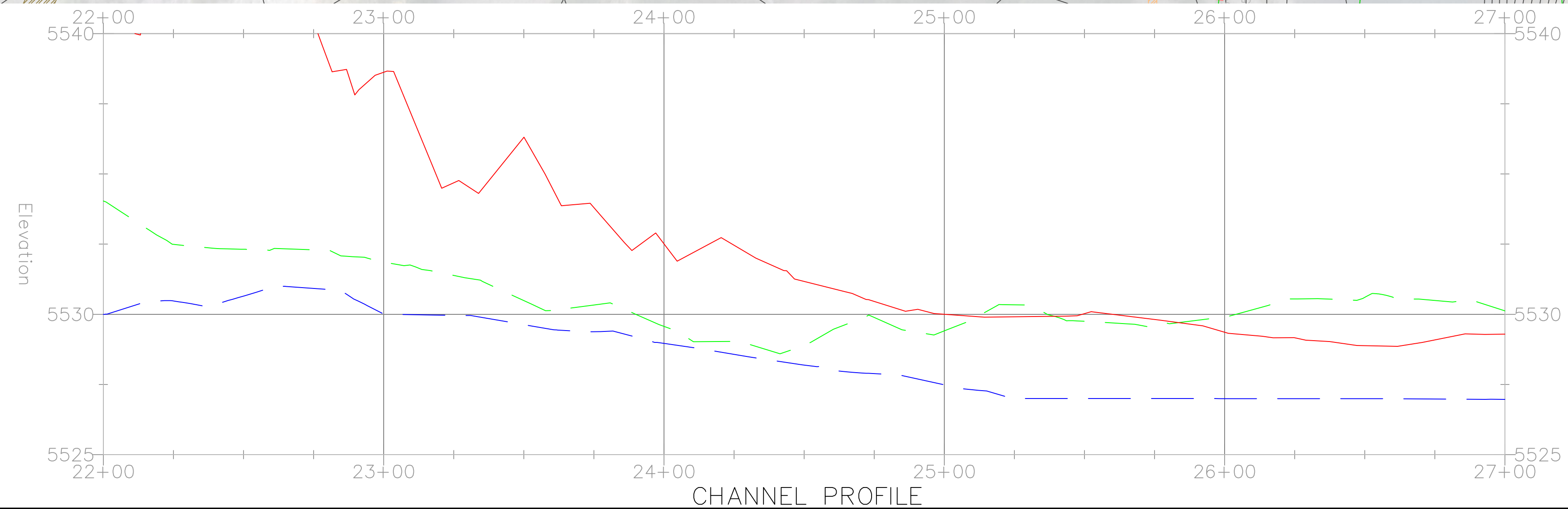
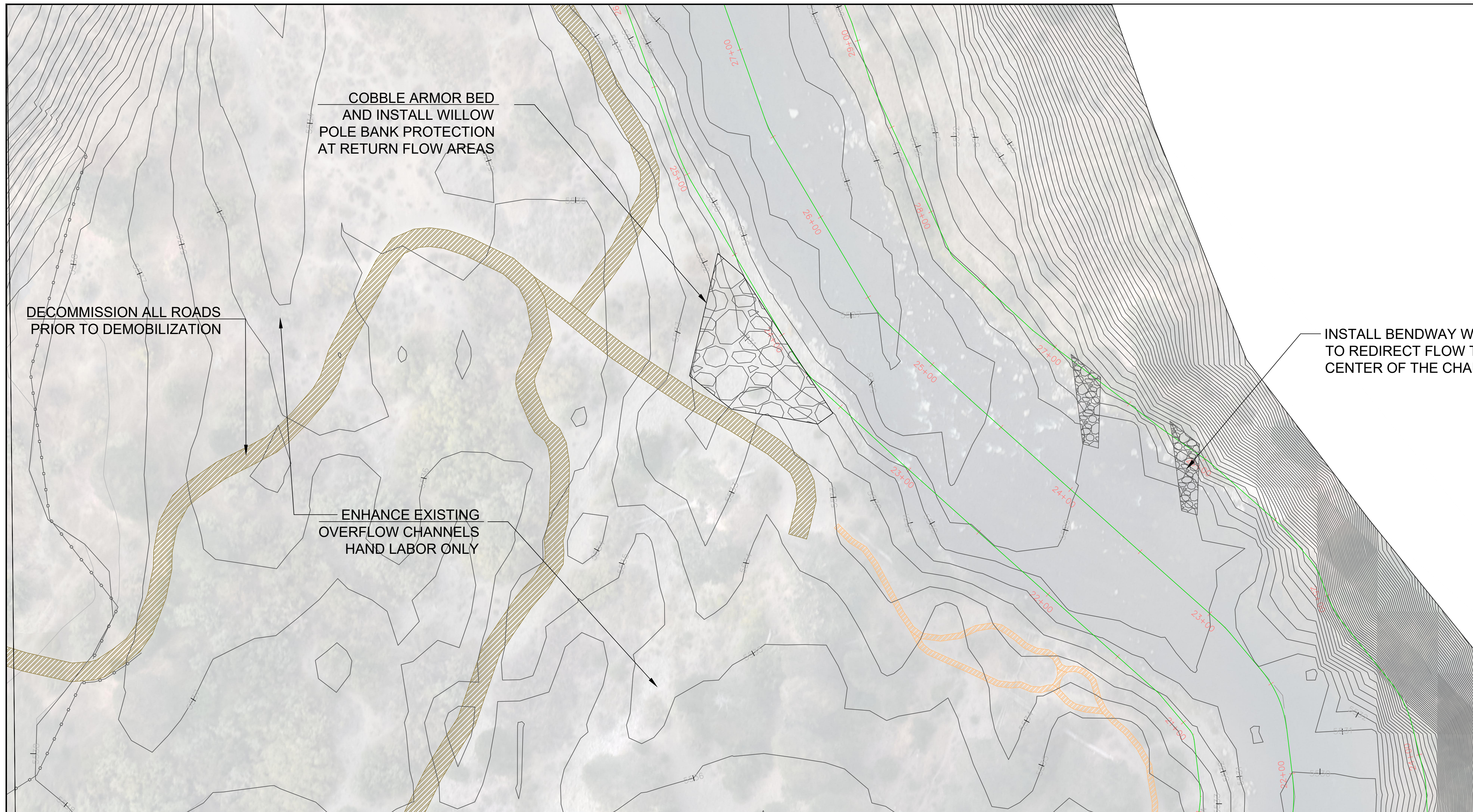
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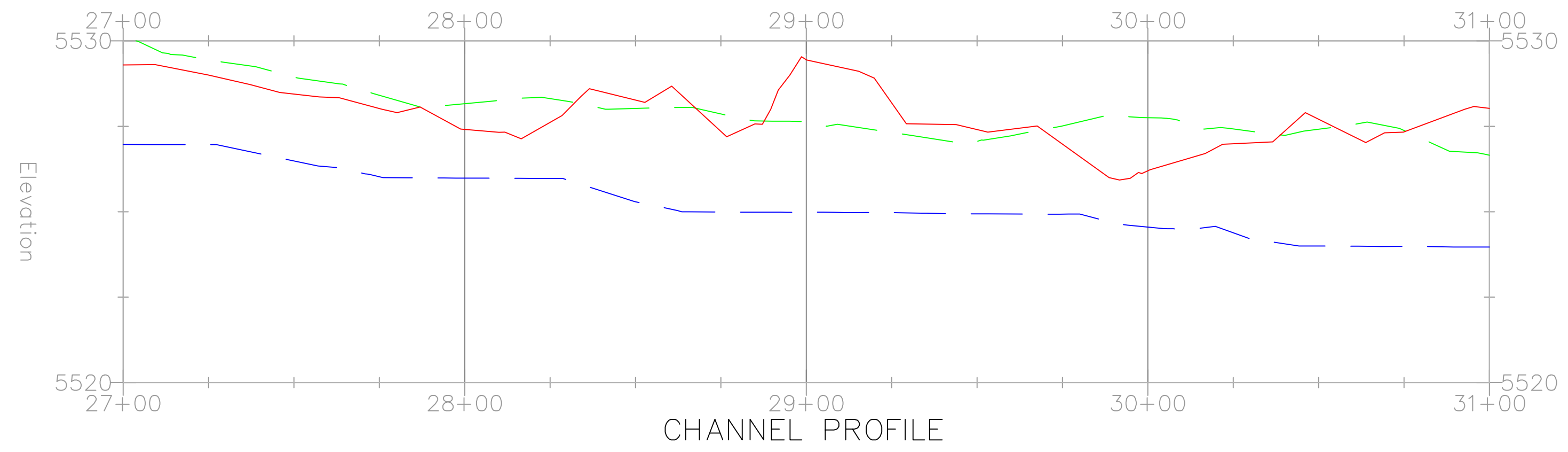
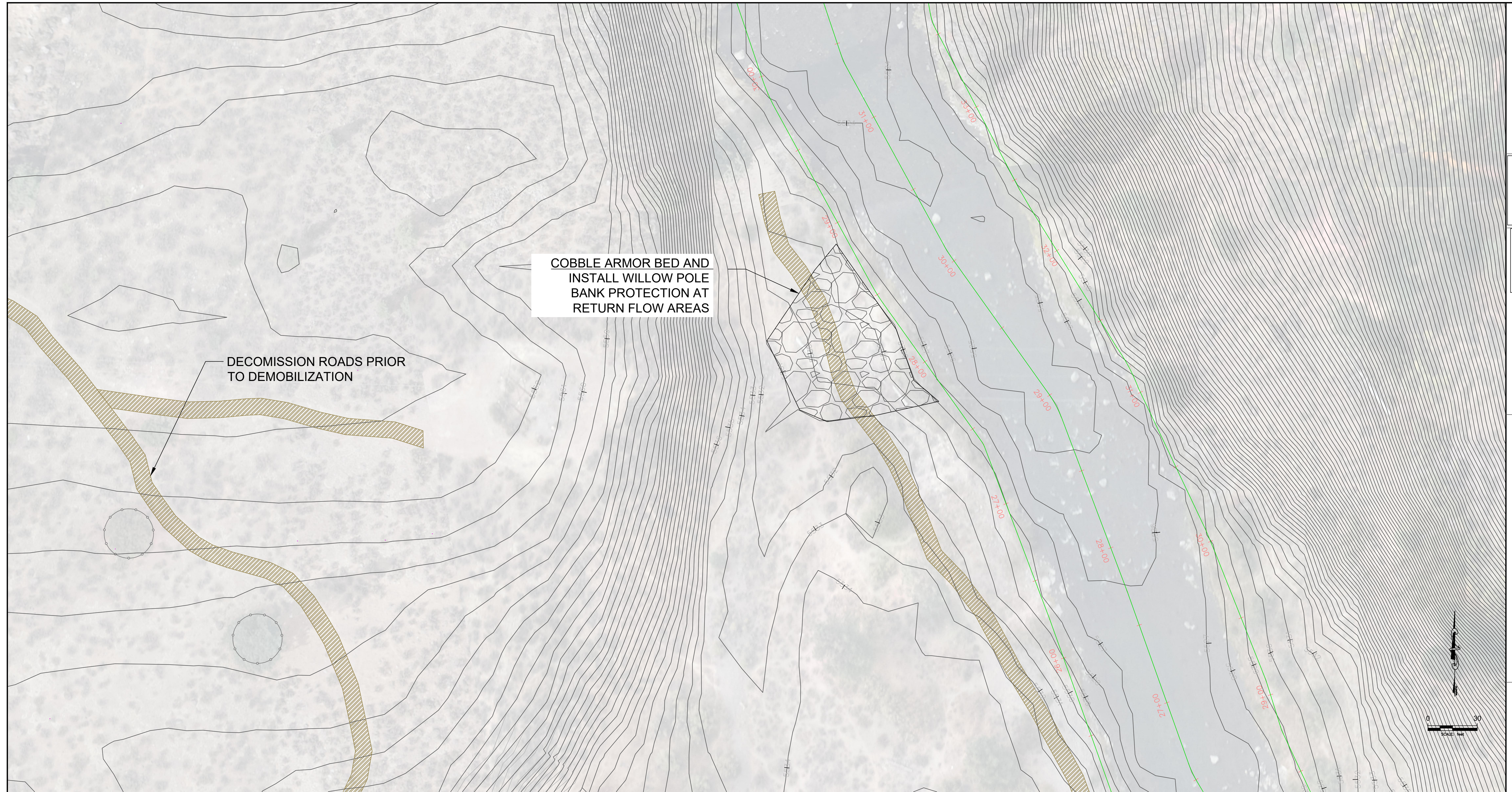
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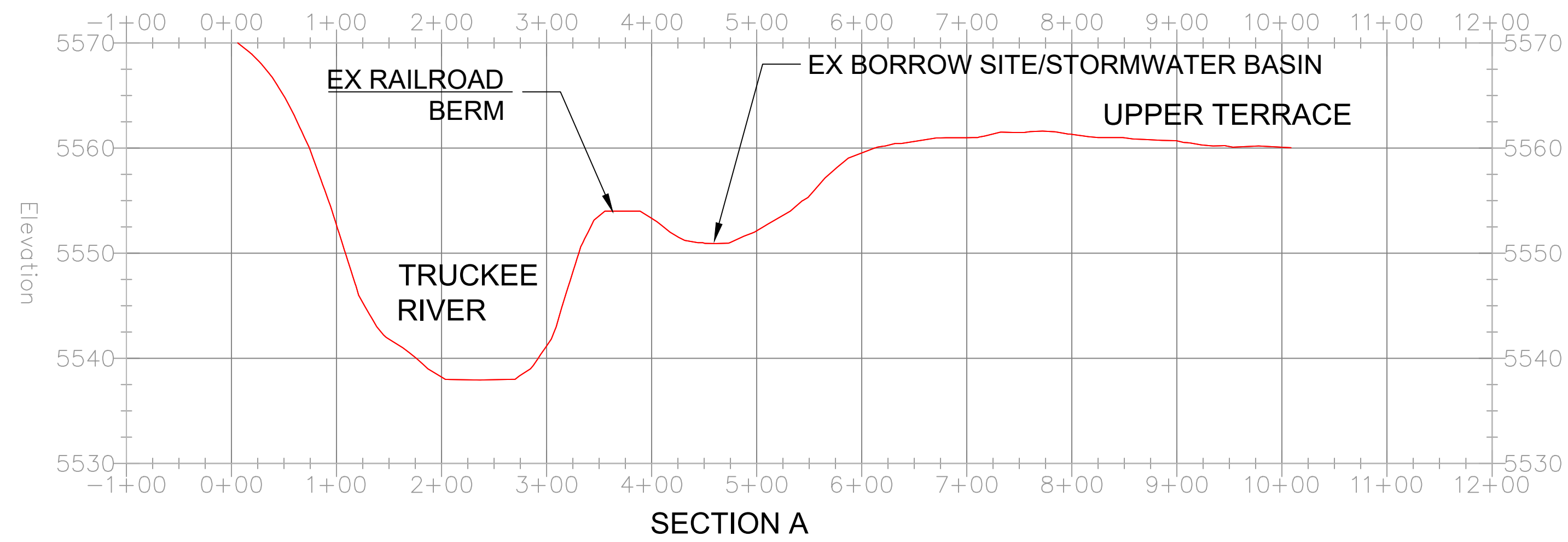


Boca Plan & Profile

TRUCKEE RIVER WILDLIFE AREA

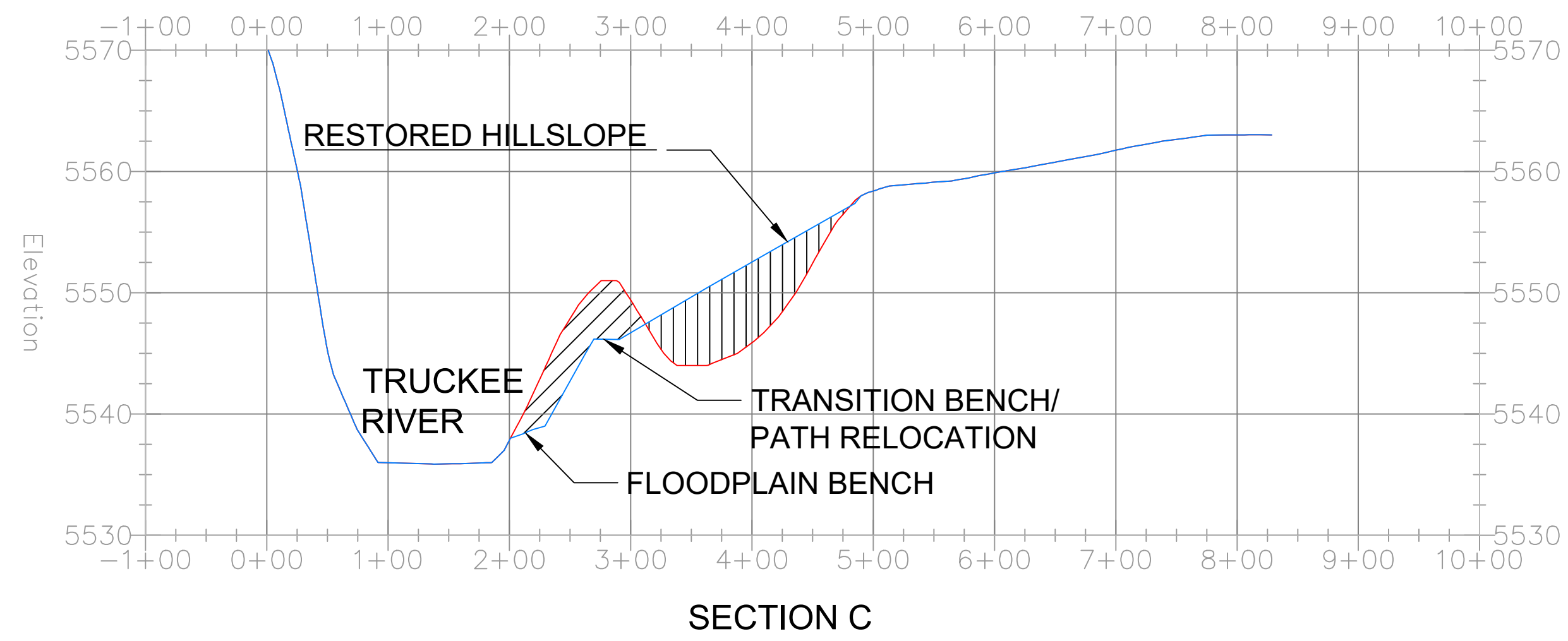
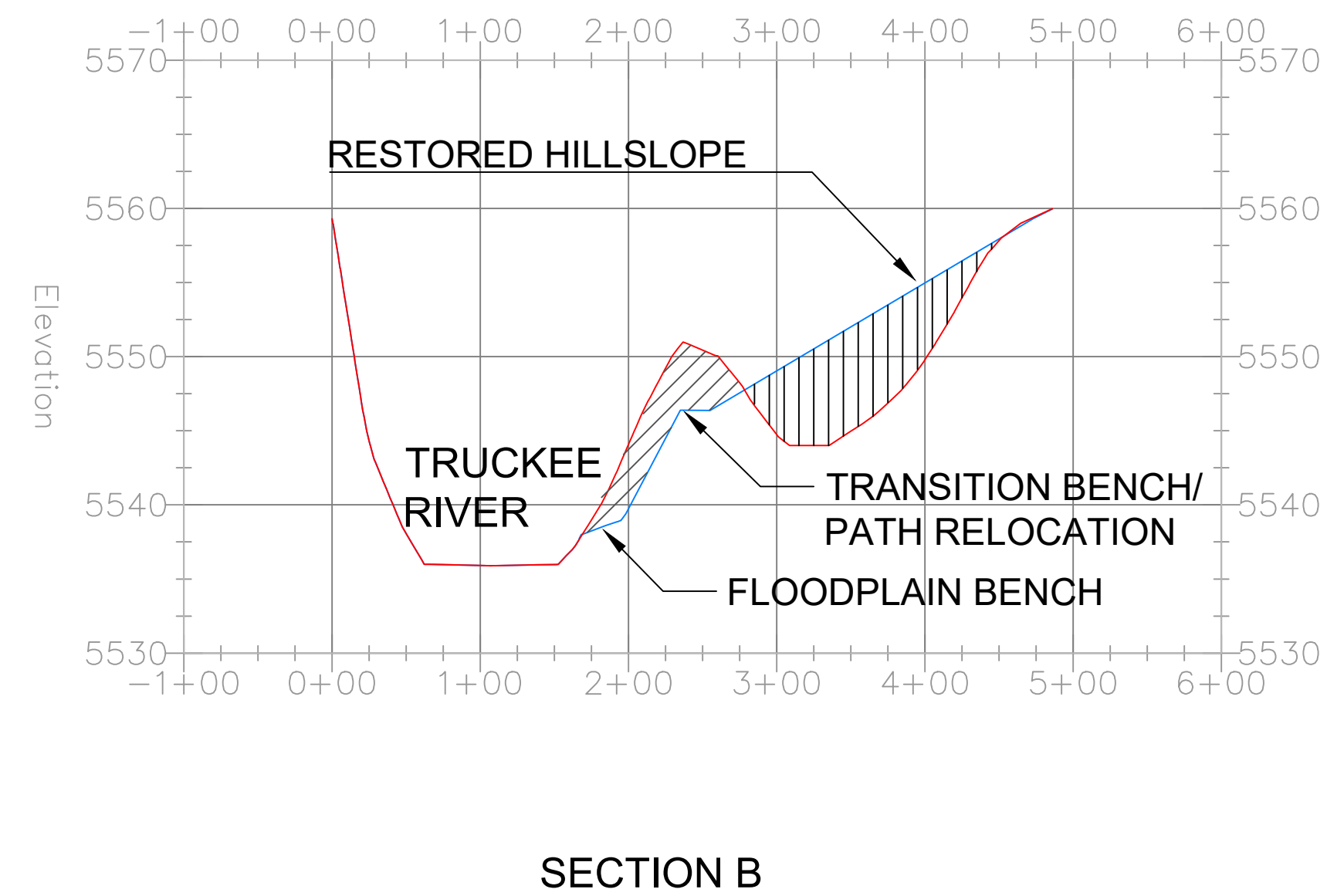
NOTES:

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CHECKED BY: CB
DATE PREPARED: 04/02/2021



LEGEND:

- EX GRADE
- PROPOSED GRADE
- CUT
- FILL

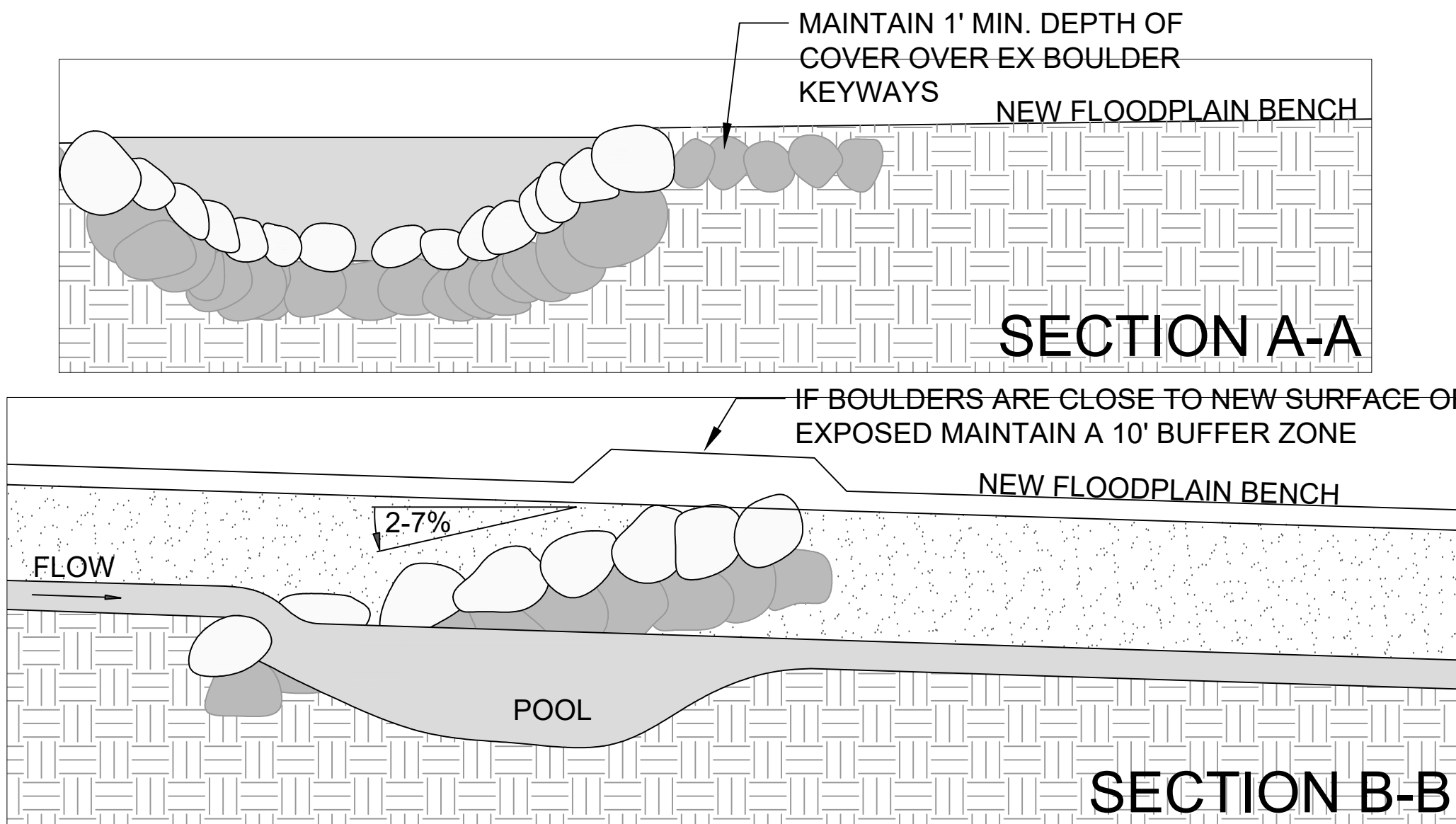
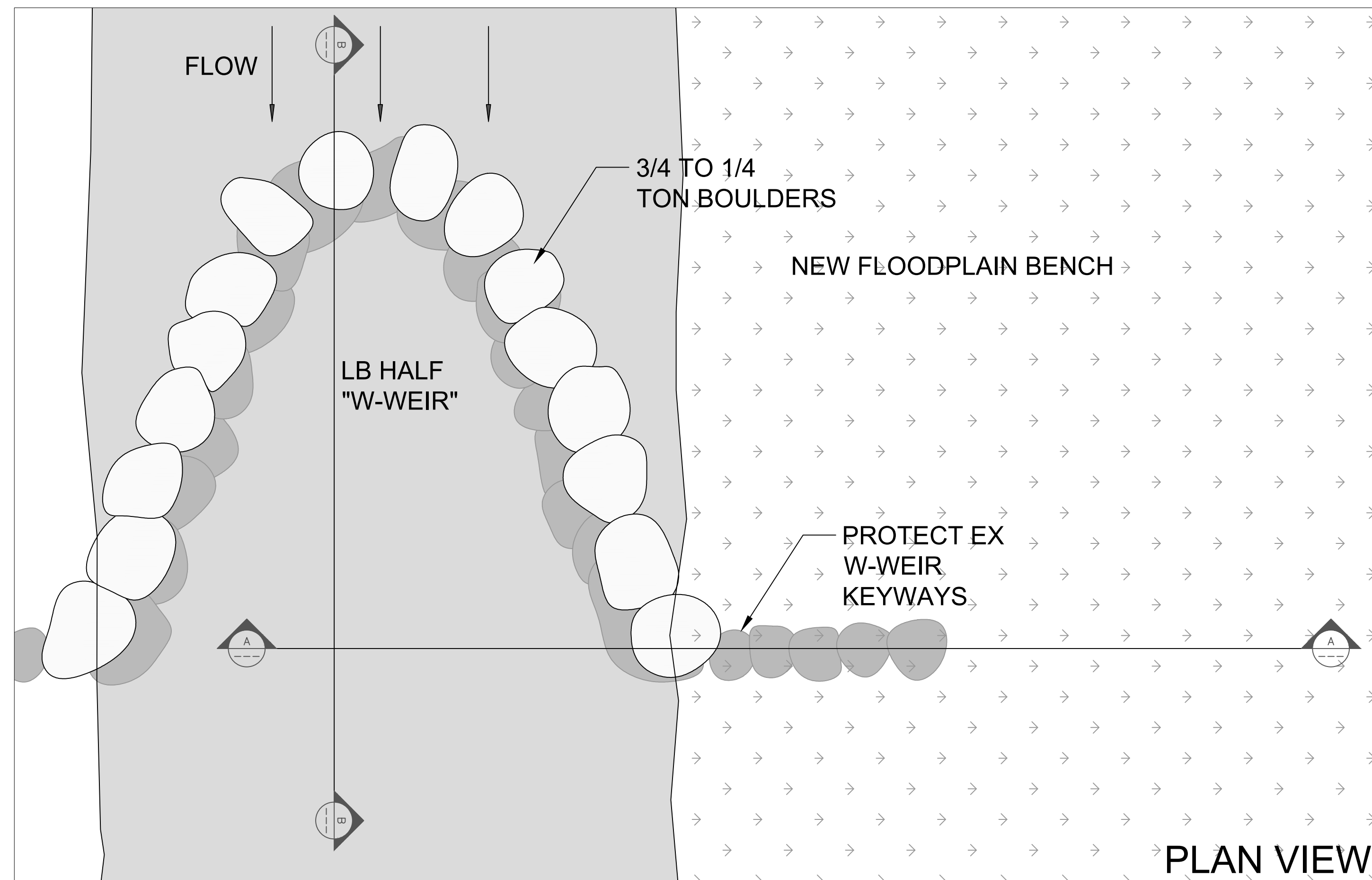


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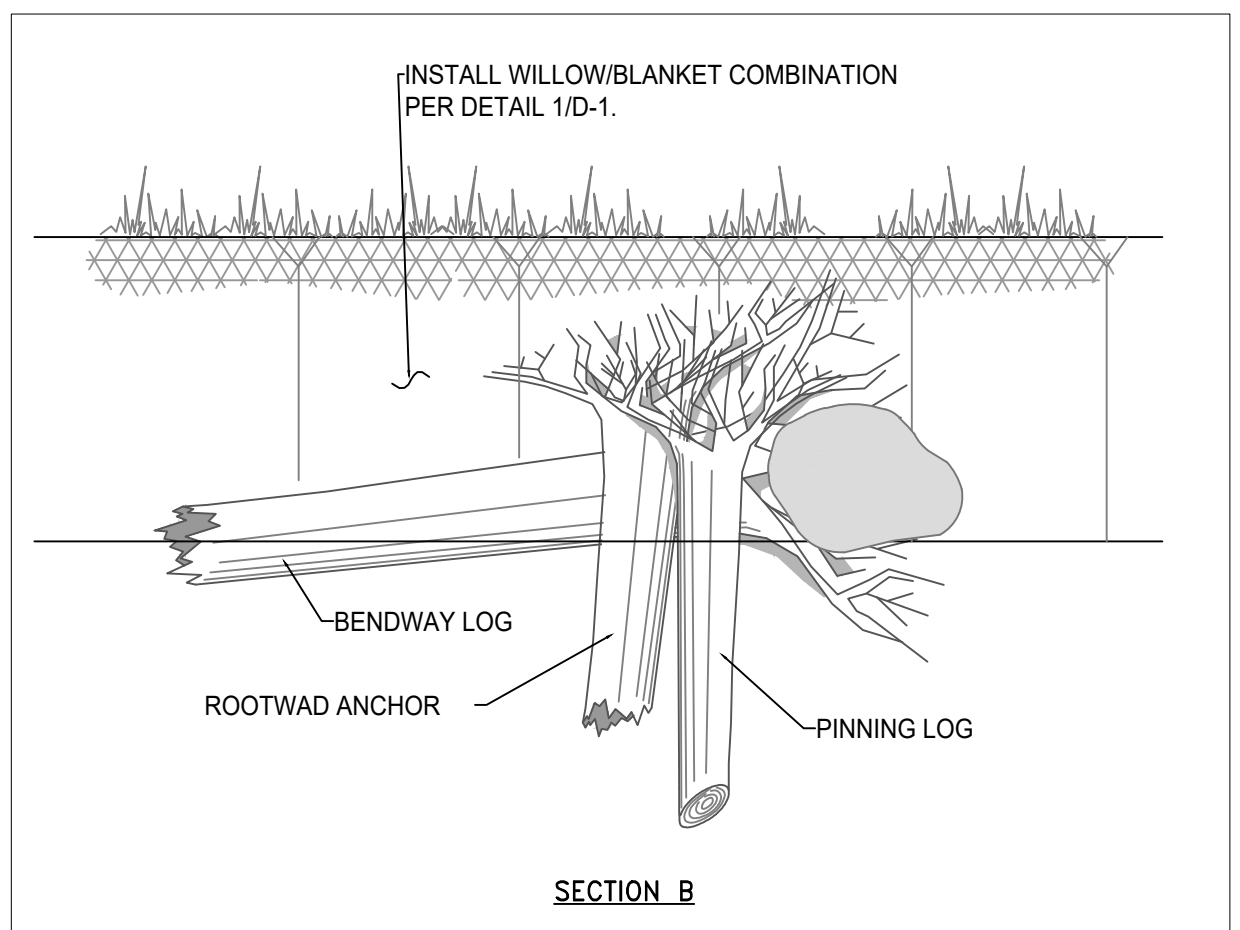
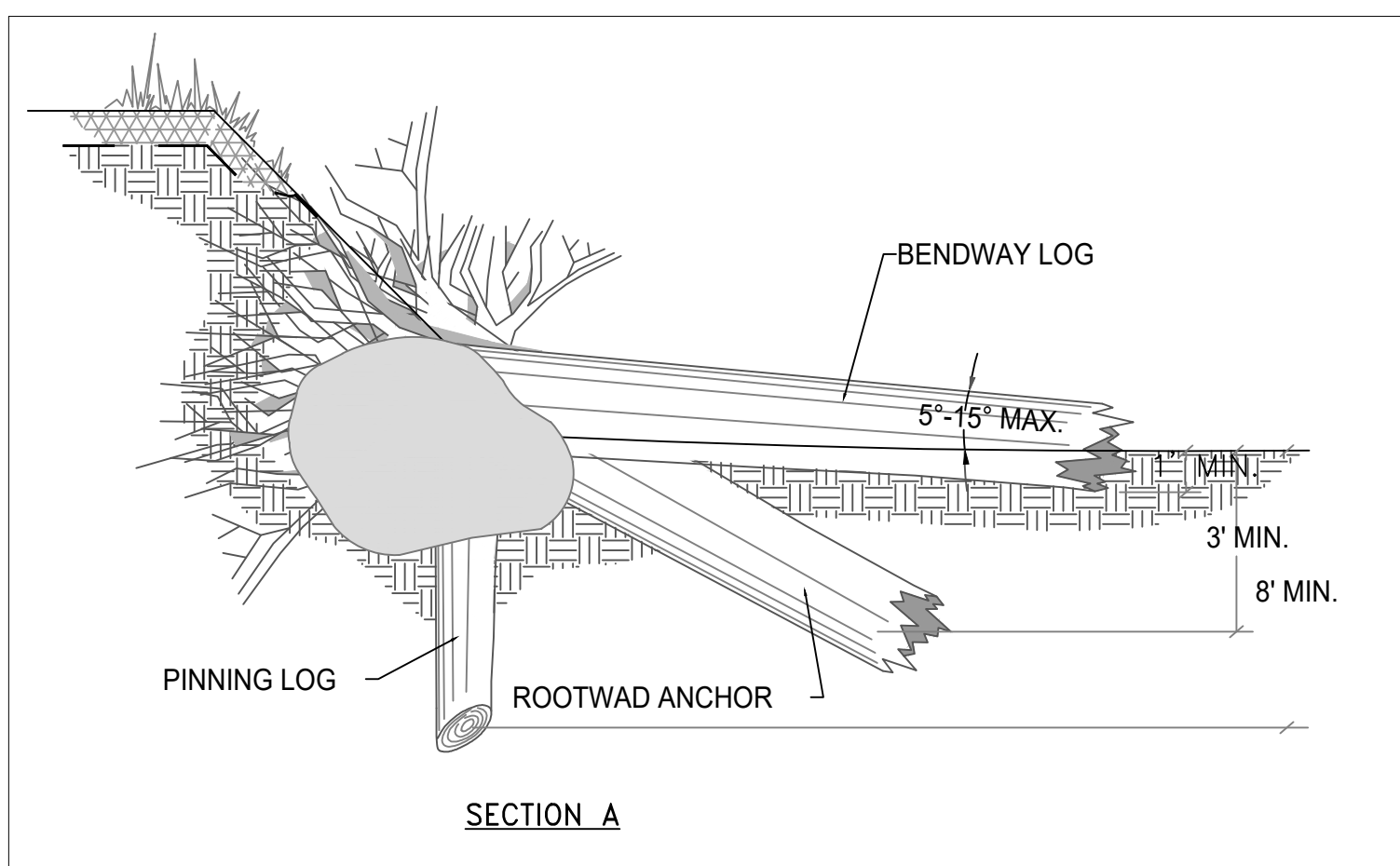
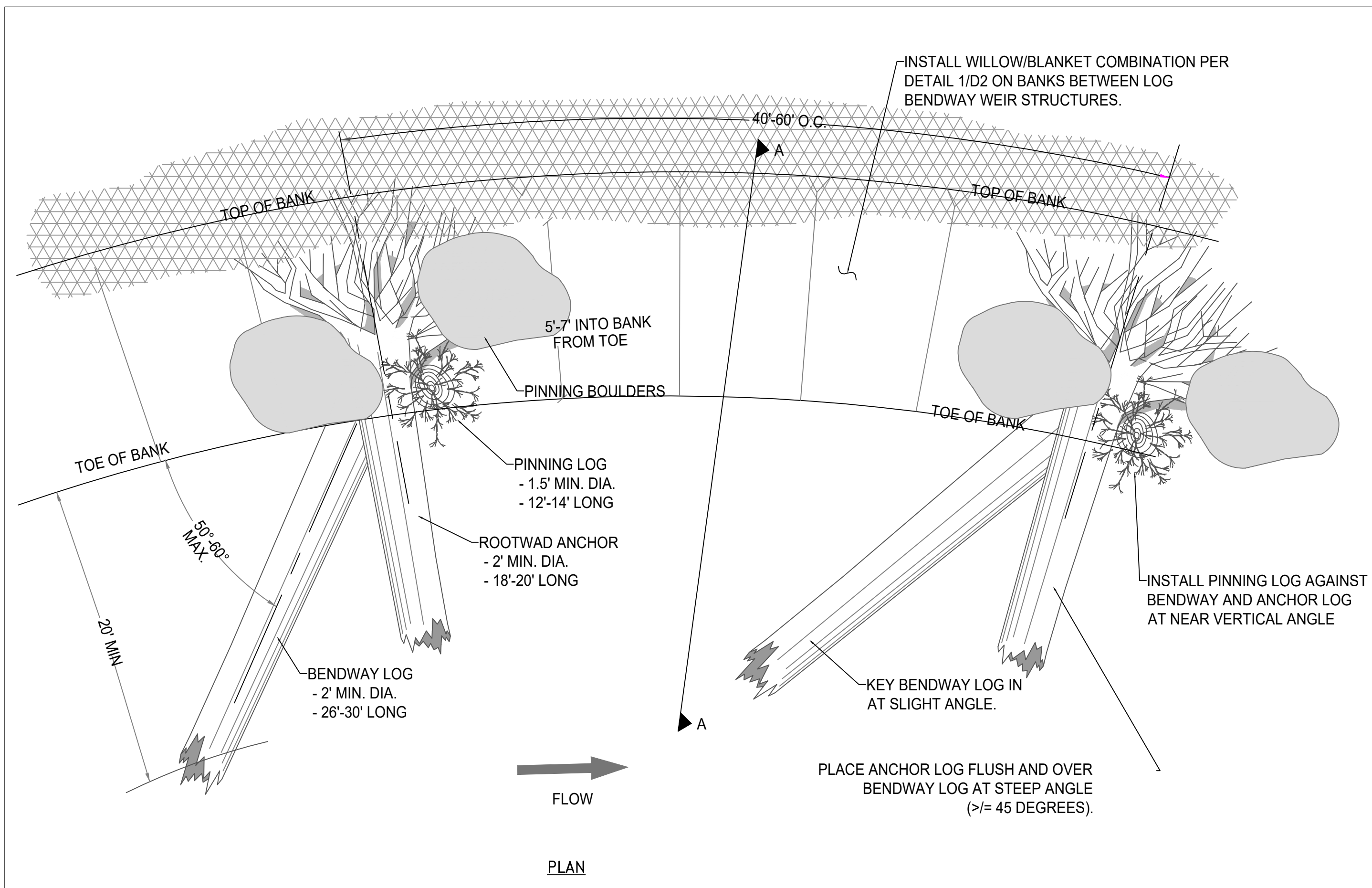
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DATE PREPARED: 04/02/2021



- NOTES:
1. SALVAGE ALL WILLOW/SOD MATERIAL PRIOR TO EXCAVATING FOR REPLANTING.
 2. WHEN EXCAVATING FLOODPLAIN BENCH AVOID EX W-WEIR KEYWAY AREA AND ENSURE 1' MIN. DEPTH.
 3. IF KEYWAY BOULDERS ARE LESS THAN 1' BELOW TARGET FLOODPLAIN BENCH EL ADJUST GRADES IN THE VICINITY OF THE W-WEIRS AND MAINTAIN A 10' BUFFER ZONE AS DIRECTED BY THE ENGINEER.

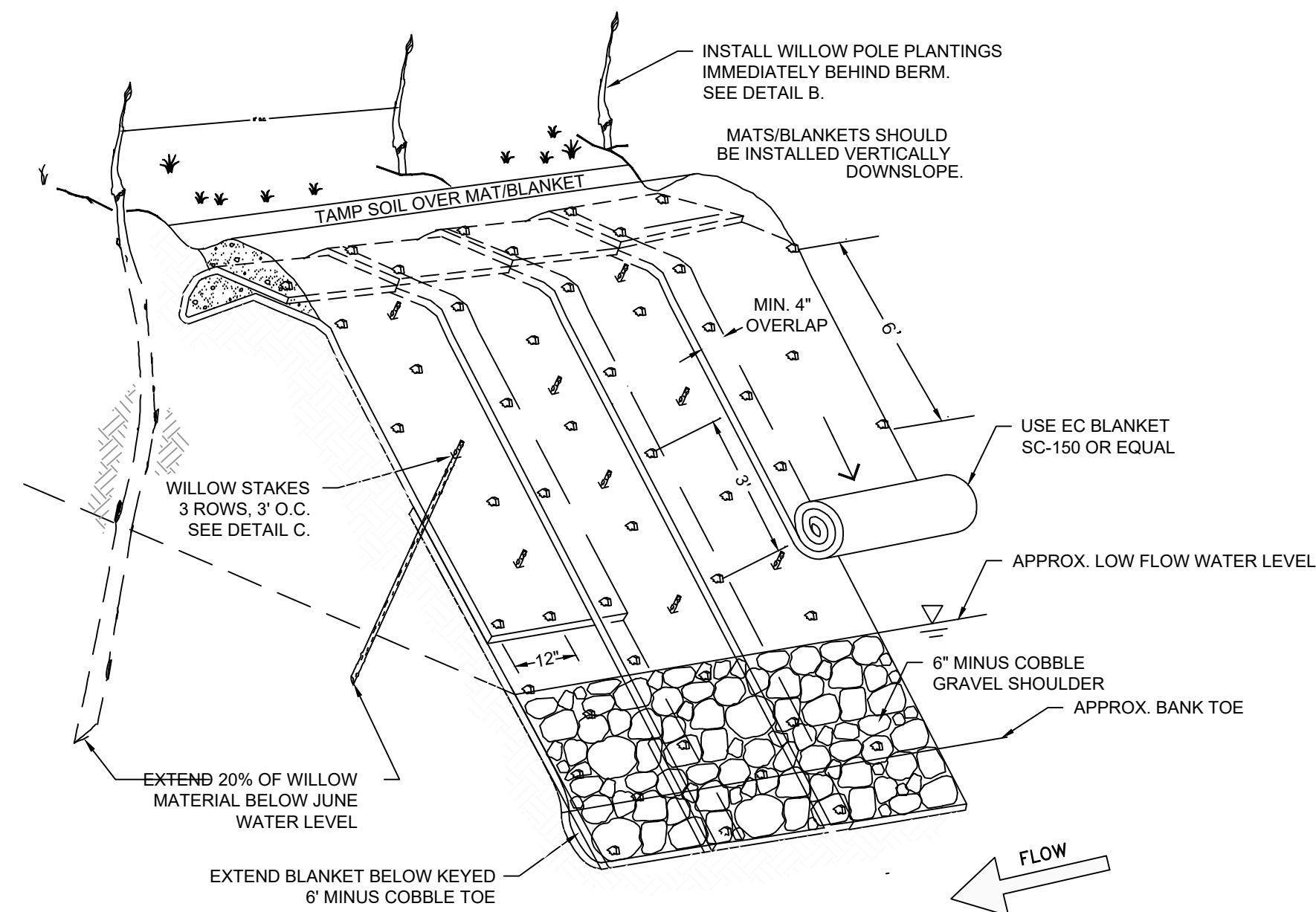
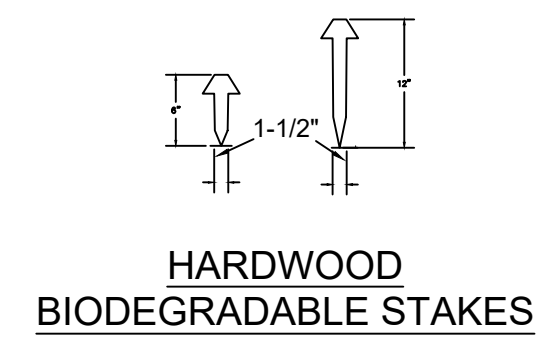
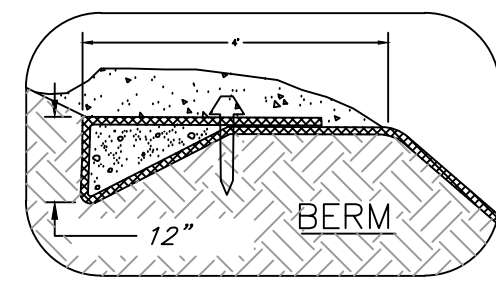
1 FLOODPLAIN BENCH AT W-WEIRS



- NOTES:
1. ADDITIONAL LARGE BOULDERS MAY BE USED IN LIEU OF PINNING LOG GIVEN EX SUBSTRATE MAY NOT ALLOW FOR VERTICAL PLACEMENT.
 2. PURPOSE OF LOG/BOULDER BENDWAY WEIR IS TO CONVEY HIGHER VELOCITY FLOWS AWAY FROM THE OUTSIDE BEND BANK.
 3. BENDWAY WEIR LOCATIONS SHOWN ARE APPROXIMATE AND TO BE FILED FIT UNDER ENGINEER'S DIRECTION.

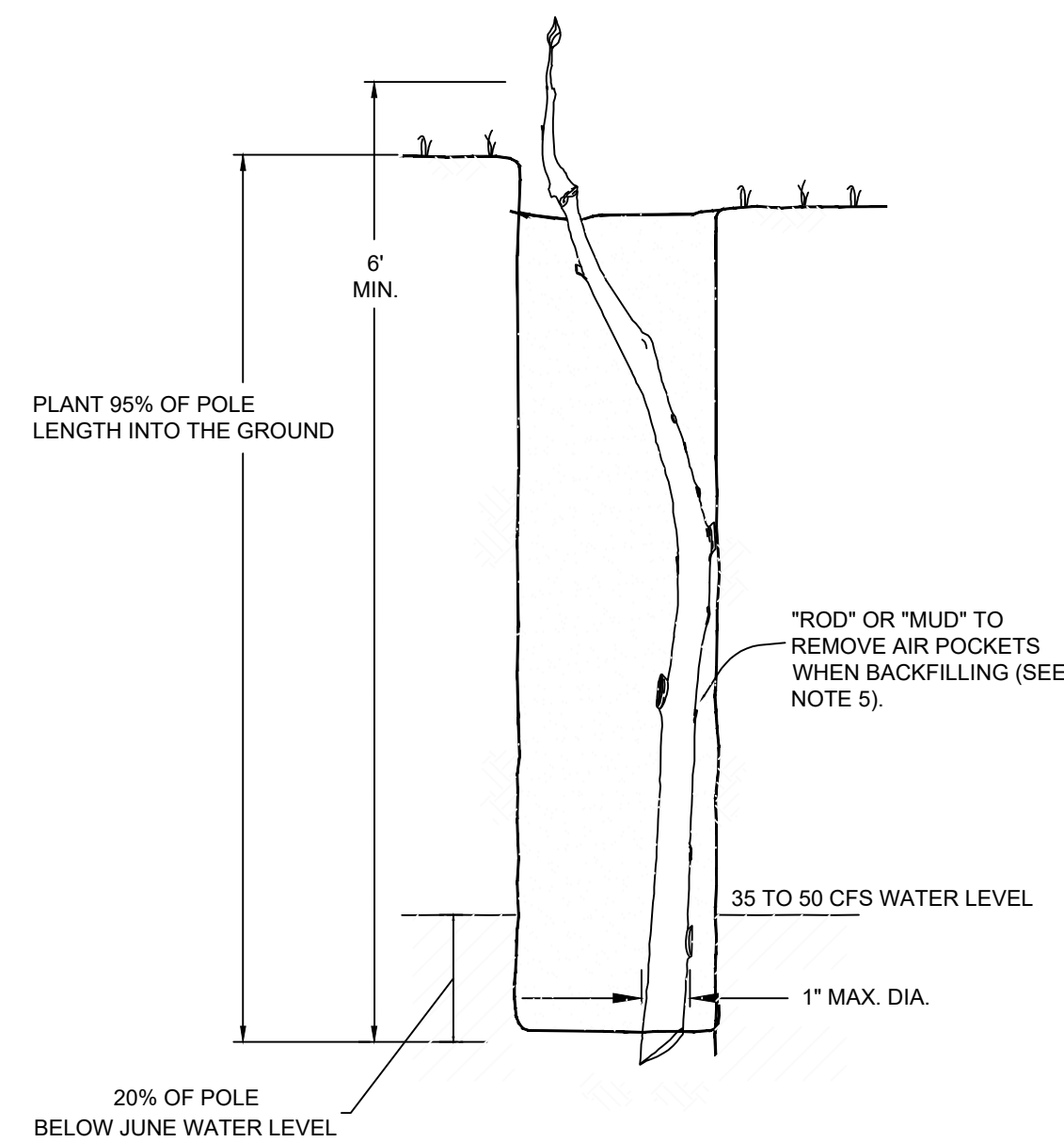
2 LOG/BOULDER COMBO (BENDWAY WEIR)
NTS

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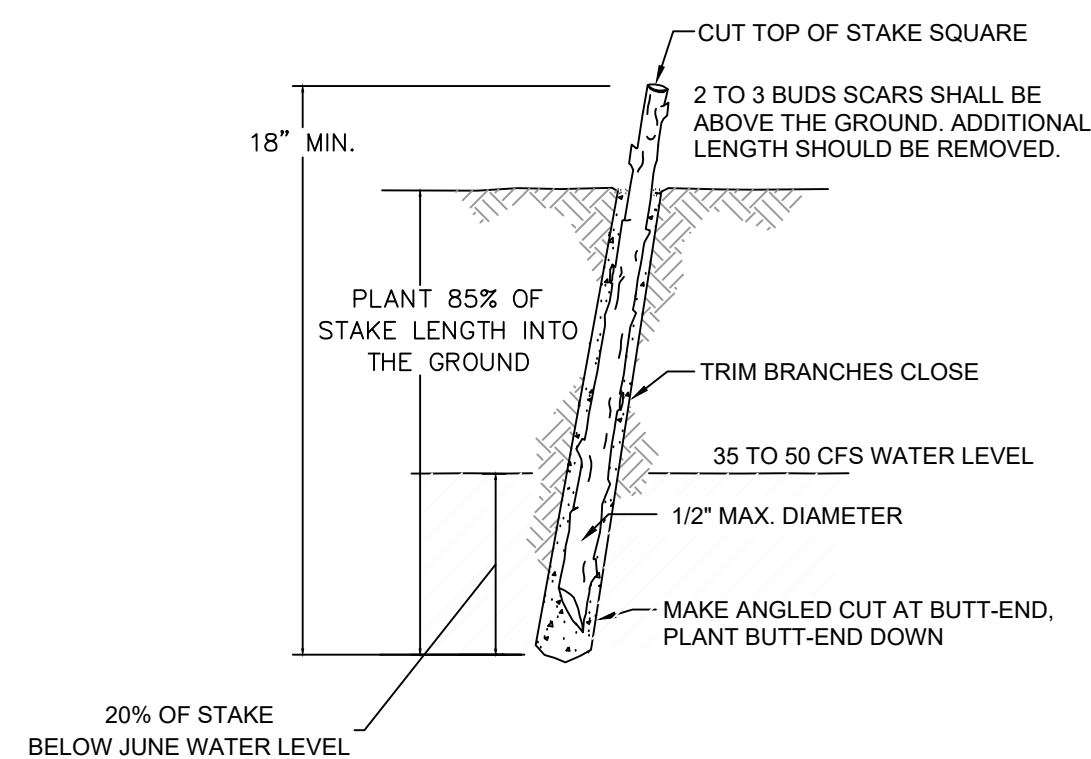


- NOTES:
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 - APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
 - LAY BLANKETS LOOSELY AND STAKE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.
 - WILLOW BRANCHES WITHIN THE LIMIT OF CLEARING AND GRUBBING SHALL BE SALVAGED AND USED AS POLES AND STAKES FOR INSTALLATION OF BIOTECHNICAL WILLOW WORK.
 - WILLOWS SPECIES SHALL BE DETERMINED.
 - REMOVE LEAVES ON ALL WILLOW CUTTINGS AND POLES WHEN STORING FOR LONGER THAN A FEW HOURS. PLACE BUTT ENDS IN WATER.
 - TO MINIMIZE DISTURBANCE AND DAMAGE TO CUTTINGS IT IS RECOMMENDED THAT HAND DIGGING OR AUGER BE USED TO EXCAVATE THE PLANTING HOLE.

ISOMETRIC VIEW



DETAIL B

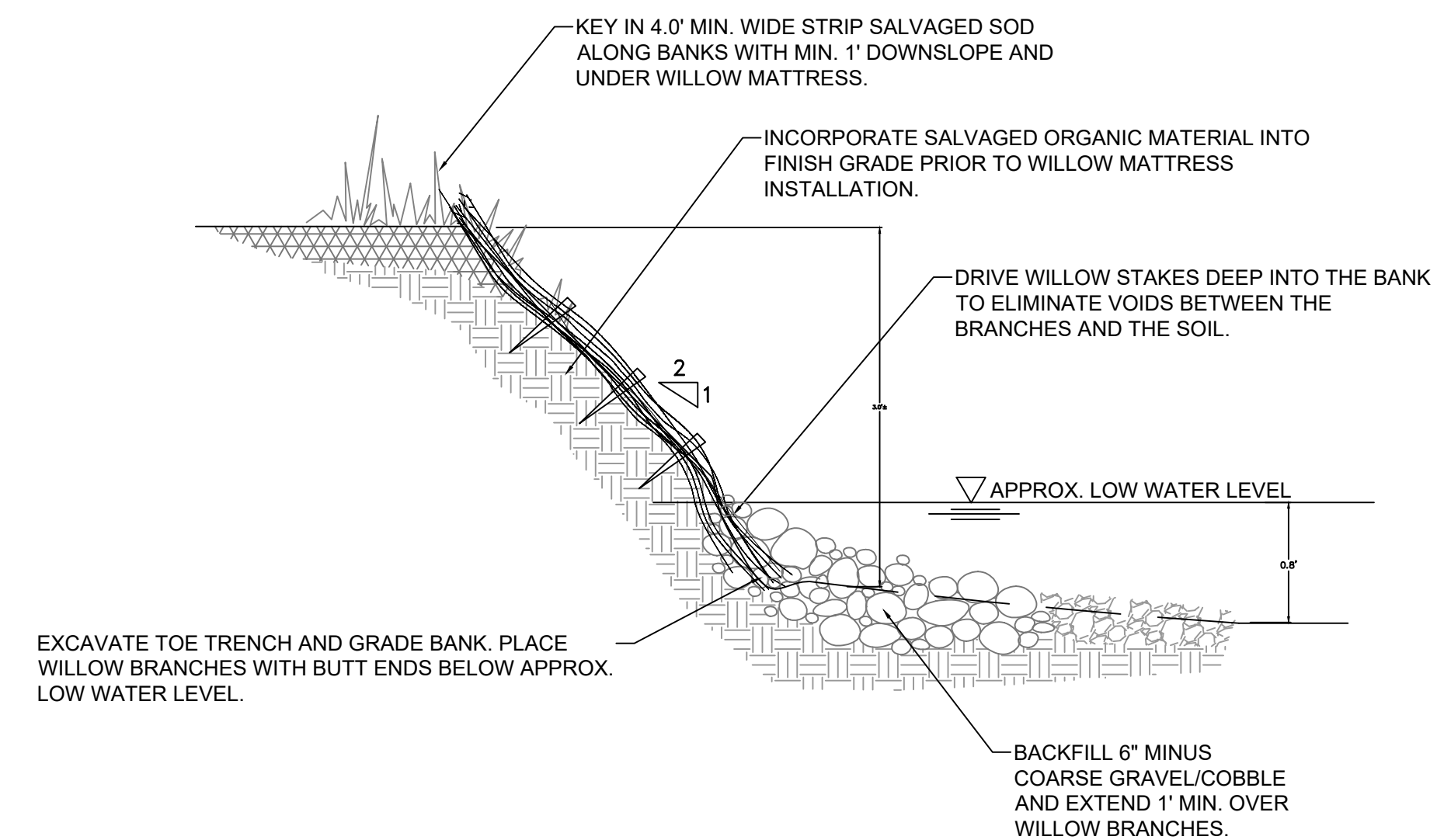


DETAIL C

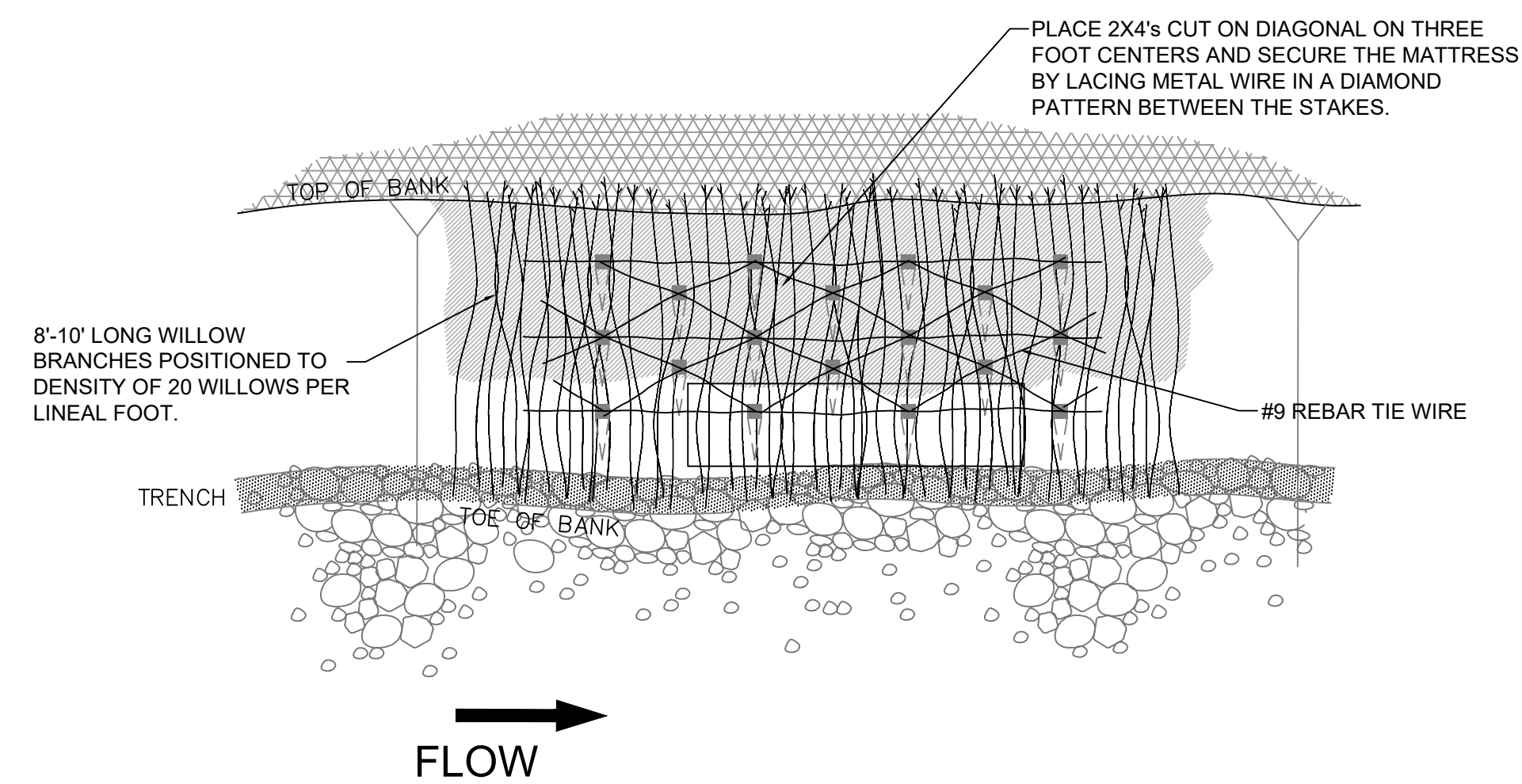
- NOTES:
- TO ENCOURAGE WILLOW GROWTH FOR IMPROVED BANK STABILITY WILLOW POLES SHALL BE DORMANT WHEN HARVESTED AND PLANTED.
 - POLE CUTTINGS OF WILLOW ARE LONGER AND HAVE A LARGER DIAMETER THAN BRANCH CUTTINGS OR LIVE STAKES.
 - POSTS AND POLES MUST BE INSTALLED DURING BIOTECHNICAL STREAMBANK CONSTRUCTION. THEY SHALL NOT BE INSTALLED THROUGH COMPLETED STRUCTURES. SEE THE SPECIFICATIONS FOR MORE INFORMATION REGARDING INSTALLATION PROCEDURES.
 - POLE CUTTINGS ARE BETTER SUITED FOR HIGHLY ERODIBLE AREAS AND SITES WITH FLUCTUATING WATER LEVELS.
 - THE POLE CUTTINGS SHOULD EXTEND THROUGH THE VAPOSE ZONE AND INTO THE PERMANENT WATER TABLE. AT LEAST 80% OF THE POLE SHOULD BE BELOW THE GROUND.
 - "MUDDYING" - FILLING THE HOLE WITH WATER AND THEN SOIL TO MAKE A MUD SLURRY FOLLOWED BY ROD TAMPING CAN REMOVE AIR POCKETS.

- NOTES:
- HARVEST AND PLACE STAKES IN COLD STORAGE FOR PLANTING AT TIME OF INSTALLATION OR HARVEST AND PLANT STAKES DURING THE DORMANT SEASON.
 - USE HEALTHY, STRAIGHT AND LIVE WOOD.
 - MAKE CLEAN CUTS AND DO NOT DAMAGE STAKES OR SPLIT ENDS DURING INSTALLATION. USE A PILOT BAR IN FIRM SOILS.
 - SOAK CUTTINGS FOR 24 HOURS (MIN.) PRIOR TO INSTALLATION.
 - TAMP THE SOIL AROUND THE STAKE.

1 BIOTECHNICAL TREATMENT OPTION PLACEHOLDER WILLOW BLANKET COMBO NTS



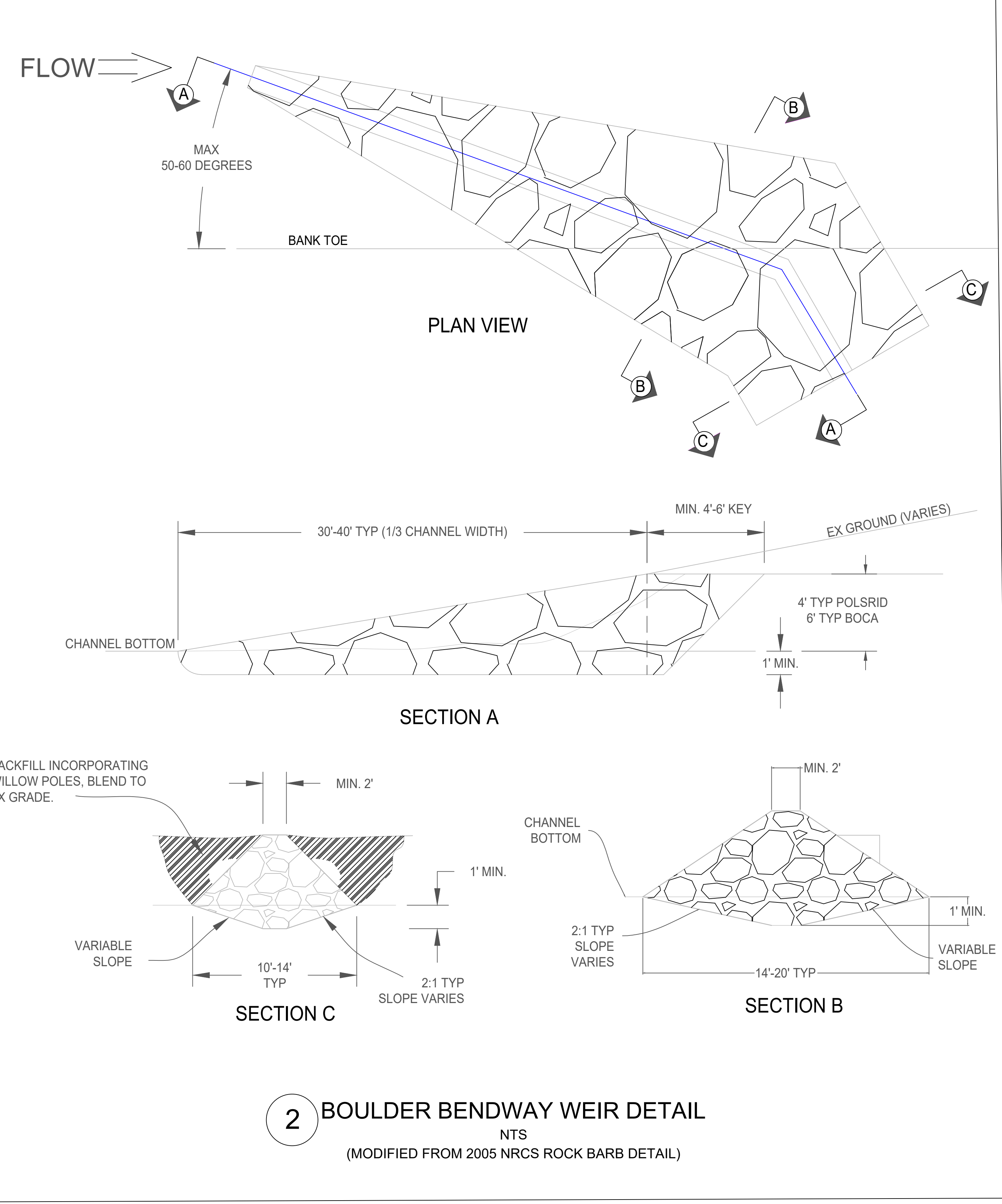
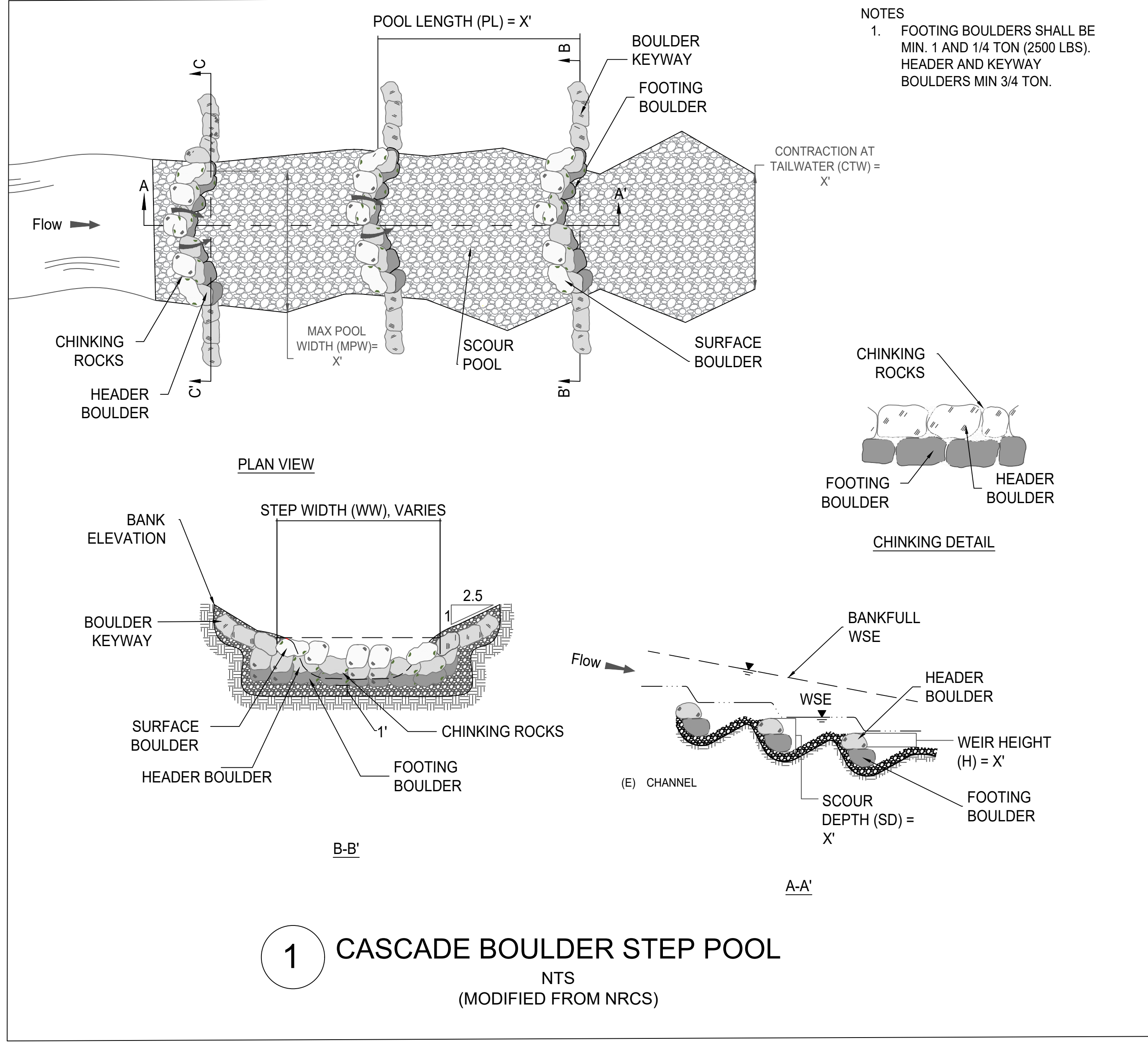
SECTION



PLAN

2 WILLOW BRUSH MATTRESS DETAIL NTS

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foriver
TRUCKEE RIVER WATERSHED COUNCIL

DETAILS

TRUCKEE RIVER
WILDLIFE AREA

NOTES:

DRAWN BY: JA
CHECKED BY: CYB
DATE PREPARED: 04/02/2021

D-3

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