



US-ID-56-4

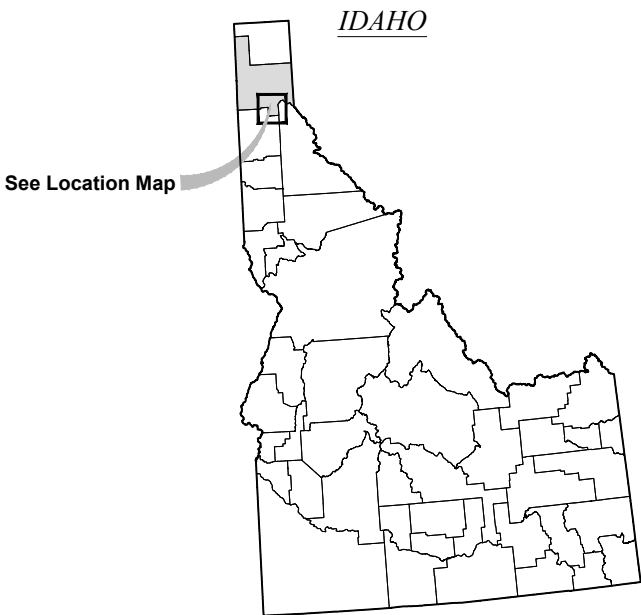
PACK RIVER

RESTORATION

PHASE III



VICINITY MAP



PROJECT LOCATION

Section: 5, 6, 7, & 8
Township: T 57 N
Range: R 1 E
Meridian: Boise
County: Bonner
State: Idaho

SURVEY DATUM

Horizontal: NAD 83 (2011)(EPOCH 2010.0000)
US State Plane Idaho West Zone
Vertical: NGVD29
Units: US Feet

Horizontal/Vertical Control by 5 hour GPS Static
observation submitted NGS OPUS

MAP DATA

Contour Interval: 1 Foot, Derived from USACE 2010 LiDAR adjusted from NAVD88
to NGVD29 and DU survey points.

Aerial Photo: 2021 Orthoimagery from Eagleview & Bonner County



REVISIONS			
REV. NO.	DESCRIPTION	DATE	APPROVED



PROJECT NO. US-ID-56-4	DATE: 6/13/2025
PACK RIVER RESTORATION PHASE III	
APPROVED BY: _____	

BID SET

DESIGNED BY: BAH
DRAWN BY: RGR
CHECKED BY: -
SHEET NO. 1.0

LOCATION MAP



NOT TO SCALE

Unauthorized Changes & Uses
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GENERAL NOTES:

1. Ducks Unlimited makes no representations as to the existence or nonexistence of utilities. It is the responsibility of the contractor to comply with the provisions of all applicable utility notification regulations. The contractor will be liable for any damage to utilities caused by construction activities.
2. The engineer does not represent that the location of utilities shown on the plans are exact or complete. It shall be the responsibility of the contractor to determine the presence of, actual locations of and make provisions for all watercourses and utilities. The contractor shall verify location, depth and height. Their verification shall be coordinated by the contractor with the appropriate utility company.
3. The contractor shall exercise extreme caution when working in the vicinity of overhead power lines. Verify location in the field and protect in place.
4. At least 2 working days prior to beginning any digging or excavation work, the contractor shall notify underground service alert (a.k.a. USA North) at www.usanorth.org or by phone at 811 or 1-800-227-2600, to determine locations of existing utilities.
5. In accordance with generally accepted construction practices, the contractor will be solely and completely responsible for the conditions of the job site including safety of all persons and property during performance of the work. The contractor shall ensure that all work is performed in accordance with occupational safety laws, including the design and construction of proper shoring of trenches. The duties of the project engineer do not include review of the adequacy of the contractor's safety in, on, or near the job site.
6. It is the responsibility of the contractor to be knowledgeable about the project specifications and permits. All work shall be completed in compliance with the contract documents. The contractor shall have copies of the most current approved plans, specifications and permit conditions on site during all work operations.
7. The project site and adjacent areas contain sensitive habitat areas for protected wildlife, and may include endangered species. The contractor shall protect wildlife and water quality, and minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
8. Should it appear that the work to be done, or any matter relative thereto, is not sufficiently detailed or explained on these plans or in the specifications, the contractor shall contact the construction manager for such further explanations as may be necessary.
9. Should the contractor find any discrepancies between the conditions existing in the field and the information shown on the drawings, he shall notify the construction manager before proceeding with construction.

SURVEY POINT DESCRIPTORS

CTBM	Bench Mark (permanent)	RDSH	Road Shoulder
CTBT	Bench Mark (temporary)	RDSN	Road Sign
CTCP	Survey Control Point (permanent)	RDTO	Road, Toe of Slope
CTCT	Survey Control Point (temporary)	RDTP	Road, Top of Slope
DIFL	Ditch Flowline	SDMH	Storm Drain, Manhole
DIGB	Ditch Grade Break	SDPI	Storm Drain, Pipe Invert
DITO	Ditch Toe	SDPT	Storm Drain, Pipe Top
DITP	Ditch Top	SSMH	Sanitary Sewer, Manhole
ELBX	Electric, Box or Pullbox	SWFL	Swale Flowline
ELGY	Electric, Guy Wire	SWGB	Swale Grade Break
ELPP	Electric, Power Pole	SWTO	Swale Toe
ELSN	Electric, Warning Sign	SWTP	Swale Top
ELTR	Electric, Transformer	TFBL	Topo Feature, Building
ELTW	Electric, Tower	TFBR	Topo Feature, Brush
ELVT	Electric, Vault	TFCO	Topo Feature, Concrete (pad, slab, etc.)
FNAP	Fence Angle Point	TFFL	Topo Feature, Flowline
FNCR	Fence Corner	TFGB	Topo Feature, Grade Break
FNGT	Fence Gate	TFGS	Topo Feature, Ground Shot
FNLN	Fence Line	TFRK	Topo Feature, Rock Or Rocky Area Boundary
IRCO	Irrigation Concrete Pad	TFTL	Topo Feature, Tree line
IRCP	Irrigation Control Panel	TFTO	Topo Feature, Grade Break at Toe
IRPI	Irrigation Pipe Invert	TFTP	Topo Feature, Grade Break at Top
IRPM	Irrigation Pump	TFTR	Topo Feature, Tree
IRPT	Irrigation Pipe Top	WAEW	Edge of Water
IRVL	Irrigation Valve	WAHW	High Water Mark
IRWL	Irrigation Well	WAUW	Under Water Ground Shot
LVCL	Levee Centerline	WAWS	Water Surface
LVGB	Levee Grade Break	WCFL	Water Control Structure, Flowline/Invert at Structure
LVTO	Levee Toe of Slope	WCFR	Water Control Structure, Frame Top
LVTP	Levee Top of Slope	WCHW	Water Control Structure, Headwall
RDCL	Road, Centerline	WCPI	Water Control Structure, Pipe Invert at Outlet
RDED	Road, Edge of Dirt Road	WCPT	Water Control Structure, Pipe Top at Outlet
RDEG	Road, Edge of Gravel Road	WCST	Water Control Structure, Top of Structure
RDEP	Road, Edge of Paved Road	WCWW	Water Control Structure, Wing Wall
RDGB	Road Grade Break		

ABBREVIATIONS

AB	Aggregate Base	MIN	Minimum	WCS	Water Control Structure
AC	Acre	MISC	Miscellaneous	WS	Water Surface
APPROX	Approximate	(N)	New	WSEL	Water Surface Elevation
BM	Benchmark	N	North	WWF	Welded Wire Fabric
CAP	Corrugated Aluminum Pipe	NIC	Not In Contract	X:1	Slope, Horizontal:Vertical
CC	Center to Center	NTS	Not To Scale		
CF	Cubic Foot	OC	On Center		
CFS	Cubic Foot Per Second	OD	Outside Diameter		
CL, ¢	Centerline	PIP	Pressure Irrigation Pipe		
CMP	Corrugated Metal Pipe	PP	Power Pole		
CMPA	Corrugated Metal Arch Pipe	PSI	Pounds per Square Inch		
CONC	Concrete	PT	Pressure Treated		
CP	Control Point	PVC	Polyvinyl Chloride		
CY	Cubic Yard	QTY	Quantity		
DEMOL	Demolish	R	Right		
DIA, Ø	Diameter	RCB	Reinforced Concrete Box		
Dp	Pipe Diameter	RD	Road		
Dr	Riser Diameter	REF	Reference Dimension		
DU	Ducks Unlimited, Inc.	REQD	Required		
D/S	Downstream	ROW	Right Of Way		
E	East	S	South		
EG	Existing Ground	SCH	Schedule		
EL	Elevation	SS	Stainless Steel		
EX, EXIST	Existing	SDR	Standard Dimension Ratio		
FG	Finished Grade	SF	Square Feet		
FL	Flowline	SHT	Sheet		
FRG	Final Rough Grade	SP	Special		
FT	Foot, Feet	SPECS	Specifications		
FTG	Fitting, Footing	SY	Square Yard		
GA	Gauge	STA	Station		
GB	Grade Break	STD	Standard		
H	Height	TBD	To Be Determined by Engineer		
HDPE	High-Density Polyethylene	TBM	Temporary Benchmark		
HR	Half Round	TE	Top Elevation		
ID	Inside Diameter	TEMP	Temporary		
IE	Invert Elevation	TESC	Temporary Erosion and Sediment Control		
IG	Initial Grade	TOI	Top of Island		
IN	Inch, Inches	TOL	Top of Levee		
INV	Invert	TOB	Top of Berm		
IPS	Iron Pipe Size	TYP	Typical		
L	Length, Left	USA	Underground Service Alert		
LBF	Pounds-Force	U/S	Upstream		
LF	Linear Feet	VLV	Valve		
MAINT	Maintenance	W	Width, West (where applicable)		
MAX	Maximum	W /	With		

LEGEND & STANDARD SYMBOLS

(Symbols do not represent actual scale / size of object)

	Existing Fence Line - Barbed Wire		Existing Power / Telephone Pole
	Existing Fence Line - Chain Link		Existing Electric Guy Wire
	Existing Fence Line - Stockade		Existing Electric Transformer
	Power / Telephone Overhead Lines		Existing Electric Tower
	Underground Gas Line		Existing Electric Vault
	Electric Line		Existing Blind
	Force Main Line		Existing Gate Valve
	Sanitary Sewer Line		Existing Air Relief Valve
	Storm Drain Line		Existing Alfalfa / Overflow Valve
	Existing Ditch		Existing Irrigation Well
	Existing Levee		Existing Irrigation Pump
	Existing Swale		Existing Water Meter
	Existing Road - Dirt		Existing Fire Hydrant
	Existing Road - Gravel		Existing Manhole
	Existing Road - Paved		Existing Natural Gas Meter / Valve
	Existing Trees / Brushline		Existing Sign
	Existing Pipe / Culvert		Existing Water Control Structure (Precast Concrete)
	Existing Water Control Structure (Full Round)		Existing Water Control Structure (Half Round)

DESIGN SYMBOLS

	Water Control Structure ID#		New Power Pole
	Revision Number Identifier		New Gate Valve
	Cut/Borrow Area / Pothole		New Air Relief Valve
	Fill Area		New Alfalfa / Overflow Valve
	Ditch Cleaning		New Irrigation Pump
	New Ditch Centerline / Flowline		New Water Control Structure
	New Swale Centerline / Flowline		New Agri-Drain Inline Water Control Structure
	Regrade Existing Swale		Benchmark
	New Levee Centerline		Temporary Benchmark
	Improved Levee Centerline		Control Point
	Regraded/Lowered Levee Centerline		Wood Debris Pile
	Remove Existing Levee		Grading Example
	Design Water Surface Elevation		Slope Symbols

DETAILING CONVENTIONS

	Section Letter		Detail Number		Section Letter		Direction of Section
	SEE SECTION		SEE DETAIL		Sheet Where Section is Shown		Sheet Where Detail is Shown
	TYPICAL DETAIL		TYPICAL SECTION		Section Cut (Alternate)		Construction Notes (See sheet where appears)

BID SET

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REVISIONS					PROJECT NO. US-ID-56-4	DATE: 6/13/2025	DESIGNED BY: BAH
REV. NO.	DESCRIPTION	DATE	APPROVED		PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
							SURVEYED BY: LIDAR/DU
							CHECKED BY: -
					DEFINITIONS & LEGEND		SHEET NO. 1.1


SUMMARY TABLE - ISLANDS

				WORK LOCATIONS		
BID ITEM #	ITEM DESCRIPTION	UNIT	TOTAL	ISLAND 1	ISLAND 2	ISLAND 3
5	ISLAND FILL (CG & FG)	CY	68073	30335	7310	30428
6	CLASS 1 ROCK (EDGE PROT)	TON	9642	3408	2776	3458
7	DORMANT PLANTINGS	EA	15729	7806	2070	5853
8	STRAW MULCH (4000#/AC)	TONS	2.26	0.68	0.44	1.14



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PROJECT NO. US-ID-56-4	DATE: 6/13/2025	DESIGNED BY: BAH
PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
WORK ITEM QUANTITIES		CHECKED BY: -
		SHEET NO. 1.2




SURVEY CONTROL POINT DATA						
Point #	Raw Description	Northing	Easting	Elevation	Latitude	Longitude
3	CTBM REBARCAP	2417023.162'	2470091.009'	2066.37'	N048°17'40.32"	W116°23'06.06"
120	CTBM CONFLUENCE REBAR	2420913.955'	2473791.493'	2074.86'	N048°18'19.02"	W116°22'11.80"
5001	CTCB 2IN PLASTIC CAP LS29293	2418895.098'	2469092.416'	2060.62'	N048°17'58.72"	W116°23'21.06"

LEGEND

- SHEET INDEX
- PROPOSED ACCESS ROUTES
- PACK RIVER MAIN CHANNEL
- EXISTING SPOT ELEV (LIDAR)
- PT# ?
EL=??.??
TEST PIT ?



BID SET

REVISIONS					PROJECT NO. US-US-ID-56-4 DATE: 6/12/2025	DESIGNED BY: BAH
REV. NO.	DESCRIPTION	DATE	APPROVED			DRAWN BY: RGR
△					SURVEYED BY: LIDAR	
△					CHECKED BY: -	
△					SHEET NO. 2.0	
△						
					PACK RIVER RESTORATION PHASE III	
					SHEET INDEX - CONTROL POINTS - ACCESS	

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ACCESS ROUTES NOTES:

- 1. ACCESS ROUTES MUST BE ALONG SHOWN ALIGNMENTS UNLESS OTHERWISE SUBMITTED TO ENGINEER/OWNER FOR APPROVAL.
- 2. MATERIAL USED IN CONSTRUCTION OF ACCESS ROUTES MUST BE REMOVED. IT CAN BE USED FOR OTHER CONSTRUCTION USES.

LEGEND

- SHEET INDEX
- PROPOSED ACCESS ROUTES
- PACK RIVER MAIN CHANNEL
- *?? EXISTING SPOT ELEV (LIDAR)
- ▼ PT# ?
EL=??.?<br/TEST PIT ?



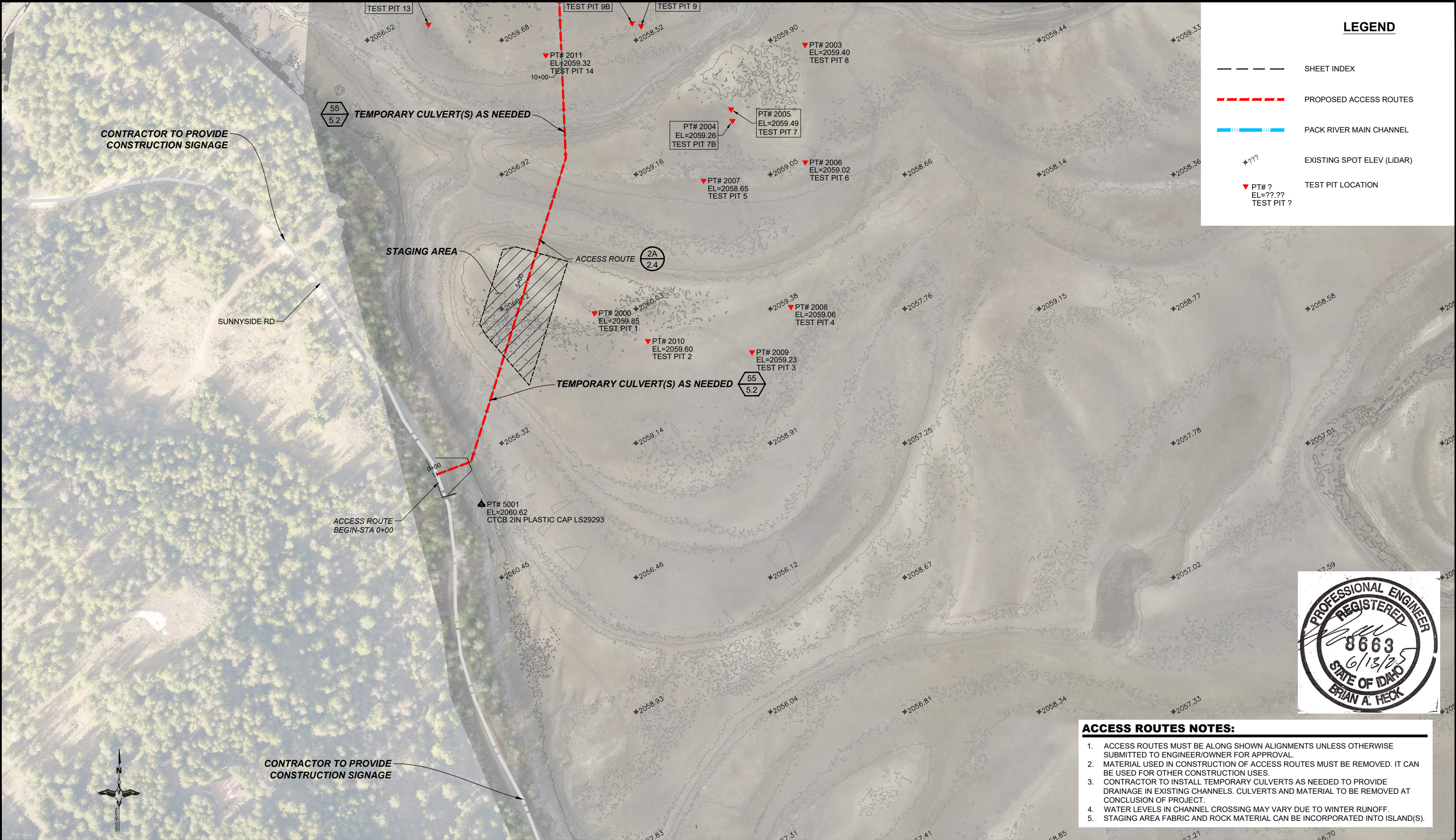
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PROJECT NO. US-US-ID-56-4	DATE: 6/12/2025	DESIGNED BY: BAH
PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
EXISTING SITE PLAN & PROPOSED ACCESS ROUTE		CHECKED BY: -
		SHEET NO. 2.1



LEGEND

SHEET INDEX

PROPOSED ACCESS ROUTES

PACK RIVER MAIN CHANNEL

EXISTING SPOT ELEV (LIDAR)

TEST PIT LOCATION



ACCESS ROUTES NOTES:

1.

ACCESS ROUTES MUST BE ALONG SHOWN ALIGNMENTS UNLESS OTHERWISE SUBMITTED TO ENGINEER/OWNER FOR APPROVAL.

2.

MATERIAL USED IN CONSTRUCTION OF ACCESS ROUTES MUST BE REMOVED. IT CAN BE USED FOR OTHER CONSTRUCTION USES.

3.

CONTRACTOR TO INSTALL TEMPORARY CULVERTS AS NEEDED TO PROVIDE DRAINAGE IN EXISTING CHANNELS. CULVERTS AND MATERIAL TO BE REMOVED AT CONCLUSION OF PROJECT.

4.

WATER LEVELS IN CHANNEL CROSSING MAY VARY DUE TO WINTER RUNOFF.

5.

STAGING AREA FABRIC AND ROCK MATERIAL CAN BE INCORPORATED INTO ISLAND(S).

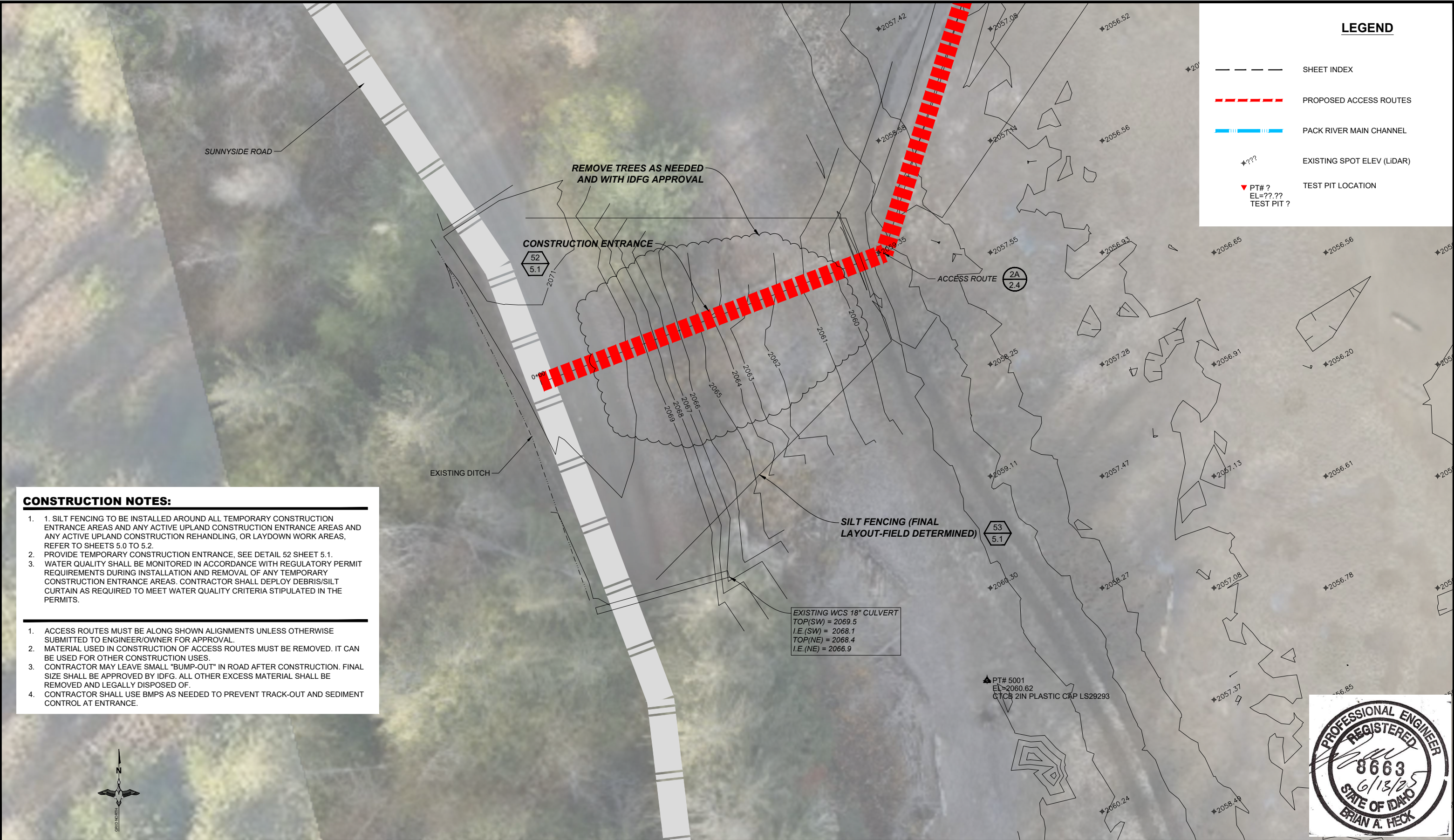
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REV. NO.	DESCRIPTION	DATE	APPROVED
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PROJECT NO.	US-US-ID-56-4	DATE:	6/12/2025	DESIGNED BY:	BAH
PACK RIVER RESTORATION PHASE III				DRAWN BY:	RGR
EXISTING SITE PLAN & PROPOSED ACCESS ROUTE				SURVEYED BY:	LIDAR
				CHECKED BY:	
				SHEET NO.	2.2



LEGEND

SHEET INDEX

PROPOSED ACCESS ROUTES

|||||

PACK RIVER MAIN CHANNEL

*???

EXISTING SPOT ELEV (LIDAR)

▼ PT# ?
EL=??.??
TEST PIT ?

TEST PIT LOCATION

CONSTRUCTION NOTES:

1.

1. SILT FENCING TO BE INSTALLED AROUND ALL TEMPORARY CONSTRUCTION ENTRANCE AREAS AND ANY ACTIVE UPLAND CONSTRUCTION ENTRANCE AREAS AND ANY ACTIVE UPLAND CONSTRUCTION REHANDLING, OR LAYDOWN WORK AREAS, REFER TO SHEETS 5.0 TO 5.2.
2.

PROVIDE TEMPORARY CONSTRUCTION ENTRANCE, SEE DETAIL 52 SHEET 5.1.
3.

WATER QUALITY SHALL BE MONITORED IN ACCORDANCE WITH REGULATORY PERMIT REQUIREMENTS DURING INSTALLATION AND REMOVAL OF ANY TEMPORARY CONSTRUCTION ENTRANCE AREAS. CONTRACTOR SHALL DEPLOY DEBRIS/SILT CURTAIN AS REQUIRED TO MEET WATER QUALITY CRITERIA STIPULATED IN THE PERMITS.
1.

ACCESS ROUTES MUST BE ALONG SHOWN ALIGNMENTS UNLESS OTHERWISE SUBMITTED TO ENGINEER/OWNER FOR APPROVAL.
2.

MATERIAL USED IN CONSTRUCTION OF ACCESS ROUTES MUST BE REMOVED. IT CAN BE USED FOR OTHER CONSTRUCTION USES.
3.

CONTRACTOR MAY LEAVE SMALL "BUMP-OUT" IN ROAD AFTER CONSTRUCTION. FINAL SIZE SHALL BE APPROVED BY IDFG. ALL OTHER EXCESS MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF.
4.

CONTRACTOR SHALL USE BMPS AS NEEDED TO PREVENT TRACK-OUT AND SEDIMENT CONTROL AT ENTRANCE.



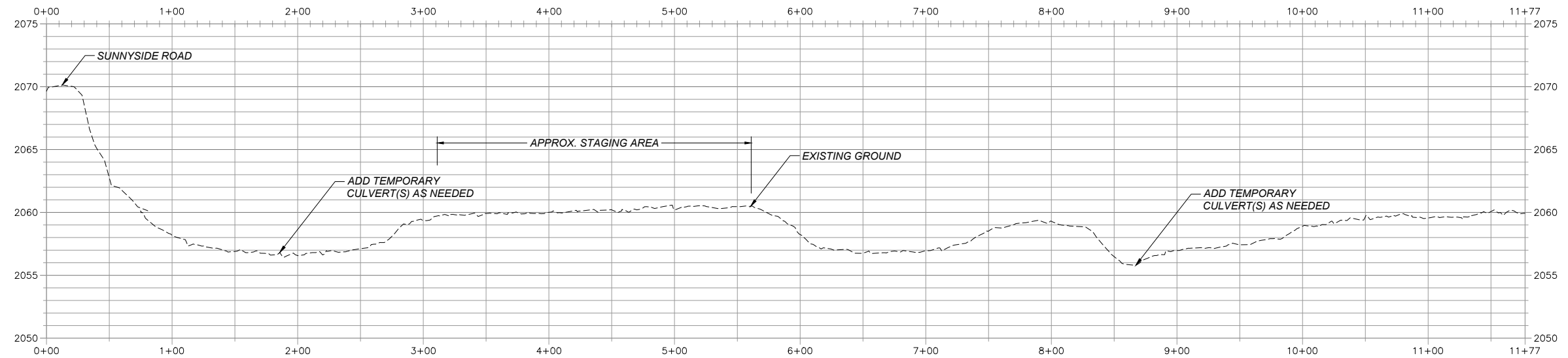
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PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
EXISTING SITE PLAN		SURVEYED BY: LIDAR
		CHECKED BY: -
		SHEET NO. 2.3



PROFILE - Sec 2A (Sta. 0+00.00 to Sta. 11+77.20)

2A

TYPICAL ROAD
ACCESS PROFILE (EXISTING GROUND)
SCALE AS SHOWN

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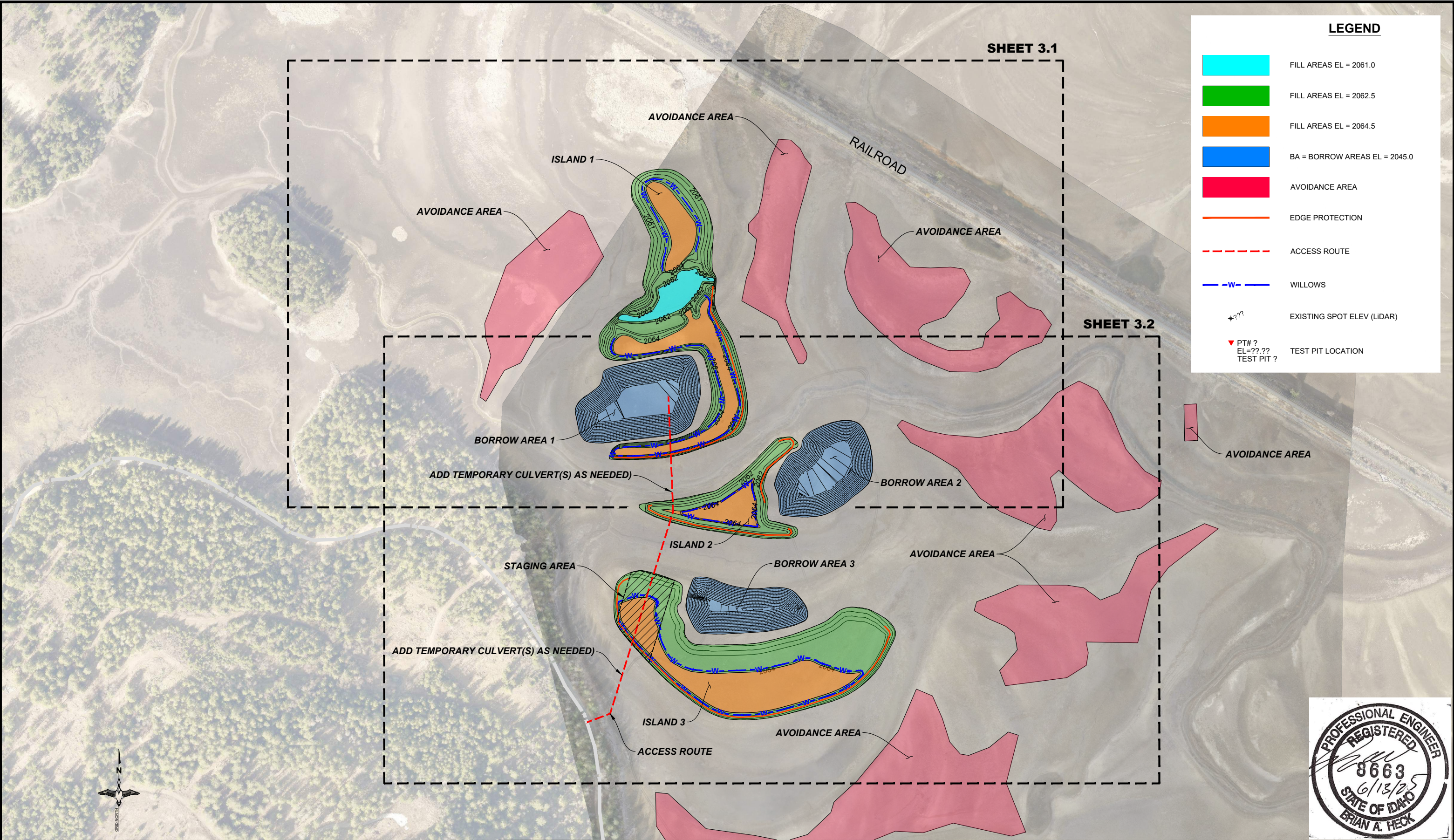
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PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
		SURVEYED BY: LIDAR
		CHECKED BY: -
ROAD ACCESS PROFILE		SHEET NO. 2.4



BID SET



LEGEND

FILL AREAS EL = 2061.0

FILL AREAS EL = 2062.5

FILL AREAS EL = 2064.5

BA = BORROW AREAS EL = 2045.0

AVOIDANCE AREA

EDGE PROTECTION

ACCESS ROUTE

WILLOWS

EXISTING SPOT ELEV (LIDAR)

PT# ?
EL=?? ??
TEST PIT ?

TEST PIT LOCATION



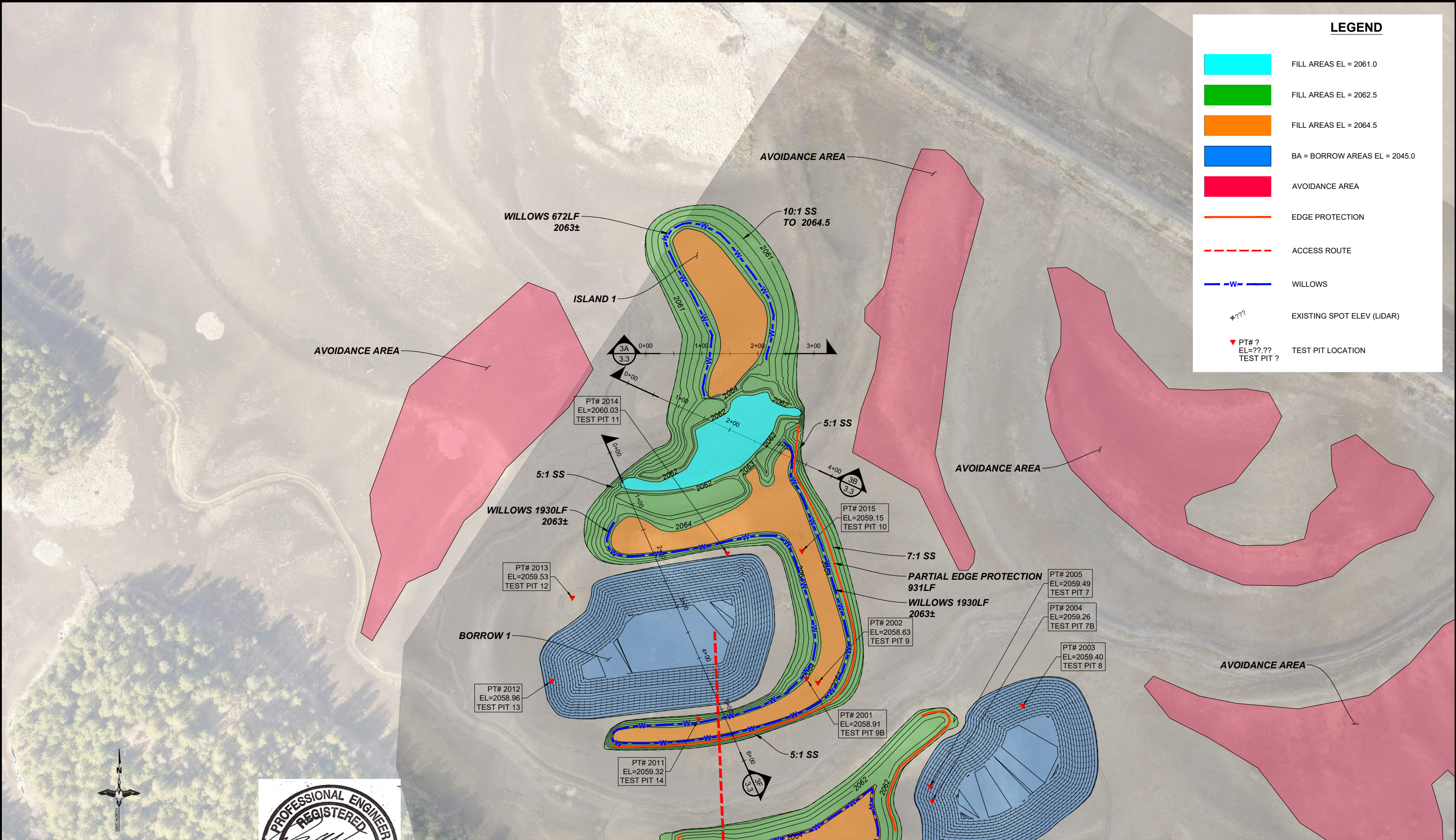
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3			
4			
5			



PROJECT NO. US-ID-56-4	DATE: 6/13/2025	DESIGNED BY: BAH
PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
PROPOSED WORK SHEET INDEX		CHECKED BY: -
		SHEET NO. 3.0

BID SET



LEGEND

FILL AREAS EL = 2061.0

FILL AREAS EL = 2062.5

FILL AREAS EL = 2064.5

BA = BORROW AREAS EL = 2045.0

AVOIDANCE AREA

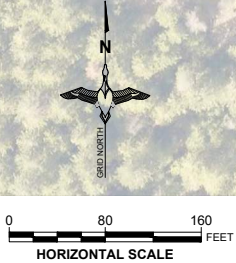
EDGE PROTECTION

ACCESS ROUTE

WILLOWS

EXISTING SPOT ELEV (LIDAR)

TEST PIT LOCATION



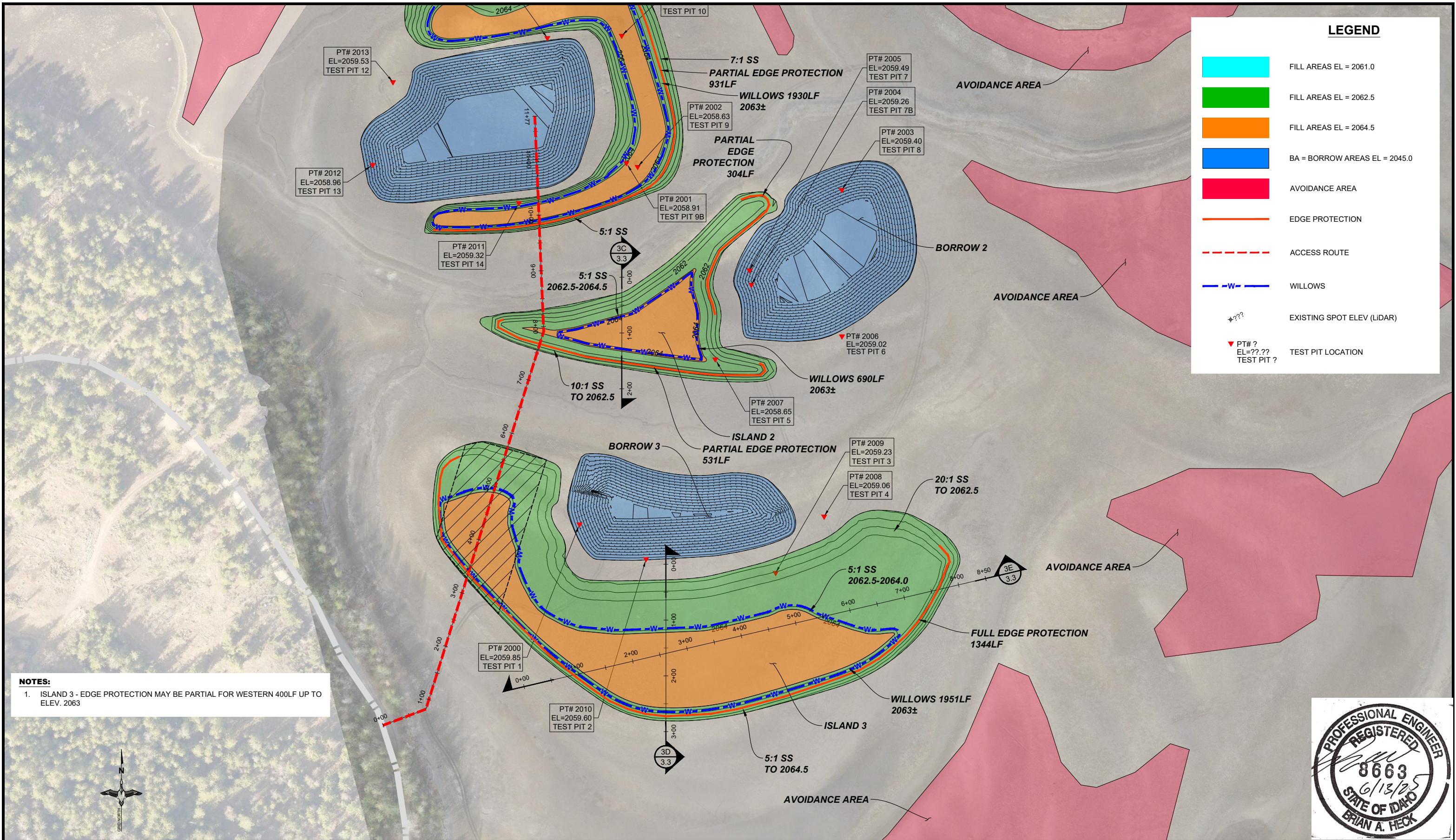
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PROPOSED WORK SITE PLAN		CHECKED BY: -
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FILL AREAS EL = 2062.5

FILL AREAS EL = 2064.5

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AVOIDANCE AREA

EDGE PROTECTION

ACCESS ROUTE

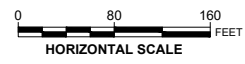
WILLOWS

EXISTING SPOT ELEV (LIDAR)

TEST PIT LOCATION

NOTES:

1. ISLAND 3 - EDGE PROTECTION MAY BE PARTIAL FOR WESTERN 400LF UP TO ELEV. 2063



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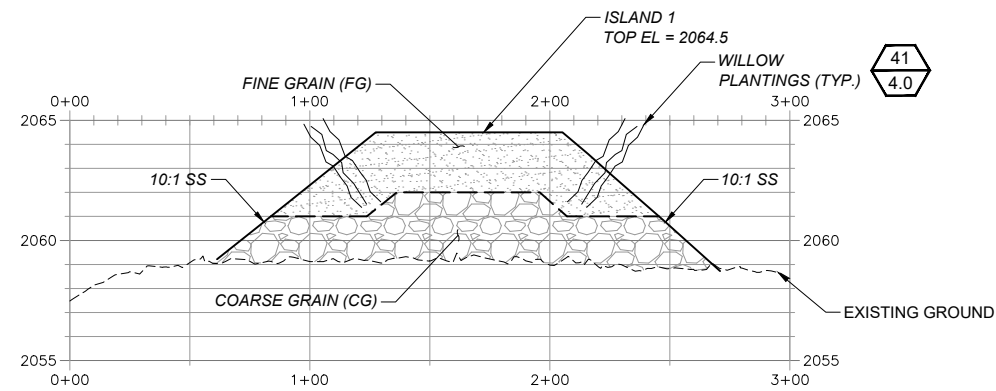
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CHECKED BY: **-**

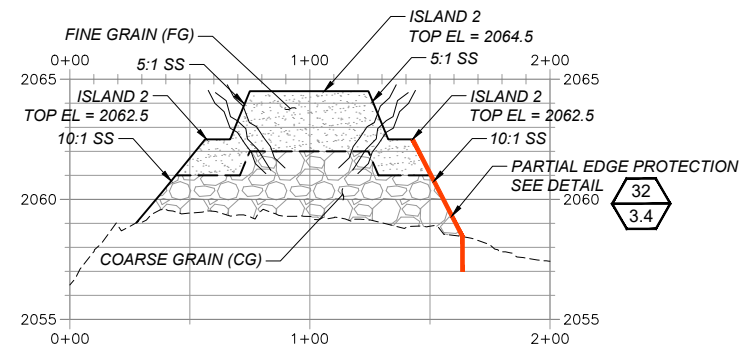
SHEET NO. **3.2**

PACK RIVER RESTORATION PHASE III

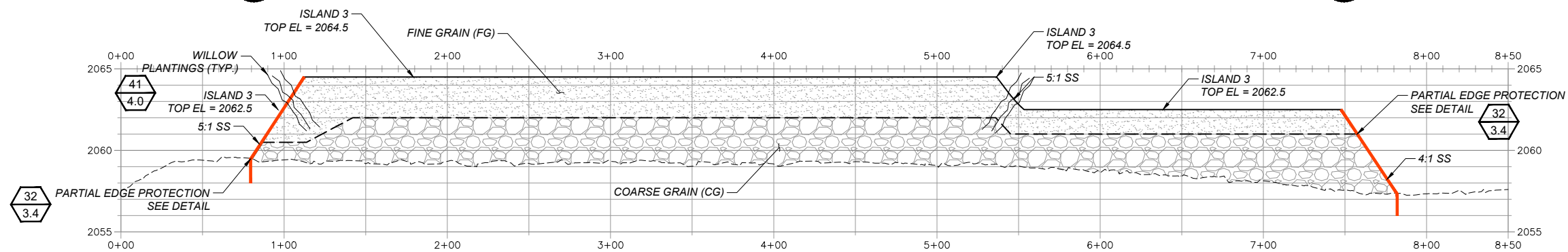
PROPOSED WORK SITE PLAN



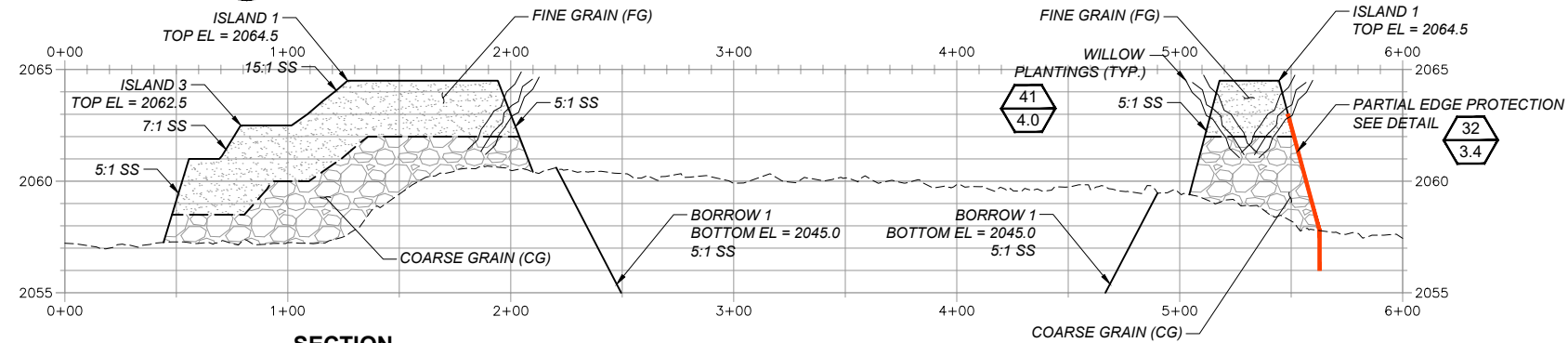
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ISLAND 1**
3A
3.1



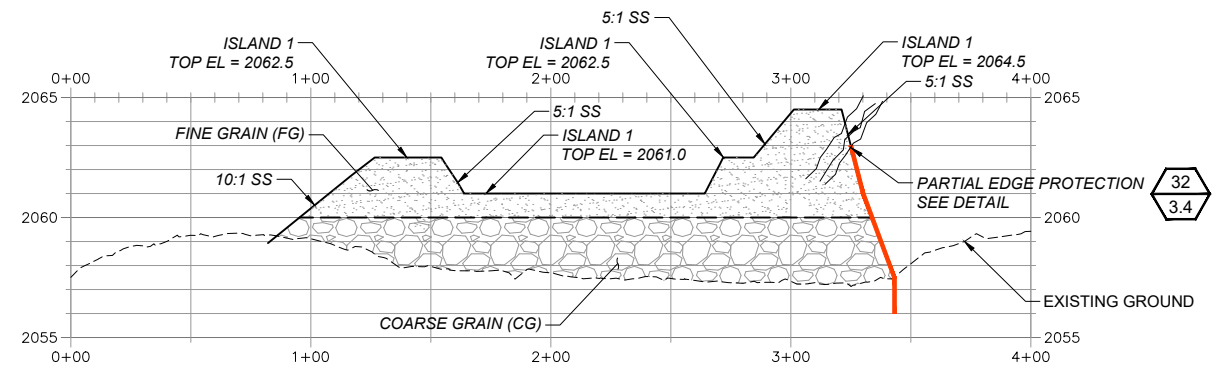
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ISLAND 2**
3C
3.2



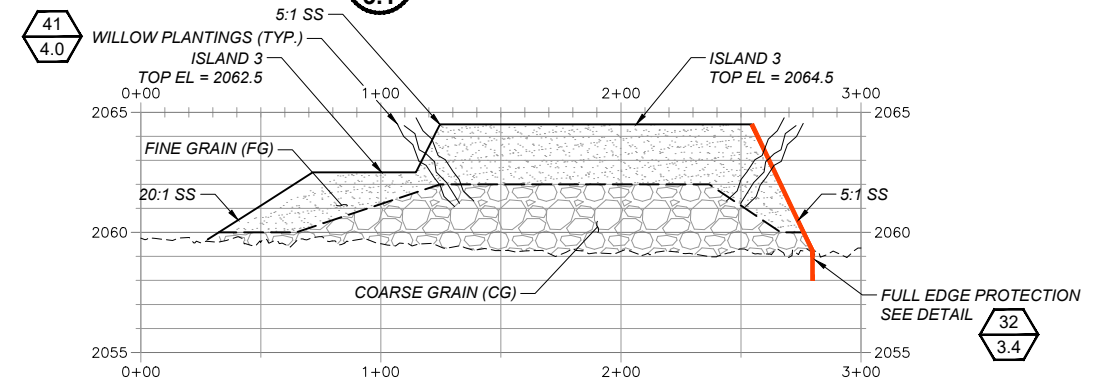
**SECTION
ISLAND 3**
3E
3.2



**SECTION
ISLAND 1**
3F
3.1



**SECTION
ISLAND 1**
3B
3.1



**SECTION
ISLAND 3**
3D
3.2

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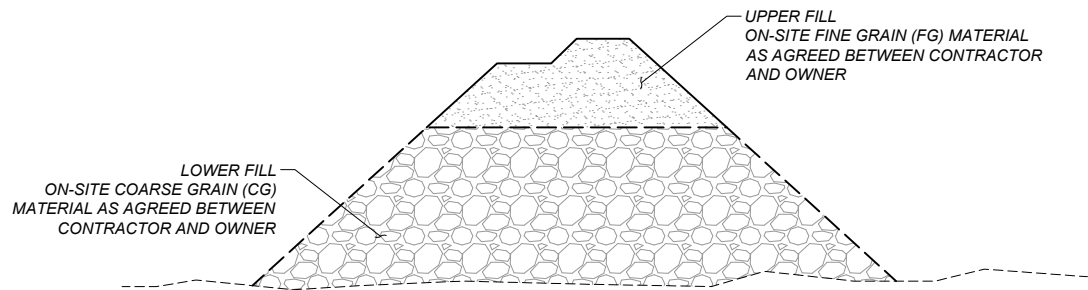
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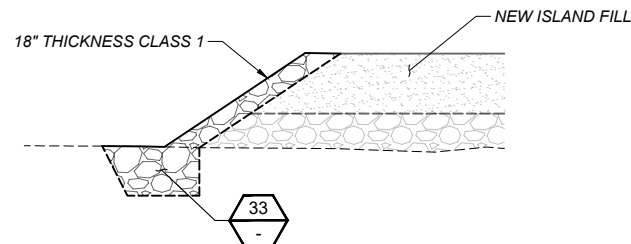
PROJECT NO. US-ID-56-4	DATE: 6/13/2025	DESIGNED BY: BAH
PACK RIVER RESTORATION PHASE III		DRAWN BY: RGR
ISLAND SECTIONS		CHECKED BY: -
		SHEET NO. 3.3



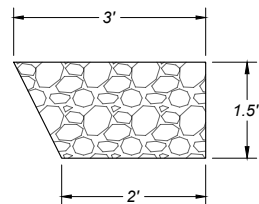
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31
-
TYPICAL ISLAND BUILD DETAIL
NTS



32
3.3
TYPICAL EDGE PROTECTION DETAIL
NTS



33
-
TYPICAL TOE DETAIL
NTS



BID SET

Unauthorized Changes & Uses
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes must be in writing and must be approved by the preparer of these plans.

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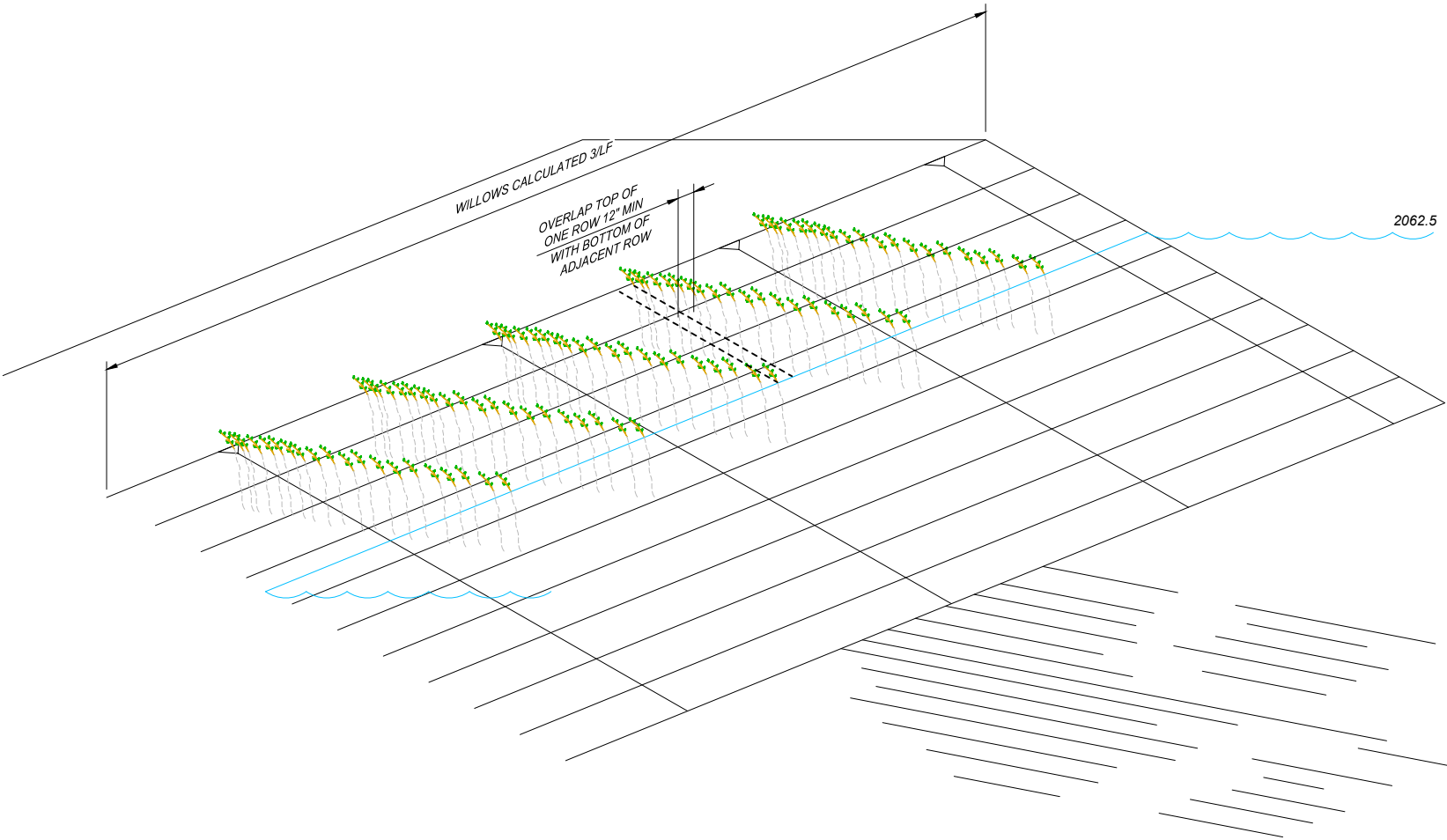
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		SURVEYED BY: LIDAR/DU
		CHECKED BY: -
DETAILS		SHEET NO. 3.4

DIAGONAL BANKLINE PLANTING METHOD NOTES:

- 1. USE EXCAVATOR FROM TOP OF BANK TO PLANT WILLOWS ON DIAGONAL FROM ABOVE ELEVATION 2062.5 TO 2064.0
- 2. EXCAVATOR KNIFES IN BUCKET 2-3 FT IN DEPTH ON DIAGONAL ANGLE TO TOP OF BANK
- 3. EXCAVATOR PULLS BACK SLIGHTLY TO ALLOW VOID BEHIND BUCKET
- 4. WILLOWS ARE INSERTED INTO VOID
- 5. EXCAVATOR PULLS BUCKET OUT AND PRESSES SOIL AGAINST WILLOWS IF NEEDED
- 6. SMALL OVERLAP FROM START ON ONE ROW TO END ANOTHER
- 7. AVERAGE WILLOW PLANTING IS 3 PER LINEAR FOOT AS CALCULATED FROM ENTIRE LENGTH OF BANKLINE (NOT BY TOTAL LENGTH OF ROWS)
- 8. DEPENDING ON EXCAVATOR & BUCKET SIZE, AND ANGLE TO BANK, APPROX 3-BUCKET KNIFES PER ROW
- 9. CONTRACTOR AND ENGINEER TO AGREE ON NUMBER OF WILLOWS PLANTED PER ROW PRIOR TO STARTING



41 WILLOW PLANTING DETAIL
NTS



42 WILLOW PLANTING DETAIL
NTS



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WILLOW PLANTING DETAIL		CHECKED BY: -
		SHEET NO. 4.0

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1. CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES (BMPs) AND INSTALL EROSION CONTROL MEASURES PRIOR TO THE START OF ANY CONSTRUCTION ACTIVITIES AS WELL AS MAINTENANCE AND REPAIR OF NEW AND EXISTING EROSION CONTROL MEASURES. POSSIBLE APPROPRIATE BMPs CAN BE REFERENCED WITHIN THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY (IDEQ) CATALOG OF STORMWATER BEST MANAGEMENT PRACTICES MANUAL.

SOME POSSIBLE BMPs FROM IDEQ CATALOG TO BE CONSIDERED FOR USE ON THE SITE ARE:

 - BMP 36 CONSTRUCTION TIMING
 - BMP 37 STAGING AREA
 - BMP 40 VEHICLE SEDIMENT CONTROL
 - BMP 41 STABILIZED COINSTRUCTION ROADS AND STAGING AREAS
 - BMP 42 EROSION PREVENTION ON CONSTRUCTION STAGING
 - BMP 44 STOCKPILE MANAGEMENT
 - BMP 46 SPILL PREVENTION CONTROL
 - BMP 48 HAZARDOUS MATERIALS MANAGEMENT
 - BMP 50 SANITARY AND SEPTIC WASTE MANAGEMENT
 - BMP 52 MULCHING
 - BMP 56 RIPRAP SLOPE PROTECTION
 - BMP 58 SLOPE ROUGHENING
 - BMP 62 TEMPORARY STREAM CROSSING
 - BMP 65 SILT FENCE
 - BMP 71 TURBIDITY CURTAINS
 - BMP 75 STREET SWEEPING
 - BMP 83 VEHICLE AND EQUIPMENT REFUELING
2. SILT FENCING AND OTHER EROSION/SEDIMENTATION CONTROL SYSTEMS SHALL BE INSTALLED DOWNSTREAM OF ACTIVE EARTH DISTURBANCE AREAS THAT ARE NEAR WATERBODIES.
3. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED AND APPROVED.
4. THE TESC FACILITIES SHOULD BE CONSTRUCTED IN CONJUNCTION WITH ALL SITE PREPARATION, STAGING AREA CONSTRUCTION, CHANNEL CROSSINGS, AND EXCAVATIONS, AND IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT AND SEDIMENT-LADEN WATER DOES NOT ENTER ADJACENT WATER BODIES, OR VIOLATE APPLICABLE REGULATORY PERMIT REQUIREMENTS.
5. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES (BMPs) SHALL BE MAINTAINED AND REPAIRED AS NEEDED TO ASSURE CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. ALL MAINTENANCE AND REPAIR SHALL BE CONDUCTED IN ACCORDANCE WITH ALL APPLICABLE STATE TEMPORARY EROSION CONTROL MANAGEMENT AND REGULATIONS.
6. IF SEDIMENT IS TRANSPORTED ONTO A PAVED SURFACE, THE STRIP OF PAVEMENT SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM PAVED AREAS BY A METHOD AS APPROVED BY THE OWNER AND DISPOSED OF PROPERLY. PAVEMENT WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
7. ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED IMMEDIATELY AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY CONTROLS ARE NO LONGER NEEDED, WHICHEVER IS LATER. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. TESC FACILITIES SHALL BE COMPLETELY REMOVED AT THE COMPLETION OF THE WORK.
8. THE TESC FACILITIES SHOWN ON THE PLANS ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS.
9. THE TESC FACILITIES SHALL BE INSPECTED DAILY AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF THE TESC FACILITIES.
10. THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN FORTY-EIGHT (48) HRS FOLLOWING A STORM EVENT.

1. ESTABLISH CONSTRUCTION ACCESS: CONSTRUCTION ACCESS WILL BE INSTALLED FROM STAGING AREA TO MAIN WORK SITE. CONSTRUCTION ACCESS MAY ALSO BE PROVIDED FROM EXISTING ROADS AND PARKING TURNOUT AREA LOCATED NEAR HIGHWAY 200.
2. INSTALL SEDIMENT CONTROLS: SILT FENCING SHALL BE INSTALLED AT THE DOWNSTREAM EDGE OF THE STAGING AREA LIMITS AND MAIN CHANNEL CROSSING AT LOCATIONS SHOWN ON THE TESC PLAN AND OTHER LOCATIONS AS NECESSARY TO CONTROL SEDIMENT RUNOFF BASED ON CONTRACTORS WORK PLAN. THE SILT FENCE SHALL HAVE NO GAPS ALONG ITS LENGTH, BE DUG INTO THE EXISTING SOIL, AND BE INSPECTED DAILY FOR INTEGRITY.
3. PROTECT SLOPES: TEMPORARY CONSTRUCTION SLOPES SHALL BE PROTECTED THROUGH ROUGHENING (TRACKING) OF SLOPES, DIVERTING UPSLOPE DRAINAGE AT TOP OF SLOPE, OR STABILIZATION OF SLOPES. TRACKING SHALL ONLY BE DONE ON SLOPES WHERE MATERIAL CONDITIONS ALLOW.
4. STABILIZE CHANNELS AND OUTLETS: ALL CHANNELS AND OUTLETS LOCATED WITHIN THE PROJECT SITE LIMITS SHALL BE PROTECTED USING APPROPRIATE BMPs REFERENCED WITHIN THE IDAHO DEPARTMENT OF ENVIRONMENTAL QUALITY (IDEQ) CATALOG OF STORMWATER BEST MANAGEMENT PRACTICES MANUAL.
5. SILT FENCE: SILT FENCES SHALL BE INSTALLED DOWNSLOPE OF ALL CONSTRUCTION ACCESS WORK AREAS. CONTRACTOR SHALL MAINTAIN THE FENCE THROUGHOUT DURATION OF ALL CONSTRUCTION ACCESS AREA ACTIVITIES. SILT FENCE SHALL BE REMOVED AT COMPLETION OF PROJECT OR WORK LOCATION.
6. FLOATING DEBRIS BOOM/TURBIDITY CURTAIN: DEPLOY FLOATING DEBRIS/TURBIDITY CURTAINS AS REQUIRED TO MEET THE REQUIREMENTS STIPULATED WITHIN THE REGULATORY PERMITS FOR WATER QUALITY COMPLIANCE; MAXIMUM TURBIDITY REQUIREMENTS (NTU). WATER QUALITY SHALL BE MONITORED IN ACCORDANCE WITH THE APPLICABLE REGULATORY PERMITS THROUGHOUT THE DURATION OF PROJECT WORK.
7. SNOW MANAGEMENT: UTILIZE SNOW BLOWERS, SNOWPLOWS, OR OTHER EQUIPMENT TO REMOVE SNOW ALONG THE ACCESS ROAD HAUL ROUTE OR MOVE SNOW TO LESS EROSION-SENSITIVE AREAS WITH PROPER DRAINAGE. REMOVE HEAVY SNOW ACCUMULATIONS FROM AROUND TEMPORARY STRUCTURES SUCH AS TEMPORARY CULVERTS AND CHANNEL CROSSING TO MINIMIZE ICE JAMMING AND STRUCTURE FAILURE DURING FREEZE-THAW CYCLES.



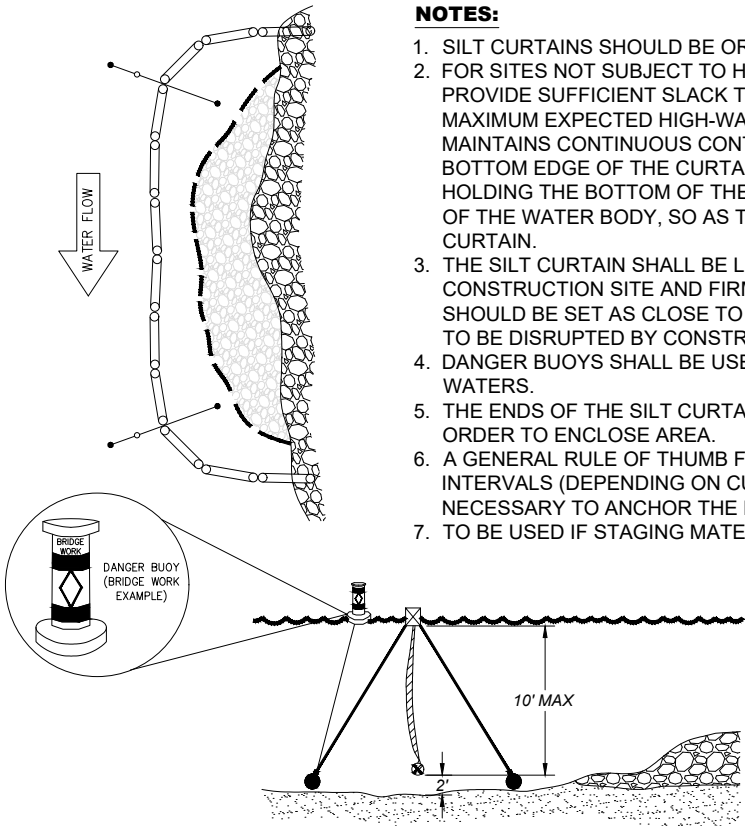
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TURBIDITY CURTAIN SYSTEM

ANCHOR SYSTEM AND LAYOUT DETAILS



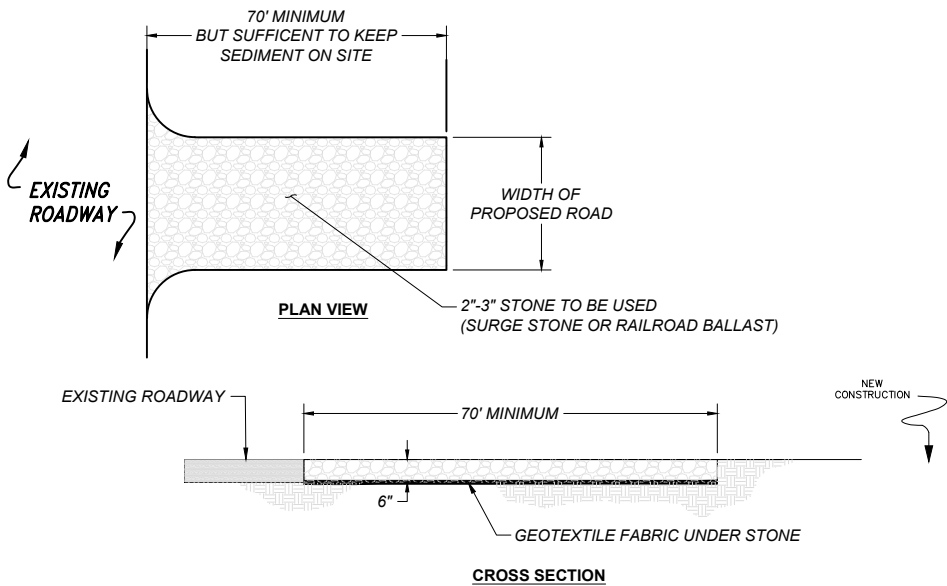
NOTES:

1. SILT CURTAINS SHOULD BE ORIENTED PARALLEL TO THE DIRECTION OF FLOW.
2. FOR SITES NOT SUBJECT TO HEAVY WAVE ACTION, THE CURTAIN HEIGHT SHALL PROVIDE SUFFICIENT SLACK TO ALLOW THE TOP OF THE CURTAIN TO RISE TO THE MAXIMUM EXPECTED HIGH-WATER LEVEL (INCLUDING WAVES) WHILE THE BOTTOM MAINTAINS CONTINUOUS CONTACT WITH THE BOTTOM OF THE WATER BODY. THE BOTTOM EDGE OF THE CURTAIN SHALL HAVE A WEIGHT SYSTEM CAPABLE OF HOLDING THE BOTTOM OF THE CURTAIN DOWN AND CONFORMING TO THE BOTTOM OF THE WATER BODY, SO AS TO PROHIBIT ESCAPE OF TURBID WATER UNDER THE CURTAIN.
3. THE SILT CURTAIN SHALL BE LOCATED BEYOND THE LATERAL LIMITS OF THE CONSTRUCTION SITE AND FIRMLY ANCHORED INTO PLACE (THE ALIGNMENT SHOULD BE SET AS CLOSE TO THE WORK AREA AS POSSIBLE BUT NOT SO CLOSE AS TO BE DISRUPTED BY CONSTRUCTION EQUIPMENT).
4. DANGER BUOYS SHALL BE USED AS NEEDED WHEN WORKING IN NAVIGABLE WATERS.
5. THE ENDS OF THE SILT CURTAIN SHALL BE SECURELY ANCHORED AND KEYED IN ORDER TO ENCLOSE AREA.
6. A GENERAL RULE OF THUMB FOR ATTACHING ANCHORS IS TO DO SO AT 100' INTERVALS (DEPENDING ON CURRENT AND TIDAL CONDITIONS, IT MAY BE NECESSARY TO ANCHOR THE BARRIER ON BOTH SIDES-AS SHOWN).
7. TO BE USED IF STAGING MATERIAL IN LAKE PRIOR TO WINTER DRAWDOWN.

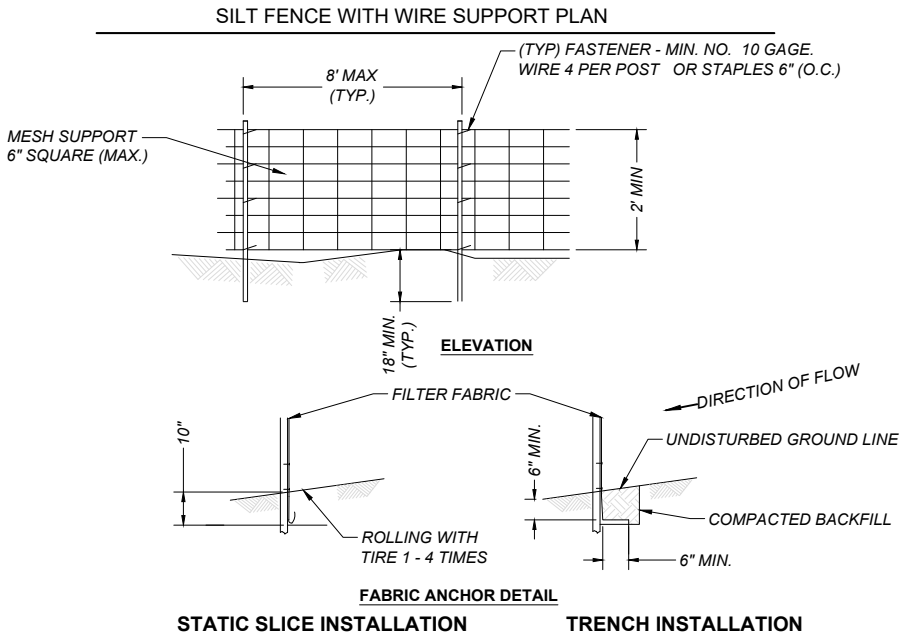
FLOATING SILT CURTAIN TYPICAL LAYOUT

NOTES:

IF CONSTRUCTION ON THE SITES ARE SUCH THAT THE MUD IS NOT REMOVED BY THE VEHICLE TRAVELING OVER THE STONE, THEN THE TIRES OF THE VEHICLES MUST BE WASHED BEFORE ENTERING THE PUBLIC ROAD.



STANDARD CONSTRUCTION ENTRANCE TYPICAL LAYOUT



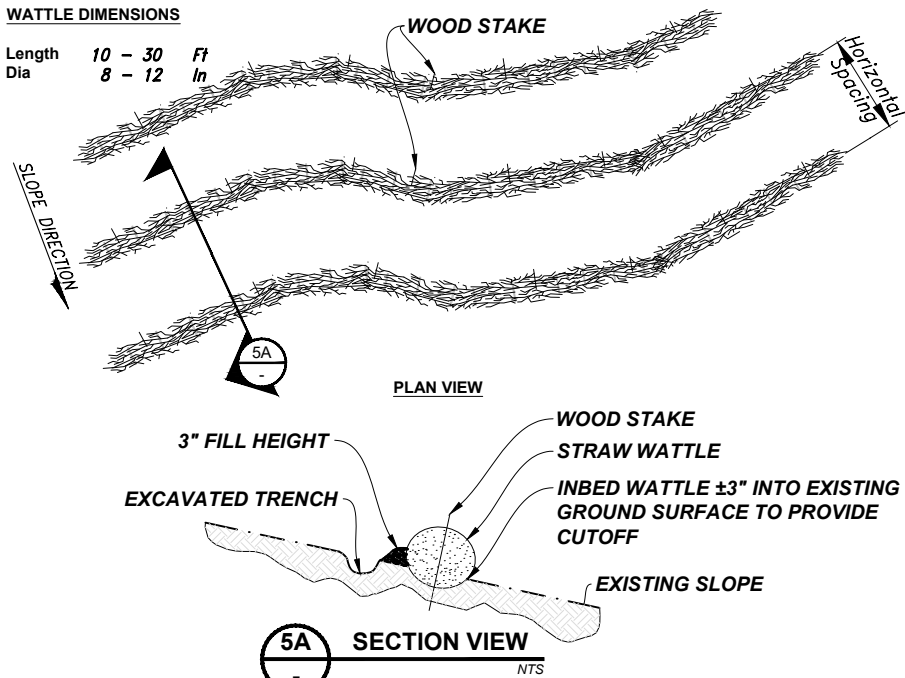
NOTES:

1. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY GRADING WORK IN THE SITE ENTRANCE AREA TO BE PROTECTED. THEY SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD AND REMOVED IN CONJUNCTION WITH THE FINAL GRADING AND SITE STABILIZATION. SILT FENCE SHALL BE PLACED ON THE FLATTEST AREA AVAILABLE.
2. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION CLASS WITH EQUIVALENT OPENING SIZE OF AT LEAST 30 FOR NONWOVEN AND 40 FOR WOVEN. FENCE POSTS SHALL BE EITHER STANDARD STEEL POST OR WOOD POST WITH A MINIMUM CROSS-SECTIONAL AREA OF 3.0 SQ. IN.

TYPICAL WIRE BACKED SILT FENCE DETAIL

WATTLE DIMENSIONS

Length 10 - 30 Ft
Dia 8 - 12 In



STRAW WATTLE TYPICAL LAYOUT (IF USED)



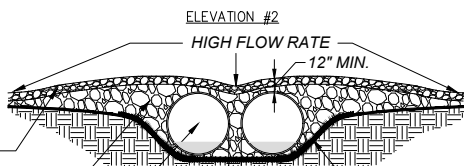
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(SECTIONS - NOT TO SCALE)



MINIMUM PIPE DIAMETERS SIZED AS
DETERMINED BY CONTRACTOR

Diagram illustrating the installation of a culvert pipe. The top view shows water flow entering the culvert pipe, which is surrounded by coarse aggregate and riprap. The culvert pipe size is determined by the contractor. The bottom view shows the culvert pipe installed in a trench, with the top of the bank indicated by a 25' MIN. dimension.

Labels in the diagram include:

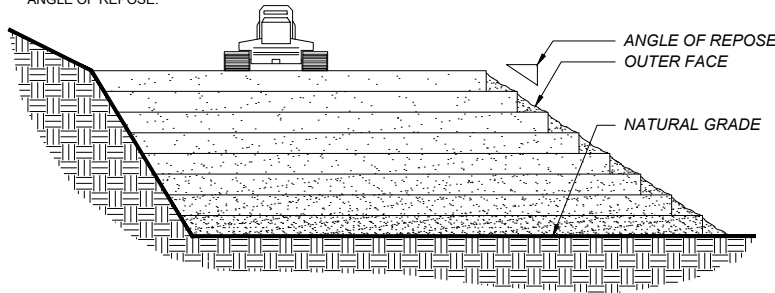
- WATER FLOW
- CULVERT PIPE SIZE DETERMINED BY CONTRACTOR
- TOP OF BANK
- COARSE AGGREGATE
- RIPRAP, LARGE ANGULAR ROCK OVER EARTH FILL
- 25' MIN. TOP OF BANK

1. THIS TYPE OF CROSSING CAN BE INSTALLED IN BOTH WET OR DRY WEATHER STREAM CONDITIONS WHERE THE DRAINAGE AREA EXCEEDS 10 ACRES.
2. REMOVE DURING CLEANUP.



NTS

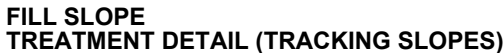
EACH LIFT OF THE FILL IS COMPACTED, BUT THE OUTER FACE OF THE SLOPE IS ALLOWED TO REMAIN LOOSE SO THAT THE ROCKS, CLODS, ETC. REACH THE NATURAL ANGLE OF REPOSE.



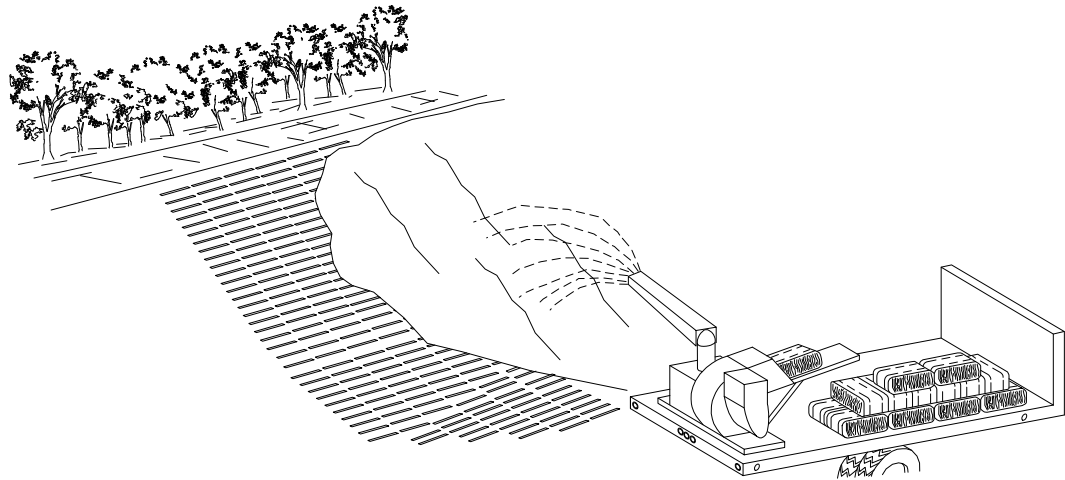
A line drawing of a bulldozer operating on a slope. The bulldozer is positioned on a surface that has been graded into a series of parallel lines perpendicular to the slope. A label 'SLOPE' points to the incline. The bulldozer's blade is shown in the process of creating these grooves.

DOZER TREADS CREATE GROOVES
PERPENDICULAR TO THE SLOPE.

TRACK WALKING SLOPES IS SUBJECT TO CONDITION/SUITABILITY OF FILL MATERIAL



NTS



1. STRAW MULCH CONSISTS OF PLACING A UNIFORM LAYER OF STRAW AND ANCHORING IT INTO THE SOIL WITH A STUDDED ROLLER OR DISK OR BINDING THE STRAW TOGETHER WITH AN ENGINEER APPROVED TACKIFIER.
2. USE STRAW MULCH FOR SOIL STABILIZATION AS A TEMPORARY SURFACE COVER ON DISTURBED AREAS UNTIL SOILS CAN BE PREPARED OR RE-VEGETATION/PERMANENT VEGETATION IS ESTABLISHED. STRAW MULCH IS COMMONLY USED IN COMBINATION WITH TEMPORARY SEEDING, AND/OR PERMANENT SEEDING TO ENHANCE PLANT ESTABLISHMENT.
3. ALL STRAW MULCH IS REQUIRED TO BE CERTIFIED WEED FREE AND DERIVED FROM WHEAT BARLEY OR RICE. ENGINEER'S APPROVAL IS REQUIRED PRIOR TO ANY PLACEMENT OF STRAW MULCH.
4. STRAW MULCH CAN BE APPLIED BY HAND OR BLOWN UNDER LOW WIND CONDITIONS. OBTAIN ENGINEER'S APPROVAL FOR PLACEMENT METHODS PRIOR TO PLACEMENT. EVENLY DISTRIBUTE STRAW MULCH AT A MINIMUM LOOSE RATE OF 4000LB./ACRE. IMMEDIATELY FOLLOWING PLACEMENT, CRIMP TO RETAIN MULCH. CRIMP USING DISKS OR A PUNCH-TYPE ROLLER. WHEN EITHER TEMPORARY OR PERMANENT SEEDING IS COMBINED WITH THE STRAW MULCH BMP, COMPLETE SEEDING OPERATIONS PRIOR TO STRAW MULCH PLACEMENT.



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BMP DETAILS

5.2