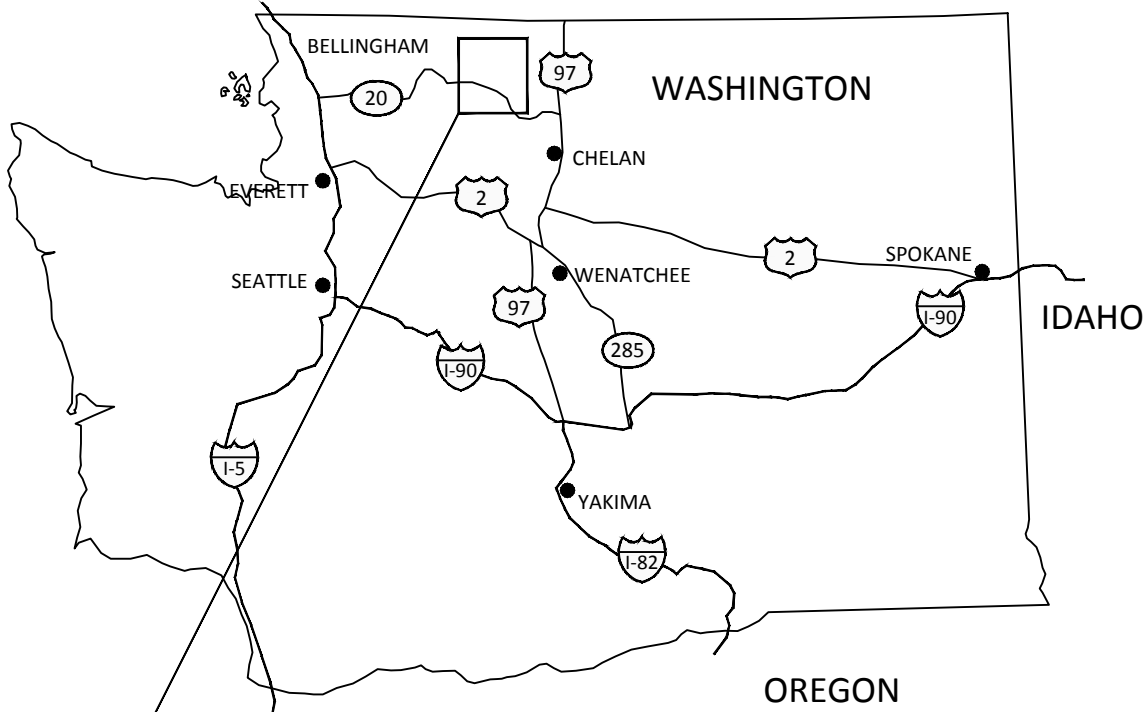


Twisp River - Scaffold Camp Project

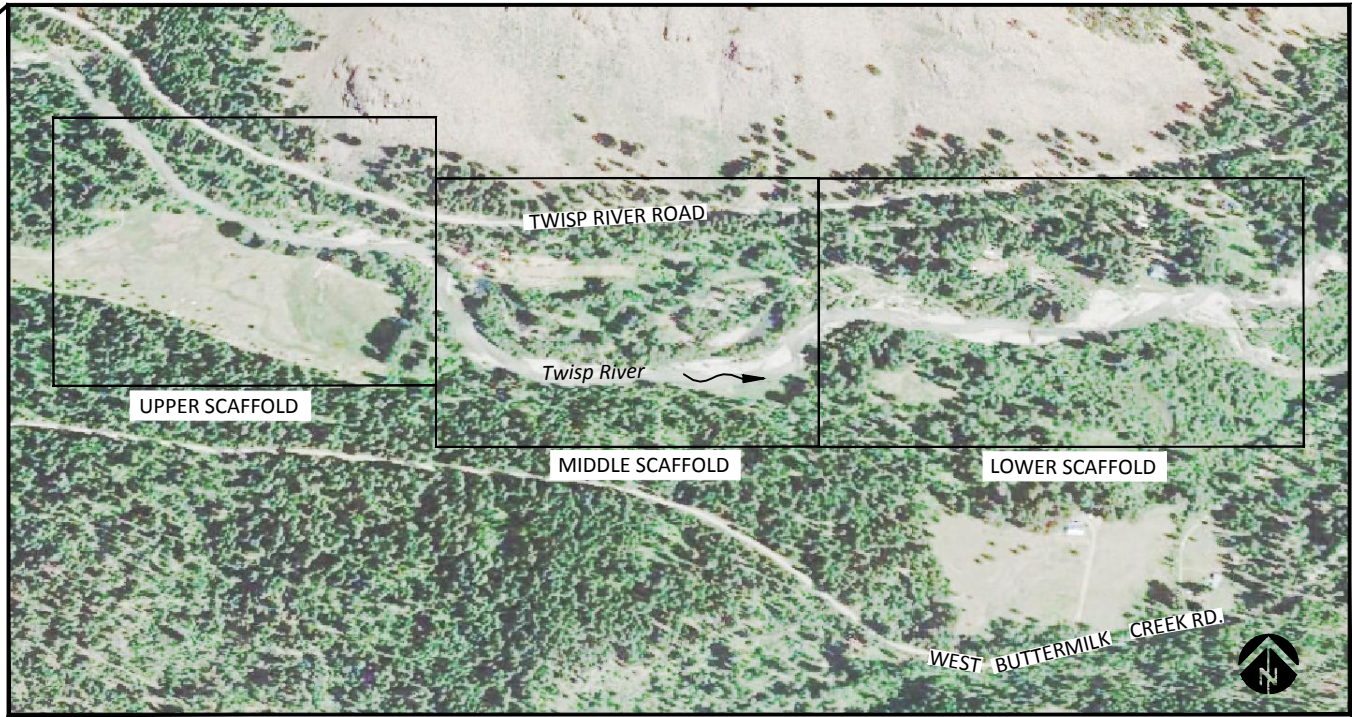
Okanogan County, Washington

April 8, 2015



LOCATION MAP STATE OF WASHINGTON

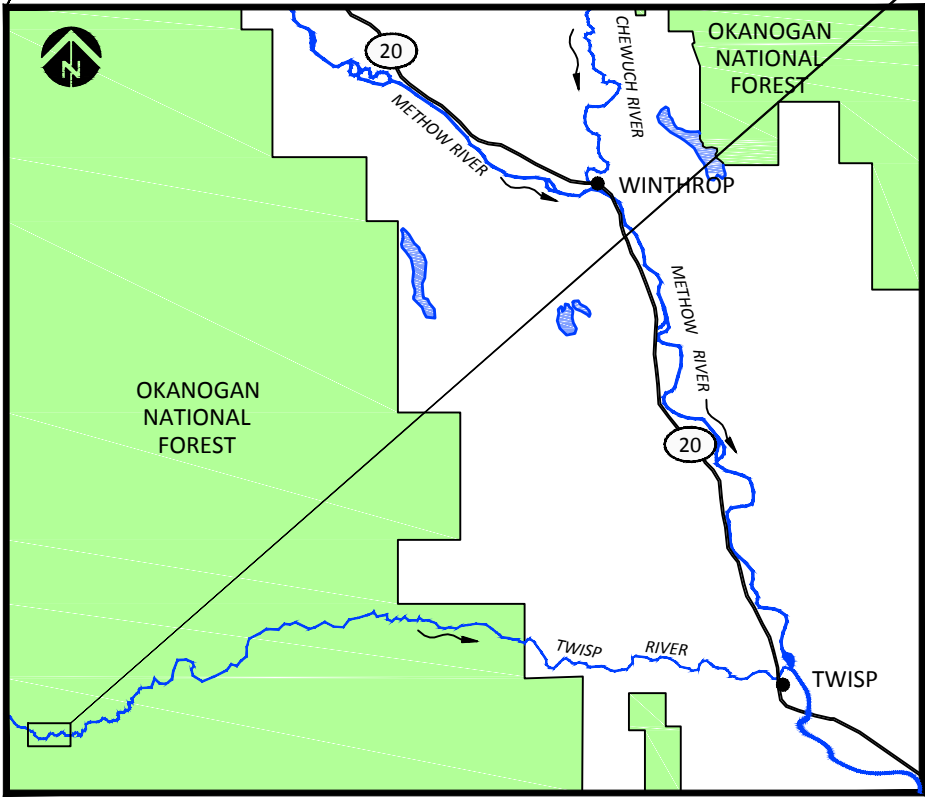
NOT TO SCALE



PROJECT SITE MAP

NOT TO SCALE

COORDINATES:
 LATITUDE: 48°21'14" NORTH
 LONGITUDE: 120°22'4" WEST
 WATERBODY: TWISP RIVER
 TRIBUTARY OF: METHOW RIVER



VICINITY MAP

NOT TO SCALE

SHEET INDEX

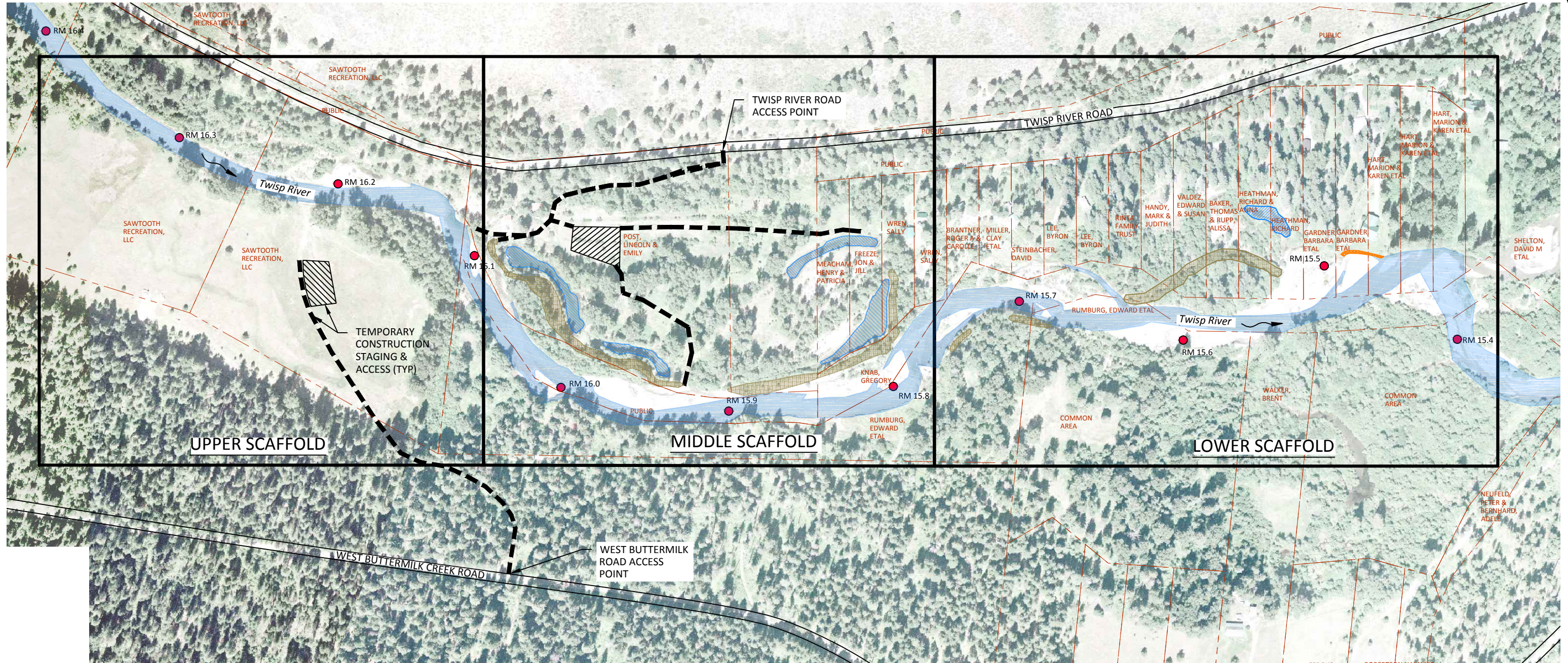
- 1 COVER, SHEET INDEX AND VICINITY MAP
- 2 OWNERSHIP, SITE ACCESS, AND SHEET KEY
- 3 UPPER SCAFFOLD LARGE WOOD PLACEMENT
- 4 UPPER SCAFFOLD SIDE CHANNEL AND ALCOVE ENHANCEMENT
- 5 MIDDLE SCAFFOLD BERM REMOVAL WITH REGRADED BANKS
- 6 MIDDLE SCAFFOLD BERM REMOVAL WITH SPLIT FLOW CHANNELS
- 7 MIDDLE SCAFFOLD GROUND WATER GALLERY AND SIDE CHANNEL
- 8 MIDDLE SCAFFOLD WOOD PLACEMENT
- 9 LOWER SCAFFOLD BERM REMOVAL AND SIDE CHANNEL ACTIVATION
- 10 LOWER SCAFFOLD SIDE CHANNEL INLET EXCAVATION
- 11 LOWER SCAFFOLD MAIN CHANNEL BERM REMOVAL
- 12 RIPARIAN PLANTING
- 13 APEX LOGJAM AND BANK LOGJAM
- 14 SIDE CHANNEL AND ALCOVE HABITAT WOOD, BANK STABILIZATION LOGJAM

**Preliminary
 Concept**







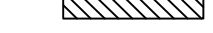



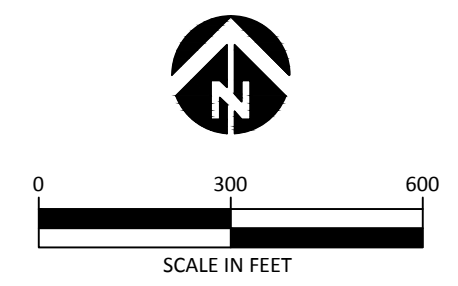
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LEGEND

-  PARCEL BOUNDARIES
-  RIVER MILE MARKER
-  EXISTING TWISP RIVER CHANNEL & SIDE CHANNELS
-  EXISTING PONDS
-  EXISTING PUSH-UP BERM
-  EXISTING RIPRAP
-  TEMPORARY CONSTRUCTION STAGING
-  TEMPORARY CONSTRUCTION ACCESS

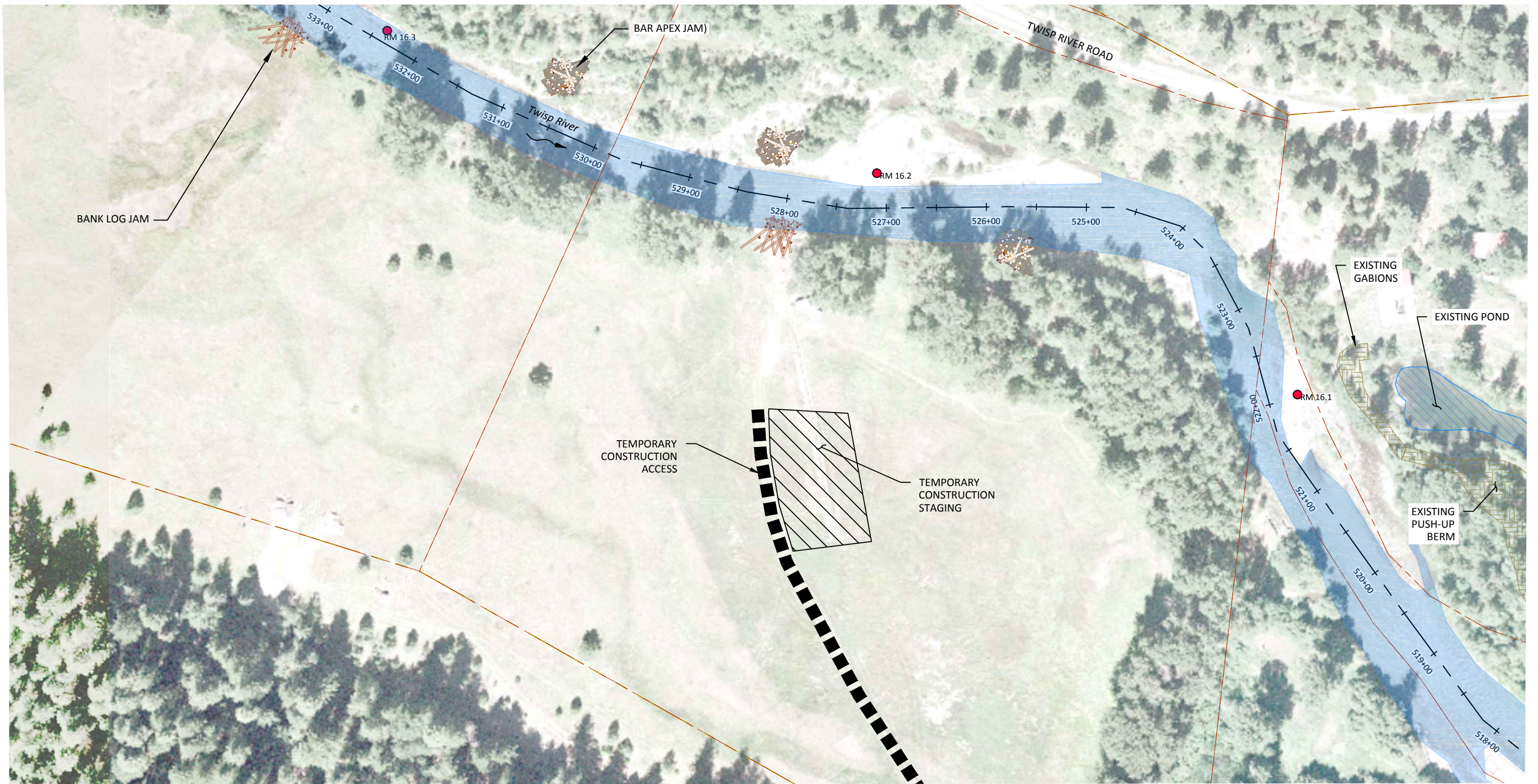


**Preliminary
Concept**

**OWNERSHIP, SITE ACCESS,
AND SHEET KEY**

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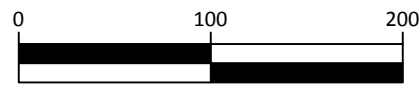
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LEGEND

- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL
- PARCEL BOUNDARIES
- PROPOSED BANK LOG JAM (TYP), SEE DETAIL SHEET 12
- PROPOSED BAR APEX JAM (TYP), SEE DETAIL SHEET 12

- EXISTING PUSH-UP BERM
- EXISTING POND
- TEMPORARY CONSTRUCTION ACCESS
- TEMPORARY CONSTRUCTION STAGING



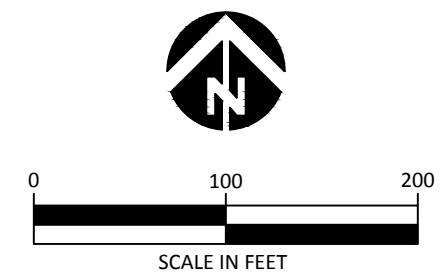
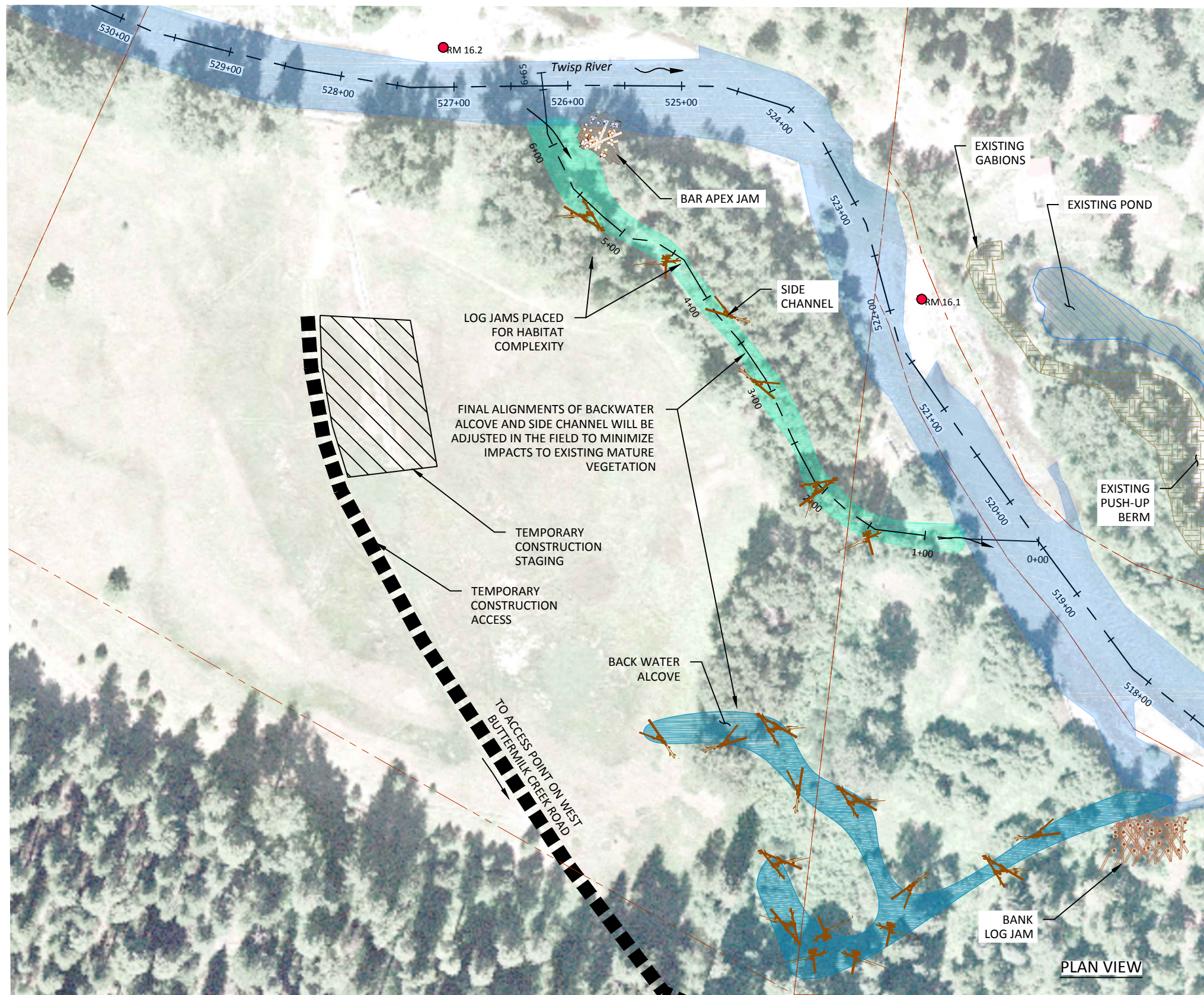
SCALE IN FEET



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**Preliminary
Concept**

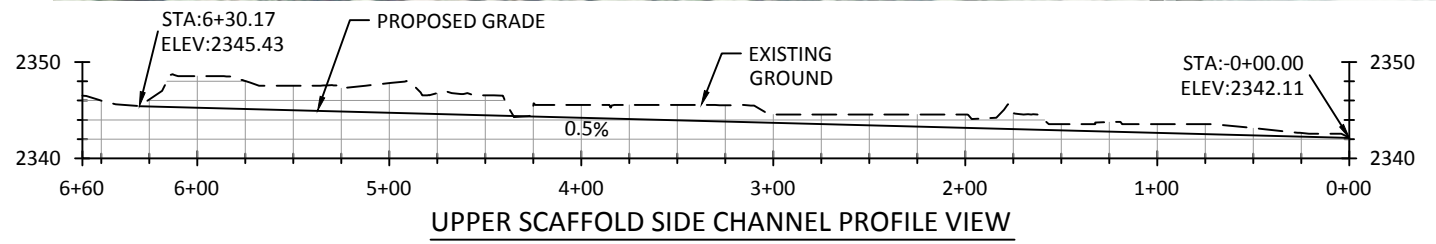
UPPER SCAFFOLD LARGE WOOD PLACEMENT



LEGEND

- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL
- EXISTING POND
- EXISTING PUSH-UP BERM
- PARCEL BOUNDARIES
- TEMPORARY CONSTRUCTION STAGING
- TEMPORARY CONSTRUCTION ACCESS
- PROPOSED SIDE CHANNEL
- PROPOSED BACKWATER ALCOVE
- PROPOSED BANK LOG JAM (TYP), SEE DETAIL SHEET 12
- PROPOSED BAR APEX JAM (TYP), SEE DETAIL SHEET 12
- PROPOSED ALCOVE HABITAT WOOD PLACEMENT (TYP), SEE DETAIL SHEET 13

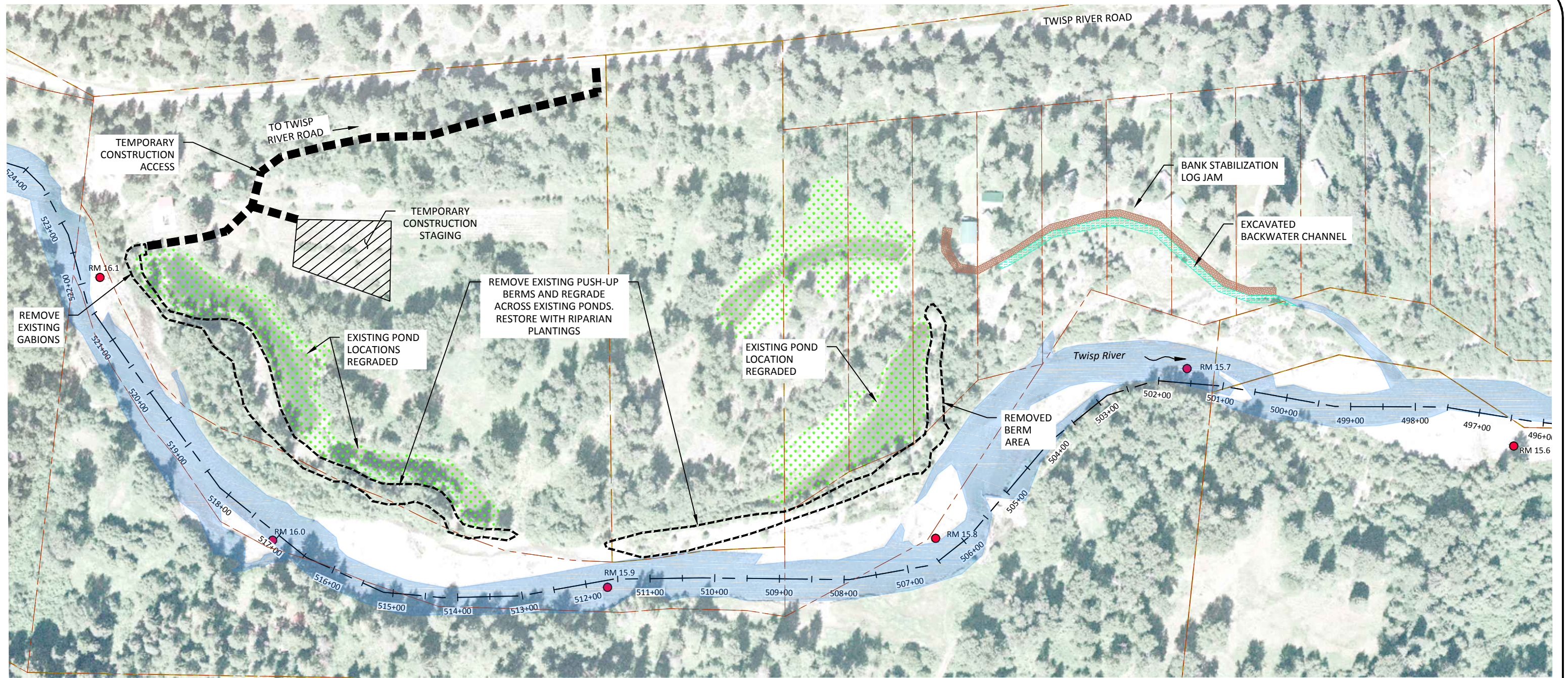
**Preliminary
Concept**



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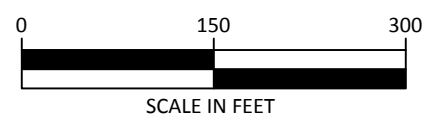
**UPPER SCAFFOLD SIDE CHANNEL AND
ALCOVE ENHANCEMENT**

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LEGEND

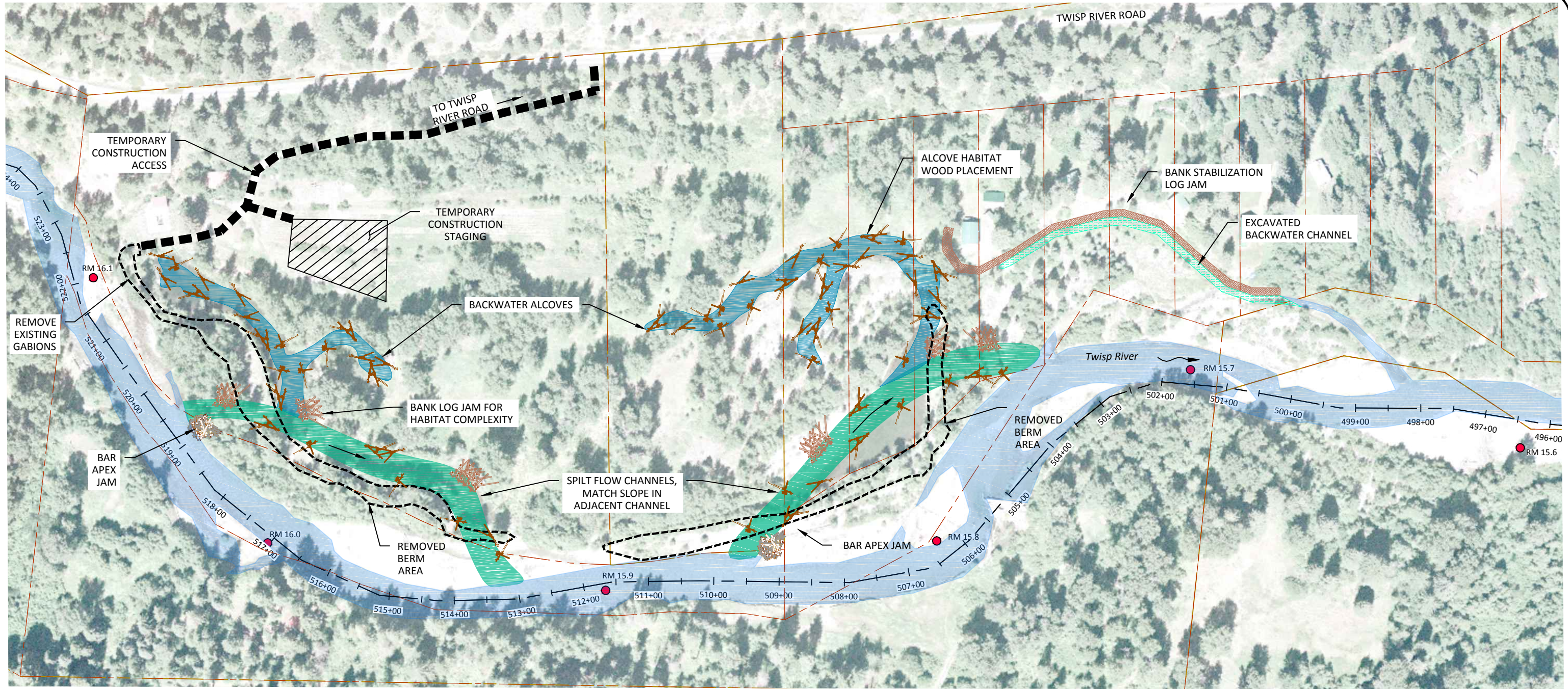
- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL
- RIPARIAN PLANTING
- AREA OF BERM REMOVAL
- PROPOSED BANK STABILIZATION LOG JAM, SEE DETAIL SHEET 13
- PARCEL BOUNDARIES
- TEMPORARY CONSTRUCTION ACCESS
- TEMPORARY CONSTRUCTION STAGING
- PROPOSED BACKWATER CHANNEL



Preliminary
Concept

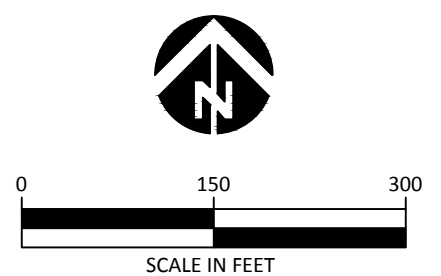
MIDDLE SCAFFOLD BERM REMOVAL WITH REGRADED BANKS

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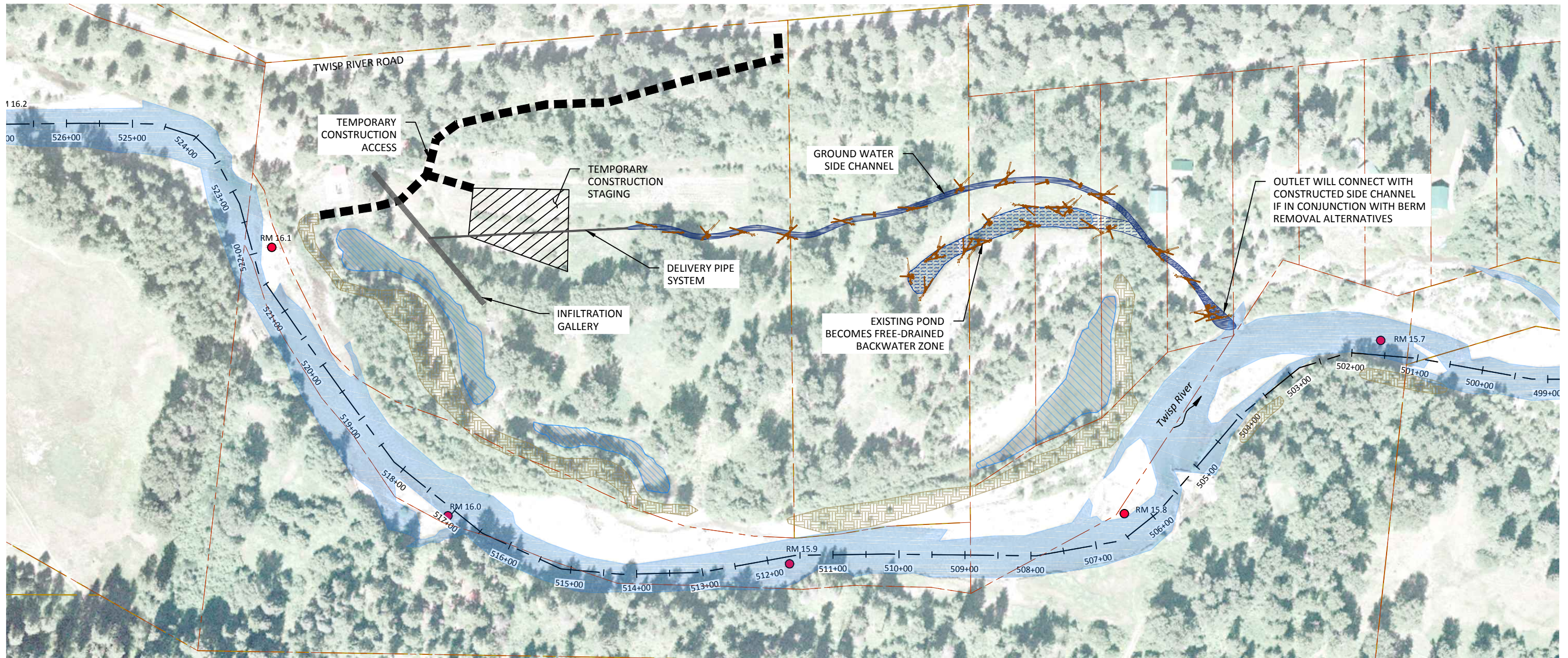
- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL
- AREA OF BERM REMOVAL
- PROPOSED SPLIT FLOW CHANNEL
- PROPOSED BACKWATER CHANNEL
- PROPOSED BANK LOG JAM (TYP), SEE DETAIL SHEET 12
- PROPOSED BAR APEX JAM (TYP), SEE DETAIL SHEET 12
- PROPOSED BANK STABILIZATION LOG JAM, SEE DETAIL SHEET 13
- PARCEL BOUNDARIES
- TEMPORARY CONSTRUCTION ACCESS
- TEMPORARY CONSTRUCTION STAGING
- PROPOSED BACKWATER ALCOVE
- PROPOSED ALCOVE HABITAT WOOD PLACEMENT, SEE DETAIL SHEET 13




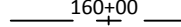







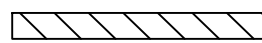

Preliminary
Concept

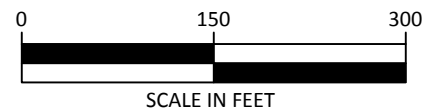
MIDDLE SCAFFOLD BERM REMOVAL WITH SPLIT FLOW CHANNELS

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LEGEND

-  RIVER MILE MARKER
-  TWISP RIVER STATIONS
-  EXISTING TWISP RIVER CHANNEL
-  EXISTING PUSH-UP BERM
-  EXISTING PONDS
-  PARCEL BOUNDARIES
-  PROPOSED FREE-DRAINED BACKWATER ZONE
-  PROPOSED GROUND WATER CHANNEL
-  TEMPORARY CONSTRUCTION ACCESS
-  TEMPORARY CONSTRUCTION STAGING
-  PROPOSED ALCOVE HABITAT WOOD PLACEMENT (TYP), SEE DETAIL SHEET 13

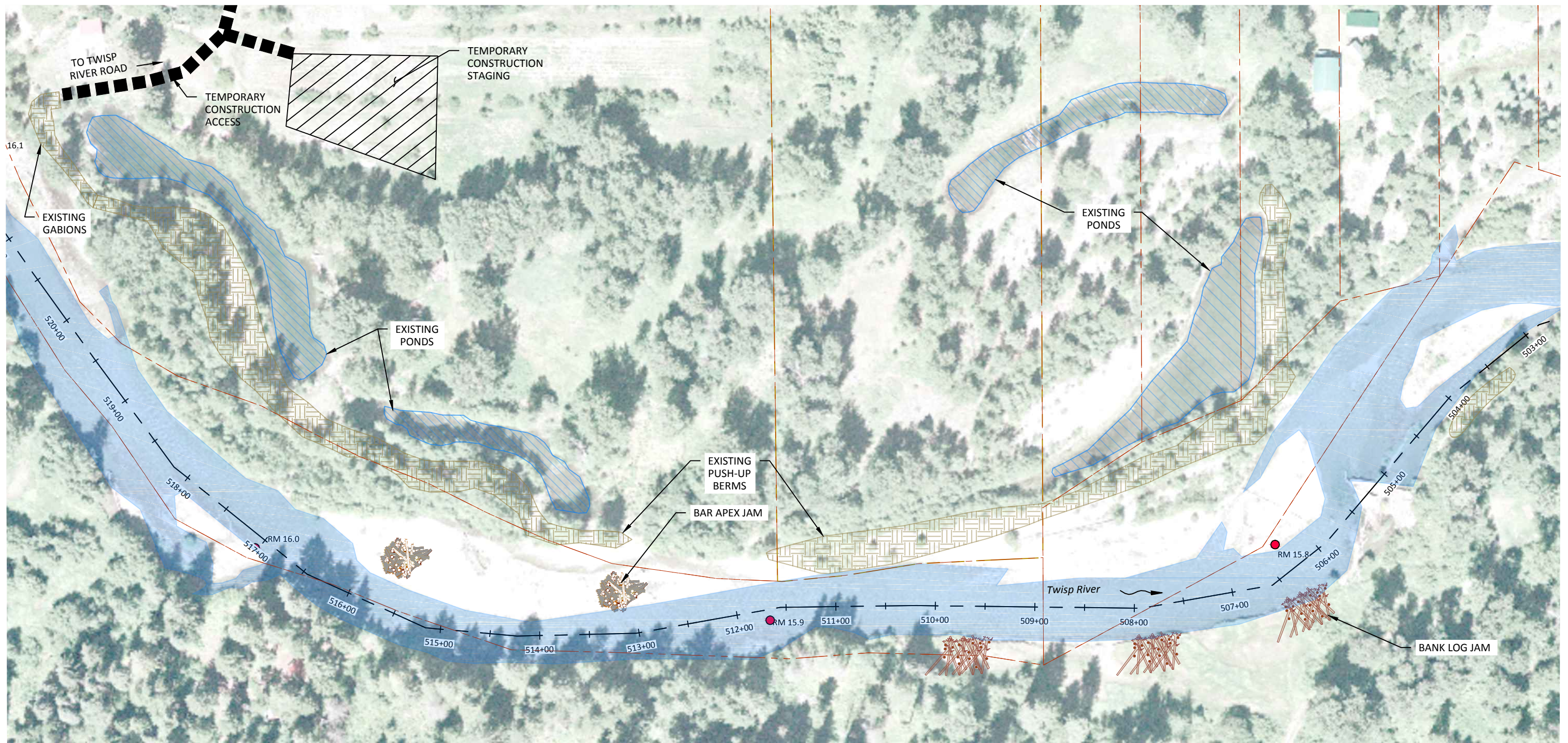


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Concept

**MIDDLE SCAFFOLD GROUNDWATER
 GALLERY AND SIDE CHANNEL**

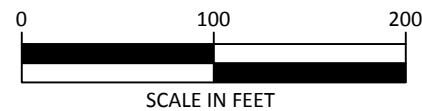
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LEGEND

- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL
- PROPOSED BANK LOG JAM (TYP), SEE DETAIL SHEET 12
- PROPOSED BAR APEX JAM (TYP), SEE DETAIL SHEET 12

- PARCEL BOUNDARIES
- TEMPORARY CONSTRUCTION ACCESS
- TEMPORARY CONSTRUCTION STAGING
- EXISTING PUSH-UP BERM
- EXISTING PONDS



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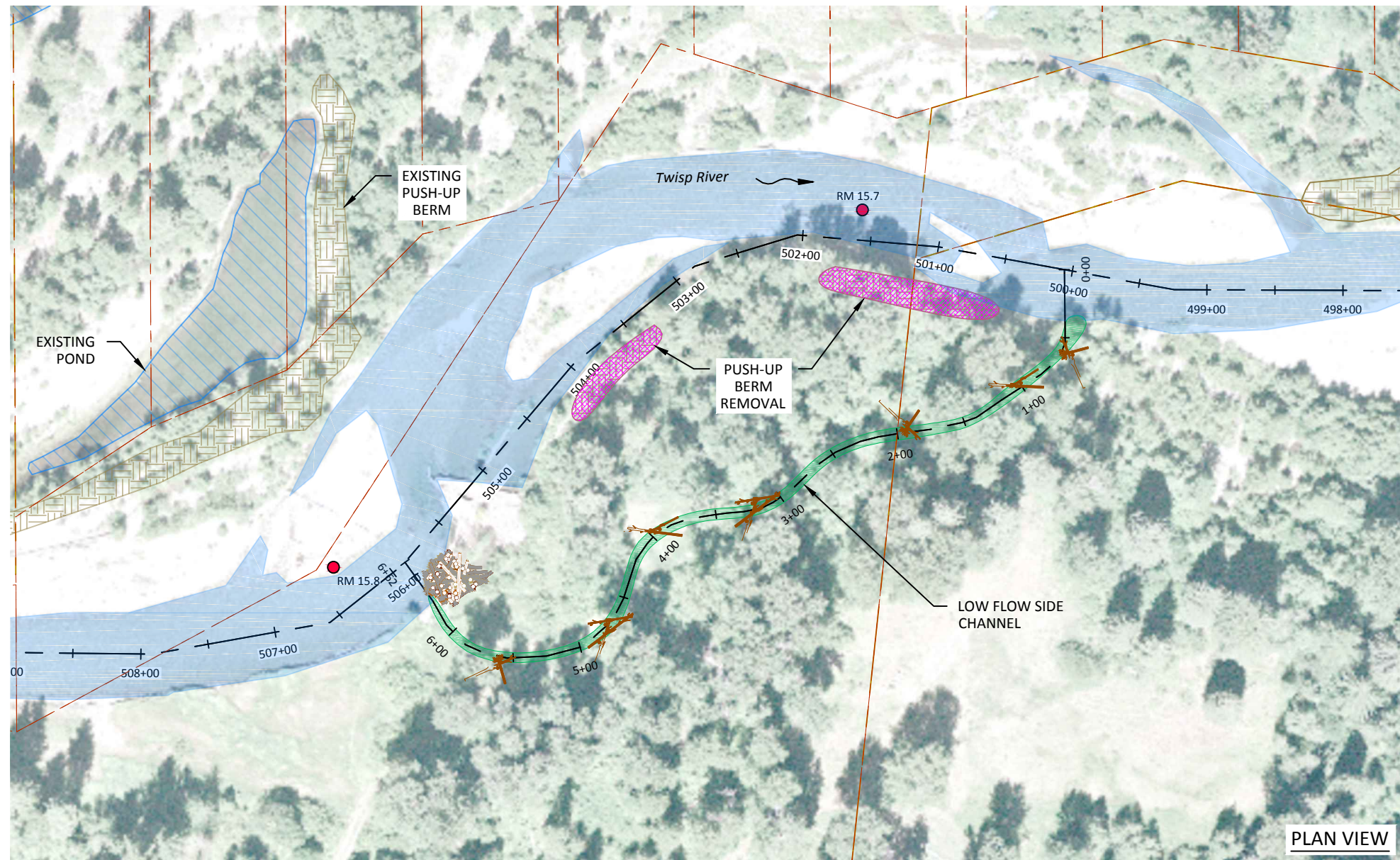
**Preliminary
 Concept**

MIDDLE SCAFFOLD WOOD PLACEMENT

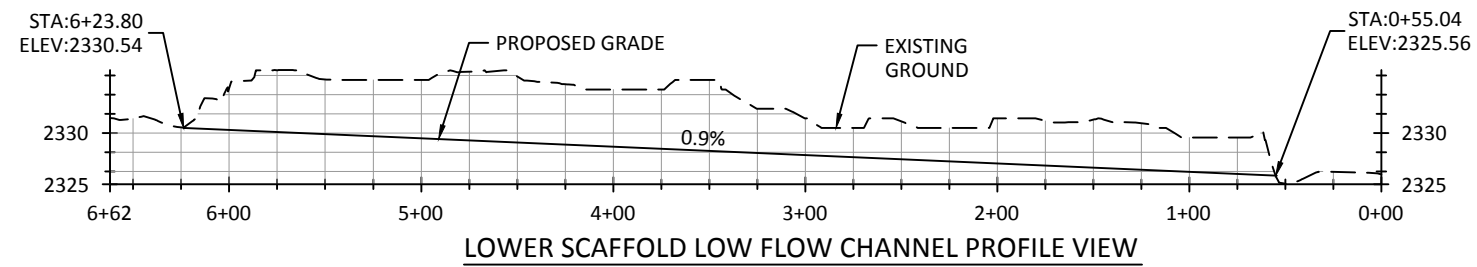
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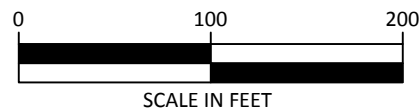
- RM 28 RIVER MILE MARKER
- 160+00 TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL
- EXISTING PONDS
- PARCEL BOUNDARIES
- LOW FLOW SIDE CHANNEL
- PUSH-UP BERM REMOVAL



PLAN VIEW



LOWER SCAFFOLD LOW FLOW CHANNEL PROFILE VIEW



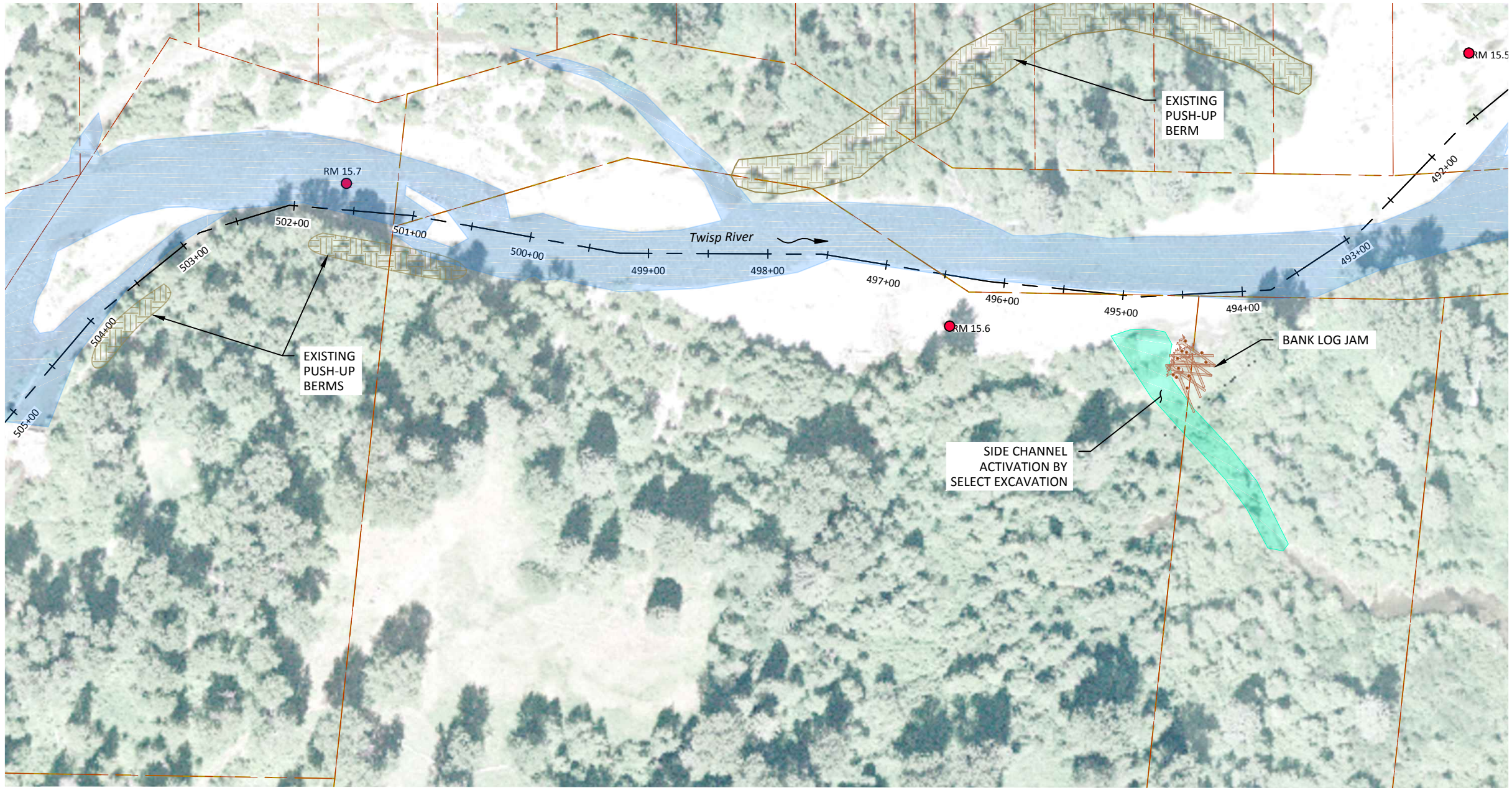
SCALE IN FEET



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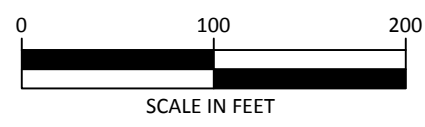
Preliminary
Concept

LOWER SCAFFOLD BERM REMOVAL AND SIDE CHANNEL ACTIVATION



LEGEND

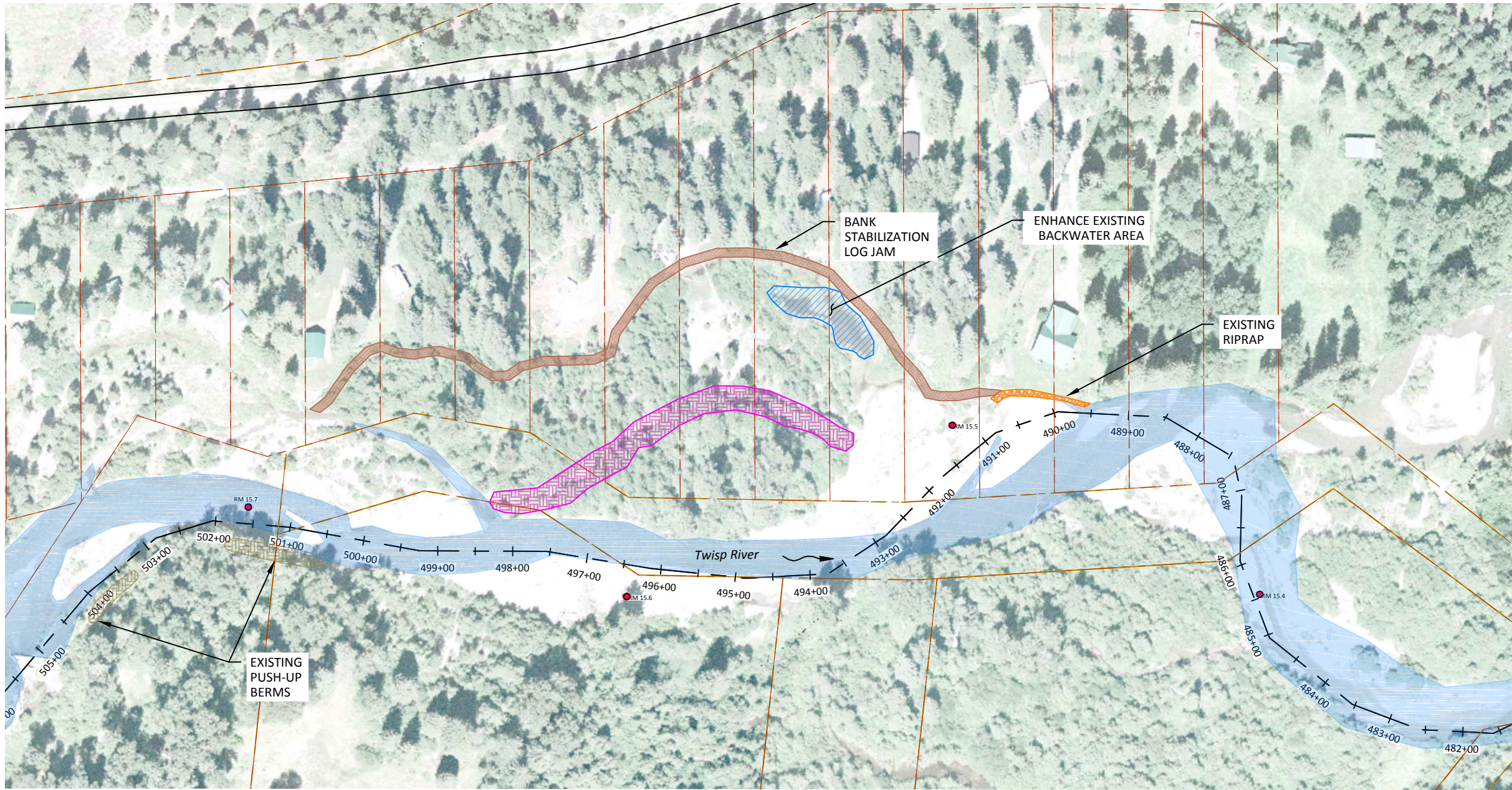
- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL & SIDE CHANNEL
- PARCEL BOUNDARIES
- EXISTING PUSH-UP BERMS
- PROPOSED SIDE CHANNEL ACTIVATION
- TEMPORARY CONSTRUCTION ACCESS
- TEMPORARY CONSTRUCTION STAGING
- PROPOSED BANK LOG JAM (TYP)
SEE DETAIL, SHEET 12



Preliminary
Concept

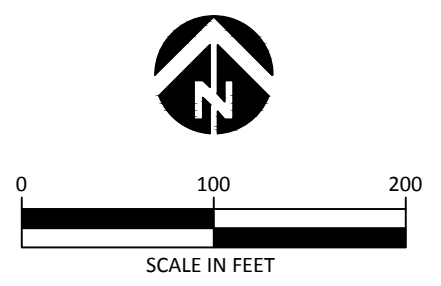
LOWER SCAFFOLD SIDE CHANNEL INLET EXCAVATION

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LEGEND

- RIVER MILE MARKER
- TWISP RIVER STATIONS
- EXISTING TWISP RIVER CHANNEL & SIDE CHANNEL
- PARCEL BOUNDARIES
- EXISTING PUSH-UP BERMS
- LEVEE REMOVAL AREA

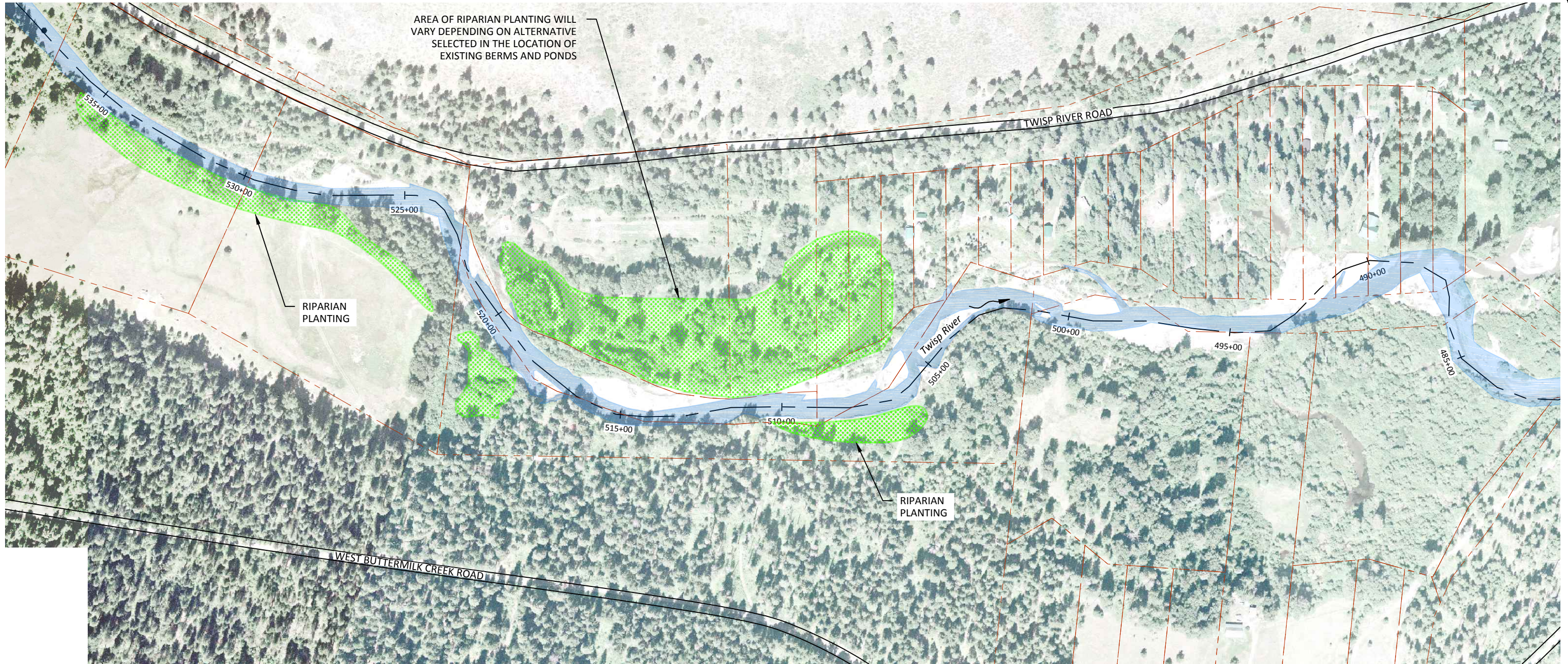


**Preliminary
Concept**


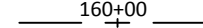




**LOWER SCAFFOLD MAIN CHANNEL
BERM REMOVAL**

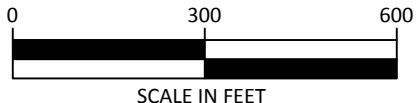
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AREA OF RIPARIAN PLANTING WILL VARY DEPENDING ON ALTERNATIVE SELECTED IN THE LOCATION OF EXISTING BERMS AND PONDS



LEGEND

-  PARCEL BOUNDARIES
-  TWISP RIVER STATIONS
-  EXISTING TWISP RIVER CHANNEL & SIDE CHANNELS
-  EXISTING PONDS
-  EXISTING PUSH-UP BERM
-  PROPOSED RIPARIAN PLANTING



SCALE IN FEET

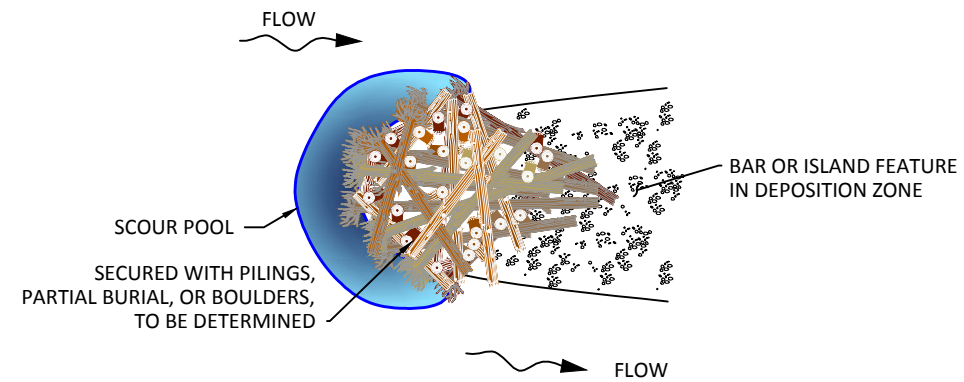
**Preliminary
Concept**



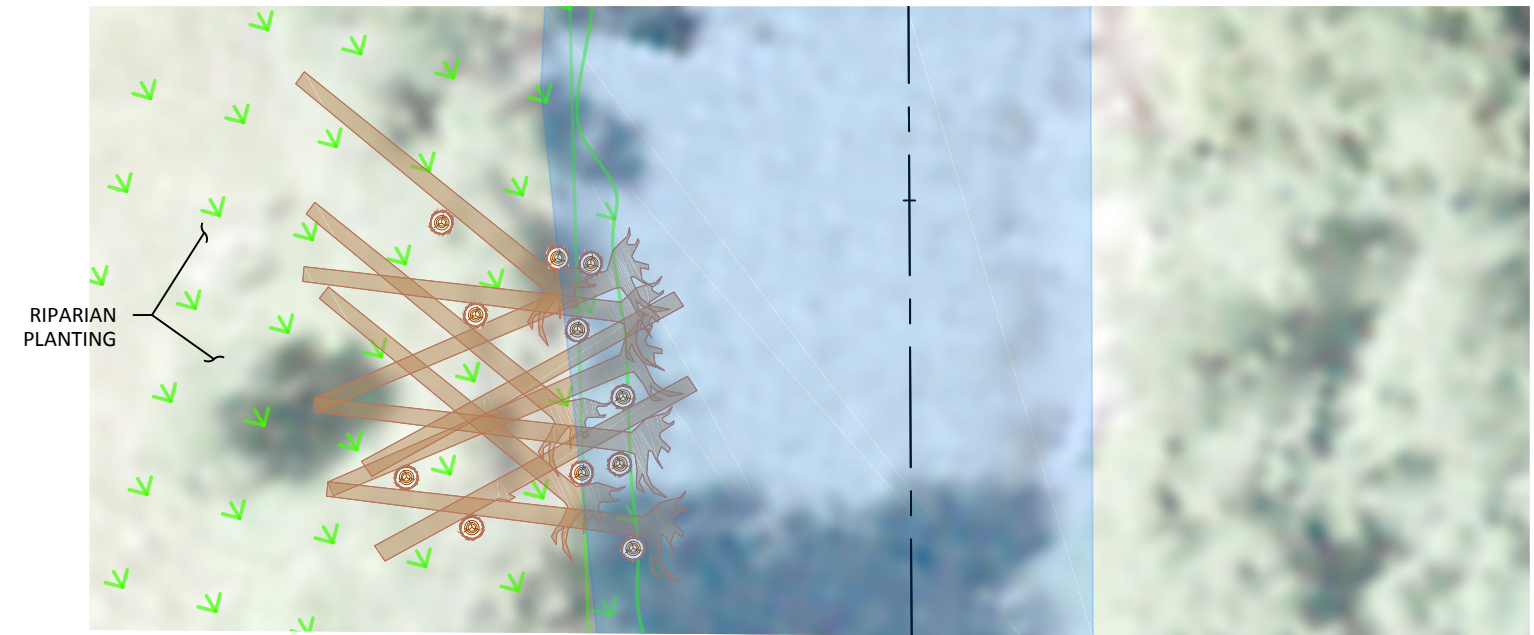
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RIPARIAN PLANTING

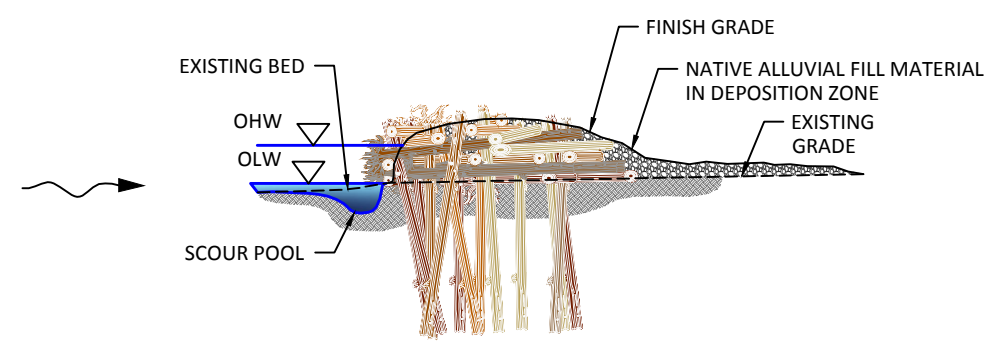
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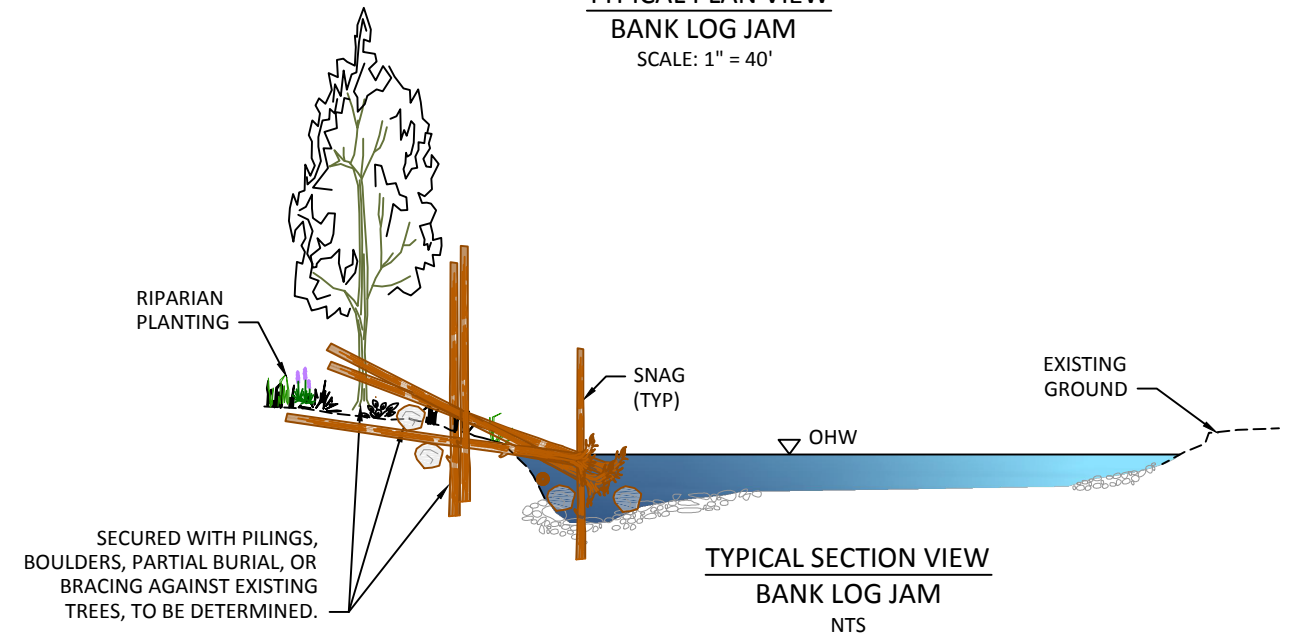
TYPICAL PLAN VIEW
BAR APEX JAM
NTS



TYPICAL PLAN VIEW
BANK LOG JAM
SCALE: 1" = 40'



TYPICAL SECTION VIEW
BAR APEX JAM
NTS



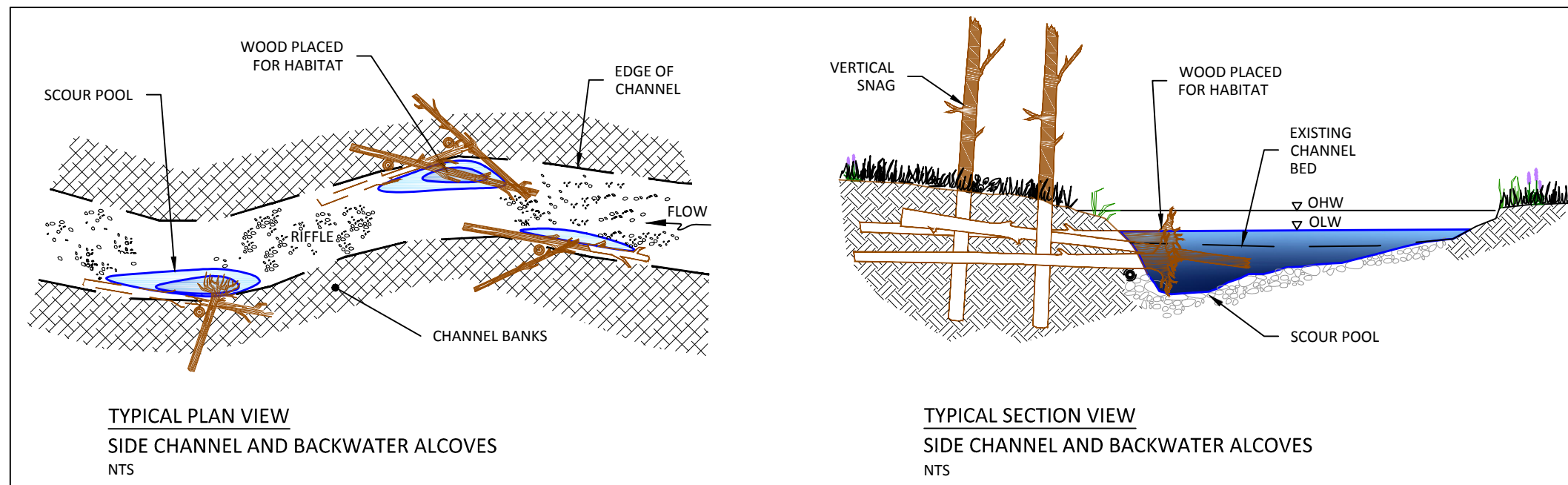
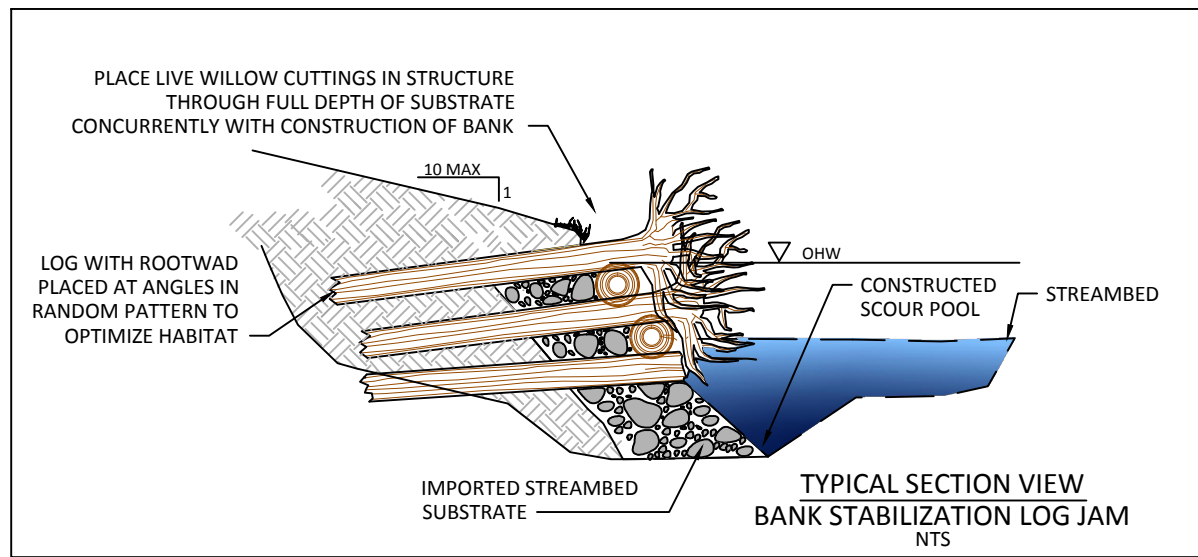
TYPICAL SECTION VIEW
BANK LOG JAM
NTS

Preliminary
Concept



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Preliminary Concept



WOOD DETAILS SIDE CHANNEL AND ALCOVE HABITAT WOOD, BANK STABILIZATION LOGJAM