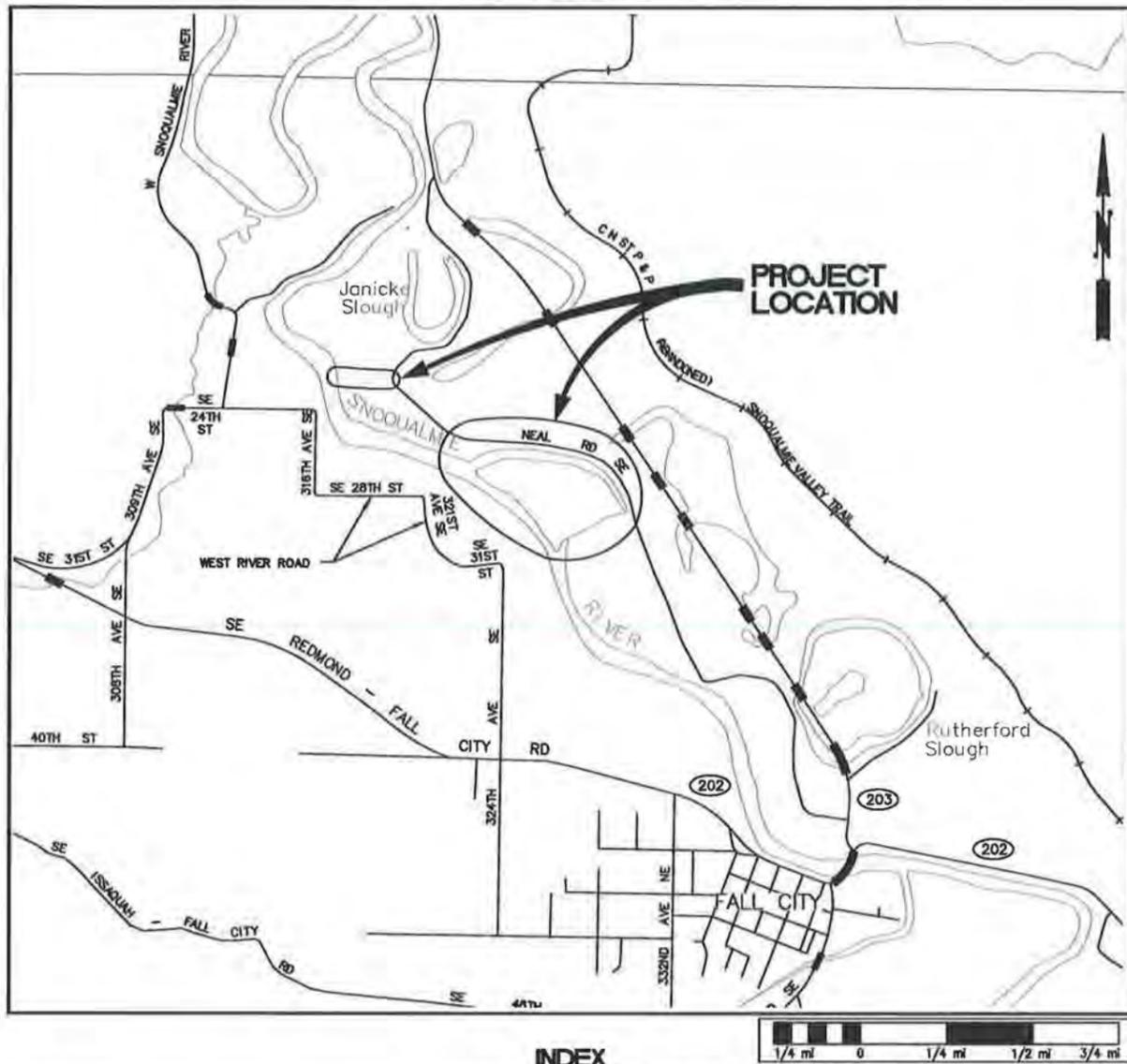


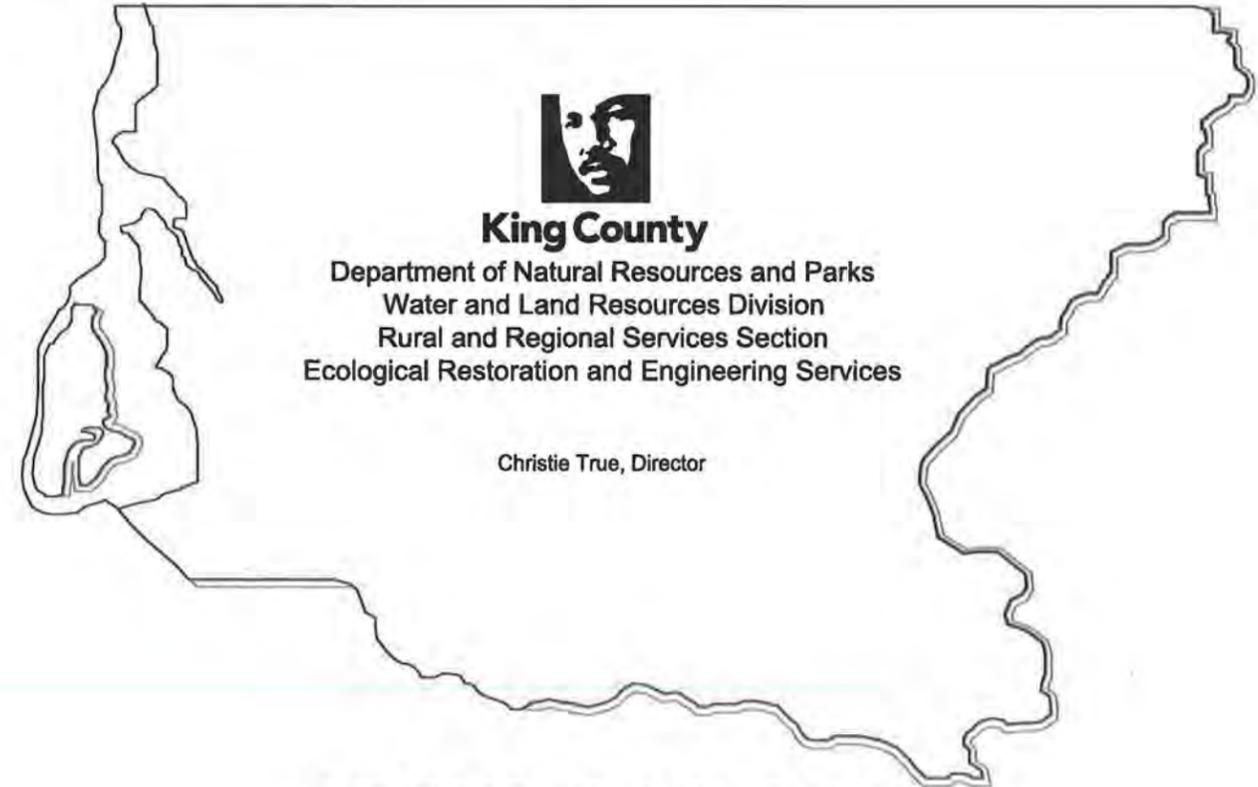
VICINITY MAP



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SHEET DESCRIPTION

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Christie True, Director

UPPER CARLSON
FLOODPLAIN RESTORATION PROJECT
FINAL DESIGN
CONTRACT NO. C00892C14



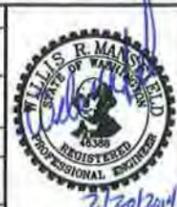
NAVD 88
HORIZONTAL DATUM:
NAD83 WA STATE PLANE NORTH

CALL 2 WORKING DAYS
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEY BASE MAP:	
CHECKED: L. MOSTRENKO (HERRERA)	2/14/2014
PROJECT No.:	HERRERA: 10-04785-070
SURVEY No.:	
APPROVED: WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I MOSTRENKO P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services

Christie True, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

VICINITY MAP AND SHEET INDEX

SHEET 1 OF 23 SHEETS

2006-48

GENERAL CONSTRUCTION NOTES:

1. THE WORK INCLUDES CLEARING WORK AREAS OF VEGETATION, STOCKPILING CLEARED VEGETATION, OFFSITE DISPOSAL OF INVASIVE VEGETATION THAT IS CLEARED, REMOVING AN EXISTING LEVEE AND ROCK ARMORING, CONSTRUCTING A NEW SETBACK ROCK REVETMENT, CONSTRUCTING ENGINEERED LOG JAMS, INSTALLING TIMBER PILES AND IMPORTED AND SALVAGED LOGS IN THE FLOODPLAIN, PLANTING, CONSTRUCTING AND REMOVING TEMPORARY FACILITIES, WORKING AROUND EXISTING ABOVE GROUND UTILITIES, AND RESTORING THE SITE.
2. THE WORK SHOWN ON THE PLANS SHALL BE SEQUENCED AND PERFORMED IN A MANNER THAT MINIMIZES IMPACTS TO THE RIVER, WETLANDS, EXISTING VEGETATION, THE WORK SITE AND ADJACENT PRIVATE PROPERTY AND PUBLIC INFRASTRUCTURE.
3. THE CONTRACTOR MAY DECIDE HOW TO SEQUENCE THE WORK AT EACH SITE. HOWEVER THIS PROJECT WILL BE CONSTRAINED BY AN IN-WATER WORK WINDOW SET FORTH IN THE PROJECT HYDRAULIC PROJECT APPROVAL PERMIT, SECTION 404 PERMIT, AND ANY OTHER APPLICABLE PERMIT, OUTSIDE OF WHICH NO IN-WATER WORK MAY OCCUR. WORK WITHIN THE ORDINARY HIGH WATER LINE WILL BE RESTRICTED TO THE DATES SET FORTH IN THE HYDRAULIC PROJECT APPROVAL PERMIT.
4. ENGINEER IS DEFINED AS THE OWNER'S REPRESENTATIVE OR OWNER'S ENGINEER. KING COUNTY IS DEFINED AS THE OWNER.
5. THE CONTRACTOR SHALL STAKE THE PROJECT CONSTRUCTION LIMITS FOR APPROVAL BY THE OWNER OR ENGINEER AT LEAST 5 WORKING DAYS PRIOR TO COMMENCING ONSITE ACTIVITIES. PROJECT CONSTRUCTION LIMITS SHOWN ON THE PLANS REPRESENT WORK AREAS AND DOES NOT REPRESENT CLEARING LIMITS. CLEARING LIMITS ARE NOT SHOWN. CLEARING MAY OCCUR WITHIN THE PROJECT LIMITS; HOWEVER, THE CONTRACTOR SHALL STAKE CLEARING LIMITS FOR APPROVAL BY THE OWNER OR ENGINEER AT LEAST 5 WORKING DAYS PRIOR TO COMMENCING ONSITE CLEARING ACTIVITIES. ALL CLEARING NECESSARY FOR CONSTRUCTION SHALL BE LIMITED TO THE AREA REQUIRED FOR SAFE EQUIPMENT OPERATION AND TO MINIMIZE THE AREA OF DISTURBANCE. CLEARING LIMITS SHALL NOT BE EXPANDED UNLESS APPROVED BY THE OWNER OR ENGINEER. THE CONTRACTOR SHALL PRESERVE AS MUCH EXISTING VEGETATION AS POSSIBLE AND NOT DAMAGE OR DISTURB VEGETATION MARKED BY THE OWNER OR ENGINEER FOR PRESERVATION.
6. TREES AND BRUSH NOT SHOWN ON THE PLANS WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. THE OWNER SHALL IDENTIFY AND FLAG ALL TREES TO BE PROTECTED FROM DAMAGE PRIOR TO CONSTRUCTION. FOLLOWING CLEARING OF ALLOWED VEGETATION, THE CONTRACTOR SHALL STOCKPILE ALL TREES AND BRUSH PRIOR TO AND DURING CONSTRUCTION ACTIVITIES, FOR USE IN AREAS AS SHOWN ON THE PLANS, AND AS DIRECTED BY THE OWNER OR ENGINEER TO CREATE ROUGH FINISHED GRADED SURFACES. CERTAIN VEGETATION MAY BE FLAGGED BY THE ENGINEER OR OWNER FOR SALVAGE, AND CARE SHALL BE TAKEN TO PROTECT THOSE PLANTS FROM DAMAGE AND DESICCATION.
7. ALTERATION OR DISTURBANCE OF THE CHANNEL, FLOODPLAIN, AND ANY BANK AND FLOODPLAIN VEGETATION SHALL BE MINIMIZED TO THAT NECESSARY TO CONSTRUCT THE PROJECT. THE CONTRACTOR SHALL KEEP DISTURBED AREAS WITHIN THE PROJECT CONSTRUCTION LIMITS SHOWN ON THE PLANS, AND SHALL NOT EXTEND THESE LIMITS UNLESS APPROVED BY THE ENGINEER.
8. THE CONTRACTOR SHALL PROVIDE 24 HOURS ADVANCE NOTICE TO THE OWNER OR ENGINEER PRIOR TO ANY REQUIRED SPECIAL INSPECTION.
9. CONSTRUCTION MATERIAL AND EQUIPMENT STAGING AREAS SHALL BE LOCATED ENTIRELY WITHIN THE PROJECT CONSTRUCTION LIMITS. CONSTRUCTION MATERIALS AND EQUIPMENT SHALL NOT BE STORED OUTSIDE OF IDENTIFIED STAGING AREAS, UNLESS APPROVED BY THE OWNER OR ENGINEER. THE CONTRACTOR SHALL PROTECT ALL CONSTRUCTION MATERIALS AND EQUIPMENT FROM DAMAGE AT ALL TIMES.
10. NO EQUIPMENT OR CONSTRUCTION MATERIALS SHALL BE STORED OVERNIGHT BELOW THE ORDINARY HIGH WATER (OHW) LINE. EQUIPMENT FUELING AREAS SHALL BE LOCATED MORE THAN 150' FROM THE EXISTING OHW LINE OF THE RIVER AND WETLAND BOUNDARIES.
11. EQUIPMENT USED FOR THIS PROJECT SHALL BE FREE OF EXTERNAL PETROLEUM-BASED PRODUCTS WHILE WORKING NEAR AND IN ANY SURFACE WATER OR WETLANDS. ACCUMULATION OF SOILS OR DEBRIS SHALL BE REMOVED FROM EQUIPMENT PRIOR TO ITS WORKING BELOW THE OHW LINE AND WITHIN THE WATER.
12. ALL EQUIPMENT OPERATING IN AREAS OTHER THAN EXISTING UNIMPROVED ACCESS ROADS SHALL USE ONLY BIODEGRADABLE, VEGETABLE BASED HYDRAULIC FLUIDS OR APPROVED OTHER.
13. EQUIPMENT SHALL BE CHECKED AT THE BEGINNING OF EACH WORK SHIFT FOR LEAKS, AND ANY NECESSARY REPAIRS SHALL BE COMPLETED PRIOR TO COMMENCING WORK ACTIVITIES.
14. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT NO PETROLEUM PRODUCTS, HYDRAULIC FLUID, CHEMICALS, OR ANY OTHER TOXIC OR DELETERIOUS MATERIALS ARE ALLOWED TO ENTER OR LEACH INTO THE RIVER, WETLANDS OR THE PROJECT SITE FROM EQUIPMENT OR SUPPLIES USED DURING CONSTRUCTION.
15. CONTRACTOR SHALL LIMIT MACHINERY MOVEMENT TO THE PROJECT CONSTRUCTION LIMITS DEFINED ON THE PLANS OR IDENTIFIED AS ACCEPTABLE BY THE OWNER OR ENGINEER.
16. IF AT ANY TIME, AS A RESULT OF PROJECT ACTIVITIES, FISH ARE OBSERVED IN DISTRESS, A FISH KILL OCCURS, OR WATER QUALITY PROBLEMS DEVELOP (INCLUDING EQUIPMENT LEAKS OR SPILLS), OPERATIONS SHALL CEASE AND THE OWNER SHALL BE NOTIFIED IMMEDIATELY. WASHINGTON DEPARTMENT OF FISH AND WILDLIFE AND WASHINGTON STATE DEPARTMENT OF ECOLOGY SHALL BE CONTACTED IMMEDIATELY BY THE OWNER OR BY HIS/HER DESIGNEE. WORK SHALL NOT RESUME UNTIL FURTHER APPROVAL BY THE OWNER.
17. EROSION AND SEDIMENT CONTROL METHODS SHALL BE USED TO PREVENT SILT-LADEN WATER FROM ENTERING THE RIVER AND WETLANDS. MINIMUM EROSION AND WATER POLLUTION CONTROL AND WATER MANAGEMENT BMPs ARE SHOWN ON THE TESC AND WATER MANAGEMENT SITE PLAN. THE CONTRACTOR SHALL IMPLEMENT THE PLAN, ADD ANY ADDITIONAL MEASURES REQUIRED TO MEET WASHINGTON STATE WATER QUALITY STANDARDS AND PROJECT PERMIT CONDITIONS, AND SHALL BE RESPONSIBLE FOR ALL EROSION AND SEDIMENT CONTROL AND WATER MANAGEMENT NEEDED DURING CONSTRUCTION ACTIVITIES.
18. IF HIGH FLOW CONDITIONS THAT MAY CAUSE SILTATION, EROSION OR A DANGEROUS WORK ENVIRONMENT ARE ENCOUNTERED DURING CONSTRUCTION, WORK SHALL STOP IN THOSE AFFECTED AREAS UNTIL THE FLOW SUBSIDES.
19. APPROPRIATE CULTURAL RESOURCES MONITORING WILL BE COMPLETED BY THE OWNER DURING CONSTRUCTION.

EXISTING LEGEND

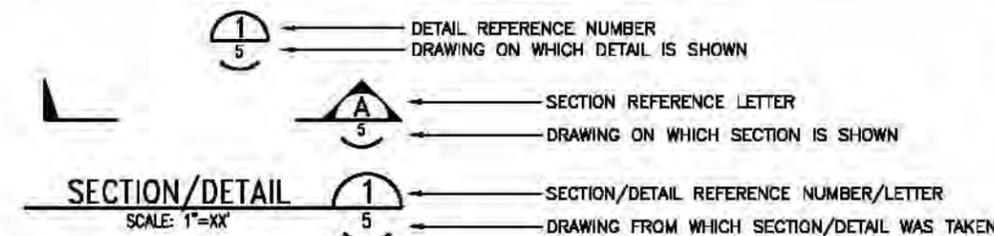
- PARCEL BOUNDARY
- PARCEL NUMBER
- VEGETATION CANOPY BOUNDARY
- APPROX WETLAND BOUNDARY
- ORDINARY HIGH WATER LINE
- ROAD/EDGE OF PAVEMENT
- EXISTING LEVEE/REVETMENT
- EXISTING SLOUGH
- EXISTING MAJOR CONTOUR (10 FT)
- EXISTING MINOR CONTOUR (2 FT)
- EXISTING BUILDING
- EXISTING LARGE TREE
- EXISTING UTILITY POLE
- LEVEE CENTERLINE

PROPOSED LEGEND

- PROJECT CONSTRUCTION LIMITS
- CLEARING AND GRUBBING LIMITS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- LEVEE AND ROCK REVETMENT REMOVAL WORK ZONE
- FLOODPLAIN LOG ROUGHENING ZONE
- SRR LINE ZONE
- ENGINEERED LOGJAM AND BANK ROUGHENING LOG STRUCTURE ZONE
- TREE REMOVAL ZONES 1 AND 2
- CONSTRUCTION DEWATERING DISCHARGE AND INFILTRATION ZONE
- CONSTRUCTION MATERIAL STOCKPILE AREA
- EQUIPMENT STAGING AREA
- STABILIZED CONSTRUCTION ENTRANCE
- SRR LINE EMBANKMENT ROCK PLACEMENT ZONE
- NEAL ROAD REPAIR ZONE
- TEMPORARY SILT CURTAIN
- STRAW WATTLES OR SILT FENCE
- LOG YARDING ZONE LIMITS
- LIMITS OF EXCAVATION
- SHORING
- FLOODPLAIN ROUGHENING LOG WITHOUT PILES
- BANK ROUGHENING LOG STRUCTURE (BRLS) WITH PILES
- BANK DEFLECTOR ELJ
- FLOW DEFLECTOR ELJ
- ROW OF TIMBER PILES (FLOOD FENCE PILING)
- TEMPORARY BRIDGE CROSSING OVER WETTED AREA

ABBREVIATIONS

ALCAP	ALUMINUM CAP	MIN	MINIMUM
ALD	ALDER	MPL	MAPLE
APPROX	APPROXIMATE	NO.	NUMBER
AVG	AVERAGE	NTS	NOT TO SCALE
BD	BRASS DISK	OC	ON CENTER
BMP	BEST MANAGEMENT PRACTICE	OHW	ORDINARY HIGH WATER
BRLS	BANK ROUGHENING LOG STRUCTURE	PLS	PROFESSIONAL LAND SURVEYOR
CF	CUBIC FEET	PT	POINT
CFS	CUBIC FEET PER SECOND	RBC	REBAR W/ CAP
CP	CONTROL POINT	RR	ROCK REMOVAL
CW	COTTONWOOD	SRR	SETBACK ROCK REVETMENT
CY	CUBIC YARD	STA	STATION
DBH	DIAMETER AT BREAST HEIGHT	SY	SQUARE YARD
DET	DETAIL	TEMP	TEMPORARY
DIA	DIAMETER	TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
EL	ELEVATION	TFP	TREE FELLING AND PLACEMENT
ELJ	ENGINEERED LOGJAM	TOT	TOTAL
EXIST	EXISTING	TYP	TYPICAL
FT	FEET	VERT	VERTICAL
HORIZ	HORIZONTAL	WDFW	WASHINGTON DEPARTMENT OF FISH AND WILDLIFE
IN	INCHES	WET	WETLAND
LF	LINEAR FEET	WQS	WATER QUALITY STANDARDS
MAX	MAXIMUM	WQPMP	WATER QUALITY PROTECTION AND MONITORING PLAN
		WSE	WATER SURFACE ELEVATION



*_*_* INDICATES THAT THE DETAIL/SECTION IS SHOWN ON THE SAME DRAWING
 TYP INDICATES THAT THE DETAIL/SECTION IS UNIFORMLY TYPICAL THROUGHOUT PROJECT EXCEPT WHERE OTHERWISE NOTED
 VAR SPECIFIES THAT DETAIL/SECTION WAS TAKEN FROM VARIOUS DRAWINGS

GENERAL LEGEND NOTES:

1. ITEMS IN LEGEND MAY DISPLAY DIFFERENTLY THAN ON INDIVIDUAL SHEETS DUE TO SCALE AND FOR CLARITY.

CALL 2 WORKING DAYS BEFORE YOU DIG
 1-800-424-5555

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

NOTE AND DETAIL/SECTION REFERENCING

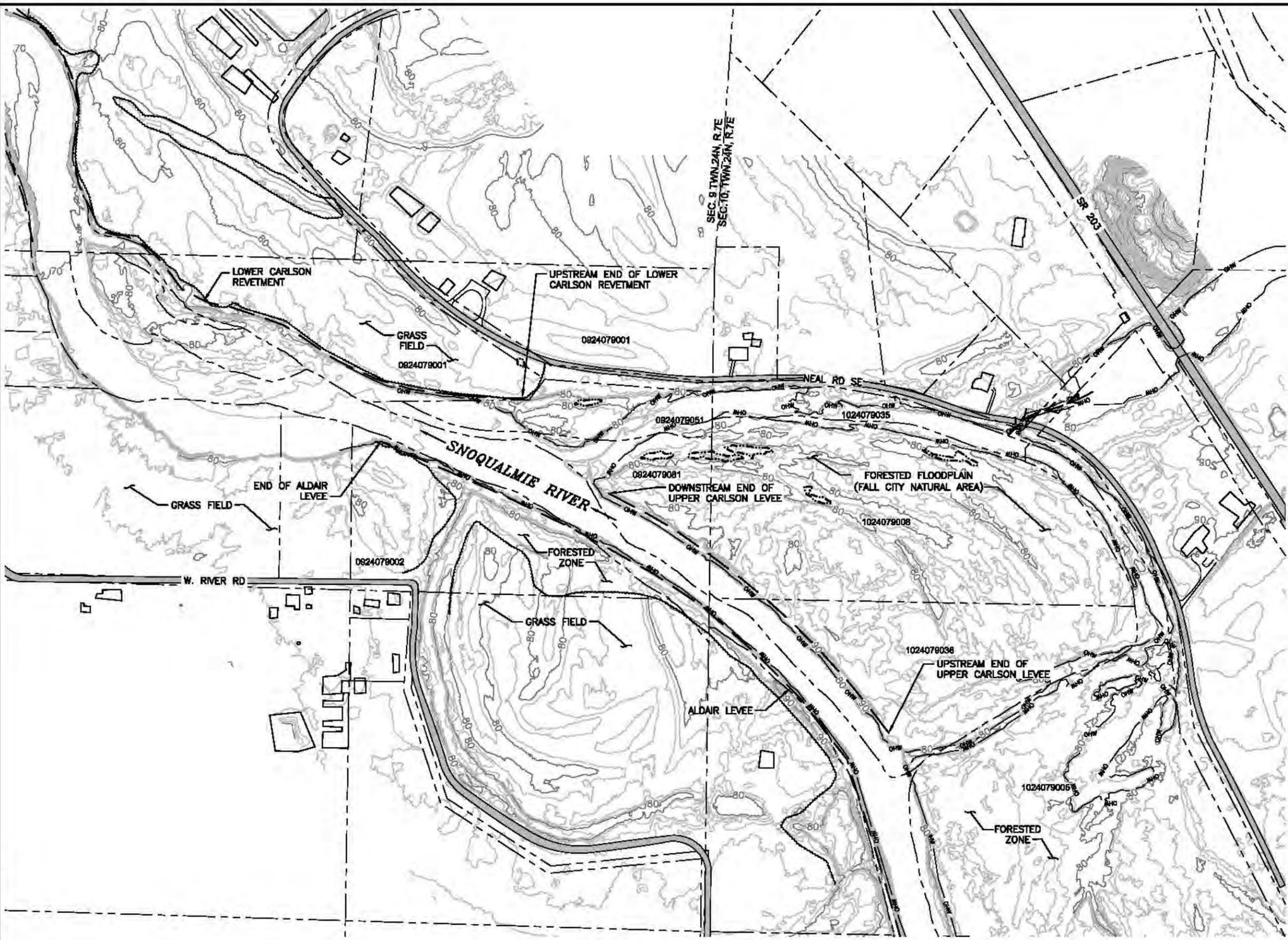
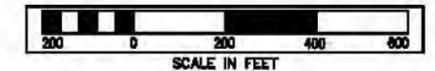
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SURVEY BASE MAP:		PROJECT MANAGER: DAN EASTMAN	2-2014
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014	DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
PROJECT No. HERRERA: 10-04785-070		DESIGN ENTERED: T. PRESCOTT	2-2014
SURVEY No.			
NUM.	REVISION	BY	DATE



King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christia Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
 NOTES, LEGEND AND ABBREVIATIONS



NOTES:

1. BASIS OF BEARING IS THE WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE, N.A.D. 83, VERTICAL DATUM NAVD 88.
2. CONTOURS SHOWN ARE BASED ON A PLS CERTIFIED LIDAR SURVEY COMPLETED IN FEBRUARY 2013 BY WATERSHED SCIENCES, INC.
3. CONTOURS OF RIVER BED ARE NOT SHOWN. RIVER SURFACE CONTOURS ARE BASED ON THE 2013 LIDAR SURVEY AND REPRESENT WATER SURFACE ELEVATION AT THE TIME OF THE SURVEY. RIVER BED PROFILES IN DETAILS ARE BASED ON IN-WATER BATHYMETRY SURVEY COMPLETED BY KING COUNTY IN 2012.
4. WETLAND BOUNDARIES, OHW LINES, AND EXISTING LEVEE AND REVETMENT ALIGNMENTS SHOWN ARE APPROXIMATE AND ARE PROVIDED BY KING COUNTY.
5. PROPERTY LINES AND RIGHT OF WAY SHOWN ARE SOURCED FROM KING COUNTY ASSESSORS GIS DATABASE, AND ARE NOT INTENDED TO IMPLY A BOUNDARY SURVEY.
6. NEAL RD SE AND W. RIVER RD DELINEATED BASED ON 2009 AERIAL PHOTOGRAPHY OF SITE PROVIDED BY KING COUNTY.
7. INDIVIDUAL TREES WITHIN THE PROJECT AREA ARE NOT SHOWN ON THIS SHEET FOR CLARITY. SEE SHEETS 5, 6, 7, 11, 16, 17 AND 18 FOR ADDITIONAL TREE INFORMATION.



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1-800-424-5555

NAV88
HORIZONTAL DATUM:
NAD83 WA STATE PLANE NORTH (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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PROJECT No. HERRERA: 10-04785-070			
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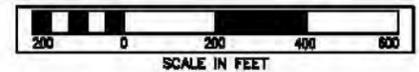
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PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
 EXISTING CONDITIONS

SHEET
3
OF
23
SHEETS
2006-48

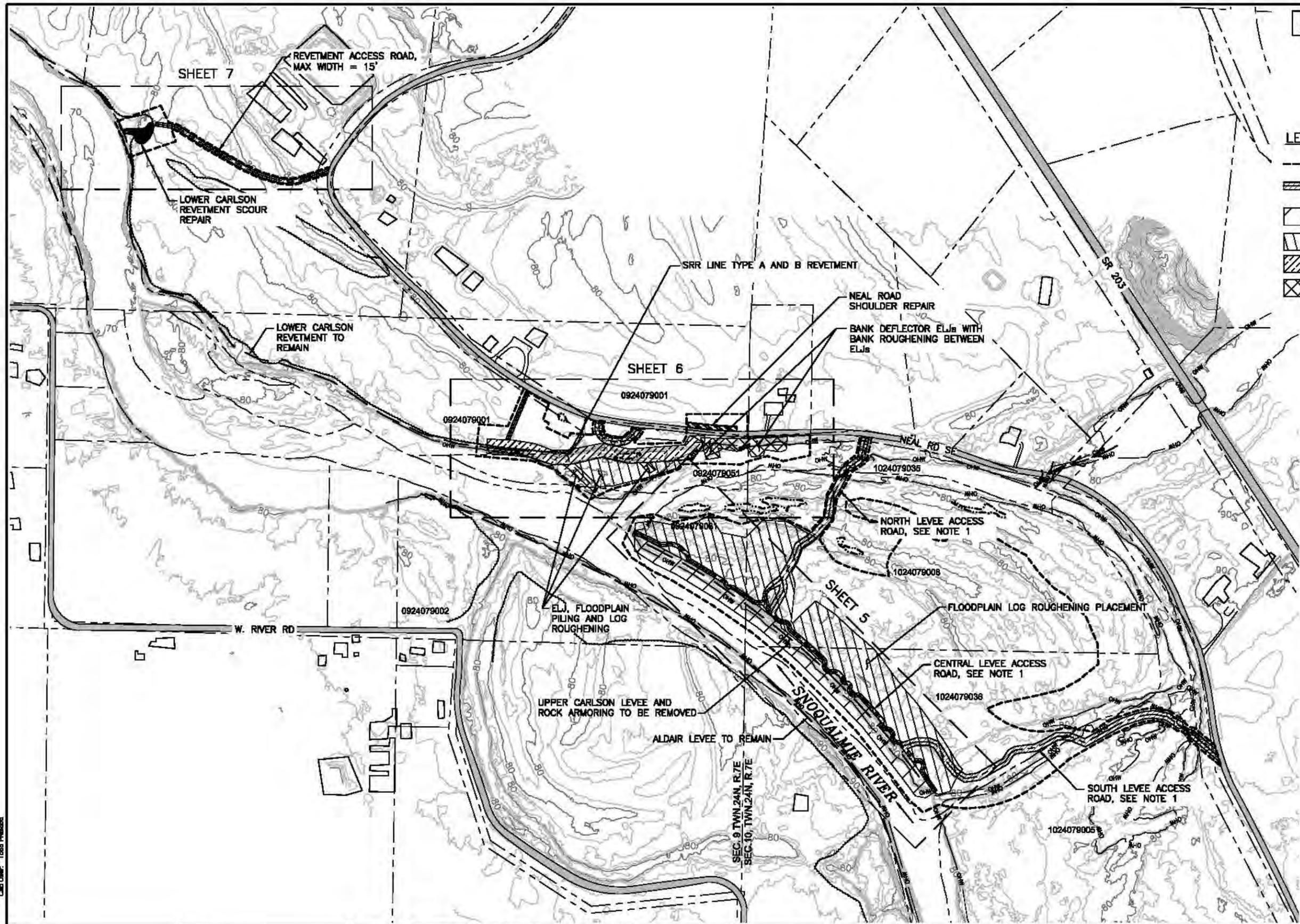


LEGEND

- PROJECT CONSTRUCTION LIMITS
- TEMPORARY CONSTRUCTION ACCESS ROAD
- LEVEE AND ROCK REVETMENT REMOVAL WORK ZONE
- FLOODPLAIN LOG ROUGHENING ZONE
- SRR LINE ZONE
- ENGINEERED LOGJAM AND BANK ROUGHENING LOG STRUCTURE ZONE

NOTES:

1. MAX WIDTH OF NORTH AND SOUTH LEVEE ACCESS ROAD SHALL BE 30'. MAX WIDTH OF CENTRAL LEVEE ACCESS ROAD PRIOR TO LEVEE REMOVAL SHALL BE 15'.
2. NORTH AND SOUTH LEVEE ACCESS ROAD AND REVETMENT ACCESS ROAD ALIGNMENTS WILL BE STAKED BY OWNER PRIOR TO CONSTRUCTION. CONTRACTOR SHALL STAKE ALIGNMENT OF CENTRAL LEVEE ACCESS ROAD FOR ENGINEER'S OR OWNER'S APPROVAL PRIOR TO CONSTRUCTION.



CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

PROJECT SITE PLAN

SHEET **4** OF **23** SHEETS

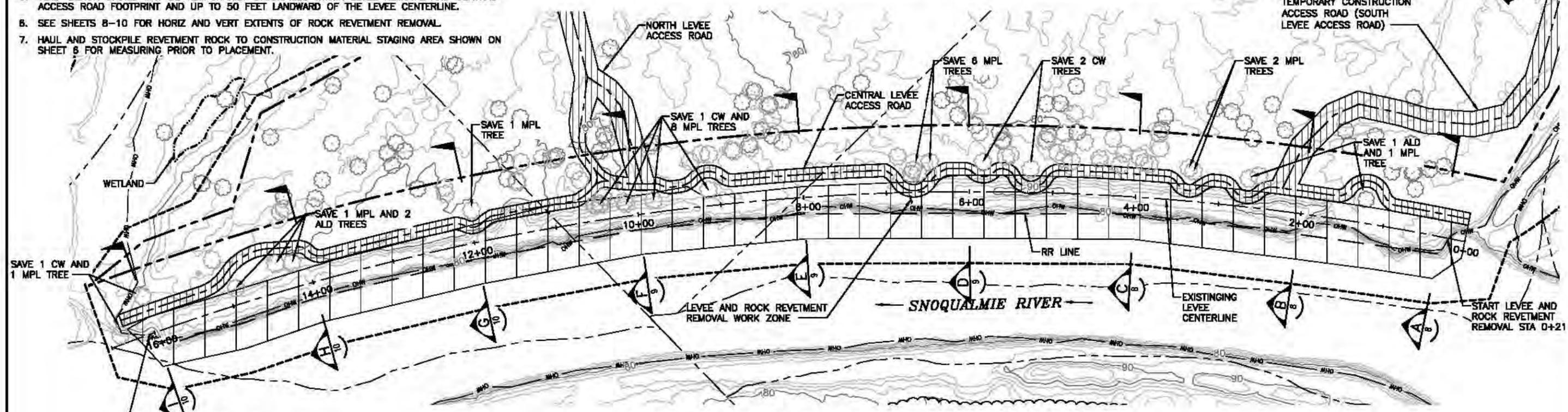
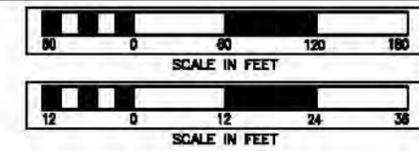
2008-48

NOTES:

- SEE SHEETS 8-10, 16 AND 17 FOR TREE REMOVAL ALONG EXISTING LEVEE. DO NOT REMOVE OR DAMAGE TREES BEYOND TREE REMOVAL LIMITS SHOWN OR TREES DESIGNATED TO BE SAVED.
- CENTRAL LEVEE ACCESS ROAD LOCATION ALONG UPPER CARLSON LEVEE WILL VARY AS LEVEE REMOVAL WORK IS COMPLETED.
- LEVEE SPOILS PRODUCED BETWEEN STA 0+00 AND STA 6+00 (APPROX 5,000 CY) SHALL BE PLACED OVER LOG CLUSTERS SHOWN ON SHEET 17. LEVEE SPOILS PRODUCED BETWEEN STA 9+00 AND STA 12+00 (APPROX 1,400 CY) SHALL BE USED AS BACKFILL FOR ELJS 1 AND 2. ALL REMAINING LEVEE SPOILS PRODUCED SHALL BE HAULED OFF SITE AND DISPOSED (APPROX 5,000 CY). SEE SPECIAL PROVISIONS FOR HAULING AND DISPOSAL REQUIREMENTS.
- FOLLOWING LEVEE REMOVAL CONSTRUCT TEMP BENCH BELOW FINAL GRADE AS NECESSARY TO COMPLETE ROCK REMOVAL BACKFILL BENCH FOLLOWING ROCK REMOVAL WITH NATIVE SPOILS, BUT DO NOT COMPACT. SURPLUS BENCH SPOILS SHALL BE REMOVED AND DISPOSED OF OFF SITE. SEE SHEETS 8-10 FOR TEMP BENCHING.
- TEMP BENCH SPOILS MAY BE TEMPORARILY STOCKPILED WITHIN LEVEE REMOVAL AND CENTRAL ACCESS ROAD FOOTPRINT AND UP TO 50 FEET LANDWARD OF THE LEVEE CENTERLINE.
- SEE SHEETS 8-10 FOR HORIZ AND VERT EXTENTS OF ROCK REVETMENT REMOVAL.
- HAUL AND STOCKPILE REVETMENT ROCK TO CONSTRUCTION MATERIAL STAGING AREA SHOWN ON SHEET 8 FOR MEASURING PRIOR TO PLACEMENT.

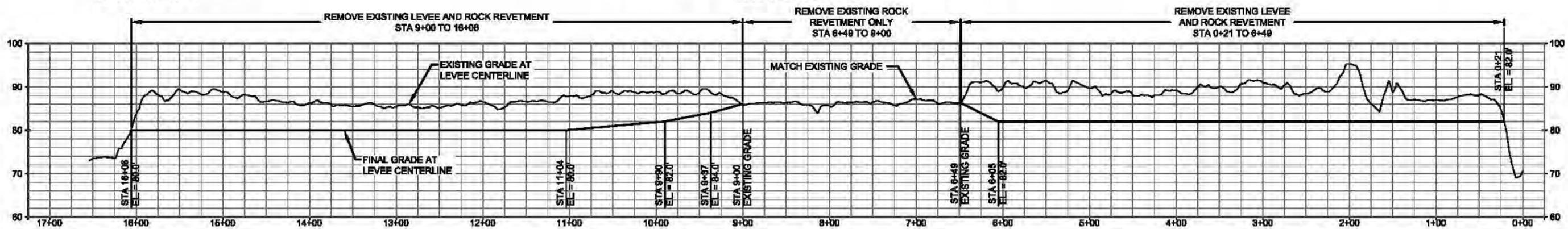
UPPER CARLSON EXISTING LEVEE CENTERLINE CONTROL POINT TABLE:

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1+00	214144.579	1375716.242	10+00	214788.371	1375092.343
2+00	214225.147	1375657.015	11+00	214847.390	1375011.623
3+00	214303.658	1375595.089	12+00	214903.636	1374928.948
4+00	214380.023	1375530.531	13+00	214957.04	1374844.407
5+00	214454.151	1375463.419	14+00	215007.55	1374758.105
6+00	214525.98	1375393.83	15+00	215055.10	1374670.138
7+00	214595.36	1375321.843	16+00	215099.632	1374580.607
8+00	214662.285	1375247.54	16+06	215102.21	1374575.188



LEVEE AND ROCK REVETMENT REMOVAL - PLAN

SCALE: 1"=60' AT FULL SCALE



LEVEE REMOVAL - PROFILE

SCALE: 1"=60' HORIZ, 1"=12' VERT AT FULL SCALE

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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CHECKED: I. MOSTRENKO (HERRERA)	2/11/2014		
PROJECT No. HERRERA: 10-04785-070			
SURVEY No.			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	2-2014
SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



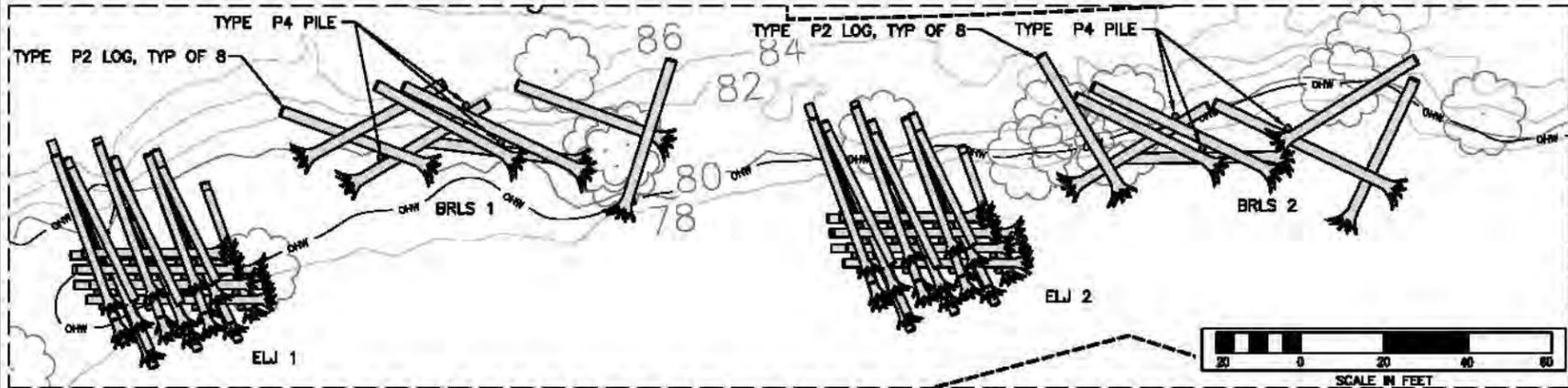
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

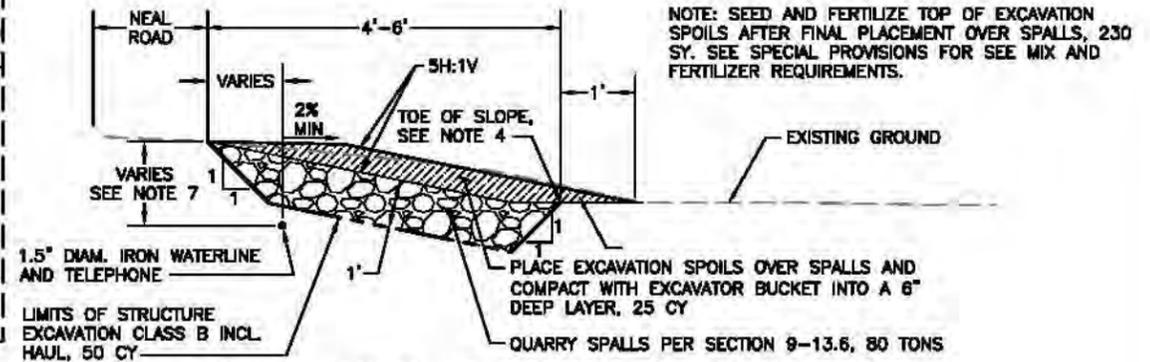
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

LEVEE AND ROCK REVETMENT REMOVAL SITE PLAN AND PROFILE

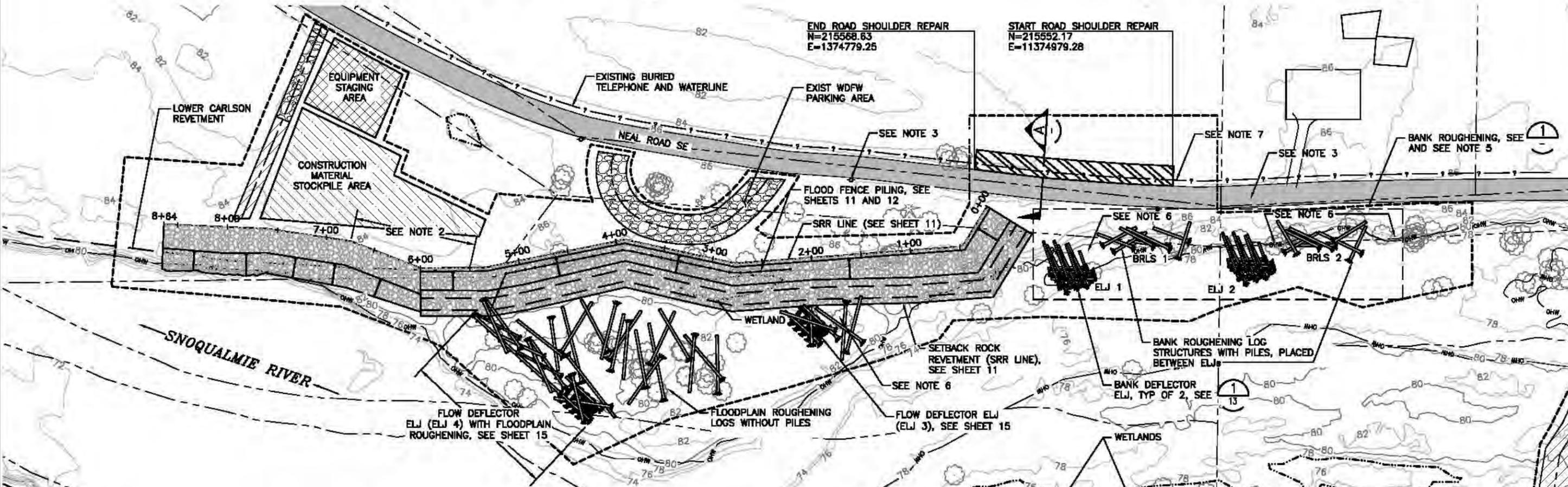
SHEET
5
OF
23
SHEETS
2006-48



DETAIL - BANK ROUGHENING
SCALE: 1"=20' AT FULL SCALE



SECTION - NEAL ROAD SHOULDER REPAIR
SCALE: N.T.S.



- NOTES:**
1. CONSTRUCT TYPE A REVETMENT FROM SRR LINE STATIONS 0+00 TO 6+00. CONSTRUCT TYPE B REVETMENT FROM SRR LINE STATIONS 6+00 TO 8+84. SEE SHEET 12 FOR DIMENSIONS OF TYPE A AND B REVETMENTS.
 2. REMOVE APPROX 125 LF OF THE EXIST BURIED LOWER CARLSON REVETMENT BETWEEN SRR LINE STATIONS 5+50 AND 6+75 TO COMPLETE SRR LINE CONSTRUCTION. EXTENTS OF SUBSURFACE ROCK IS UNKNOWN. RE-USE ROCK IN TYPE B REVETMENT.
 3. EXISTING UTILITY POLES AND OVERHEAD LINES ALONG THE SOUTH SIDE OF NEAL ROAD THAT ARE ADJACENT TO THE PROJECT TO BE RELOCATED TO NORTH SIDE OF NEAL ROAD BY OTHERS PRIOR TO CONSTRUCTION.
 4. ENGINEER TO STAKE TOE OF SLOPE PRIOR TO EXCAVATION.
 5. BRLS 1 AND BRLS 2 EACH CONSIST OF 3 TYPE P4 PILES (20' LONG, 12" DIA. BUTT TIMBER PILE) AND 8 TYPE R2 LOGS (24" DIA., 40' LONG WITH ROOTWAD). DRIVE PILE TIPS 12' BELOW EXISTING GRADE. LOCATION OF PILES AND LOGS IS APPROX AND WILL BE STAKED BY ENGINEER. PLACE LOGS AS DESIGNATED BY ENGINEER. LASH LOGS TO PILES AND EXIST TREES AS DESIGNATED BY ENGINEER. 8 LASHINGS PER EACH BRLS.
 6. PLACE EXCESS SLASH, RACKING AND SALVAGED CLASS A AND CLASS B LOGS AS DESIGNATED BY THE ENGINEER.
 7. CONTRACTOR SHALL POTHOLE TO VERIFY LOCATION OF TELEPHONE AND WATERLINE AS REQUIRED TO CONSTRUCT NEAL ROAD SHOULDER REPAIR.

SCALE IN FEET
0 50 100 150

**CALL 2 WORKING DAYS
BEFORE YOU DIG**
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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 User: T. Prescott

FIELD BOOK:		
SURVEYED:		
SURVEY BASE MAP:		
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014	
PROJECT No. HERRERA: 10-04768-070		
SURVEY No.		
1	UTILITY UPDATE	
NUM.	REVISION	
BY	DATE	
	IBM	2/25/14

APPROVED: WILL MANSFIELD, P.E.	2-2014
PROJECT	
SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



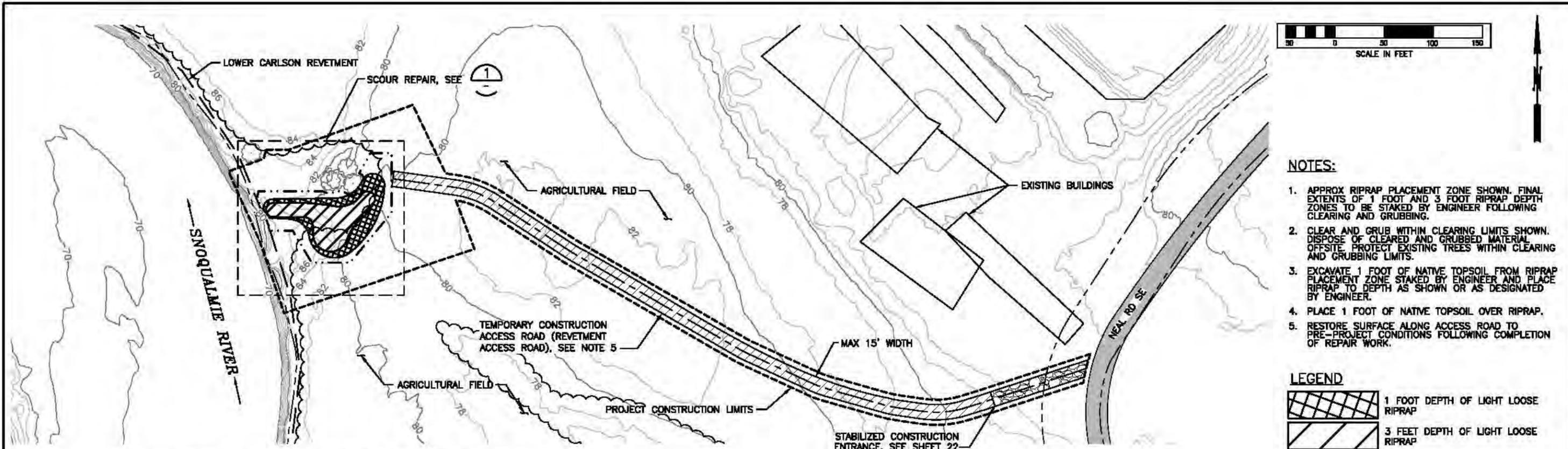
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

**NEAL ROAD SE PROTECTION
SITE PLAN**

SHEET
6
OF
23
SHEETS
2006-48



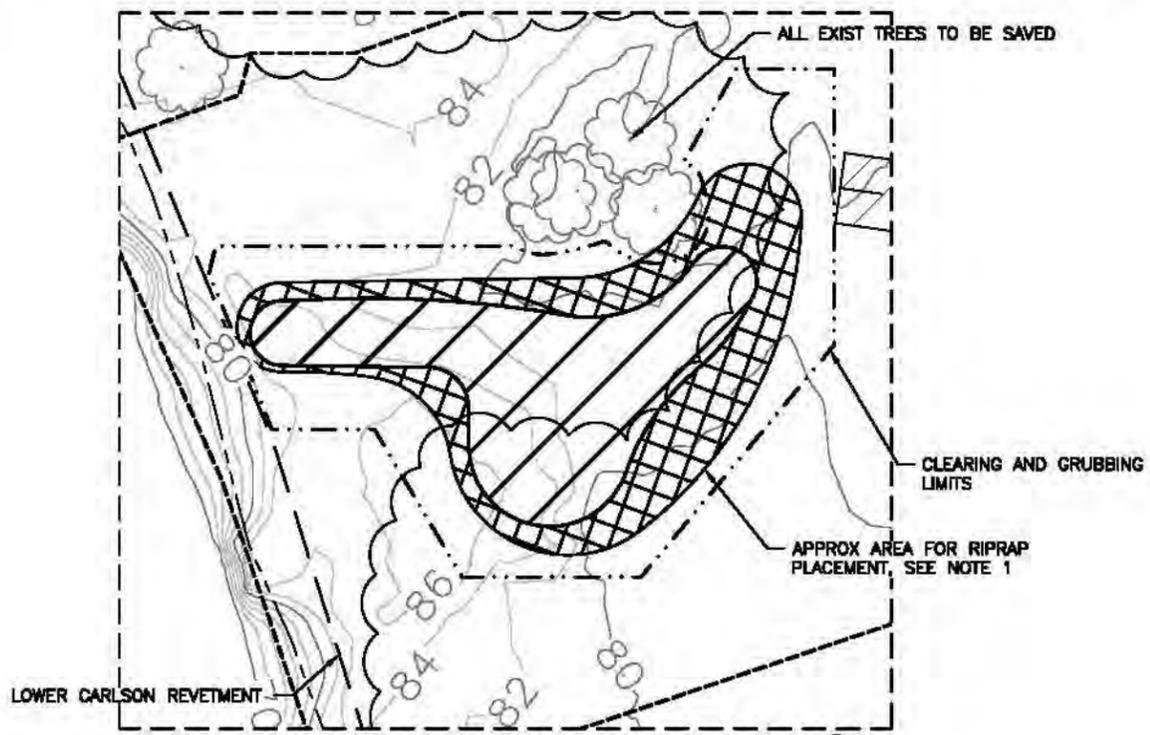
- NOTES:**
1. APPROX RIPRAP PLACEMENT ZONE SHOWN. FINAL EXTENTS OF 1 FOOT AND 3 FOOT RIPRAP DEPTH ZONES TO BE STAKED BY ENGINEER FOLLOWING CLEARING AND GRUBBING.
 2. CLEAR AND GRUB WITHIN CLEARING LIMITS SHOWN. DISPOSE OF CLEARED AND GRUBBED MATERIAL OFFSITE. PROTECT EXISTING TREES WITHIN CLEARING AND GRUBBING LIMITS.
 3. EXCAVATE 1 FOOT OF NATIVE TOPSOIL FROM RIPRAP PLACEMENT ZONE STAKED BY ENGINEER AND PLACE RIPRAP TO DEPTH AS SHOWN OR AS DESIGNATED BY ENGINEER.
 4. PLACE 1 FOOT OF NATIVE TOPSOIL OVER RIPRAP.
 5. RESTORE SURFACE ALONG ACCESS ROAD TO PRE-PROJECT CONDITIONS FOLLOWING COMPLETION OF REPAIR WORK.

LEGEND

	1 FOOT DEPTH OF LIGHT LOOSE RIPRAP
	3 FEET DEPTH OF LIGHT LOOSE RIPRAP

SCOUR REPAIR CONSTRUCTION QUANTITIES TABLE:

CONSTRUCTION ELEMENT	QTY
STRUCTURE EXCAVATION, CLASS B	200 CY
LIGHT LOOSE RIPRAP, 1' DEPTH	140 TON
LIGHT LOOSE RIPRAP, 3' DEPTH	500 TON
CLEARING AND GRUBBING	0.2 AC



DETAIL - SCOUR REPAIR
SCALE: 1"=20' AT FULL SCALE

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEY BASE MAP:	
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014
PROJECT No.:	NO: 2006-48 HERRERA: 10-04785-070
SURVEY No.:	

APPROVED:	WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR:	DIANE CONCANNON	2-2014
PROJECT MANAGER:	DAN EASTMAN	2-2014
DESIGNED:	B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED:	T. PRESCOTT	2-2014



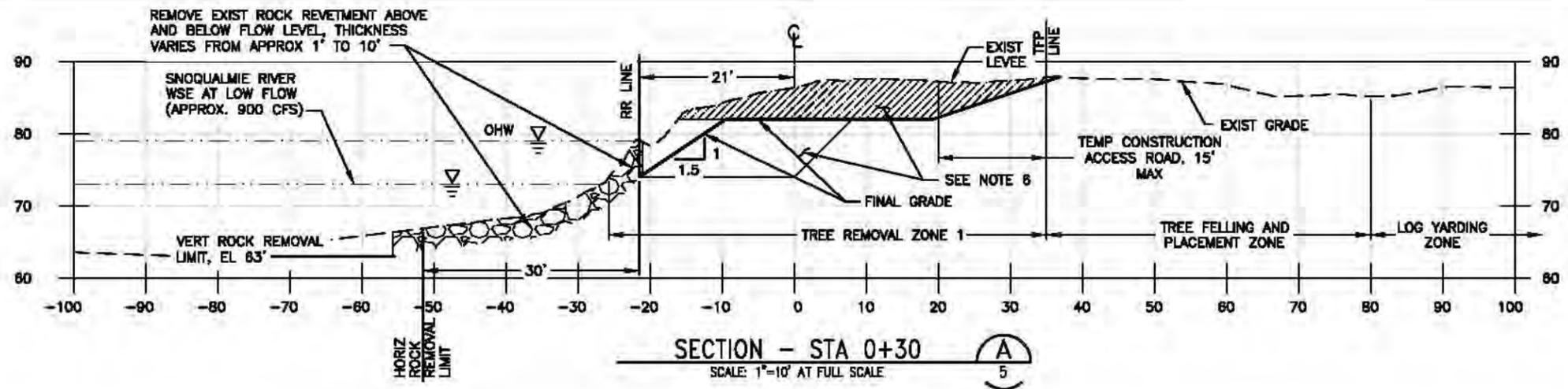
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

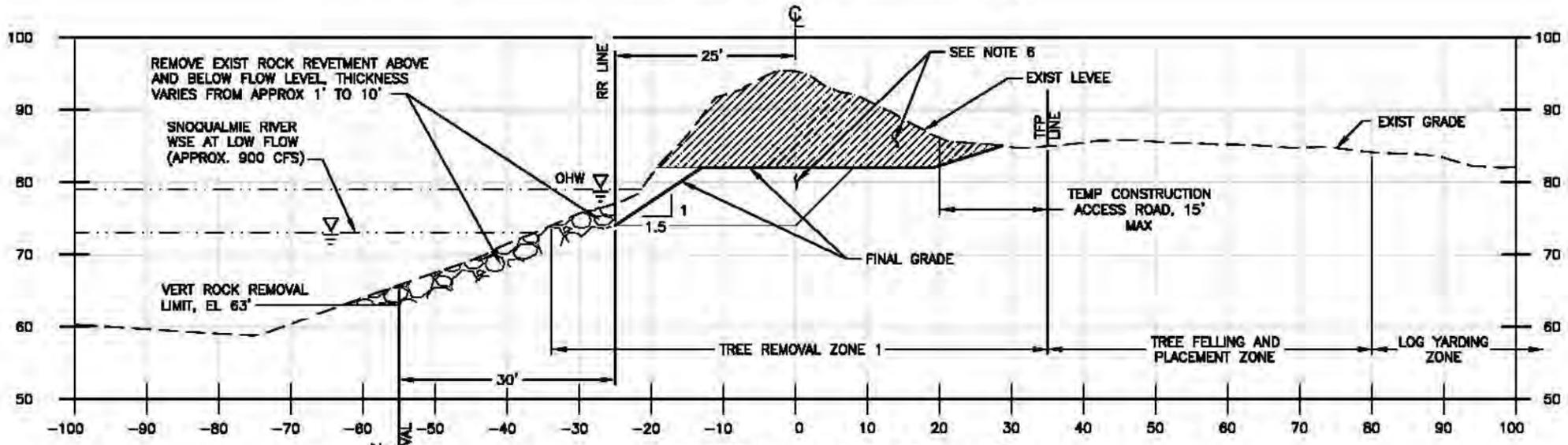
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

LOWER CARLSON REVEGETMENT SCOUR REPAIR

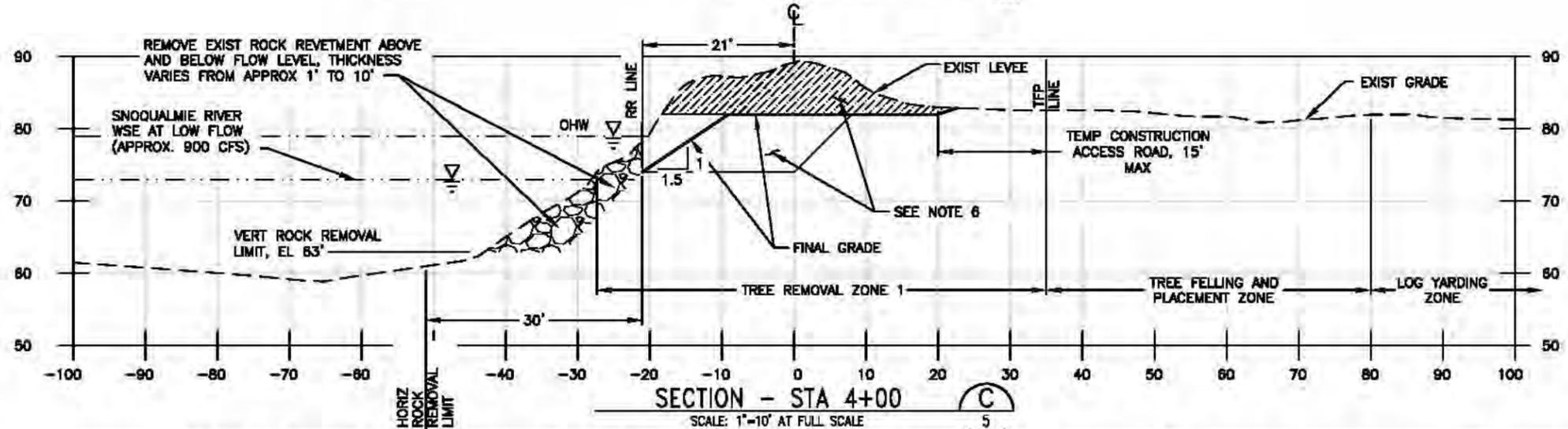
SHEET
7
OF
23
SHEETS
2006-48



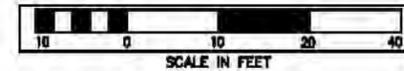
SECTION - STA 0+30
SCALE: 1"=10' AT FULL SCALE



SECTION - STA 2+00
SCALE: 1"=10' AT FULL SCALE



SECTION - STA 4+00
SCALE: 1"=10' AT FULL SCALE



- NOTES:**
1. EXTENTS OF EXIST ROCK REVETMENT SHOWN ARE APPROX AND SHALL BE VERIFIED BY THE CONTRACTOR DURING ROCK REMOVAL WORK.
 2. TEMPORARY CONSTRUCTION ACCESS ROAD MAY BE ALIGNED OVER LEVEE REMOVAL FOOTPRINT AND WITHIN THE TEMP BENCH FOLLOWING TREE AND LEVEE REMOVAL.
 3. LEVEE CORE AND BENCH SPOILS MATERIAL IS ALLUVIAL SOILS CONSISTING OF SANDS, GRAVELS AND COBBLES.
 4. ROCK REVETMENT CONSISTS OF ANGULAR AND SUB-ANGULAR ROCK APPROX 1"-5" IN DIAMETER. SOME SMALLER AND LARGER ROCK MAY ALSO BE PRESENT.
 5. REMOVE ALL ROCK FROM ROCK REVETMENT ABOVE EL 63' AND LANDWARD OF HORIZ LIMIT SHOWN.
 6. REMOVE LEVEE CORE TO FINAL GRADE, AND CONSTRUCT TEMP BENCH BELOW FINAL GRADE AS NEEDED TO REMOVE ROCK REVETMENT. BACKFILL BENCH WITH EXCAVATED MATERIAL TO FINAL GRADE FOLLOWING ROCK REVETMENT REMOVAL.
 7. STABILIZE TEMP BENCH TO PREVENT EROSION OF GROUND SURFACE AND SIDESLOPE. SEE SPECIAL PROVISIONS.

- LEGEND**
- LEVEE EXCAVATION, SALVAGE AND HAUL
 - ROCK REVETMENT EXCAVATION AND SALVAGE

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1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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 Cad User: Todd Prescott

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SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014		
PROJECT No. HERRERA: 10-04785-070			
SURVEY No.			
NUM.	REVISION	BY	DATE

APPROVER: WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



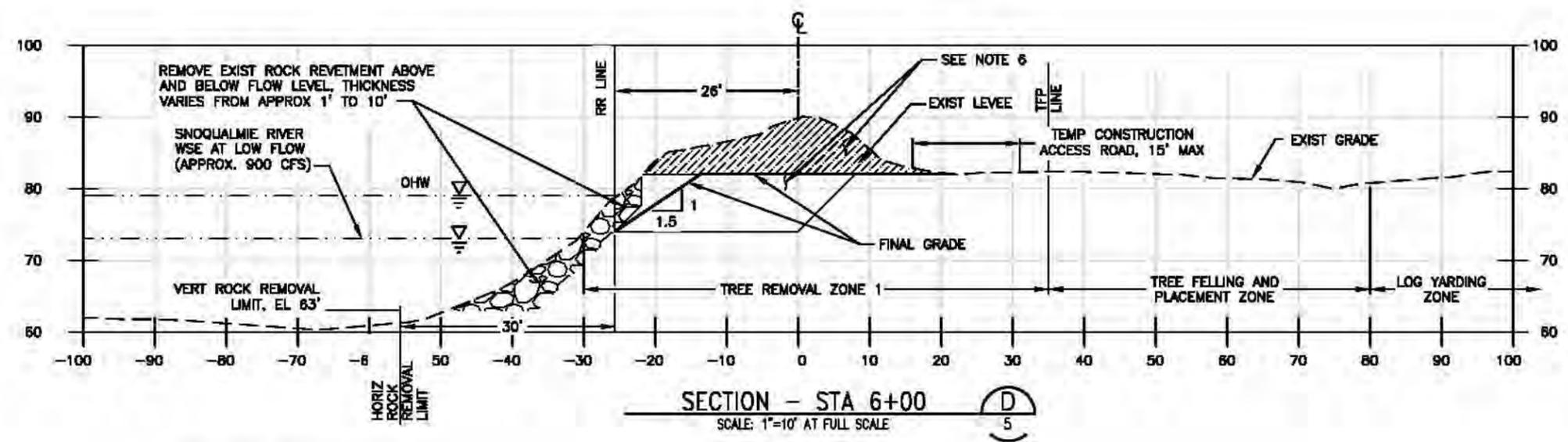
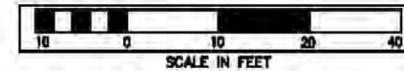
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

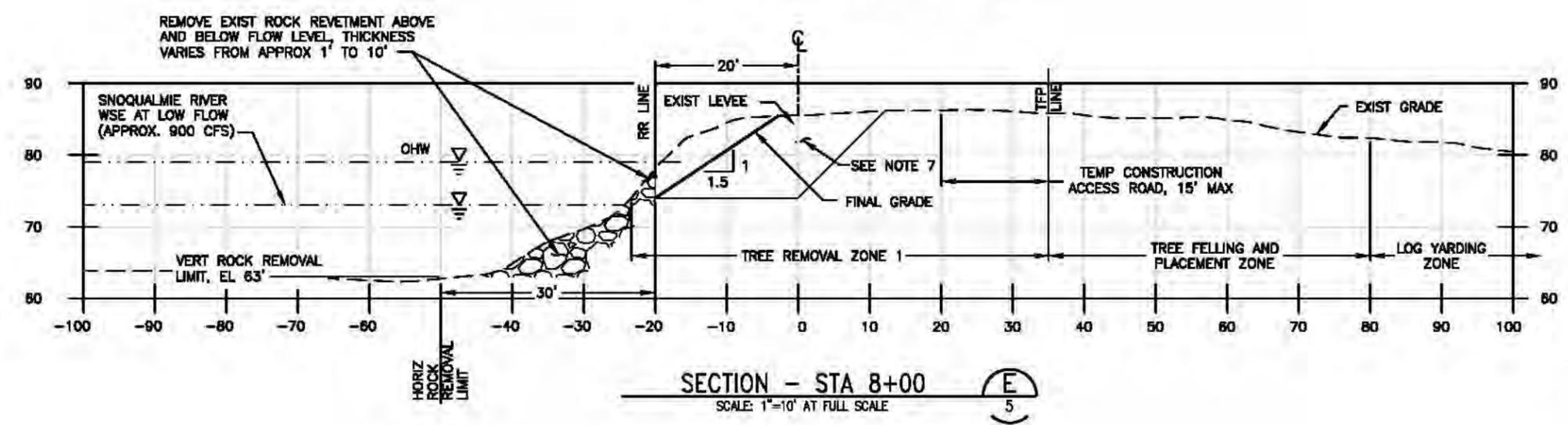
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

LEVEE AND ROCK REVETMENT REMOVAL CROSS SECTIONS - SHEET 1 OF 3

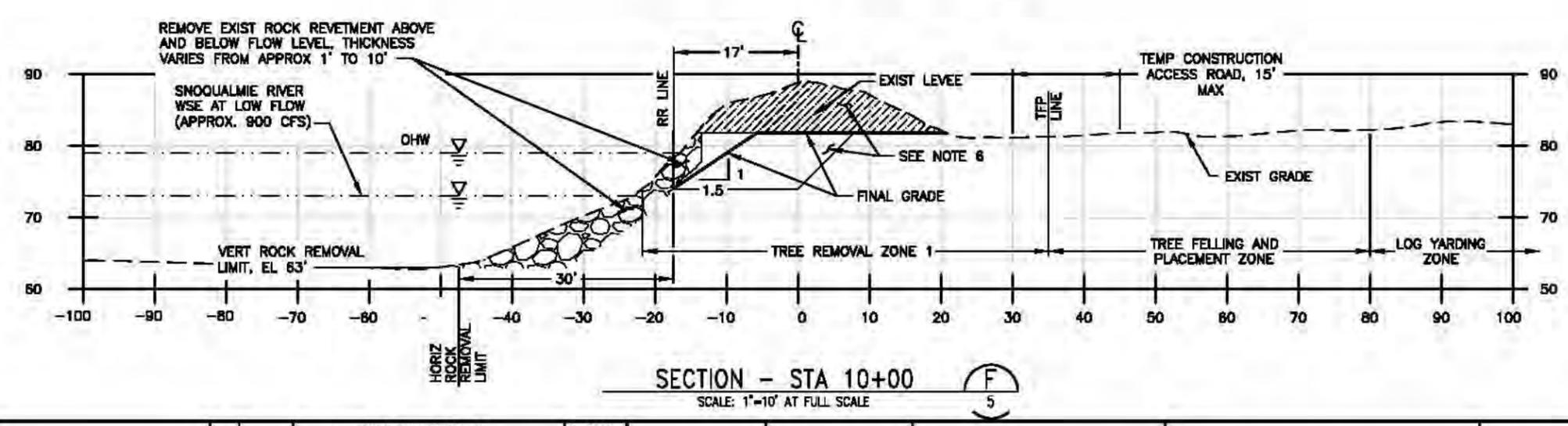
SHEET
8
OF
23
SHEETS
2006-48



SECTION - STA 6+00
SCALE: 1"=10' AT FULL SCALE



SECTION - STA 8+00
SCALE: 1"=10' AT FULL SCALE



SECTION - STA 10+00
SCALE: 1"=10' AT FULL SCALE

- NOTES:**
1. EXTENTS OF EXIST ROCK REVETMENT SHOWN ARE APPROX AND SHALL BE VERIFIED BY THE CONTRACTOR DURING ROCK REVETMENT REMOVAL WORK.
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 7. CONSTRUCT TEMP BENCH BELOW EXIST GRADE AS NEEDED TO REMOVE ROCK REVETMENT. BACKFILL BENCH WITH EXCAVATED MATERIAL TO FINAL GRADE FOLLOWING ROCK REVETMENT REMOVAL.
 8. STABILIZE TEMP BENCH TO PREVENT EROSION OF GROUND SURFACE AND SIDESLOPE. SEE SPECIAL PROVISIONS.

- LEGEND**
- LEVEE EXCAVATION, SALVAGE AND HAUL
 - ROCK REVETMENT EXCAVATION AND SALVAGE

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEYED:			
SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014		
PROJECT No. HERRERA: 10-04768-070			
SURVEY No.			
NUM.	REVISION	BY	DATE

APPROVER: WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



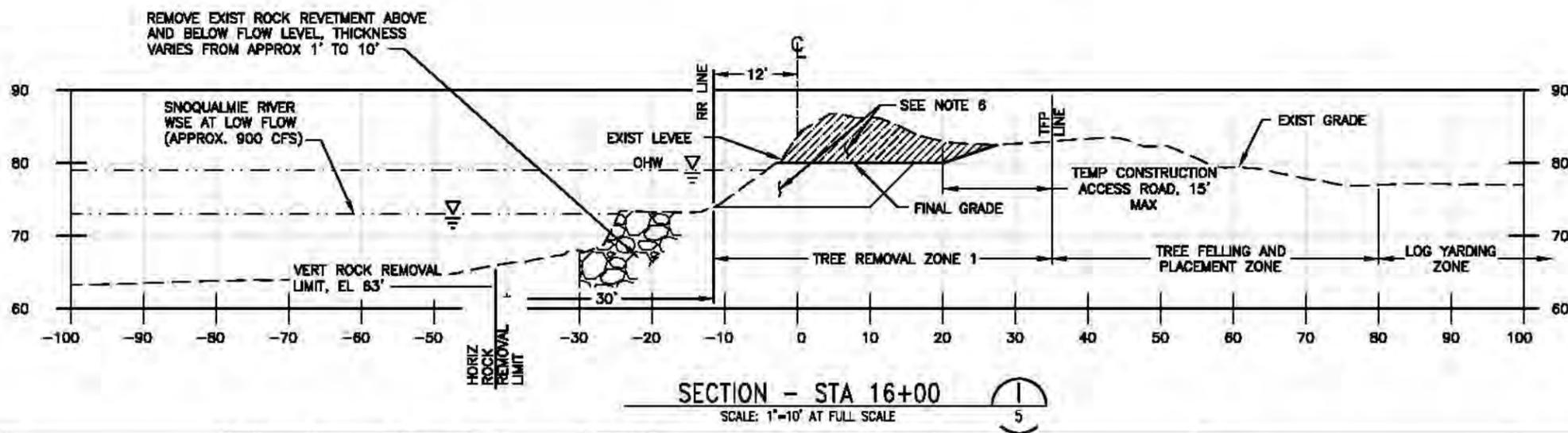
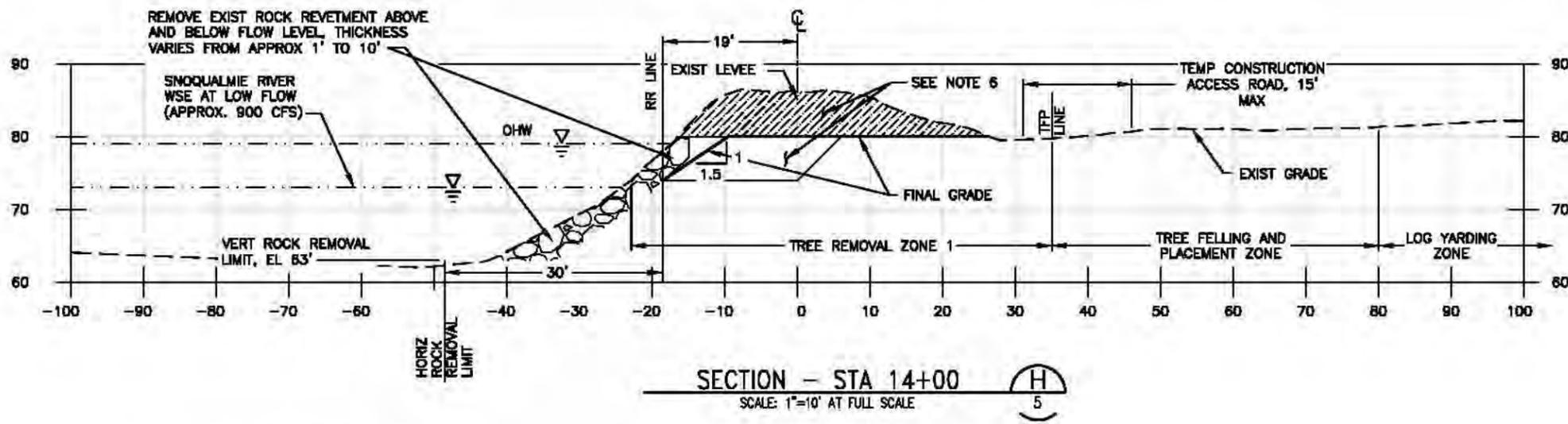
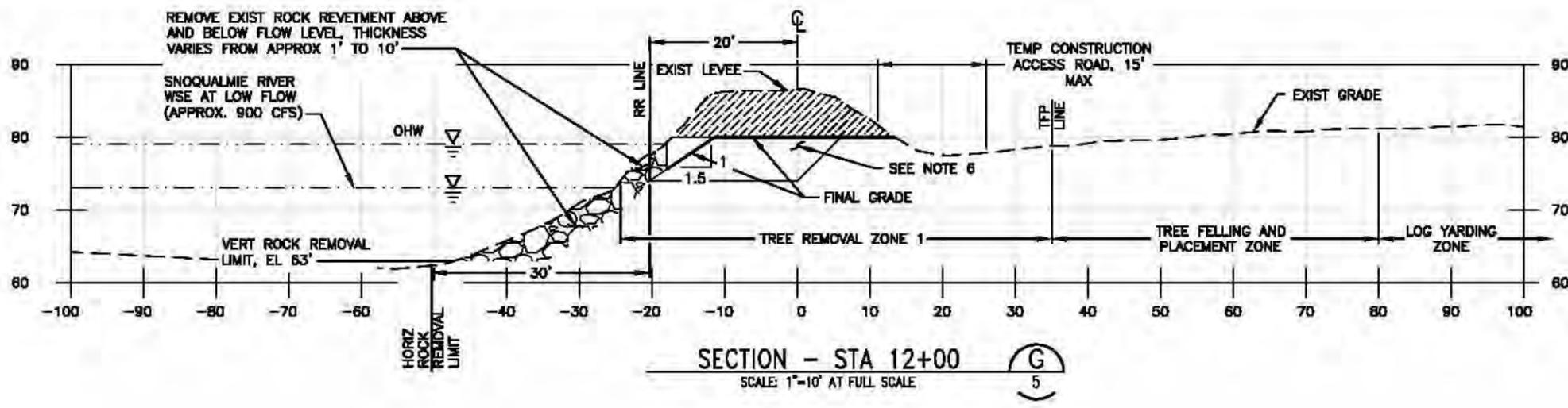
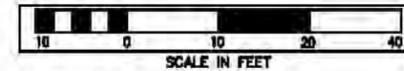
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Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

LEVEE AND ROCK REVETMENT REMOVAL CROSS SECTIONS - SHEET 2 OF 3

SHEET
9
OF
23
SHEETS
2006-48



- NOTES:**
- EXTENTS OF EXIST ROCK REVETMENT SHOWN ARE APPROX AND SHALL BE VERIFIED BY THE CONTRACTOR DURING ROCK REVETMENT REMOVAL WORK.
 - TEMPORARY CONSTRUCTION ACCESS ROAD MAY BE ALIGNED OVER LEVEE REMOVAL FOOTPRINT AND WITHIN THE TEMP BENCH FOLLOWING TREE AND LEVEE REMOVAL.
 - LEVEE CORE AND BENCH SPOILS MATERIAL IS ALLUVIAL SOILS CONSISTING OF SANDS, GRAVELS AND COBBLES.
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 - STABILIZE TEMP BENCH TO PREVENT EROSION OF GROUND SURFACE AND SIDESLOPE. SEE SPECIAL PROVISIONS.



CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEYED:			
SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014		
PROJECT No. HERRERA: 10-04785-070			
SURVEY No.			
NUM.	REVISION	BY	DATE

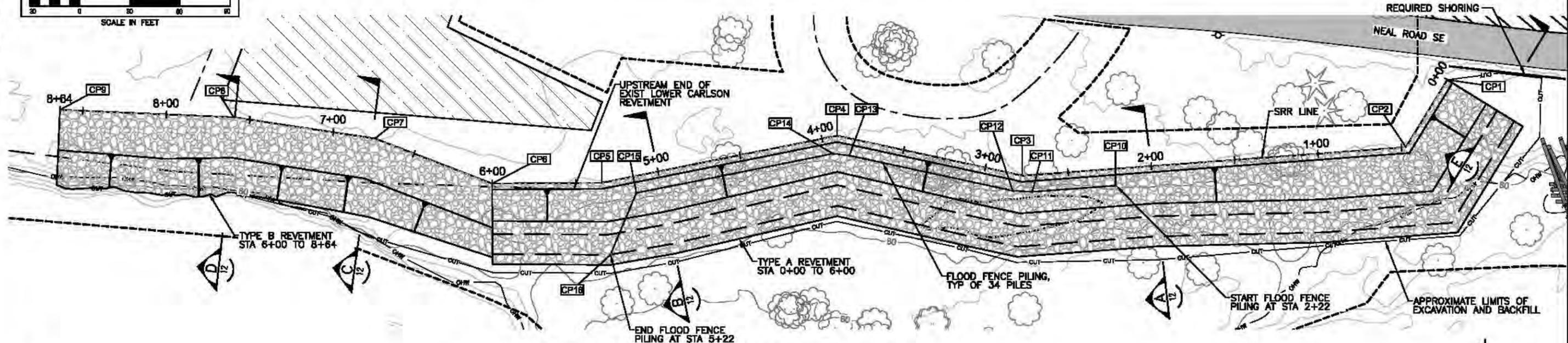
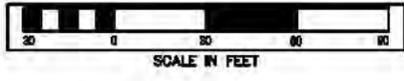
APPROVED: WILL MANSFIELD, P.E.	2-2014
SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



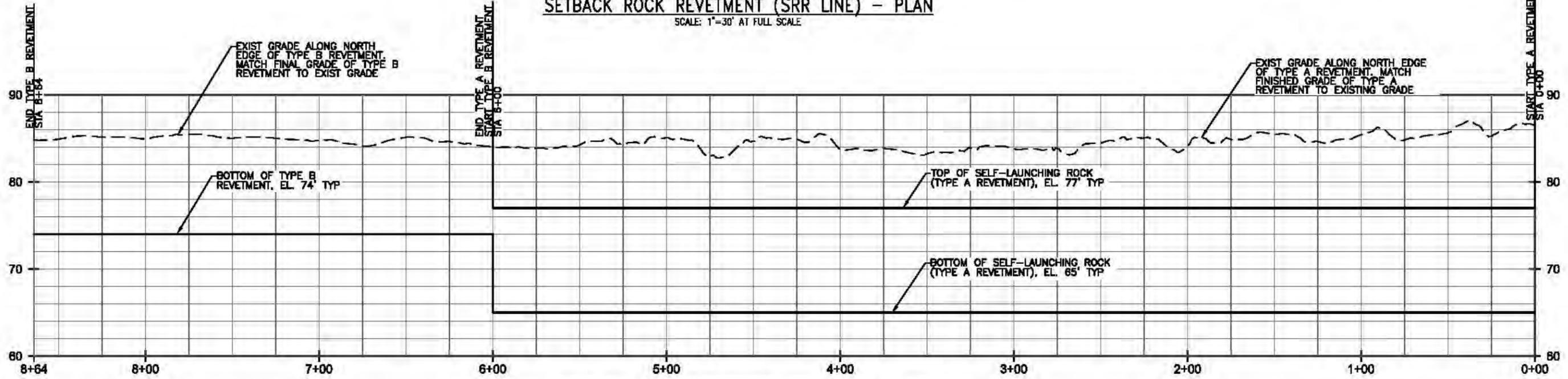
King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christa Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
 LEVEE AND ROCK REVETMENT REMOVAL CROSS SECTIONS - SHEET 3 OF 3

SHEET 10 OF 23 SHEETS
 2008-48



SETBACK ROCK REVETMENT (SRR LINE) - PLAN
SCALE: 1"=30' AT FULL SCALE



SETBACK ROCK REVETMENT (SRR LINE) - PROFILE
SCALE: 1"=30' HORIZ, 1"=6' VERT AT FULL SCALE

SRR LINE AND FLOOD FENCE PILING GRADING CONTROL POINT TABLE:

CONTROL POINT NO.	SRR LINE STATION	NORTHING	EASTING	CONTROL POINT NO.	SRR LINE STATION	NORTHING	EASTING	CONTROL POINT NO.	SRR LINE STATION	NORTHING	EASTING
1	0+00	215531.546	1374792.033	7	6+75	215496.503	1374150.397	13	3+81	215486.398	1374434.099
2	0+47	215491.531	1374767.379	8	7+62	215509.259	1374064.349	14	3+95	215487.479	1374424.423
3	2+77	215474.378	1374538.119	9	8+64	215513.587	1373982.441	15	5+15	215464.035	1374308.736
4	3+81	215498.120	1374426.654	10	2+22	215468.448	1374593.516	16	5+22	215427.086	1374291.275
5	5+34	215470.182	1374286.409	11	2+72	215464.780	1374543.652				
6	8+00	215469.628	1374220.417	12	2+81	215465.384	1374531.958				

NOTES:

- FLOOD FENCE PILING CONSISTS OF 34 TYPE P4 PILES, (20' LONG 12" DIA BUTTS.) SEE SECTIONS A AND B, SHEET 12. SPACE PILES 10' APART O.C.

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Path: C:\p\2016\16-04785-0700\ADD\2009-48_BH11.dwg
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FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014		
PROJECT No. HERRERA: 16-04785-070			
SURVEY No.			
NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



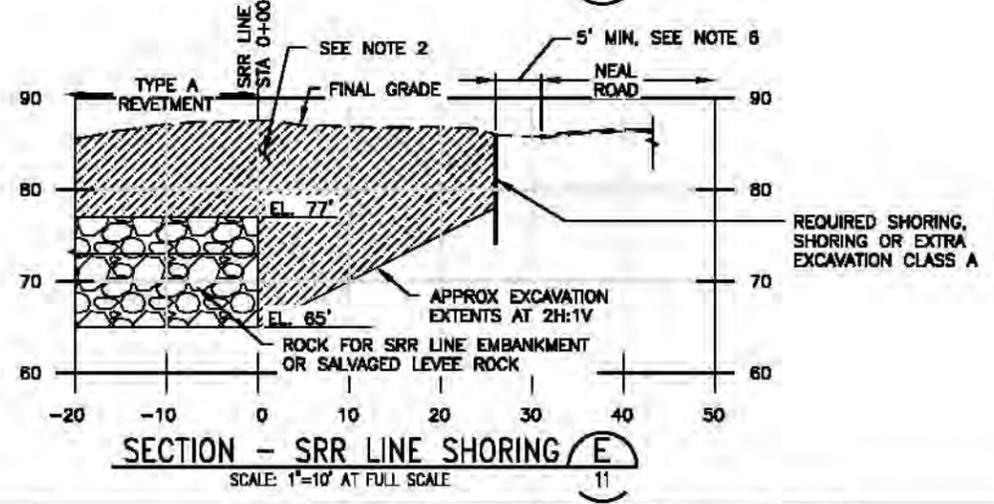
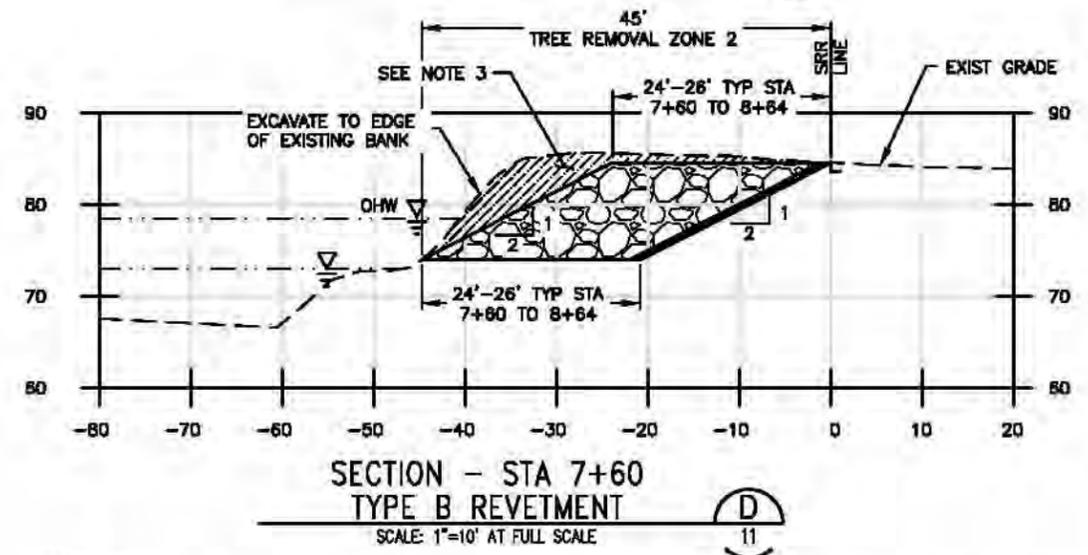
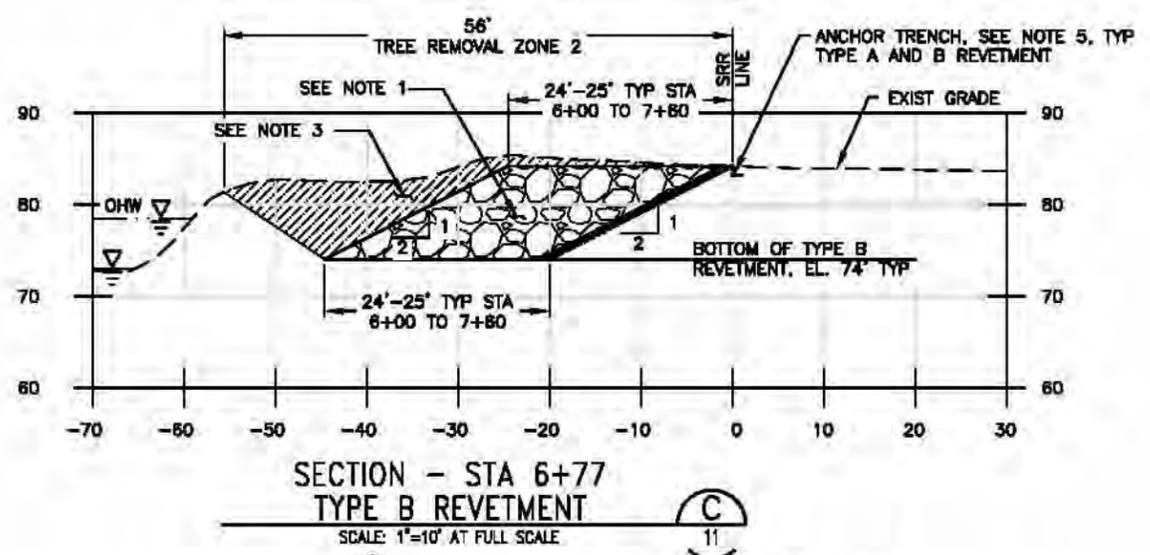
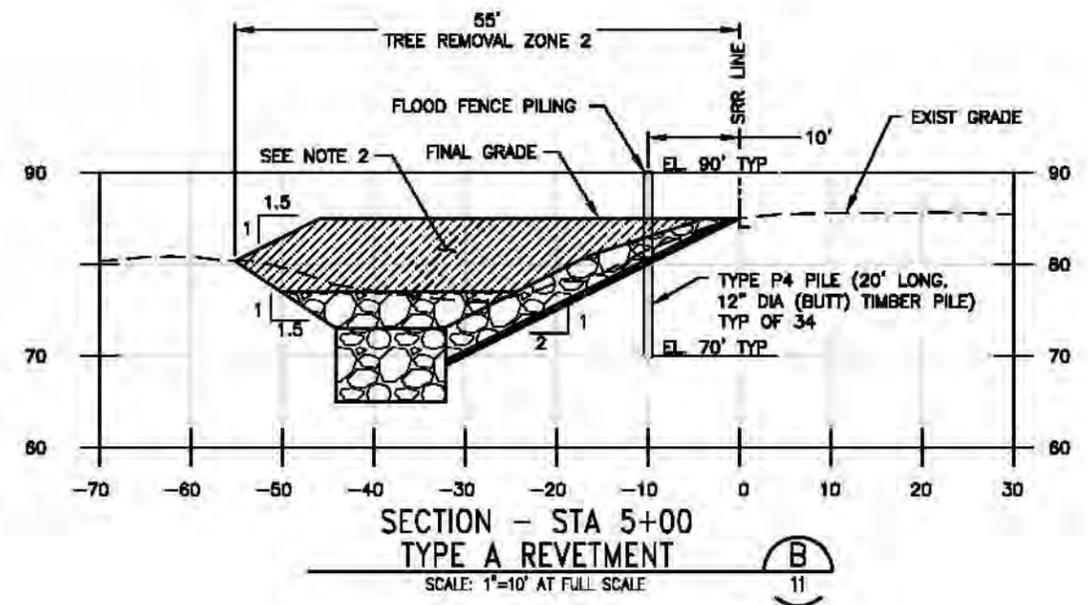
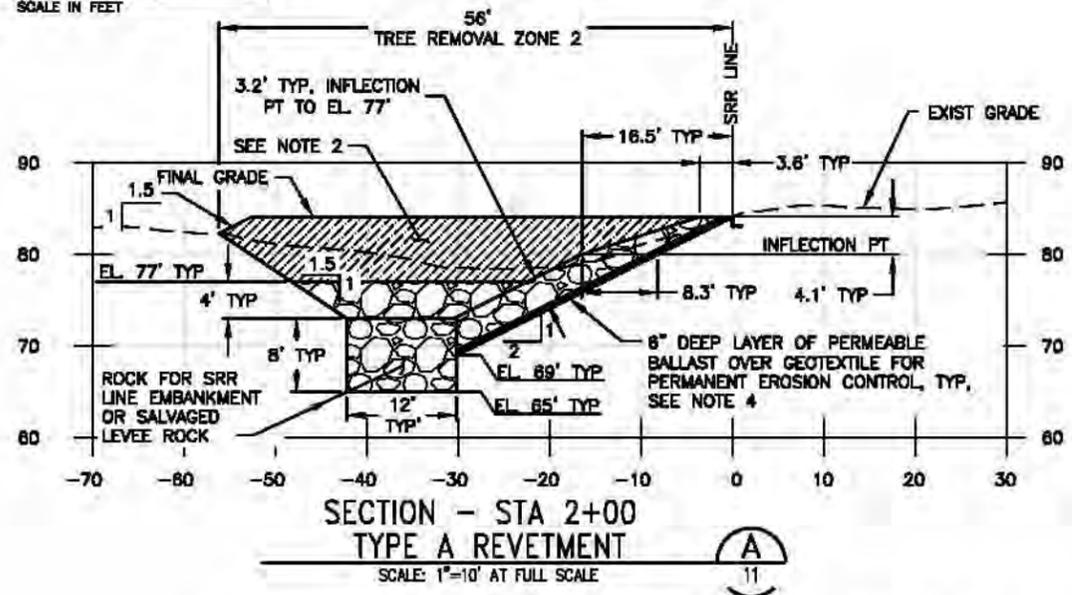
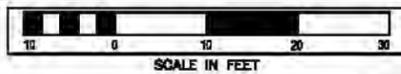
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

SRR LINE EMBANKMENT PLAN AND PROFILE

SHEET
11
OF
23
SHEETS
2006-48



- NOTES:**
- BETWEEN SRR LINE STATION 6+00 AND 8+64, SUPPLEMENT IMPORTED ROCK WITH ROCK REMOVED FROM EXIST LOWER CARLSON REVETMENT TO CONSTRUCT TYPE B REVETMENT. APPROXIMATELY 280 CUBIC YARDS OF ROCK ESTIMATED TO EXIST BETWEEN END OF EXIST REVETMENT AND SRR LINE STATION 6+77. APPROXIMATELY 0 CUBIC YARDS OF ROCK ESTIMATED TO EXIST BETWEEN SRR LINE STATIONS 6+77 AND 8+64.
 - BACKFILL WITH EXCAVATION SPOILS TO TOP OF SRR LINE, TYP TYPE A REVETMENT. COMPACT USING METHOD A.
 - BACKFILL WITH EXCAVATION SPOILS TO RESTORE EXIST GRADE, TYP TYPE B REVETMENT. COMPACT USING METHOD A OR USING EXCAVATOR BUCKET.
 - PLACE GEOTEXTILE AND PERMEABLE BALLAST IN TYPE A AND TYPE B REVETMENT. SEE SPECIAL PROVISIONS FOR SPECIFICATIONS FOR PERMEABLE BALLAST AND GEOTEXTILE FOR PERMANENT EROSION CONTROL.
 - SECURE GEOTEXTILE ALONG TOP OF SRR LINE WITHIN A 1' DEEP X 1' WIDE ANCHOR TRENCH. PLACE EXCAVATION SPOILS WITHIN TRENCH OVER GEOTEXTILE TO RESTORE TO EXIST GRADE.
 - NO EXCAVATION ALLOWED WITHIN 5' OF NEAL ROAD EDGE OF PAVEMENT.

**CALL 2 WORKING DAYS
BEFORE YOU DIG
1-800-424-5555**
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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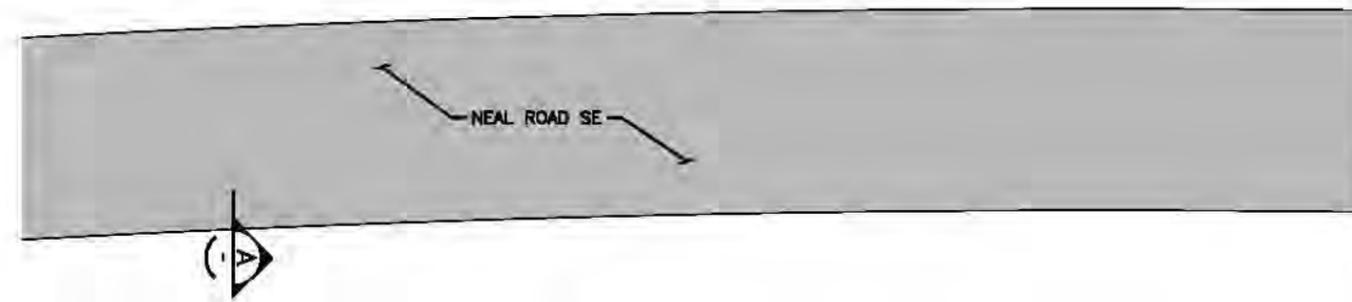
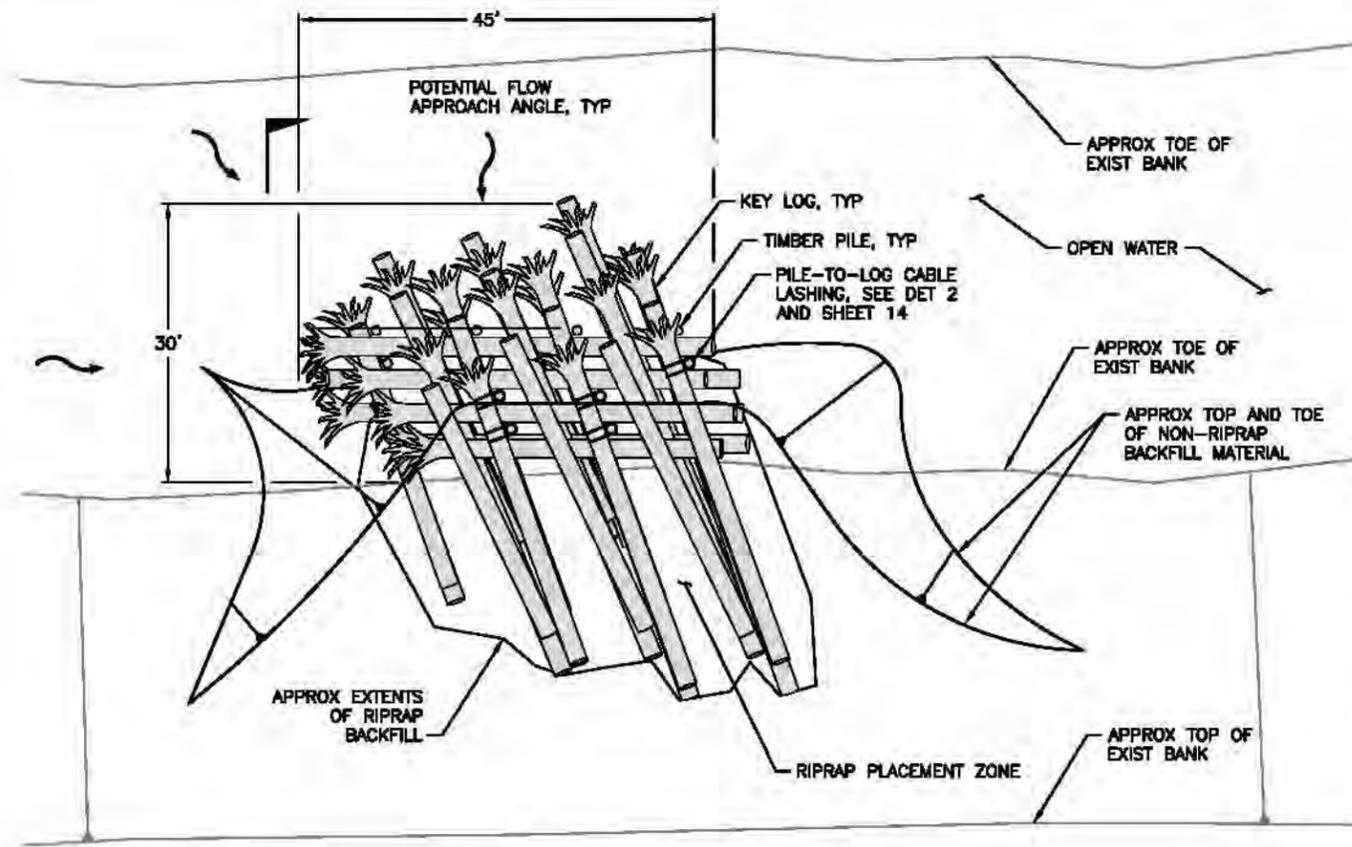
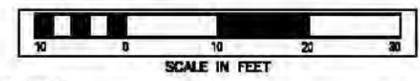
FIELD BOOK:		APPROVED: WILL MANSFIELD, P.E.	2-2014
SURVEYED:		PROJECT:	
SURVEY BASE MAP:		SUPERVISOR: DIANE CONCANNON	2-2014
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014	PROJECT MANAGER: DAN EASTMAN	2-2014
PROJECT No. HERRERA: 10-04785-070		DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
SURVEY No.:		DESIGN ENTERED: T. PRESCOTT	2-2014



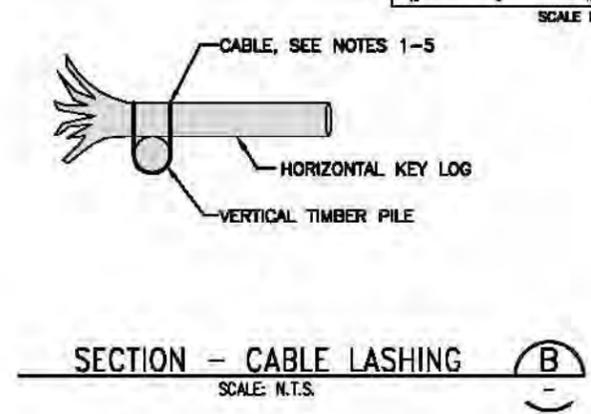
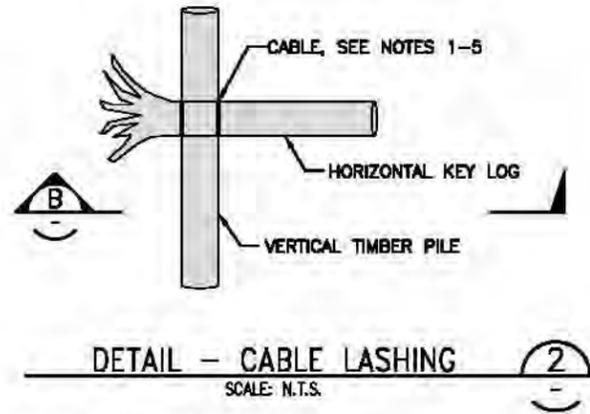
King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christa Trus, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**
 SRR LINE EMBANKMENT
 CROSS SECTIONS AND DETAILS

SHEET
 12
 OF
 23
 SHEETS
2006-48



PLAN - BANK DEFLECTOR ELJ (1)
SCALE: 1"=10' AT FULL SCALE

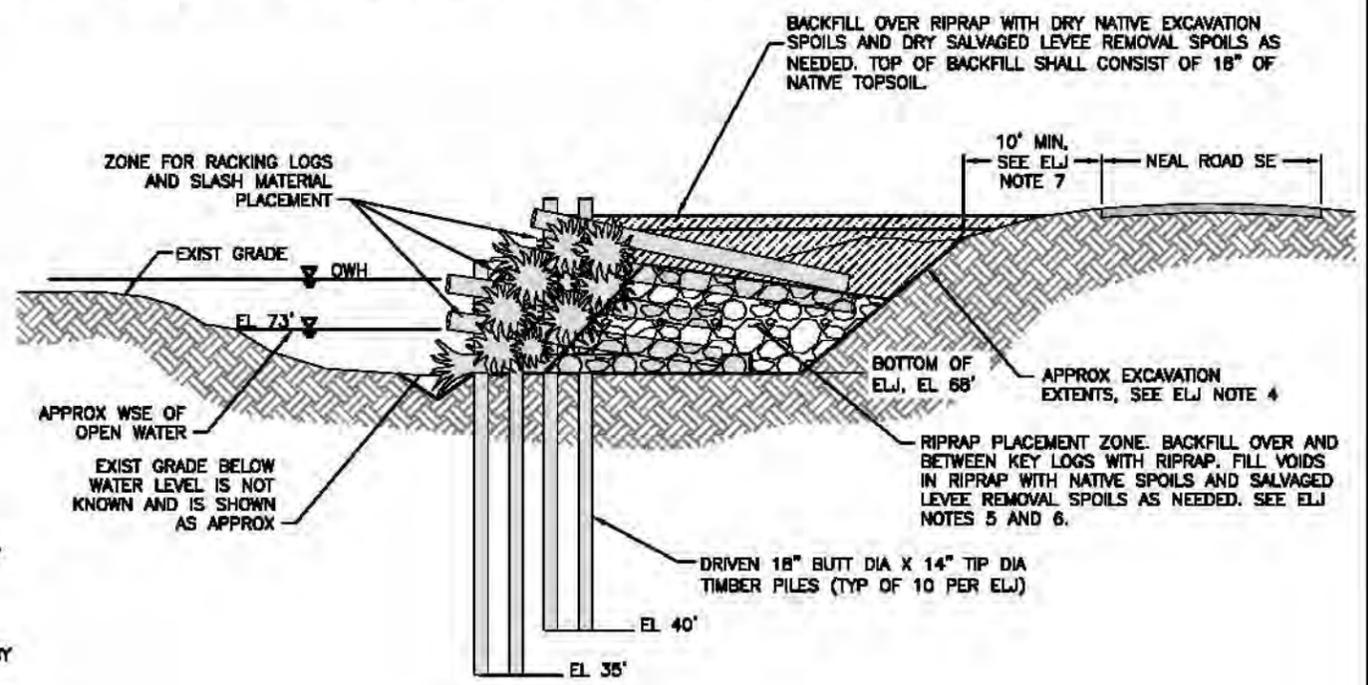


DETAIL - CABLE LASHING (2)
SCALE: N.T.S.

SECTION - CABLE LASHING (B)
SCALE: N.T.S.

CABLE LASHING NOTES:

1. LASH HORIZONTAL KEY LOGS TO VERTICAL TIMBER PILE WITH CABLE AS SHOWN ON STRUCTURE LAYERING PLAN OR AS DIRECTED BY ENGINEER. CABLE LASHING SYSTEM SHALL BE PUT IN TENSION TO 1/4 OF THE CABLE WORKING LOAD LIMIT AND BE MAINTAINED DURING CABLE CLAMPING.
2. CABLE LENGTH NEEDED PER LASHING WILL VARY BASED ON DIAMETER OF LOGS BEING LASHED TOGETHER.
3. CABLE FOR LASHING SHALL BE 1/2 INCH DIAMETER GALVANIZED WIRE ROPE, CLASS 6X19, WITH A MINIMUM BREAKING STRENGTH OF 10 TONS. STEEL GRADE SHALL BE IMPROVED PLOWED STEEL (IPS). INTERNAL CORE SHALL BE INDEPENDENT WIRE ROPE CORE (IWRC).
4. ALL HARDWARE USED FOR LASHING SHALL BE GALVANIZED, AND CONNECTIONS SHALL BE OF THE QUANTITY AND TYPE SPECIFIED BY THE MANUFACTURER WITH AN EQUAL OR GREATER STRENGTH THAN THE CABLE BREAKING STRENGTH OR AS APPROVED BY THE ENGINEER.
5. WELD OR ROUND ALL EXPOSED HARDWARE NUTS AND BOLT THREADS AFTER INSTALLATION FOR THEFT PROTECTION. APPLY A ZINC RICH PAINT COATING TO ANY ALTERED GALVANIZED HARDWARE. ENGINEER OR OWNER SHALL APPROVE OF COATING PRIOR TO CONTRACTOR APPLYING IT.



SECTION - BANK DEFLECTOR ELJ (A)
SCALE: 1"=10' AT FULL SCALE

ELJ NOTES:

1. ONLY THE TOP LAYER OF LOGS FOR EACH STRUCTURE SHALL BE CABLED TO DRIVEN PILES. DO NOT SECURE LOWER LAYER KEY LOGS TO PILE OR TO ANOTHER KEY LOG.
2. RACKING LOGS AND SLASH MATERIAL NOT SHOWN FOR CLARITY. RACKING LOG PLACEMENT SHALL BE COORDINATED WITH KEY LOG LAYER PLACEMENT AND SLASH PLACEMENT TO ENSURE RACKING AND SLASH EXTEND THROUGH WATERWARD FACE OF STRUCTURE.
3. EXTENTS OF BACKFILL SHOWN ARE APPROXIMATE AND WILL VARY FOR EACH STRUCTURE. PLACE ALL EXCESS SPOILS OVER KEY LOGS AS SHOWN AND AS DIRECTED BY THE ENGINEER.
4. EXCAVATION LIMITS SHOWN ARE APPROXIMATE AND WILL VARY BASED ON CONSTRUCTION MEANS AND METHODS, SUBSURFACE CONDITIONS AND LOCATION OF STRUCTURE. CONTRACTOR SHALL ADJUST AND MINIMIZE EXCAVATION LIMITS AS NECESSARY TO COMPLETE CONSTRUCTION.
5. BACKFILL MATERIAL FOR ELJ WILL CONSIST OF LOCALLY EXCAVATED SOILS, GRANULAR SALVAGED LEVEE REMOVAL SPOILS, AND RIPRAP. TOP ELEVATION OF BACKFILL SHALL NOT EXCEED ELEVATION OF NEAL ROAD SE.
6. RIPRAP FOR ELJ BACKFILLING WILL CONSIST OF SALVAGED REVETMENT ROCK ("ELJ ROCK") AND/OR IMPORTED HEAVY LOOSE RIPRAP. VOLUME OF SALVAGED REVETMENT ROCK PLACED IN ELJ WILL DEPEND ON REMAINING VOLUME OF SALVAGED REVETMENT ROCK THAT IS NOT REUSED IN THE SRR LINE EMBANKMENT. PLACE MINIMUM VOLUME OF RIPRAP AS SHOWN IN SECTION A. MORE RIPRAP MAY BE PLACED IN ELJ IF AVAILABLE. COORDINATE WITH ENGINEER PRIOR TO PLACING ADDITIONAL RIPRAP.
7. NO EXCAVATION SHALL OCCUR WITHIN 10 FT OF THE EDGE OF PAVEMENT ALONG NEAL ROAD. RESTORE ROAD SHOULDER FOLLOWING ELJ CONSTRUCTION TO ORIGINAL CONDITION.
8. SEE SHEET 14 FOR ELJ CONSTRUCTION QUANTITIES.

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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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FIELD BOOK:			
SURVEYED:			
SURVEY BASE MAP:			
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014		
PROJECT No. HERRERA: 10-04768-070			
SURVEY No.			
NUM.	REVISION	BY	DATE

APPROVER: WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



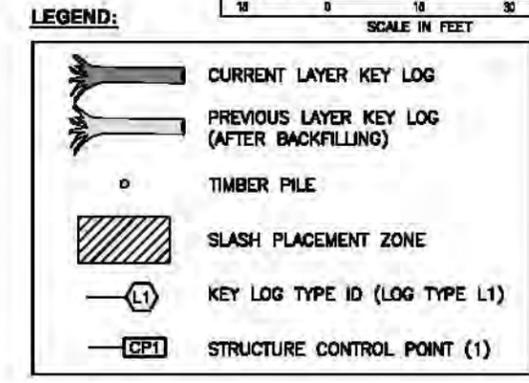
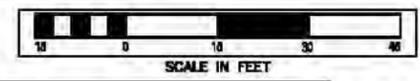
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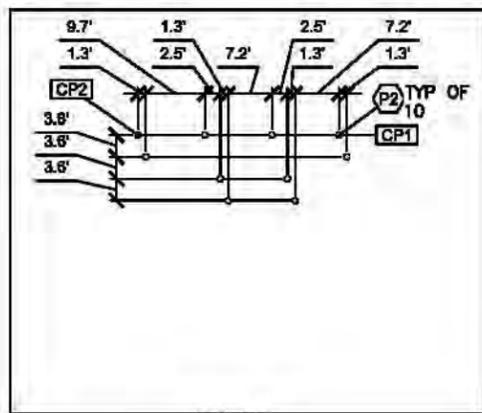
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

BANK DEFLECTOR ELJ PLAN AND SECTION

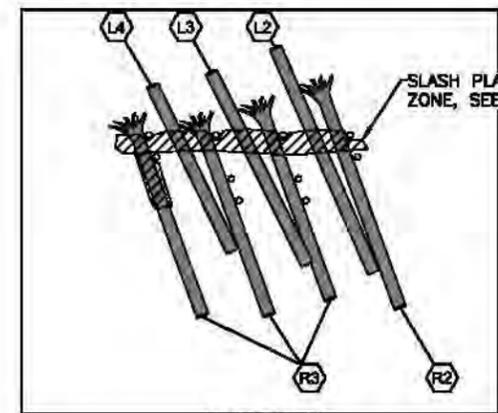
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23
SHEETS
2006-48



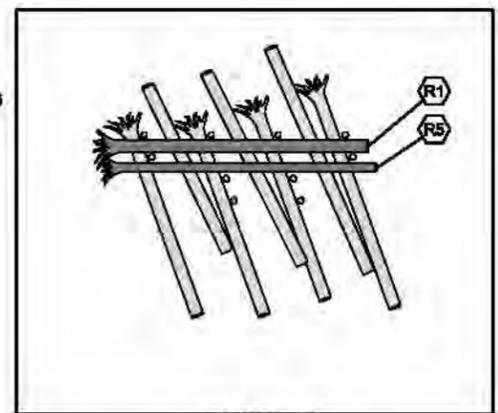
- NOTES:**
- GENERAL STRUCTURE LOCATION AND ORIENTATION SHALL BE STAKED BY THE CONTRACTOR. FINAL STRUCTURE LOCATION AND ORIENTATION TO BE FIELD VERIFIED BY THE ENGINEER FOLLOWING CONTRACTOR STAKING.
 - ALL PILE LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER PRIOR TO PILE INSTALLATION.
 - LOG MATERIALS SHALL BE PLACED AT THE LOCATIONS AND ORIENTATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE ENGINEER. TRIM CUT ENDS OF HORIZONTAL KEY LOGS TO FIT AS REQUIRED.
 - PLACE SLASH OVER AND BETWEEN KEY LOGS AND PILES AS SHOWN FOR EACH LAYER SPECIFIED FOLLOWING PLACEMENT OF KEY LOGS AND RACKING LOGS. PLACE APPROXIMATELY 2' TO 3' OF EXCAVATION SPOILS OR SALVAGED LEVEE REMOVAL SPOILS OVER 1/2 THE WIDTH OF SLASH TO SECURE IN PLACE SUCH THAT SLASH IS VISIBLE FOLLOWING CONSTRUCTION. COORDINATE WITH THE ENGINEER PRIOR TO PLACING RACKING AND SLASH.
 - RACKING LOGS NOT SHOWN FOR CLARITY. PLACE RACKING LOGS ALONG UPSTREAM FACES OF STRUCTURE. APPROXIMATELY 1/2 OF RACKING LOGS SHALL BE PLACED ACROSS PILE ROWS AND 1/2 OF THE LOGS EXTENDING INTO THE CORE OF THE STRUCTURE BETWEEN HORIZONTAL LOGS. RACKING SHALL BE PLACED WITH EACH LAYER OF LOGS, SHALL BE ANGLED UP AND DOWN FROM THE HORIZONTAL, AND SHALL BE PLACED TO CREATE AN INTERLOCKING MATRIX OF LOGS SECURED BETWEEN VERTICAL PILE LOGS AND HORIZONTAL LOGS. COORDINATE WITH ENGINEER PRIOR TO PLACING RACKING LOGS, SLASH AND BACKFILLING.
 - BACKFILL EACH LAYER WITH DRY EXCAVATION SPOILS OR DRY SALVAGED LEVEE REMOVAL SPOILS AND SALVAGED OR IMPORTED RIPRAP FLUSH TO TOP OF CURRENT LAYER PRIOR TO CONSTRUCTING SUBSEQUENT LAYER. COMPACT BACKFILL WITH EXCAVATOR BUCKET. FILL ALL VOIDS BETWEEN ROCKS GREATER THAN 12" DIAMETER WITH FINER BACKFILL MATERIAL TO ACHIEVE A WELL GRADED AND COMPACTED MASS.



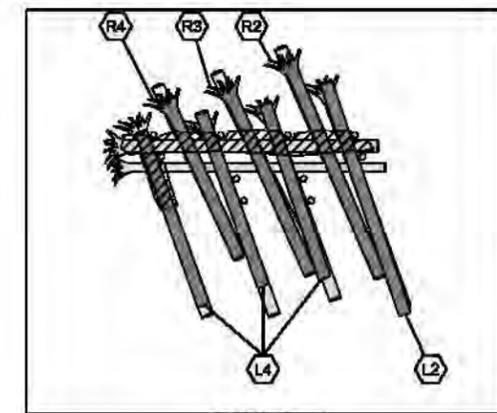
PILES



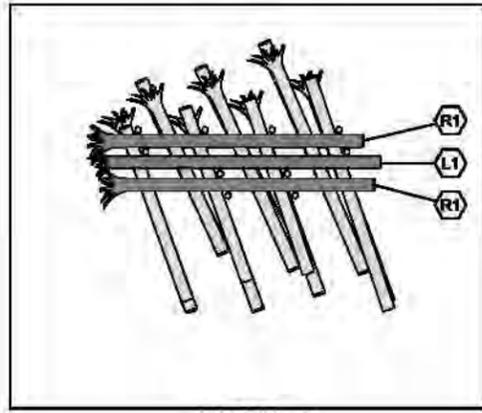
LAYER 1



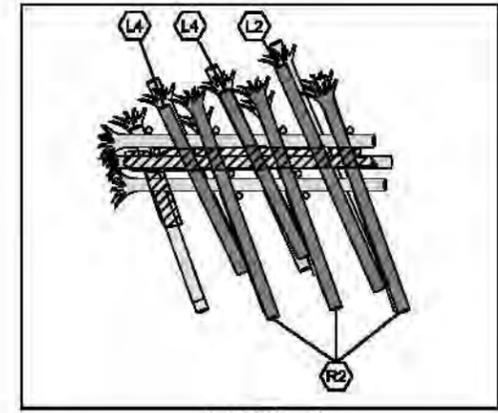
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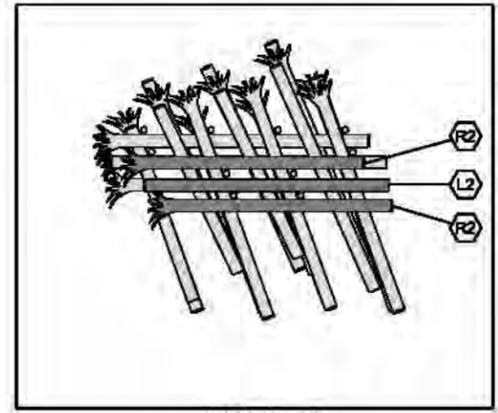
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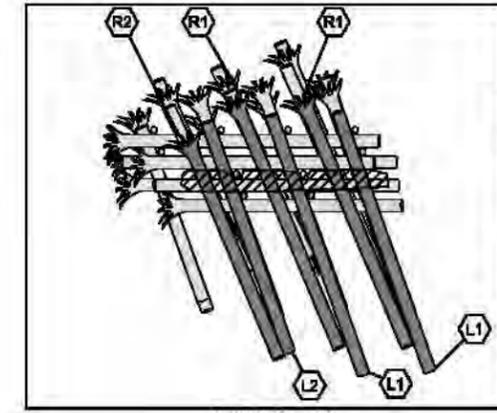
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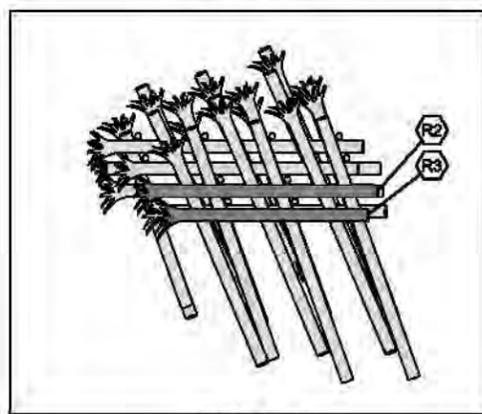
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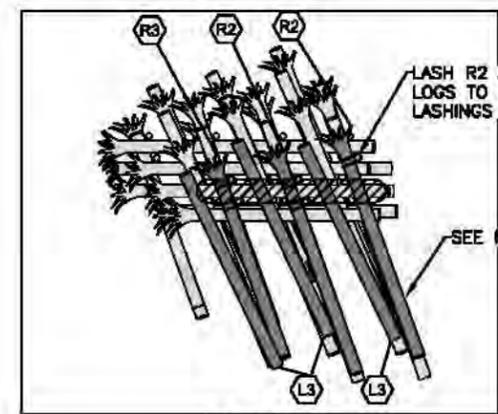
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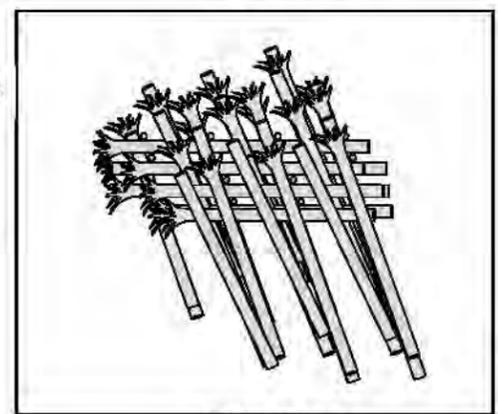
LAYER 7



LAYER 8



LAYER 9



COMPLETE

ELJ 1 AND 2 LOG SCHEDULE:

LOG TYPE	DIAMETER (IN)	LENGTH (FT)	ROOTWAD	TOTAL/ELJ
P2	18 (BUTT), 14 (TIP)	50	NO	10
R1	24	45	YES	5
R2	24	40	YES	11
R3	24	35	YES	6
R4	24	30	YES	1
R5	18	45	YES	1
L1	24	45	NO	3
L2	24	40	NO	5
L3	24	35	NO	4
L4	24	30	NO	6
RACKING	4"-16"	15-30	OPTIONAL	100
SLASH				120 CY

NOTE: ALL LOGS FOR BANK DEFLECTOR ELJ WILL BE FURNISHED BY CONTRACTOR

CALL 2 WORKING DAYS BEFORE YOU DIG
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

ELJ 1 AND 2 CONSTRUCTION QUANTITIES TABLE:

CONSTRUCTION ELEMENT	ELJ 1	ELJ 2
STRUCTURE EXCAVATION AND BACKFILL	2,000-2,400 CY	700-900 CY
BACKFILL WITH SALVAGED LEVEE REMOVAL SPOILS	0-200 CY	1200-1,400 CY
IMPORTED HEAVY LOOSE RIPRAP OR SALVAGED REVETMENT ROCK ("ELJ ROCK")	250-300 CY	250-300 CY

NOTE: HEAVY LOOSE RIPRAP WILL BE REQUIRED IN ELJ2 IF SALVAGED REVETMENT ROCK ("ELJ ROCK") IS NOT AVAILABLE OR IS NOT APPROVED BY ENGINEER.

ELJ 1 AND 2 CONTROL POINT TABLE:

ELJ NO.	CONTROL POINT NO.	NORTHING	EASTING
1	1	215457.08	1374860.99
	2	215457.08	1374893.99
2	1	215465.82	1375041.64
	2	215485.82	1375074.64

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FIELD BOOK: _____	APPROVED: WILL MANSFIELD, P.E. 2-2014
SURVEYED: _____	PROJECT _____
SURVEY BASE MAP: _____	SUPERVISOR: DIANE CONCANNON 2-2014
CHECKED: I. MOSTRENKO (HERRERA) 2/14/2014	PROJECT MANAGER: DAN EASTMAN 2-2014
PROJECT No. HERRERA: 10-04785-070	DESIGNED: B. SCOTT, I. MOSTRENKO, P.E. 2-2014
SURVEY No. _____	DESIGN ENTERED: T. PRESCOTT 2-2014



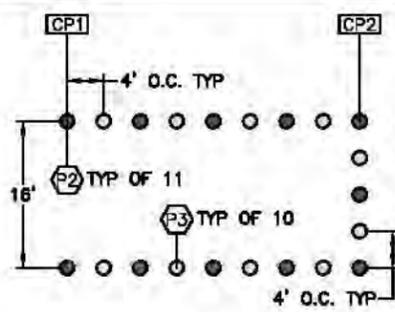
King County
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Ecological Restoration and Engineering Services

Christie Trus, Director

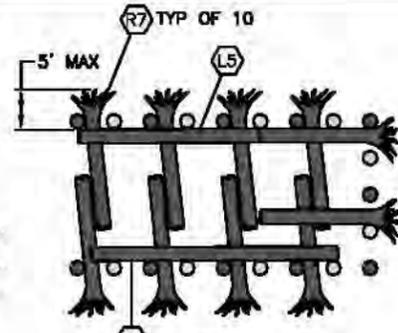
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

BANK DEFLECTOR ELJ LAYERING PLAN

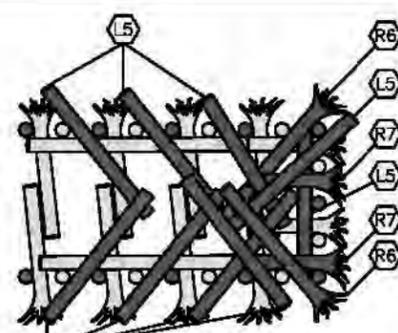
SHEET 14 OF 23 SHEETS
2006-48



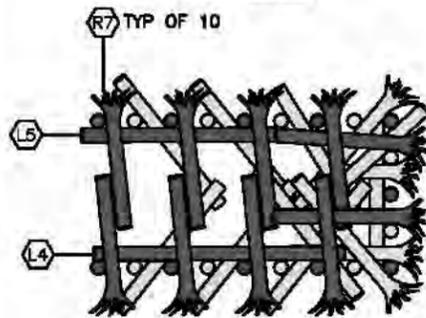
PILE LAYOUT



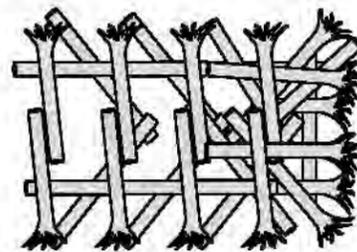
LAYER 1



LAYER 2



LAYER 3



COMPLETE

NOTE: ONLY PREVIOUS LAYER OF LOGS SHOWN ON EACH CURRENT LAYER. PREVIOUS LAYER LOGS ARE LIGHT. CURRENT LAYER LOGS ARE DARK.

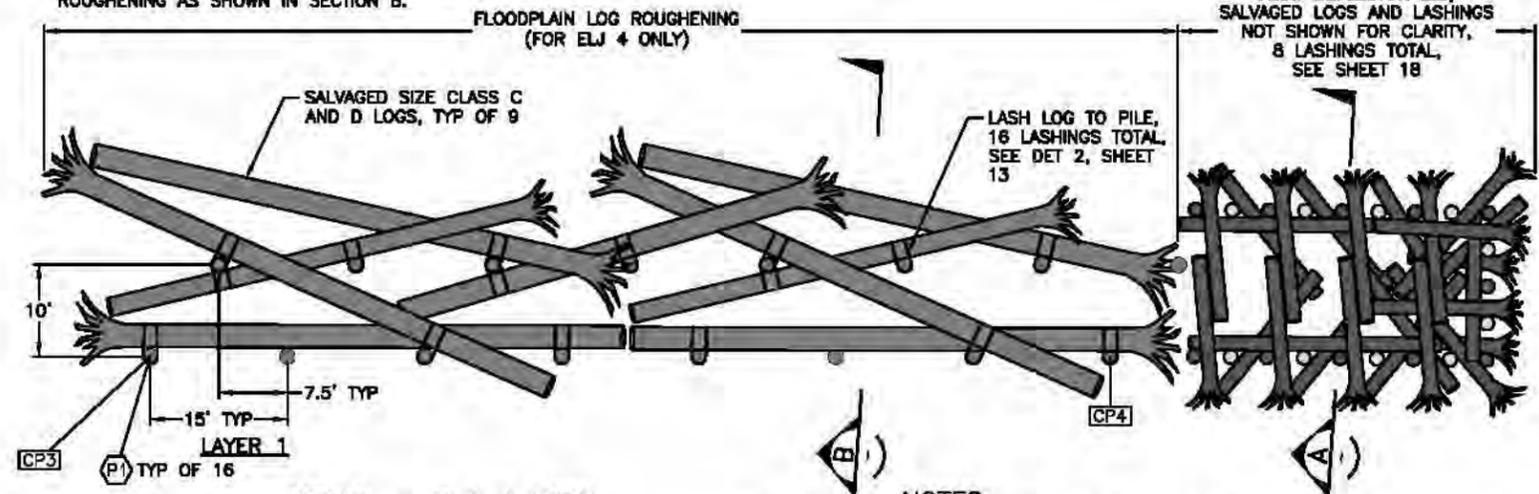
ELJ 3 AND 4 CONSTRUCTION QUANTITIES TABLE:

CONSTRUCTION ELEMENT	ELJ 3	ELJ 4
STRUCTURE EXCAVATION	1,050 CY	2,110 CY
BACKFILL WITH EXCAVATION SPOILS	850 CY	1,840 CY
HEAVY LOOSE RIPRAP	160 CY	440 CY
HAUL AND DISPOSE SURPLUS SPOILS	320 CY	740 CY

NOTE: QUANTITIES FOR ELJ 4 ALSO INCLUDE EXCAVATION, BACKFILL, RIPRAP AND HAUL/DISPOSE FOR WORK UNDER FLOODPLAIN LOG ROUGHENING AS SHOWN IN SECTION B.

ELJ 3 AND 4 LOG SCHEDULE:

LOG TYPE	DIAMETER (IN)	LENGTH (FT)	ROOTWAD	TOTAL/ELJ
P1	18 (BUTT), 14 (TIP)	55	NO	16
P2	18 (BUTT), 14 (TIP)	50	NO	11
P3	18 (BUTT)	20	NO	10
R8	18	20	YES	2
R7	18	15	YES	22
L4	18	25	NO	2
L5	18	20	NO	11



DETAIL - ELJ 4 WITH FLOODPLAIN ROUGHENING

NOTES:
1. SALVAGED LOG PLACEMENT IN FLOODPLAIN LOG ROUGHENING SHOWN IS APPROX AND WILL VARY BASED ON ACTUAL LOG LENGTH. PLACE SALVAGED LOGS AS DESIGNATED BY THE ENGINEER.

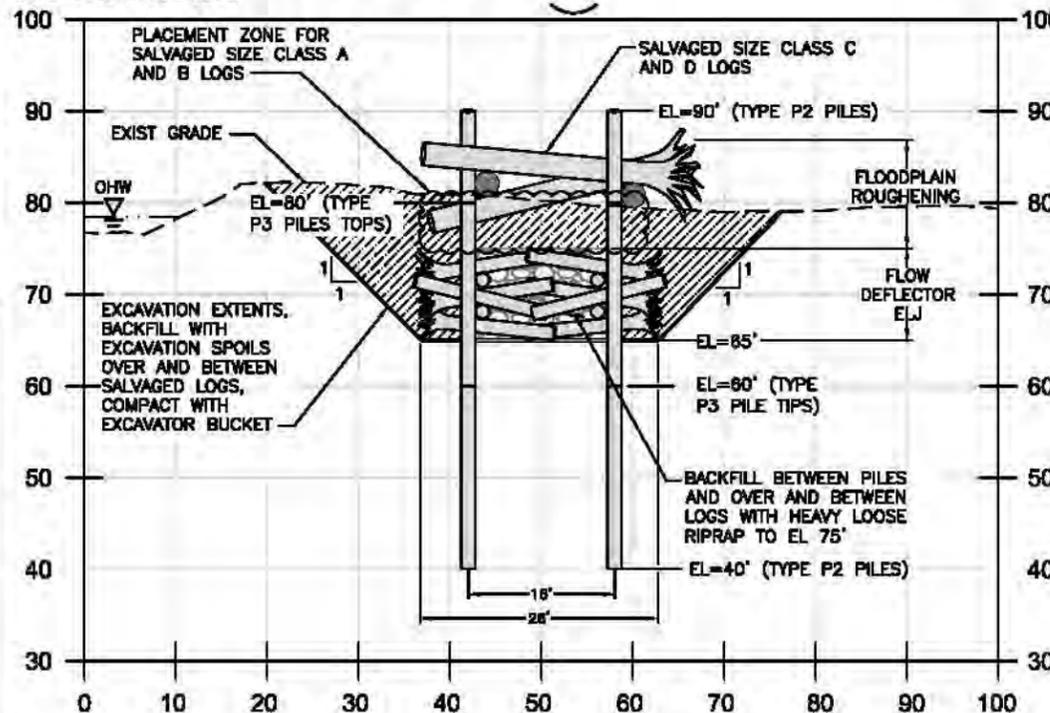
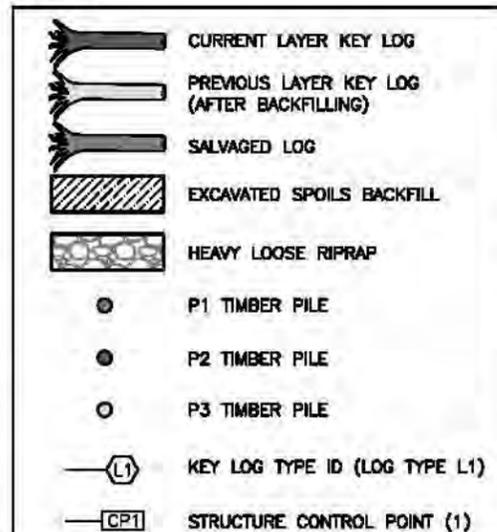
DETAIL - FLOW DEFLECTOR ELJ (ELJ 3 AND 4)

SCALE: 1"=10' AT FULL SCALE

ELJ 3 AND 4 CONTROL POINT TABLE:

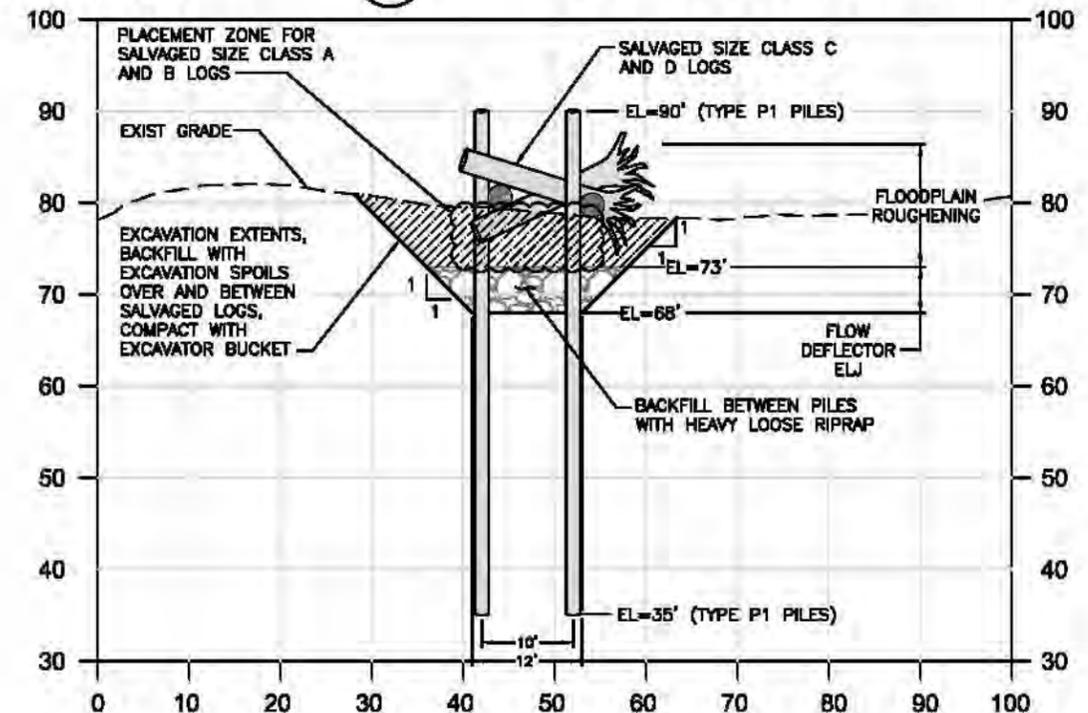
ELJ NO.	CONTROL POINT NO.	NORTHING	EASTING
3	1	215429.86	1374605.10
	2	215408.12	1374628.76
4	1	215352.10	1374373.51
	2	215330.52	1374397.22
	3	215416.15	1374277.41
	4	215346.36	1374355.85

LEGEND:



SECTION - FLOW DEFLECTOR ELJ A

SCALE: 1"=10' AT FULL SCALE



SECTION - FLOW DEFLECTOR ELJ B

SCALE: 1"=10' AT FULL SCALE

CALL 2 WORKING DAYS BEFORE YOU DIG
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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NUM.	REVISION	BY	DATE

APPROVED: WILL MANSFIELD, P.E.	2-2014
PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO, P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014

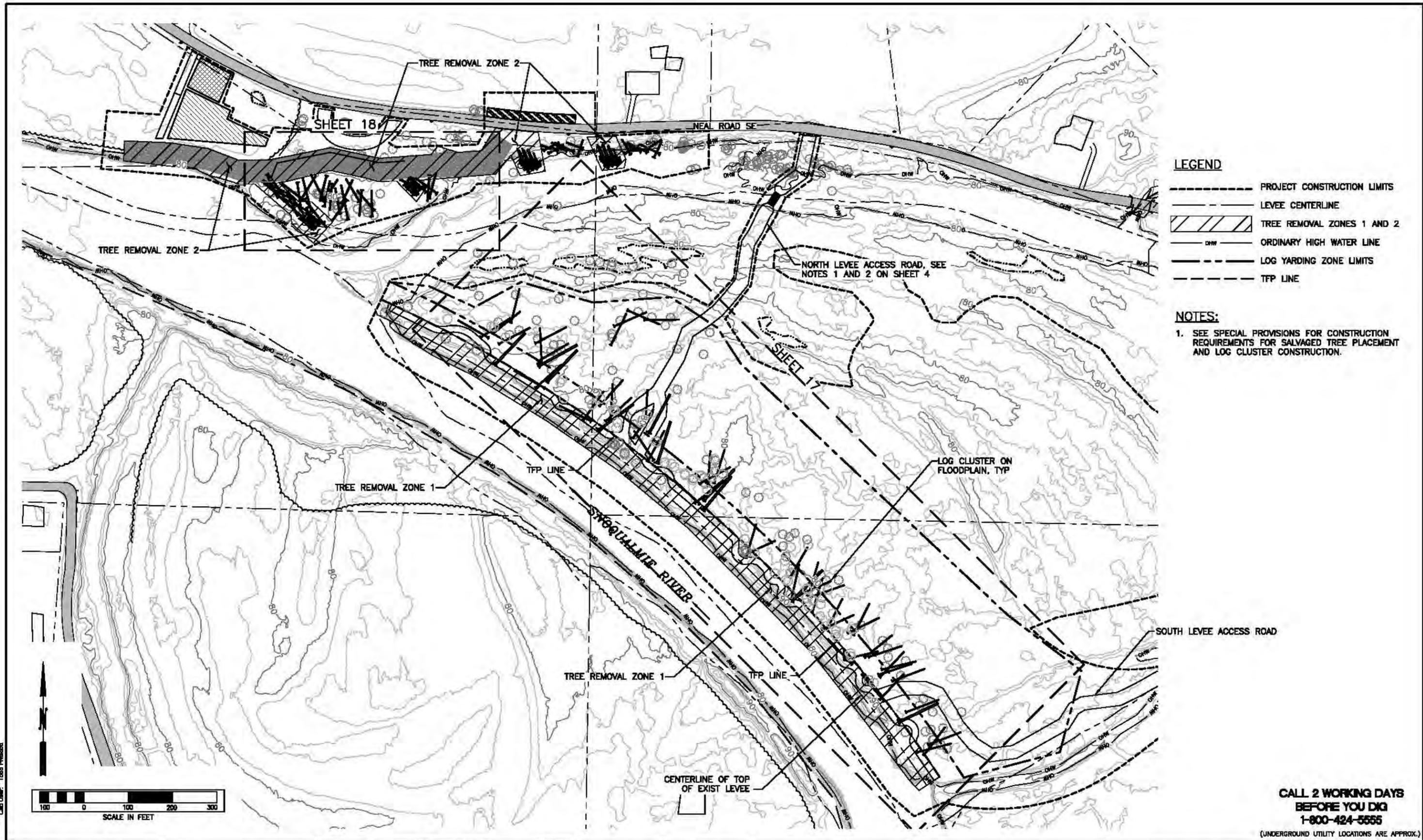


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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

FLOW DEFLECTOR ELJ PLAN, LAYERING PLAN AND SECTIONS

SHEET 15 OF 23 SHEETS
 2008-48



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SURVEY BASE MAP:	
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PROJECT No. HERRERA: 10-04785-070	
SURVEY No.	
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BY	DATE

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PROJECT MANAGER: DAN EASTMAN	2-2014
DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	2-2014
DESIGN ENTERED: T. PRESCOTT	2-2014



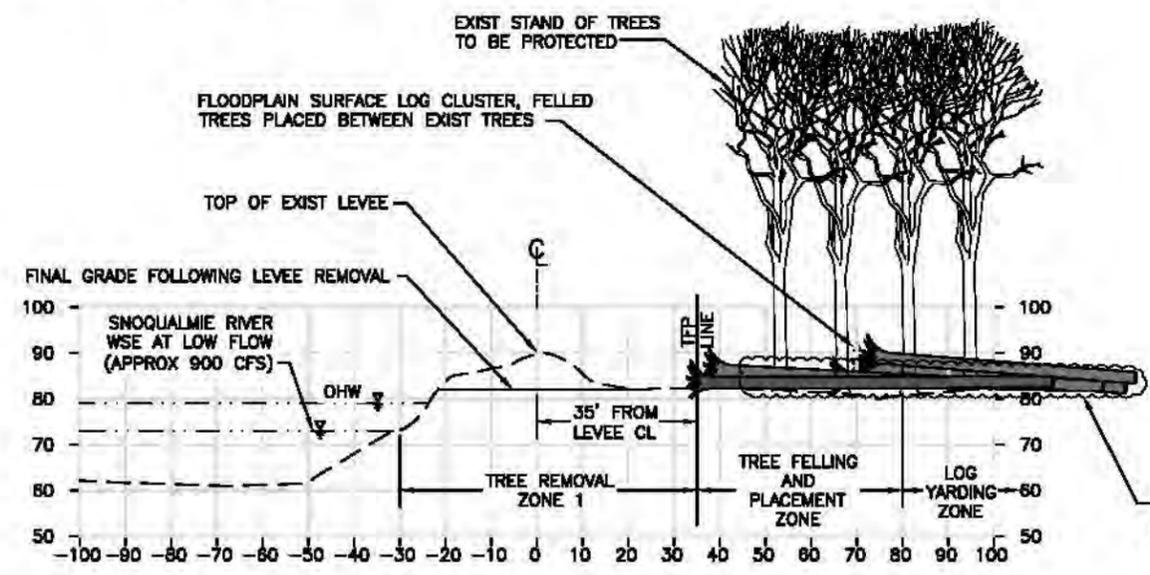
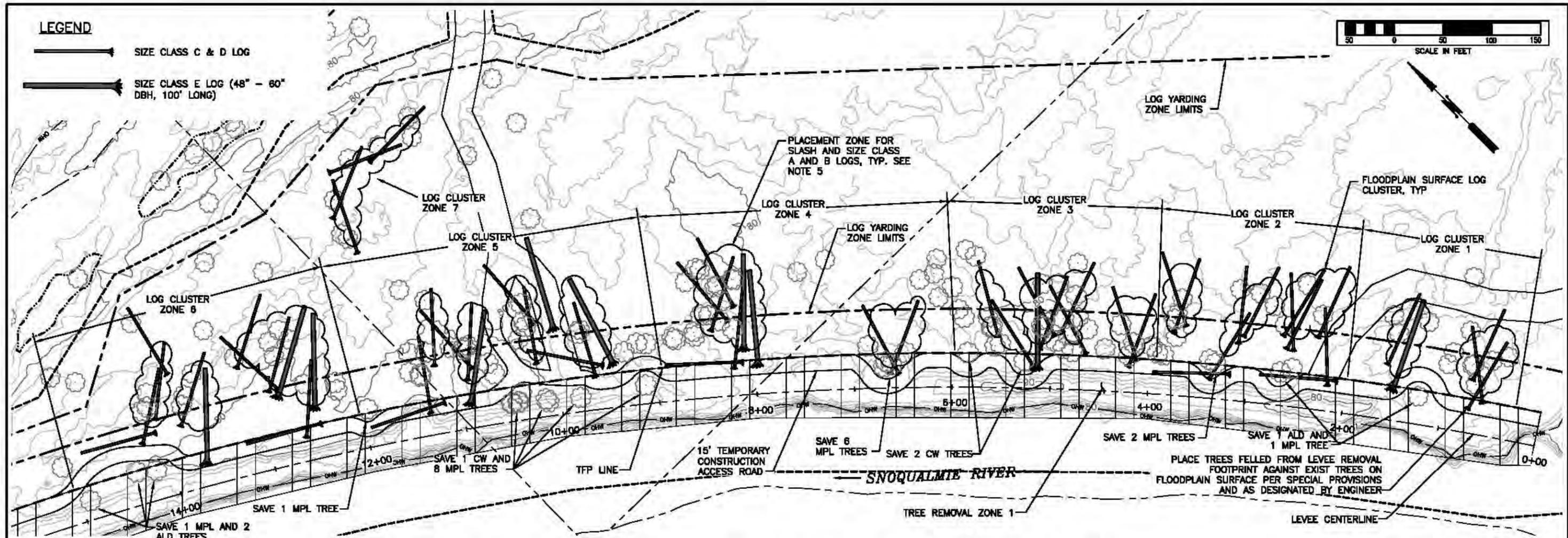
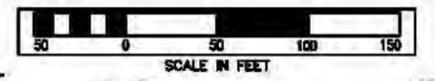
King County
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 Christie Trus, Director

UPPER CARLSDON FLOODPLAIN RESTORATION PROJECT
FLOODPLAIN LOG ROUGHENING SITE PLAN

SHEET 16 OF 23 SHEETS
2006-48

LEGEND

- SIZE CLASS C & D LOG
- SIZE CLASS E LOG (48" - 80" DBH, 100' LONG)



DETAIL - TYPICAL LOG CLUSTER
SCALE: 1"=20' AT FULL SCALE

LOG CLUSTER ZONE PLACEMENT SCHEDULE			
LOG CLUSTER ZONE NO.	NO. OF SIZE CLASS A&B TREES	NO. OF SIZE CLASS C&D TREES	NO. OF SIZE CLASS E TREES
1	9	4	1
2	20	12	0
3	16	8	1
4	16	7	2
5	20	9	3
6	22	10	3
7	7	4	0
TOTAL	110	54	10

NOTES:

1. PLACE 5,000 CUBIC YARDS OF SALVAGED LEVEE SPOILS OVER LOG CLUSTERS AS DESIGNATED BY ENGINEER. DEPTH OF SPOILS PER CLUSTER RANGES FROM 3 - 4 FEET.
2. ALL SPOILS REMOVED FROM THE LEVEE THAT INCLUDE NOXIOUS WEEDS WILL BE KEPT ONSITE AND PLACED OVER LOG CLUSTERS IN ZONES 1, 2, 3 AND 4 ONLY.
3. LENGTH, LOCATION AND ORIENTATION OF LOGS IN CLUSTERS SHOWN IS APPROXIMATE AND WILL VARY. ADJUST LOCATION AND ORIENTATION AS DESIGNATED BY ENGINEER.
4. DO NOT DAMAGE OR REMOVE TREES OUTSIDE OF THE TREE REMOVAL ZONE TO CONSTRUCT CLUSTERS. ANY ADDITIONAL TREE REMOVAL OR TRIMMING NECESSARY SHALL FIRST BE APPROVED BY THE ENGINEER. SEE SPECIAL PROVISIONS.
5. PLACE SLASH AND SIZE CLASS A AND B LOGS AMIDST LOG CLUSTERS AS DESIGNATED BY ENGINEER.
6. HAUL ALL REMAINING FELLED LOGS TO SETBACK REVETMENT FOR PLACEMENT IN THE FLOODPLAIN AS SHOWN ON SHEET 18 (APPROX 47 SIZE CLASS A AND B LOGS; APPROX 27 SIZE CLASS C AND D LOGS; 0 SIZE CLASS E LOGS).

FELLED TREE INVENTORY FOR LEVEE REMOVAL		
SIZE CLASS	SIZE	NO. OF TREES
A	<6"-11" DBH	113
B	12"-17" DBH	44
C	18"-29" DBH	58
D	30"-47" DBH	23
E	48"-80" DBH	10

CALL 2 WORKING DAYS BEFORE YOU DIG
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SURVEY BASE MAP:		SUPERVISOR: DIANE CONCANNON	2-2014
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014	PROJECT MANAGER: DAN EASTMAN	2-2014
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SURVEY No.:		DESIGN ENTERED: T. PRESCOTT	2-2014



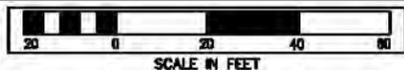
King County
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Christie Trus, Director

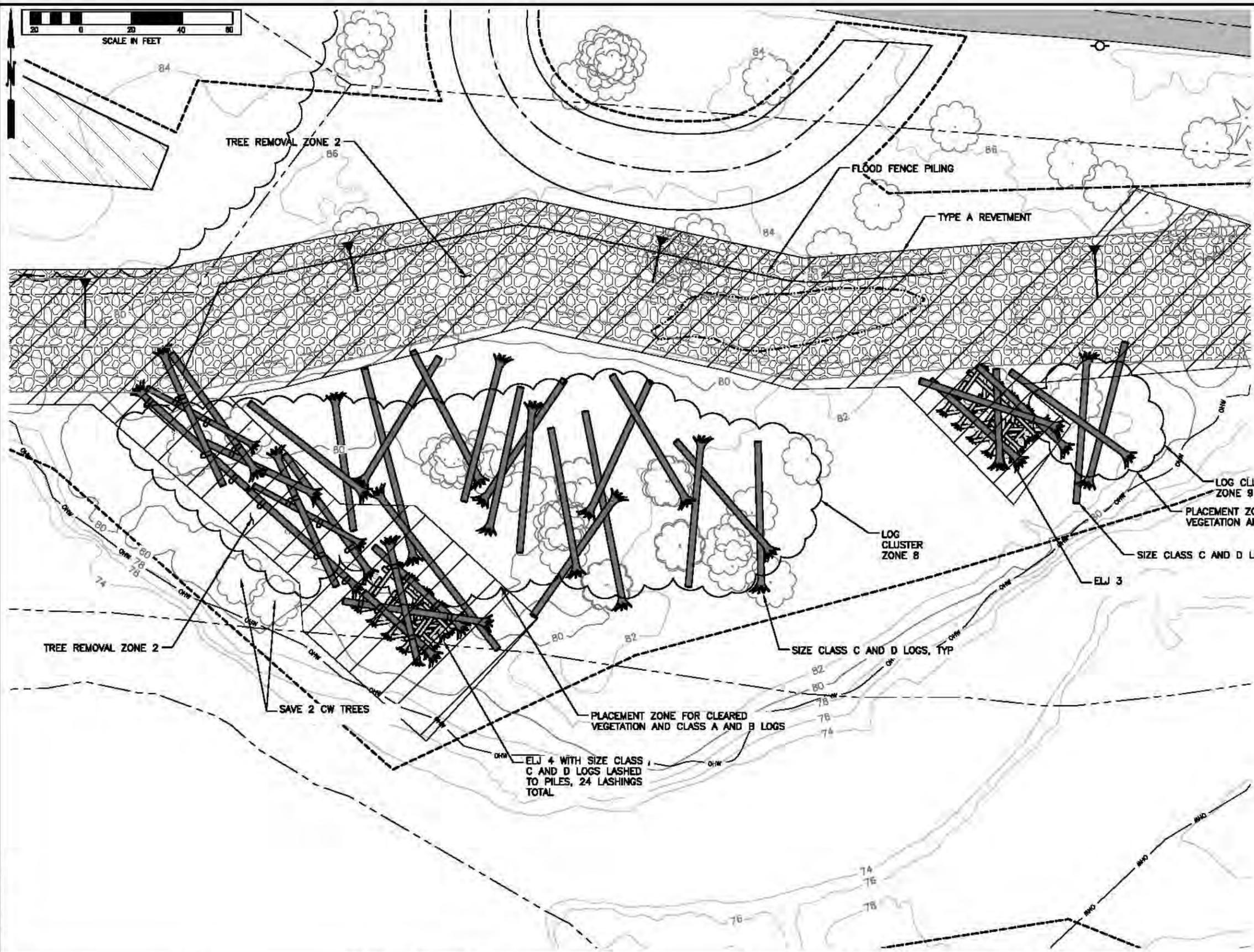
UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

FLOODPLAIN LOG ROUGHENING PLAN
SHEET 1 OF 2

SHEET
17
OF
23
SHEETS
2006-48



NOTES:
 1. PLACE SIZE CLASS A, B, C, AND D LOGS WITHIN THE LOG CLUSTER ZONES AS DESIGNATED BY ENGINEER. WOOD MATERIAL SMALLER THAN SIZE CLASS C AND D LOGS NOT SHOWN FOR CLARITY. SEE SPECIAL PROVISIONS.



LOG CLUSTER ZONE PLACEMENT SCHEDULE

LOG CLUSTER ZONE NO.	NO. OF SIZE CLASS A&B TREES	NO. OF SIZE CLASS C&D TREES	NO. OF SIZE CLASS E TREES
8	51	31	0
9	13	7	0
TOTAL	64	38	0

FELLED TREE INVENTORY FOR SRR LINE EMBANKMENT AND ELJ CONSTRUCTION

SIZE CLASS	SIZE	NO. OF TREES
A	<6"-11" DBH	4
B	12"-17" DBH	13
C	18"-29" DBH	6
D	30"-47" DBH	5
E	48"-60" DBH	0

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FIELD BOOK:		APPROVED: WILL MANSFIELD, P.E.	2-2014
SURVEYED:		PROJECT SUPERVISOR: DIANE CONCANNON	2-2014
SURVEY BASE MAP:		PROJECT MANAGER: DAN EASTMAN	2-2014
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014	DESIGNED: B. SCOTT, I. MOSTRENKO P.E.	2-2014
PROJECT No. HERRERA: 10-04785-070		DESIGN ENTERED: T. PRESCOTT	2-2014
SURVEY No.			



King County
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 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christa Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
FLOODPLAIN LOG ROUGHENING PLAN
 SHEET 2 OF 2

SHEET
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 OF
 23
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2006-48

**STORMWATER POLLUTION PREVENTION PLAN NOTES (SWPPP)
IN COMPLIANCE WITH THE STORMWATER MANAGEMENT MANUAL FOR PUGET SOUND (2001)**

MINIMUM REQUIREMENT #2 - CONSTRUCTION STORMWATER POLLUTION PREVENTION PLAN (SWPPP)

ELEMENT REQUIREMENTS	BEST MANAGEMENT PRACTICES - (BMP's)
ELEMENT #1 "DELINEATE CLEARING AND GRADING LIMITS"	(PRESERVE NATURAL VEGETATION; BUFFER ZONES; HIGH VISIBILITY FENCE) - SURVEY AND STAKE ALL "CUT & FILL" SLOPES. INDIVIDUAL TREES TO BE PRESERVED WITHIN THE CONSTRUCTION AREA SHALL BE MARKED.
ELEMENT #2 "ESTABLISH CONSTRUCTION ACCESS"	(STABILIZED CONSTRUCTION ENTRANCE, CONSTRUCTION ROAD STABILIZATION) - CONSTRUCTION VEHICLE ACCESS AND EXIT TO STAGING AREAS, STOCKPILING AND GRADED AREAS, SHALL BE LIMITED TO SEVEN DEFINED ACCESS POINTS DESIGNED TO ACCOMMODATE LARGE EQUIPMENT MANEUVERING. ACCESS POINTS SHALL TYPICALLY BE STABILIZED AND MAINTAINED WITH QUARRY SPALLS OR CRUSHED ROCK TO MINIMIZE THE TRANSPORT OF SEDIMENT ONTO PAVED SURFACES. WHEEL WASH OR TIRE BATHS SHOULD BE LOCATED ON SITE AS FEASIBLE AND APPLICABLE. SEDIMENT SHALL BE REMOVED FROM ROADWAYS BY SHOVELING OR PICKUP SWEEPING AND DEPOSITED IN A SEDIMENT DISPOSAL AREA. CONSTRUCTION ACCESS RESTORATION SHALL BE EQUAL TO OR BETTER THAN ITS PRE-CONSTRUCTION STATE.
ELEMENT #3 "CONTROL FLOW RATES"	(SEDIMENT TRAP; CHECK DAMS; INTERCEPTOR DIKE & SWALE) - DOWNSTREAM PROPERTIES AND WATERWAYS SHALL BE PROTECTED FROM EROSION DUE TO INCREASES IN VOLUME, VELOCITY AND PEAK FLOWS FROM CONSTRUCTION SITE STORMWATER RUNOFF. TEMPORARY STORMWATER FACILITIES SHALL BE BUILT AND OPERATIONAL AS PART OF THE FIRST STAGE OF GRADING OPERATIONS.
ELEMENT #4 "INSTALL SEDIMENT CONTROLS"	(BRUSH BARRIER; GRAVEL FILTER BERM; COMPOST BERM; SILT FENCE; VEGETATED STRIP; STRAW WATTLES, COIR LOGS; SEDIMENT TRAP; SEDIMENT POND) - PRIOR TO THE RELEASE OF STORMWATER FROM DISTURBED AREAS DURING CONSTRUCTION WINDOW, WATER SHALL PASS THROUGH A SEDIMENT POND, TRAP, BIOSWALE, SEDIMENT BAG OR OTHER APPROPRIATE SEDIMENT REMOVAL BMP.
ELEMENT #5 "STABILIZE SOILS"	(TEMPORARY & PERMANENT SEEDING; STRAW AND WOOD CHIP MULCHING; EROSION CONTROL BLANKETS, MATTING AND NETS); PLASTIC COVERING; SODDING; TOPSOILING; COMPOST; PAM'S; SURFACE ROUGHENING; GRADIENT TERRACES; DUST CONTROL) - DURING THE CONSTRUCTION WINDOW ALL DISTURBED AREAS NOT EXPECTED TO EXPERIENCE IMMEDIATE EROSION WILL BE STABILIZED AS DEEMED APPROPRIATE BY THE PROJECT ECOLOGIST.
ELEMENT #6 "PROTECT SLOPES"	(TEMPORARY & PERMANENT SEEDING; PRESERVE VEGETATION; PHASED GRADING; SURFACE ROUGHENING; EROSION CONTROL BLANKETS, MATTING & NETS; PLASTIC COVERING; GRADIENT TERRACES; INTERCEPTOR DIKE & SWALE; GRASS LINED CHANNELS; PIPE SLOPE DRAINS; SUBSURFACE DRAINS; LEVEL SPREADER; CHECK DAMS; TRIANGULAR SILT DIKE) - PHASE GRADING TO MINIMIZE EXPOSED CUT & FILL SLOPES; AND SURFACE ROUGHEN AND DIVERT UPSLOPE DRAINAGE AT TOP OF SLOPES AWAY FROM GRADING OPERATIONS.

ELEMENT REQUIREMENTS	BEST MANAGEMENT PRACTICES - (BMP's)
ELEMENT #7 "PROTECT DRAIN INLETS"	(STORMDRAIN INLET PROTECTION, INTERCEPTOR DIKE & SWALE) - NOT APPLICABLE. THERE ARE NO STORMWATER INLET DRAINS ONSITE OR IN VICINITY OF THE PROJECT.
ELEMENT #8 "STABILIZE CHANNELS AND OUTLETS"	(CHANNEL LINING; OUTLET PROTECTION; EROSION CONTROL BLANKETS, MATTING & NETS; SODDING AND/OR PERMANENT SEEDING) - NOT APPLICABLE. ALL WORKS AREAS ARE WITHIN THE ACTIVE FLOODWAY AND ARE ANTICIPATED TO BE ALTERED SIGNIFICANTLY FOLLOWING CONSTRUCTION DURING THE FIRST LARGE FLOOD EVENT.
ELEMENT #9 "CONTROL POLLUTANTS"	(CONCRETE HANDLING; SAWCUTTING AND SURFACE POLLUTION PREVENTION; FUGITIVE DUST CONTROL) - ALL POLLUTANTS INCLUDING WASTE MATERIALS, DEMOLITION DEBRIS AND WHEEL WASH WATER SHALL BE HANDLED AND DISPOSED OF IN A MANNER TO PREVENT STORMWATER CONTAMINATION. COVER, CONTAINMENT AND PROTECTION FROM VANDALISM SHALL BE PROVIDED FOR ALL EQUIPMENT, CHEMICALS, LIQUID, PETROLEUM AND INERT WASTES.
ELEMENT #10 "CONTROL DE-WATERING"	(SEDIMENT TRAP; SEDIMENT BAG; SANITARY SEWER DISCHARGE W/ DISTRICT APPROVAL; TRANSPORT OFF SITE, VEGETATED FILTER STRIP; INFILTRATION) - FOUNDATION, VAULT, PILING, TRENCH DE-WATERING AND WHEEL WASH WATER SHALL BE DISCHARGED INTO A CONTROLLED CONVEYANCE SYSTEM PRIOR TO DISCHARGE TO A SEDIMENT POND. CLEAN, NON-TURBID DEWATERING WATER SUCH AS WELL-POINT SOURCEGROUND WATER, MAY BE DISCHARGED TO VEGETATED FILTER STRIPS OR TRIBUTARIES, PROVIDED THE DE-WATERING FLOW DOES NOT CAUSE EROSION OR FLOODING OF RECEIVING WATERS. CLEAN WATERS, SHOULD NOT BE ROUTED THROUGH STORMWATER SEDIMENT POND. ACCEPTABLE DISPOSAL OPTIONS INCLUDE INFILTRATION, OFFSITE TRANSPORT, SANITARY SEWER DISCHARGE WITH DISTRICT APPROVAL, SEDIMENTATION BAG WITH OUTFALL TO VEGETATED DITCH OR SWALE FOR SMALL VOLUMES OF LOCALIZED DE-WATERING. ON SITE CHEMICAL TREATMENT OR OTHER SUITABLE TECHNOLOGIES AS D.O.E. APPROVED
ELEMENT #11 "MAINTAIN BMP'S"	TEMPORARY AND PERMANENT TESC AND POLLUTANT BMP'S SHALL BE INSTALLED PER THE PROJECT PLANS, SPECIFICATIONS AND CONTRACTING AGENCY DIRECTION. THEY SHALL BE "MAINTAINED & REPAIRED" AS NEEDED TO ENSURE THEIR CONTINUED PERFORMANCE OF THEIR INTENDED FUNCTION. SEDIMENT CONTROLS SHALL BE INSPECTED WEEKLY AND AFTER A RUNOFF PRODUCING STORM EVENT DURING THE DRY SEASON AND DAILY DURING THE WET SEASON. BMP'S SHALL ONLY BE REMOVED 30 DAYS AFTER THE FINAL SITE STABILIZATION IS ACHIEVED AS DIRECTED BY THE CONTRACTING AGENCY. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. A PROJECT RECORD OR LOG SHALL BE KEPT OF ALL BMP MEASURES IMPLEMENTED WITH DATES OF INSTALLATION, MAINTENANCE, STORM EVENTS, REQUIRED WATER QUALITY SAMPLING, REPAIR AND ACTION TAKEN TO PREVENT AND/OR CORRECT IMPACTS.
ELEMENT #12 "MANAGE THE PROJECT"	(PHASE CONSTRUCTION: SEASONAL WORK LIMITATIONS) - (CONSTRUCTION SHALL BE PHASED WHERE FEASIBLE TO THE MAXIMUM EXTENT PRACTICABLE, THE TRANSPORT OF SEDIMENT FROM CLEARING & GRUBBING AND GRADING OPERATIONS.) STABILIZATION AND MAINTENANCE SHALL BE AN INTEGRAL PART OF EACH CONSTRUCTION PHASE. THE CONTRACTING AGENCY MAY IMPOSE SEASONAL LIMITATIONS DURING THE WET SEASON (OCTOBER 1 - APRIL 30) ON CLEARING, GRUBBING AND GRADING OPERATIONS BASED ON SOILS, SLOPES VEGETATIVE COVER, WEATHER, ETC. TO PREVENT THE TRANSPORT OF SEDIMENT FROM THE CONSTRUCTION SITE TO RECEIVING WATERS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL DESIGNATE THEIR CERTIFIED EROSION & SEDIMENT CONTROL PROFESSIONAL(S) WHOM SHALL BE ON-SITE OR, ON CALL AT ALL TIMES WITH AUTHORITY TO TAKE QUICK ACTION TO CORRECT AND/OR IMPLEMENT EFFECTIVE BMP'S. WHENEVER INSPECTION, MONITORING AND SAMPLING REVEALS THAT BMP'S IDENTIFIED IN THE SWPPP ARE INADEQUATE, DUE TO THE ACTUAL OR POTENTIAL DISCHARGE OF SIGNIFICANT AMOUNTS OF ANY POLLUTANT, THE SWPPP SHALL BE MODIFIED AS DIRECTED BY THE CONTRACTING AGENCY. THE SWPPP SHALL BE RETAINED ON-SITE AND MODIFIED AND DOCUMENTED WHENEVER THERE IS A SIGNIFICANT CHANGE IN THE PROJECT DESIGN, CONSTRUCTION, OPERATION OR MAINTENANCE OF ANY BMP.

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SURVEY BASE MAP: _____	PROJECT MANAGER: DAN EASTMAN 2-2014
CHECKED: I. MOSTRENKO (HERRERA) 2/14/2014	DESIGNED: T. HURLEY, L.E.G. 2-2014
NO: 2006-48	DESIGNED: D. EASTMAN 2-2014
PROJECT No. HERRERA: 10-04765-070	DESIGN ENTERED: T. PRESCOTT 2-2014
SURVEY No. _____	
NUM. REVISION	BY DATE



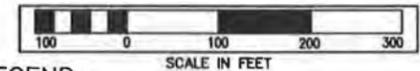
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services

Christie Trus, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**

**STORMWATER POLLUTION PREVENTION
PLAN (SWPPP) NOTES**

SHEET
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OF
23
SHEETS
2006-48



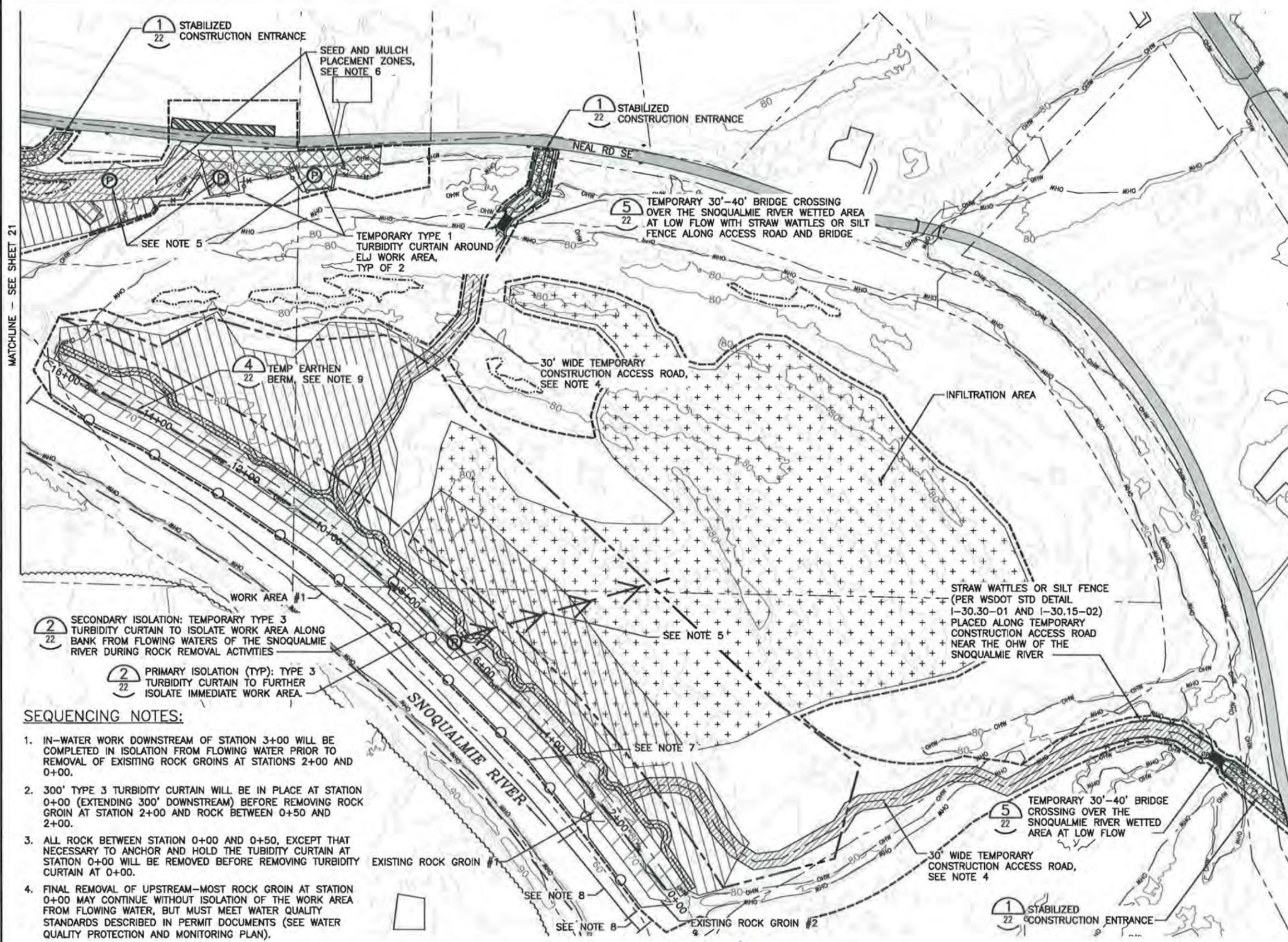
LEGEND

- PROJECT CONSTRUCTION LIMITS
- LEVEE REMOVAL ALIGNMENT
- ▨ TEMPORARY CONSTRUCTION ACCESS ROAD
- + + + + CONSTRUCTION WATER MANAGEMENT DISCHARGE AND INFILTRATION ZONE
- ▨ LEVEE AND ROCK REVETMENT REMOVAL WORK ZONE
- ▨ FLOODPLAIN LOG ROUGHENING ZONE
- ▨ SETBACK REVETMENT ZONE
- ▨ ENGINEERED LOG JAM AND BANK ROUGHENING LOG STRUCTURE ZONE
- ▨ STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY TURBIDITY CURTAIN
- STRAW WATTLES OR SILT FENCE
- ORDINARY HIGH WATER LINE
- LOG YARDING DISTURBANCE LIMITS
- APPROX WETLAND BOUNDARY
- ← PUMP DISCHARGE
- ⊙ WORK AREA WATER MANAGEMENT PUMP
- TEMP EARTHEN BERM

NOTES:

1. SEE SHEET 19 FOR TESC AND WATER MANAGEMENT NOTES.
2. SEE SHEET 22 FOR TESC AND WATER MANAGEMENT BMP DETAILS.
3. TEMPORARY CONSTRUCTION ACCESS ROAD LOCATION ALONG UPPER CARLSON LEVEE WILL VARY AS LEVEE REMOVAL WORK IS COMPLETED.
4. MINIMIZE TEMPORARY CONSTRUCTION ACCESS ROAD WIDTH AS NECESSARY TO MINIMIZE CLEARING OF AND DAMAGE TO EXISTING TREES.
5. PUMP TURBID WATER FROM WORK AREAS TO INFILTRATION AREAS AS NEEDED TO COMPLETE CONSTRUCTION AND MEET PERMIT WATER QUALITY REQUIREMENTS AS DEFINED IN THE WQPMP. PUMP DISCHARGE LOCATION AND FLOW RATE WILL BE CONTROLLED TO ENSURE NO TURBID WATER IS DISCHARGED TO WETLANDS OR THE SNOQUALMIE RIVER.
6. PLACE SEED AND MULCH WITHIN ENGINEERED LOGJAM AND BANK ROUGHENING ZONE, OVER ALLUVIUM BACKFILL PLACED OVER SRR LINE ROCK, AND IN ALL OTHER DISTURBED AREAS BETWEEN SRR LINE ROCK AND NEAL ROAD.
7. ISOLATION MEASURES, WORK SEQUENCING, RATE OF WORK AND ALL OTHER BMP'S DESCRIBED IN THE WQPMP WILL BE USED AS NECESSARY TO MEET WQS DESCRIBED IN THE WQPMP.
8. ROCK REMOVAL IN WORK AREA #2 AND #3 SHOULD BE COMPLETED AFTER AUGUST 15TH OR WHEN FLOW IN THE SNOQUALMIE RIVER IS LESS THAN 1,000 CFS AS MEASURED BY THE USGS FLOW GAGE 12149000 AT CARNATION.
9. LEAVE STABLE VEGETATED EARTHEN BERM UNTIL JULY 1.

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MATCHLINE - SEE SHEET 21

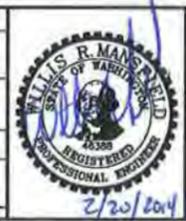
- ② SECONDARY ISOLATION: TEMPORARY TYPE 3 TURBIDITY CURTAIN TO ISOLATE WORK AREA ALONG BANK FROM FLOWING WATERS OF THE SNOQUALMIE RIVER DURING ROCK REMOVAL ACTIVITIES
- ② PRIMARY ISOLATION (TYP): TYPE 3 TURBIDITY CURTAIN TO FURTHER ISOLATE IMMEDIATE WORK AREA.

SEQUENCING NOTES:

1. IN-WATER WORK DOWNSTREAM OF STATION 3+00 WILL BE COMPLETED IN ISOLATION FROM FLOWING WATER PRIOR TO REMOVAL OF EXISTING ROCK GROINS AT STATIONS 2+00 AND 0+00.
2. 300' TYPE 3 TURBIDITY CURTAIN WILL BE IN PLACE AT STATION 0+00 (EXTENDING 300' DOWNSTREAM) BEFORE REMOVING ROCK GROIN AT STATION 2+00 AND ROCK BETWEEN 0+50 AND 2+00.
3. ALL ROCK BETWEEN STATION 0+00 AND 0+50, EXCEPT THAT NECESSARY TO ANCHOR AND HOLD THE TURBIDITY CURTAIN AT STATION 0+00 WILL BE REMOVED BEFORE REMOVING TURBIDITY CURTAIN AT 0+00.
4. FINAL REMOVAL OF UPSTREAM-MOST ROCK GROIN AT STATION 0+00 MAY CONTINUE WITHOUT ISOLATION OF THE WORK AREA FROM FLOWING WATER, BUT MUST MEET WATER QUALITY STANDARDS DESCRIBED IN PERMIT DOCUMENTS (SEE WATER QUALITY PROTECTION AND MONITORING PLAN).

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FIELD BOOK: _____	APPROVED: WILL MANSFIELD, P.E.	2-2014	
SURVEYED: _____	PROJECT SUPERVISOR: DIANE CONCANNON	2-2014	
SURVEY BASE MAP: _____	PROJECT MANAGER: DAN EASTMAN	2-2014	
CHECKED: L. MOSTRENKO (HERRERA) 2/14/2014	DESIGNED: T. HURLEY, L.E.G.	2-2014	
PROJECT No. HERRERA: 10-04785-070	DESIGNED: D. EASTMAN	2-2014	
SURVEY No. _____	DESIGN ENTERED: T. PRESCOTT	2-2014	
NUM. _____	REVISION _____	BY _____	DATE _____

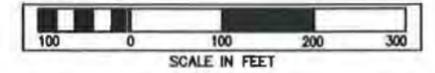
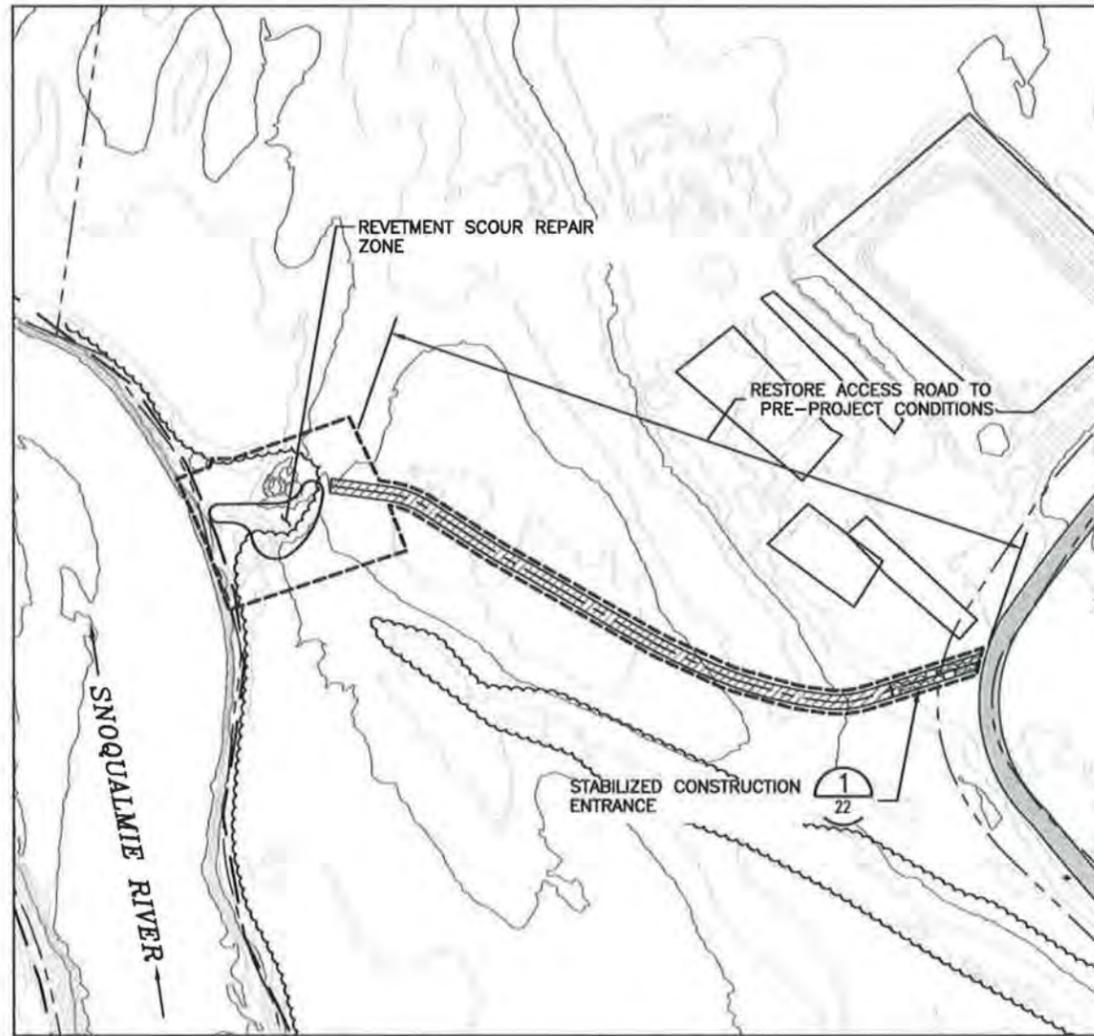
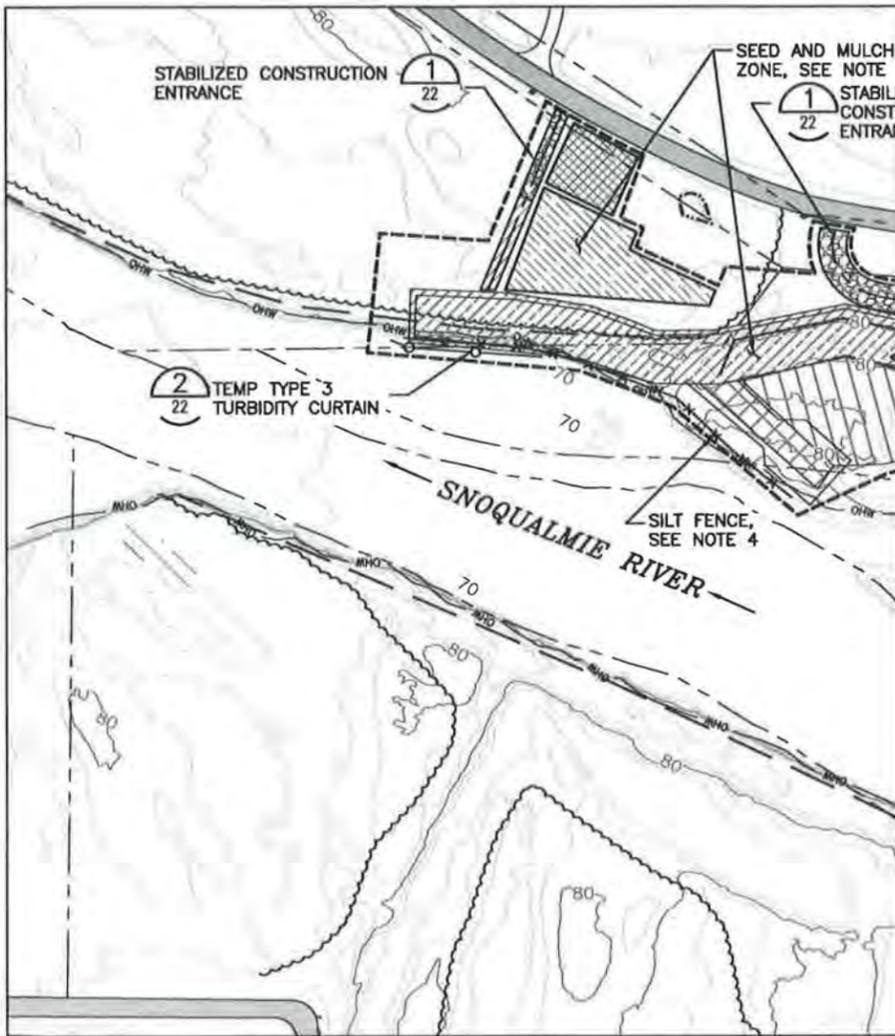


King County
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 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christie Trus, Director

UPPER CARLSON FLOODPLAIN RESTORATION PROJECT

TESC AND WATER MANAGEMENT SITE PLAN SHEET 1 OF 2

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 OF
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 SHEETS
2006-48



LEGEND

- PROJECT CONSTRUCTION LIMITS
- ▨ TEMPORARY CONSTRUCTION ACCESS ROAD
- ▨ CONSTRUCTION MATERIAL STOCKPILE AREA
- ▨ EQUIPMENT STAGING AREA
- ▨ STABILIZED CONSTRUCTION ENTRANCE
- ▨ FLOODPLAIN LOG ROUGHENING ZONE
- ▨ SETBACK REVETMENT ZONE
- OHW — ORDINARY HIGH WATER LINE
- ○ ○ ○ ○ TEMPORARY TURBIDITY CURTAIN
- × × × × × STRAW WATTLES OR SILT FENCE

NOTES:

1. SEE SHEET 19 FOR TESC AND WATER MANAGEMENT NOTES.
2. SEE SHEET 22 FOR TESC AND WATER MANAGEMENT BMP DETAILS.
3. PLACE SEED AND MULCH WITHIN FLOODPLAIN LOG ROUGHENING ZONES, ENGINEERED LOG JAM AND BANK ROUGHENING ZONE, OVER ALLUVIUM BACKFILL PLACED OVER SRR LINE ROCK, AND IN ALL OTHER DISTURBED AREAS BETWEEN SRR LINE ROCK AND NEAL ROAD.
4. SILT FENCE PER WSDOT STANDARD DETAIL 1-30.15-02

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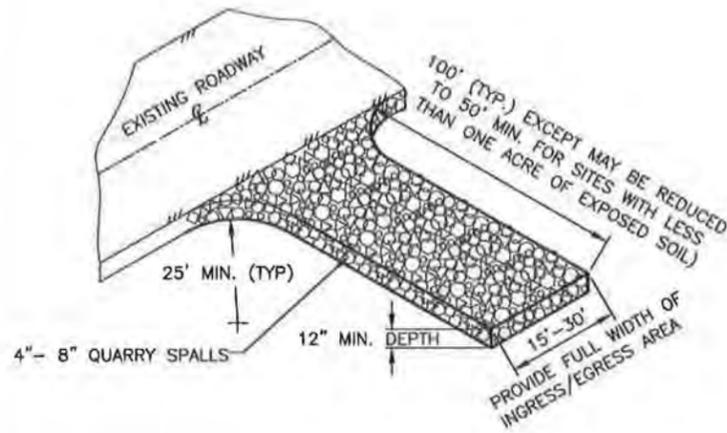
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SURVEYED:		PROJECT	
SURVEY BASE MAP:		SUPERVISOR: DIANE CONCANNON	2-2014
CHECKED: I. MOSTRENKO (HERRERA)	2/14/2014	PROJECT MANAGER: DAN EASTMAN	2-2014
PROJECT No. KC: 2006-48		DESIGNED: T. HURLEY, L.E.G.	2-2014
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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
TESC AND WATER MANAGEMENT SITE PLAN
SHEET 2 OF 2

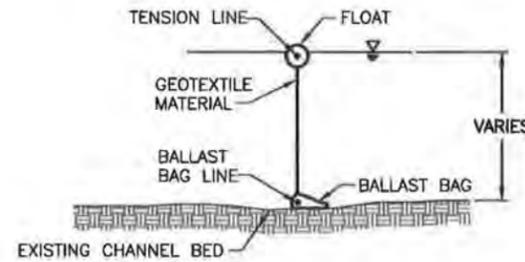
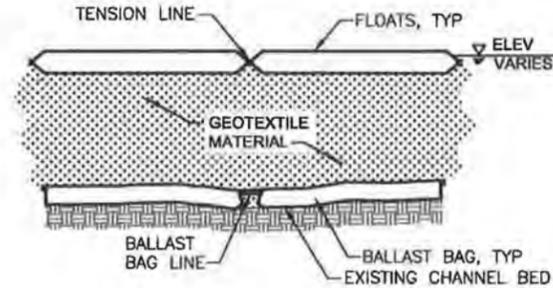
SHEET
21
 OF
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 SHEETS
2006-48



NOTE:
THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH 2" STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USE TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. PROVIDE FLAGGING FOR CONSTRUCTION VEHICLES ENTERING AND LEAVING SITE.

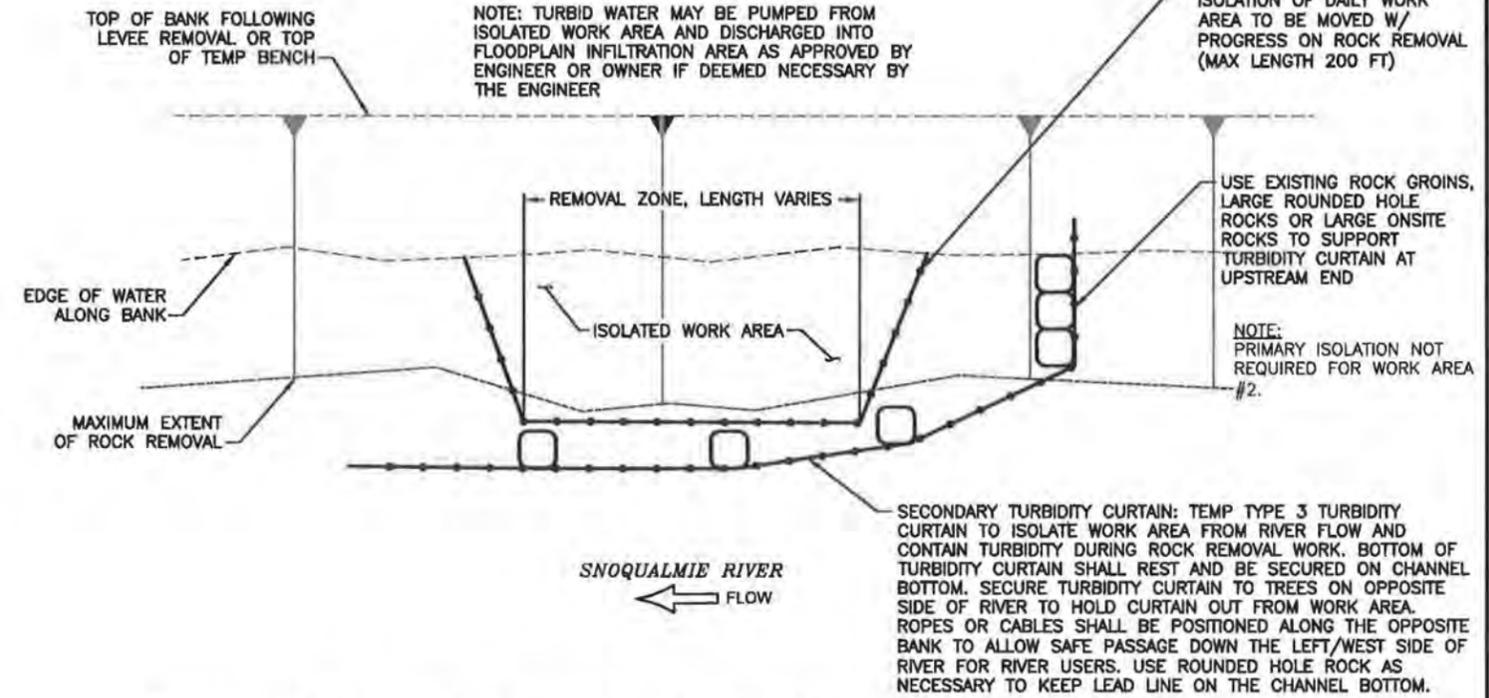
STABILIZED CONSTRUCTION ENTRANCE

NTS

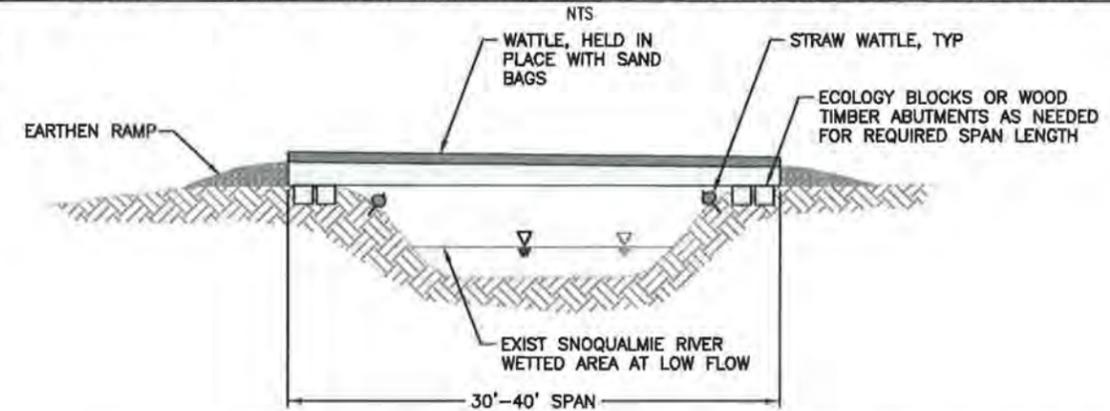


PRIMARY AND SECONDARY TURBIDITY CURTAIN DETAIL

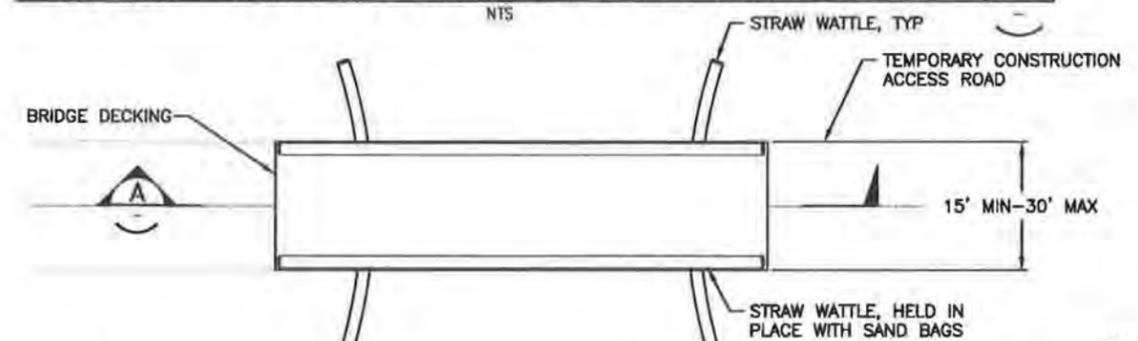
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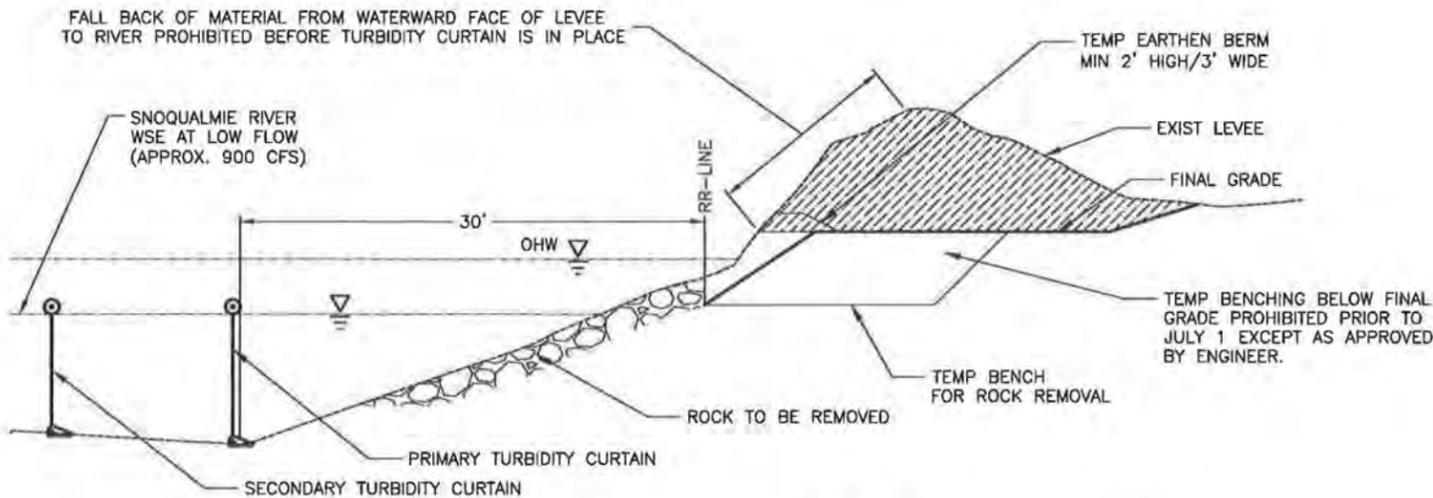
DETAIL - LEVEE ROCK REMOVAL AREA ISOLATION CONCEPT SCHEMATIC



SECTION - TEMPORARY BRIDGE FOR WETTED AREA CROSSING



DETAIL - TEMPORARY BRIDGE FOR WETTED AREA CROSSING



DETAIL - TEMPORARY EARTHEN BERM, TYP

NTS



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UPPER CARLSON FLOODPLAIN RESTORATION PROJECT
TESC AND WATER MANAGEMENT DETAILS

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23
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2006-48

SUMMARY OF QUANTITIES

ITEM NO.	ITEM DESCRIPTION	UNIT	TOTAL QUANTITY	SECTION NO.	PROJECT NUMBERS			AS-BUILT
					C00882C14			
PREPARATION								
1	MOBILIZATION	LS	1	1-09.7	100%			
2	CLEARING AND GRUBBING	AC	7.0	2-01.3(1)	100%			
3	TREE, VEGETATION AND SOIL PROTECTION (TVSP) PLAN	LS	1	2-01.3(1)	100%			
4	TREE SALVAGE, SIZE CLASS A	EA	117	2-01.3(5)	100%			
5	TREE SALVAGE, SIZE CLASS B	EA	57	2-01.3(5)	100%			
6	TREE SALVAGE, SIZE CLASS C	EA	64	2-01.3(5)	100%			
7	TREE SALVAGE, SIZE CLASS D	EA	28	2-01.3(5)	100%			
8	TREE SALVAGE, SIZE CLASS E	EA	10	2-01.3(5)	100%			
9	BONUS FOR TREE SALVAGE SIZE CLASS C, 20' LONGER	EA	64	2-01.3(5)	100%			
10	BONUS FOR TREE SALVAGE SIZE CLASS D, 20' LONGER	EA	28	2-01.3(5)	100%			
11	BONUS FOR TREE SALVAGE SIZE CLASS E, 20' LONGER	EA	10	2-01.3(5)	100%			
GRADING								
12	ROCK REVETMENT EXCAVATION AND SALVAGE	CY	4,720	2-03.3(19)	100%			
13	LEVEE EXCAVATION, SALVAGE AND HAUL	LS	1	2-03.3(20)	100%			
14	SRR LINE EMBANKMENT	LS	1	2-03.3(21)	100%			
15	ROCK FOR SRR LINE EMBANKMENT	TON	8,900	2-03.3(22)	100%			
DRAINAGE								
16	LIGHT LOOSE RIPRAP	TON	640	8-16.3(2)	100%			
17	HEAVY LOOSE RIPRAP	TON	960	8-15.3(2)	100%			
18	QUARRY SPALLS	TON	80	8-15.3(6)	100%			
19	PERMEABLE BALLAST	TON	720	4-04.3(11)	100%			
STRUCTURES								
20	SHORING OR EXTRA EXCAVATION, CLASS A	LS	1	2-09.3(3)D	100%			
21	FURNISHING TIMBER PILE, TYPE P1 (18" DIA, 55' LONG)	EA	16	8-05.3	100%			
22	FURNISHING TIMBER PILE, TYPE P2 (18" DIA, 50' LONG)	EA	42	8-05.3	100%			
23	FURNISHING TIMBER PILE, TYPE P3 (18" DIA, 20' LONG)	EA	20	8-05.3	100%			
24	FURNISHING TIMBER PILE, TYPE P4 (12" DIA, 20' LONG)	EA	40	8-05.3	100%			
25	DRIVING TIMBER PILE, TYPE P1	EA	16	8-05.3	100%			
26	DRIVING TIMBER PILE, TYPE P2	EA	42	8-05.3	100%			
27	DRIVING TIMBER PILE, TYPE P3	EA	20	8-05.3	100%			
28	DRIVING TIMBER PILE, TYPE P4	EA	40	8-05.3	100%			
29	ELJ 1	LS	1	8-20	100%			
30	ELJ 2	LS	1	8-20	100%			
31	ELJ 3	LS	1	8-20	100%			
32	ELJ 4	LS	1	8-20	100%			
33	BRLS 1	LS	1	8-20	100%			
34	BRLS 2	LS	1	8-20	100%			
EROSION CONTROL AND ROADSIDE PLANTING								
36	ESC LEAD	DY	50	8-01.3(1)B	100%			
OTHER ITEMS								
38	PROJECT TEMPORARY TRAFFIC CONTROL	LS	1	1-10.3	100%			
37	STRUCTURE EXCAVATION CLASS B	CY	200	2-09.3(4)	100%			
38	STRUCTURE EXCAVATION CLASS B INCL. HAUL	CY	80	2-09.3(4)	100%			
39	CONTRACTOR SURVEYING	LS	1	1-05.4	100%			
40	TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) PLAN	LS	1	8-01.3(1)A	100%			
41	WATER MANAGEMENT PLAN (WMP)	LS	1	8-01.3(1)A	100%			
42	MINOR CHANGE	DOL	1	1-04.4(1)	100%			
43	SPILL PREVENTION, CONTROL AND COUNTERMEASURES (SPCC) PLAN	LS	1	1-07.15(1)	100%			

**CALL 2 WORKING DAYS
BEFORE YOU DIG
1-800-424-5555**
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Path: C:\projects\2016\16-04785-0700\CAD\DWG\2009-48_S123.dwg
 Plot Date: 2/28/2014 4:53 PM
 Cad User: Todd Prescott

FIELD BOOK: _____ SURVEYED: _____ SURVEY BASE MAP: _____ CHECKED: I. MOSTRENKO (HERRERA) 2/14/2014 PROJECT No. 10-04785-070 SURVEY No. _____	APPROVED: WILL MANSFIELD, P.E. 2-2014 PROJECT SUPERVISOR: DIANE CONCANNON 2-2014 PROJECT MANAGER: DAN EASTMAN 2-2014 DESIGNED: B. SCOTT, I. MOSTRENKO, P.E. 2-2014 DESIGN ENTERED: T. PRESCOTT 2-2014	1 QUANTITY UPDATE NUM. REVISION BY DATE	2/28/14 2/28/14
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King County
 Department of Natural Resources and Parks
 Water and Land Resources Division
 Rural and Regional Services Section
 Ecological Restoration and Engineering Services
 Christie Trus, Director

**UPPER CARLSON FLOODPLAIN
RESTORATION PROJECT**
SUMMARY OF QUANTITIES

SHEET
23
 OF
23
 SHEETS
2006-48