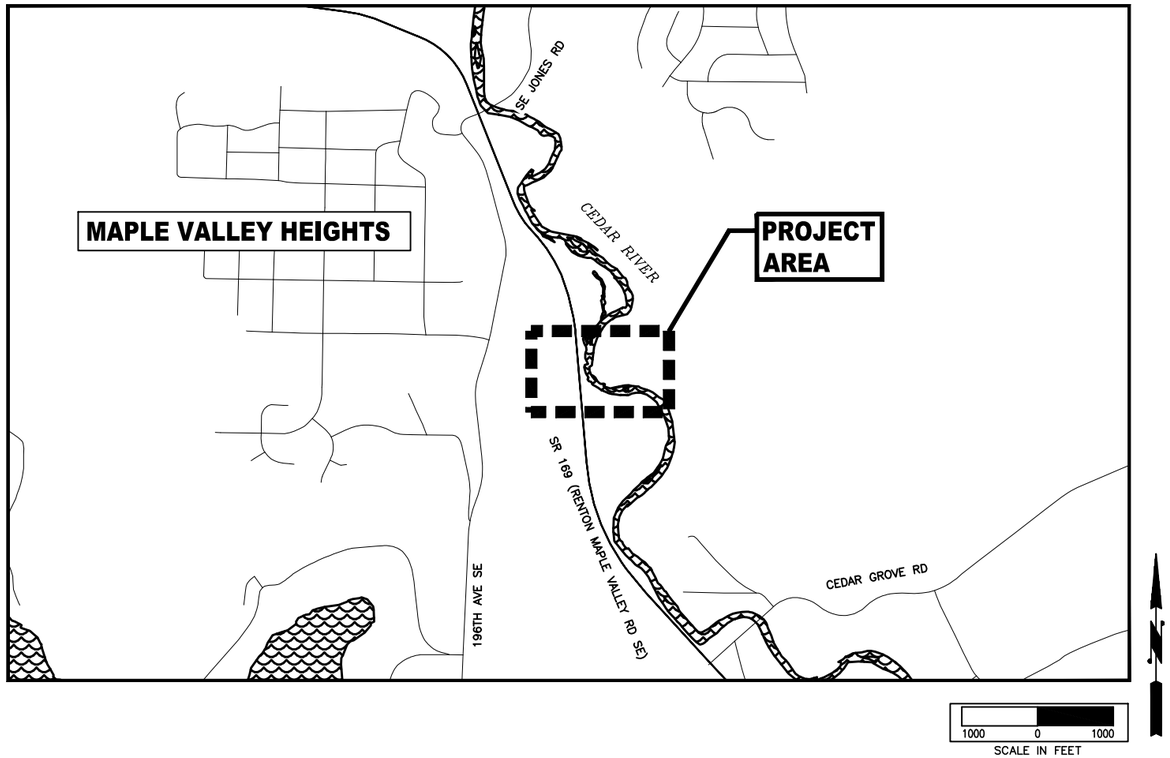
VICINITY MAP



BELMONDO LEVEE REPAIR

CEDAR RIVER RM 10.4

WRIA 8

LAT 47.448 LONG -122.074

OWNER CONTACT INFORMATION::

KING COUNTY RIVER AND FLOODPLAIN MANAGEMENT
KING STREET CENTER
201 S JACKSION ST SUITE 5600
SEATTLE, WA 98104–3855

PROJECT MANAGER: LINDA BARTOLINI VENEGAS
PHONE: (206) 263–9022
EMAIL: LBARTOLI@KINGCOUNTY.GOV

PROJECT ECOLOGIST: ALEX LINCOLN
PHONE: (206) 263–0989
EMAIL: ALINCOLN@KINGCOUNTY.GOV

PROJECT ENGINEER: MARK BEGGS, P.E.
PHONE: (206) 773–3702
EMAIL: MBEGGS@KINGCOUNTY.GOV

LEGAL AND SURVEY DESCRIPTION::

THE PROJECT LIMITS ARE WITHIN UNINCORPORATED KING COUNTY.

THIS PROJECT SITE IS WITHIN A PORTION OF THE SW, SECTION 29, T23N., R06E., W.M.

ZONED: RA–10

PARCEL: 292306–9021
LEGAL DESCRIPTION: C P S R/W ACROSS W 1/2 OF SEC

PARCEL: 292306–9035
LEGAL DESCRIPTION: POR GL 8 & 10 LY ELY OF C & P S R/W & NLY OF LN BEG AT PT ON ELY MGN C & P S R/W 550 FT N OF S LN OF GL 8 TH S 05–17–00 E 30 FT TH N 73–27–09 E 683 FT M/L TO RIVER W 20 FT FOR RD LESS C/M RGTS

SHEET INDEX

SHEET	DESCRIPTION
1	VICNITY MAP AND SHEET INDEX
2	LEGEND AND ABBREVIATIONS
3	ACCESS AND TRAFFIC CONTROL
4	EXISTING CONDITIONS AND SURVEY CONTROL
5	CLEARING–REMOVALS AND TESC
6	TESC DETAILS AND NOTES
7	PROPOSED DESIGN – PLAN VIEW
8	PROPOSED DESIGN – SECTION VIEW
9	PROPOSED DESIGN – SECTION VIEW 2
10	ENGINEERED LOG JAM – PLAN AND SECTION
11	ENGINEERED LOG JAM – SEQUENCE
12	ENGINEERED LOG JAM – DETAILS AND NOTES
13	PLANTING PLAN
14	PLANTING PLAN DETAILS

811 Know what's below. Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: DS/BM	05/2021
SURVEYED: DS/BM	05/2021
SURVEY BASE MAP: STH	05/2021
CHECKED: KLA	05/2021

NUM.	REVISION	BY	DATE
	30% DESIGN DRAFT 07/2022		

NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED: MARK RUEBEL, P.E.	07/2022
PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST: ALEX LINCOLN	07/2022
DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS–YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS–YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. ––

MARK W. RUEBEL STATE OF WASHINGTON 24267 REGISTERED PROFESSIONAL ENGINEER
MARK R. BEGGS STATE OF WASHINGTON 54258 REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

VICNITY MAP AND SHEET INDEX

NOT FOR CONSTRUCTION

SHEET **1** OF **14** SHEETS

GENERAL NOTES:

1. BEFORE BEGINNING CONSTRUCTION VERIFY THAT EXISTING SITE CONDITIONS ARE AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS. RIVER CHANNEL BANK TOPOGRAPHY WAS SURVEYED IN MAY 2021, AND WILL LIKELY HAVE CHANGED BY TIME OF CONSTRUCTION.
2. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREIN HAVE BEEN ESTABLISHED BY FIELD SURVEY OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE. INDEPENDENTLY VERIFY THE ACCURACY OF ALL UTILITY LOCATIONS SHOWN AND FURTHER DISCOVER AND AVOID ANY OTHER UTILITIES NOT SHOWN HEREON WHICH MAY BE AFFECTED BY THE IMPLEMENTATION OF THIS PLAN. IMMEDIATELY CONTACT THE PROJECT REPRESENTATIVE IF A UTILITY OR OTHER EXISTING CONDITION PRESENTS A CONFLICT OR OTHERWISE PREVENTS OR INTERFERES WITH COMPLETION OF THE WORK.
3. LOCATE AND PROTECT NEARBY EXISTING UTILITIES, STRUCTURES, PAVEMENTS, AND FACILITIES WHICH ARE NOT ABANDONED OR REMOVED DURING CONSTRUCTION.
4. TRAFFIC CONTROLS SHOWN ON SHEET 3 ARE THE MINIMUM REQUIRED AND SHALL BE AUGMENTED BY THE CONTRACTOR IN ACCORDANCE WITH CONTRACTOR'S TRAFFIC CONTROL PLAN (TCP). CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN PER MUTCD AND SPECIFICATIONS.
5. THE CONTRACTOR SHALL STAKE THE PROJECT CONSTRUCTION LIMITS FOR APPROVAL BY THE PROJECT REPRESENTATIVE AT LEAST 5 WORKING DAYS PRIOR TO COMMENCING ONSITE 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 PROJECT REPRESENTATIVE. THE CONTRACTOR SHALL PRESERVE AS MUCH EXISTING VEGETATION AS POSSIBLE AND NOT DAMAGE OR DISTURB VEGETATION MARKED BY THE PROJECT REPRESENTATIVE FOR PRESERVATION.
6. A COPY OF THE CONTRACT DRAWINGS, SPECIFICATIONS, AND ANY REQUIRED PERMITS MUST BE ON SITE AT ALL TIMES DURING CONSTRUCTION.
7. TREES AND BRUSH NOT SHOWN ON THE PLANS MAY BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, THE PROJECT REPRESENTATIVE SHALL IDENTIFY AND FLAG ALL TREES TO BE REMOVED PRIOR TO CONSTRUCTION IN THE PROJECT AREA.
8. PERFORM ALL CONSTRUCTION IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE, COUNTY, AND CITY PERMIT REQUIREMENTS.
9. ALL EQUIPMENT OPERATING IN AREAS OTHER THAN THE EXISTING ROAD AND GRAVEL SHOULDER SHALL USE ONLY BIODEGRADABLE VEGETABLE BASED HYDRAULIC FLUIDS OR APPROVED OTHER.

SOURCES OF INFORMATION:

LIDAR
KING COUNTY 2021

AERIAL IMAGERY
KING COUNTY 2021

ORDINARY HIGH WATER
KING COUNTY ECOLOGIST AUG 2021

TOPOGRAPHIC AND BATHYMETRIC SURVEY

PARAMETRIX
TOPOGRAPHIC SURVEY MAY 2021
BATHYMETRIC SURVEY MAY 2021

HORIZONTAL DATUM
THE HORIZONTAL DATUM FOR THIS SURVEY IS NAD 83/11 WASHINGTON STATE PLANE COORDINATE SYSTEM, NORTH ZONE BASED ON GPS FIELD SURVEY TO WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) MONUMENT DESIGNATIONS GP17169-353 AND IS17243. POINT DESIGNATION GP17169-353 NORTHING: 169,561.990 EASTING: 1,332,190.262 POINT DESIGNATION IS17243 NORTHING: 169,347.394 EASTING: 1,332,159.209

VERTICAL DATUM
THE VERTICAL DATUM FOR THIS SURVEY IS NAVD 88 BASED ON GPS FIELD SURVEY TO WSDOT MONUMENT DESIGNATION GP17169-353. ELEVATION = 225.872

EXISTING LINE TYPES:

- 425 — MAJOR 5' CONTOUR (EXISTING)
- 422 — MINOR 1' CONTOUR (EXISTING)
- PROPERTY LINES
- R/W — RIGHT-OF-WAY
- EDGE OF ASPHALT/ PAVEMENT
- EDGE OF WATER (DATE)
- ORDINARY HIGH WATER
- EXISTING RIP-RAP
- PAINTED ROAD LINES
- EDGE OF VEGETATED AREA
- SURVEY LIMIT LINE
- LOW WATER LINE
- DAMAGED AREA
- 100 YR FIS EL.
- EXISTING GROUND
- TEMPORARY PUMP/BYPASS LINE
- WETLAND BOUNDARY
- INTERSTATE FIBER OPTIC LINE

DESIGN LINETYPES:

- 10 — MAJOR 5' CONTOUR
- 12 — MINOR 1' CONTOUR
- CLEAR AND GRUB LINE
- TURBIDITY CURTAIN
- BULK BAG COFFER DAM
- BYPASS
- STRAW WATTLE
- PROJECT LIMITS
- SILT FENCE
- BULK BAG ISOLATION

DRAWING REFERENCE:

1 / 5 — DETAIL REFERENCE NUMBER; DRAWING(S) ON WHICH DETAIL IS SHOWN

A / 5 — SECTION REFERENCE LETTER; DRAWING(S) ON WHICH SECTION IS SHOWN

SECTION/DETAIL A / 5 — SECTION/DETAIL REFERENCE LETTER; DRAWING(S) FROM WHICH SECTION/DETAIL WAS TAKEN
SCALE: 1"=XX'

LEGEND:

- POWER POLE WITH ANCHOR
- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- CP #10006 — SURVEY CONTROL POINT
- STABILIZED CONSTRUCTION ENTRANCE
- CORRUGATED STEEL PLATE CONSTRUCTION ENTRANCE
- STAGING/STOCKPILE AREA
- REMOVE EXISTING TREE
- COIR BLANKET
- COIR LIFTS
- SLASH AND RACKING
- EXISTING REVETMENT
- SELECT FILL
- FILTER LAYER
- CLASS C ROCK
- EXISTING BANK MATERIAL
- NATIVE PLANTINGS
- SIGNAGE
- ACCESS
- 1 — TREE REMOVAL NUMBER
- SB-X — 2010 BORING LOCATION
- WATER INFILTRATION AREA
- XXXX — PARCEL NUMBER (2923069-XXXX)

ABBREVIATIONS:

APPROX	APPROXIMATELY
COMP	COMPACTED
CP	CONTROL POINT
CSBC	CRUSHED SURFACING BASE COURSE
DBH	DIAMETER AT BREAST HEIGHT
DIA	DIAMETER
EL	ELEVATION
ELJ	ENGINEERED LOG JAM
EXIST	EXISTING
FIS	FLOOD INSURANCE STUDY
FT	FEET/FOOT
IE	INVERT ELEVATION
KC	KING COUNTY
KC WLRD	KING COUNTY WATER AND LAND RESOURCES DIVISION
MAX	MAXIMUM
MIN	MINIMUM
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
NTS	NOT TO SCALE
OHW	ORDINARY HIGH WATER
PMX	PARAMETRIX
QTY	QUANTITY
RCKC	REBAR AND CAP, KING COUNTY
RD	ROAD
R/W	RIGHT-OF-WAY
SE	SOUTHEAST
SF	SQUARE FEET/FOOT
SPECS	SPECIFICATIONS
SQ	SQUARE
ST	STREET
STA	STATION
TCP	TRAFFIC CONTROL PLAN
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TEMP	TEMPORARY
TYP	TYPICAL
YR	YEAR
&	AND

811 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST: ALEX LINCOLN	07/2022
DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS-YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. --

MARK W. RUEBEL, STATE OF WASHINGTON, 44267, REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS, STATE OF WASHINGTON, 54238, REGISTERED PROFESSIONAL ENGINEER — DRAFT

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

LEGEND AND ABBREVIATIONS
NOT FOR CONSTRUCTION

SHEET **2** OF **14** SHEETS

CONSTRUCTION SEQUENCE NOTES:

1. SCHEDULE AND ATTEND PRE–CONSTRUCTION MEETING AND NOTIFY PERMIT AUTHORITIES BEFORE STARTING CONSTRUCTION.
2. IMPLEMENT THE TRAFFIC CONTROL PLAN. SEE THIS SHEET.
3. IMPLEMENT THE TESC AND WATER MANAGEMENT PLAN. SEE SHEET 5.
4. PROTECT TRAIL DURING CONSTRUCTION AND REPAIR TO PRE–PROJECT CONDITIONS IF DAMAGED.
5. REMOVE (GRUB) INVASIVE VEGETATION AND DISPOSE.
6. REMOVE AND SALVAGE RIPRAP FROM LEVEE FACE.
7. COMPLETE LEVEE FACE ROCK REPAIR.
8. COMPLETE ELJ REPAIRS.
9. COMPLETE WETLAND ENHANCEMENT ELEMENTS.
10. FINISH UPPER BANK INSTALLATION OF COIR LIFTS AND NATIVE PLANTINGS.
11. REASSEMBLE, REPAIR OR RESTORE TRAIL TO PRE–PROJECT CONDITIONS.
12. RESTORE PUBLIC ACCESS TO TRAIL AFTER FINAL WALK THROUGH WITH PROJECT REPRESENTATIVE.
13. FOLLOWING CONSTRUCTION, REMOVE HIGH VISIBILITY FENCE AND REMOVE TESC FEATURES.
14. COMPLETE PLANTING PLAN PER SHEET 13.

40 0 40 80 120
SCALE IN FEET

ACCESS AND TRAFFIC CONTROL NOTES:

1. HEAVY TRUCK AND EQUIPMENT ACCESS AND EGRESS TO SITE IS ONLY VIA SR 169 (RENTON MAPLE VALLEY RD SE).
2. SECURE SITE EACH EVENING AND ON WEEKENDS WITH HIGH VISIBILITY FENCE OR EQUIVALENT.
3. OPEN TRAIL ON WEEKENDS AND HOLIDAYS.
4. PROTECT TRAIL WITH ROAD PLATES OR ADDITIONAL MEASURES.
5. TEMPORARY STAGING AREA SHALL BE FLAGGED BY THE CONTRACTOR AND APPROVED BY PROJECT REPRESENTATIVE PRIOR TO ANY CLEARING OR USE.
6. STREET SWEEP OR POWER BROOM ANY TRACK OUT ON CEDAR RIVER TRAIL AND MAPLE VALLEY RD SE IMMEDIATELY OR AS DIRECTED BY THE PROJECT REPRESENTATIVE.
7. TRAFFIC CONTROL SIGNAGE SIZE AND PLACEMENT SHALL BE INSTALLED IN COMPLIANCE WITH MUTCD ADOPTED BY WAC 468–95, IT'S MODIFICATIONS AND WSDOT SIGN FABRICATION MANUAL.
8. CONTRACTOR SHALL NOTIFY WSDOT TEN DAYS PRIOR TO SIGN INSTALLATION.
9. AFTER CONSTRUCTION REPAIR TRAIL TO PREPROJECT CONDITIONS OR BETTER.

811 Know what's below. Call before you dig.
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DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS–YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS–YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. ––

MARK W. RUEBEL STATE OF WASHINGTON 44267 REGISTERED PROFESSIONAL ENGINEER
CONSTRUCTION

MARK R. BEGGS STATE OF WASHINGTON 43355 REGISTERED PROFESSIONAL ENGINEER
DESIGN

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

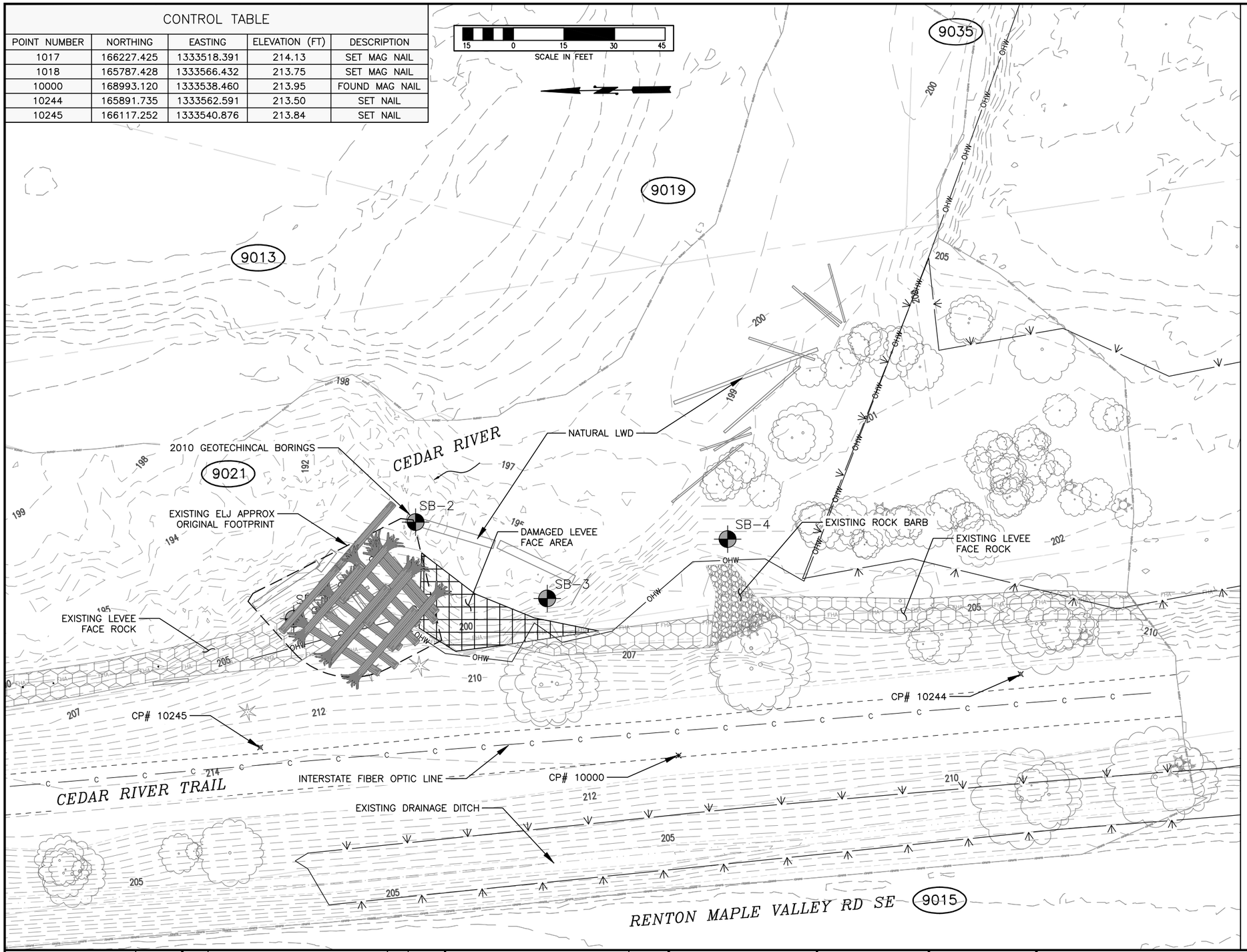
ACCESS AND TRAFFIC CONTROL

NOT FOR CONSTRUCTION

SHEET **3** OF **14** SHEETS

CONTROL TABLE

POINT NUMBER	NORTHING	EASTING	ELEVATION (FT)	DESCRIPTION
1017	166227.425	1333518.391	214.13	SET MAG NAIL
1018	165787.428	1333566.432	213.75	SET MAG NAIL
10000	168993.120	1333538.460	213.95	FOUND MAG NAIL
10244	165891.735	1333562.591	213.50	SET NAIL
10245	166117.252	1333540.876	213.84	SET NAIL



EXISTING CONDITIONS AND SURVEY CONTROL NOTES:

1. PROPERTY LINES AND RIGHT OF WAY ARE DERIVED FROM KING COUNTY ASSESSORS MAP AND ARE APPROXIMATE.
2. EXTENTS OF EXISTING RIPRAP AND DAMAGE LOCATIONS ARE APPROXIMATE AND TO BE VERIFIED AT TIME OF CONSTRUCTION.
3. RIVER BANK CONTOURS SHOWN REPRESENT CONDITIONS AT THE TIME OF SURVEY.
4. ORDINARY HIGH WATER LINE REFLECTS GRADES AT TIME OF DELINEATION

811 Know what's below. Call before you dig.
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PROJECT MANAGER:	LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST:	ALEX LINCOLN	07/2022
DESIGNER:	MARK BEGGS, P.E.	07/2022
	DARIAN KIS-YOUNG, E.I.T.	07/2022
CAD DESIGN:	DARIAN KIS-YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. --

MARK W. RUEBEL, STATE OF WASHINGTON, 44267, REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS, STATE OF WASHINGTON, 54258, REGISTERED PROFESSIONAL ENGINEER — DESIGN

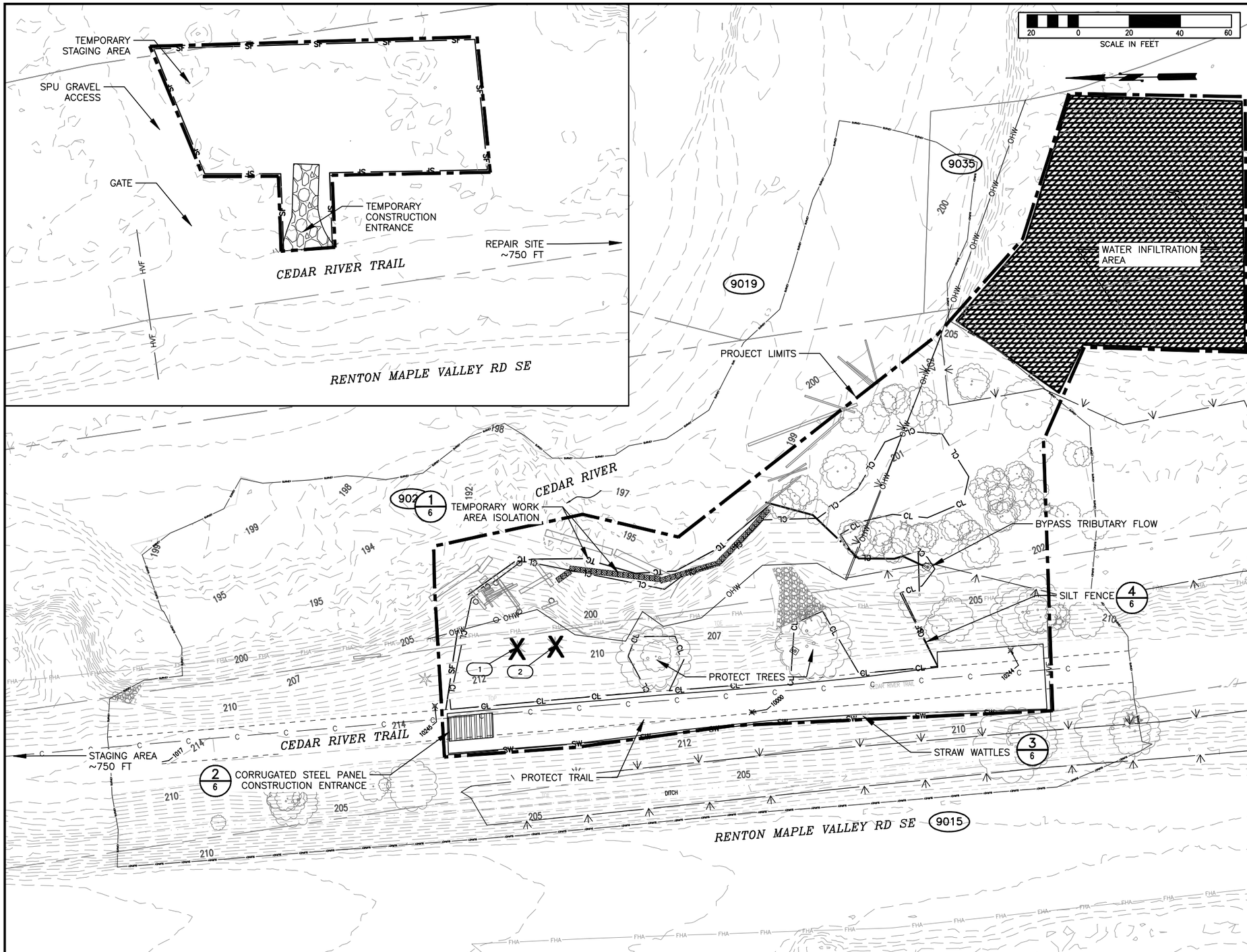
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

EXISTING CONDITIONS AND SURVEY CONTROL

NOT FOR CONSTRUCTION

SHEET **4** OF **14** SHEETS



CLEARING-REMOVAL NOTES:

1. PROTECT ALL TREES FLAGGED NOT FLAGGED FOR REMOVAL.
2. WHEN POSSIBLE, NATIVE VEGETATION SHALL BE LEFT IN PLACE AND CARE SHALL BE TAKEN TO MINIMIZE DAMAGE
3. TREES REMOVED SHALL BE STOCKPILED AND PLACED IN THE PROJECT AREA AT THE DIRECTION OF THE PROJECT REPRESENTATIVE.

TEMPORARY EROSION AND SEDIMENT CONTROL (TESC) NOTES:

1. WORK SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE PERMITS.
2. THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE ON–SITE OR READILY ACCESSIBLE DURING ALL CONSTRUCTION ACTIVITIES: QUARRY SPALLS FOR EQUIPMENT ACCESS, STRAW WATTLES, PLASTIC SHEETING, TURBIDITY CURTAIN, HOG FUEL.
3. TEMPORARY CONSTRUCTION ENTRANCES SHALL BE INSTALLED AND MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
4. LAY HOG FUEL FOR ACCESS ROUTES AS DIRECTED BY THE PROJECT REPRESENTATIVE.
5. STRAW WATTLE SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION.
6. INSTALL TEMPORARY WORK AREA ISOLATION PRIOR TO ANY GRADING ACTIVITIES.
7. THE TESC MEASURES MUST BE INSTALLED AND MAINTAINED IN CONJUNCTION WITH ALL CONSTRUCTION ACTIVITIES IN SUCH A MANNER TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE RIVER OR VIOLATE APPLICABLE WATER QUALITY STANDARDS.
8. PROVIDE AND MAINTAIN A SPILL CLEANUP KIT FOR FUEL AND HYDRAULIC OIL SPILLS.
9. ANY AREA OF EXPOSED SOILS THAT WILL NOT BE DISTURBED FOR TWO DAYS DURING THE WET SEASON OR SEVEN DAYS DURING THE DRY SEASON SHALL BE IMMEDIATELY STABILIZED WITH APPROVED TESC COVER METHODS.
10. ALL EQUIPMENT WORKING BELOW OHW SHALL BE EQUIPPED WITH EXCLUSIVELY BIODEGRADABLE HYDRAULIC FLUIDS.

TREES TO BE REMOVED

TREE NUMBER	SPECIES	DBH
1	CONIFER	0'–4"
2	CONIFER	0'–4"

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MARK W. RUEBEL STATE OF WASHINGTON 44267 REGISTERED PROFESSIONAL ENGINEER
CONSTRUCTION

MARK R. BEGGS STATE OF WASHINGTON 44268 REGISTERED PROFESSIONAL ENGINEER
DRAFT

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

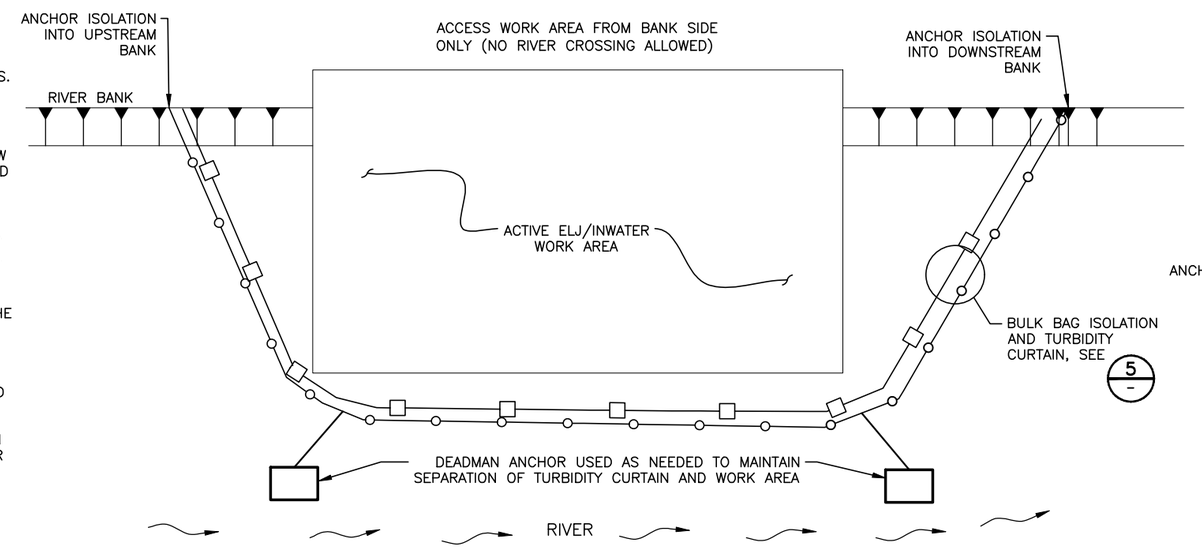
CLEARING-REMOVALS AND TESC

NOT FOR CONSTRUCTION

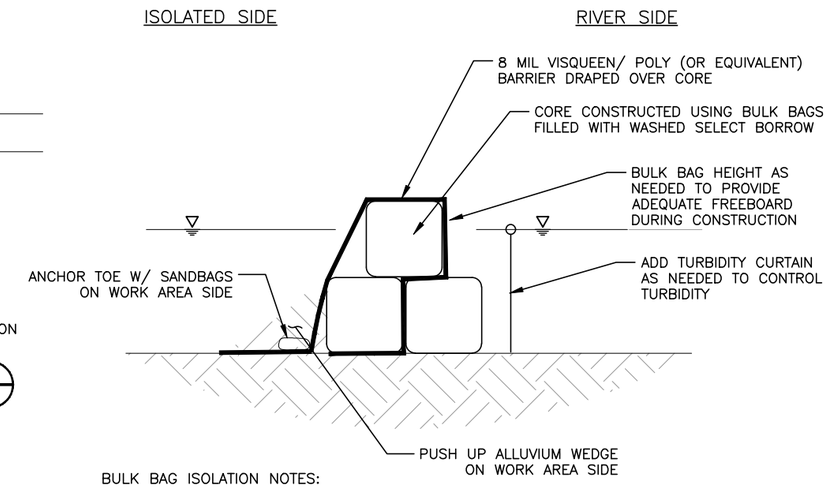
SHEET **5** OF **14** SHEETS

TEMPORARY WORK AREA ISOLATION NOTES:

1. CONTRACTOR SHALL COORDINATE WITH PROJECT REPRESENTATIVE FOR FISH EXCLUSION ACTIVITIES. TIME SHALL BE ALLOTTED IN CONSTRUCTION SCHEDULE FOR THIS ACTIVITY PER SPECIFICATIONS. CONSTRUCTION WITHIN THE ISOLATED WORK AREA MAY NOT COMMENCE UNTIL THE OWNER HAS COMPLETED ALL FISH EXCLUSION ACTIVITIES.
2. CONTRACTOR SHALL CONSTRUCT TEMPORARY FLOW DIVERSION MEASURES STARTING AT UPSTREAM END OF WORK AREA TO DIRECT WATER AWAY FROM WORK AREA.
3. THE IMPLEMENTATION OF TEMPORARY WORK AREA ISOLATION PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF WATER MANAGEMENT FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED. ANY DAMAGE TO THE WORK RESULTING FROM FAILURE OF INADEQUACY OF THE WORK AREA ISOLATION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL NOT BE ENTITLED TO ANY ADDITIONAL PAYMENT FOR THE COSTS ASSOCIATED WITH FAILURE OF THE ISOLATION SYSTEM.
4. THE WORK AREA ISOLATION FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS, DURING THE CONSTRUCTION PERIOD THESE WORK AREA ISOLATION FACILITIES SHALL BE UPGRADED AS NEEDED FOR CHANGING SITE CONDITIONS.
5. CONTRACTOR SHALL DESIGN ALL REQUIRED SHORING AND ALL FLOW AND WATER EXCLUSION STRUCTURES AND SYSTEMS. SURCHARGES SHALL BE DETERMINED BY THE CONTRACTOR ON THE BASIS OF CONSTRUCTION EQUIPMENT, CONSTRUCTION TRAFFIC, EQUIPMENT STORAGE, SPOILS HANDLING, WORK SEQUENCE AND OTHER FACTORS.
6. ALL TEMPORARY SHORING SYSTEMS SHALL BE DESIGN BY A LICENSED PROFESSIONAL ENGINEER.



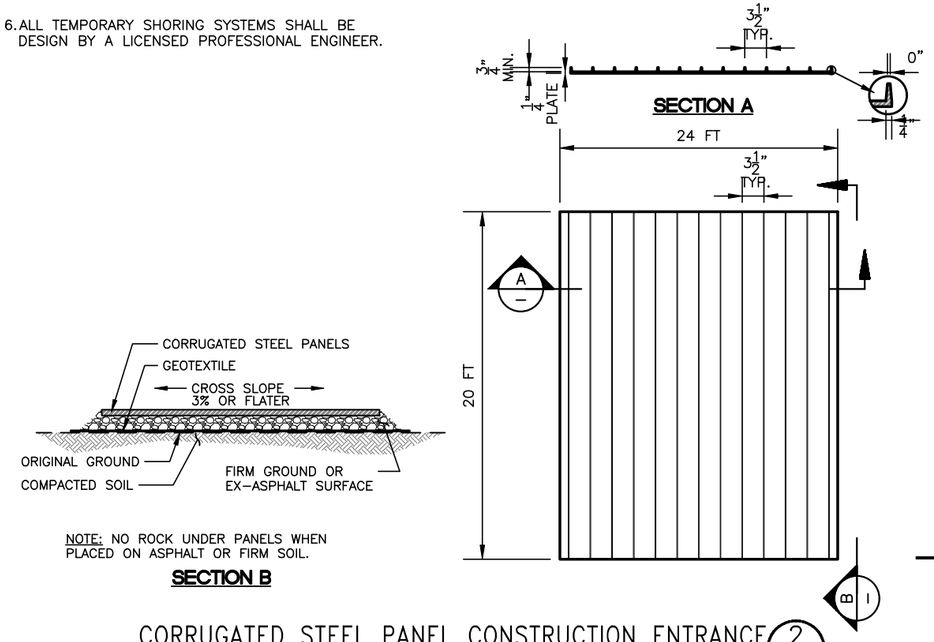
TEMPORARY WORK AREA ISOLATION SCHEMATIC 1/5
NTS



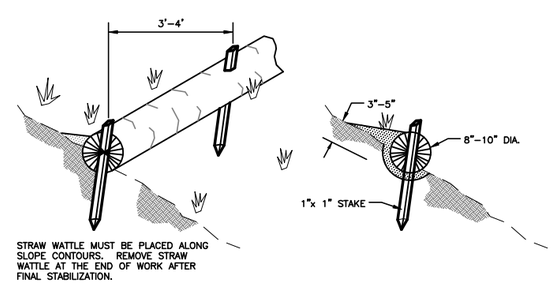
BULK BAG ISOLATION NOTES:

1. ALTERNATIVE DESIGN MAY BE PROPOSED BY CONTRACTOR FOR APPROVAL BY PROJECT REPRESENTATIVE.

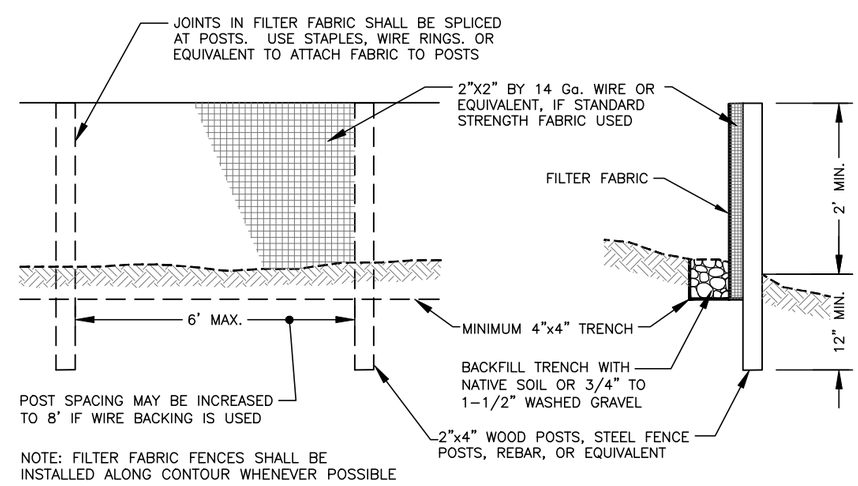
BULK BAG ISOLATION DETAIL 5/–
NOT TO SCALE



CORRUGATED STEEL PANEL CONSTRUCTION ENTRANCE 2/5
NTS



STRAW WATTLES 3/5
NTS



NOTE: FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE

SILT FENCE DETAIL 4/5
NTS

811 Know what's below. Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: DS/BM	05/2021	NUM.	REVISION	BY	DATE	APPROVED: MARK RUEBEL, P.E.	07/2022	
SURVEYED: DS/BM	05/2021		30% DESIGN DRAFT 07/2022			PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022	
SURVEY BASE MAP: STH	05/2021					ECOLOGIST: ALEX LINCOLN	07/2022	PROJECT No. 1139129
CHECKED: KLA	05/2021					DESIGNER: MARK BEGGS, P.E.	07/2022	CONTRACT No. --
		NUM.	RECORD CHANGES APPROVED	BY	DATE	DARIAN KIS-YOUNG, E.I.T.	07/2022	
						CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022	

MARK W. RUEBEL STATE OF WASHINGTON 24267 REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS STATE OF WASHINGTON 54258 REGISTERED PROFESSIONAL ENGINEER — DRAFT

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

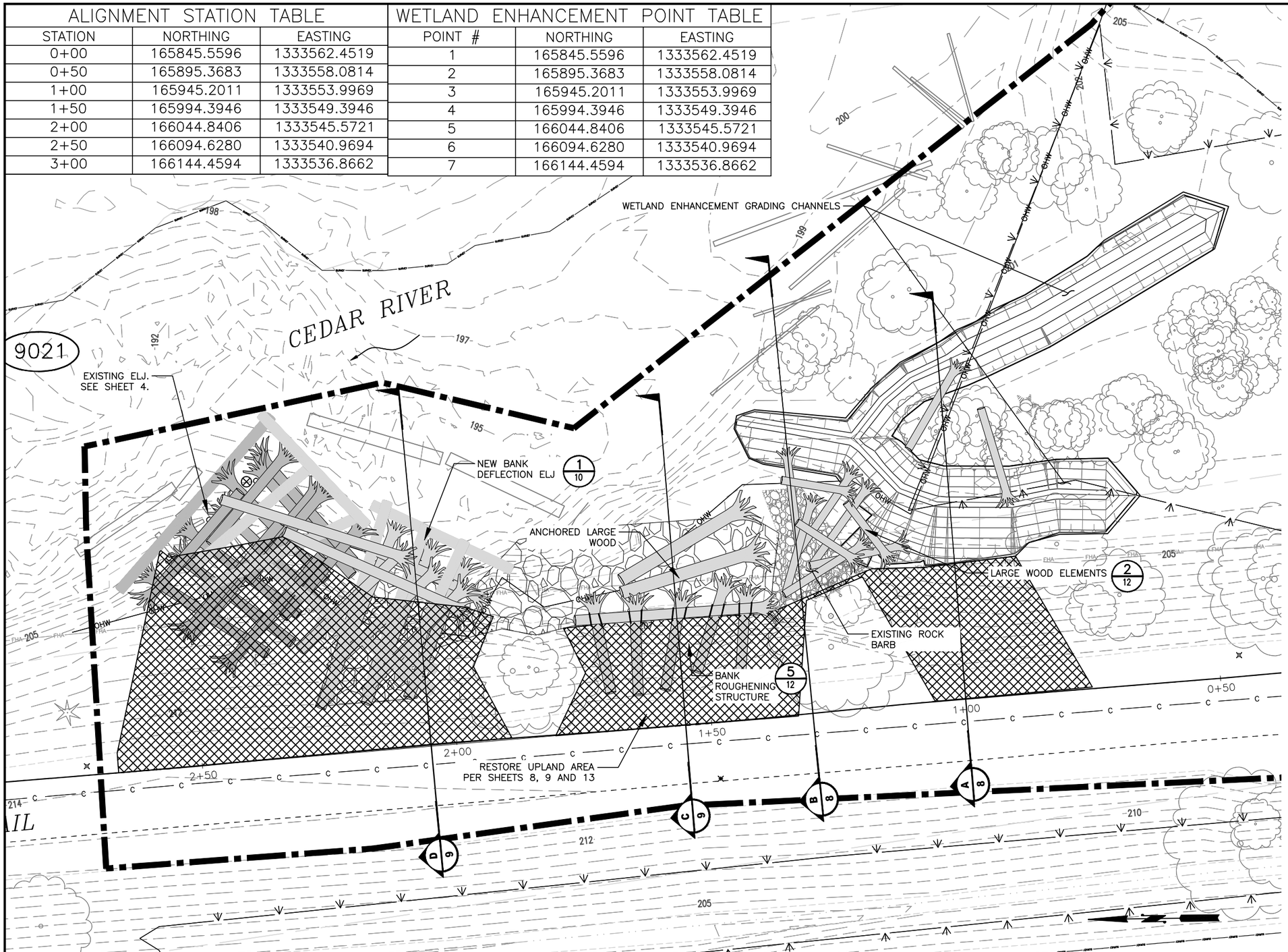
BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

TESC DETAILS AND NOTES
NOT FOR CONSTRUCTION

SHEET **6** OF **14** SHEETS

ALIGNMENT STATION TABLE		
STATION	NORTHING	EASTING
0+00	165845.5596	1333562.4519
0+50	165895.3683	1333558.0814
1+00	165945.2011	1333553.9969
1+50	165994.3946	1333549.3946
2+00	166044.8406	1333545.5721
2+50	166094.6280	1333540.9694
3+00	166144.4594	1333536.8662

WETLAND ENHANCEMENT POINT TABLE		
POINT #	NORTHING	EASTING
1	165845.5596	1333562.4519
2	165895.3683	1333558.0814
3	165945.2011	1333553.9969
4	165994.3946	1333549.3946
5	166044.8406	1333545.5721
6	166094.6280	1333540.9694
7	166144.4594	1333536.8662



GENERAL CONSTRUCTION NOTES:

1. NO DRIVE MECHANISMS OF EQUIPMENT SHALL ENTER THE WATER.
2. ALL GAS AND OIL CONTAINERS FOR SMALL EQUIPMENT WILL BE STORED SECURELY IN UTILITY VEHICLES.
3. ALL FILL IS TO BE PLACED WITHIN PRE-DAMAGE FACILITY FOOTPRINT, WITHIN PRE-DAMAGE FACILITY SLOPE AS SHOWN.
4. DUE TO KING COUNTY NOISE ORDINANCE, CONSTRUCTION ACTIVITIES MAY ONLY OCCUR BETWEEN 7:00 AM AND 7:00 PM MONDAY – SATURDAY. SUNDAYS, CONSTRUCTION ACTIVITIES MAY ONLY OCCUR BETWEEN 9:00 AM AND 7:00 PM.

10 0 10 20 30
SCALE IN FEET

811 Know what's below. Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

		NUM.	REVISION	BY	DATE
FIELD BOOK: DS/BM	05/2021		30% DESIGN DRAFT 07/2022		
SURVEYED: DS/BM	05/2021				
SURVEY BASE MAP: STH	05/2021				
CHECKED: KLA	05/2021				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED: MARK RUEBEL, P.E.	07/2022
PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST: ALEX LINCOLN	07/2022
DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS-YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. --

MARK W. RUEBEL STATE OF WASHINGTON 44267 REGISTERED PROFESSIONAL ENGINEER
CONSTRUCTION

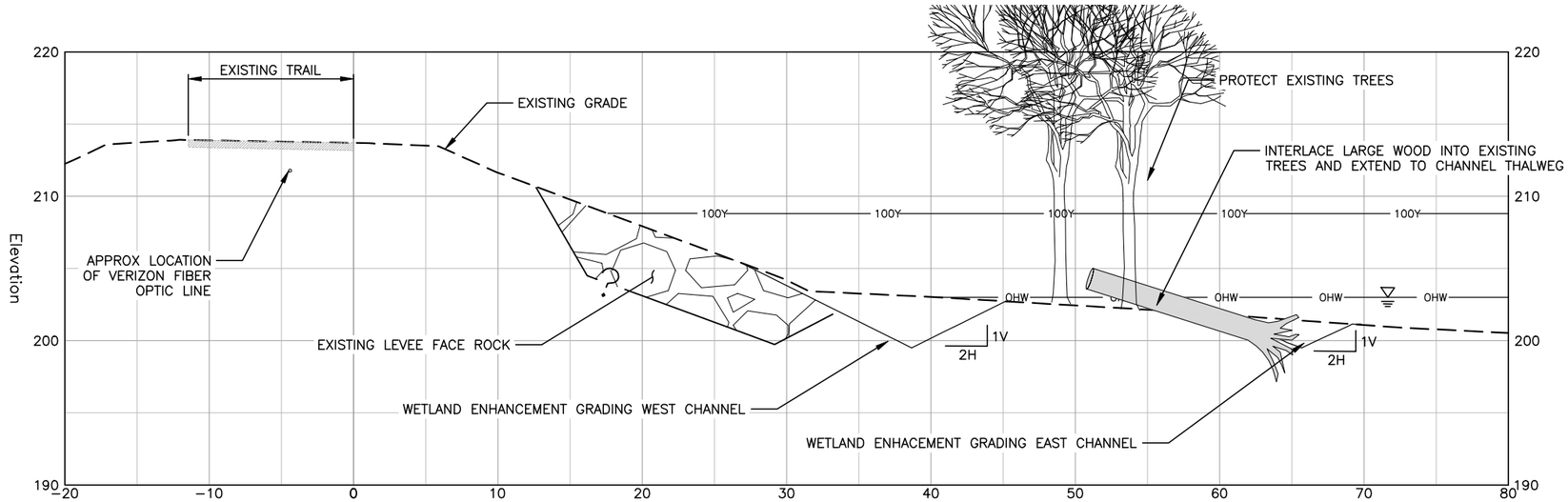
MARK R. BEGGS STATE OF WASHINGTON 54238 REGISTERED PROFESSIONAL ENGINEER
DRAFT

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

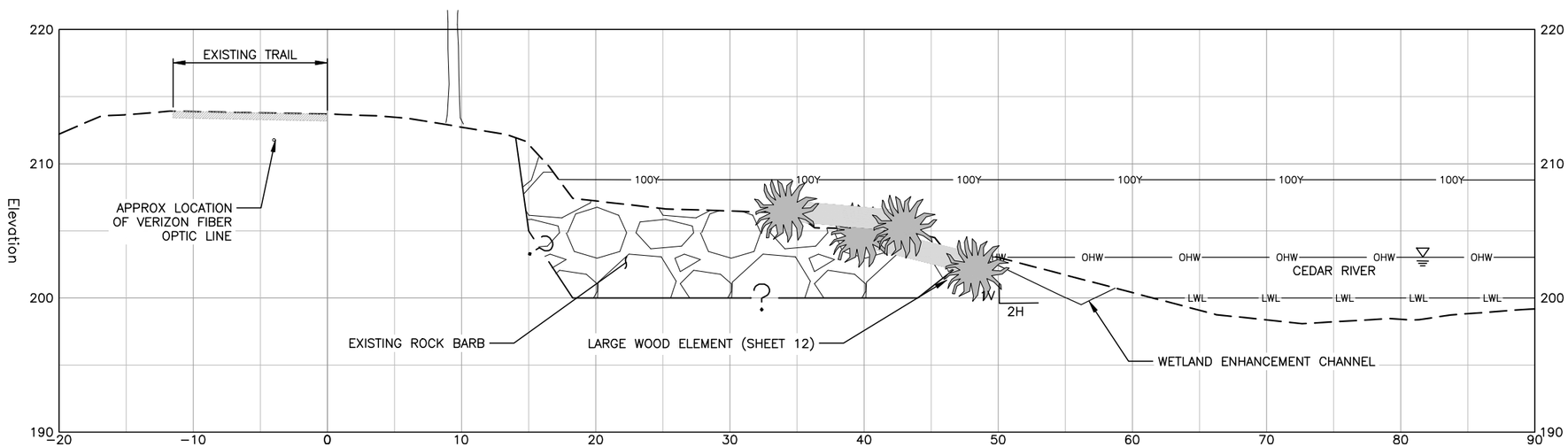
PROPOSED DESIGN - PLAN VIEW
NOT FOR CONSTRUCTION

SHEET **7** OF **14** SHEETS



SECTION 1+00 WETLAND ENHANCEMENT (A / 7)

1:5



SECTION 1+30 ROCK BARB (B / 7)

1:5

100 YR EL = 208.8
OHW EL = 203

CONSTRUCTION NOTES:

1. FIELD VERIFY LOCATION OF VERIZON FIBER OPTIC LINE IF EXCAVATION WITHIN 4 FEET.
2. PLACEMENT OF LARGE WOOD ELEMENTS MAY REQUIRE ADJUSTMENT OF EXISTING ROCK BARB

Know what's below.
Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: DS/BM	05/2021
SURVEYED: DS/BM	05/2021
SURVEY BASE MAP: STH	05/2021
CHECKED: KLA	05/2021

NUM.	REVISION	BY	DATE
	30% DESIGN DRAFT 07/2022		

NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED: MARK RUEBEL, P.E.	07/2022
PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST: ALEX LINCOLN	07/2022
DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS-YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. --

MARK W. RUEBEL, STATE OF WASHINGTON, 44267, REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS, STATE OF WASHINGTON, 54236, REGISTERED PROFESSIONAL ENGINEER — DESIGN

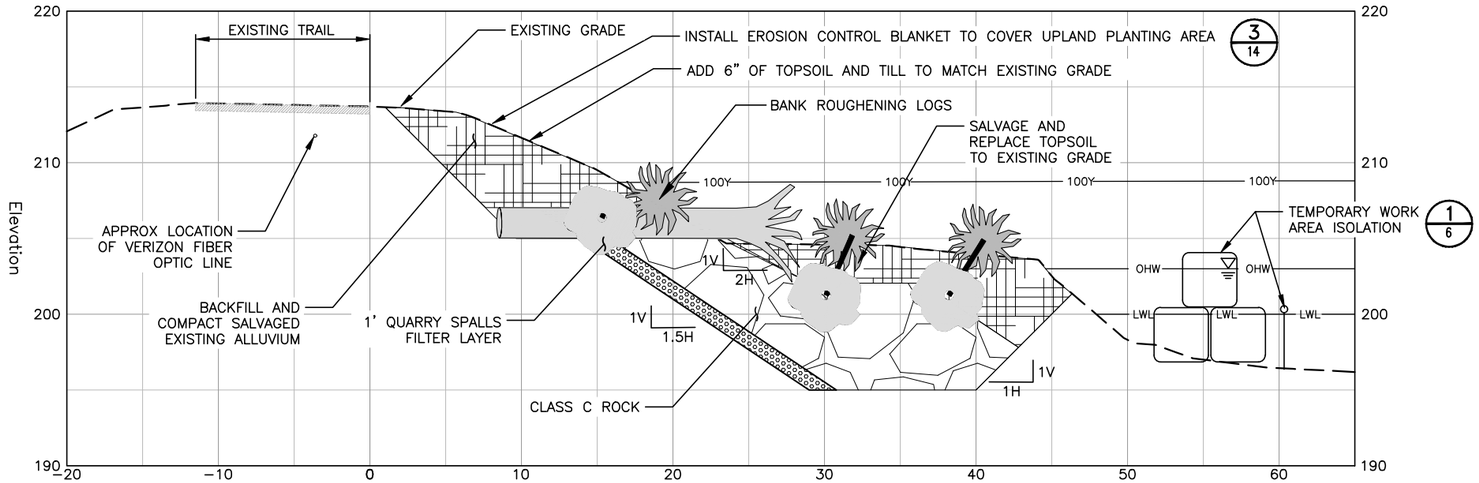
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

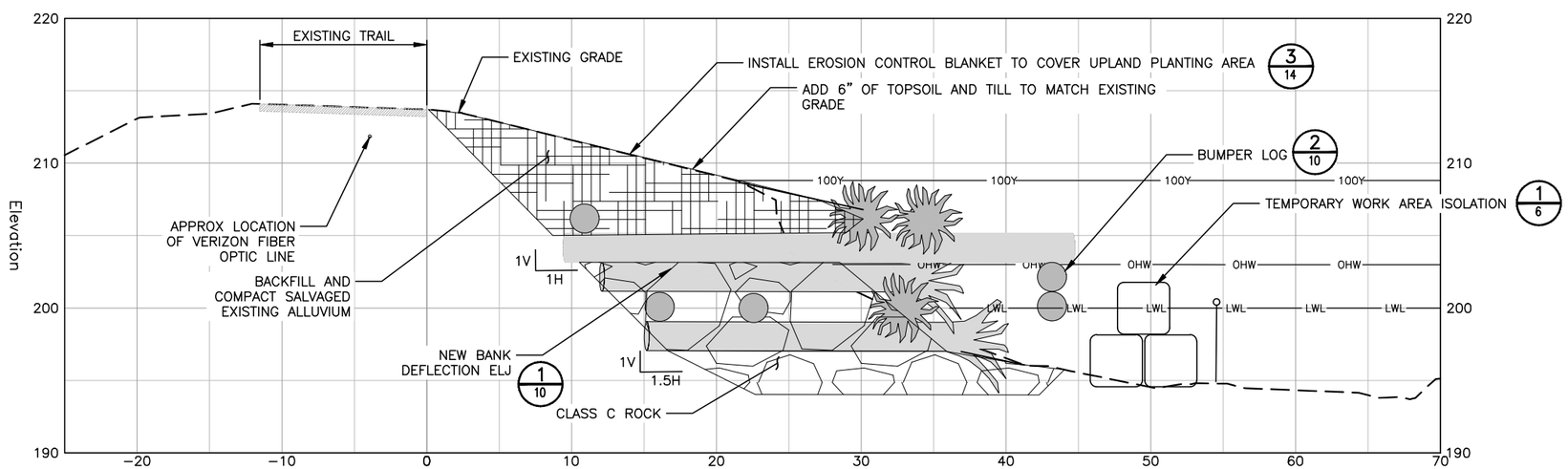
PROPOSED DESIGN - SECTION VIEW

NOT FOR CONSTRUCTION

SHEET **8** OF **14** SHEETS



TYPICAL LEVEE FACE SECTION 1+55 (C / 7)



SECTION 2+05 ELJ (D / 7)

100 YR EL = 208.8
OHW EL = 203

Know what's below.
Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEYED: DS/BM	05/2021		30% DESIGN DRAFT 07/2022		
SURVEY BASE MAP: STH	05/2021				
CHECKED: KLA	05/2021	NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED: MARK RUEBEL, P.E.	07/2022
PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST: ALEX LINCOLN	07/2022
DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS-YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. --

MARK W. RUEBEL, STATE OF WASHINGTON, 44267, REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BRIGGS, STATE OF WASHINGTON, 51238, REGISTERED PROFESSIONAL ENGINEER — DRAFT

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

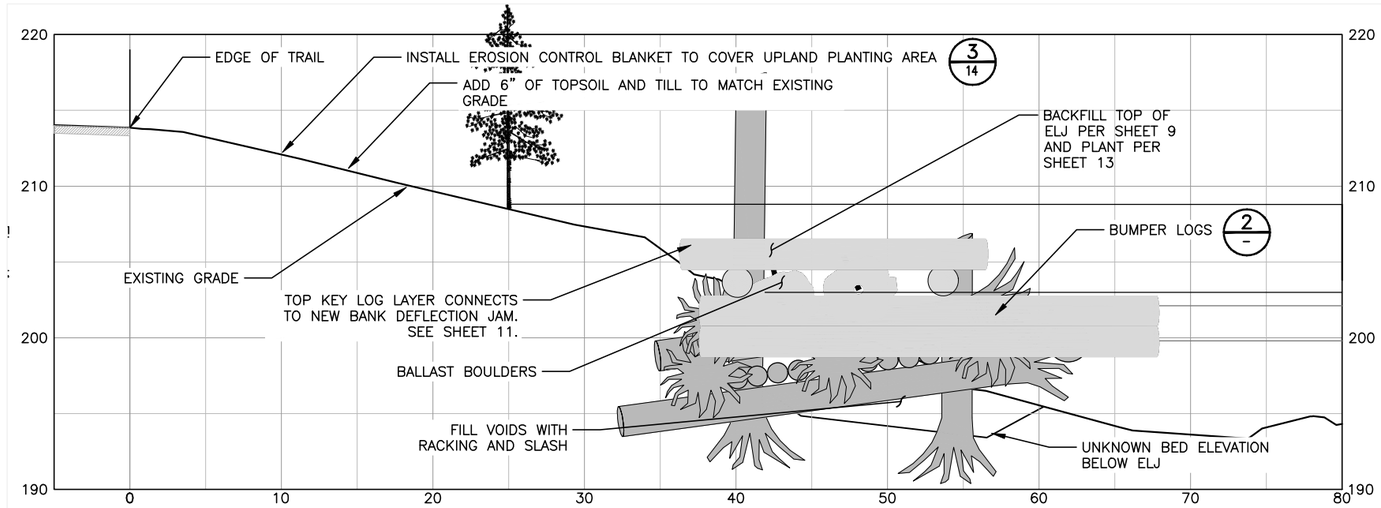
BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

PROPOSED DESIGN - SECTION VIEW 2
NOT FOR CONSTRUCTION

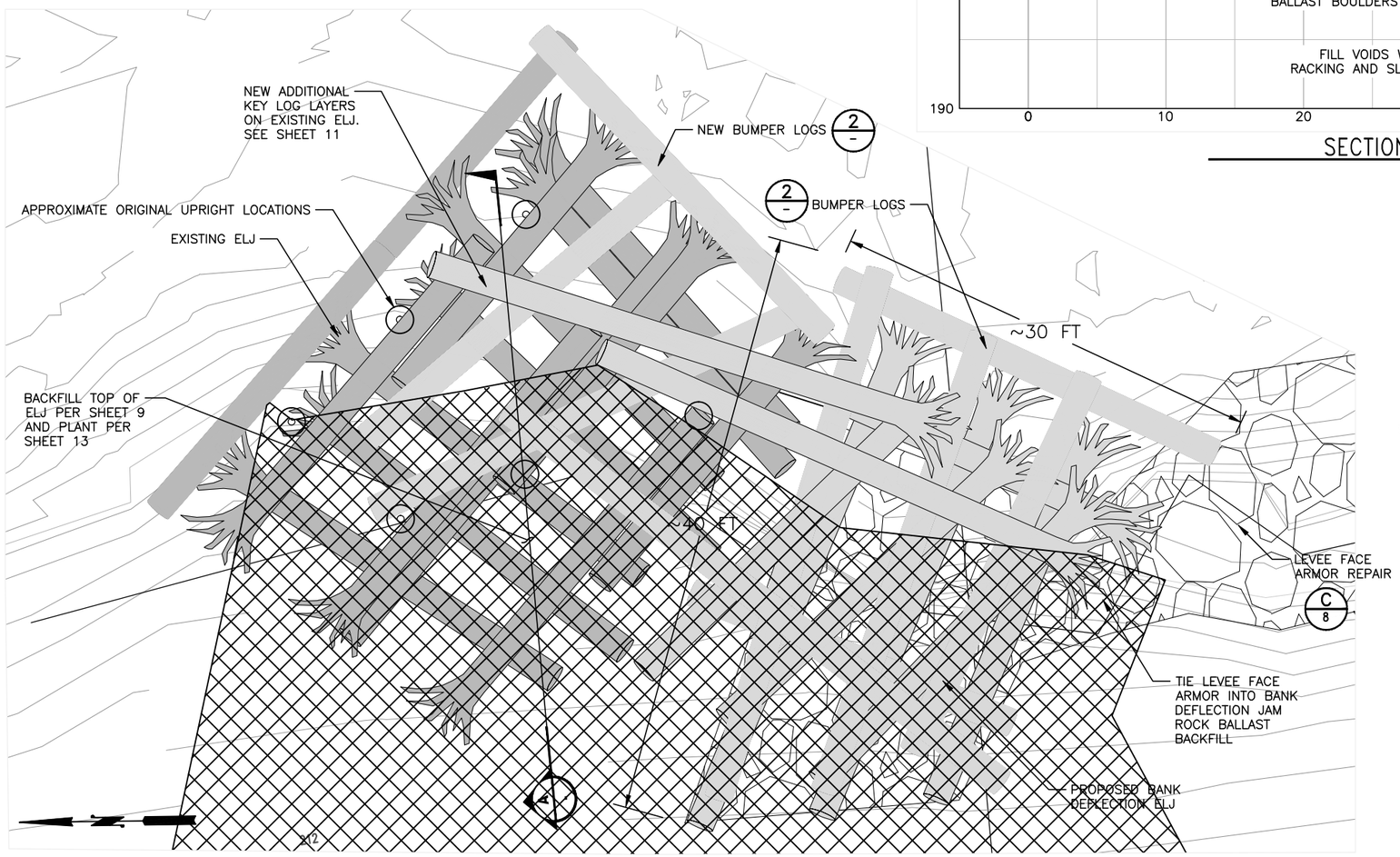
SHEET **9** OF **14** SHEETS

EXISTING ELJ NOTES:

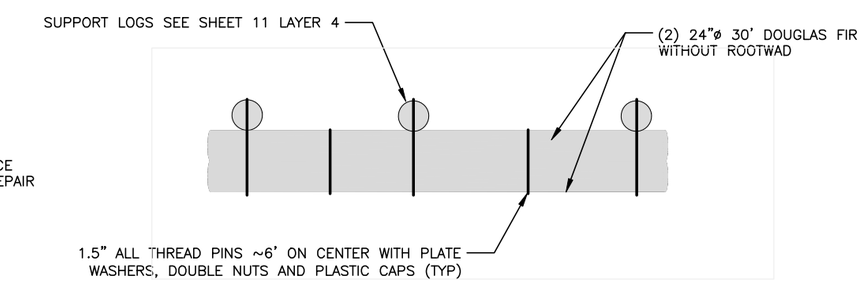
1. STRUCTURE LOCATION AND ORIENTATION SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO WORK ASSOCIATED WITH THE EXISTING ELJ STARTED. EXISTING GRADES AROUND AND UNDERNEATH ELJ TO BE FIELD VERIFIED BY CONTRACTOR PRIOR TO TEMPORARY WATER ISOLATION SYSTEM INSTALLATION.
2. CLEAR AND GRUB AND ACCESS PRIOR TO ELJ INSTALLATION. ADJUST TEMPORARY WATER ISOLATION SYSTEM AS NECESSARY TO ENSURE WATER QUALITY REQUIREMENTS ARE MET.
3. PRIOR TO PLACING ANY ROCK OR LOGS, THE CONTRACTOR SHALL OBTAIN INSPECTION APPROVAL FROM THE PROJECT REPRESENTATIVE VERIFYING EXTENTS OF THE EXISTING ELJ. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE PROJECT REPRESENTATIVE FOR THE INSPECTION. THE CONTRACTOR SHALL ALLOW 2 WORKING DAYS FOR THE INSPECTION TO TAKE PLACE.
4. NATURAL LOG MATERIALS THAT HAVE RACKED ONTO THE STRUCTURE MAY BE SALVAGED AND REPLACED INTO THE ELJ WITH APPROVAL FROM THE PROJECT REPRESENTATIVE.
5. FILL VOIDS IN ELJ WITH RACKING LOGS AND SLASH BEFORE INSTALLING KEY LOG LAYERS. ADDITIONAL RACKING LOGS AND SLASH SHALL BE PLACED TO CREATE AN INTERLOCKING MATRIX OF LOGS SECURED BETWEEN HORIZONTAL KEY LOG LAYERS.
6. INSTALL BUMPER LOGS AS SHOWN ON THE DRAWINGS AND OBTAIN INSPECTION APPROVAL FROM THE PROJECT REPRESENTATIVE PRIOR TO STARTING ADDITIONAL LOG LAYERS.



SECTION EXISTING ELJ A/-



BANK DELFECTION JAM 1/7



BUMPER LOG DETAIL 2/11
NOT TO SCALE

811 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEYED: DS/BM	05/2021		30% DESIGN DRAFT 07/2022			PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022		
SURVEY BASE MAP: STH	05/2021					ECOLOGIST: ALEX LINCOLN	07/2022	PROJECT No. 1139129	
CHECKED: KLA	05/2021					DESIGNER: MARK BEGGS, P.E.	07/2022	CONTRACT No. --	
						DARIAN KIS-YOUNG, E.I.T.	07/2022		
		NUM.	RECORD CHANGES APPROVED	BY	DATE	CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022		

MARK W. RUEBEL STATE OF WASHINGTON 44267 REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS STATE OF WASHINGTON 54236 REGISTERED PROFESSIONAL ENGINEER — DESIGN

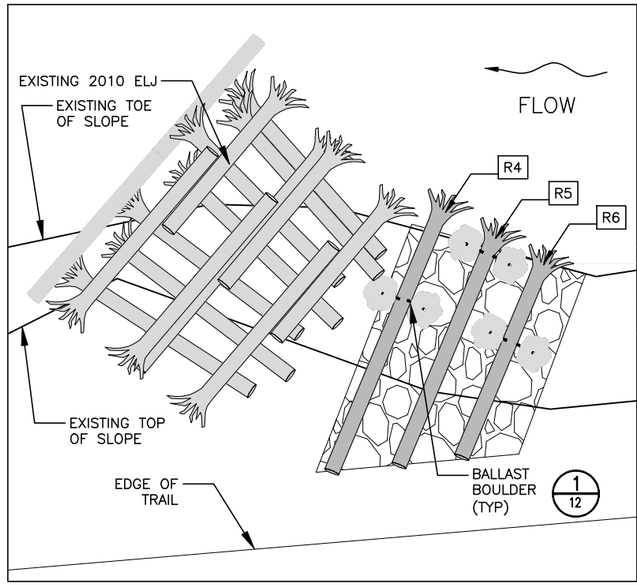
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

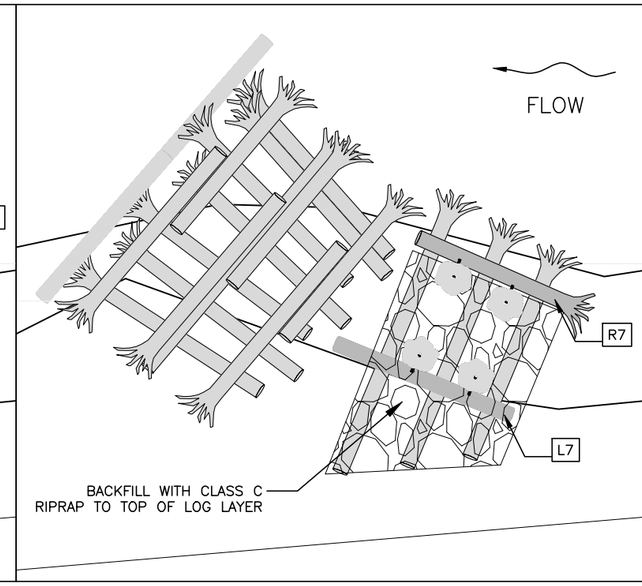
ENGINEERED LOG JAM - PLAN AND SECTION

NOT FOR CONSTRUCTION

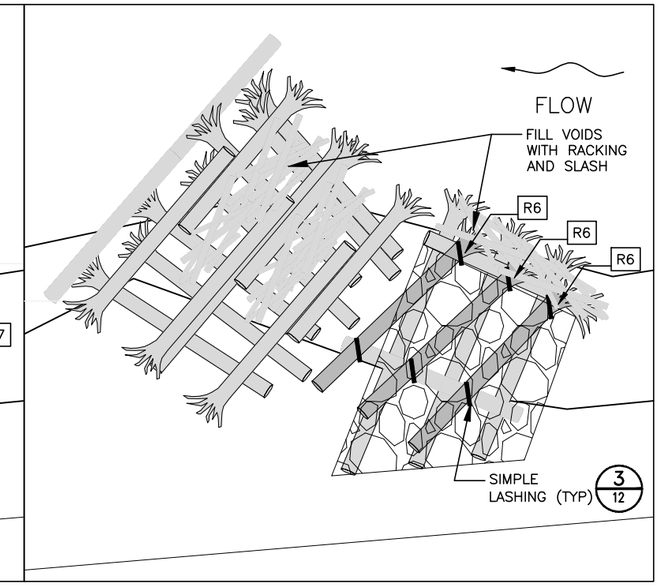
SHEET **10** OF **14** SHEETS



LAYER 1



LAYER 2



LAYER 3

KEY LOG SCHEDULE (BANK DEFLECTION JAM)

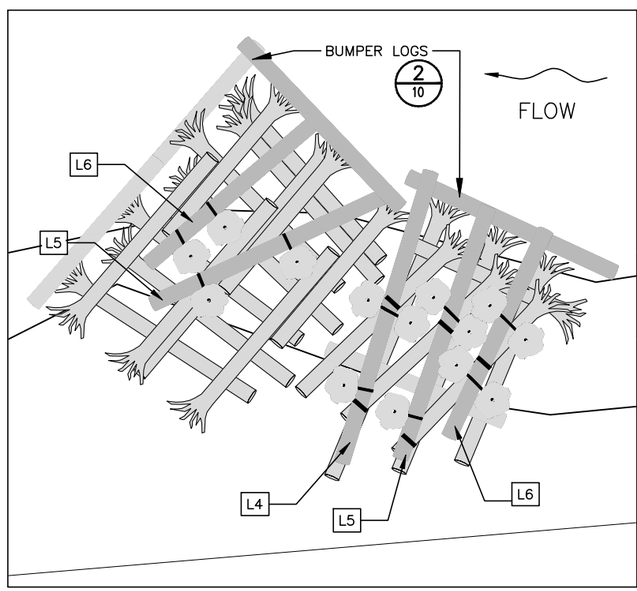
LOG TYPE	COUNT	DBH DIA (IN)	LENGTH (FT)*	ROOTWAD
R4	3	24	40	YES
R5	1	24	35	YES
R6	4	24	30	YES
R7	1	24	25	YES
L2	1	30	45	NO
L3	4	30	30	NO
L4	1	24	40	NO
L5	2	24	35	NO
L6	2	24	30	NO
L7	1	24	25	NO

* LOGS MAY BE FIELD FIT TRIMMED AS APPROVED BY PROJECT REPRESENTATIVE

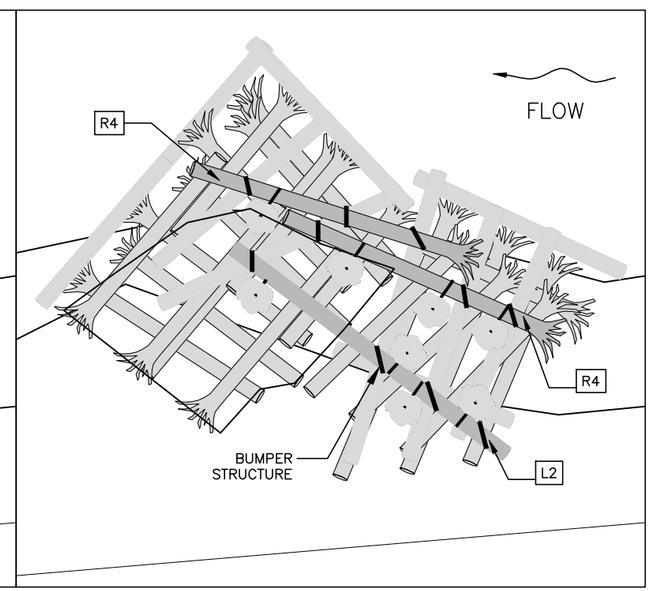
APPROXIMATELY 50–60 RACKING LOGS AND 60–90 CY OF SLASH

5.5 TON BALLAST BOULDER SCHEDULE (PER BDJ)

LAYER	COUNT
1	6
2	4
4	14
5	8
TOTAL	32



LAYER 4



LAYER 5

BANK DEFLECTION JAM SEQUENCE 1

NOT TO SCALE 8.12.13

ELJ CONSTRUCTION NOTES:

1. GENERAL STRUCTURE LOCATION AND ORIENTATION SHALL BE STAKED BY THE CONTRACTOR PRIOR TO EXCAVATION. STRUCTURE LOCATION TO BE FIELD VERIFIED BY THE PROJECT REPRESENTATIVE FOLLOWING CONTRACTOR STAKING.
2. CLEAR AND GRUB AND ACCESS PRIOR TO ELJ INSTALLATION. ADJUST TEMPORARY WATER ISOLATION SYSTEM AS NECESSARY TO ENSURE WATER QUALITY REQUIREMENTS ARE MET.
3. ALL CONTROL POINT LOCATIONS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE PROJECT REPRESENTATIVE PRIOR TO INSTALLATION.
4. PRIOR TO PLACING ANY ROCK OR LOGS, THE CONTRACTOR SHALL OBTAIN INSPECTION APPROVAL FROM THE PROJECT REPRESENTATIVE VERIFYING EXTENTS OF THE ELJ. IT IS THE CONTRACTORS RESPONSIBILITY TO NOTIFY THE PROJECT REPRESENTATIVE FOR THE INSPECTION. THE CONTRACTOR SHALL ALLOW 2 WORKING DAYS FOR THE INSPECTION TO TAKE PLACE.
5. LOG MATERIALS SHALL BE PLACED AT THE LOCATION AND ORIENTATIONS SPECIFIED ON THE DRAWINGS OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. TRIM CUT ENDS OF HORIZONTAL KEY LOGS TO FIT AS REQUIRED.
6. PLACE RACKING LOGS ALONG FACE OF STRUCTURES. RACKING LOGS AND SLASH SHALL BE PLACED TO CREATE AN INTERLOCKING MATRIX OF LOGS SECURED BETWEEN HORIZONTAL KEY LOGS.
7. PLACE SLASH OVER AND BETWEEN KEY LOGS AS SHOWN ON SHEET 11 FOR EACH LAYER SPECIFIED FOLLOWING PLACEMENT OF KEY LOGS AND RACKING LOGS.

811 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

		NUM.	REVISION	BY	DATE
FIELD BOOK: DS/BM	05/2021		30% DESIGN DRAFT 07/2022		
SURVEYED: DS/BM	05/2021				
SURVEY BASE MAP: STH	05/2021				
CHECKED: KLA	05/2021				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED: MARK RUEBEL, P.E.	07/2022
PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST: ALEX LINCOLN	07/2022
DESIGNER: MARK BEGGS, P.E.	07/2022
DARIAN KIS-YOUNG, E.I.T.	07/2022
CAD DESIGN: DARIAN KIS-YOUNG, E.I.T.	07/2022

PROJECT No. 1139129

CONTRACT No. --

MARK W. RUEBEL, STATE OF WASHINGTON, 44267, REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS, STATE OF WASHINGTON, 54038, REGISTERED PROFESSIONAL ENGINEER — DRAFT

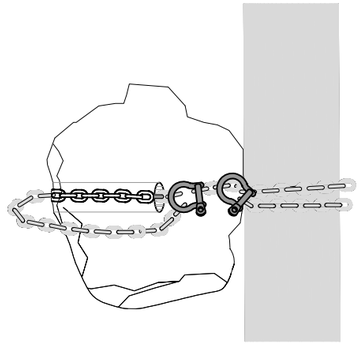
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

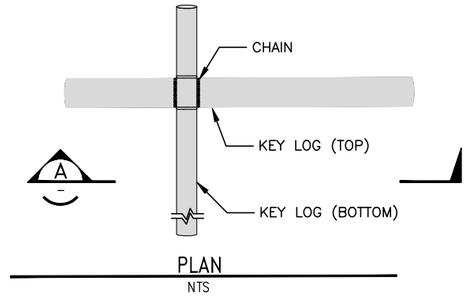
ENGINEERED LOG JAM - SEQUENCE

NOT FOR CONSTRUCTION

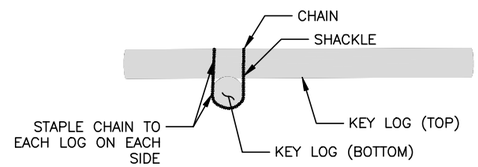
SHEET **11** OF **14** SHEETS



BALLAST BOULDER–LOG CONNECTION (1/11)
NOT TO SCALE

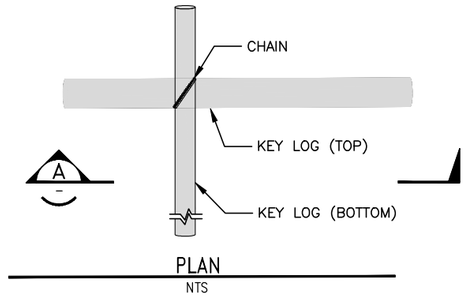


PLAN
NTS

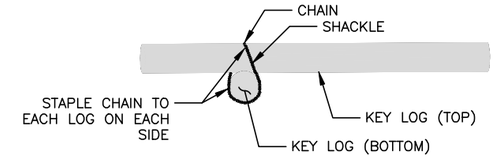


SECTION (A/–)
NTS

SQUARE LASHING LOG–LOG CONNECTION (4/–)
NOT TO SCALE



PLAN
NTS

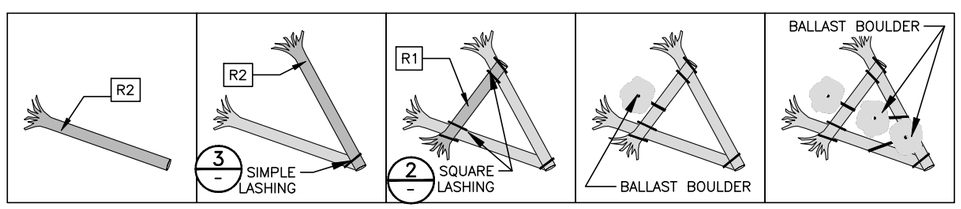


SECTION (A/–)
NTS

SIMPLE LASHING LOG–LOG CONNECTION (3/11)
NOT TO SCALE

CONNECTION NOTES:

1. BALLAST BOULDERS TO KEY LOG CONNECTIONS AND LOG–LOG CONNECTIONS MADE WITH CHAIN AS SHOWN ON DETAIL AND LAYER PLAN OR AS DIRECTED BY THE PROJECT REPRESENTATIVE. CHAIN LASHING SYSTEM SHALL BE PUT IN TENSION AND BE MAINTAINED DURING CHAIN SHACKLING.
2. CONNECT KEY LOGS TO STEEL PILES WITH CHAIN AS SHOWN ON DETAIL AND LAYER PLAN OR AS DIRECTED BY THE PROJECT REPRESENTATIVE.
3. CHAIN LENGTH NEEDED PER LASHING WILL VARY BASED ON DIAMETER OF LOGS AND LOCATIONS OF THE LASHING.
4. BALLAST BOULDERS REST ON THE ELJ LAYERS PREVIOUSLY CONSTRUCTED. BALLAST BOULDERS TO BE FIT AS CLOSE TO EACH LOG AS POSSIBLE, NO SLACK IN CHAIN UNLESS OTHERWISE NOTED.
5. CHAIN FOR LASHINGS SHALL BE ½ INCH DIAMETER GRADE 80 CHAIN.
6. ALL HARDWARE USED FOR LASHING AND CONNECTION SHALL BE OF THE QUANTITY AND TYPE SPECIFIED BY THE MANUFACTURER WITH AN EQUAL OR GREATER STRENGTH THAN THE CHAIN WORKING LOAD LIMIT OR AS APPROVED BY THE PROJECT REPRESENTATIVE.
7. MAR, PEEN OR ROUND ALL EXPOSED HARDWARE NUTS AND BOLT THREADS AFTER INSTALLATION FOR THEFT PROTECTION. PROJECT REPRESENTATIVE SHALL APPROVE ANY COATING PRIOR TO CONTRACTOR APPLYING IT. SECURE CHAIN TO LOGS USING 6 INCH LOGGING STAPLE.
8. CONTRACTOR MAY SUBMIT ALTERNATIVE CHAIN CONNECTION SYSTEM FOR APPROVAL.



LARGE WOOD ELEMENT (2/7,8)
NOT TO SCALE

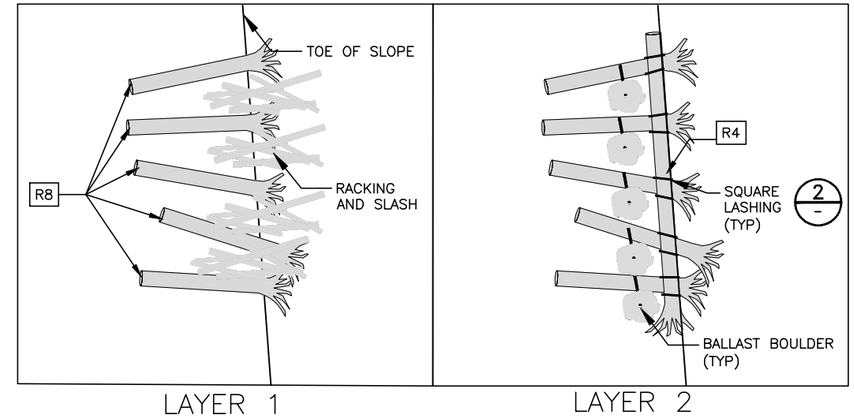
KEY LOG SCHEDULE (BANK DEFLECTION JAM)

LOG TYPE	COUNT	DBH DIA (IN)	LENGTH (FT)*	ROOTWAD
R1	1	18	15	YES
R2	2	18	20	YES

* LOGS MAY BE FIELD FIT TRIMMED AS APPROVED BY PROJECT REPRESENTATIVE

5.5 TON BALLAST BOULDER SCHEDULE (PER LARGE WOOD ELEMENT)

LAYER	COUNT
4	1
5	2
TOTAL	3



BANK ROUGHENING STRUCTURE (5/7,8)
NOT TO SCALE

KEY LOG SCHEDULE (BANK ROUGHENING STRUCTURE)

LOG TYPE	COUNT	DBH DIA (IN)	LENGTH (FT)*	ROOTWAD
R4	1	24	40	YES
R8	5	24	20	YES

5.5 TON BALLAST BOULDER SCHEDULE (BANK ROUGHENING STRUCTURE)

LAYER	COUNT
2	5
TOTAL	5

811 Know what's below. Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

FIELD BOOK: DS/BM	05/2021	NUM.	REVISION	BY	DATE	APPROVED: MARK RUEBEL, P.E.	07/2022
SURVEYED: DS/BM	05/2021		30% DESIGN DRAFT 07/2022			PROJECT MANAGER: LINDA BARTOLINI VENEGAS	07/2022
SURVEY BASE MAP: STH	05/2021					ECOLOGIST: ALEX LINCOLN	07/2022
CHECKED: KLA	05/2021					DESIGNER: MARK BEGGS, P.E.	07/2022
						DARIAN KIS–YOUNG, E.I.T.	07/2022
		NUM.	RECORD CHANGES APPROVED	BY	DATE	CAD DESIGN: DARIAN KIS–YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. ––

MARK W. RUEBEL, STATE OF WASHINGTON, 24267, REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

MARK R. BEGGS, STATE OF WASHINGTON, 54258, REGISTERED PROFESSIONAL ENGINEER — NOT FOR CONSTRUCTION

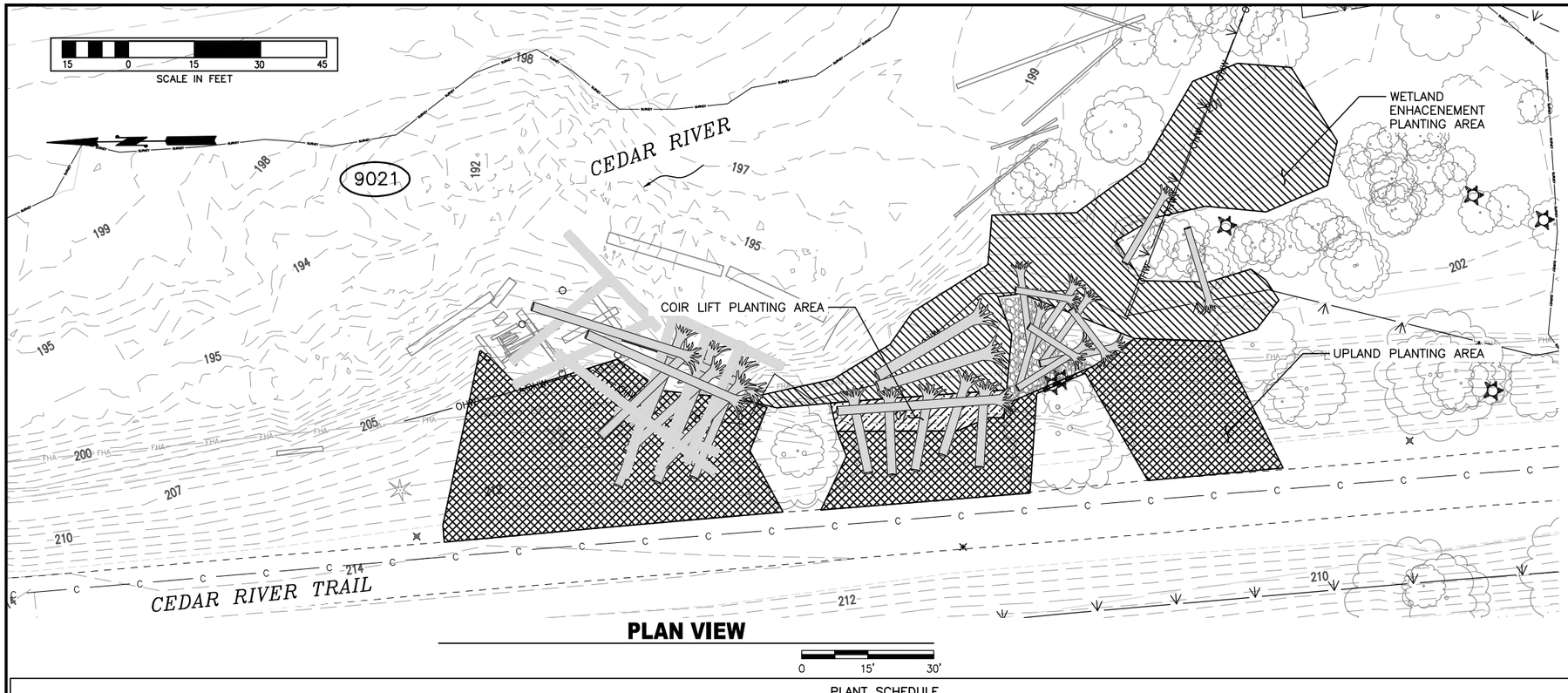
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

ENGINEERED LOG JAM - DETAILS AND NOTES

NOT FOR CONSTRUCTION

SHEET **12** OF **14** SHEETS



PLAN VIEW

0 15' 30'

GENERAL PLANTING NOTES:

1. ALL PLANTS SHALL BE KEPT SHADED AND ROOTS MOIST UNTIL TIME OF PLANTING.
2. PLANTING AREA BELOW THE COIR BLANKET TO BE COVERED WITH 3" LAYER OF ARBOR WOOD CHIP MULCH PRIOR TO PLANTING.
3. WHEN INSTALLING TREES AND SHRUBS, PULL ARBOR WOOD CHIP MULCH LAYER BACK BEFORE DIGGING PLANTING HOLE.
4. NO SHRUBS SHALL BE PLANTED WITHIN 2' FROM EDGE OF PAVED TRAIL.
5. SETBACK TREES 4' AWAY FROM EDGE OF PAVED TRAIL.
6. PLANT SHRUBS 4' ON CENTER WITH 3' SETBACK FROM TREES.
7. PLANT TREES 8–10' ON CENTER AND SETBACK 3' AWAY FROM SHRUBS.
8. PLANT ALL TREES AND SHRUBS IN SINGLE–SPECIES CLUSTERS THROUGHOUT THE PLANTING AREA. CLUSTERS = 2 TO 3 PLANTS.
9. KC ECOLOGIST SHALL APPROVE PLANT LAYOUT PRIOR TO PLANT INSTALLATION.
10. WATER ALL PLANTING AREAS IMMEDIATELY AFTER PLANTING. WATERING SHALL OCCUR AFTER THE INSTALLATION OF PLANT MATERIAL.
11. AFTER PLANT INSTALLATION, REPLACE ARBOR WOOD CHIP MULCH BY TAPERING IT DOWN TOWARDS THE STEM. KEEP ARBOR WOOD CHIP MULCH 2" AWAY FROM TRUNK OR STEM.
12. MAINTAIN TREE PROTECTION FOR ALL EXISTING TREES IN PROJECT SITE AND STAGING/ACCESS AREA UNTIL PLANTING IS COMPLETE.

PLANT SCHEDULE

SCIENTIFIC NAME	COMMON NAME	WETLAND INDICATOR STATUS	STOCK TYPE	SPACING ON CENTER (FEET)	PLANTING QUANTITY UPLAND PLANTING AREA TOTAL AREA = 4070 SF	PLANTING QUANTITY WETLAND ENHACENMENT TOTAL AREA = 3130 SF	LIVE STAKES IN COIR LIFTS TOTAL AREA = 290 SF
Trees							
	WSTN RED CEDAR	FAC	NO. 1 CON	12	10	5	
	DOUGLAS FIR	FACU	NO. 1 CON	12	10		
	BIG LEAF MAPLE	FACW	NO. 1 CON	12	10		
	SITKA SPRUCE	FAC	NO. 1 CON	12		5	
	COTTONWOOD	FAC	NO. 1 CON	12		10	
						TOTAL = 50 TREES	
Shrubs							
	Beaked Hazelnut	FACU	NO. 1 CON	5	24		
	Oceanspray	FACU	NO. 1 CON	5	24		
	Osoberry	FACU	NO. 1 CON	5	24		
	Serviceberry	FACU	NO. 1 CON	5	24		
	Snowberry	FACU	NO. 1 CON	5	24		
	Thimbleberry	FACU	NO. 1 CON	5	24		
	Pacific Ninebark	FACW	NO. 1 CON	5		10	
	Red Osier Dogwood	FACW	NO. 1 CON	2		80	
	Slough sedge	OBL	10" PLUG	0.5		80	
	Pacific rush	FACW	10" PLUG	2		40	
	LADY FERN	FAC	NO. 1 CON	2		80	
					TOTAL = 434 Shrubs		
Live Stakes							
Salix lasiandra	Pacific willow	FACW	LS	1.5	––	160	65
Salix scouleriana	SITKA WILLOW	FACW	LS	1.5	––	80	65
Salix sitchensis	Scouler's willow	FACW	LS	1.5	––	––	65
Live stake basal diameter shall be ¾ inch. LS means live stake, 6 feet long for coir lifts and 3 feet long for wetland enhancement.							TOTAL = 435 Live Stakes

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SURVEYED: DS/BM 05/2021
SURVEY BASE MAP: STH 05/2021
CHECKED: KLA 05/2021

NUM.	REVISION	BY	DATE
	30% DESIGN DRAFT 07/2022		

NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED:	MARK RUEBEL, P.E.	07/2022
PROJECT MANAGER:	LINDA BARTOLINI VENEGAS	07/2022
ECOLOGIST:	ALEX LINCOLN	07/2022
DESIGNER:	MARK BEGGS, P.E.	07/2022
	DARIAN KIS–YOUNG, E.I.T.	07/2022
CAD DESIGN:	DARIAN KIS–YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. ––

MARK W. RUEBEL STATE OF WASHINGTON 44267 REGISTERED PROFESSIONAL ENGINEER
MARK R. BEGGS STATE OF WASHINGTON 54238 REGISTERED PROFESSIONAL ENGINEER

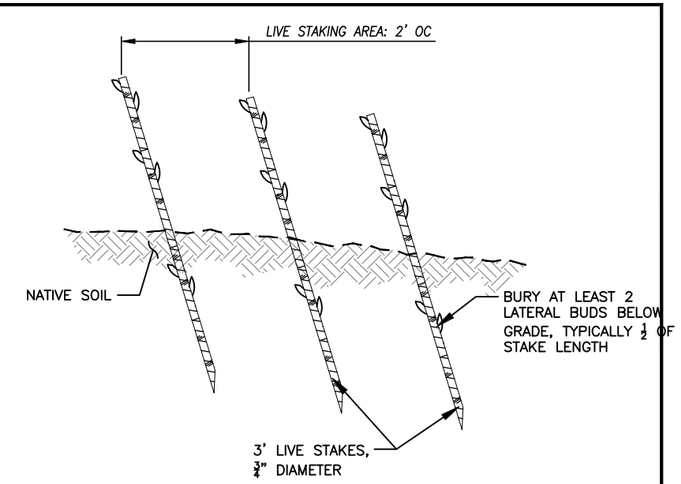
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

BELMONDO LEVEE REPAIR
CEDAR RIVER RM 10.4

PLANTING PLAN

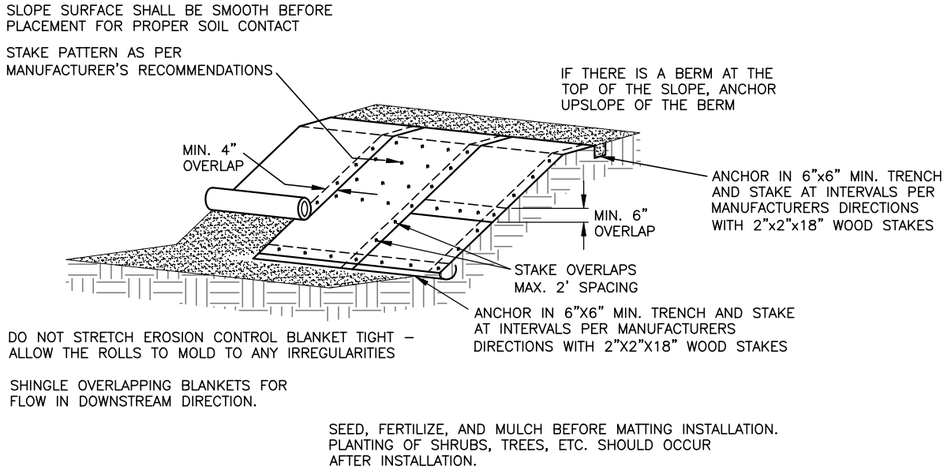
NOT FOR CONSTRUCTION

SHEET **13** OF **14** SHEETS



TYPICAL LIVE STAKE PLANTING DETAIL

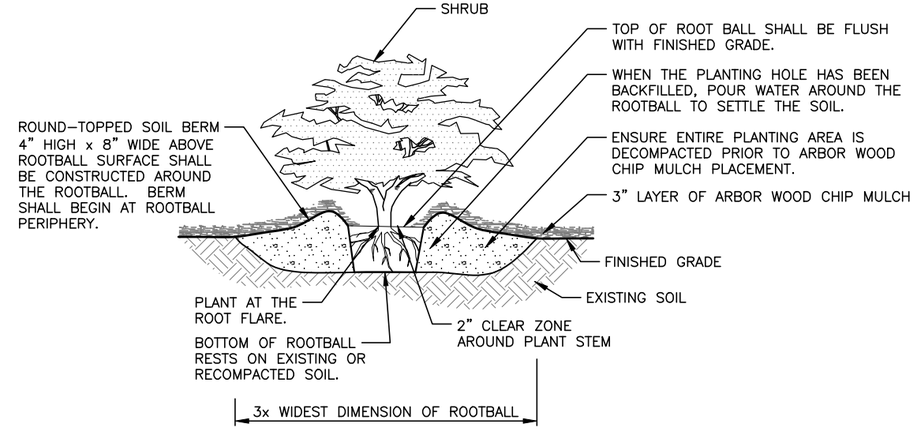
NTS



EROSION CONTROL BLANKET (ECB)

NTS

3
9



SMALL TREE, SHRUB AND GROUND COVER PLANTING

NTS

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						CAD DESIGN: DARIAN KIS–YOUNG, E.I.T.	07/2022

PROJECT No. 1139129
CONTRACT No. --

MARK W. RUEBEL, STATE OF WASHINGTON, 54267, REGISTERED PROFESSIONAL ENGINEER — CONSTRUCTION

MARK R. BEGGS, STATE OF WASHINGTON, 44266, REGISTERED PROFESSIONAL ENGINEER — DESIGN

King County
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PLANTING PLAN DETAILS

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SHEET **14** OF **14** SHEETS