

LETTER OF AGREEMENT BETWEEN KING COUNTY FLOOD CONTROL DISTRICT  
AND  
MUCKLESHOOT INDIAN TRIBE REGARDING THE LOWER RUSSELL ROAD LEVEE  
SETBACK PROJECT IN KENT, WA

This letter confirms the understanding and commitments between the Muckleshoot Indian Tribe (“Tribe”) and the King County Flood District (“District”), regarding the proposed Lower Russell Road Levee Setback Project located in Kent as described in U.S. Army Corps of Engineers Reference Number NWS-2017-0912-a and shown on the attached project drawings labeled “Lower Russell Road Phase 2” dated November 27, 2019.

The Tribe and the King County Flood Control District agree as follows:

Eddy sites for fishing

As a partial mitigation for impacts to two existing known fishing sites, the District will construct the six proposed eddy sites shown on the attached Sheets CSP14 through CSP19.

Fishing site trails

The District will construct gravel trails leading from the existing trails on both sides of the Green River to all six eddy sites to provide Tribal fishers with easier upland access to fishing sites. These trails are generally shown on attached Sheets CSP14 through CSP19 and will be designed cooperatively with the Tribal Fisheries Commissioners and the District.

Upland access issues

The Lower Russell Road project area/relocated Van Doren’s Park and Frager Road/trail side of the Green River both need to be open for tribal members to exercise their fishing rights without interference from gate closures or posted park hours. The District will ensure that all relevant agencies are aware of this agreement and the obligation to provide access for all treaty fishing activities.

If the access to both sides of the lower Green River in the project area is controlled by gates or bollards, then the following items are needed to provide access to fishing sites:

- A written agreement from the King County Flood District and the City of Kent that the Tribe’s members have access to their fishing sites in perpetuity.
- The Tribe will be able to use their own lock(s) on gates and bollards, as needed to ensure members have access to both sides of the river between Veteran’s Drive and S 212<sup>th</sup> Street (i.e. the project area).

### Signage

In order to facilitate better understanding of potential Tribal fisheries in the area for park and trail users and others, the District agrees to provide mutually agreeable signage and information regarding Tribal fishing on the property, which may include, but is not limited to, any notices received from the Tribe regarding upcoming Tribal fishery dates in the area.

### Adaptive Management plan

The District will work with the Tribe to cooperatively develop a mutually acceptable adaptive management plan that provides pre/post project construction data and analyses to ensure that the constructed eddy sites sufficiently function for successful tribal fishing. The plan will also include potential contingency actions and a schedule for implementation, as needed, to improve, modify, or restore the eddy sites for fishing. In the event that any of the six eddy sites for fishing do not result in successful fishing sites even with contingency actions, the District will work with the Tribe to find alternative sites on the lower Green River to create and/or enhance fishing sites. Once an alternative eddy site for fishing has been determined, the District will design, permit, and construct the new alternative eddy site for fishing.

### Boat launch uses

The Tribe will be allowed to use the new boat launch for jetboats, research boats, tribal fishers boats, and any other watercraft type as needed for tribal fisheries, research, and enforcement.

The Muckleshoot Indian Tribe agrees to transmit a letter to the U.S. Army Corps of Engineers, referencing the Lower Russell Road Levee Setback Phase 2 project (U.S. Army Corps of Engineers Reference Number NWS-2017-0912-a), stating that the Tribe does not oppose the issuance of federal permit approval for the project. This letter will be sent no later than five business days following execution of this agreement.

This Agreement shall be binding on the District, and any and all of its successors or assigns in interest, as owners of the project and any easements granted for this project. The parties therefore agree that this Agreement, or a Memorandum of this Agreement in a form mutually acceptable to the parties, shall be recorded.

The foregoing represents the entire agreement between the parties with respect to the Project. This Agreement relates solely to the development of the Lower Russell Road Levee Setback Phase 2 Project in Kent (as described in U.S. Army Corps of Engineers' Nationwide Permit Reference Number NWS-2017-0912-a and attached construction drawings).

Letter of Agreement – Muckleshoot Indian Tribe and King County Flood Control District  
Lower Russell Road Levee Setback Project NWS-2017-0912-a

This Agreement does not preclude the Tribe from pursuing any violation of local, state, or federal authorizations held by the District for the referenced project or local, state, and federal laws and regulations applicable to the referenced project. The Tribe is not precluded from commenting on or challenging any modification to the referenced project other than those specifically identified in this Agreement, but the Tribe shall not comment on or challenge lawful maintenance and repair of the facility, including improvements included in the Project. Nothing in this Agreement is intended to or should be construed to define the nature and scope of treaty fishing rights.

Muckleshoot Indian Tribe

King County Flood District

By: \_\_\_\_\_  
Chairperson

By: \_\_\_\_\_  
Chair

Date: \_\_\_\_\_

Date: \_\_\_\_\_



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
**River and Floodplain Management Section**

Christie True, Director  
Department of Natural Resources and Parks

**LOWER RUSSELL  
LEVEE SETBACK PROJECT  
PHASE 2**



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

**Know what's below.  
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1-800-424-3000  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

## LOWER RUSSELL LEVEE SETBACK PROJECT

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



FUNDING: \_\_\_\_\_  
PROJECT No. 1112056  
CONTRACT No. C01415C20

VICINITY MAP

SCALE 1"=2000'

JOURNEY JOB NO./SOURCE		DATE	TIME	LOCATION	REMARKS
CHECKED:		RD	11/79		
DRAWN BY:		VR	11/79		
DESIGNED:		KF	11/79		
CHECKED:		SJ	11/79		
SUPERVISOR:					

REVISION

19	19	19	19
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RD	11
VR	11
KF	11
SJ	11

[illegible]

10

NAME: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY: \_\_\_\_\_  
 STATE: \_\_\_\_\_  
 ZIP: \_\_\_\_\_

SURVEY	
CHECKED	
CAD EN	
DESIGNED	
CHECKED	
SUPERVA	


\_\_\_\_\_



## LINETYPES

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


## DRAINAGE

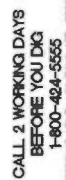
WATER	
SYMBOL	DESCRIPTION
EXIST.	CONSTRUCT
□	STORM DRAIN CATCH BASIN
■	STORM DRAIN INLET(ING CATCH)
□	STORM DRAIN MANHOLE
○	STORM DRAIN PIPE (PLAN & PROFILE)
	
QUARRY SPALLS	
WATER	
SYMBOL	DESCRIPTION
EXIST.	CONSTRUCT
□	GUARD POST
○	WATER PIPE (PLAN & PROFILE)
FIRE INVERTS & FITTINGS	
□	PH
△	WATER VALVE
△	WATER FITTING WITH THRUST BLOCK

WAT  
X  
3

SYMBOL	CONSTRUCT	DESCRIPTION
○		SEWER MANHOLE
⊗		SEWER FORCE MAIN VALVE
⊕		SEWER FORCE FITTING
⌒		SEWER DRAIN PIPE (PLAN)
—		SEWER DRAIN PIPE (SECTION)

## ROAD PLAN

SYMBOL	DESCRIPTION
	OUT SLOPE CATCH POINTS (OPTIONAL)
	FULL SLOPE CATCH POINTS (OPTIONAL)
	SHOULDER



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

PROJECT	SHEET G-03
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ABANDONED	ASPHALT CONCRETE PAVEMENT
AC	ADJUST
ADJ	ADJUST
AH	ANGLE POINT
AP	APPROXIMATELY
APPROX.	AVERAGE
BK	BACK
BDC	BUILDING
BLO	BOLLEVARO
BMP	BEST MANAGEMENT PRACTICE
BPP	BEGIN POINT
BSSN	BELONG SETBACK BASELINE
BTHW	BETWEEN
BVC	BEGINNING OF VERTICAL CURVE
CAG	CLEAR AND GROUND LIMITS
CATV	CABLED AIR VACUUM RELEASE VALVE
CB	CATCH BASIN
CBF	CUBIC FEET PER SECOND
CFS	CENTERLINE
CLM	CONTROLLED LOW STRENGTH MATERIAL
COMP	CORRUGATED METAL PIPE
CONC	CONNECTED
CONN	CONNECT
CONST	CONSTRUCTION
COST	CRUSHED SURFACING TOP COURSE
CSTC	CUBIC
CUT	DRAIN METER
CU	DRAIN
DEG	DEGREE
DEPT	DEPTH
DIA	DIAMETER
DIM	DRAWING
DNG	DESIGN WATER SURFACE ELEVATION
DOWSE	EAST
DWE	EACH GRADE
ELEV	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION
EDGE	EDGE OF PAVEMENT
EQUAT	EQUATOR
EVG	END OF VERTICAL CURVE
EXCL	EXCLUDE
EXIST	EXISTING
FCH	FINISHED GRADE
FC	FINISHED GRADE
FL	FLANGE
FLT	FEET / MINUTE
GAL	GALLONS
GALV	GALVANIZED
GR	GRADE
GRATE	GRATE ELEVATION
GLDRAIL	GLASS RAIL
GNRA	GREEN RIVER NATURAL RESOURCES AREA
HOPPE	HOT AIR ASHPHALT
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HPS	HIGH PRESSURE SODIUM
HT	HEIGHT
IND	INSIDE DIAMETER
HWY	HIGHWAY
INVERT	INVERT ELEVATION
JUNGBOX	JUNCTION BOX
JB	JOINT USE DRIVEWAY
JUD	JUDICIAL
KA	KANSAS
LA	LENGTH OF ARCH
LF	FOOT/FEET
LEFT	LEFT
LUMINA	LUMINA

MISC	MISCELLANEOUS	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MON	MONUMENT	NORTH AMERICAN DATUM OF 1983, WITH 81' ADJUSTMENT
MOUT	MOUTH	NUMBER OF PERMANENT VERTICAL DATUM OF 1986
NAD 83/91	NAD 83/91	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NDES	NIDES	NOT TO SCALE
NIS	NIS	NOT TO SCALE
O-WING	O-WING	OVERHEAD CROSSING
OC	OC	OUTSIDE DIAMETER
OFF	OFF	OFFSET
OP	OP	OVERHEAD POWER
OT	OT	OVERHEAD TELEPHONE
P	P	POLE, POWER
PAR	PAR	PARK ACCESS ROAD
PCC	PCC	POINT OF CURVATURE
PCC	PCC	POINT OF COMPOUND CURVE
PE	PE	PERKINS
PED	PED	PERFORMANCE GRADE
PI	PI	PROPERTY LINE
PL	PL	POWER PLANT
POT	POT	POWER POLE
PR	PR	PAIR
PRC	PRC	POINT OF REVERSE CURVE
PS	PS	POINT OF TANGENT
PT	PT	POINT OF TANGENT
PVC	PVC	POINT OF VERTICAL CURVE
PVC	PVC	POINT OF VERTICAL COMPOUND CURVE
PVI	PVI	POINT OF VERTICAL INTERSECTION
QTY	QTY	QUANTITY
R	R	RADIUS
REIN	REIN	REINFORCED
REQD	REQD	REQUIRED
ROW	ROW	RIGHT-OF-WAY
RT	RT	RIGHT-OF-WAY
S	S	SOUTH
SAN	SAN	SANITARY
SAN	SAN	SANITARY SEWER
SD	SD	STORM DRAIN
SECT	SECT	SECTION
SERV	SERV	SQUARE FEET/FOOT
SHLD	SHLD	SHOULDER
SJ	SJ	SHORELINE JURISDICTION
SP	SP	SPECIFICATIONS
SPEC	SPEC	SPECIFICATIONS
SQ	SQ	SQUARE
SS	SS	SANITARY SEWER
SSSM	SSSM	SANITARY SEWER FORCE MAIN
STD	STD	STANDARD
SW	SW	SOUTHWEST
SWAPP	SWAPP	STORMWATER POLLUTION PREVENTION PLAN
TAN	TAN	TELEPHONE, TANGENT, TON
TBM	TBM	TEMPORARY BENCHMARK
TEMP	TEMP	TEMPORARY CONSTRUCTION EASEMENT
TOP	TOP	TOP OF EMBANKMENT FILL (© LEVEE CENTERLINE)
TOP	TOP	TOP OF LEVEE (TYPE OF PROTECTIVE LEVEE HINGE)
TP	TP	TELEPHONE POLE/TREE PROTECTION
UD	UD	UNDERDRAIN PIPE
USE	USE	UNDERGROUND ELECTRICAL
VAR	VAR	VARIABLE
VERT	VERT	VERTICAL
WB	WB	WETLANDS BOUNDARY
W	W	WITH
W	W	WATER AND LAND RESOURCES DIVISION
W/O	W/O	WATER/WATER MAIN
WSE	WSE	WATER SURFACE ELEVATION
WSEL	WSEL	WATER SURFACE ELEVATION
WSDOT	WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
Y	Y	YELLOW
YOS	YOS	YELLOW



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

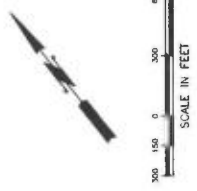
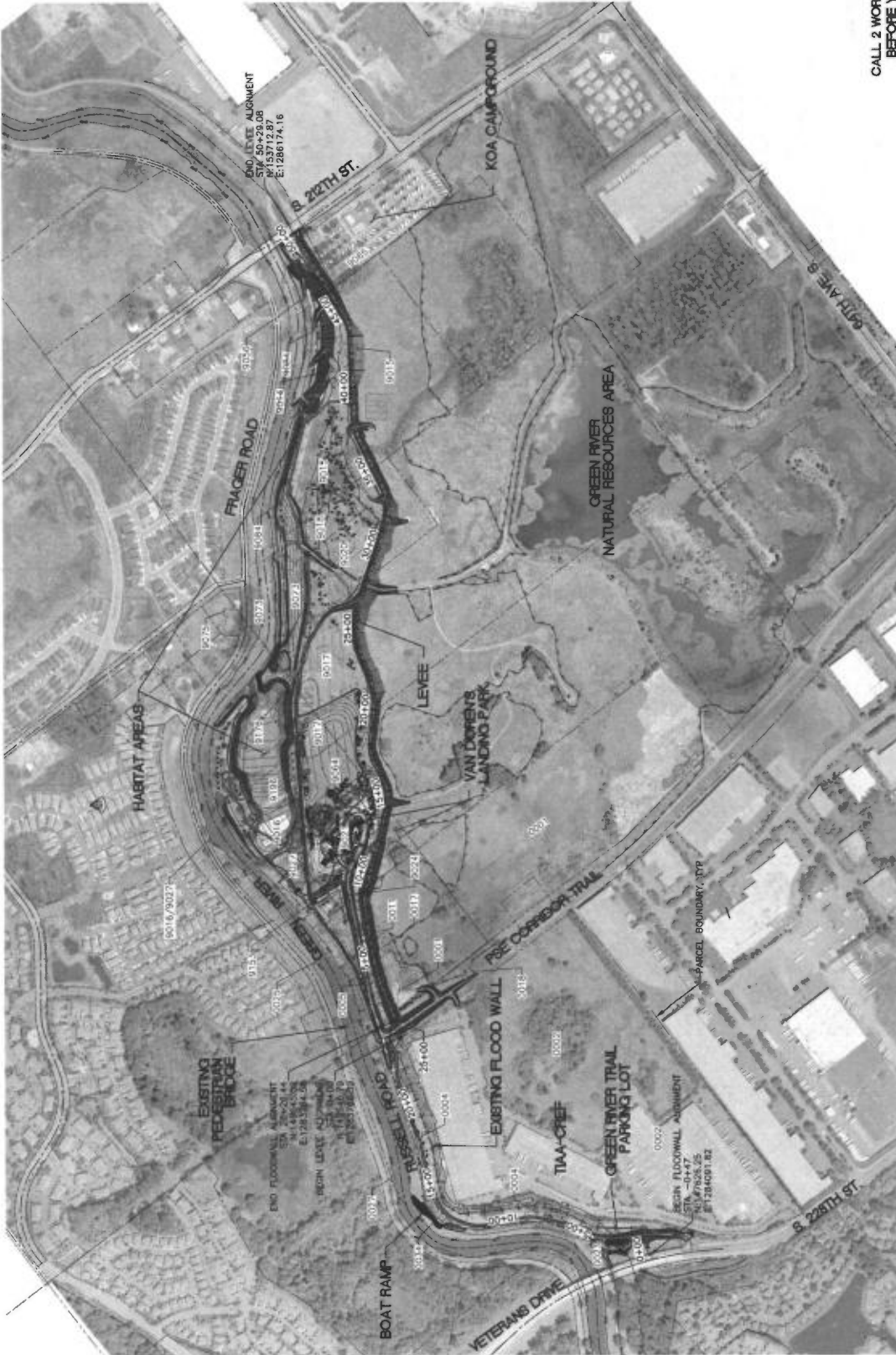


FUNDING: \_\_\_\_\_  
 REQUEST No. 1112056  
 CONTRACT No. C01415C20

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

## ABBREVIATIONS



CALL 2 WORKING DAYS  
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LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

PROJECT OVERVIEW

SHEET  
G-05

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



SURVEY JOB NO./SOURCE:		FUNDING:	
CHECKED:	RD 11/19	PROJECT No.	1112056
CAD INTERPRET:	VR 11/19	CONTRACT No.	C0115220
DESIGNED:	WF 11/19	DATE:	
CHECKED:	SJ 11/19	DATE:	
SUPERVISOR:		DATE:	
RECORD CHANGES APPROVED:		DATE:	



POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION
500	147694.40	1283945.70	61.22	MAGNAIL W/ WASHER IN CONCRETE FIRE HYDRANT BASE AT NORTH SIDE OF VETERANS DRIVE
507	149749.85	1283656.41	44.46	MAGNAIL W/ WASHER IN CONCRETE LANDING AT EAST END OF PEDESTRIAN BRIDGE OVER THE GREEN RIVER
514	151471.24	1284623.50	41.27	MAGNAIL W/ WASHER IN CONCRETE AT BACK OF SIDEWALK HANDICAP RAMP IN GREEN RIVER NATURAL RESOURCES AREA PARKING LOT
522	152486.28	1285811.74	38.64	MAGNAIL W/ WASHER IN CONCRETE PAD AT THE BOTTOM OF THE STAIRS OF THE OBSERVATION TOWER IN THE GREEN RIVER NATURAL RESOURCES AREA
526	153679.16	1286175.79	43.25	MAGNAIL W/ WASHER IN CONCRETE LIGHT POLE BASE AT SOUTH SIDE OF SOUTH 212TH STREET
8178	153717.26	1284608.70	29.31	2" ALUMINUM DISK AT CENTER OF SIDEWALK ON S SIDE OF S 212 ST. ~55.0' SW OF MIC #8161 AND ~40.0' W OF POWER POLE 315384/184451
8562	151143.73	1284038.25	35.77	REBAR/CAP @ S PARKING LOT OF VAN DOREN'S LANDING PARK ON RUSSELL RD, SET IN ASPHALT PATH @ MIDDLE OF HORSESHOE PIS. 0' S OF N OF EP.
8563	151481.52	1284467.89	38.75	RAMSET/WASHER @ S PARKING LOT OF GREEN RIVER NATURAL RESOURCE AREA, SET IN MIDDLE OF S CONCRETE WALK 12.0' OF E OF EP.
8564	152847.51	1284668.45	38.20	REBAR/CAP @ N PARKING LOT OF GREEN RIVER NATURAL RESOURCE AREA, SET IN ASPHALT DRIVE 6.3' E OF S GATE POST, 1.2' FROM CLRB.

- NOTES:
- HORIZONTAL DATUM MAD 83/91 WASHINGTON STATE PLANES NORTH ZONE, US FOOT VERTICAL DATUM NAVD83.
  - SURVEY BASEMAP PROVIDED BY 1. ALLIANCE GEOMATICS ON OCTOBER 6, 2015. BASEMAP IS BASED ON THE FOLLOWING SOURCES:
    - AERIAL PHOTOGRAPHY
    - CITY OF KENT
  - LEVEE AND FLOODWALL ALIGNMENT CONTROL INFORMATION PROVIDED ON THE RESPECTIVE 'S' AND 'CL' SERIES SHEETS.



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LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

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



HDR Engineering, Inc.

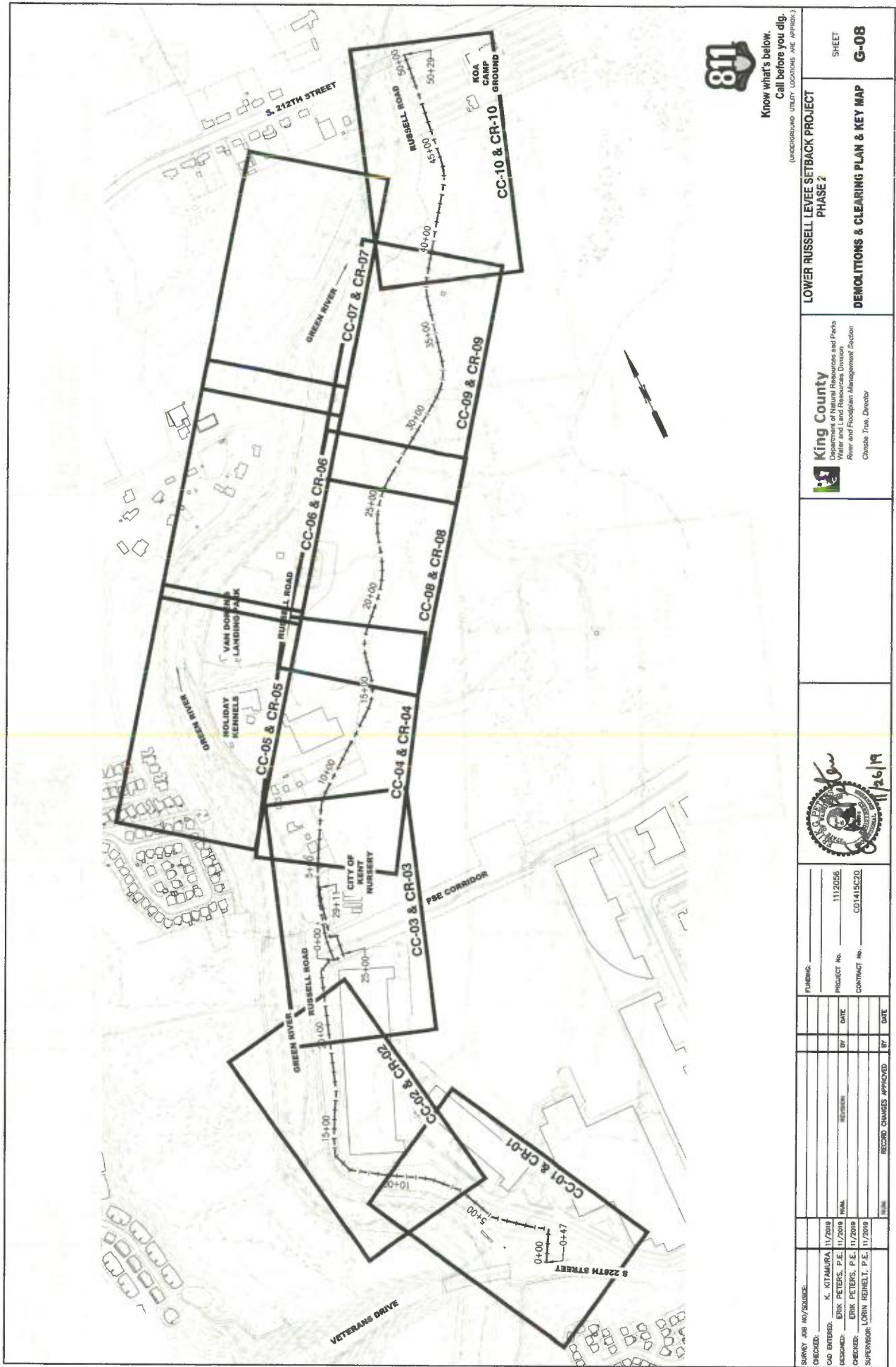


SURVEY JOB NO./ISSUE	5/18	RECORD CHANGES APPROVED	BY	DATE
CHECKED:	5/18			
CAD ENTERED:	RD			
DESIGNED:	VR			
CHECKED:	NF			
SUPERVISOR:	SJ			
FUNDING:				
PROJECT No.	111-2006			
CONTRACT No.	071415-230			

SHEET  
G-06

SURVEY CONTROL MAP










TO BE POSTED 10 DAYS IN ADVANCE




1. INSTALL SIGNS IN COMPLIANCE WITH MUTCD SECTION 2A.15.
2. RETROREFLECTIVITY FOR SIGNS AND BARRICADES SHALL COMPLY WITH MUTCD SECTION 2A.07 & 2A.08
3. RUSSELL ROAD CLOSURE WILL NOT BE PERMITTED UNTIL THE PLACEMENT OF SIGNS AND BARRICADES HAS BEEN REVIEWED AND APPROVED BY THE PROJECT REPRESENTATIVE.
4. COMPLY WITH APPROVED TRAFFIC CONTROL PLAN.
5. FOR TRUCK HAULING ACCESS FROM THE WORK SITE TO EASTBOUND S. 212TH STREET, PROVIDE SINGLE-LANE CLOSURE TRAFFIC CONTROL IN ACCORDANCE WITH PRE-APPROVED STREET TRAFFIC CONTROL PLAN TOP 3.
6. S. 212TH ST CLOSURE LIMITED TO 7AM - 4PM MONDAY THRU FRIDAY, NO WEEKEND RESTRICTION.

SIGN	NUMBER	SIZE	COLOR	QUANTITY	NOTES
	TYPE III BARRICADE	48"x30"		6	PLACE BARRICADES AND SIGNAGE AS NECESSARY TO PREVENT USE OF RUSSELL RD TO REMAIN BY CONSTRUCTION VEHICLES.
	R11-2	48"x30"	BLACK ON WHITE	2	
	W21-30	36"x36"	BLACK ON ORANGE	3	
	SPECIAL	48"x60"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	2	DATES AND TIMES SHOWN ARE EXAMPLES ONLY. ACTUAL DATES AND TIMES SHALL BE IN ACCORDANCE WITH THE SCHEDULED CONSTRUCTION SCHEDULE.
	SPECIAL	72"x60"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	3	



SURVEY JOB NO./SOURCE:						FINGERED	
D.O.B.	P.A.S.						
11/7/1918	11/7/1918						
CHECKED BY:		DAD DOWDY, P.E.		PROJECT No.		1110556	
RECORDED BY:		ERIK PETERS, P.E.		CONTRACT No.		COT41SCZ0	
CHECKED BY:		LORIN KENNEL, P.E.					
SUPERVISOR:							
NO. 24	SUPERVISOR	CALL NUMBER	COORDINATOR	DATE	TIME		




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













**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2**

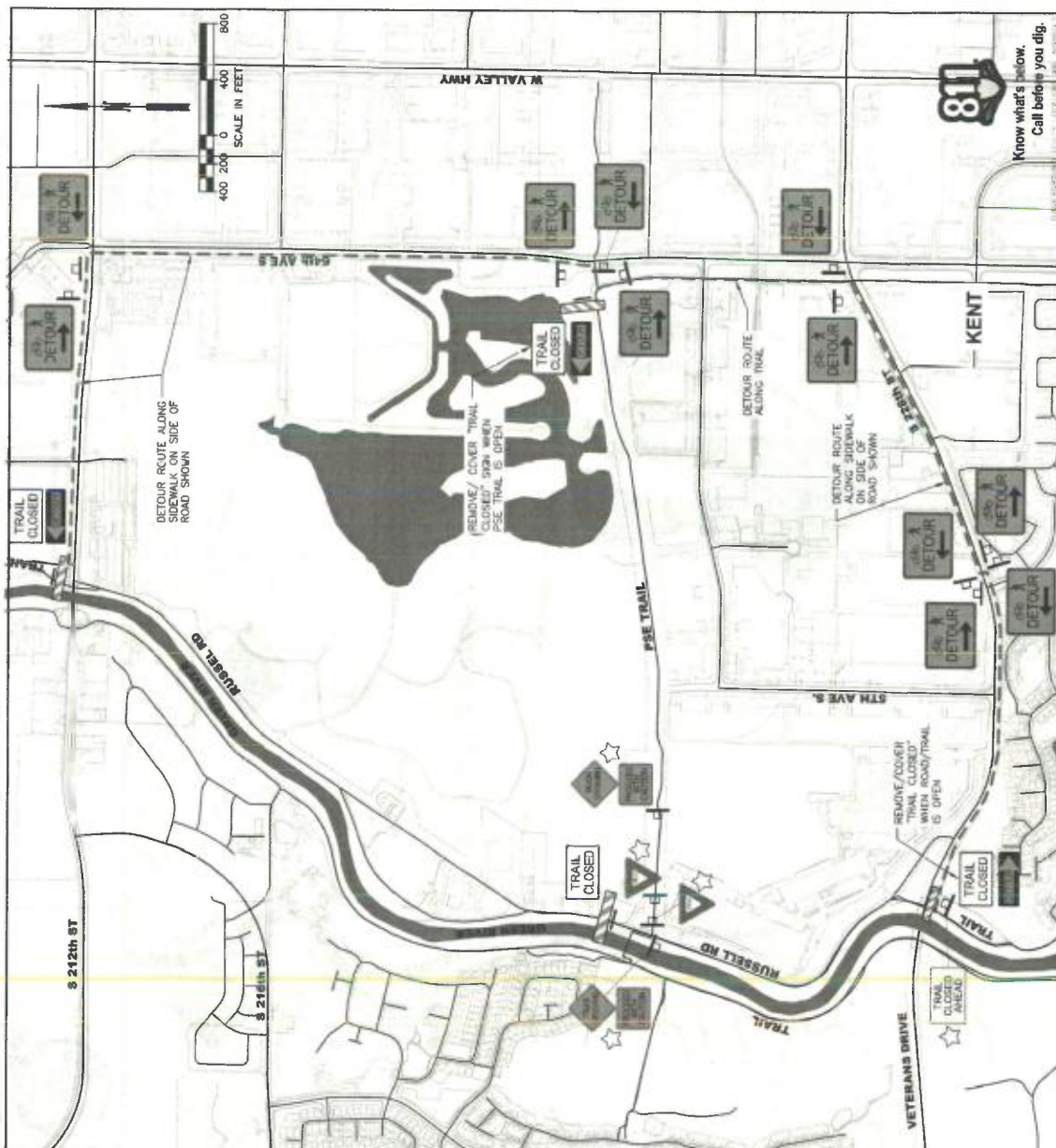
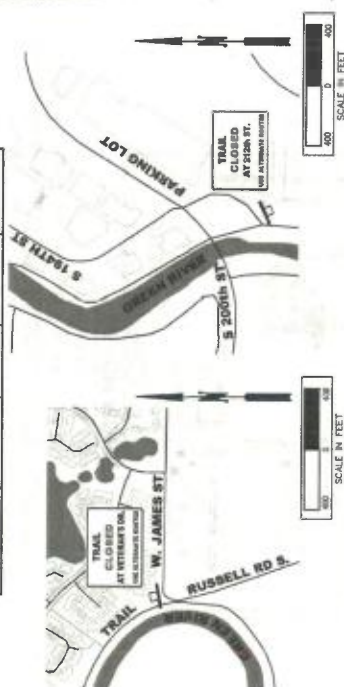
## TRAFFIC CONTROL

**G-09**  
**SHEET**

# SIGN NOTES

1. SIGNS SHALL BE INSTALLED IN COMPLIANCE WITH MUTCD SECTION 2A.16.
2. RETROREFLECTIVITY FOR SIGNS AND BARRICADES SHALL COMPLY WITH MUTCD SECTION 2A.07 & 2A.08.
3. THE CLOSURE WILL NOT BE PERMITTED UNTIL THE PLACEMENT OF SIGNS AND BARRICADES HAS BEEN REVIEWED AND APPROVED BY THE PROJECT REPRESENTATIVE.
4. SIGNS WITH  IN USE WHEN PSE TRAIL IS OPEN AND NOT UNDER RECONSTRUCTION.

SIGN	NUMBER	SIZE	COLOR	QUANTITY
	TYPE III BARRICADE			4
	R11-2 (MOD)	30"x48"	BLACK ON WHITE	4
	M4-9L	30"x36"	BLACK ON ORANGE	5
	M4-9R	30"x36"	BLACK ON ORANGE	6
	M4-10L	18"x48"	BLACK ON ORANGE	2
	M4-10R	18"x48"	BLACK ON ORANGE	1
	SPECIAL	30"x42"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	1
	SPECIAL	30"x42"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	1
	R1-2	24"x24"	RED ON WHITE	2
	WB-6	30"x30"	BLACK ON ORANGE	2
	SPECIAL	24"x30"	BLACK ON ORANGE	2
	R11-3 (MOD)	30"x48"	BLACK ON WHITE	1



SURVEY JOB NO. 1112055		PROJECT NO. 1112055	
CHECKED: DAN DOWDY, P.E. 11/20/18	DESIGNED: ERN PETERS, P.E. 11/20/18	CHECKED: LORIN RENELT, P.E. 11/20/18	SUPERVISOR: LORIN RENELT, P.E. 11/20/18
DATE: 11/20/18	DATE: 11/20/18	DATE: 11/20/18	DATE: 11/20/18
RECORD CHANGES APPROVED		DATE	



**King County**  
 Department of Public Works and Parks  
 Water and Land Resources Division  
 Chastity Trice, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**TRAIL CLOSURE AND DETOUR PLAN**  
**SHEET C-10**

Know what's below.  
 Call before you dig.



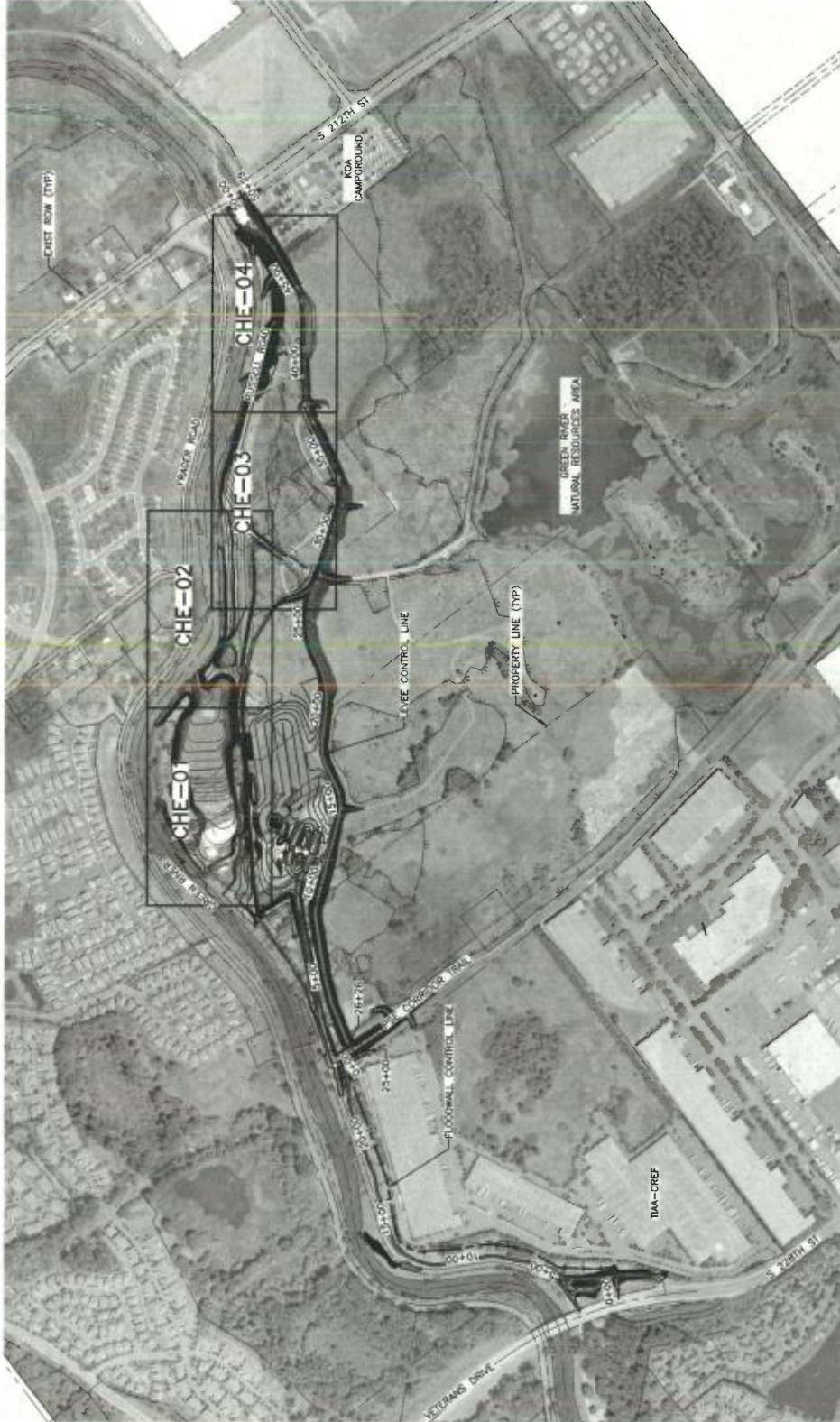
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**CALL 2 WORKING DAYS  
BEFORE YOU DIG**  
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**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LEVEE AND FLOODWALL  
SITE PLAN AND KEY MAP**

**SHEET**  
**G-11**



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**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT EXCAVATION  
SITE PLAN AND KEY MAP**

SHEET  
G-12

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



HDR Engineering, Inc.



SURVEY AND NO./SUBJECT		FUNDING:		PROJECT No. 11110056	
CHECKED:	RD 11/19	REVISION	DATE	BY	DATE
DESIGNED:	VR 11/19				
CHECKED:	KF 11/19				
SUPERVISOR:	SJ 11/19				
RECORD CHANGES APPROVED		BY		DATE	
NUM.					



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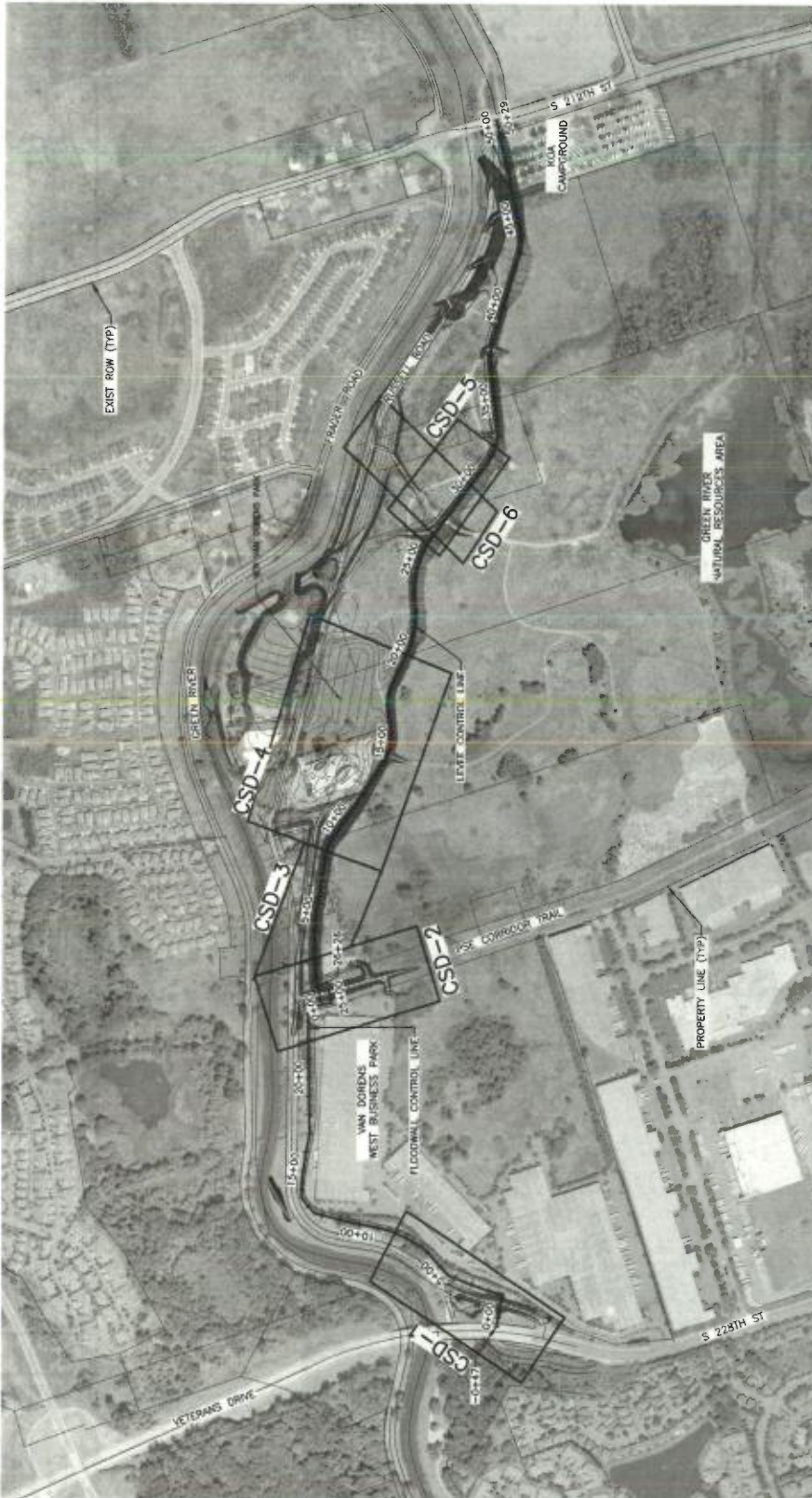
## LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2

SHEET  
G-13

**PHASE 2  
WATER AND SEWER  
SITE PLAN AND KEY MAP**

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

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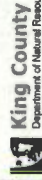
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Know what's below.  
Call before you dig.

LOWER RUSSELL LEVEE SETBACK PROJECT

PHASE 2  
STORM DRAIN  
SITE PLAN AND KEY MAP

SHEET  
G-14



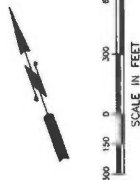
King County  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Truss, Director



HDR Engineering Inc.



SURVEY AND NO. 2019/000000		PROJECT NO. 11120056		CONTRACT NO. 024413C20	
CHECKED:	DATE	PROJECT:	DATE	RECORD CHANGES APPROVED:	DATE
DESIGNED:	11/19	BY:	11/19	BY:	
CHECKED:	11/19	REVISION:			
SUPERVISOR:	11/19				



811

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

**CALL 2 WORKING DAYS  
BEFORE YOU DIG**  
**1-800-424-5555**  
Know what's below.  
Call before you dig.  
UNDERGROUND UTILITY LOCATIONS ARE APPROX.

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STREET AND TRAIL  
SITE PLAN AND KEY MAP**

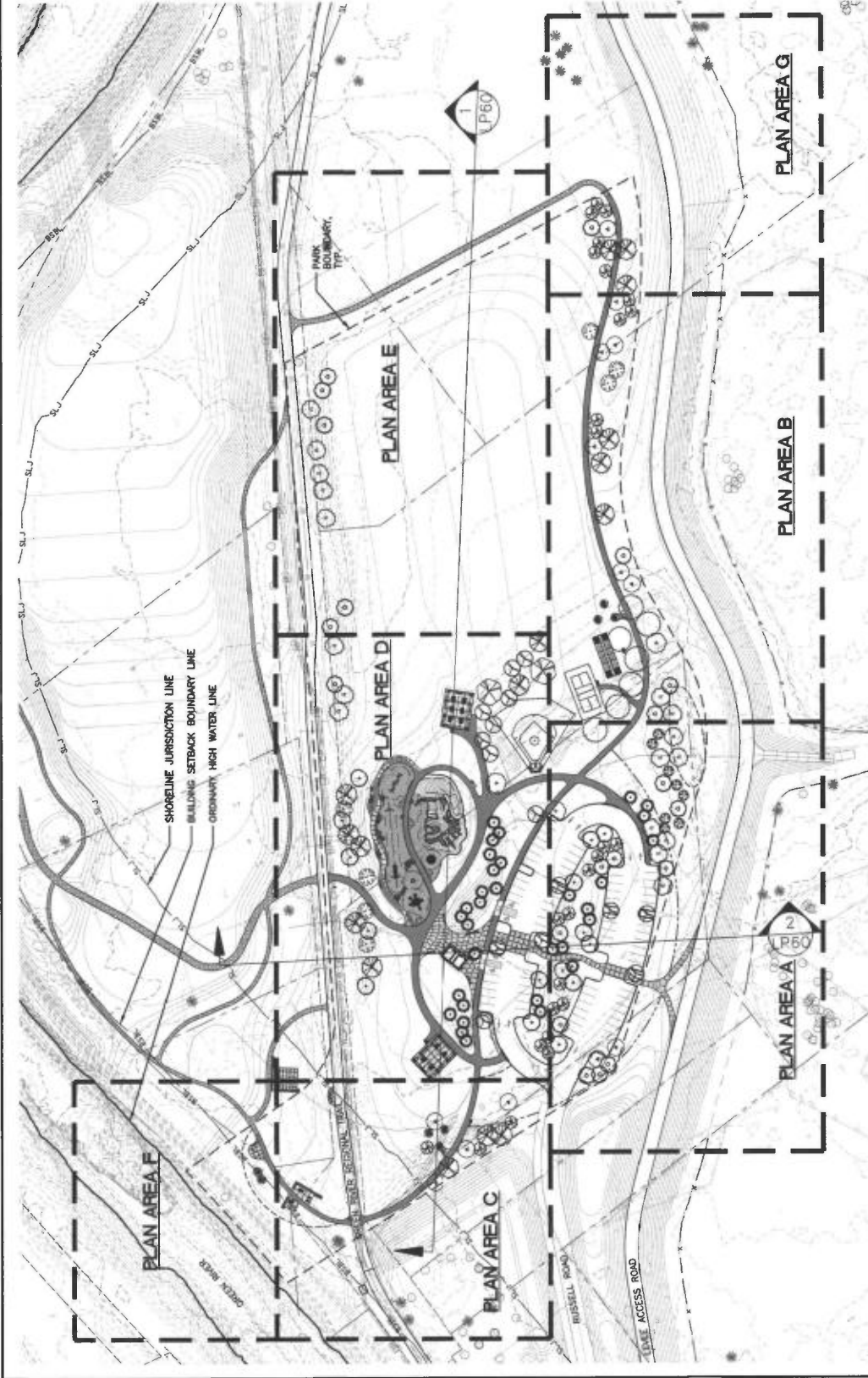
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
*Christie True, Director*

[illegible]

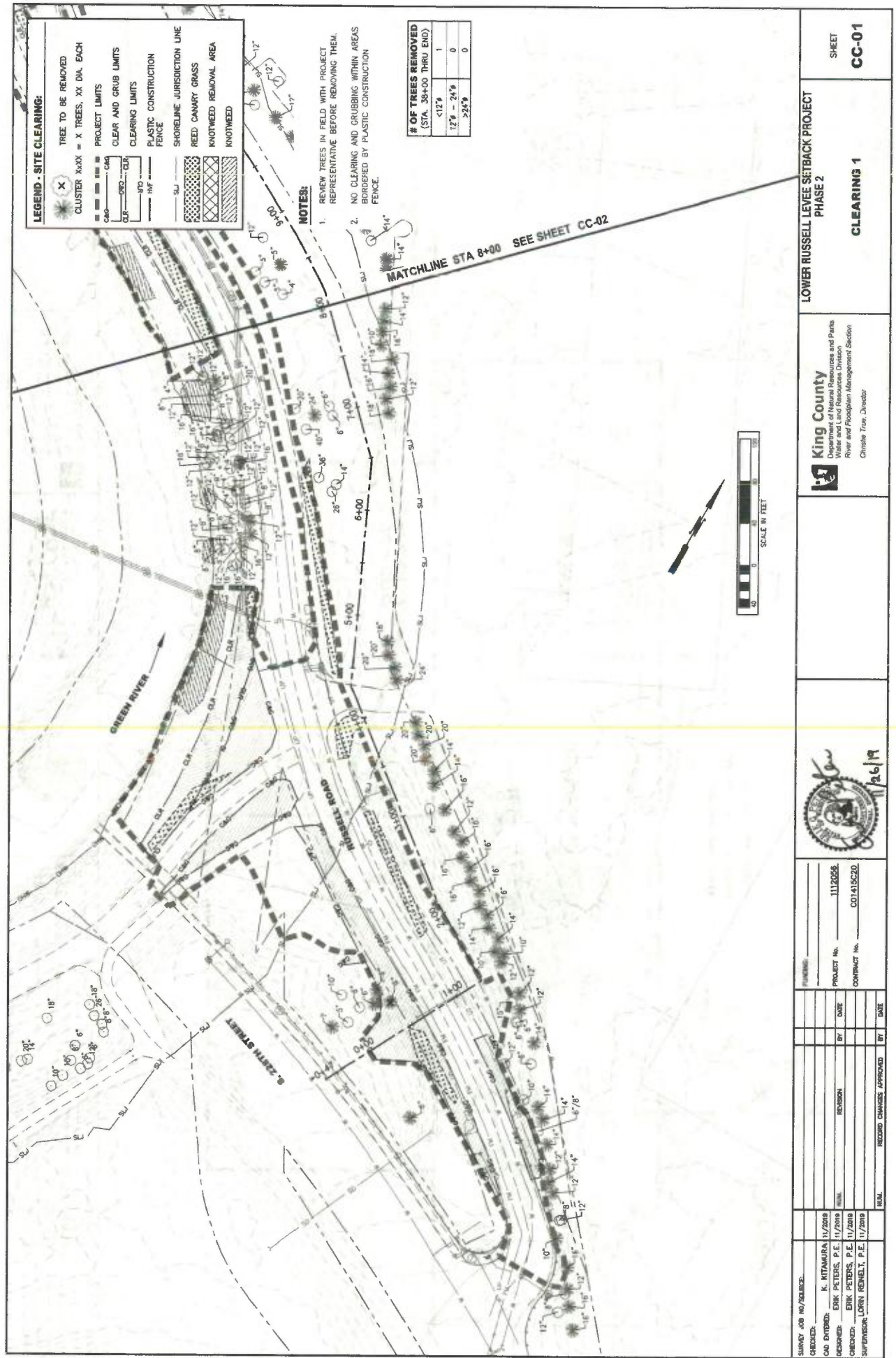


PARK AREA SHEET INDEX:

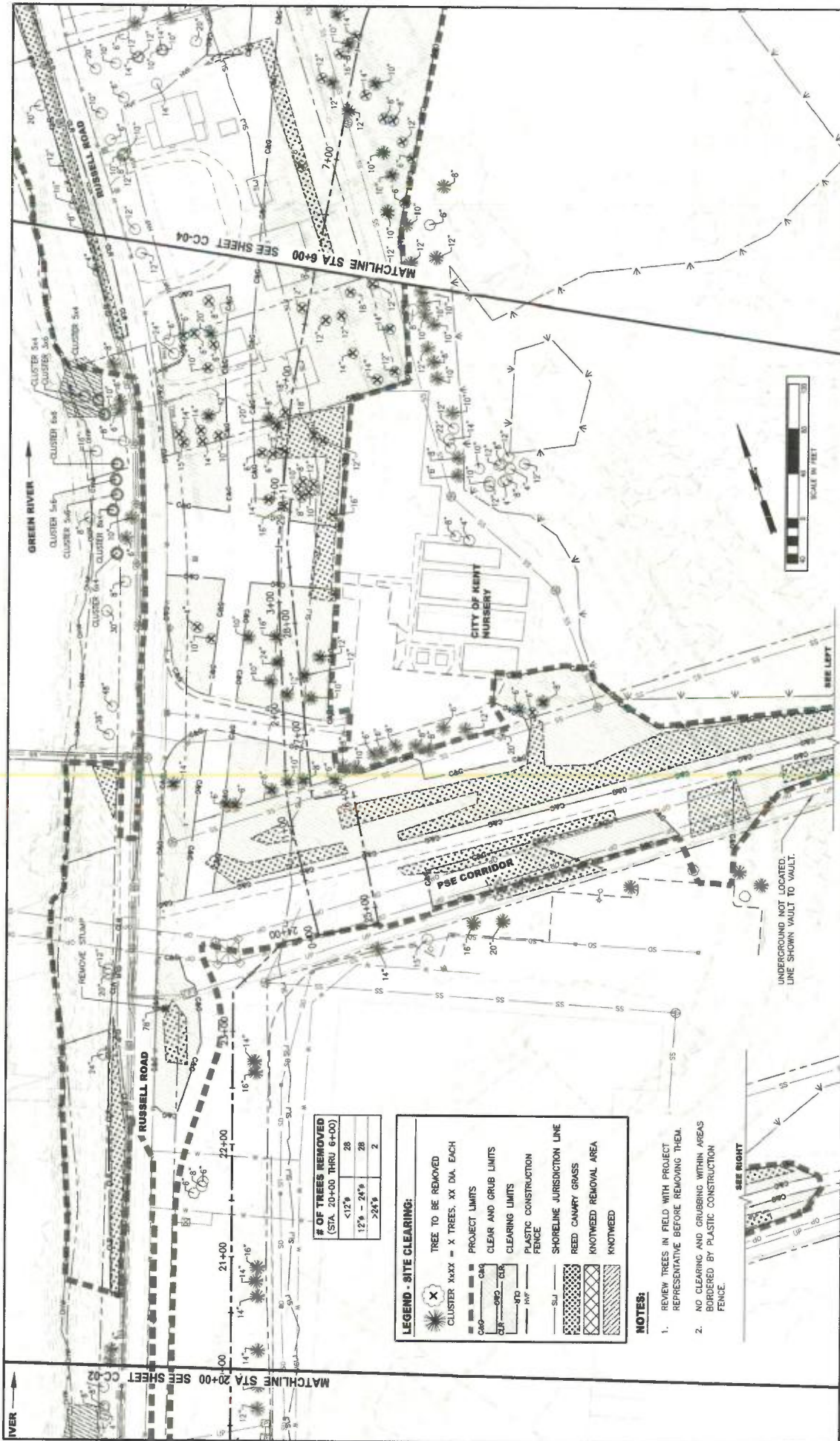
PLAN AREA A  
SHEET LP-11 MATERIALS PLAN  
SHEET LP-21 LAYOUT & GRADING  
SHEET LP-51 IRRIGATION PLAN  
PLAN AREA B  
SHEET LP-12 MATERIALS PLAN  
SHEET LP-22 LAYOUT & GRADING  
SHEET LP-52 PLANTING PLAN  
SHEET LP-53 IRRIGATION PLAN  
PLAN AREA C  
SHEET LP-13 MATERIALS PLAN  
SHEET LP-23 LAYOUT & GRADING  
SHEET LP-53 IRRIGATION PLAN  
PLAN AREA D  
SHEET LP-14 MATERIALS PLAN  
SHEET LP-24 LAYOUT & GRADING  
SHEET LP-44 PLANTING PLAN  
SHEET LP-54 IRRIGATION PLAN  
PLAN AREA E  
SHEET LP-15 MATERIALS PLAN  
SHEET LP-25 LAYOUT & GRADING  
SHEET LP-55 IRRIGATION PLAN  
PLAN AREA F  
SHEET LP-16 MATERIALS PLAN  
SHEET LP-26 LAYOUT & GRADING  
SHEET LP-46 PLANTING PLAN  
SHEET LP-56 IRRIGATION PLAN



<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>PARK AREA KEY PLAN</b></p>		<p><b>SHEET</b> <b>G-17</b></p>	
<p><b>King County</b> Department of Natural Resources and Parks River and Floodplain Management Section Christie Trout, Director</p>		<p><b>Partnership</b> <b>berger</b></p>	
<p><b>11/27/19</b></p>		<p><b>11/27/19</b></p>	
<p><b>PROJECT No.</b> 1112058 <b>CONTRACT No.</b> C01415220</p>		<p><b>RECORDING CHANGES APPROVED</b></p>	
<p><b>DATE</b> 11/27/19 <b>BY</b> [Signature]</p>		<p><b>DATE</b> 11/27/19 <b>BY</b> [Signature]</p>	
<p><b>DESIGNED</b> [Signature] <b>CHECKED</b> [Signature] <b>SUPERVISOR</b> [Signature]</p>		<p><b>DATE</b> 11/27/19 <b>BY</b> [Signature]</p>	







# OF TREES REMOVED (STA 20+00 THRU 6+00)		
<12"	28	
12" - 24"	28	
>24"	2	

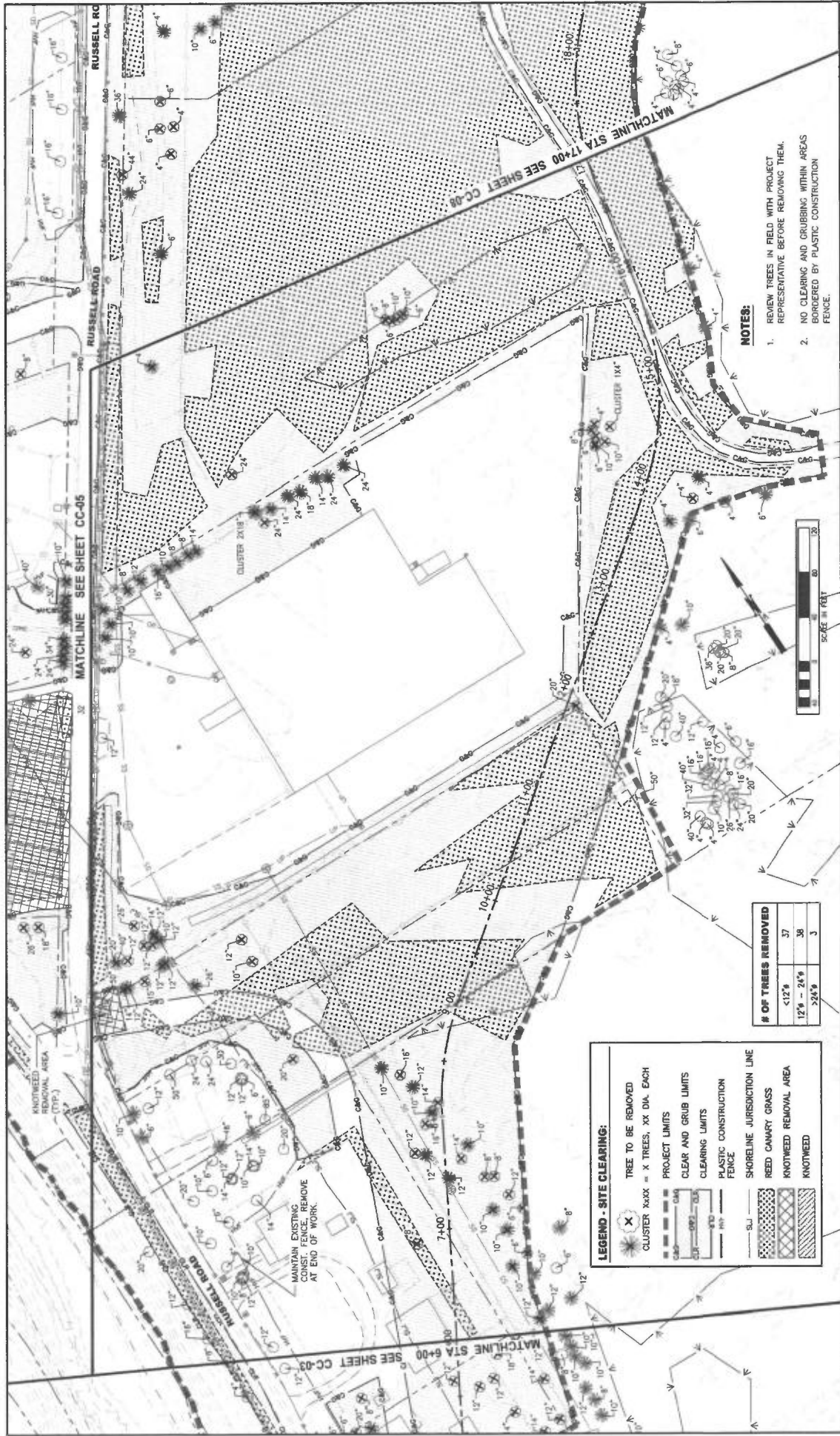
LEGEND - SITE CLEARING:	
(X)	TREE TO BE REMOVED
CLUSTER XXX = X TREES, XX DIA. EACH	
CAG	PROJECT LIMITS
CLP	CLEAR AND GRUB LIMITS
GFD	CLEARING LIMITS
HP	PLASTIC CONSTRUCTION FENCE
SJ	SHORELINE JURISDICTION LINE
REED	REED CANARY GRASS
KNOTWEED	KNOTWEED REMOVAL AREA
KNOTWEED	KNOTWEED

- NOTES:**
- REVIEW TREES IN FIELD WITH PROJECT REPRESENTATIVE BEFORE REMOVING THEM.
  - NO CLEARING AND GRUBBING WITHIN AREAS BORDERED BY PLASTIC CONSTRUCTION FENCE.

SEE RIGHT

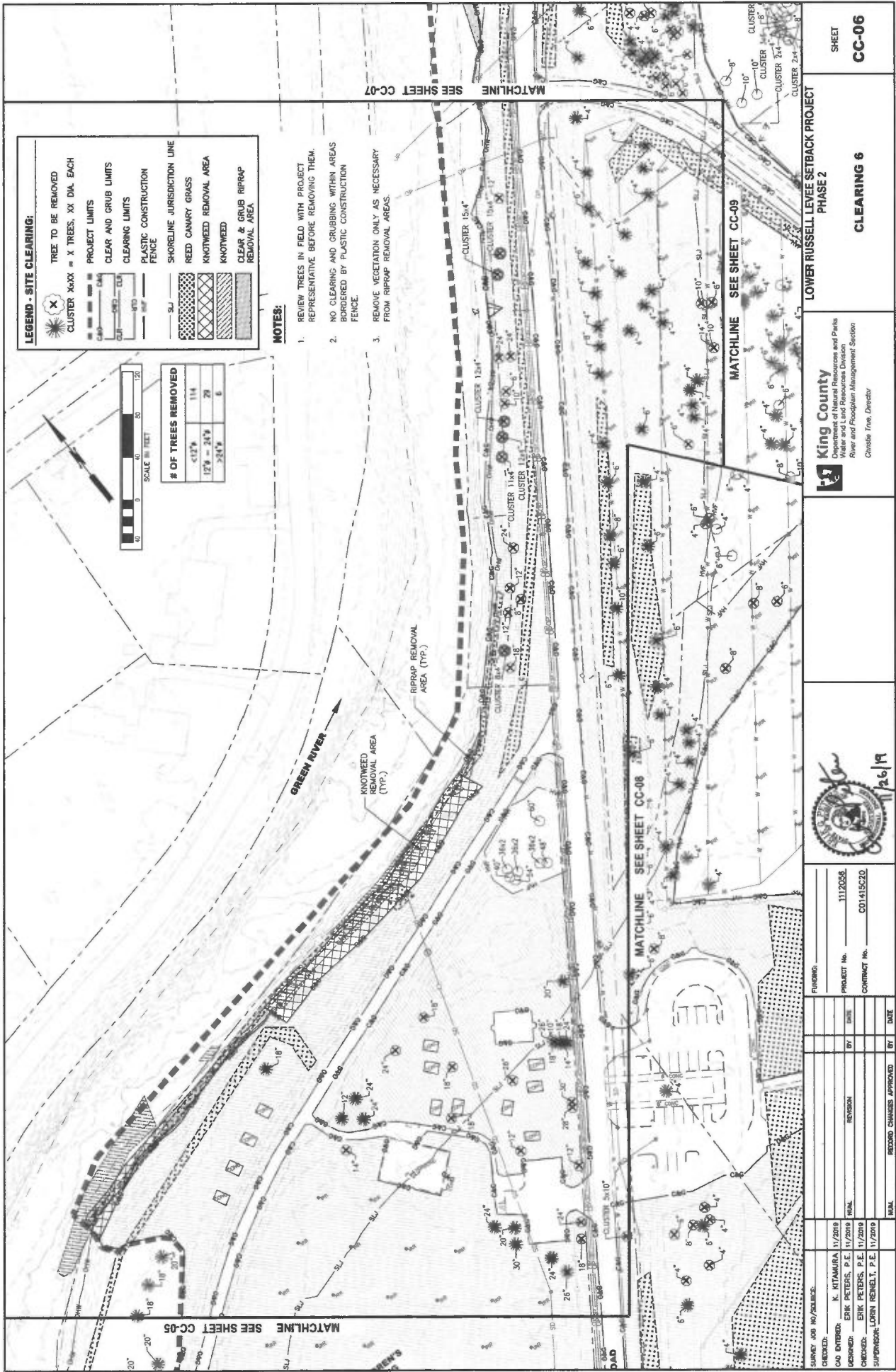
UNDERGROUND NOT LOCATED.  
LINE SHOWN VAULT TO VAULT.

SURVEY JOB NO./SCALE: CHECKED: K. KITAMURA 11/2/2019 CAD ENTERED: ERIC PETERS, P.E. 11/2/2019 DESIGNED: ERIC PETERS, P.E. 11/2/2019 CHECKED: ERIC PETERS, P.E. 11/2/2019 SUPERVISOR: LORIN RENELT, P.E. 11/2/2019		FINISHING: _____ PROJECT NO.: 1113004 CONTRACT NO.: C01415070		SHEET <b>CC-03</b>	
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>CLEARING 3</b>				King County Department of Natural Resources and Parks River and Floodplain Management Section Chrissie Trice, Director	
MATCHLINE STA 20+00 SEE SHEET CC-02		MATCHLINE STA 6+00 SEE SHEET CC-04		SCALE IN FEET 0 10 20 30	



SURVEY JOB NO./SUBJECT: _____ CHECKED: K. KITAMURA 11/2019 CAD ENTERED: ERIC PETERS, P.E. 11/2019 DESIGNED: ERIC PETERS, P.E. 11/2019 CHECKED: LOREN REINELT, P.E. 11/2019 SUPERVISOR: _____		FUNDING: _____ PROJECT No. 1112052 CONTRACT No. C01415210		KING COUNTY Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine True, Director		SHEET <b>CC-04</b>	
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>CLEARING 4</b>							





11/26/19

FUNDING: PROJECT No. 1112055 CONTRACT No. C01415210

CHECKED: K. KITAMURA 11/2019  
 DESIGNED: ERIC PETERS, P.E. 11/2019  
 CHECKED: ERIC PETERS, P.E. 11/2019  
 SUPERVISOR: LORNA REMELT, P.E. 11/2019

RECORD CHANGES APPROVED BY DATE

REVISION BY DATE

REVISION BY DATE

REVISION BY DATE

REVISION BY DATE

REVISION BY DATE

REVISION BY DATE

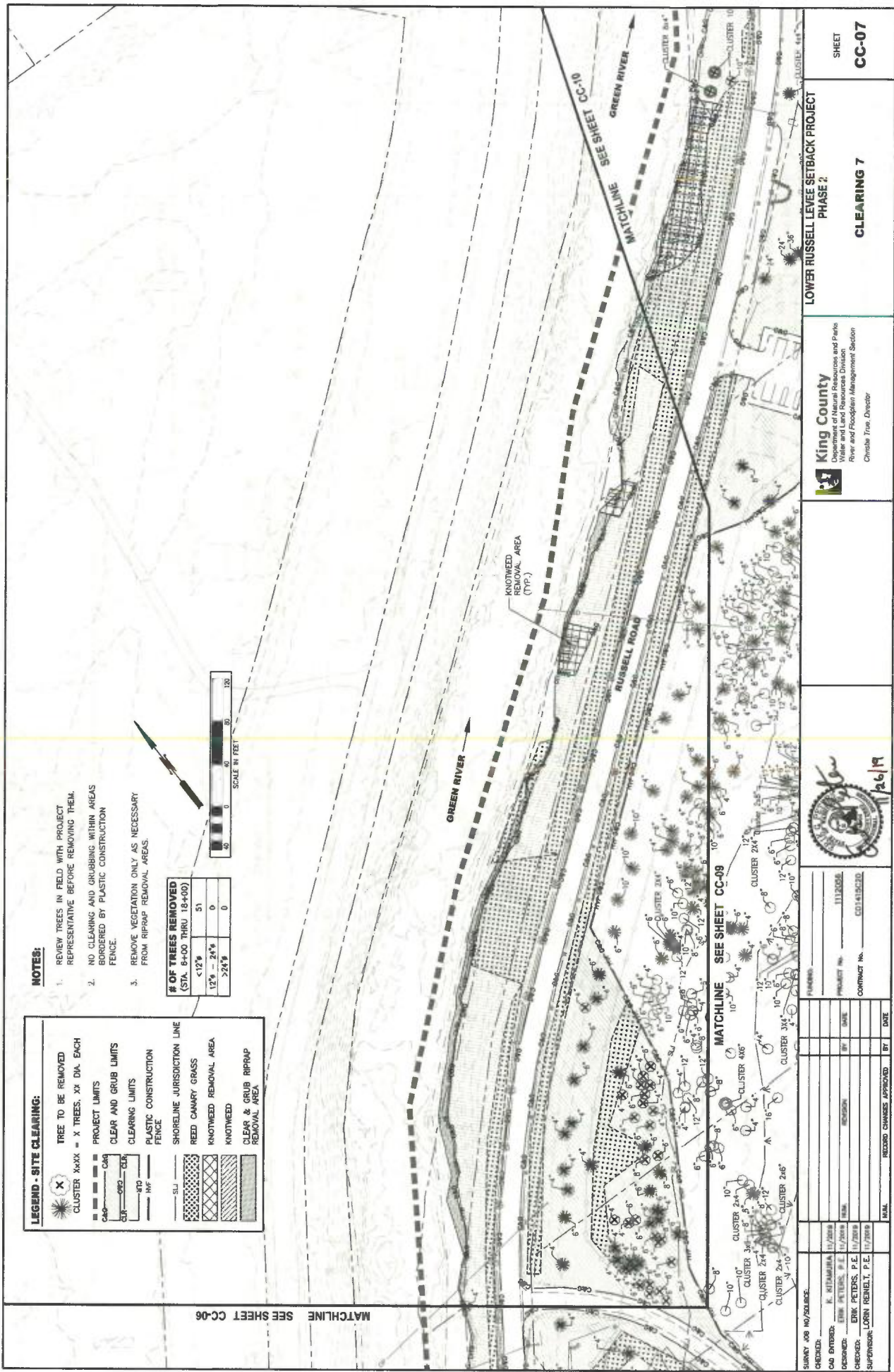
REVISION BY DATE

REVISION BY DATE

SHEET CC-06

LOWER RUSSELL LEVEE SETBACK PROJECT  
 PHASE 2  
 CLEARING 6

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



**NOTES:**

- 1. REVIEW TREES IN FIELD WITH PROJECT REPRESENTATIVE BEFORE REMOVING THEM.
- 2. NO CLEANING AND GRUBBING WITHIN AREAS BORDERED BY PLASTIC CONSTRUCTION FENCE.
- 3. REMOVE VEGETATION ONLY AS NECESSARY FROM RIPRAP REMOVAL AREAS.

# OF TREES REMOVED (STA. 6+00 THRU 18+00)	
<12"	51
12" - 24"	0
>24"	0

**LEGEND - SITE CLEARING:**

TREE TO BE REMOVED

CLUSTER XXXX = X TREES, XX DIA. EACH

PROJECT LIMITS

CLEAR AND GRUB LIMITS

CLEARING LIMITS

PLASTIC CONSTRUCTION FENCE

SHORELINE JURISDICTION LINE

REED CANARY GRASS

KNOTTWEED REMOVAL AREA

CLEAR & GRUB RIPRAP REMOVAL AREA

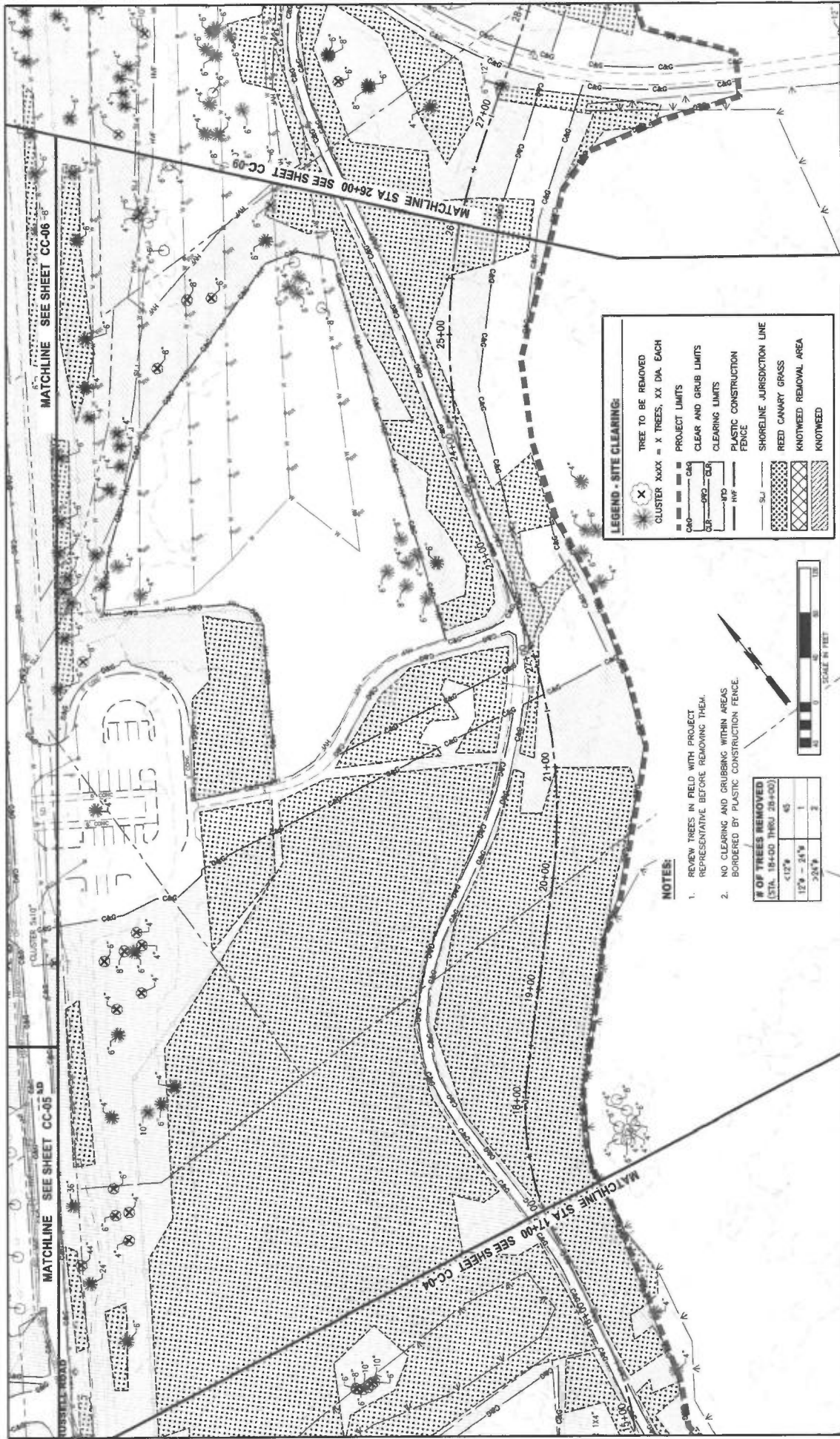
**King County**  
Department of Public Works and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christa Trice, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
PHASE 2:  
**CLEARING 7**

SHEET  
**CC-07**



SURVEY JOB NO./SOURCE:		PROJECT NO. 1112006		CONTRACT NO. C01415C02	
CHECKED: K. KITAHARA 11/2018	DATE: 11/2018				
DESIGNED: ERIC PETERS, P.E. 11/2018	DATE: 11/2018				
CHECKED: ERIC PETERS, P.E. 11/2018	DATE: 11/2018				
SUPERVISOR: LORIN REINELT, P.E. 11/2018	DATE: 11/2018				
RECORD CHANGES APPROVED:		BY: DATE:			



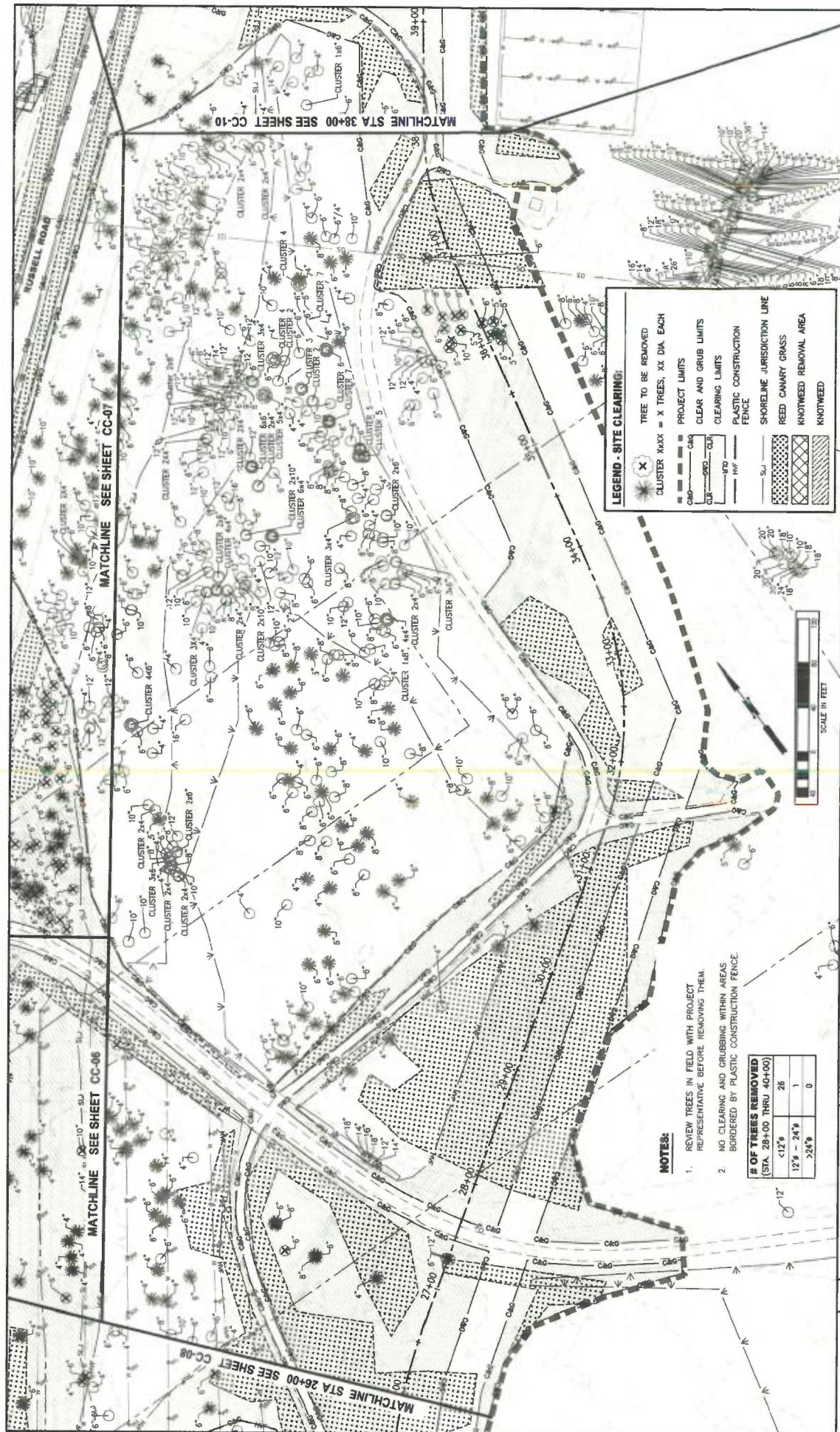
**LEGEND - SITE CLEARING:**

- Tree to be removed: X
- Cluster XXXX = X trees, XX dia. each
- Project limits: Dashed line
- Clear and grub limits: Solid line
- Clearing limits: Dotted line
- Plastic construction fence: Line with cross-hatches
- Shoreline jurisdiction line: Line with 'S/J' label
- Reed canary grass: Area with diagonal hatching
- Knotweed removal area: Area with cross-hatching
- Knotweed: Area with dots

- NOTES:**
- REVIEW TREES IN FIELD WITH PROJECT REPRESENTATIVE BEFORE REMOVING THEM.
  - NO CLEARING AND GRUBBING WITHIN AREAS BORDERED BY PLASTIC CONSTRUCTION FENCE.

# OF TREES REMOVED (STA. 18+00 THRU 28+00)		
<12"	45	
12" - 24"	1	
>24"	2	

<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trae, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>CLEARING 8</b>		SHEET <b>CC-08</b>
		PROJECT No. 1112026 CONTRACT No. C0145220		
SURVEY JOB NO./SOURCE: CHECKED: K. KITAMURA 11/2014 DESIGNED: ERK PETERS, P.E. 11/2014 CHECKED: ERK PETERS, P.E. 11/2014 SUPERVISOR: LOREN RENSLT, P.E. 11/2014		REVIEWED: 11/26/19 PROJECT No. 1112026 CONTRACT No. C0145220		
REVISIONS:		DATE:		
REVISIONS:		DATE:		
REVISIONS:		DATE:		



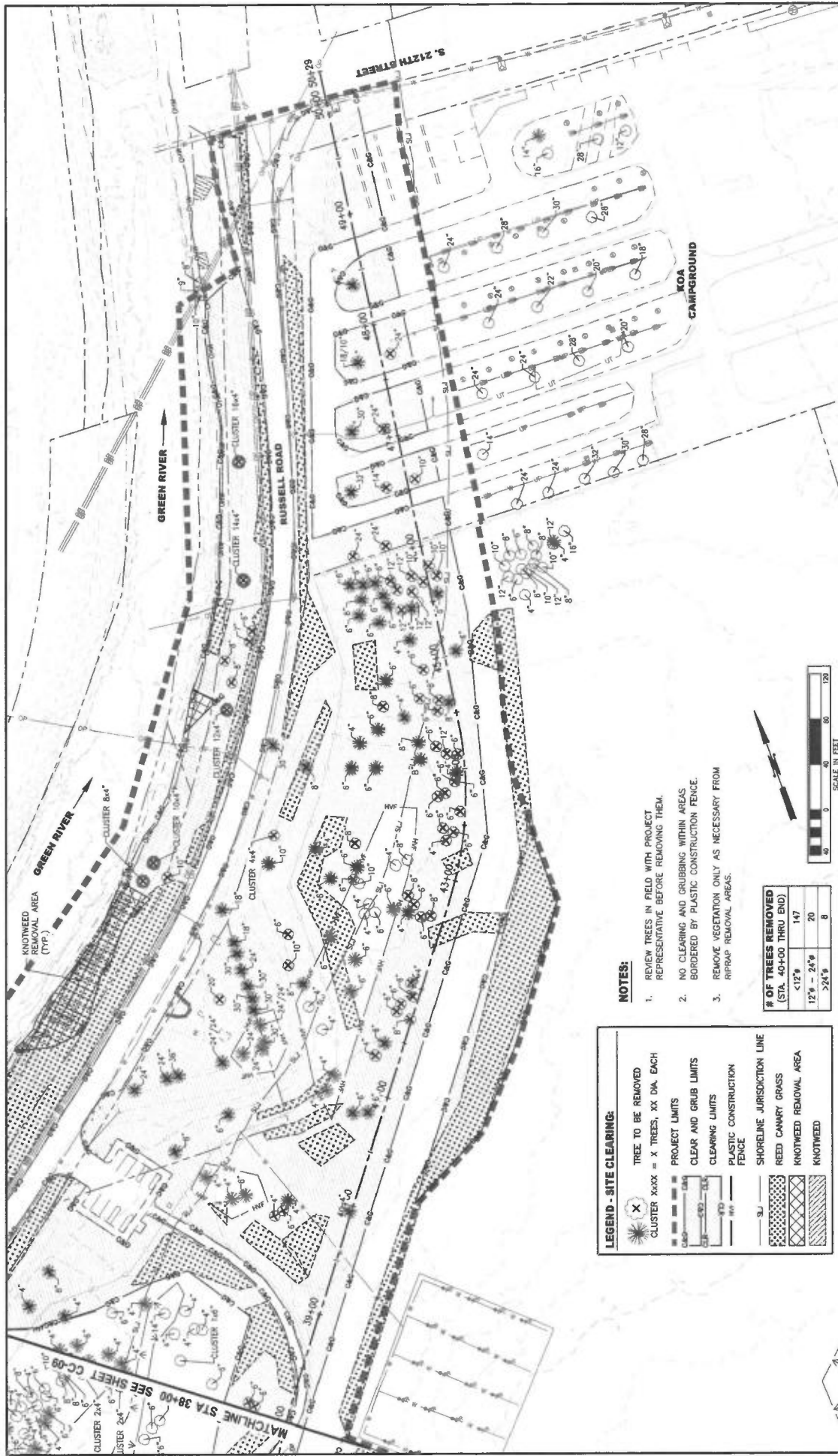
**LEGEND - SITE CLEARING:**

- TREE TO BE REMOVED
- CLUSTER XXXX = X TREES; XX DIA EACH
- PROJECT LIMITS
- CLEAR AND GRUB LIMITS
- CLEARING LIMITS
- PLASTIC CONSTRUCTION FENCE
- SHORELINE JURISDICTION LINE
- REED CANARY GRASS
- KNOTWEED REMOVAL AREA
- KNOTWEED

- NOTES:**
1. REVIEW TREES IN FIELD WITH PROJECT REPRESENTATIVE BEFORE REMOVING THEM
  2. NO CLEARING AND GRUBBING WITHIN AREAS BORDERED BY PLASTIC CONSTRUCTION FENCE.

# OF TREES REMOVED (STA. 28+00 THRU 40+00)		
<12"	25	
12" - 24"	1	
>24"	0	

<p><b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Trice, Director</p>		<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2</p> <p><b>CLEARING 9</b></p>		<p>SHEET <b>CC-09</b></p>
<p><b>DATE:</b> 11/26/19</p>		<p><b>PROJECT NO.:</b> 1112055</p>		<p><b>CONTRACT NO.:</b> C01415220</p>
<p><b>DESIGNED BY:</b> K. KITAHARA 11/2019</p>		<p><b>CHECKED BY:</b> ERIK PETERS, P.E. 11/2019</p>		
<p><b>DRAWN BY:</b> ERIK PETERS, P.E. 11/2019</p>		<p><b>CHECKED BY:</b> ERIK PETERS, P.E. 11/2019</p>		
<p><b>SUPVISED BY:</b> LORIN REINELT, P.E. 11/2019</p>		<p><b>CHECKED BY:</b> LORIN REINELT, P.E. 11/2019</p>		
<p><b>RECORD CHANGES APPROVED:</b></p>		<p><b>DATE:</b></p>		



# NOTES:

1. REVIEW TREES IN FIELD WITH PROJECT REPRESENTATIVE BEFORE REMOVING THEM.
2. NO CLEARING AND GRUBBING WITHIN AREAS BORDERED BY PLASTIC CONSTRUCTION FENCE.
3. REMOVE VEGETATION ONLY AS NECESSARY FROM RIPRAP REMOVAL AREAS.

# OF TREES REMOVED (STA. 40+00 THRU END)	
<12"	147
12" - 24"	20
>24"	8

## LEGEND - SITE CLEARING:

	TREE TO BE REMOVED
	CLUSTER XXXX = X TREES, XX DIA. EACH
	PROJECT LIMITS
	CLEAR AND GRUB LIMITS
	CLEARING LIMITS
	PLASTIC CONSTRUCTION FENCE
	SHORELINE JURISDICTION LINE
	REED CANOPY GRASS
	KNOTTWEED REMOVAL AREA
	KNOTTWEED



PROJECT No. 1112056  
CONTRACT No. C01115270

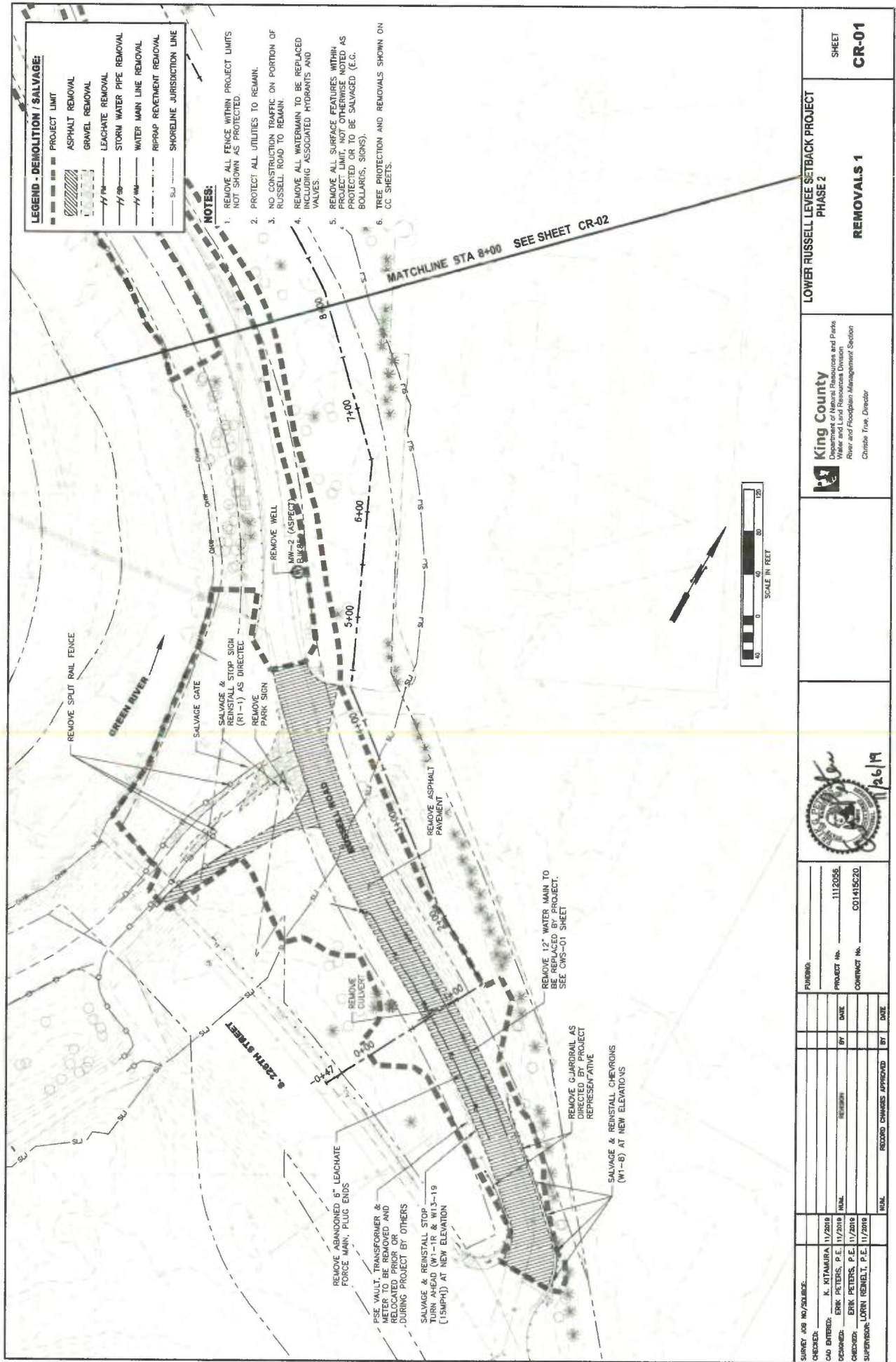
DATE	BY	RECORD CHANGES APPROVED	DATE
11/26/19			

SURVEY JOB NO./SUBJOB: \_\_\_\_\_  
CHECKED: K. KITAMURA, 11/2019  
DESIGNED: ERIC PETERS, P.E., 11/2019  
CHECKED: ERIC PETERS, P.E., 11/2019  
SUPERVISOR: LORIN RENELT, P.E., 11/2019

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

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
**CLEARING 10**

SHEET  
**CC-10**



**LEGEND - DEMOLITION / SALVAGE:**

	PROJECT LIMIT
	ASPHALT REMOVAL
	GRAVEL REMOVAL
	LEACHATE REMOVAL
	STORM WATER PIPE REMOVAL
	WATER MAIN LINE REMOVAL
	RIPPRAP RETENTION REMOVAL
	SHORELINE JURISDICTION LINE

**NOTES:**

1. REMOVE ALL FENCE WITHIN PROJECT LIMITS NOT SHOWN AS PROTECTED.
2. PROTECT ALL UTILITIES TO REMAIN.
3. NO CONSTRUCTION TRAFFIC ON PORTION OF RUSSELL ROAD TO REMAIN.
4. REMOVE ALL WATERMAIN TO BE REPLACED INCLUDING ASSOCIATED HYDRANTS AND VALVES.
5. REMOVE ALL SURFACE FEATURES WITHIN PROJECT LIMIT, NOT OTHERWISE NOTED AS PROTECTED OR TO BE SALVAGED (E.G. BOLLARDS, SIGNS).
6. TREE PROTECTION AND REMOVALS SHOWN ON CC SHEETS.

MATCHLINE STA 8+00 SEE SHEET CR-02



**King County**  
 Department of Public Works and Parks  
 Water and Land Resources Division  
 River and Floodplain Management Section  
 Christine Trone, Director



PURNO:	
PROJECT No.	1112055
CONTRACT No.	C01415C20

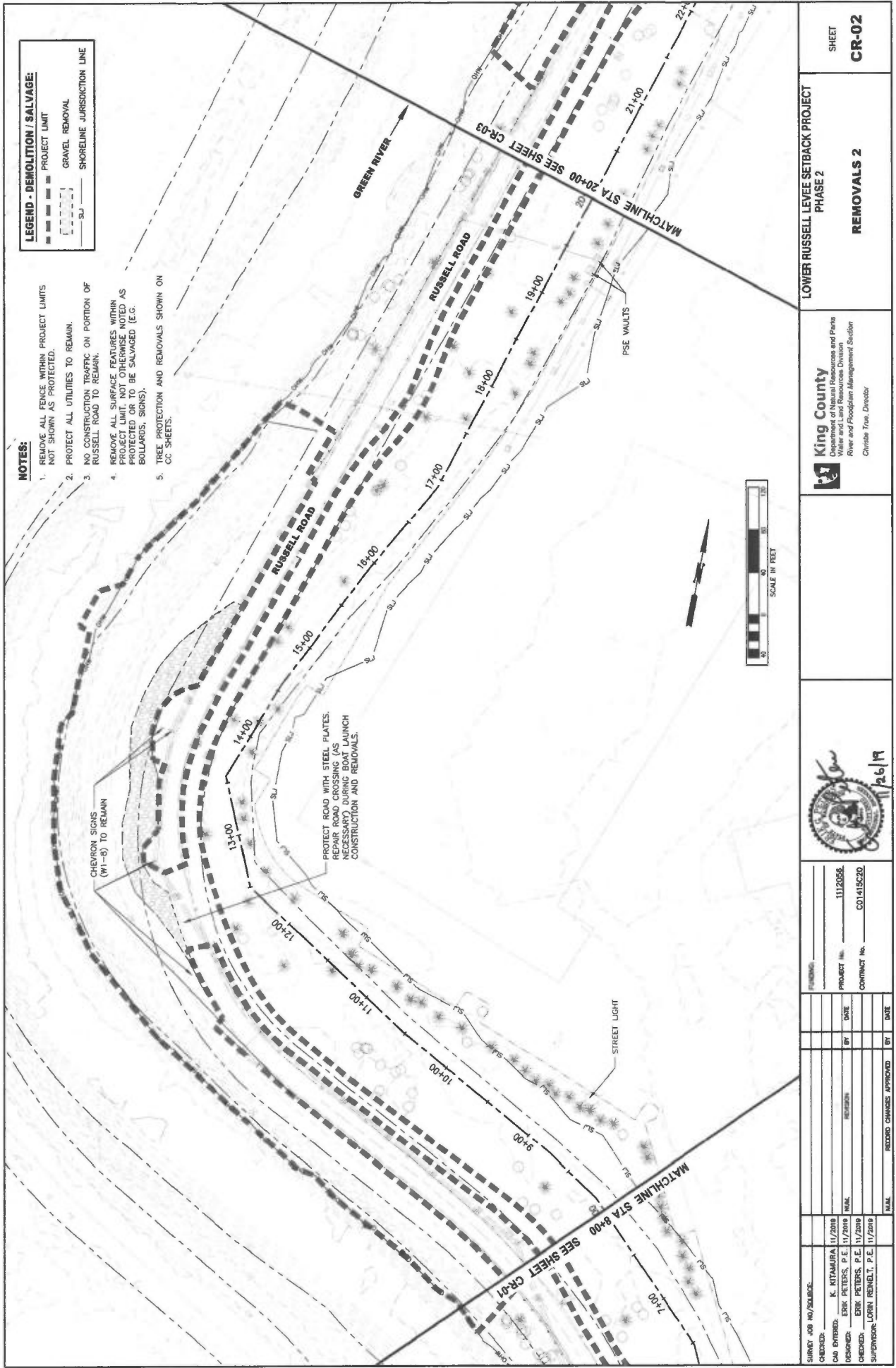
SURVEY JOB NO./SALVAGE	CHECKER	DATE	BY	DATE	RECORD CHANGES APPROVED	BY	DATE
	K. KITAMURA	11/2018					
	ERIK PETERS, P.E.	11/2018					
	ERIK PETERS, P.E.	11/2018					
	LOREN REINHART, P.E.	11/2018					

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**REMOVALS 1**  
**SHEET CR-01**

**NOTES:**

1. REMOVE ALL FENCE WITHIN PROJECT LIMITS NOT SHOWN AS PROTECTED.
2. PROTECT ALL UTILITIES TO REMAIN.
3. NO CONSTRUCTION TRAFFIC ON PORTION OF RUSSELL ROAD TO REMAIN.
4. REMOVE ALL SURFACE FEATURES WITHIN PROJECT LIMIT. NOT OTHERWISE NOTED AS PROTECTED OR TO BE SALVAGED (E.G. BOLLARDS, SIGNS).
5. TREE PROTECTION AND REMOVALS SHOWN ON CC SHEETS.

LEGEND - DEMOLITION / SALVAGE:	
	PROJECT LIMIT
	GRAVEL REMOVAL
	SHORELINE JURISDICTION LINE



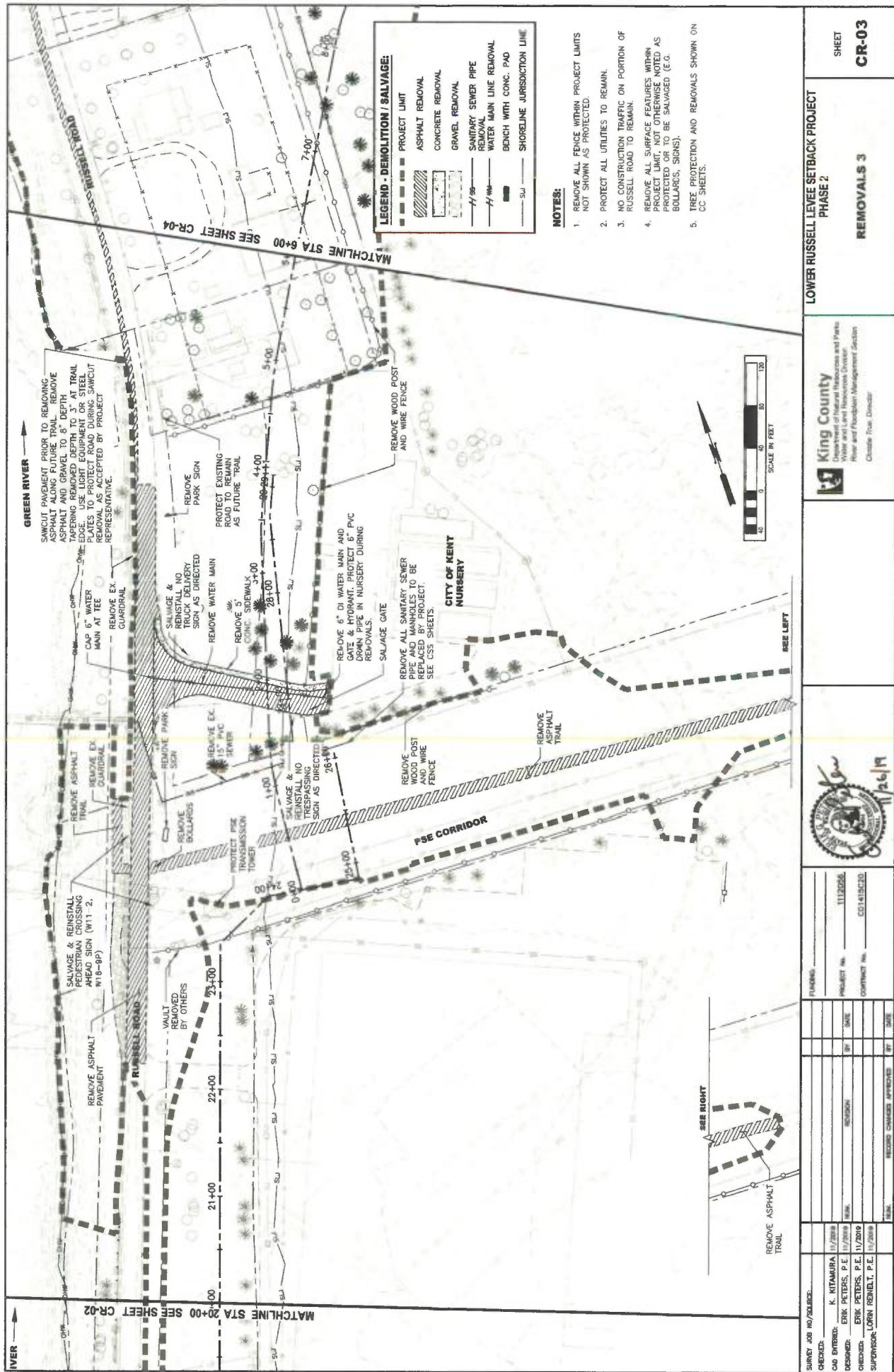
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Trice, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**REMOVALS 2**

SHEET  
**CR-02**

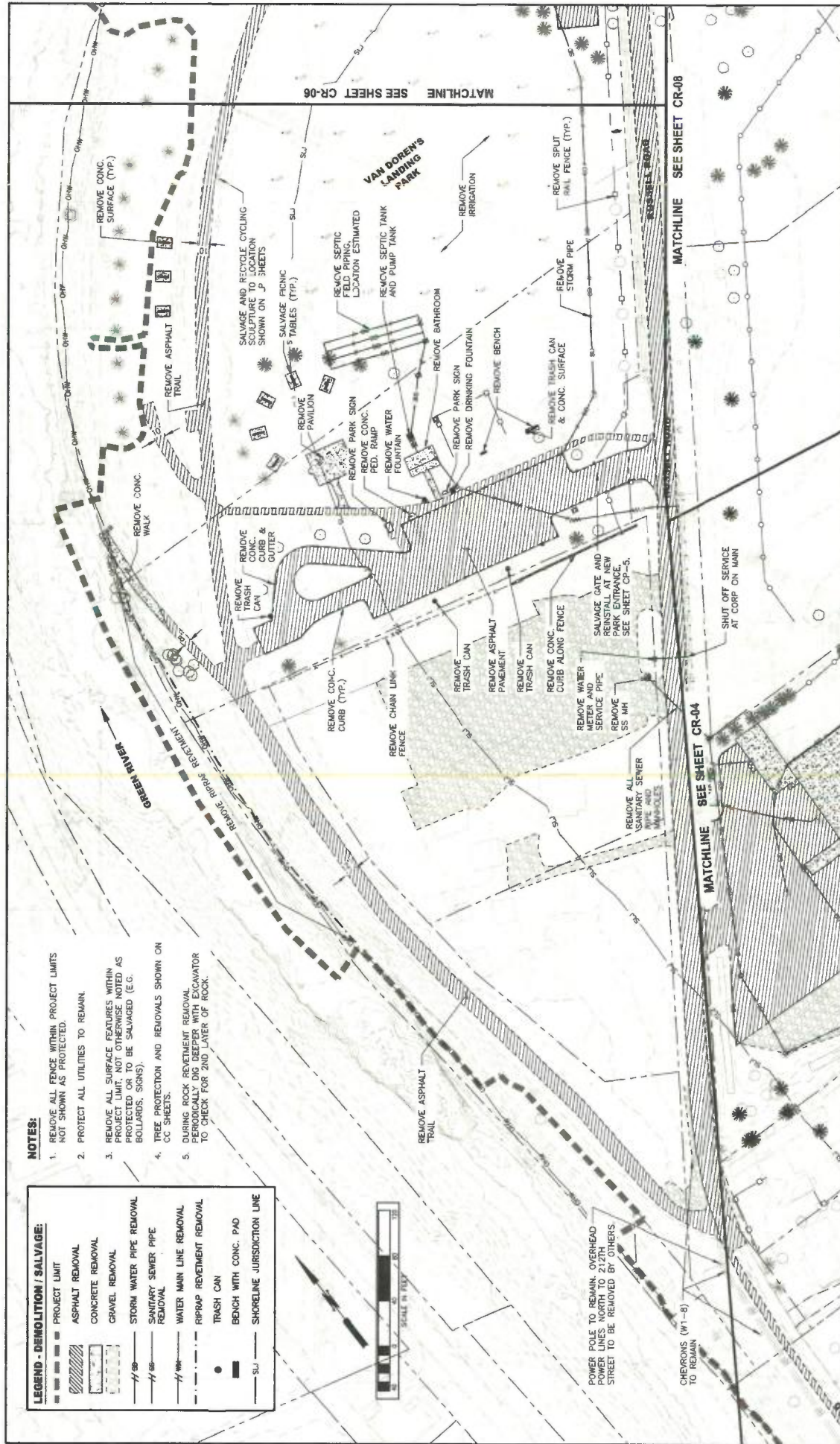
SHRINK JOB NO./SUBJOB:		REVISION:		DATE:	
CHECKED:	K. KITAHARA	PROJECT NO.:	1112056	BY:	
DESIGNED:	ERIK PETERS, P.E.	CONTRACT NO.:	00115C20	DATE:	
CHECKED:	ERIK PETERS, P.E.				
SUPERVISOR:	LOREN REINELT, P.E.				

APPROVED:	DATE:
RECORD CHANGES APPROVED:	DATE:



<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trice, Director				<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>REMOVALS 3</b>				SHEET <b>CR-03</b>
SURVEY JOB NO./SOURCE: _____ CHECKED: K. KITAMURA 11/2008 CAD ENTERED: ERIC PETERS, P.E. 11/2008 DESIGNED: ERIC PETERS, P.E. 11/2008 CHECKED: ERIC PETERS, P.E. 11/2008 SUPERVISOR: LORRI RENEULT, P.E. 11/2008				PLANNING: _____ PROJECT No. 1112006 DATE: _____ CONTRACT No. C01415C20				
RECORDS CHANGED APPROVED: _____ BY: _____				DATE: _____				





**NOTES:**

1. REMOVE ALL FENCE WITHIN PROJECT LIMITS NOT SHOWN AS PROTECTED.
2. PROTECT ALL UTILITIES TO REMAIN.
3. REMOVE ALL SURFACE FEATURES WITHIN PROJECT LIMITS, NOT OTHERWISE NOTED AS PROTECTED OR TO BE SALVAGED (E.G. BOLLARDS, SIGNS).
4. TREE PROTECTION AND REMOVALS SHOWN ON CC SHEETS.
5. DURING ROCK REVENEMENT REMOVAL, PERIODICALLY DIG DEEPER WITH EXCAVATOR TO CHECK FOR 2ND LAYER OF ROCK.

**LEGEND - DEMOLITION / SALVAGE:**

- PROJECT LIMIT
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- GRAVEL REMOVAL
- STORM WATER PIPE REMOVAL
- SANITARY SEWER PIPE REMOVAL
- WATER MAIN LINE REMOVAL
- RIPRAP REVENEMENT REMOVAL
- TRASH CAN
- BENCH WITH CONC. PAD
- SHORELINE JURISDICTION LINE



POWER POLE TO REMAIN, OVERHEAD POWER LINES NORTH TO 212TH STREET TO BE REMOVED BY OTHERS.

CHEVRONS (W1-8) TO REMAIN



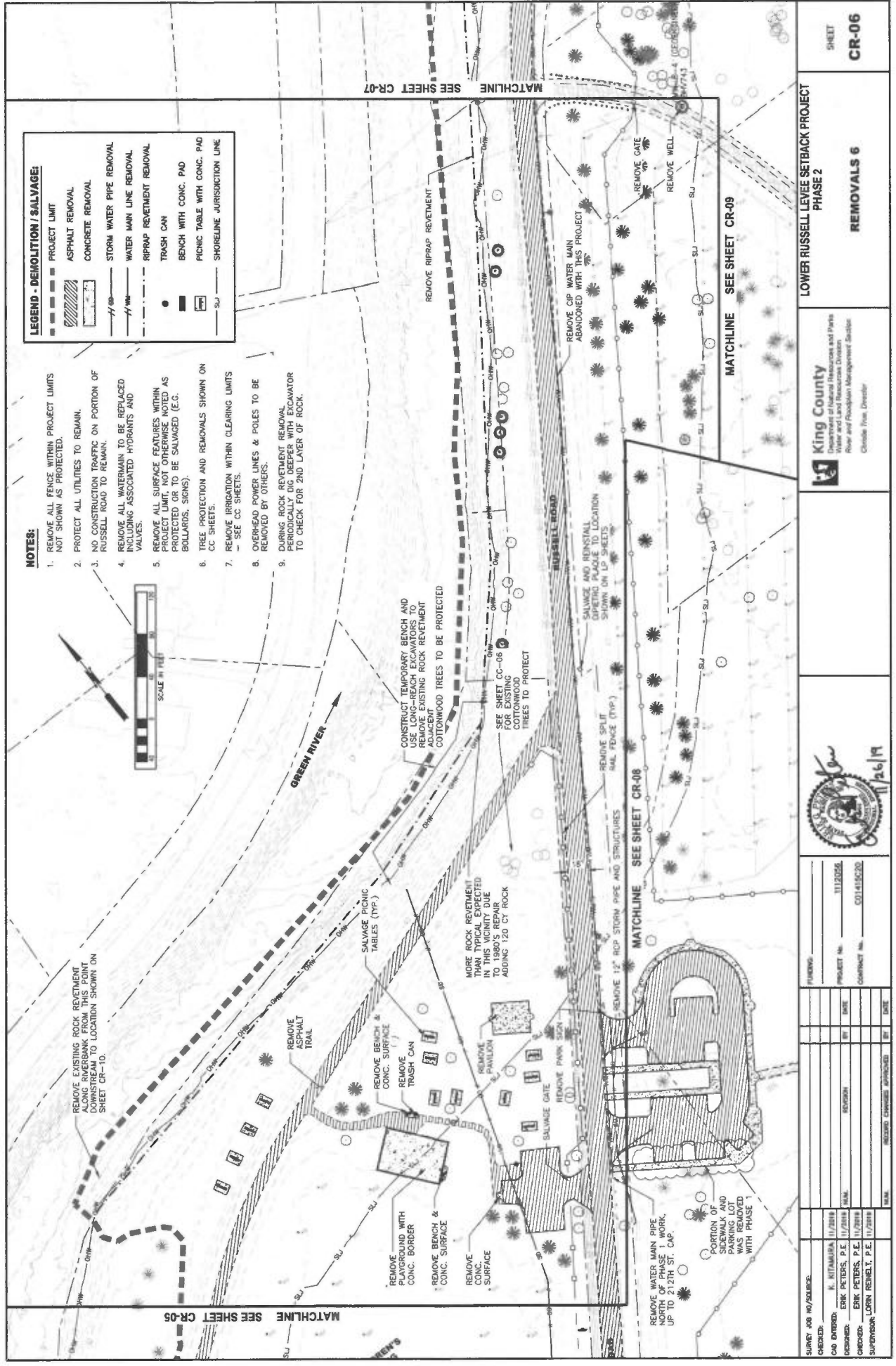
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DESIGNED: K. KITAMURA 11/2019	DATE
CHECKED: ERIC PETERS, P.E. 11/2019	DATE
DESIGNED: ERIC PETERS, P.E. 11/2019	DATE
CHECKED: LORRY RENELLI, P.E. 11/2019	DATE
SUPERVISOR: LORRY RENELLI, P.E. 11/2019	DATE

**King County**  
Department of Public Works  
Water and Land Resources Division  
Rowe and Floodplain Management Section  
Christie Trice, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
PHASE 2

**REMOVALS 5**

**SHEET**  
**CR-05**

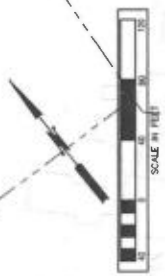


**LEGEND - DEMOLITION / SALVAGE**

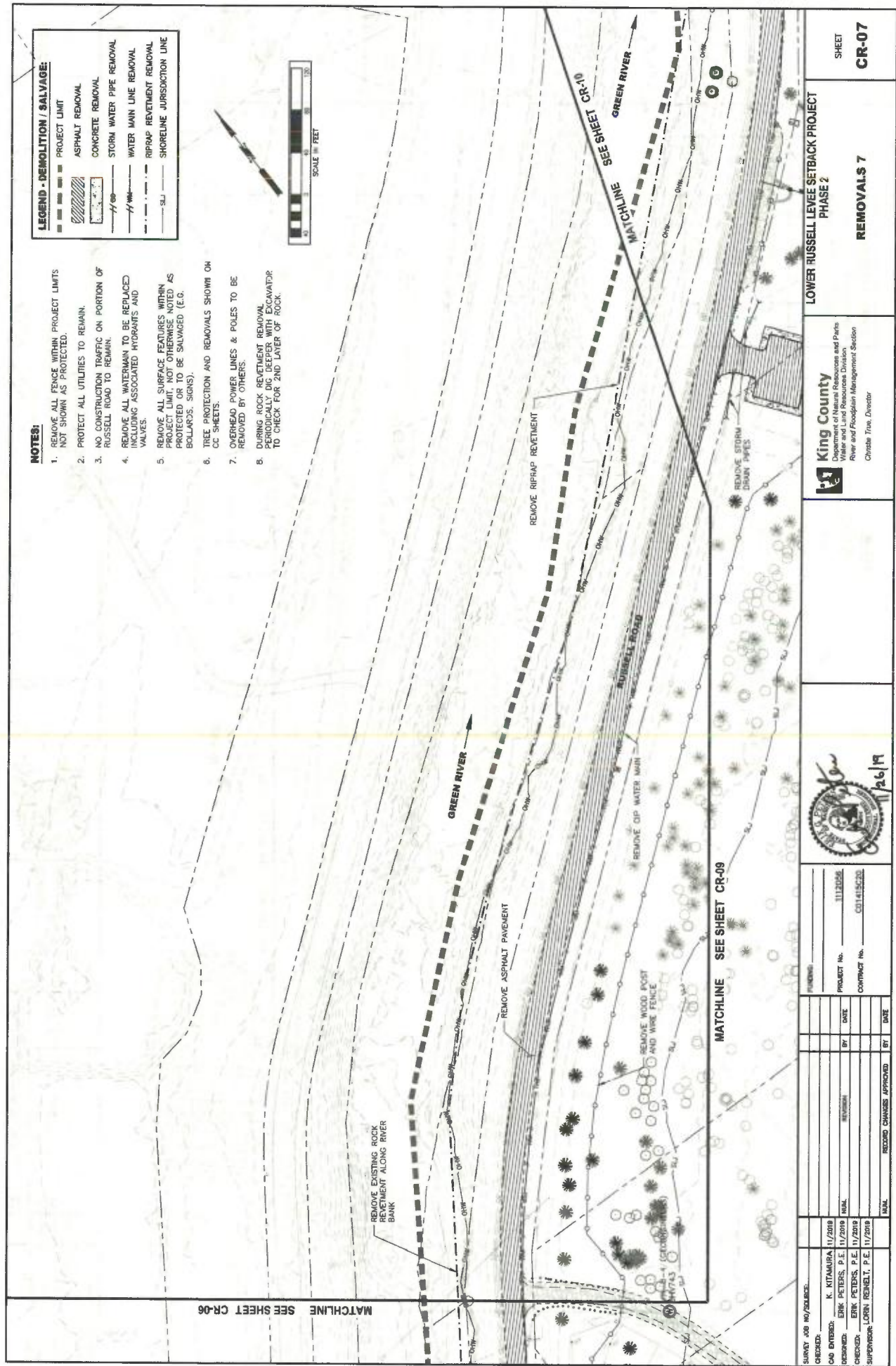
- PROJECT LIMIT
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- STORM WATER PIPE REMOVAL
- WATER MAIN LINE REMOVAL
- RIPRAP REDEMPTION REMOVAL
- TRASH CAN
- BENCH WITH CONC. PAD
- PICNIC TABLE WITH CONC. PAD
- SHORELINE JURISDICTION LINE

**NOTES:**

1. REMOVE ALL FENCE WITHIN PROJECT LIMITS NOT SHOWN AS PROTECTED.
2. PROTECT ALL UTILITIES TO REMAIN.
3. NO CONSTRUCTION TRAFFIC ON PORTION OF RUSSELL ROAD TO REMAIN.
4. REMOVE ALL WATERMAIN TO BE REPLACED INCLUDING ASSOCIATED HYDRANTS AND VALVES.
5. REMOVE ALL SURFACE FEATURES WITHIN PROJECT LIMIT, NOT OTHERWISE NOTED AS PROTECTED OR TO BE SALVAGED (E.G. BOLLARDS, SIGNS).
6. TREE PROTECTION AND REMOVALS SHOWN ON CC SHEETS.
7. REMOVE IRRIGATION WITHIN CLEARING LIMITS - SEE CC SHEETS.
8. OVERHEAD POWER LINES & POLES TO BE REMOVED BY OTHERS.
9. DURING ROCK REDEMPTION REMOVAL PERIODICALLY DIG DEEPER WITH EXCAVATOR TO CHECK FOR 2ND LAYER OF ROCK.



SHEET <b>CR-06</b>	
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>REMOVALS 6</b>	
King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Ryan, Director	
DATE: 11/26/19	
PROJECT No.: 1117004	
CONTRACT No.: C0145620	
SURVEY JOB NO./SCALE:	DATE: 11/2018
CHECKED: K. KITAMURA	DATE: 11/2018
DESIGNED: ERK PETERS, P.E.	DATE: 11/2018
CHECKED: ERK PETERS, P.E.	DATE: 11/2018
SUPERVISOR: LORIN REMELT, P.E.	DATE: 11/2018
REMOVED: APPROVED	DATE:



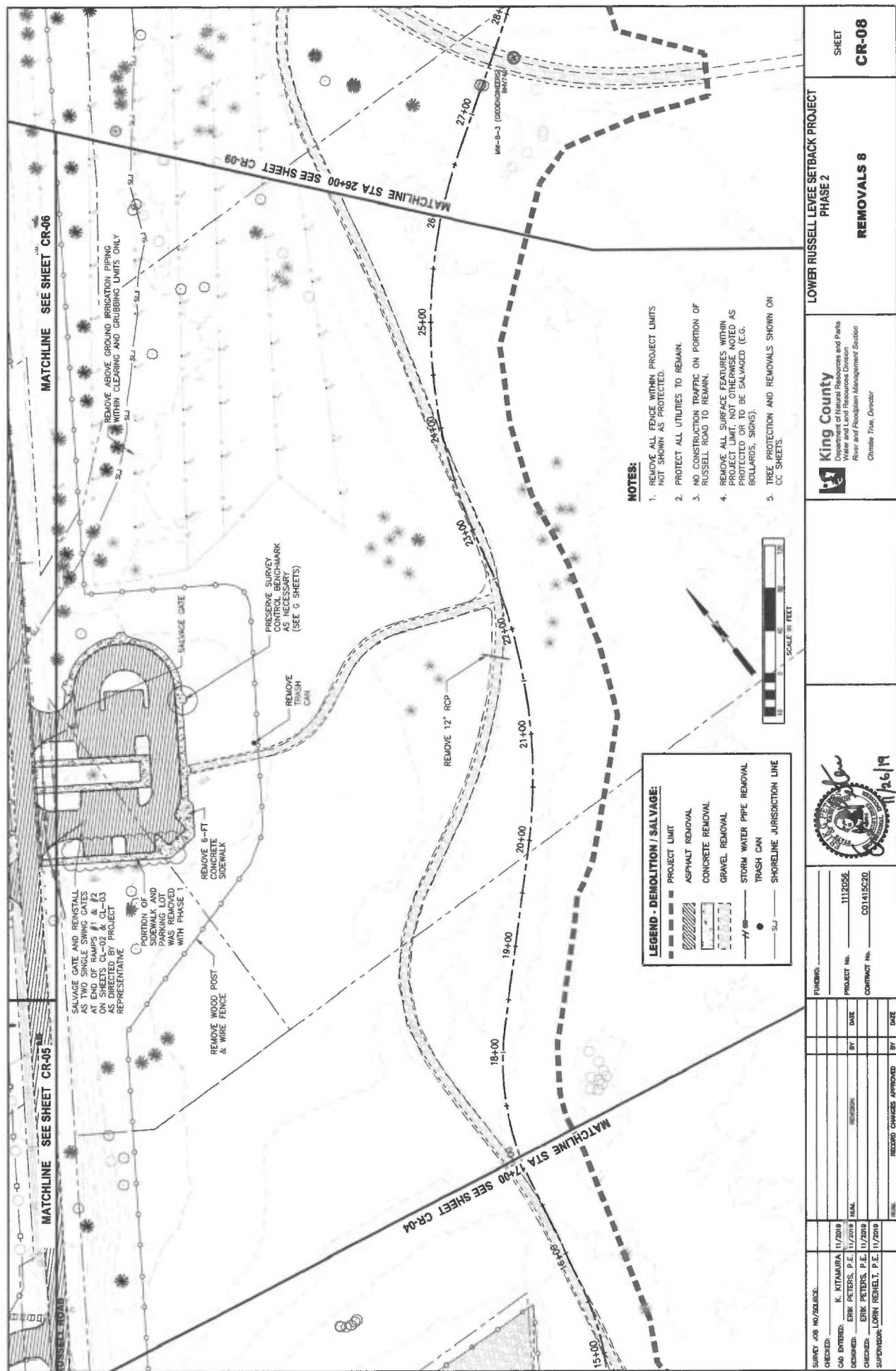
**NOTES:**

1. REMOVE ALL FENCE WITHIN PROJECT LIMITS NOT SHOWN AS PROTECTED.
2. PROTECT ALL UTILITIES TO REMAIN.
3. NO CONSTRUCTION TRAFFIC ON PORTION OF RUSSELL ROAD TO REMAIN.
4. REMOVE ALL WATERMAIN TO BE REPLACED INCLUDING ASSOCIATED HYDRANTS AND VALVES.
5. REMOVE ALL SURFACE FEATURES WITHIN PROJECT LIMIT, NOT OTHERWISE NOTED AS PROTECTED OR TO BE SALVAGED (E.G. BOLLARDS, SIGNS).
6. TREE PROTECTION AND REMOVALS SHOWN ON CC SHEETS.
7. OVERHEAD POWER LINES & POLES TO BE REMOVED BY OTHERS.
8. DURING ROCK REVETMENT REMOVAL PERIODICALLY DIG DEEPER WITH EXCAVATOR TO CHECK FOR 2ND LAYER OF ROCK.

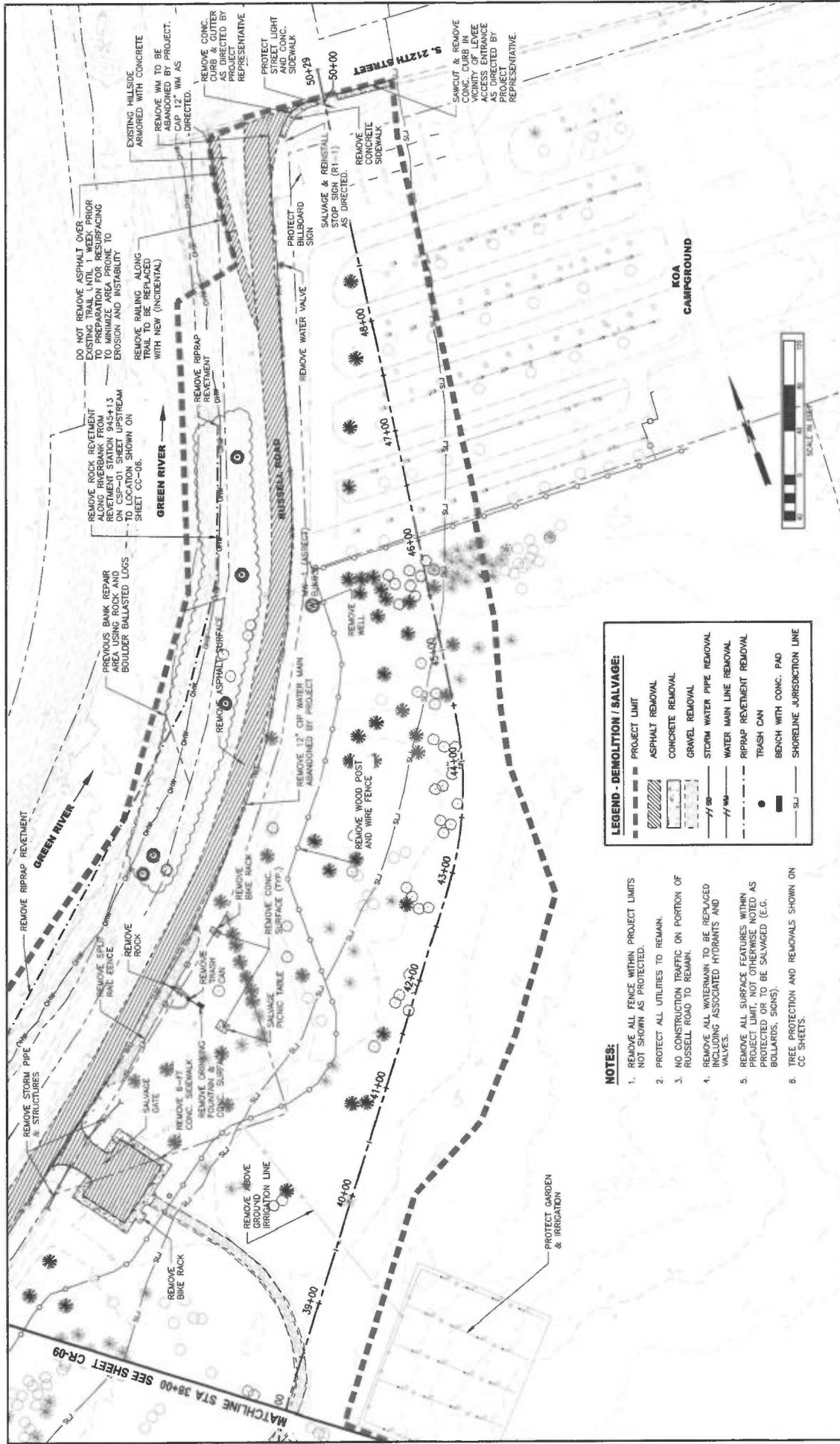
**LEGEND - DEMOLITION / SALVAGE:**

[Symbol]	PROJECT LIMIT
[Symbol]	ASPHALT REMOVAL
[Symbol]	CONCRETE REMOVAL
[Symbol]	STORM WATER PIPE REMOVAL
[Symbol]	WATER MAIN LINE REMOVAL
[Symbol]	RIPRAP REVETMENT REMOVAL
[Symbol]	SHORELINE JURISDICTION LINE

 <b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Truss, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2</b>		<b>SHEET CR-07</b>	
 12619		PROJECT No. 1112006 DATE 11/2019 CONTRACT No. C01415C200		REMOVALS 7	
SURVEY JOB NO./SOURCE: K. KITAMURA 11/2019		CHECKED: ERK PETERS, P.E. 11/2019		BY DATE	
DESIGNED: ERK PETERS, P.E. 11/2019		CHECKED: ERK PETERS, P.E. 11/2019		BY DATE	
SUPERVISOR: LORIN REINELT, P.E. 11/2019		CHECKED: LORIN REINELT, P.E. 11/2019		BY DATE	
APPROVED: [Signature]		RECORD CHANGES		APPROVED BY DATE	





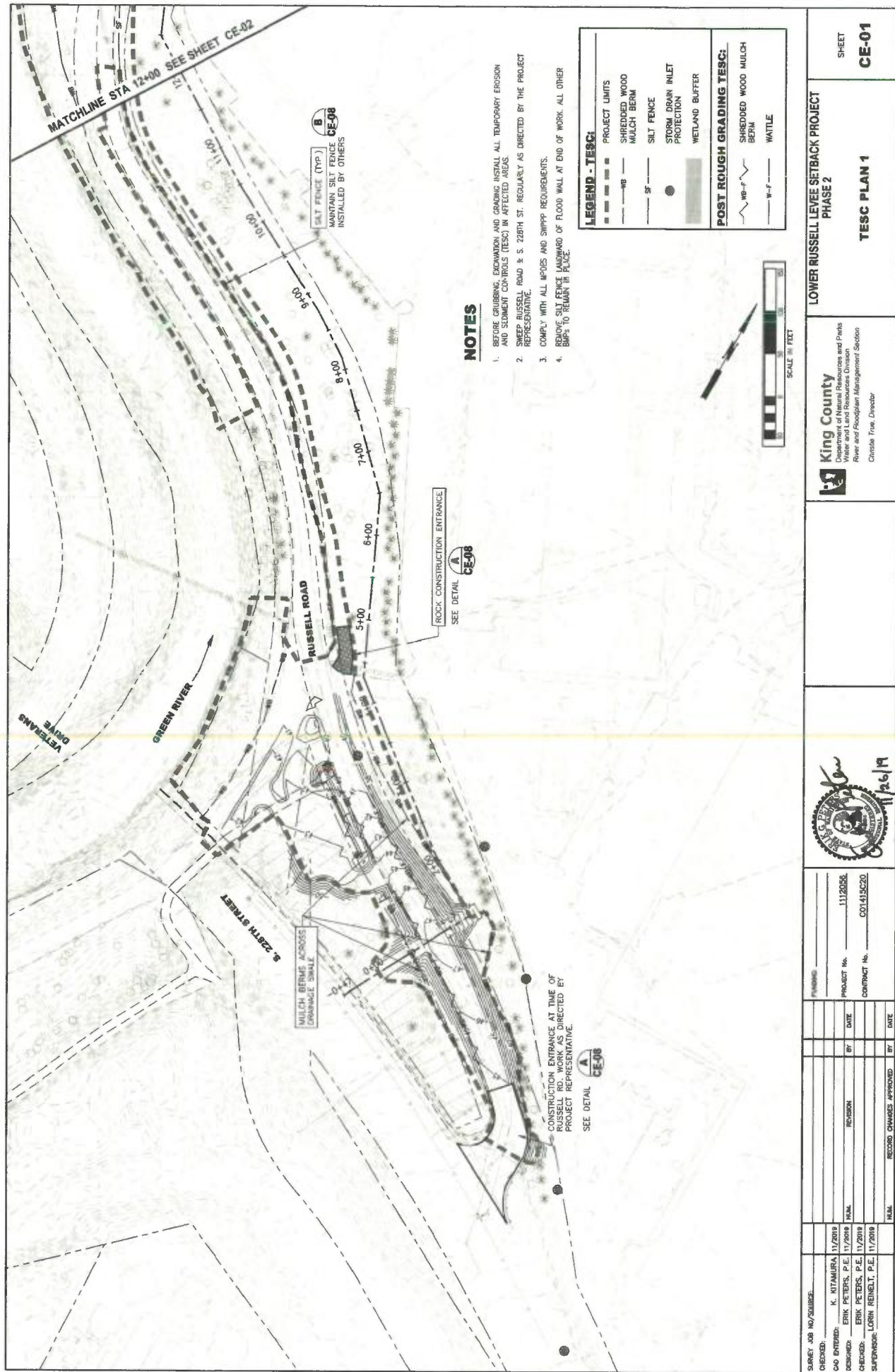


**LEGEND - DEMOLITION / SALVAGE:**

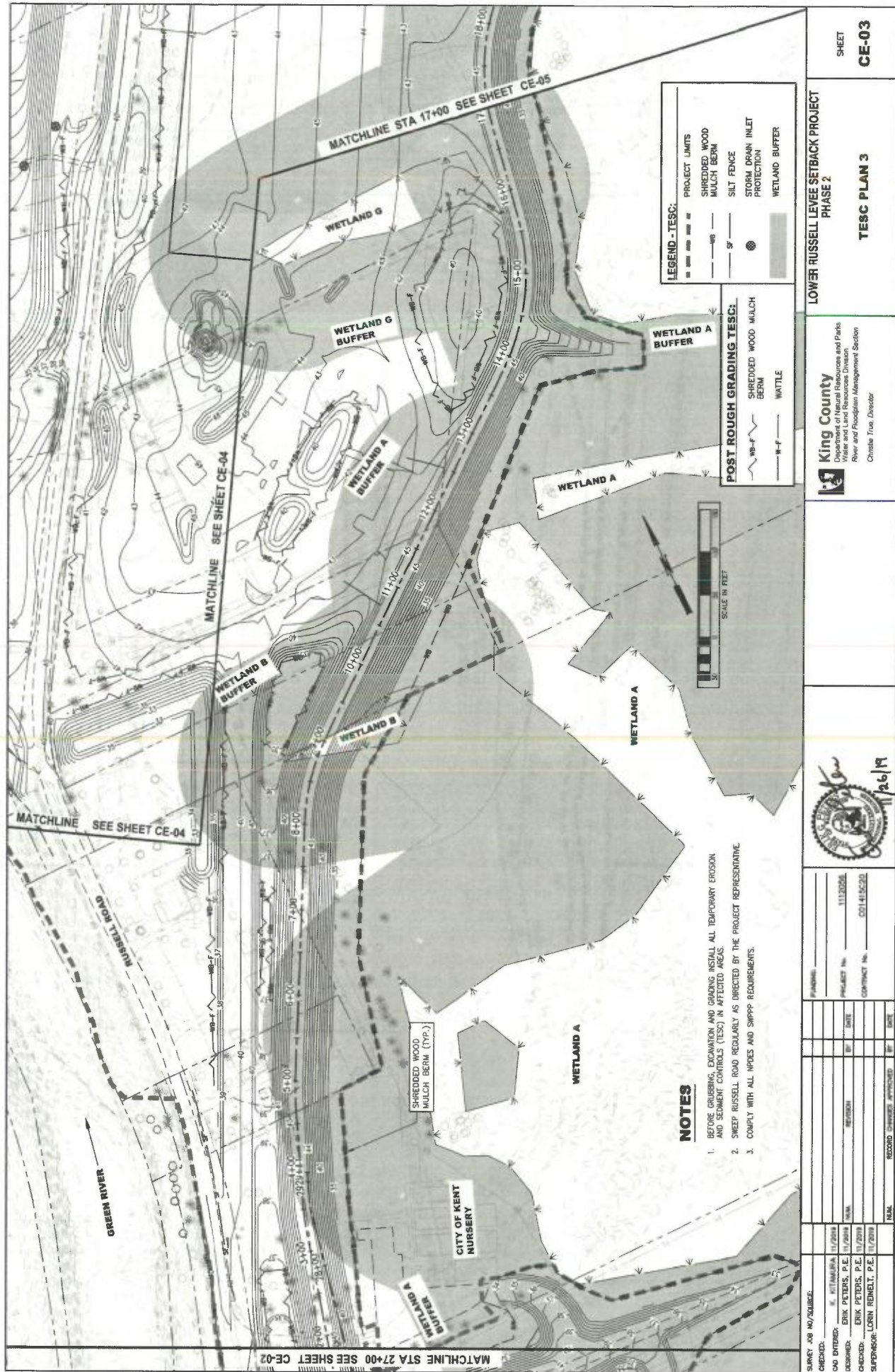
- PROJECT LIMIT
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- GRAVEL REMOVAL
- STORM WATER PIPE REMOVAL
- WATER MAIN LINE REMOVAL
- RRAP REMOVAL
- TRASH CAN
- BENCH WITH CONC. PAD
- SHORELINE JURISDICTION LINE

- NOTES:**
1. REMOVE ALL FENCE WITHIN PROJECT LIMITS NOT SHOWN AS PROTECTED.
  2. PROTECT ALL UTILITIES TO REMAIN.
  3. NO CONSTRUCTION TRAFFIC ON PORTION OF RUSSELL ROAD TO REMAIN.
  4. REMOVE ALL WATERMAIN TO BE REPLACED INCLUDING ASSOCIATED HYDRANTS AND VALVES.
  5. REMOVE ALL SURFACE FEATURES WITHIN PROJECT LIMIT, NOT OTHERWISE NOTED AS PROTECTED OR TO BE SALVAGED (E.G. BOLLARDS, SIGNS).
  6. TREE PROTECTION AND REMOVALS SHOWN ON CC SHEETS.

SURVEY JOB NO./SCALE:		CHECKED: K. KITAMURA, 11/2019		PROJECT NO. 112056		SHEET CR-10	
DESIGNED: ERIC PETERS, P.E. 11/2019		BY: ERIC PETERS, P.E. 11/2019		CONTRACT NO. CD1415620		REMOVALS 10	
CHECKED: ERIC PETERS, P.E. 11/2019		BY: ERIC PETERS, P.E. 11/2019		DATE: 11/26/19		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2	
SUPERVISOR: LORIN REINELT, P.E. 11/2019		BY: LORIN REINELT, P.E. 11/2019		DATE: 11/26/19		King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Citrus Tree Director	
RECORD CHANGES APPROVED:		BY:		DATE:		CR-10	







**LEGEND - TESC:**

- PROJECT LIMITS
- SHRUBBED WOOD MULCH BERM
- TURBIDITY CURTAIN
- SILT FENCE
- STORM DRAIN INLET PROTECTION
- WETLAND BUFFER

**POST ROUGH GRADING TESC:**

- SHRUBBED WOOD MULCH BERM
- WATTLE

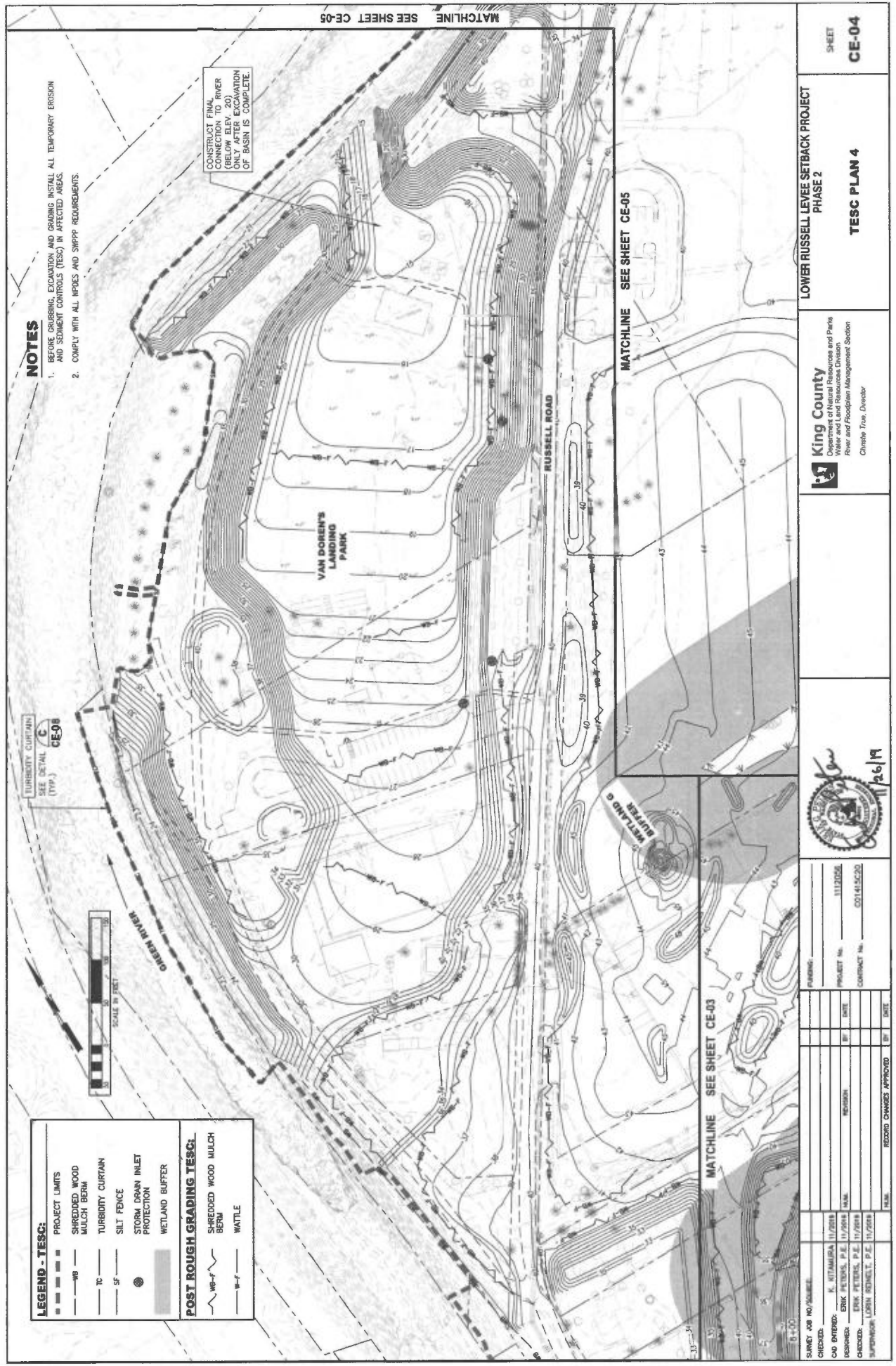
TURBIDITY CURTAIN  
SEE DETAIL C-03  
(TYP.)



**NOTES**

- BEFORE GRADING, EXCAVATION AND GRADING INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROLS (TESC) IN AFFECTED AREAS.
- COMPLY WITH ALL NPDES AND SWPPP REQUIREMENTS.

CONSTRUCT FINAL EROSION CONTROL (BELOW ELEV. 20) ONLY AFTER EXCAVATION OF BASIN IS COMPLETE.



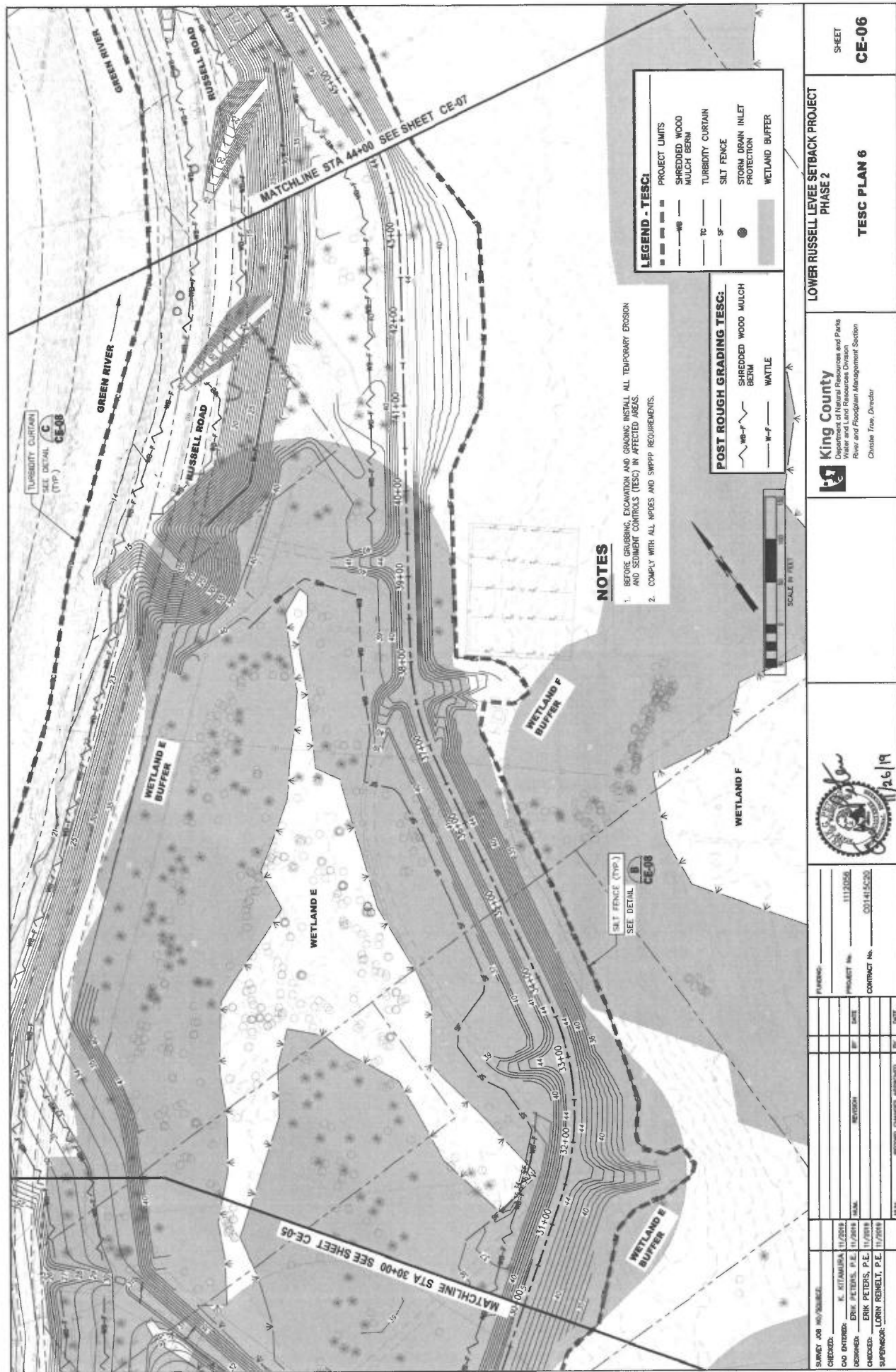
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Chrisa Fox, Director

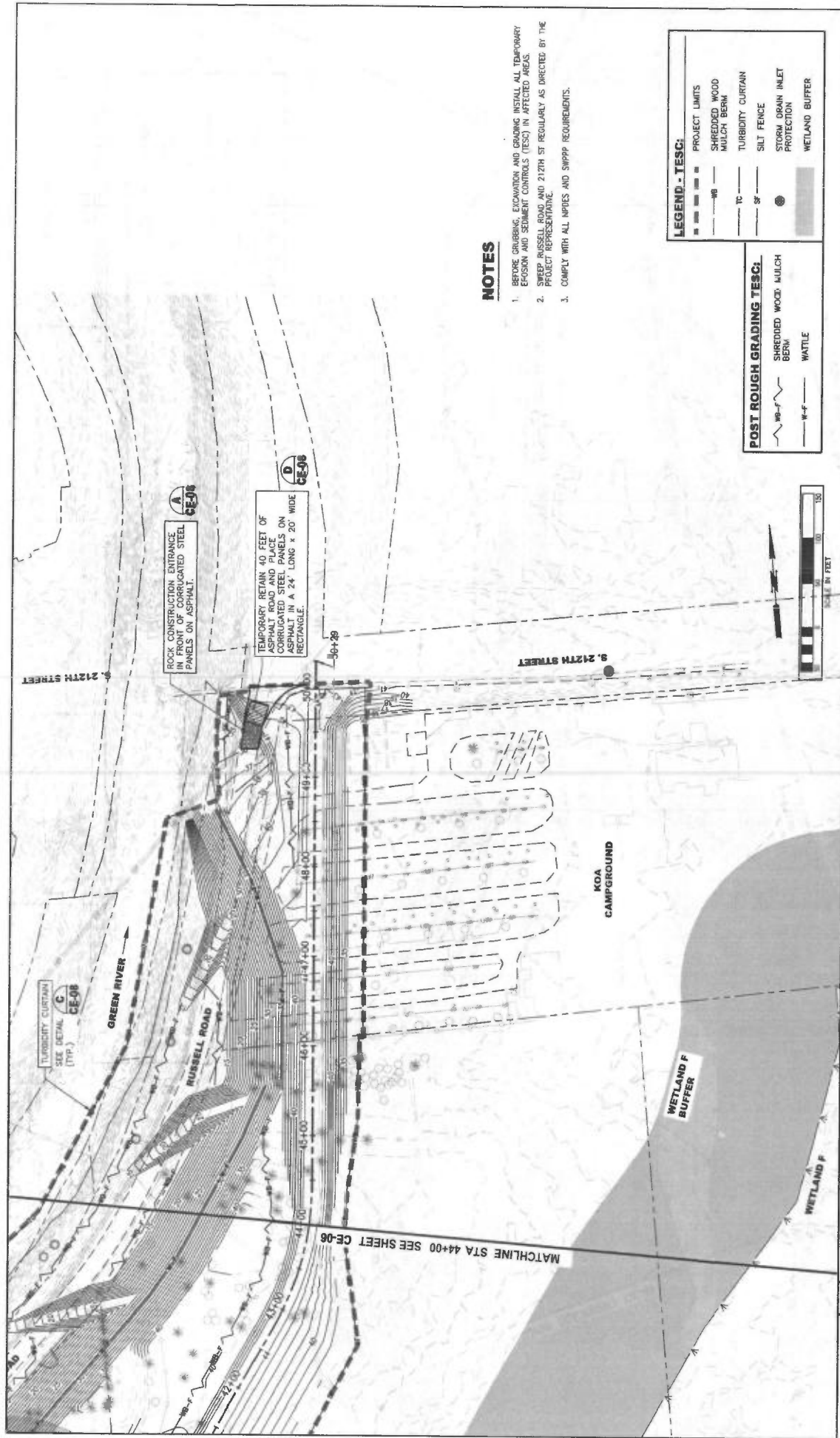
LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
**TESC PLAN 4**

SHEET  
**CE-04**

SURVEY JOB NO./SOURCE:		PROJECT NO.:	1117056
CHECKED:	K. KITAMURA	DATE:	11/20/14
DESIGNED:	ERIK PETERS, P.E.	DATE:	11/20/14
DESIGNED:	ERIK PETERS, P.E.	DATE:	11/20/14
CHECKED:	LOREN ROBERTS, P.E.	DATE:	11/20/14
SUPERVISOR:		DATE:	
RECORD CHANGES APPROVED:		DATE:	







### NOTES

1. BEFORE GRUBBING, EXCAVATION AND GRADING INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROLS (TESC) IN AFFECTED AREAS.
2. SWEEP RUSSELL ROAD AND 212TH ST REGULARLY AS DIRECTED BY THE PROJECT REPRESENTATIVE.
3. COMPLY WITH ALL NPDES AND SWPPP REQUIREMENTS.

**LEGEND - TESC:**

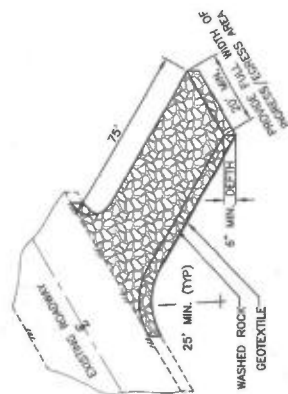
- PROJECT LIMITS
- SHREDDED WOOD MULCH BERM
- TURBIDITY CURTAIN
- SILT FENCE
- STORM DRAIN INLET PROTECTION
- WETLAND BUFFER

**POST ROUGH GRADING TESC:**

- SHREDDED WOOD MULCH BERM
- WATTLE

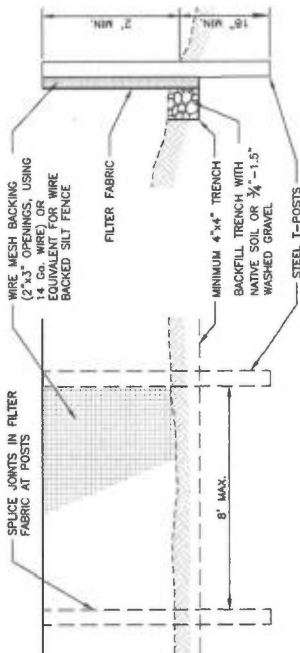


<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Chrissie Trone, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>TESC PLAN 7</b>		SHEET <b>CE-07</b>
<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p><b>PHASE 2</b></p> <p>PROJECT NO. 11120001</p> <p>DATE 11/20/18</p> <p>CONTRACT NO. 0014150210</p> </div> <div style="width: 40%;"> <p>DESIGNED BY: ERIC PETERSON, P.E. 11/2/2018</p> <p>CHECKED BY: LORIN REINELT, P.E. 11/2/2018</p> <p>SUPERVISOR: LORIN REINELT, P.E. 11/2/2018</p> </div> </div>				



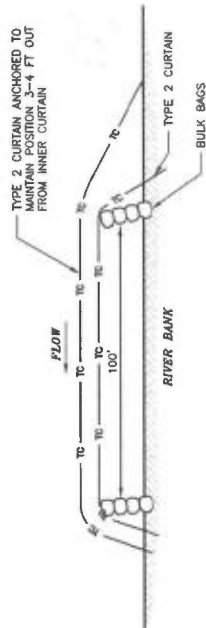
**TEMPORARY ROCK CONSTRUCTION ENTRANCE DETAIL**

SCALE: NTS



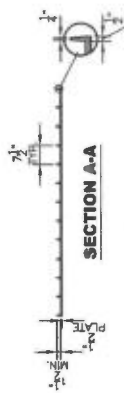
**SILT FENCE & WIRE BACKED SILT FENCE DETAIL**

SCALE: NTS

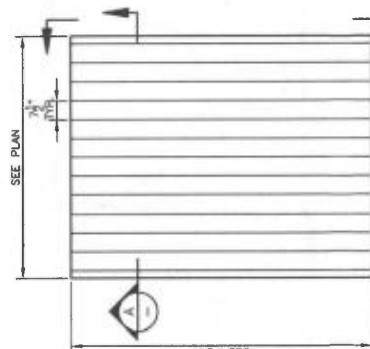


**IN WATER TURBIDITY CONTROL DETAIL**

SCALE: NTS



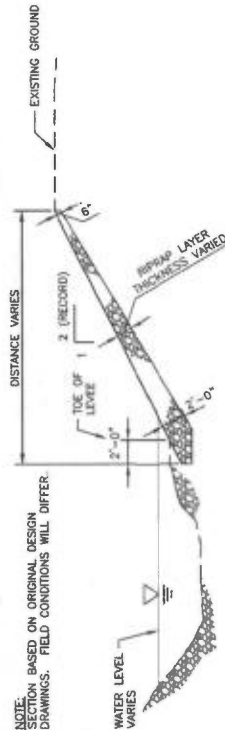
**SECTION A-A**



**SECTION B-B**

NOTE: NO ROCK UNDER PANELS WHEN PLACED ON ASPHALT OR FIRM SOIL.

SCALE: NTS



**EXISTING REVERBANK RIPRAP SECTION**

SCALE: NTS



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

SURVEY JOB NO./SOURCE:		FUNDING:	
CHECKED: K. KITAMURA 11/2019		PROJECT No. 1117056	
DRAWN: ERIK PETERS, P.E. 11/2019		REVISION	
CHECKED: ERIK PETERS, P.E. 11/2019		CONTACT No. CD-115C20	
SUPERVISOR: LORIN REBELT, P.E. 11/2019			
TOTAL	RECORD CHANGES APPROVED	BY	DATE

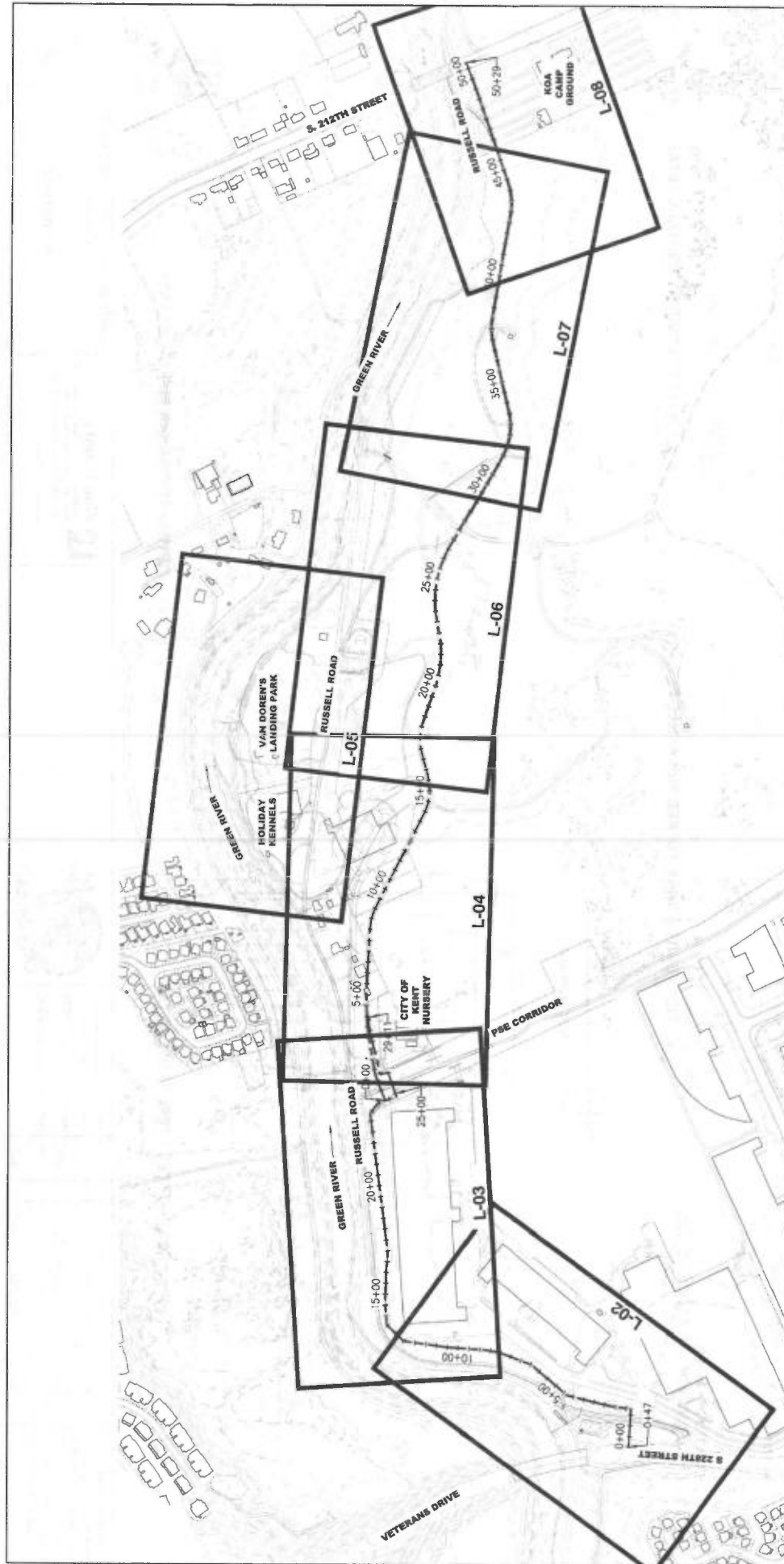


**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Trone, Director


LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

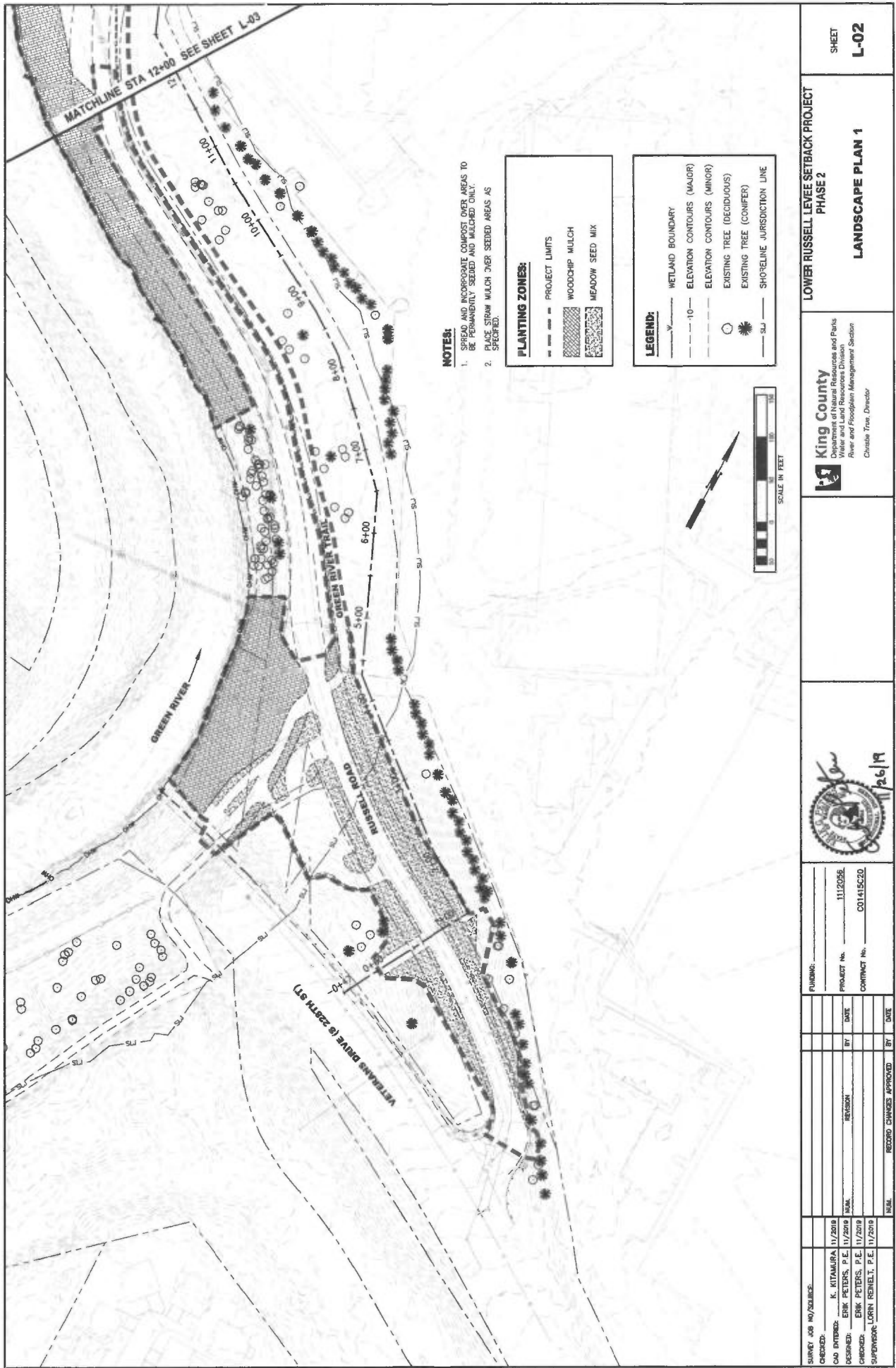
TESC DETAILS

SHEET  
CE-08



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

SURVEY JOB NO./SOURCE: _____ CHECKED: K. KITAMURA 11/2019 CAD ENTERED: ERIC PETERS, P.E. 11/2019 DESIGNED: ERIC PETERS, P.E. 11/2019 CHECKED: ERIC PETERS, P.E. 11/2019 SUPERVISOR: LORIN REINLT, P.E. 11/2019		FUNDING: _____ PROJECT No. 1113056 DATE: _____ CONTRACT No. C01415C20		 11/26/19		<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie True, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>LANDSCAPE PLAN KEY MAP</b>		SHEET <b>L-01</b>
---	--	--	--	---	--	--	--	--	--	----------------------



- NOTES:**
1. SPREAD AND INCORPORATE COMPOST OVER AREAS TO BE PERMANENTLY SEEDED AND MULCHED ONLY.
  2. PLACE STRAW MULCH OVER SEEDED AREAS AS SPECIFIED.

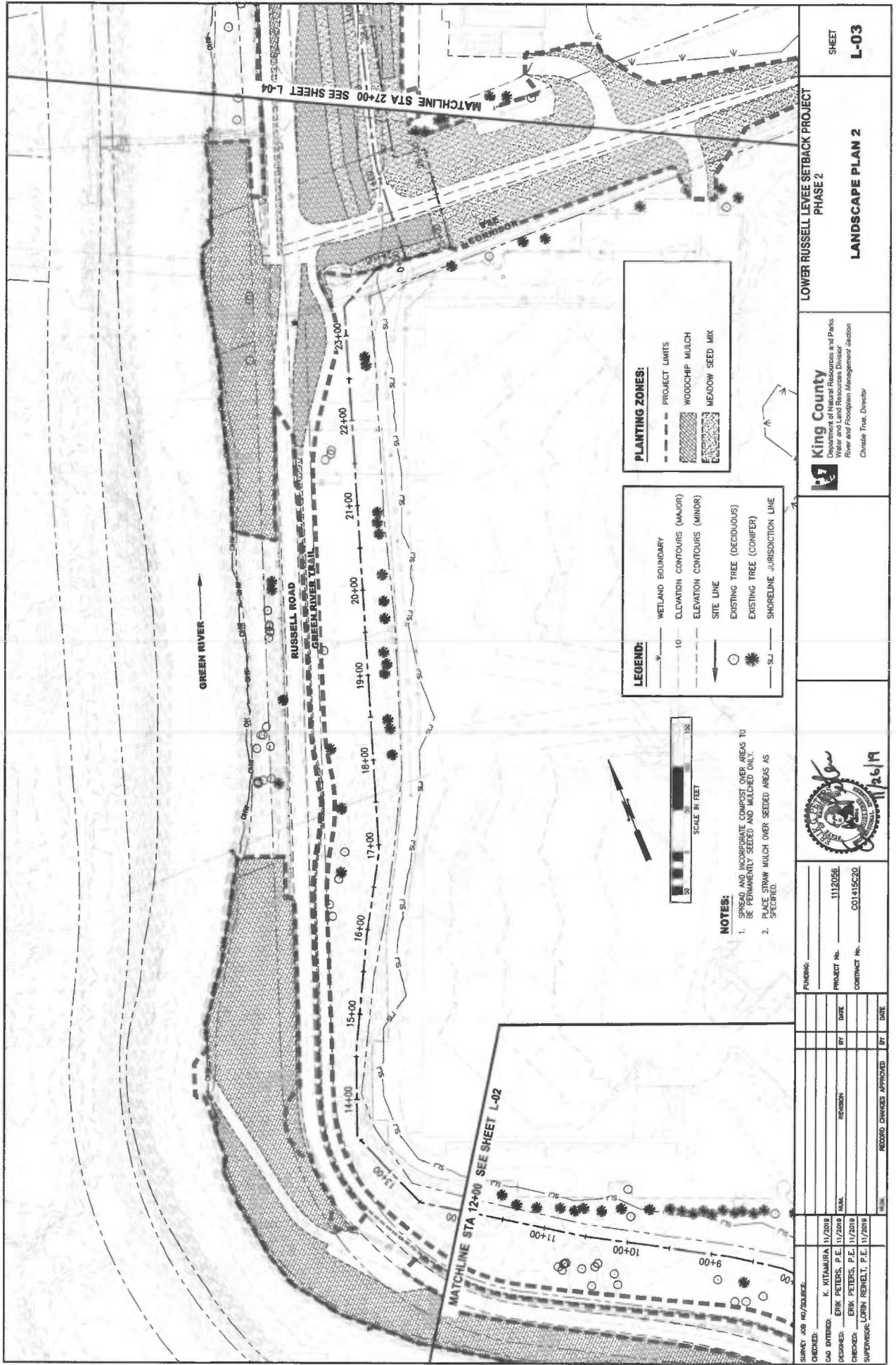
**PLANTING ZONES:**

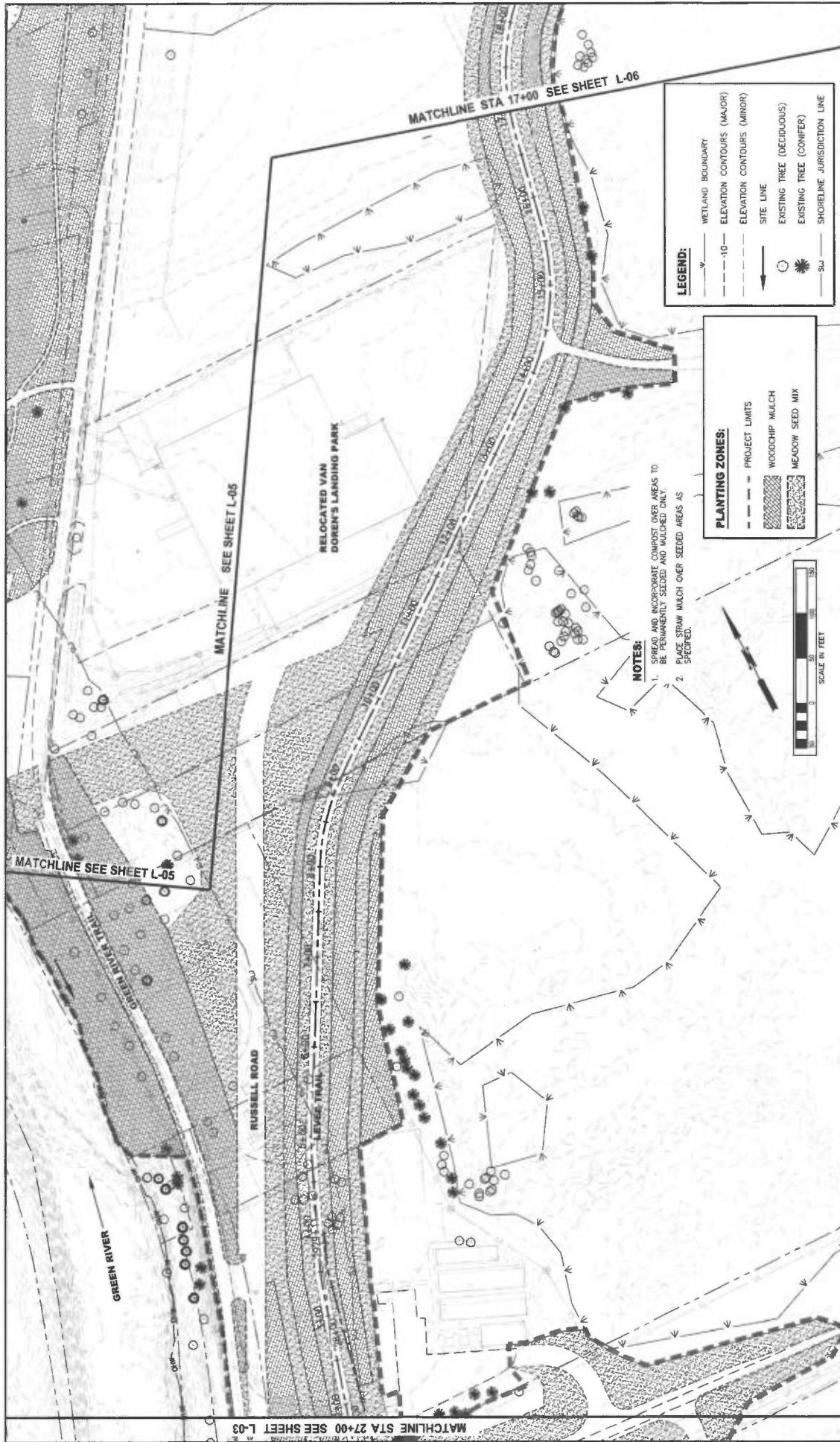
- PROJECT LIMITS
- WOODCHIP MULCH
- MEADOW SEED MIX

**LEGEND:**

- WETLAND BOUNDARY
- ELEVATION CONTOURS (MAJOR)
- ELEVATION CONTOURS (MINOR)
- EXISTING TREE (DECIDUOUS)
- EXISTING TREE (CONIFER)
- SHORELINE JURISDICTION LINE

<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>LANDSCAPE PLAN 1</b>		SHEET <b>L-02</b>
		PLANNING: _____ PROJECT No. 1112056 CONTRACT No. C0115220		
SURVEY JOB NO./SUBJOB: _____ CHECKED: K. KITAHARA 11/2019 DESIGNED: ERIC PETERS, P.E. 11/2019 CHECKED: ERIC PETERS, P.E. 11/2019 SUPERVISOR: LORIN REINELT, P.E. 11/2019	BY DATE REGION	BY DATE RECORD CHANGES APPROVED		





- LEGEND:**
- WETLAND BOUNDARY
  - ELEVATION CONTOURS (MAJOR)
  - ELEVATION CONTOURS (MINOR)
  - SITE LINE
  - EXISTING TREE (DECIDUOUS)
  - EXISTING TREE (CONIFER)
  - SHORELINE JURISDICTION LINE

- PLANTING ZONES:**
- PROJECT LIMITS
  - WOODCHIP MULCH
  - MEADOW SEED MIX

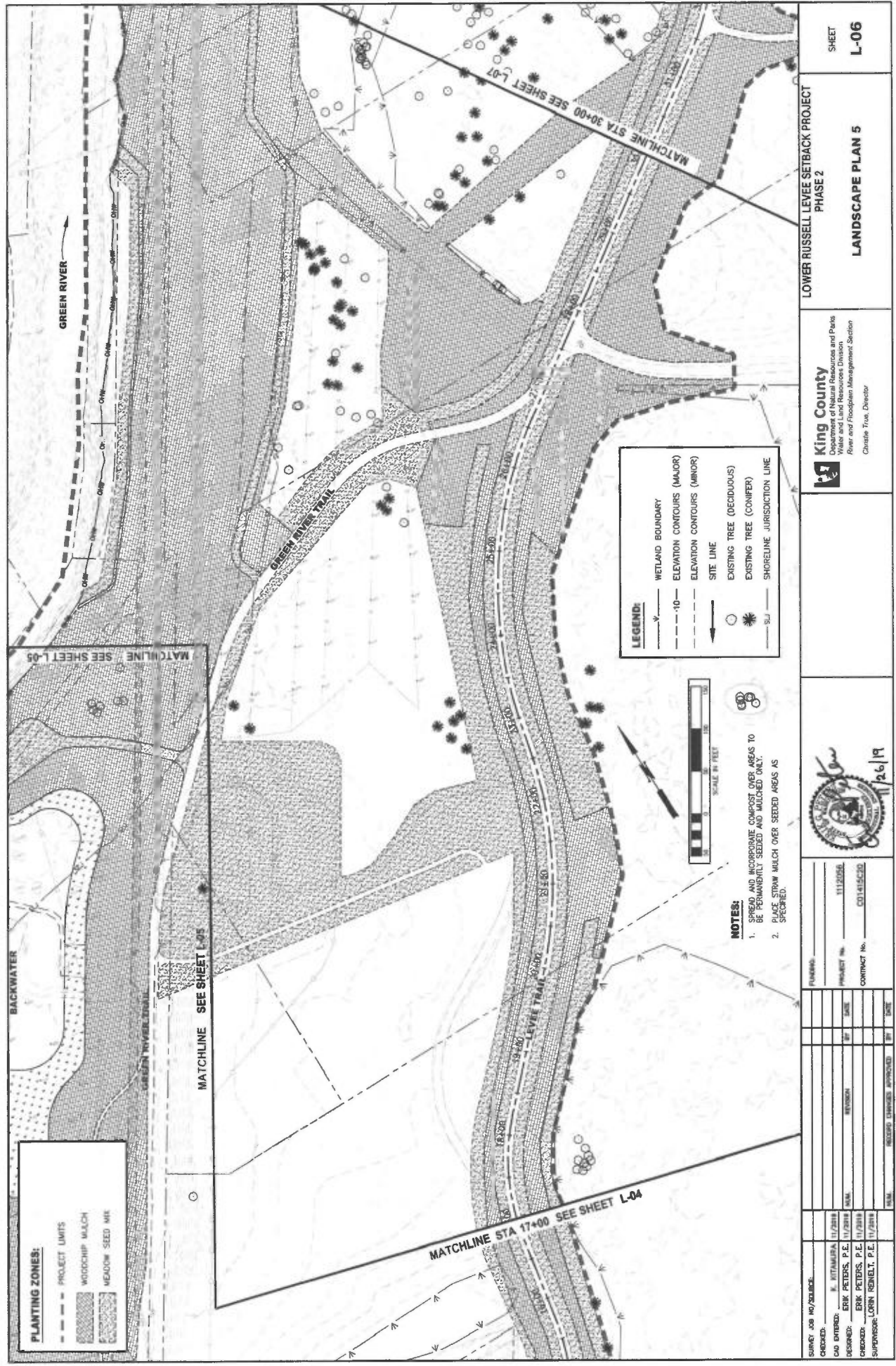
**NOTES:**

- SPREAD AND INCORPORATE COMPOST OVER AREAS TO BE PERMANENTLY SEEDING AND MULCHED ONLY.
- PLANT STRAW MULCH OVER SEEDING AREAS AS SPECIFIED.

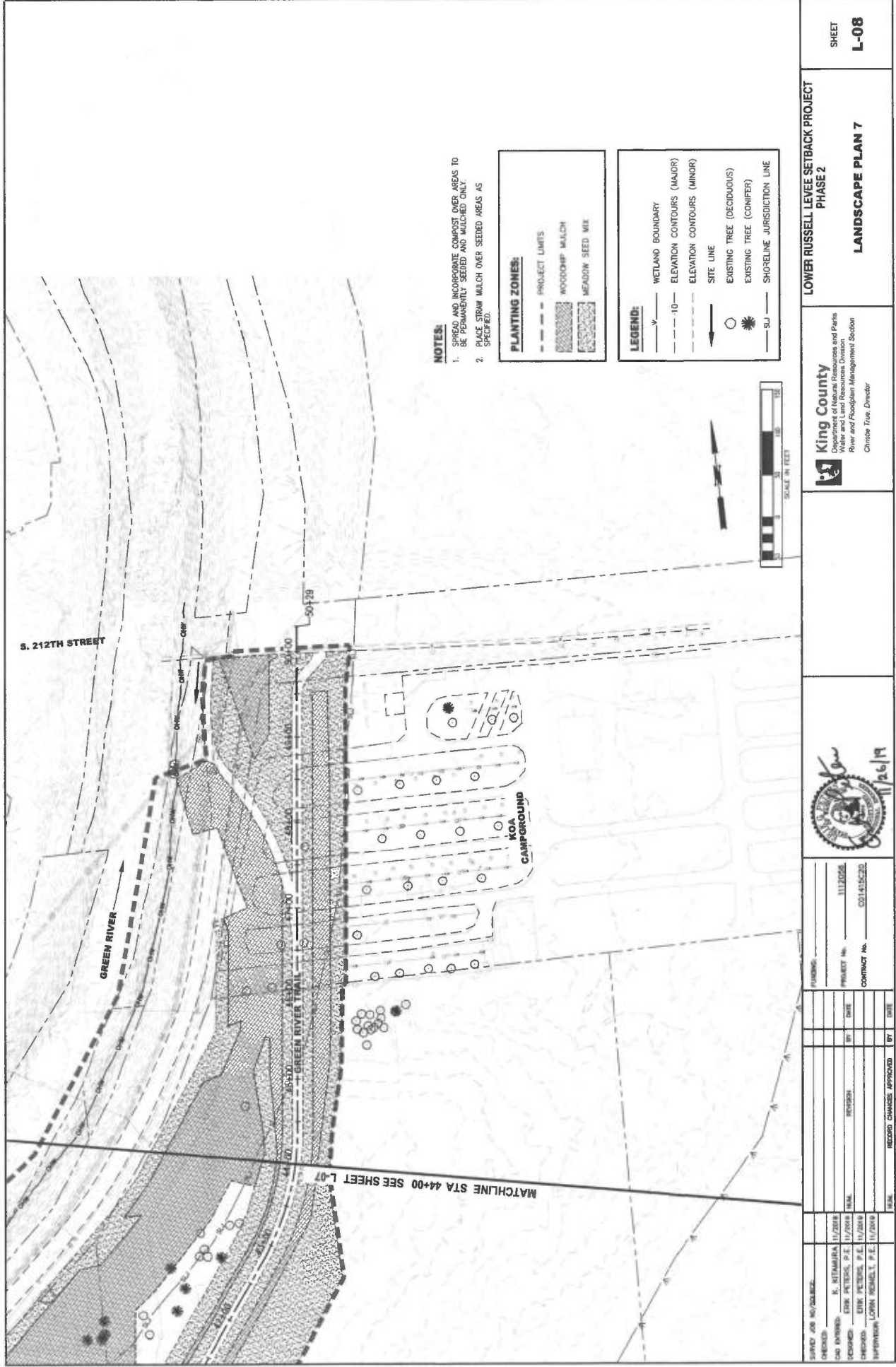


		<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Tran, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>LANDSCAPE PLAN 3</b>	SHEET <b>L-04</b>
11/26/19		11/15/2019 PROJECT No. C0115C20 CONTRACT No.		11/26/19	
SUPPLY JOB NO./SOURCE:		CHECKED: K. KITAMURA 11/2019 CAD: ERIC PETERS, P.E. 11/2019 DESIGNED: ERIC PETERS, P.E. 11/2019 CHECKED: ERIC PETERS, P.E. 11/2019 SUPERVISOR: LOREN REINELT, P.E. 11/2019		REVISION BY DATE APPROVED BY DATE RECORDED CHANGES APPROVED BY DATE	



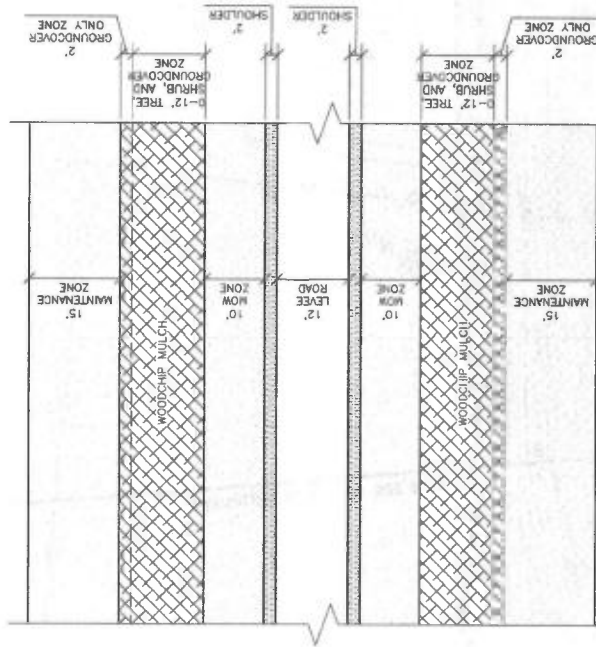






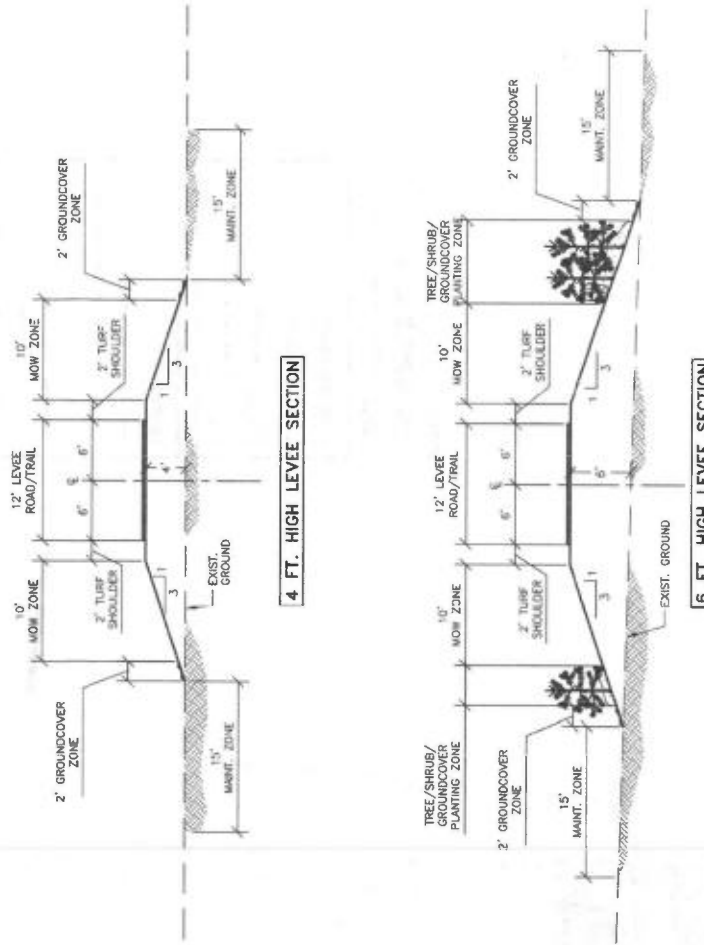
**NOTES:**

1. MEADOW SEED MIX SHALL BE SEEDS ALONG 2-FOOT SHOULDERS AND 10-FOOT MOW ZONES ON EACH SIDE OF LEVEE ROAD/ TRAIL.
2. PLACE WOODCHIP MULCH AT 3-4 INCH DEPTH ON THE REMAINING LEVEE SLOPE BETWEEN THE 10-FOOT MOW ZONE AND MAINTENANCE ZONE AS SHOWN ON DRAWINGS (VARIES WITH LEVEE HEIGHT).
3. PLANTINGS (TREES, SHRUBS, & GROUNDCOVER) TO BE DONE BY OTHERS, NOT IN THIS CONTRACT.



**LEVEE SEEDING & WOODCHIP MULCH TYPICAL PLAN LAYOUT**

SCALE: NTS



**LEVEE PLANTINGS - TYPICAL SECTIONS**

SCALE: NTS

**NOTE:**

PLANTINGS SHOWN ARE NOT IN CONTRACT.



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

<b>King County</b> Department of Natural Resources and Parks River and Land Resources Division Chelsie True, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2		SHEET <b>L-09</b>
SURVEY JOB NO./SOURCE: CHECKED: K. KITAHARA 11/2019 GAO INTERVIEW: ERIC PETERS, P.E. 11/2019 DESIGNED: ERIC PETERS, P.E. 11/2019 CHECKED: ERIC PETERS, P.E. 11/2019 SUPERVISOR: LORIN REINELT, P.E. 11/2019		PERMITS: 1117055 PROJECT No. 1117055 BY: REIDSON DATE: 11/26/19 CONTRACT No. CD1415220		NAME: REIDSON RECORD CHANGES APPROVED: BY: DATE:



LEVEE EARTHWORK											
STATION	EMBANKMENT PLACEMENT					ROADWAY, HABITAT AREAS, DRAINAGE, PARK & MISC. EARTHWORK					
	Common Fill (SF)	Vol (CY)	End Area (SF)	Select Fill (SF)	Vol (CY)	AREA	COMMON EXCAVATION	SATURATED ( $<14'$ )	GRADING (FILL)		
							DRY ( $>21'$ ) Vol. (CY)	WET ( $14' < X < 21'$ ) Vol. (CY)	COMMON FILL Vol. (CY)	STRUCTURAL FILL Vol. (CY)	MATERIAL TYPE
0+00	0.0	0.0	0.0	0.0	0.0						
1+00	123.1	227.9	202.7	375.3	82.4	A (NORTH)	29,356	7,811	3	0	COMPOST
2+00	96.2	408.8	170.2	690.5	69.2	BARB #1	1,179	1,179	0	0	COMPOST
3+00	129.2	421.0	211.0	705.9	85.8	BARB #2	1,179	1,179	0	0	COMPOST
4+00	140.6	498.5	225.3	807.9	88.8	BARB #3	1,179	1,179	0	0	COMPOST
5+00	133.5	505.9	217.5	819.7	98.3	A (SOUTH)	83,204	4,989	0	1,547	COMPOST
6+00	163.5	550.0	247.9	861.9	99.1	B	145,118	14,807	0	5,129	COMPOST
7+00	158.1	595.6	250.2	922.0	96.9	VD PARK	10,897	2,690	0	915	COMPOST
8+00	163.2	595.6	248.6	920.0	96.9	SW DEPRESSION	4,300**	0	0	71,506	COMPOST
9+00	200.6	674.6	303.2	1,019.6	114.6	EXISTING RIPRAP REMOVAL	579	0	0	40	COMPOST
10+00	228.7	765.0	327.1	1,187.3	121.9	RR & LEVEE DRAINAGE	400	180	0	580	COMPOST
11+00	243.5	874.6	351.9	1,257.4	129.0	PARK ACCESS & PSE	422	0	0	1,639	COMPOST
12+00	189.0	801.0	275.4	1,161.6	93.8	RR & LEVEE DRAINAGE	28	0	0	8,100	COMPOST
13+00	146.3	620.8	210.1	899.1	66.4	BOAT LAUNCH RAMP	1,125	260	0	7,050	COMPOST
14+00	92.2	440.1	156.4	678.3	63.1	RR & PARKING AREA	414	0	0	2,040	COMPOST
15+00	93.8	336.6	159.4	582.7	69.1	UTILITY TRENCHING	1,130	0	0	1,530	COMPOST
16+00	128.8	409.0	190.7	647.6	72.2	LEVEE (WATERSIDE BERM)	2,503	0	0	2,503	COMPOST
17+00	129.8	479.2	205.2	733.2	83.5	INSPECTION TRENCH	0	0	0	4,019	COMPOST
18+00	107.2	431.0	177.2	705.6	67.7	RAMP #1	3,353	0	0	3,353	COMPOST
19+00	86.8	360.4	151.5	607.8	63.6	RAMP #2	0	0	0	110	COMPOST
20+00	105.2	359.6	162.7	581.9	68.0	RAMP #3	0	0	0	420	COMPOST
21+00	195.5	573.4	186.0	609.5	69.8	RAMP #4	0	0	0	192	COMPOST
22+00	161.3	683.5	149.1	583.4	60.5	RAMP #5	0	0	0	86	COMPOST
23+00	152.8	590.8	149.8	552.7	59.3	RAMP #6	0	0	0	82	COMPOST
24+00	159.9	552.0	142.8	542.7	55.7	RAMP #7	0	0	0	50	COMPOST
25+00	122.0	802.2	201.5	534.2	60.9	4" STRIPPING (LEVEE)	5,002	0	0	87	COMPOST
26+00	212.5	841.4	216.3	661.3	66.3	2" UNSUITABLE EXCAV. (LEVEE)	250	0	0	0	COMPOST
27+00	298.1	1,076.1	211.5	764.2	81.2	SUBTOTAL	291,318	34,274	4,713	102,708	COMPOST
28+00	264.1	1,076.1	200.7	763.4	82.2						
29+00	112.2	734.0	117.1	588.4	45.9						
30+00	208.8	594.4	135.2	467.1	53.5						
31+00	204.7	765.6	206.4	632.5	90.4						
32+00	192.8	763.6	173.7	704.2	73.1						
33+00	92.3	950.7	168.5	634.3	70.0						
34+00	86.6	333.3	156.7	602.6	63.8						
35+00	97.2	340.3	169.0	603.1	69.8						
36+00	82.2	332.3	152.0	594.5	64.2						
37+00	36.2	259.5	117.8	499.4	45.3						
38+00	47.0	193.2	103.5	409.5	39.0						
39+00	54.5	168.0	118.4	411.1	47.6						
40+00	47.1	168.2	107.1	417.6	41.7						
41+00	159.8	393.0	96.6	375.3	35.3						
42+00	158.0	586.5	82.5	329.7	28.0						
43+00	143.7	567.5	91.5	322.1	34.5						
44+00	35.1	354.8	88.7	334.0	31.4						
45+00	116.2	260.4	193.7	522.8	79.3						
46+00	144.1	482.0	229.2	783.2	91.8						
47+00	141.8	528.3	224.2	839.8	91.2						
48+00	137.9	517.8	219.4	822.5	88.6						
49+00	83.9	410.7	192.4	763.6	83.6						
50+00	0.0	155.3	0.0	356.3	0.0						
50+29	0.0	0.0	0.0	0.0	0.0						
End Area Code											
Subtotal		25,398		33,181							

\* THE 1,630 CY OF FILL FOR THE RR & PARKING AREA INCLUDES 283 CY OF SELECT AND 123 CY OF LOW PERMEABLE FILL FOR THE LEVEE FILL CROSSING BELOW THE RR TRACKS. THIS SECTION OF THE FILL IS CONSIDERED A LEVEE AND MUST MEET THE ZONING REQUIREMENTS REFLECTED IN THE PLANS AND SPECIFICATIONS. THE CUT LEVEE SHELLE ZONE OF COMMON FILL IS SELECT FILL FOR THIS LOCATION ONLY.

\*\* THE 4,300 CY OF CUT FOR VAN DOREN'S PARK REFLECTS THE ESTIMATED AMOUNT OF MATERIAL REMOVED FROM THE 16 INCHES OF PRELOAD OVERBUILD AFTER FINISH GRADING OF THE PARK POST SETTLEMENT. THE 48,315 CY OF STRUCTURAL FILL REFLECTS THE TOP 3' FEET OF STRUCTURAL FILL REMOVED FROM THE 16 INCHES OF PRELOAD OVERBUILD. THE 48,315 CY OF STRUCTURAL FILL OVERBUILDING THE VD PARK AREA.

NOTES:

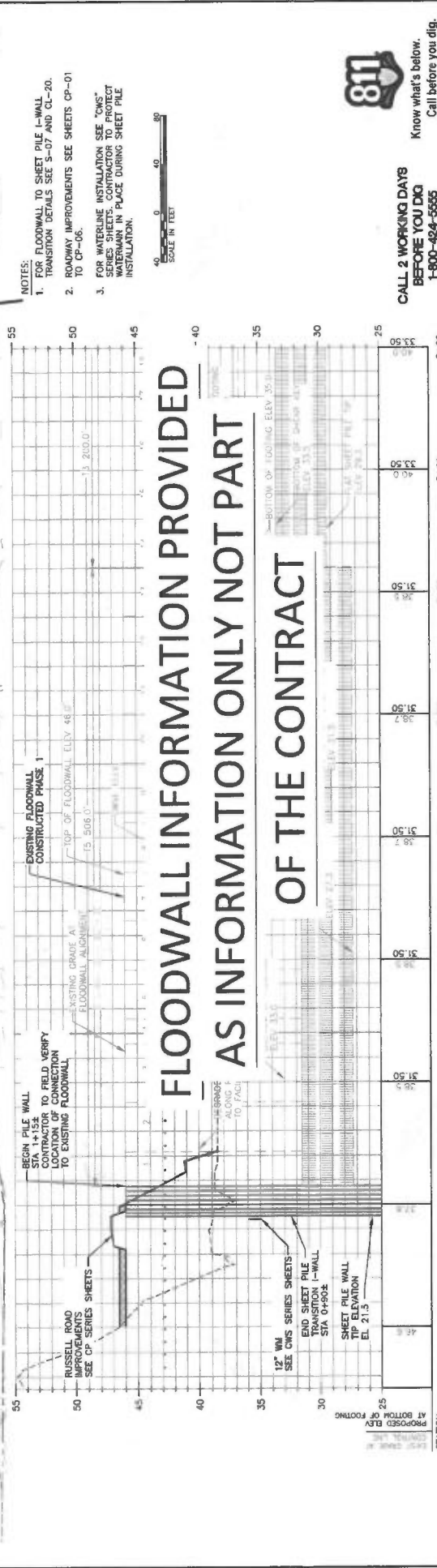
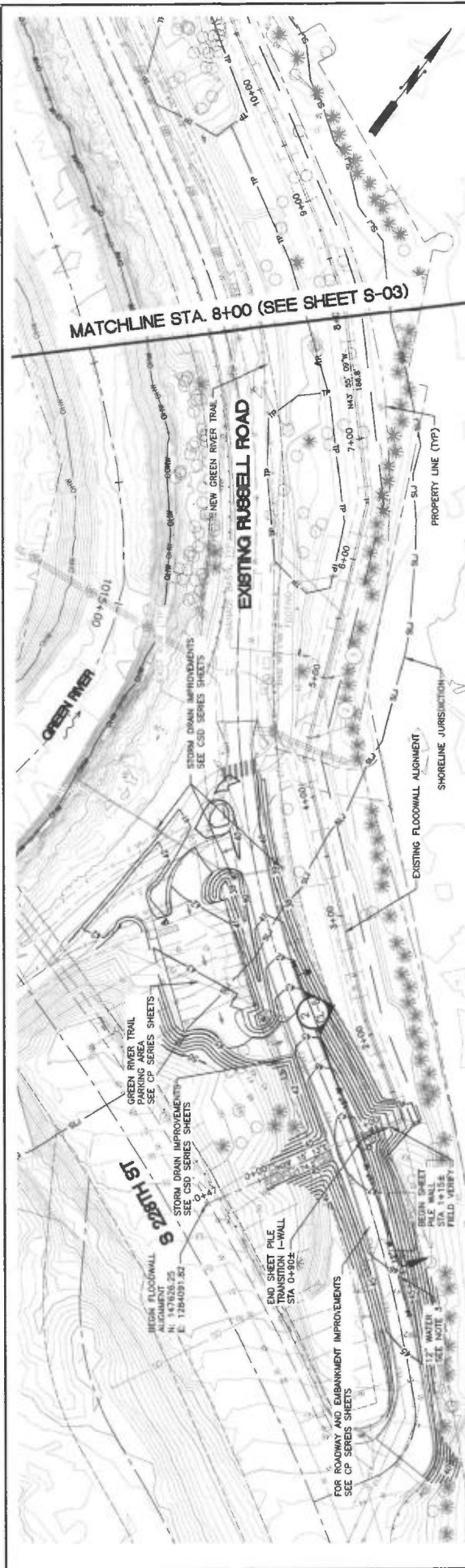
- ALL EARTHWORK VALUES ARE BASED ON IN SITU VOLUMES AND DO NOT REFLECT SHRINKAGE DO TO FILL COMPACTION OR BULKING FROM EXCAVATION.
- LEVEE END AREA VOLUMES ONLY REFLECT FILL ASSOCIATED WITH THE LEVEE PRISM AND DO NOT INCLUDE RAMP AND WATERSIDE BERM VOLUMES.



CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-494-5555  
(UNDESIGNED UTILITY LOCATIONS ARE APPROX.)

Know what's below.  
Call before you dig.

SURVEY JOB NO./SCALE: _____ CHECKED: _____ CAD ENTERED: _____ DESIGNED: _____ CHECKED: _____ SUPERVISOR: _____		DRAWING NO.: RD 11/19 DATE: 11/19 BY: _____ REVISION: _____ DATE: _____ BY: _____		PROJECT NO.: 1110556 CONTRACT NO.: C01415200		SEAL: _____ TITLE: _____ DATE: _____ BY: _____	
KING COUNTY Public Works Department Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director				HCR HCR Engineering Inc.			
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 EARTHWORK TABULATION TABLES				SHEET T-02			



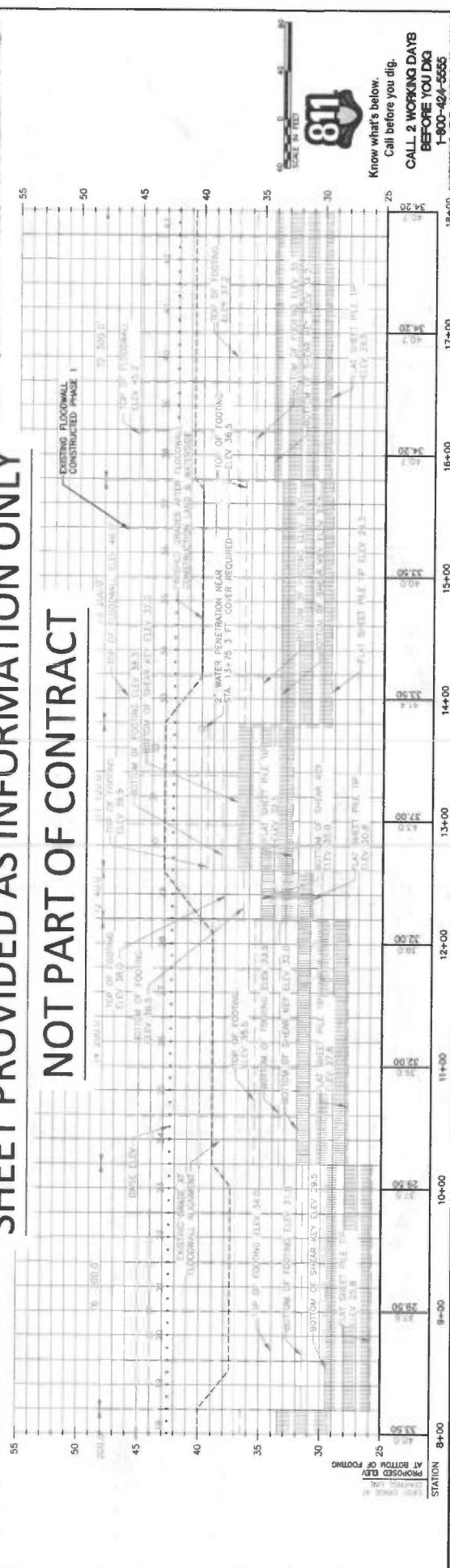
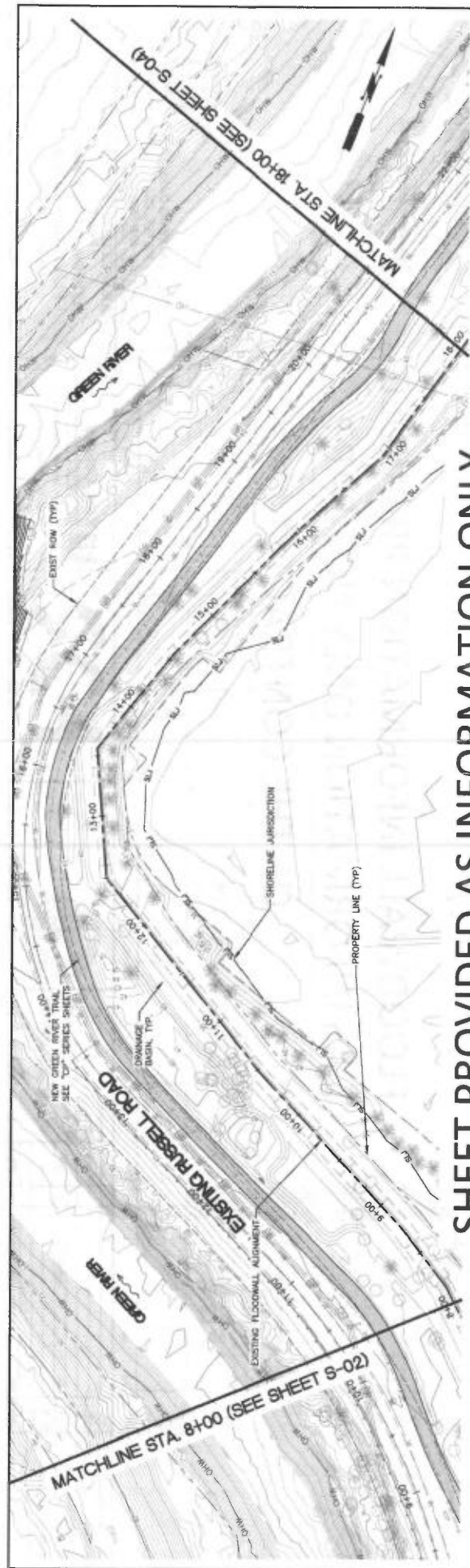
# FLOODWALL INFORMATION PROVIDED AS INFORMATION ONLY NOT PART OF THE CONTRACT

- NOTES:
1. FOR FLOODWALL TO SHEET PILE I-WALL TRANSITION DETAILS SEE S-07 AND CL-20.
  2. ROADWAY IMPROVEMENTS SEE SHEETS CP-01 TO CP-06.
  3. FOR WATERLINE INSTALLATION SEE "CWS" SERIES SHEETS. CONTRACTOR TO PROTECT WATERLINES IN PLACE DURING SHEET PILE INSTALLATION.



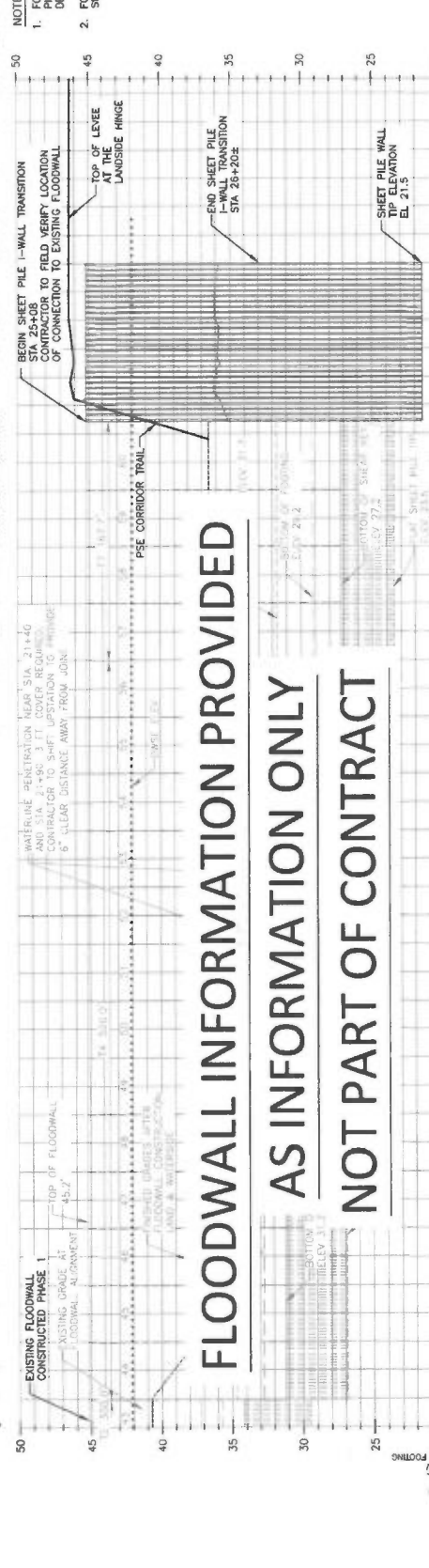
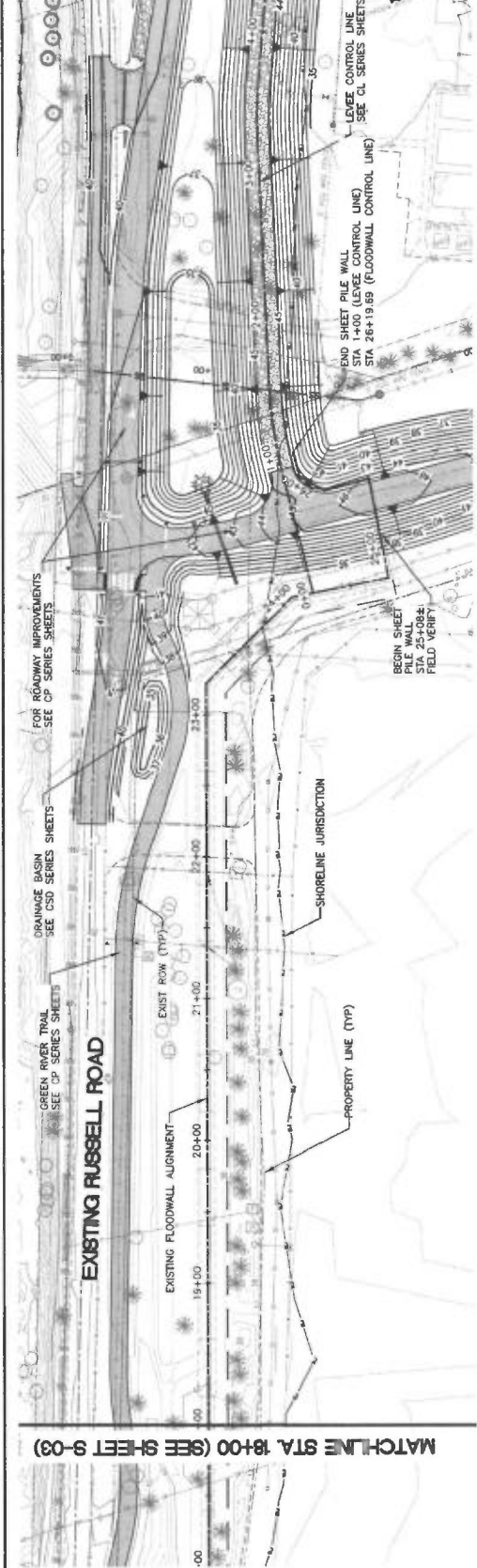
CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-5555  
Know what's below.  
Call before you dig.  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine True, Director		<b>811</b> LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 FLOODWALL TO I-WALL PLAN AND PROFILE STA 0+00 TO 8+00		SHEET <b>S-02</b>
SURVEY JOB NO./SOURCE: CHECKED: RD 10/19 CAD DTD/REV: VR 10/19 DESIGNED: MU 10/19 CHECKED: SU 10/19 SUPERVISOR:		PLANNING: PROJECT No. 1115026 CONTRACT No. C01415220		
REVISIONS: NO. DATE BY 1 10/19/19 REVISION 2 10/19/19 REVISION		RECORD CHANGES APPROVED: BY DATE		



SHEET <b>S-03</b>	<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>EXISTING FLOODWALL PLAN AND PROFILE</b> STA 84+00 TO 184+00	King County Department of Natural Resources and Parks River and Floodplain Management Section Christie Todd, Director	HDR Engineering, Inc.	NOV 2016	PROJECT No. 1112056 CONTRACT No. C01415220	PURCHASER: DATE:	DRAWN BY: DATE:	CHECKED BY: DATE:	APPROVED BY: DATE:	RECORD CHANGES APPROVED BY: DATE:	DATE:
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**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie True, Director



**FLOODWALL INFORMATION PROVIDED  
AS INFORMATION ONLY  
NOT PART OF CONTRACT**

- NOTES:**
- FOR FLOODWALL TO SHEET 18+00 SEE SHEET S-03.
  - FOR I-WALL LAYOUT/GEOMETRY SEE SHEET S-06.



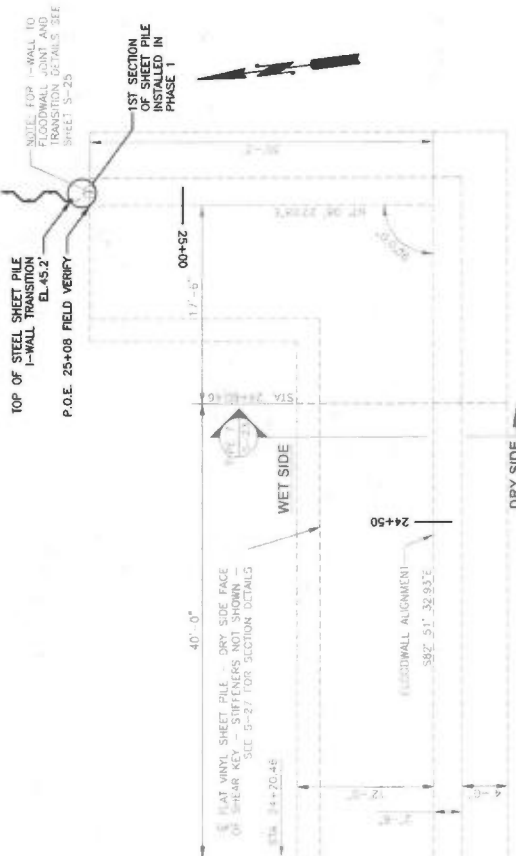
Know what's below.  
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1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

**CALL 2 WORKING DAYS  
BEFORE YOU DIG**

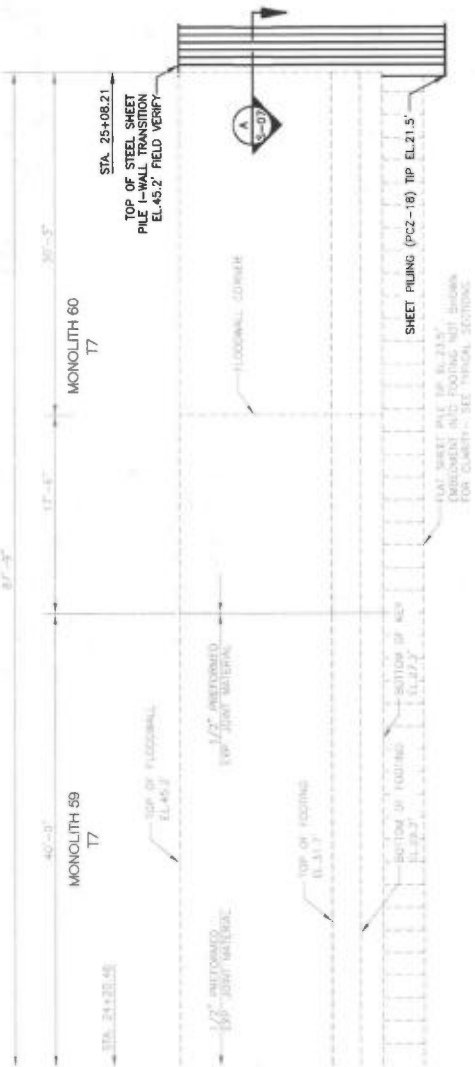


 <b>FDR</b> <small>McK Engineering, Inc.</small>		 <b>King County</b> <small>Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Cristina Trice, Director</small>		<b>LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 FLOODWALL TO I-WALL PLAN AND PROFILE</b> <small>STA 18+00 TO 26+41</small>		<b>SHEET S-04</b>																																																															
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">SHEET NO./SUBJECT:</td> <td style="width: 20%;">PROJECT NO. 111204</td> <td style="width: 20%;">DATE</td> <td style="width: 20%;">BY</td> <td style="width: 20%;">REVISION</td> </tr> <tr> <td>CAD DWTED: 10/19</td> <td>VS 10/19</td> <td>10/19</td> <td></td> <td></td> </tr> <tr> <td>CHECKED: 10/19</td> <td>SI 10/19</td> <td></td> <td></td> <td></td> </tr> <tr> <td>SUPERVISOR:</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		SHEET NO./SUBJECT:	PROJECT NO. 111204	DATE	BY	REVISION	CAD DWTED: 10/19	VS 10/19	10/19			CHECKED: 10/19	SI 10/19				SUPERVISOR:					<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">DRAWING:</td> <td style="width: 20%;">CONTRACT NO. C01415220</td> <td style="width: 20%;">DATE</td> <td style="width: 20%;">BY</td> <td style="width: 20%;">REVISION</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		DRAWING:	CONTRACT NO. C01415220	DATE	BY	REVISION																<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">RECORD CHANGES APPROVED</td> <td style="width: 20%;">BY</td> <td style="width: 20%;">DATE</td> <td style="width: 20%;">REVISION</td> <td style="width: 20%;">BY</td> <td style="width: 20%;">DATE</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>		RECORD CHANGES APPROVED	BY	DATE	REVISION	BY	DATE																		
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**FLOODWALL MONOLITH 59 - 60 PLAN**  
FULL SCALE: 3/16" = 1'



**FLOODWALL MONOLITH 59 - 60 ELEVATION**  
FULL SCALE: 3/16" = 1'



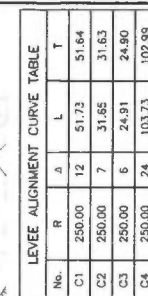
CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Know what's below.  
Call before you dig.

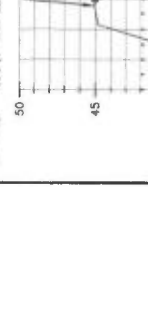
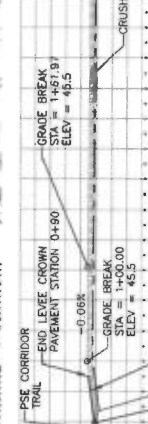
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GRADE BREAK  
STA = 9+00.80  
ELEV = 45.2



Profile view of the New FM Sewer Line. The vertical axis shows elevation in feet, with markers at 35 and 40. The horizontal axis represents the sewer line alignment. The profile includes the following labels and features:

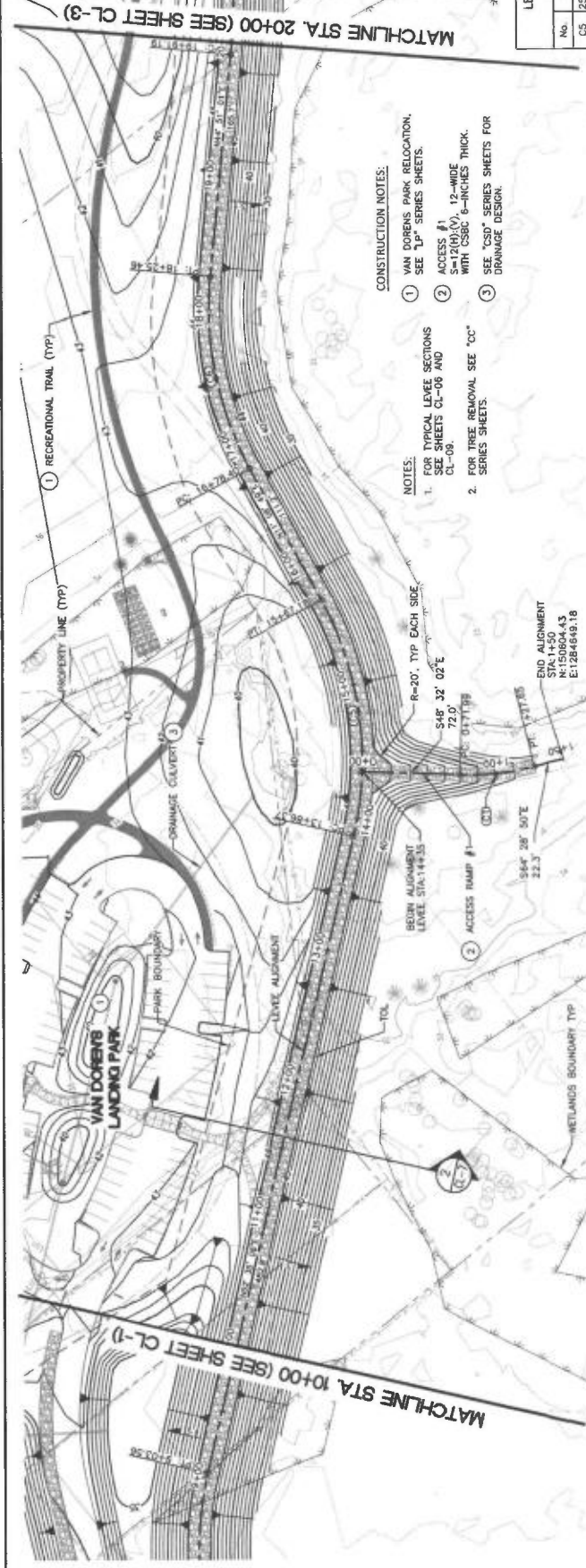
- SLOPE VARIES TO CONFORM GRADING WITH PSE CORRIDOR**: Located at the top left of the profile.
- EXISTING GRADE AT LEVEL ALIGNMENT**: A dashed line representing the existing ground level.
- NEW SEWER LINE CROSSING NEW BRIDGE OVER RANCH ROAD**: A solid line representing the proposed sewer line, crossing the existing grade.
- SEE NOTE 3**: A reference to a specific note on the drawing.
- NEW FM SEWER LINE**: A label for the proposed sewer line, accompanied by a circular symbol containing the letter 'S'.

Profile view of a sewer line. The vertical axis represents elevation in feet, ranging from 30 to 45. The horizontal axis represents stationing, ranging from 0+00 to 0+50. A scale bar at the bottom indicates a distance of 50 feet. The profile shows a sewer line with a proposed elevation of 42.50 feet at station 0+50. The existing ground elevation is shown as a dashed line. A note indicates the grade break at station 0+50.00, where the elevation is 42.50 feet. The sewer line is labeled 'NEW SEWER LINE (6)'.

Station	Elevation (ft)	Description
0+00	42.50	PROPOSED ELEV AT TOP
0+10	42.50	PROPOSED ELEV AT TOP
0+20	42.50	PROPOSED ELEV AT TOP
0+30	42.50	PROPOSED ELEV AT TOP
0+40	42.50	PROPOSED ELEV AT TOP
0+50	42.50	PROPOSED ELEV AT TOP

CALL 2 WORKING DAYS BEFORE YOU DIG  
 Know what's below.  
 Call before you dig.  
 1-800-424-5555  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

[illegible][illegible]



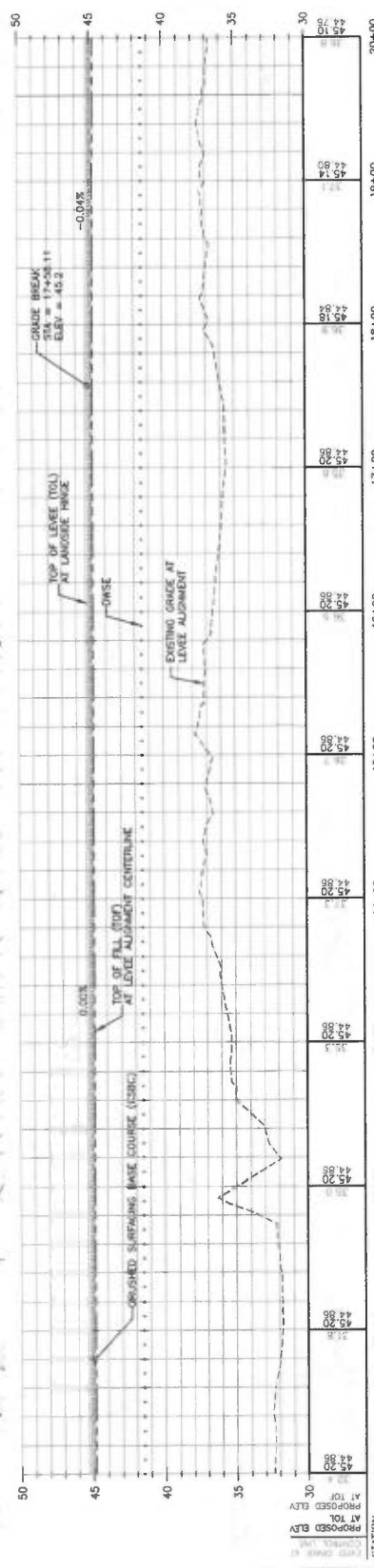
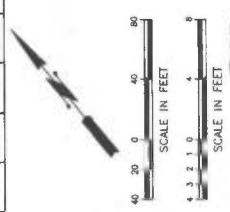
- NOTES:**
1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-06 AND CL-09.
  2. FOR TREE REMOVAL SEE "CC" SERIES SHEETS.
  3. VAN DORENS PARK RELOCATION, SEE "LP" SERIES SHEETS.
  4. ACCESS #1 S=12.00/100, 12" WIDE WITH CS8C 6-INCHES THICK.
  5. SEE "CC" SERIES SHEETS FOR DRAINAGE DESIGN.

LEVEE ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C5	250.00	41	190.81	176.89
C6	250.00	34	147.06	144.95

ACCESS #1 CURVE TABLE

No.	R	Δ	L	T
C1	200.00	16	55.66	56.49



CALL 2 WORKING DAYS BEFORE YOU DIG  
 1-800-424-3355  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

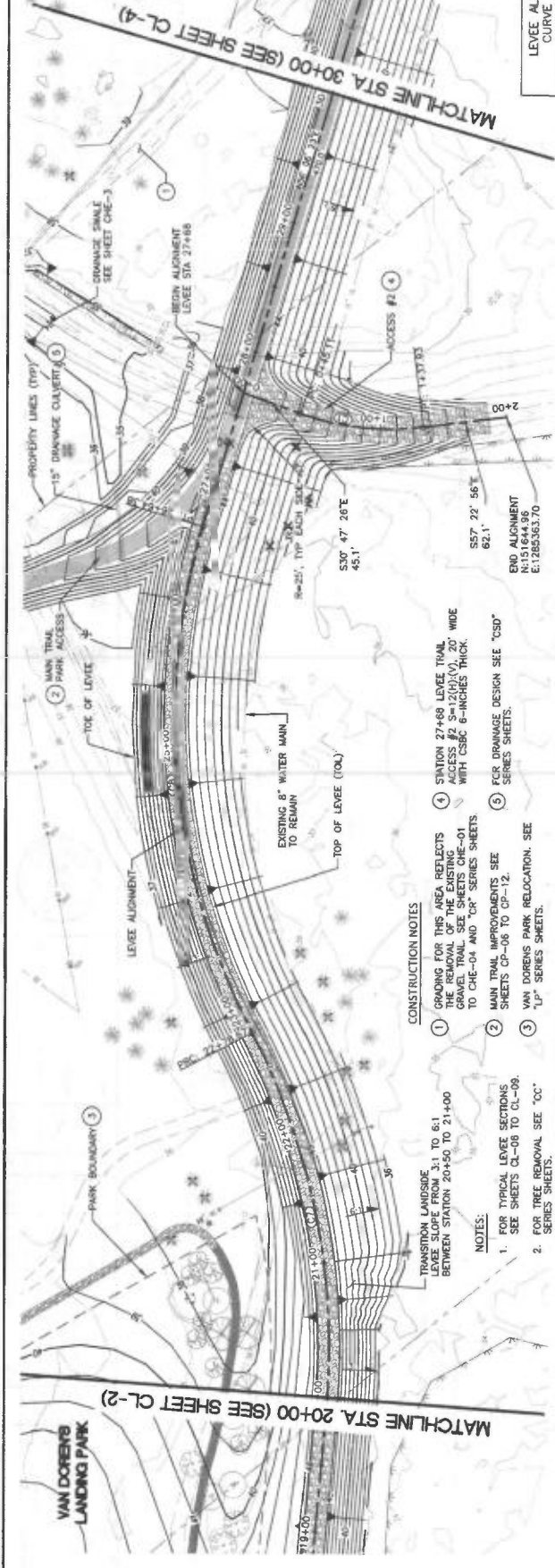
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**King County**  
 Department of Natural Resources and Parks  
 Water and Land Resources Division  
 River and Floodplain Management Section  
 Christine Tran, Director



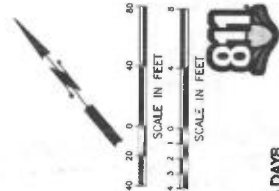
PHASE 2  
 PROPOSED LEVEE  
 PLAN AND PROFILE  
 STA 10+00 TO 20+00

811  
 Know what's below.  
 Call before you dig.



LEVEE ALIGNMENT CURVE TABLE				
No.	R	Δ	L	T
C7	500.00	33	287.48	283.54
C8	500.00	44	385.71	376.22

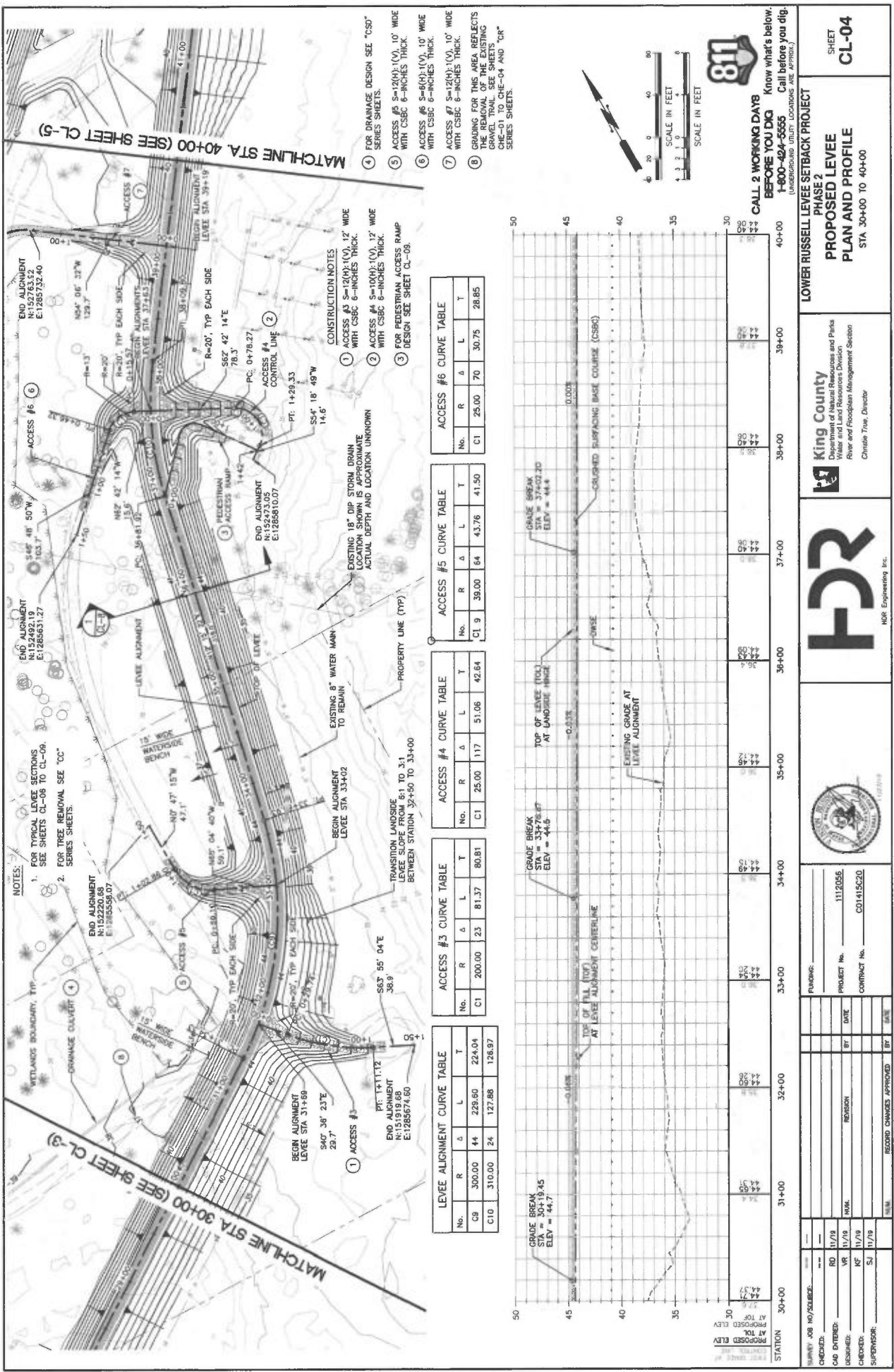
ACCESS #2 CURVE TABLE				
No.	R	Δ	L	T
C1	200.00	27	92.82	91.99



CALL 2 WORKING DAYS  
BEFORE YOU DIG  
Know what's below.  
1-800-424-5555  
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director		<b>811</b>		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>PROPOSED LEVEE</b> PLAN AND PROFILE STA 20+00 TO 30+00		SHEET <b>CL-03</b>	
				FUNDING: _____		DATE: _____	
PROJECT No. 1110556		CONTRACT No. C01415220		DESIGNED: VR 11/19		CHECKED: KR 11/19	
SUPERVISOR: _____		RECORD CHANGES APPROVED: _____		DATE: _____		DATE: _____	



NOTES:  
1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-03 TO CL-09.  
2. FOR TREE REMOVAL SEE "CC" SERIES SHEETS.

- 4. FOR DRAINAGE DESIGN SEE "CSD" SERIES SHEETS.
- 5. ACCESS #5 8'-10" (V), 10' WIDE WITH CSBC 6-INCHES THICK.
- 6. ACCESS #6 5'-6" (V), 10' WIDE WITH CSBC 6-INCHES THICK.
- 7. ACCESS #7 5'-12" (V), 10' WIDE WITH CSBC 6-INCHES THICK.
- 8. GRADING FOR THIS AREA REFLECTS THE EXISTING GRAVEL TRAIL. SEE SHEETS CHE-01 TO CHE-04 AND "CR" SERIES SHEETS.

- CONSTRUCTION NOTES
- 1. ACCESS #3 5'-12" (V), 12' WIDE WITH CSBC 6-INCHES THICK.
  - 2. ACCESS #4 5'-12" (V), 12' WIDE WITH CSBC 6-INCHES THICK.
  - 3. FOR PEDESTRIAN ACCESS RAMP DESIGN SEE SHEET CL-09.

ACCESS #6 CURVE TABLE

No.	R	Δ	L	T
C1	25.00	70	30.75	28.85

ACCESS #5 CURVE TABLE

No.	R	Δ	L	T
C1	39.00	64	43.76	41.50

ACCESS #4 CURVE TABLE

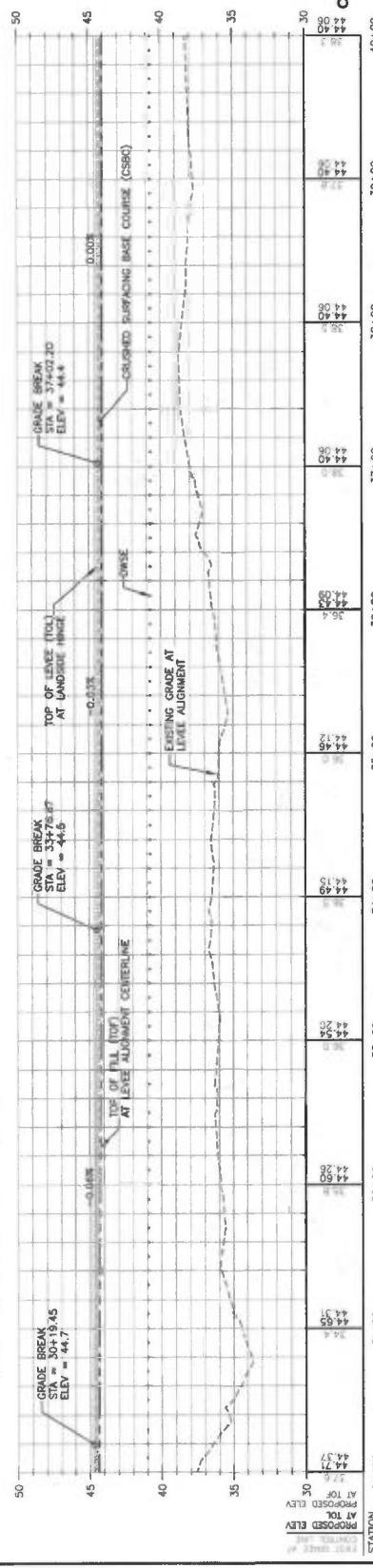
No.	R	Δ	L	T
C1	25.00	117	51.06	42.64

ACCESS #3 CURVE TABLE

No.	R	Δ	L	T
C1	200.00	23	81.37	80.81

LEVEE ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C9	300.00	44	229.60	224.04
C10	310.00	24	127.88	126.97



CALL 2 WORKING DAYS BEFORE YOU DIG Know what's below. 1-800-424-5555 Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Truitt, Director

**FOR**

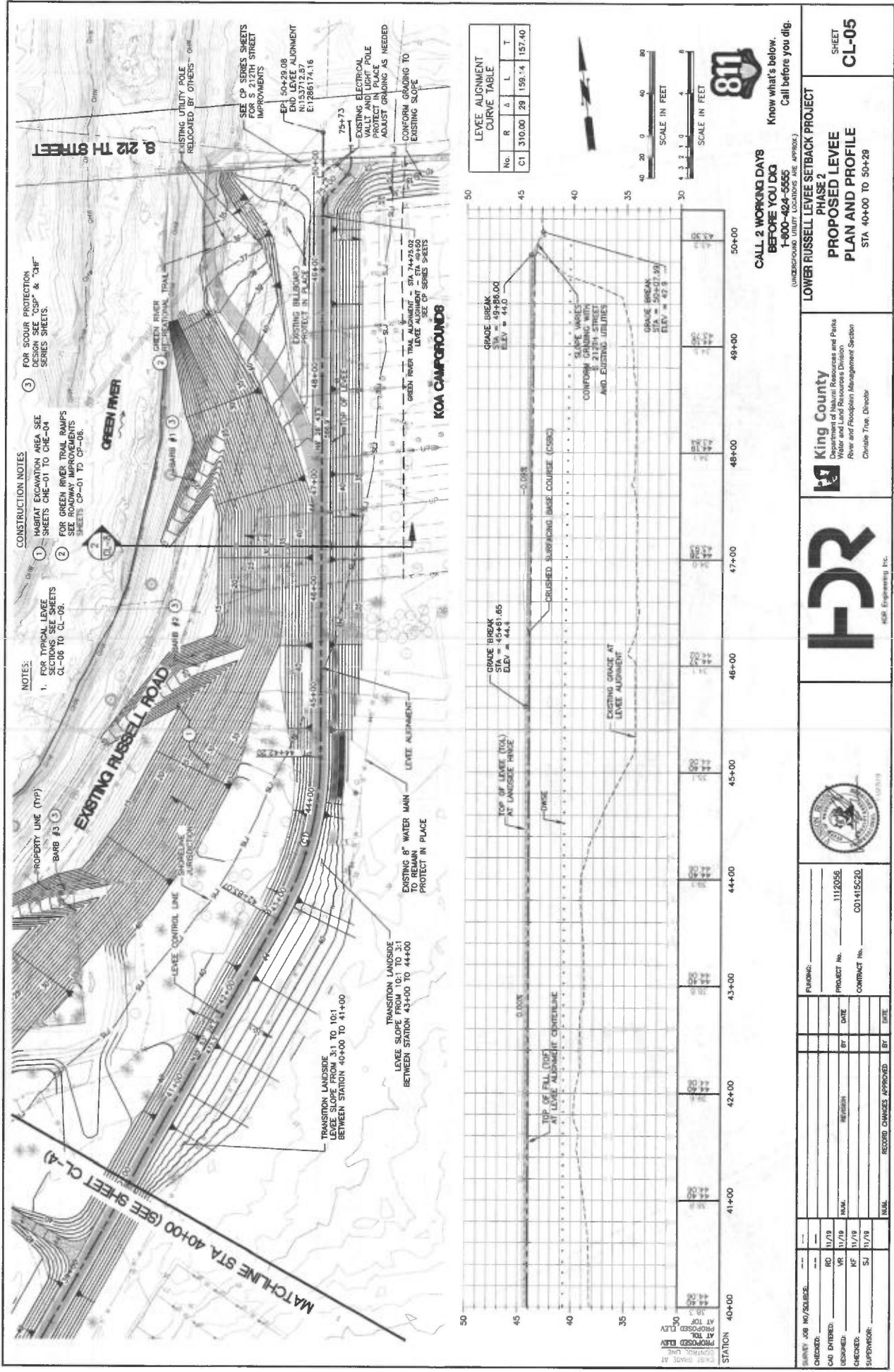
**LOWER RUSSELL LEVEE SETBACK PROJECT**  
PHASE 2  
**PROPOSED LEVEE**  
**PLAN AND PROFILE**  
STA 30+00 TO 40+00

**SHEET**  
**CL-04**

PROJECT No. 1112056  
CONTRACT No. C01415220

REVISION  
DATE  
BY

RECORD CHANGES APPROVED  
BY  
DATE



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Tran, Director

**PROJECT No.** 1112056  
**CONTRACT No.** C01115220

**DATE** 11/19  
**BY** [Signature]  
**DATE** 11/19  
**BY** [Signature]

**RECORD CHANGES APPROVED** BY [Signature] DATE 11/19

**SAFETY JOB NO/SOURCE**

**CHECKED** [Signature] **DATE** 11/19

**CAD ENTERED** [Signature] **DATE** 11/19

**DESIGNED** [Signature] **DATE** 11/19

**CHECKED** [Signature] **DATE** 11/19

**SUPERVISOR** [Signature] **DATE** 11/19

**CALL 2 WORKING DAYS BEFORE YOU DIG**  
**1-800-424-5555**  
**Know what's below. Call before you dig.**

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PROPOSED LEVEE PLAN AND PROFILE**  
**STA 40+00 TO 50+00**

**SHEET CL-05**



TYPICAL LEVEE SECTION



TTYPICAL LEVEE SECTION W/RUSSELL ROAD CROSSING AT 228 STREET

SHEET PILE WALL  
TOP EL=21.5'

WATER CROSSINGS  
SEE CSW SERIES SHEETS—

**CALL 2 WORKING DAYS**

**BEFORE YOU DIG**

1-800-424-5555

1-800-424-3539  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SSC | I EEE SETBACK

**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
*Christine Truss, Director*

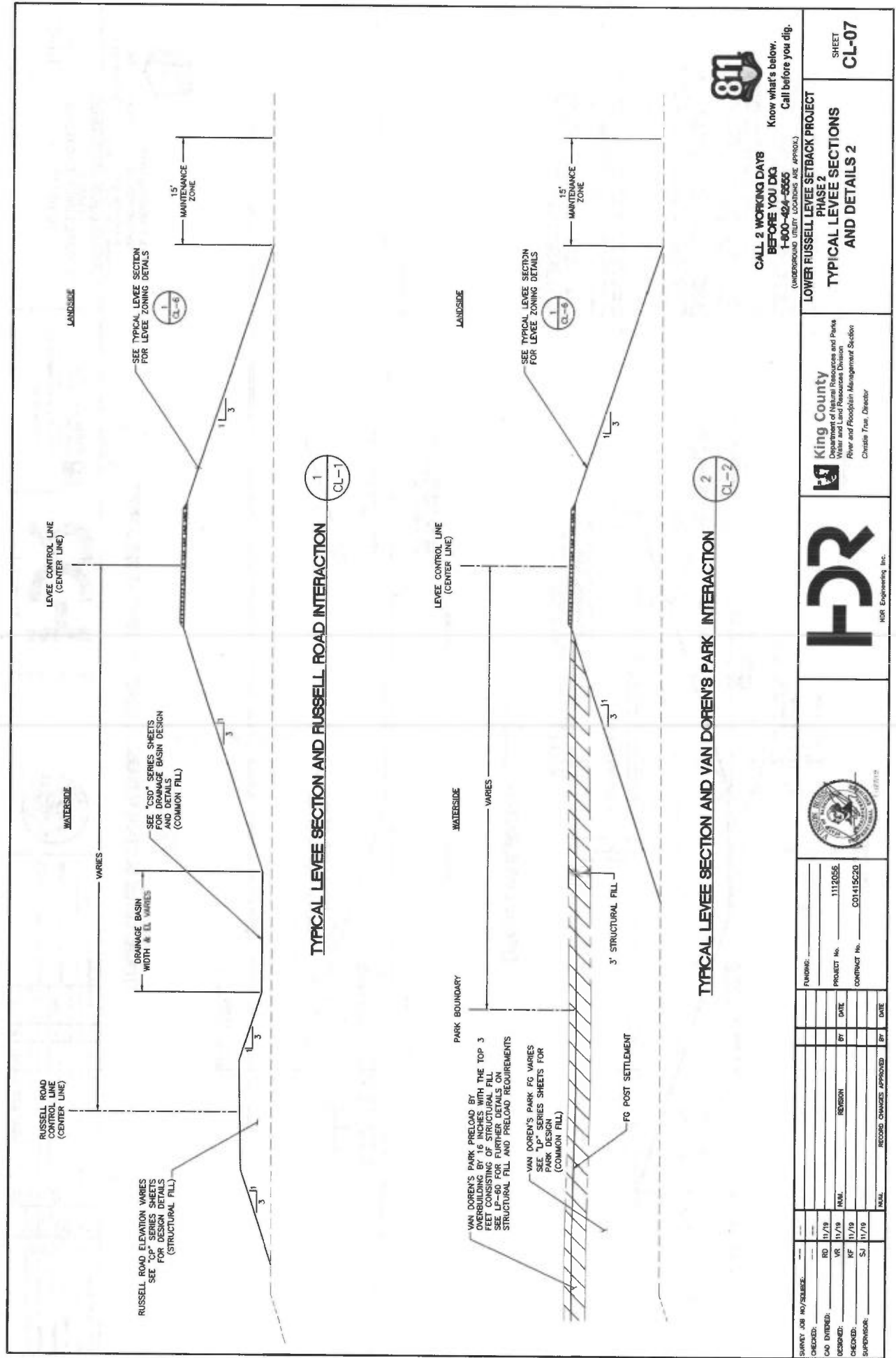
HDR Engineering Inc.



SURVEY JOB NO./SOURCE		DATE	TIME	FLYING	112005
CHECKED:	RD 11/19				PRODUCT No.
COORDINATED:	VR 11/19				CONTRACT No.
DESIGNED:	KF 11/19				
CHECKED:	SJ 11/19				
SUPERVISOR:					

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
TYPICAL LEVEE SECTIONS  
AND DETAILS 1**

SHEET  
CL-06



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LOWER RUSSELL LEVEE SETBACK PROJECT  
TYPICAL LEVEE SECTIONS  
AND DETAILS 2

SHEET  
CL-07

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



HDR Engineering Inc.

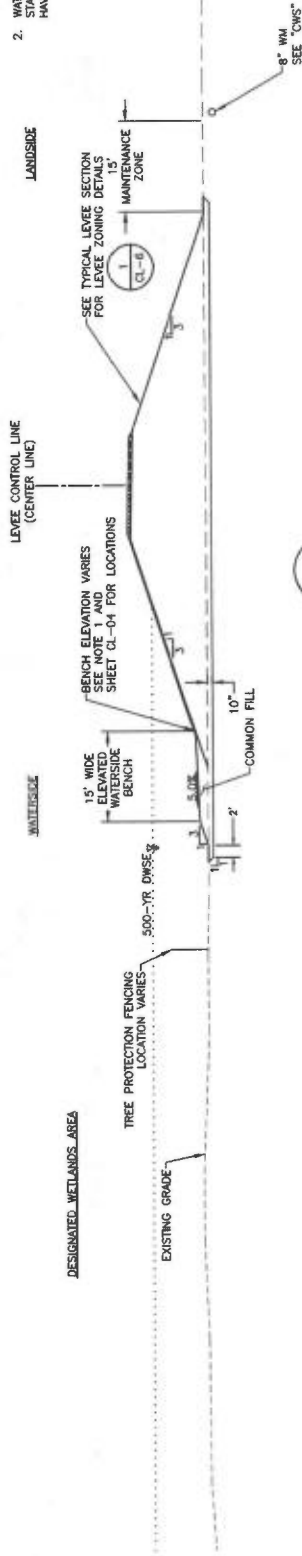


PROJECT No. 1112056  
CONTRACT No. C0115C20

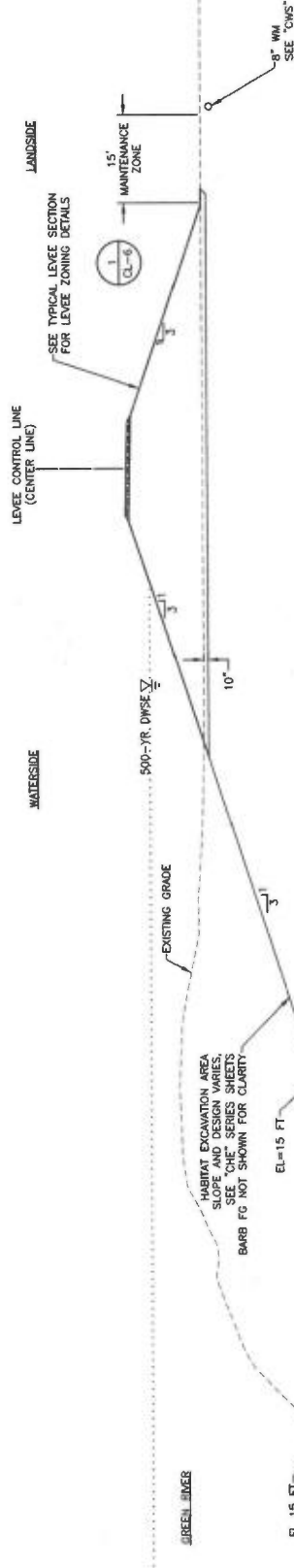
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CHECKED: RD 11/19	RD 11/19	REVISION	RD 11/19
DESIGNED: VR 11/19	VR 11/19	DATE	DATE
CHECKED: RF 11/19	RF 11/19	DATE	DATE
SUPERVISOR: SJ 11/19	SJ 11/19	DATE	DATE

**NOTES:**

1. WATERSIDE BENCH BETWEEN ACCESS #5 AND #6 TO HAVE AN ELEVATION OF 41'.
2. WATERSIDE BENCH BETWEEN STATION 30+80 TO 31+90 TO HAVE AN ELEVATION OF 37'.



**TYPICAL LEVEE SECTION WITH WATERSIDE BENCH**



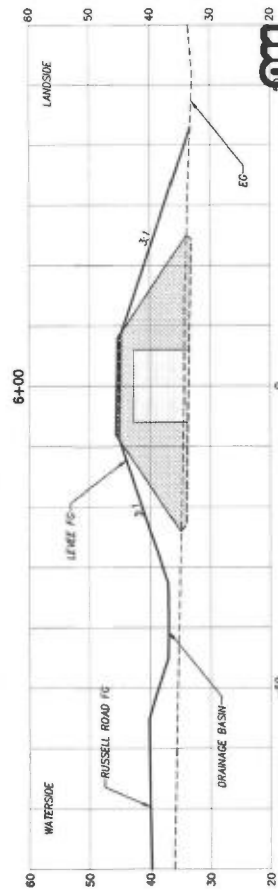
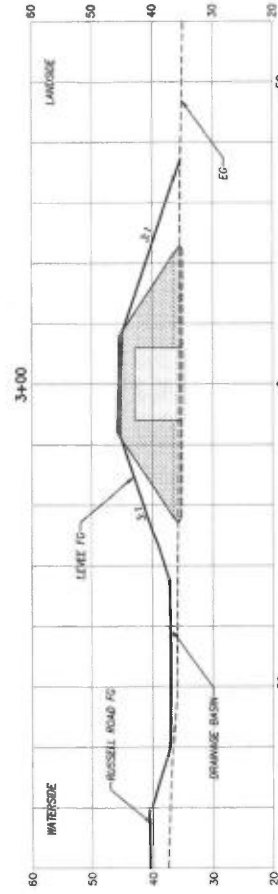
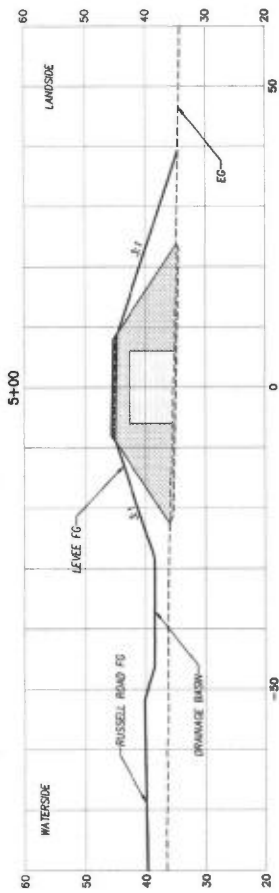
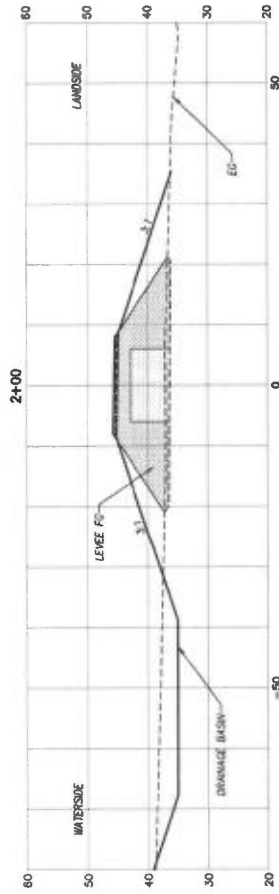
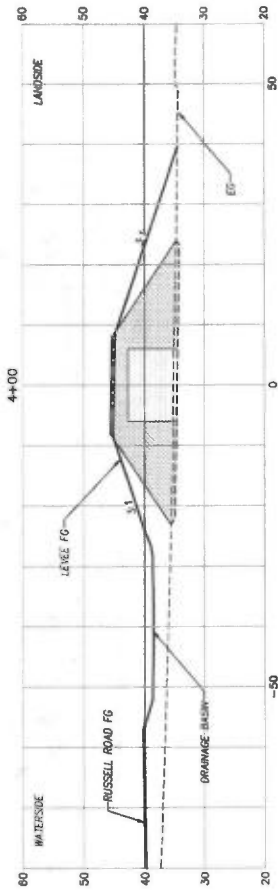
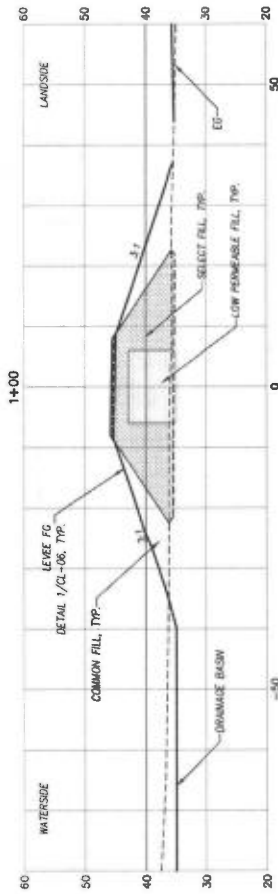
**TYPICAL LEVEE SECTION AND HABITAT AREA INTERACTION**



**CALL 2 WORKING DAYS BEFORE YOU DIG**  
 1-800-424-5855  
 Know what's below. Call before you dig.  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

<b>811</b> CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-424-5855 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)		<b>811</b> CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-424-5855 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)		<b>811</b> CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-424-5855 Know what's below. Call before you dig. (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)	
KING COUNTY Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Trice, Director		<b>HC2</b> HDR Engineering Inc.		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 TYPICAL LEVEE SECTIONS AND DETAILS 3	
SHEET CL-08		PROJECT No. 1112056 CONTRACT No. C01415C20		DATE: 11/19/19 BY: [Signature] CHECKED: [Signature] DESIGNED: [Signature] SUPERVISOR: [Signature]	





CALL 2 WORKING DAYS  
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1-800-424-5855  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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SURVEY JOB NO./SHEET:		FUNDING:	
CHECKED:	RD 11/19	PROJECT No.	1112556
CAD INTERED:	VR 11/19	DATE	
DESIGNED:	KF 11/19	BT	
CHECKED:	SI 11/19	CONTRACT No.	CD1415220
SUPERVISOR:		DATE	
RECORD CHANGES APPROVED		DATE	

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

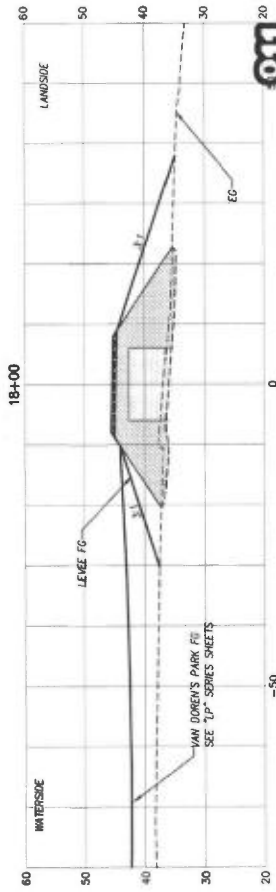
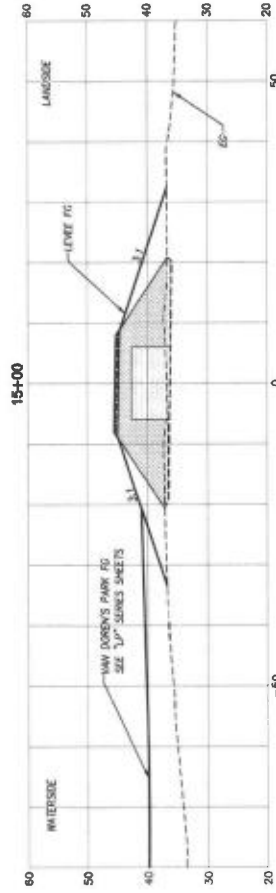
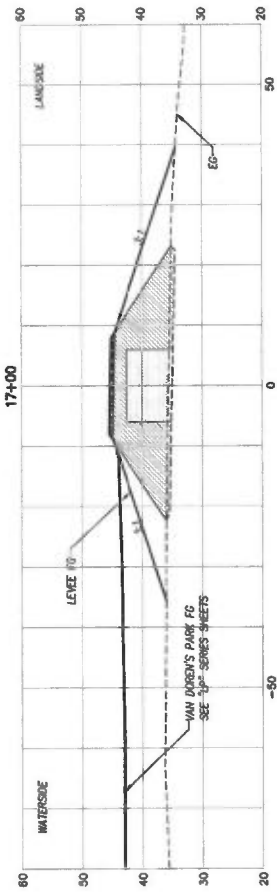
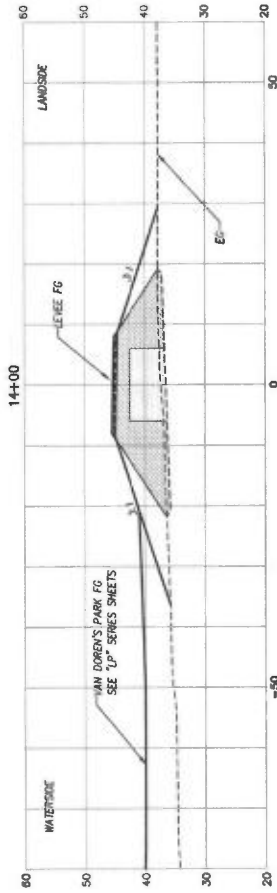
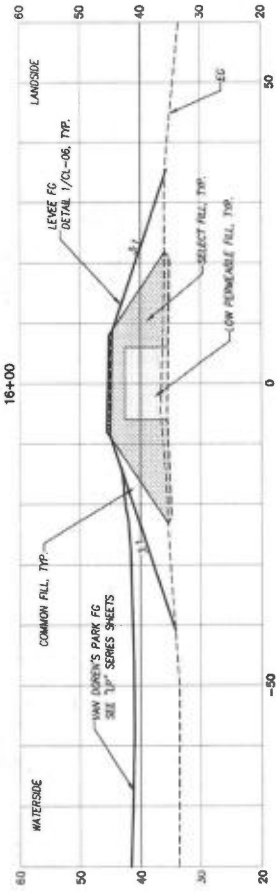
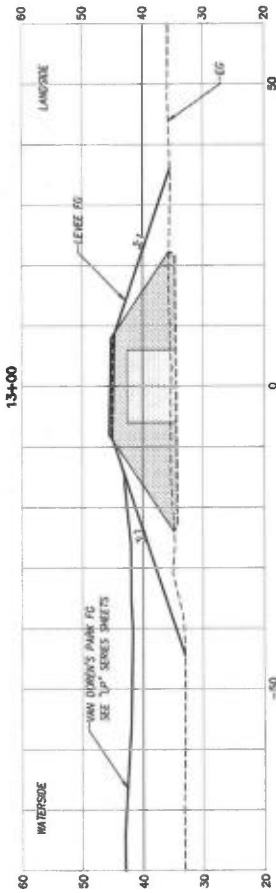


HDR Engineering, Inc.

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PROPOSED LEVEE**  
**CROSS SECTIONS**  
STA 1+00 TO 64+00

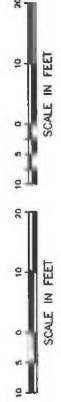
SHEET  
CL-10





CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6666  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Know what's below.  
Call before you dig.



PROJECT No. 1117054  
CONTRACT No. C0115C20

NO.	DATE	BY	DATE	REVISION
1	11/19	VR	11/19	REVISION
2	11/19	MC	11/19	REVISION
3	11/19	SS	11/19	REVISION

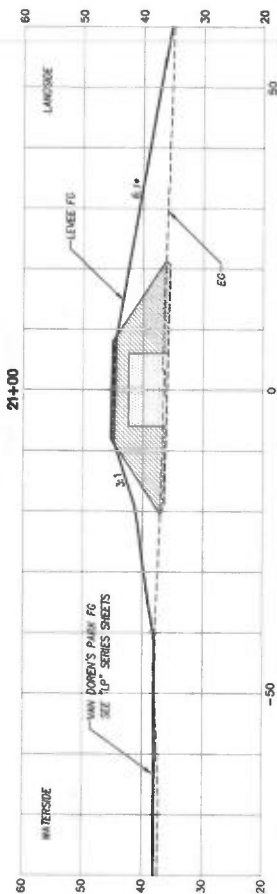
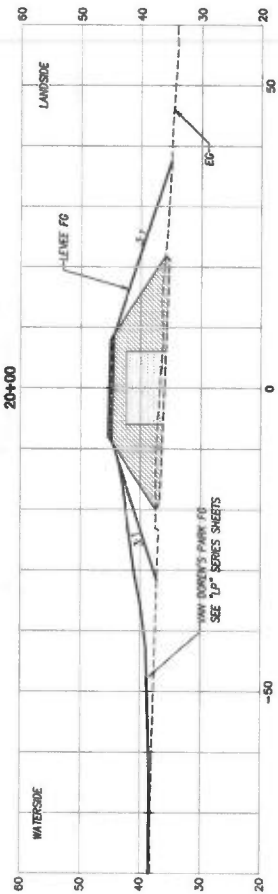
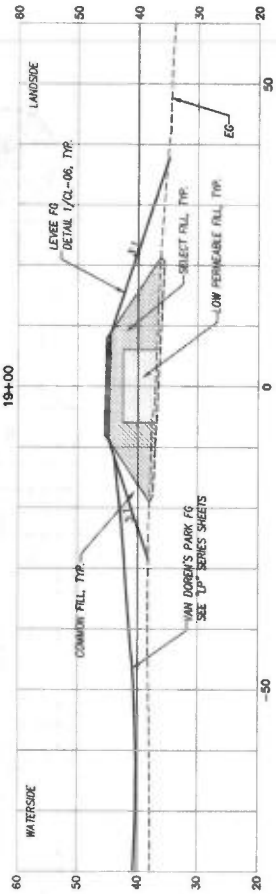
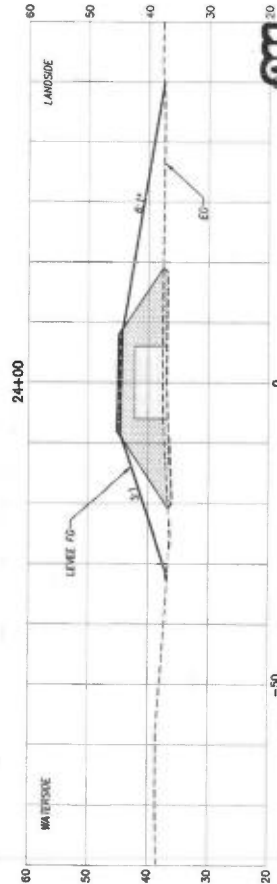
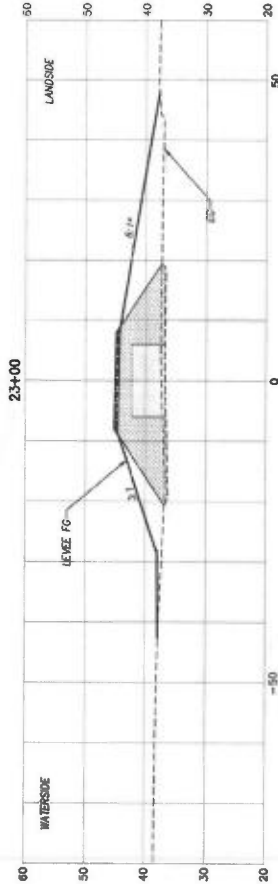
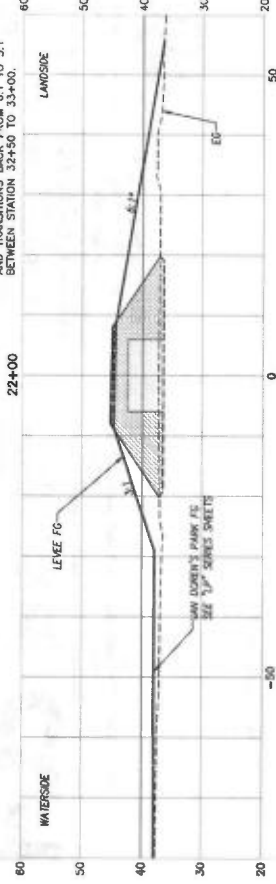
**King County**  
Department of Natural Resources and Parks  
Water and Floodplain Management Section  
Christie Trone, Director



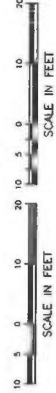
**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PROPOSED LEVEE**  
**CROSS SECTIONS**  
STA 13+00 TO 18+00

SHEET  
CL-12

HANDSIDE LEVEE SLOPE TRANSITIONS FROM 3:1 TO 6:1 TO 8:1 TO 10:1 AND TRANSITIONS BACK FROM 6:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.



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



Know what's below.  
Call before you dig.



**King County**  
Department of Natural Resources and Parks  
Water and Floodplain Management Section  
Christie Trone, Director



PROJECT No. 1113046  
DATE 11/19  
BY REVISION  
CONTRACT No. C01415C20  
SUPERVISOR

RECORD CHANGES APPROVED BY DATE

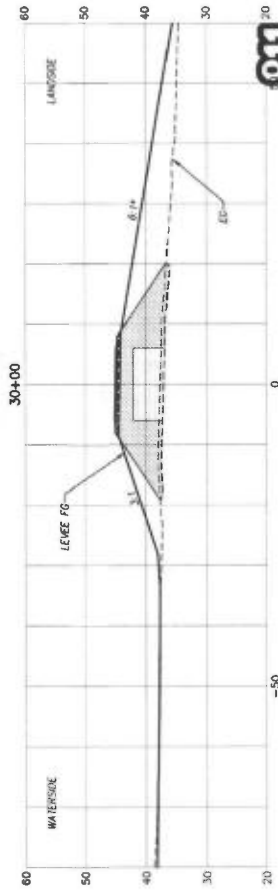
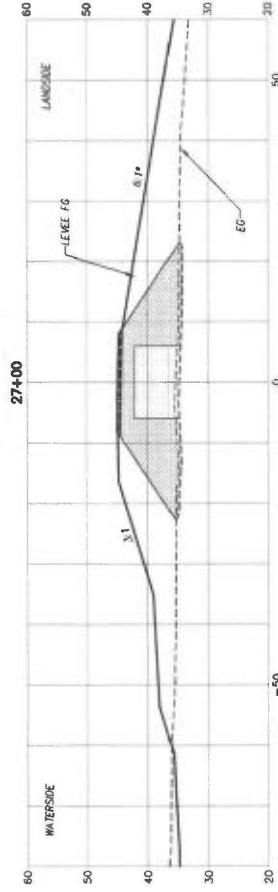
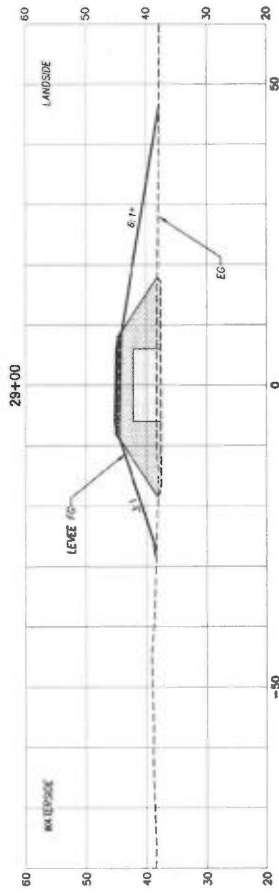
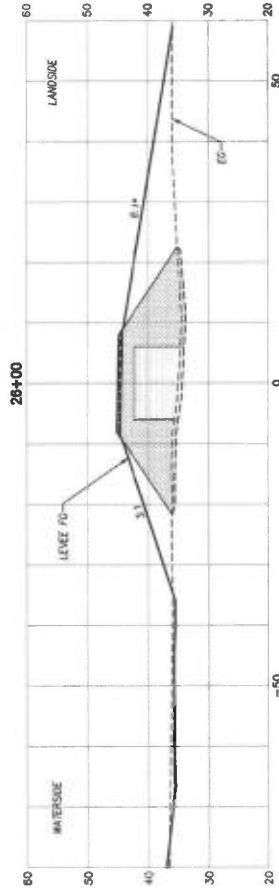
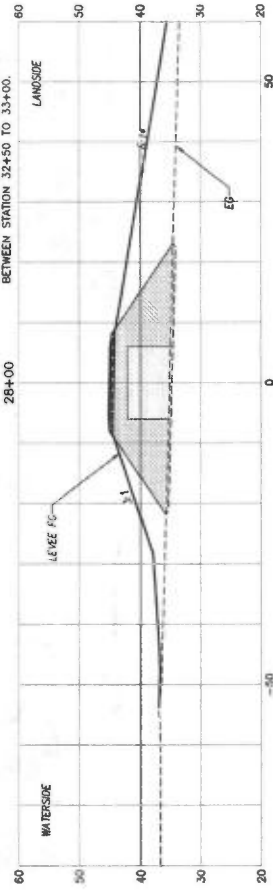
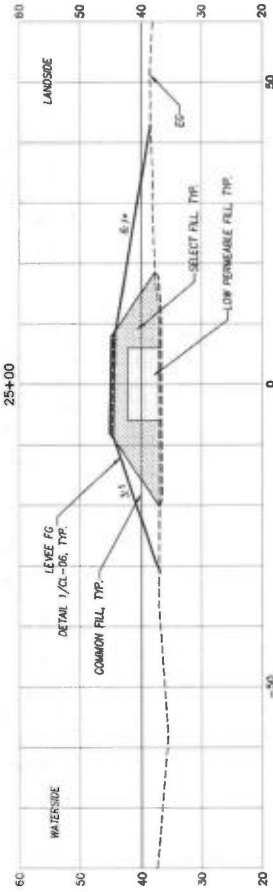
SURVEY JOB NO./SOURCE  
CHECKED: RD 11/19  
CAD DESIGNED: VR 11/19  
DESIGNED: KF 11/19  
CHECKED: SJ 11/19  
SUPERVISOR

**PHASE 2  
PROPOSED LEVEE  
CROSS SECTIONS**  
STA 19+00 TO 24+00

SHEET  
**CL-13**

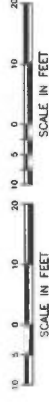
LOWER RUSSELL LEVEE SETBACK PROJECT

\*LANDSIDE SLOPE TRANSITIONS FROM 3:1 TO 6:1 BETWEEN STATION 20+50 TO 21+00 AND TRANSITIONS BACK FROM 6:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.



CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-494-5655  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Know what's below.  
Call before you dig.



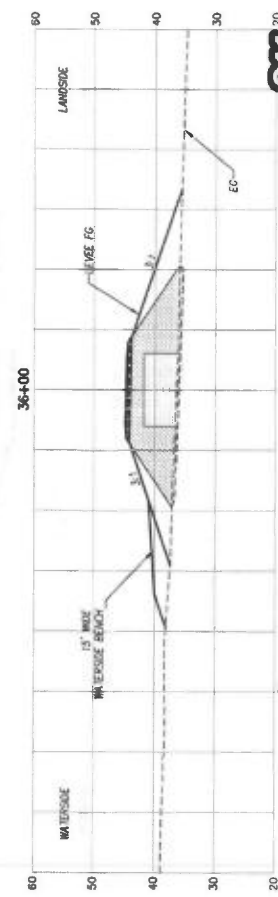
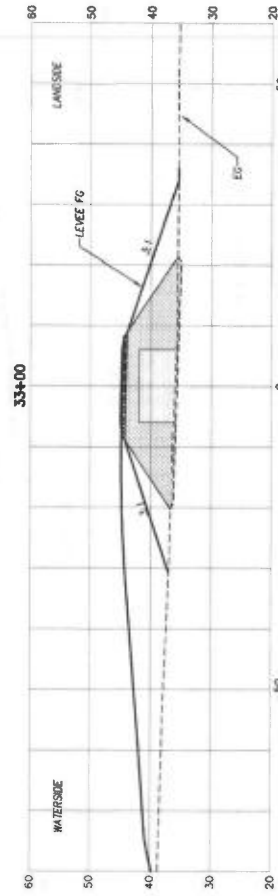
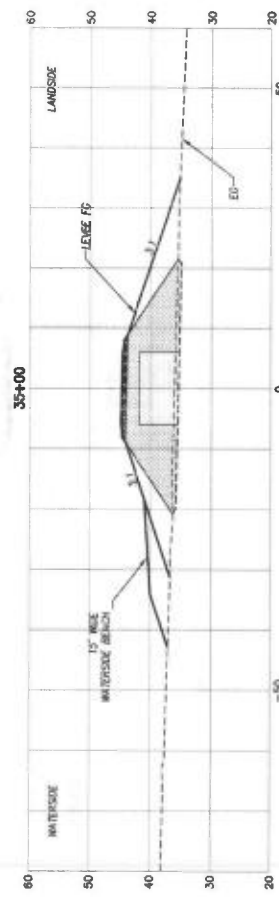
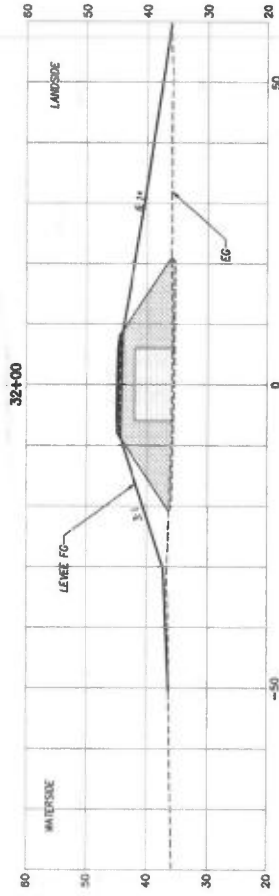
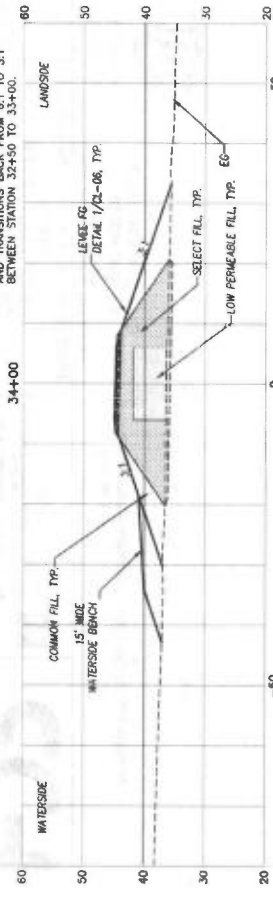
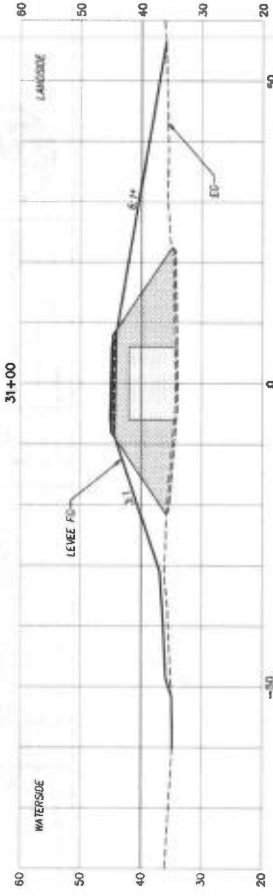
SURVEY JOB NO./SOURCE:		PROJECT NO.	1112056
CHECKED:	RD 11/19	DATE	
DESIGNED:	VR 11/19	REVISION	
CHECKED:	NE 11/19	CONTRACT NO.	CD141562D
SUPERVISOR:	SA 11/19	RECORD CHANGES APPROVED	
		DATE	

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



**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PROPOSED LEVEE**  
**CROSS SECTIONS**  
STA 25+00 TO 30+00

LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3:1 TO 1:1 TO LANDSIDE FROM 31+00 AND TRANSITIONS BACK FROM 8:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.



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



Know what's below.  
Call before you dig.



PROJECT No. 1112056  
CONTRACT No. C01415C20

SURVEY JOB NO./SOURCE	DATE	BY	DATE	BY
CHECKED: RD 11/19		REVISION		
CAD ENTERED: VR 11/19				
DESIGNED: KF 11/19				
CHECKED: SJ 11/19				
SUPERVISOR:				
		RECORD CHANGES APPROVED		

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

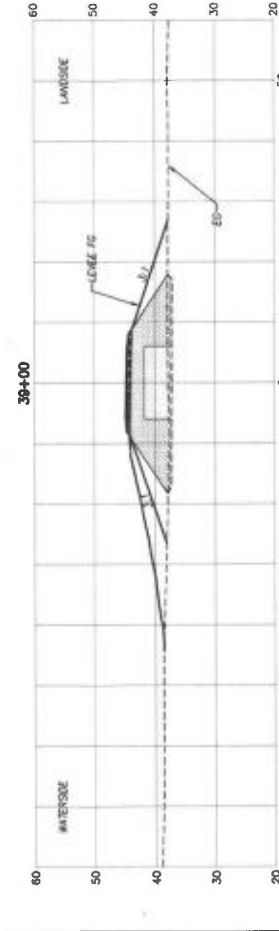
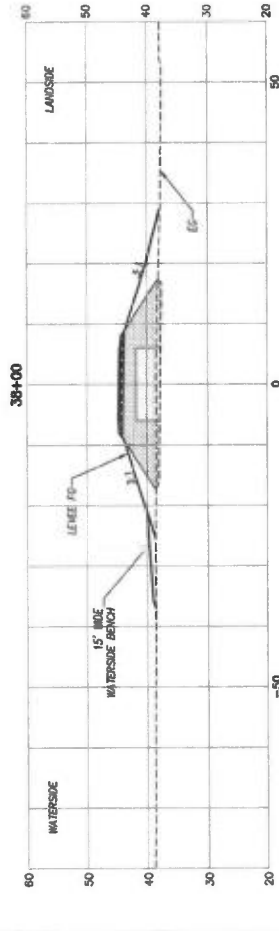
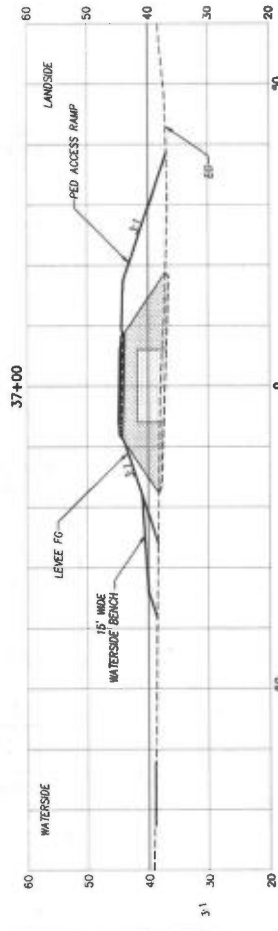
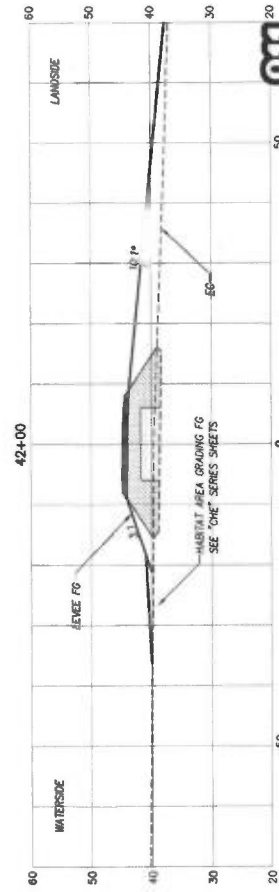
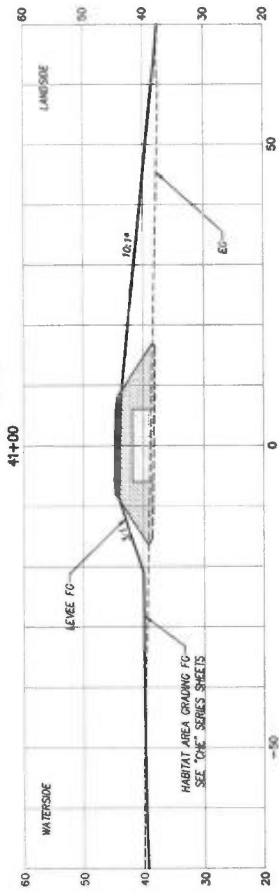
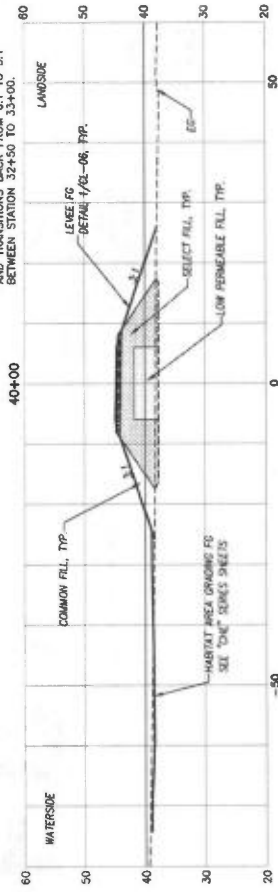


LOWER RUSSELL LEVEE SETBACK PROJECT

PHASE 2  
PROPOSED LEVEE  
CROSS SECTIONS  
STA 31+00 TO 36+00

SHEET  
CL-15

LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3:1 TO 6:1 BETWEEN STATION 20+50 TO 21+00 AND TRANSITIONS BACK FROM 6:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.



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

Know what's below.  
Call before you dig.



SHEET  
CL-16

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
PROPOSED LEVEE  
CROSS SECTIONS  
STA 37+00 TO 42+00

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

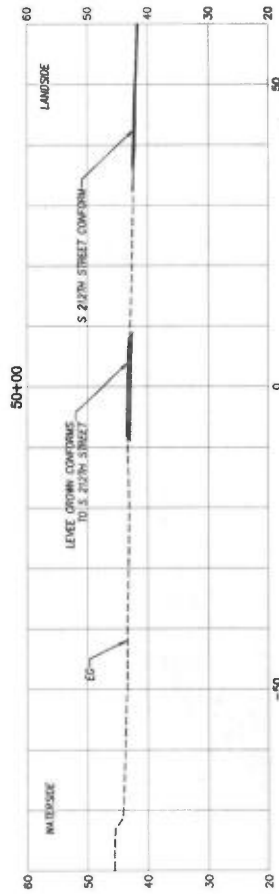
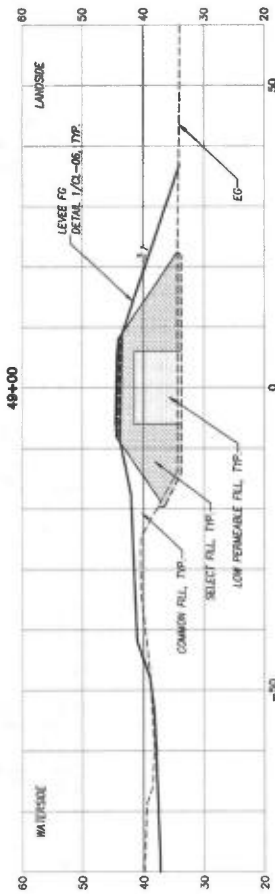


PROJECT No. 1112055  
CONTRACT No. COT415C20

NO.	DATE	BY	REVISION
1	11/19	VR	DESIGNED
2	11/19	KF	CHECKED
3	11/19	SJ	SUPERVISOR
4	11/19	NR	RECORD CHANGES APPROVED

SURVEY JOB NO./SHEET NO.  
GEO ENGINEER: RD 11/19  
DESIGNED: VR 11/19  
CHECKED: KF 11/19  
SUPERVISOR: SJ 11/19





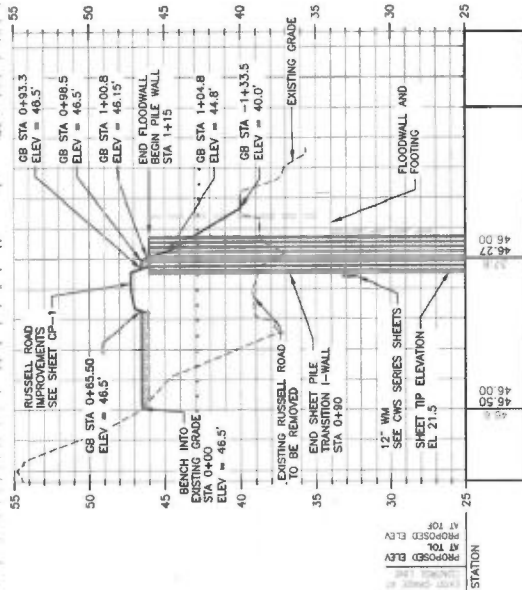
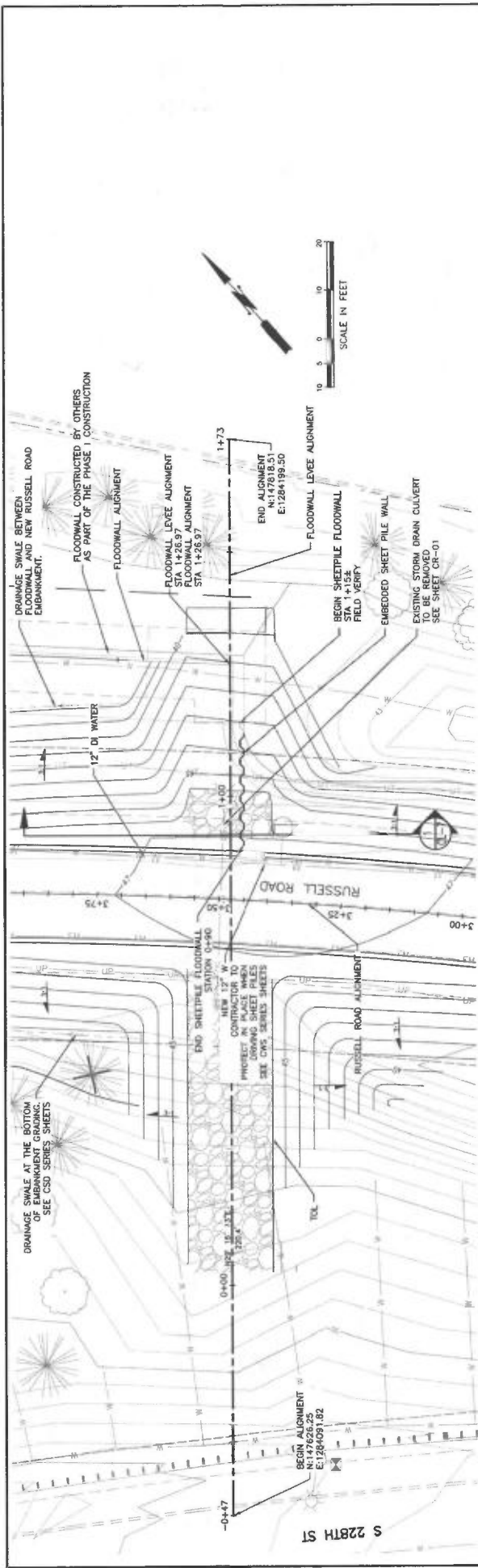
CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



Know what's below.  
Call before you dig.

SURVEY JOB NO./SHEET: _____ CHECKED: _____ CAD DRAWN: _____ DESIGNED: _____ CHECKED: _____ SUPERVISOR: _____		PROJECT No. 1112056 DATE 11/19 BY 11/19 11/19 11/19		CONTRACT No. C01415C20 11/19		RECORD CHANGES APPROVED: _____ DATE: _____	
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 PROPOSED LEVEE CROSS SECTIONS STA 49+00 TO 50+00		SHEET CL-18					



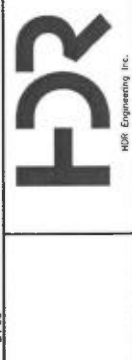


CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Know what's below.  
Call before you dig.

SURVEY	DATE	BY	DATE	BY	DATE
CHECKED:	RD	11/18	BY	DATE	
CAD	ENTERED:	11/18	BY	DATE	
DESIGNED:	11/18	BY	DATE		
CHECKED:	11/18	BY	DATE		
SUPERVISOR:	11/18	BY	DATE		

PROJECT No.	1112056
CONTRACT No.	C0115C20
DATE	11/18/18



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

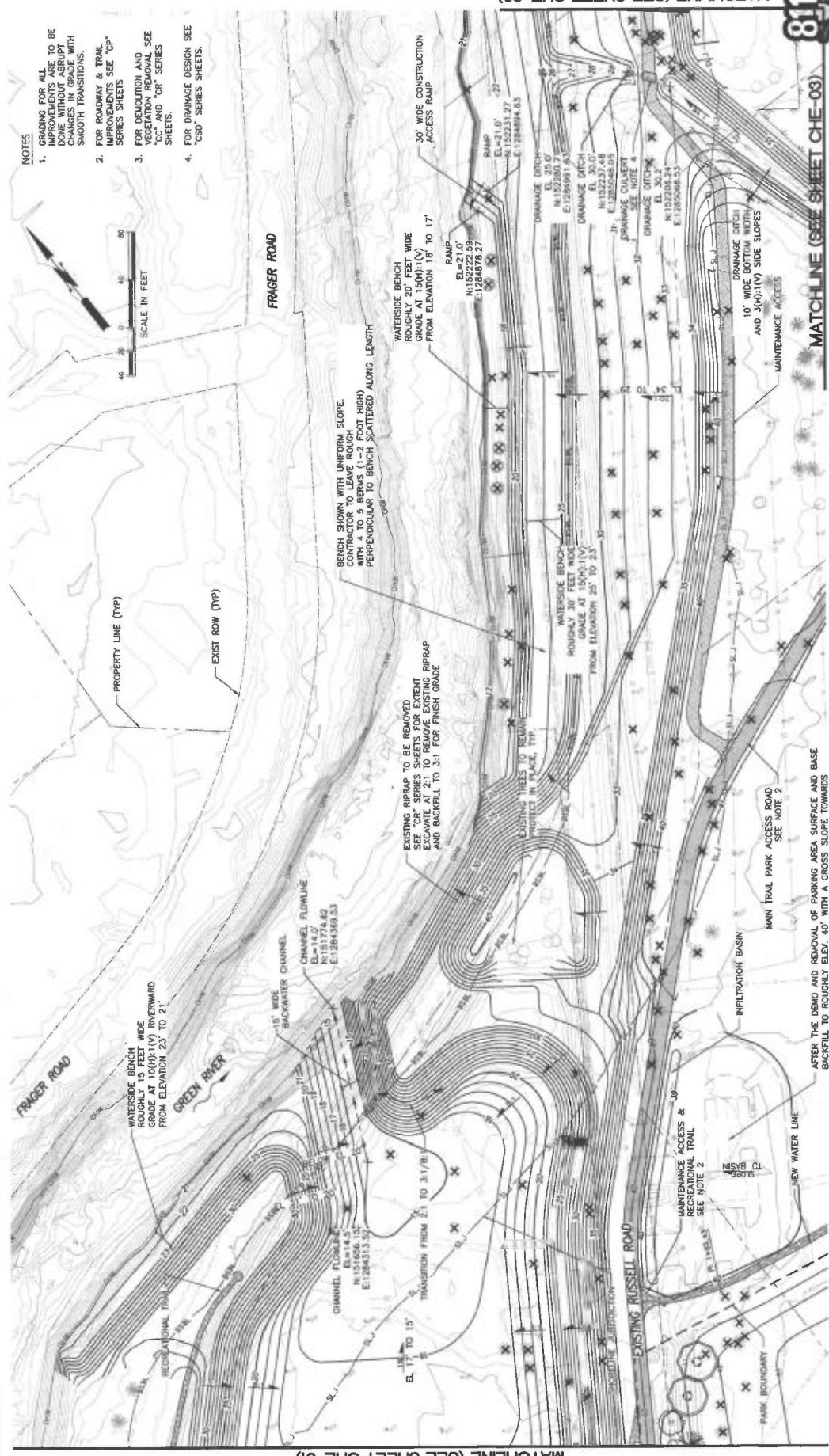
**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PROPOSED FLOODWALL - LEVEE**  
**PLAN AND PROFILE**  
STA - 0+47 TO 14+73

SHEET  
CL-20



NOTES

1. GRADING FOR ALL IMPROVEMENTS ARE TO BE DONE WITHOUT ABRUPT CHANGES IN GRADE WITH SMOOTH TRANSITIONS.
2. FOR ROADWAY & TRAIL IMPROVEMENTS SEE "CP" SERIES SHEETS
3. FOR DEMOLITION AND VEGETATION REMOVAL SEE "CR" AND "CK" SERIES SHEETS.
4. FOR DRAINAGE DESIGN SEE "CSD" SERIES SHEETS.



MATCHLINE (SEE SHEET CHE-01)

MATCHLINE (SEE SHEET CHE-03)

811

MATCHLINE (SEE SHEET CHE-03)

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

Know what's below.  
Call before you dig.

SURVEY JOB NO./SUBJECT:		DATE:	
CHECKED:	BY:	DATE:	
CAD ENTRED:	BY:	DATE:	
DESIGNED:	BY:	DATE:	
CHECKED:	BY:	DATE:	
SUPERVISOR:	BY:	DATE:	
RECORD CHANGES APPROVED:	BY:	DATE:	



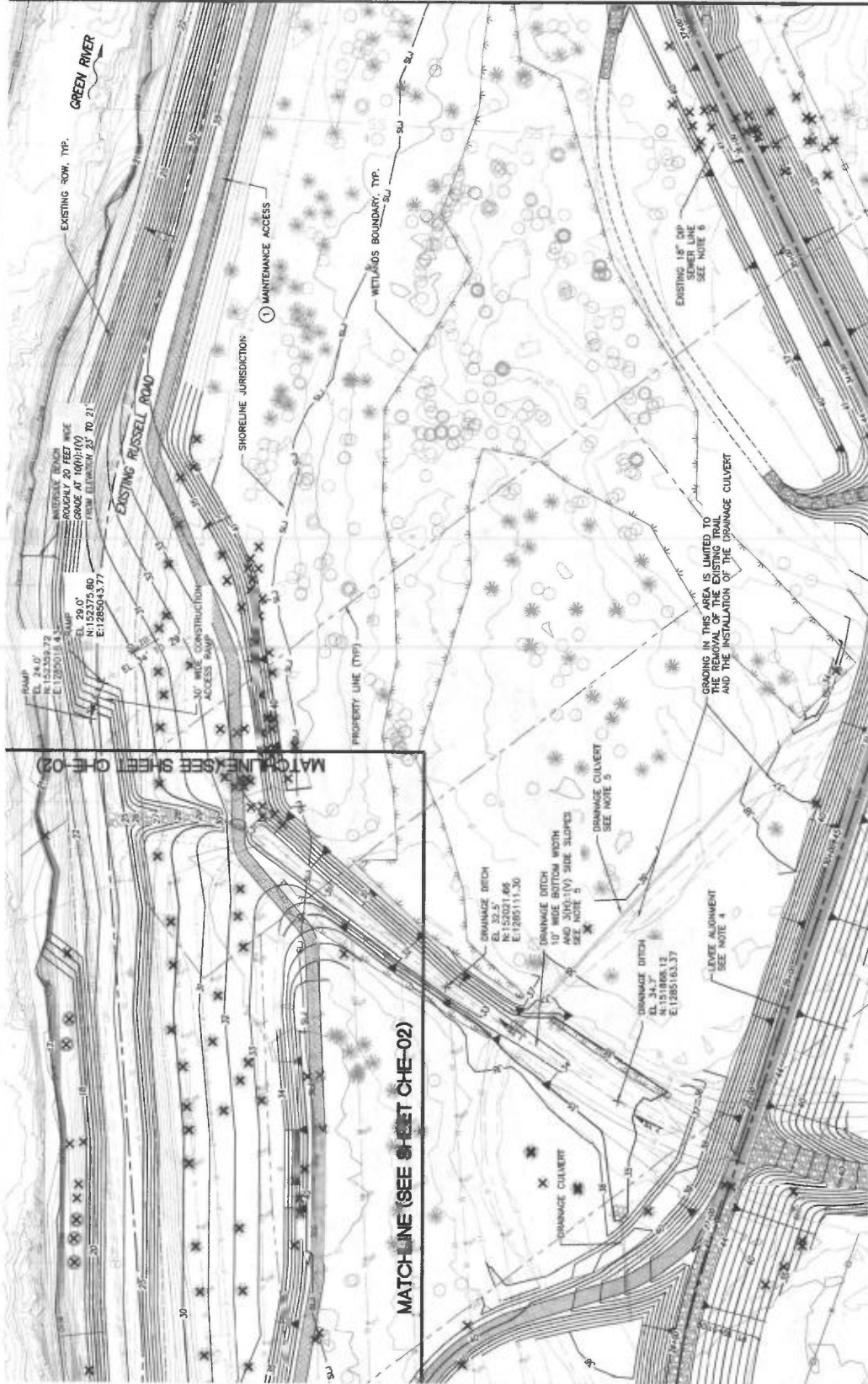
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Trust, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT AREA EXCAVATION 2  
SHEET  
CHE-02

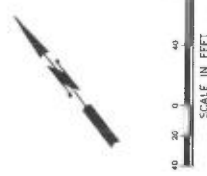
NOTES

1. GRADING FOR ALL IMPROVEMENTS ARE TO BE DONE WITHOUT REMOVAL OF EXISTING VEGETATION. SEE "OC" AND "CR" SERIES SHEETS.
2. FOR ROADWAY & TRAIL IMPROVEMENTS SEE "CP" SERIES SHEETS.
3. FOR DRAINAGE DESIGN SEE "CD" SERIES SHEETS.
4. FOR EXISTING AND VEGETATION REMOVAL SEE "OC" AND "CR" SERIES SHEETS.
5. FOR LEVEE GRADING SEE "CL" SERIES SHEETS.
6. FOR DRAINAGE DESIGN SEE "CD" SERIES SHEETS.
7. THE EXACT LOCATION AND DEPTH OF ALL EXISTING DRAINAGE PIPES IS UNKNOWN. LOCATION SHOWN IS APPROXIMATE. CONTRACTOR SHALL VERIFY LOCATION. SEE SHEET CS-04 FOR ABANDONMENT DETAILS.

MATCHLINE (SEE SHEET CHE-04)



MATCHLINE (SEE SHEET CHE-02)



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

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

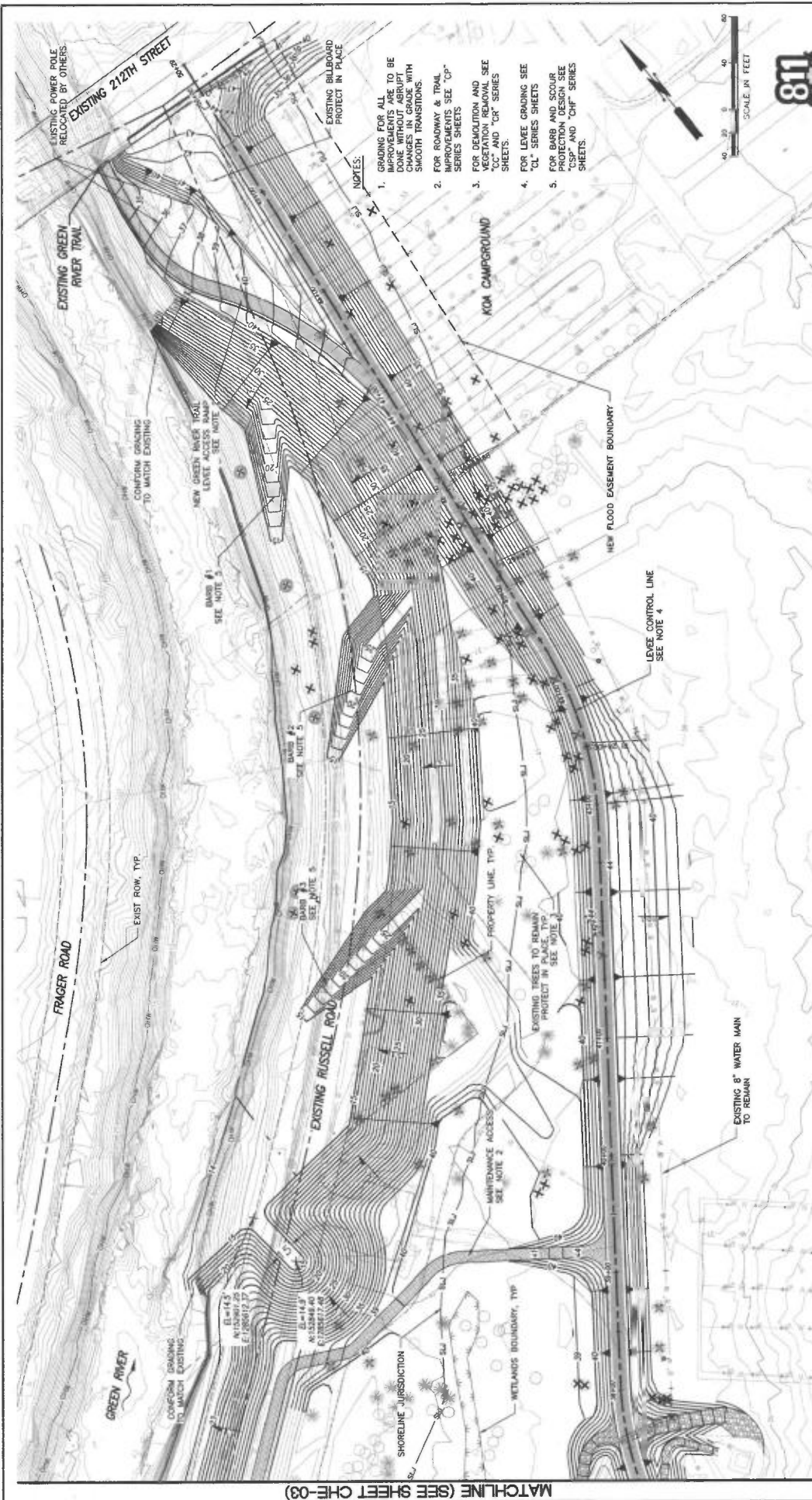
HABITAT AREA EXCAVATION 3  
SHEET  
CHE-03



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



SURVEY JOB NO/SOURCE:	PROJECT NO. 1117056	CONTRACT NO. C01415220
CHECKED: RD 11/19	DATE: 11/19	BY: 11/19
DESIGNED: VA 11/19	REVISION: 11/19	BY: 11/19
CHECKED: NF 11/19	REVISION: 11/19	BY: 11/19
SUPERVISOR: SJ 11/19	REVISION: 11/19	BY: 11/19
FILE NO.	RECORD CHANGES APPROVED	BY: 11/19



MATCHLINE (SEE SHEET CHE-03)

NOTES:

1. GRADING FOR ALL IMPROVEMENTS ARE TO BE DONE WITHOUT ABRUPT TRANSITIONS WITH SMOOTH TRANSITIONS.
2. FOR ROADWAY & TRAIL IMPROVEMENTS SEE "CP" SERIES SHEETS
3. FOR DEMOLITION AND VEGETATION REMOVAL SEE "CS" AND "CR" SERIES SHEETS.
4. FOR LEVEE GRADING SEE "CL" SERIES SHEETS
5. FOR BARB AND SCOUR PROTECTION DESIGN SEE "CSP" AND "CHP" SERIES SHEETS.

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

Know what's below. Call before you dig.



LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

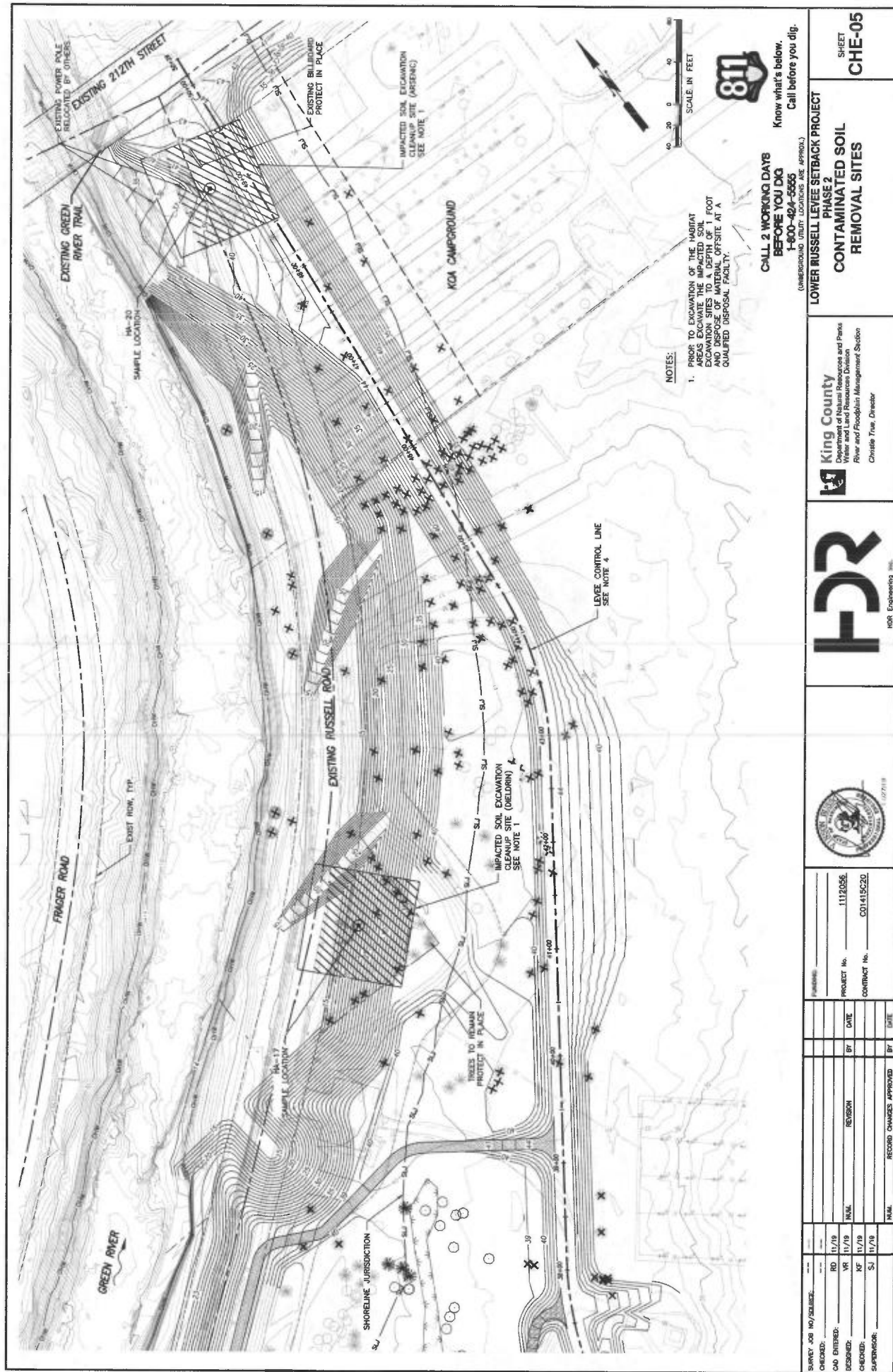
SHEET  
CHE-04

HABITAT AREA EXCAVATION 4

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



SURVEY JOB NO./SHEET:		FILED:	
CHECKED:		PROJECT No.	111205L
CAD ENTERED:	RD 11/19	DATE	
DESIGNED:	VR 11/19	BY	
CHECKED:	SE 11/19	CONTRACT No.	09115C20
SUPERVISOR:	SJ 11/19	DATE	
RECORDS CHANGES APPROVED:		DATE	



**HDR**  
HDR Engineering Inc.

**King County**  
Department of Public Works and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Truse, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**CONTAMINATED SOIL**  
**REMOVAL SITES**

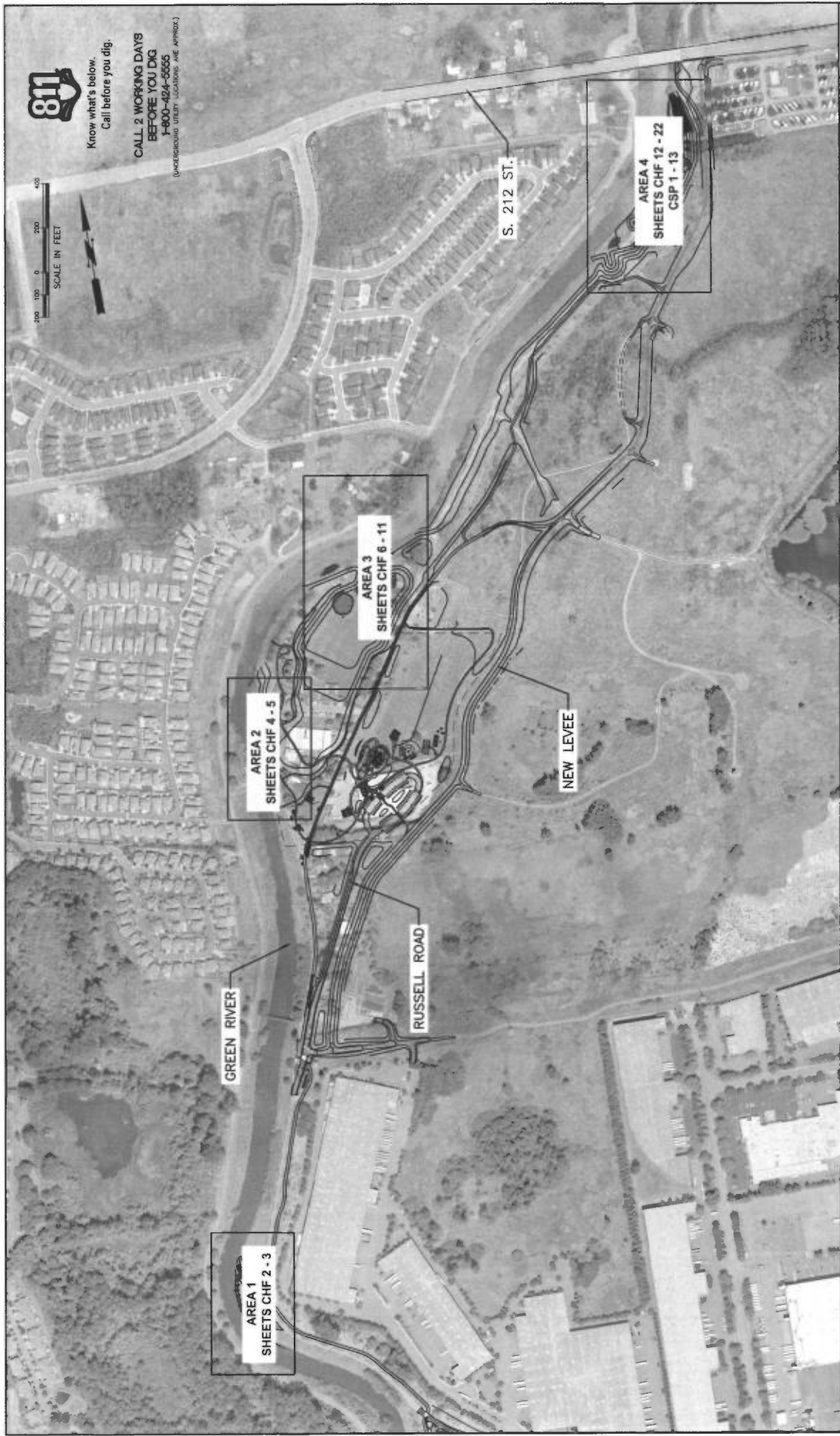
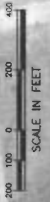
**SHEET**  
**CHE-05**

SURVEY JOB NO./SHEET:		PROJECT NO. 1112056		CONTRACT NO. C01415220	
CHECKED:	RD 11/19	BY	DATE	BY	DATE
CAD ENTERED:	VR 11/19	REVISION			
DESIGNED:	RF 11/19				
CHECKED:	SJ 11/19				
SUPERVISOR:					
		RECORD CHANGES APPROVED			



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-3555  
(UNDERGROUND UTILITY LOCATING AND APPROVAL)

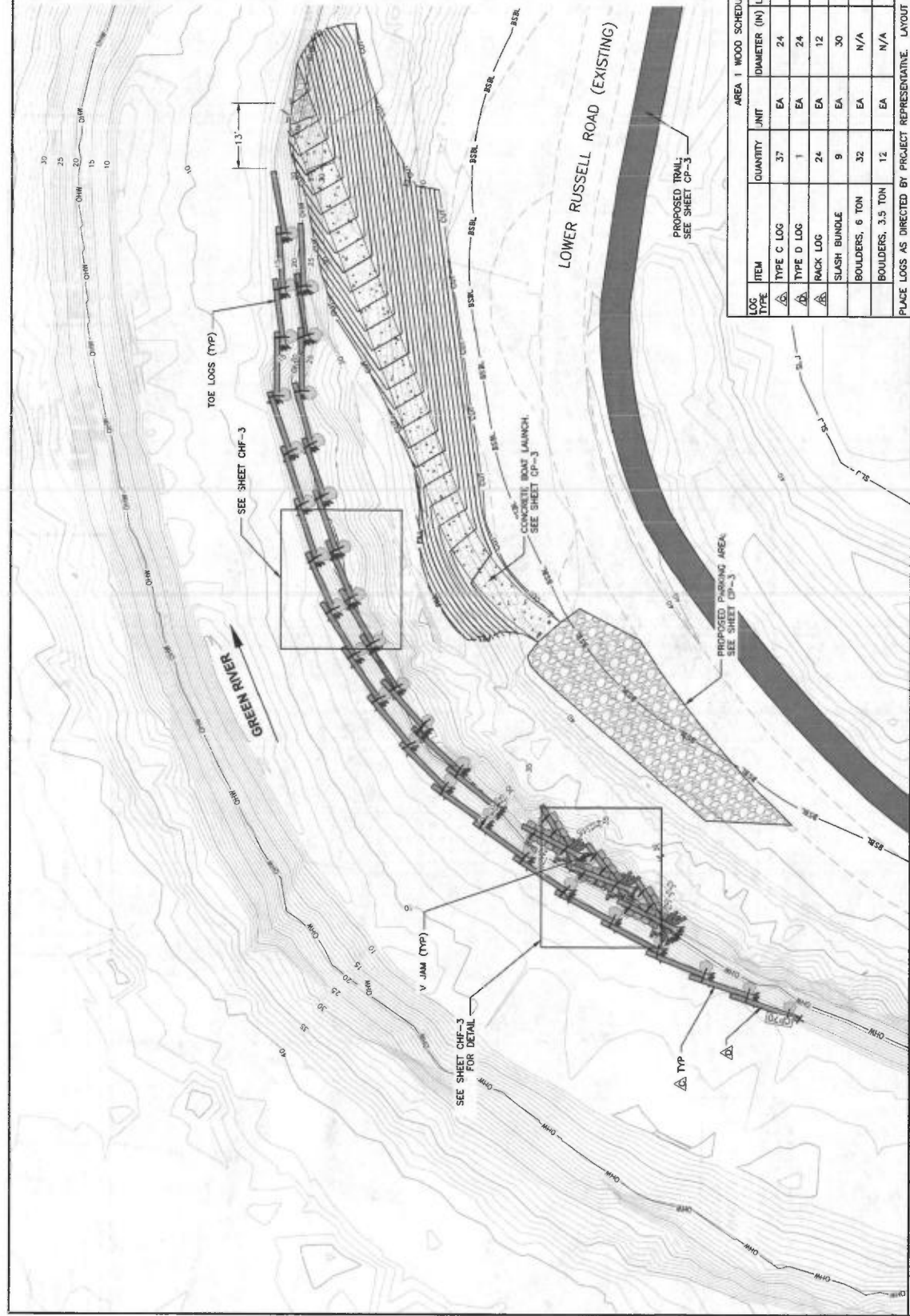


NORTHWEST HYDRAULIC CONSULTANTS		King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Truss, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 HABITAT WOOD & SCOUR PROTECTION SITE PLAN & KEY MAP		SHEET CHF-01	
FUNDING:		PROJECT No. 1112056		CONTRACT No. C01415220		DATE	
CHECKED: DDM 10/19		DESIGNED: VOC 10/19		DRAWN: M. HANSEN		DATE	
CHECKED: CTL 10/19		SUPERVISOR: [blank] 10/19		RECORD CHANGES APPROVED		DATE	



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

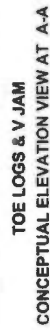
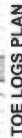


AREA 1 CONTROL POINT TABLE			
CP	ITEM	NORTHING	EASTING
CP70	LOG END	148336.8	1283327.4

AREA 1 WOOD SCHEDULE			
LOG TYPE	ITEM	QUANTITY	DESCRIPTION
A	TYPE C LOG	37	EA 24 30 ROOTWAD ATTACHED
	TYPE D LOG	1	EA 24 30 NO ROOTWAD
B	RACK LOG	24	EA 12 12 8 BACK LOGS PER V JAM
	SLASH BUNDLE	9	EA 30 10 - 15 FOR TOE LOSS
C	BOULDERS, 6 TON	32	EA N/A FOR V JAM
	BOULDERS, 3.5 TON	12	EA N/A FOR V JAM

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

		<b>King County</b> Department of Natural Resources and Parks Water and Floodplain Management Section Christie True, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 HABITAT WOOD AREA 1 PLAN		SHEET CHF-02	
				FUNDING: _____		DATE: _____	
SURVEY AND NO/SUBMIT:		DESIGNED: _____		CHECKED: _____		SUPERVISOR: _____	
CAD DESIGNED: _____		VOC: _____		CTL: _____		VOC: _____	
DESIGNED: _____		VOC: _____		CTL: _____		VOC: _____	
CHECKED: _____		VOC: _____		CTL: _____		VOC: _____	
SUPERVISOR: _____		VOC: _____		CTL: _____		VOC: _____	
RECORD CHANGES APPROVED: _____		BY: _____		DATE: _____		DATE: _____	
RECORD CHANGES APPROVED: _____		BY: _____		DATE: _____		DATE: _____	



5. SECURE SLASH BUNDLES TO LOGS AS DIRECTED BY PROJECT REPRESENTATIVE



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

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT WOOD AREA 1  
SECTION



Know what's below.  
Call before you dig.

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



SURVEY JOB NO./SUBJOB		PROJECT No. 1112056		CONTRACT No. C0415C20	
CHECKED:	DATE	DATE	DATE	DATE	DATE
CAD ENTERED:	DATE	DATE	DATE	DATE	DATE
DESIGNED:	DATE	DATE	DATE	DATE	DATE
CHECKED:	DATE	DATE	DATE	DATE	DATE
SUPERVISOR:	DATE	DATE	DATE	DATE	DATE
RECORD CHANGES APPROVED		RECORD CHANGES APPROVED			
TOTAL		TOTAL			

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

**nhc**  
northwest  
hydraulic  
consultants

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT WOOD AREA 2  
PLAN

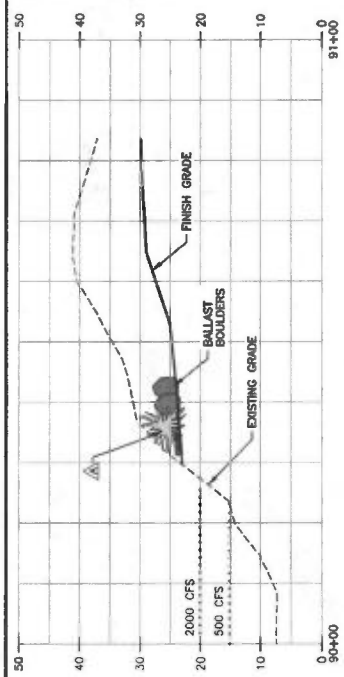
SHEET  
**CHF-04**

AREA 2 WOOD SCHEDULE					
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)
△	TYPE A LOG	18	EA	24	35
△	TYPE B LOG	9	EA	24	35
△	TYPE C LOG	12	EA	24	30
△	RACKING LOGS	63	EA	12	12-20
△	SLASH	1,080	CY		REFER TO SPECIFICATIONS
△	BOULDERS	78	EA	N/A	13.5-TON BOULDERS

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

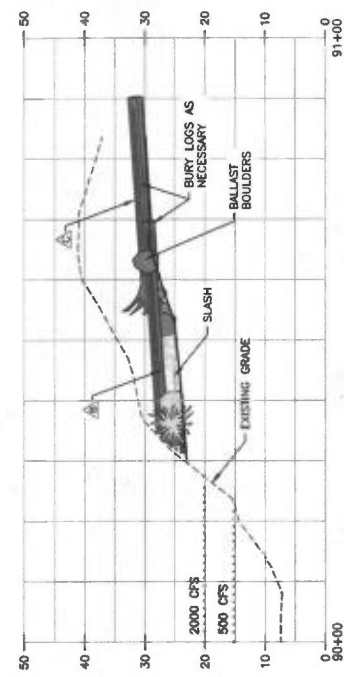
### STEP 1

- SEQUENCE NOTES:  
1. PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE.  
2. PLACE 9 RACK LOGS.  
3. PLACE AND SECURE 3 TYPE C LOGS.  
4. CONNECT BALLAST BOULDERS TO KEY LOGS.



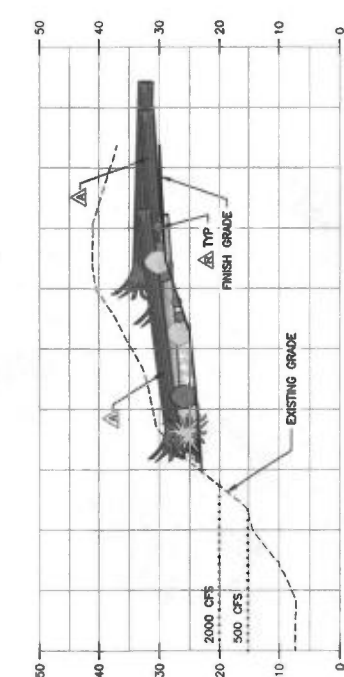
### STEP 2

- SEQUENCE NOTES:  
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).  
2. PLACE 6 RACKING LOGS ON SLASH.  
3. PLACE 3 TYPE B LOGS, CHAIN TO EXISTING TYPE A LOGS AND CONNECT BOULDERS TO TYPE B LOGS.  
4. PLACE 2 TYPE C LOGS AND CONNECT TO BOULDERS.

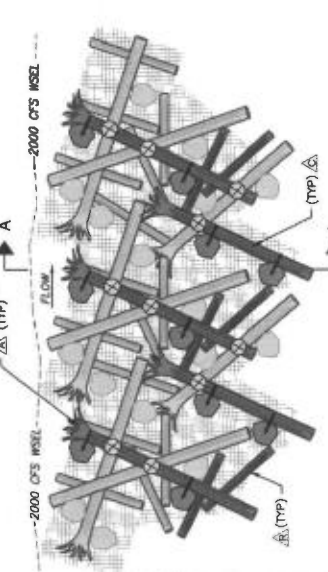
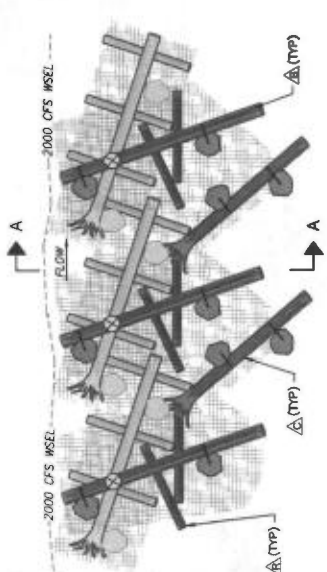
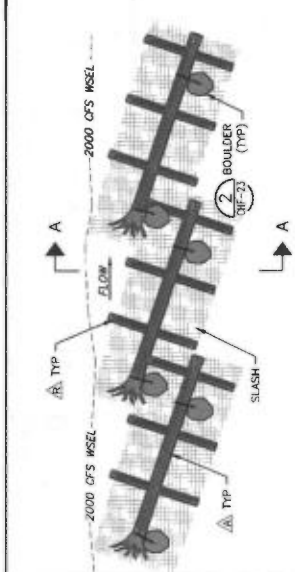


### STEP 3

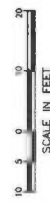
- SEQUENCE NOTES:  
1. PLACE 60 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.  
2. PLACE 6 BACK LOGS ON SLASH.  
3. PLACE 3 TYPE A LOGS.  
4. CONNECT 3 TYPE A LOGS TO EXISTING BOULDERS TO 3 TYPE A LOGS.  
5. PLACE 2 TYPE C LOGS, CONNECT TO BOTTOM TYPE C LOGS, AND SECURE TO BOULDERS.



CONCEPTUAL ELEVATION VIEW AT A-A



PLAN VIEW



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-3665  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

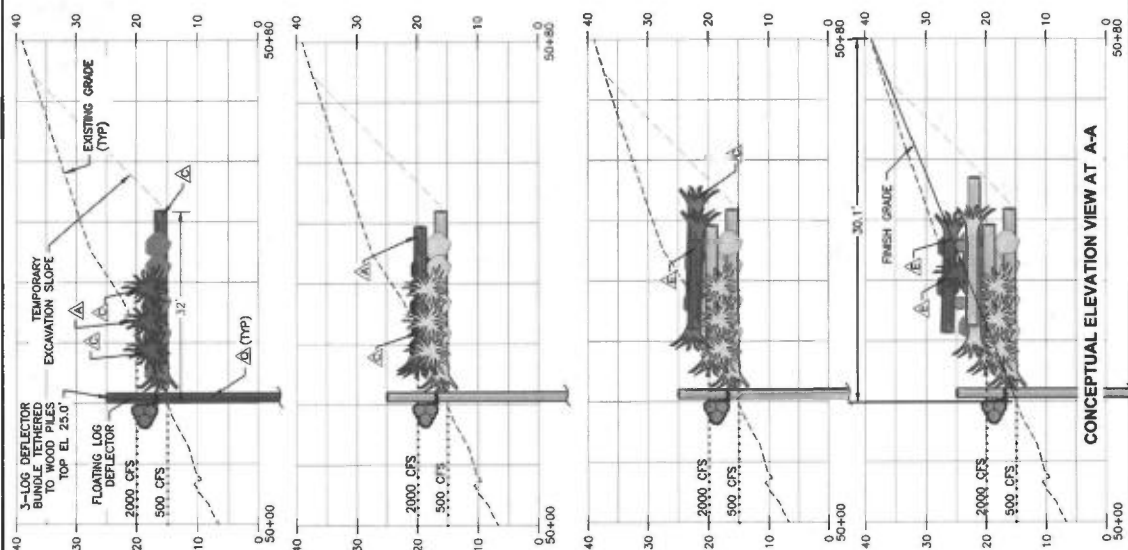
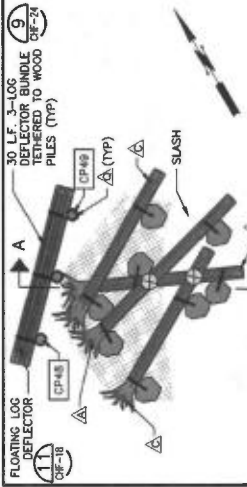
LEGEND:

- SLASH
- LOG-LOG CONNECTION
- LOG-BOULDER CONNECTION
- LOG TYPE

NOTES:  
1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

<p>King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie T. Tran, Director</p>		<p>LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 HABITAT WOOD AREA 2 BANK ROUGHENING JAM LAYERING PLAN</p>		<p>SHEET CHF-05</p>
<p>1112056 03115C20</p>		<p>10/19 10/19 10/19 10/19</p>		<p>10/19 10/19 10/19 10/19</p>
<p>10/19 10/19 10/19 10/19</p>		<p>10/19 10/19 10/19 10/19</p>		<p>10/19 10/19 10/19 10/19</p>
<p>10/19 10/19 10/19 10/19</p>		<p>10/19 10/19 10/19 10/19</p>		<p>10/19 10/19 10/19 10/19</p>





**STEP 1**

NOTES:

- EXCAVATE WORK SITE TO EL 15.0' SUFFICIENT TO SEAL LOGS AND DAYLIGHT TEMPORARY CUT SLOPE.
- INSTALL 3 TYPE O WOOD PILES.
- ATTACH FLOATING LOG DEFLECTOR, CONSISTING OF 3 TYPE D LOGS, TO WOOD PILES.
- FOOTPRINT AS SHOWN OR AS DIRECTED BY PROJECT REPRESENTATIVE.
- PLACE 1 TYPE C LOG.
- PLACE 2 TYPE C LOGS AND 1 TYPE A LOG.
- CONNECT 2 BOULDERS TO EACH LOG.

**STEP 2**

NOTES:

- PLACE 10 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
- PLACE 2 TYPE C LOGS & 1 TYPE A LOG.
- CONNECT 2 BOULDERS TO EACH LOG.

**STEP 3**

NOTES:

- BACKFILL OVER STEPS 1 & 2.
- LOGS AND PILES AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
- PLACE 1 TYPE C LOG AND 2 TYPE LOGS.
- CONNECT 2 BOULDERS TO EACH LOG.

**STEP 4**

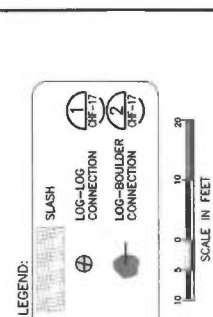
NOTES:

- ADD 10 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
- PLACE 4 TYPE E LOGS.
- TOP WITH TYPE E LOGS.
- MAKE LOG-LOG CONNECTIONS.
- CONNECT 2 BOULDERS TO EACH LOG.
- PLACE BACKFILL TO DESIGN GRADE.

**811**

Know what's below.  
Call before you dig.

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



**APEX JAM CONTROL POINT TABLE**

CP	ITEM	NORTHING	EASTING
CP88	PILE	151765.5	1284377.9
CP89	PILE	151780.7	1284392.8

**APEX JAM WOOD SCHEDULE**

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
△	TYPE A LOG	2	EA	24	35	ROOTWAD ATTACHED
△	TYPE C LOG	8	EA	24	30	ROOTWAD ATTACHED
△	TYPE D LOG	3	EA	24	30	NO ROOTWAD
△	TYPE E LOG	6	EA	24	20	ROOTWAD ATTACHED
	SLASH	50	CY			REFER TO SPECIFICATIONS
△	TYPE Q (PILE)	3	EA	18	50	35' MIN. DRIVE DEPTH
	3.5 TON BOULDER	28	EA	N/A	N/A	

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

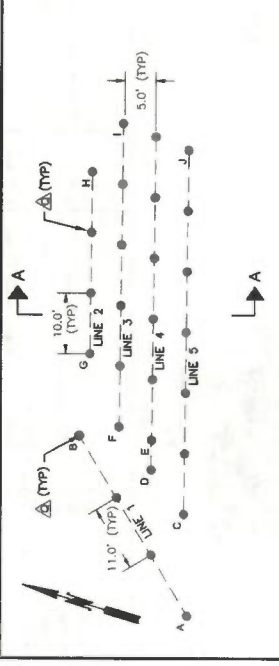
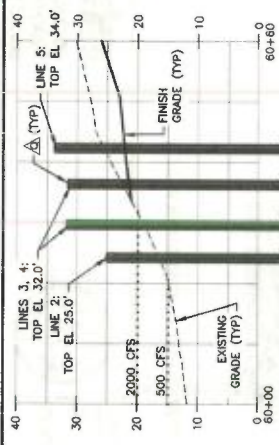
**NOTE:**

- RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

<p><b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director</p>		<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>HABITAT WOOD AREA 3</b> <b>APEX JAM LAYERING PLAN</b></p>		<p>SHEET <b>CHF-07</b></p>
<p><b>nhc</b> northwest hydraulic consultants</p>		<p><b>PLAN VIEW</b></p>		<p>SURVEY JAM NO./DATE:</p>
<p>CHECKED: DOH 10/19</p>	<p>DESIGNED: VDC 10/19</p>	<p>PROJECT NO. 11120556</p>	<p>CONTRACT NO. C00-415C20</p>	<p>DATE</p>
<p>CHECKED: CIL 10/19</p>	<p>DESIGNED: VDC 10/19</p>	<p>REVISION</p>	<p>DATE</p>	<p>DATE</p>
<p>SUPERVISOR</p>	<p>RECORD CHANGES APPROVED</p>	<p>BY</p>	<p>DATE</p>	<p>DATE</p>

AREA 3 WOOD SCHEDULE					
LOG TYPE	ITEM	QUANTITY	UNIT	LENGTH (FT)	DESCRIPTION
△	TYPE C LOG	16	EA	24	ROOTWAD ATTACHED
△	TYPE E LOG	8	EA	24	ROOTWAD ATTACHED
△	TYPE F LOG	3	EA	24	NO ROOTWAD
△	TYPE G LOG	7	EA	24	NO ROOTWAD
△	SLASH (PILE)	550	CY		REFER TO SPECIFICATIONS
△	TYPE Q (PILE)	28	EA	18	35' (MIN) DRIVE DEPTH

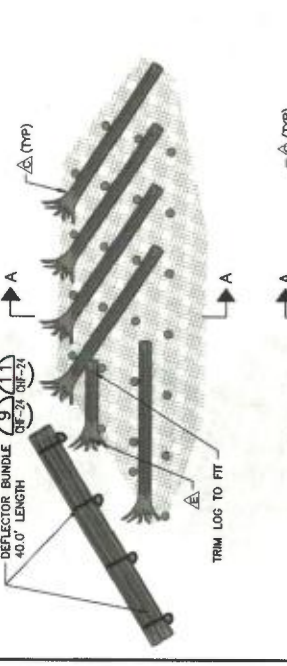
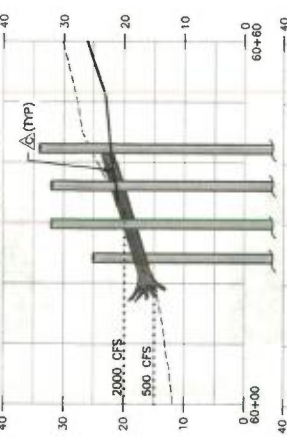
- STEP 1**
- NOTE:
- INSTALL 28 TYPE Q WOOD PILES. 35.0' DRIVE DEPTH.
  - PILE LINES ARE AT 5' SPACING.
  - PILES WITHIN EACH ROW ARE AT 10' SPACING, EXCEPT PILE LINES 1 AND PILES D, E, F, G.
  - PILE LINE 1 TOP ELEVATION OF 25.0'.



ATTRACTOR JAM CONTROL POINT TABLE

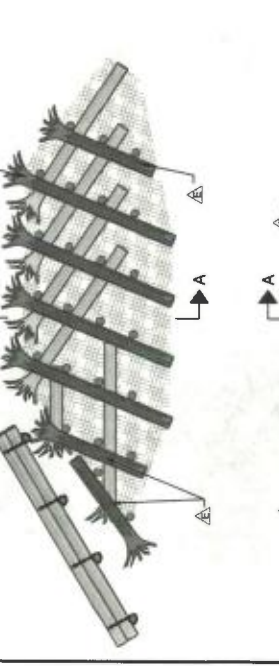
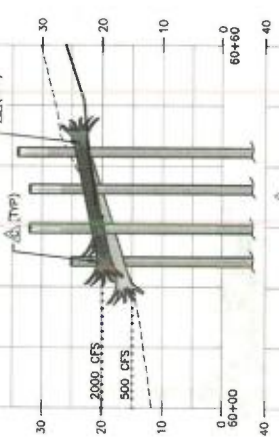
CP	ITEM	NORTHING	EASTING
A	CP78 PILE	151703.4	1284093.7
B	CP78 PILE	151729.2	1284110.9
C	CP80 PILE	151708.9	1284105.6
D	CP81 PILE	151716.2	1284115.0
E	CP82 PILE	151717.6	1284119.9
F	CP83 PILE	151723.4	128420.9
G	CP84 PILE	151732.5	1284130.4
H	CP85 PILE	151740.9	1284156.2
I	CP86 PILE	151737.5	1284166.9
J	CP87 PILE	151725.6	1284167.1

- STEP 2**
- NOTES:
- ADJUST FINISH GRADE BETWEEN PILES AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PLACE 150 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PILES TYPE C LOGS AND 1 TYPE E LOG.
  - CONNECT LOGS TO TYPE Q WOOD PILES (16).
  - INSTALL 3-LOG (TYPE G) DEFLECTOR BUNDLE.



- STEP 3**
- NOTES:
- ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
  - PLACE 4 TYPE C LOGS, 1 TYPE G LOG, 1 TYPE Q LOG.
  - CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (24).

- STEP 4**
- NOTES:
- ADD 40 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
  - PLACE 1 TYPE C LOG, 1 TYPE F LOG, & 1 TYPE G LOG.
  - CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (9).



811

Know what's below.  
Call before you dig.

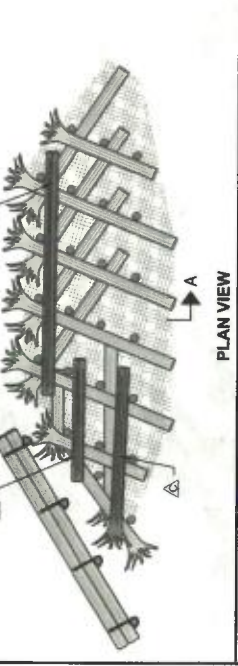
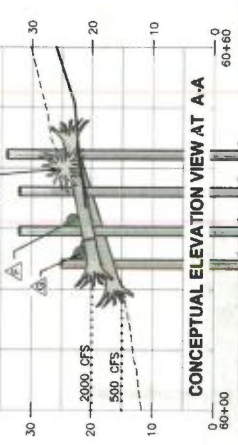
CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-494-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SCALE IN FEET  
0 10 20

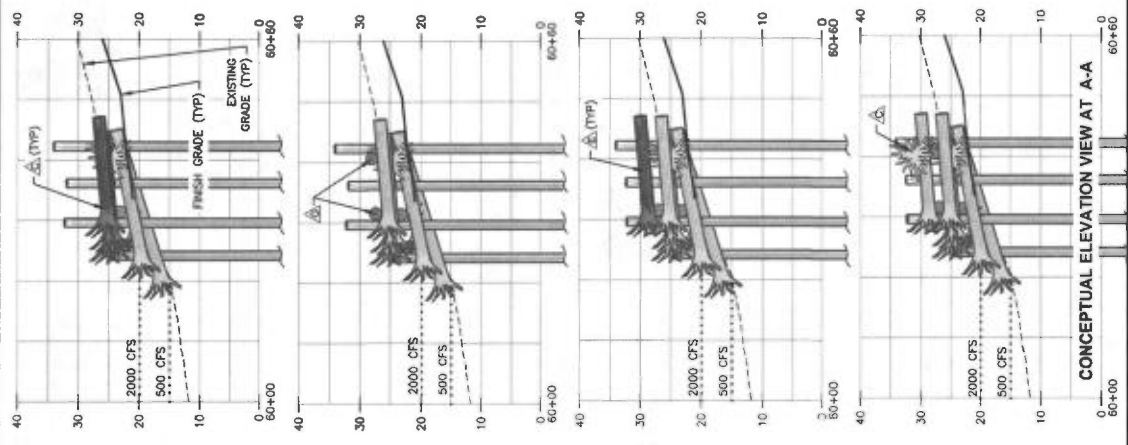
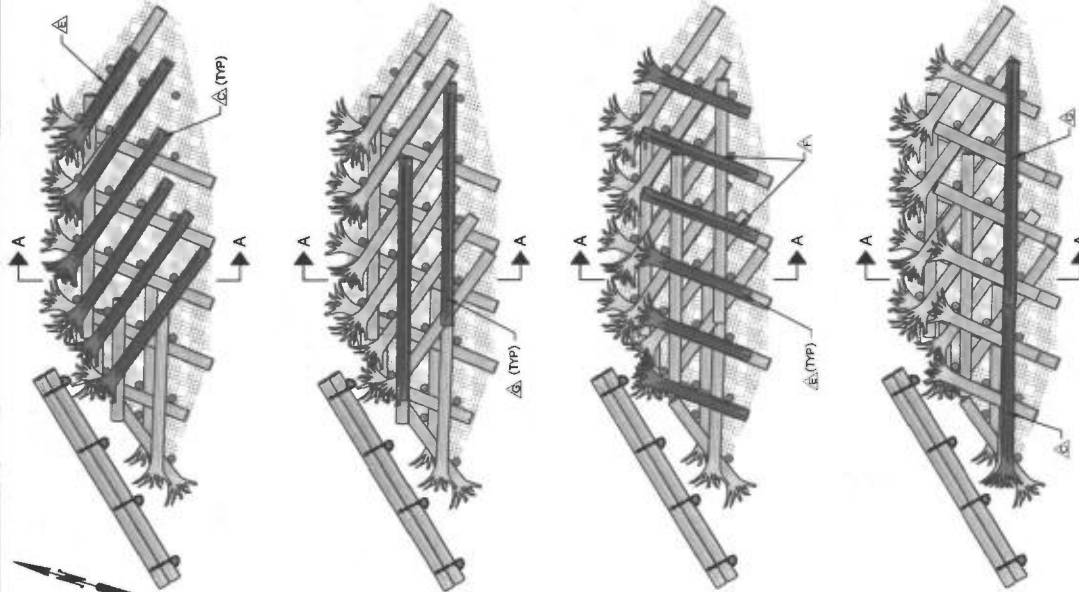
**CONCEPTUAL ELEVATION VIEW AT A-A**

NOTE:

- PILES WEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL WHICH MAY ALSO VARY.



Department of Natural Resources and Parks River and Floodplain Management Section Christine True, Director		PHASE 2 HABITAT WOOD AREA 3 - ATTRACTOR JAM LAYERING PLAN A		SHEET CHF-08	
SURVEY JOB NO./SHEET: CHECKED: DMM 10/19 CAD ENTERED: VOC 10/19 DESIGNED: C.T.L. 10/19 CHECKED: VOC 10/19 SUPERVISOR:		PROJECT NO. 1112056 REGION: DATE: BY:		CONTRACT NO. C01415C20 DATE: BY:	
FROM:		RECORD CHANGES APPROVED:		DATE:	



### STEP 5

- NOTES:
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
  2. PLACE 3 TYPE C LOGS & 1 TYPE E LOG.
  3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (17).

### STEP 6

- NOTES:
1. ADD 30 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
  2. PLACE 4 TYPE E LOGS & 2 TYPE F LOGS.
  3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (8).

### STEP 7

- NOTES:
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
  2. PLACE 4 TYPE E LOGS & 2 TYPE F LOGS.
  3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (18).

### STEP 8

- NOTES:
1. ADD 30 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
  2. PLACE 1 TYPE C LOG & 1 TYPE G LOG.
  3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (7).

CONCEPTUAL ELEVATION VIEW AT A-A

NOTE:

1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.



Know what's below.  
Call before you dig.

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



SURVEY JOB NO./SHEET:	
CHECKED:	DOH 10/19
DRAWN:	VOC 10/19
DESIGNED:	CTL 10/19
CHECKED:	VOC 10/19
SUPERVISOR:	
DATE:	11/20/25
PROJECT NO.:	007-415230
CONTRACT NO.:	
RECORD CHANGES APPROVED:	
DATE:	

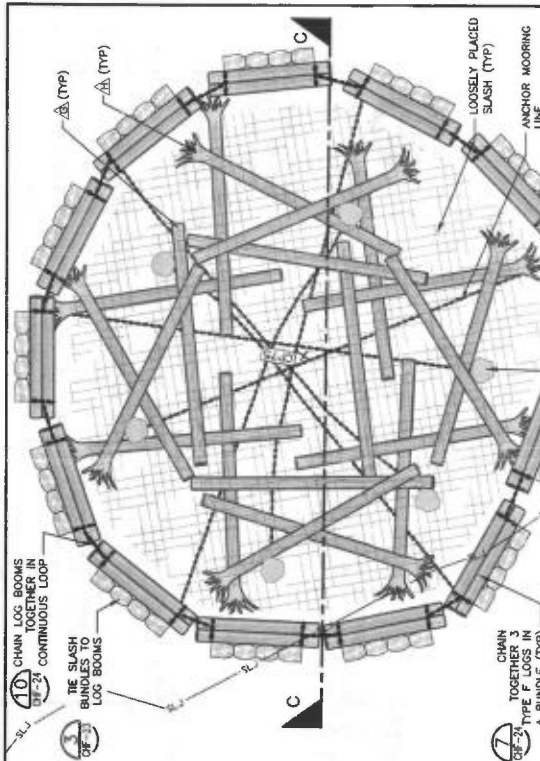


**nhc**  
northwest  
hydraulic  
consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT WOOD AREA 3 - ATTRACTOR  
JAM LAYERING PLAN B

SHEET  
CHF-09



**LARGE RAFT JAM A WOOD SCHEDULE**

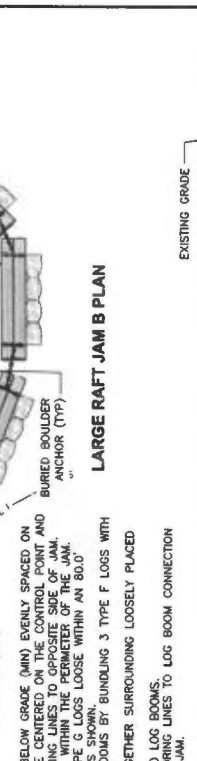
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
Δ	TYPE G LOG	4	EA	24	40	NO ROOTWAD ATTACHED
Δ	TYPE H LOG	16	EA	24	40	NO ROOTWAD ATTACHED
Δ	SLASH BUNDLE	14	EA	30	10-15	UNCOMPACTED DIAMETER, 1.4 C.Y. EACH
Δ	SLASH	400	CY			REFER TO SPECIFICATIONS
Δ	3.5 TON BOULDER	6	EA	N/A	N/A	

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

**LARGE RAFT JAM B WOOD SCHEDULE**

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
Δ	TYPE F LOG	36	EA	24	20	NO ROOTWAD
Δ	TYPE G LOG	4	EA	24	40	NO ROOTWAD
Δ	TYPE H LOG	16	EA	24	40	NO ROOTWAD ATTACHED
Δ	SLASH BUNDLE	13	EA	30	12	UNCOMPACTED DIAMETER, 1.4 C.Y. EACH
Δ	SLASH	800	CY			REFER TO SPECIFICATIONS
Δ	3.5 TON BOULDER	6	EA	N/A	N/A	

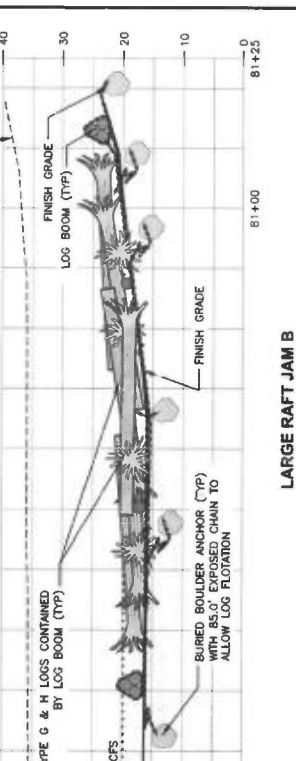
PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.



**LARGE RAFT JAM B WOOD SCHEDULE**

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
Δ	TYPE F LOG	36	EA	24	20	NO ROOTWAD
Δ	TYPE G LOG	4	EA	24	40	NO ROOTWAD
Δ	TYPE H LOG	16	EA	24	40	NO ROOTWAD ATTACHED
Δ	SLASH BUNDLE	13	EA	30	12	UNCOMPACTED DIAMETER, 1.4 C.Y. EACH
Δ	SLASH	800	CY			REFER TO SPECIFICATIONS
Δ	3.5 TON BOULDER	6	EA	N/A	N/A	

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

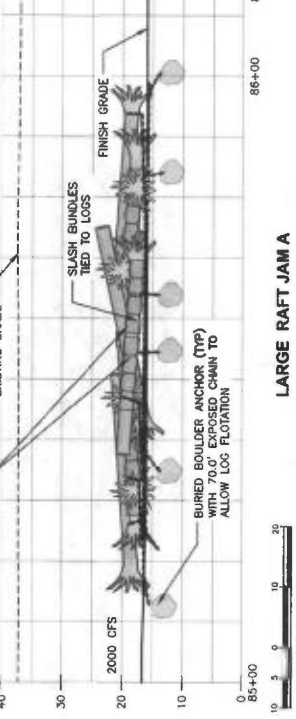


**LARGE RAFT JAM CONTROL POINT TABLE**

CP	TYPE	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
CP74	CENTER A	151530.7	1284.44.7	
CP75	CENTER B	151564.7	1284.67.5	

**LEGEND:**

- LOOSE SLASH
- LOG-LOG CONNECTION (DE-23)
- SLASH BUNDLE (DE-23)



**SEQUENCING NOTES:**

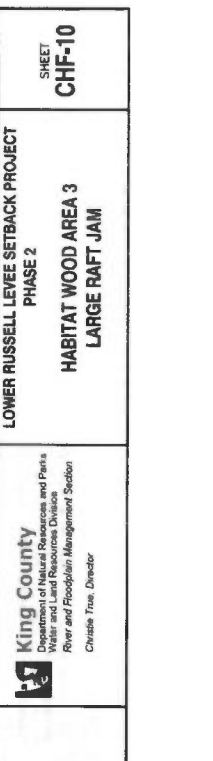
- BURY BOULDER 12" BELOW GRADE (MIN) EVENLY SPACED ON A 60' DIAMETER CIRCLE CENTERED ON THE CONTROL POINT AND EXTEND ANCHOR MOORING LINE OUT TO OPPOSITE SIDE OF JAM.
- PLACE SLASH LOOSELY WITHIN THE PERIMETER OF THE JAM.
- PLACE TYPE H AND TYPE G LOGS LOOSE WITHIN AN 80.0' DIAMETER CIRCLE CENTERED ON THE CONTROL POINT.
- CONSTRUCT 3 LOG BOOMS BY BUNDLING 3 TYPE F LOGS WITH CHAIN.
- CHAIN LOG BOOMS TOGETHER SURROUNDING LOOSELY PLACED SLASH.
- TIE SLASH BUNDLES TO LOG BOOMS.
- CONNECT ANCHOR MOORING LINES TO LOG BOOM CONNECTION AT OPPOSITE SIDE OF JAM.

**SEQUENCING NOTES:**

- BURY BOULDER 12" BELOW GRADE (MIN) EVENLY SPACED ON A 60' DIAMETER CIRCLE CENTERED ON THE CONTROL POINT AND EXTEND ANCHOR MOORING LINE OUT TO OPPOSITE SIDE OF JAM.
- PLACE SLASH LOOSELY WITHIN THE PERIMETER OF THE JAM.
- PLACE TYPE H AND TYPE G LOGS LOOSE WITHIN AN 80.0' DIAMETER CIRCLE CENTERED ON THE CONTROL POINT.
- CONSTRUCT 3 LOG BOOMS BY BUNDLING 3 TYPE F LOGS WITH CHAIN.
- CHAIN LOG BOOMS TOGETHER SURROUNDING LOOSELY PLACED SLASH.
- TIE SLASH BUNDLES TO LOG BOOMS.
- CONNECT ANCHOR MOORING LINES TO LOG BOOM CONNECTION AT OPPOSITE SIDE OF JAM.

**SEQUENCING NOTES:**

- RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.
- 3-LOG BUNDLE BOOM IS ONLY INSTALLED ON LARGE RAFT JAM B & SMALL RAFT JAM B.

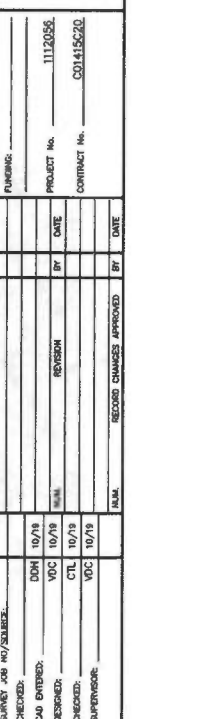


**LARGE RAFT JAM CONTROL POINT TABLE**

CP	TYPE	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
CP74	CENTER A	151530.7	1284.44.7	
CP75	CENTER B	151564.7	1284.67.5	

**LEGEND:**

- LOOSE SLASH
- LOG-LOG CONNECTION (DE-23)
- SLASH BUNDLE (DE-23)



**REVISIONS**

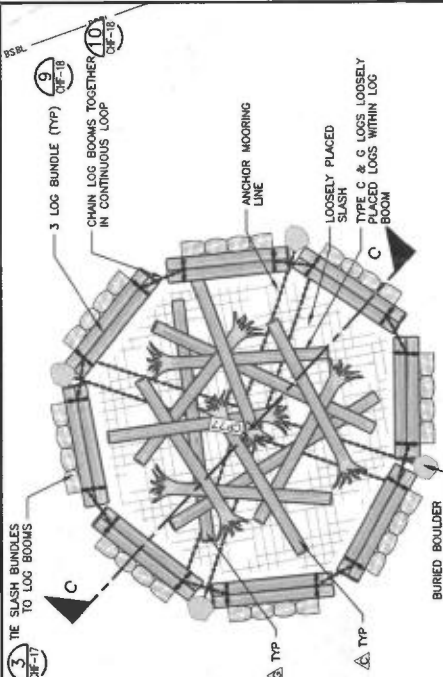
NO.	DATE	BY	REVISION
1	10/19	CTL	REVISED
2	10/19	VOC	REVISED

**APPROVALS**

ROLE	NAME	DATE
CHECKED:	DOM	10/19
DESIGNED:	VOC	10/19
CHECKED:	CTL	10/19
SUPERVISOR:	VOC	10/19

**PROJECT INFORMATION**

PROJECT NO. 1112056  
CONTRACT NO. CD1415020



**SMALL RAFT JAM A PLAN**

- SEQUENCING NOTES:**
1. BURY BOULDERS 12" BELOW GRADE (MIN) EVENLY SPACED ON A 60" DIAMETER CIRCLE CENTERED ON THE CONTROL POINT AND EXTEND ANCHOR MOORING LINE OUT TO OPPOSITE SIDE OF JAM.
  2. PLACE SLASH LOOSELY WITHIN THE CENTER OF THE JAM.
  3. LOGS MUST BE SPACED 12" TO 18" APART AND 9" TYPE C LOGS WITHIN A 45.0' DIAMETER CIRCLE.
  4. CONSTRUCT 8 LOG BOOMS BY BUNDLING 3 TYPE F LOGS WITH CHAIN.
  5. CHAIN LOG BOOMS TOGETHER SURROUNDING LOOSELY PLACED SLASH.
  6. TIE SLASH BUNDLES TO LOG BOOMS.
  7. CONNECT ANCHOR MOORING LINES TO LOG BOOM CONNECTION ON OPPOSITE SIDE OF JAM.

**SMALL RAFT JAM A WOOD SCHEDULE**

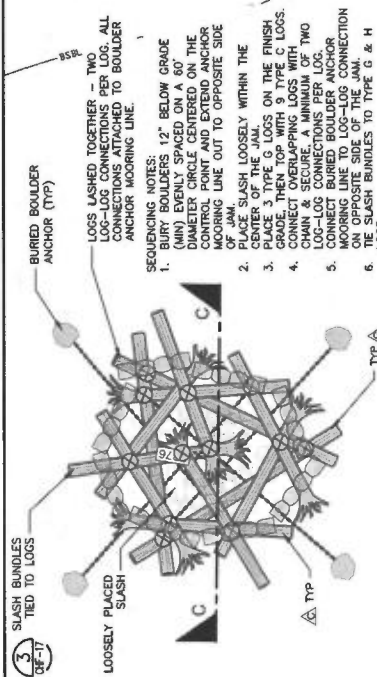
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
△	TYPE C	9	EA	24	30	ROOTWAD ATTACHED
△	LOG G	3	EA	24	40	NO ROOTWAD
△	SLASH BUNDLE	8	EA	30	10 - 15	UNCOMPACTED DIAMETER, 1.4 C.Y. EACH
△	SLASH	60	CT			REFER TO SPECIFICATIONS
△	3.5 TON BOULDER	4	EA	N/A	N/A	

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

**SMALL RAFT JAM B WOOD SCHEDULE**

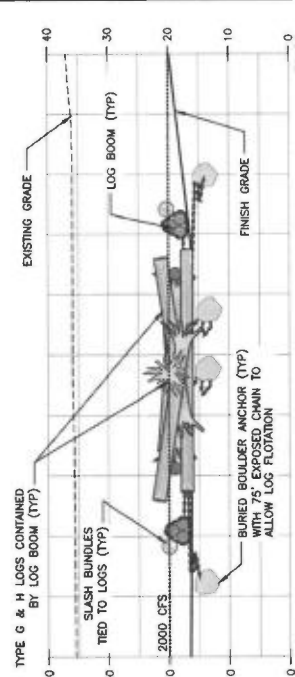
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
△	TYPE C LOG	9	EA	24	30	ROOTWAD ATTACHED
△	TYPE F LOG	24	EA	24	20	NO ROOTWAD
△	TYPE G LOG	3	EA	24	40	NO ROOTWAD
△	SLASH BUNDLE	8	EA	30	10 - 15	UNCOMPACTED DIAMETER, 1.4 C.Y. EACH
△	SLASH	400	CT			REFER TO SPECIFICATIONS
△	3.5 TON BOULDER	4	EA	N/A	N/A	

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

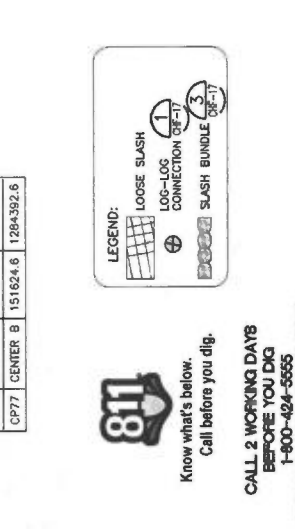


**SMALL RAFT JAM B PLAN**

- SEQUENCING NOTES:**
1. LOGS LASHED TOGETHER - TWO LOG-LOG CONNECTIONS PER LOG. ALL LOG-LOG CONNECTIONS ATTACHED TO BOULDER ANCHOR MOORING LINE.
  2. BURY BOULDERS 12" BELOW GRADE (MIN) EVENLY SPACED ON A 60" DIAMETER CIRCLE CENTERED ON THE CONTROL POINT AND EXTEND ANCHOR MOORING LINE OUT TO OPPOSITE SIDE OF JAM.
  3. PLACE SLASH LOOSELY WITHIN THE CENTER OF THE JAM.
  4. CONNECT OVERLAPPING LOGS WITH CHAIN & SECURE. A MINIMUM OF TWO LOGS MUST BE SECURED TO EACH ANCHOR.
  5. CONNECT BURIED BOULDER ANCHOR MOORING LINE TO LOG-LOG CONNECTION ON OPPOSITE SIDE OF THE JAM.
  6. TIE SLASH BUNDLES TO TYPE G & H LOGS.



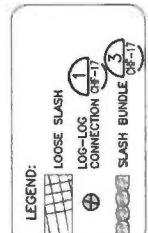
**SMALL RAFT JAM B CONCEPTUAL ELEVATION VIEW AT C-C**



**SMALL RAFT JAM A CONCEPTUAL ELEVATION VIEW AT C-C**

**SMALL RAFT JAM CONTROL POINT TABLE:**

ITEM	EASTING	NORTHING
CP76 CENTER A	151606.6	1284255.6
CP77 CENTER B	151624.6	1284392.5



**NOTE:**

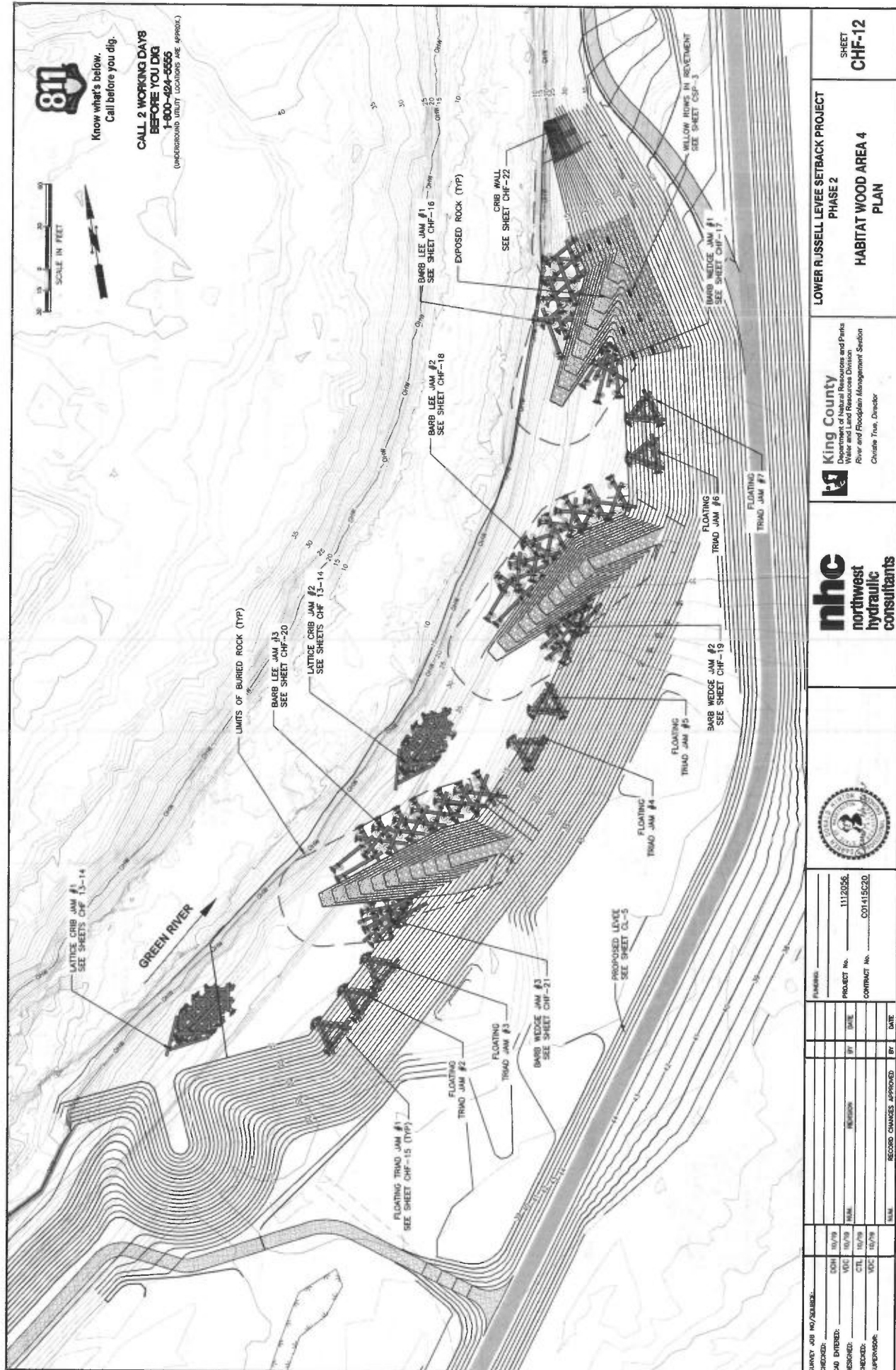
1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trice, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 HABITAT WOOD AREA 3 SMALL RAFT JAM	SHEET <b>CHF-11</b>
<b>nmc</b> northwest hydraulic consultants		SURVEY JOB NO./SOURCE: _____ CHECKED: _____ DATE: 10/19 CAD EDITOR: _____ DATE: 10/19 DESIGNED: _____ DATE: 10/19 CHECKED: _____ DATE: 10/19 SUPERVISOR: _____	
PROJECT No. 1112056 CONTRACT No. C01415620		REVISIONS: BY: _____ DATE: _____ BY: _____ DATE: _____ BY: _____ DATE: _____ BY: _____ DATE: _____ BY: _____ DATE: _____	



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6666  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



FLAKERS  
PROJECT No. 1112056  
CONTRACT No. C01415C20

DATE	BY	REVISION
10/19	WCC	1
10/19	CTL	2
10/19	WCC	3

CHECKED: [Signature]  
DESIGNED: [Signature]  
SUPERVISOR: [Signature]

**King County**  
Department of Natural Resources and Parks  
Water and Floodplain Management Division  
Christie Truss, Director

**nhc**  
northwest  
hydraulic  
consultants

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT WOOD AREA 4  
PLAN

SHEET  
CHF-12

NOTE:

1. INSTALL 30 TYPE Q WOOD PILES - 35.0" (MIN) DRIVE DEPTH.
2. LINES 3 - 7 ARE 5' APART.
3. PILES ON LINES 1-3 AND 7 ARE 5' APART.
4. PILES ON LINES 4 - 6 ARE 5' AND 10' APART.

LATTICE CRIB JAWS 1 & 2 WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
△	TYPE C LOG	26	EA	24	30	ROOTWAD ATTACHED
△	TYPE D LOG	4	EA	24	30	NO ROOTWAD
△	TYPE E LOG	8	EA	24	20	ROOTWAD ATTACHED
△	TYPE F LOG	12	EA	24	20	NO ROOTWAD
△	TYPE G LOG	10	EA	24	40	NO ROOTWAD
	SLASH	1500	CY	REFER TO SPECIFICATIONS		
△	TYPE Q (PILE)	70	EA	18	50	35" MIN. DRIVE DEPTH
△	TYPE Q	16	EA	18	30	FIXED REFLECTOR BUNDLE
PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.						

NOTES:

1. APPROX 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 4 TYPE C LOGS AND 2 TYPE E LOGS.
3. CONNECT LOGS TO ADJACENT WOOD PILES (15).
4. INSTALL TWO FIXED DEFLECTOR BUNDLES.
5. CUT OFF FIXED DEFLECTOR BUNDLE PILES 2.0' ABOVE TOP DEFLECTOR LOG.

	LATITUDE	CRIB	JAM	CONTROL	POINT	PALE
	CP	ITEM	NORTHING	EASTING		
A	CP91	P1LE	152942.0	1285633.4		
B	CP92	P1LE	152922.0	1285625.1		
C	CP92	P1LE	152922.4	1285626.9		
D	CP93	P1LE	152925.2	1285646.7		
E	CP94	P1LE	152926.7	1285636.5		
F	CP95	P1LE	152935.7	1285636.6		
G	CP96	P1LE	152948.6	1285646.7		
H	CP97	P1LE	152977.7	1285642.5		
I	CP98	P1LE	152932.5	1285657.5		
J	CP99	P1LE	152960.4	1285661.8		
K	CP100	P1LE	152953.5	1285660.7		
L	CP101	P1LE	152958.3	1285675.8		
M	CP102	P1LE	152945.3	1285666.7		
N	CP103	P1LE	152944.3	1285673.7		

NOTES:

1. ADD 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 2 TYPE D & 2 TYPE G LOGS
3. CONNECT LOGS TO ADJACENT CH-18 WOOD PILES (13).

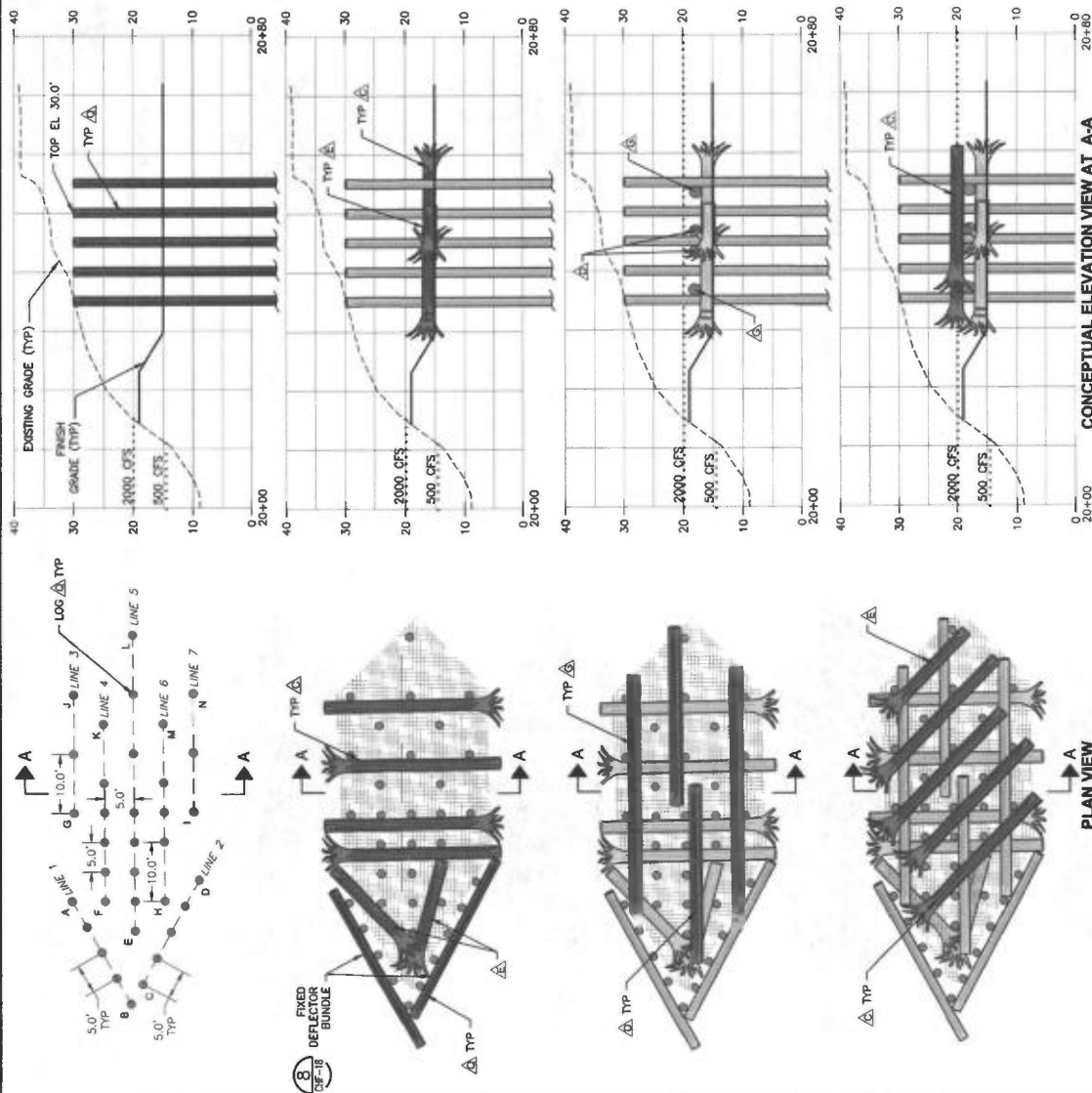
LATTICE	CPU	JOB	ITEM	NORTHING	EASTING
A	CP104	PILE	153087.2	12985922.6	
B	CP105	PILE	153106.6	12985927.6	
C	CP107	PILE	153088.4	12985926.3	
D	CP108	PILE	153089.4	12985945.4	
E	CP108	PILE	153095.7	12985931.7	
F	CP109	PILE	153102.7	12985931.6	
G	CP110	PILE	153095.8	12985935.8	
H	CP111	PILE	153117.0	12985936.3	
I	CP112	PILE	153103.2	12985952.8	
J	CP113	PILE	153118.1	12985966.3	
K	CP114	PILE	153124.4	12985952.3	
L	CP115	PILE	153117.5	12985959.5	
M	CP116	PILE	153131.4	12985958.2	
N	CP117	PILE	153117.6	12985966.6	

NOTES:

1. ADD 100 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 4 TYPE C LOGS AND 1 TYPE E LOG.
3. CONNECT LOGS WITH CHAIN TO ADJACENT WOOD PILES (17).

7

CF-18



NOTE: 1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL WHICH MAY ALSO VARY

# nh



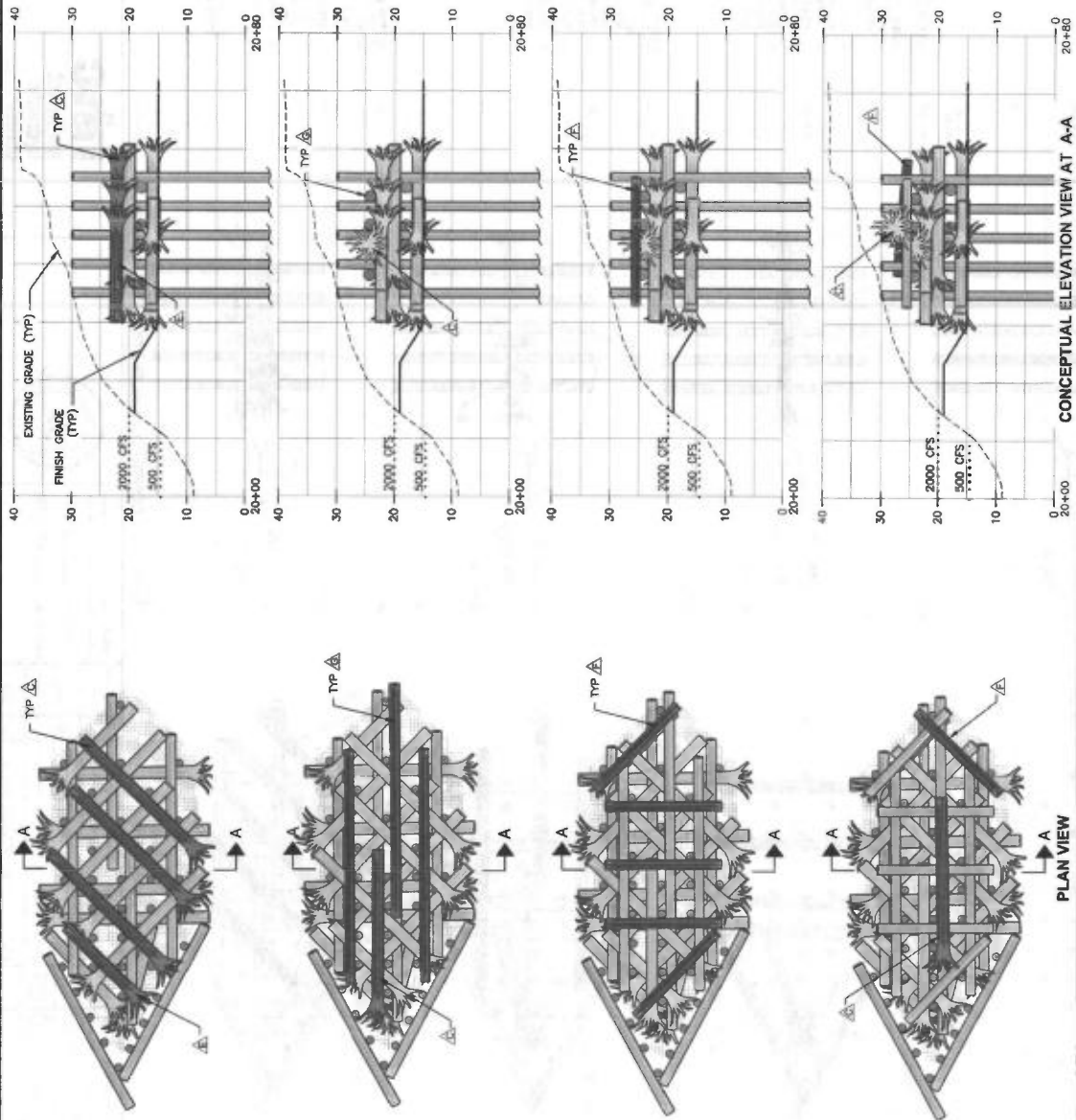
FUNDING: \_\_\_\_\_  
PROJECT No. 1112056  
CONTRACT No. C01415C20

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**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section

**HABITAT WOOD AREA 4**

SHEET  
CHF-13



**STEP 5**  
NOTES:  
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).  
2. PLACE 1 TYPE C LOG.  
3. SECURE LOGS WITH CHAIN TO ADJACENT WOOD PILES (13).

**STEP 6**  
NOTES:  
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).  
2. PLACE 1 TYPE C & 3 TYPE G LOGS.  
3. SECURE LOGS WITH CHAIN TO ADJACENT WOOD PILES (14).

**STEP 7**  
NOTES:  
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).  
2. SECURE LOGS WITH CHAIN TO ADJACENT WOOD PILES (10).

**STEP 8**  
NOTES:  
1. ADD 50 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).  
2. PLACE 1 TYPE F LOG & TOP WITH 1 TYPE C LOG.  
3. SECURE LOGS WITH CHAIN TO ADJACENT WOOD PILES (5).



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



NOTE:  
1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

**nhc**  
northwest  
hydraulic  
consultants



PROJECT No. 1112056  
CONTRACT No. C01415220

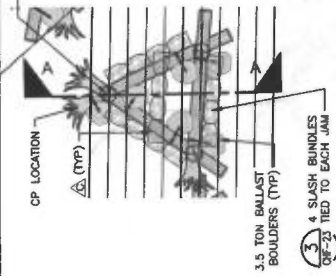
DATE	BY	REVISION	APPROVED	DATE
10/19	DDH			
10/19	VOC			
10/19	CTL			
10/19	VOC			
	SUPPLIER			

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

PHASE 2  
LOWER RUSSELL LEVEE SETBACK PROJECT  
HABITAT WOOD AREA 4  
LATTICE CRIB JAM LAYERING PLAN B

SHEET  
CHF-14

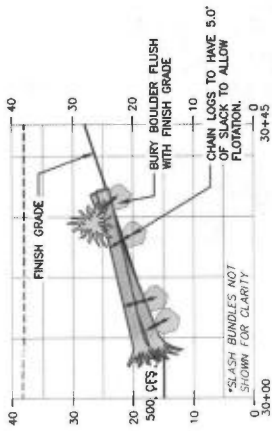
LOG-LOG CONNECTION (TYP) **1** OF 23



TRIAD JAM WOOD SCHEDULE				
LOG TYPE	ITEM	QUANTITY	UNIT	DESCRIPTION
△	TYPE C LOG	21	EA	30 ROOTWAD ATTACHED
	SLASH BUNDLES	28	EA	30 10 - 15
	3.5 TON BOULDER	42	EA	N/A

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

### TRIAD JAM PLAN



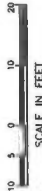
### CONCEPTUAL ELEVATION VIEW AT A-A

TRIAD JAM CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP118	TRIAD JAM 1	152920.0	1285730.6
CP119	TRIAD JAM 2	152940.6	1285753.9
CP120	TRIAD JAM 3	152961.0	1285774.5
CP121	TRIAD JAM 4	153100.4	1285908.6
CP122	TRIAD JAM 5	153118.6	1285928.6
CP123	TRIAD JAM 6	153291.8	1286030.7
CP124	TRIAD JAM 7	153320.5	1286035.7



Know what's below.  
Call before you dig.



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

NOTE:  
1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.



PROJECT No. 1112058  
CONTRACT No. C01415220

SUPPLY AND INSTALL:	DATE	BY	DATE
CAD	10/19		
DESIGNED	10/19		
CHECKED	10/19		
SUPERVISOR	10/19		

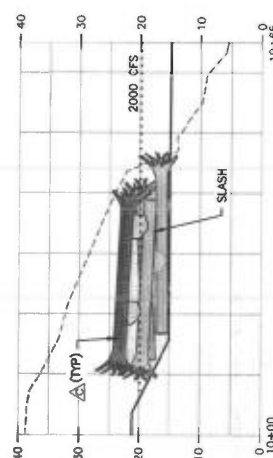
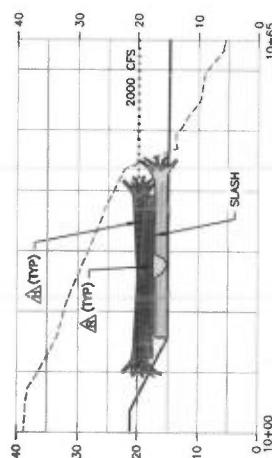
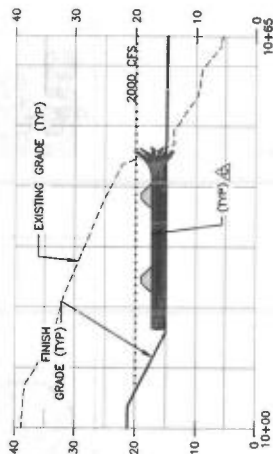
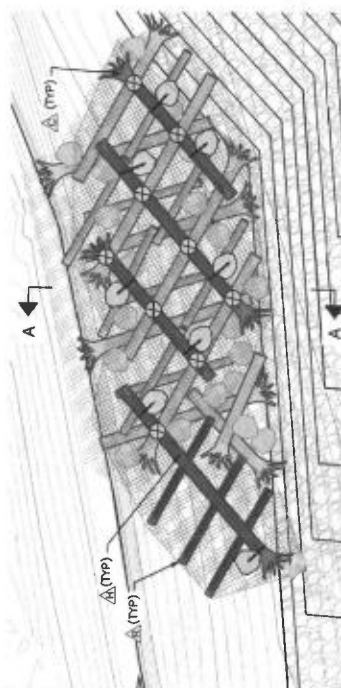
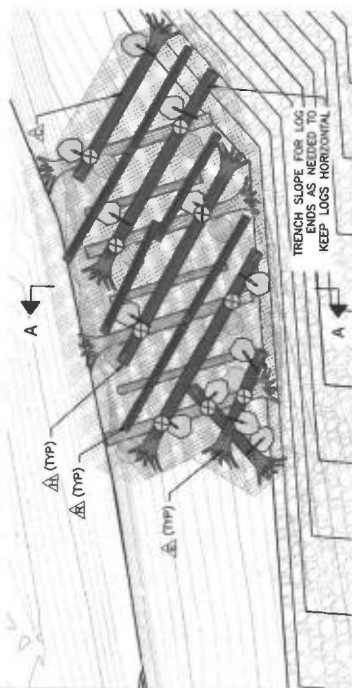
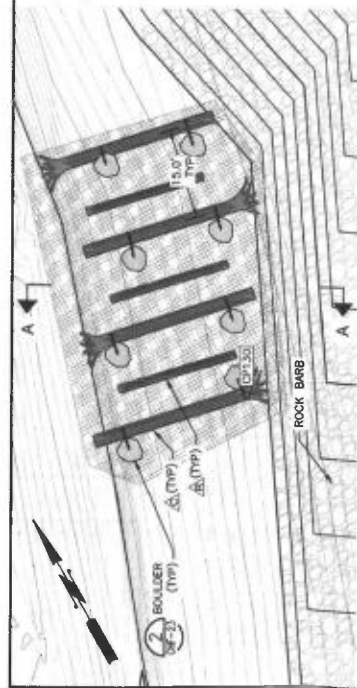
RECORD CHANGES APPROVED

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

**nhc**  
northwest  
hydraulic  
consultants

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
HABITAT WOOD AREA 4  
TRIAD JAM

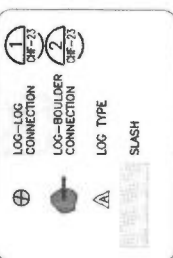
SHEET  
CHF-15



CONCEPTUAL ELEVATION VIEW AT A-A

BARB LEE JAM #1 WOOD SCHEDULE				
LOG TYPE	ITEM	QUANTITY	UNIT	DESCRIPTION
1	TYPE C LOG	7	EA	ROOTWAD ATTACHED
2	TYPE E LOG	2	EA	ROOTWAD ATTACHED
3	TYPE H LOG	5	EA	ROOTWAD ATTACHED
4	RACKING LOG	12	EA	12-20
5	SLASH	450	CT	REFER TO SPECIFICATIONS
6	BOULDERS	28	EA	N/A
7	BOULDERS	28	EA	3.5-TON BOULDERS

LEGEND:



BARB LEE & WEDGE JAM CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP130	BARB LEE JAM #1	1294141.3	1294141.3
CP131	BARB WEDGE JAM #1	154304.9	1294169.6
CP132	BARB LEE JAM #2	155327.0	1294279.4
CP133	BARB WEDGE JAM #2	155307.5	1294312.5
CP134	BARB LEE JAM #3	155151.6	1294137.0
CP135	BARB WEDGE JAM #3	155118.1	1294148.5

### STEP 2

- NOTES:
1. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  2. PLACE 1 TYPE C, 2 TYPE E, AND 3 TYPE H LOGS OVER STEP 1 KEY LOGS AS SHOWN.
  3. ENSURE OVERLAPPING LOGS ARE TOUCHING AND CHAIN UPPER KEY LOGS TO UNDERLYING KEY LOGS.
  4. CONNECT BALLAST BOULDERS TO KEY LOGS AND ON SLASH.

### STEP 3

- NOTES:
1. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  2. PLACE 3 RACKING LOGS ON SLASH AS SHOWN.
  3. TYPE H LOGS.
  4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS.
  5. CONNECT BALLAST BOULDERS TO KEY LOGS.



Know what's below.  
Call before you dig.

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



NOTE:  
1. RIVER WSEL AT 2000 CFS SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

**nhc**  
northwest  
hydraulic  
consultants



PROJECT #	1117002
DATE	10/19
CONTRACT NO.	CD-41520

DESIGNED	10/19
CHECKED	10/19
APPROVED	10/19

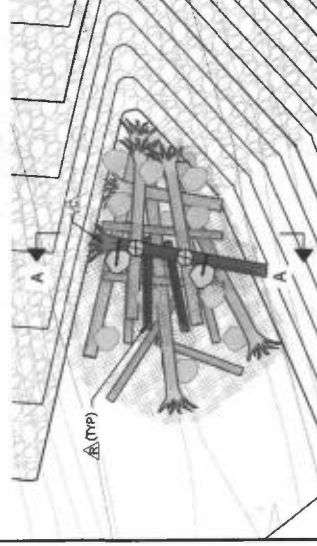
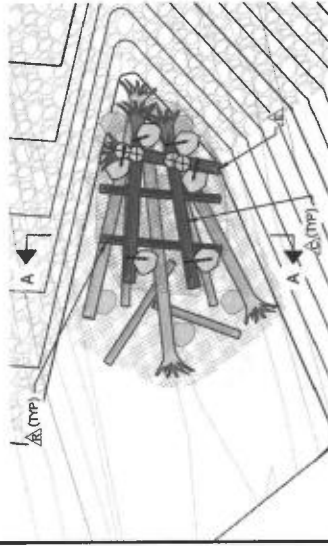
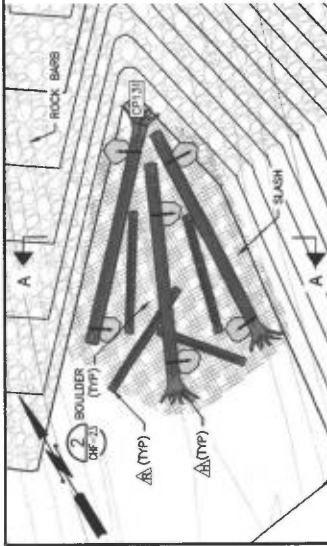
PROJECT	DATE	BY	DATE
DESIGNED	10/19	10/19	10/19
CHECKED	10/19	10/19	10/19
APPROVED	10/19	10/19	10/19

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

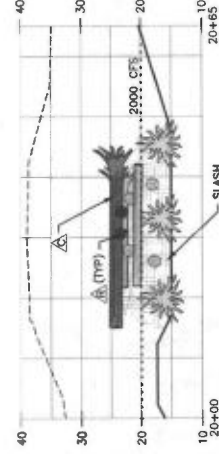
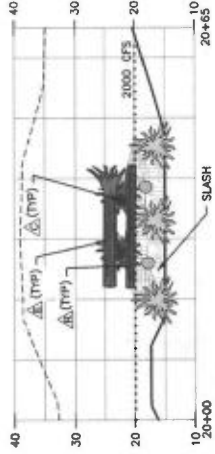
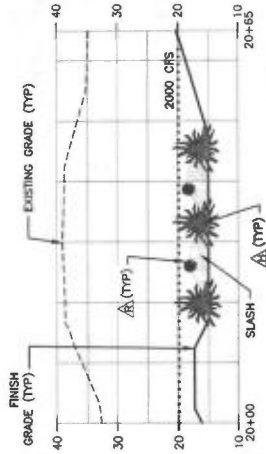
LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

HABITAT WOOD AREA 4  
BARB LEE JAM #1

SHEET  
CHF-16



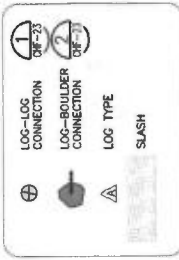
PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

BARB WEDGE JAM #1 WOOD SCHEDULE				
LOG TYPE	ITEM	QUANTITY	UNIT	DESCRIPTION
△	TYPE C LOG	3	EA	24 30
△	TYPE E LOG	1	EA	24 20
△	TYPE H LOG	3	EA	24 40
△	RACKING LOG	8	EA	12 20
△	SLASH	150	CY	REFER TO SPECIFICATIONS
△	BOULDERS	14	EA	N/A 3.5-TON BOULDERS

LEGEND:



BARB LEE & WEDGE JAM CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP130	BARB LEE JAM #1	154326.1	1294141.3
CP131	BARB WEDGE JAM #1	154304.9	1294169.6
CP132	BARB LEE JAM #2	155327.0	1294279.4
CP133	BARB WEDGE JAM #2	155307.5	1294312.5
CP134	BARB LEE JAM #3	155151.6	1294137.0
CP135	BARB WEDGE JAM #3	155118.1	1294148.5

- STEP 1**
- NOTES:
- PLACE 50 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PLACE 4 RACKING LOGS ON SLASH.
  - SHOW 3 TYPE H LOGS AS TO KEY LOGS.
  - CONNECT BALLAST BOULDERS TO KEY LOGS.

**STEP 2**

- NOTES:
- PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PLACE 2 RACKING LOGS ON SLASH AS SHOWN.
  - PLACE 1 TYPE E LOG AND 2 TYPE H LOGS OVER STEP 1 LOGS AS SHOWN.
  - ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN UPPER KEY LOGS TO STEP 1 KEY LOGS.
  - CONNECT BALLAST BOULDERS TO KEY LOGS.

**STEP 3**

- NOTES:
- PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PLACE 2 RACKING LOGS ON SLASH AS SHOWN.
  - PLACE 1 TYPE C LOG.
  - ENSURE OVERLAPPING LOG IS TOUCHING CHAIN TO UNDERLYING KEY LOGS.
  - CONNECT BALLAST BOULDERS TO KEY LOGS.



Know what's below.  
Call before you dig.

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



NOTE: REFER WSEL AT 2000 CFS SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

 King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Truse, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 HABITAT WOOD AREA 4 BARB WEDGE JAM #1		SHEET CHF-17
 nhc northwest hydraulic consultants		 STATE OF WASHINGTON DEPARTMENT OFEcology		FUNDING: _____ PROJECT No. 1112056 CONTRACT No. C0115C20
DESIGNED: DDH 10/19 CHECKED: VOC 10/19 SUPERVISOR: VOC 10/19	TOTAL: _____ TOTAL: _____ TOTAL: _____	BY: _____ DATE: _____ DATE: _____	BY: _____ DATE: _____ DATE: _____	TOTAL: _____ TOTAL: _____ TOTAL: _____

BARB LEE JAM #2 WOOD SCHEDULE				
LOG TYPE	ITEM	QUANTITY	UNIT	DESCRIPTION
LOG	TYPE C	13	EA	24
LOG	TYPE H	8	EA	24
LOG	TYPE C	20	EA	12
LOG	TYPE H	450	CY	REFER TO SPECIFICATIONS
LOG	TYPE C	42	EA	N/A
LOG	TYPE H	N/A	N/A	3.5-TON BOULDERS

PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.

BARB LEE & WEDGE JAM CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP130	BARB LEE JAM #1	1294141.3	
CP131	BARB WEDGE JAM #1	1294169.6	
CP132	BARB LEE JAM #2	1294279.4	
CP133	BARB WEDGE JAM #2	1294312.5	
CP134	BARB LEE JAM #3	1294137.0	
CP135	BARB WEDGE JAM #3	1294148.5	

### STEP 1

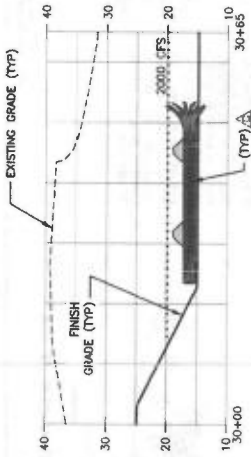
NOTE: PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

1. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

2. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

3. INSTALL 7 TYPE C LOGS AT 18.0' SPACING.

4. CONNECT BALLAST BOULDERS TO KEY LOGS.



### STEP 2

NOTE: PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

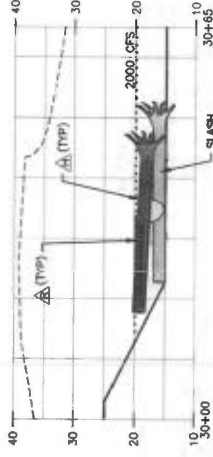
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

2. PLACE 6 TYPE H LOGS OVER PREVIOUS LAYER OF LOGS AS SHOWN.

3. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS.

4. CONNECT BALLAST BOULDERS TO KEY LOGS.

5. PLACE 8 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.



### STEP 3

NOTE: PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

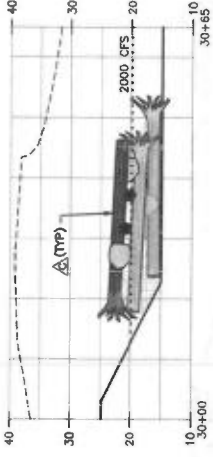
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.

2. PLACE 2 RACKING LOGS ON SLASH AS SHOWN.

3. TYPE C LOGS.

4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS.

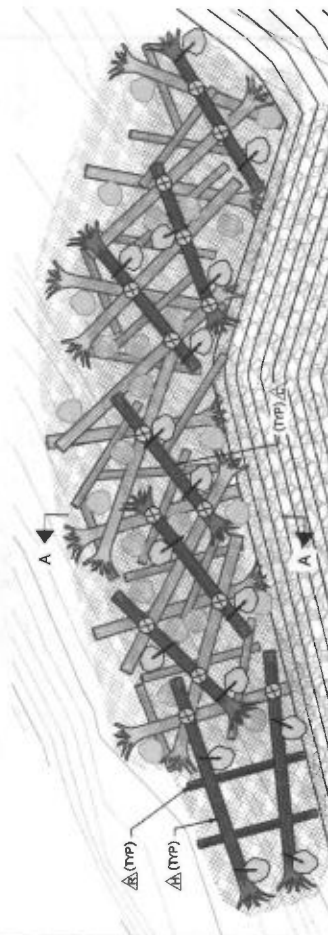
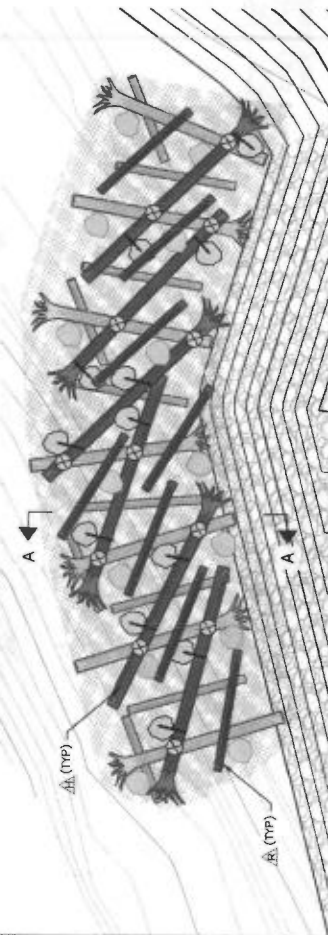
5. CONNECT BALLAST BOULDERS TO KEY LOGS.



### CONCEPTUAL ELEVATION VIEW AT A-A

NOTE:

1. RIVER WSEL AT 2000 CFS SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL WHICH MAY ALSO VARY.



### PLAN VIEW



PROJECT NO. 1110056		CONTRACT NO. C01415C20	
DATE 10/19		DATE 10/19	
BY		BY	
REVISION		REVISION	
CHECKED: DDH 10/19		CHECKED: DDH 10/19	
DESIGNED: VDC 10/19		DESIGNED: VDC 10/19	
SUPERVISOR: N/A		SUPERVISOR: N/A	
RECORD CHANGES APPROVED		RECORD CHANGES APPROVED	
DATE		DATE	

**nhc**  
northwest  
hydraulic  
consultants

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

### LOWER RUSSELL LEVEE SETBACK PROJECT

#### PHASE 2

HABITAT WOOD AREA 4  
BARB LEE JAM #2

SHEET  
CHF-18



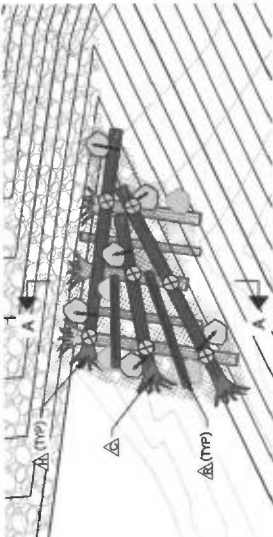
Know what's below.  
Call before you dig.

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

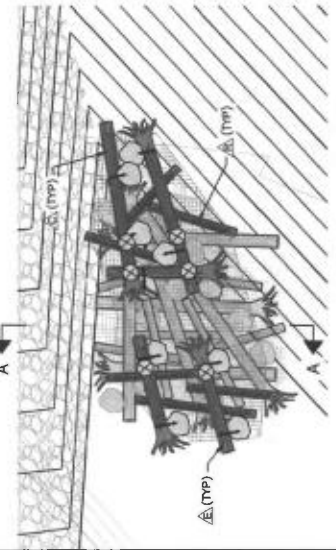
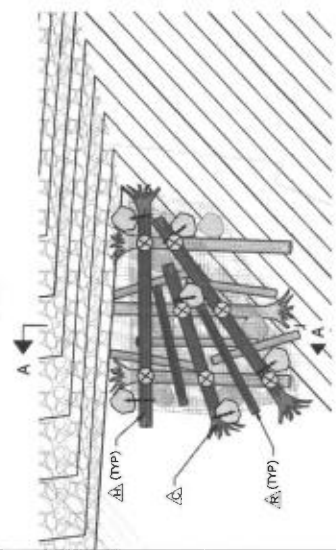
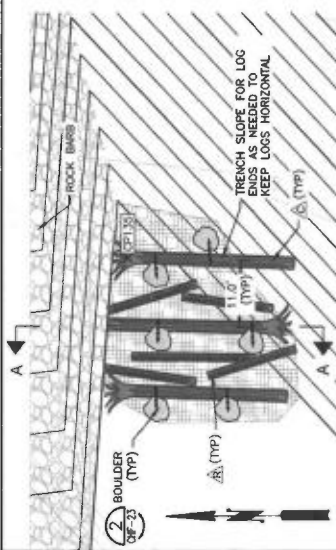


LEGEND:

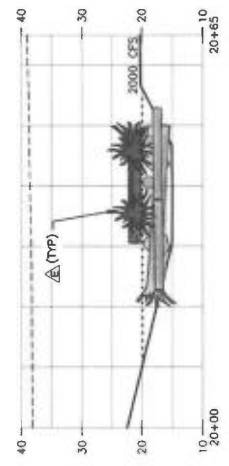
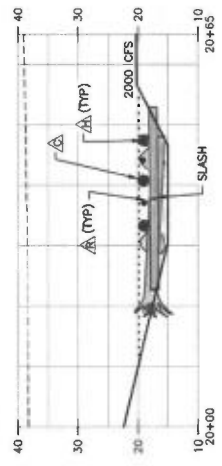
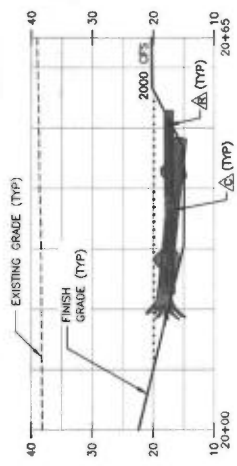
- LOG-LOG CONNECTION
- LOG-BOULDER CONNECTION
- LOG TYPE
- SLASH







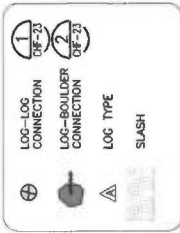
PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

BARB WEDGE JAM #3 WOOD SCHEDULE					
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)
△	TYPE C LOG	6	EA	24	30
△	TYPE E LOG	3	EA	24	20
△	TYPE H LOG	2	EA	24	40
△	RACKING LOG	13	EA	12	12-20
△	SLASH	150	CY		REFER TO SPECIFICATIONS
	BOULDERS	22	EA	N/A	N/A 3.5-TON BOULDERS

LEGEND:



BARB LEE & WEDGE JAM CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP130	BARB LEE JAM #1	154326.1	1294141.3
CP131	BARB WEDGE JAM #1	154304.9	1294189.6
CP132	BARB LEE JAM #2	155327.0	1294279.4
CP133	BARB WEDGE JAM #2	155307.5	1294312.5
CP134	BARB LEE JAM #3	155151.6	1294137.0
CP135	BARB WEDGE JAM #3	155118.1	1294148.5

STEP 2

- NOTES:
- PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PLACE 1 TYPE C LOG AND 2 TYPE H LOGS OVER PREVIOUS LAYER OF KEY LOGS AS SHOWN. KEY LOGS ARE TO BE PLACED ON TOP OF UPPER LOGS TO UNDERLIE KEY LOGS AT LOG-LOG CONNECTION POINTS.
  - CONNECT BALLAST BOULDERS TO TYPE C LOGS AND ON SLASH.
  - KEY LOGS AND ON SLASH.

STEP 3

- NOTES:
- PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
  - PLACE 6 RACKING LOGS ON SLASH.
  - PLACE 3 TYPE E LOGS & 2 TYPE C LOGS.
  - ENSURE OVERLAPPING KEY LOGS ARE PLACED TO UNDERLIE KEY LOGS.
  - CONNECT BALLAST BOULDERS TO KEY LOGS.



Know what's below.  
Call before you dig.

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



NOTE: RIVER WEEL AT 2000 CFS SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WEEL, WHICH MAY VARY.

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

**nhc**  
northwest hydraulic consultants



PLANNING:	
PROJECT No.	1112050
CONTRACT No.	CO115C20

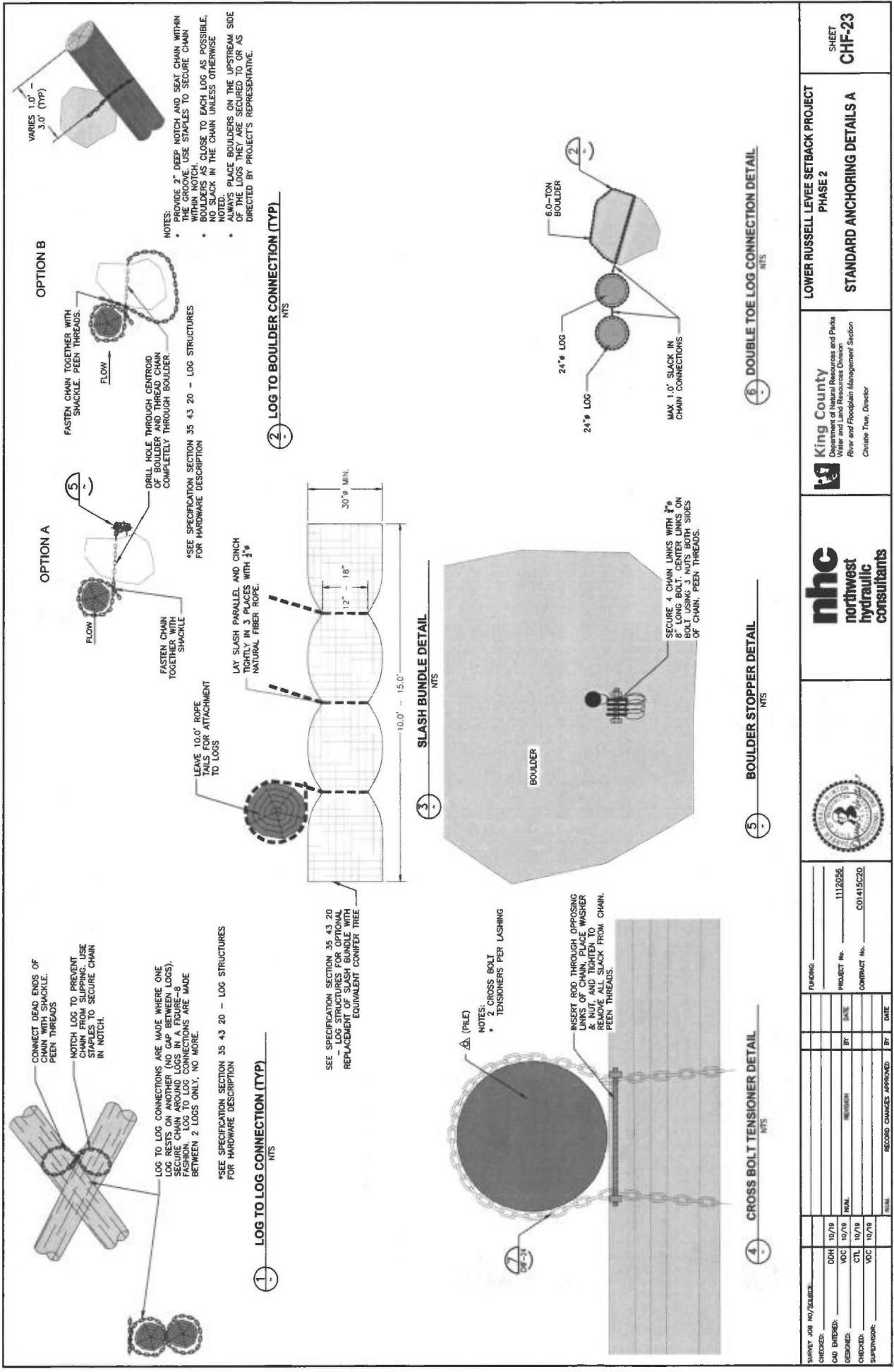
SURVEY JOB NO./SUBJOB:		DATE	
CHECKED:	DDH	10/19	
DESIGNED:	VOC	10/19	
CHECKED:	CTL	10/19	
SUPERVISOR:	VOC	10/19	
NUM.	RECORD CHANGES APPROVED	BY	DATE

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

HABITAT WOOD AREA 4  
BARB WEDGE JAM #3

SHEET  
CHF-21



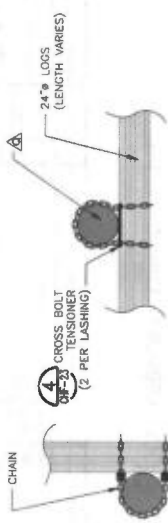


SURVEY JOB NO./SUBJOB:		DRAWING:	
CAD DATED:	DDH 10/19	PROJECT No.	1112056
DESIGNED:	VOC 10/19	BY	DATE
CHECKED:	CYL 10/19	CONTRACT No.	C01415220
SUPERVISOR:	VOC 10/19	RECORD CHANGES APPROVED:	BY DATE



ALLOWABLE CHAIN TYPE FOR CONNECTIONS	
CONNECTION NAME	ALLOWABLE CHAIN TYPES
LOG TO LOG	LONG LINK OR SHORT LINK
LOG TO BOULDER	LONG LINK
LOG TO PILE	SHORT LINK
DOUBLE TOE LOG	LONG LINK
3 LOG BUNDLE	LONG LINK OR SHORT LINK
LOG BOOM	LONG LINK OR SHORT LINK
FLOATING LOG DEFLECTOR	LONG LINK
ANCHOR MOORING LINE	SHORT LINK

NOTE: SEE SPECIFICATION 35.43.20 FOR ALLOWABLE BOLT/THEADED ROD AND ASSOCIATED HARDWARE SIZE WHERE TWO CHAIN TYPES ARE ALLOWED.

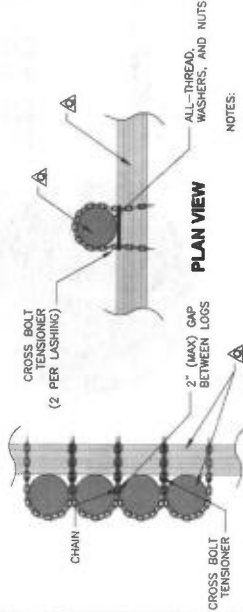


PLAN VIEW

- NOTES:
- REMOVE ALL BARK AT LOG-PILE CONTACT POINT
  - CONNECT LOG TO PILE WITH CHAIN-CHAIN CONNECTION
  - TIGHTEN LASHING USING CROSS BOLT TENSIONER.

SECTION VIEW

7 LOG TO PILE CONNECTION NTS

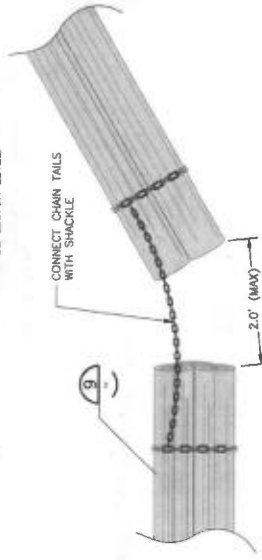


PLAN VIEW

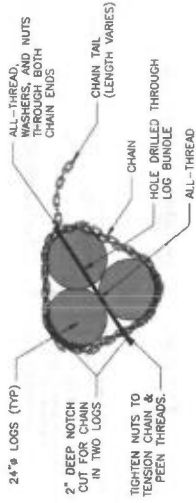
- NOTES:
- REMOVE ALL BARK AT LOG-PILE CONTACT POINT
  - CONNECT LOG TO PILE WITH CHAIN-CHAIN CONNECTION
  - TIGHTEN LASHING USING CROSS BOLT TENSIONER.
  - ALTERNATE BUTT ENDS TO KEEP DEFLECTOR LEVEL.

SECTION VIEW

8 FIXED DEFLECTOR BUNDLE NTS



9 LOG BOOM CONNECTION NTS

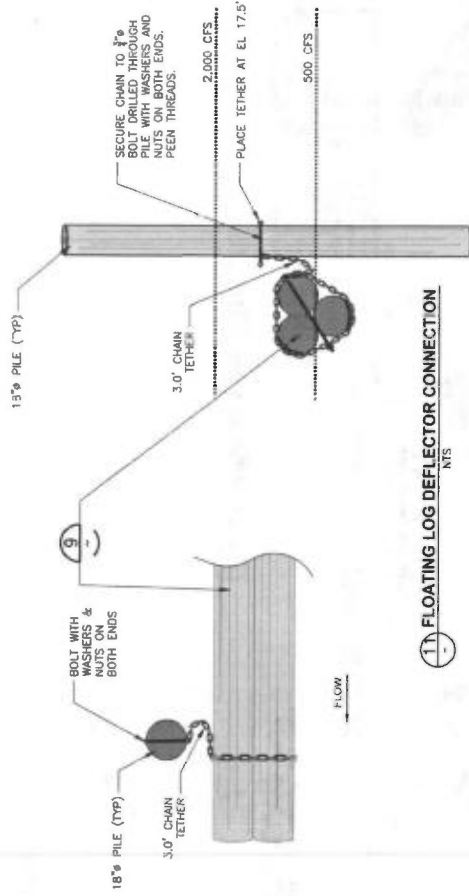


SECTION VIEW



PLAN VIEW

9 3 LOG BUNDLE CONNECTION NTS



10 FLOATING LOG DEFLECTOR CONNECTION NTS

SHAWK JUN 10/2018		PENDING	
CHECKED:	DDH 10/18	PROJECT No.	1112056
CAD ENTIBED:	VOC 10/18	DATE	
DESIGNED:	CIL 10/18	BY	
CHECKED:	VOC 10/18	CONTRACT No.	C01415220
SUPERVISOR:			
NVAL	RECORD CHANGES APPROVED	BY	DATE



**nhc**  
northwest  
hydraulic  
consultants

**King County**  
Department of Public Works  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Trone, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STANDARD ANCHORING DETAILS B

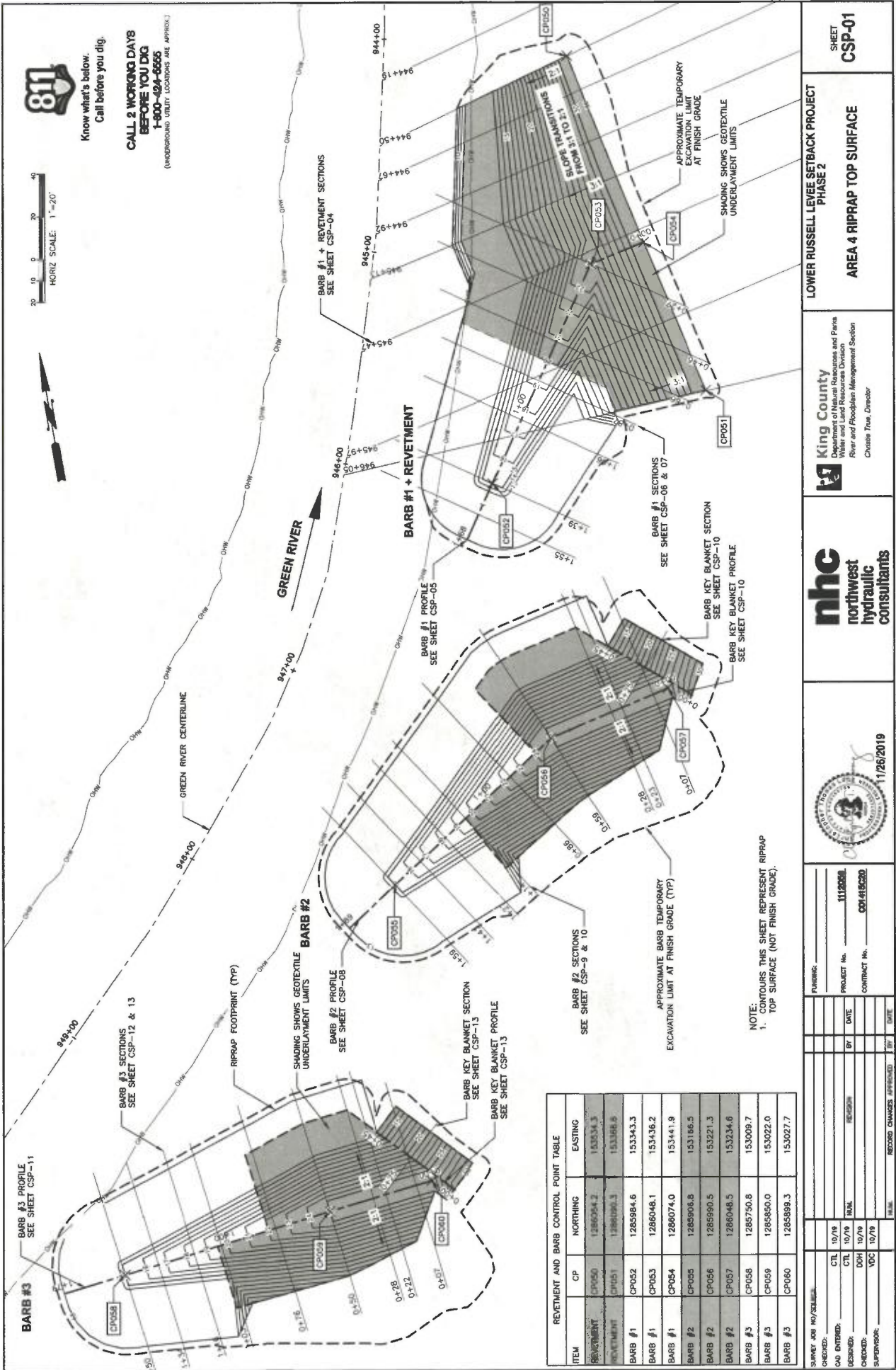
SHEET  
CHF-24



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6655  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

HORIZ. SCALE: 1"=20'



REVEINMENT AND BARB CONTROL POINT TABLE			
ITEM	CP	NORTHING	EASTING
REVEINMENT	CP050	1286294.2	153234.3
REVEINMENT	CP051	1286090.3	153166.9
BARB #1	CP052	1285984.6	153343.3
BARB #1	CP053	1286048.1	153436.2
BARB #1	CP054	1286074.0	153441.9
BARB #2	CP055	1285908.8	153186.5
BARB #2	CP056	1285990.5	153221.3
BARB #2	CP057	1286048.5	153234.6
BARB #3	CP058	1285750.8	153009.7
BARB #3	CP059	1285860.0	153022.0
BARB #3	CP060	1285899.3	153027.7

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

**Sheet**  
**CSP-01**

**nhc**  
**northwest hydraulic consultants**

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**AREA 4 RIPRAP TOP SURFACE**

**11/26/2019**

**11/26/2019**

**PROJECT No. 1115058**  
**CONTRACT No. C01416250**

**DATE 10/19**  
**DATE 10/19**  
**DATE 10/19**

**DESIGNED: CTL 10/19**  
**CHECKED: CTL 10/19**  
**APPROVED: DCH 10/19**  
**SUPERVISOR: VDC 10/19**

**RECORD CHANGES APPROVED**



Know what's below.  
Call before you dig.

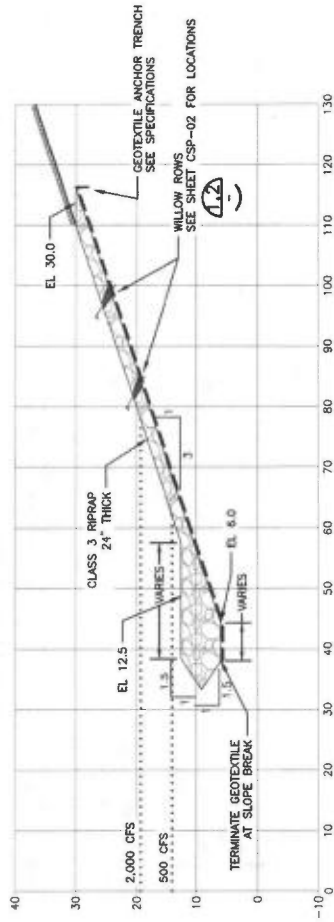
CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-484-6666

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

HORIZ. SCALE: 1"=20'

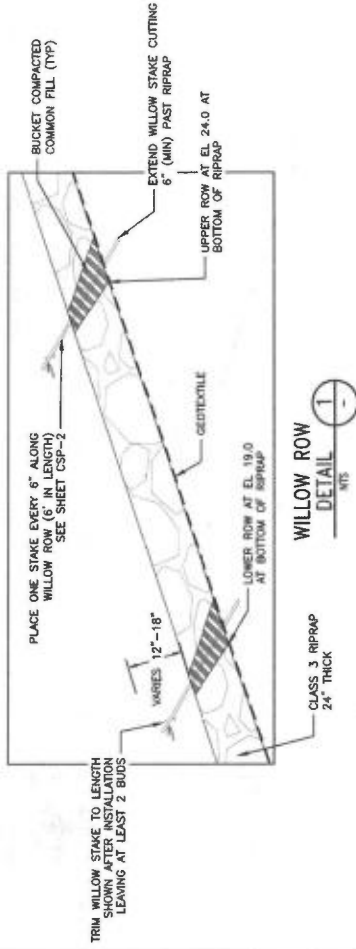


SHEET CSP-02	
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2	
AREA 4 FINISH GRADE SURFACE	
King County Public Works Department Water and Land Resources Division River and Floodplain Management Section Christie Tice, Director	
nhc northwest hydraulic consultants	
11/26/2019	
PROJECT No. 1112050 CONTRACT No. 004-415020	
DESIGNED BY: CTL 10/19	REVISION BY: DATE
CHECKED BY: CTL 10/19	DATE
SUPERVISOR: VCC 10/19	DATE
AS-BUILT	RECORD CHANGES APPROVED BY: DATE

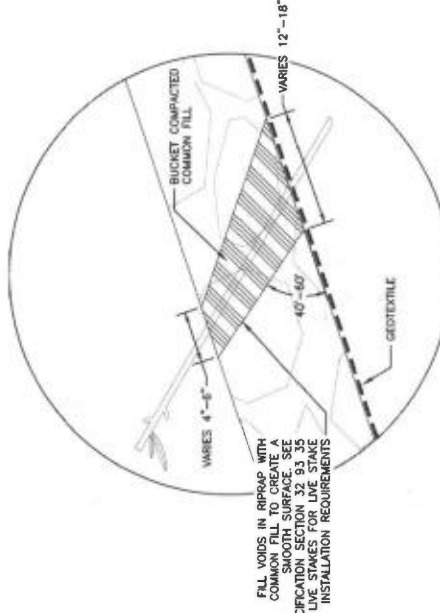


TYPICAL REVETMENT  
SECTION A

- NOTES:
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
  2. RIVER WEEL AT 2,000 AND 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE ONLY. ACTUAL FLOW MAY VARY. WEEL SPACING UNITS MAY VARY SIGNIFICANTLY FROM RIVER WEEL, WHICH MAY ALSO VARY.



WILLOW ROW  
DETAIL 1



WILLOW ROW  
DETAIL 2

WILLOW ROW STAKE SCHEDULE (7 ROWS)			
SPECIES	LENGTH (FT)	DIAMETER (IN)	TOTAL QUANTITY
SITKA (SALIX SITCHENSIS)	6	1/2-2	91



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-8555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO./SUBJOB:		DRAWING:		DATE:	
CHECKED:	CTL 10/19	PROJECT NO.:	1112008	CONTRACT NO.:	000-418520
DESIGNED:	CTL 10/19	BY:	REVISION	DATE:	
CHECKED:	DOH 10/19	BY:		DATE:	
SUPERVISOR:	VOC 10/19	BY:		DATE:	
RECORD CHANGES APPROVED:		N/A			



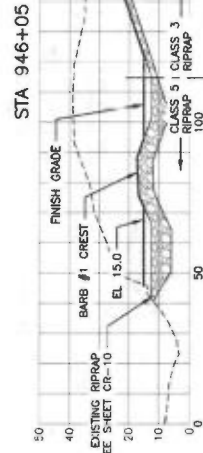
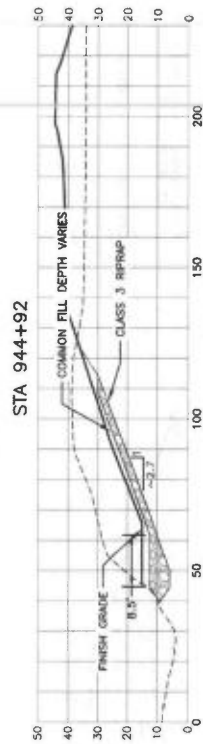
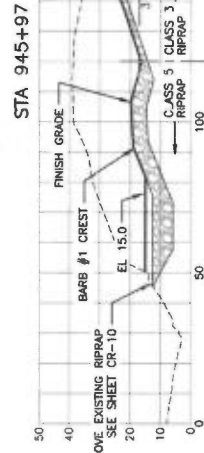
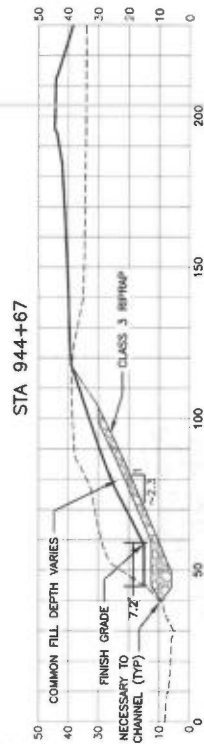
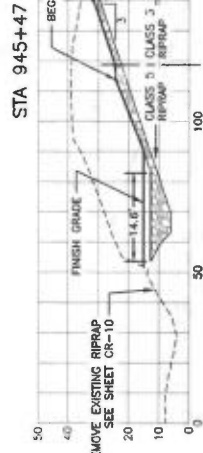
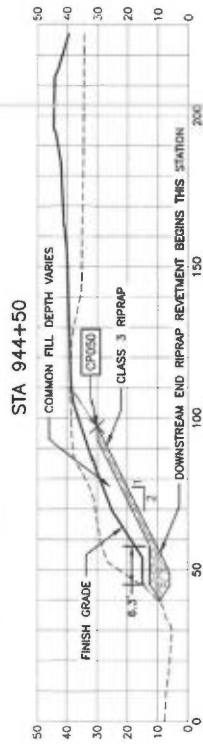
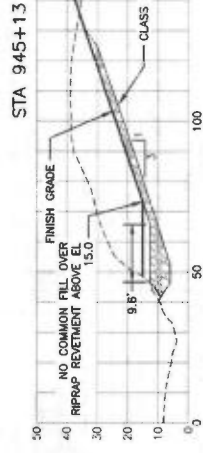
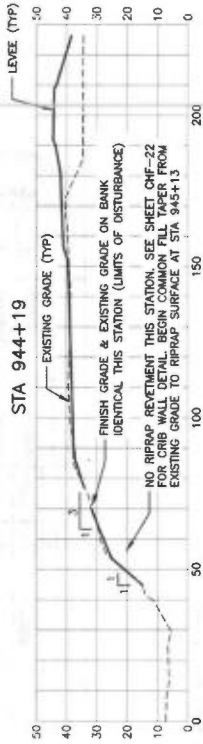
11/26/2019

**nbc**  
northwest  
hydraulic  
consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
RIPRAP REVETMENT TYPICAL SECTION  
AND WILLOW ROW DETAILS

SHEET  
CSP-03



- NOTES:
1. TEMPORARY EXCAVATION SLOPE IS 1:1 UNLESS OTHERWISE NOTED. CONTRACTOR SHALL MAINTAIN ASSUMED SLOPE OF 1:1. ACTUAL SLOPE MAY VARY.
  2. ADJUST RIPRAP LIMITS AS NECESSARY TO AVOID FILLING INTO EXISTING CHANNEL.
  3. COMMON FILL BELOW EL. 15.0 TO BE COMPACTED VIA BUCKET OR TRUCK.
  4. SECTION LOCATIONS SHOWN ON CSP-01



Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6883

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO./SOURCE		FINISHING	
CHECKED:	CTL 10/19	PROJECT NO.	1112008
DRAWN:	CTL 10/19	DATE	11/28/2019
CHECKED:	CTL 10/19	CONTRACT NO.	001419020
SUPERVISOR:	YOC 10/19	BY	DATE
		SECOND CHANGES APPROVED	BY DATE



**King County**  
Department of Public Works and Public Utilities  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Tran, Director

**nhc**  
northwest  
hydraulic  
consultants

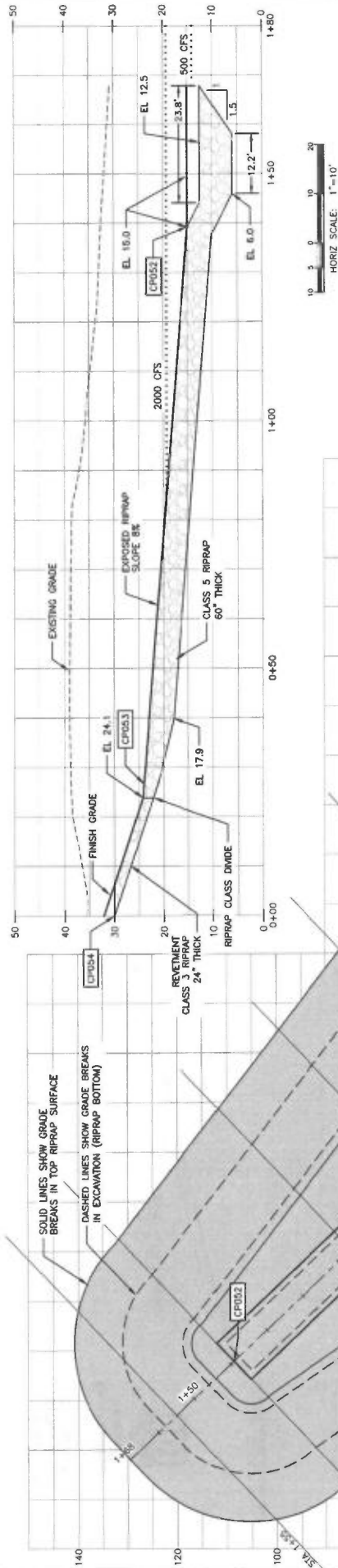
LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
RIPRAP RETENTION  
SECTIONS

SHEET  
CSP-04



CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-494-8555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

Know what's below.  
Call before you dig.



HORIZ SCALE: 1"=10'

RETENTION AND BARR CONTROL POINT TABLE			
ITEM	CP	NORTHING	EASTING
RETENTION	CP050	1286054.2	153534.3
RETENTION	CP051	1286090.3	153368.6
BARR #1	CP052	1285984.6	153343.3
BARR #1	CP053	1286048.1	153436.2
BARR #1	CP054	1286074.0	153441.9

- NOTES:
- TEMPORARY EXCAVATION SLOPE IS THE ASSUMED SLOPE OF 1.5:1. THE EXCAVATION SLOPE IS ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
  - RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW). EXCAVATION FOR EXISTING GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.
  - COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
  - GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARR AND RETENTION RIPRAP IN ACCORDANCE WITH THE SPECIFICATIONS AND MEET REQUIREMENTS OF SPECIFICATION SECTION 35.43.00.



PROJECT No. 111006L  
CONTRACT No. C01416520

SURVEY AND NO./REVISION	CHECKED	DATE	BY	DATE	BY
DESIGNED	CTL	10/19	CTL	10/19	CTL
DESIGNED	CTL	10/19	CTL	10/19	CTL
CHECKED	CTL	10/19	CTL	10/19	CTL
SUPERVISOR	CTL	10/19	CTL	10/19	CTL

**nbc**  
northwest  
hydraulic  
consultants

**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Chaslin Trice, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
BARR #1  
PROFILE AND PLAN

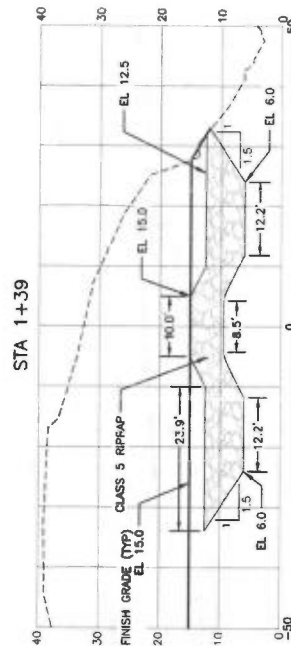
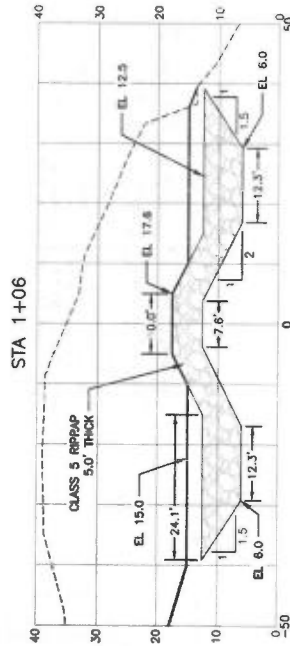
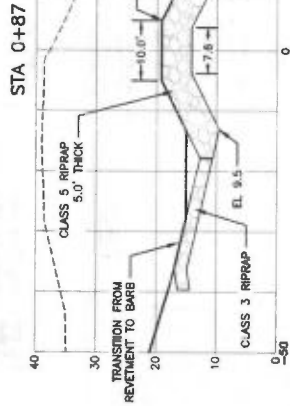
SHEET  
CSP-05

1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY

2. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.

3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-05.

4. GEOTEXTILE NOT SHOWN ON THIS SHEET  
PLACE GEOTEXTILE UNDER BARB AND  
REVEINMENT RIPRAP IN THE AREA SHOWN  
ON CSP-01. GEOTEXTILE TO MEET  
REQUIREMENTS OF SPECIFICATION  
SECTION 35 43 00.



**Know what's below.  
Call before you dig.**

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



11/26/2019



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

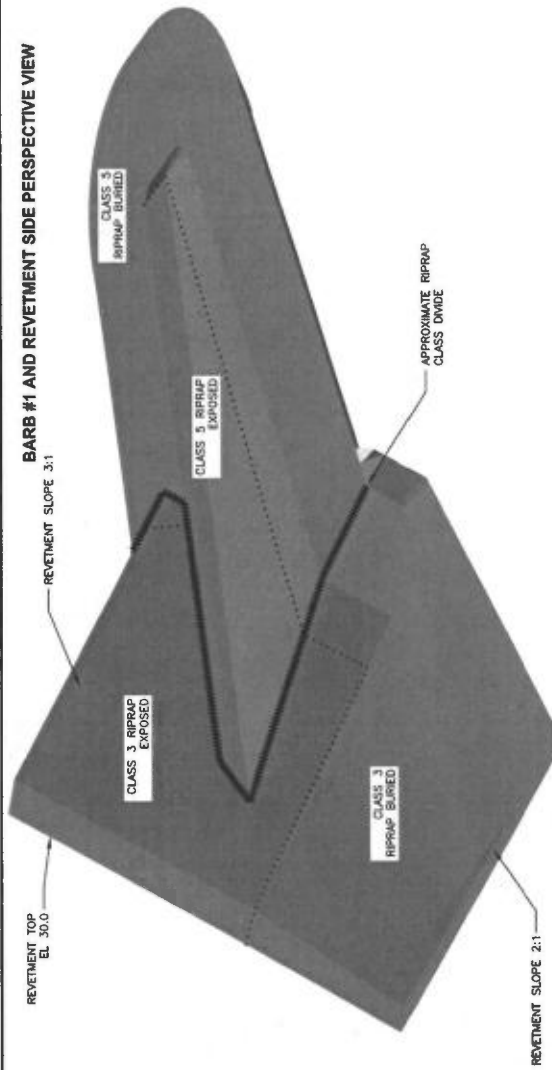
**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2**

**BARB #1 SECTIONS**

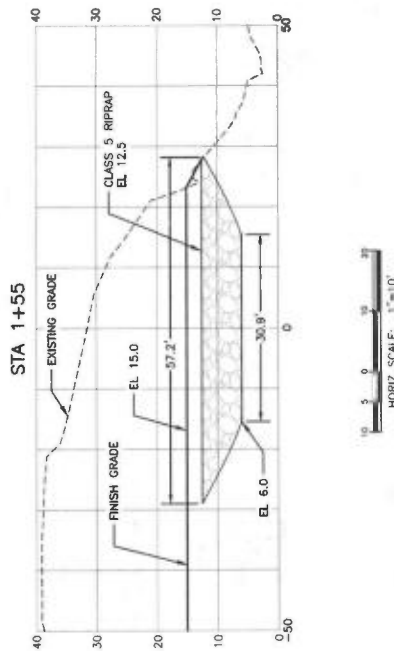
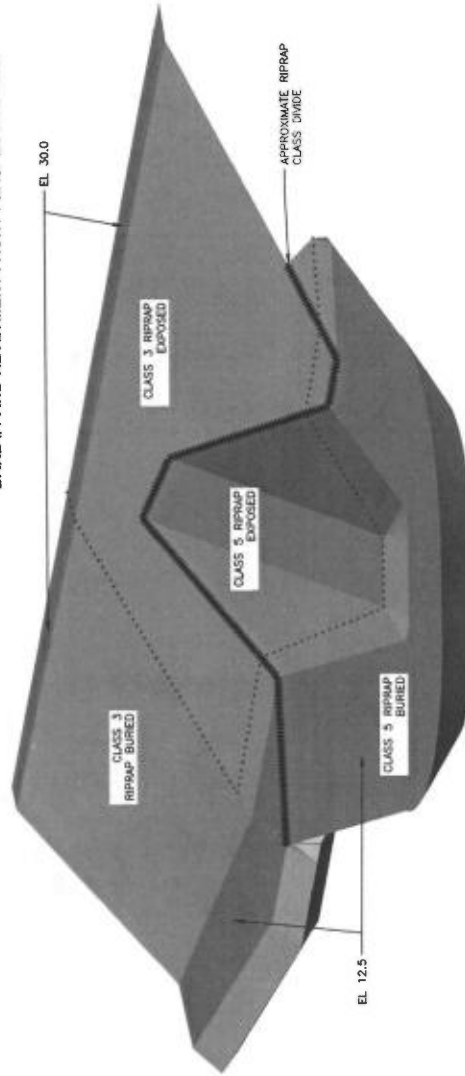
**SHEET**  
**CSP-06**

[illegible]

BARB #1 AND REVETMENT SIDE PERSPECTIVE VIEW



BARB #1 AND REVETMENT FRONT PERSPECTIVE VIEW



- NOTES:
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
  2. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
  3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-465.
  4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT AREAS. SEE SPECIFICATION SECTION 35.43.00. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35.43.00.



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

Know what's below.  
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO./SUBJOB	CHECKED	DATE	BY	DATE	BY	DATE
CTL	10/19					
DESIGNED	CTL	10/19	ENGINEER	10/19		
CHECKED	DDH	10/19				
SUPERVISOR	VCC	10/19				
RECORD CHANGES APPROVED						



11/26/2019

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consultants

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Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Tru, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

BARB #1 SECTIONS  
AND PERSPECTIVES

SHEET  
CSP-07

- NOTES:
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE SHALL BE 1:1, ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
  2. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) AND 2000 CFS SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.
  3. COMMON FILL BELOW EL. 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
  4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVEITEMT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35.43.00.

REVEITEMT AND BARB CONTROL POINT TABLE				
ITEM	CP	NORTHING	EASTING	
BARB #2	CP005	1280506.8	153168.5	
BARB #2	CP006	1280506.8	153221.7	
BARB #2	CP007	1280506.8	153234.6	

HORIZ. SCALE: 1"=10'



Know what's below.  
Call before you dig.

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY AND NO. / DATE:					
CHECKED:	CTL	10/19	DATE	11/26/2019	PROJECT NO.
CAD INTERFERED:	CTL	10/19	DATE	11/26/2019	CONTRACT NO.
DESIGNED:	CTL	10/19	DATE	11/26/2019	
CHECKED:	DOH	10/19	DATE	11/26/2019	
SUPERVISOR:	NOA	10/19	DATE	11/26/2019	
RECORD CHANGES APPROVED:	BT	DATE			



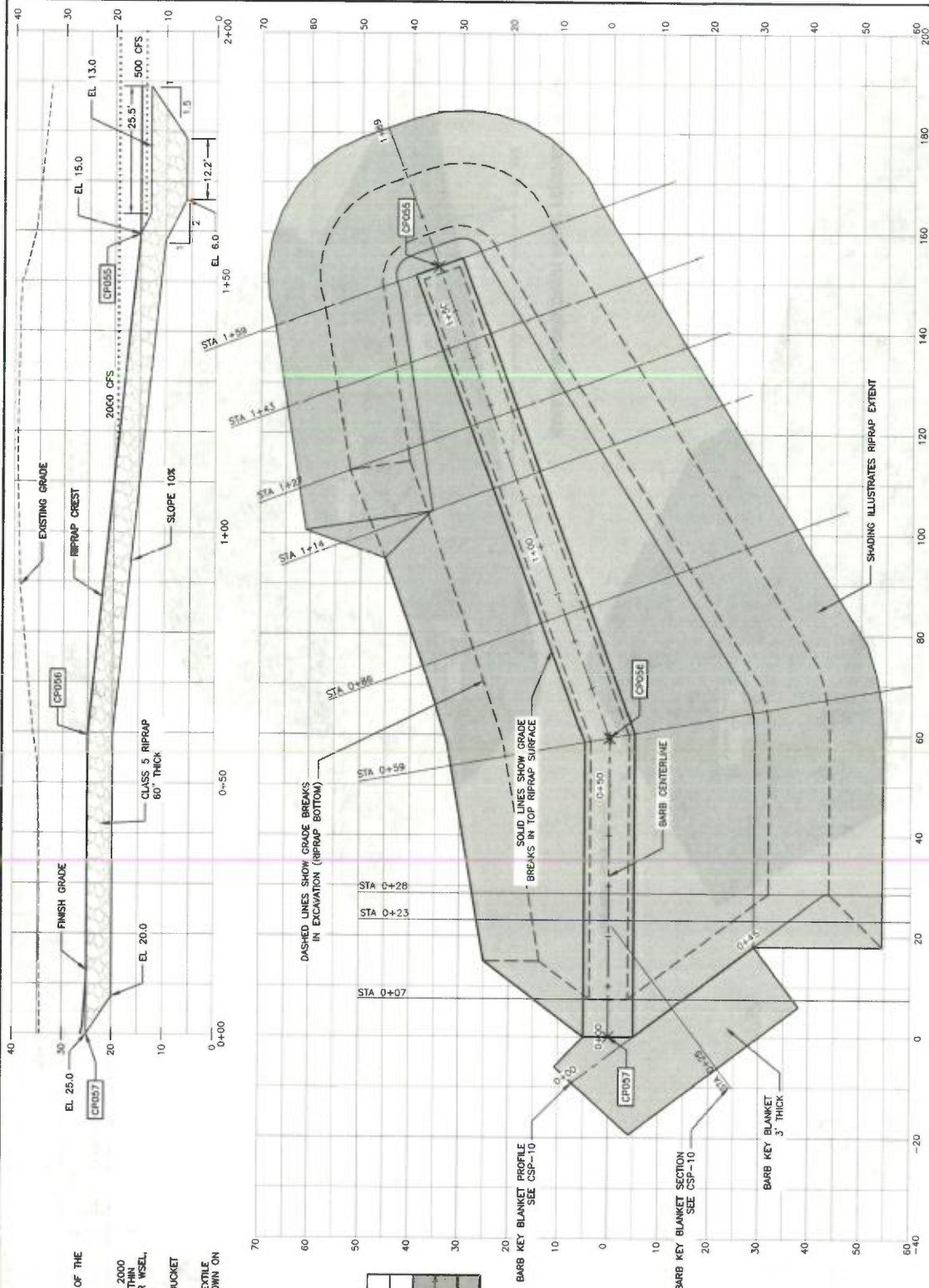
11/26/2019

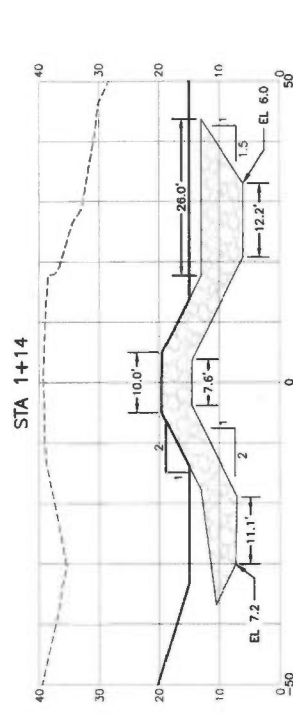
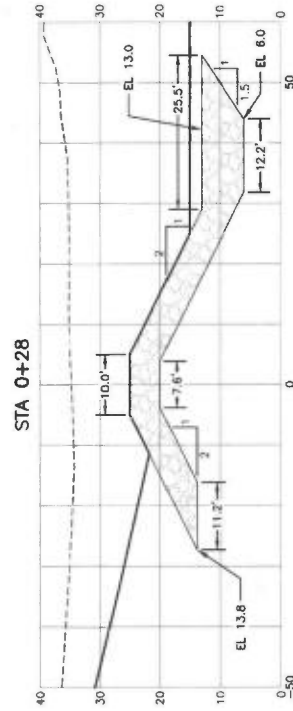
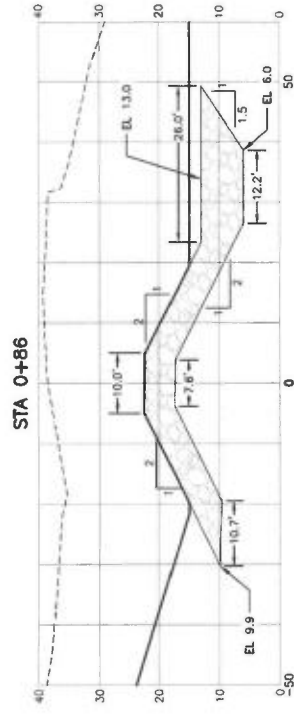
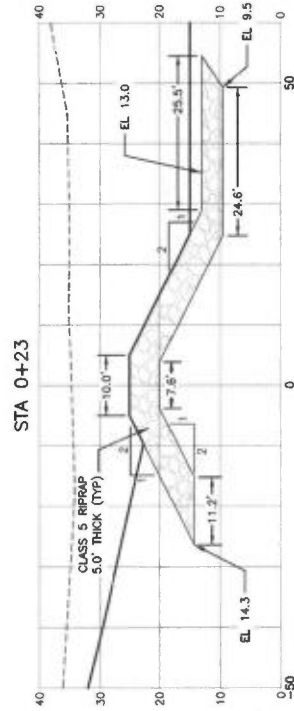
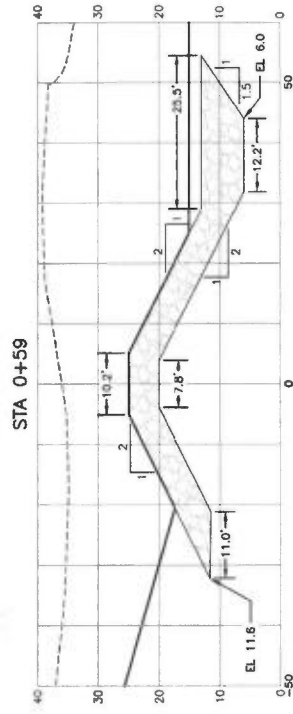
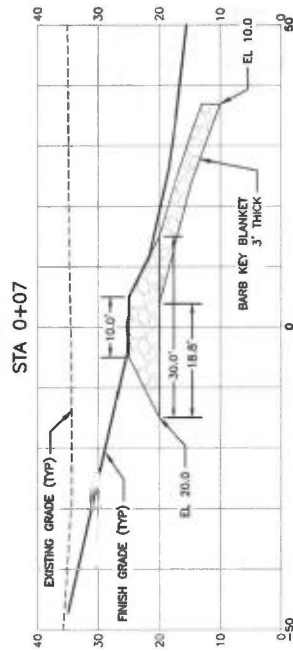
**nhc**  
northwest  
hydraulic  
consultants

**King County**  
Department of Natural Resources and Parks  
River and Floodplain Management Section  
Christie Truse, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
BARB #2  
PROFILE AND PLAN

SHEET  
CSP-08





1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1:3:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
2. COMMON FILL BELOW EL. 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-08.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARRIER AND BENT. SEE SPECIFICATION SECTION 35.03 FOR GEOTEXTILE TO MEET SHOWN ON CSP-01.
5. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35.03 00.



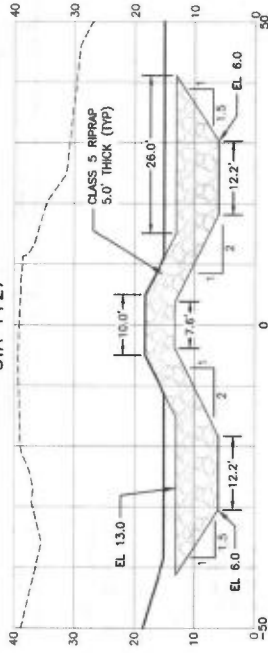
**Know what's below.  
Call before you dig.**

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

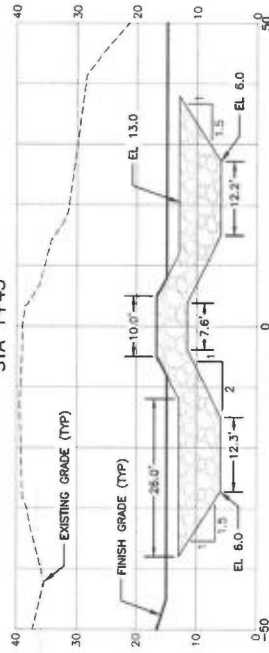
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(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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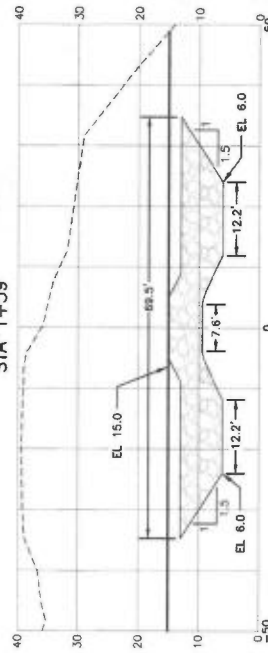
STA 1+27



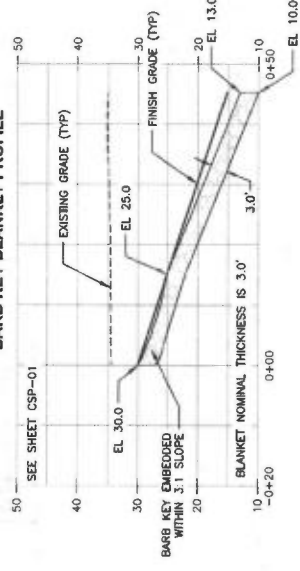
STA 1+43



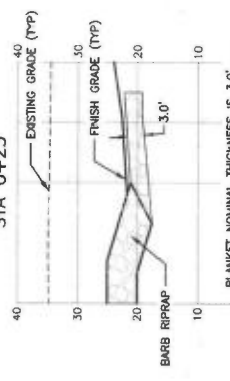
STA 1+59



BARB KEY BLANKET PROFILE



STA 0+25



BARB KEY BLANKET SECTION

- NOTES:
1. TEMPORARY EXCAVATION SLOPE IS THE EXISTING SLOPE. THE CONTRACTOR SHALL ESTIMATE THE ACTUAL SLOPE. THE ACTUAL SLOPE MAY VARY.
  2. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
  3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-08.
  4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REINFORCEMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35.43.00.



Know what's below.  
Call before you dig.

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



1/26/2019

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hydraulic  
consultants

**King County**  
Department of Public Works and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Trice, Director

LOWER RUSSELL LEEVEE SETBACK PROJECT  
PHASE 2  
BARB #2 SECTIONS  
AND KEY BLANKET

SHEET  
CSP-10

SURVEY JOB NO./SUBJOB:		REVISION:	
CHECKED:	10/18	PROJECT NO.:	1112008
CAD ENTERED:	10/18	CONTRACT NO.:	CSP #0200
DESIGNED:	DOH	DATE:	
CHECKED:	VDC	BY:	
SUPERVISOR:		DATE:	
INAIL	RECORD CHANGES APPROVED	BY:	DATE:

- NOTES:
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 3:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
  2. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) AND 2000 CFS SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.
  3. COMMON FILL BELOW EL. 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
  4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REINFORCEMENT RIPRAP IN THE AREA SHOWN ON CSP-1. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35.43.00.

REINFORCEMENT AND BARB CONTROL POINT TABLE				
ITEM	CP	NORTHING	EASTING	
BARB #3	CP058	1285750.8	153009.7	
BARB #3	CP059	1285850.0	153022.0	
BARB #3	CP060	1285899.3	153027.7	

10 5 0 10 20  
HORIZ. SCALE: 1"=10'



Know what's below.  
Call before you dig.

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO./SUBJOB:		DATE:	
CHECKED:	CTL 10/19	BY:	DATE:
DESIGNED:	CTL 10/19	BY:	DATE:
DRAWN:	DOH 10/19	BY:	DATE:
CHECKED:	VOC 10/19	BY:	DATE:
SUPERVISOR:		BY:	DATE:
RECORD CHANGES APPROVED:		BY:	DATE:



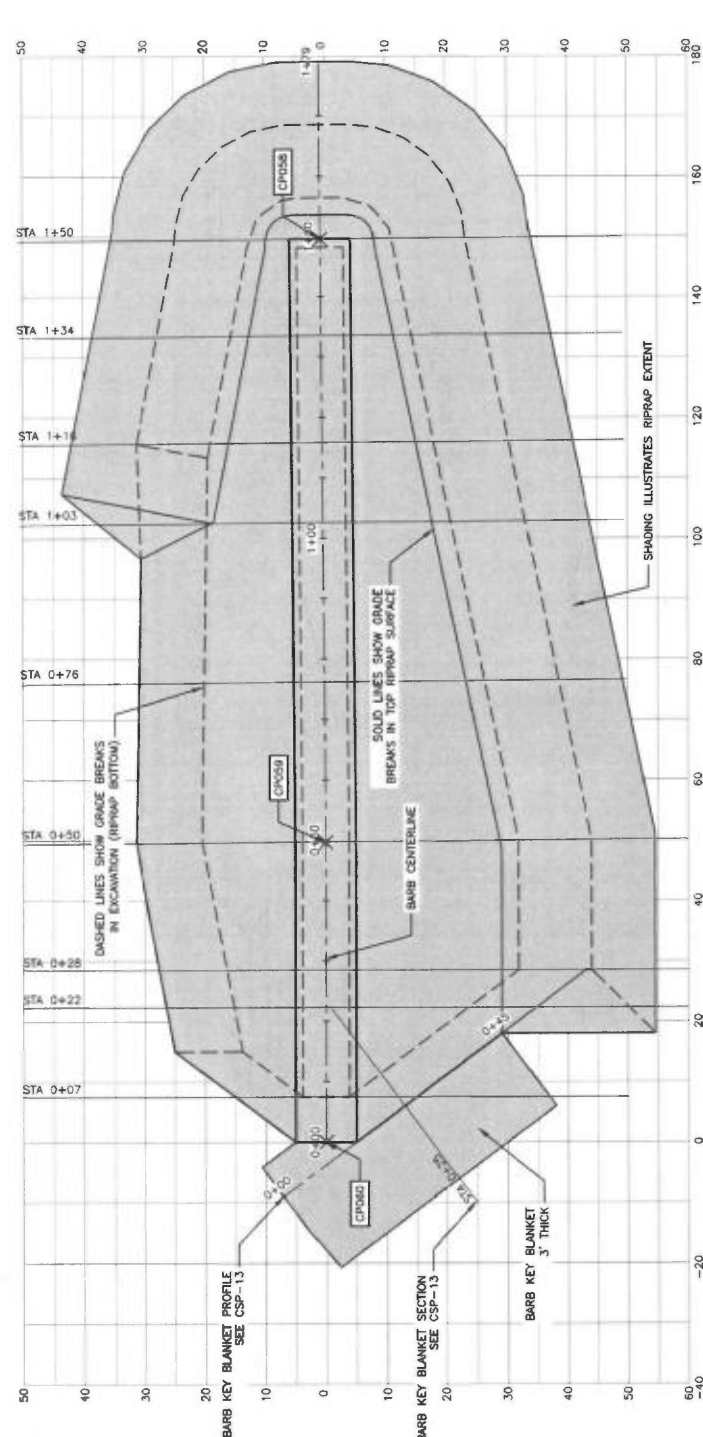
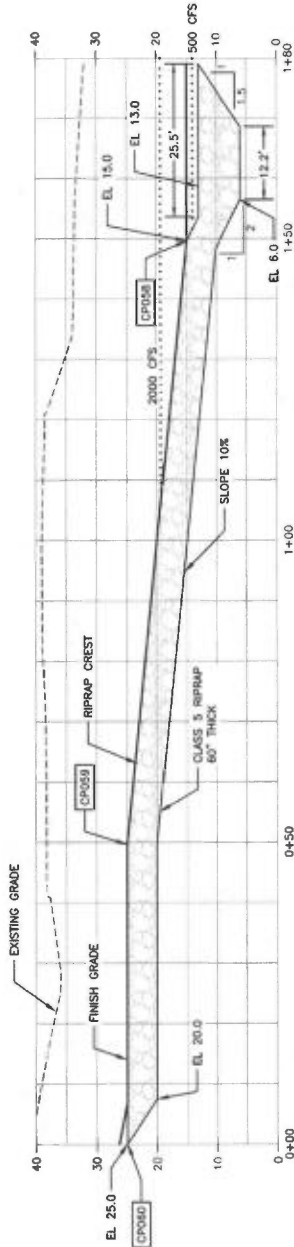
11/26/2019

**nhc**  
northwest  
hydraulic  
consultants

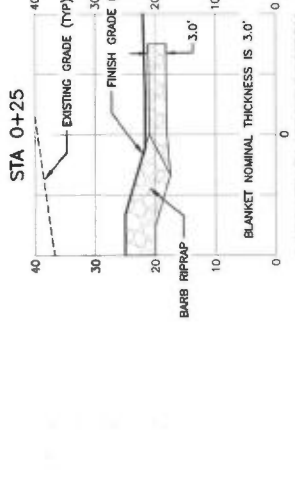
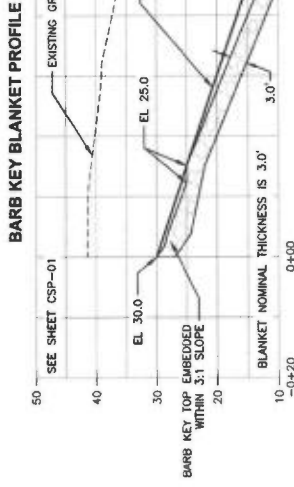
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Trice, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
BARB #3  
PROFILE AND PLAN

SHEET  
CSP-11







NOTES:

1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
2. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-11.
4. GEOTEXILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXILE UNDER BARB AND REINEMENT RIRAPIN IN THE AREA SHOWN ON CSP-01. GEOTEXILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35.4.3.00.




**Know what's below.  
Call before you dig.**

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE)

[illegible]

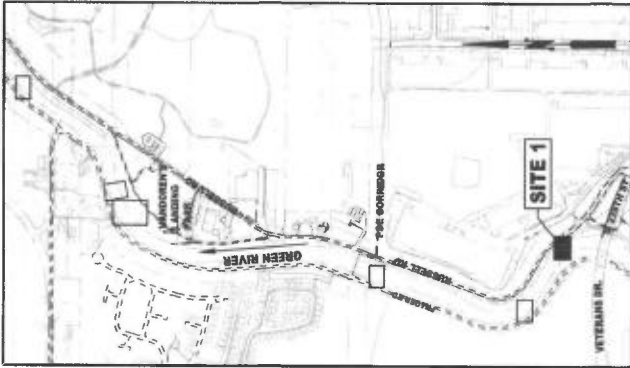
**nhc**  
northwest  
hydraulic  
consultants



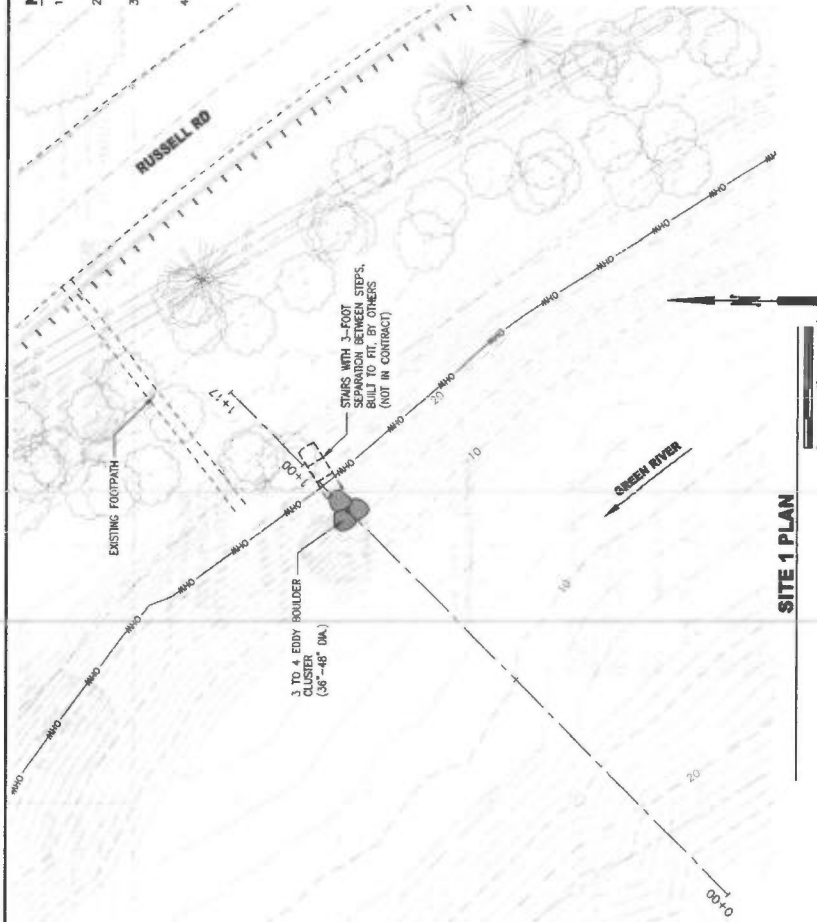
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
*River and Floodplain Management Section*  
Christie True, Director

**BARB #3 SECTIONS  
AND KEY BLANKET**

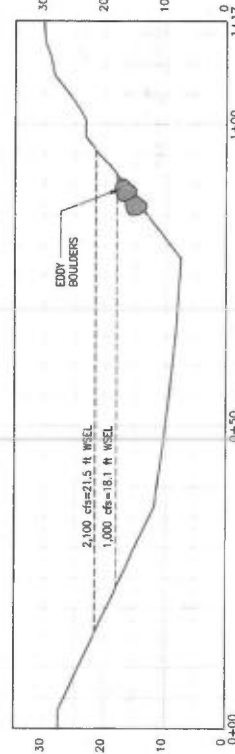
SHEET  
CSP-13



KEY MAP



SITE 1 PLAN



SITE 1 PROFILE

**NOTES:**

1. PURPOSE: A ROCK STRUCTURE THAT WILL DEFLECT FLOW AND FORM AN EDDY IMMEDIATELY DOWNSTREAM.
2. SE "TOP ELEVATION OF ROCK STRUCTURE BETWEEN ELEVATION 18 AND 20.
3. ROCK STRUCTURE TO BE PLACED IMMEDIATELY DOWNSTREAM OF EXISTING LOG PARTLY BURIED IN BANK, AS DIRECTED BY PROJECT REPRESENTATIVE.
4. EXISTING CHAINED LOG DOWNSTREAM OF ROCK STRUCTURE LOCATION TO BE REMOVED.



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

SURVEY JOB NO./SOURCE:				FUNDING:			
CHECKED:	K. KITAHARA	11/2018					
CAD ENTERED:	ERIK PETERS, P.E.	11/2018		PROJECT No.	1112056		
DESIGNED:	ERIK PETERS, P.E.	11/2018		CONTRACT No.	C01415220		
CHECKED:	ERIK PETERS, P.E.	11/2018					
SUPERVISOR:	LORN RENELT, P.E.	11/2018					
RECORD CHANGES APPROVED BY DATE				RECORD CHANGES APPROVED BY DATE			
TOTAL				TOTAL			



King County  
Department of Public Works and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Chadler Tree, Director



11/20/18

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

SITE 1 EDDY FEATURE

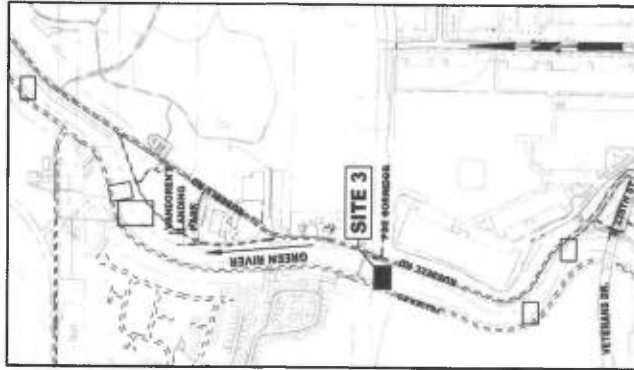
SHEET

CSP-14



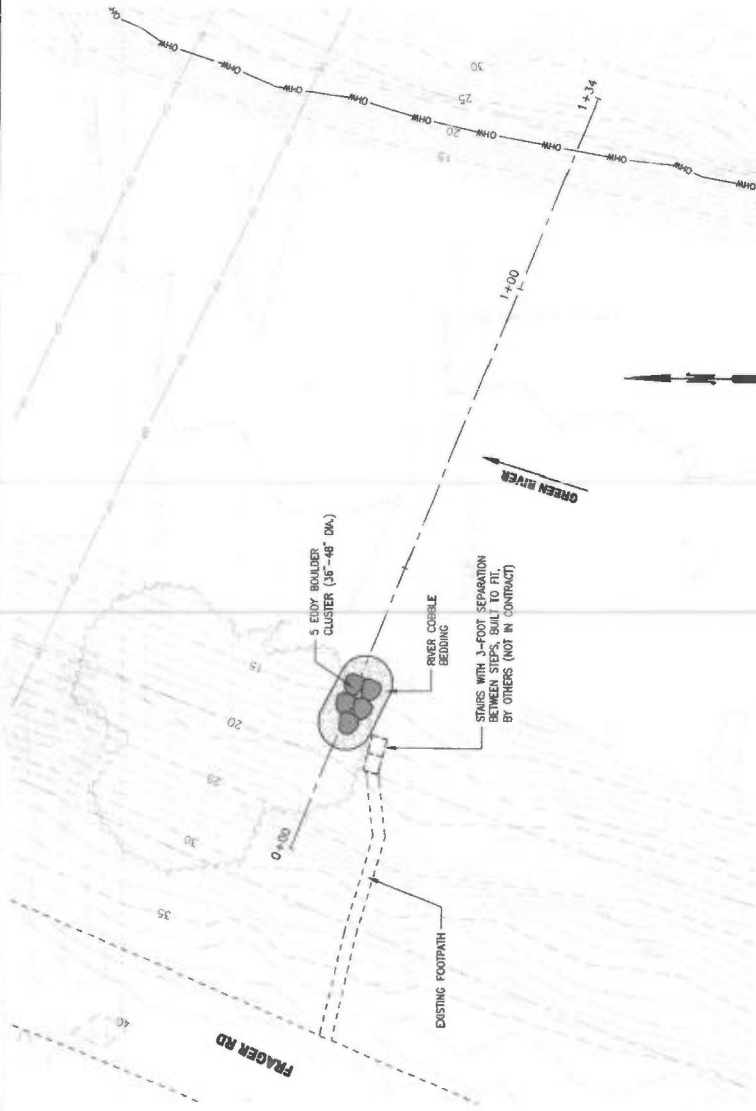
# **NOTES:**

1. PURPOSE: A ROCK STRUCTURE THAT WILL DEFLECT FLOW AND FORM AN EDDY IMMEDIATELY DOWNSTREAM.
2. SEE TOP ELEVATION OF ROCK STRUCTURE BETWEEN ELEVATION 18 AND 19.
3. PROJECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS



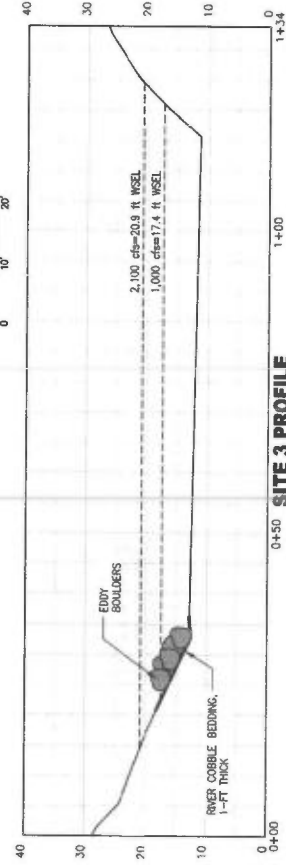
**KEY MAP**

0 300' 1,000'



**SITE 3 PLAN**

0 10' 20'



**SITE 3 PROFILE**



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

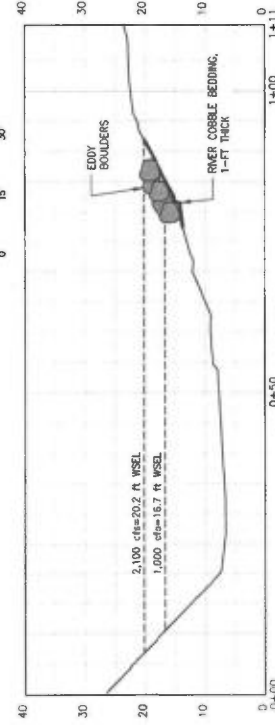
<p><b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie True, Director</p>				<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2</p>				<p><b>SITE 3 EDDY FEATURE</b></p>				<p><b>SHEET</b> <b>CSP-16</b></p>			
<p><b>APPROVED</b></p>				<p><b>PROJECT NO.</b> 1112056</p>				<p><b>CONTRACT NO.</b> C01415C20</p>				<p><b>DATE</b></p>			
<p><b>DESIGNED BY</b> ERIC PETERS, P.E. 11/2019</p>				<p><b>REVIEWED BY</b> JANA 11/2019</p>				<p><b>DATE</b></p>				<p><b>RECORD CHANGES</b></p>			
<p><b>CHECKED BY</b> K. KITAHARA 11/2019</p>				<p><b>DATE</b></p>				<p><b>APPROVED BY</b></p>				<p><b>DATE</b></p>			
<p><b>SURVEY JOB NO./SUBJECT</b></p>				<p><b>DATE</b></p>				<p><b>REVIEWED BY</b></p>				<p><b>DATE</b></p>			
<p><b>DESIGNED BY</b> ERIC PETERS, P.E. 11/2019</p>				<p><b>REVIEWED BY</b> JANA 11/2019</p>				<p><b>DATE</b></p>				<p><b>REVIEWED BY</b></p>			
<p><b>CHECKED BY</b> ERIC PETERS, P.E. 11/2019</p>				<p><b>REVIEWED BY</b> JANA 11/2019</p>				<p><b>DATE</b></p>				<p><b>REVIEWED BY</b></p>			
<p><b>SUPERVISOR</b> LOREN REINELT, P.E. 11/2019</p>				<p><b>DATE</b></p>				<p><b>REVIEWED BY</b></p>				<p><b>DATE</b></p>			

**NOTES:**

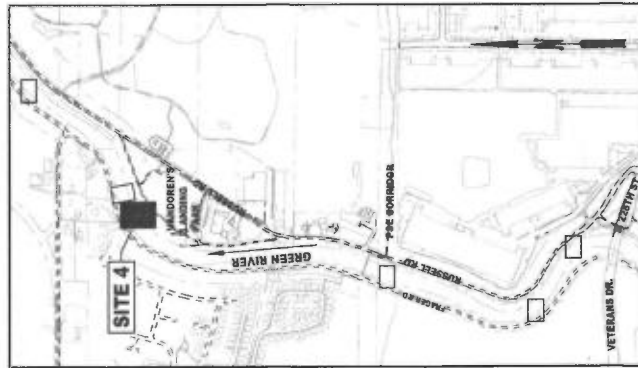
1. PURPOSE: A ROCK STRUCTURE THAT WILL DEFLECT FLOW AND FORM AN EDDY IMMEDIATELY DOWNSTREAM.
2. SET TOP ELEVATION OF ROCK STRUCTURE BETWEEN ELEVATION 21 AND 22.



**SITE 4 PLAN**



**SITE 4 PROFILE**

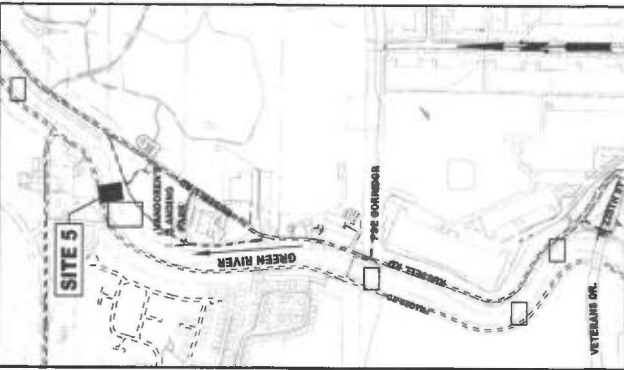


**KEY MAP**

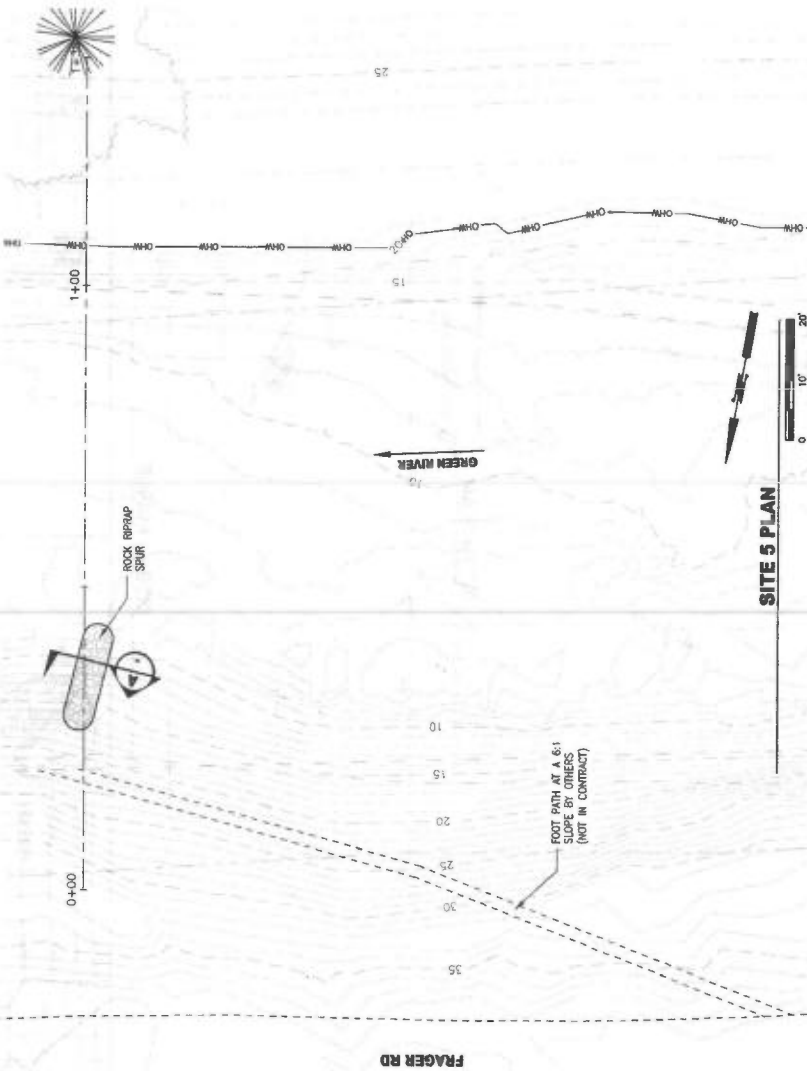


Know what's below.  
Call before you dig.  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

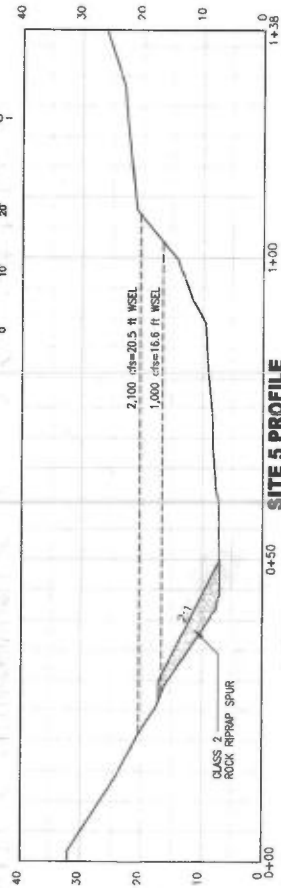
<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Corinne Trice, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2		SHEET <b>CSP-17</b>
		SITE 4 EDDY FEATURE		
FUNDING: _____ PROJECT No. 1112056 CONTRACT No. C01415C20		11/26/19		
SURVEY JOB NO./SOURCE: _____ CHECKED: _____ CAD ENTITLED: K. KITAMURA 11/2019 DESIGNED: ERIC PETERS, P.E. 11/2019 CHECKED: ERIC PETERS, P.E. 11/2019 SUPERVISOR: LOREN REBELT, P.E. 11/2019	REVIEWED: _____ BY: _____ DATE: _____ APPROVED: _____ BY: _____ DATE: _____			



KEY MAP



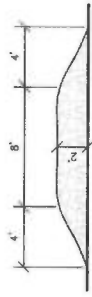
SITE 5 PLAN



SITE 5 PROFILE

**NOTES:**

1. PURPOSE: A ROCK STRUCTURE THAT WILL DEFLECT FLOW AND FORM AN EDDY IMMEDIATELY DOWNSTREAM.
2. SEE TOP ELEVATION OF ROCK STRUCTURE BETWEEN ELEVATION 17 AND 19.
3. PROTECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS.



TYPICAL SECTION

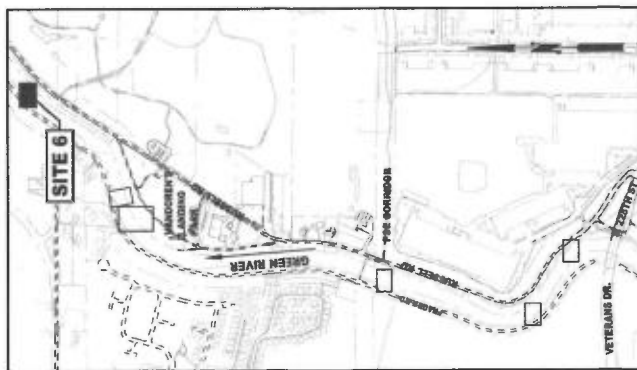
SCALE: HVS



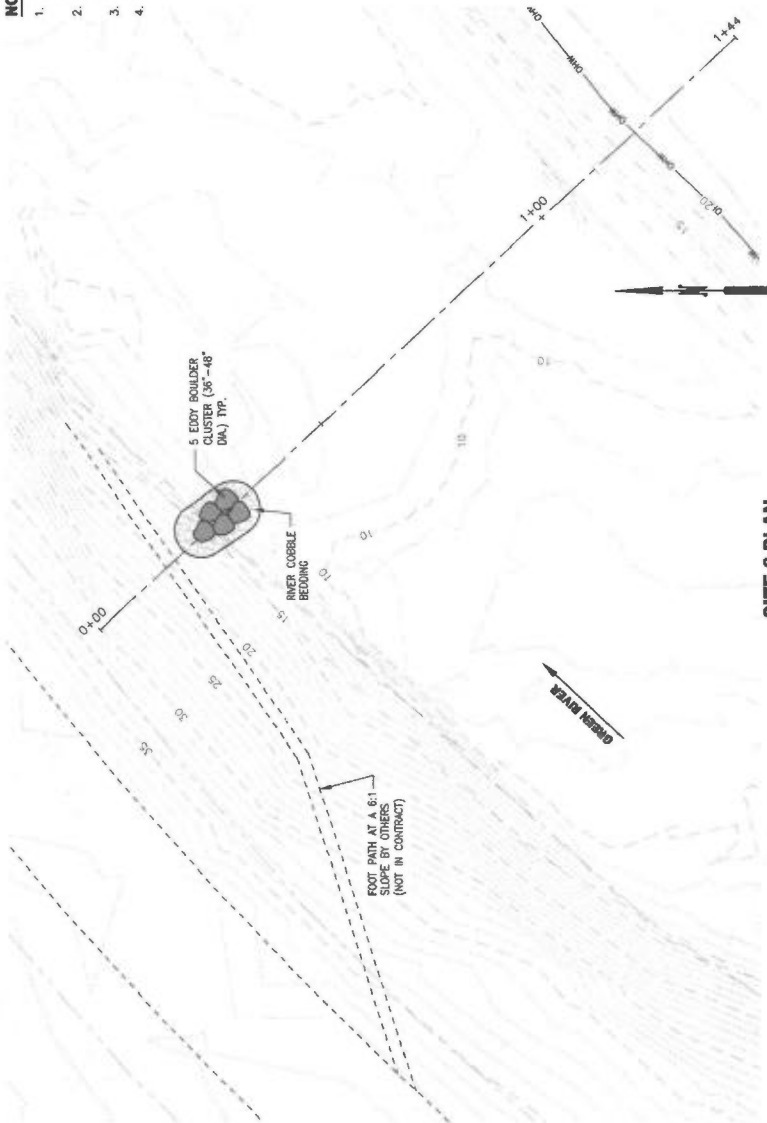
Know what's below.  
Call before you dig.  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

<p><b>King County</b> Department of Natural Resources and Parks River and Floodplain Management Section Christie Triss, Director</p>				<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>SITE 5 EDDY FEATURE</b></p>				<p><b>SHEET</b> <b>CSP-18</b></p>			
<p><b>PROJECT NO.</b> 1110056 <b>CONTRACT NO.</b> C01415220</p>				<p><b>DATE</b> 11/26/19</p>							
<p><b>CHECKED:</b> K. KITAMURA <b>DESIGNED:</b> ERIC PETERS, P.E. <b>CHECKED:</b> ERIC PETERS, P.E. <b>SUPERVISOR:</b> LORNA RENELT, P.E.</p>				<p><b>DATE</b> 11/20/19 <b>DATE</b> 11/20/19 <b>DATE</b> 11/20/19</p>							
<p><b>REVISION</b></p>				<p><b>RECORD CHANGES APPROVED</b></p>							

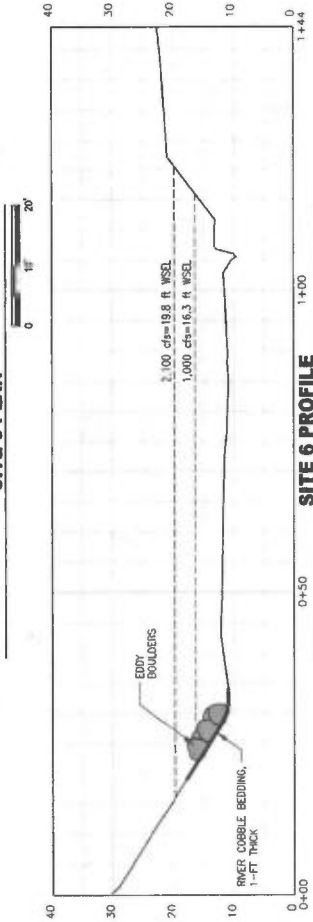
1. PURPOSE: A ROCK STRUCTURE THAT WILL DEFLECT FLOW AND FORM AN EDDY IMMEDIATELY DOWNSTREAM.
2. SE' TOP ELEVATION OF ROCK STRUCTURE BETWEEN ELEVATION 17 AND 18.
3. PROTECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS.



## KEY MAP



### SITE 6 PLAN



## SITE 6 PROFILE



**Know what's below.**  
Call before you dig.

BACK PROJECT

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2**

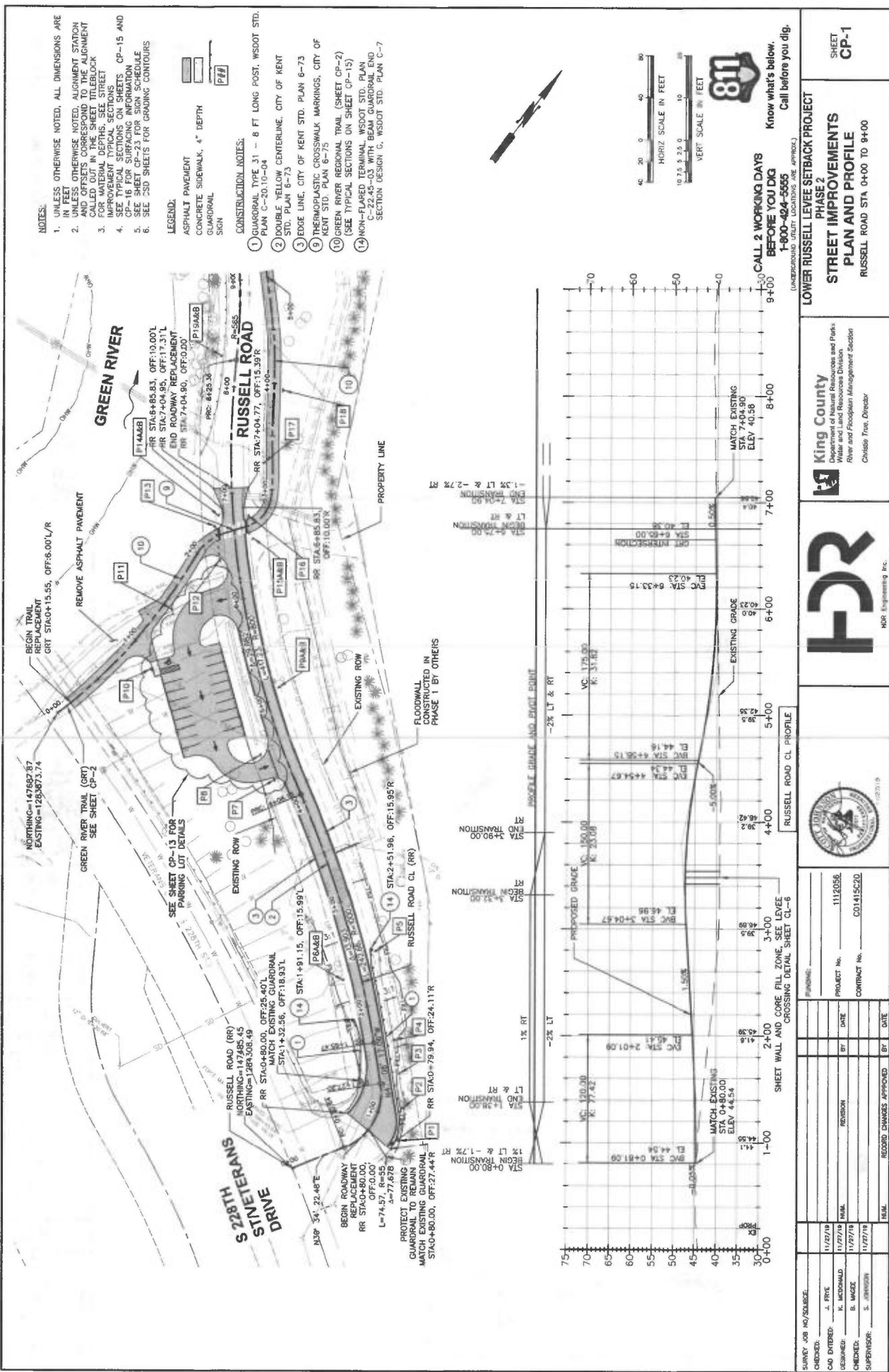
**SITE 6 EDDY FEATURE**

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



FUNDING: \_\_\_\_\_  
PROJECT No. 1112056  
CONTRACT No. C01415C20

SURVEY JOB NO./SOURCE					
CHECKED:	K. KITAHARA	11/2018			
DATA ENTERED:	ERIK PETERS, P.E.	11/2018			
CHECKED:	ERIK PETERS, P.E.	11/2018	REVISION	BY	DATE
CHECKED:	ORIN RENEHL, P.E.	11/2018			
SUPERVISOR:					
			RECORD CHANGES APPROVED	BY	DATE
			N/A		



NOTES:

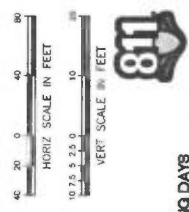
- 1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
- 2. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO THE CENTERLINE OF THE ROAD
- 3. FOR MATERIAL DEPTHS, SEE SHEET CP-15
- 4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16
- 5. SEE SHEET CP-23 FOR SIGN SCHEDULE
- 6. SEE 250 SHEETS FOR GRADING CONTOURS

LEGEND:

- ASPHALT PAVEMENT
- CONCRETE SIDEWALK, 4" DEPTH
- GUARDRAIL
- SIGN

CONSTRUCTION NOTES:

- 1. GUARDRAIL TYPE 31 - 8 FT LONG POST, WSDOT STD. PLAN C-20.10-04
- 2. DOUBLE YELLOW CENTERLINE, CITY OF KENT STD. PLAN 6-73
- 3. EDGE LINE, CITY OF KENT STD. PLAN 6-73
- 4. THERMOPLASTIC CROSSWALK MARKINGS, CITY OF KENT STD. PLAN 6-75
- 5. GREEN RIVER REGIONAL TRAIL (SHEET CP-22) (SEE TYPICAL SECTIONS ON SHEET CP-15)
- 6. NON-FLARED TERMINAL, WSDOT STD. PLAN C-22.45-03 WITH BEAM GUARDRAIL END SECTION DESIGN C, WSDOT STD. PLAN C-7



Know what's below.  
Call before you dig.  
1-800-484-5555

CALL 2 WORKING DAYS  
BEFORE YOU DIG

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STREET IMPROVEMENTS  
PLAN AND PROFILE  
RUSSELL ROAD STA 0+00 TO 9+00

SHEET  
CP-1



SURVEY JOB NO./SOURCE:		PROJECT NO. 1112056	
CHECKED: J. PRYCE	11/27/19	DESIGNED: M. MCCONALD	11/27/19
DESIGNED: M. MCCONALD	11/27/19	CHECKED: B. WADDE	11/27/19
CHECKED: B. WADDE	11/27/19	SUPERVISOR: S. JOHNSON	11/27/19
RECORD CHANGES APPROVED		DATE	

- NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
  2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CENTERLINE TO THE RIGHT OF THE ROAD
  3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
  4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SIGN SCHEDULE
  5. SEE SHEET CP-23 FOR SIGN SCHEDULE
  6. SEE CSD SHEETS FOR GRADING CONTOURS

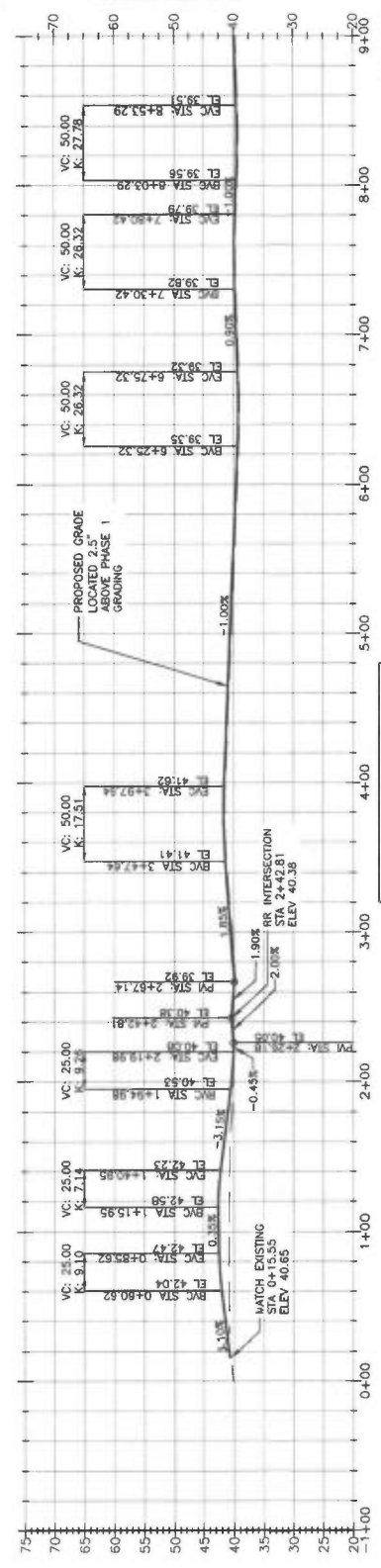
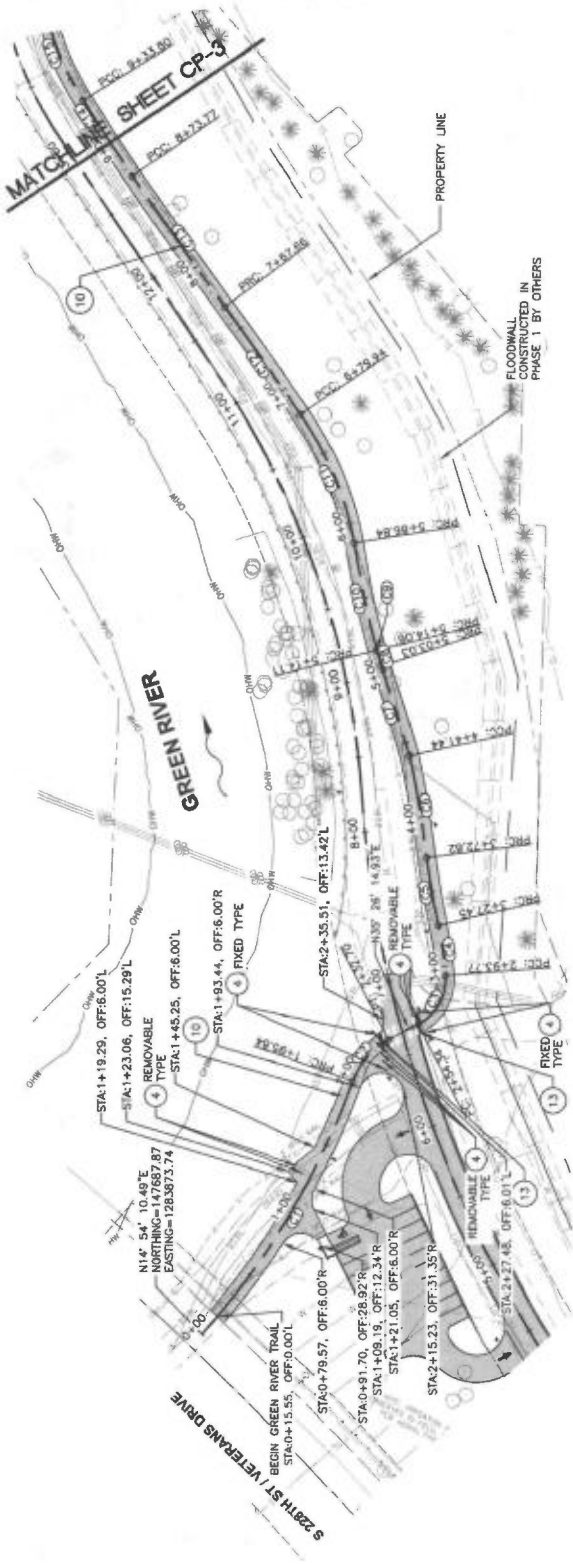
LEGEND:

ASPHALT PAVEMENT

CONSTRUCTION NOTES:

- (4) BOLLARD (SEE SHEETS CP-7 AND CP-25)
- (10) GREEN RIVER REGIONAL TRAIL (SEE TYPICAL SECTIONS ON SHEET CP-15)
- (13) DETECTABLE WARNING SURFACE, WSDOT STD. PLAN F-45.10-02

TRAIL ALIGNMENT CURVE TABLE				
No.	R	A	L	T
C1	504.31	22.250	195.84	194.61
C2	49.23	42.892	36.86	36.00
C3	33.78	66.873	39.43	37.23
C4	231.27	8.344	33.68	33.65
C5	509.90	5.098	45.37	45.36
C6	908.94	4.326	68.62	68.61
C7	1437.69	2.454	61.98	61.98
C8	130.56	4.842	11.03	11.03
C9	927.19	0.003	0.06	0.06
C10	692.91	6.014	72.73	72.69
C11	224.31	23.780	53.10	52.43
C12	3506.41	1.433	87.71	87.71
C13	2882.73	2.109	106.11	106.11



GREEN RIVER REGIONAL TRAIL PROFILE

CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
Know what's below. Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

<p><b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Truss, Director</p>		<p><b>FOR</b> HDR Engineering Inc.</p>		<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>TRAIL IMPROVEMENTS</b> <b>PLAN AND PROFILE</b> GREEN RIVER TRAIL STA 0+00 TO 9+00</p>	
<p>SURVEY JOB NO./SUBJOB: _____</p>		<p>PROJECT NO.: 112106</p>		<p>CONTRACT NO.: CD145220</p>	
<p>CHECKED: J. FITE 11/27/19</p>	<p>DESIGNED: R. MCDONALD 11/27/19</p>	<p>BY: _____</p>	<p>DATE: _____</p>	<p>RECORD CHANGES APPROVED: _____</p>	
<p>CAD INTERED: _____</p>	<p>CHECKED: B. WATZ 11/27/19</p>	<p>SUPERVISOR: S. JOHNSON 11/27/19</p>	<p>DATE: _____</p>		



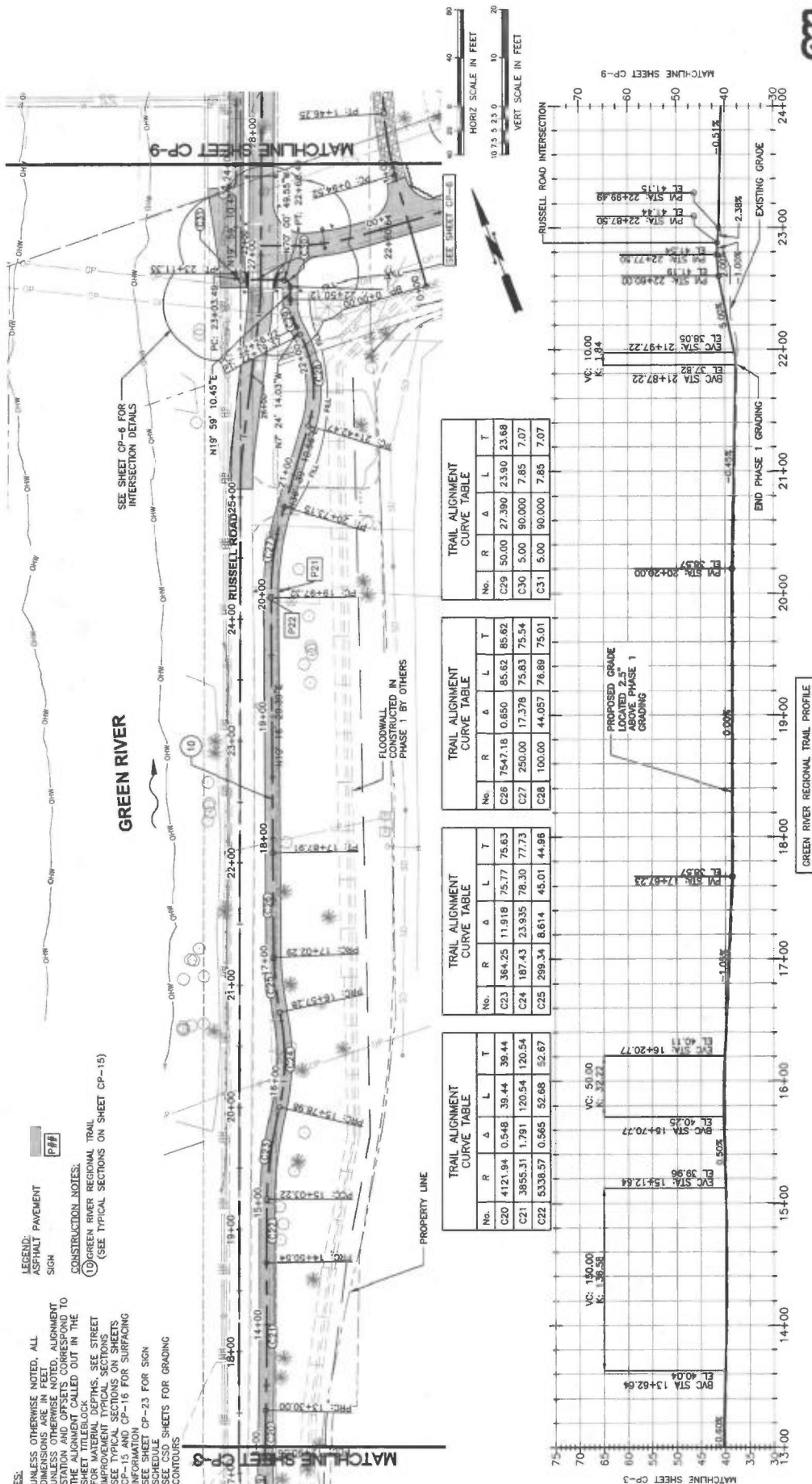
**NOTES:**

1. UNLESS OTHERWISE NOTED, ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR CONSTRUCTION OF THE STATE OF TEXAS, LATEST EDITION.
2. STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE DRAWING. SEE TYPICAL SECTIONS ON SHEET CP-15 FOR MATERIAL DEPTHS. SEE STREET IMPROVEMENT TYPICAL SECTIONS ON SHEET CP-15 AND CP-16 FOR SURFACING REQUIREMENTS.
3. SEE SHEET CP-23 FOR SIGN SCHEDULE.
4. SEE CSD SHEETS FOR GRADING CONTOURS.

LEGEND:  
 ASPHALT PAVEMENT  
 SIGN

CONSTRUCTION NOTES:  
 (1) GREEN RIVER REGIONAL TRAIL (SEE TYPICAL SECTIONS ON SHEET CP-15)

**GREEN RIVER**



TRAIL ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C29	50.00	27.390	23.90	23.68
C30	5.00	90.000	7.85	7.07
C31	5.00	90.000	7.85	7.07

TRAIL ALIGNMENT CURVE TABLE

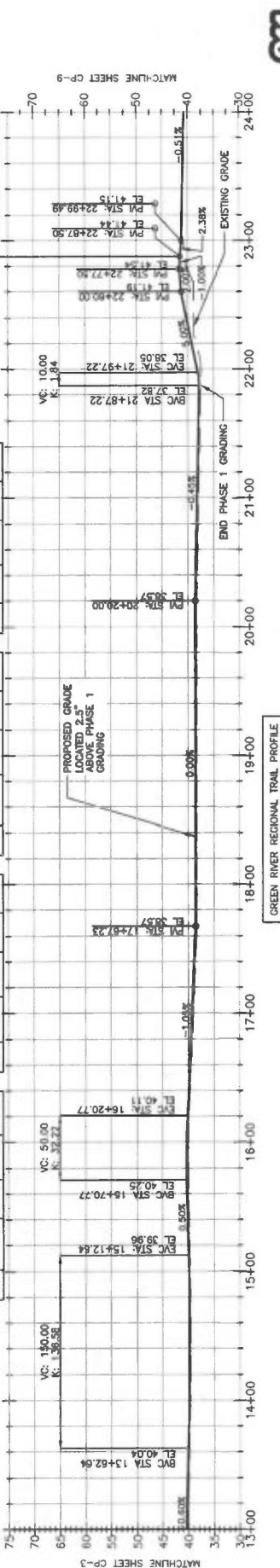
No.	R	Δ	L	T
C26	7547.18	0.650	85.62	85.62
C27	250.00	17.378	75.83	75.54
C28	100.00	44.057	76.89	75.01

TRAIL ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C23	364.25	11.918	75.77	75.63
C24	187.43	23.935	78.30	77.73
C25	299.34	8.614	45.01	44.96

TRAIL ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C20	4121.94	0.548	39.44	39.44
C21	3855.31	1.791	120.54	120.54
C22	5338.57	0.565	52.68	52.67



811

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

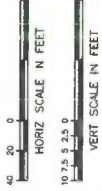
Know what's below.  
 Call before you dig.

<p><b>King County</b>                  Department of Natural Resources and Parks                  River and Land Resources Division                  Chris Lee, Director</p>		<p><b>FOR</b></p>		<p><b>811</b></p>	
<p><b>PROJECT:</b> LOWER RUSSELL LEVEE SETBACK PROJECT  <b>PHASE 2</b>  <b>TRAIL IMPROVEMENTS</b>  <b>PLAN &amp; PROFILE</b>  <b>GREEN RIVER TRAIL STA 13+00 TO 24+00</b></p>		<p><b>SHEET</b>  <b>CP-4</b></p>		<p><b>DATE:</b> 11/27/19</p>	
<p><b>PROJECT NO.:</b> 1112056</p>		<p><b>CONTRACT NO.:</b> C01415220</p>		<p><b>DATE:</b> 11/27/19</p>	
<p><b>CHECKED:</b> J. RYE</p>		<p><b>CHECKED:</b> K. McDONALD</p>		<p><b>CHECKED:</b> B. WAGNER</p>	
<p><b>DATE:</b> 11/27/19</p>		<p><b>DATE:</b> 11/27/19</p>		<p><b>DATE:</b> 11/27/19</p>	
<p><b>SUPERVISOR:</b> S. JOHNSON</p>		<p><b>RECORD CHANGES APPROVED:</b></p>		<p><b>DATE:</b></p>	



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

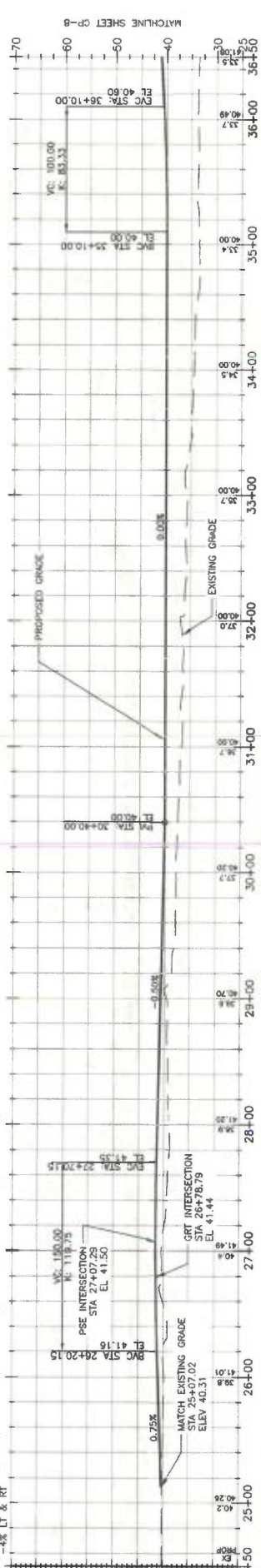
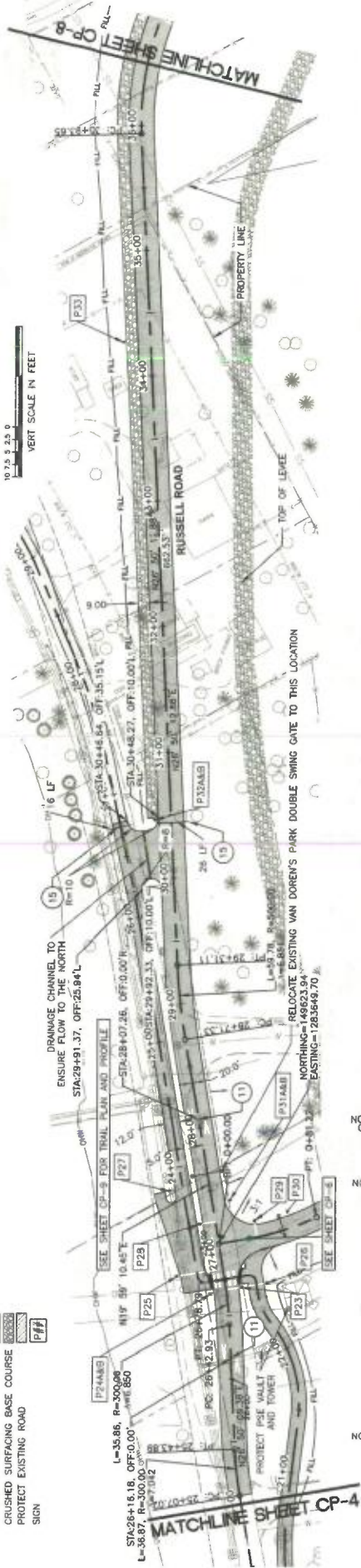
Know what's below.  
Call before you dig.



- CONSTRUCTION NOTES:
1. BOLLARD (SEE SHEETS CP-7 AND CP-25)
  2. TRUSC CALMING CURBSON PER CITY OF KENT STD DETAIL 201
  3. 15" SDR 21 PVC SLEAVE
  4. SEE DETAIL 2 ON SHEET LP-59

- NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
  2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE CENTERLINE OF THE ROAD
  3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT SECTIONS
  4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION
  5. SEE SHEET CP-23 FOR SIGN SCHEDULE
  6. SEE CSD SHEETS FOR GRADING CONTOURS

- LEGEND
- ASPHALT PAVEMENT
  - CRUSHED SURFACING BASE COURSE
  - PROTECT EXISTING ROAD
  - SIGN



RUSSELL ROAD CL PROFILE



PROJECT No. 11110256  
CONTRACT No. 001415220

SURVEY JOB NO./SOURCE	CHECKED	DATE	DESIGNED	DATE	CHECKED	DATE	SUPERVISOR	DATE
	A. RYAN	11/27/19	L. WOODWARD	11/27/19	R. BAILEY	11/27/19	S. JOHNSON	11/27/19

RECORD CHANGES APPROVED

11/27/19

King County  
Department of Natural Resources and Parks  
River and Forestry Management Section  
Christine Trice, Director



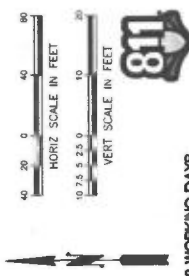
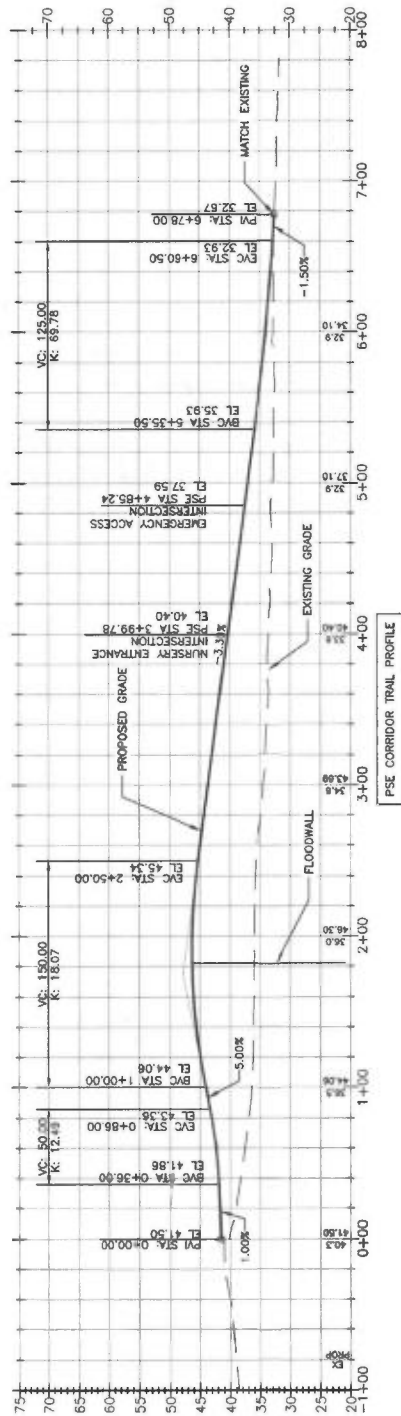
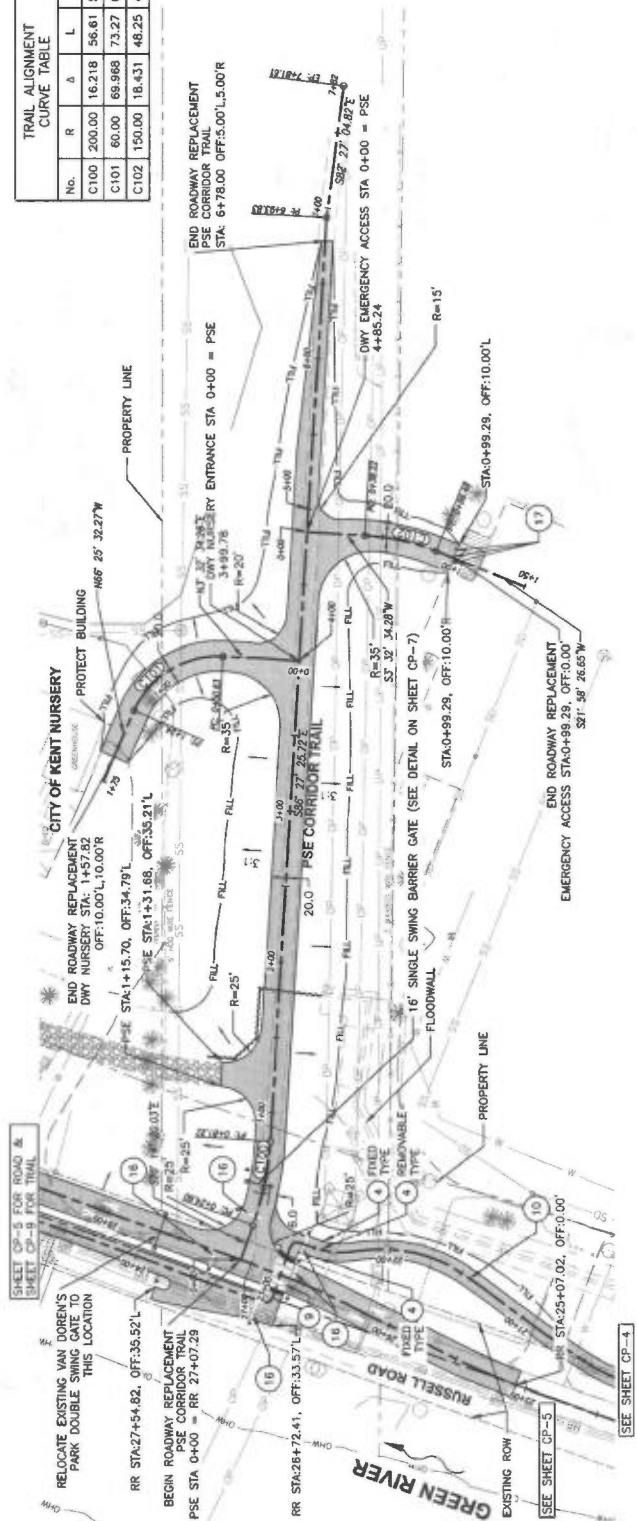
HDR Engineering Inc.

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STREET IMPROVEMENTS  
PLAN AND PROFILE  
RUSSELL ROAD STA 25+00 TO 36+50

SHEET  
CP-5

- NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
  2. UNLESS OTHERWISE NOTED, ALIGNMENT STATIONING IS IN STATIONING CALLS OUT IN THE SHEET
  3. FOR MATERIAL DEPTHS, SEE SHEET CP-15
  4. FOR ENTRANCE PROFILES, SEE SHEET CP-8
  5. SEE TYPICAL SECTIONS ON SHEET CP-15
  6. AND CP-16 FOR SURFACING INFORMATION
  7. SEE CSD SHEETS FOR GRADING CONTOURS
- LEGEND:
- ASPHALT PAVEMENT

TRAIL ALIGNMENT CURVE TABLE					
No.	R	Δ	L	T	
C100	200.00	16.218	56.61	56.42	
C101	60.00	69.968	73.27	68.80	
C102	150.00	18.431	48.25	48.05	



CALL 2 WORKING DAYS BEFORE YOU DIG  
 1-800-424-5555  
 Know what's below. Call before you dig.

**King County**  
 Department of Natural Resources and Parks  
 Water and Land Resources Division  
 River and Floodplain Management Section  
 Christine Tran, Director

**811**

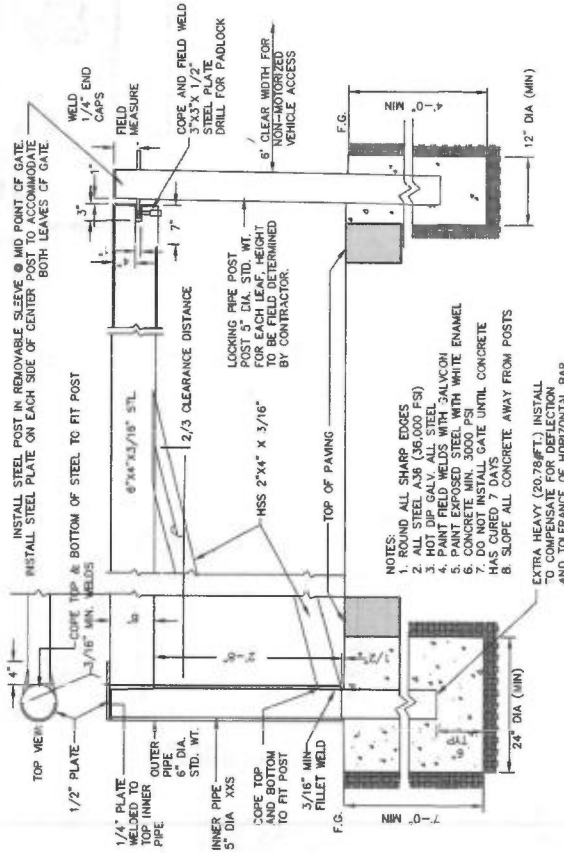
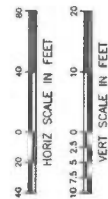
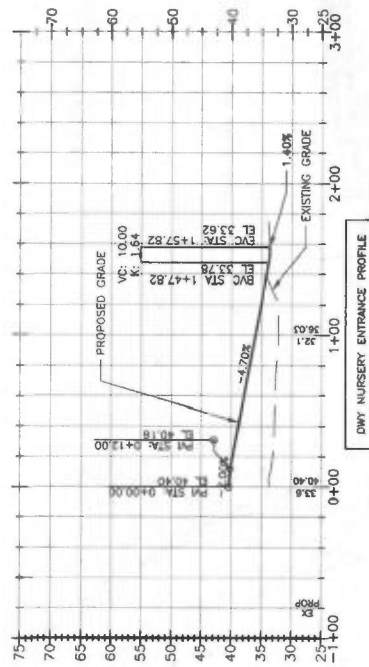
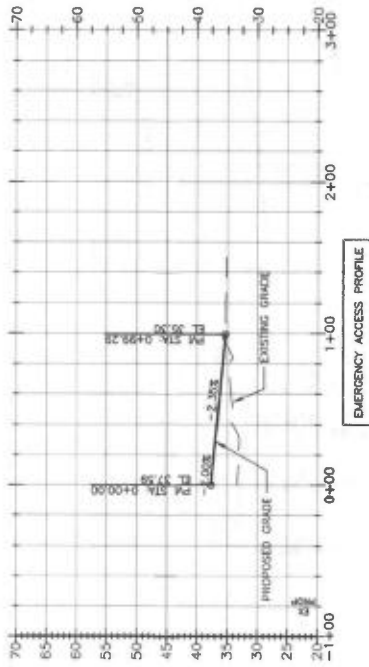
Know what's below.  
 Call before you dig.

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**STREET IMPROVEMENTS**  
**PLAN AND PROFILE**  
 PSE CORRIDOR TRAIL STA 0+00 TO 8+00

**SHEET CP-6**

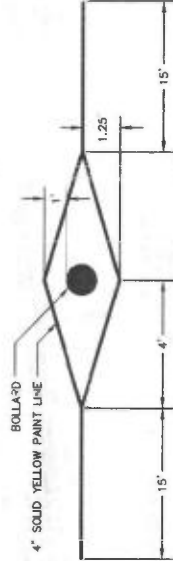
SURVEY JOB NO./SUBJECT:	PROJECT No. 1112056	DATE 1/27/18	BY	DATE
CHECKED: J. FIVE	REVISION	DATE	BY	DATE
DESIGNED: K. WOODWARD				
CHECKED: R. WOOD				
SUPERVISOR: S. JOHNSON				

NOTES:  
1. FOR ROADWAY ALIGNMENTS  
SEE SHEET CP-6



- NOTES:
1. ROUND ALL SHARP EDGES
  2. ALL STEEL A36 (36,000 PSI)
  3. PAINT EXPOSED STEEL WITH GALVALUME
  4. PAINT EXPOSED STEEL WITH WHITE ENAMEL
  5. CONCRETE MIN. 3000 PSI
  6. DO NOT INSTALL GATE UNTIL CONCRETE HAS CURED 17 DAYS
  7. SLOPE ALL CONCRETE AWAY FROM POSTS
  8. EXTRA HEAVY (20.78 FT.) INSTALL TO COMPENSATE FOR DEFLECTION AND TOLERANCE OF HORIZONTAL BAR

**SINGLE SWING GATE**  
SCALE: NTS



**BOLLARD APPROACH MARKINGS**  
SCALE: NTS



Know what's below.  
Call before you dig.  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

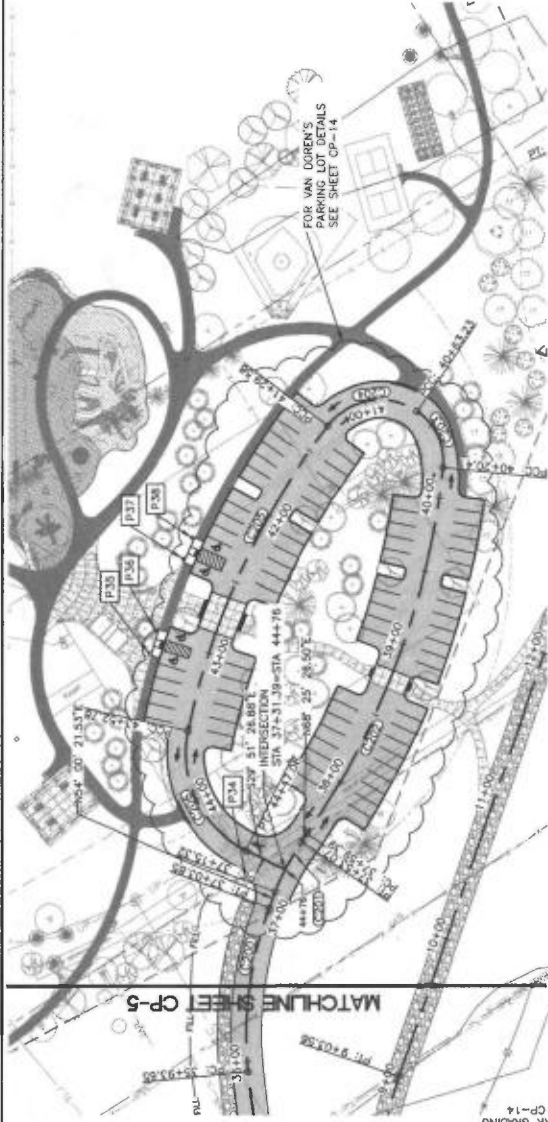
<p><b>King County</b> Public Works Department Water and Land Resources Division River and Floodplain Management Section Christie Trice, Director</p>				<p><b>811</b> Know what's below. Call before you dig. 1-800-424-5555 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)</p>				<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> PHASE 2 <b>STREET IMPROVEMENTS</b> <b>EMERGENCY ACCESS &amp; NURSERY ACCESS PROFILES</b> STA -1+00 TO 3+00</p>				<p>SHEET <b>CP-7</b></p>			
<p><b>FOR ENGINEERING INC.</b> 11/2/2019</p>				<p><b>1112056</b> PROJECT No. 1112056 CONTRACT No. C01415220</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>			
<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>			
<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>				<p><b>11/27/19</b> DATE 11/27/19 BY [Signature]</p>			

- NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET.
  2. IN FEET, OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLEBLOCK.
  3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS.
  4. CP-15 FOR SURFACING INFORMATION.
  5. SEE SHEET CP-14 FOR VAN DOREN'S PARK PARKING LOT DETAIL.
  6. SEE CSD SHEETS FOR GRADING CONTOURS.

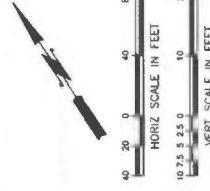
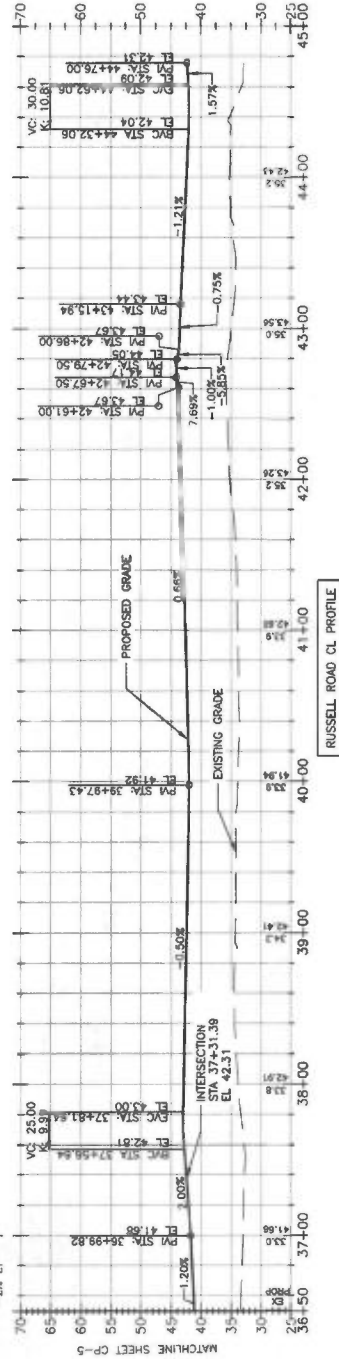
LEGEND:

ASPHALT PAVEMENT  
CRUSHED SURFACING BASE COURSE  
SIGN

TRAIL ALIGNMENT CURVE TABLE					
No.	R	Δ	L	T	
C200	239.89	26.320	110.20	109.24	
C201	150.00	14.418	37.75	37.65	
C202	515.19	29.029	261.02	258.24	
C203	40.00	61.327	42.81	40.80	
C204	43.48	87.434	66.35	60.10	
C205	510.00	25.076	223.20	221.43	
C206	71.62	75.417	94.28	87.62	

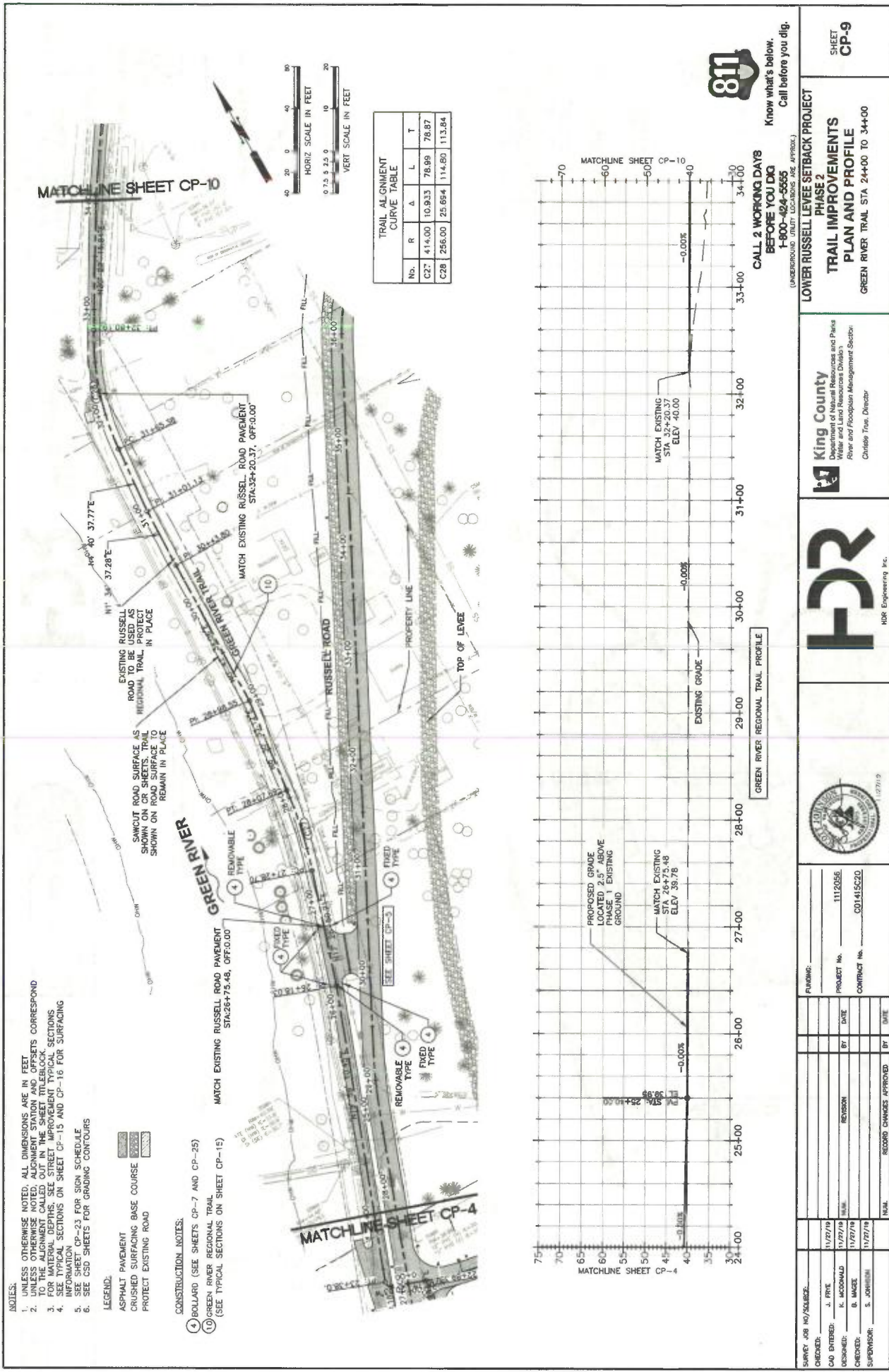


STA 37+00.00  
END SUPERELEVATION LIFT  
FOLLOW PARK GRADING  
SEE SHEET CP-14



CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-6666  
Know what's below.  
Call before you dig.

<p><b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Tron, Director</p>		<p><b>Lower Russell Levee Setback Project</b> PHASE 2 <b>STREET IMPROVEMENTS</b> <b>PLAN &amp; PROFILE</b> RUSSELL ROAD STA 38+50 TO 45+00 AND VAN DOREN'S PARKING LOT</p>		<p>SHEET CP-8</p>	
<p><b>FOR ENGINEERING</b></p> <p>PROJECT No. 1117054 CONTRACT No. C01415220</p>		<p><b>FOR RECORD</b></p> <p>DATE 11/27/19 BY NUAL CHECKED 11/27/19 SUPERVISOR S. JOHNSON</p>		<p>RECORD CHANGES APPROVED BY DATE</p>	



- NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
  2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLED BLOCK
  3. FOR TYPICAL SECTIONS, SEE TYPICAL SECTIONS ON SHEET CP-15 AND CP-16 FOR SURFACING
  4. INFORMATION TYPICAL SECTIONS ON SHEET CP-15 AND CP-16 FOR SURFACING
  5. SEE SHEET CP-23 FOR SIGN SCHEDULE
  6. SEE CSD SHEETS FOR GRADING CONTOURS

LEGEND:

- ASPHALT PAVEMENT
- CRUSHED SURFACING BASE COURSE
- PROTECT EXISTING ROAD

CONSTRUCTION NOTES:

- ④ BOLLARD (SEE SHEETS CP-7 AND CP-25)
- ⑩ GREEN RIVER REGIONAL TRAIL (SEE TYPICAL SECTIONS ON SHEET CP-15)

TRAIL ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C27	414.00	10.935	76.99	78.87
C28	256.00	25.854	114.80	113.84



Know what's below.  
Call before you dig.  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

CALL 2 WORKING DAYS  
BEFORE YOU DIG

GREEN RIVER REGIONAL TRAIL PROFILE

SUNNY JOB #/SOURCE:		FUNDING:		PROJECT No. 1112056		CONTRACT No. C01415220	
OWNER:	J. RYAN	11/27/19	DATE	REVISION	BY	DATE	DATE
DESIGNED:	K. McDONALD	11/27/19	DATE	REVISION	BY	DATE	DATE
CHECKED:	B. MAGEE	11/27/19	DATE	REVISION	BY	DATE	DATE
SUPERVISOR:	S. JOHNSON	11/27/19	DATE	REVISION	BY	DATE	DATE
APPROVED:		APPROVED:		APPROVED:		APPROVED:	
NAME:		NAME:		NAME:		NAME:	

King County  
Department of Natural Resources and Parks  
Division of Parks and Recreation  
River and Freeway Management Section  
Corridor Trail Director

HDR Engineering Inc.

GREEN RIVER REGIONAL TRAIL PROFILE

11/27/19

811

Know what's below.  
Call before you dig.  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

TRAIL IMPROVEMENTS  
PLAN AND PROFILE

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2

GREEN RIVER TRAIL STA 24+00 TO 34+00

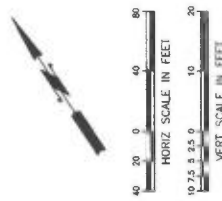
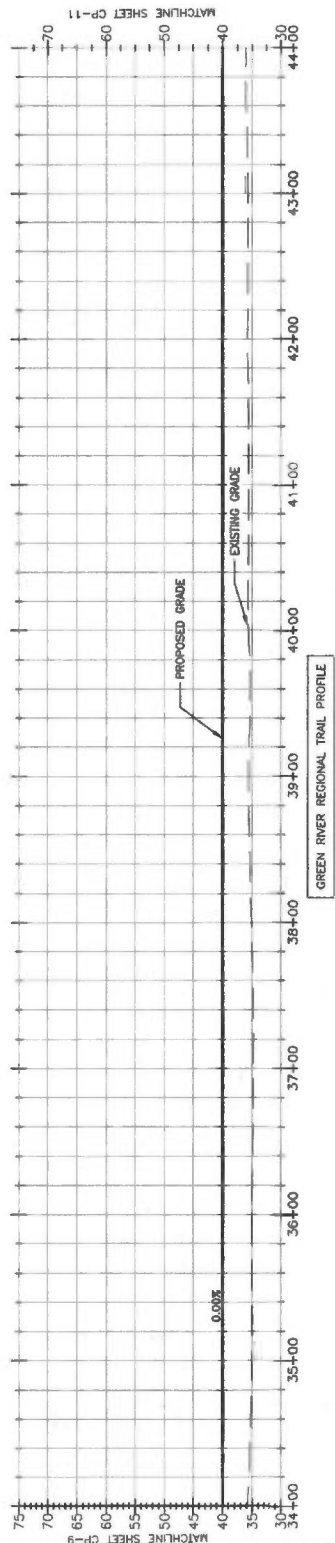
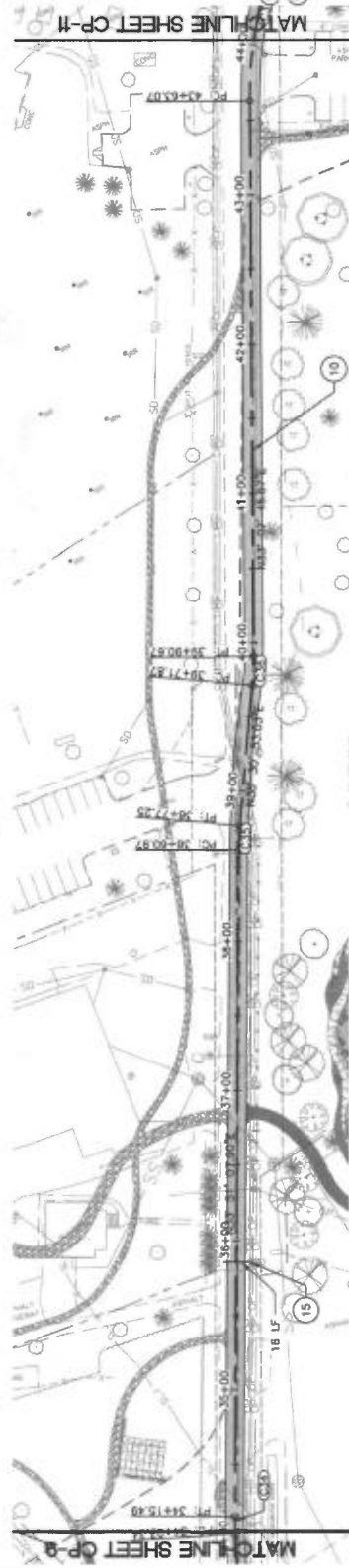
SHEET  
CP-9

- NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
  2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND ELEVATION OF PROPOSED IMPROVEMENT SHALL BE CALLED OUT IN THE SHEET TITLE BLOCK
  3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION
  4. SEE SHEET CP-23 FOR SIGN SCHEDULE
  5. SEE CSD SHEETS FOR GRADING CONTOURS

LEGEND:  
 ASPHALT PAVEMENT

CONSTRUCTION NOTES:  
 (1) GREEN RIVER REGIONAL TRAIL  
 (2) SEE TYPICAL SECTIONS ON SHEET CP-15  
 (3) 6" SDR 21 PVC SLEEVE  
 (4) SMI DIL 2/LP-59

TRAIL ALIGNMENT CURVE TABLE				
No.	R	Δ	L	T
C34	200.00	3.481	12.15	12.15
C35	200.00	4.663	16.28	16.27
C36	200.00	5.385	18.80	18.79



CALL 2 WORKING DAYS BEFORE YOU DIG  
 1-800-424-8685  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)  
 Know what's below.  
 Call before you dig.

SURVEY JOB NO./SUBJECT: CHECKED: J. RYAN CAD DESIGNED: K. McDONALD DESIGNED: B. WAGGE CHECKED: S. JOHNSON SUPERVISOR:		DATED: 11/27/18 DATED: 11/27/18 DATED: 11/27/18 DATED: 11/27/18		REVISION: BY: _____ DATE: _____		PROJECT NO.: 1117046 CONTRACT NO.: C01415C20						 King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Trone, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 34+00 TO 44+00		SHEET CP-10	
--	--	--	--	---------------------------------------	--	---	--	---	--	---	--	--	--	--	--	----------------	--

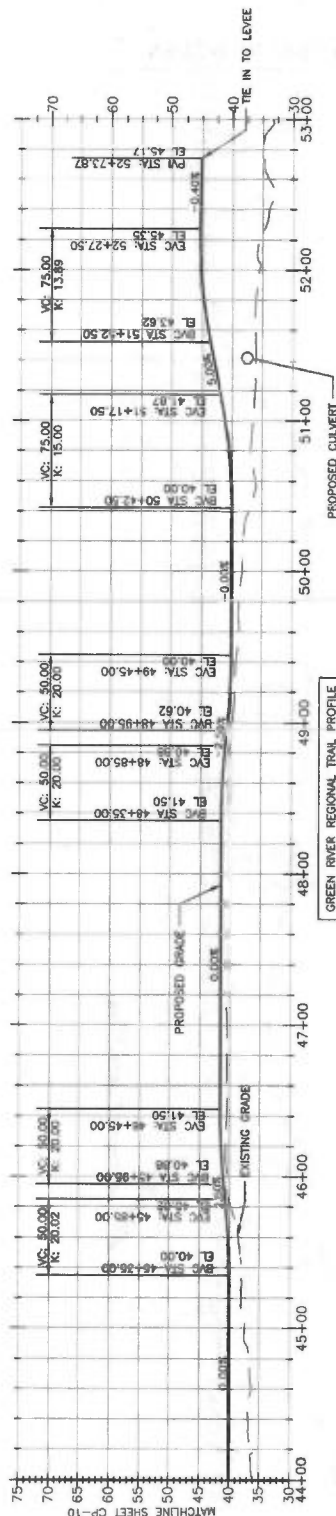
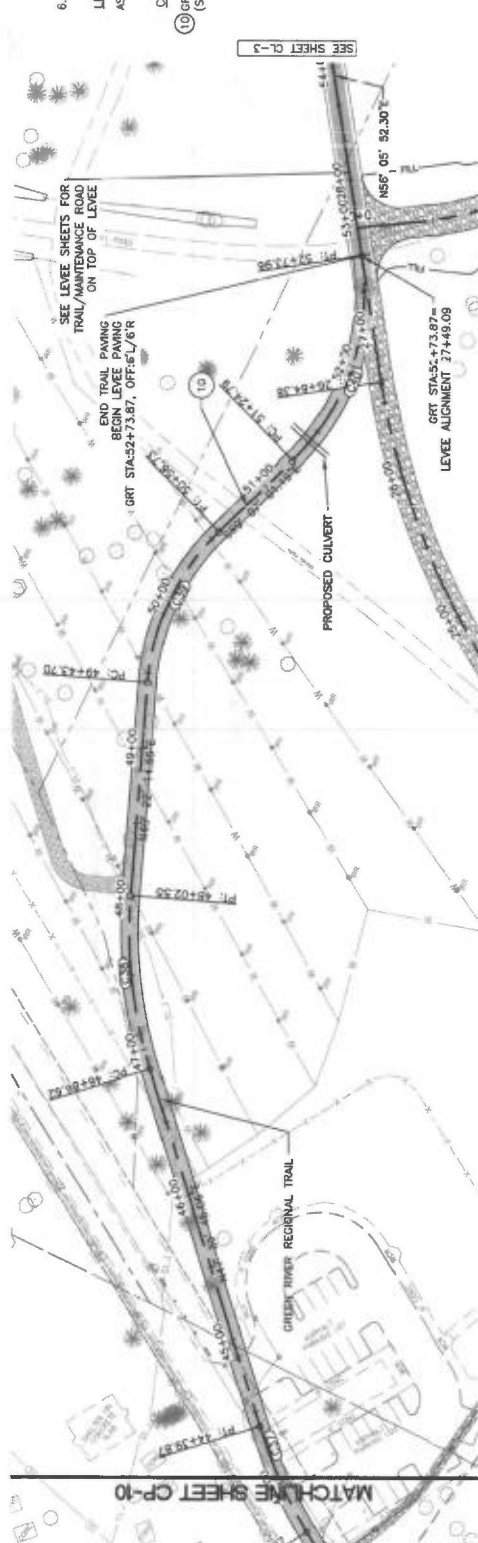
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET.
2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CENTERLINE IN THE SHEET INTERLOCK.
3. FOR A LEGAL RIGHT-OF-WAY, SEE THE RIGHT-OF-WAY IMPROVEMENT DETAIL SECTIONS.
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION.
5. UNLESS OTHERWISE NOTED, THE ELEVATION AT THE TOP OF THE HMA LAYER, THE PROFILE SHOWN ON THE LEVEE PLAN AND THE PROFILE SHEETS DOES NOT (CL SERIES). PROFILE PIE IN POINTS ON THIS SHEET WILL BE USED TO DETERMINE THE PROFILE SHEETS TO ACCOUNT FOR THIS HMA LAYER.
6. SEE CSD SHEETS FOR GRADING CONTOURS.

ASPHALT PAVEMENT

CONSTRUCTION NOTES:

10 GREEN RIVER REGIONAL TRAIL  
(SEE TYPICAL SECTIONS ON SHEET CP-15)

No.	R	$\Delta$	L	T
C37	303.00	14.523	76.80	76.6
C38	306.00	21.708	115.94	115.2
C39	156.00	41.512	113.03	110.2
C40	156.00	54.785	149.16	143.2



**CALL 2 WORKING DAYS**

100

Call before you dig.

1-800-424-8000



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
*Christine Truss, Director*



PROJECT No. 1112008  
CONTRACT No. C01415C20

[illegible]

11/27/10	11/27/10	11/27/10	11/27/10
CHECKED:	AD ENTERED:	DESIGNED:	CHECKED:
	A. FINE	K. McDONALD	B. WAGGE
			S. JOHNSON

**SHEET**  
**CP-11**

# PHASE 2 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL 44+00 TO 53+00

- NOTES:**
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET.
  2. SECTIONS CORRESPOND TO THE ALIGNMENT STATION AND OFFSETS.
  3. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET.
  4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION.
  5. SEE SHEET CP-23 FOR SIGN SCHEDULE.
  6. PROFILES FOR ROADS AND TRAILS SHOW THE ELEVATION AT THE LEVEE. (SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR PLAN AND PROFILE SHEETS DOES NOT (CL SERIES) PROFILE IN POINTS ON THIS SHEET WILL BE HIGHER THAN ON THE LEVEE PROFILE SHEETS TO ACCOUNT FOR THIS HMA LAYER.
  7. SEE CSD SHEETS FOR GRADING CONTOURS.

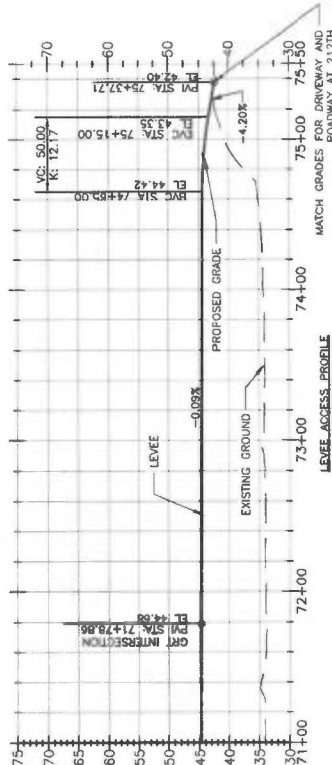
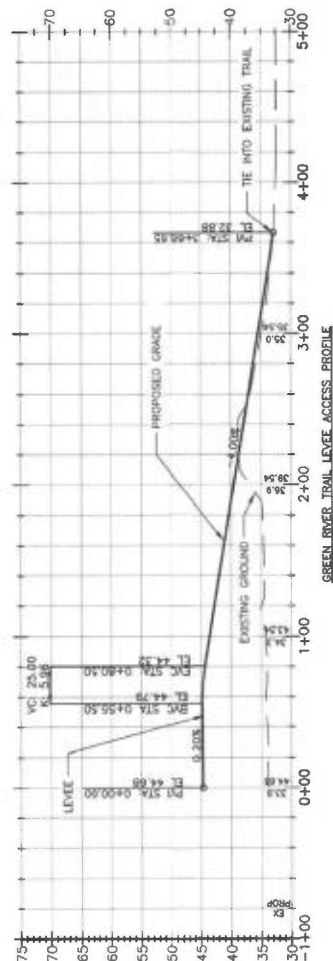
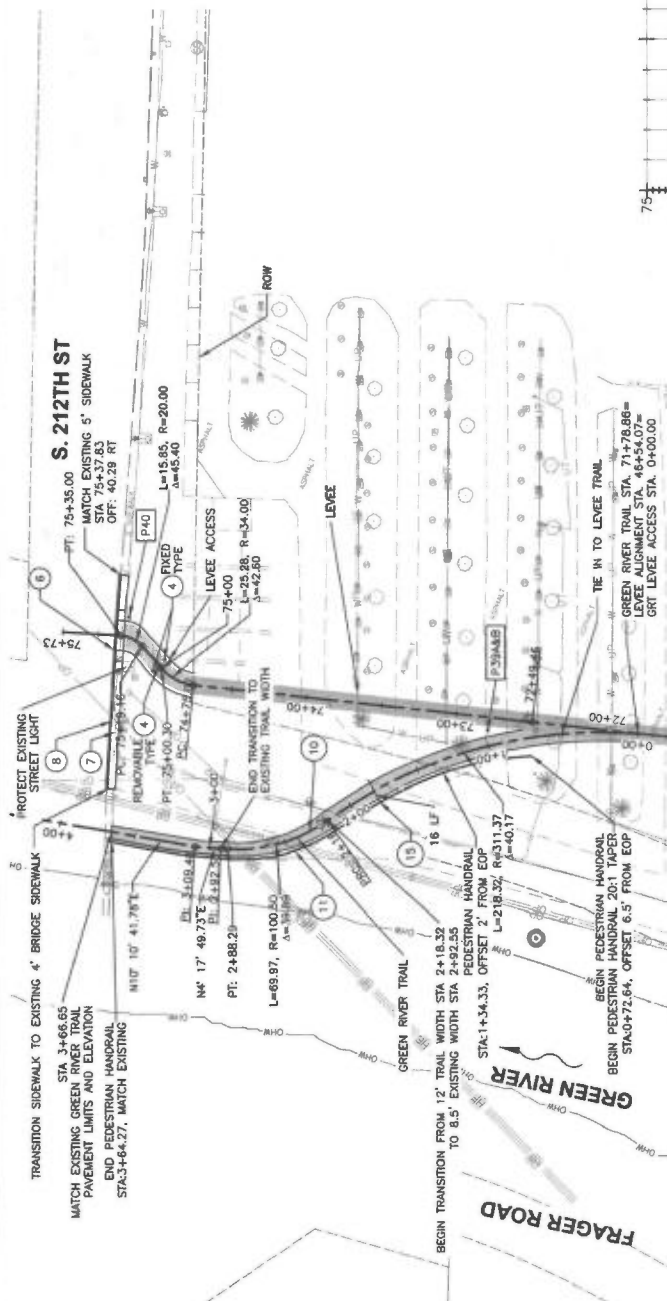
**LEGEND:**

ASPHALT PAVEMENT

SIGN

**CONSTRUCTION NOTES:**

- 4 BOLLARD (SEE SHEETS CP-7 AND CP-25)
- 5 CEMENT CONC. DRIVEWAY, CITY OF KENT STD. PLAN 6-44
- 7 CEMENT CONC. SIDEWALK, CITY OF KENT STD. PLAN 6-35
- 8 COMBINED CURB AND GUTTER, CITY OF KENT STD. PLAN 6-33
- 10 GREEN RIVER REGIONAL TRAIL (SEE TYPICAL SECTIONS ON SHEET CP-15)
- 11 PEDESTRIAN RAILING PER DETAIL SHEET CP-23
- 15 6" SDR 21 PVC SLEEVE, SIM DTL 2/LP-59



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

Know what's below.  
 Call before you dig.

 <b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Chrifide Trice, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>STREET &amp; TRAIL IMPROVEMENTS</b> <b>PLAN AND PROFILE</b> LEVEE STA 71+00 TO 75+50 GREEN RIVER TRAIL LEVEE ACCESS	
SURVEY JOB NO./SUBJOB: CHECKED: J. RYCE DESIGNED: K. McDONALD CHECKED: B. WAGNER SUPERVISOR: S. JOHNSON		FUNDING: PROJECT No. 1112056 CONTRACT No. C01415020 RECORD CHANGES APPROVED:	
DATE: 11/27/19 BY: HJM		DATE: 11/27/19 BY: HJM	



NOR Engineering, Inc.

**NOTES:**

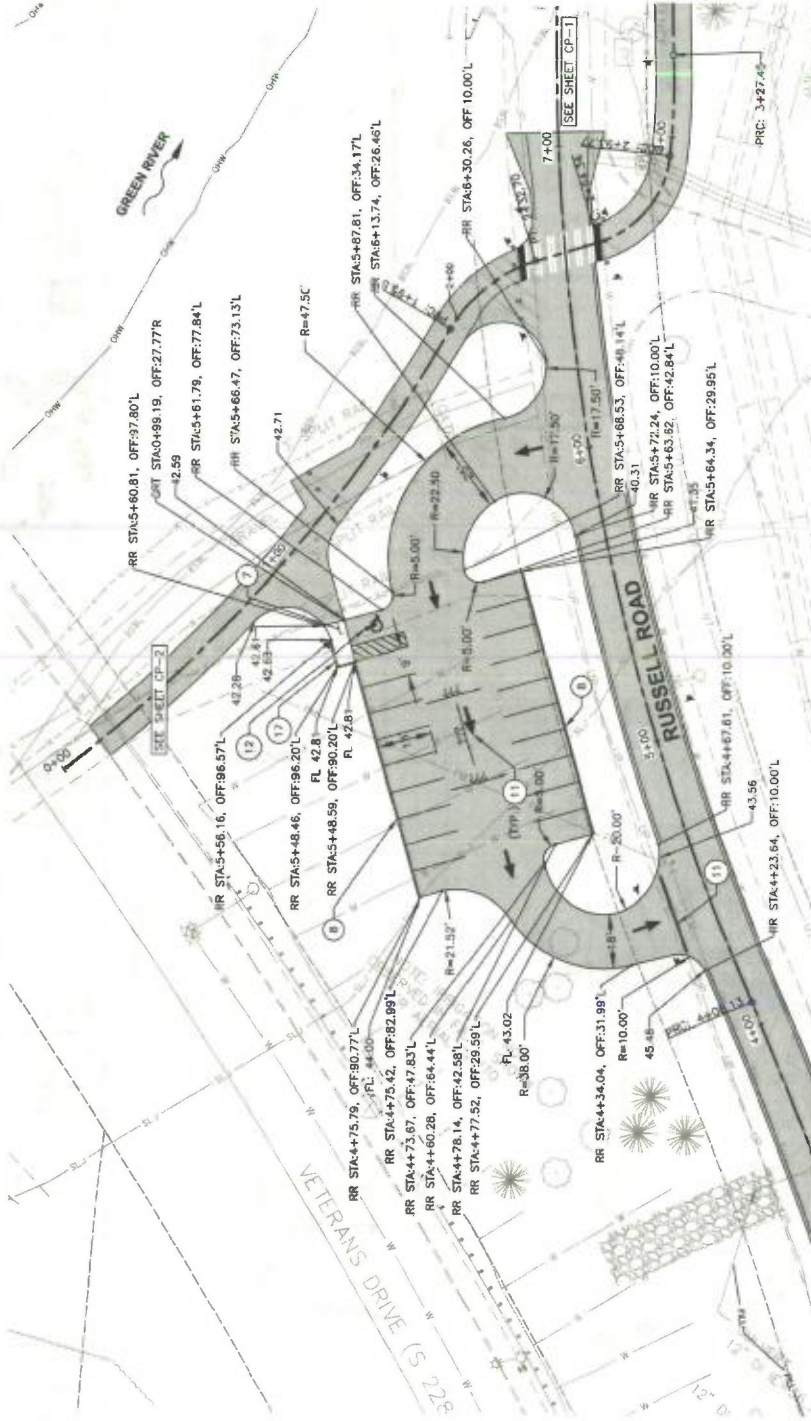
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS ARE TO THE CENTERLINE OF THE ROADWAY
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
5. ALL POINTS ARE LOCATED AT CURB FLOW LINE UNLESS OTHERWISE NOTED.
6. SEE SHEET CP-23 FOR SIGN SCHEDULE
7. PARKING STALL STRIPING TO BE 4' WIDE WHITE PAINT SOLID LINE.

**LEGEND:**

- ASPHALT PAVEMENT
- CEMENT CON. SIDEWALK

**CONSTRUCTION NOTES:**

7. CEMENT CONC. SIDEWALK, CITY OF KENT STD. PLAN 6-35
8. COMBINED CURB AND GUTTER, CITY OF KENT STD. PLAN 6-33
11. CHANNELIZATION, CITY OF KENT STD. PLAN 6-76M (MODIFIED)
12. ADA PARKING SIGN, SYMBOL, AND WHEEL STOP PER WSDOT SIGN FABRICATION MANUAL R7-801 AND WSDOT STD. PLAN W-17.10-02
17. CONCRETE EXTRUDED CURB, CITY OF KENT STD. PLAN 6-33



CALL 2 WORKING DAYS  
BEFORE YOU DIG

Know what's below.  
1-800-424-5555  
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

LOWER RUSSELL LEVEE SETBACK PROJECT  
RUSSELL PHASE 2  
RUSSELL WOODS TRAILHEAD  
PARKING LOT DETAIL

SHEET  
CP-13

**King County**  
Department of Natural Resources and Parks  
River and Floodplain Management Section  
Christie Trice, Director



HDR Engineering Inc.



PROJECT No. 1112056  
CONTRACT No. C01415220

DATE	BY	DATE	BY
11/27/19	J. FRYE	11/27/19	J. FRYE
11/27/19	K. McDONALD	11/27/19	K. McDONALD
11/27/19	B. MAGEE	11/27/19	B. MAGEE
11/27/19	S. JOHNSON	11/27/19	S. JOHNSON
11/27/19	S. JOHNSON	11/27/19	S. JOHNSON

**NOTES:**

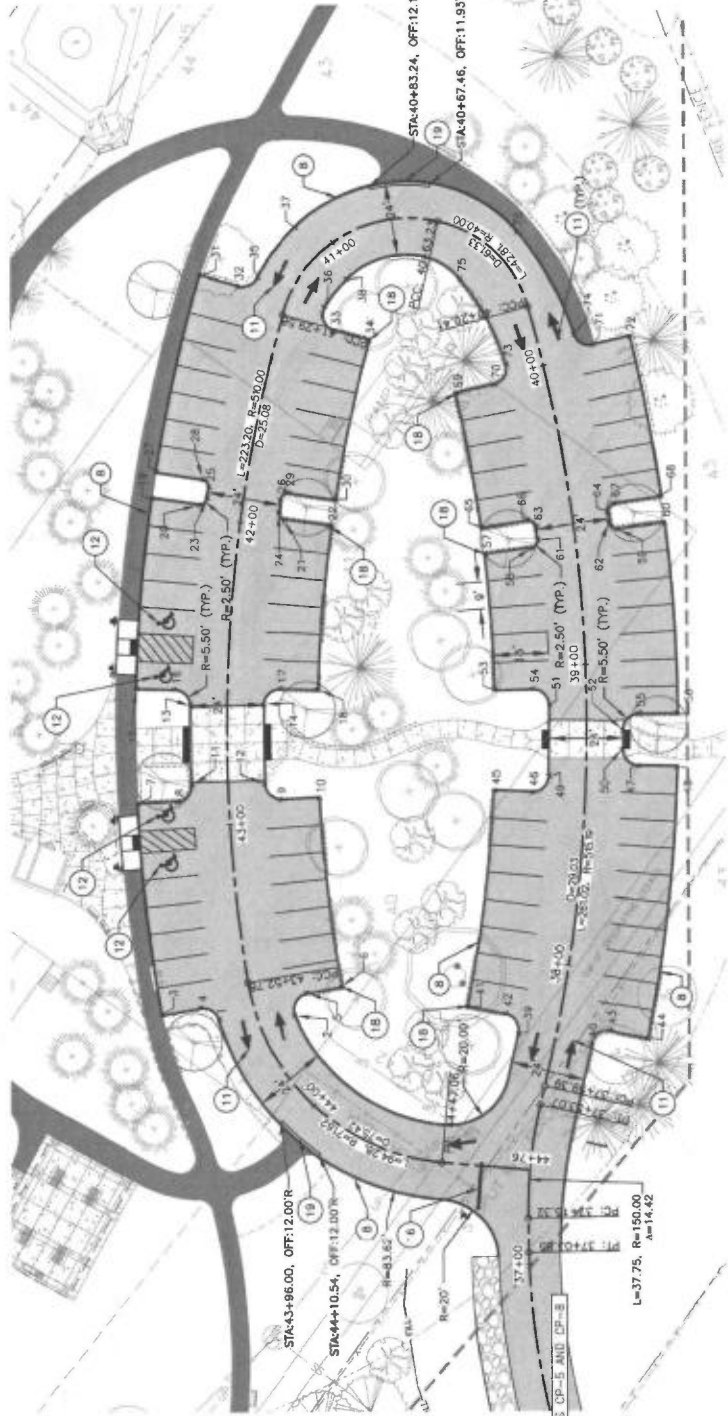
- UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
- UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CENTERLINE OF THE ROADWAY
- FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
- SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR INFORMATION ON MATERIAL DEPTHS
- ALL PAVEMENT ARE LOCATED AT FLOODELINE OF CURB UNLESS OTHERWISE NOTED
- PARKING STRIPING TO BE 4" WIDE WHITE PAINT SOLID LINE
- FOR SURROUNDING PARK DETAILS, SEE UP SHEET CP-23 FOR SIGN SCHEDULE
- SEE SHEET CP-24 FOR RAISED CROSSING DETAIL

**LEGEND:**

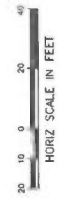
- ASPHALT PAVEMENT
- CONCRETE SIDEWALK, 4" DEPTH

**CONSTRUCTION NOTES:**

- CEMENT CONC. SIDEWALK, CITY OF KENT STD. PLAN 6-35
- COMBINED CURB AND GUTTER, CITY OF KENT STD. PLAN 6-33
- CHANNELIZATION, CITY OF KENT STD. PLAN 6-76M (MODIFIED)
- ADA PARKING SIGN AND SYMBOL, WSDOT SIGN FABRICATION MANUAL R7-801 AND WSDOT STD. PLAN M-24.60-04
- STOP BAR, CITY OF KENT STD. PLAN 6-76
- CURB CUT (SEE DETAIL ON SHEET CP-25)
- ROLLED CURB, CITY OF KENT STD. PLAN 6-33



SEE SHEETS CP-15 AND CP-16



Know what's below.  
Call before you dig.  
CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-8585  
(UNDERGROUND UTILITY LOCATING ARE APPROX.)

Point #	Elevation	STATION	OFFSET
66	41.83	38+49.88	14.55'L
67	42.40	38+51.63	14.43'R
68	42.59	38+51.63	30.00'R
69	41.47	38+57.51	30.00'L
70	41.66	38+57.51	17.33'L
71	42.21	40+02.66	17.46'R
72	42.39	40+02.66	30.00'R
73	41.78	40+03.43	11.81'L
74	42.17	40+07.63	12.00'R
75	42.02	40+44.96	14.17'L
76	42.85	40+41.13	9.58'R

Point #	Elevation	STATION	OFFSET
53	41.99	38+82.39	30.00'L
54	42.18	38+82.39	17.53'L
55	42.79	38+83.59	17.47'R
56	42.94	38+83.59	30.00'R
57	41.76	38+83.59	30.00'L
58	41.97	38+83.59	14.50'L
59	42.42	38+83.59	14.46'R
60	42.64	38+83.59	14.50'L
61	42.02	38+83.59	12.02'L
62	42.36	38+83.59	11.97'R
63	41.99	38+83.59	12.02'L
64	42.35	38+83.59	11.93'R
65	41.71	38+83.59	30.00'L

Point #	Elevation	STATION	OFFSET
40	43.19	37+76.23	12.00'R
41	42.54	37+80.48	30.07'L
42	42.74	37+80.48	17.57'L
43	43.30	37+81.53	17.41'R
44	43.52	37+81.53	30.00'R
45	42.18	38+56.93	30.00'L
46	42.32	38+56.93	17.53'L
47	42.84	38+56.93	17.47'R
48	43.02	38+56.93	30.00'R
49	42.42	38+56.93	12.00'L
50	42.72	38+56.93	12.00'L
51	42.31	38+56.93	12.00'L
52	42.69	38+56.93	12.00'R

Point #	Elevation	STATION	OFFSET
27	44.00	41+87.70	29.95'R
28	43.50	41+87.70	14.37'R
29	42.86	41+87.70	14.31'L
30	42.72	41+87.70	30.05'L
31	44.00	41+87.70	30.18'R
32	43.40	41+87.70	17.26'R
33	42.53	41+30.27	18.04'L
34	42.38	41+30.26	29.98'L
35	42.53	41+21.95	12.00'R
36	42.56	41+20.88	12.08'L
37	42.81	41+05.64	11.70'R
38	42.45	41+04.57	12.28'L
39	42.83	37+74.67	12.04'L

Point #	Elevation	STATION	OFFSET
14	43.52	42+60.18	12.14'L
15	44.00	42+55.72	28.86'R
16	43.91	42+55.71	17.33'R
17	43.48	42+54.60	17.67'L
18	43.14	42+54.58	30.14'L
19	44.00	41+96.21	29.94'R
20	43.53	41+96.19	14.40'R
21	43.01	41+97.22	14.56'L
22	42.82	41+97.20	30.06'L
23	43.41	41+93.76	11.90'R
24	43.06	41+94.65	12.06'L
25	43.37	41+90.13	11.88'R
26	43.02	41+90.26	12.01'L

Point #	Elevation	STATION	OFFSET
1	43.07	43+61.81	12.00'R
2	42.82	43+69.10	12.00'L
3	44.00	43+56.92	29.88'R
4	43.24	43+57.40	17.04'R
5	42.70	43+61.85	18.39'L
6	42.91	43+64.05	29.79'L
7	44.00	42+91.84	29.82'R
8	43.90	42+91.83	16.88'R
9	43.48	42+92.82	17.05'L
10	43.16	42+92.84	30.18'L
11	43.84	42+86.52	11.82'R
12	43.49	42+87.17	12.18'L
13	43.85	42+61.02	11.86'R

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

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
PHASE 2  
**VAN DOREN'S PARK**  
**PARKING LOT DETAIL**  
RUSSELL ROAD STA 36+50 TO 44+77

**811**

**CP-14**  
SHEET

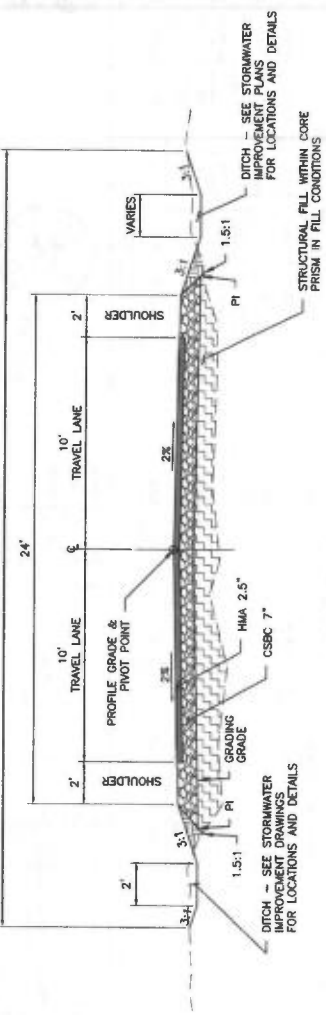
**FILED**  
PROJECT No. 1112056  
CONTRACT No. C01415220

**RECORD CHANGES APPROVED**  
BY: DATE

**CHECKED:** J. FITE  
**DESIGNED:** B. MCDONALD  
**DATE:** 11/27/19

**REVISION**  
BY: DATE

VARIES 32.0' - 50.0'

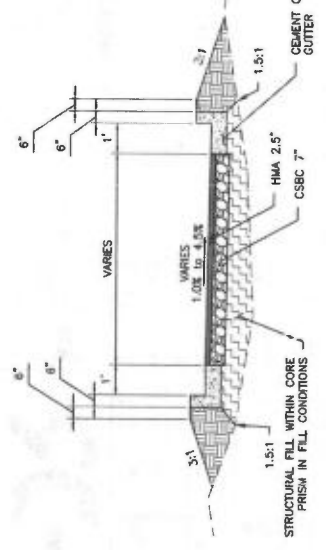
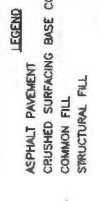


RUSSELL ROAD TYPICAL SECTION

N.T.S.  
RUSSELL ROAD STA 0+80 TO STA 7+05  
PSE CORRIDOR TRAIL STA 0+00 TO STA 6+80  
GREEN RIVER TRAIL STA 0+00 TO STA 0+59.23  
NURSERY ENTRANCE STA 0+10 TO STA 1+57.82

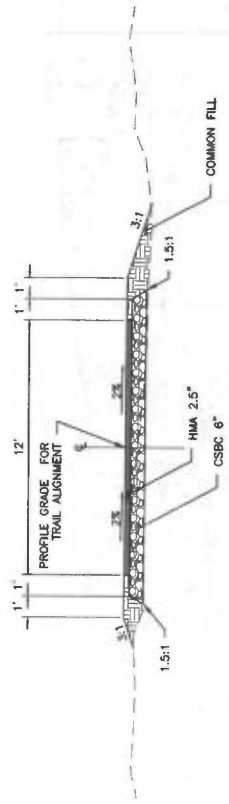
NOTES:

1. FOR LEVEE MAINTENANCE ROAD TYPICAL SECTIONS SEE SHEET CL-6.
2. 2 INCHES OF COMPOST TO BE TILLED INTO TOP OF COMMON FILL TO A DEPTH OF 10 INCHES.
3. STRUCTURAL FILL TO BE USED INSIDE ROADWAY CORE PRISM. COMMON FILL TO BE USED OUTSIDE OF CORE PRISM. PAVED TRAIL TO USE ONLY COMMON FILL.



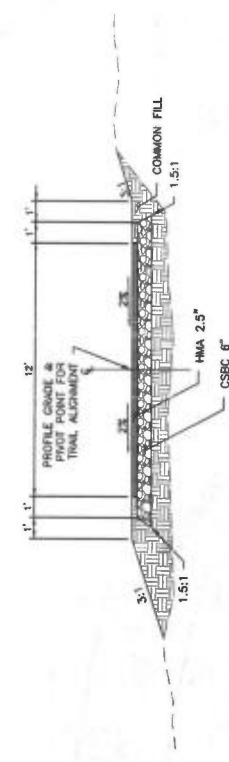
RUSSELL WOODS TRAILHEAD AND VAN DOREN'S PARK PARKING LOT

N.T.S.  
RUSSELL ROAD STA 4+26.50 TO STA 6+23.07  
RUSSELL ROAD STA 37+03.77 TO STA 44+77.03



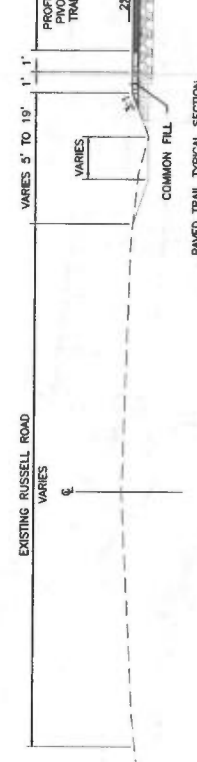
PAVED TRAIL TYPICAL SECTION

N.T.S.  
GREEN RIVER TRAIL STA 0+16 TO STA 2+32.50



PAVED TRAIL TYPICAL SECTION

N.T.S.  
GREEN RIVER TRAIL STA 32+20.37 TO STA 52+72.57



PAVED TRAIL TYPICAL SECTION

N.T.S.  
GREEN RIVER TRAIL STA 2+54.34 TO STA 20+79.60



PAVED TRAIL TYPICAL SECTION

N.T.S.  
GREEN RIVER TRAIL STA 32+20.37 TO STA 52+72.57



CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-484-3655  
Know what's below.  
Call before you dig.

SHAWY JOB NO./SUBJECT:		DATE:	
CHECKED:	J. FIVE	DATE:	
DESIGNED:	K. McDONALD	DATE:	
CHECKED:	B. WAGE	DATE:	
SUPERVISOR:	S. JOHNSON	DATE:	

PROJECT No.	11120556
CONTRACT No.	C01415C2D



King County  
Department of Natural Resources and Parks  
Parks and Recreation Division  
Parks and Recreation Management Section  
Christie Tran, Director

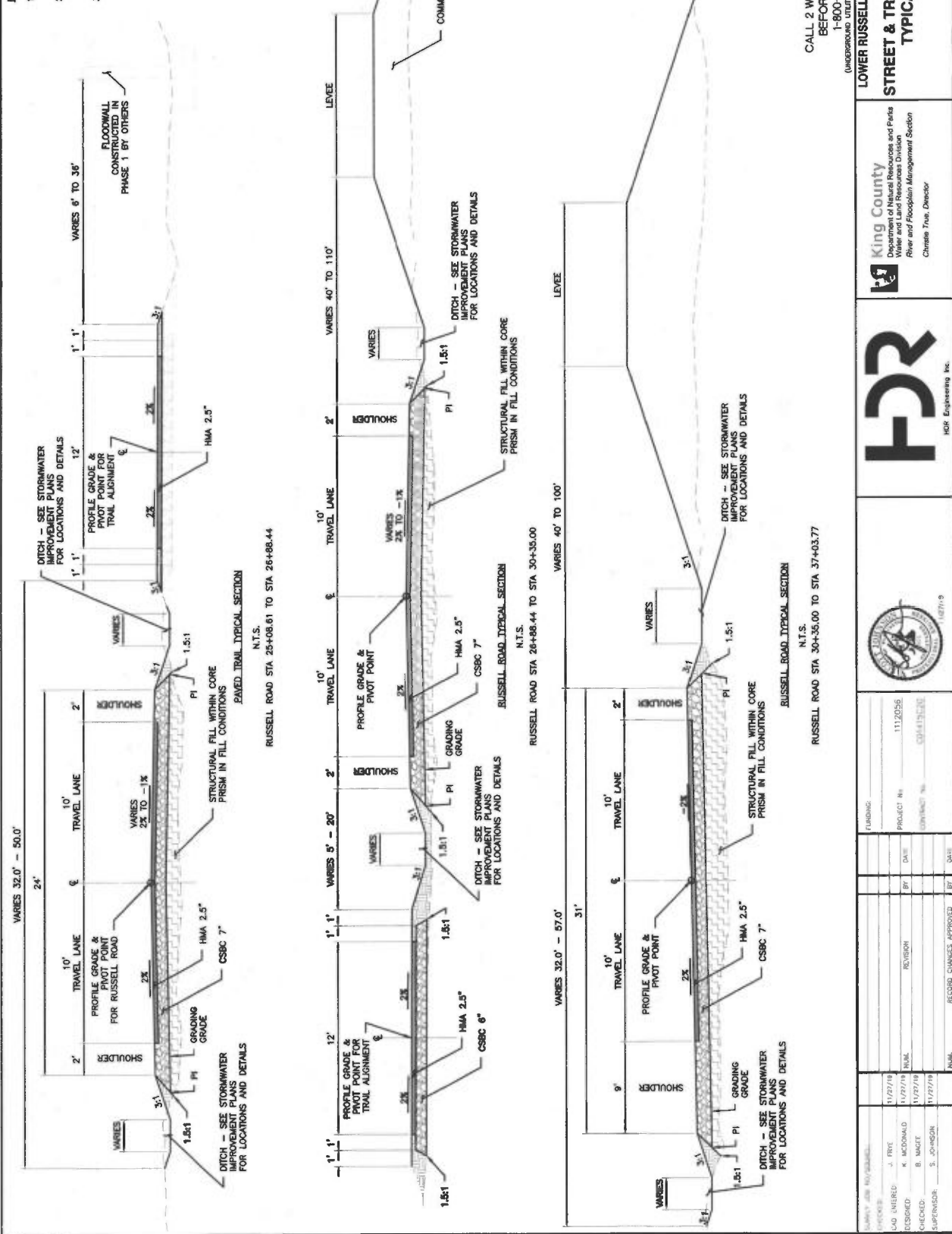


LOWER RUSSELL LEVEE SETBACK PROJECT  
STREET & TRAIL IMPROVEMENTS  
TYPICAL SECTIONS  
SHEET CP-15

NOTES:

1. FOR LEVEE MAINTENANCE ROAD TYPICAL SECTIONS SEE SHEET CL-8.
2. 2 INCHES OF COMPOST TO BE TILLED INTO TOP OF COMMON FILL TO A DEPTH OF 10 INCHES.
3. STRUCTURAL FILL TO BE USED INSIDE OF COMMON FILL PRISM. COMMON FILL TO BE USED OUTSIDE OF CORE PRISM. PAVED TRAIL TO USE ONLY COMMON FILL.

LEGEND  
 ASPHALT PAVEMENT  
 CRUSHED SURFACING BASE COURSE  
 COMMON FILL  
 STRUCTURAL FILL



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

Know what's below.  
 Call before you dig.

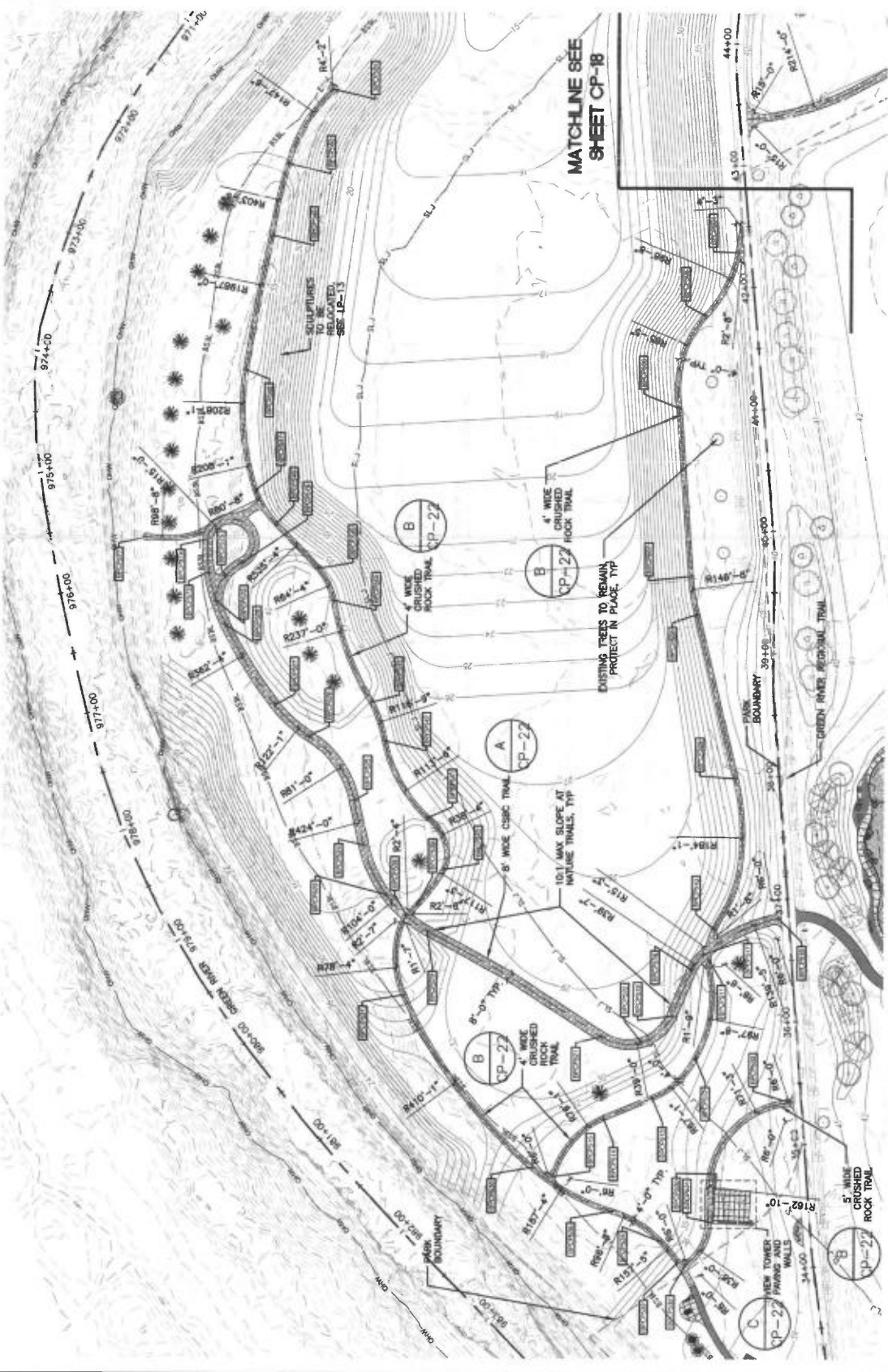
LOWER RUSSELL LEVEE SETBACK PROJECT  
 PHASE 2  
 STREET & TRAIL IMPROVEMENTS  
 TYPICAL SECTIONS

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



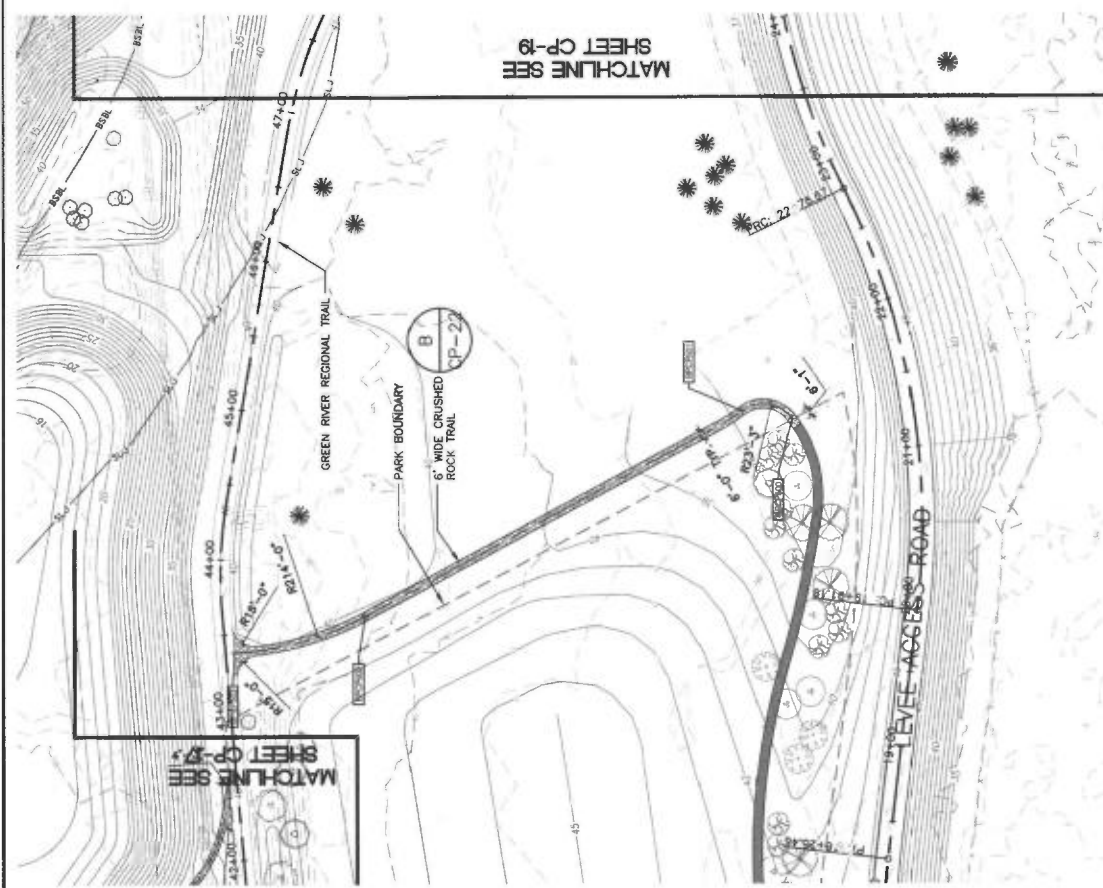
DATE	11/27/18	BY	DATE	11/27/18	BY
DESIGNED	J. FRYE	REVIEWED	DATE	11/27/18	BY
CHECKED	K. McDONALD	DATE	11/27/18	BY	DATE
SUPERVISOR	B. MACEY	DATE	11/27/18	BY	DATE
SECOND CHANGES APPROVED	DATE	BY	DATE	BY	DATE

NOTES:  
 1. ARC RADIUS PROVIDED BETWEEN  
 CURVES. STRAIGHT LINE BETWEEN CP'S. NO  
 ARC RADIUS IS PROVIDED.  
 2. REFER TO CP-21 FOR NON-PARK  
 TRAIL IMPROVEMENT SHEET CONTROL  
 POINT TABLE



SURVEY JOB NO./SHEET: CHECKED: 01/27/17 CAD DESIGNED: 01/27/17 DESIGNED: 01/27/17 CHECKED: 01/27/17 SUPERVISOR: 01/27/17		FLUOR: 1112056 PROJECT No: 1112056 CONTRACT No: C01415220		11/27/19		PARTNERSHIP <b>berger</b>		King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 NON-PARK TRAIL IMPROVEMENTS - PLAN A SHEET CP-17	
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- NOTES:
1. ARC RADIUS PROVIDED BETWEEN CURVES SHALL BE SHOWN WITH STRAIGHT LINE BETWEEN CP'S. NO ARC RADIUS IS PROVIDED.
  2. REFER TO CP-21 FOR NON-PARK TRAIL IMPROVEMENT SHEET CONTROL POINT TABLE.



LOWER RUSSELL LEVEE SETBACK PROJECT  
 PHASE 2  
**NON-PARK TRAIL  
 IMPROVEMENTS - PLAN B**

SHEET  
**CP-18**

**King County**  
 Department of Natural Resources and Parks  
 Water and Land Resources Division  
 River and Floodplain Management Section  
 Christine Truitt, Director

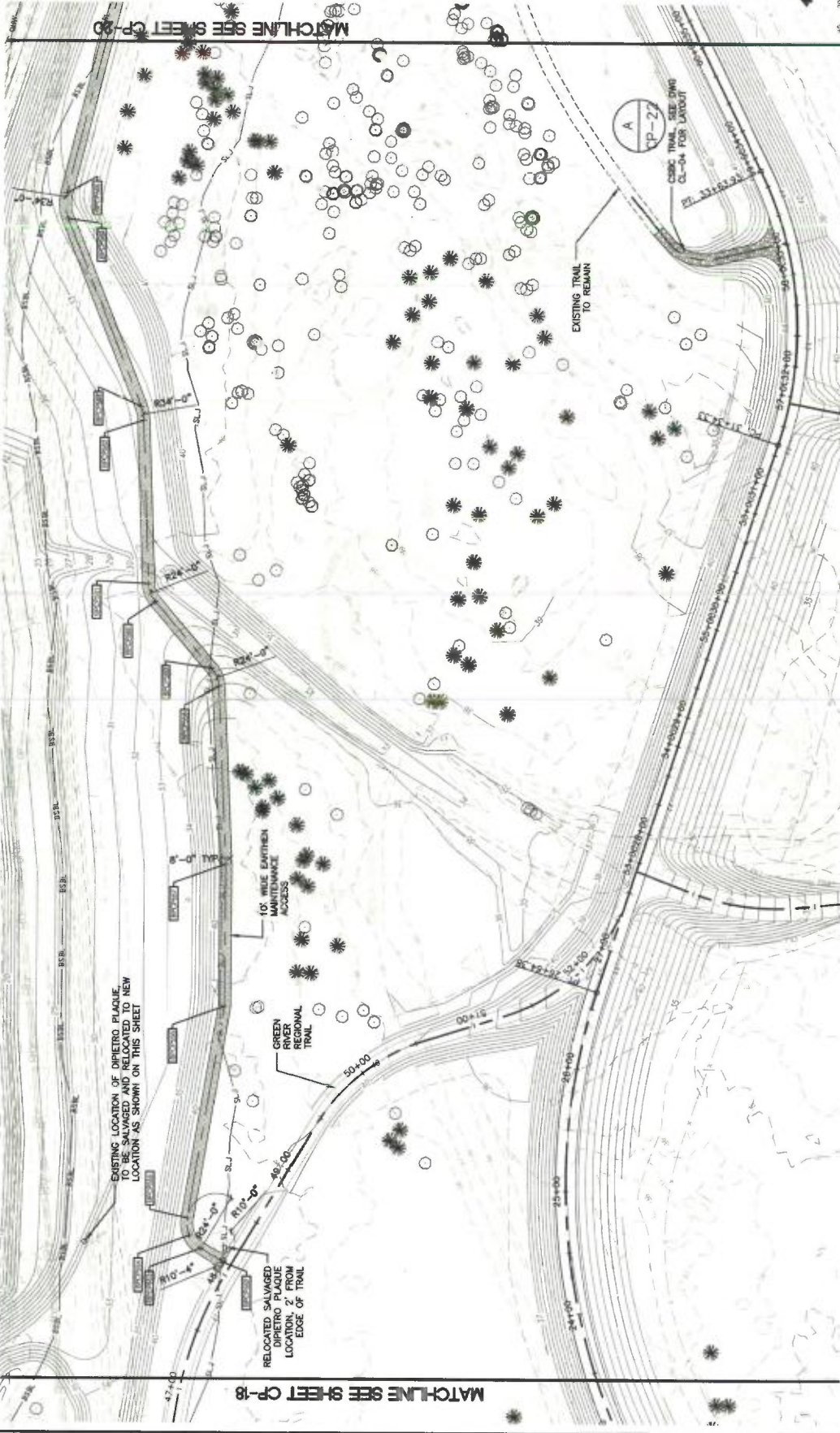


PROJECT No. 1112056  
 CONTRACT No. C01415C20

SUPPLY JOB NO./SUBJECT	DATE	BY	DATE	BY	DATE
CHECKED:	12/12/19	11/27/19			
CAD ENTERED:	12/08/19	11/27/19			
DESIGNED:	12/08/19	11/27/19			
CHECKED:	12/08/19	11/27/19			
SUPERVISOR:	12/08/19	11/27/19			
RECORD CHANGES APPROVED					

11/27/19

- NOTES:
1. ARC RADIUS PROVIDED BETWEEN CONTROL POINTS (CP). WHEN THE ARC RADIUS IS NO PROVIDED, REFER TO CP-21 FOR IMPROVEMENT SHEET CONTROL POINT TABLE.
  2. REFER TO CP-21 FOR IMPROVEMENT SHEET CONTROL POINT TABLE.



SURVEY JOB NO./SOURCE: _____ CHECKED: _____ CAD DTD/ED: _____ DESIGNED: _____ CHECKED: _____ SUPERVISOR: _____		FINISHING: _____ PROJECT NO: 1112056 CONTRACT NO: C0115220		11/27/19		 <b>berger</b> PARTNERSHIP		 <b>King County</b> Department of Natural Resources and Parks Watershed and River Management Division River and Floodplain Management Section Christine Tran, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>NON-PARK TRAIL          IMPROVEMENTS - PLAN C</b>		SHEET <b>CP-19</b>	
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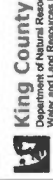
[illegible]

HORIZ SCALE: 1"=40'

FUNDING: \_\_\_\_\_  
PROJECT No. 1112056  
CONTRACT No. C01415C20



**berger**  
PARTNERSHIP



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

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
NON-PARK TRAIL  
IMPROVEMENTS - PLAN D**

**SHEET**  
**CP-20**

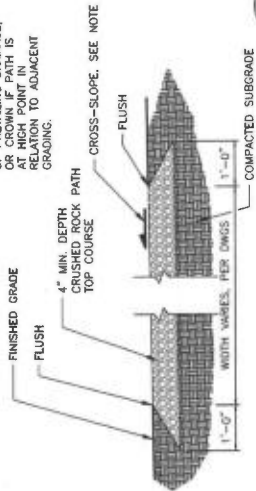
NON-PARK TRAIL IMPROVEMENTS CONTROL POINT TABLE			
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BPCP501	E: 1284783.98	N: 151339.6995	
BPCP502	E: 1284503.78	N: 151386.8613	
BPCP503	E: 1284420.57	N: 151421.8488	
BPCP504	E: 1284347.93	N: 151340.2706	
BPCP505	E: 1284295.12	N: 151316.1346	
BPCP506	E: 1284232.02	N: 151269.2313	
BPCP507	E: 1284155.69	N: 151154.8779	
BPCP508	E: 1284140.40	N: 151127.4117	
BPCP509	E: 1284082.92	N: 151002.4107	
BPCP510	E: 1283993.93	N: 150916.0909	
BPCP511	E: 1283975.31	N: 150896.5842	
BPCP512	E: 1283917.75	N: 150843.1248	
BPCP513	E: 1283870.12	N: 150838.9324	
BPCP514	E: 1283828.25	N: 150850.8129	
BPCP515	E: 1283766.72	N: 150838.4310	
BPCP516	E: 1284041.27	N: 150890.5048	
BPCP517	E: 1283974.53	N: 150905.2598	
BPCP518	E: 1283959.17	N: 150901.2904	
BPCP519	E: 1283923.55	N: 150881.9344	
BPCP520	E: 1283890.80	N: 150879.8520	
BPCP521	E: 1283868.05	N: 150903.5089	
BPCP522	E: 1283808.20	N: 151059.6514	
BPCP523	E: 1283799.37	N: 151102.9621	
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BPCP525	E: 1283826.07	N: 151179.7009	
BPCP526	E: 1283829.04	N: 151243.7111	
BPCP527	E: 1283822.77	N: 151281.0179	
BPCP528	E: 1283830.77	N: 151357.1204	
BPCP529	E: 1283957.37	N: 150766.0950	
BPCP530	E: 1283869.91	N: 150760.8438	
BPCP531	E: 1283844.24	N: 150731.4946	
BPCP532	E: 1283808.75	N: 150715.4950	
BPCP533	E: 1283804.44	N: 150720.6938	
BPCP534	E: 1283804.16	N: 150742.1371	
BPCP535	E: 1283787.13	N: 150786.8443	
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BPCP537	E: 1283760.69	N: 151030.2324
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BPCP540	E: 1283849.30	N: 151090.0077
BPCP541	E: 1283864.30	N: 151131.3486
BPCP542	E: 1283975.43	N: 151202.7556
BPCP543	E: 1283986.34	N: 151233.9095
BPCP544	E: 1283912.95	N: 151318.7528
BPCP545	E: 1283918.95	N: 151347.0634
BPCP546	E: 1283913.85	N: 151396.6211
BPCP547	E: 1283917.24	N: 151428.7408
BPCP548	E: 1283971.75	N: 151511.4129
BPCP549	E: 1284055.99	N: 151565.2183
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BPCP551	E: 1284168.62	N: 151648.9491
BPCP552	E: 1284763.16	N: 151739.0421
BPCP553	E: 1284755.46	N: 151759.4836
BPCP554	E: 1284754.59	N: 151773.6002
BPCP555	E: 1284761.82	N: 151785.7472
BPCP556	E: 1284991.34	N: 151902.9183
BPCP557	E: 1284962.83	N: 151993.5043
BPCP558	E: 1285047.03	N: 152111.4727
BPCP559	E: 1285051.52	N: 152126.6040
BPCP560	E: 1285048.17	N: 152197.9425
BPCP561	E: 1285052.70	N: 152212.9252
BPCP562	E: 1285131.20	N: 152320.9148
BPCP563	E: 1285136.28	N: 152331.1448
BPCP564	E: 1285183.57	N: 152488.4944
BPCP565	E: 1285195.30	N: 152505.5009
BPCP566	E: 1285543.72	N: 152775.6453
BPCP567	E: 1285569.00	N: 152778.2195
BPCP568	E: 1285601.06	N: 152762.4785
BPCP569	E: 1285614.87	N: 152760.2394
BPCP570	E: 1285700.69	N: 152771.8780
BPCP571	E: 1285717.64	N: 152770.7143
BPCP572	E: 1283836.90	N: 151377.4294
BPCP573	E: 1283846.82	N: 151399.2597
BPCP574	E: 1283862.37	N: 151421.2345
BPCP575	E: 1283855.28	N: 151388.3728
BPCP576	E: 1283872.15	N: 151388.9495
BPCP577	E: 1283823.80	N: 151453.4200

NON-PARK TRAIL IMPROVEMENTS CONTROL POINT TABLE  
NTS

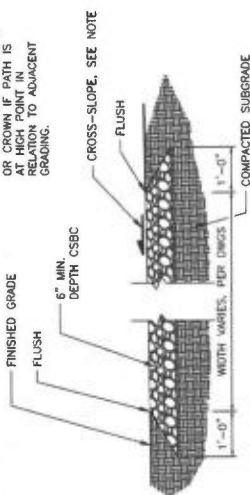
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NOTE:  
1. PROVIDE CROSS SLOPE  
1.5% DOWN IN DIRECTION  
OF PREVAILING DRAINAGE.  
OR CROWN IF PATH IS  
AT HIGH POINT IN  
RELATION TO ADJACENT  
GRADING.

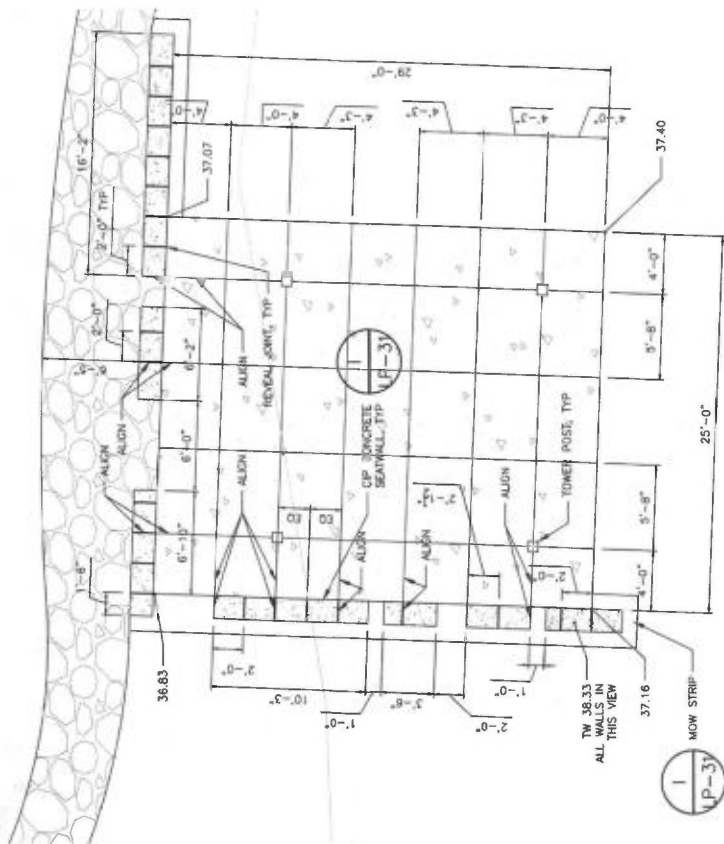


**CRUSHED ROCK TRAIL**  
SCALE: 3/4"=1'-0"

NOTE:  
1. PROVIDE CROSS SLOPE  
1.5% DOWN IN DIRECTION  
OF PREVAILING DRAINAGE.  
OR CROWN IF PATH IS  
AT HIGH POINT IN  
RELATION TO ADJACENT  
GRADING.



**CSBC TRAIL**  
SCALE: 3/4"=1'-0"



**VIEW TOWER PAVING AND WALLS**  
SCALE: 1/8"=1'-0"

SURVEY JOB NO./SOURCE:	
DRAWN BY:	2/2/13
CAD ENTITLED:	4/2/13
DESIGNED:	11/27/13
CHECKED:	08/11/27/13
SUPERVISOR:	08/11/27/13

DATE	BY	REVISION
11/27/13		
08/11/27/13		
08/11/27/13		

FLORIDA	PROJECT No.	1112056
	CONTRACT No.	C01415C20



11/27/13



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

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
**LANDSCAPE DETAILS**  
**NON-PARK**

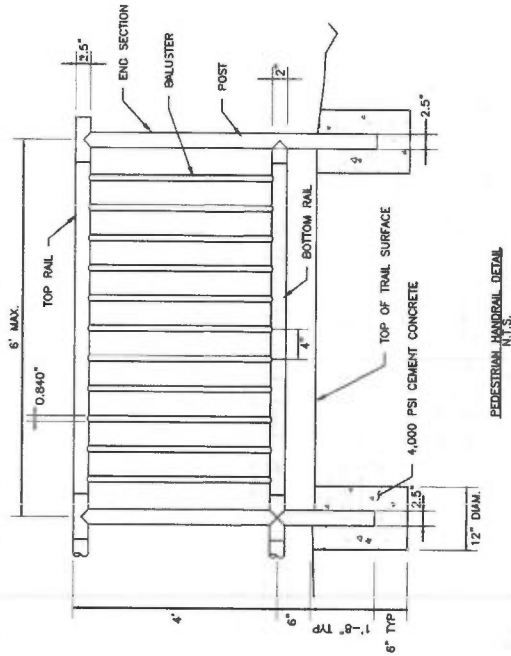
SHEET  
**CP-22**

**SIGN SCHEDULE:**

SIGN NO.	DESCRIPTION	SIGN CODE	LOCATION	SIGN SIZE ft x ft	REMARKS
P1	CHURN	W1-8	RUSSELL ROAD CL. 0.877.00 28.2' R	18' x 24'	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P2	CHURN	W1-8	RUSSELL ROAD CL. 1.077.00 21.2' R	18' x 24'	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P3	CHURN	W1-8	RUSSELL ROAD CL. 1.131.00 19.0' R	18' x 24'	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P4	CHURN	W1-8	RUSSELL ROAD CL. 1.144.00 18.3' R	18' x 24'	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P5	SPEED LIMIT 25 MPH	W1-8	RUSSELL ROAD CL. 2.438.00 11.0' L	36' x 36'	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P6	RIGHT TURN AHEAD	W1-8	RUSSELL ROAD CL. 2.438.00 11.0' L	36' x 36'	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P7	STOP	W1-1	RUSSELL ROAD CL. 4.439.00 12.6' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P8	DO NOT ENTER	W1-1	RUSSELL ROAD CL. 4.439.00 12.6' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P9	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 5.10.00 14.5' R	30' x 30'	LOCATED BELOW P14
P10	RESERVED PARKING	W1-15	RUSSELL ROAD CL. 5.10.00 14.5' R	30' x 30'	LOCATED BELOW P14
P11	STOP AHEAD	W1-1	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P12	STOP	W1-1	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P13	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P14	DOWNWARD DIAGONAL ARROW	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P15	DOWNWARD DIAGONAL ARROW	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P16	STOP AHEAD	W1-1	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P17	STOP	W1-1	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P18	CITY OF KENT PROPERTY NO TRESPASSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P19	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P20	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P21	STOP AHEAD	W1-1	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P22	STOP	W1-1	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	REINSTALL SALVAGED STOP SIGN
P23	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P24	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P25	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P26	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P27	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P28	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P29	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P30	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P31	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P32	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P33	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P34	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P35	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P36	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P37	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P38	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P39	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14
P40	TRAIL CROSSING	W1-15	RUSSELL ROAD CL. 6.442.00 14.3' L	30' x 30'	LOCATED BELOW P14

**SIGN CONSTRUCTION NOTES:**

- EXISTING SIGNS OUTSIDE OF THE PROJECT CONSTRUCTION LIMITS ARE TO BE PROTECTED IN PLACE.
- REFER TO CP SHEETS FOR PROPOSED SIGN LOCATIONS AND ADDITIONAL INFORMATION.
- SEE REMOVAL SHEETS FOR EXISTING SIGNAGE TO REMAIN IN PLACE WITHIN THE PROJECT LIMITS.
- SEE CITY OF KENT STD PLAN 6-82 FOR SIGN INSTALLATION DETAILS.
- ALL SIGNS TO HAVE 7' CLEARANCE BETWEEN FINISHED GRADE AND BOTTOM OF SIGN.



**HANDRAIL NOTES:**

- RAILING SHALL BE CV PIPE RAIL, GALVANIZED STEEL OR APPROVED EQUIVALENT. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.
- SHOP DRAWINGS OF RAILINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS. FABRICATOR SHALL SUBMIT AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE SPECIFIED IN THE SHOP DRAWINGS.
- ALL GALVANIZED STEEL PARTS SHALL BE GIVEN A CLEAR ANODIC COATING AT LEAST 0.0005 INCH THICK AND BE HOT WATER SEALED AND SHALL HAVE A UNIFORM FINISH.
- PIPE RAILING AND PIPE RAILING SPICES MAY BE HEATED TO NOT MORE THAN 400°F FOR A PERIOD NOT TO EXCEED 30 MINUTES TO FACILITATE FORMING OR BENDING.
- CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
- PIPE RAILING, PIPE BALUSTERS AND PIPE RAILING SPICES SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANDLING AND TRANSPORTATION TO THE JOB SITE.
- WELDING OF GALVANIZED STEEL SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 6-03.3(25).
- ALLOW FOR EXPANSION AT APPROXIMATELY EVERY FOURTH POST.
- RAILS, POSTS, AND FORMED ELBOWS SHALL BE ASTM A53, BRACKETS, END CAPS AND OTHER FITTINGS SHALL BE ASTM A865. SPICES AND REPAIRS SHALL BE GALVANIZED PER ASTM A700. SLEEVE I.D. SHALL BE GREATER THAN POSTS O.D.



**CALL 2 WORKING DAYS BEFORE YOU DIG**  
**1-800-424-5555**  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)  
 Know what's below.  
 Call before you dig.



**PERMITS:**  
 PROJECT No. 1117055  
 DATE 11/27/19  
 CONTRACT No. C01415C20

SURVEY AND NO./SCALE	CHECKED	DATE	BY	RECORD CHANGES	APPROVED	BY	DATE
11/27/19	J. FITE	11/27/19	NAL				
11/27/19	K. MC DONALD	11/27/19	NAL				
11/27/19	B. WATZ	11/27/19	NAL				
11/27/19	S. JOHNSON	11/27/19	NAL				

**King County**  
 Department of Public Works  
 River and Floodplain Management Section  
 Christa Tine, Director

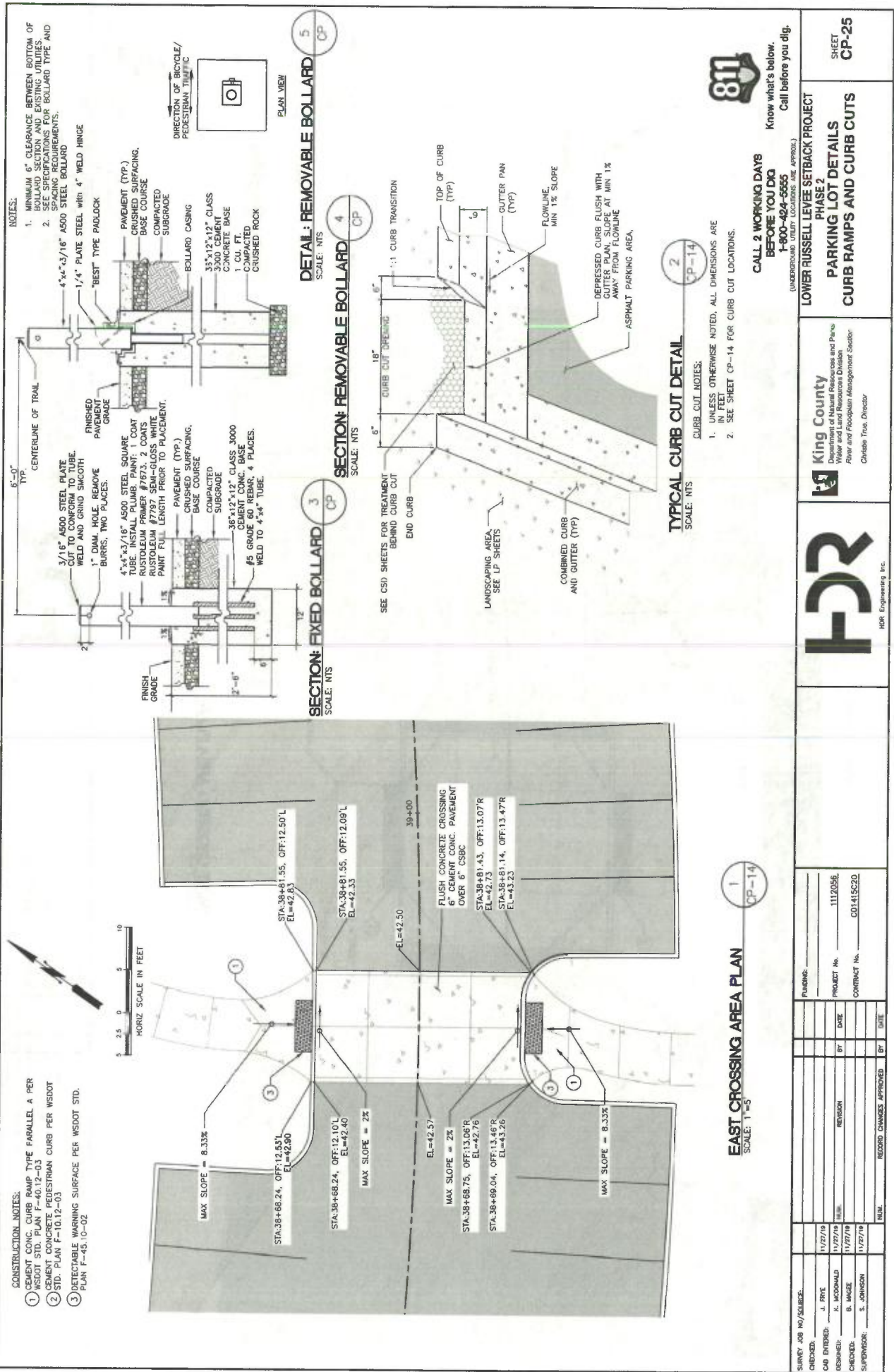


HOR Engineering, Inc.

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**SIGN SCHEDULE**  
**AND HANDRAIL DETAIL**

SHEET  
**CP-23**





- CONSTRUCTION NOTES:
- 1. CONC. CURB RAMP TYPE PARALLEL A PER SECTION 101-10.2
  - 2. CEMENT CONCRETE PRESTRESS CURB PER WSDOT STD. PLAN F-1012-03
  - 3. DETECTABLE WARNING SURFACE PER WSDOT STD. PLAN F-4510-02

EAST CROSSING AREA PLAN  
SCALE: 1"=5'

SURVEY JOB NO./SOURCE:		DATE:	
CHECKED:	J. RYAN	11/27/19	
CAD ENTERED:	K. MCDONALD	11/27/19	
DRAWN:	B. JACOB	11/27/19	
CHECKED:	S. JOHNSON	11/27/19	
SUPERVISOR:			
DATE:			
REVISION			
BY			
DATE			
PROJECT No.	1117056		
CONTRACT No.	001415C20		
FILE NO.			
RECORD CHANGES APPROVED			
BY			
DATE			

**King County**  
Department of Natural Resources and Parks  
Office of Natural Resources  
River and Floodplain Management Section  
Christie Triss, Director



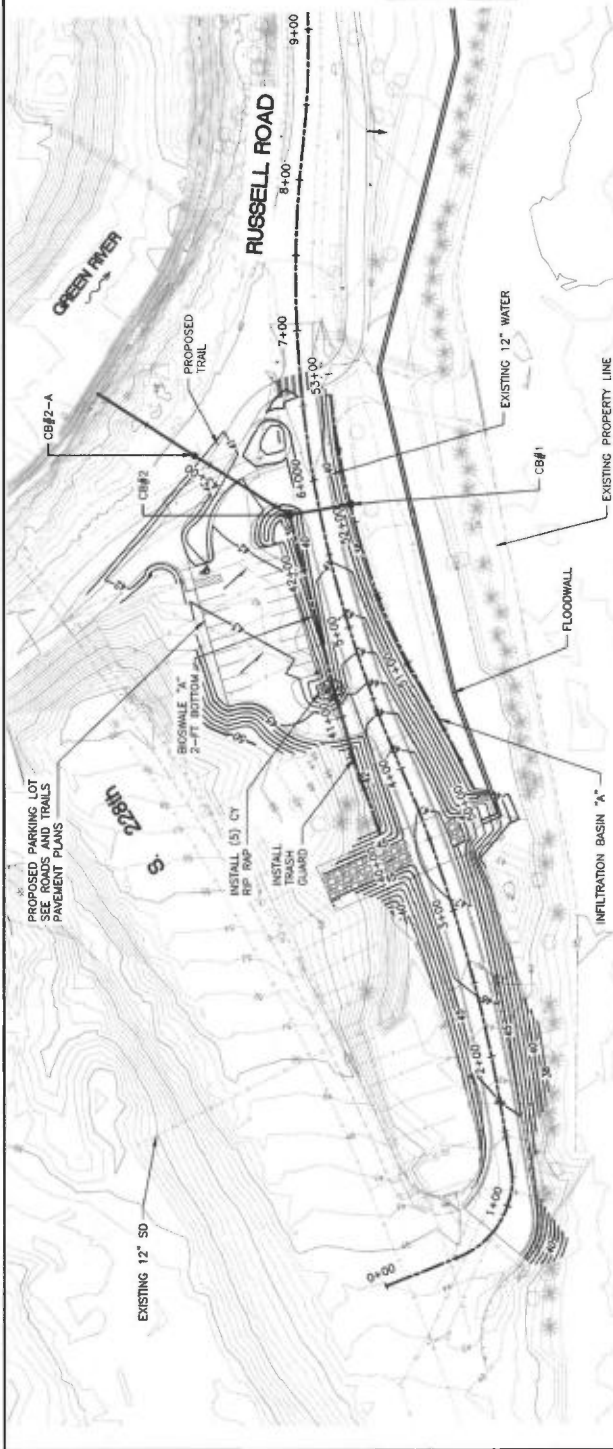
**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PARKING LOT DETAILS**  
**CURB RAMPS AND CURB CUTS**

SHEET  
CP-25



CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-494-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)  
Know what's below.  
Call before you dig.

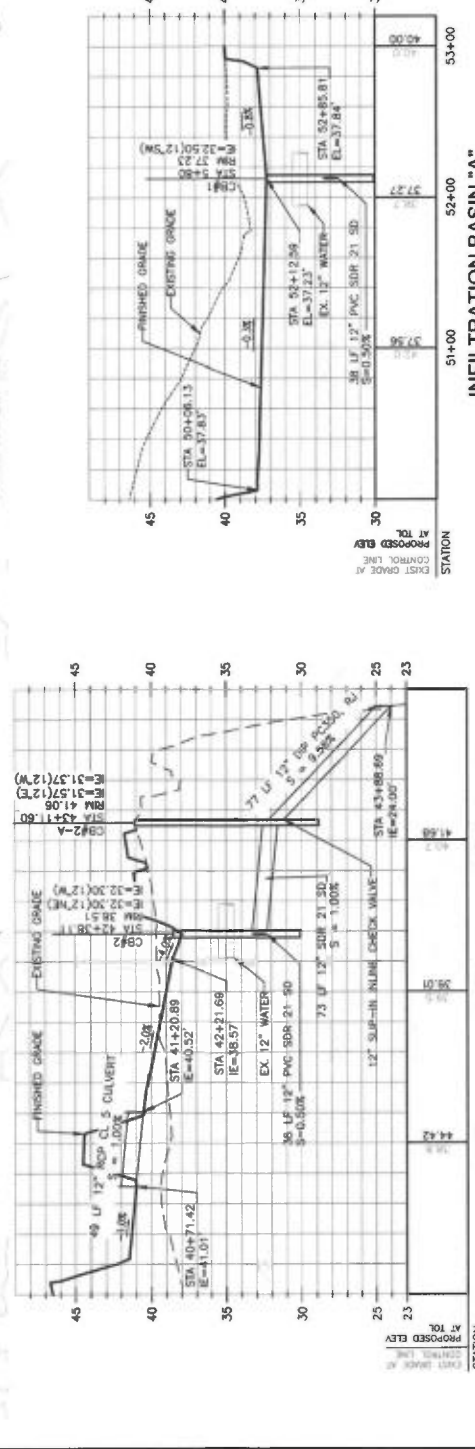
- CURB CUT NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
  2. SEE SHEET CP-14 FOR CURB CUT LOCATIONS.



**NOTES:**


1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
4. DO NOT CONSTRUCT INFILTRATION AREAS ADJACENT TO EXISTING INFILTRATION SYSTEMS UNTIL THE CONTRIBUTING DRAINAGE AREA AND/OR ADJACENT CONSTRUCTION HAS BEEN COMPLETELY STABILIZED. WHEN THIS TIMING OF CONSTRUCTION IS NOT POSSIBLE, ENSURE SEDIMENT FROM EXPOSED SOIL AREAS OF THE PROJECT DOES NOT ENTER INTO THE INFILTRATION AREA OR SYSTEM.

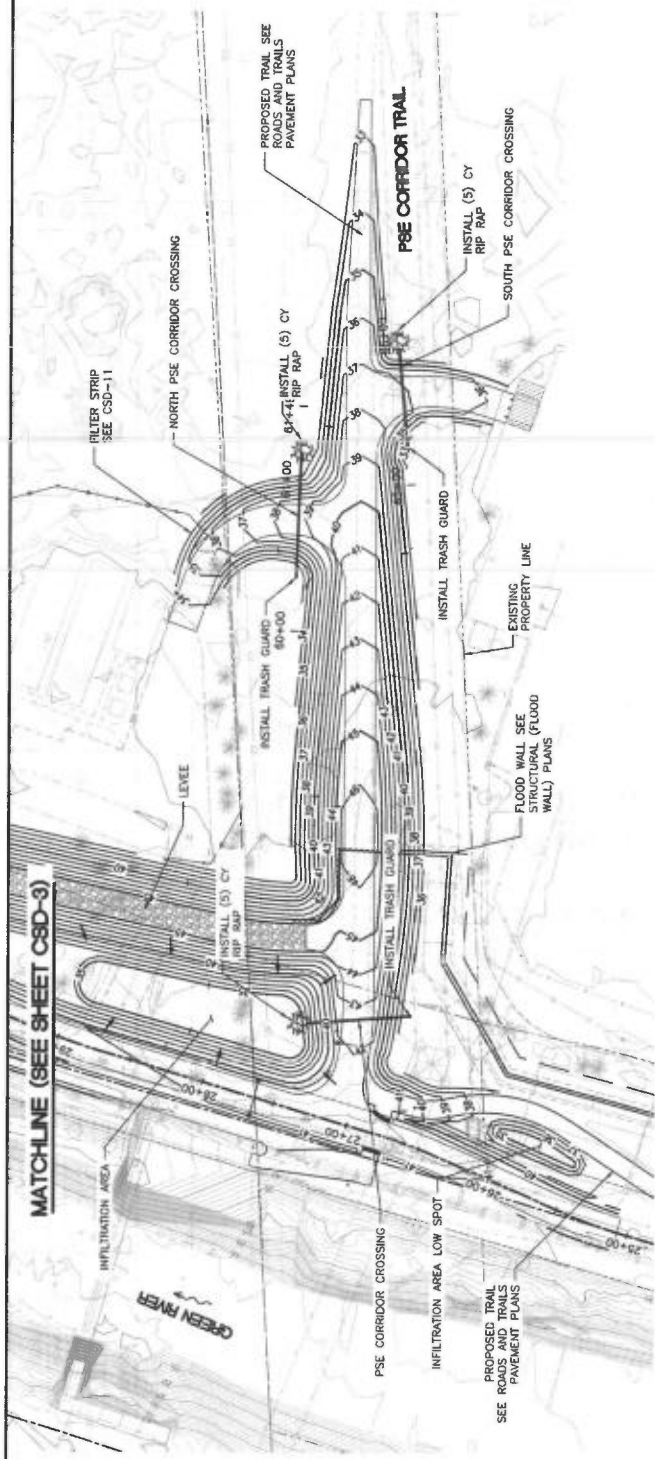
STORM DRAIN STRUCTURE SCHEDULE				
NAME	TYPE	NORTHING	EASTING	RIM ELEVATION
CB#1	TYPE 1	147881.55	1283974.80	37.23
CB#2	TYPE 2	147881.69	1283947.59	38.51
CB#2-A	TYPE 2	147845.16	1283874.39	41.06



SCALE IN FEET

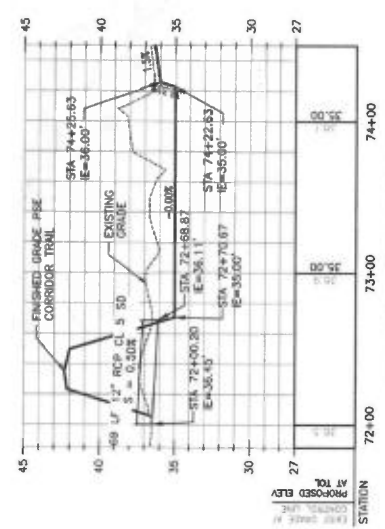
**CALL 2 WORKING DAYS BEFORE YOU DIG**  
**1-800-424-5555**  
 Know what's below. Call before you dig.  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

 <b>HCR</b> HCR Engineering Inc.		King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Tros, Director	SHEET <b>CSD-1</b>
PROJECT NO. 1112058 CONTRACT NO. C0115220		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>STORM DRAIN IMPROVEMENTS</b> PLAN AND PROFILE STA 0+00 TO 9+00	

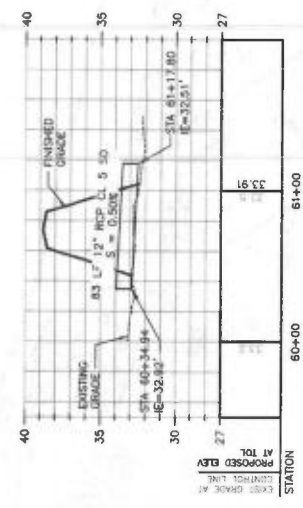


MATCHLINE (SEE SHEET CSD-3)

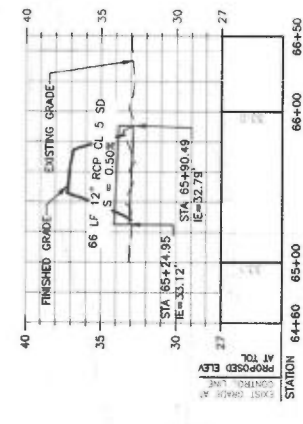
- NOTES:
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
  3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
  4. SEE LEVEE PLANS FOR LEVEE DESIGN.
  5. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION AREAS UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. WHEN THIS TIMING OF CONSTRUCTION IS NOT POSSIBLE, CONSTRUCT STABILIZATION SOIL BLENDED WITH THE INFILTRATION AREA OR SYSTEM.



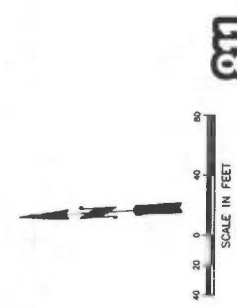
PSE CORRIDOR CROSSING



NORTH PSE CORRIDOR CROSSING



SOUTH PSE CORRIDOR CROSSING



CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-624-5555 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



Know what's below. Call before you dig.

SURVEY AND NO. 2019-01		DATE		BY	
CHECKED: C. FRENCH	9/27/18	PROJECT NO. 1112058	DATE		
DESIGNED: C. FRENCH	9/27/18	CONTRACT NO. C01415C20	DATE		
CHECKED: J. GRIFFIN	9/27/18	RECORD CHANGES APPROVED BY			
SUPERVISOR: T. JOHNSON	9/27/18	DATE			

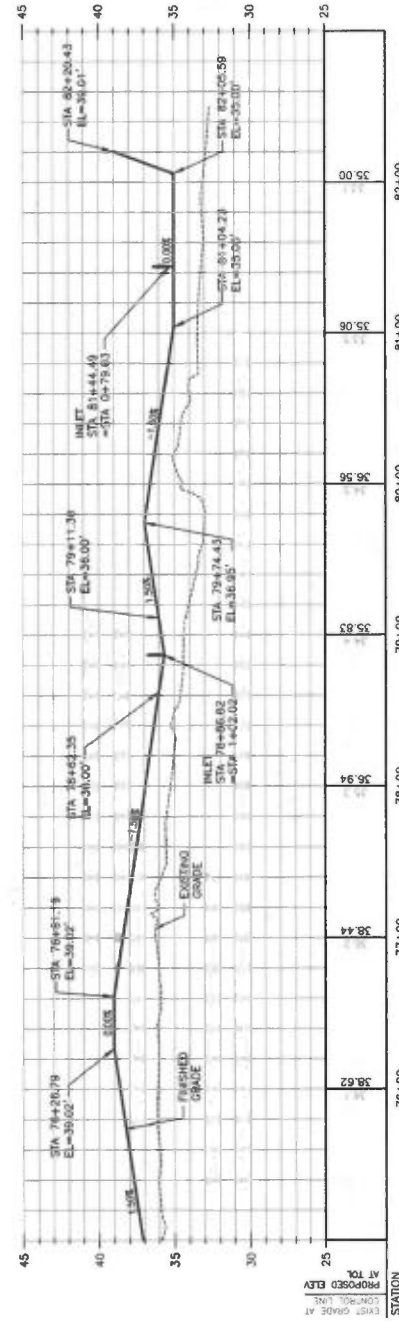
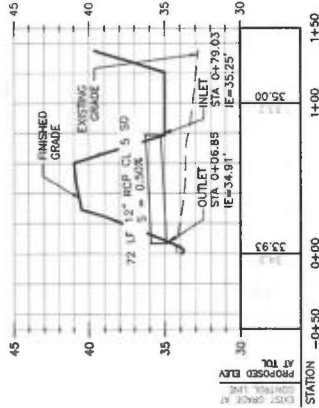
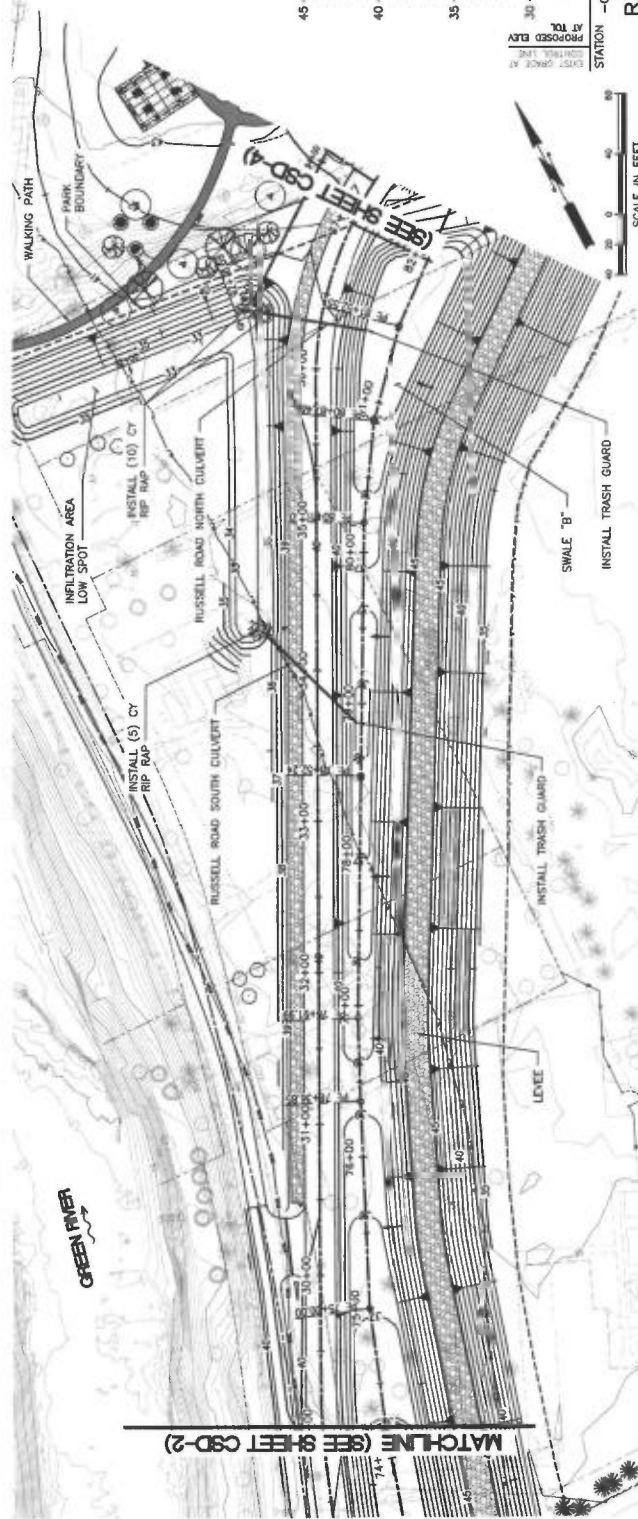
King County  
Department of Natural Resources and Parks  
Wildland and Forest Management Section  
Chetris Tries, Director

FOR Engineering, Inc.

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STORM DRAIN IMPROVEMENTS  
PLAN AND PROFILE  
STA 0+00 TO 29+00  
STA 25+00 TO 29+00  
STA 0+00 TO 7+50

SHEET  
CSD-2

- NOTES:**
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
  2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
  3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
  4. SEE STRUCTURAL LEVEE PLANS FOR LEVEE DESIGN.
  5. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION SYSTEMS UNTIL THE UNDERGROUND UTILITY LOCATIONS ARE APPROX.
- WHEN THIS TIMING OF CONSTRUCTION IS NOT POSSIBLE, ENSURE SEDIMENT FROM EXPOSED SOIL AREAS OF THE PROJECT DOES NOT ENTER INTO THE INFILTRATION AREA OR SYSTEM.



**RUSSELL ROAD SOUTH CULVERT**

**CALL 2 WORKING DAYS BEFORE YOU DIG**  
**1-800-424-5555**  
 Know what's below. Call before you dig.  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

 <b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Trae, Director		 <b>HDR</b> HDR Engineering Inc.		 PROJECT No. 1112056 CONTRACT No. C0145220	
SHEET <b>CSD-3</b>		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>STORM DRAIN IMPROVEMENTS          PLAN AND PROFILE</b> STA 29+00 TO 37+00			
SURVEY AND NO. / SUBMIT: C. FRENCH CHECKED: C. FRENCH DESIGNED: C. FRENCH DRAWN: J. GRIFFIN SUPERVISOR: T. JOHNSON		RECORD CHANGES APPROVED BY DATE		FINISHING: PROJECT No. 1112056 CONTRACT No. C0145220	

DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION SYSTEMS UNTIL THE CONTRIBUTING DRAINAGE AREA AND/OR ADJACENT CONSTRUCTION HAS BEEN COMPLETELY STABILIZED. WHEN THIS TIMING OF CONSTRUCTION IS NOT POSSIBLE, ENSURE SEDIMENT FROM EXPOSED SOIL AREAS OF THE PROJECT DOES NOT ENTER INTO THE INFILTRATION AREA OR SYSTEM.



STORM DRAIN STRUCTURE SCHEDULE					
NAME	TYPE	NORTHING	EASTING	RIM ELEVATION	CASTING
CB#3	TYPE 2	150599.96	1284164.71	41.00	BEEHIVE GRATE
CB#4	TYPE 1	150689.36	1284288.98	41.00	BEEHIVE GRATE



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

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

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STORM DRAIN IMPROVEMENTS  
PLAN AND PROFILE**

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



HDR Engineering Inc.



V

PROJECT No. 1112058  
CONTRACT No. C01415C20

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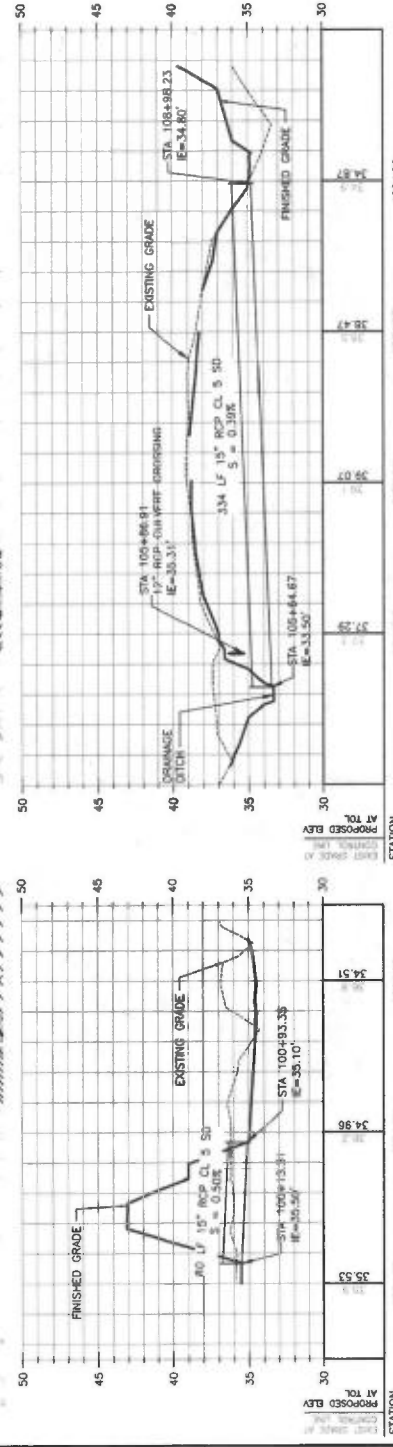
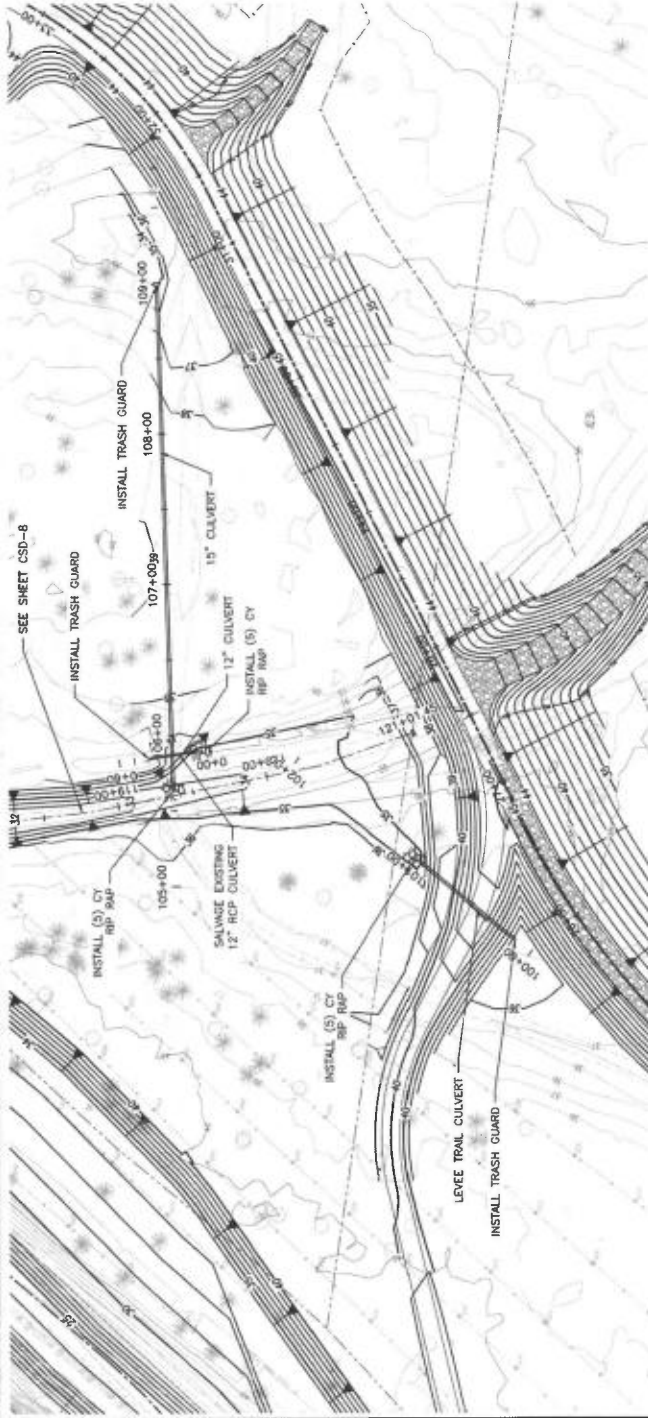
C. F.	
C. F.	
J. G.	
T. J.	

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SHIPPED

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**NOTES:**

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
4. SEE STRUCTURAL LEVEE PLANS FOR LEVEE DESIGN.
5. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION SYSTEMS UNTIL THE CONTRIBUTING DRAINAGE AREA AND/OR ADJACENT CONSTRUCTION HAS BEEN COMPLETELY FINISHED. IF ANY INFILTRATION CONSTRUCTION IS NOT POSSIBLE, ENSURE SEDIMENT FROM EXPOSED SOIL AREAS OF THE PROJECT DOES NOT ENTER INTO THE INFILTRATION AREA OR SYSTEM.



SCALE IN FEET  
0 20 40 60 80

**CALL 2 WORKING DAYS BEFORE YOU DIG**  
1-800-494-6666  
Know what's below.  
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STORM DRAIN IMPROVEMENTS  
PLAN AND PROFILE**

**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Chastie Trone, Director



**PROJECT:** 1112055  
**PROJECT No.:** 1112055  
**CONTRACT No.:** C01415C20

DATE	BY	DATE	BY
CHECKED: 9/17/18	C. FRENCH	RECORD CHANGES APPROVED: 9/17/18	T. JOHNSON
DESIGNED: 9/17/18	C. FRENCH	APPROVED: 9/17/18	C. FRENCH
CHECKED: 9/17/18	A. CRITCH	DATE	BY
SUPERVISOR: 9/17/18	T. JOHNSON	DATE	BY

SHEET  
CSD-5

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. SEE ROADS AND TOWLS PAVEMENT PLANS FOR ADJACENT PAVEMENT.
3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
4. SEE STRUCTURAL LEVEE PLANS FOR LEVEE DESIGN.
5. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION AREAS SHALL BE LOCATED OUTSIDE DRAINAGE AREA AND NOT WHERE CONSTRUCTION HAS BEEN COMPLETELY STABILIZED. WHEN THIS TIMING OF CONSTRUCTION IS NOT POSSIBLE, ENSURE SEDIMENT FROM EXPOSED SOIL DOES NOT ENTER DRAINAGE AREA OR ENTER INTO THE INFILTRATION AREA OR SYSTEM.



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

1-800-474-0001  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STORM DRAIN IMPROVEMENTS  
PLAN AND PROFILE**

**CSD-6**  
**SHEET**

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



Engineering Inc.



517211

MARKET JOB NO/SEQUEL		NAME		SPECIES		COUNTS		REMARKS	
CHECKED:	DATE	NAME	DATE	BY	DATE	BY	DATE	BY	DATE
C. FRENCH	5/27/18								
C. FRENCH	5/27/18								
J. SMITH	5/27/18								
T. JOHNSON	5/27/18								

PROJECT No. 1112058

CONTRACT No. C01115C20

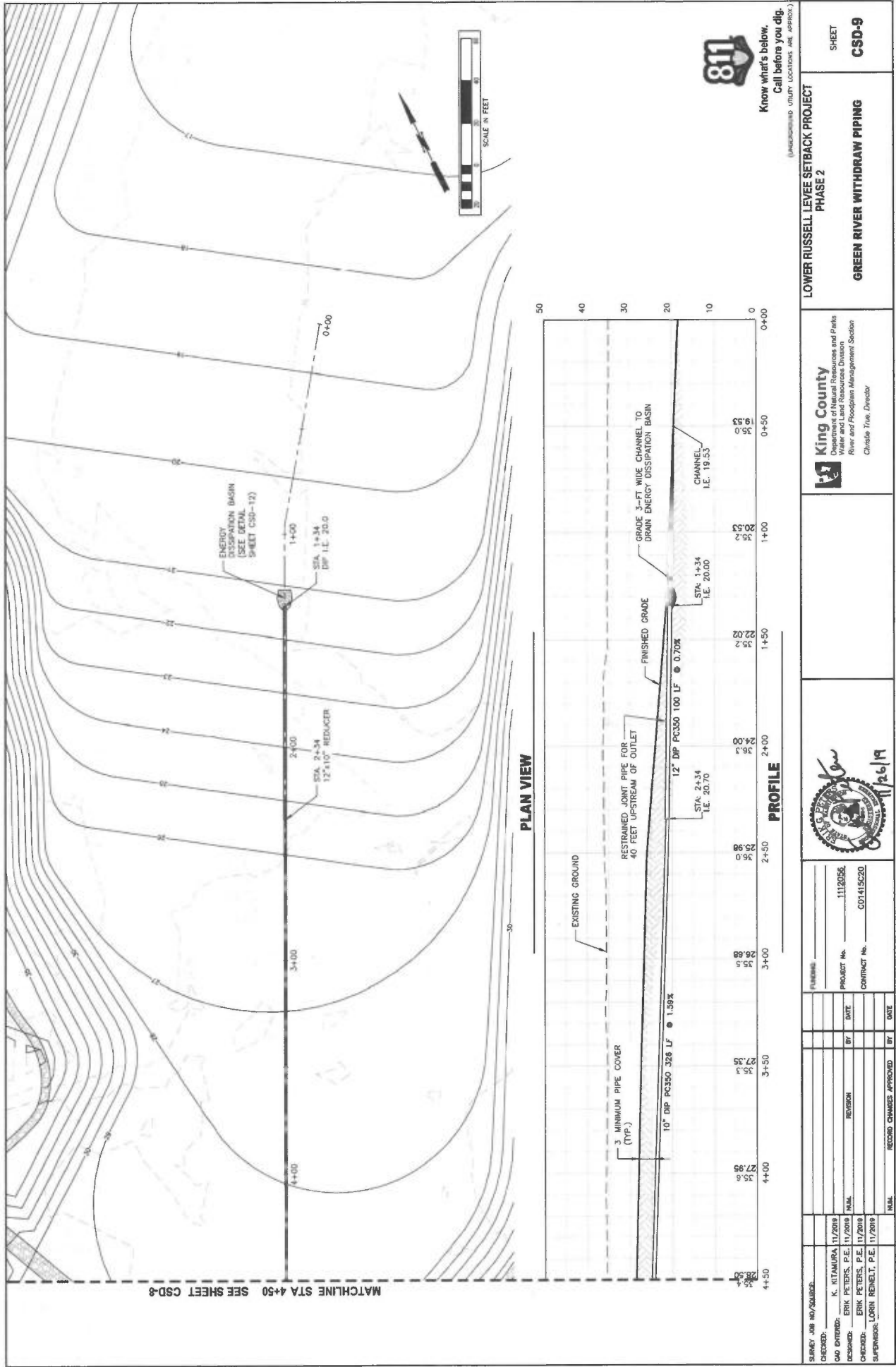
FURNISHING:

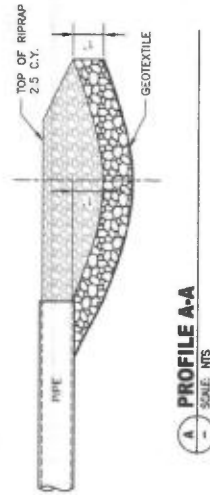
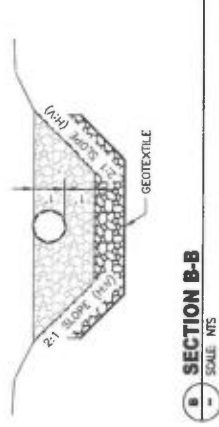
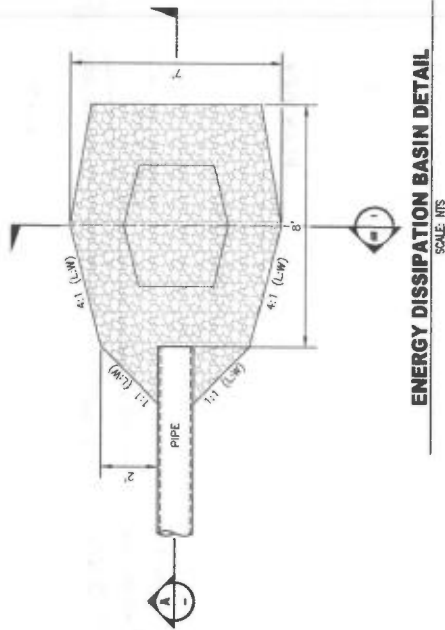
OR IN THE DITCH CIVIL BT

C:\pwworking\sea\d2041749\KCLRR\_CSD-6.dwg, KCLRR\_CSD-6, 11/26/2019 4:34:53 PM, CFRENCH









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

**King County**  
Department of Natural Resources and Parks  
Division of Floodplain Management  
River and Floodplain Management Section  
Christie Trice, Director

SURVEY JOB NO./SOURCE:		PROJECT NO.	1112056
CHECKED:	K. KITAMURA 11/2019	DATE	11/26/19
DESIGNED:	ERIK PETERS, P.E. 11/2019	BY	REASON
CHECKED:	ERIK PETERS, P.E. 11/2019	DATE	11/26/19
SUPERVISOR:	LORIN REINELT, P.E. 11/2019	CONTRACT NO.	001415020
		RECORD CHANGES APPROVED	BY DATE

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2**

**GREEN RIVER WITHDRAW PIPING DETAILS**

SHEET

**CSD-10**

# WATER UTILITY NOTES:

1) FOR WATER UTILITIES USE THE FOLLOWING CITY OF KENT STANDARD PLANS. SEE SPECIFICATIONS FOR REFERENCE.

STANDARD PLAN	TITLE
3-1	STANDARD FIRE HYDRANT
3-3	GUARD POST
3-4	VALVE MARKER POST
3-7	VALVE BOX AND OPERATING NUT EXTENDER
3-9	CONCRETE BLOCKING
3-10	SERVICE CONNECTION 1" SERVICE
3-11	SERVICE CONNECTION 1 1/2" & 2"
3-13	PRESSURE REDUCING VALVE WITH BOX FOR 3/4", 1", 1-1/2" OR 2" SERVICE LINES
3-14	DOMESTIC SERVICE CONNECTION PREMISE ISOLATION
3-15	IRRIGATION SERVICE INSTALLATION
3-20	COMBINATION AIR/VACUUM VALVE AND VAULT
3-21	TAPPING SLEEVE AND VALVE ASSEMBLIES
2)	SEE SECTION 31 23 33 FOR TRENCHING AND BACKFILL REQUIREMENTS.

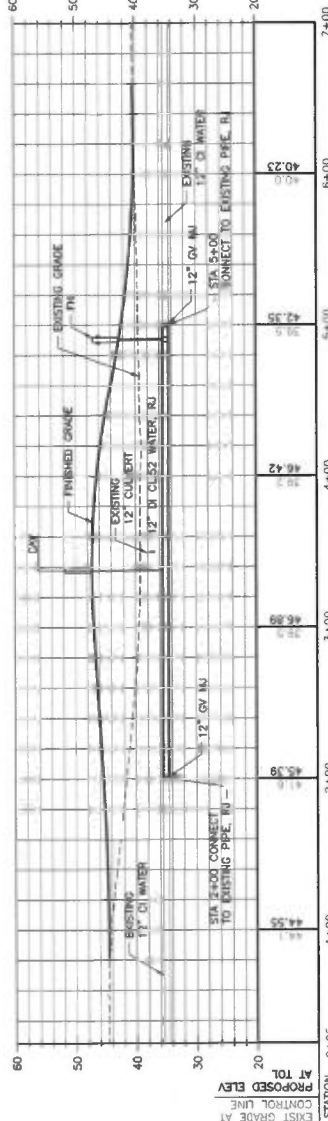
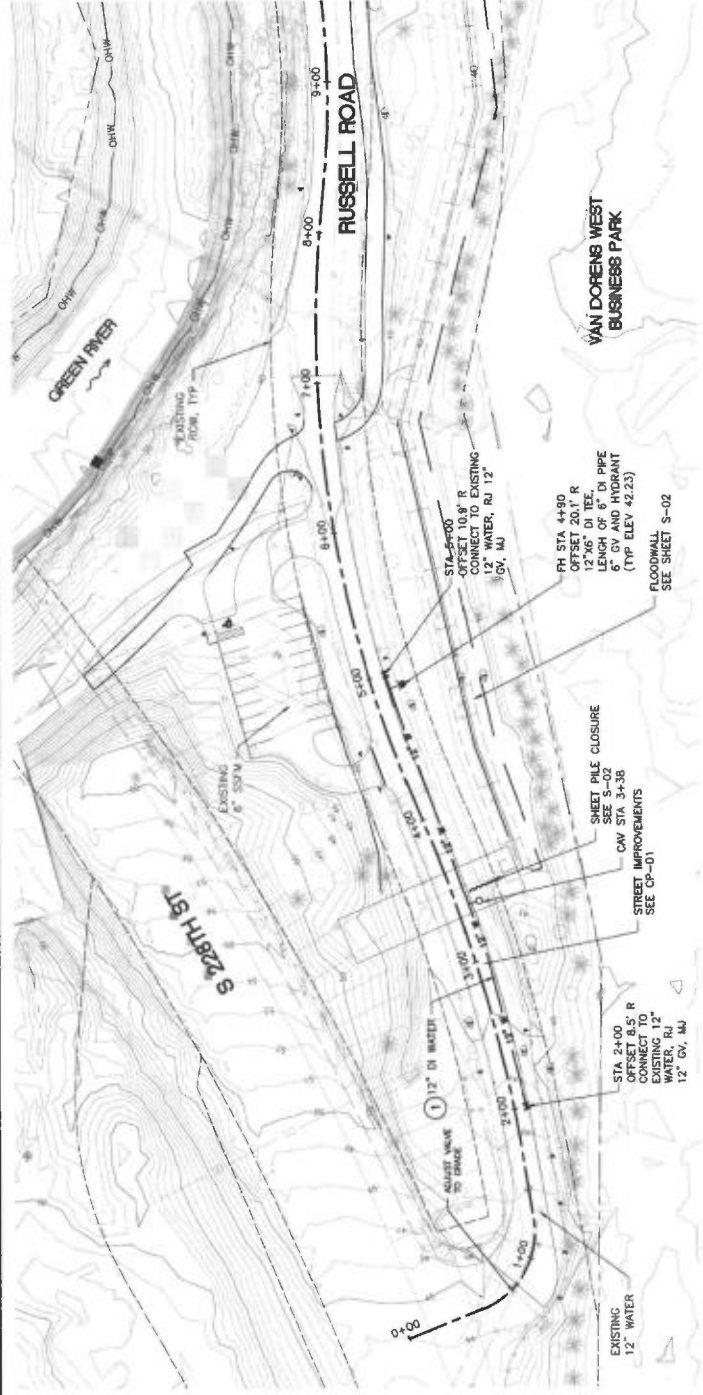
## CONSTRUCTION NOTES:

- 1) PROVIDE TEMPORARY SERVICE LINES TO MAINTAIN CONTINUOUS SERVICE AND TO ACCOMMODATE CONSTRUCTION.

## SHEET NOTES:

1. EXISTING UTILITY LOCATIONS AND DEPTHS ARE ESTIMATED. VERIFY ALL UTILITIES BEFORE FIELD CONSTRUCTION.
2. MAINTAIN MINIMUM 3'-0" COVER FOR ALL WATER LINES.
3. FOR WATER SERVICES THAT AFFECT FIRE PROTECTION SERVICES, NOTIFY THE KENT FIRE DEPARTMENT OF ANY OUTAGES.

CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
Know what's below.  
Call before you dig.



11/27/19  
PROJECT No. 1112056  
CONTRACT No. C01415C20

DESIGNED BY	CHECKED BY	DATE
JTC 11/19	AE 11/19	11/19
DESIGNED BY	CHECKED BY	DATE
MB 11/19	SS 11/19	11/19
DESIGNED BY	CHECKED BY	DATE
MB 11/19	SS 11/19	11/19

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

SHEET  
CWS-01

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
WATER  
PLAN AND PROFILE  
STA 0+00 TO 7+00



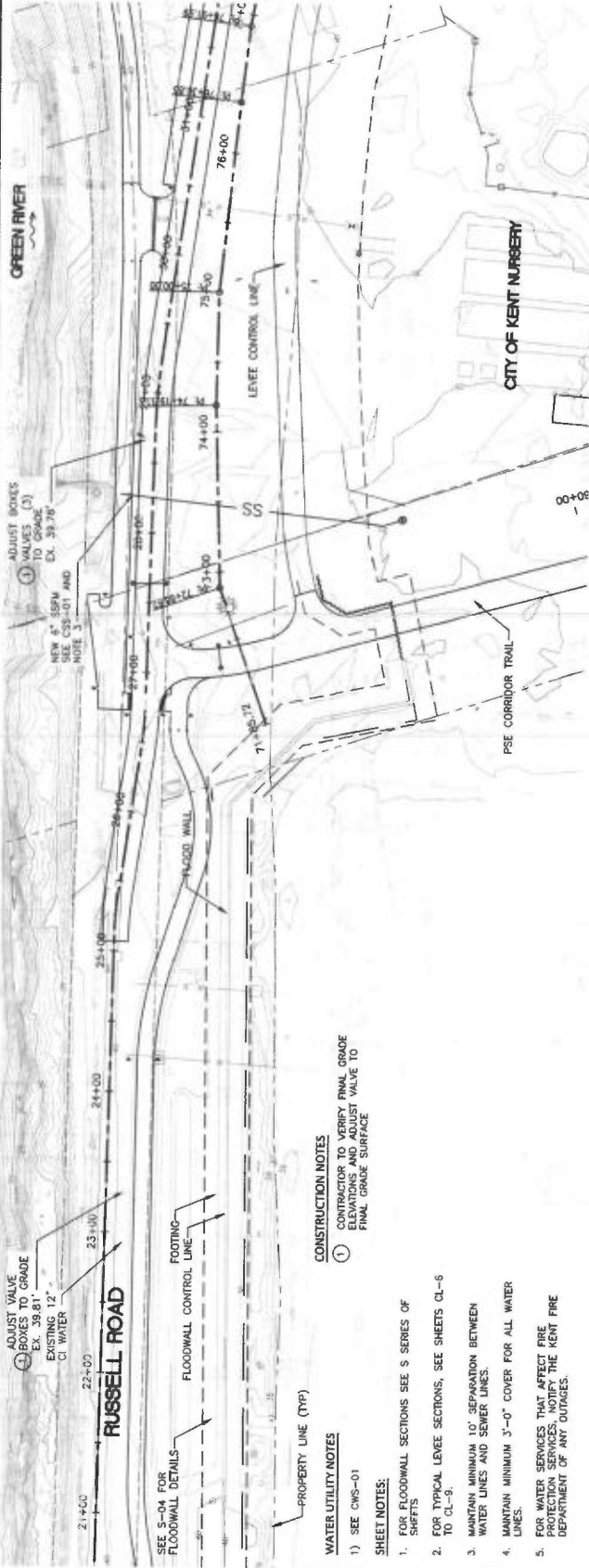
Know what's below.  
Call before you dig.

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



HORIZ. SCALE: IN FEET  
0 20 40 60

VERT. SCALE: IN FEET  
0 2 4 6



#### CONSTRUCTION NOTES

- CONTRACTOR TO VERIFY FINAL GRADE ELEVATIONS AND ADJUST VALVE TO FINAL GRADE SURFACE

#### WATER UTILITY NOTES

- SEE CWS-01

#### SHEET NOTES:

- FOR FLOODWALL SECTIONS SEE S SERIES OF SHEETS
- FOR TYPICAL LEVEE SECTIONS, SEE SHEETS CL-6 TO CL-9.
- MAINTAIN MINIMUM 10' SEPARATION BETWEEN WATER LINES AND SEWER LINES.
- MAINTAIN MINIMUM 3'-0" COVER FOR ALL WATER LINES.
- FOR WATER SERVICES THAT AFFECT FIRE PROTECTION SERVICES, NOTIFY THE KENT FIRE DEPARTMENT OF ANY CHANGES.

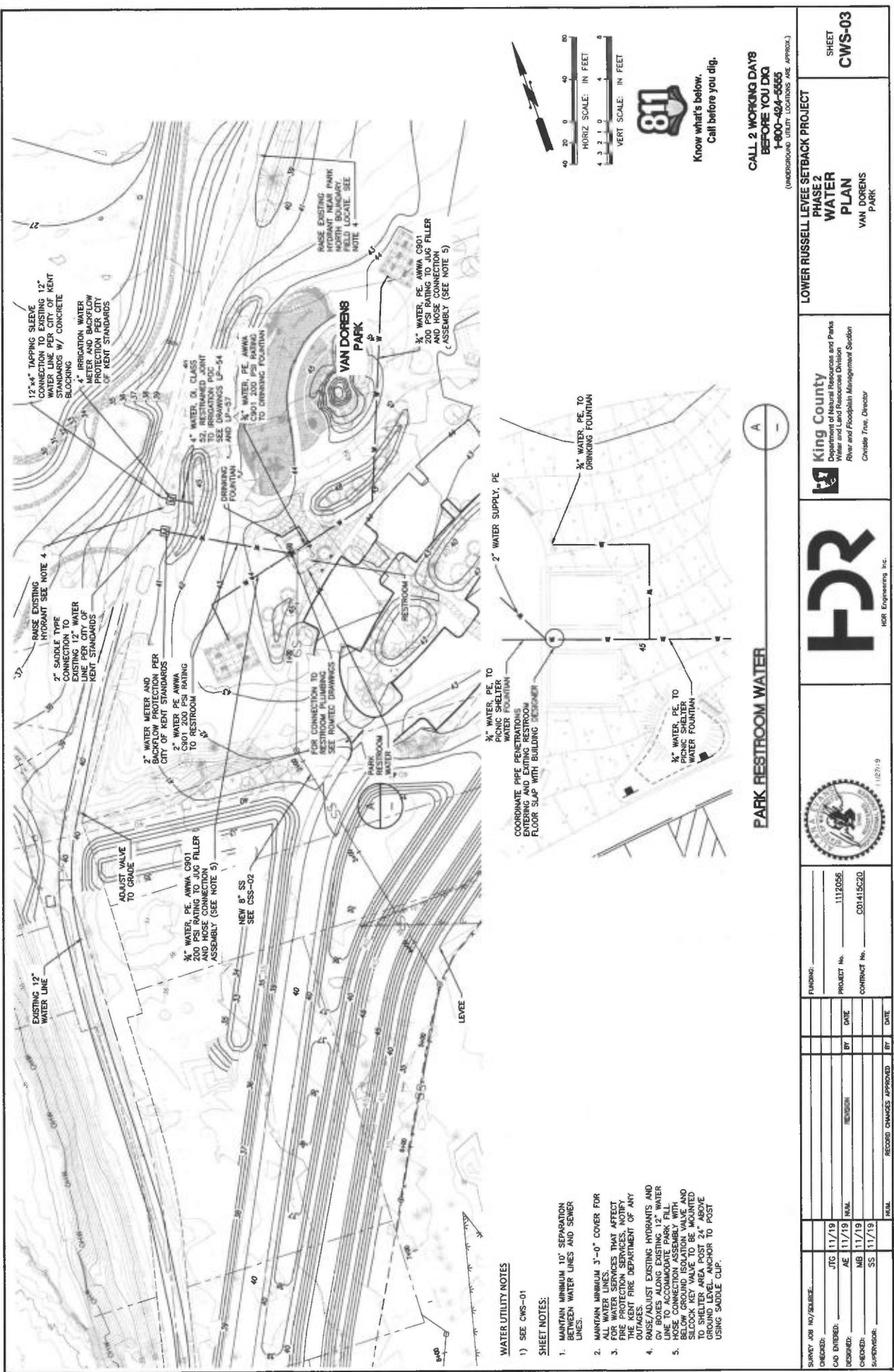


**King County**  
Department of Natural Resources and Parks  
Wilderness Management Division  
River and Floodplain Management Section  
Christine Triss, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**WATER**  
**PLAN AND PROFILE**  
TMA-CREFF AND CITY OF KENT  
NURSERY WATER SERVICE

SHEET  
**CWS-02**

SURVEY JOB NO./SOURCE:		PROJECT No. 1112056		CONTRACT No. 031415220	
CHECKED:	JTG 11/19	DESIGNED:	AE 11/19	BY:	DATE
CHECKED:	MB 11/19	DESIGNED:	SS 11/19	BY:	DATE
SUPERVISOR:		RECORD CHANGES APPROVED:		BY:	DATE



**WATER UTILITY NOTES**

- 1) SEE CWS-01
- 2) SEE CWS-02
- 3) SEE CWS-03
- 4) SEE CWS-04
- 5) SEE CWS-05
- 6) SEE CWS-06
- 7) SEE CWS-07
- 8) SEE CWS-08
- 9) SEE CWS-09
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- 98) SEE CWS-98
- 99) SEE CWS-99
- 100) SEE CWS-100

**PARK RESTROOM WATER**



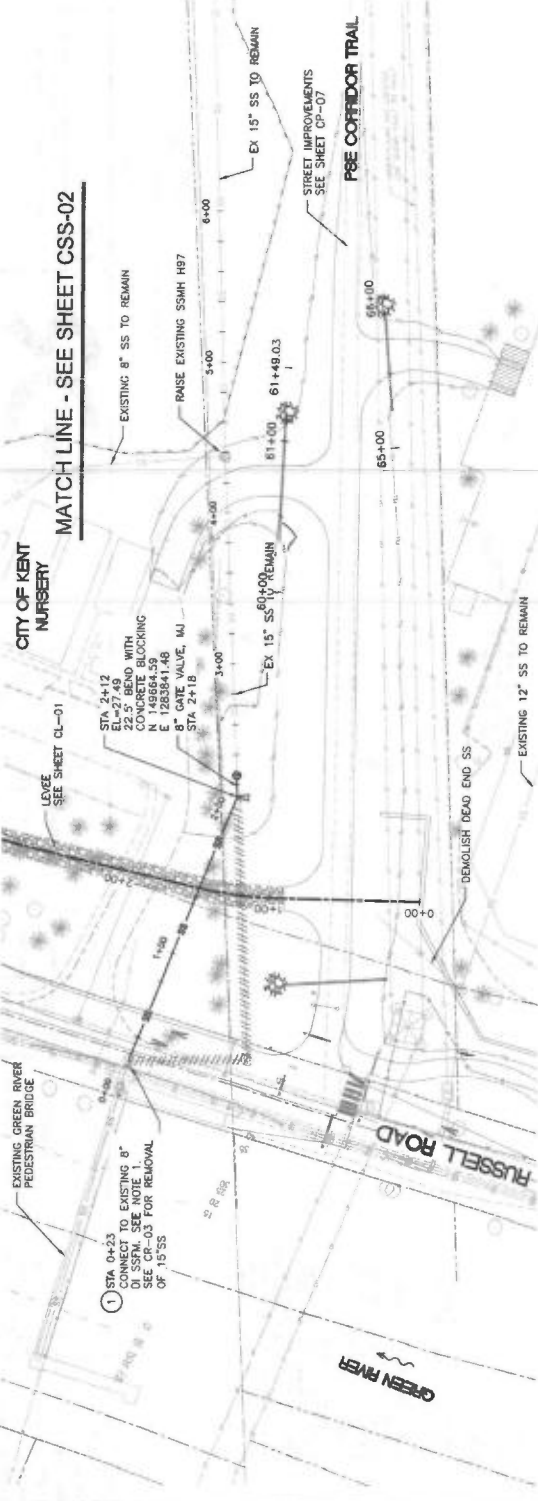
0 20 40 60  
HORIZ. SCALE: IN FEET  
0 2 4  
VERT. SCALE: IN FEET

811  
Know what's below.  
Call before you dig.

CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-404-5555  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SHEET CWS-03	
LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 WATER PLAN VAN DORENS PARK	
King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine True, Director	
HOR Engineering, Inc. 11/27/19	
FUNDING: PROJECT No. 1112056 CONTRACT No. C01415020	
CHECKED: JTG 11/19	DATE: 11/19
DESIGNED: AE 11/19	BY: REGION
CHECKED: MB 11/19	DATE: 11/19
SUPERVISOR: SS 11/19	DATE: 11/19
RECORD CHANGES APPROVED: BT	DATE: 11/19

# MATCH LINE - SEE SHEET CSS-02



## SEWER UTILITY NOTES:

- 1) FOR SEWER UTILITIES USE THE FOLLOWING CITY OF KENT STANDARD PLANS. SEE SPECIFICATIONS FOR REFERENCE.

STANDARD PLAN	TITLE
3-1	CONCRETE BLOCKING
4-1	MANHOLE TYPE 1 48" & 54"
WS00T B-30.70-03	CIRCULAR FRAME (RING) AND COVER
4-3	MANHOLE GRADE, RING, SAFETY STEPS & LADDER

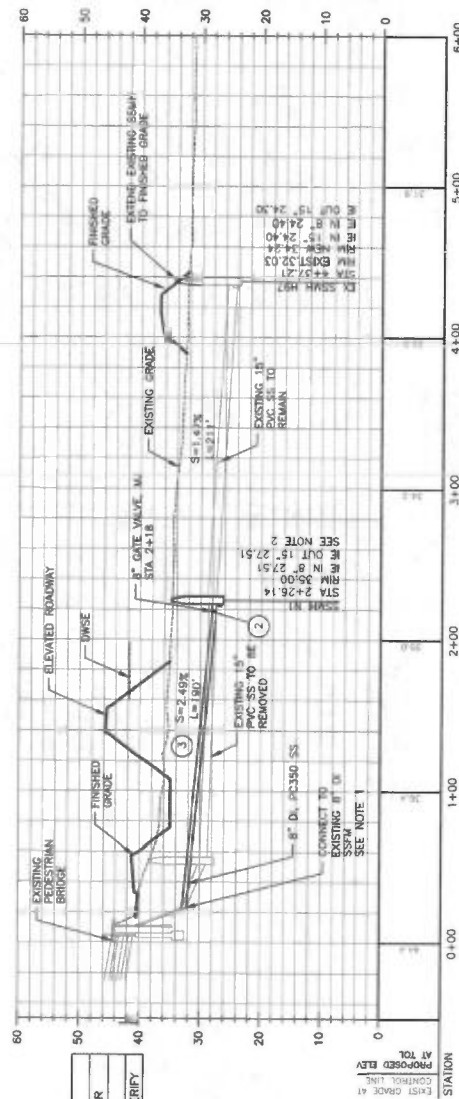
- 2) SEE SECTION 31 23 33 FOR TRENCHING AND BACKFILL REQUIREMENTS.

## NOTES:

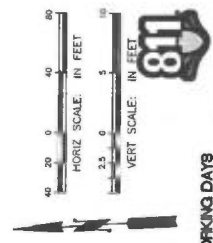
1. CONNECT TO EXISTING 8" DI SS USING RESTRAINED COUPLING.
2. INSTALL NEW SSMH ALONG EXISTING 15" SS.
3. EXISTING UTILITY LOCATIONS AND DEPTHS ARE ESTIMATED. CONTRACTOR TO FIELD VERIFY ALL UTILITY LOCATIONS AS NEEDED.
4. 3" COVER MINIMUM FROM FINISHED GRADE TO TOP OF SEWER MAIN
5. SEE CSD SHEETS FOR DRAINAGE INFORMATION

## CONSTRUCTION NOTES:



1. EXISTING 8" SSMH NOT CURRENTLY IN SERVICE
2. WATER TIGHT PIPE CONNECTION AND CONCRETE CHANNELING
3. INSTALL PIPE JOINT AT CENTER OF LEVEE, WITH 6" CROWN. GROUND TO BE MEASURED FROM HIGHEST PIPE ELEVATION MEASURED 40' HORIZONTALLY FROM CENTER OF LEVEE.

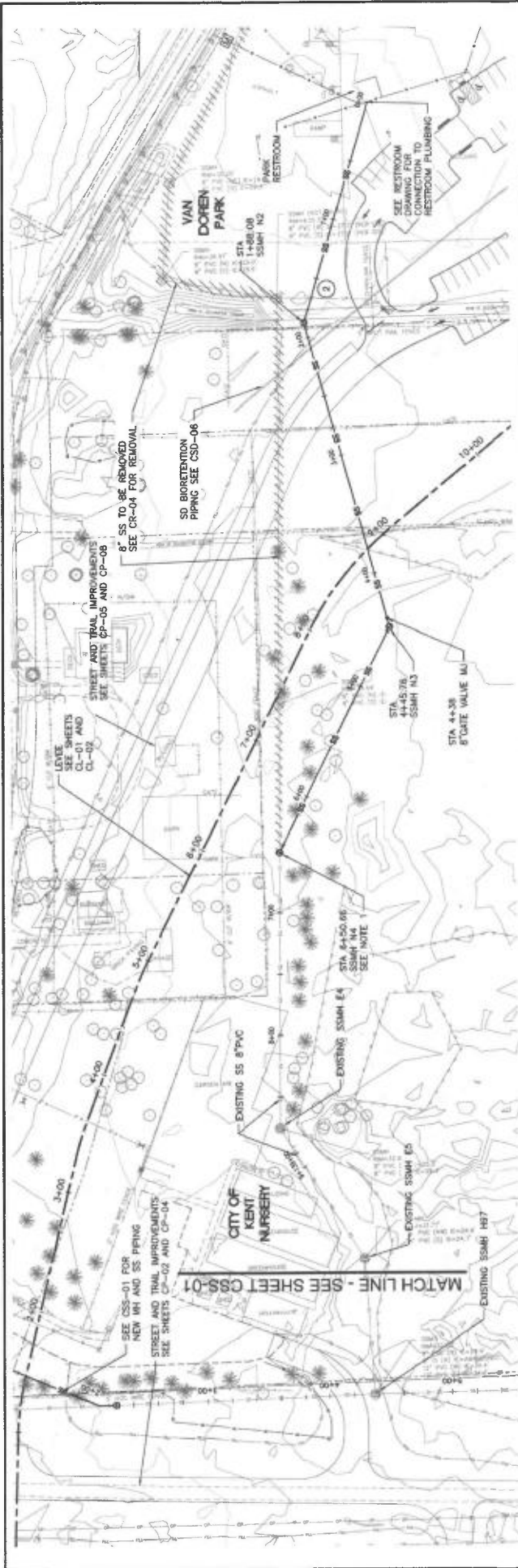


MANHOLE SCHEDULE	
MH #	MH DIAMETER
SSMH N1	4'-0"
SSMH E1	4'-0" FIELD VERIFY



CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
Know what's below.  
Call before you dig.

		 <p>King County Department of Natural Resources and Parks Water and Floodplain Management Section Christie Tice, Director</p>		<p>LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 SEWER PLAN AND PROFILE KENT FORCE MAIN</p>		<p>SHEET CSS-01</p>	
<p>SURVEY JOB NO./SOURCE:</p>		<p>PROJECT No. 1112058</p>		<p>CONTRACT No. C01415220</p>		<p>RECORD CHANGES APPROVED</p>	
<p>CHECKED: JTG 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>	
<p>DESIGNED: AE 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>	
<p>CHECKED: JTG 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>	
<p>SUPERVISOR:</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>		<p>DATE: 11/19</p>	



**SEWER UTILITY NOTES**

1) SEE CSS-01

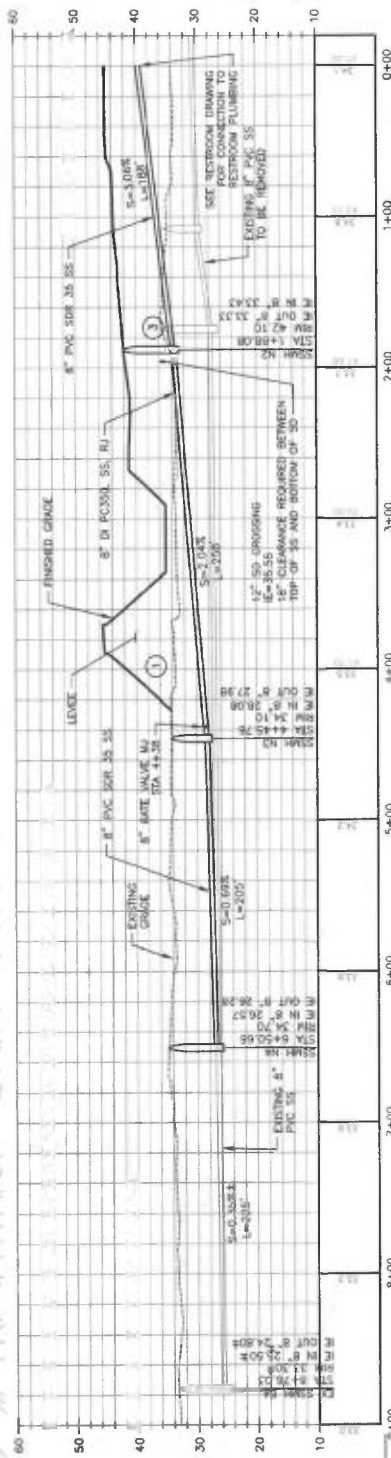
**NOTES:**

1. EXISTING UTILITY LOCATIONS AND DEPTHS ESTABLISHED BY FIELD SURVEY. ALL UTILITY LOCATIONS AS SHOWN ARE TO BE MAINTAINED.
2. 3" OF COVER MINIMUM FROM FINISHED GRADE TO TOP OF SEWER MAIN.

**CONSTRUCTION NOTES:**

1. INSTALL NEW PIPE AFTER EXISTING PIPE REMOVAL PROCESS HAS BEEN COMPLETED.
2. COORDINATE UNDERGROUND UTILITIES WITH ALL OTHERS. MAINTAIN REQUIRED SETBACK DISTANCE.
3. SSAN N2 TO INCLUDE WATER TIGHT LB.

MANHOLE SCHEDULE	
MH #	MH DIAMETER
SSAH N2	4'-0"
SSAH N3	4'-0"
SSAH N4	4'-0"

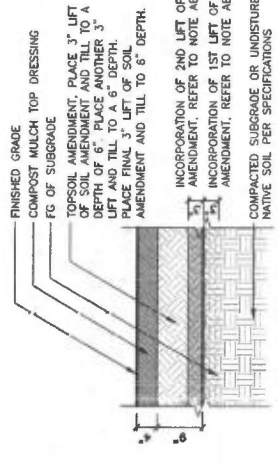


**811**  
Know what's below.  
Call before you dig.  
BEFORE YOU DIG  
1-800-424-5555  
(UNDERGROUND UTILITY LOCATIONS SEE APPENDIX)

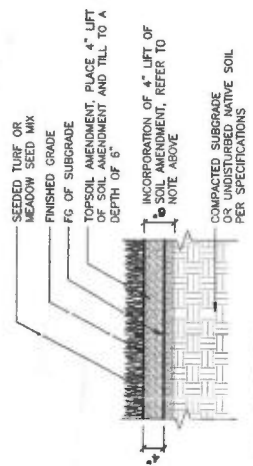
**CALL 2 WORKING DAYS**  
**BEFORE YOU DIG**  
**1-800-424-5555**  
(UNDERGROUND UTILITY LOCATIONS SEE APPENDIX)

<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>SEWER</b> <b>PLAN AND PROFILE</b> <b>PARK SEWER</b>		<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division Row and Floodplain Management Section Christine Tru, Director	<b>FOR</b> HCR Engineering, Inc. 1/27/19	PROJECT No. 1112056 CONTRACT No. C0141SC20 DATE 11/19 BY REGION SUPERVISOR SS 11/19	CHECKED: JTG 11/19 DATE 11/19 BY REGION SUPERVISOR SS 11/19	RECORD CHANGES APPROVED BY DATE
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SHEET  
**CSS-02**



**SOIL PROFILE -  
SHRUB PLANTING BED**  
SCALE: 1/2"=1'-0"



**SOIL PROFILE -  
TURF AND MEADOW**  
SCALE: 1/2"=1'-0"

- SOIL PREPARATION LEGEND**
- TURF SOIL PROFILE
  - MEADOW SOIL PROFILE
  - GROUNDCOVER AND SHRUB SOIL PROFILE
  - STORMWATER DETENTION AREA SOIL PROFILE - REFER TO 2 / CSO-9

NOTE:  
1. REFER TO GENERAL NOTES AND SPECIFICATIONS FOR DETAILED REQUIREMENTS FOR SOIL PREPARATION METHODS OF OPERATION FOR EACH SOIL PREPARATION TYPE.  
2. REFER TO DRAWING LP-47 FOR PLANTING LEGEND AND SCHEDULE.



<b>King County</b> Department of Natural Resources and Parks River and Floodplain Management Section Christine True, Director				<b>berger</b> PARTNERSHIP				11/27/19				SHEET <b>LP-01</b>			
<b>LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 SOIL PREPARATION PLAN</b>															
SURVEY JOB NO./SOURCE 22/18 11/27/18		CHECKED 08 11/27/18		DATE 08 11/27/18		BY 08 11/27/18		APPROVED 08 11/27/18		RECORD CHANGES APPROVED 08 11/27/18		PROJECT NO. 1112056		CONTRACT NO. COT1415220	

NOTES:

1. REFER TO CIVIL FOR ALL VEHICULAR CURBS, PAVING, AND STRIPING.
2. REFER TO DWG CP-17 THROUGH CP-20 FOR TRAILS OUTSIDE OF PARK BOUNDARY.

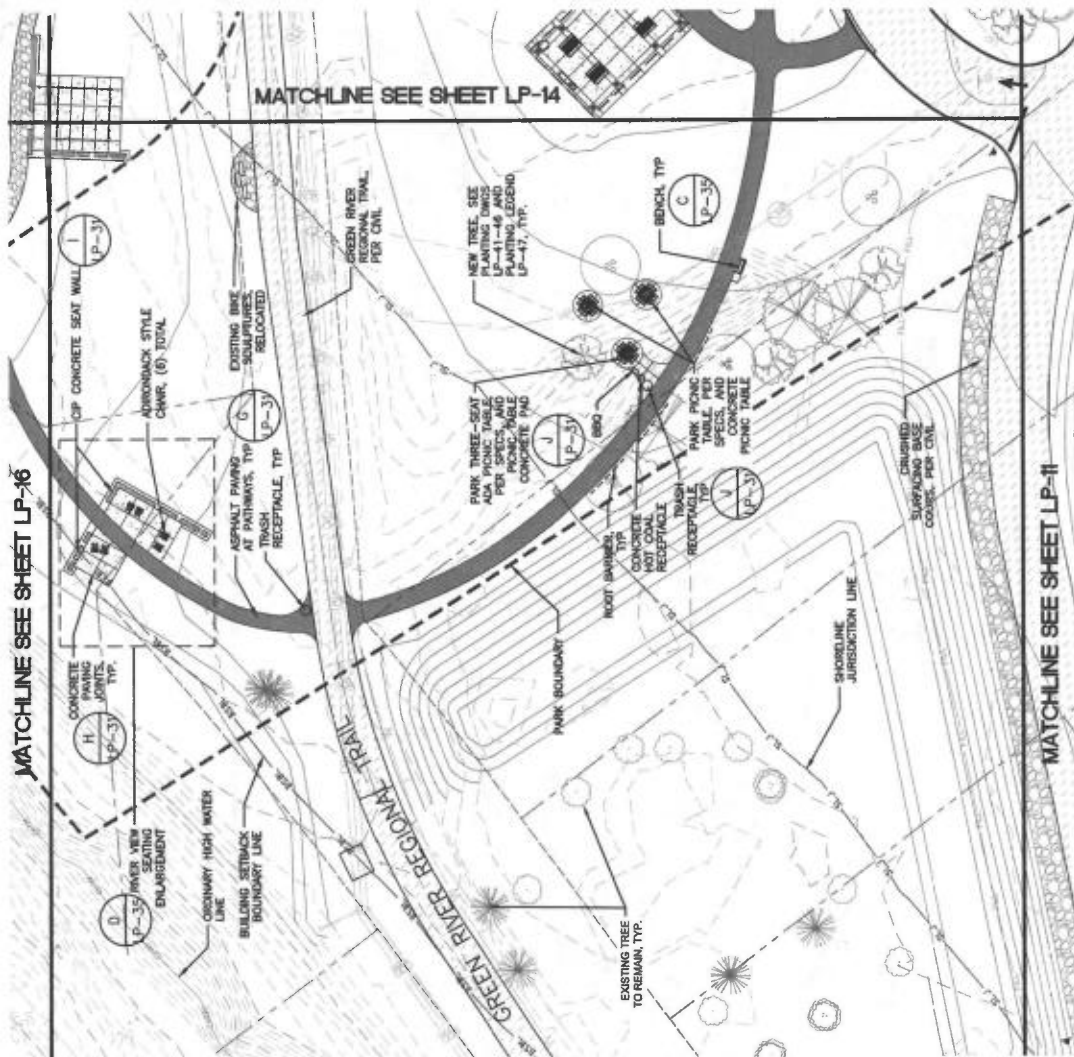


<p><b>LOWER RUSSELL LEVEE SETBACK PROJECT</b>  <b>PHASE 2</b>  <b>LANDSCAPE MATERIALS</b>  <b>PLAN A</b></p>		<p><b>SHEET</b>  <b>LP-11</b></p>	
<p><b>King County</b>          Department of Natural Resources and Parks          Water and Land Resources Division          River and Floodplain Management Section          Christine Tran, Director</p>		<p><b>berger</b>          PARTNERSHIP</p>	
<p><b>11/27/19</b></p>		<p><b>11/27/19</b></p>	
<p><b>PROJECT No.</b> 1112056  <b>CONTRACT No.</b> C01415220</p>		<p><b>DATE</b> 11/27/19  <b>BY</b> [Signature]  <b>DATE</b> 11/27/19  <b>BY</b> [Signature]</p>	
<p><b>DESIGNED</b> 08/11/19  <b>CHECKED</b> 08/11/19  <b>SUPERVISOR</b> 08/11/19</p>		<p><b>REVISION</b> 08/11/19  <b>DATE</b> 08/11/19  <b>BY</b> [Signature]  <b>DATE</b> 08/11/19  <b>BY</b> [Signature]</p>	



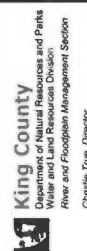
NOTES:

1. REFER TO CIVIL FOR ALL VEHICULAR CURBS, PAVING, AND STREETS.
2. REFER TO DWG CP-17 THROUGH CP-20 FOR TRAILS OUTSIDE OF PARK BOUNDARY.



LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LANDSCAPE MATERIALS  
PLAN C

SHEET  
LP-13



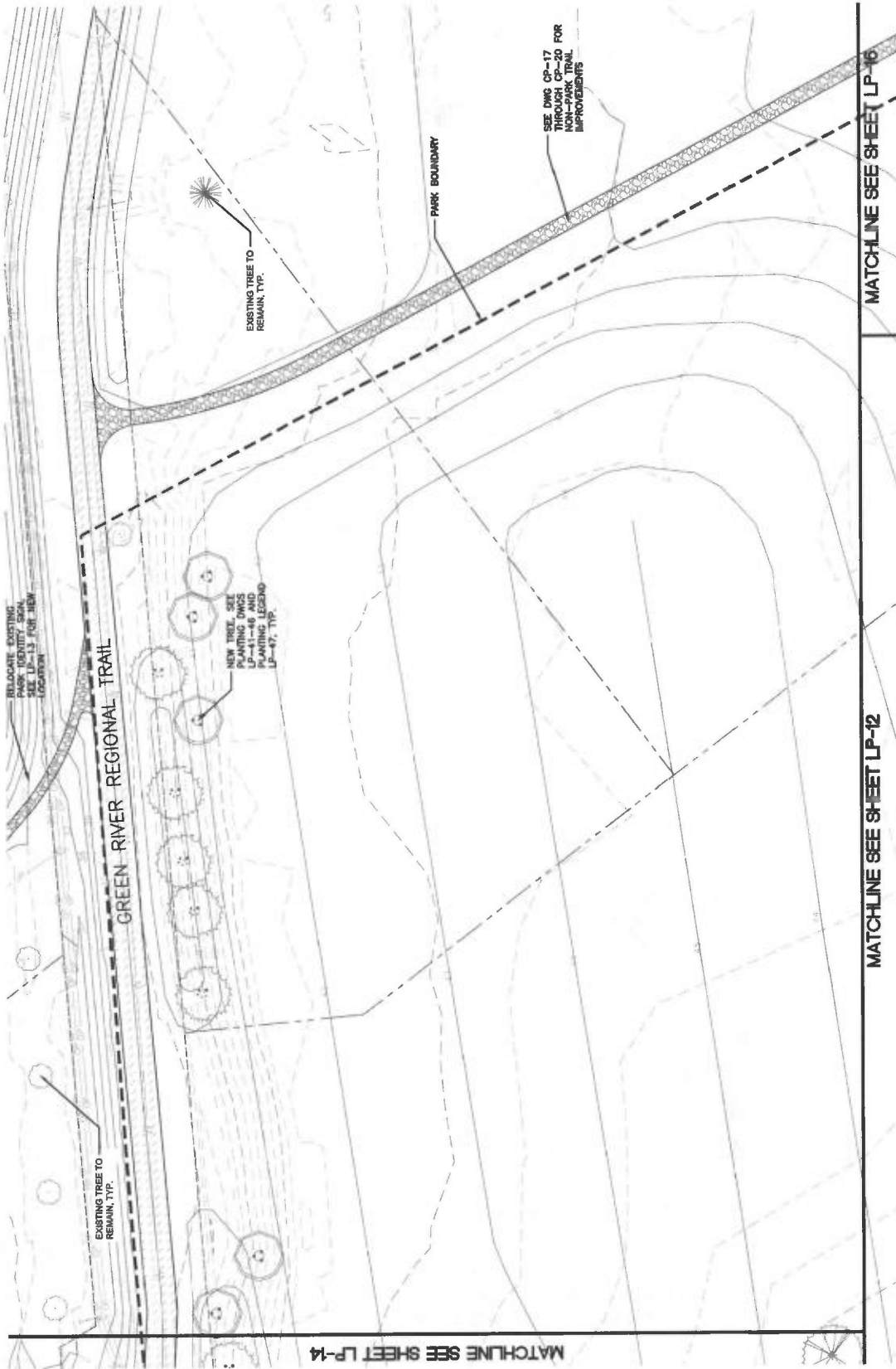
11/27/19

SURVEY JOB NO./SOURCE:		PROJECT NO.:	1112056
CAD DESIGNED:	ELAF 11/27/19	DATE:	
DESIGNED:	AL 08 11/27/19	BY:	REKRON
CHECKED:	08 11/27/19	DATE:	
SUPERVISOR:	08 11/27/19	RECORD CHANGES APPROVED:	BY: DATE:



**NOTES:**

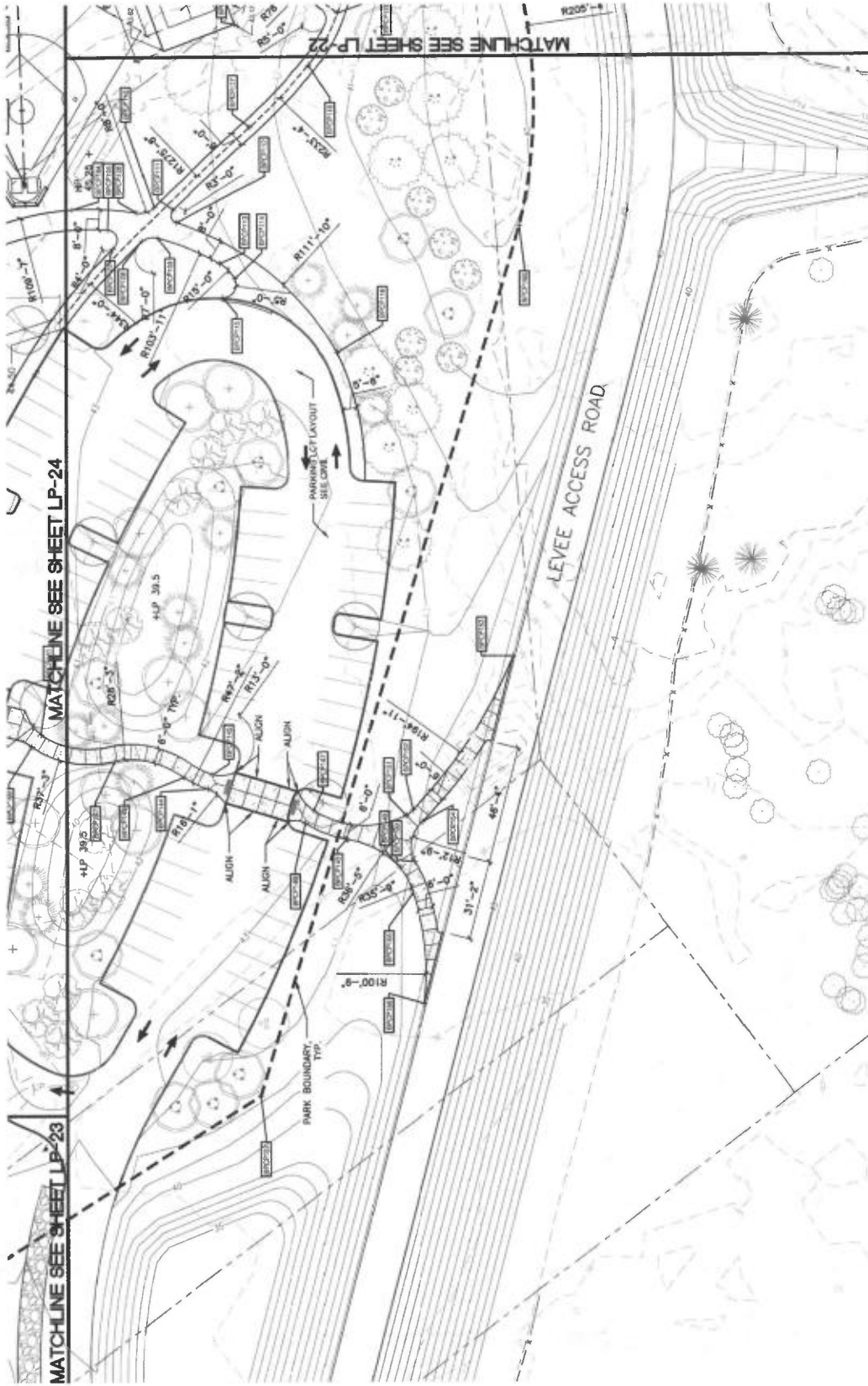
1. REFER TO CIVIL FOR ALL  
VEHICULAR CURVES, PAVING, AND  
STRIPING.
2. REFER TO DWG GP-17 THROUGH  
GP-20 FOR TRAILS OUTSIDE OF  
PARK BOUNDARY.



<b>King County</b> Department of Natural Resources and Parks Water and Floodplain Management Section Christine Trone, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>LANDSCAPE MATERIALS</b> <b>PLAN E</b>		<b>SHEET</b> <b>LP-15</b>
<b>berger</b> PARTNERSHIP		11/27/19		
FUNDING: _____ PROJECT No. 11120056 CONTRACT No. C01415220		REVISION DATE BY		
CHECKED: 01/28/19 DESIGNED: 02/28/19 SUPERVISOR: 08/11/21/19		REVISION DATE BY		
RECORD CHANGES APPROVED BY DATE				



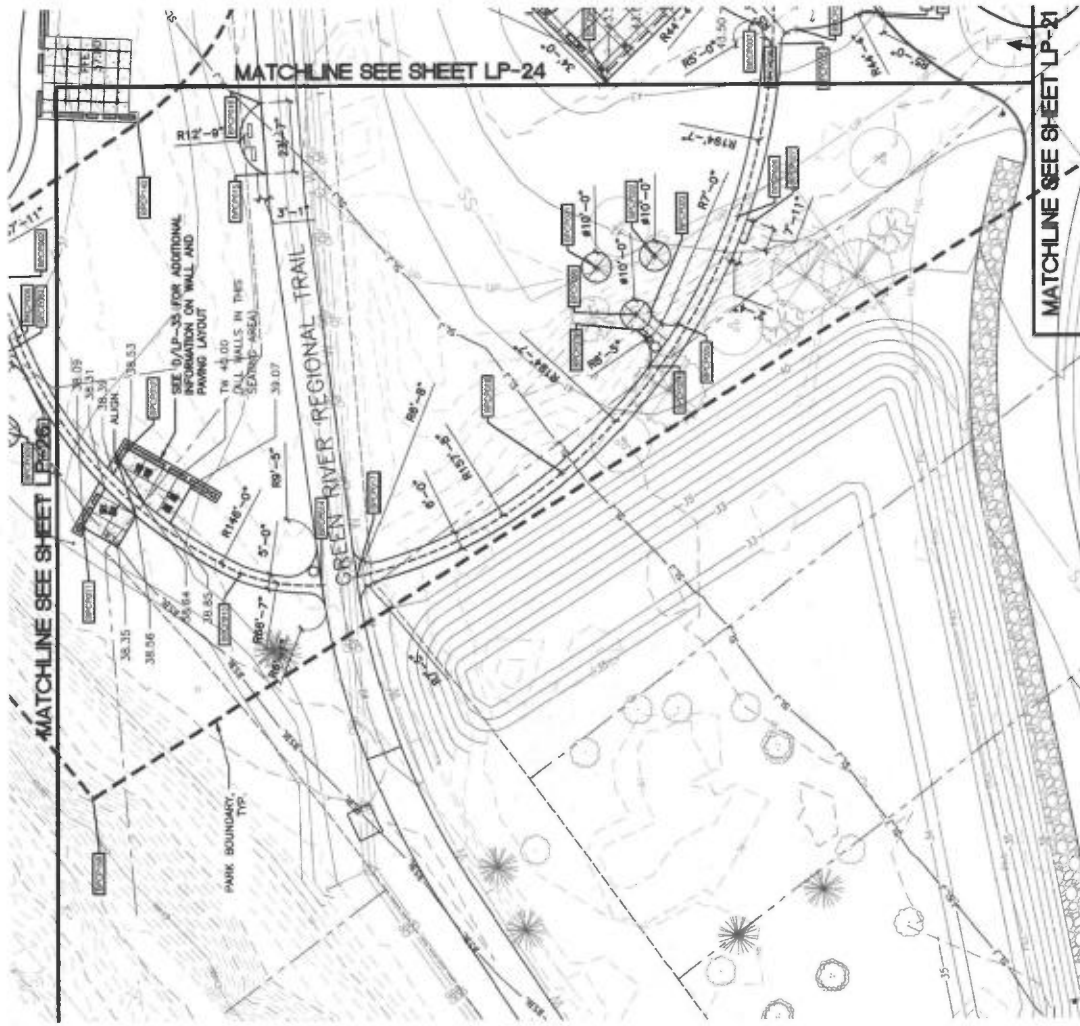
- NOTES:
1. ARC RADII PROVIDED BETWEEN CONTROL POINTS (BPCP) WHEN AVAILABLE. OTHERWISE, NO ARC RADIUS IS PROVIDED. REFER TO LP-28 FOR PARK CONTROL POINT TABLE.
  2. NO ARC RADIUS IS PROVIDED. REFER TO LP-28 FOR PARK CONTROL POINT TABLE.



SURVEY JOB NO./REVISIONS: CHECKED: 01/28/11/27/10 CAD DRAWN: 01/28/11/27/10 DESIGNED: 01/28/11/27/10 CHECKED: 08/11/27/10 SUPERVISOR: 08/11/27/10		PLANNING: PROJECT NO.: 1117055 CONTRACT NO.: C01415C20		11/27/19		PARTNERSHIP <b>berger</b>		<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Tron, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 LAYOUT & GRADING PLAN A		SHEET <b>LP-21</b>	
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- NOTES:
1. ARC RADIUS PROVIDED BETWEEN CONTROL POINTS (BPCP), WHEN EXISTING OR PROPOSED BPCP, NO ARC RADIUS IS PROVIDED. REFER TO LP-28 FOR PARK CONTROL POINT TABLE.



SURVEY JOB NO./DATE: CHECKED: 11/27/19 CUD DATED: 11/27/19 DESIGNED: 11/27/19 CHECKED: 11/27/19 SUPERVISOR: 11/27/19		PROJECT No. 1112056 CONTRACT No. C01415C20		KING COUNTY Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director		LOWER RUSSELL LEVEL SETBACK PROJECT PHASE 2 LAYOUT & GRADING PLAN C		SHEET LP-23	
CHECKED: 11/27/19 CUD DATED: 11/27/19 DESIGNED: 11/27/19 CHECKED: 11/27/19 SUPERVISOR: 11/27/19		PROJECT No. 1112056 CONTRACT No. C01415C20		KING COUNTY Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trone, Director		LOWER RUSSELL LEVEL SETBACK PROJECT PHASE 2 LAYOUT & GRADING PLAN C		SHEET LP-23	

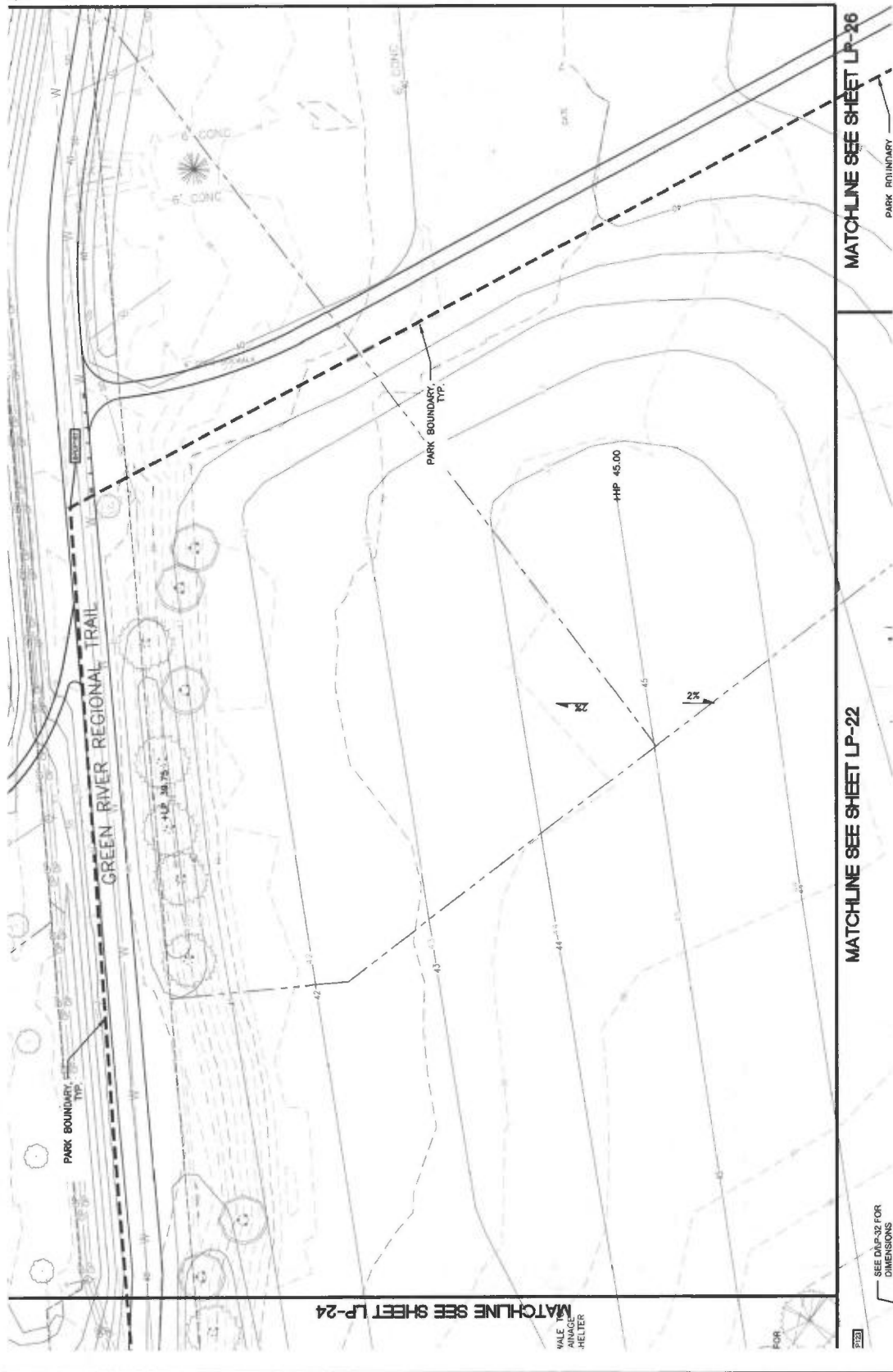
MATCHLINE SEE SHEET LP-21

MATCHLINE SEE SHEET LP-22

SCALE: 1"=20'

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LAYOUT & GRADING  
PLAN D

**SHEET**  
**LP-24**



MATCHLINE SEE SHEET LP-26

**MATCHLINE SEE SHEET LP-22**

— SEE DAP-32 FOR DIMENSIONS



SURVEY	JOB	NO/SOURCE
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CHECKED:	
CAD ENTIRETY:	JL/JF 11/27/19

DESIGNED:	11/27/98	11/27/98
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CHECKED:	08 11/27/19
SUPERVISOR:	08 11/27/19


1000

NUM.	REVISION
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INFL.	RECORD CHANGES A
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PROJECT NO.

CONTRACT NO.

1



11/27/19



**King County**  
Department of Natural Resources and Parks  
Wetler and Land Resources Division  
River and Floodplain Management Section  
*Christine Truse, Director*

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LAYOUT & GRADING  
PLAN E**

**SHEET**  
**LP-25**



NOTES:



**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LAYOUT & GRADING  
PLAYGROUND ENLARGEMENT**

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



11/27/19

[illegible]

NUMBER	NORTHING	EASTING
BPCP001	N150710.8851	E1283604.09
BPCP002	N150698.2565	E1283799.53
BPCP003	N150692.9411	E1283799.70
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BPCP005	N150678.6723	E1283781.85
BPCP006	N150675.7851	E1283785.80
BPCP007	N150674.9714	E1283785.37
BPCP008	N150663.9792	E1283773.32
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BPCP014	N150662.8544	E1283773.32
BPCP015	N150662.8544	E1283773.32
BPCP016	N150662.8544	E1283773.32
BPCP017	N150662.8544	E1283773.32
BPCP018	N150662.8544	E1283773.32
BPCP019	N150662.8544	E1283773.32
BPCP020	N150662.8544	E1283773.32
BPCP021	N150662.8544	E1283773.32
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BPCP033	N150662.8544	E1283773.32
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BPCP044	N150647.8535	E1284096.79
BPCP045	N150617.5958	E1284055.38
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BPCP099	N150834.5888	E1284281.34
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BPCP105	N150800.8640	E1284340.87
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BPCP126	N150850.1868	E1284506.49
BPCP127	N150869.1609	E1284514.26
BPCP128	N150869.1609	E1284514.26
BPCP129	N150869.1609	E1284514.26
BPCP130	N150869.1609	E1284514.26
BPCP131	N150869.1609	E1284514.26
BPCP132	N150869.1609	E1284514.26
BPCP133	N150869.1609	E1284514.26
BPCP134	N150869.1609	E1284514.26
BPCP135	N150869.1609	E1284514.26
BPCP136	N150869.1609	E1284514.26
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BPCP144	N150803.3769	E1284232.75
BPCP145	N150806.7517	E1284240.51
BPCP146	N150856.1279	E1284257.41
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BPCP148	N150856.1411	E1284266.21
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BPCP157	N150830.1433	E1284207.47
BPCP158	N150825.1655	E1284216.62
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BPCP160	N150812.6502	E1284231.01
BPCP161	N150812.6502	E1284231.01
BPCP162	N150812.6502	E1284231.01
BPCP163	N150812.6502	E1284231.01
BPCP164	N150812.6502	E1284231.01
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BPCP212	N150849.8356	E1284112.49
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PARK CONTROL POINT TABLE

NTS

DATE: 11/27/19	PROJECT NO: 1112056	CONTRACT NO: C01415220
CHECKED: [Signature]	BY: [Signature]	DATE: [Signature]
DESIGNED: [Signature]	BY: [Signature]	DATE: [Signature]
CHECKED: [Signature]	BY: [Signature]	DATE: [Signature]
SUPERVISOR: [Signature]	BY: [Signature]	DATE: [Signature]

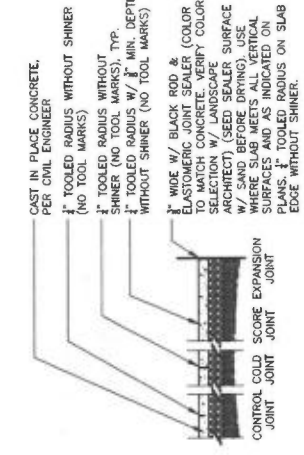
11/27/19

Partner Berger

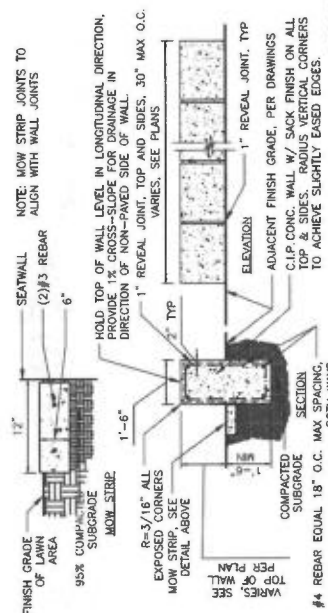
King County  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie Tran, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LAYOUT & GRADING  
PLAN CONTROL POINTS

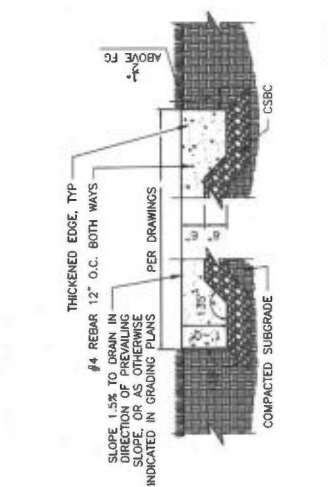
SHEET  
LP-28



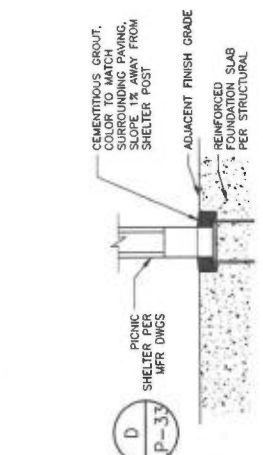
**CONCRETE PILING JOINTS**  
SCALE: 1/2"=1'-0"



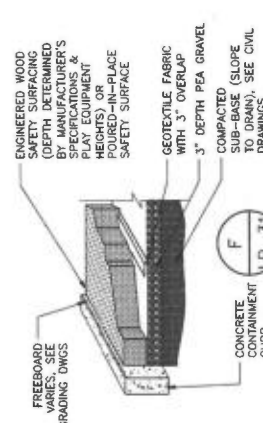
**CIP CONCRETE SEAT WALL**  
SCALE: 1/2"=1'-0"



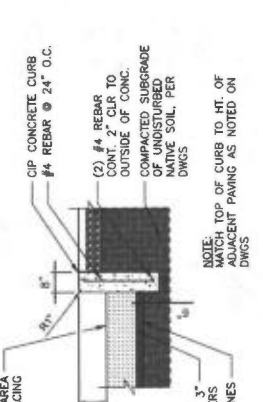
**PICNIC TABLE CONCRETE PAD**  
SCALE: 3/4"=1'-0"



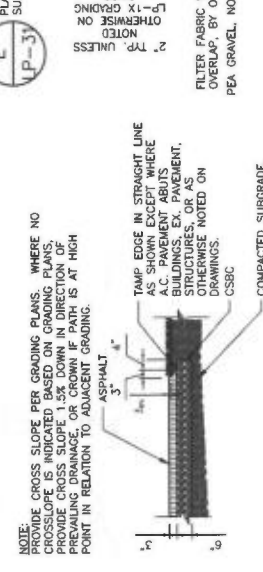
**PICNIC SHELTER FOOTING**  
SCALE: 1/2"=1'-0"



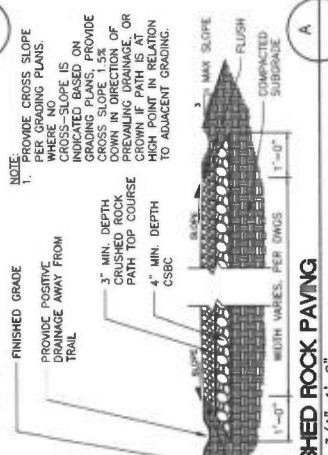
**PLAY AREA SURFACING**  
SCALE: 1/2"=1'-0"



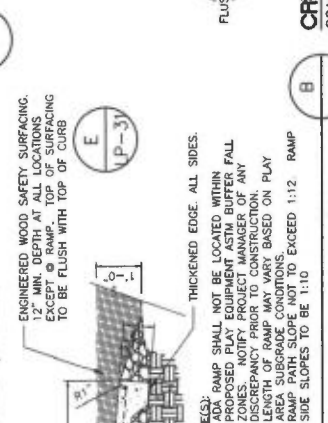
**CONTAINMENT CURB**  
SCALE: 1/2"=1'-0"



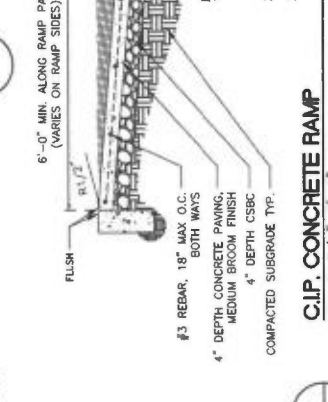
**ASPHALT PAVING AT PATHWAYS**  
SCALE: 1/2"=1'-0"



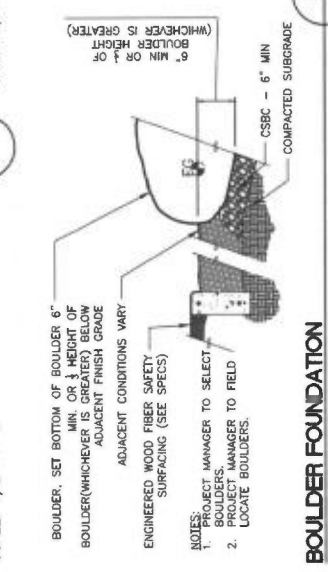
**CRUSHED ROCK PAVING**  
SCALE: 3/4"=1'-0"



**PLAY AREA SURFACING**  
SCALE: 1/2"=1'-0"



**CIP CONCRETE RAMP**  
SCALE: 3/4"=1'-0"



**BOULDER FOUNDATION**  
SCALE: 3/4"=1'-0"

**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Tran, Director

**berger**  
PARTNERSHIP

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
PHASE 2  
**LANDSCAPE PARK DETAILS**

**SHEET**  
**LP-31**

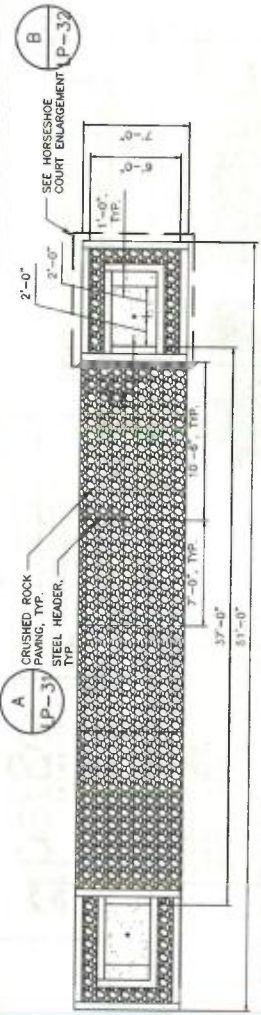
REVISION		DATE		BY		DATE	

DATE: 11/27/19

PROJECT No: 1112056

CONTRACT No: C01415220

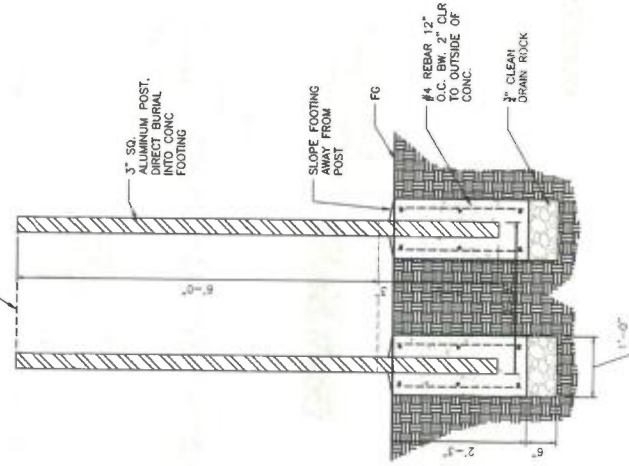
11/27/19



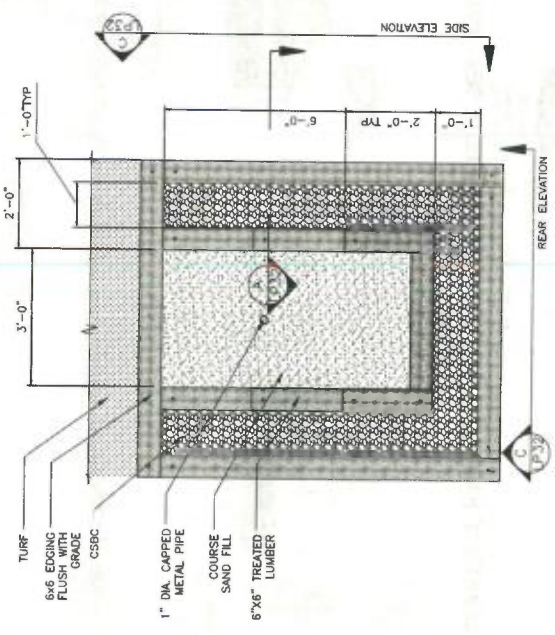
HORSESHOE COURT LAYOUT

**HORSESHOE COURT LAYOUT**  
SCALE: 1/4" = 1'-0"

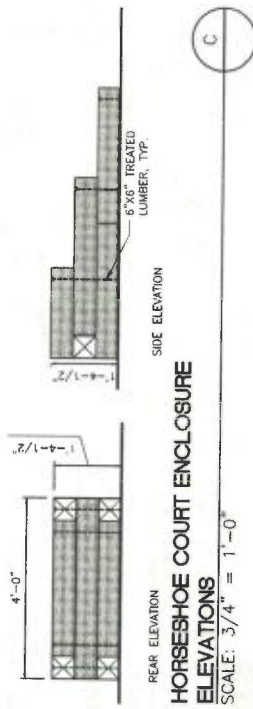
RELOCATED PARK SIGN, BY OTHERS



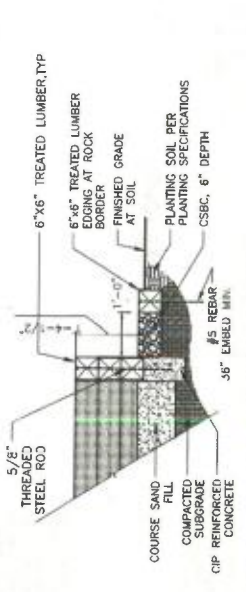
**PARK SIGN FOOTING**  
SCALE: 1" = 1'-0"



**HORSESHOE COURT ENCLOSURE PLAN ENLARGEMENT**  
SCALE: 3/4" = 1'-0"



**HORSESHOE COURT ENCLOSURE ELEVATIONS**  
SCALE: 3/4" = 1'-0"



**HORSESHOE COURT ENCLOSURE SECTION**  
SCALE: 3/4" = 1'-0"

SURVEY #	NO. / SOURCE	DATE	BY	DATE
CHECKED:	02/08	11/27/19	REVISION	DATE
DESIGNED:	02/08	11/27/19	REVISION	DATE
RECORDED:	08	11/27/19	REVISION	DATE
SUPERVISOR:			REVISION	DATE
RECORD CHANGES APPROVED:			REVISION	DATE



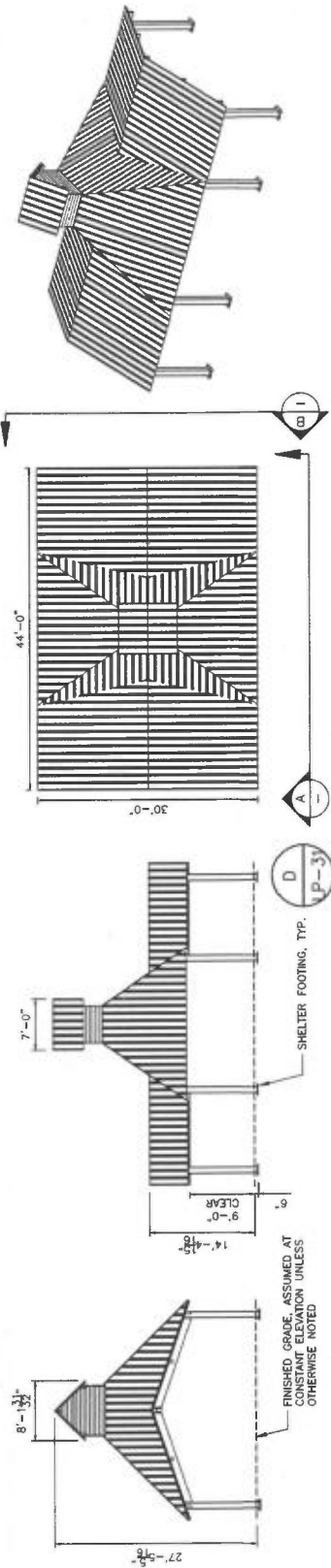
11/27/19



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Cristina Trice, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LANDSCAPE PARK DETAILS

SHEET  
LP-32



PERSPECTIVE (FOR REFERENCE ONLY)

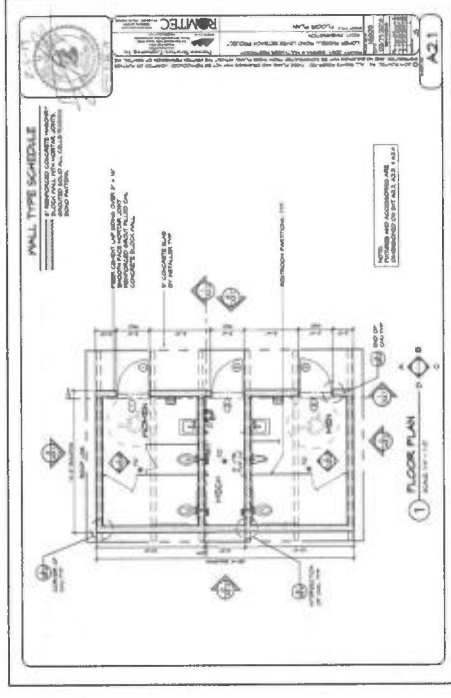
PLAN VIEW (REFER TO SPECIFICATIONS APPENDIX FOR ADDITIONAL INFORMATION)

ELEVATION A (REFER TO SPECIFICATIONS APPENDIX FOR ADDITIONAL INFORMATION)

ELEVATION B (REFER TO SPECIFICATIONS APPENDIX FOR ADDITIONAL INFORMATION)

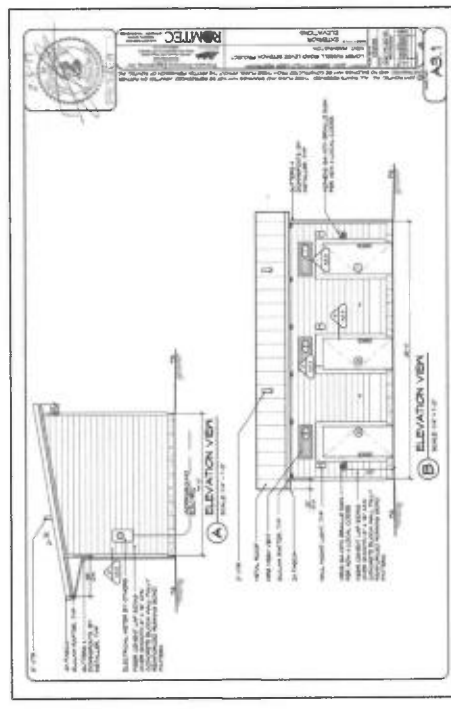
# SHELTER

SCALE: 1/8"=1'-0"



## RESTROOM - PLAN

NTS



## RESTROOM - ELEVATIONS

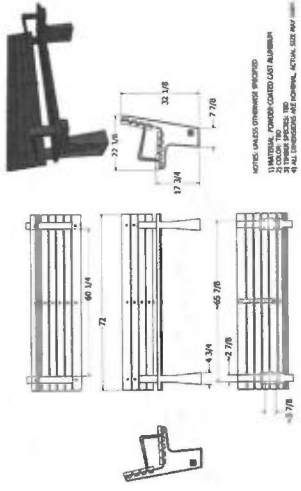
NTS

SHEET <b>LP-33</b>		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 <b>LANDSCAPE PARK DETAILS</b>		King County Department of Natural Resources and Parks River and Land Resources Division Christine Trone, Director	
PARTNERSHIP <b>berger</b>				11/27/19	
DRAWING: _____ PROJECT No. 1112056 CONTRACT No. C01415C20		DATE: _____ BY: _____ CHECKED: _____ SUPERVISOR: _____			
SURVEY JOB NO./SUBJOB: _____ CHECKED: _____ CAD: _____ DESIGNED: _____ CHECKED: _____ SUPERVISOR: _____		RECORD CHANGES APPROVED: _____ BY: _____ DATE: _____			



NOTE:  
1. PROVIDE "BLACK" POWDER COATING.  
2. PROVIDE BOULEVARD WOOD.

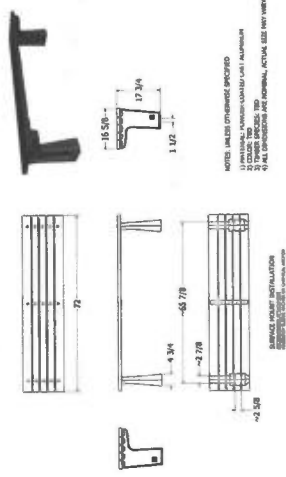
- PROVIDE CONG. FOOTING FOR EACH BENCH LEG WHEN NECESSARY
- REFER TO E/LP-35 FOR TYPICAL BENCH CONCRETE PAD



BENCH TYP.  
NTS

BENCH TYP.  
NTS

- NOTE:  
1. WHEN NOTED AS "N/A" PROVIDE (1) FULL LENGTH 72" BENCH AND (1) 37" BENCH JUSTIFIED TO ALLOW ADA WHEELCHAIR ACCESS.  
2. PROVIDE "BLACK" POWDER COATING.  
3. PROVIDE BOULEVARD WOOD.

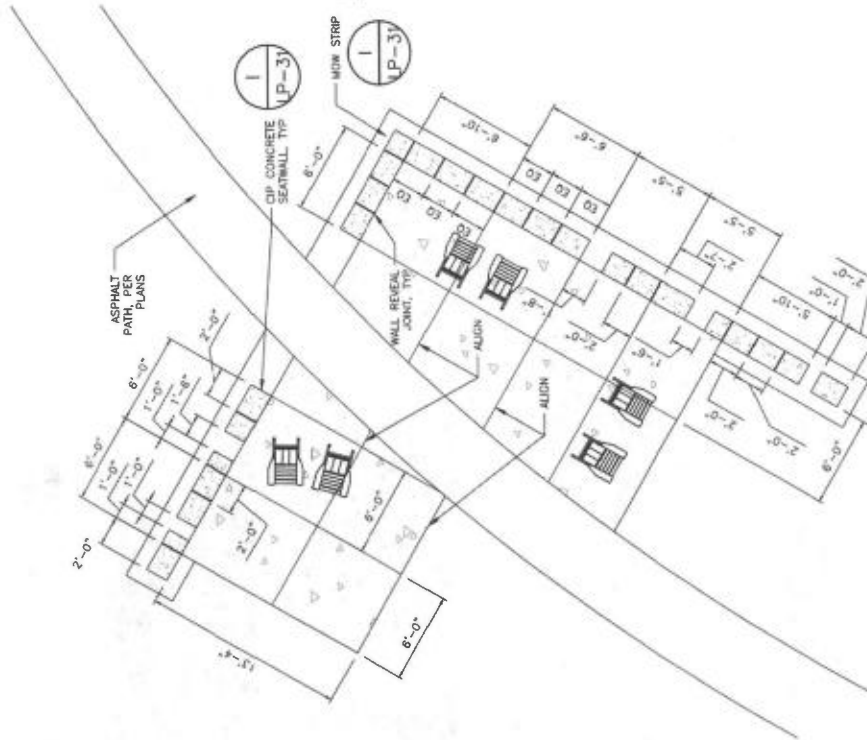


SHelter PICNIC TABLE  
NTS

SHelter PICNIC TABLE BENCHES  
NTS

SHelter PICNIC TABLE  
NTS

SHelter PICNIC TABLE  
NTS



RIVER VIEW SEATING AREA ENLARGEMENT  
NTS

DATE	5/12/11	DATE	11/27/19
DESIGNED BY	REASON	PROJECT NO.	1112058
CHECKED BY	08	CONTRACT NO.	CD1415220
SUPERVISOR	08		
DATE	5/12/11	DATE	11/27/19
DESIGNED BY	REASON	PROJECT NO.	1112058
CHECKED BY	08	CONTRACT NO.	CD1415220
SUPERVISOR	08		

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

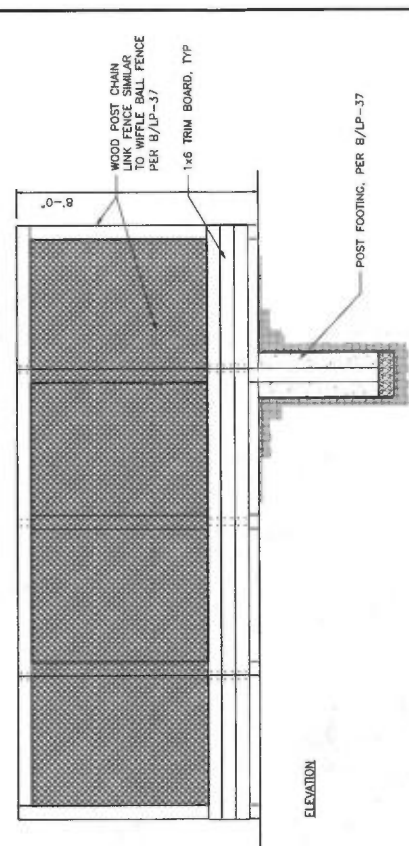
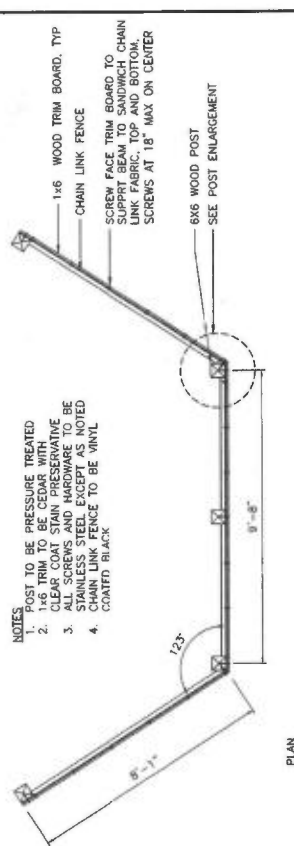
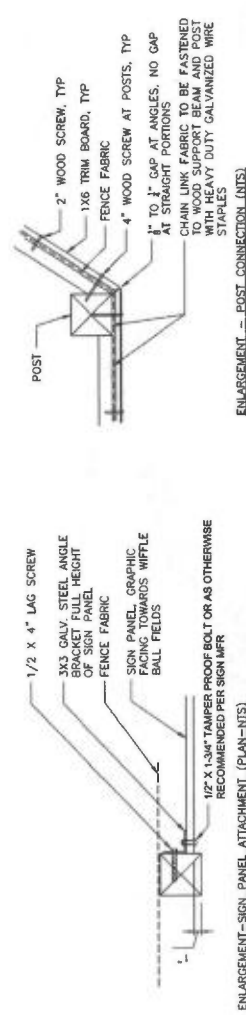
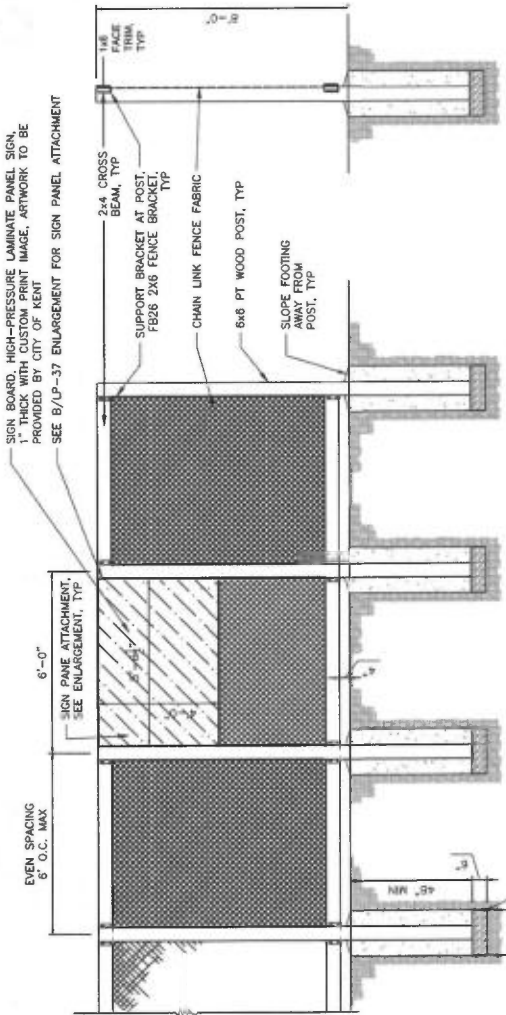


11/27/19

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
LANDSCAPE PARK DETAILS

SHEET  
LP-35

SHEET  
LP-36



- NOTES
1. POST TO BE PRESSURE TREATED
  2. 1x6 TRIM TO BE STAIN PRESERVATIVE
  3. ALL SCREWS AND HARDWARE TO BE STAINLESS STEEL EXCEPT AS NOTED
  4. CHAIN LINK FENCE TO BE VINYL COATED BLACK

**WIFFLE BALL BACKFIELD FENCE**

**WIFFLE BALL BACKSTOP**

SUPPLY JOB NO./SOURCE:		DATE:	
CAD. DESIGNED:	5/12/11	BY:	
DESIGNED:	5/12/11	REVISION:	
CHECKED:	08/11/11	DATE:	
SUPERVISOR:		DATE:	
NAME:		SECOND CHANGES APPROVED:	



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
Chris Tru, Director



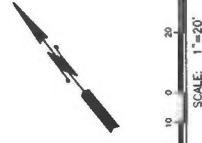
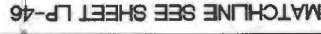
**LOWER RUSSELL LEVEE SETBACK PROJECT**  
PHASE 2  
**LANDSCAPE PARK DETAILS**

SHEET  
**LP-37**

11/27/19



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SURVEY JOB NO./SOURCE: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 CAD ENTERED: \_\_\_\_\_  
 DESIGNED: \_\_\_\_\_  
 CHECKED: \_\_\_\_\_  
 SUPERVISOR: \_\_\_\_\_

[illegible]

FUNDING: \_\_\_\_\_  
PROJECT No. 1112056  
CONTRACT No. C01415C20



11/27/19



**Partnership**

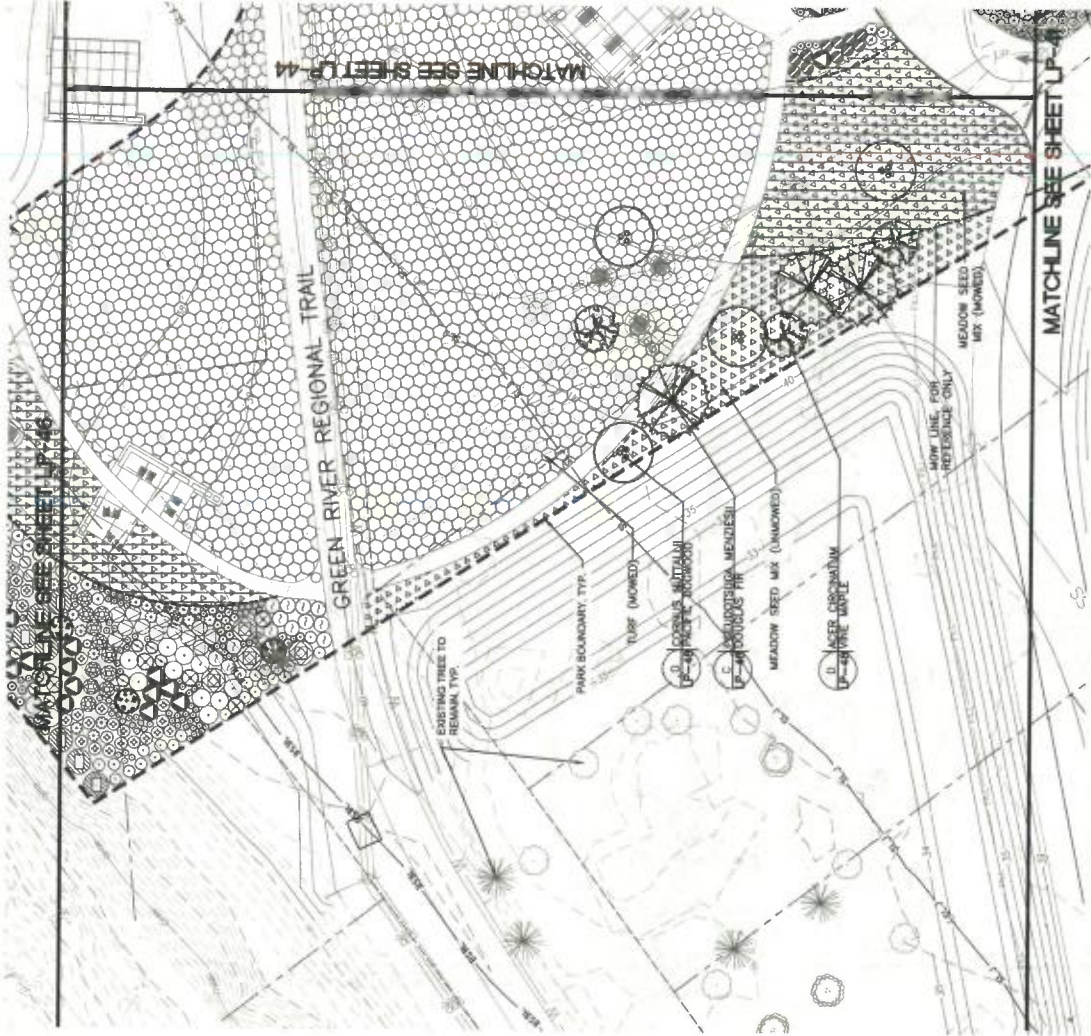


**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
*River and Floodplain Management Section*  
*Christie True, Director*

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
PLANTING  
PLAN B**

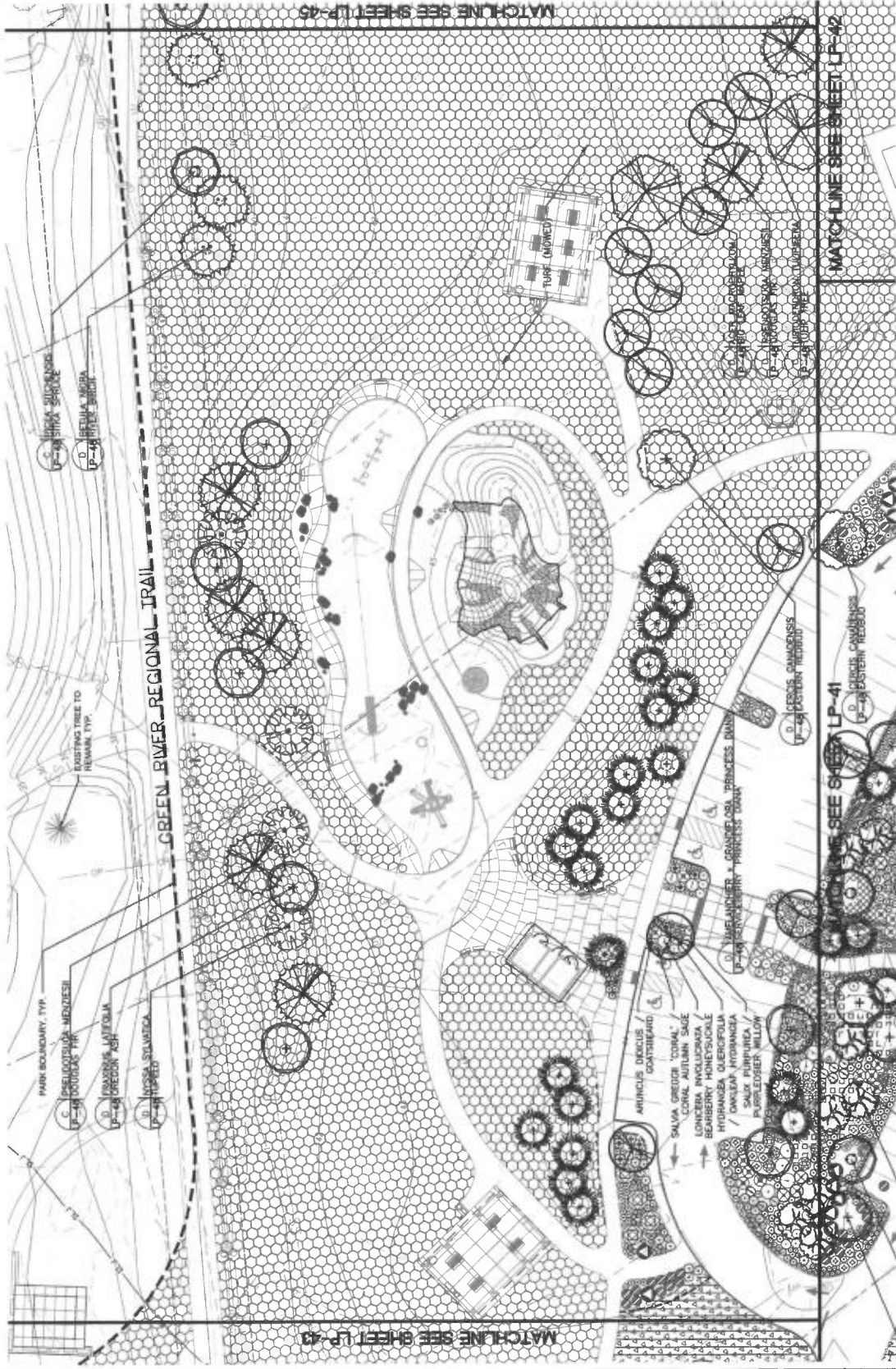
SHEET  
LP-42

NOTES:  
1. SEE DWG LP-47 FOR PLANTING LEGEND.



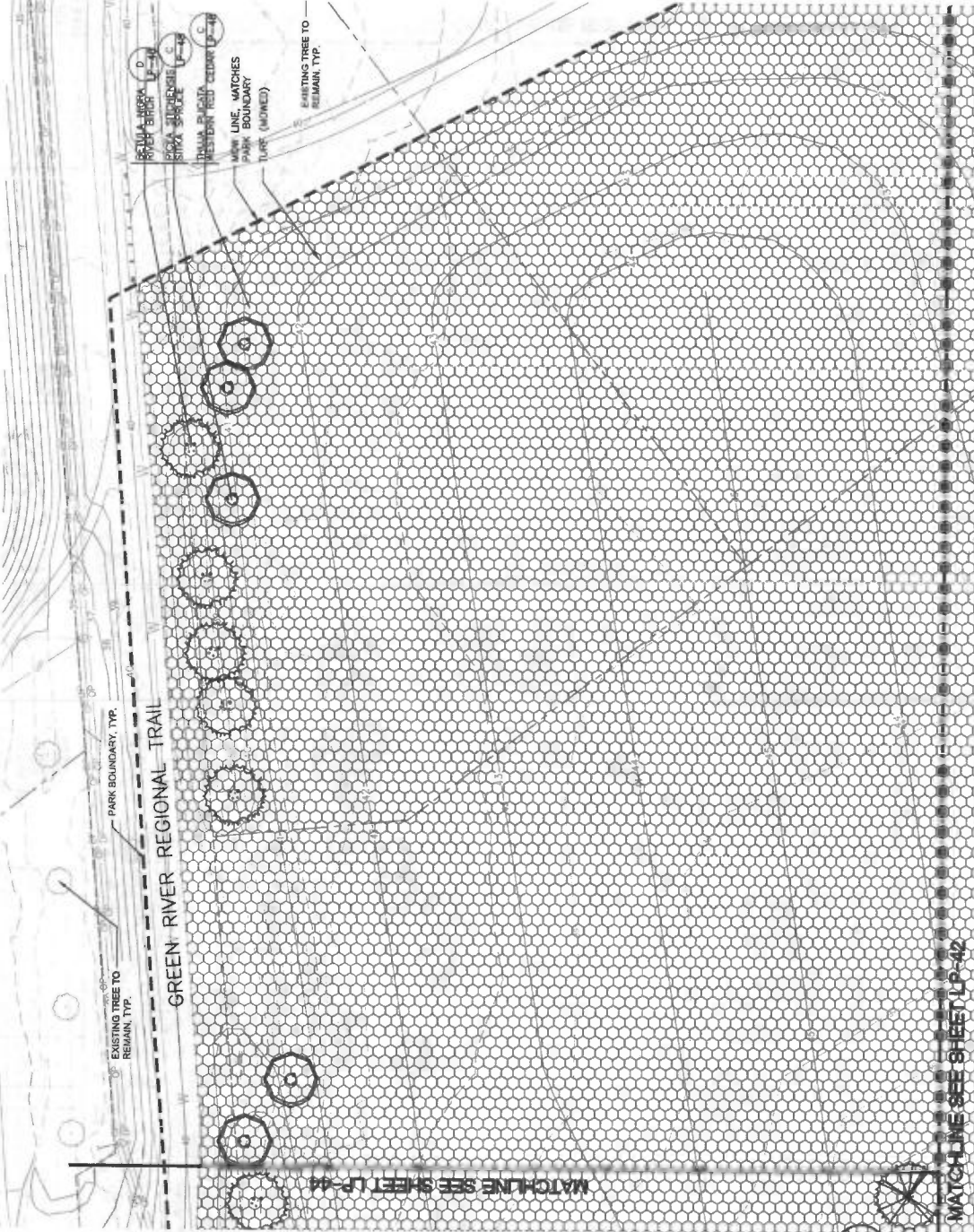
SURVEY JOB NO./SOURCE: CHECKED: 02/27/19 CAD ENTERED: 02/27/19 DESIGNED: 02/27/19 CHECKED: 02/27/19 SUPERVISOR: 02/27/19		PROJECT NO. 1112006 CONTRACT NO. 001415220 DATE 11/27/19 REVISION REVISION REVISION		RECORD CHANGES APPROVED BY DATE 11/27/19				 King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Trice, Director	LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 PLANTING PLAN C	SHEET LP-43
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NOTES:  
1. SEE DWG LP-47 FOR PLANTING LEGEND.

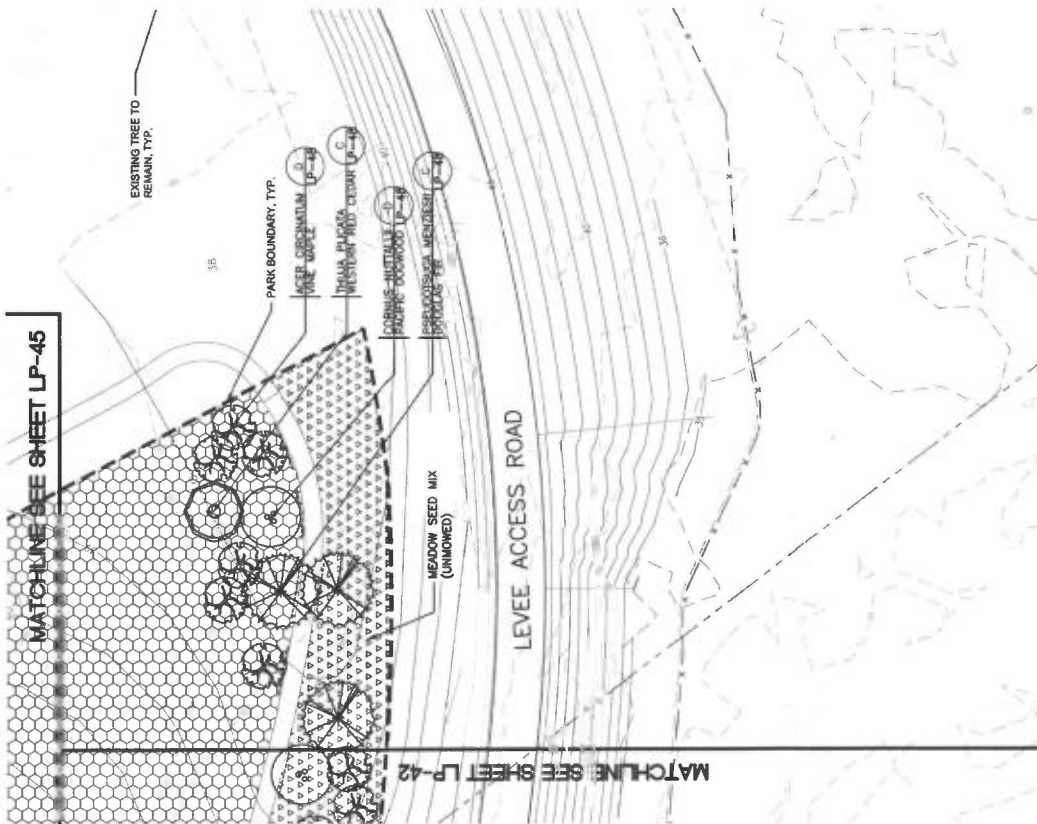


<p>LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 PLANTING PLAN D</p>		<p>King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Chriselle True, Director</p>		<p>11/27/19</p>	
<p>PROJECT No. 1112056 CONTRACT No. CD 415220</p>		<p>RECORD CHANGES APPROVED BY DATE</p>		<p>RECORD CHANGES APPROVED BY DATE</p>	
<p>DESIGNED BY PERSON CHECKED BY 08 11/27/19 SUPERVISOR BY 08 11/27/19</p>		<p>RECORD CHANGES APPROVED BY DATE</p>		<p>RECORD CHANGES APPROVED BY DATE</p>	

NOTES:  
1. SEE DWG LP-47 FOR PLANTING LEGEND.



SURVEY JOB NO./SHEET: CHECKED: 11/27/19 DESIGNED: 11/27/19 CHECKED: 11/27/19 SUPERVISOR: 11/27/19		PROJECT NO.: 1112056 CONTRACT NO.: C01415C20		11/27/19						King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Tran, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 PLANTING PLAN E		SHEET LP-45	
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**PLANTING AREA G**  
SCALE: 1"=20'-0"



**PLANTING AREA F**  
SCALE: 1"=20'-0"

NOTES:  
1. SEE DWG LP-47 FOR PLANTING LEGEND.

SURVEY JOB NO./SUBJECT		RECORD CHANGES APPROVED	
CHECKED:	DATE	BY	DATE
DESIGNED:	11/27/19	REVISION	
CHECKED:	11/27/19		
SUPERVISOR:	11/27/19		

FUNDING:	PROJECT No.
	1112056
	CONTRACT No.
	001415020



11/27/19



**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Tran, Director

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**PLANTING**  
**PLAN F & G**

**SHEET**  
**LP-46**

## VAN DOREN'S PARK PLANT LIST

QTY	BOTANICAL NAME	COMMON NAME	SIZE
17	BETULA NIGRA	RIVER BIRCH	8' HT
28	ACER MACROPHYLLUM	BIG LEAF MAPLE	10' HT
15	FRAXINUS LATIFOLIA	OREGON ASH	8' HT
15	LIRIODENDRON TULIPIFERA	TULIP TREE	8' HT
7	NYSSA SYLVATICA	TUPELO	8' HT
16	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	8' HT
20	THUJA PLICATA	WESTERN RED CEDAR	8' HT
7	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	8' HT

## TREES - SMALL DECIDUOUS

QTY	BOTANICAL NAME	COMMON NAME	SIZE
28	ACER ORCINATUM	VINE MAPLE	6' HT / BAB
32	AMELANCHIER X GRANDIFLORA 'PRINCESS DIANA'	SERVICEBERRY	8' HT / BAB /
3	CERCIS CANADENSIS	EASTERN REDBUD	8' HT / 2" MIN
13	CORNUS NUTTALLII	PACIFIC DOGWOOD	8' HT / 2" MIN
8	CELANERA CERASIFORMIS	INDIAN PLUM	#5

## SHRUBS

QTY	BOTANICAL NAME	COMMON NAME	SIZE
16	ARCTOSTAPHYLOS COLUMBIANA OREGON HYBRID	HARRY MANZANTIA	#5
35	ARUNCUS DIODICUS VAR. ACUMINATUS	GOATSEAR	#3
50	BRACHYGLOTTIS 'SILVER DORMOUSE'	BRACHYGLOTTIS 'SILVER DORMOUSE'	#3
16	CARPENTERIA CALIFORNICA	BUSH ANEMONE	#5
62	CORNUS SANGUINEA 'ARCTIC SUN'	'ARCTIC SUN' REDTWIG DOGWOOD	#3
24	CORNUS SANGUINEA 'MIDWINTER FIRE'	BLOODYTWIG DOGWOOD	#5
37	CORNUS SERICEA	REDTWIG DOGWOOD	#5
108	GAULTHERIA SHALLOON	SALAL	#3
10	HOLODISCUS DISCOLOR	OCEANSPRAY	#5
41	HYDRANGEA QUERCIFOLIA SNOWQUEEN	OAKLEAF HYDRANGEA	#5
22	LONICERA INVOLUCRATA	TWINGBERRY HONEYSUCKLE	#5
14	LONICERA PILEATA	BOXLEAF HONEYSUCKLE	#3
238	MAHONIA NERVOZA	CASCADE OREGON GRAPE	#1
83	MAHONIA REPENS	CREeping OREGON GRAPE	#1
43	RIBES SANGUINEUM	RED-FLOWERING CURRANT	#3
77	SALIX PURPUREA	PURPLEFLOWER WILLOW	#5
336	SALIX GREGGII 'CORAL'	'CORAL' AUTUMN SAGE	#3
70	SARCOCODON RUSCIFOLIA	SWEETBOX	#5
70	SYMPHORICARPOS ALBUS	SNOWBERRY	#5

## SHRUBS (CONT'D)

31	VACINIUM OVATUM	EVERGREEN HUCKLEBERRY	#5
18	VACINIUM PARVIFOLIUM	RED HUCKLEBERRY	#5
QTY	BOTANICAL NAME	COMMON NAME	SIZE
75	BLECHNUM SPICANT	DEER FERN	#1
332	MISCANTHUS SINENSIS 'YAKU JIMA'	DWARF MAIDEN GRASS	#3
59	OSUNDIA RECALUS 'PURPURASCENS'	PURPLE ROYAL FERN	#3
265	POLYSTICHUM MUNIUM	WESTERN SWORD FERN	#3

## GRASS &amp; SEDGES MIXES:

QTY	BOTANICAL NAME	COMMON NAME	SIZE
35%	JUNCUS ENSEIFOLUS	SWORDLEAF RUSH	#2 / 2' O.C. (IN GROUPS OF 3)
35%	JUNCUS TENUIS	POVERTY RUSH	#2 / 2' O.C. (IN GROUPS OF 3)
30%	PENNISETUM ALOPECUROIDES 'HAEMELIN'	DWARF FOUNTAIN GRASS	#1 / 2' O.C. (AT LEAST 3' FROM CURBS)
40%	BLECHNUM SPICANT	DEER FERN	#1 / 2' O.C.
35%	JUNCUS PATEANS 'ELK BLUE'	ELK BLUE CALIFORNIA GRAY RUSH	#1 / 2' O.C. (IN GROUPS OF 3)
25%	MUELENBERGIA CAPILLARIS 'LEICA'	PINK MUHLGRASS	#1 / 2' O.C. (AT LEAST 3' FROM CURBS)

MEADOW SEED MIX (UNMOWED):  
34,181 SFMEADOW SEED MIX (MOWED):  
14,422 SFSEED TURF:  
274,945 SF

TURF SEED MIX PER SPECIFICATIONS.

NOTES:  
1. PLANT SIZES NOTED ARE PER 2014 AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1)  
2. SYMBOLS IN PLANTING SCHEDULE ARE NOT TO SCALE IN DRAWINGS. QUANTITIES ARE PROVIDED FOR REFERENCE ONLY. QUANTITIES OF PLANT SYMBOLS SHOWN IN DRAWINGS ARE NOT TO SCALE. REQUIREMENTS TAKE PRECEDENCE OVER QUANTITIES SHOWN HEREIN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE APPROPRIATE QUANTITY OF PLANTS.

SURVEY NO. 10754830	DATE: 8/28/19	BY: [Signature]
CAD ENTERED: 8/28/19	DATE: 8/28/19	BY: [Signature]
DESIGNED: 8/28/19	DATE: 8/28/19	BY: [Signature]
CHECKED: 8/28/19	DATE: 8/28/19	BY: [Signature]
SUPERVISOR: 8/28/19	DATE: 8/28/19	BY: [Signature]
SECOND CHANGES APPROVED		



11/27/19



**King County**  
Public Works and Transportation  
Water and Land Resources Division  
River and Floodplain Management Section  
Christine Tru, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
PLANTING LEGEND

SHEET  
LP-47



# RUSSELL WOODS PARKING LOT - PLANT SCHEDULE

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
5	FRAXINUS LATIFOLIA	OREGON ASH	8' HT. 2" MIN. CAL.	
TREES - SMALL DECIDUOUS				
10	AMELANCHIER X GRANDIFLORA PRINCESS DIANA	SERVICEBERRY	8' HT. 2" MIN. CAL.	MULTISTEM
SHRUBS				
78	CORNUS SANGUINEA 'ARCTIC SUN'	'ARCTIC SUN' REDTWIG DOGWOOD	#3	
60	CORNUS STOLONIFERA 'FARROW'	'ARCTIC FIRE' REDTWIG DOGWOOD	#3	
91	GAULTHERIA SHALLON	SALAL	#3	
222	MAHONIA NERVOZA	CASCADE OREGON GRAPE	#1	
102	MAHONIA REPENS	CREeping OREGON GRAPE	#1	
66	SYMPHORICARPOS ALBUS	SNOWBERRY	#5	

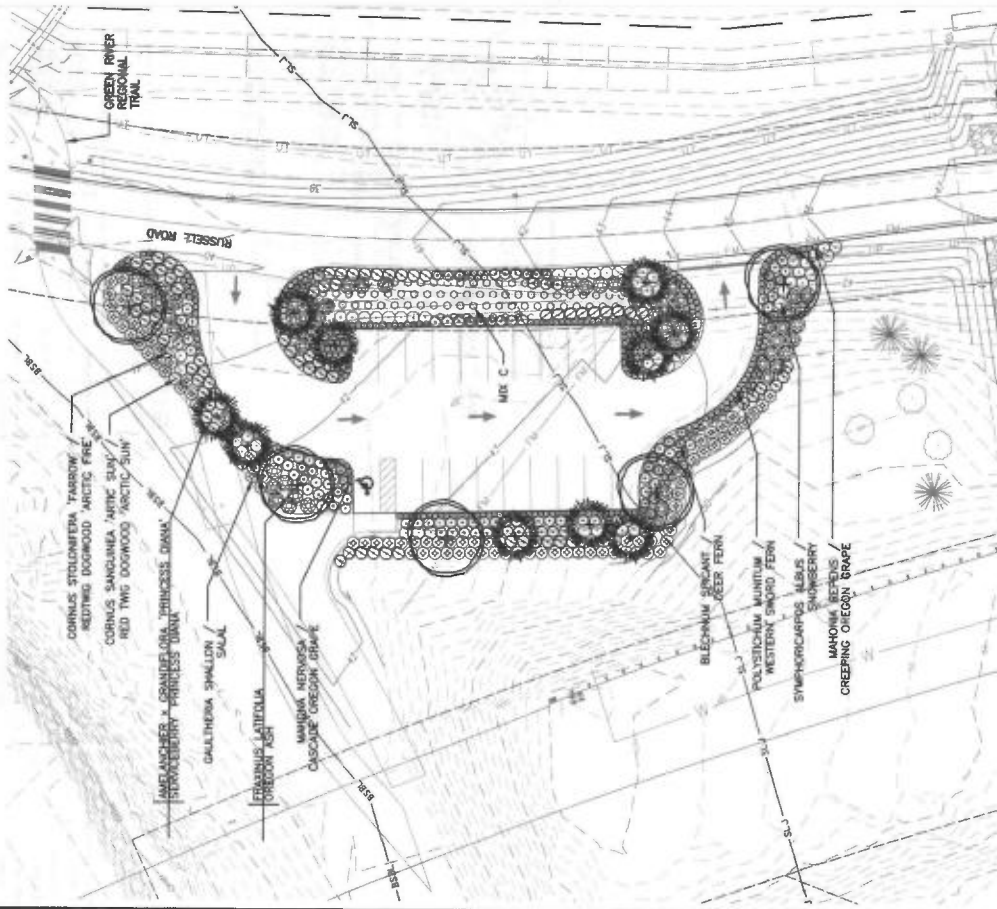
QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
36	BLECHNUM SPICAT	DEER FERN	#1	
81	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	#3	

## GROUND COVER & SEDGES MIXES:

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
35%	JUNCUS ENSEIFOLIUS	SWORDLEAF RUSH	#2 / 2' O.C. (IN GROUPS OF 3)	
35%	JUNCUS TENUS	POVERTY RUSH	#2 / 2' O.C. (IN GROUPS OF 3)	
30%	EQUISETUM HYEMALE	SCOURINGRUSH HORSETAIL	#2 / 2' O.C. (IN GROUPS OF 3)	

NOTES:  
1. TEMPORARY IRRIGATION TO BE PROVIDED FOR ESTABLISHMENT, INC. COORDINATE WITH LANDSCAPE PROJECT REPRESENTATIVE TO ENSURE NO GAP IN WATERING AFTER INSTALLATION.

PLANTING PLAN - RUSSELL WOODS PARKING LOT  
SCALE: 1"=20'-0"



SURVEY JOB NO./SOURCE:		DATE:	
CHECKED:	12/12	11/27/19	
DESIGNED:	12/08	11/27/19	REVISION
CHECKED:	08	11/27/19	
SUPERVISOR:	08	11/27/19	
APPROVED:			
REVISIONS:			



11/27/19

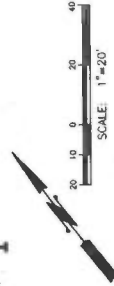
**berger**  
PARTNERSHIP

**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
Cristina Tice, Director

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
PLANTING PLAN -  
RUSSELL WOODS PARKING LOT

SHEET  
LP-49

NOTES:

[illegible][illegible]

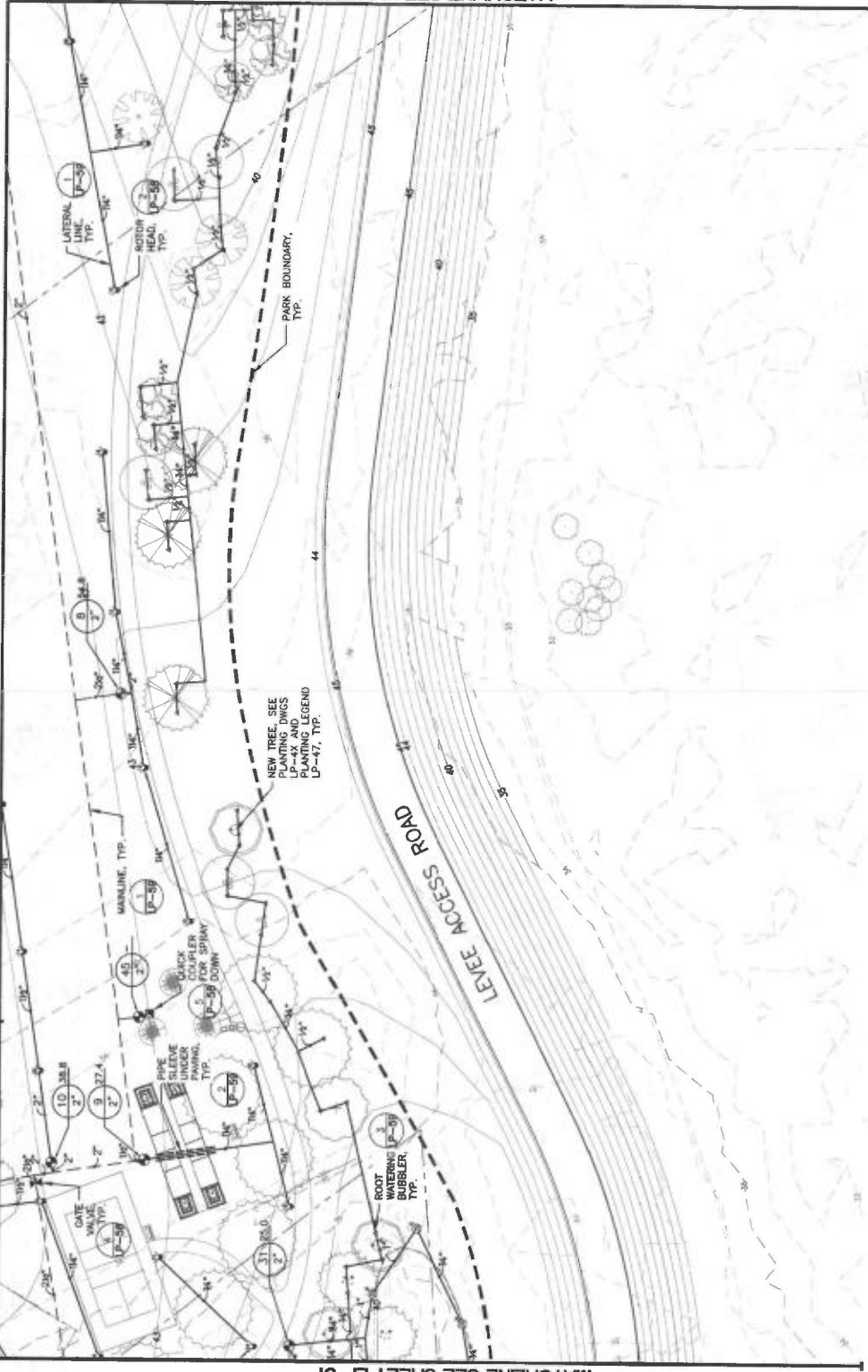
11/27/19



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

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
IRRIGATION  
PLAN A**

**LP-51**  
**SHEET**



MATCHLINE SEE SHEET LP-51

MATCHLINE SEE SHEET LP-56

1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL, LEGEND, MECHANICAL SCHEDULE, AND VALVE SCHEDULE.
2. ALL DRAWINGS ARE DIAGRAMMATIC. FIELD VARIANCES MAY OCCUR. CONTRACTOR SHALL REPRESENTATIVE IMMEDIATELY.
3. IRRIGATION & LOOP LAYOUT IS DIAGRAMMATIC. IT HAS BEEN SHOWN IN THIS MAP SHEET FOR PURPOSE OF CLARITY.
4. PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE CITY OF LOS ANGELES FOR THE STATIC WATER CONNECTION (PSD) AT THE POINT OF CONNECTION (PSD) AT THE POINT OF CONNECTION (PSD) AT THE POINT OF CONNECTION (PSD) (EXPECTED RANGE 70-85 PS). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
5. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES THROUGHOUT THE SCOPE OF WORK.
6. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL EXISTING UTILITIES THROUGHOUT THE SCOPE OF WORK. CONTRACTOR SHALL OBTAIN A PERMIT FROM THE CITY OF LOS ANGELES FOR THE STATIC WATER CONNECTION (PSD) AT THE POINT OF CONNECTION (PSD) AT THE POINT OF CONNECTION (PSD) AT THE POINT OF CONNECTION (PSD) (EXPECTED RANGE 70-85 PS). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
7. LOCATE PIPE NEAR PERMANENT STRUCTURES WHERE POSSIBLE (I.E. ALONG EDGES OF SIDEWALKS, ETC.) LEAVE PIPE SIZING FACT UP IN TRENCH TO FACILITATE REPAIR.
8. ALL UNSIZED TERMINAL LATERAL LINES ARE 3/4" PIPE. LATERAL LINE PIPE IS SIZED FOR PRESSURE PENETRATION AND FUTURE EXPANSION. DO NOT UNDERSIZE PIPE.
9. SPRINKLER HEADS SHOULD BE A MAXIMUM OF 4" FROM BED EDGES.
10. VERIFY CONTROLLER LOCATION W/ OWNER.
11. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR WINTERIZATION OF SYSTEM DURING CONSTRUCTION PERIOD AND WARRANTY PERIOD. CONTRACTOR SHALL MAINTAINANCE ONCE WINTERIZATION RESPONSIBILITY ENDS. SYSTEM MUST BE WINTERIZED BY BLOWING OUT WITH COMPRESSED AIR.
12. PIPING MAY BE INSTALLED IN A COMMON TRENCH. ALLOW A MINIMUM OF 4" BETWEEN PARALLEL LINES. CONTRACTOR SHALL TAKE CARE TO AVOID CONFLICT WITH INSTALLATION OF TREES & SHRUBS.
13. INSTALL ON ROTARY NOZZLES AS INSTALLED ON LING-57. CONTRACTOR RESPONSIBLE FOR FINE TUNING AND ADJUSTING RADIUS TO OBTAIN COVERAGE AND MINIMIZE OVERSHOOT ONTO HADDOCK SURFACE.

SCALE: 1"=20'

**SELL LEVEE SETBACK PROJECT  
PHASE 2  
IRRIGATION  
PLAN B**

**SHEET**  
**LP-52**

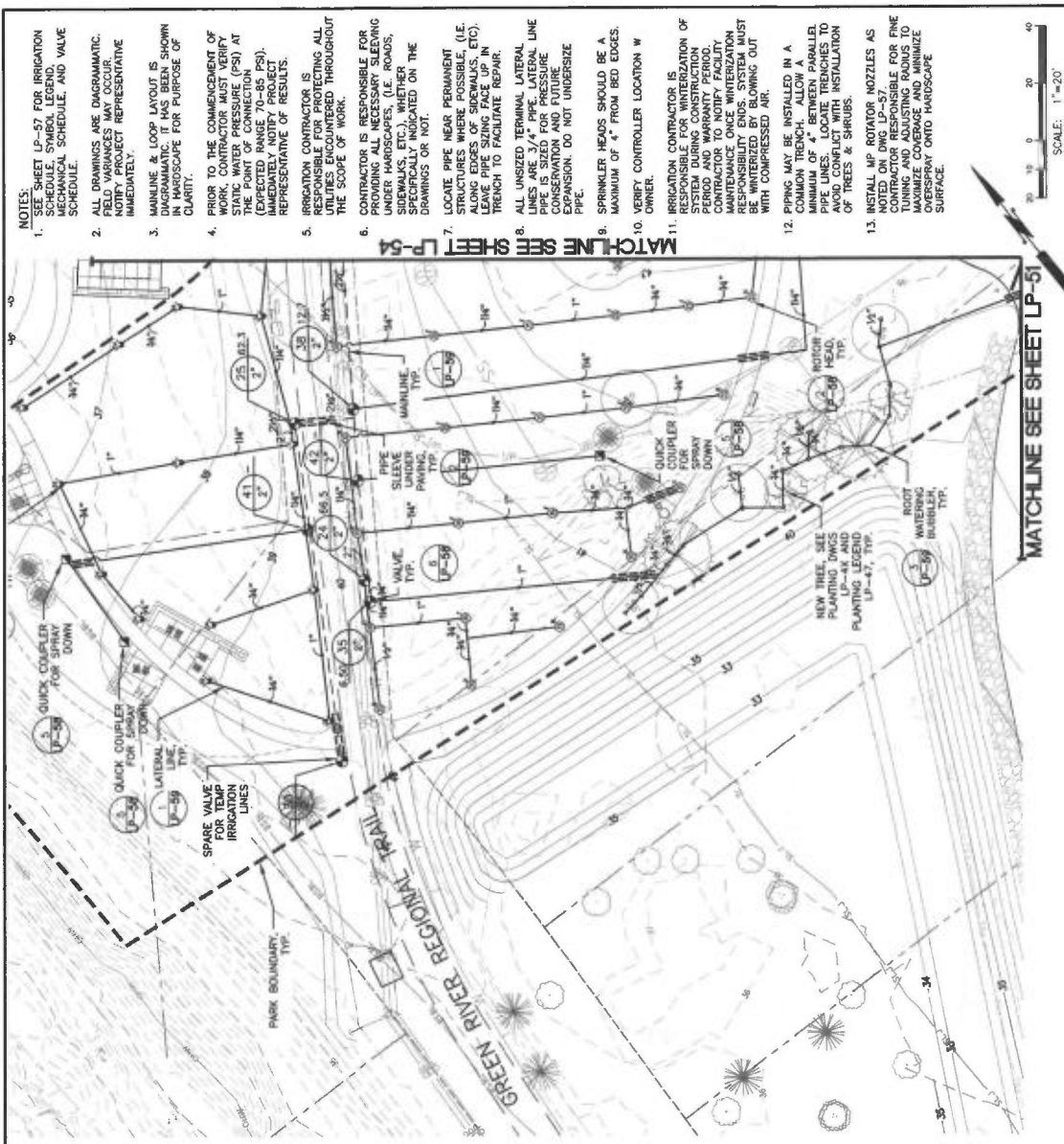


**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
*Christie True, Director*



11/27/19

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- NOTES:**
1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, AND VALVE SCHEDULE.
  2. ALL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS IMMEDIATELY.
  3. MAINLINE & LOOP LAYOUT IS DIAGRAMMATIC. IT HAS BEEN SHOWN IN HARDSCAPE FOR PURPOSE OF CLARITY.
  4. PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR MUST VERIFY THE POINT OF CONNECTION TO THE EXISTING MAINLINE (P-58) IMMEDIATELY. NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
  5. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES ENCOUNTERED THROUGHOUT THE SCOPE OF WORK.
  6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY SLEEVING UNDER HARDSCAPES, (I.E. ROADS, SIDEWALKS, ETC.). WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.
  7. LOCATE PIPE NEAR PERMANENT STRUCTURES WHERE POSSIBLE, (I.E. SIDEWALKS, DRIVEWAYS, ETC.). LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR.
  8. ALL UNSIZED TERMINAL LATERAL LINES ARE 3/4" PIPE. LATERAL LINE PIPE IS SIZED FOR PRESSURE CONSERVATION AND FUTURE EXPANSION. DO NOT UNDERSIZE PIPE.
  9. SPRINKLER HEADS SHOULD BE A MAXIMUM OF 4' FROM BED EDGES.
  10. VERIFY CONTROLLER LOCATION WITH OWNER.
  11. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR WINTERIZATION OF SYSTEM DURING CONSTRUCTION PERIOD AND WARRANTY PERIOD. CONTRACTOR SHALL PROVIDE MAINTENANCE ONCE WINTERIZATION RESPONSIBILITY ENDS. SYSTEM MUST BE WINTERIZED BY BLOWING OUT WITH COMPRESSED AIR.
  12. PIPING MAY BE INSTALLED IN A COMMON TRENCH. ALLOW A MINIMUM OF 4" BETWEEN LATERAL LINES. LOCATE TRENCHES TO AVOID CONFLICT WITH INSTALLATION OF TREES & SHRUBS.
  13. INSTALL UP ROTATOR NOZZLES AS NOTED ON DWG LP-57. CONTRACTOR RESPONSIBLE FOR FINE TUNING AND ADJUSTING POUNDS TO MATCH DESIRED WATERING RATE. OVERSPRAY ONTO HARDSCAPE SURFACE.



<b>King County</b> Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christine Tran, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>IRRIGATION</b> <b>PLAN C</b>		<b>SHEET</b> <b>LP-53</b>								
<b>berger</b> PARTNERSHIP				11/27/19								
CHECKED: <u>                    </u> DATE: <u>11/27/19</u>		PROJECT No. <u>1112058</u> CONTRACT No. <u>CO1415220</u>		FUNDING: <u>                    </u>								
DESIGNED: <u>                    </u> DATE: <u>11/27/19</u>	CHECKED: <u>                    </u> DATE: <u>11/27/19</u>	SUPERVISOR: <u>                    </u>	REVISIONS: <table border="1"> <tr> <th>NO.</th> <th>DESCRIPTION</th> <th>BY</th> <th>DATE</th> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table>	NO.	DESCRIPTION	BY	DATE					APPROVED: <u>                    </u> DATE: <u>                    </u>
NO.	DESCRIPTION	BY	DATE									

- NOTES:
- SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, SCHEDULE, AND VALVE SCHEDULE.
  - ALL DRAWINGS ARE DIAGNOSTIC. FIELD VARIANCES MAY OCCUR. NOTIFY PROJECT REPRESENTATIVE IMMEDIATELY.
  - MAINLINE & LOOP LAYOUT IS DIAGNOSTIC. IT HAS BEEN SHOWN IN HARDSCAPE FOR PURPOSE OF CLARITY.
  - PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR MUST VERIFY STATIC WATER PRESSURE (PSI) AT EACH MAINLINE & LATERAL (EXPECTED RANGE 70-85 PSI). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
  - IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES ENCOUNTERED THROUGHOUT THE SCOPE OF WORK.
  - CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY SLEEVING UNDER HARDSCAPES, (I.E. ROADS, SIDEWALKS, ETC.), WHETHER SPECIFIED OR NOT.
  - LOCATE PIPE NEAR PERMANENT SURFACES. LOCATE MAINLINE ALONG EDGES OF SIDEWALKS, ETC). LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR.
  - ALL UNSIZED TERMINAL LATERAL LINES ARE 3/4" PIPE. LATERAL LINE PIPE IS SIZED FOR PRESSURE EXPANSION AND FUTURE EXPANSION. DO NOT UNDERSIZE PIPE.
  - SPRINKLER HEADS SHOULD BE A MINIMUM OF 4" FROM SED EDGES.
  - VERIFY CONTROLLER LOCATION W/ OWNER.
  - IRRIGATION CONTRACTOR IS RESPONSIBLE FOR WINTERIZATION OF SYSTEM DURING CONSTRUCTION. CONTRACTOR TO NOTIFY FACILITY MAINTENANCE ONCE WINTERIZATION RESPONSIBILITY ENDS. SYSTEM MUST BE BLOWN OUT WITH COMPRESSED AIR.
  - PIPING MAY BE INSTALLED IN A MANNER THAT DOES NOT ALLOW PARALLEL PIPE LINES. LOCATE TRENCHES TO AVOID CONFLICT WITH INSTALLATION OF TREES & SHRUBS.
  - INSTALL MP ROTATOR NOZZLES AS NOTED ON DWG LP-57.
  - CONTRACTOR RESPONSIBLE FOR FINE TUNING OF SYSTEM TO MAXIMIZE COVERAGE AND MINIMIZE OVERSPRAY ONTO HARDSCAPE SURFACE.

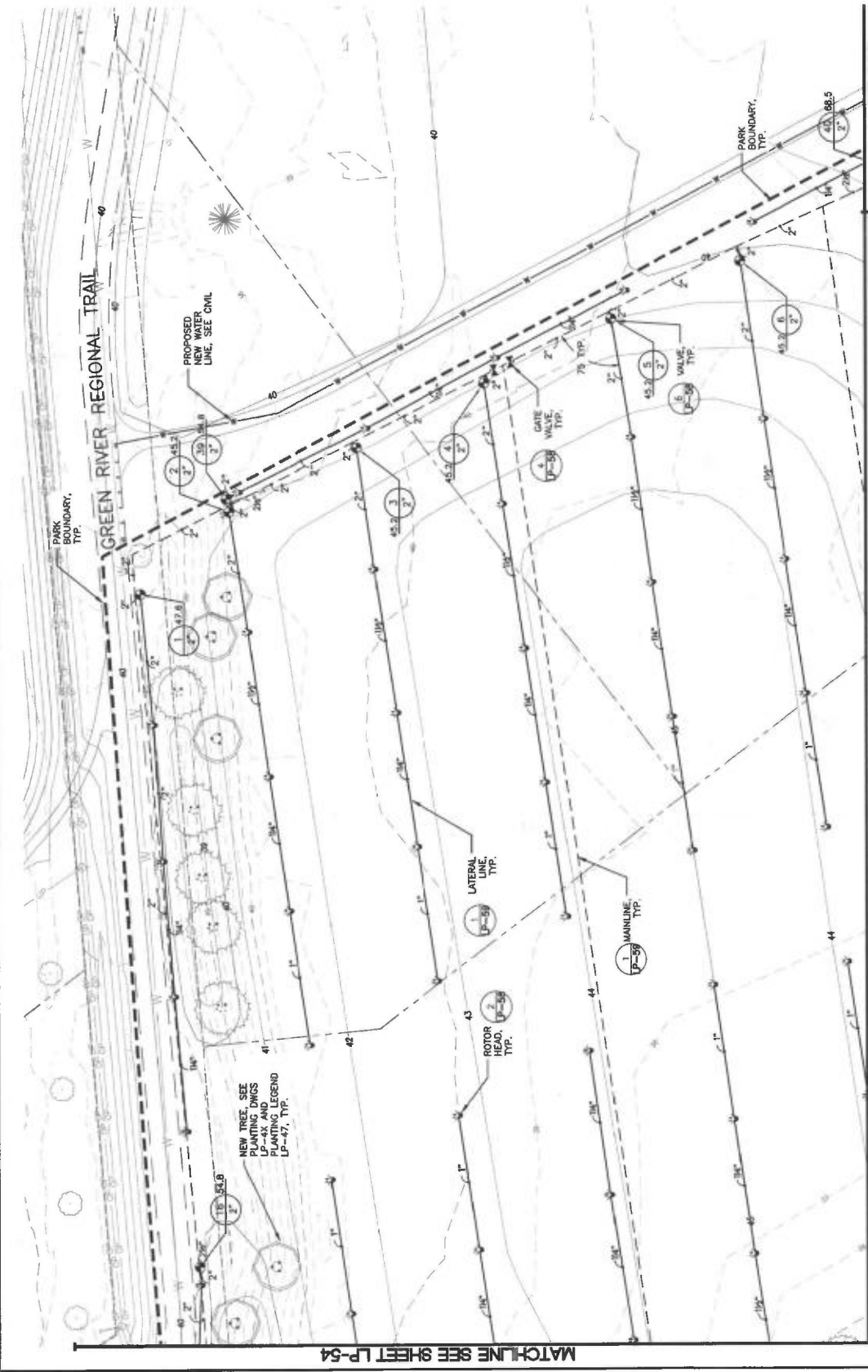


MATCHLINE SEE SHEET LP-52

MATCHLINE SEE SHEET LP-51

SLURRY JOB NO./SUBJOB: _____ CHECKED: _____ DATE: 01/27/19 DESIGNED: _____ DATE: 01/27/19 CHECKED: _____ DATE: 01/27/19 SUPERVISOR: _____		PROJECT NO: 1112056 CONTRACT NO: C01415C20		11/27/19				<b>berger</b> PARTNERSHIP King County Department of Natural Resources and Parks River and Floodplain Management Division Christine Truse, Director		LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 IRRIGATION PLAN D		SHEET LP-54	
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NOTES:  
1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, AND VALVE SCHEDULE.  
2. ALL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND NOTIFY PROJECT REPRESENTATIVE IMMEDIATELY.  
3. MAINLINE & LOOP LAYOUT IS DIAGRAMMATIC. IT HAS BEEN SHOWN IN HARDSCAPE FOR PURPOSE OF CLARITY.  
4. PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR MUST VERIFY THE POINT OF CONNECTION (PS) AT THE EXISTING MAINLINE (P-56). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.  
5. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES ENCOUNTERED THROUGHOUT THE SCOPE OF WORK.  
6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY SLEEVING UNDER HARDSCAPES, (I.E. ROADS, SIDEWALKS, ETC.), WHETHER INDICATED ON THE DRAWINGS OR NOT.  
7. LOCATE PIPE NEAR PERMANENT STRUCTURES WHERE POSSIBLE. LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR.  
8. ALL UNSIZED TERMINAL LATERAL LINES ARE 3/4" PIPE. LATERAL LINE PIPE IS SIZED FOR PRESSURE CONSERVATION AND FUTURE EXPANSION. DO NOT UNDERSIZE PIPE.  
9. SPRINKLER HEADS SHOULD BE A MINIMUM OF 4" FROM BED EDGES.  
10. VERIFY CONTROLLER LOCATION W/ OWNER.  
11. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR WINTERIZATION OF SYSTEM DURING CONSTRUCTION PERIOD AND WARRANTY PERIOD. CONTRACTOR SHALL PROVIDE MAINTENANCE ONCE WINTERIZATION RESPONSIBILITY ENDS. SYSTEM MUST BE WINTERIZED BY BLOWING OUT WITH COMPRESSED AIR.  
12. PIPING MAY BE INSTALLED IN A COMMON TRENCH ALLOW A MINIMUM OF 18" BETWEEN PARALLEL PIPE LINES. LOCATE BENCHES TO AVOID CONFLICT WITH INSTALLATION OF TREES & SHRUBS.  
13. INSTALL MP ROTATOR NOZZLES AS NOTED ON DWG LP-57. CONTRACTOR RESPONSIBLE FOR FINE TUNING AND ADJUSTMENT OF SYSTEM TO MAXIMIZE COVERAGE AND MINIMIZE OVERSPRAY ONTO HARDSCAPE SURFACE.



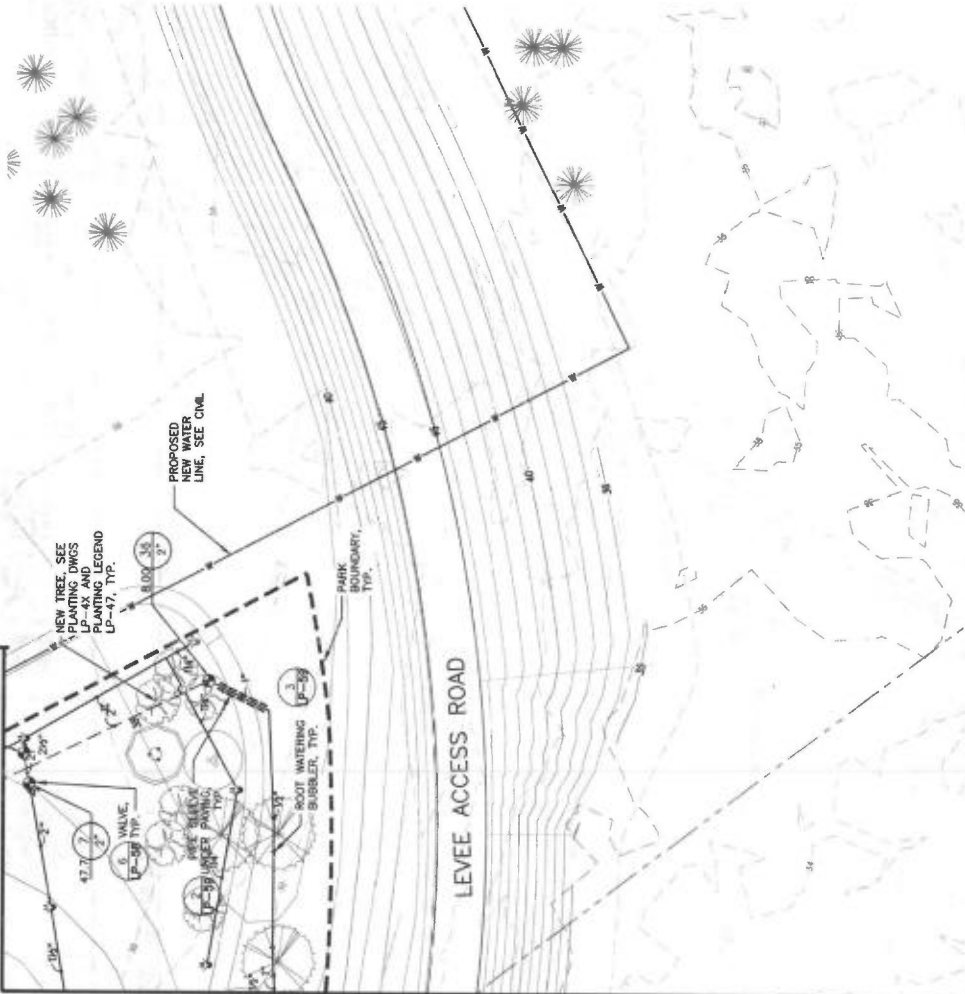
MATCHLINE SEE SHEET LP-56

MATCHLINE SEE SHEET LP-52

		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>IRRIGATION</b> <b>PLAN E</b>		SHEET <b>LP-55</b>
				11/27/19
CHECKED: DATE: 11/27/19	DRAWN: DATE: 11/27/19	PROJECT No: 1112058	CONTRACT No: C01415220	FUNDING:
SUPERVISOR:	RECORD CHANGES APPROVED:	BY:	DATE:	

MATCHLINE SEE SHEET LP-54

MATCHLINE SEE SHEET LP-55



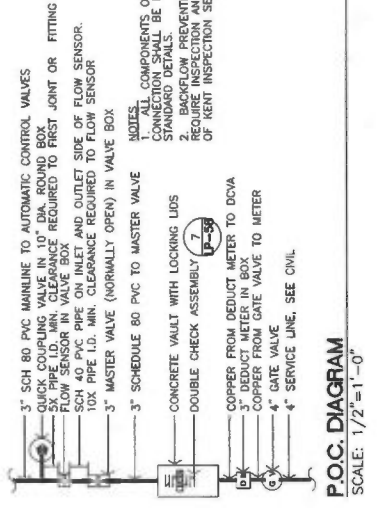
MATCHLINE SEE SHEET LP-51

- NOTES:**
1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, SCHEDULE, AND VALVE SCHEDULE.
  2. ALL DRAWINGS ARE DIAGRAMMATIC. FIELD VARIANCES MAY OCCUR. NOTIFY PROJECT REPRESENTATIVE IMMEDIATELY.
  3. MAINLINE & LOOP LAYOUT IS DIAGRAMMATIC. IT HAS BEEN SHOWN IN HARDSCAPE FOR PURPOSE OF CLARITY.
  4. PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR MUST VERIFY STATIC WATER PRESSURE (PSI) AT EACH VALVE LOCATION (EXPECTED RANGE 70-85 PSI). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
  5. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL UTILITIES ENCOUNTERED THROUGHOUT THE SCOPE OF WORK.
  6. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY SLEEVING UNDER HARDSCAPES, (I.E. ROADS, SIDEWALKS, ETC.) REFERRED TO SPECIFICALLY LOCATED ON THE DRAWINGS OR NOT.
  7. LOCATE PIPE NEAR PERMANENT SURFACES, (I.E. SIDEWALKS, ETC.) ALONG EDGES OF SIDEWALKS, ETC.) LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR.
  8. ALL UNSIZED TERMINAL LATERAL LINES ARE 3/4" PIPE. LATERAL LINE PIPE IS SIZED FOR PRESSURE CONSERVATION AND FUTURE EXPANSION. DO NOT UNDERSIZE PIPE.
  9. SPRINKLER HEADS SHOULD BE A MINIMUM OF 4" FROM BED EDGES.
  10. VERIFY CONTROLLER LOCATION W/ OWNER.
  11. IRRIGATION CONTRACTOR IS RESPONSIBLE FOR WINTERIZATION OF SYSTEM DURING CONSTRUCTION. CONTRACTOR TO NOTIFY FACILITY MAINTENANCE ONCE WINTERIZATION RESPONSIBILITY ENDS. SYSTEM MUST BE WINTERIZED BY BLOWING OUT WITH COMPRESSED AIR.
  12. PIPING MAY BE INSTALLED IN A TRENCH, OR ALONG PERMANENT SURFACES, (I.E. SIDEWALKS, ETC.) LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR. PIPING MAY BE INSTALLED IN A TRENCH, OR ALONG PERMANENT SURFACES, (I.E. SIDEWALKS, ETC.) LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR. PIPING MAY BE INSTALLED IN A TRENCH, OR ALONG PERMANENT SURFACES, (I.E. SIDEWALKS, ETC.) LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR.
  13. INSTALL MP ROTATOR NOZZLES AS NOTED ON DWG LP-57. CONTRACTOR RESPONSIBLE FOR FINE TUNING OF SYSTEM AND ADJUSTING TO MAXIMIZE COVERAGE AND MINIMIZE OVERSPRAY ONTO HARDSCAPE SURFACE.



 <b>King County</b> Department of Natural Resources and Parks River and Floodplain Management Section Christine Truitt, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>IRRIGATION</b> <b>PLAN G</b>		SHEET <b>LP-56</b>
				11/27/19
FINANCING: _____ PROJECT No. 1112056 CONTRACT No. C01415220		REVISIONS: _____ BY _____ DATE _____ REVISIONS: _____ BY _____ DATE _____ REVISIONS: _____ BY _____ DATE _____		REVISIONS: _____ BY _____ DATE _____ REVISIONS: _____ BY _____ DATE _____ REVISIONS: _____ BY _____ DATE _____
CHECKED: _____ DESIGNED: _____ SUPERVISOR: _____		APPROVED: _____ DATE: 11/27/19		DATE: 11/27/19

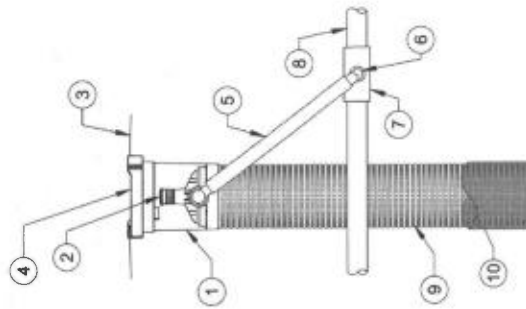
## VALVE SCHEDULE

[illegible]

**P.O.C. DIAGRAM**  
SCALE:  $1/2" = 1' - 0"$

[illegible]

**LOWER RUSSELL LEVEE SETBACK PROJECT**  
**PHASE 2**  
**IRRIGATION**  
**DETAILS**



**PIPE SLEEVES**  
SCALE: 1 1/2"=1'-0"



SCALE: 1 1/2"=1'-0"

- ① **ROOT WATERING SYSTEM:**  
 PIPE: 0.25 GPM (0.95 L/M) BUBBLER, 4" (10.2 cm) GRADE  
 18" (45.7 cm) OPEN SWING ASSEMBLY WITH 1/2" (1.3 cm) M  
 NPT INLET)
- ② **BUBBLER:** RAIN BIRD 1401 0.25 GPM (0.95 L/M) (INCLUDED)
- ③ **FINISH GRADE/TOP OF MULCH**
- ④ **4" (10.2 cm) LOCKING GRATE (INCLUDED)**
- ⑤ **18" (45.7 cm) SWING ASSEMBLY (INCLUDED)**
- ⑥ **1/2" (1.3 cm) MALE NPT INLET (INCLUDED)**
- ⑦ **PVC SCH 40 TEE OR EL**
- ⑧ **PVC OR POLYETHYLENE LATERAL PIPE**
- ⑨ **4" (10.2 cm) WIDE X 36" (91.4 cm) LONG  
 RIGID BASKET WEAVE CANISTER (INCLUDED)**
- ⑩ **OPTIONAL SOCK (RINS-SOCK) FOR SANDY  
 SOILS**

1. PROVIDE (2) PER TREE AS NOTED ON DRAWINGS.
2. 4" (10.2 cm) GRATE IS ALSO AVAILABLE IN PURPLE.
3. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH THE GROUND SURFACE.
4. OPTIONAL SAND SOCK (RWS-SOCK) IS 34" (86.4 cm) LONG AND 4" (10.2 cm) DIA. IT MUST BE INSTALLED AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION. IT MUST BE INSTALLED WITH THE BASKET ONCE RWS HAS BEEN INSTALLED.
5. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, IT IS RECOMMENDED TO PREPARE THE SOIL AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION. IT MUST BE INSTALLED WITH THE BASKET ONCE RWS HAS BEEN INSTALLED.

## SCALE: NTS

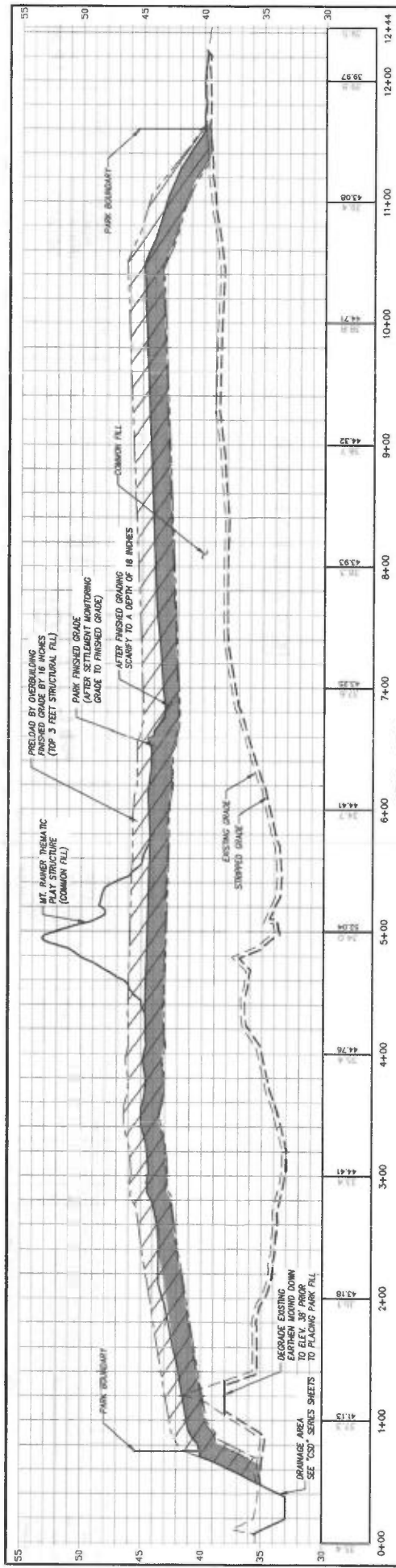


11/27/19



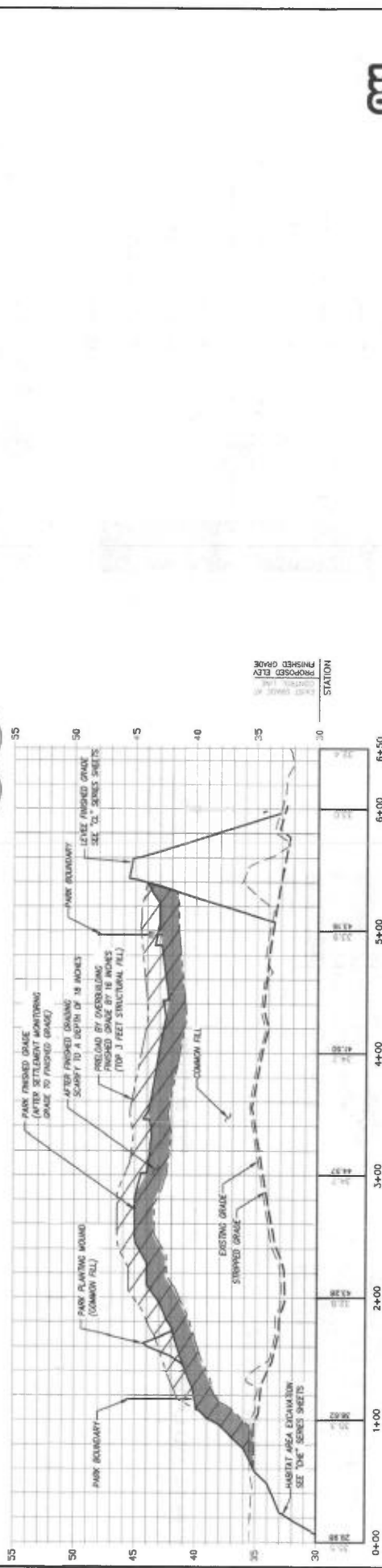
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
River and Floodplain Management Section  
*Christie Trice, Director*

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
IRRIGATION  
DETAILS**



PARK SECTION - SOUTH TO NORTH

1 1  
LP-01 LP-61



PARK SECTION - WEST TO EAST

2 2  
LP-01 LP-61



**811**  
CALL 2 WORKING DAYS  
BEFORE YOU DIG  
1-800-424-5555  
Know what's below.  
Call before you dig.  
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

 <b>King County</b> Department of Natural Resources and Parks Watershed and Forest Management Section River and Floodplain Management Section Christie True, Director		<b>LOWER RUSSELL LEVEE SETBACK PROJECT</b> <b>PHASE 2</b> <b>PARK GRADING SECTIONS</b> SHEET <b>LP-60</b>	
 <b>HDR</b> HDR Engineering, Inc.		 PROJECT No. 1112056 CONTRACT No. C01415220	
SURVEY JOB NO./SOURCE: _____ CHECKED: _____ CAD ENTERED: _____ DESIGNED: _____ CHECKED: _____ SUPERVISOR: _____		DATE: _____ DATE: _____ DATE: _____ DATE: _____ DATE: _____	
RECORDED CHANGES APPROVED BY: _____		DATE: _____	



## CONCRETE

- [illegible]

**STEEL**

81. DESIGN STRENGTHS  
WIDE FLANGE AND TEES  
F<sub>y</sub> 50 KSI  
F<sub>y</sub> 60 KSI  
F<sub>y</sub> 65 KSI  
F<sub>y</sub> 70 KSI  
F<sub>y</sub> 75 KSI  
F<sub>y</sub> 80 KSI  
F<sub>y</sub> 85 KSI  
F<sub>y</sub> 90 KSI  
F<sub>y</sub> 95 KSI  
ALL OTHER PLATES AND SHAPES  
F<sub>y</sub> 50 KSI
82. DIMENSIONS  
OF COLUMNS AND BEAMS  
TOP SURFACES OF BEAMS AND TUBES AND  
BACK OF CHANNELS AND ANGLES AND
83. ELEVATION

1971-72

- 54 WHEN PILET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS
- 55 ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED. PROVIDE LOAD INDICATING WASHERS AT SUPER-CRITICAL CONNECTIONS
- 56 CONFORM TO AISC 360, STEEL CONSTRUCTION MANUAL, AND AISC 341, SEISMIC DESIGN MANUAL

## S7 THE SEASONS

- FRAME ELEVATIONS. THE SLAB DESIGNATION INCLUDES THE MEMBER AND CONNECTION AT EACH END. FRAMES ARE DENOTED AS FOLLOWS:
- A. MOMENT FRAME
  - B. CENTRICALLY BRACED FRAME
- FOR SLABS WITH ONE OR MORE OF THE SYSTEMS THAT ARE NOT INCLUDED IN FRAMES, SLABS ARE PLACED NEXT TO THE BEAM LINE ON THE FRAMING PLAN, SO, ON A MEMBER DESIGNATION (SLAB), THE MEMBER DESIGNATION (SLAB) IS.
- ALL STEEL BEAMS SHALL RECEIVE STANDARD CAMBER PER THE SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS. BEAMS REQUIRING SPECIAL CAMBERS ARE DENOTED ON THE BEAMS SCHEDULE ON THE FRAMING PLAN. EXAMPLE: 1'-2" INFLATES 3".

## STUDY LIMITS

801. THE DESIGN, FABRICATION, AND ERECTION OF METAL WORKING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDC SPECIFICATIONS AND THE SDC DIAPHRAGM MANUAL.
802. STEEL FLOOR DECK SHALL BE 1/2" THICK 20 GAUGE GALVANIZED COMPOSITE DECK, AS SHOWN ON THE DRAWING. ALL DIMENSIONS AND SPACINGS ARE AS FOLLOWS:
803. STEEL FLOOR DECK TO BE A STUD-210X210X1/2" (16X21X1/2) RUST.
804. THE STEEL FLOOR DECK TO BE A STUD-210X210X1/2" (16X21X1/2) RUST, AS SHOWN IN SPECIFICATIONS.
805. SUSPENDED CEILING LIGHT FIXTURES, DUCTS AND OTHER UTILITIES SHALL NOT BE SUPPORTED FROM THE STEEL DECK.

## GENERAL

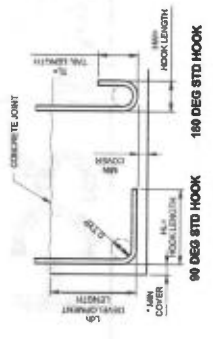
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**GS. SAFETY.**  
**SAFETY IN**

- [illegible]



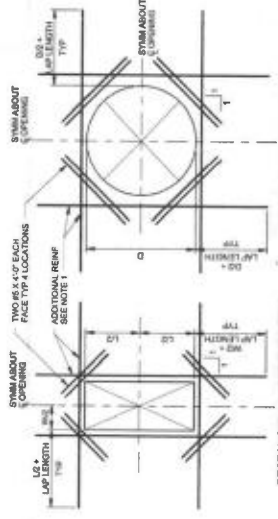
LAP SPICES AND EMBEDMENT LENGTHS For #4 bar		
BAR	BAR SPACED GREATER THAN 4"	BAR SPACED LESS THAN OR EQUAL TO 4"
#3	14"	20"
#4	18"	24"
#5	22"	28"
#6	26"	32"
#7	30"	36"
#8	34"	40"
#9	38"	44"
#10	42"	48"
#11	46"	52"



BAR SIZE	GRADE (G)	HL	HW	TL	D	FOR 4 OR 4.5 KSI
#3	60	8"	5"	3"	2 1/4"	6"
#4	60	10"	6"	4"	3 1/4"	8"
#5	60	12"	7"	5"	4 1/4"	10"
#6	60	14"	8"	6"	5 1/4"	12"
#7	60	16"	9"	7"	6 1/4"	14"
#8	60	18"	10"	8"	7 1/4"	16"
#9	60	20"	11"	9"	8 1/4"	18"
#10	60	22"	12"	10"	9 1/4"	20"
#11	60	24"	13"	11"	10 1/4"	22"

COMPLYING WITH MINIMUM COVER REQUIREMENTS OF AC 308.12.3.3. OTHERWISE LIR MUST BE RE-CALCULATED.

- NOTES:
1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCING. EACH SIDE OF THE OPENING SHALL BE EQUAL TO OR GREATER THAN THE NUMBER OF EACH SIDE OF OPENING. PLACE ADDITIONAL REINFORCEMENT AT 3" OC FIRST BAR 7' CLEAR TO ONE AND ALL LAYERS OF REINFORCEMENT. START FIRST BAR 7' CLEAR TO ONE AND ALL LAYERS OF REINFORCEMENT.
  2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH BARS TO EXTEND AS SHOWN ABOVE.
  3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 7' CLEAR TO OPENING.
  4. OPENINGS 12" OR LESS IN SLABS AND WALLS. NO EXTRA REBARS ARE REQUIRED UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE REINFORCED UNTIL 7' CLEAR TO ONE AND ALL LAYERS OF REINFORCEMENT.
  5. UNLESS SHOWN OTHERWISE ON DRAWINGS, BARS ARE EXTRA REINFORCING AROUND OPENINGS AS SHOWN AND INDICATED ABOVE.
  6. PROVIDE ADDITIONAL DOWELS PER NOTE 1 ABOVE FOR ALL OPENINGS NEAR THE FLOOR SLAB, BASE SLAB, OR CORNERS.



RECTANGULAR OPENING DETAIL

CIRCULAR OPENING DETAIL

1 EXTRA REINFORCING AROUND OPENINGS

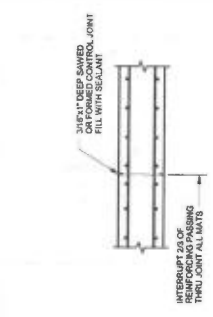
NOT TO SCALE

2 REINFORCING HOOK SCHEDULE

NOT TO SCALE

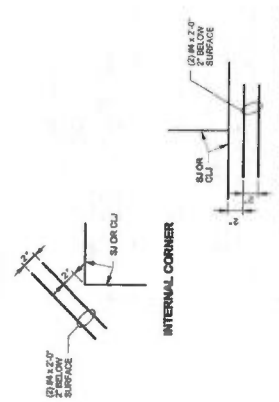
3 CONCRETE REINFORCING LAP AND EMBEDMENT SCHEDULE

12" x 12"



5 CONTROL JOINT (CJ)

30" x 12"



DISCONTINUOUS JOINT INTERSECTION

4 TYPICAL SLAB ON GRADE REINFORCING DETAILS

12" x 12"



CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
Know what's below. Call before you dig.

UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
OBSERVATION TOWER  
FOUNDATION STANDARD DETAILS

SHEET  
LS-03

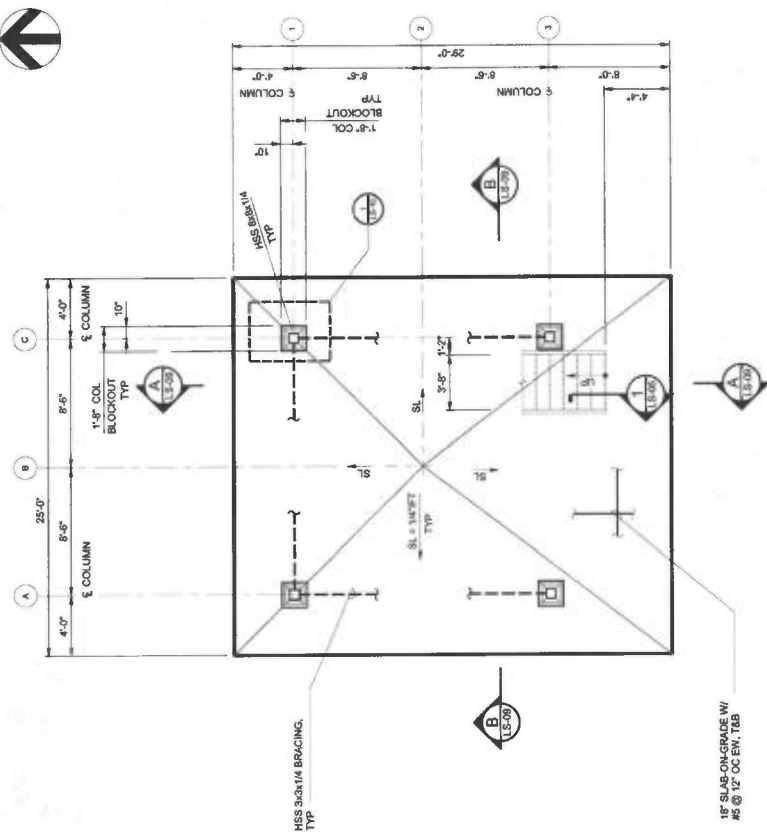
**King County**  
Department of Natural Resources and Parks  
River and Floodplain Management Section  
Christie True, Director



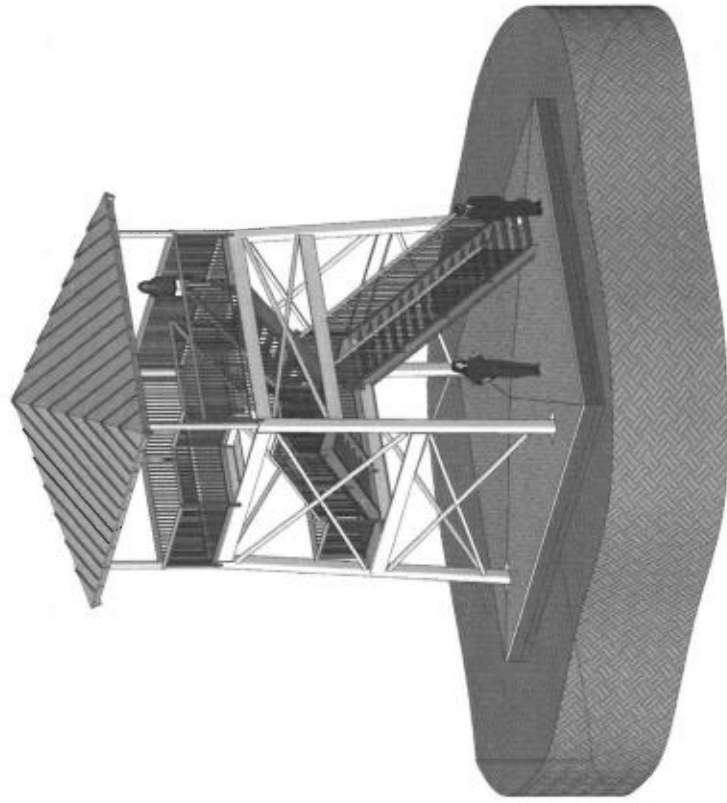
SURVEY JOB INFORMATION		PROJECT INFORMATION		REVISIONS		RECORD CHANGES	
CHECKED	DATE	PROJECT No.	DATE	BY	DATE	BY	DATE
J. PERUCHINI	11/20/06	112066					
D. PRINCE							
C. GIPSON							
C. GIPSON							







FOUNDATION PLAN  
1/17/19



3D VIEW OBSERVATION TOWER

NOTES:  
1. FOR STRUCTURAL NOTES, SEE LS-01

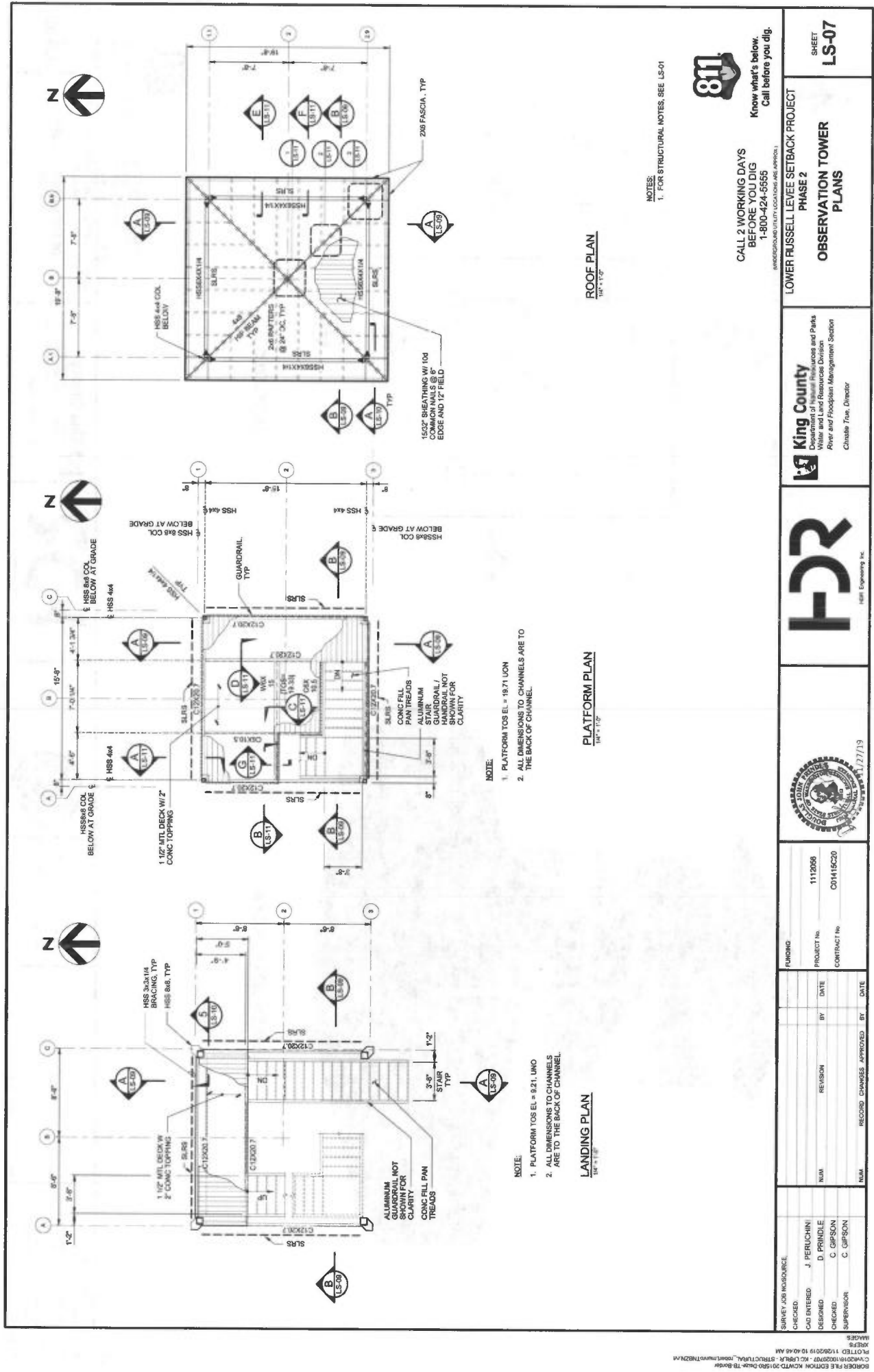
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BEFORE YOU DIG  
1-800-424-5555  
Know what's below.  
Call before you dig.

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

QUANTITY FOR INFORMATION		PROJECT No. 1112056		FUNDING	
CHECKED	J. PERUCHINI	CONTRACT No. C0145C20		PROJECT No.	
DESIGNED	D. PRINDLE			CONTRACT No.	
CHECKED	C. GIFFSON				
SUPERVISOR	C. GIFFSON				
NUM.	RECORD	CHANGES	APPROVED	BY	DATE
KING COUNTY Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie Trice, Director		HCR		11/27/19	
SHEET LS-06		OBSERVATION TOWER PLANS		PHASE 2 LOWER RUSSELL LEVEE SETBACK PROJECT	



NOTES:  
1. FOR STRUCTURAL NOTES, SEE LS-01



CALL 2 WORKING DAYS  
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UNDESIGNATED UTILITY LOCATIONS ARE APPROXIMATE

LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
OBSERVATION TOWER  
PLANS

SHEET  
LS-07

**King County**  
Department of Public Works  
Water and Land Resources Division  
River and Floodplain Management Section  
Christie True, Director



FUNDING  
PROJECT No. 1112056  
CONTRACT No. C01415C20

NUM	REVISION	BY	DATE

NUM	RECORD CHANGES	APPROVED BY	DATE

SURVEY: JON NORDSTROM  
CHECKED: J. PERUCHINI  
CAD ENTERED: D. PRINDLE  
DESIGNED: C. GIPSON  
SUPERVISOR: C. GIPSON



SURVEY JOB NO: SOURCE		NUM	NUM
CHECKED:	J. PERUCHINI		
CAD ENTERED	D. PRINDLE		
DESIGNED	C. GIPSON		
CHECKED	C. GIPSON		
SUPERVISOR			

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
OBSERVATION TOWER  
ELEVATIONS**

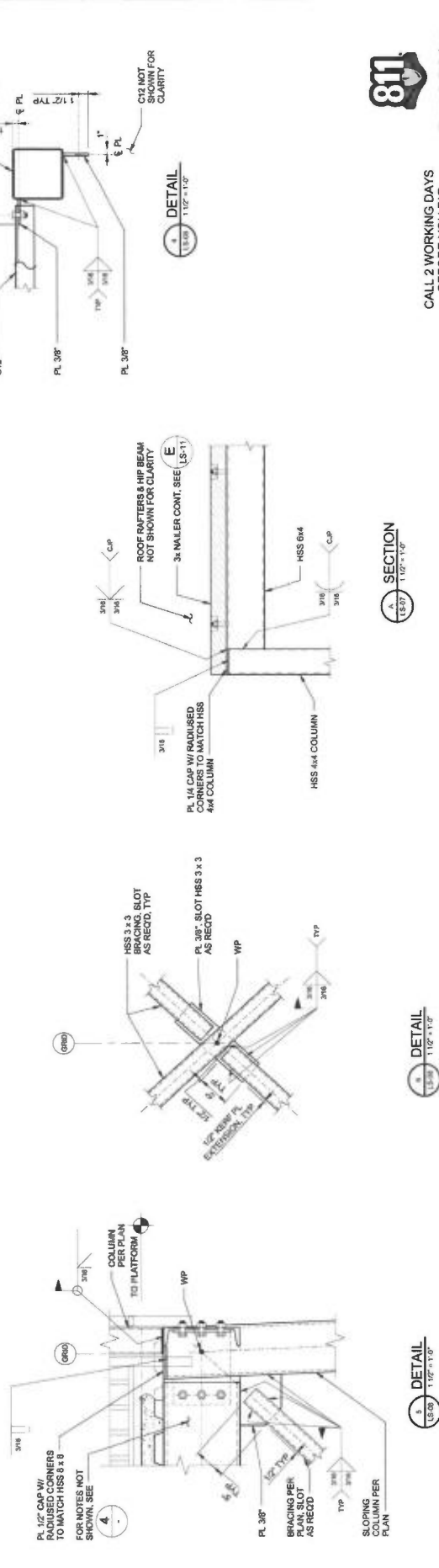


1-800-474-0001



SURVEY JOB NO/SOURCE	J PERUCHINI
CHECKED	D. PRINDLE
CAD ENTERED	C. GIPSON
CHECKED	C GIPSON
SUPERVISOR	

**RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
OBSERVATION TOWER  
SECTIONS**



SURVEY JOB NO	SOURCE
CHECKED	
CAD ENTERED	J PERUCHINI
DESIGNED	D PRINDLE
CHECKED	C GIPSON
SUPERVISOR	C GIPSON

**SHEET**  
**LS-10**

BORDER FILE EDITOR KCMFD-201580 Date: 19-Border  
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BEFORE YOU DIG  
1-800-424-5555**

1,000 121 0000  
SOURCE: RAINCLOUD UTILITY LOCATIONS ARE APPROXIMATE.

**SHEET**  
**LS-11**

**PHASE 2  
OBSERVATION TOWER  
DETAILS**

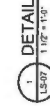
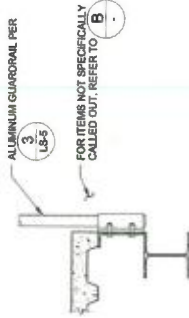
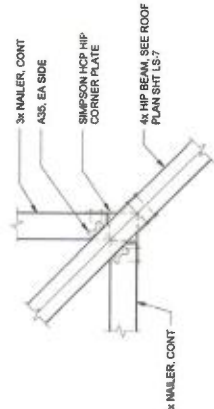
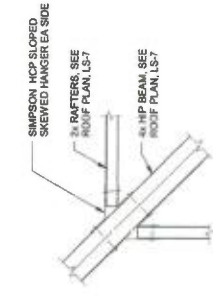
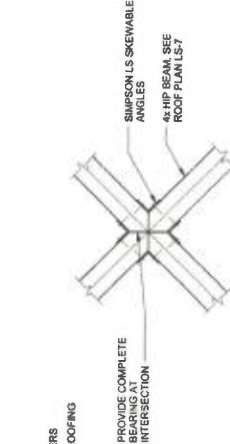
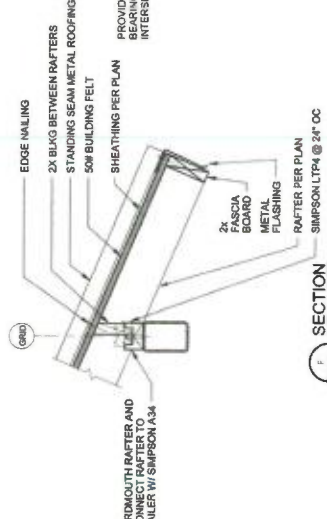
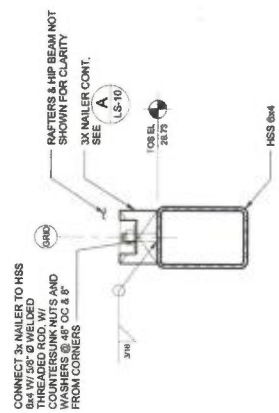
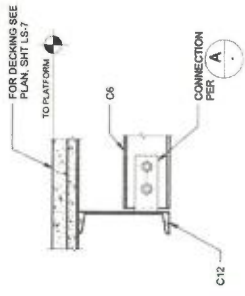
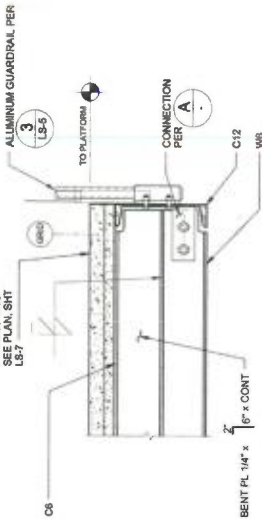
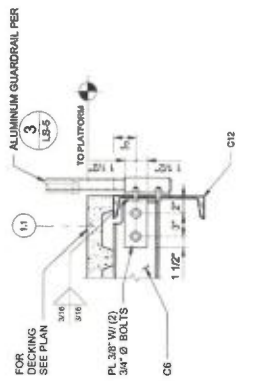
**King County**  
Department of Natural Resources and Parks  
Water and Land Resources Division  
*River and Floodplain Management Section*  
  
Christie True, Director



FUNDING	
PROJECT No.	1112056
CONTRACT No	C01415C20

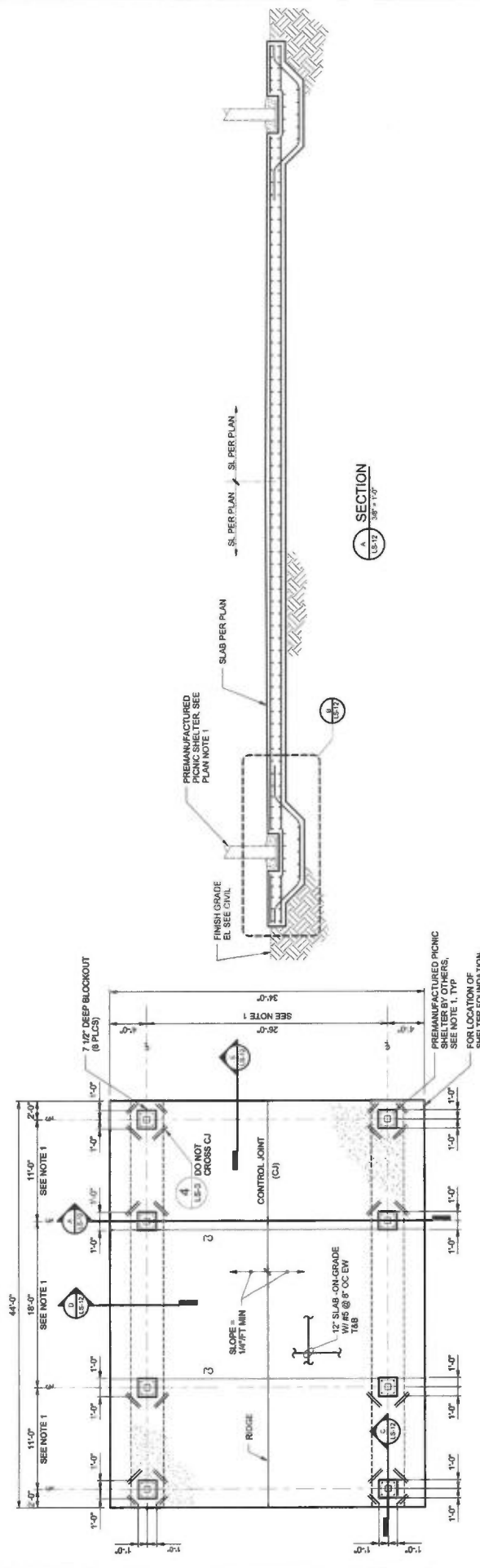
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MAGE6



**NOTE:**  
AT CONTRACTOR'S OPTION, CONNECTOR  
MAY BE REPLACED WITH A SINGLE LIGHT-  
GAGE STEEL BRACKET CAPABLE OF  
RESISTING A COMPRESSIVE FORCE OF 1200  
LB UNDER SNOW LOADING AND A TENSILE  
FORCE OF 50 LB UNDER WIND LOADING.

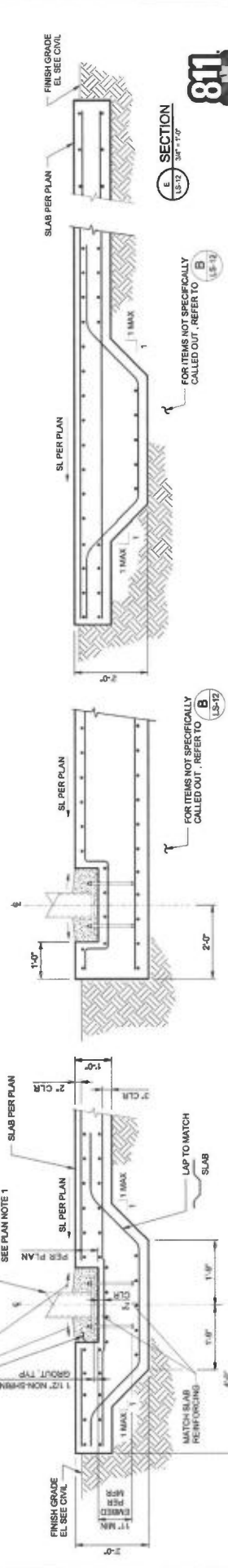




PICNIC SHELTER FOUNDATION PLAN

- NOTES:
1. REFER TO SHELTER DRAWINGS BY OTHERS FOR COLUMN LOCATIONS, BASE PLATE AND ANCHOR SIZES.
  2. FOR CONTROL JOINT, REFER TO SLS-3

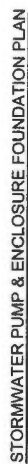
SLOPE GROUT AWAY FROM COL. TYP  
BLOCKOUT TO BE FILLED WITH CEMENTITIOUS GROUT WITH COLOR TO MATCH SURROUNDING PAVING



CALL 2 WORKING DAYS BEFORE YOU DIG  
1-800-424-5555  
Know what's below. Call before you dig.



<p>OWNER: King County Department of Natural Resources and Parks Water and Resource Division River and Floodplain Management Section Christie True, Director</p>				<p>PROJECT: LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 PICNIC SHELTER FOUNDATION PLAN AND DETAILS</p>				<p>SHEET LS-12</p>			
<p>FUNDING: 1112056</p>				<p>PROJECT NO: 1112056</p>				<p>DATE: 11/27/19</p>			
<p>DESIGNED: J. PERUCHINI</p>				<p>CONTRACT NO: C01415C20</p>				<p>BY: [Signature]</p>			
<p>CHECKED: D. PRINDLE</p>				<p>REVISION: [Blank]</p>				<p>APPROVED: [Signature]</p>			
<p>SUPERVISOR: C. GIPSON</p>				<p>RECORDING CHANGES: [Blank]</p>				<p>DATE: [Blank]</p>			



**SHEET**  
**LS-13**

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
STORMWATER PUMP AND  
ENCLOSURE FOUNDATION PLAN  
AND SECTION**

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



HCB Engineering Inc.

FUNDING	
PROJECT No.	1112056
CONTRACT No.	C01415C20

[illegible]

SURVEY JOB NO	SOURCE
CHECKED:	
CAD ENTERED:	J. PERUCHINI
DESIGNED:	D. PRINOLE
CHECKED	C. GIPSON
SUPERVISOR	C. GIPSON

HOCHER FILE EDITION KCMWD 201580 Date: TB-Border  
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XREFS  
IMAGES



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



HDR Engineering Inc.

FUNDING: \_\_\_\_\_  
PROJECT No. 1112056  
CONTRACT No. C01415C20

CHECKED BY		DATE		REVISION		DATE	
CHECKED:	EP	11/18		REVISION		DATE	
CAD CHECKED:	MM	11/19		REVISION		DATE	
CHECKED:	IR	11/19		REVISION		DATE	
CHECKED:	IR	11/19		REVISION		DATE	
SUPERVISOR:				RECORD CHANGES APPROVED		DATE	
				MM			

**LOWER RUSSELL LEVEE SETBACK PROJECT  
PHASE 2  
VAN DOREN'S PARK  
ELECTRICAL PLAN**

**SHEET**  
**E-01**

NOTES:

- COORDINATE WITH UTILITY (PSE)  
FOR RISER AND UNDERGROUND  
ELECTRIC FROM POWER UTILITY  
TO NEW TRANSFORMER AND METERING  
LOCATION AND FOR NEW DEDICATED  
SERVICE AND METERING LOCATION  
FOR FUTURE PUMP POWER  
CONNECTION.  
REFER TO SECTION 26 05 00 1.4  
FOR UTILITY AND CONTRACTOR  
DIVISION OF WORK.  
REFER TO THE PSE ELECTRIC  
SERVICE HANDBOOK 2019  
COMMERCIAL/INDUSTRIAL AND  
MULTI-FAMILY PROJECTS (11220).

### ELECTRICAL LEGEND

- ELECTRICAL EQUIPMENT ENCLOSURE:  
EQUIPMENT AS SHOWN WITH  
ESTIMATED SIZE AS SHOWN.
- GROUND FAULT CIRCUIT INTERRUPTER  
DUPLEX RECEPTACLE
- SUBSCRIPTS:
- Y - INDICATES CIRCUIT NUMBER  
FROM PANELBOARD
- EXTERIOR PAD MOUNTED  
TRANSFORMER (ARROW POINTING TO  
FRONT)

[illegible]

**NOTE:**

1. REFER TO SECTION 32 33 00  
FOR FURTHER RESTROOM  
FACILITY REQUIREMENTS.

## RESTROOM FACILITY

SCALE: NTS

