1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

King County

KING COUNTY

Signature Report

FCD Motion

Proposed No. FCD20-03.1 **Sponsors**

A MOTION authorizing the chair to enter into a Letter of Agreement between the King County Flood Control District and Muckleshoot Indian Tribe regarding the Lower Russell Road Levee Setback Project in Kent, WA.

WHEREAS, the Lower Russell Road Levee is a key part of the Green River levee system; and

WHEREAS, the King County Flood Control District ("District") desires to improve the Levee ("the Project") to provide improved flood protection and habitat restoration; and

WHEREAS, the District started construction of Phase 1 of the Project in 2019; and

WHEREAS, the Muckleshoot Indian Tribe ("Tribe") has federal treaty rights protecting their historic fishing sites in the lower Green River; and

WHEREAS, the District and the Tribe ("the Parties") have consulted with the United States Army Corps of Engineers("Corps") regarding the permit required prior to construction of Phase 2 of the Project; and

WHEREAS, the Parties desire to proceed to Phase 2 of the Project in 2020;

NOW, THEREFORE, BE IT MOVED BY THE BOARD OF SUPERVISORS OF THE KING COUNTY FLOOD CONTROL DISTRICT:

SECTION 1. The chair of the King County Flood Control District is authorized to

20 enter into the " Letter of Agreement between the King County Flood Control District and
21 Muckleshoot Indian Tribe regarding the Lower Russell Road Levee Setback Project in
22 Kent, WA," Attachment A to this motion.
23

FCD Motion was introduced on and passed by the King County Flood Control District on 1/14/2020, by the following vote:

Yes: 9 - Mr. von Reichbauer, Ms. Lambert, Mr. Dunn, Mr. McDermott, Mr. Dembowski, Mr. Upthegrove, Ms. Kohl-Welles, Ms. Balducci and Mr. Zahilay

KING COUNTY FLOOD CONTROL ZONE DISTRICT
KING COUNTY, WASHINGTON

Dave Upthegrove, Chair

ATTEST:

Melani Pedroza, Clerk of the District

Attachments: A. Letter of Agreement between King County Flood Control District and Muckleshoot Indian Tribe regarding the Lower Russell Road Levee Setback Project in Kent, WA

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 212th 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).

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

By: _____
Chairperson

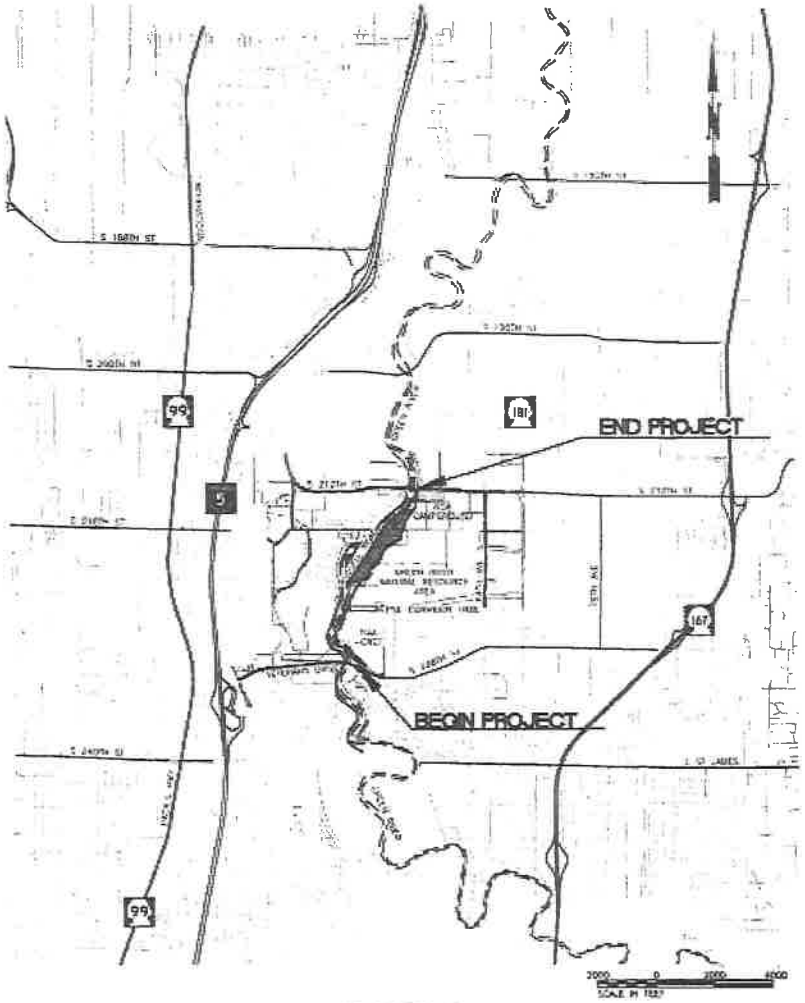
Date: 1-17-20

King County Flood District

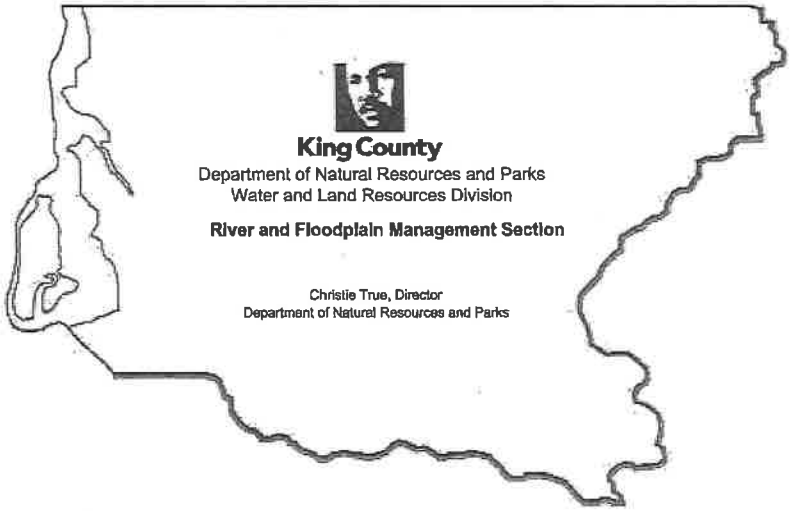
By: _____
Chair

Date: 1/27/20

Attachment 1a



VICINITY MAP
SCALE 1"=2000'



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
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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

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

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

HDR Engineering Inc.

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

COVER AND VICINITY MAP

SHEET
G-01

GENERAL AND SURVEY

G-01 COVER AND VICINITY MAP
G-02 SHEET INDEX
G-03 LEGEND
G-04 ABBREVIATIONS
G-05 PROJECT OVERVIEW
G-06 SURVEY CONTROL MAP
G-07 TESC KEY MAP
G-08 DEMOLITION & CLEARING PLAN & KEY MAP
G-09 TRAFFIC CONTROL
G-10 TRAIL CLOSURE AND DETOUR PLAN
G-11 LEVEE SITE PLAN AND KEY MAP
G-12 HABITAT EXCAVATION SITE PLAN AND KEY MAP
G-13 WATER AND SEWER SITE PLAN AND KEY MAP
G-14 STORM DRAIN SITE PLAN AND KEY MAP
G-15 STREET AND TRAIL SITE PLAN AND KEY MAP
G-16 LANDSCAPE KEY PLAN – VAN DOREN'S PARK & RUSSELL WOODS PARKING LOT
G-17 PARK AREA KEY PLAN

CLEARING & REMOVALS

CC-01 CLEARING 1
CC-02 CLEARING 2
CC-03 CLEARING 3
CC-04 CLEARING 4
CC-05 CLEARING 5
CC-06 CLEARING 6
CC-07 CLEARING 7
CC-08 CLEARING 8
CC-09 CLEARING 9
CC-10 CLEARING 10

CR-01 REMOVALS 1
CR-02 REMOVALS 2
CR-03 REMOVALS 3
CR-04 REMOVALS 4
CR-05 REMOVALS 5
CR-06 REMOVALS 6
CR-07 REMOVALS 7
CR-08 REMOVALS 8
CR-09 REMOVALS 9
CR-10 REMOVALS 10

TEMP. EROSION & SEDIMENTATION CONTROL

CE-01 TESC PLAN 1
CE-02 TESC PLAN 2
CE-03 TESC PLAN 3
CE-04 TESC PLAN 4
CE-05 TESC PLAN 5
CE-06 TESC PLAN 6
CE-07 TESC PLAN 7
CE-08 TESC DETAILS 1

LANDSCAPE GENERAL

L-01 LANDSCAPE PLAN KEY MAP
L-02 LANDSCAPE PLAN 1
L-03 LANDSCAPE PLAN 2
L-04 LANDSCAPE PLAN 3
L-05 LANDSCAPE PLAN 4
L-06 LANDSCAPE PLAN 5
L-07 LANDSCAPE PLAN 6
L-08 LANDSCAPE PLAN 7
L-09 LANDSCAPE DETAILS 1

TABLES

T-01 EARTHWORK TABULATION AREAS
T-02 EARTHWORK TABULATION TABLES

STRUCTURAL (FLOOD WALL)

S-02 FLOODWALL TO I WALL PLAN AND PROFILE STA 0+00 TO 8+08
S-03 EXISTING FLOODWALL PLAN AND PROFILE STA 8+00 TO 18+00
S-04 FLOODWALL TO I WALL PLAN AND PROFILE STA 18+00 TO 26+41
S-05 FLOODWALL MONOLITH PLAN AND ELEVATION LAYOUT – 1
S-06 FLOODWALL MONOLITH PLAN AND ELEVATION LAYOUT – 16
S-07 I-WALL TO FLOODWALL TRANSITION DETAILS
S-08 I-WALL LAYOUT GEOMETRY STA 25+08 TO 26+19.69

LEVEE

CL-01 PROPOSED LEVEE PLAN AND PROFILE STA 0+00 TO STA 10+00
CL-02 PROPOSED LEVEE PLAN AND PROFILE STA 10+00 TO STA 20+00
CL-03 PROPOSED LEVEE PLAN AND PROFILE STA 20+00 TO STA 30+00
CL-04 PROPOSED LEVEE PLAN AND PROFILE STA 30+00 TO STA 40+00
CL-05 PROPOSED LEVEE PLAN AND PROFILE STA 40+00 TO STA 50+29
CL-06 TYPICAL LEVEE SECTIONS AND DETAILS 1
CL-07 TYPICAL LEVEE SECTIONS AND DETAILS 2
CL-08 TYPICAL LEVEE SECTIONS AND DETAILS 3
CL-09 TYPICAL LEVEE SECTIONS AND DETAILS 4
CL-10 PROPOSED LEVEE SECTIONS 1
CL-11 PROPOSED LEVEE SECTIONS 2
CL-12 PROPOSED LEVEE SECTIONS 3
CL-13 PROPOSED LEVEE SECTIONS 4
CL-14 PROPOSED LEVEE SECTIONS 5
CL-15 PROPOSED LEVEE SECTIONS 6
CL-16 PROPOSED LEVEE SECTIONS 7
CL-17 PROPOSED LEVEE SECTIONS 8
CL-18 PROPOSED LEVEE SECTIONS 9
CL-19 PROPOSED KENT NURSERY FENCE AND GATE PLAN
CL-20 PROPOSED FLOODWALL LEVEE PLAN AND PROFILE STA -0+47 TO STA 1+73

HABITAT EXCAVATION

CHE-01 HABITAT AREA EXCAVATION 1
CHE-02 HABITAT AREA EXCAVATION 2
CHE-03 HABITAT AREA EXCAVATION 3
CHE-04 HABITAT AREA EXCAVATION 4
CHE-05 CONTAMINATED SOIL REMOVAL SITES

HABITAT FEATURES & SCOUR PROTECTION

CHF-01 HABITAT WOOD AND SCOUR PROTECTION SITE PLAN & KEY MAP
CHF-02 HABITAT WOOD AREA 1 PLAN
CHF-03 HABITAT WOOD AREA 1 SECTION
CHF-04 HABITAT WOOD AREA 2 PLAN
CHF-05 HABITAT WOOD AREA 2 BANK ROUGHENING JAM LAYERING PLAN
CHF-06 HABITAT WOOD AREA 3 PLAN
CHF-07 HABITAT WOOD AREA 3 APEX JAM LAYERING PLAN
CHF-08 HABITAT WOOD AREA 3 – ATTRACTOR JAM LAYERING PLAN A
CHF-09 HABITAT WOOD AREA 3 – ATTRACTOR JAM LAYERING PLAN B
CHF-10 HABITAT WOOD AREA 3 LARGE RAFT JAM
CHF-11 HABITAT WOOD AREA 3 SMALL RAFT JAM
CHF-12 HABITAT WOOD AREA 4 PLAN
CHF-13 HABITAT WOOD AREA 4 LATTICE CRIB JAM LAYERING PLAN A
CHF-14 HABITAT WOOD AREA 4 LATTICE CRIB JAM LAYERING PLAN B
CHF-15 HABITAT WOOD AREA 4 TRIAD JAM
CHF-16 HABITAT WOOD AREA 4 BARB LEE JAM #1
CHF-17 HABITAT WOOD AREA 4 BARB WEDGE JAM #1
CHF-18 HABITAT WOOD AREA 4 BARB LEE JAM #2
CHF-19 HABITAT WOOD AREA 4 BARB WEDGE JAM #2
CHF-20 HABITAT WOOD AREA 4 BARB LEE JAM #3
CHF-21 HABITAT WOOD AREA 4 BARB WEDGE JAM #3
CHF-22 HABITAT WOOD AREA 4 CRIB WALL
CHF-23 STANDARD ANCHORING DETAILS A
CHF-24 STANDARD ANCHORING DETAILS B

CSP-01 AREA 4 RIPRAP TOP SURFACE
CSP-02 AREA 4 FINISH GRADE SURFACE
CSP-03 RIPRAP REVETMENT TYPICAL SECTIONS AND WILLOW ROWS
CSP-04 RIPRAP REVETMENT SECTIONS
CSP-05 BARB #1 PROFILE AND PLAN
CSP-06 BARB #1 SECTIONS
CSP-07 BARB #1 SECTIONS AND PERSPECTIVES
CSP-08 BARB #2 PROFILE AND PLAN
CSP-09 BARB #2 SECTIONS
CSP-10 BARB #2 SECTIONS AND KEY BLANKET
CSP-11 BARB #3 PROFILE AND PLAN
CSP-12 BARB #3 SECTIONS
CSP-13 BARB #3 SECTIONS AND KEY BLANKET
CSP-14 SITE 1 EDDY FEATURE
CSP-15 SITE 2 EDDY FEATURE
CSP-16 SITE 3 EDDY FEATURE
CSP-17 SITE 4 EDDY FEATURE
CSP-18 SITE 5 EDDY FEATURE
CSP-19 SITE 6 EDDY FEATURE

ROADS AND TRAILS PAVEMENT

CP-01 STREET IMPROVEMENTS PLAN & PROFILE RUSSELL ROAD STA 0+00 TO 9+00
CP-02 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 0+00 TO 9+00
CP-03 BOAT LAUNCH TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 9+00 TO 13+00 BOAT LAUNCH
CP-04 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 13+00 TO 24+00
CP-05 STREET IMPROVEMENTS PLAN & PROFILE RUSSELL ROAD STA 25+00 TO 36+50
CP-06 STREET IMPROVEMENTS PLAN & PROFILE PSE CORRIDOR TRAIL STA 0+00 TO 8+00
CP-07 STREET IMPROVEMENTS EMERGENCY ACCESS & NURSERY ACCESS PROFILES STA -1+00 TO 3+00
CP-08 STREET IMPROVEMENTS PLAN & PROFILE RUSSELL ROAD STA 36+50 TO 45+00 AND VAN DOREN'S PARKING LOT
CP-09 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 24+00 TO 34+00
CP-10 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 34+00 TO 44+00
CP-11 TRAIL IMPROVEMENTS PLAN & PROFILE GREEN RIVER TRAIL STA 44+00 TO 53+00
CP-12 STREET & TRAIL IMPROVEMENT PROFILE LEVEE STA 71+00 TO 75+50 GREEN RIVER TRAIL LEVEE ACCESS
CP-13 RUSSELL WOODS TRAILHEAD PARKING LOT DETAIL
CP-14 VAN DOREN'S PARK PARKING LOT DETAIL
CP-15 STREET & TRAIL IMPROVEMENTS TYPICAL SECTIONS
CP-16 STREET & TRAIL IMPROVEMENTS TYPICAL SECTIONS
CP-17 NON-PARK TRAIL IMPROVEMENTS – PLAN A
CP-18 NON-PARK TRAIL IMPROVEMENTS – PLAN B
CP-19 NON-PARK TRAIL IMPROVEMENTS – PLAN C
CP-20 NON-PARK TRAIL IMPROVEMENTS – PLAN D
CP-21 NON-PARK TRAIL IMPROVEMENTS – CP TABLE
CP-22 LANDSCAPE DETAILS NON-PARK
CP-23 SIGN SCHEDULE AND HANDRAIL DETAIL
CP-24 VAN DOREN'S PARK PARKING LOT DETAILS 1
CP-25 VAN DOREN'S PARK PARKING LOT DETAILS 2

UTILITIES

CSD-01 STORM DRAIN IMPROVEMENTS, PLAN AND PROFILE STA 0+00 TO 9+00
CSD-02 STORM DRAIN IMPROVEMENTS, PLAN AND PROFILE STA 25+00 TO 29+00 & STA 0+00 TO 7+50
CSD-03 STORM DRAIN IMPROVEMENTS, PLAN AND PROFILE STA 29+00 TO 37+00
CSD-04 STORM DRAIN IMPROVEMENTS, PLAN AND PROFILE
CSD-05 STORM DRAIN IMPROVEMENTS, PLAN AND PROFILE
CSD-06 STORM DRAIN IMPROVEMENTS, PLAN AND PROFILE
CSD-07 STORM DRAIN DETAILS
CSD-08 GREEN RIVER WITHDRAW PIPING 1
CSD-09 GREEN RIVER WITHDRAW PIPING 2
CSD-10 GREEN RIVER WITHDRAW PIPING DETAILS

CWS-01 WATER PLAN AND PROFILE STA 0+00 TO 7+00
CWS-02 WATER PLAN AND PROFILE TAA-CREF WATER SERVICE
CWS-03 WATER PLAN AND PROFILE TAA-CREF AND CITY OF KENT NURSERY WATER SERVICE

CSS-01 SEWER PLAN AND PROFILE KENT FORCE MAIN
CSS-02 SEWER PLAN AND PROFILE PARK SEWER

LANDSCAPING (VAN DOREN'S PARK)

LP-01 SOIL PREPARATION PLAN
LP-11 LANDSCAPE MATERIALS PLAN A
LP-12 LANDSCAPE MATERIALS PLAN B
LP-13 LANDSCAPE MATERIALS PLAN C
LP-14 LANDSCAPE MATERIALS PLAN D
LP-15 LANDSCAPE MATERIALS PLAN E
LP-16 LANDSCAPE MATERIALS PLAN F & G
LP-21 LAYOUT & GRADING PLAN A
LP-22 LAYOUT & GRADING PLAN B
LP-23 LAYOUT & GRADING PLAN C
LP-24 LAYOUT & GRADING PLAN D
LP-25 LAYOUT & GRADING PLAN E
LP-26 LAYOUT & GRADING PLAN F & G
LP-27 PARK LAYOUT CONTROL POINT TABLE
LP-28 LAYOUT & GRADING PLAYGROUND ENLARGEMENT
LP-31 LANDSCAPE PARK DETAILS 1
LP-32 LANDSCAPE PARK DETAILS 2
LP-33 LANDSCAPE PARK DETAILS 3
LP-34 LANDSCAPE PARK DETAILS 4
LP-35 LANDSCAPE PARK DETAILS 5
LP-36 LANDSCAPE PARK DETAILS 6
LP-37 LANDSCAPE PARK DETAILS 7
LP-41 PLANTING PLAN A
LP-42 PLANTING PLAN B
LP-43 PLANTING PLAN C
LP-44 PLANTING PLAN D
LP-45 PLANTING PLAN E
LP-46 PLANTING PLAN F & G
LP-47 PLANTING LEGEND
LP-48 PLANTING DETAILS
LP-49 PLANTING PLAN – RUSSELL WOODS PARKING LOT
LP-51 IRRIGATION PLAN A
LP-52 IRRIGATION PLAN B
LP-53 IRRIGATION PLAN C
LP-54 IRRIGATION PLAN D
LP-55 IRRIGATION PLAN E
LP-56 IRRIGATION PLAN G
LP-57 IRRIGATION SCHEDULES AND DETAILS
LP-58 IRRIGATION DETAILS 1
LP-59 IRRIGATION DETAILS 2
LP-60 PARK GRADING SECTIONS
LP-61 VAN DOREN'S LANDING PARK SETTLEMENT MONITORING PLAN

PARK STRUCTURES

LS-01 OBSERVATION TOWER GENERAL STRUCTURE NOTES
LS-02 OBSERVATION TOWER SPECIAL INSPECTIONS
LS-03 OBSERVATION TOWER FOUNDATION STANDARD DETAILS
LS-04 OBSERVATION TOWER STEEL STANDARD DETAILS
LS-05 OBSERVATION TOWER STEEL FABRICATIONS STANDARD DETAILS
LS-06 OBSERVATION TOWER PLAN 1
LS-07 OBSERVATION TOWER PLAN 2
LS-08 OBSERVATION TOWER ELEVATIONS
LS-09 OBSERVATION TOWER SECTIONS
LS-10 OBSERVATION TOWER DETAILS 1
LS-11 OBSERVATION TOWER DETAILS 2
LS-12 PICNIC SHELTER FOUNDATION PLAN AND DETAILS
LS-13 SOTRMWATER PUMP AND ENCLOSURE FOUNDATION PLAN AND SECTION

ELECTRICAL

E-01 VAN DOREN'S PARK ELECTRICAL PLAN
E-02 VAN DOREN'S PARK ELECTRICAL DETAILS 1
E-03 VAN DOREN'S PARK ELECTRICAL DETAILS 2

NOTES:

1. THIS DRAWING SET CONTAINS 229 SHEETS.

811

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

Know what's below. Call before you dig.

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

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering Inc

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

SHEET INDEX

SHEET
G-02

LEGEND

LINETYPES

EXIST.	DESCRIPTION
SURFACE FEATURES:	
	BUILDING LINE (EXISTING)
	CREEK/DITCH CENTERLINE (EXIST.)
	CURB/PAVEMENT/SIDEWALK (EX)
	FENCE
	WIRE FENCE
	SPLIT RAIL FENCE
	WIRE-WOOD POST FENCE
	WOODEN
	GUARDRAIL (EXISTING)
INTERIOR EXTERIOR	WETLAND PERIMETER (DELINEATED BY BIOLOGIST)
	SHOULDER (EX)
SURVEY:	
	CENTERLINE (EXISTING)
	CONTOUR (DEPRESSION)
	CONTOUR (INTERVAL) (EXIST.)
	CONTOUR (INDEX) (EXIST.)
	EASEMENT (TEMPORARY)
	EASEMENT (TEMPORARY)
	MATCH LINE
	RANGE/TOWNSHIP LINE
	RIGHT-OF-WAY (CURRENT)
	CITY-LIMITS
	SECTION LINE
	QUARTER SECTION LINE
	PARK BOUNDARY
OHW	ORDINARY HIGH WATER (2,000 CFS)
SJ	SHORELINE JURISDICTION
BSL	BUILDING SETBACK BASELINE
UTILITIES (EXISTING):	
	CABLE TELEVISION (AERIAL)
	CABLE TELEVISION (BURIED)
	FORCE MAIN
	GAS
	OIL
	POWER (AERIAL)
	POWER (BURIED)
	SANITARY SEWER
	STORM DRAINAGE
	TELEPHONE (AERIAL)
	TELEPHONE (BURIED)
	UTILITY SERVICE LINE (GENERAL)
	WATER
	GAS
	STORM DRAIN
	CREEK/DITCH CENTERLINE
	CURB(PROP) 2/7
	CURB/PAVEMENT/SIDEWALK
MP	PLASTIC CONSTRUCTION FENCE
	GUARDRAIL

UTILITIES (EXISTING):

- CONTROL LINE
- CONTOUR (INTERVAL)
- CONTOUR (INDEX)
- EASEMENT (PERMANENT)
- PROPERTY LINE
- EXISTING ROW
- CENTERLINE
- EXISTING GRADE (PROFILE,SECTIONS)
- PROPOSED GRADE TOL (PROFILE,SECTIONS)
- PROPOSED GRADE TOP (PROFILE,SECTIONS)
- TEMPORARY CONSTRUCTION EASEMENT
- DIKE
- SF — SILT FENCE
- TP — TREE PROTECTION FENCE
- SELECT FILL
- CORE FILL
- CLEARING AND GRUBBING LIMITS
- PAVEMENT REMOVAL
- PAVEMENT (NEW)

1 / C-01 — SECTION/DETAIL NO. OR LETTER; REFERENCE SHEET NO.*

* LEFT AS "--" IF REFERENCE IS ON THE SAME SHEET

1 / C-01 — SECTION CUT

GAS/POWER/TELEPHONE

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
		GAS METER
		GAS VALVE
		PAD MOUNTED TRANSFORMER
	P	POWER VAULT
		TRANSMISSION TOWER (SCALEABLE)
		UTILITY POLE
		POWER POLE
		UTILITY POLE ANCHOR
		TELEPHONE RISER
	T	TELEPHONE VAULT

SURVEY

SYMBOL	DESCRIPTION
	ANGLE POINT
	BENCH MARK
	BLOCK CORNER
	IRON PIPE
	MONUMENT (IN CASE)
	MONUMENT (SURFACE)
	OWNERSHIP TIE
16	SECTION CENTER
8 9	SECTION CORNER
17 16	QUARTER CORNER
	SIXTEENTH CORNER
	CLOSING CORNER
	MEANDER CORNER
MC	WITNESS CORNER
WC	SOIL BORING
	SPOT ELEVATION
	TAX LOT / PARCEL NUMBER
5	INTERSTATE
XXXX	ASSESSOR'S CODE (LAST 4 DIGITS)
	SURVEY CONTROL POINT
	TREE (CONIFER)
	TREE (DECIDUOUS)

DRAINAGE

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
		STORM DRAIN CATCH BASIN
		STORM DRAIN INLET(NO CATCH)
		STORM DRAIN MANHOLE
		STORM DRAIN PIPE (PLAN & PROFILE)
		QUARRY SPALLS

WATER

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
		GUARD POST
		WATER PIPE (PLAN & PROFILE)

FIRE HYDRANTS & FITTINGS:

- FH
- WATER VALVE
- WATER FITTING WITH THRUST BLOCK

SEWER

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
		SEWER MANHOLE
		SEWER FORCE MAIN VALVE
		SEWER FORCE FITTING
		SEWER DRAIN PIPE (PLAN)
		SEWER DRAIN PIPE (PROFILE & PLAN WHEN ON TOP OF EXISTING PIPE ALIGNMENT)

ROAD PLAN

SYMBOL	DESCRIPTION
	CUT SLOPE CATCH POINTS(OPTIONAL)
SHOULDER	FILL SLOPE CATCH POINTS(OPTIONAL)

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

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

SURVEY JOB NO/SOURCE:	--	--				
CHECKED:	--	--				
CAD ENTERED:	RD	11/18				
DESIGNED:	VR	11/18	NUM.	REVISION	BY	DATE
CHECKED:	KF	11/18				
SUPERVISOR:	SJ	11/18				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering, Inc.

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Chooka Ture Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

LEGEND

SHEET
G-03

ABBREVIATIONS

ABAND	ABANDONED
AC	ASPHALT CONCRETE
ACP	ASPHALT CONCRETE PAVEMENT
ADJ	ADJUST
AH	AHEAD
AL	ALIGNMENT
AP	ANGLE POINT
APPROX.	APPROXIMATELY
AVE	AVENUE
AVG	AVERAGE
BK	BACK
BL	BASELINE
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BP	BEGIN POINT
BRG	BEARING
BSBL	BUILDING SETBACK BASELINE
BTWN	BETWEEN
BVC	BEGINNING OF VERTICAL CURVE
C	CONDUCTOR
C&G	CLEAR AND GRUB LIMITS
CATV	CABLE TV
CAV	COMBINED AIR VACUUM RELEASE VALVE
CB	CATCH BASIN
CFS	CUBIC FEET PER SECOND
CL	CLASS
℄	CENTERLINE
CLR	CLEAR
CLSM	CONTROLLED LOW STRENGTH MATERIAL
CMP	CORRUGATED METAL PIPE
COMPT	COMPACTED
CONC	CONCRETE
CONN	CONNECT
CONST	CONSTRUCTION
CSBC	CRUSHED STONE BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CU	CUBIC
CM	CUBIC METER
D	DRAIN PIPE
DEG	DEGREE
DEPT	DEPARTMENT
DI	DUCTILE IRON
DIAM	DIAMETER
DIST	DISTANCE
DWG	DRAWING
DWSE	DESIGN WATER SURFACE ELEVATION
DWY	DRIVEWAY
E	EAST, ELECTRICAL
EA	EACH
EG	EXISTING GRADE
EL/ELEV	ELEVATION
ELEC	ELECTRICAL
EMB	EMBANKMENT
EP	EDGE OF PAVEMENT
EQ	EQUATION
EST	ESTIMATE
EVC	END OF VERTICAL CURVE
EXCL	EXCLUDE
EXIST	EXISTING
FG	FINISHED GRADE
FH	FIRE HYDRANT
FHWA	FEDERAL HIGHWAY ADMINISTRATION
FG	FINISHED GRADE
FL	FLANGE
FT	FEET/FOOT
G	GAS LINE, GREEN
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BREAK
GE	GRATE ELEVATION
GR	GUARDRAIL
GRD	GROUND
GRNRA	GREEN RIVER NATURAL RESOURCES AREA
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
HMA	HOT MIX ASPHALT
HORIZ	HORIZONTAL
HP	HIGH POINT
HPS	HIGH PRESSURE SODIUM
HT	HEIGHT
HUND	HUNDRED
HWY	HIGHWAY
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INV	INVERT
JB.	JUNCTION BOX
JTS. JT	JOINTS, JOINT
JUD	JOINT USE DRIVEWAY
K	RATE OF VERTICAL CURVATURE
KOA	KAMPGROUNDS OF AMERICA
L	LENGTH OF ARC
LF	LINEAL FOOT/FEET
LP	LOW POINT
LT	LEFT
LUMIN	LUMINAIRE
M	METER
MAX	MAXIMUM
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
NAD 83/91	NORTH AMERICAN DATUM OF 1983, WITH 91 ADJUSTMENTS
NAVD 88	NORTH AMERICAN VERTICAL DATUM OF 1988
NO	NUMBER
NPDES	NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
NST	NOT STEEPER THAN
NTS	NOT TO SCALE
O-XING	OVERHEAD CROSSING
O.C.	ON CENTER
OD	OUTSIDE DIAMETER
OFF	OFFSET
OP	OVERHEAD POWER
OT	OVERHEAD TELEPHONE
P	POLE, POWER
PAR	PARK ACCESS ROAD
PAV'T	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
P-E	PRE-EMPT
PED	PEDESTRIAN
PG	PERFORMANCE GRADE
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PE	POLYETHYLENE
PP	POWER POLE
PR	PAIR
PRC	POINT OF REVERSE CURVE
PSE	PUGET SOUND ENERGY
PSI	POUND PER SQ IN
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE
PVCC	POINT OF VERTICAL COMPOUND CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVE
QTY	QUANTITY
R	RADIUS
RD	ROAD
REINF	REINFORCED
REQ'D	REQUIRED
RJ	RESTRAINED JOINT
ROW	RIGHT-OF-WAY
RT	RIGHT
R/W	RIGHT-OF-WAY
S	SOUTH/SLOPE
SAN	SANITARY
SCHED	SCHEDULE
SD	STORM DRAIN
SECT	SECTION
SERV	SERVICE
SF	SQUARE FEET/FOOT
SHLD	SHOULDER
SHT	SHEET
SLJ	SHORELINE JURISDICTION
SP	1 SHIELDED PAIR IN SINGLE CABLE
SPEC	SPECIAL
SPECS	SPECIFICATIONS
SQ	SQUARE
SR	STATE ROUTE
SS	SANITARY SEWER
SSFM	SANITARY SEWER FORCE MAIN
ST	STREET
STA	STATION
STD	STANDARD
SW	SOUTHWEST
S/W	SIDEWALK
SWPPP	STORMWATER POLLUTION PREVENTION PLAN
T	TELEPHONE, TANGENT, TON
TAN	TANGENT
TBM	TEMPORARY BENCHMARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TEMP	TEMPORARY
TOF	TOP OF EMBANKMENT FILL (@ LEVEE CENTERLINE)
TOL	TOP OF LEVEE (TOP OF CSBC @ LEVEE HINGE)
TP	TELEPHONE POLE/TREE PROTECTION
TYP	TYPICAL
UD	UNDERDRAIN PIPE
UG	UNDERGROUND
UGE	UNDERGROUND ELECTRICAL
VAR	VARIES
VC	VERTICAL CURVE
VERT.	VERTICAL
WB	WETLANDS BOUNDARY
W	WEST, WATER
W/	WITH
WLRD	WATER AND LAND RESOURCES DIVISION
WM	WATER METER/WATER MAIN
W/O	WITHOUT
WS	WATER STOP
WSE	WATER SURFACE ELEVATION
WSEL	WATER SURFACE ELEVATION
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WV	WATER VALVE
Y	YELLOW
YDS	YARDS
&	AND

NOTES:

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF SHEETS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY THAT ALL ABBREVIATIONS ARE USED IN THE SHEETS.
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF A WORD. FOR EXAMPLE, "SF" MAY MEAN SQUARE FEET OR SQUARE FOOT.

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

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

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

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C23

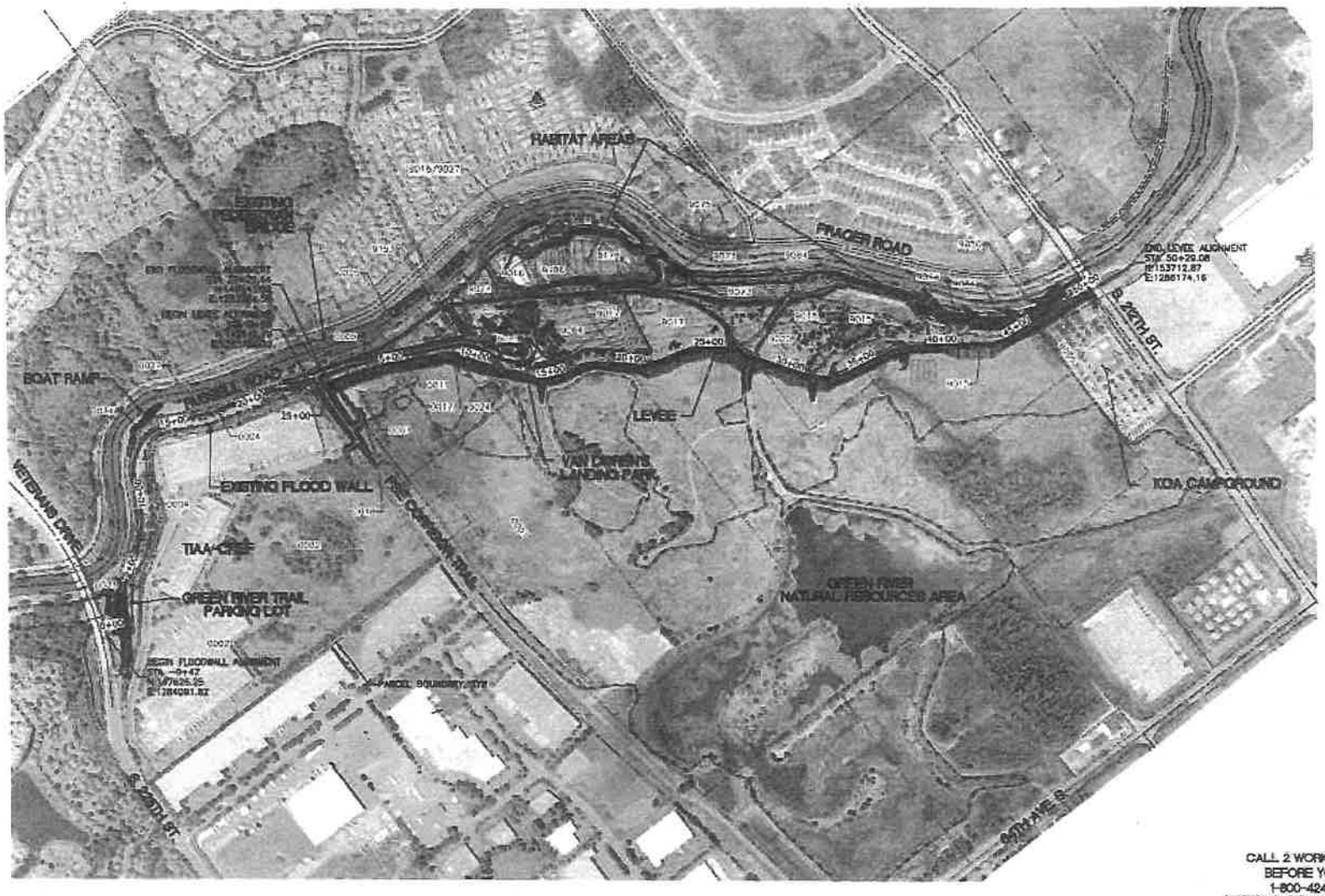
HDR Engineering Inc.

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

ABBREVIATIONS

SHEET
G-04



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

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

SURVEY JOB NO/SQUIDET:	---	---					
CHECKED:	---	---					
CAD ENTERED:	RD	11/18					
DESIGNED:	VR	11/18	NUM.	REVISION	BY	DATE	
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SUPERVISOR:	SJ	11/18					
			NUM.	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

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CONTRACT No. C01415C20

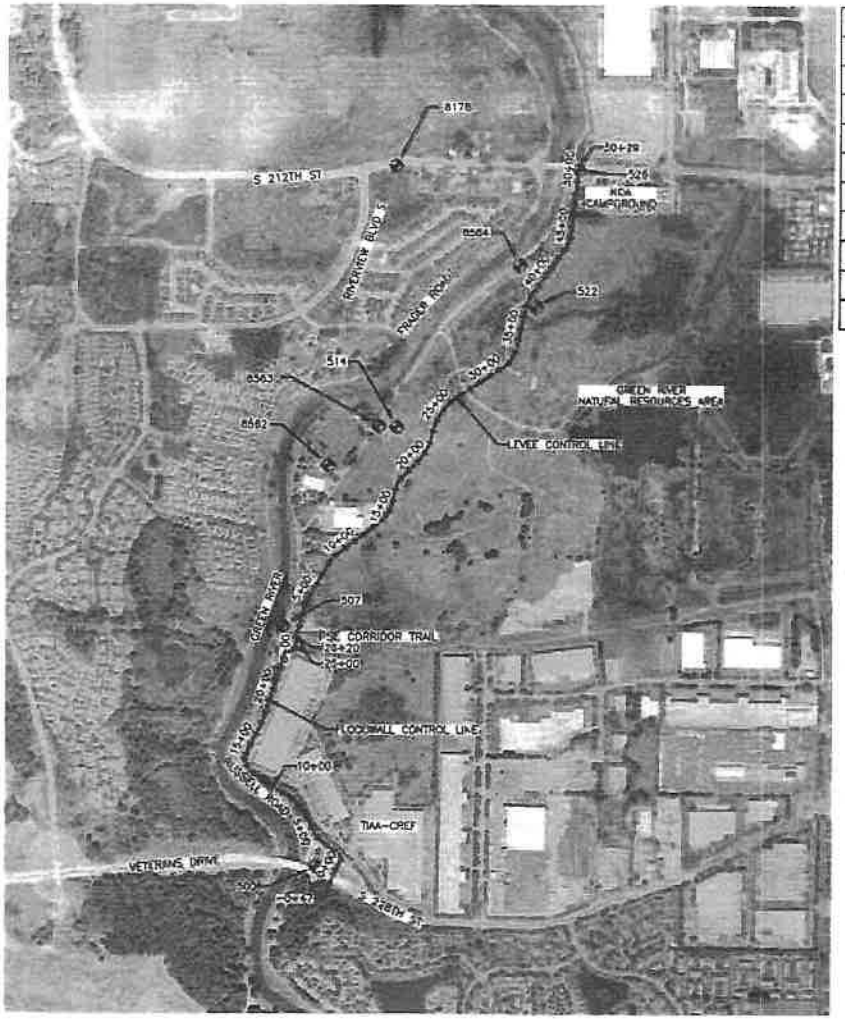
HDR Engineering Inc.

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

PROJECT OVERVIEW

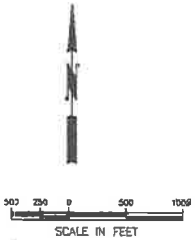
SHEET
G-05



POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	RAW DESCRIPTION
500	147684.40	1283945.70	61.22	MAGNAIL W/ WASHER IN CONCRETE FIRE HYDRANT BASE AT NORTH SIDE OF BETERANS 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	152496.28	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 315384/164451.
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 PITS, .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	152647.51	1285668.45	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 CURB.

NOTES:

1. HORIZONTAL DATUM NAD 83/91 WASHINGTON STATE PLANES NORTH ZONE, US FOOT VERTICAL DATUM NAVD88.
2. SURVEY BASEMAP PROVIDED BY I ALLIANCE GEOMATICS ON OCTOBER 6, 2015. BASEMAP IS BASED ON THE FOLLOWING SOURCES:
   - KING COUNTY
   - CITY OF KENT
3. LEVEE AND FLOODWALL ALIGNMENT CONTROL INFORMATION PROVIDED ON THE RESPECTIVE "S" AND "CL" SERIES SHEETS.



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

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

SURVEY JOB NO/SOURCE:	IALLIANCE	8/18			
CHECKED:	IALLIANCE	8/18			
CAD ENTERED:	RD	11/18			
DESIGNED:	VR	11/18	NUM. REVISION	BY	DATE
CHECKED:	KF	11/18			
SUPERVISOR:	SJ	11/18			
			NUM. RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. N11054
CONTRACT No. D0141SC00

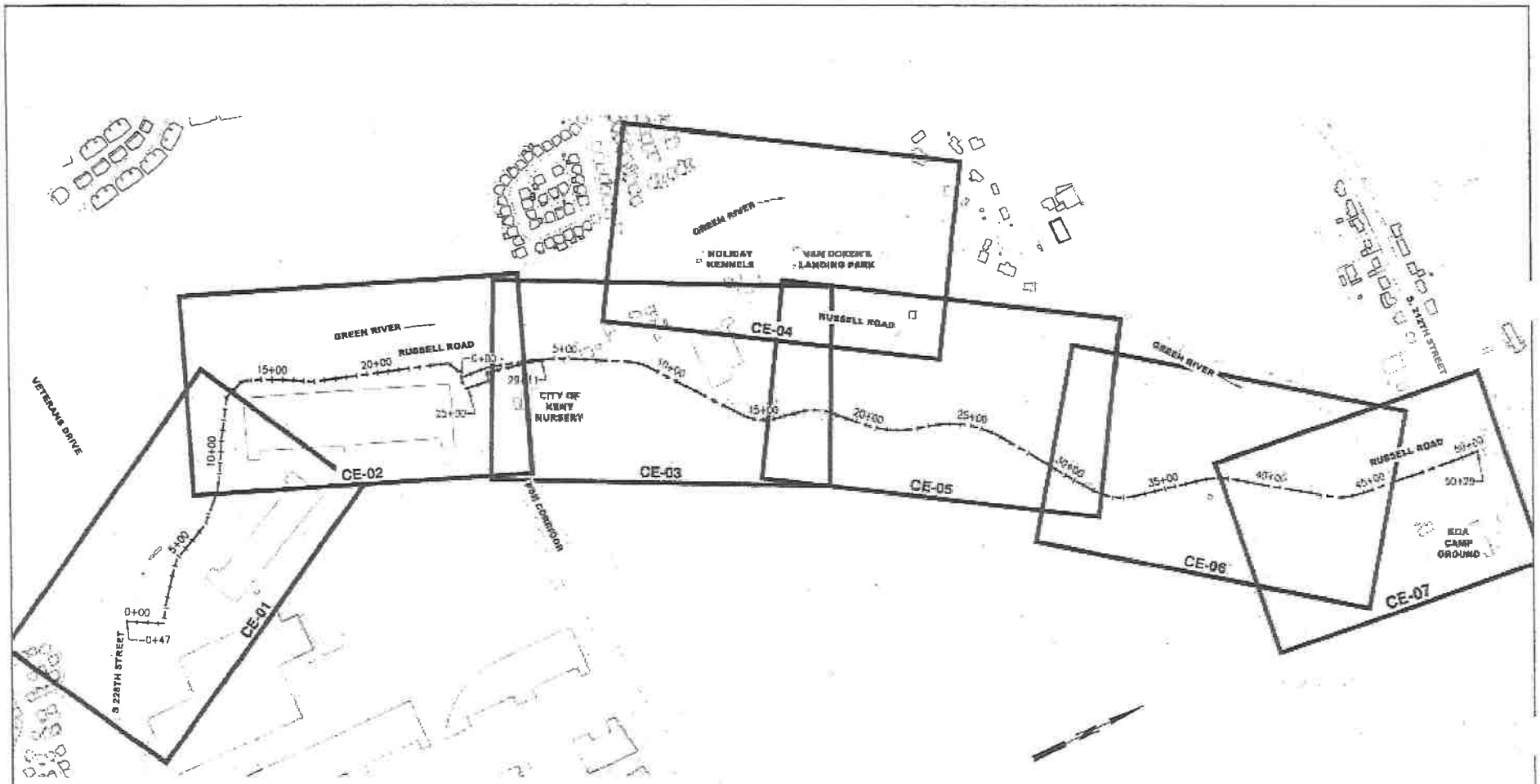
HDR Engineering Inc.

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

SURVEY CONTROL MAP

SHEET
G-06



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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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

TESC KEY MAP

SHEET
G-07

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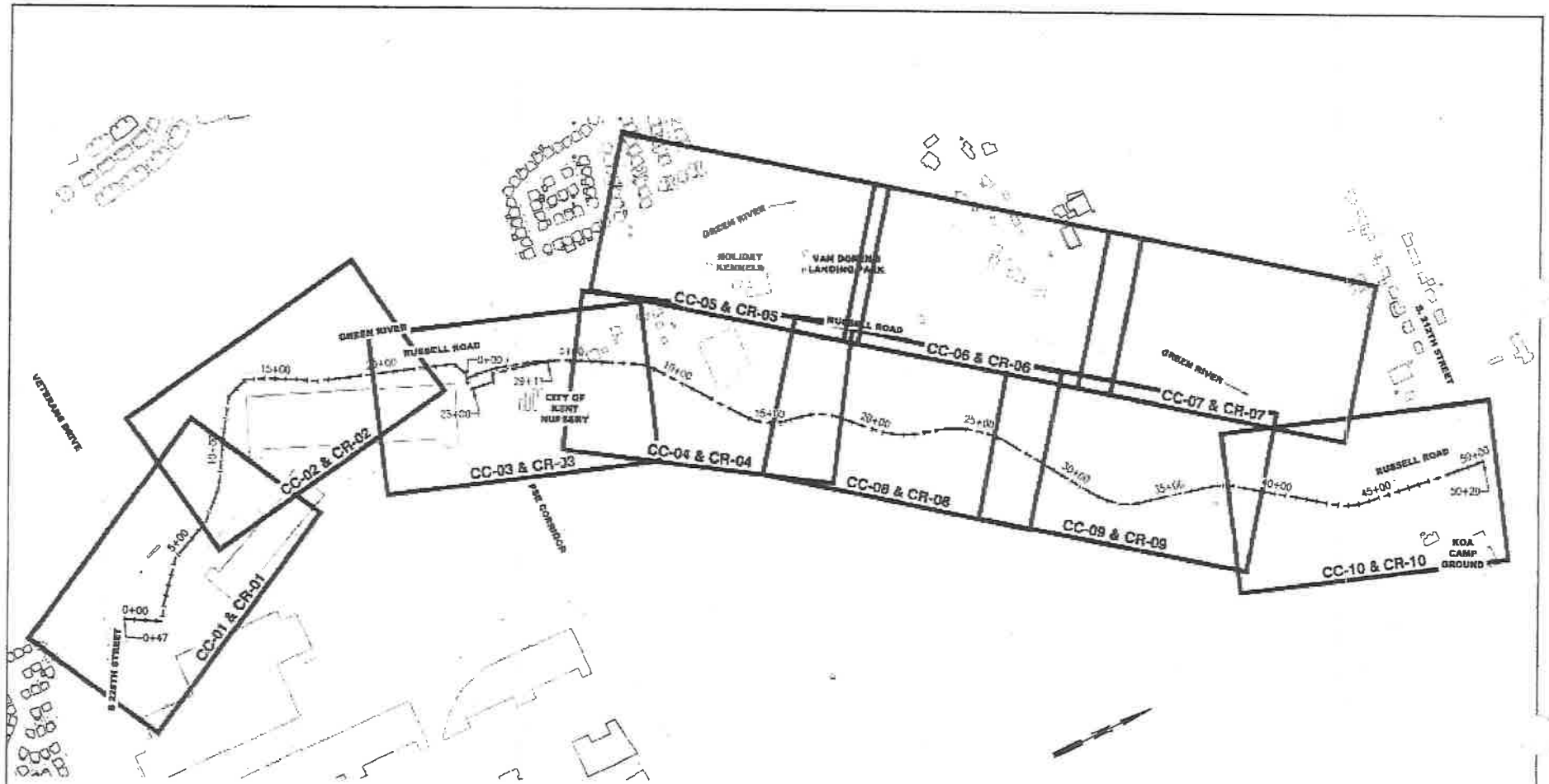

SURVEY JOB NO/SOURCE:						FUNDING:		King County Department of Natural Resources and Parks Water and Land Resources Division River and Floodplain Management Section Christie True, Director	LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 DEMOLITIONS & CLEARING PLAN & KEY MAP	SHEET G-08
CHECKED:										
CAD ENTERED: K. IGTAMURA	11/2019					PROJECT No. 1112058	11/26/19			
DESIGNED: ERIK PETERS, P.E.	11/2019	MARK	REVISION	BY	DATE					
CHECKED: ERIK PETERS, P.E.	11/2019					CONTRACT No. C01415C23				
SUPERVISOR: LORIN REINELT, P.E.	11/2019									
		NOTE: RECORD CHANGES APPROVED		BY	DATE					

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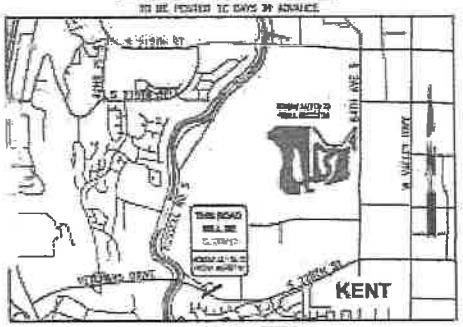
ADVANCE NOTICE

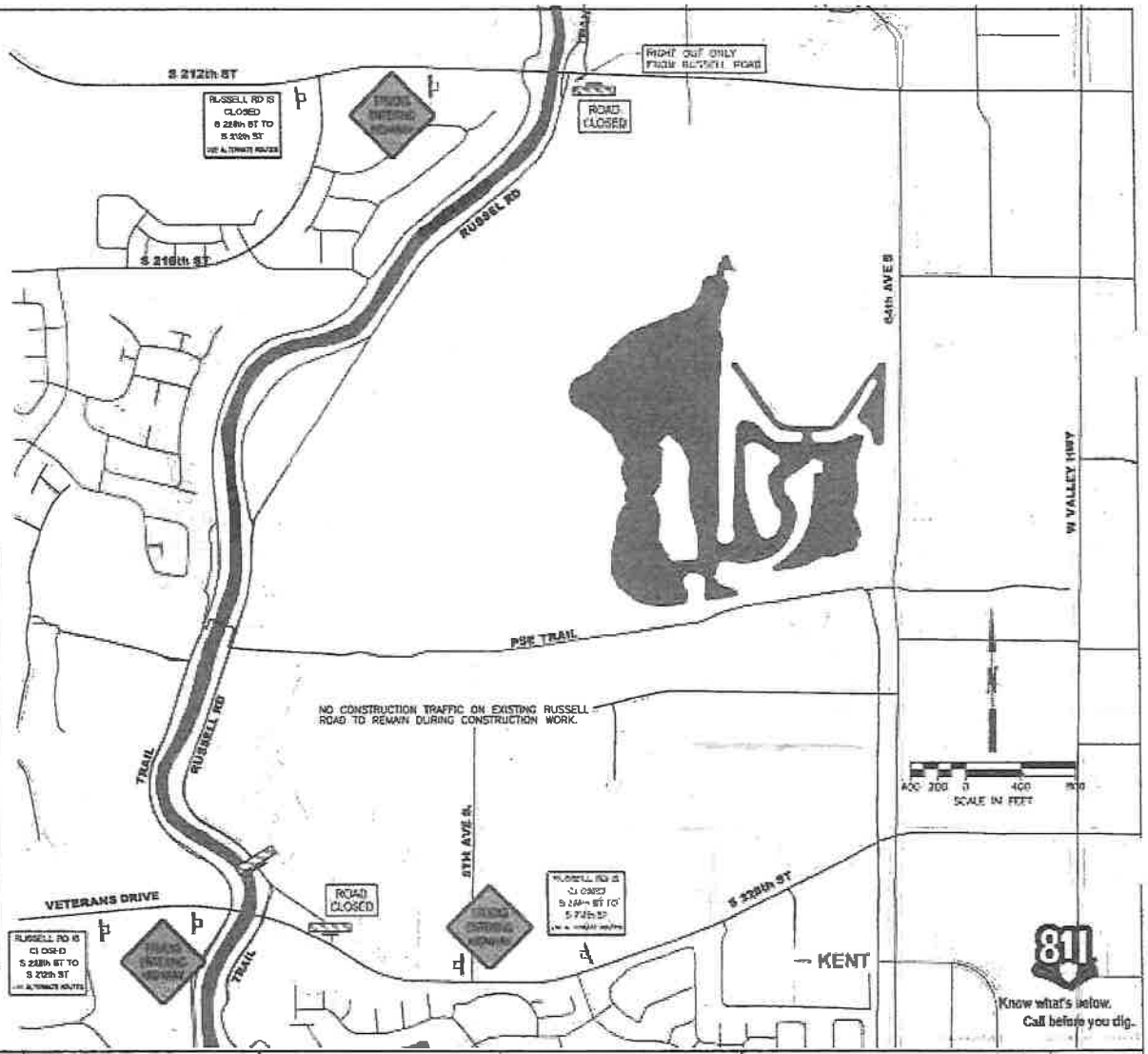
TO BE POSTED 10 DAYS IN ADVANCE



SIGN NOTES

1. INSTALL SIGNS IN COMPLIANCE WITH MUTCD SECTION 2A.16.
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 WSDOT TRAFFIC CONTROL PLAN TCP 3.
6. S 212TH ST EGRESS LIMITED TO 7AM – 4PM MONDAY THRU FRIDAY. NO WEEKEND RESTRICTION.

SIGN	NUMBER	SIZE	COLOR	QUANTITY	NOTES
	TYPE III BARRICADE			6	PLACE BARRICADES AND SIGNAGE AS NECESSARY TO PREVENT USE OF RUSSELL RD TO REMAIN BY CONSTRUCTION VEHICLES.
ROAD CLOSED	R11-2	48"x30"	BLACK ON WHITE	2	
	W21-30	36"x36"	BLACK ON ORANGE	3	
THIS ROAD WILL BE CLOSED	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 APPROVED CONSTRUCTION SCHEDULE.
RUSSELL RD IS CLOSED S 228th ST TO S 212th ST USE ALTERNATE ROUTES	SPECIAL	72"x60"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	3	



SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: D.O./K.K.	11/2019				
DESIGNER: DAN DOVEY, P.E.	11/2019	MARK	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		MARK	RECORD CHANGES APPROVED	BY	DATE

PLANS BY: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

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

SHEET
G-09

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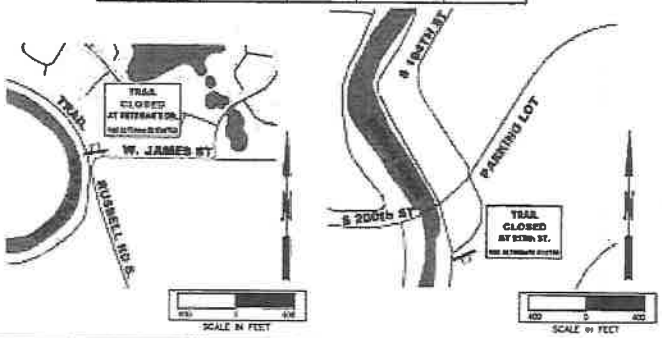
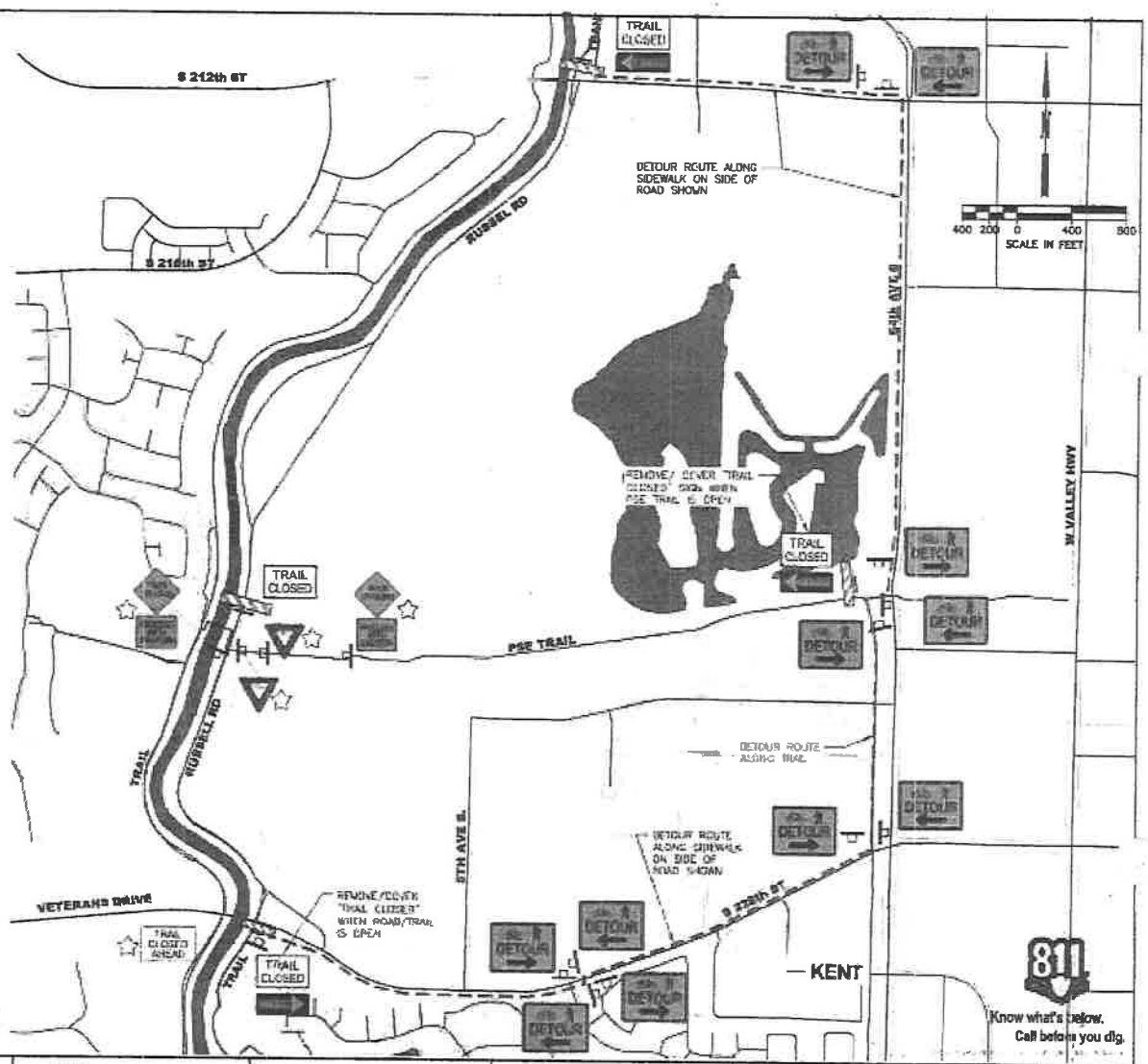
SIGN NOTES

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
TRAIL CLOSED	R11-2 (MOD)	30"x48"	BLACK ON WHITE	4
DETOUR	M4-9L	30"x36"	BLACK ON ORANGE	5
DETOUR	M4-9R	30"x36"	BLACK ON ORANGE	6
	M4-10L	18"x48"	BLACK ON ORANGE	2
	M4-10R	18"x48"	BLACK ON ORANGE	1
TRAIL CLOSED AT VETERANS DR.	SPECIAL	30"x42"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	1
TRAIL CLOSED AT 212th ST.	SPECIAL	30"x42"	BLACK ON WHITE EXCEPT "CLOSED" IN RED	1
	R1-2	24"x24"	RED ON WHITE	2
	W8-6	30"x30"	BLACK ON ORANGE	2
	SPECIAL	24"x30"	BLACK ON ORANGE	2
TRAIL CLOSED AHEAD	R11-3 (MOD)	30"x48"	BLACK ON WHITE	1





SURVEY JOB NO./SOURCE			
CHECKED:			
CAD ENTRIES: D.O./K.K. 11/2019			
DESIGNED: DAN DOVEY, P.E. 11/2019	NO.	REVISION	BY / DATE
CHECKED: ERIN PETERS, P.E. 11/2019			
SUPERVISOR: LOREN REINELT, P.E. 11/2019			
	NO.	RECORD CHANGES APPROVED	BY / DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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

TRAIL CLOSURE AND DETOUR PLAN

SHEET G-10

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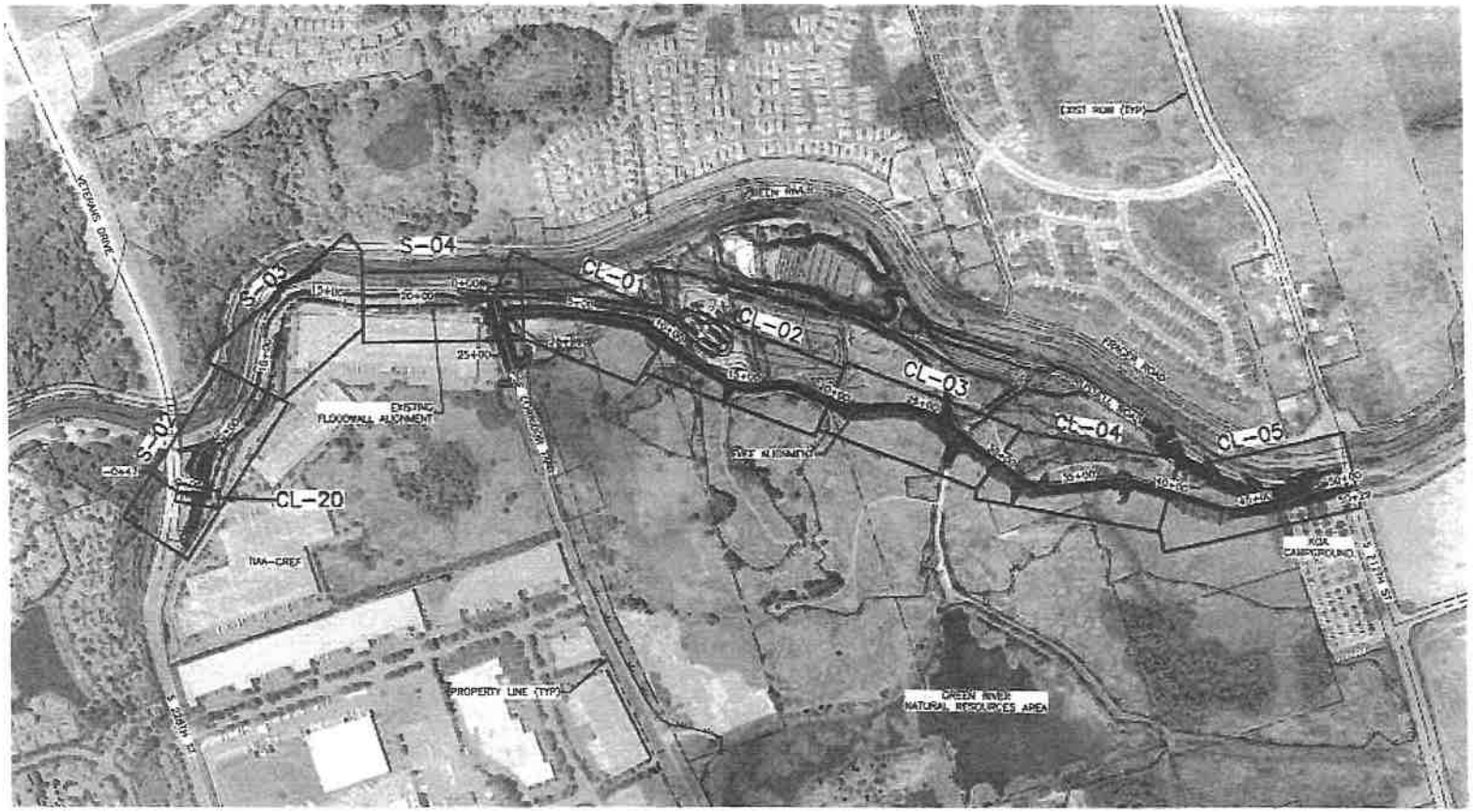

SCALE IN FEET

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/SOURCE:	--	--			
CHECKED:	--	--			
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DESIGNED:	VR	11/19	NUM.	REVISION	BY	DATE
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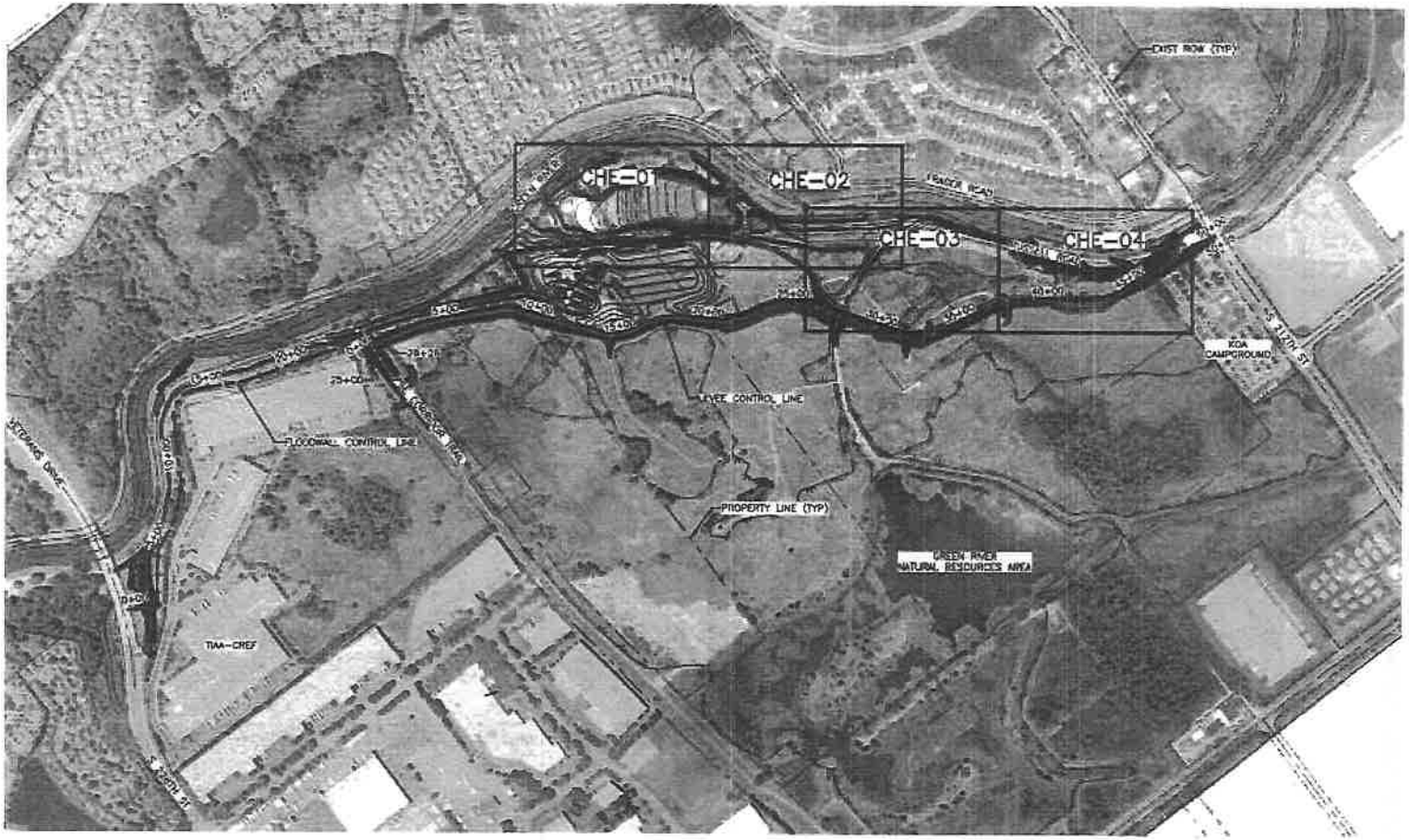
HDR Engineering Inc.

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
LEVEE AND FLOODWALL
SITE PLAN AND KEY MAP

SHEET
G-11



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DESIGNED:	VR	11/19	NUM.	REVISION	BY	DATE
CHECKED:	KF	11/19				
SUPERVISOR:	SJ	11/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112091

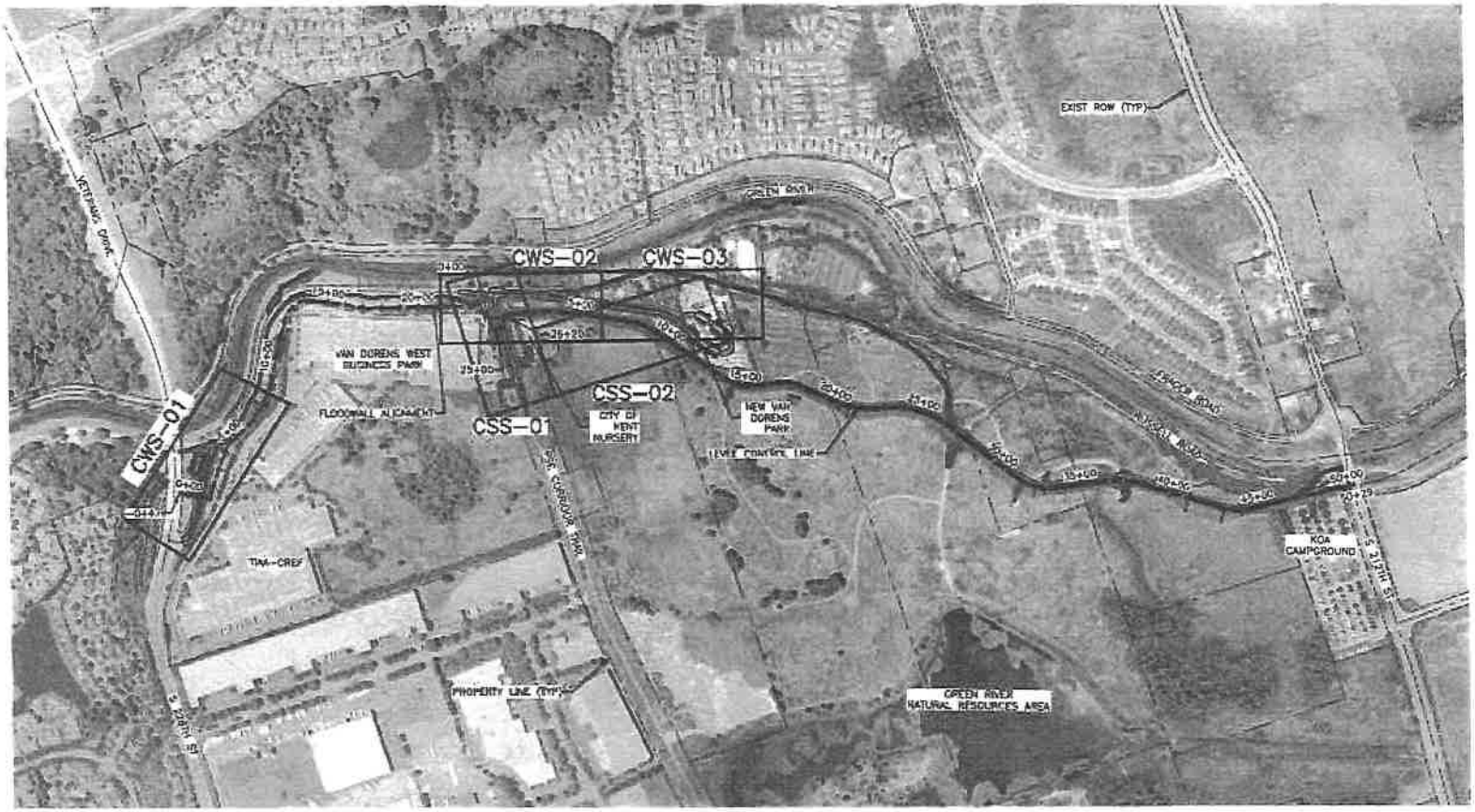
CONTRACT No. D0141SC20

HDR Engineering, Inc.

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 EXCAVATION
SITE PLAN AND KEY MAP

SHEET
G-12



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

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

SURVEY JOB NO/SOURCE:	---	---					
CHECKED:	---	---					
CAD ENTERED:	CMF	11/19					
DESIGNED:	AE	11/19	MUN.	REVISION	BY	DATE	
CHECKED:	JG	11/19					
SUPERVISOR:	SJ	11/19					
			MUN.	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

PROJECT No. 1112056

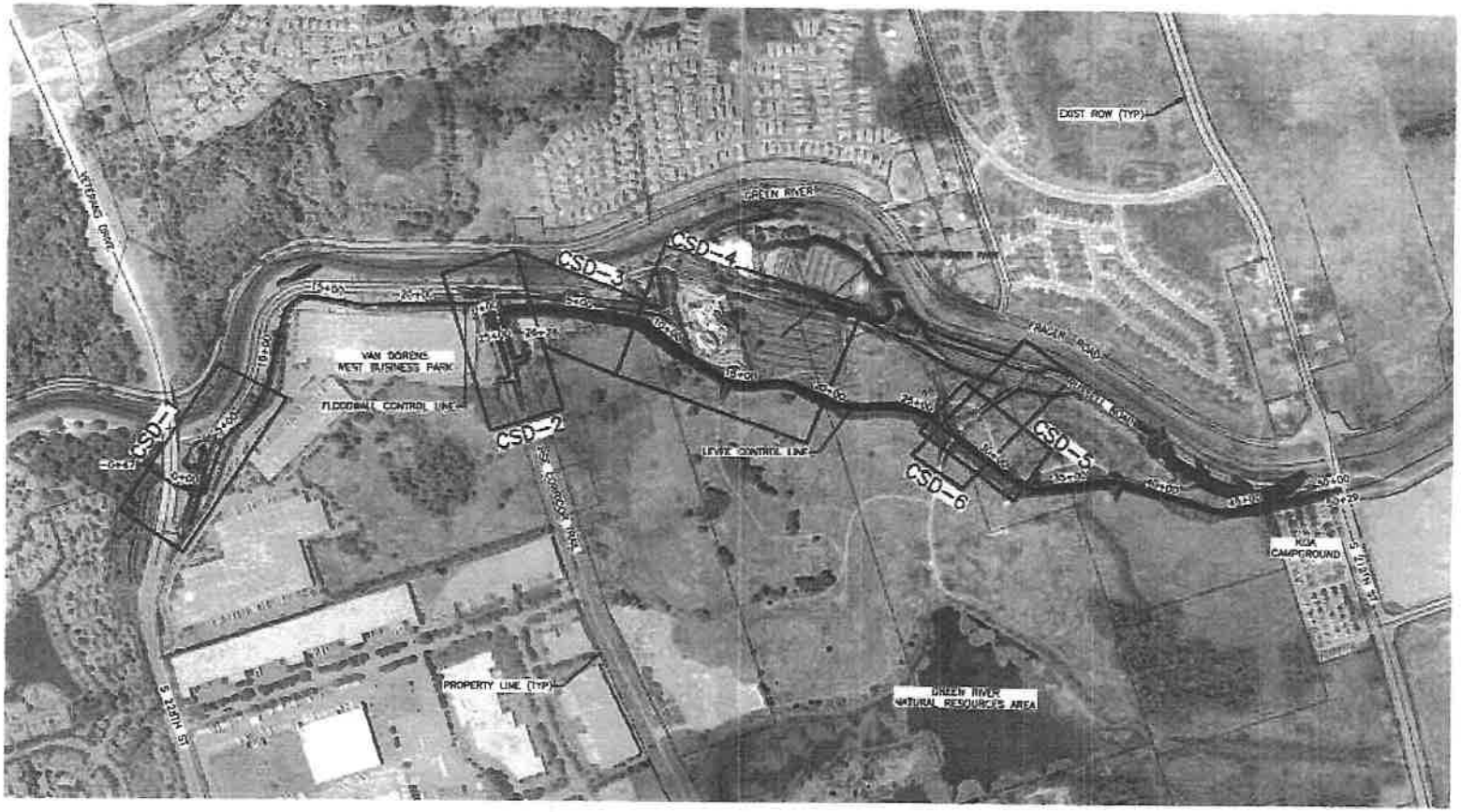
CONTRACT No. C01415C20

HDR Engineering, Inc.

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
WATER AND SEWER
SITE PLAN AND KEY MAP

SHEET
G-13



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

Know what's below, Call before you dig.

SURVEY JOB NO/SOURCE:	---	---					
CHECKED:	---	---					
CAD ENTERED:	CF	11/19					
DESIGNED:	TJ	11/19	NUM.	REVISION	BY	DATE	
CHECKED:	JG	11/19					
SUPERVISOR:	SJ	11/19					
			NUM.	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:
PROJECT No. 1113064
CONTRACT No. C0041502F2

HDR Engineering Inc.

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
STORM DRAIN
SITE PLAN AND KEY MAP

SHEET
G-14

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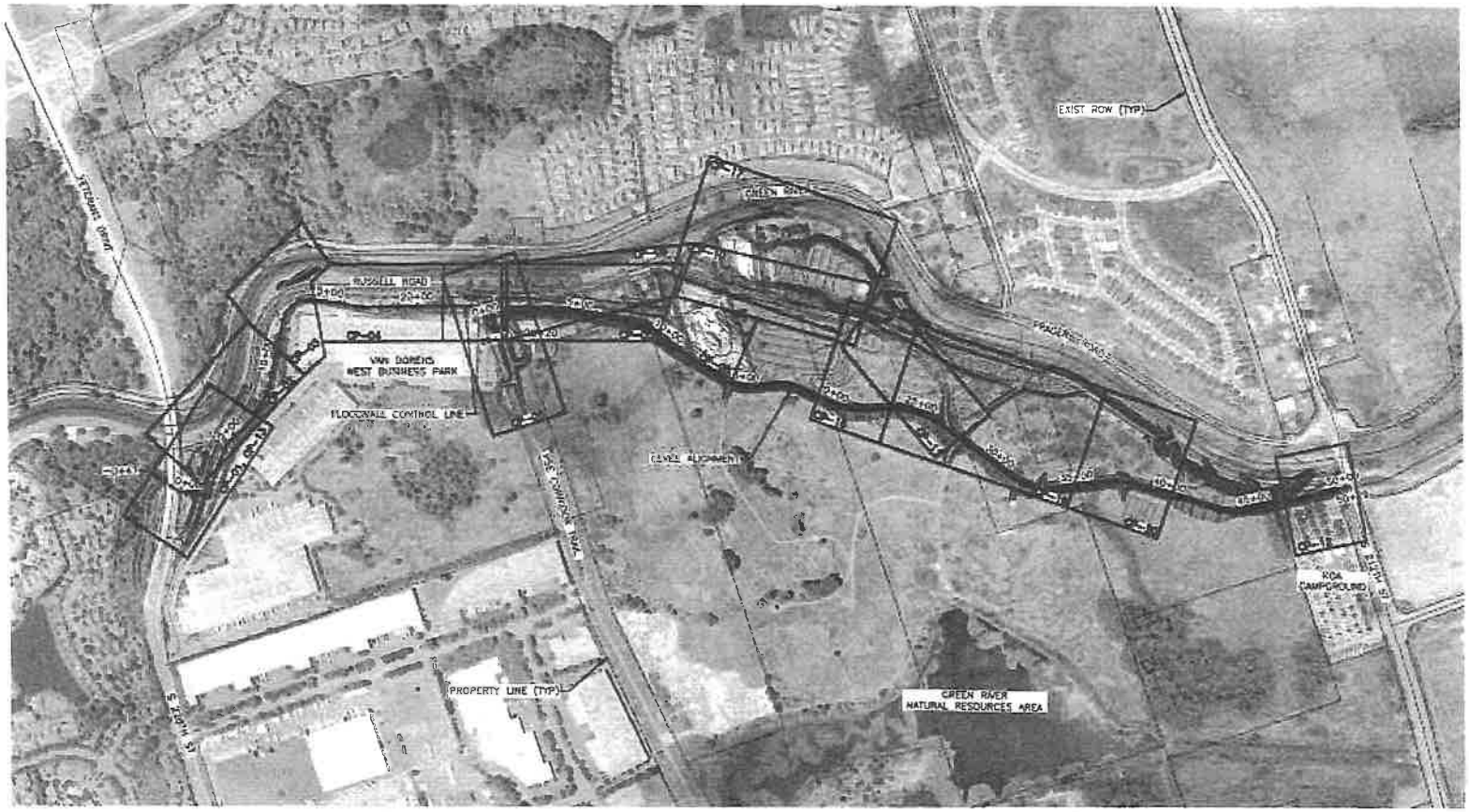
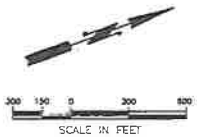




CALL 2 WORKING DAYS
BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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

SURVEY JOB NO/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	RD	11/18			
DESIGNED:	SB	11/18	NUM. REVISION	BY	DATE
CHECKED:	JG	11/18			
SUPERVISOR:	SJ	11/18			
			NUM. RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

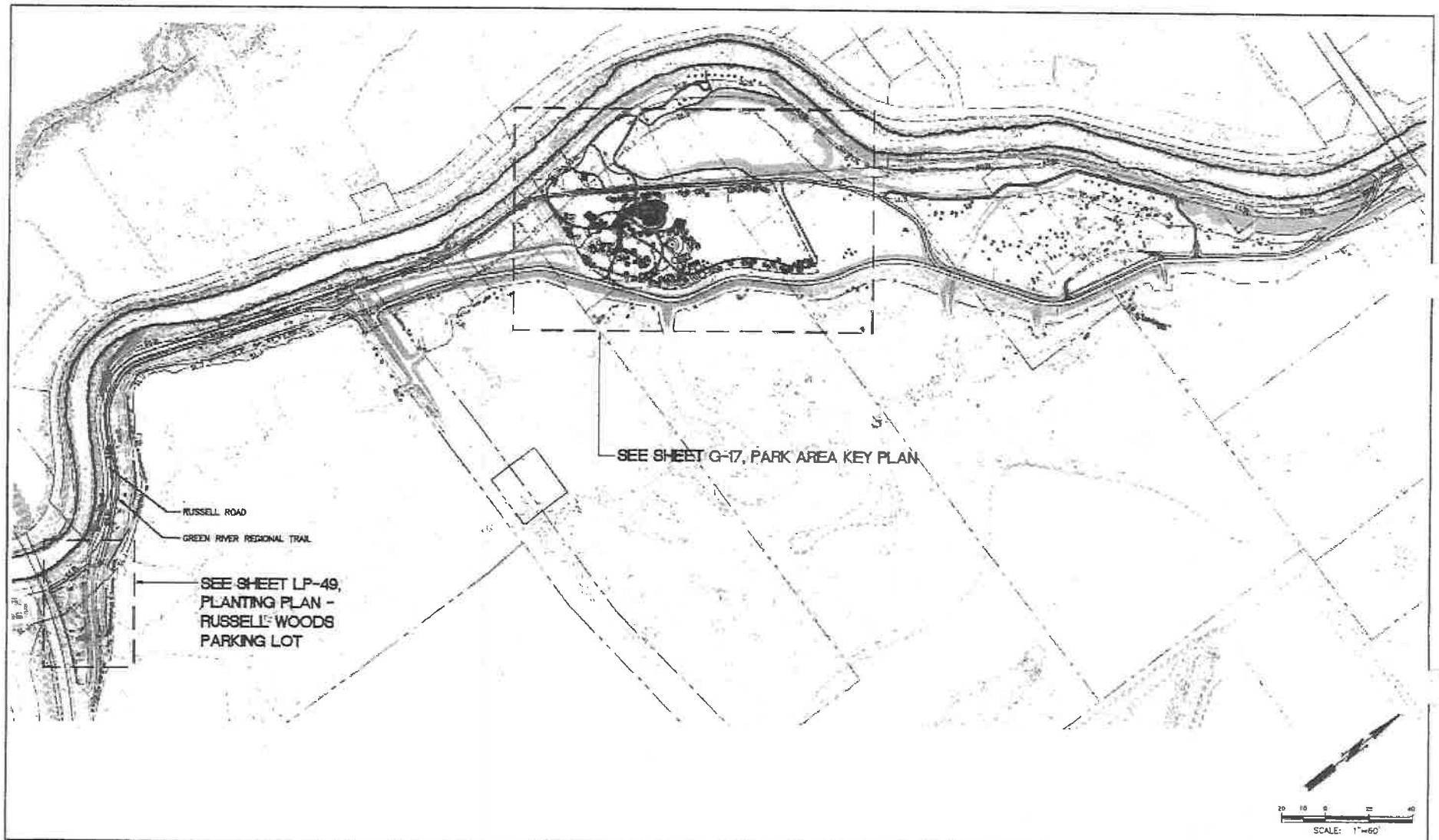
CONTRACT No. C01415C20

HDR Engineering Inc.

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
STREET AND TRAIL
SITE PLAN AND KEY MAP

SHEET
G-15



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DESIGNED:	JZ/GB	11/27/19	NUM.	REVISION	BY	DATE	
CHECKED:	GB	11/27/19					
SUPERVISOR:	GB	11/27/19					
			NUM.	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C2C

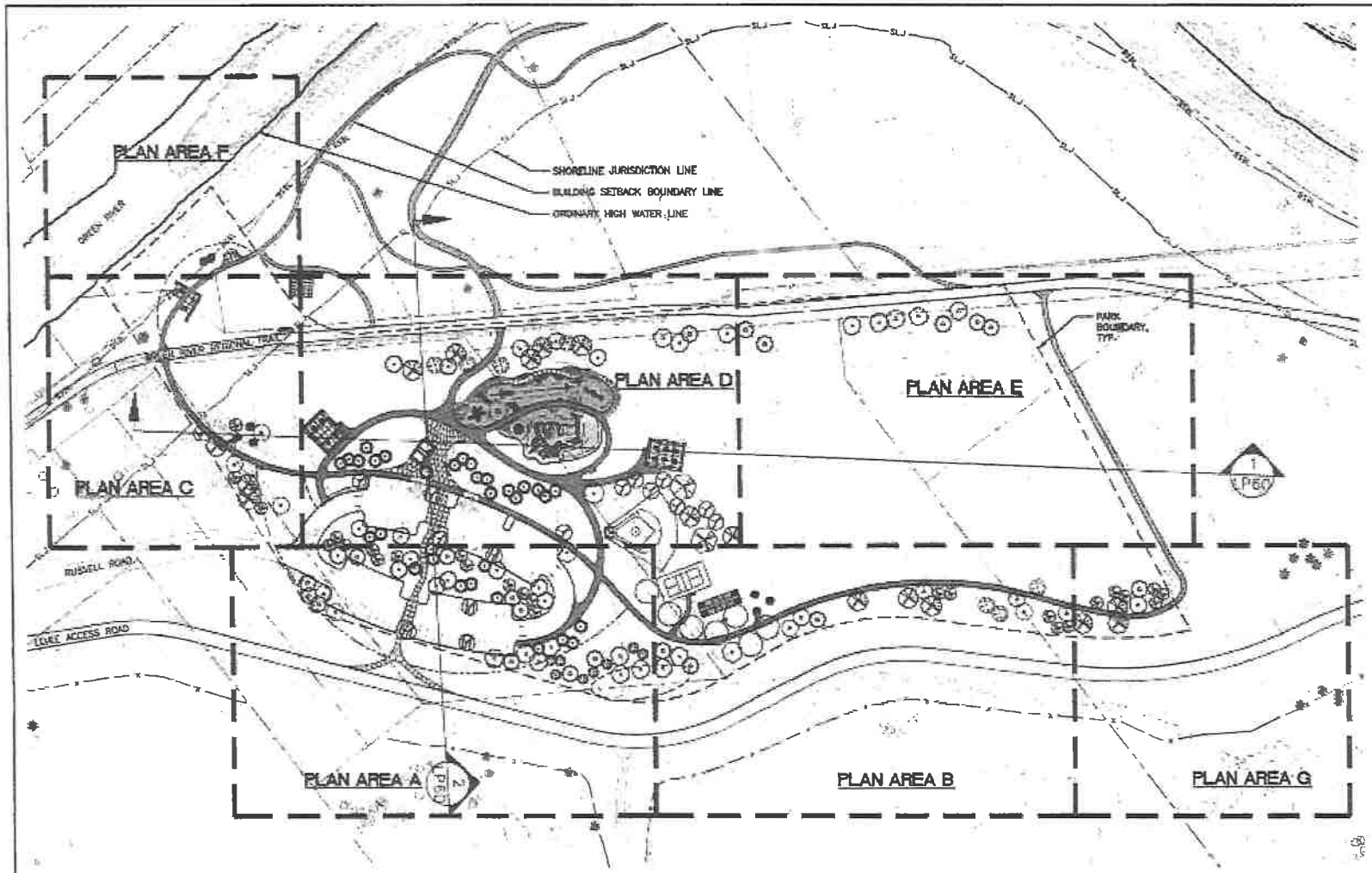
11/27/19

PARTNERSHIP berger

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
LANDSCAPE KEY PLAN
VAN DOREN'S PARK AND RUSELL WOODS PARKING LOT

SHEET
G-16



PARK AREA SHEET INDEX:

PLAN AREA A
SHEET LP-11 MATERIALS PLAN
SHEET LP-21 LAYOUT & GRADING
SHEET LP-41 PLANTING PLAN
SHEET LP-51 IRRIGATION PLAN

PLAN AREA B
SHEET LP-12 MATERIALS PLAN
SHEET LP-22 LAYOUT & GRADING
SHEET LP-42 PLANTING PLAN
SHEET LP-52 IRRIGATION PLAN

PLAN AREA C
SHEET LP-13 MATERIALS PLAN
SHEET LP-23 LAYOUT & GRADING
SHEET LP-43 PLANTING PLAN
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 F
SHEET LP-15 MATERIALS PLAN
SHEET LP-26 LAYOUT & GRADING
SHEET LP-46 PLANTING PLAN
SHEET LP-55 IRRIGATION PLAN

PLAN AREA E
A/SHEET LP-16 MATERIALS PLAN
A/SHEET LP-26 LAYOUT & GRADING
A/SHEET LP-46 PLANTING PLAN

PLAN AREA G
B/SHEET LP-16 MATERIALS PLAN
B/SHEET LP-26 LAYOUT & GRADING
B/SHEET LP-46 PLANTING PLAN
SHEET LP-56 IRRIGATION PLAN

20 10 0 20 40
SCALE: 1"=60'

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

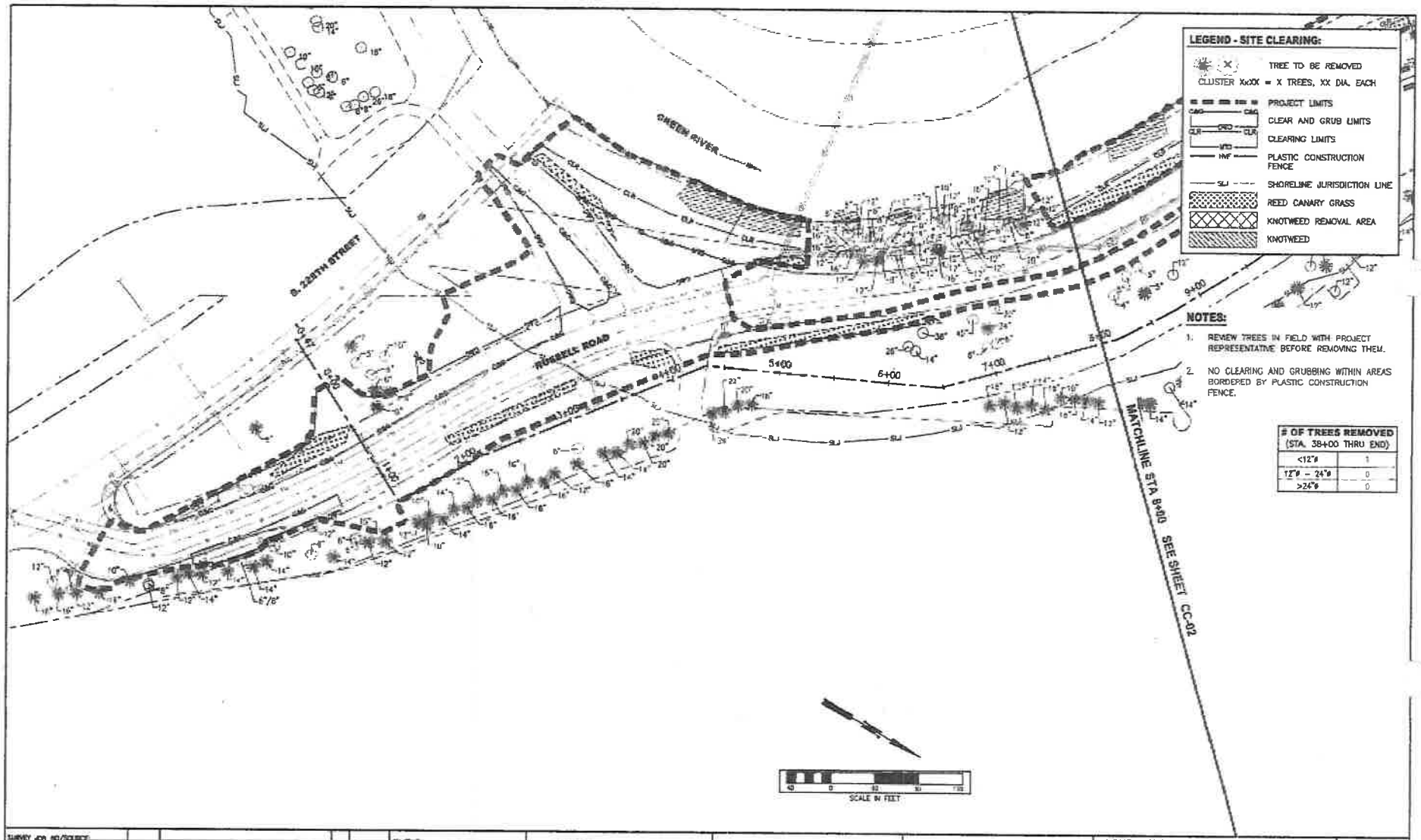
11/27/19

PARTNERSHIP berger

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
PARK AREA KEY PLAN

SHEET
G-17



SURVEY JOB NO/SOURCE:					
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CAD ENTERED: K. NITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	REVISION	BY	DATE	
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN RENELT, P.E.	11/2019				
		RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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 1

SHEET
CC-01

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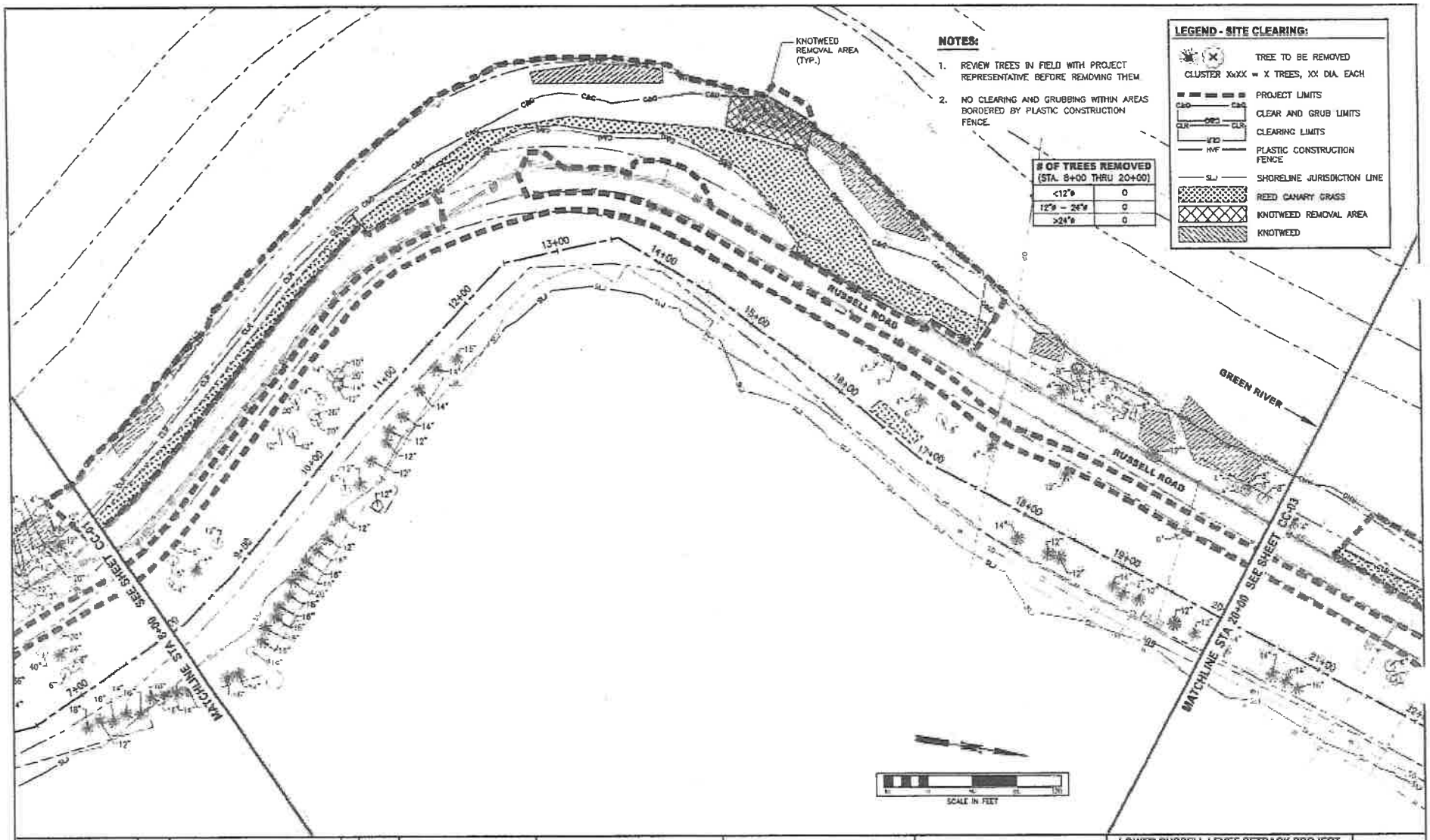

NOTES:

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. 8+00 THRU 20+00)	
<12"ø	0
12"ø – 24"ø	0
>24"ø	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
- KNOTWEED REMOVAL AREA
- KNOTWEED

SURVEY JOB NO./SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	MUNI.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN RENELT, P.E.	11/2019				
		MUNI.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

King County
Departments 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 2

SHEET
CC-02

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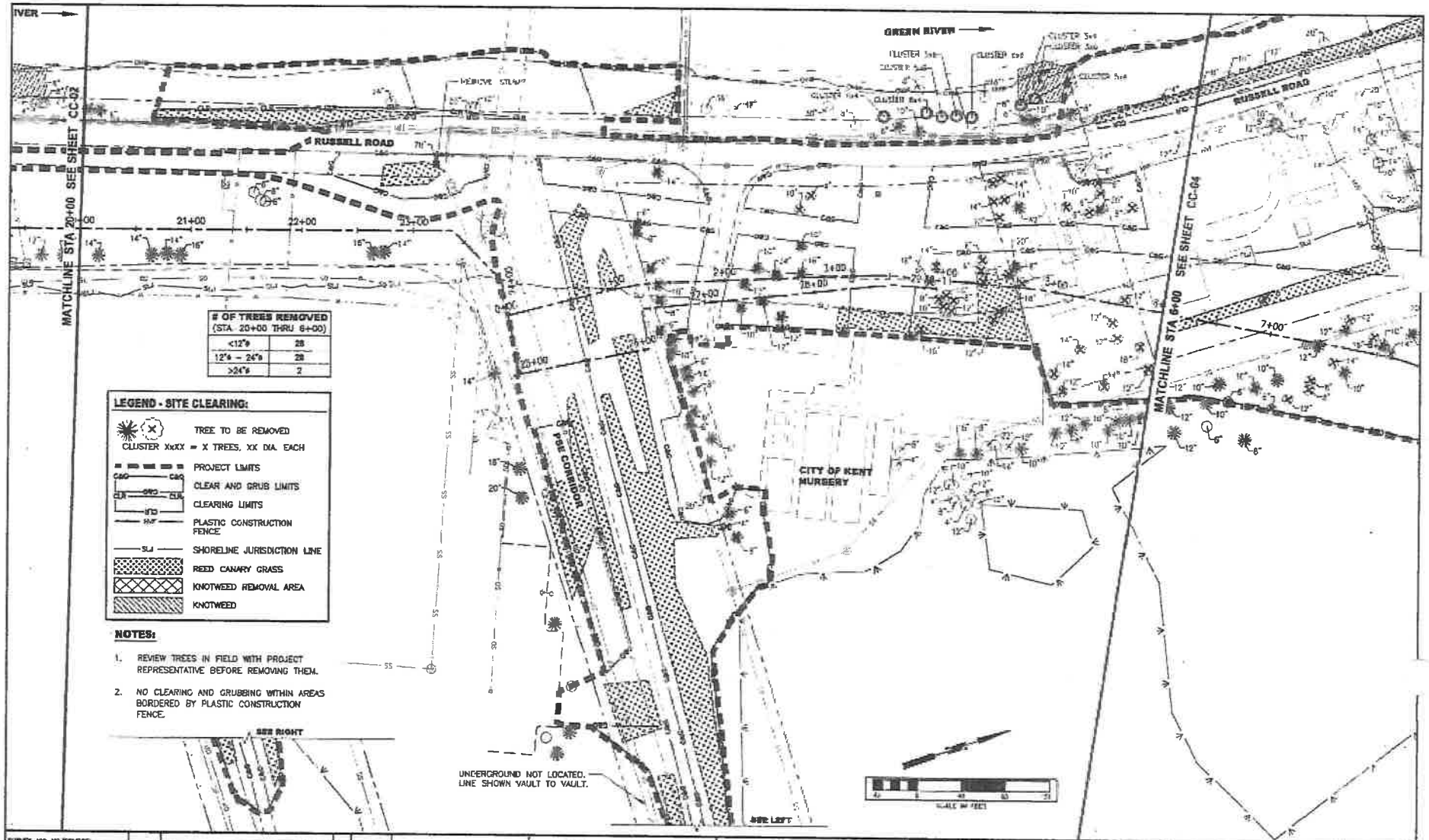

# OF TREES REMOVED (STA. 20+00 THRU 6+00)	
<12"ø	28
12"ø – 24"ø	28
>24"ø	2

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.

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM. REVISION	BY DATE
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN RENELT, P.E.	11/2019		
		SUM. RECORD CHANGES APPROVED	BY DATE

FUNDING

PROJECT No. 1112004

CONTRACT No. E0743CC01

11/26/19

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 3

SHEET
CC-03

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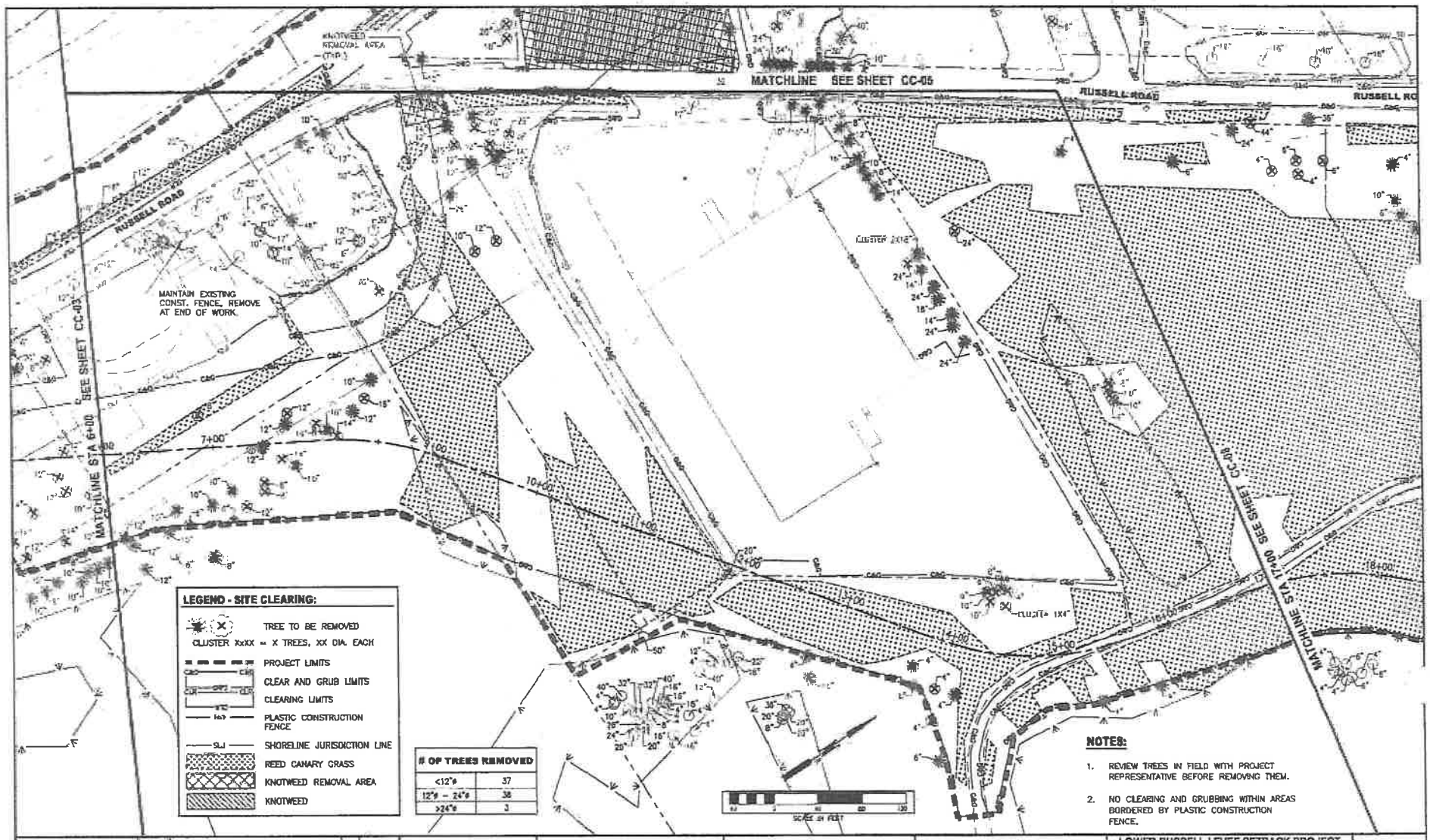

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DESIGNED: ERIK PETERS, P.E.	11/2019	REVISION	BY / DATE
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		
		RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. DGE615C30

11/26/19

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 4

SHEET
CC-04

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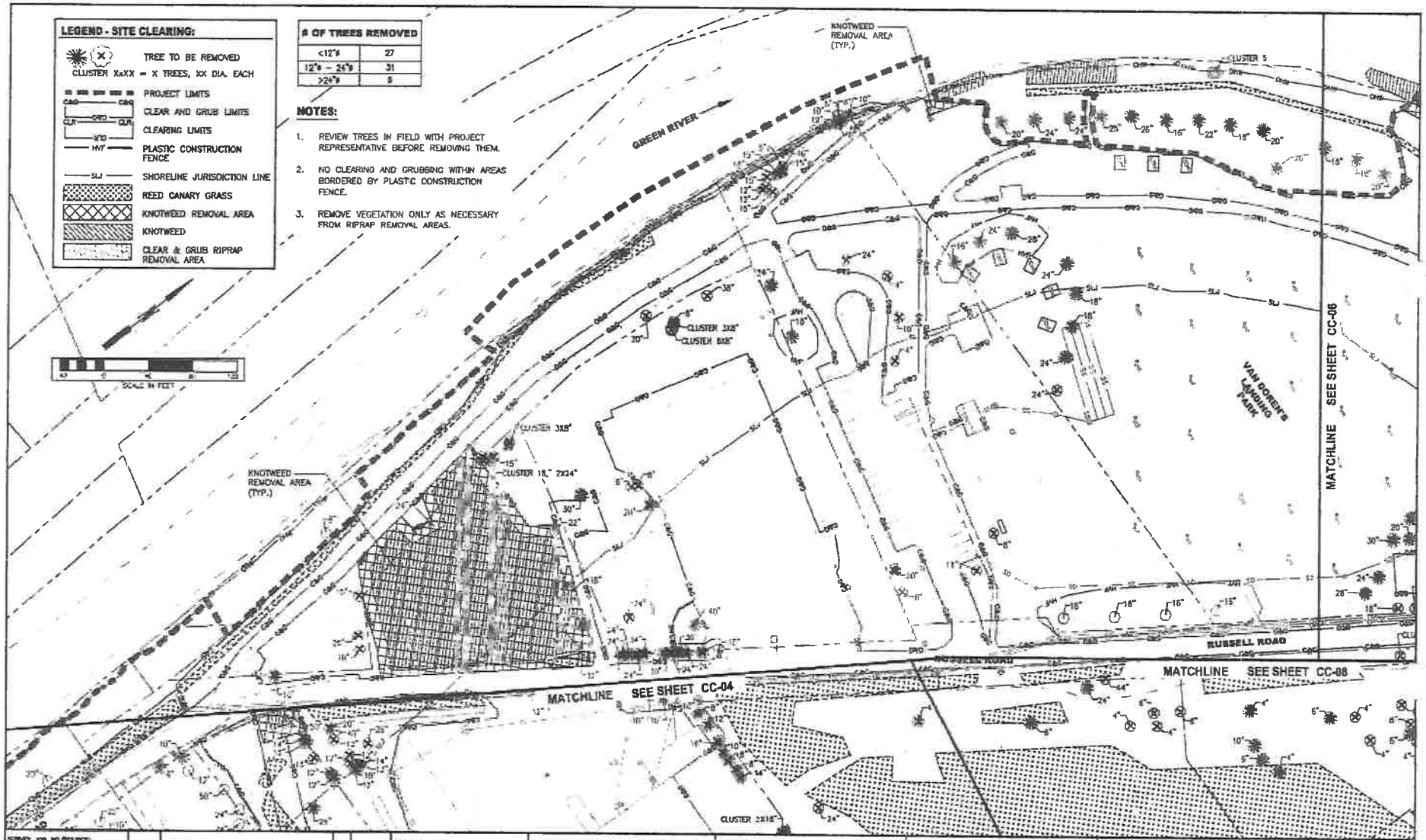

# OF TREES REMOVED	
<12"ø	27
12"ø – 24"ø	31
>24"ø	5

SURVEY JOB NO/SOURCE:
CHECKED:
CAD ENTERED: K. KITAMURA 11/2019
DESIGNED: ERIK PETERS, P.E. 11/2019
CHECKED: ERIK PETERS, P.E. 11/2019
SUPERVISOR: LORIN REINELT, P.E. 11/2019

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. D01415020

11/26/19

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 5

SHEET
CC-05

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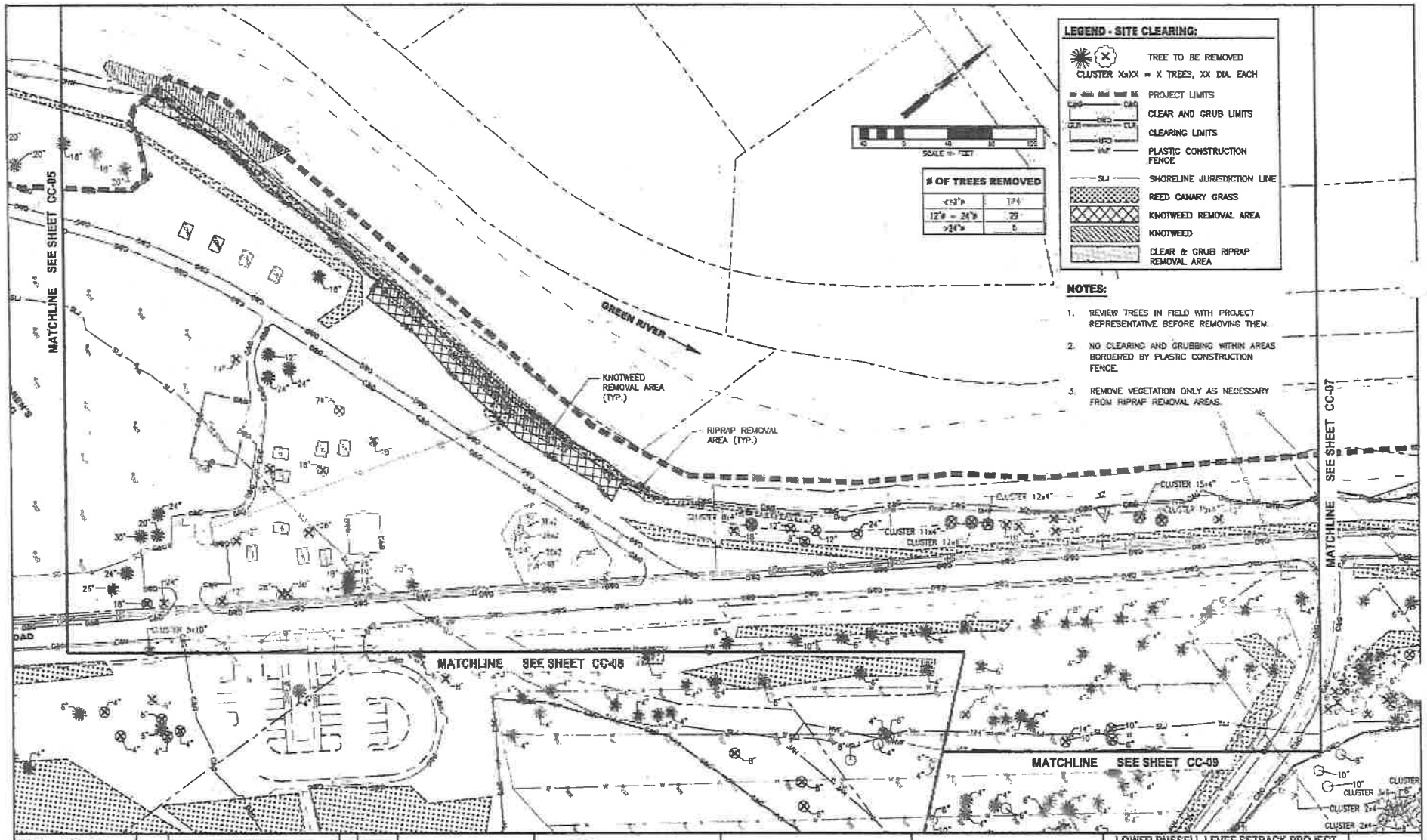

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SUPERVISOR: LORIN RENELT, P.E.	11/2019			
		MUNI. RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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 6

SHEET
CC-06

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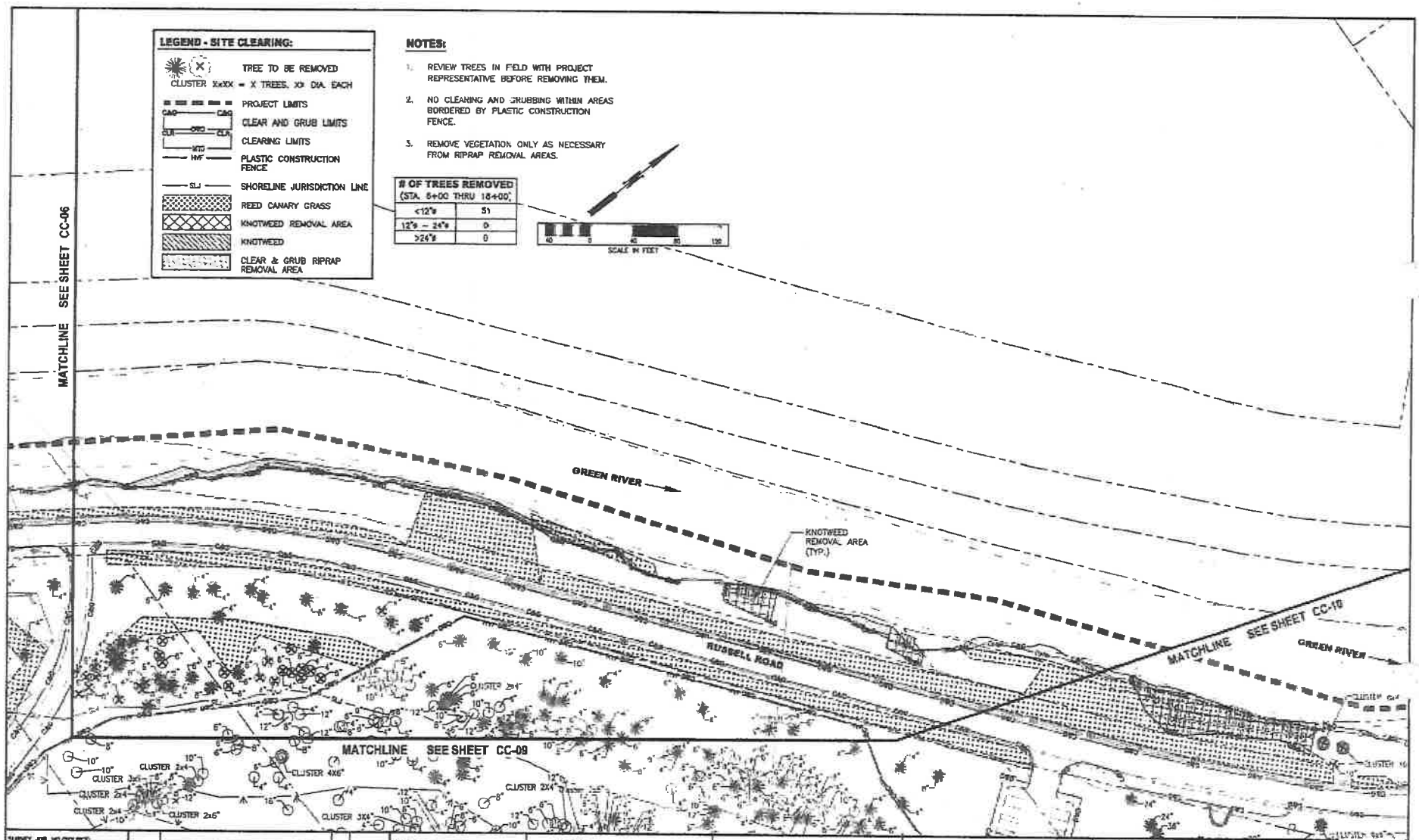

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CHECKED: ERIK PETERS, P.E.	11/2019			
SUPERVISOR: LORIN REINELT, P.E.	11/2019			
		REV. RECORD CHANGES APPROVED	BY	DATE

FIELDWK: _____

PROJECT No. T112038

CONTRACT No. C0141SC10

11/26/19

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 7

SHEET
CC-07

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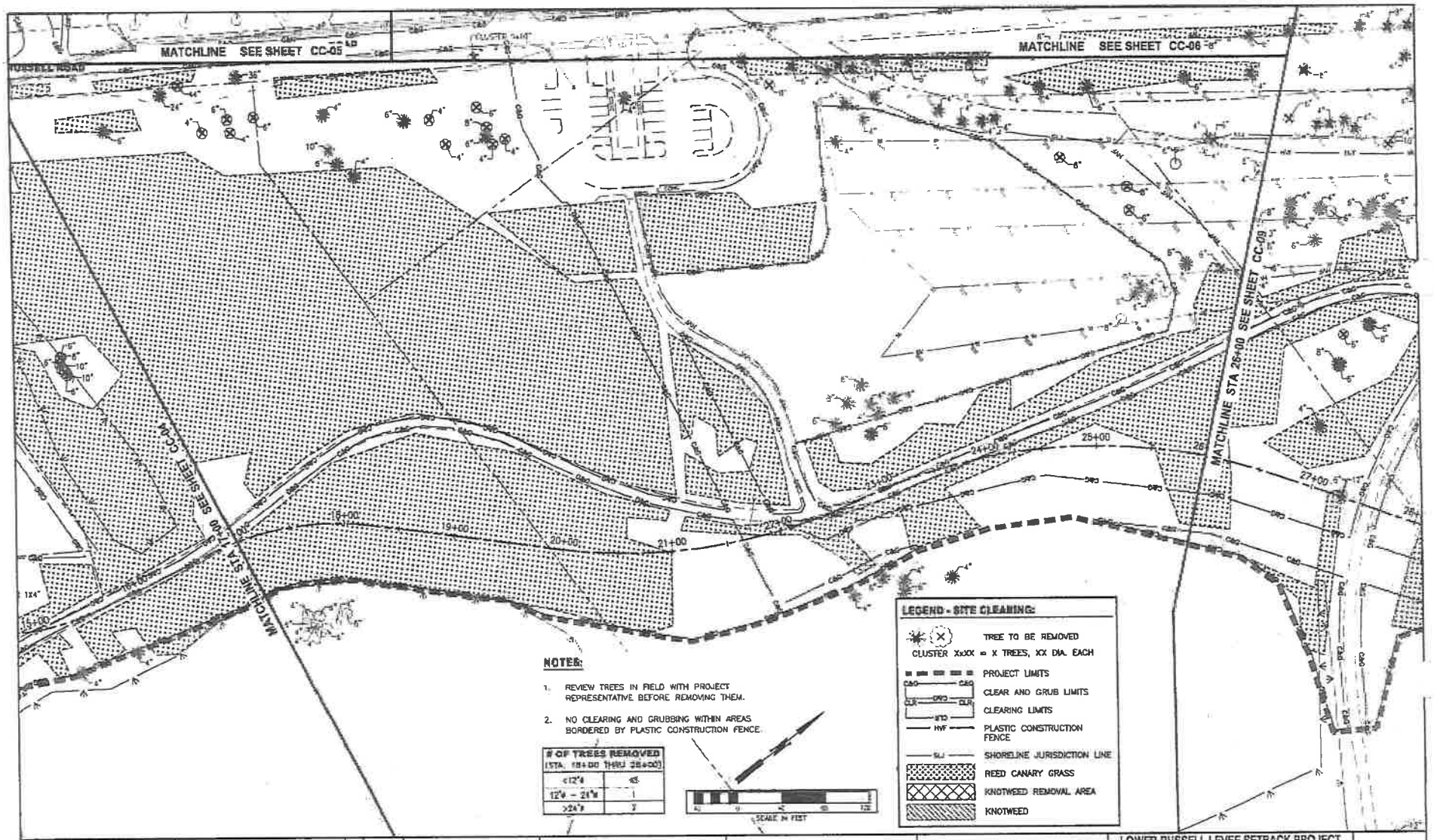

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CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		REV.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No.: 3112058

CONTRACT No.: C0141N220

11/26/19

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 8

SHEET
CC-08

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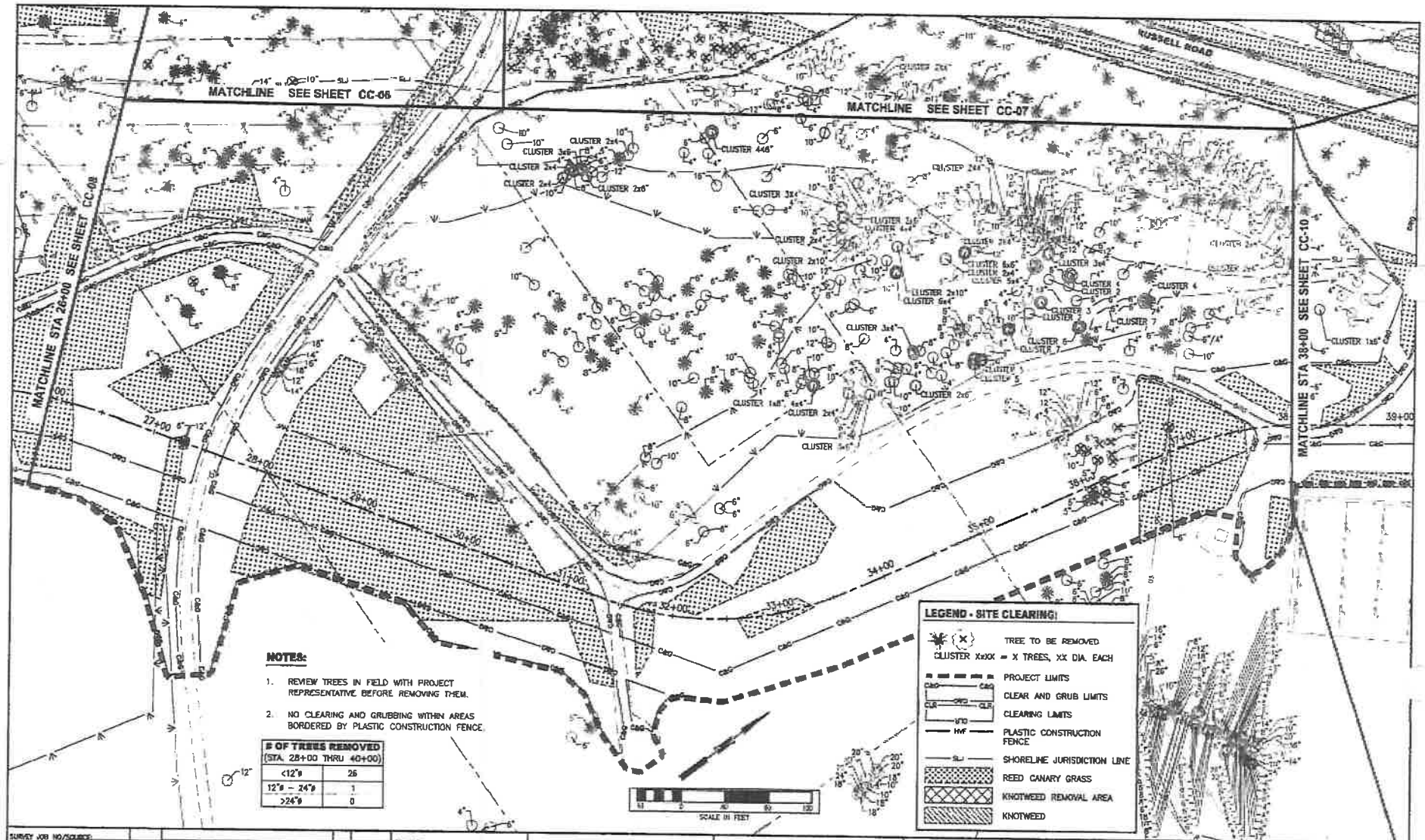

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DESIGNED: ERIK PETERS, P.E.	11/2019		
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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 9

SHEET
CC-09

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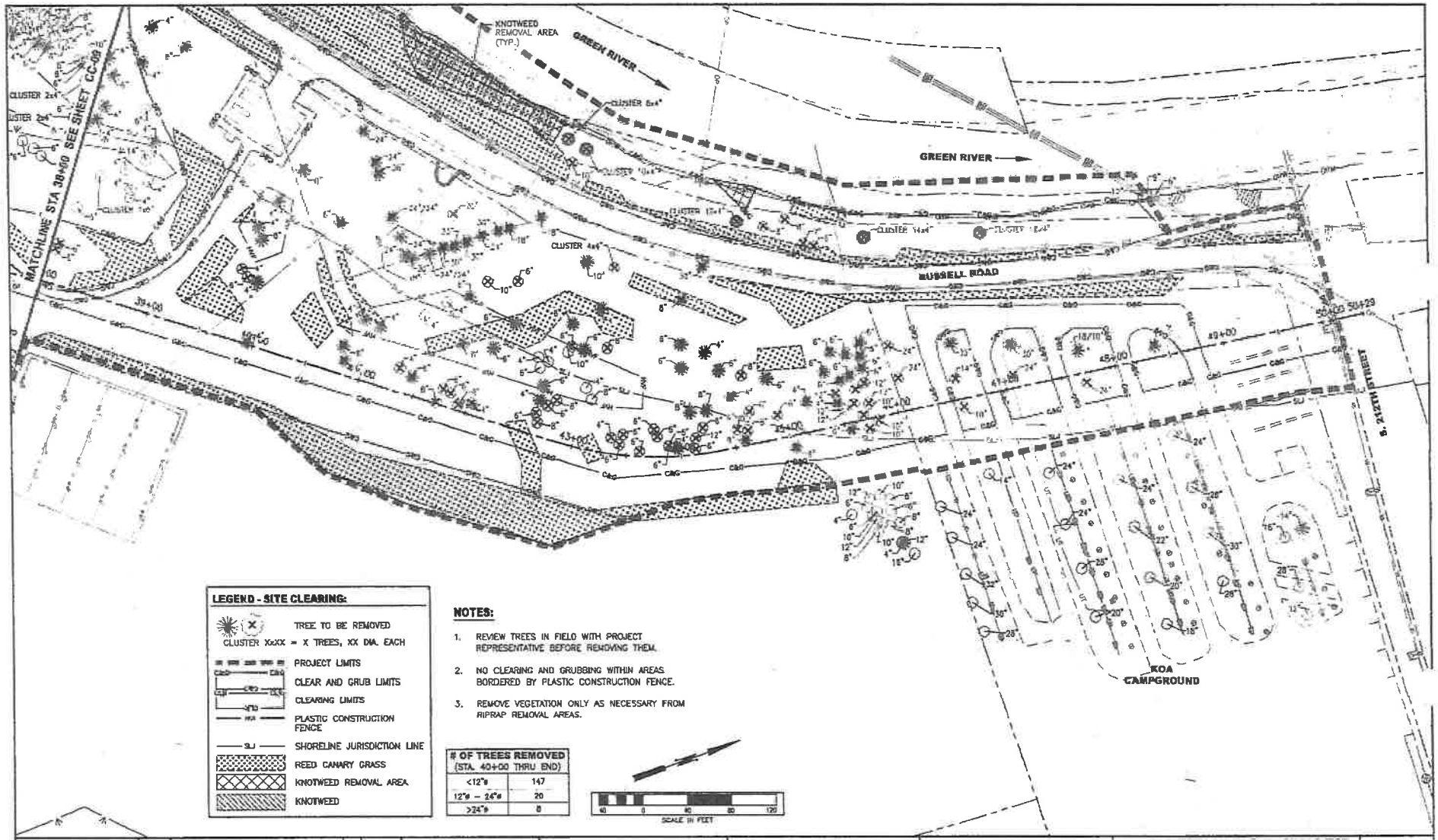

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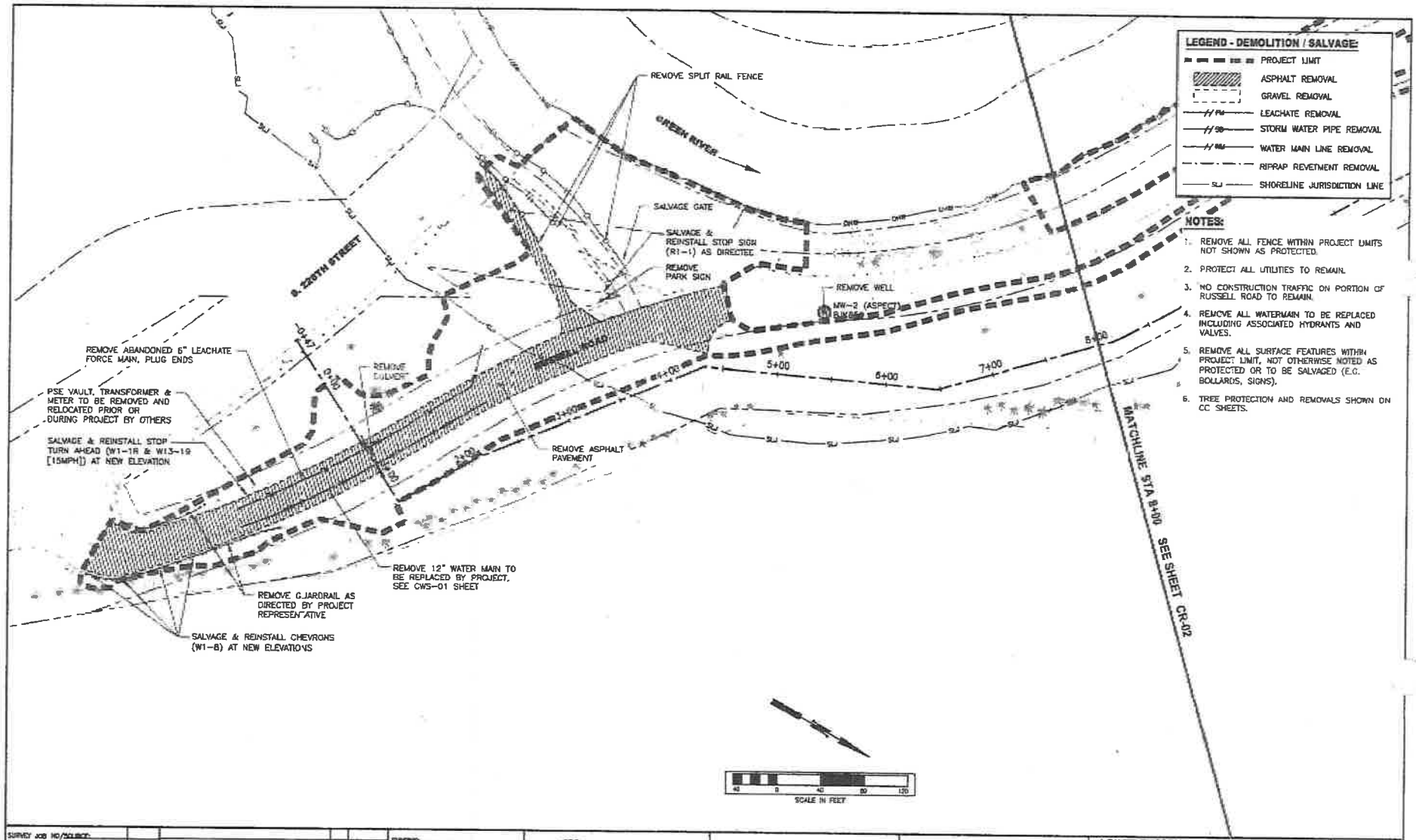

NOTES:

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/SUBJECT:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	MUNI.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		MUNI.	RECORD CHANGES APPROVED	BY	DATE

FUNDED:

PROJECT No. 1112056

CONTRACT No. C01415CZD

11/26/19

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

REMOVALS 1

SHEET
CR-01

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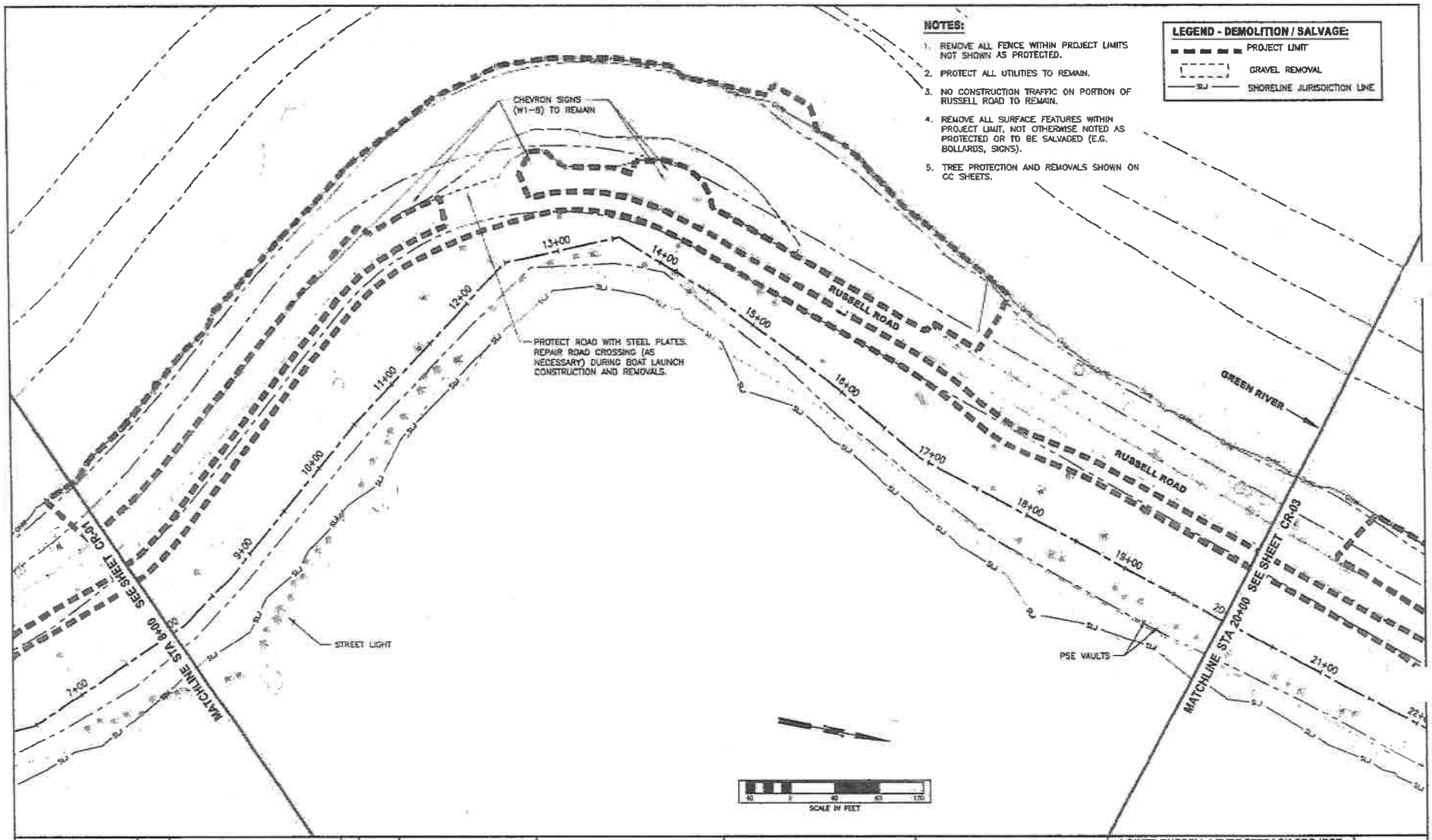

NOTES:

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN RENELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

11/26/19

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

REMOVALS 2

SHEET
CR-02

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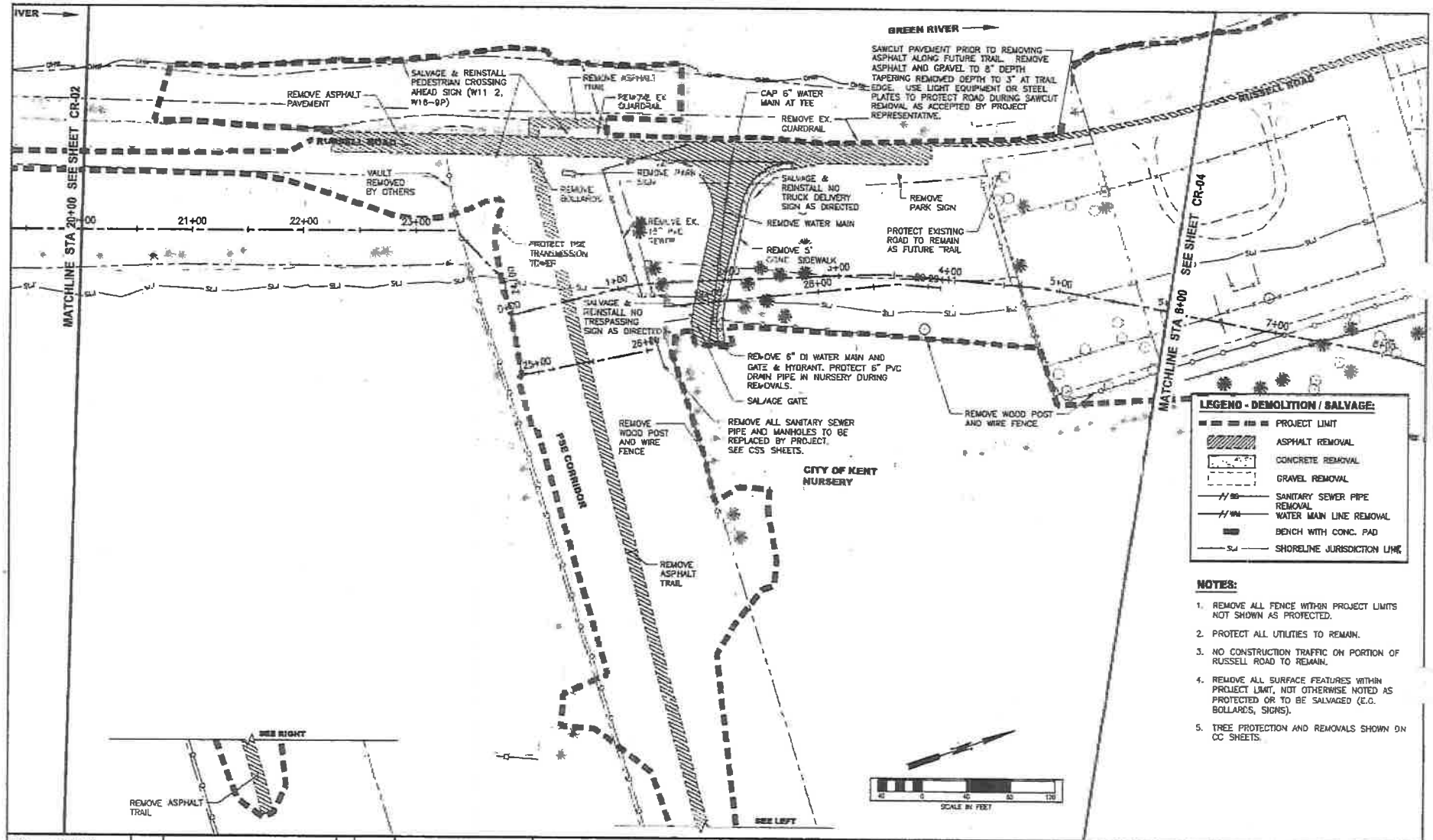

NOTES:

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.

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019	MUN. REVISION	BY	APVD
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		
		MUN. RECORD CHANGES APPROVED	INT	DATE

FUNDING: _____

PROJECT No. 1112058

CONTRACT No. C0416C00

11/26/19

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

REMOVALS 3

SHEET
CR-03

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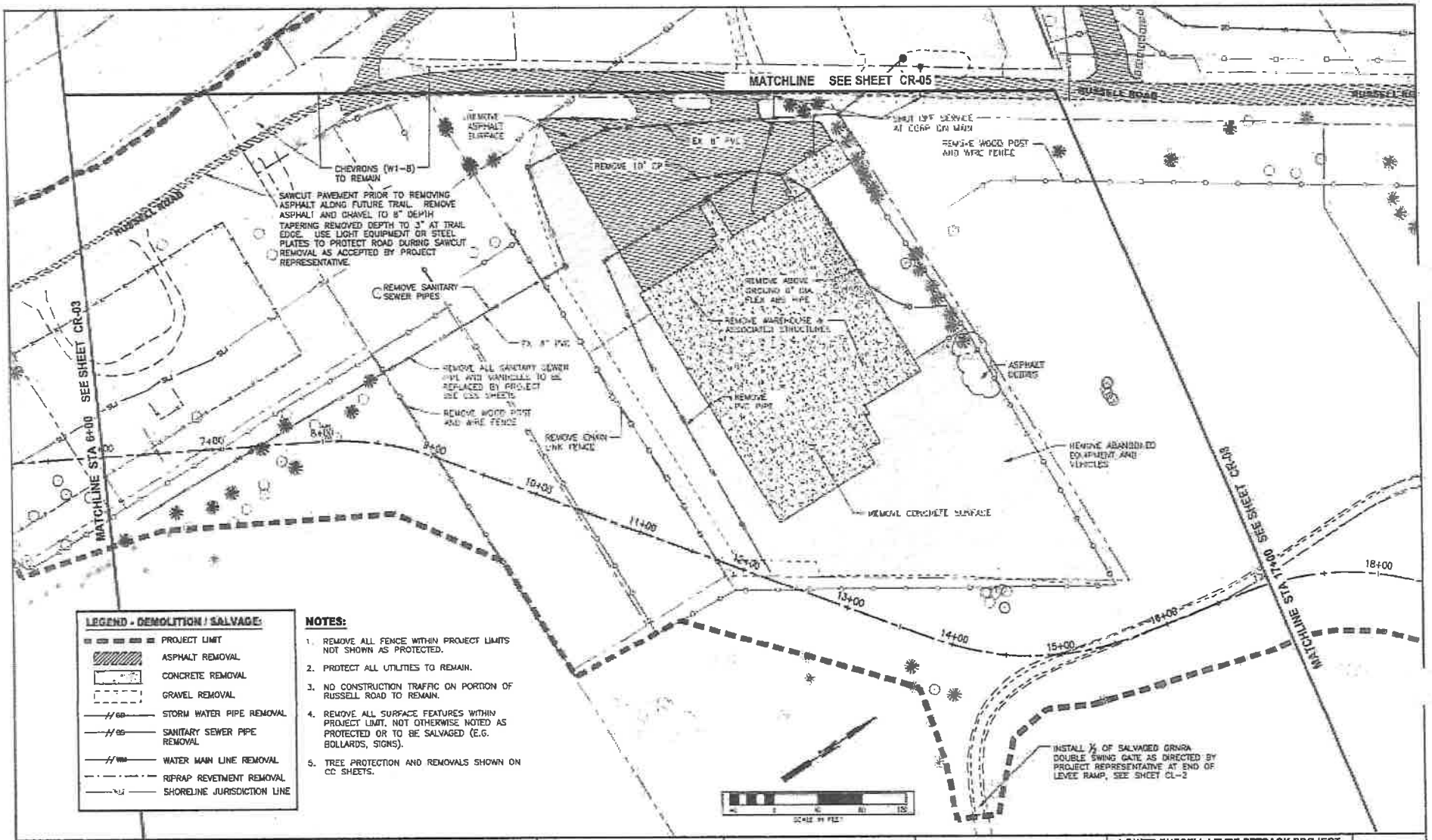

NOTES:

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.

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019		
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

PLAT/Map: _____
PROJECT NO: 1112058
DOCTRACK No: 0208410020

11/26/19

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

REMOVALS 4

SHEET
CR-04

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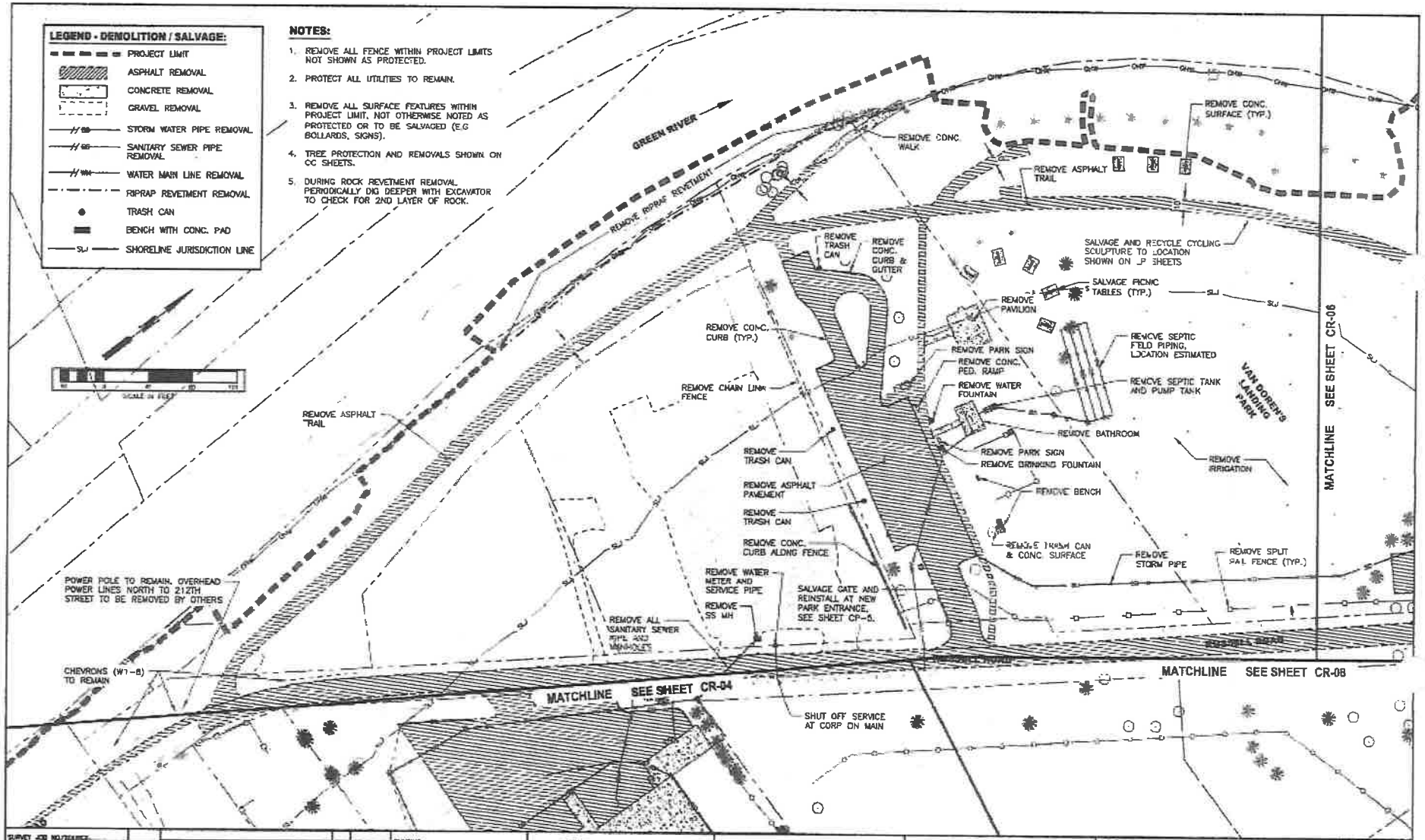

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CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM. REVISION BY DATE	
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		
		NUM. PROJECT CHANGES APPROVED BY DATE	

FUNDING:

PROJECT No. 1112059

CONTRACT No. C01415C22

11/26/19

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

REMOVALS 5

SHEET
CR-05

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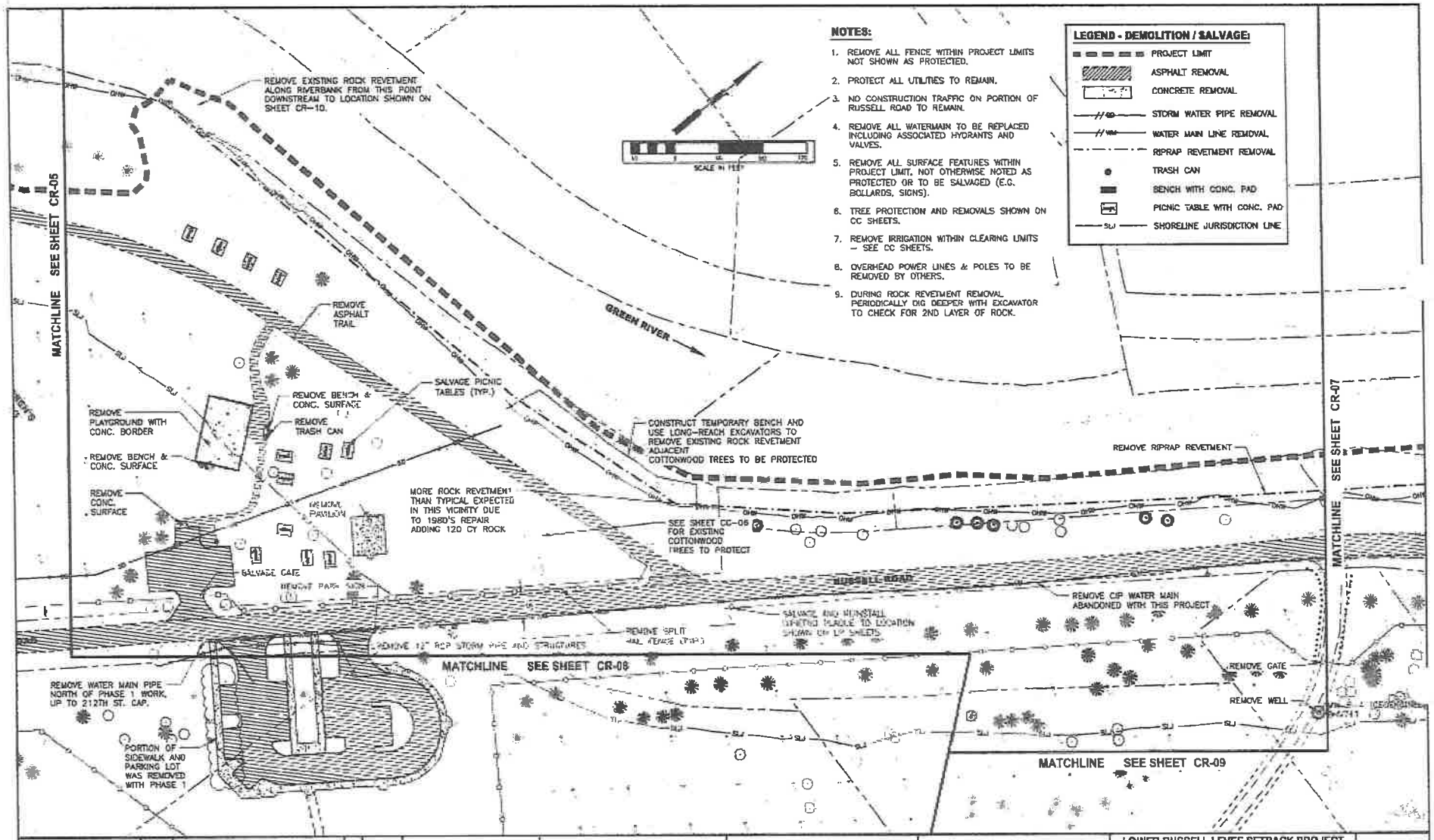

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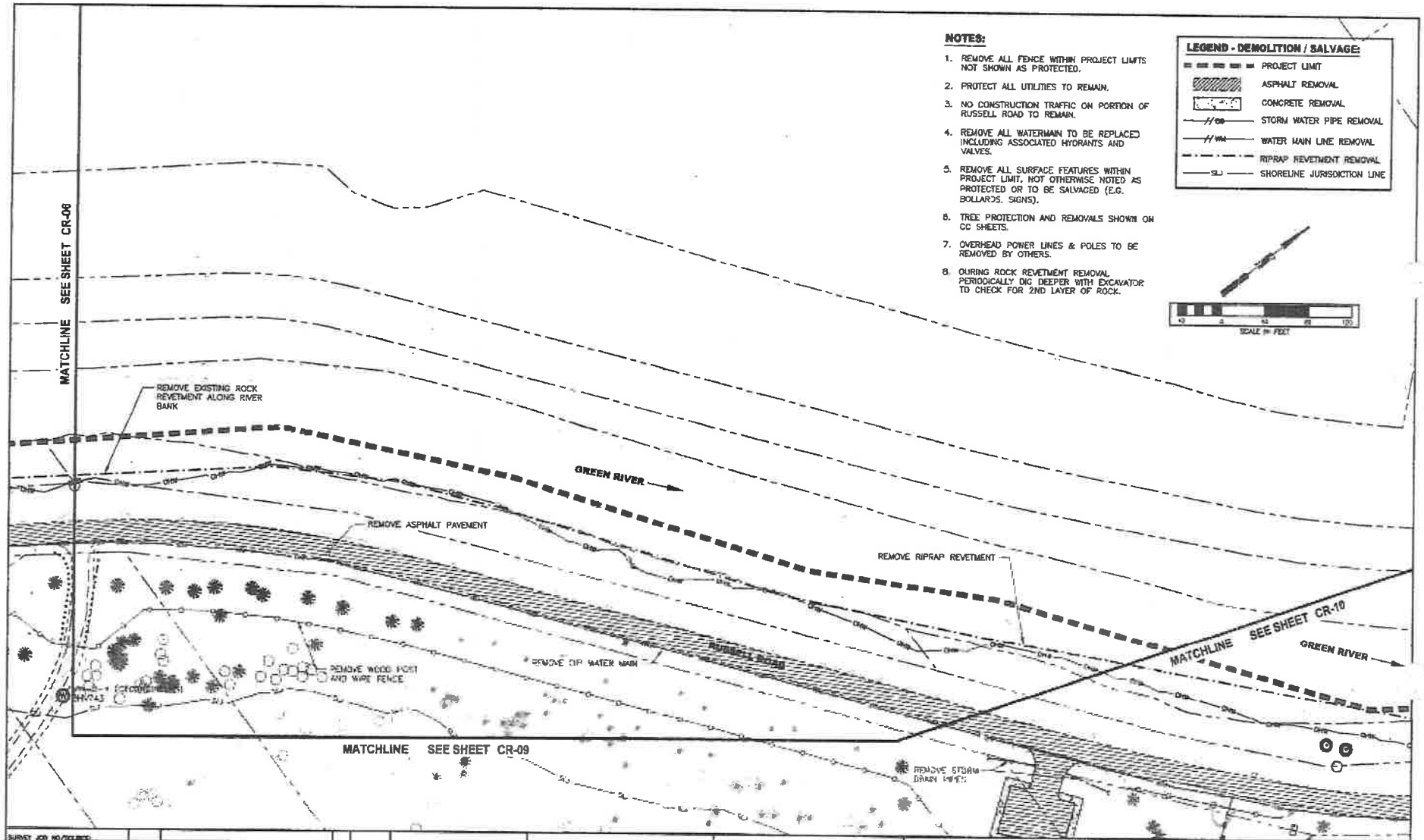

NOTES:

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:

- PROJECT LIMIT
- ASPHALT REMOVAL
- CONCRETE REMOVAL
- STORM WATER PIPE REMOVAL
- WATER MAIN LINE REMOVAL
- RIPRAP REVETMENT REMOVAL
- SLJ — SHORELINE JURISDICTION LINE

SCALE IN FEET

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

PROJECT No. 411205

CONTRACT No. 0314152

11/26/19

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

REMOVALS 7

SHEET
CR-07

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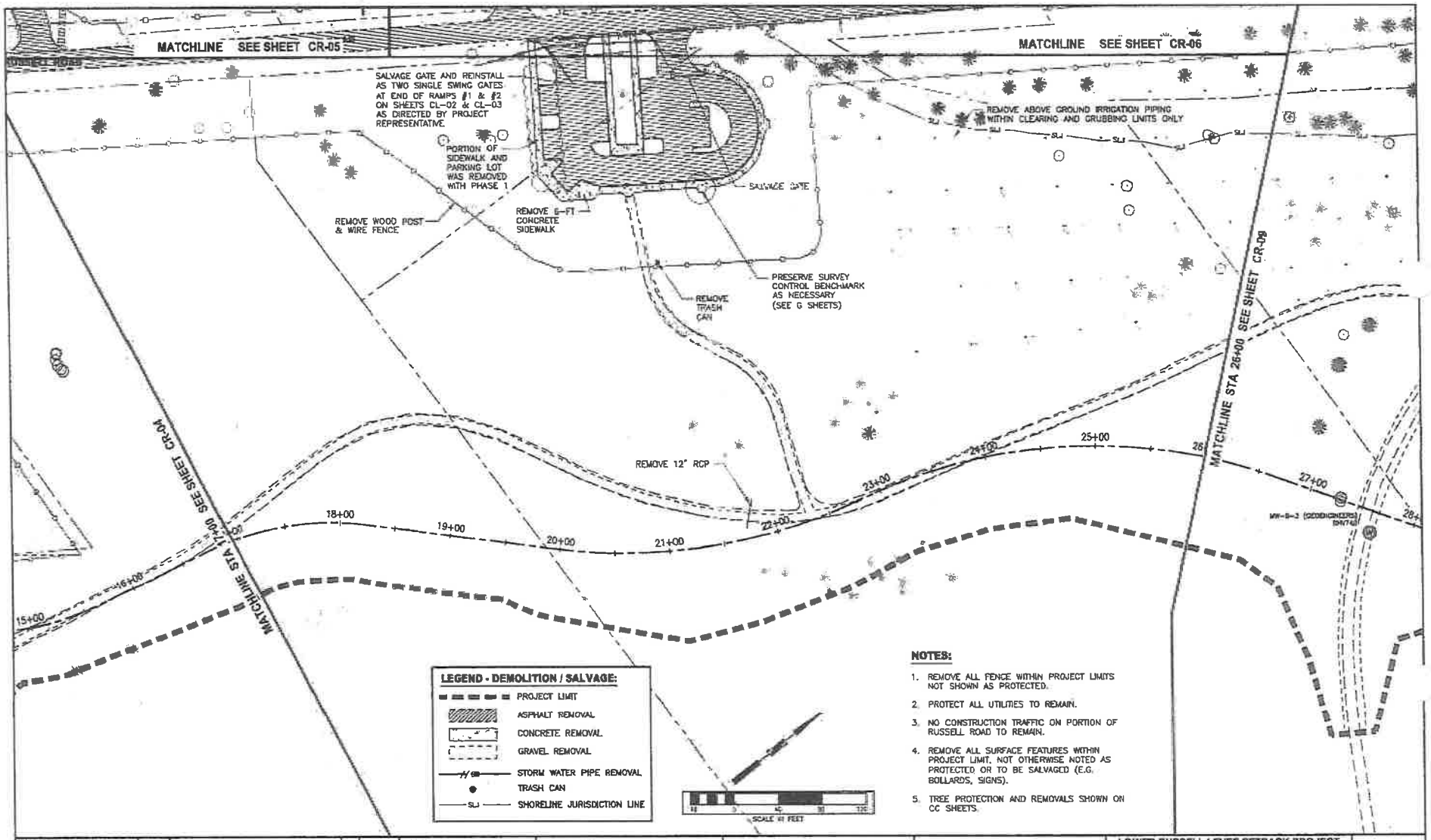

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM. REVISION	BY DATE
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REHELT, P.E.	11/2019		
		NUM. RECORD CHANGES APPROVED	BY DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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

REMOVALS 8

SHEET
CR-08

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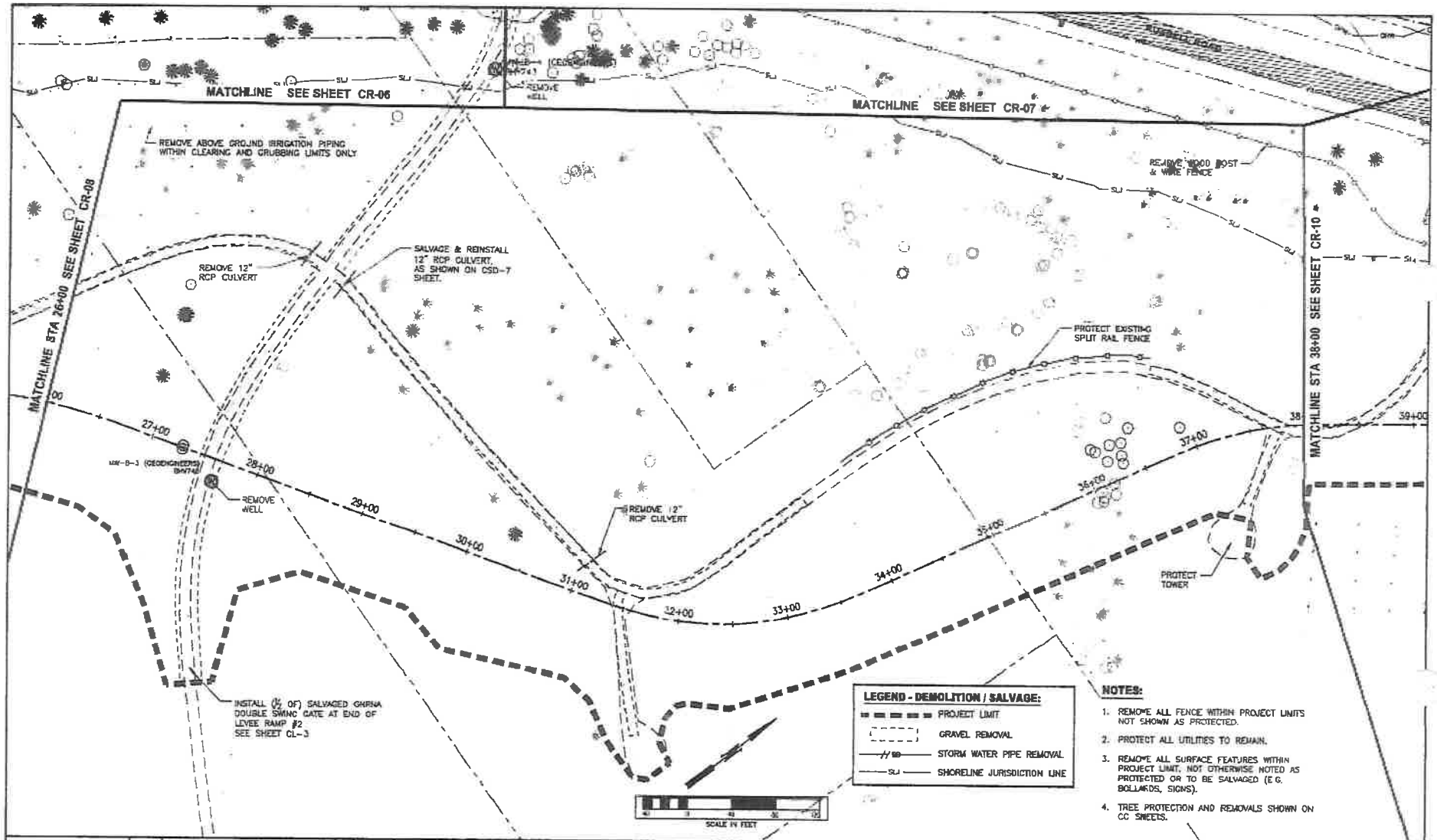

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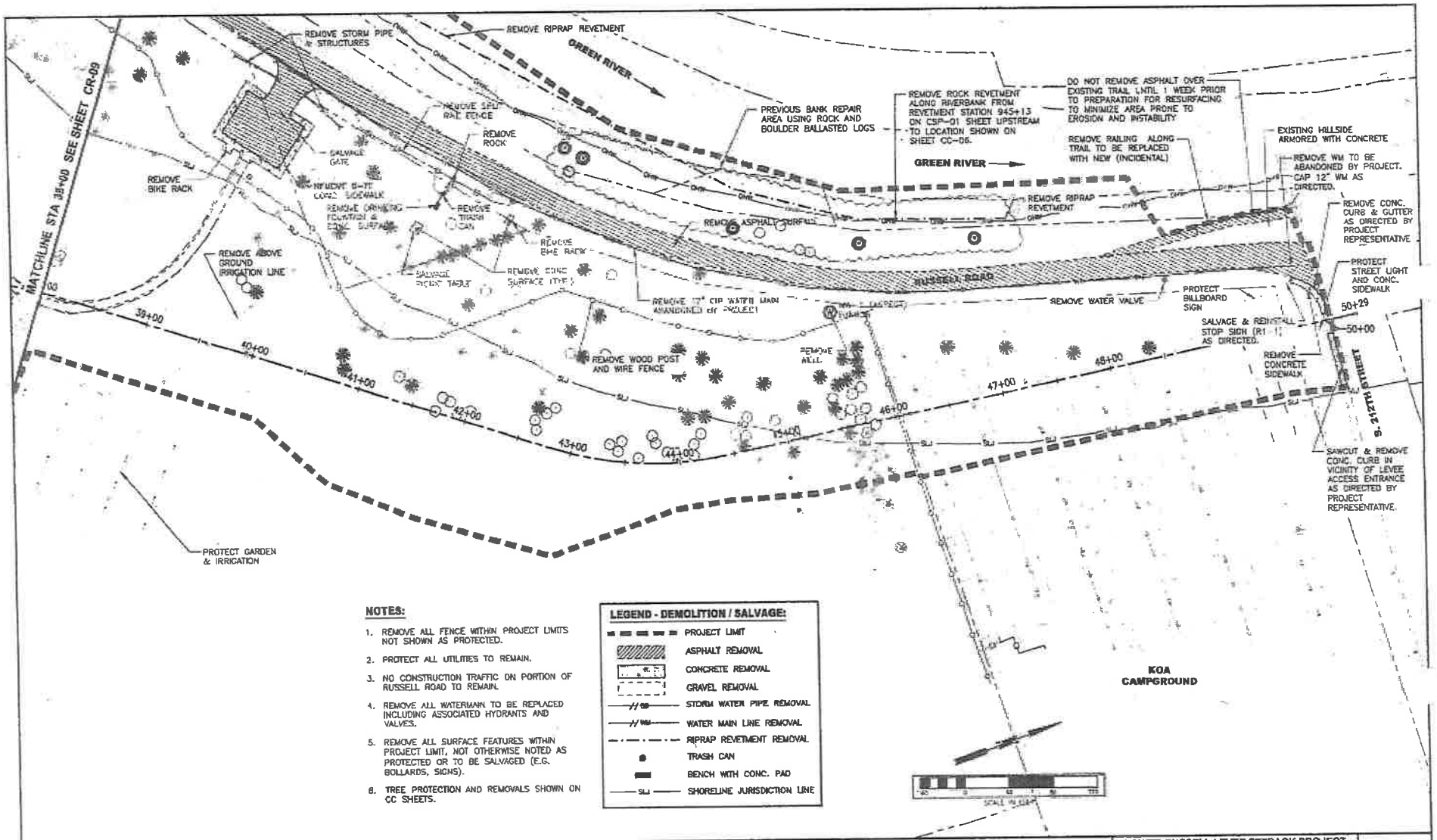

NOTES:

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.

LEGEND - DEMOLITION / SALVAGE:

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	REV.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		RLM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. J112056

CONTRACT No. C01415C20

11/26/19

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

REMOVALS 10

SHEET
CR-10

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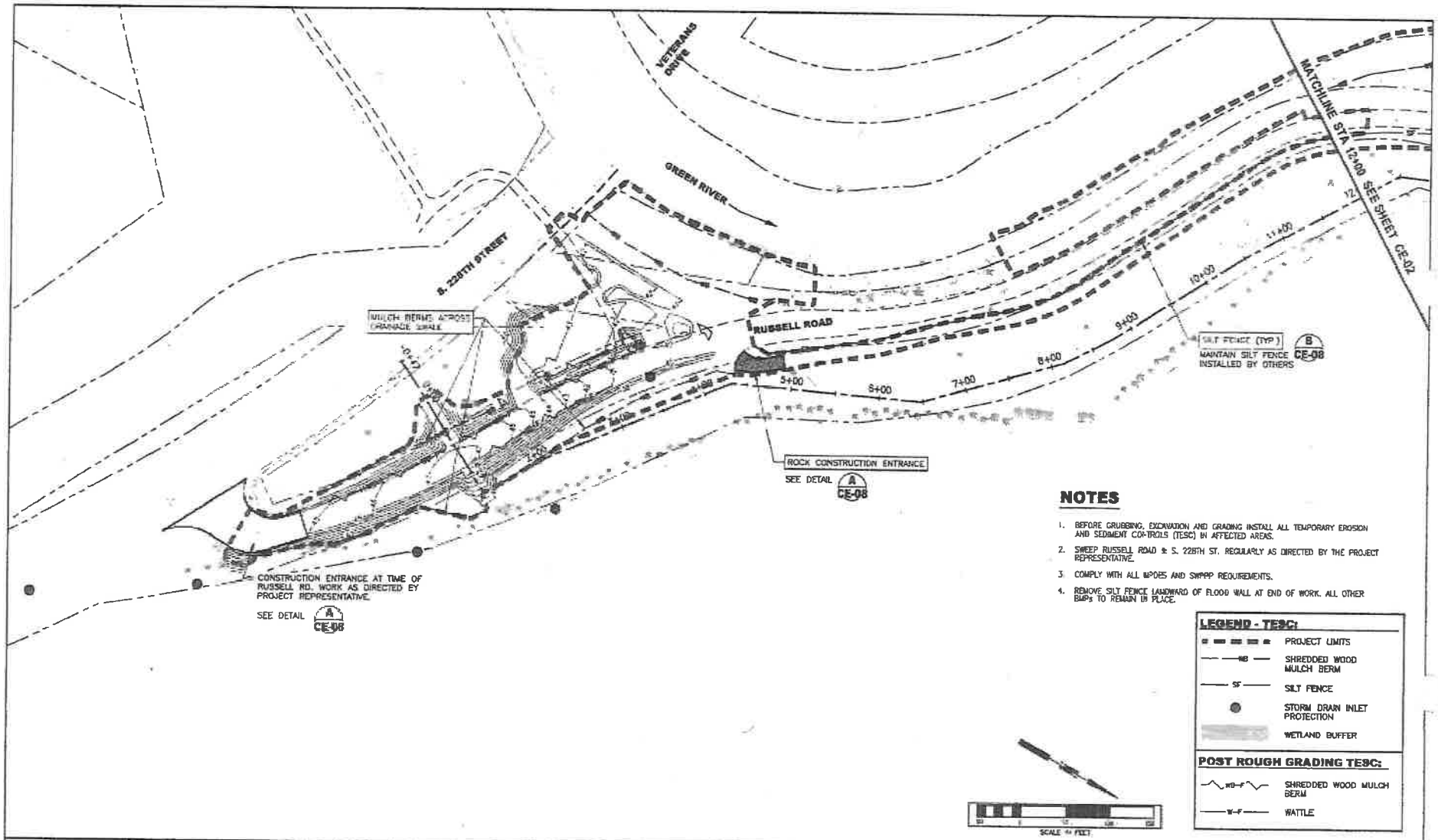

NOTES

1. BEFORE GRUBBING, EXCAVATION AND GRADING INSTALL ALL TEMPORARY EROSION AND SEDIMENT CONTROLS (TESC) IN AFFECTED AREAS.
2. SWEEP RUSSELL ROAD & S. 228TH ST. REGULARLY AS DIRECTED BY THE PROJECT REPRESENTATIVE.
3. COMPLY WITH ALL NPDES AND SWPPP REQUIREMENTS.
4. REMOVE SILT FENCE LANDWARD OF FLOOD WALL AT END OF WORK. ALL OTHER BMPs TO REMAIN IN PLACE.

LEGEND - TESC:

- PROJECT LIMITS
- WB — SHREDDED WOOD MULCH BERM
- SF — SILT FENCE
- STORM DRAIN INLET PROTECTION
- WETLAND BUFFER

POST ROUGH GRADING TESC:

- WB-F — SHREDDED WOOD MULCH BERM
- W-F — WATTLE

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FILMING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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

TESC PLAN 1

SHEET
CE-01

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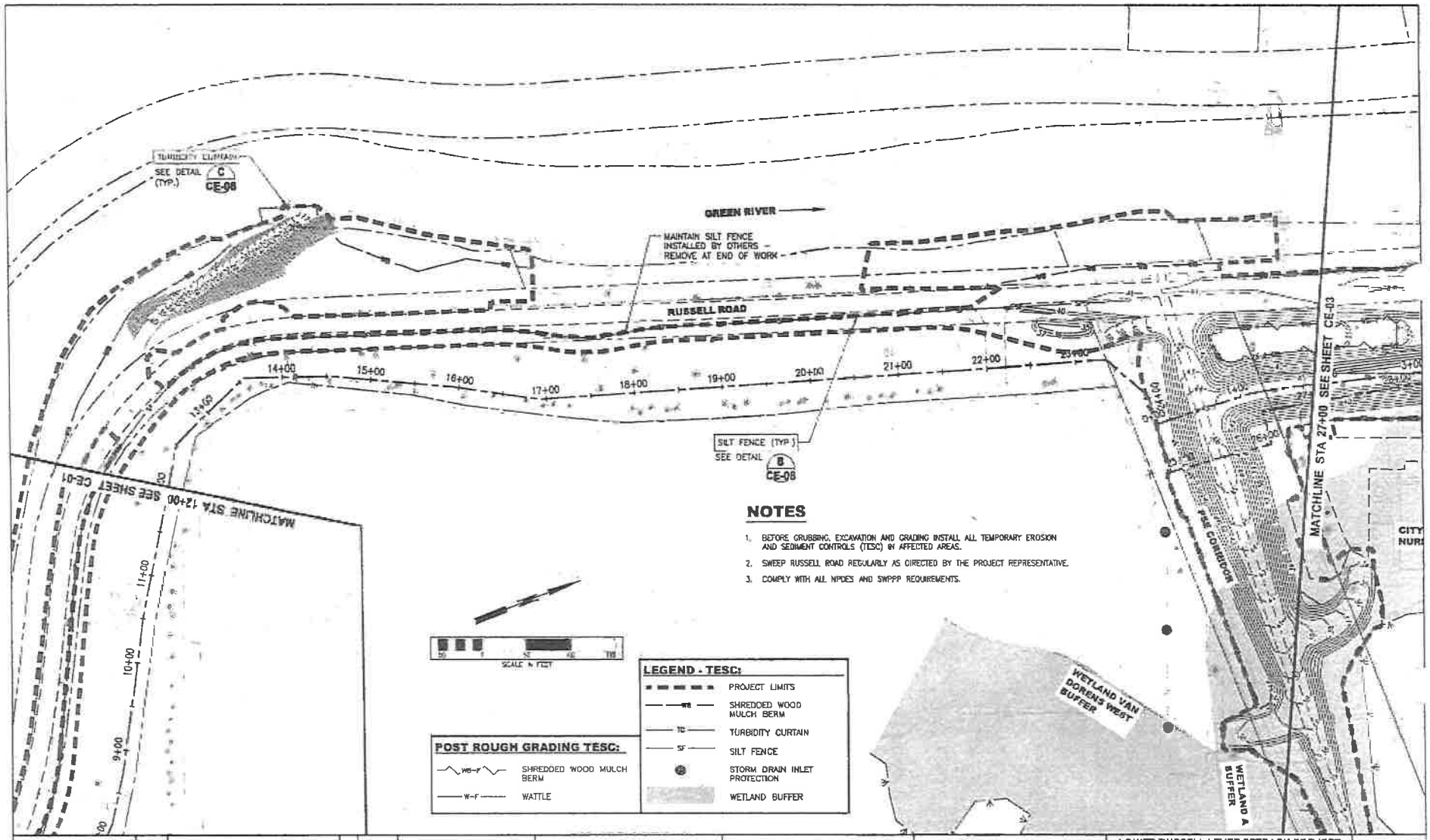

NOTES

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

POST ROUGH GRADING TESC:

- WS-F — SHREDDED WOOD MULCH BERM
- W-F — WATTLE

LEGEND - TESC:

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITANURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019	NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C020

11/26/19

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

TESC PLAN 2

SHEET
CE-02

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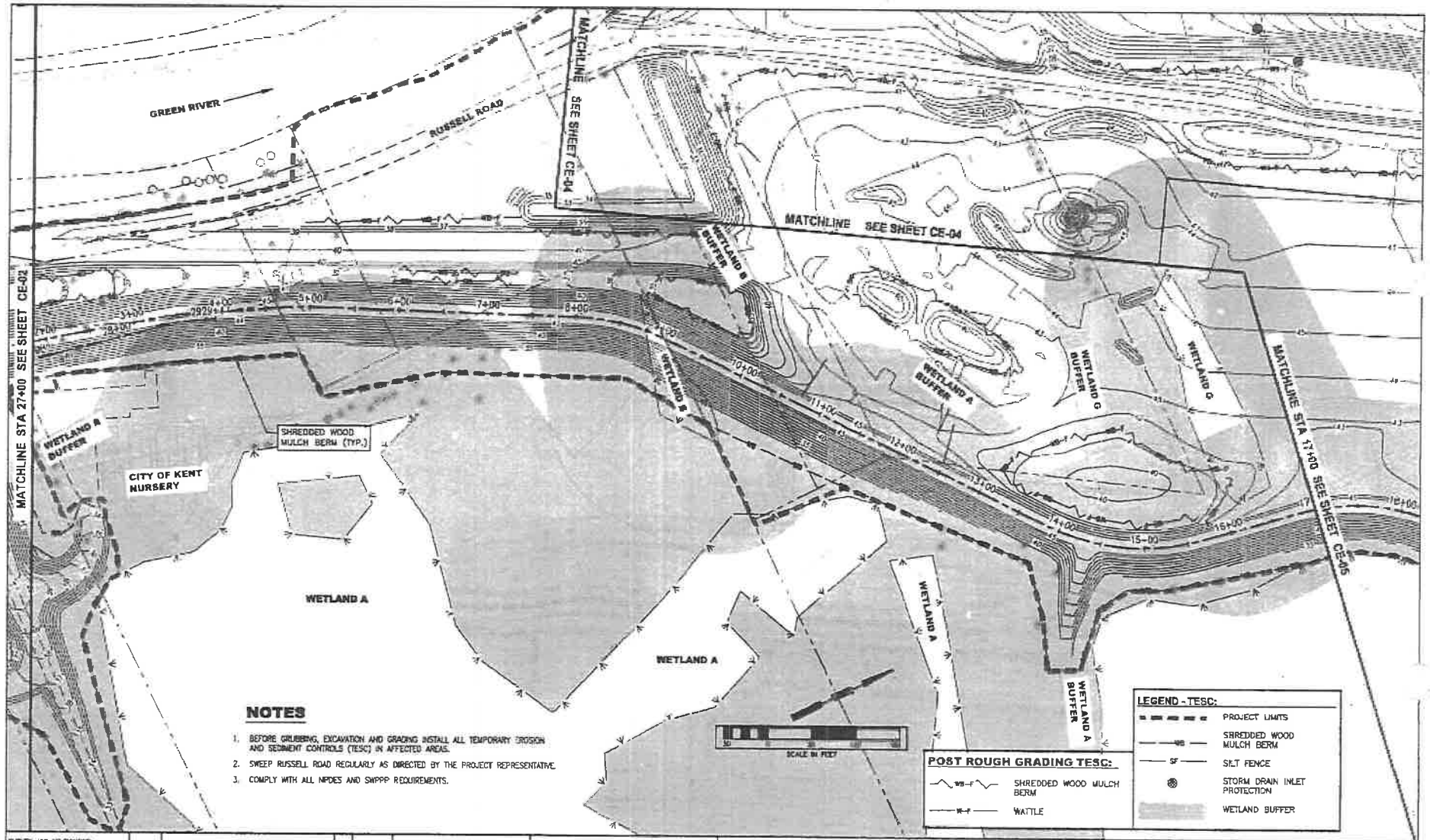

SURVEY JOB NO/SOURCE:
CHECKED:
CAD ENTERED: K. TANURA 11/2019
DESIGNED: ERIK PETERS, P.E. 11/2019
CHECKED: ERIK PETERS, P.E. 11/2019
SUPERVISOR: LORIN REINELT, P.E. 11/2019

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

PLANNING
PROJECT No. 111-2069
CONTRACT No. D014055C0

11/26/19

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

TESC PLAN 3

SHEET
CE-03

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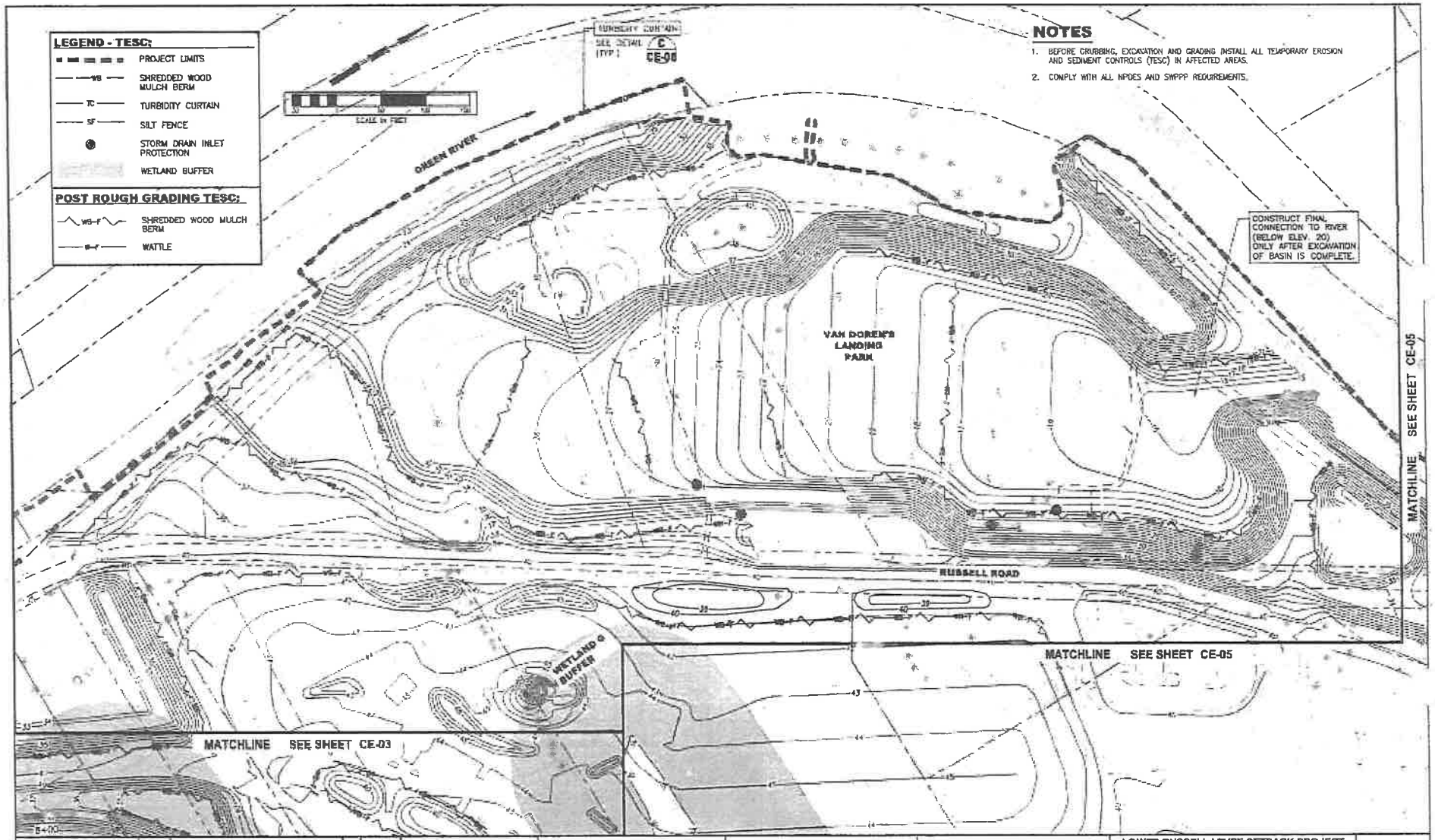

NOTES

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

SURVEY JOB NO/SOURCE				
CHECKED:				
CAD ENTERED: K. KITAMURA	11/2019			
DESIGNED: ERIK PETERS, P.E.	11/2019	NO. REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019			
SUPERVISOR: LORIN REINELT, P.E.	11/2019			
		NO. RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. CC141NC00

11/26/19

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

TESC PLAN 4

SHEET CE-04

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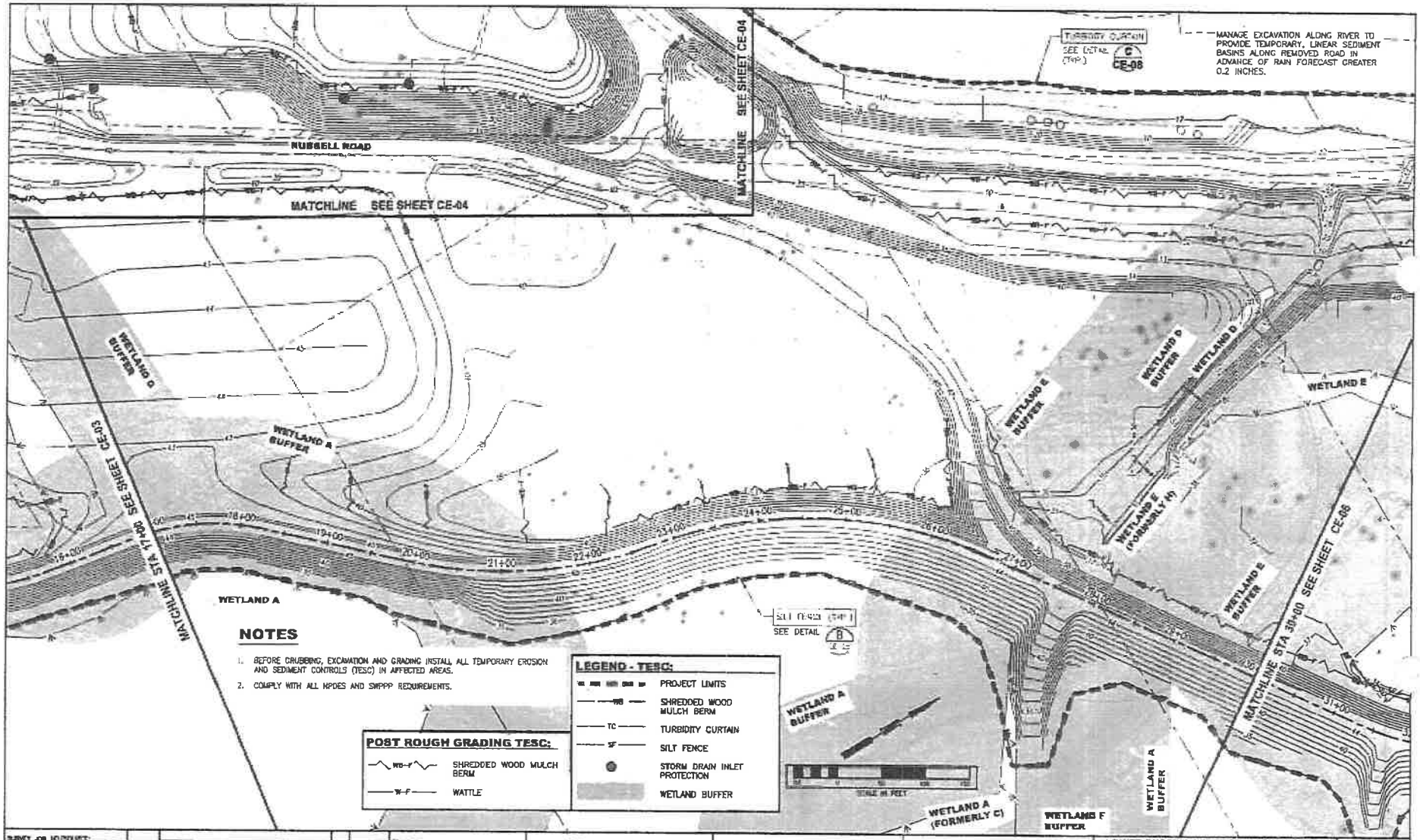

NOTES

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

POST ROUGH GRADING TESC:

- SHREDDED WOOD MULCH BERM
- WATTLE

LEGEND - TESC:

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

SURVEY JOB NO/SUBJECT:					
CHECKED:					
CAD ENTERED: K. STANEJRA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORN REINELT, P.E.	11/2019				
		YEAR	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C9415C09

11/26/19

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

TESC PLAN 5

SHEET
CE-05

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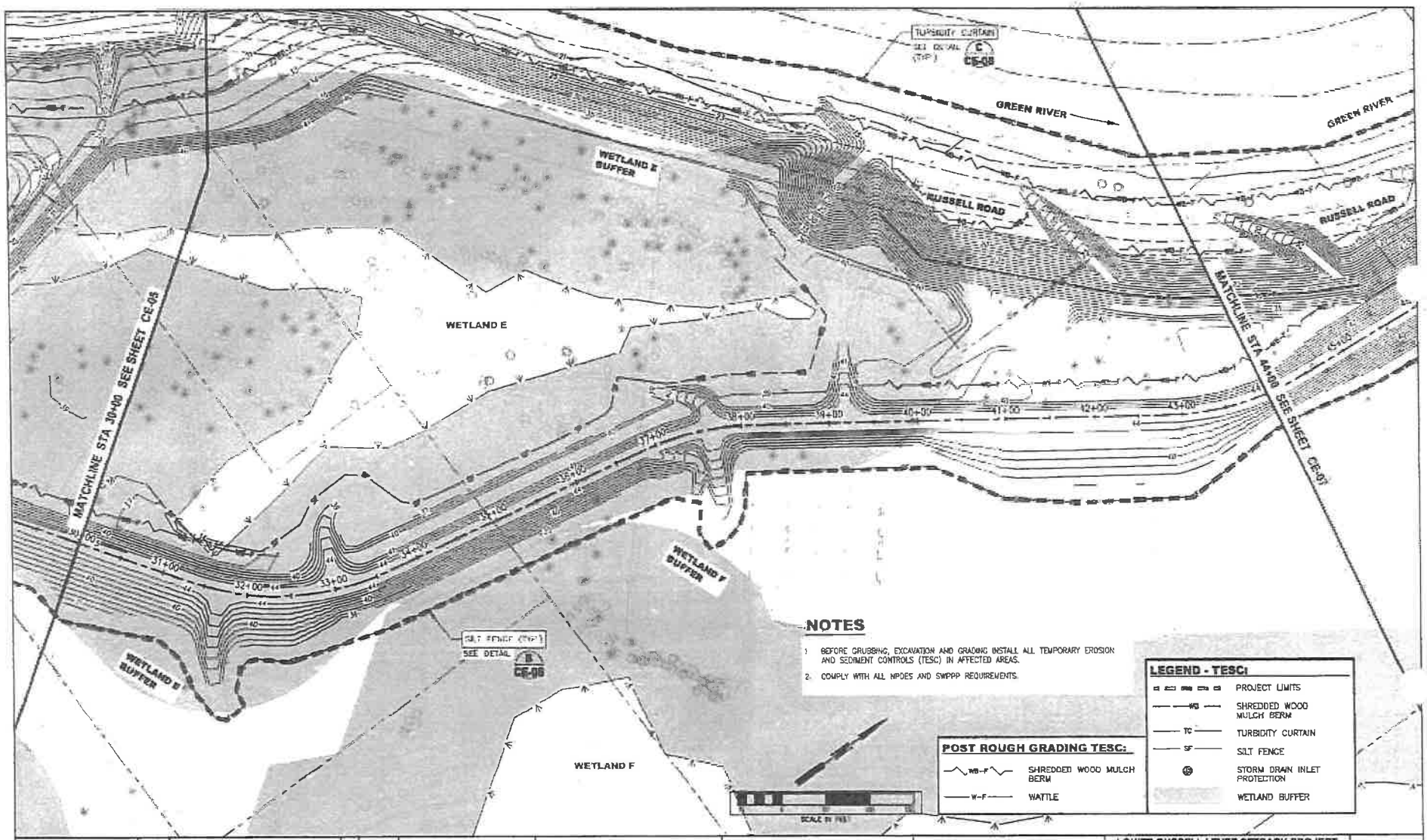

NOTES

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

POST ROUGH GRADING TESC:

WB-F	SHREDDED WOOD MULCH BERM
W-F	WATTLE

LEGEND - TESC:

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

SURVEY JOB NO/PROJECT:				
CHECKED:				
CAD ENTERED: E. KITAMURA	11/2019			
DESIGNED: ERIK PETERS, P.E.	11/2019	MAIL REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019			
SUPERVISOR: LORIN REINELT, P.E.	11/2019			
		MAIL RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. 0214150

11/26/19

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

TESC PLAN 6

SHEET
CE-06

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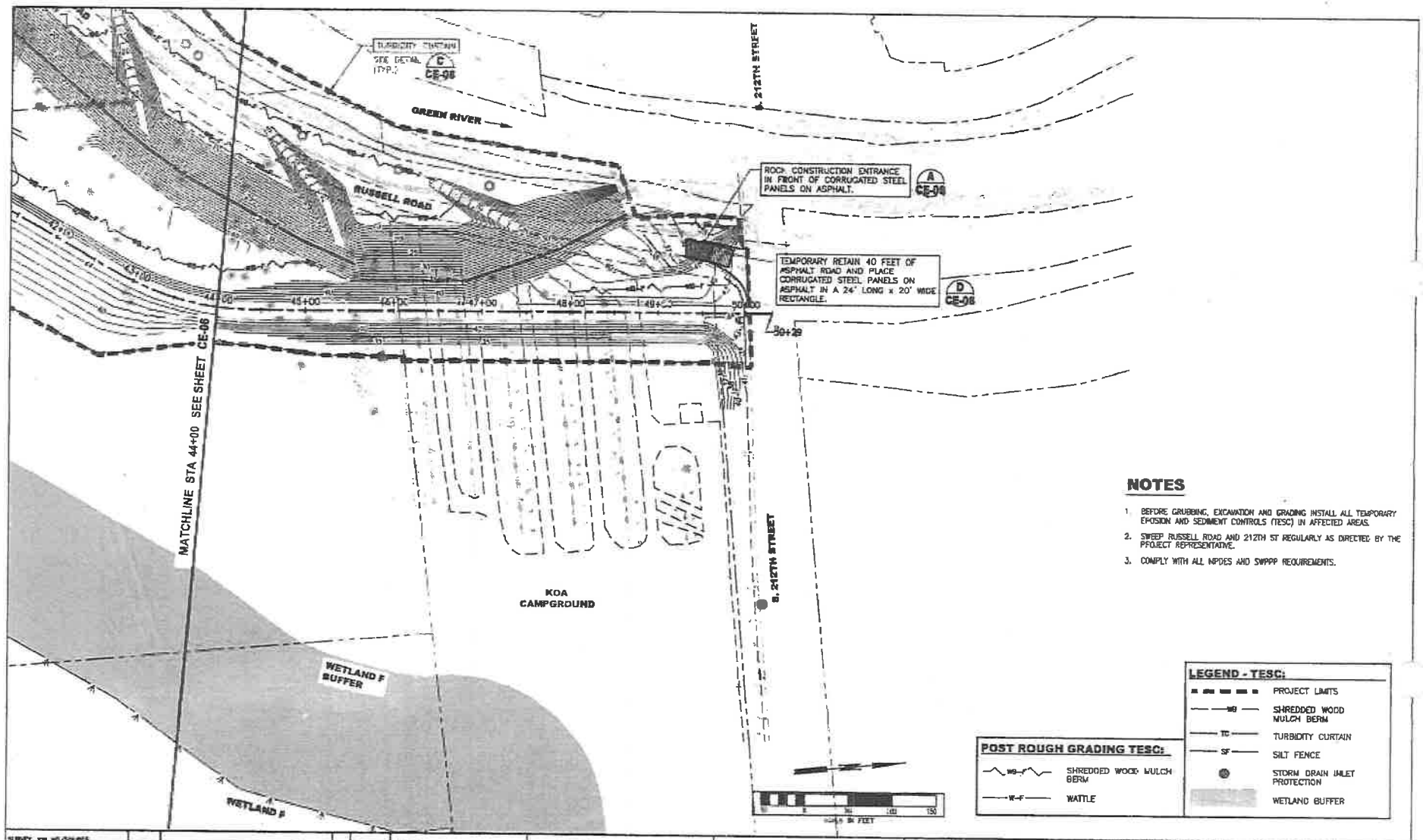

NOTES

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.

POST ROUGH GRADING TESC:

- SHREDDED WOOD MULCH BERM
- WATTLE

LEGEND - TESC:

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

SURVEY JOB NO./SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019				
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LOREN REINELT, P.E.	11/2019				
		REV.	REVISION	BY	DATE
		REV.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1172600

CONTRACT No. 0014SC20

11/26/19

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

TESC PLAN7

SHEET
CE-07

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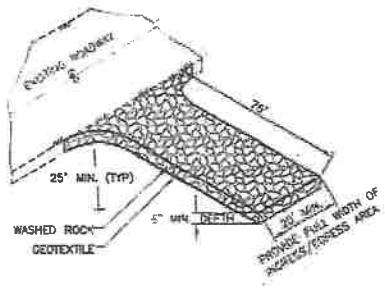
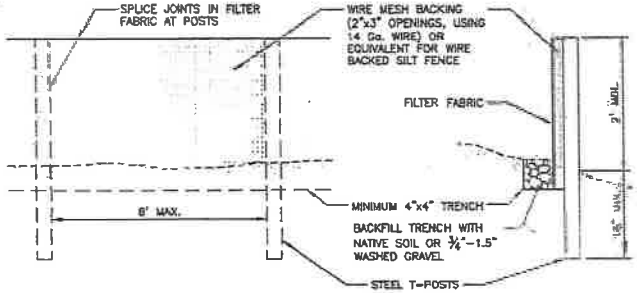
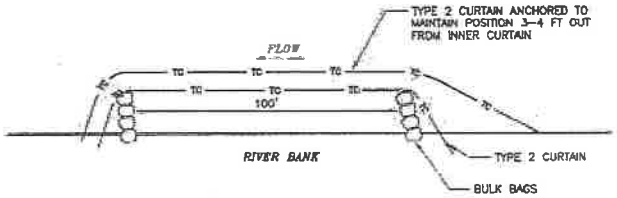


TEMPORARY ROCK CONSTRUCTION ENTRANCE DETAIL
SCALE: NTS



NOTE: INSTALL SILT FENCES ALONG CONTOUR WHENEVER POSSIBLE

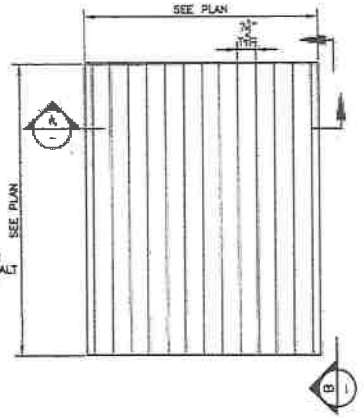
SILT FENCE & WIRE BACKED SILT FENCE DETAIL
SCALE: NTS

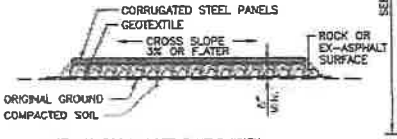


NOTE: 2ND OUTER TURBIDITY CURTAIN REQUIRED ONLY WHEN ONE CURTAIN WILL NOT MEET TURBIDITY CONTROL REQUIREMENTS.

IN WATER TURBIDITY CONTROL DETAIL
SCALE: NTS

SECTION A-A



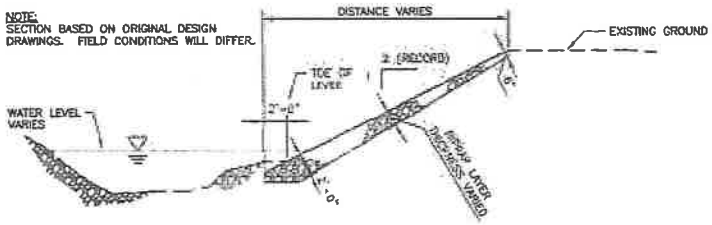


NOTE: NO ROCK UNDER PANELS WHEN PLACED ON ASPHALT OR FIRM SOIL.

SECTION B-B

TYPICAL CORRUGATED STEEL PANEL DETAIL
SCALE: NTS

NOTE:
SECTION BASED ON ORIGINAL DESIGN DRAWINGS. FIELD CONDITIONS WILL DIFFER.



EXISTING REVERBANK RIPRAP SECTION
SCALE: NTS

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

SURVEY JOB NO/SOURCE:					
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CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

11/26/19

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

TESC DETAILS

SHEET
CE-08

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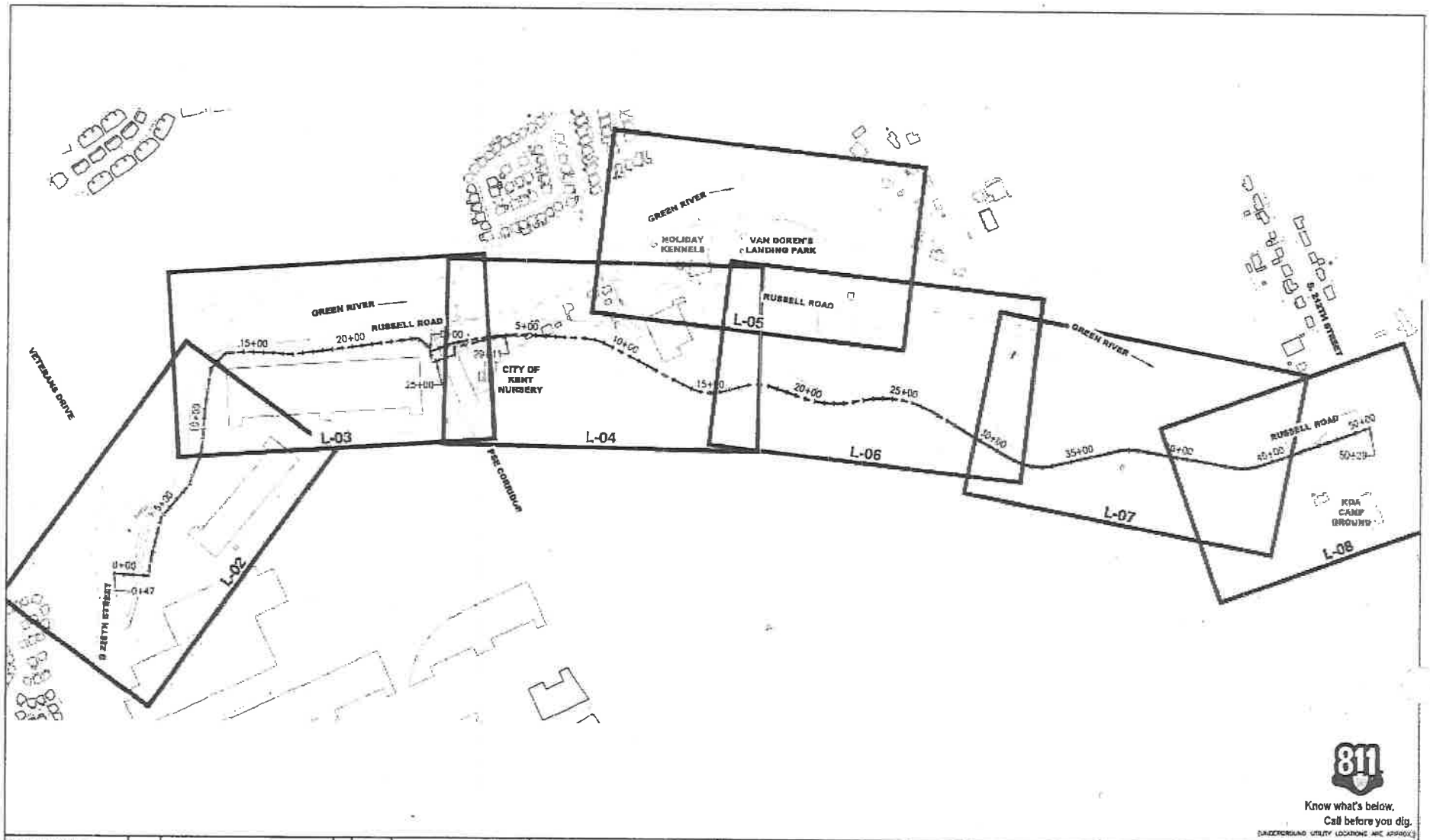

Know what's below.
Call before you dig.
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN RENELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 461208

CONTRACT No. CD1415C22

11/26/19

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

LANDSCAPE PLAN KEY MAP

SHEET
L-01

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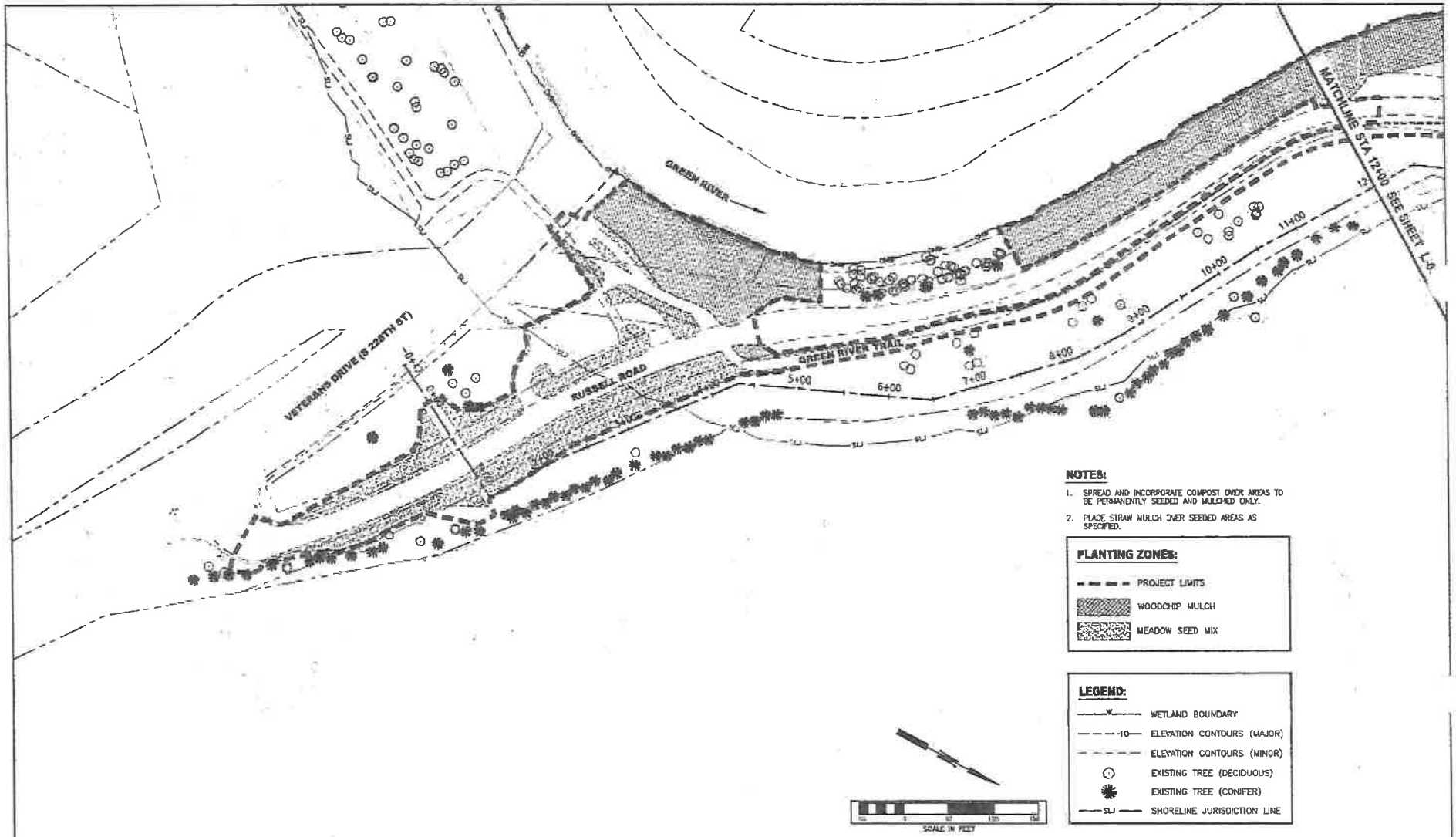

NOTES:

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

SURVEY JOB NO/SOURCE:					
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CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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

LANDSCAPE PLAN 1

SHEET
L-02

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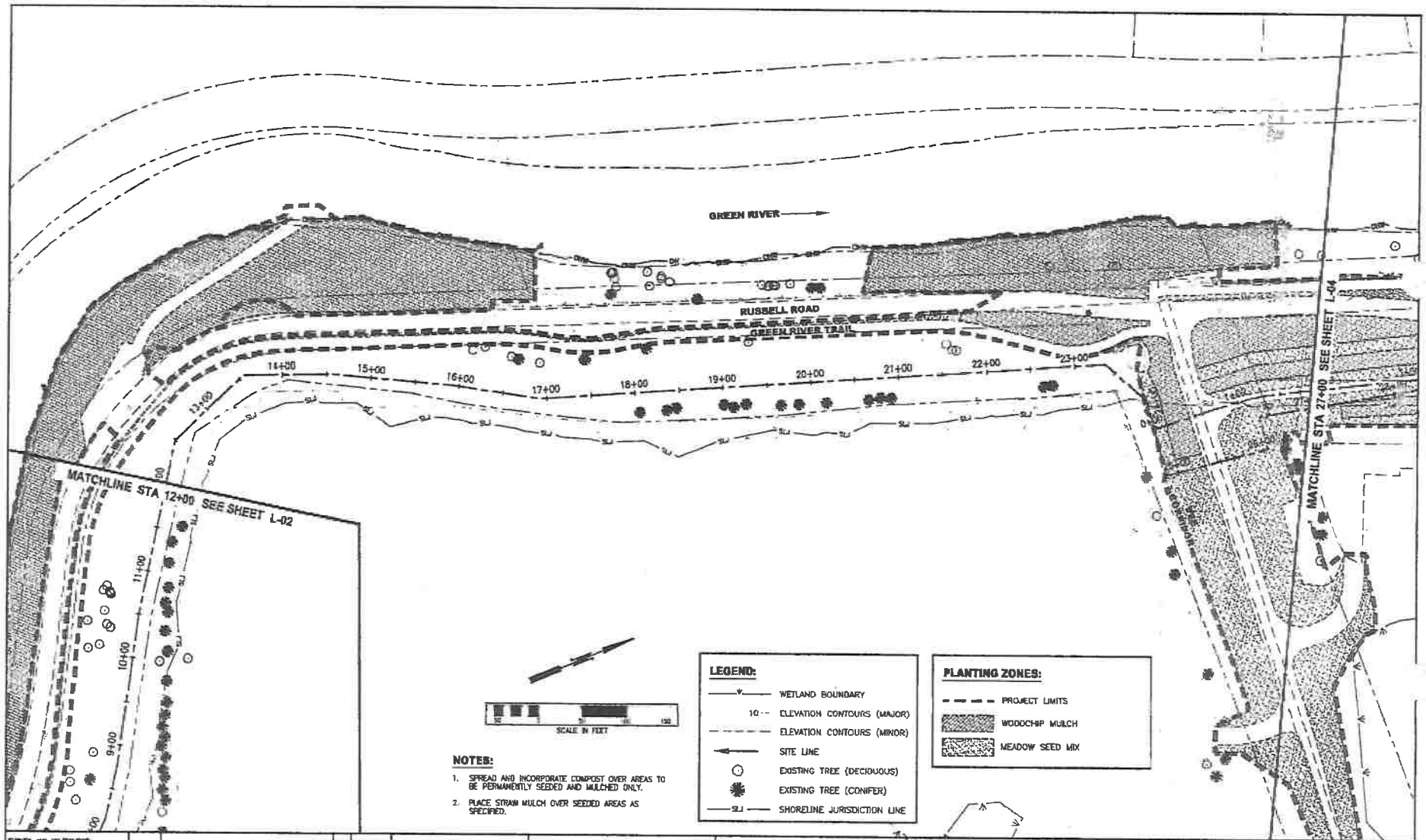

NOTES:

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	MARK	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		MARK	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112054

CONTRACT No. C01415C20

11/26/19

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

LANDSCAPE PLAN 2

SHEET
L-03

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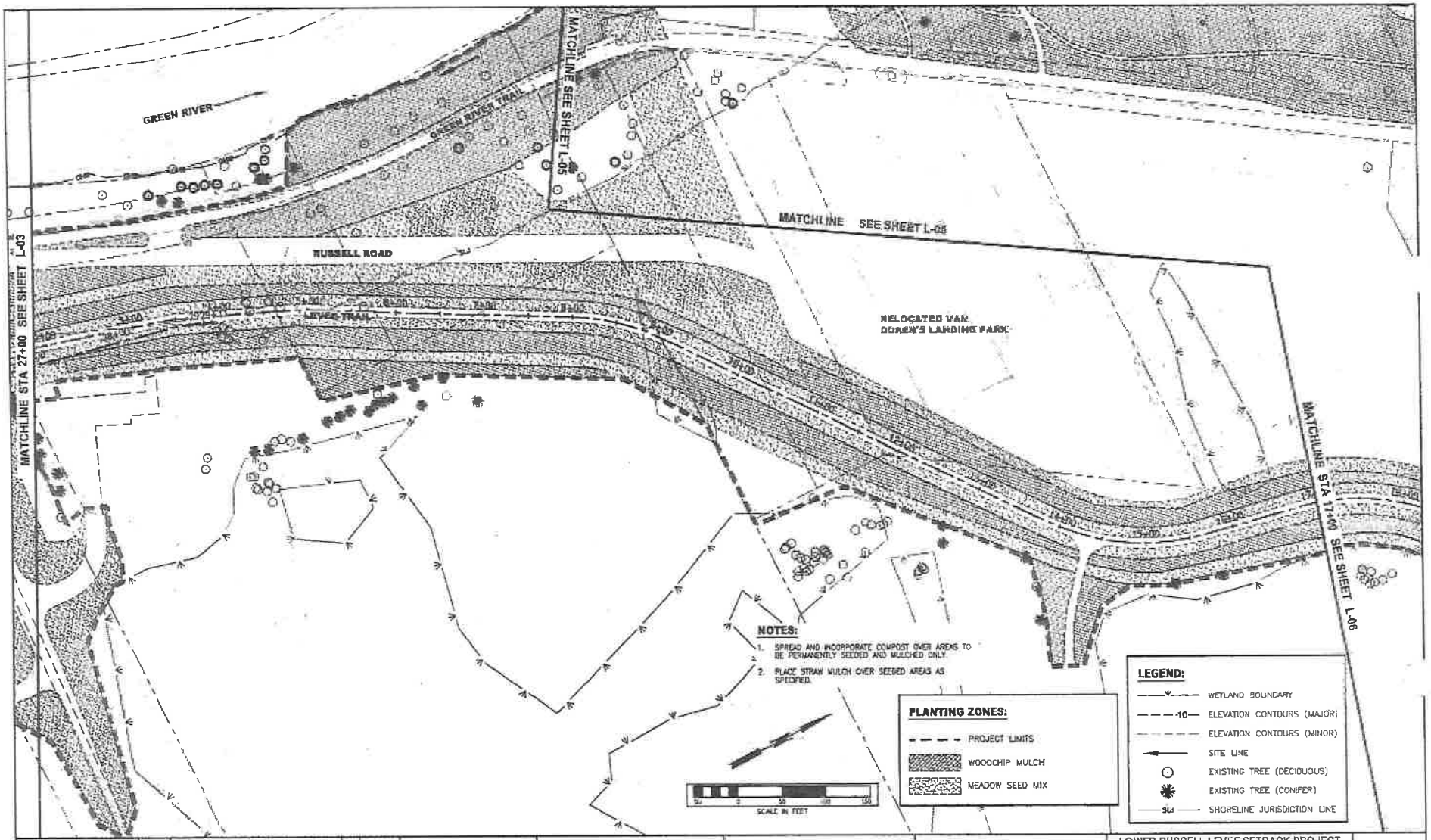

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CHECKED			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM. REVISION	BY DATE
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		
		NUM. RECORD CHANGES APPROVED	BY DATE

FUNDING:

PROJECT No. 1119058

CONTRACT No. C01415C20

11/26/19

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

LANDSCAPE PLAN 3

SHEET
L-04

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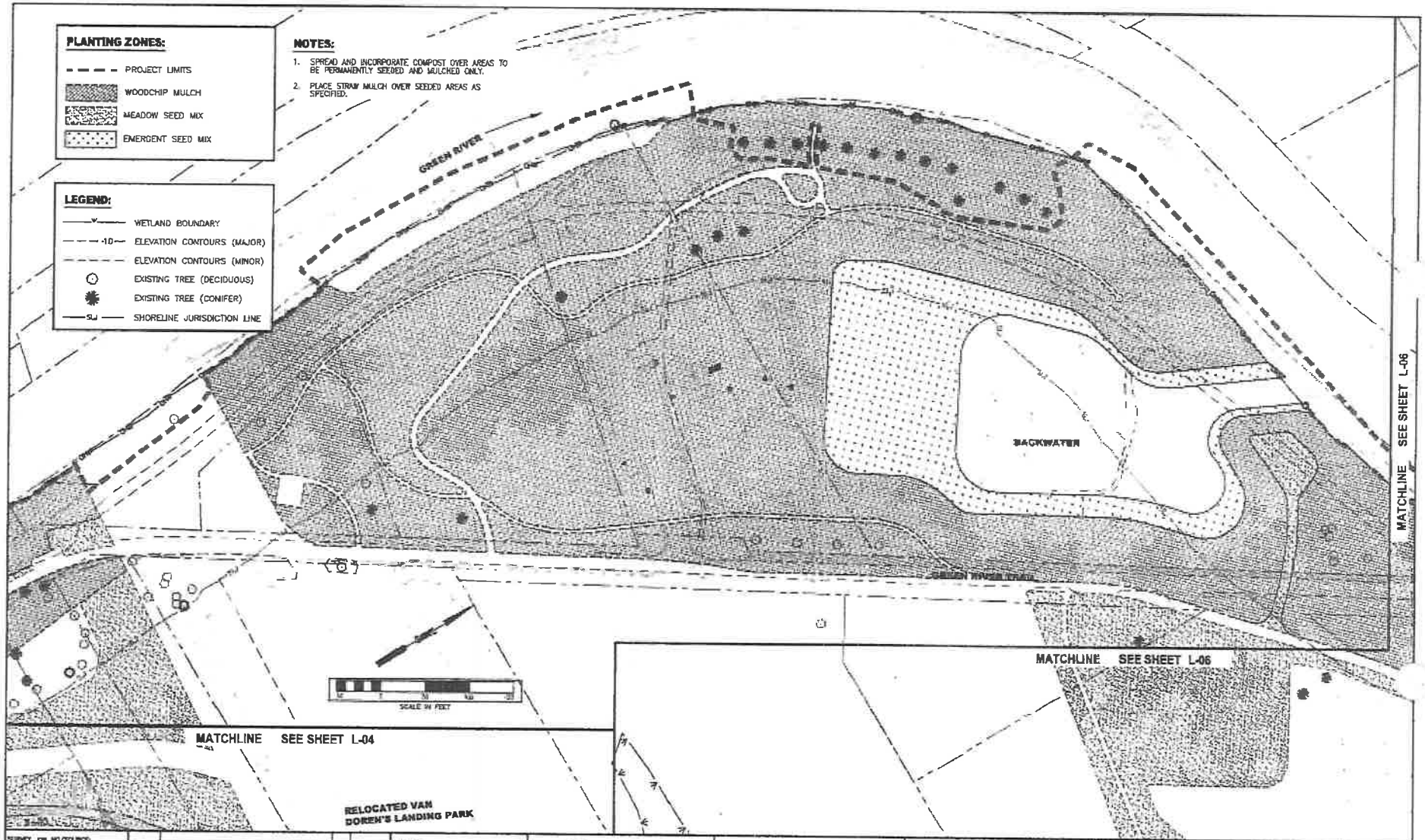

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CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	REVISION	BY	DATE	
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		RECORD CHANGES APPROVED	BY	DATE	

FUNDED:

PROJECT No. 1112068

CONTRACT No. C01415C20

11/26/19

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

LANDSCAPE PLAN 4

SHEET
L-05

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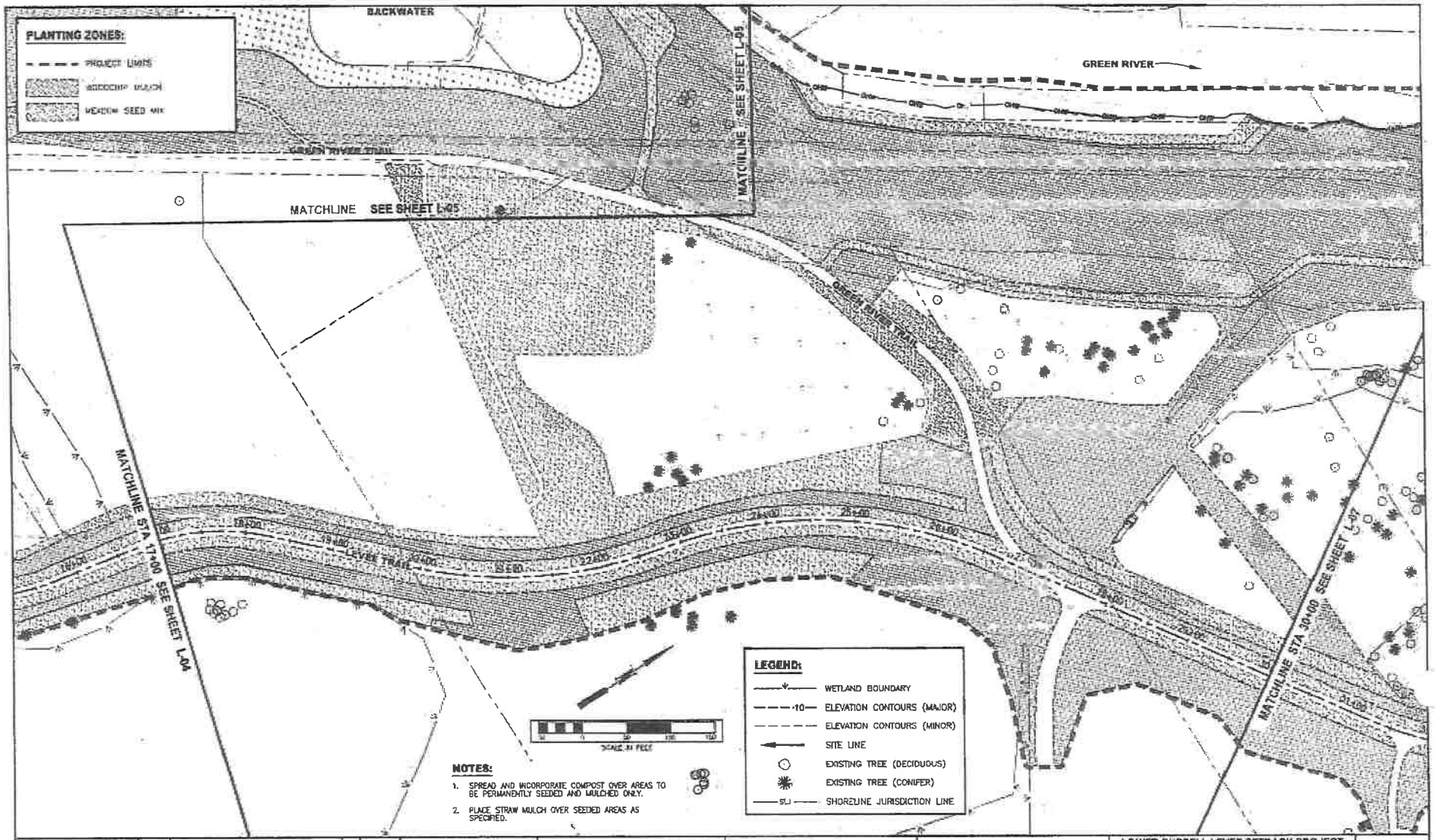

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	MUN.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		MUN.	RECORD DRAWINGS APPROVED	BY	DATE

PLANNING: _____

PROJECT No. 111208

CONTRACT No. C01415C20

11/26/19

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

LANDSCAPE PLAN 5

SHEET
L-06

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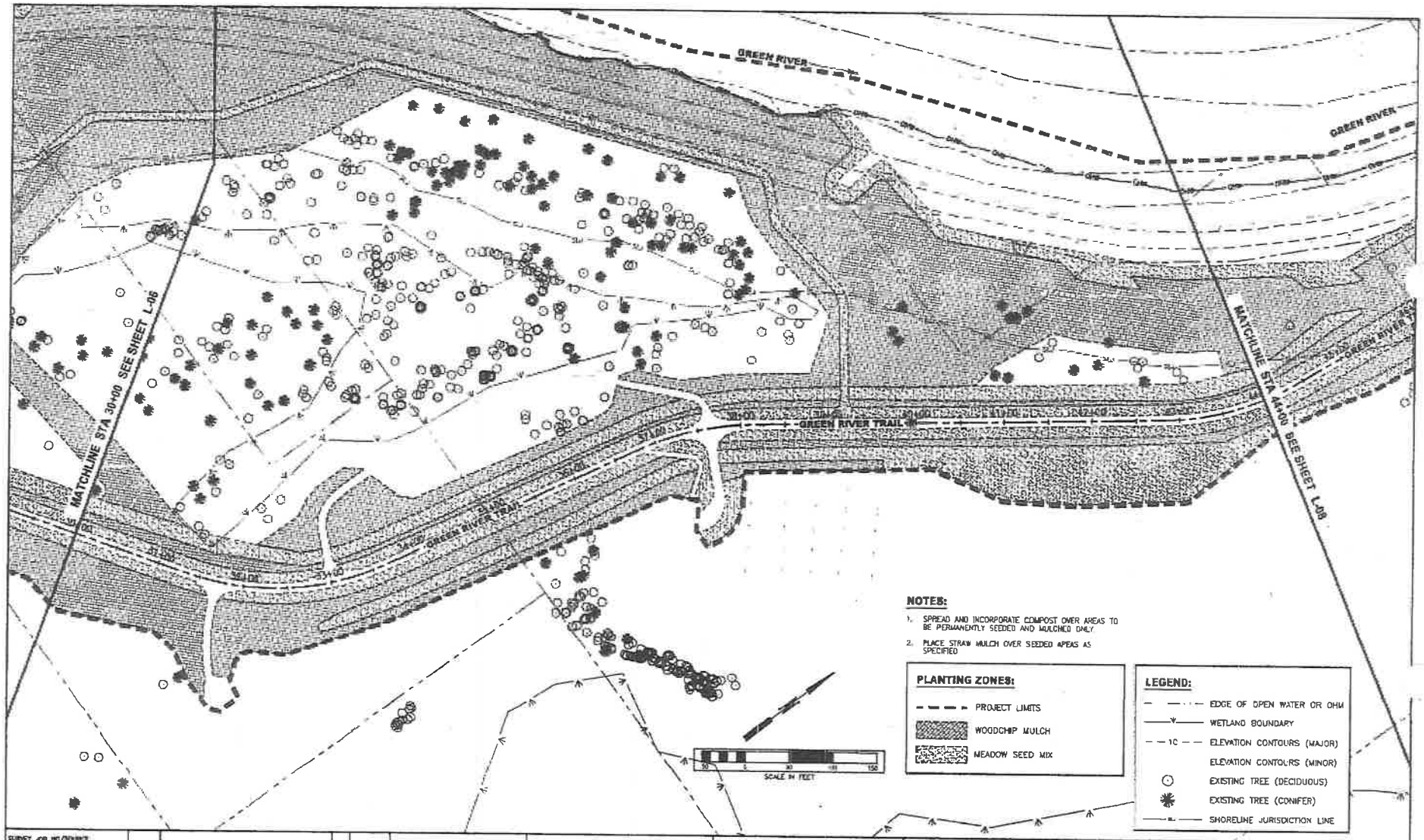

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CAD ENTERED: K. KITAMURA	11/2019			
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM. REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019			
SUPERVISOR: LORIN REINELT, P.E.	11/2019			
		NUM. REQUIRED CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112058

CONTRACT No. C01415C10

11/26/19

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

LANDSCAPE PLAN 6

SHEET
L-07

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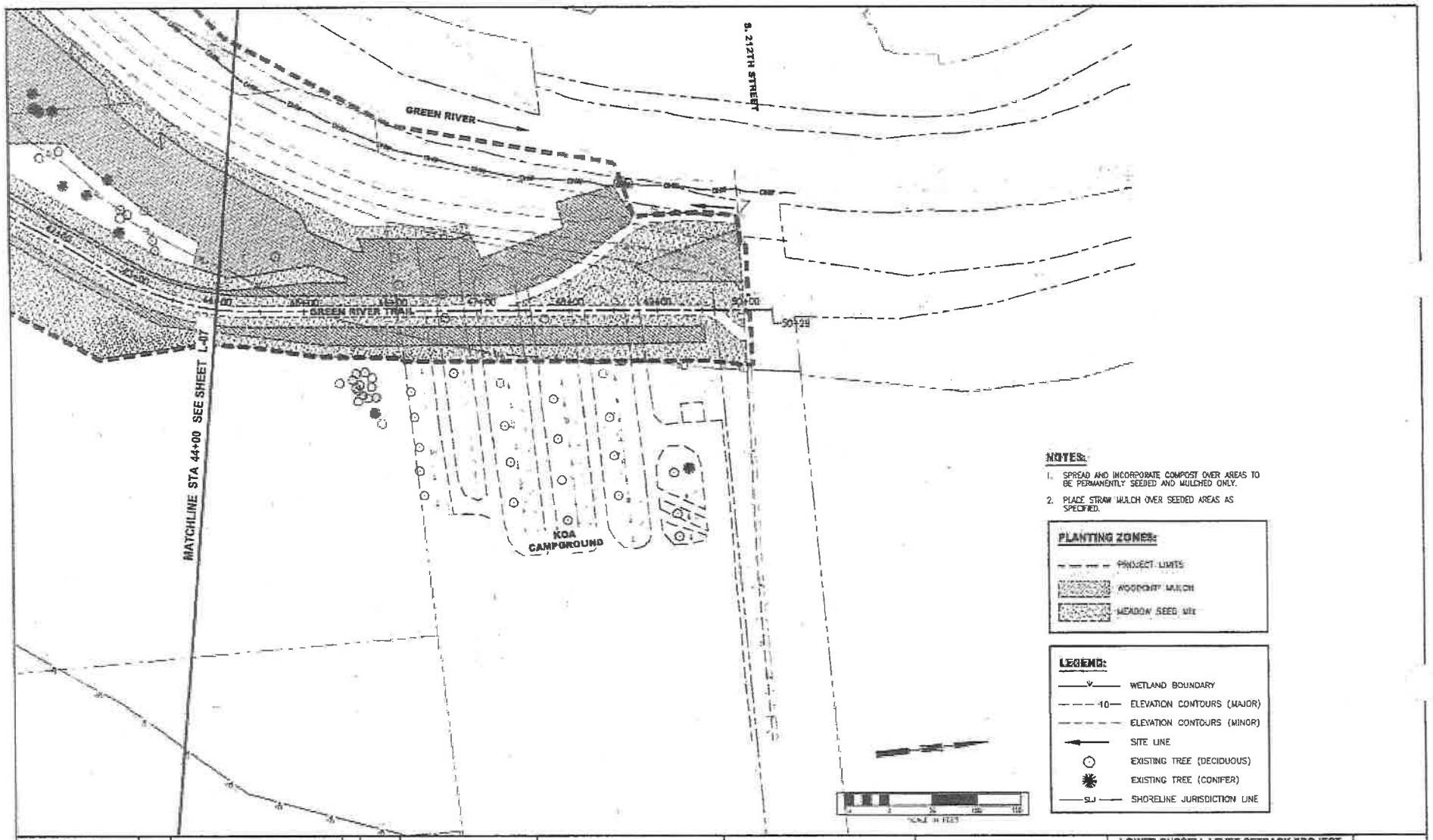

SURVEY JOB NO/SOURCE					
DRAWN					
CAD MANAGER: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	MAIN.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REDACT, P.E.	11/2019				
		MAIN.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112956

CONTRACT No. CC141SC20

11/26/19

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

LANDSCAPE PLAN 7

SHEET
L-08

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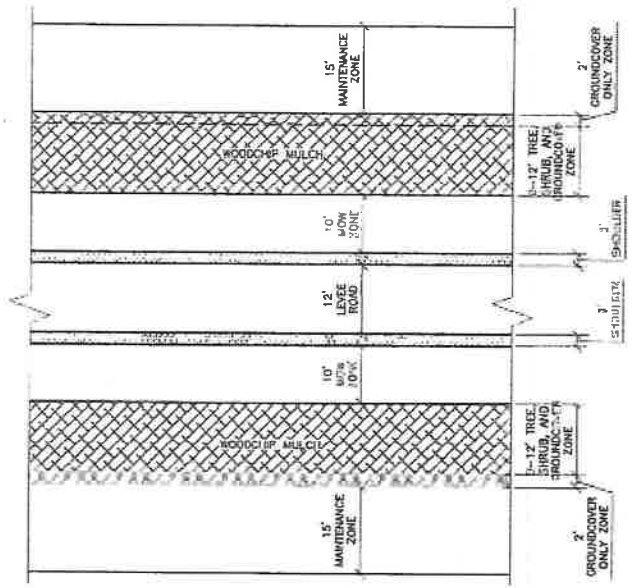
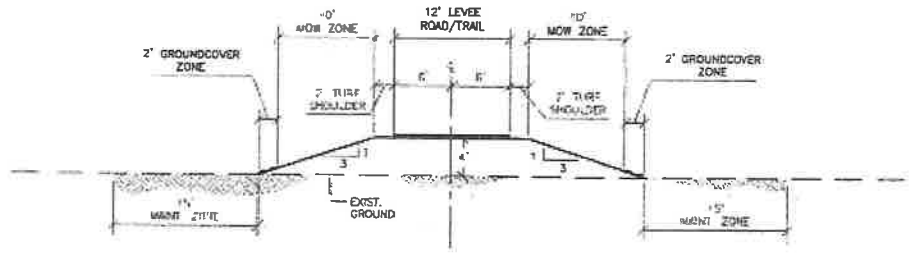
NOTES:

1. MEADOW SEED MIX SHALL BE SEEDED 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.

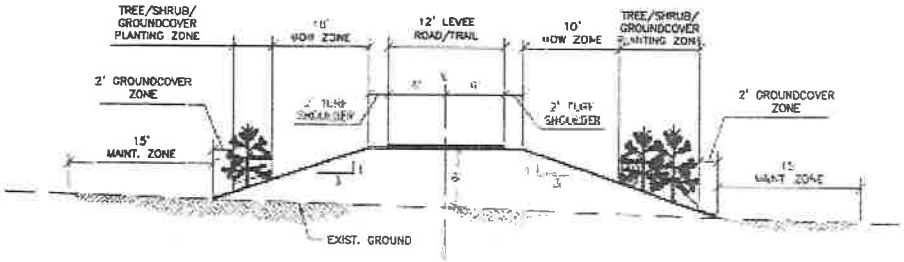


E LEVEE SEEDING & WOODCHIP MULCH TYPICAL PLAN LAYOUT

SCALE: NTS



4 FT. HIGH LEVEE SECTION



5 FT. HIGH LEVEE SECTION

F LEVEE PLANTINGS - TYPICAL SECTIONS

SCALE: NTS

NOTE:

PLANTINGS SHOWN ARE NOT IN CONTRACT.

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

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

LANDSCAPE DETAILS

SHEET
L-09

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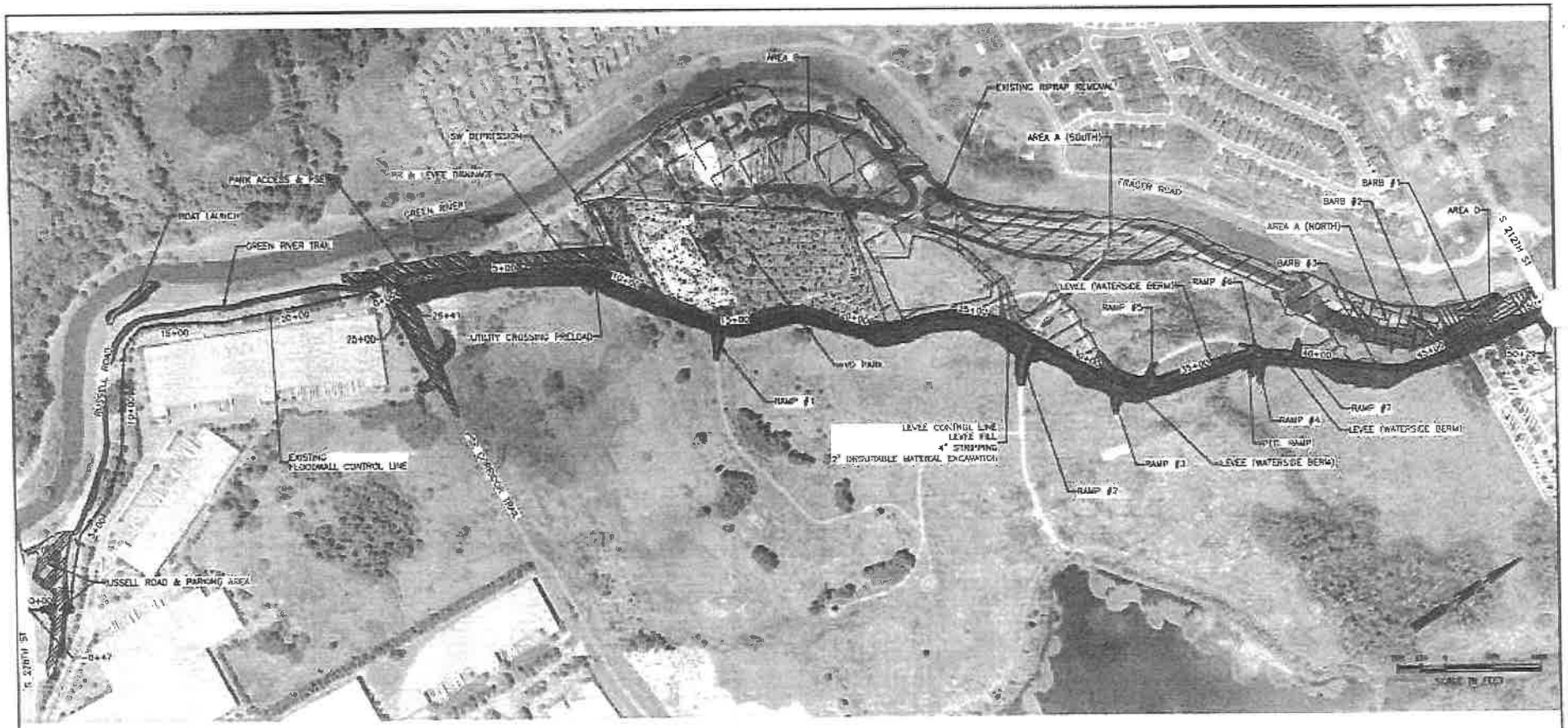


NOTES:

1. SEE DRAWING T-02 FOR TABLES OF EARTHWORK VOLUMES FOR EACH AREA

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

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

SURVEY JOB NO./SOURCE:	—	—			
CHECKED:	—	—			
CAD DATE(S):	RD	11/19			
DESIGNED:	VR	11/19	BY	DATE	
DRAWN:	KF	11/19			
SUPERVISOR:	SJ	11/19			
			BY	DATE	

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering, Inc.

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
EARTHWORK TABULATION AREAS

SHEET
T-01

LEVEE EARTHWORK

STATION	EMBANKMENT PLACEMENT					
	Common Fill		Select Fill		Low Permeable Fill	
	"End Area (SF)"	"Vol (CY)"	"End Area (SF)"	"Vol (CY)"	"End Area (SF)"	"Vol (CY)"
0+00	0.0	0.0	0.0	0.0	0.0	0.0
1+00	123.1	227.9	202.7	375.3	82.4	152.6
2+00	98.2	408.8	170.2	690.5	69.2	280.6
3+00	129.2	421.0	211.0	705.9	85.8	286.6
4+00	140.6	498.5	225.3	807.9	89.8	324.7
5+00	133.5	505.9	217.5	819.7	86.3	329.8
6+00	183.5	550.0	247.9	861.9	99.1	347.1
7+00	158.1	595.6	250.2	922.5	104.6	377.6
8+00	163.2	595.1	246.6	920.0	96.9	373.6
9+00	200.6	674.6	303.2	1019.6	114.6	391.9
10+00	228.7	795.0	327.1	1167.3	121.9	437.9
11+00	243.5	874.6	351.9	1257.4	129.0	464.6
12+00	189.0	801.0	275.4	1161.6	93.8	412.6
13+00	148.3	620.6	210.1	899.1	86.4	333.6
14+00	92.2	440.1	156.4	678.3	63.1	276.6
15+00	93.6	339.6	159.4	582.7	69.1	244.7
16+00	128.8	409.0	190.7	647.6	72.2	261.6
17+00	129.5	479.2	205.2	733.2	83.5	288.2
18+00	107.2	431.0	177.2	705.8	67.7	279.9
19+00	88.8	360.4	151.5	607.8	63.6	243.2
20+00	105.2	359.6	152.7	581.9	68.0	243.8
21+00	195.5	573.4	166.0	609.5	89.6	254.9
22+00	161.3	683.5	149.1	583.4	80.5	240.9
23+00	152.8	590.6	149.8	552.7	59.3	221.5
24+00	152.9	552.0	142.8	542.7	55.7	213.0
25+00	122.0	498.5	145.1	534.2	60.9	216.1
26+00	212.5	602.2	201.5	641.4	86.3	272.5
27+00	298.1	919.7	211.5	764.2	81.2	310.1
28+00	284.1	1078.1	200.7	763.4	82.2	302.6
29+00	112.2	734.0	117.1	588.4	45.9	237.1
30+00	208.8	594.4	136.2	467.1	53.5	184.0
31+00	204.7	765.6	206.4	632.5	90.4	286.4
32+00	192.8	763.6	173.7	704.2	73.1	302.8
33+00	92.3	550.7	168.5	634.3	70.0	285.2
34+00	86.6	333.3	156.7	602.8	63.6	247.9
35+00	97.2	340.3	169.0	603.1	69.6	247.0
36+00	82.2	332.3	152.0	594.5	64.2	247.6
37+00	58.2	259.5	117.6	499.4	45.3	202.7
38+00	47.0	193.2	103.5	409.5	39.0	158.0
39+00	54.5	188.0	118.4	411.1	47.6	160.3
40+00	47.1	188.2	107.1	417.6	41.7	165.4
41+00	159.8	383.0	95.6	375.3	35.3	142.6
42+00	158.0	588.5	82.5	329.7	26.0	113.4
43+00	143.7	567.5	91.5	322.1	34.5	112.0
44+00	35.1	354.6	88.7	334.0	31.4	122.1
45+00	116.2	280.4	193.7	522.8	79.3	205.0
46+00	144.1	462.0	229.2	783.2	91.8	316.9
47+00	141.6	529.3	224.2	839.6	91.2	339.0
48+00	137.9	517.8	219.9	822.5	88.6	333.1
49+00	83.9	410.7	192.4	763.6	83.6	319.0
50+00	0.0	155.3	0.0	356.3	0.0	154.9
50+29	0.0	0.0	0.0	0.0	0.0	0.0
End Area Calc Subtotals		25,398		33,151		13,223

ROADWAY, HABITAT AREAS, DRAINAGE, PARK & MISC. EARTHWORK

AREA	GRADING (CUT)			GRADING (FILL)	
	COMMON EXCAVATION		SATURATED (<14')	COMMON FILL	STRUCTURAL FILL
	DRY (>21')	WET (14'<X<21')			
	"Vol. (CY)"	"Vol. (CY)"	"Vol. (CY)"	"Vol. (CY)"	"Vol. (CY)"
A (NORTH)	29,356	7,811	0	3	0
BARB #1	1,179	1,179	1,571	0	0
BARB #2	1,179	1,179	1,571	0	0
BARB #3	1,179	1,179	1,571	0	0
A (SOUTH)	63,204	4,989	0	1,547	0
B	145,118	14,807	0	5,729	0
D	10,597	2,690	0	915	0
VD PARK	4,300**	0	0	71,506	48,315**
SW DEPRESSION	579	0	0	40	0
EXISTING RIPRAP REMOVAL	400	180	0	580	0
RR & LEVEE DRAINAGE	422	0	0	1,639	0
PARK ACCESS & PSE	28	0	0	8,100	7,050
BOAT LAUNCH RAMP	1,125	280	0	50	0
RR & PARKING AREA	414	0	0	2,040	1,930
UTILITY TRENCHING	1,130	0	0	1,530	0
UTILITY XING PRELOAD	2,503	0	0	2,503	0
LEVEE (WATERSIDE BERMS)	0	0	0	4,019	0
INSPECTION TRENCH	3,353	0	0	3,353	0
RAMP #1	0	0	0	110	0
RAMP #2	0	0	0	420	0
RAMP #3	0	0	0	192	0
RAMP #4	0	0	0	88	0
RAMP PED	0	0	0	82	0
RAMP #5	0	0	0	130	0
RAMP #6	0	0	0	50	0
RAMP #7	0	0	0	87	0
4" STRIPPING (LEVEE)	5,002	0	0	0	0
2' UNSUITABLE EXCAV. (LEVEE)	250	0	0	0	0
SUBTOTAL	291,316	34,274	4,713	102,708	57,295

* THE 1,930 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 RUSSELL ROAD IMPROVEMENTS. THIS SECTION OF THE FILL IS CONSIDERED A LEVEE AND MUST MEET THE ZONING REQUIREMENTS REFLECTED IN THE PLANS AND SPECIFICATIONS. THE OUT LEVEE SHELL 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 18 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 PLACED FOR THE FULL AREA OF VD PARK AND INCLUDES THE MATERIAL TO PRELOAD BY OVERBUILDING THE VD PARK AREA.

NOTES:

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

CSBC, AMENDED SOIL & OTHER MISC. EARTHWORK

AREA	VOLUME	UNIT	MATERIAL TYPE
HABITAT AREAS (A NORTH & A SOUTH, B, & D)	5,846	CY	COMPOST
DRAINAGE SWALES (ALL)	361	CY	COMPOST
PSE (SLOPES)	154	CY	COMPOST
BOAT LAUNCH RAMP (SLOPES)	35	CY	COMPOST
GR TRAIL PARKING & RR (SLOPES)	92	CY	COMPOST
LEVEE & RAMPS (SLOPES)	1,853	CY	COMPOST
LEVEE (CROWN PATROL ROAD)	5,419	TN	CSBC
LEVEE (RAMPS)	423	TN	CSBC
GR TRAIL PARKING AND MISC. TRAILS OUTSIDE PARK	8,200	TN	CSBC
BOAT LAUNCH RAMP	195	TN	CSBC
VD PARK (PARKING AREA & TRAILS INSIDE PARK)	2,114	TN	CSBC
VD PARK (DRAINAGE RETENTION AREAS)	830	CY	BIORETENTION SOIL

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

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

SURVEY JOB NO/SOURCE:	--	
CHECKED:	--	
CAD DRAWN:	RD	11/18
DESIGNED:	VR	11/18
CHECKED:	KF	11/18
SUPERVISOR:	SJ	11/18

MUNI	REVISION	BY	DATE

MUNI	RECORD CHANGES APPROVED	BY	DATE

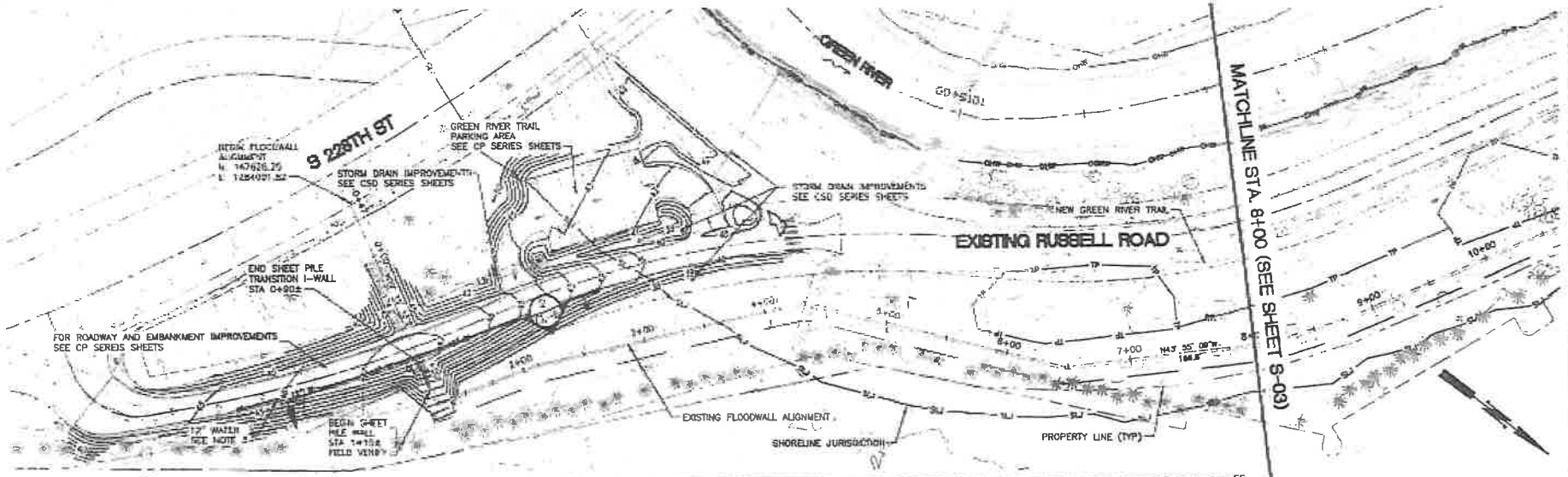
FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

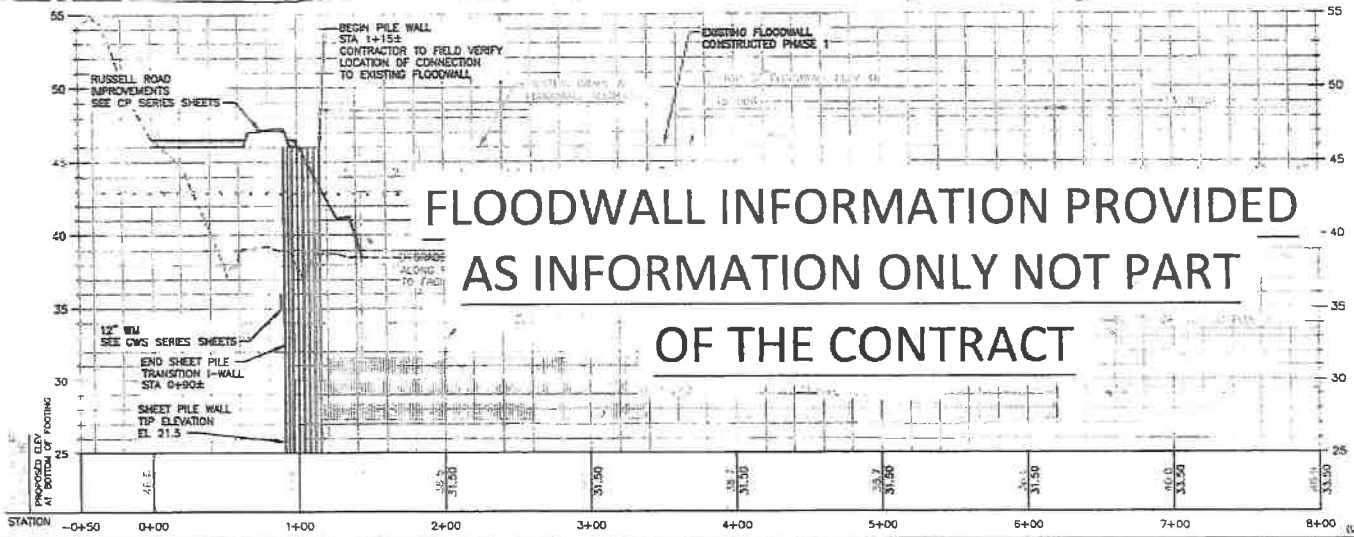
HDR Engineering Inc.

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
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 WATERMAIN IN PLACE DURING SHEET PILE INSTALLATION.

SCALE IN FEET

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

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

SURVEY JOB NO/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	RD	10/19			
DESIGNED:	VR	10/19	MARK	REVISION	BY	DATE
CHECKED:	WJ	10/19				
SUPERVISOR:	SJ	10/19				
			FROM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 111206B

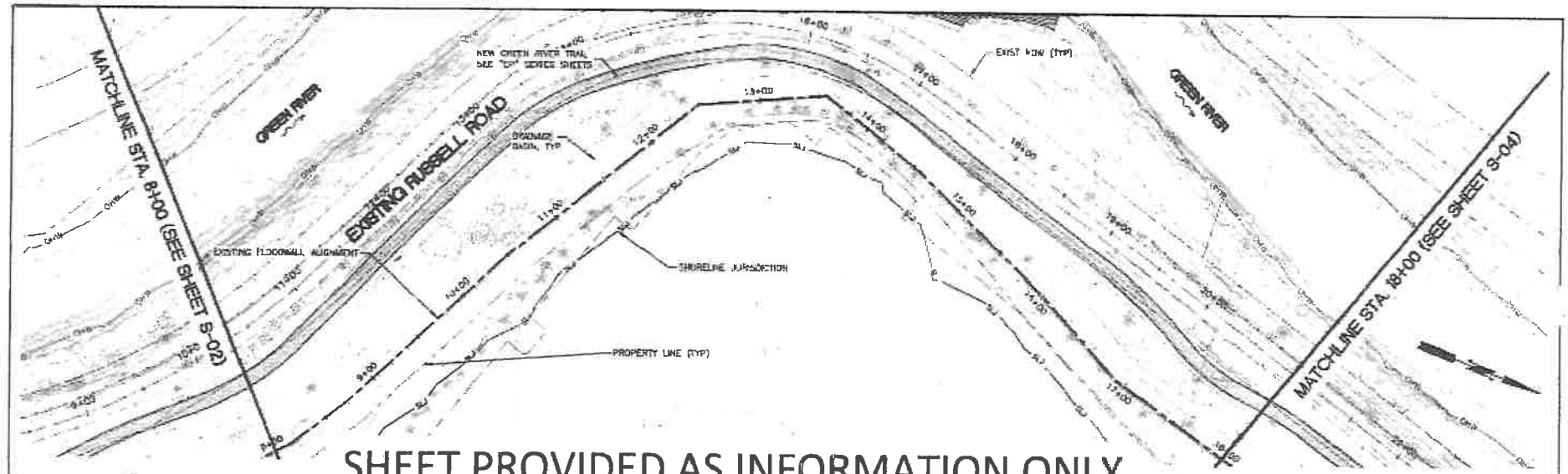
CONTRACT No. C01413C20

HDR Engineering Inc.

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

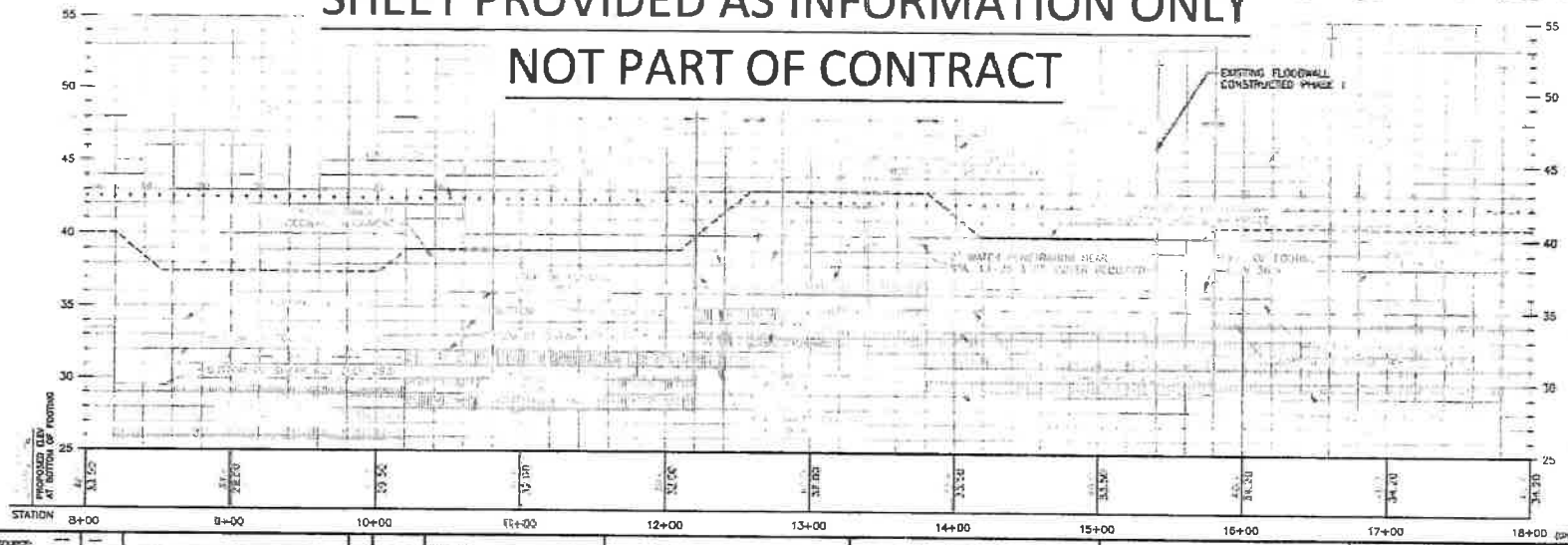
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
FLOODWALL TO I-WALL
PLAN AND PROFILE
STA 0+00 TO 8+00

SHEET
S-02



SHEET PROVIDED AS INFORMATION ONLY

NOT PART OF CONTRACT



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

SURVEY JOB NO/SOURCE:	—	—		
CHECKED:	—	—		
CAD DRAFTER:	RD	11/19		
DESIGNED:	VR	11/19		
CHECKED:	WJ	11/19		
SUPERVISOR:	SJ	11/19		

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

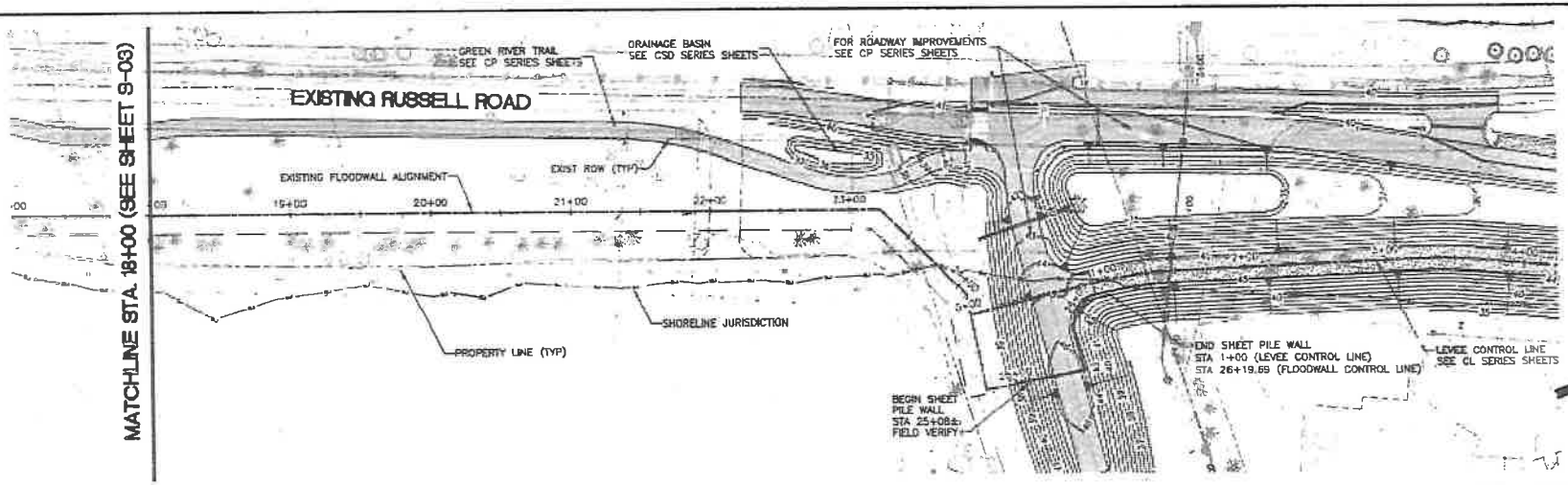
CONTRACT No. C01415C20

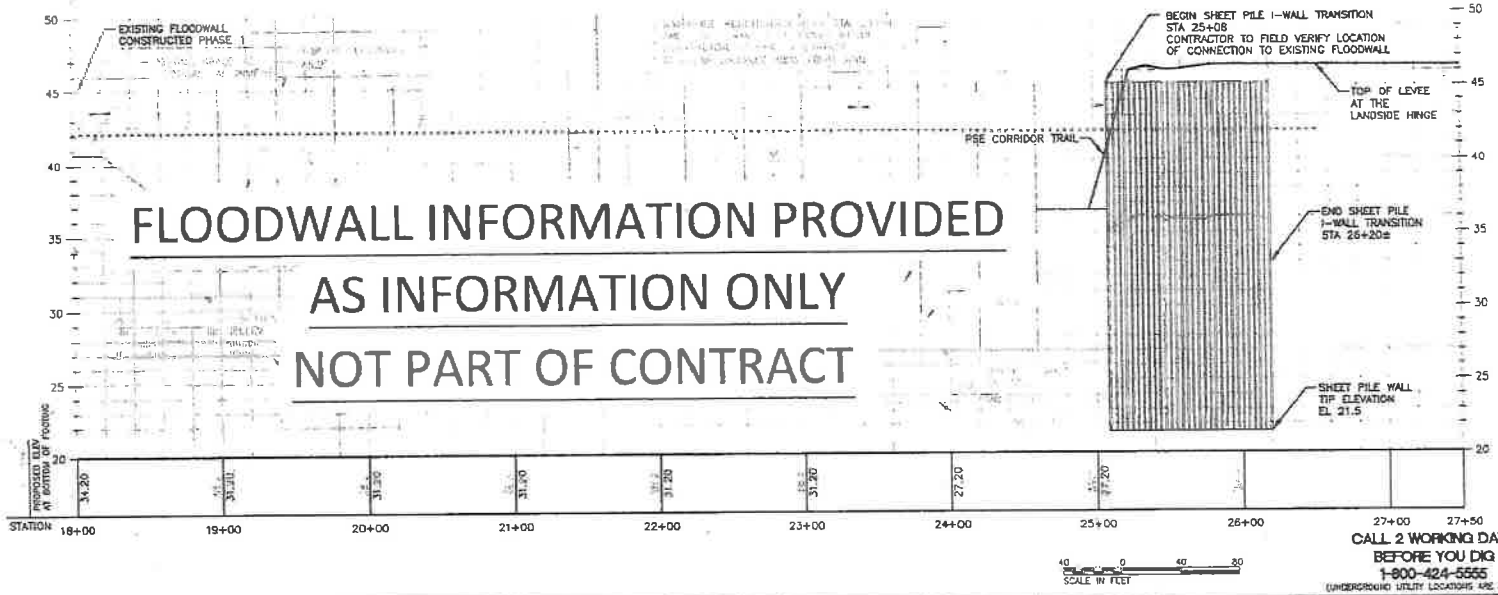
HDR Engineering Inc.

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
EXISTING FLOODWALL
PLAN AND PROFILE
STA 8+00 TO 18+00

SHEET
S-03





FLOODWALL INFORMATION PROVIDED

AS INFORMATION ONLY

NOT PART OF CONTRACT

NOTES:

1. FOR FLOODWALL TO SHEET PILE I-WAL TRANSITION DETAILS SEE S-07.
2. FOR I-WALL LAYOUT/GEOMETRY SEE SHEET S-08.

SCALE IN FEET: 40 0 40 80

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

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

SURVEY JOB NO/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	RD	10/19			
DESIGNED:	VR	10/19	NUM.	REVISION	BY	DATE
CHECKED:	WJ	10/19				
SUPERVISOR:	SJ	10/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. FT13SV10

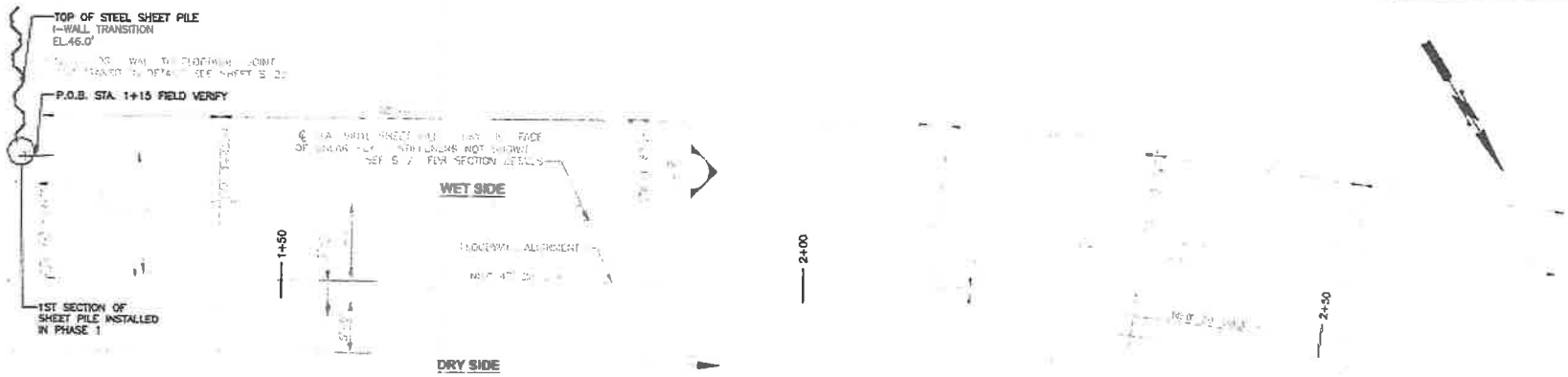
CONTRACT No. C01415C20

HDR Alon Engineering Inc.

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

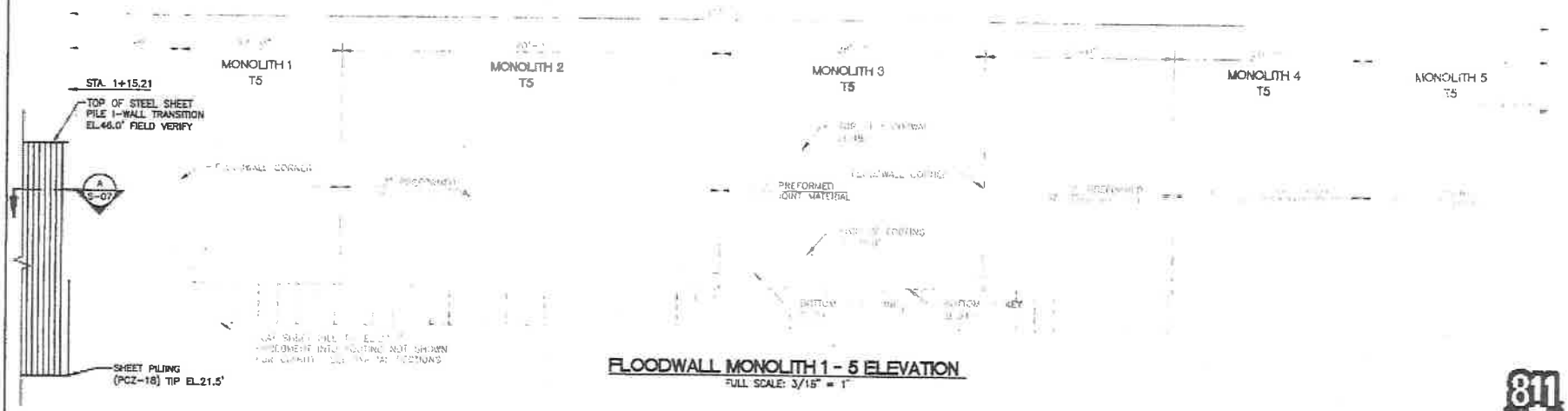
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
FLOODWALL TO I-WALL
PLAN AND PROFILE
STA 18+00 TO 26+41

SHEET
S-04



FLOODWALL MONOLITH 1 - 5 PLAN

FULL SCALE: 3/16" = 1'



FLOODWALL MONOLITH 1 - 5 ELEVATION

FULL SCALE: 3/16" = 1'

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

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

SURVEY JOB NO/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	JCB	11/19			
DESIGNED:	WJ	11/19	MUN.	REVISION	BY	DATE
CHECKED:	SAM	11/19				
SUPERVISOR:	SJ	11/19				
			MUN.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

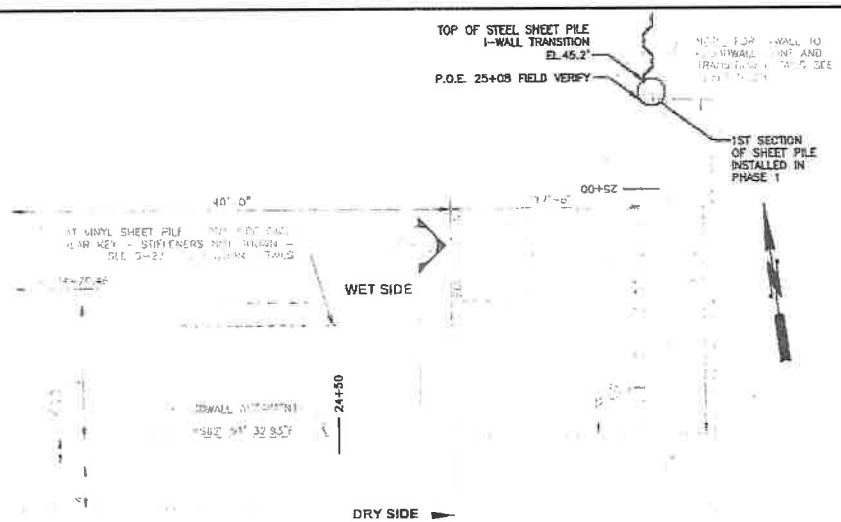
CONTRACT No. C01415C20

HDR Engineering Inc.

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

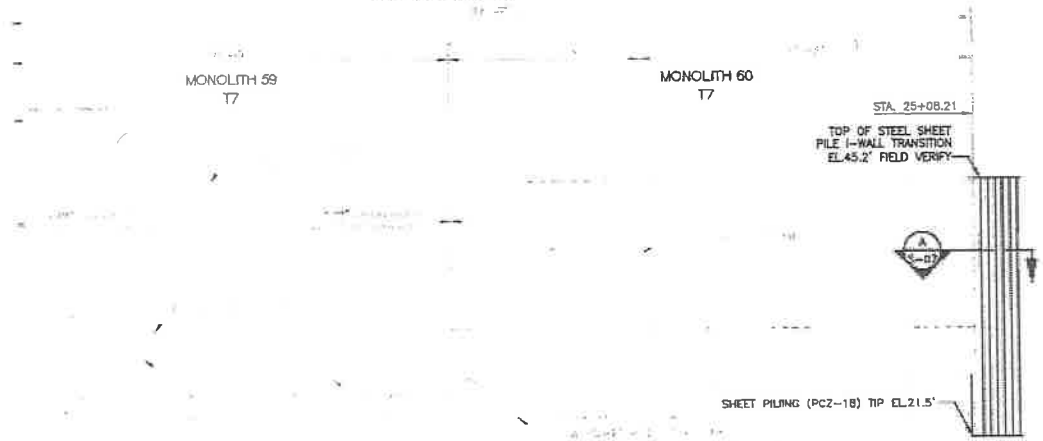
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
FLOODWALL MONOLITH
PLAN AND ELEVATION
LAYOUT - 1

SHEET
S-05



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.)

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

SURVEY JOB NO/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	JCB	11/19			
DESIGNED:	WJ	11/19	MARK	REVISION	BY	DATE
CHECKED:	SAM	11/19				
SUPERVISOR:	SJ	11/19				
			MARK	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

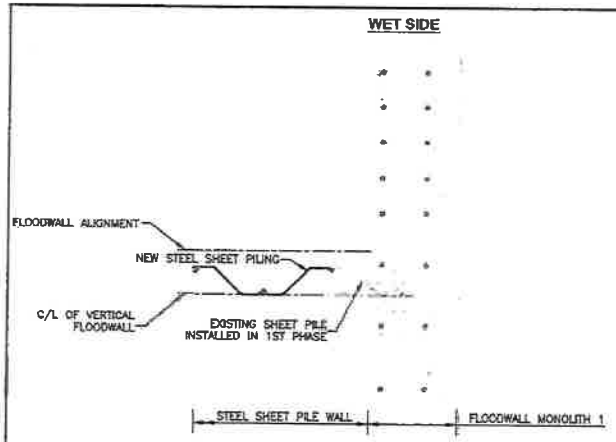
CONTRACT No. C01415C20

HDR Engineering Inc.

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
FLOODWALL MONOLITH PLAN AND ELEVATION LAYOUT - 16

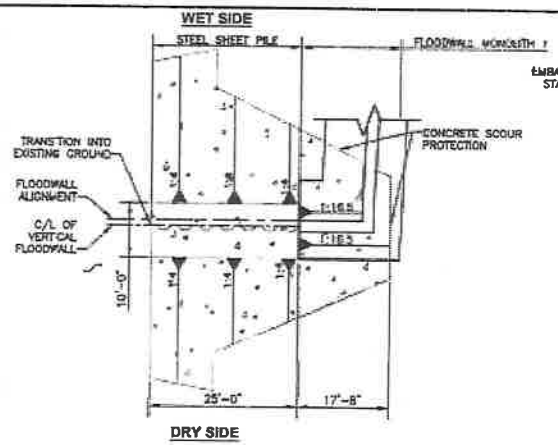
SHEET
S-06



FLOODWALL AND SHEET PILE TIE IN MONOLITH 1

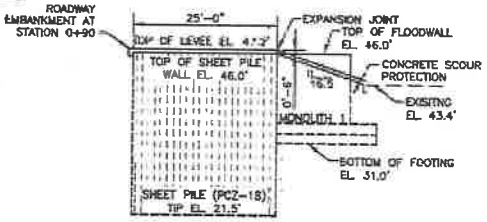
SCALE: NTS

A S-05 & S-06



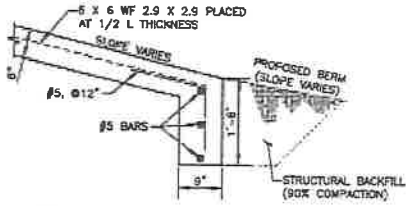
FLOODWALL AND LEVEE TIE-IN SCOUR PROTECTION PROFILE MONOLITH 1

SCALE: NTS



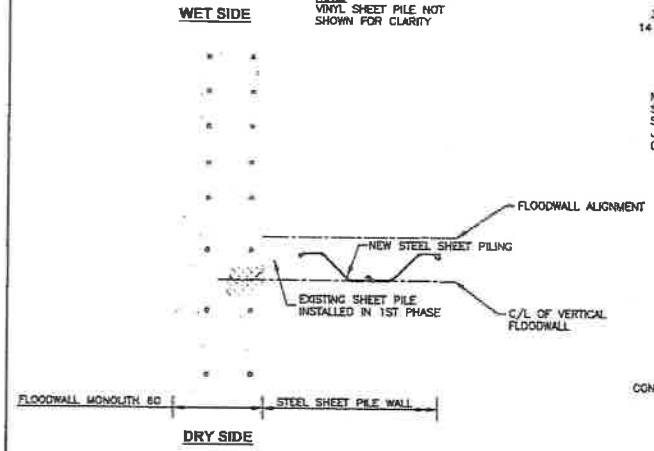
FLOODWALL AND LEVEE TIE-IN SCOUR PROTECTION PLAN DETAIL

SCALE: NTS



TYPICAL CONCRETE KEYS FOR SCOUR PROTECTION DETAIL

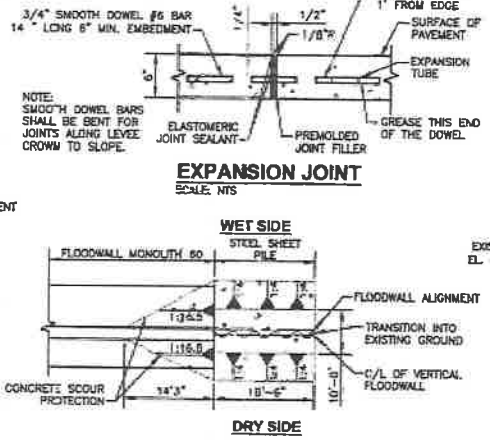
SCALE: NTS



FLOODWALL AND SHEET PILE TIE IN MONOLITH 60

SCALE: NTS

A S-05 & S-06

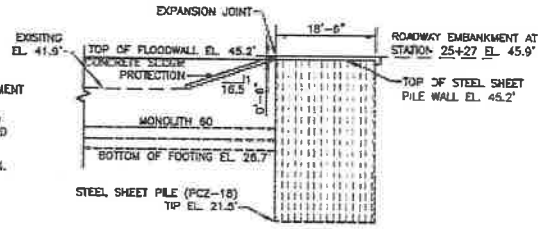


EXPANSION JOINT

SCALE: NTS

FLOODWALL AND LEVEE TIE-IN SCOUR PROTECTION PLAN DETAIL

SCALE: NTS



FLOODWALL AND LEVEE TIE-IN SCOUR PROTECTION PROFILE AT MONOLITH 60

SCALE: NTS

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.)

SURVEY JOB NO/SOURCE:	--	--				
CHECKED:	--	--				
CAD ENTERED:	JCB	11/19				
DESIGNED:	WJ	11/19	NUM.	REVISION	BY	DATE
CHECKED:	SAM	11/19				
SUPERVISOR:	SJ	11/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering, Inc.

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
I-WALL TO FLOODWALL TRANSITION DETAILS

SHEET S-07

NOTES:

1. FOR FLOODWALL TO SHEET PILE I-WAL TRANSITION DETAILS SEE S-07.

END SHEET PILE WALL
STA 1+00 (LEVEE CONTROL LINE)
STA 26+19.69 (FLOODWALL CONTROL LINE)

BEGIN SHEET PILE WALL
STA 25+08
FIELD VERIFY

EXISTING CONCRETE FLOODWALL

SCALE IN FEET

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

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

SURVEY JOB NO/SQUADS:	—	—			
CHECKED:	—	—			
CAD ENTERED:	JCB	11/19			
DESIGNED:	WJ	11/19	MUNI. REVISION	BY	DATE
CHECKED:	SAM	11/19			
SUPERVISOR:	SJ	11/19			
			MUNI. RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

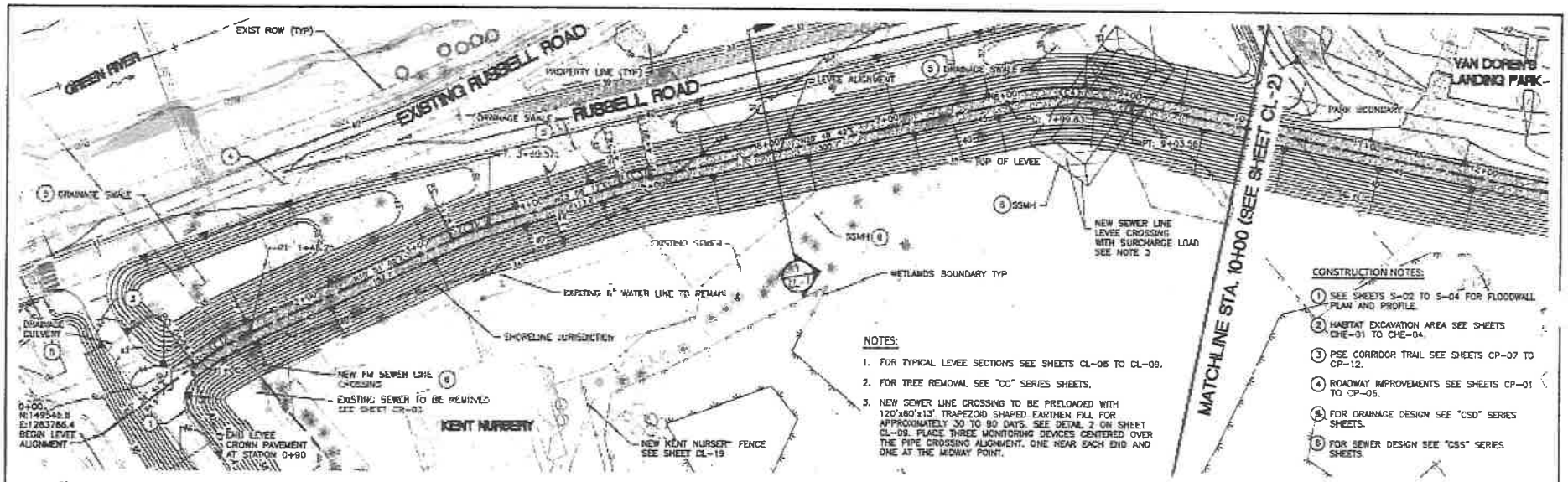
CONTRACT No. C01415C20

HDR Engineering Inc.

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
I-WALL
LAYOUT/GEOMETRY
STA 25+08 TO 26+19.69

SHEET
S-08

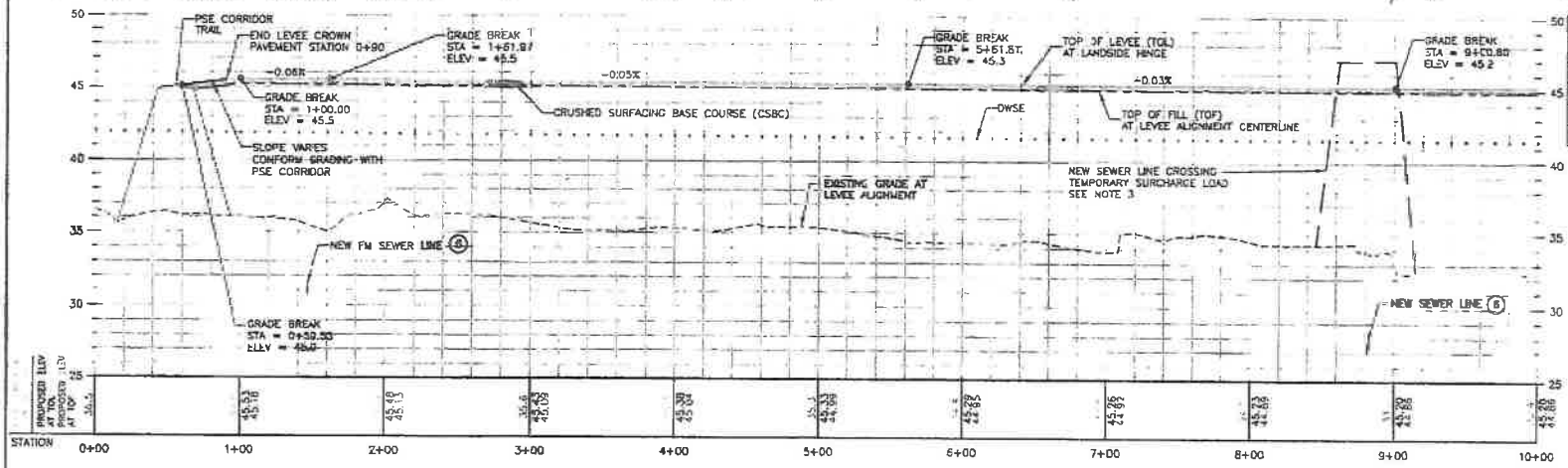


NOTES:

1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-06 TO CL-09.
2. FOR TREE REMOVAL SEE "CC" SERIES SHEETS.
3. NEW SEWER LINE CROSSING TO BE PRELOADED WITH 120'x60'x13' TRAPEZOID SHAPED EARTHEN FILL FOR APPROXIMATELY 30 TO 90 DAYS. SEE DETAIL 2 ON SHEET CL-09. PLACE THREE MONITORING DEVICES CENTERED OVER THE PIPE CROSSING ALIGNMENT. ONE NEAR EACH END AND ONE AT THE MIDWAY POINT.

CONSTRUCTION NOTES:

1. SEE SHEETS S-02 TO S-04 FOR FLOODWALL PLAN AND PROFILE.
2. HABITAT EXCAVATION AREA SEE SHEETS CHE-01 TO CHE-04.
3. PSE CORRIDOR TRAIL SEE SHEETS CP-07 TO CP-12.
4. ROADWAY IMPROVEMENTS SEE SHEETS CP-01 TO CP-05.
5. FOR DRAINAGE DESIGN SEE "CSD" SERIES SHEETS.
6. FOR SEWER DESIGN SEE "CSS" SERIES SHEETS.



LEVEE AUGNMENT CURVE TABLE

No.	R	Δ	L	T
C1	250.00	12	51.73	51.64
C2	250.00	7	31.65	31.63
C3	250.00	5	24.91	24.90
C4	250.00	24	103.73	102.99

SCALE IN FEET

SCALE IN FEET

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/SOURCE:	—	—
CHECKED:	—	—
CAD ENTERED:	RD	11/19
DESIGNED:	VR	11/19
CHECKED:	KF	11/19
SUPERVISOR:	SJ	11/19

MUNI.	REVISION	BY	DATE
Rev.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

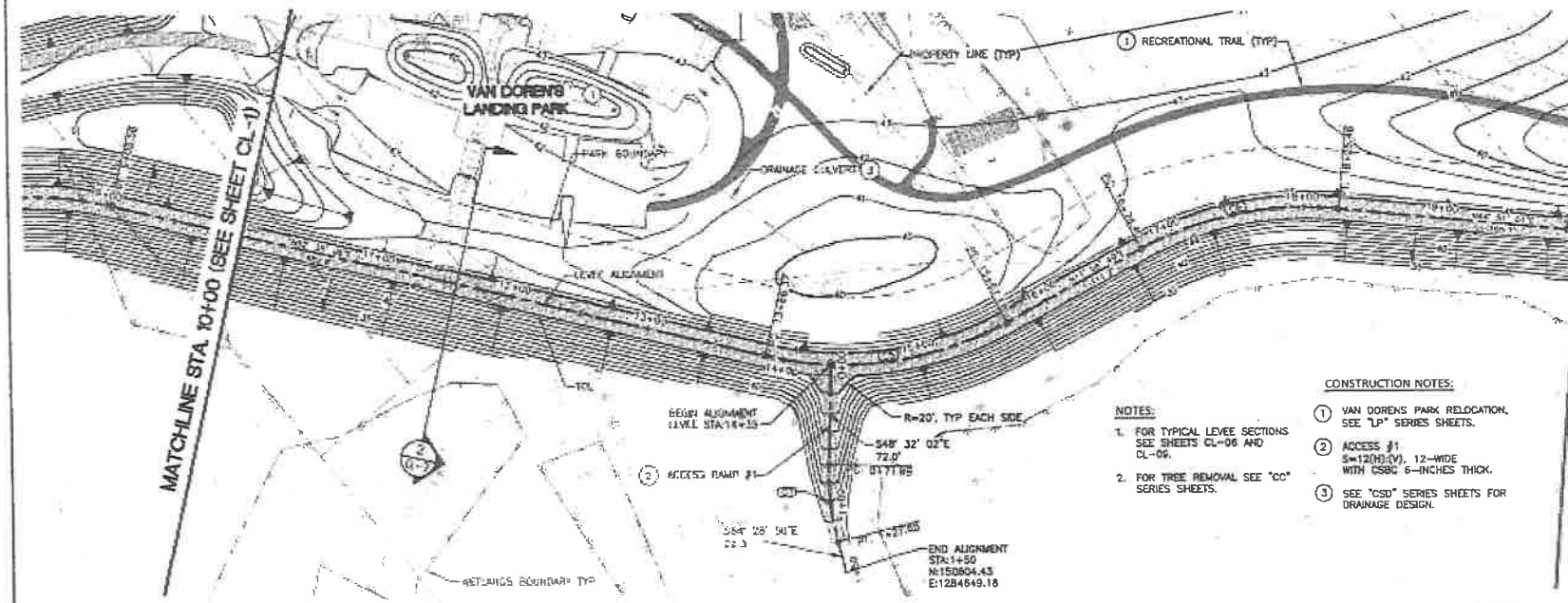
CONTRACT No. C01415C20

HDR Engineering Inc.

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
PROPOSED LEVEE
PLAN AND PROFILE
STA 0+00 TO 10+00

SHEET
CL-01



NOTES:

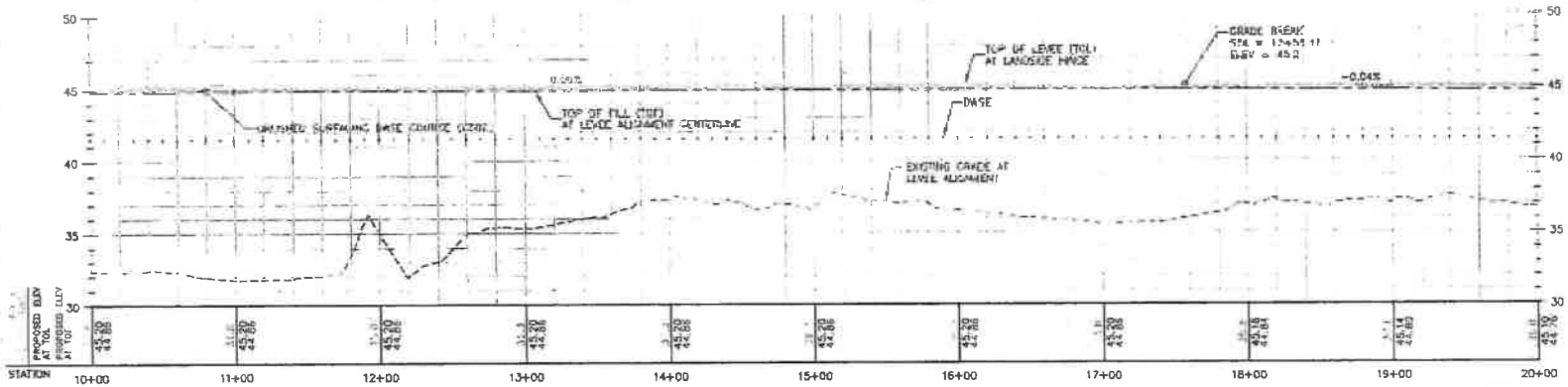
1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-06 AND CL-09.
2. FOR TREE REMOVAL SEE "CC" SERIES SHEETS.

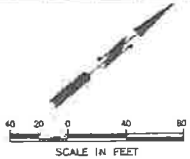
CONSTRUCTION NOTES:

1. VAN DORENS PARK RELOCATION, SEE "LP" SERIES SHEETS.
2. ACCESS #1 S=12(H):(V), 12-WIDE WITH CSBC 6-INCHES THICK.
3. SEE "CSD" SERIES SHEETS FOR DRAINAGE DESIGN.

LEVEE ALIGNMENT CURVE TABLE				
No.	R	Δ	L	T
C5	250.00	40	160.81	176.89
C6	250.00	34	147.05	144.95

ACCESS #1 CURVE TABLE				
No.	R	Δ	L	T
C1	200.00	16	55.66	55.49





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.

SURVEY JOB NO/SOURCE:	--	--			
CHECKED:	--	--			
CAD INTERPRET:	RD	11/18			
DESIGNED:	VR	11/18	TEAM	REVISION	BY / DATE
CHECKED:	KF	11/18			
SUPERVISOR:	SJ	11/18			
			MWP	RECORD CHANGES APPROVED	BY / DATE

PLANNING:

PROJECT No. 1112056

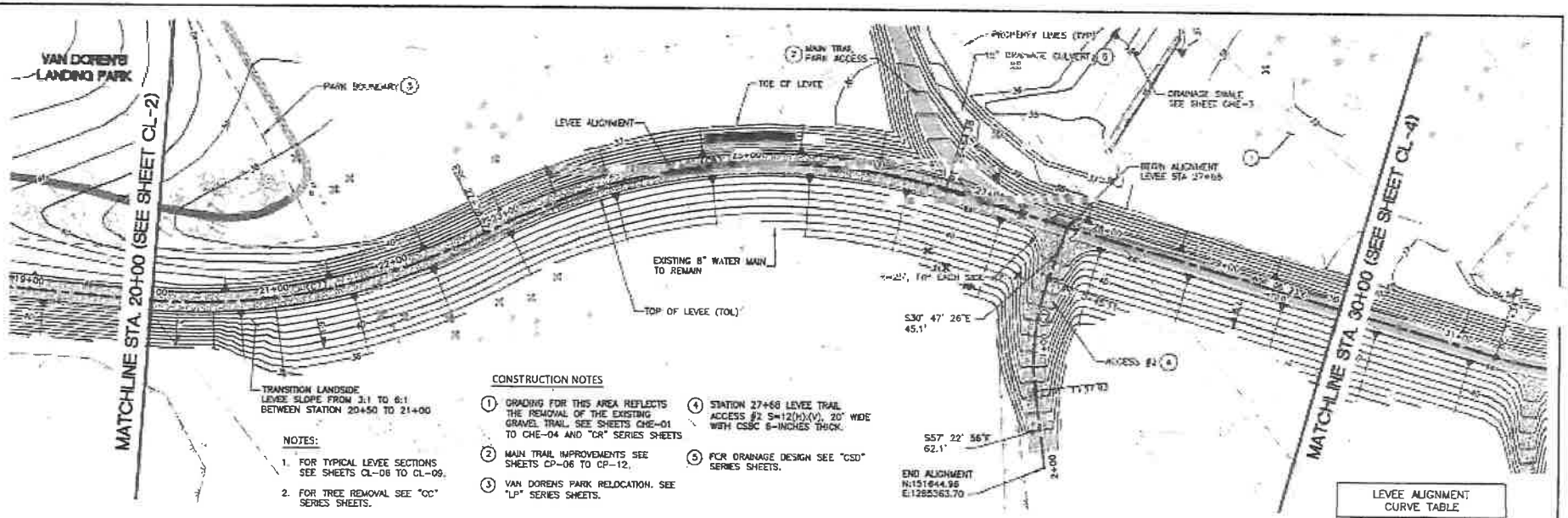
CONTRACT No. C01415C20

HDR Engineering Inc.

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

SHEET
CL-02

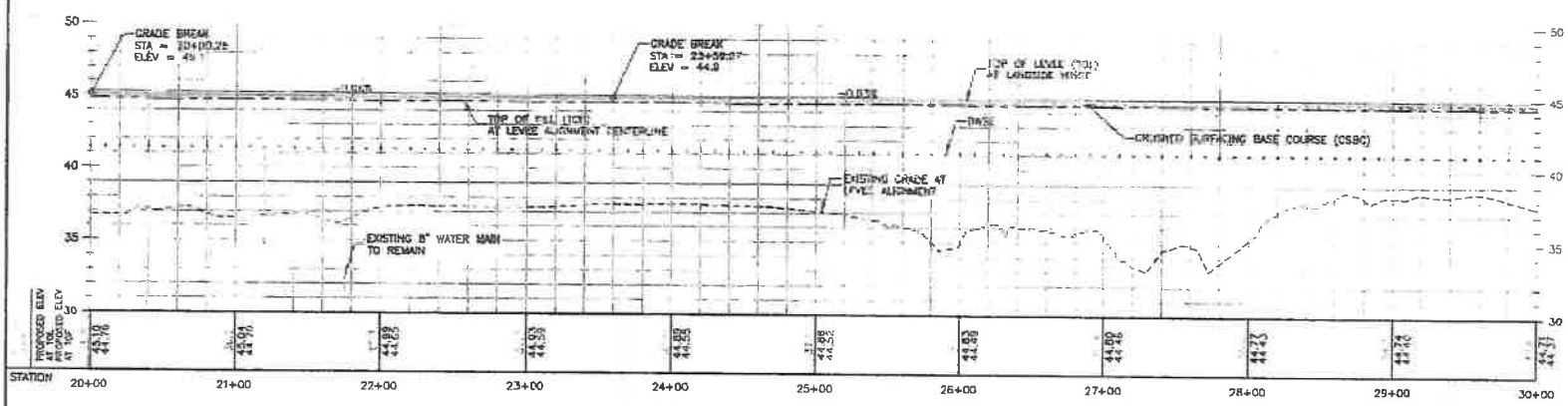


NOTES:

1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-08 TO CL-09.
2. FOR TREE REMOVAL SEE "CC" SERIES SHEETS.

CONSTRUCTION NOTES

1. GRADING FOR THIS AREA REFLECTS THE REMOVAL OF THE EXISTING GRAVEL TRAIL. SEE SHEETS CHE-01 TO CHE-04 AND "CR" SERIES SHEETS
2. MAIN TRAIL IMPROVEMENTS SEE SHEETS CP-06 TO CP-12.
3. VAN DORENS PARK RELOCATION. SEE "LP" SERIES SHEETS.
4. STATION 27+68 LEVEE TRAIL ACCESS #2 S=12(H):X(V), 20' WIDE WITH CSBC 6-INCHES THICK.
5. FOR DRAINAGE DESIGN SEE "CSD" SERIES SHEETS.



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

SCALE IN FEET

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

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

SURVEY JOB NO/SOURCE:	---	---				
CHECKED:	---	---				
CAD ENTERED:	RD	11/15				
DESIGNED:	VR	11/15	REV.	REVISION	BY	DATE
CHECKED:	KF	11/15				
SUPERVISOR:	SJ	11/15				
			REV.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

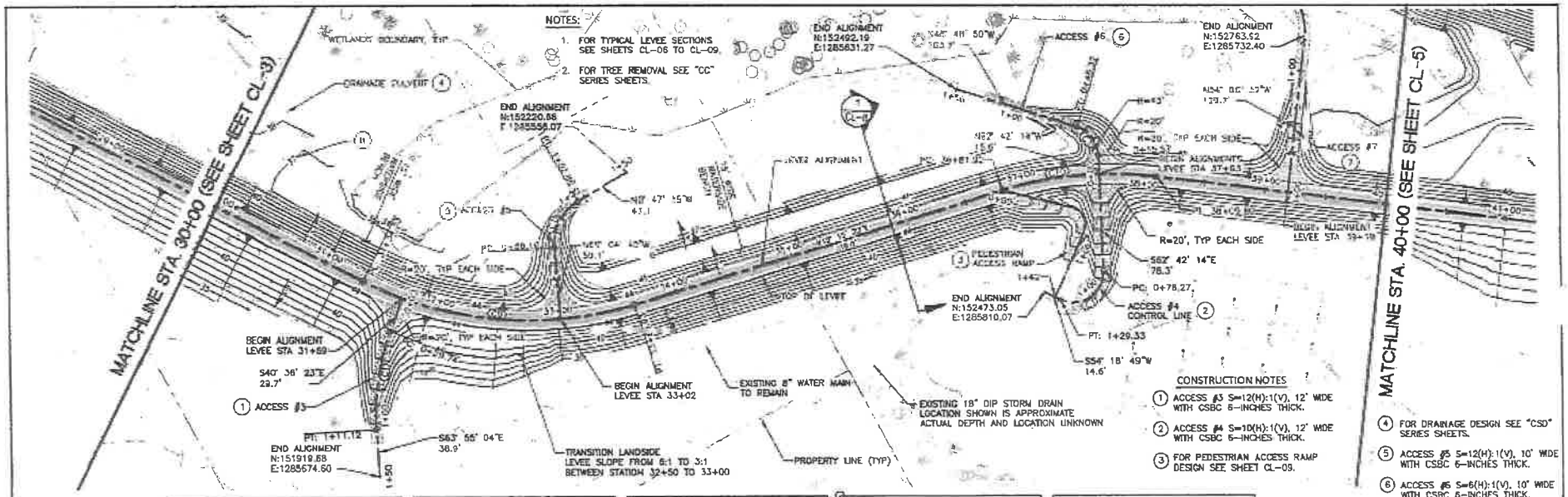
CONTRACT No. C01415C20

HDR Engineering Inc.

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
PROPOSED LEVEE
PLAN AND PROFILE
STA 20+00 TO 30+00

SHEET
CL-03



NOTES:

1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-06 TO CL-09.
2. FOR TREE REMOVAL SEE "CC" SERIES SHEETS.

CONSTRUCTION NOTES

1. ACCESS #3 S=12(H):1(V), 12' WIDE WITH CSBC 6-INCHES THICK.
2. ACCESS #4 S=10(H):1(V), 12' WIDE WITH CSBC 6-INCHES THICK.
3. FOR PEDESTRIAN ACCESS RAMP DESIGN SEE SHEET CL-09.
4. FOR DRAINAGE DESIGN SEE "CSD" SERIES SHEETS.
5. ACCESS #5 S=12(H):1(V), 10' WIDE WITH CSBC 6-INCHES THICK.
6. ACCESS #6 S=6(H):1(V), 10' WIDE WITH CSBC 6-INCHES THICK.
7. ACCESS #7 S=12(H):1(V), 10' WIDE WITH CSBC 6-INCHES THICK.
8. GRADING FOR THIS AREA REFLECTS THE REMOVAL OF THE EXISTING GRAVEL TRAIL. SEE SHEETS CHE-01 TO CHE-04 AND "CR" SERIES SHEETS.

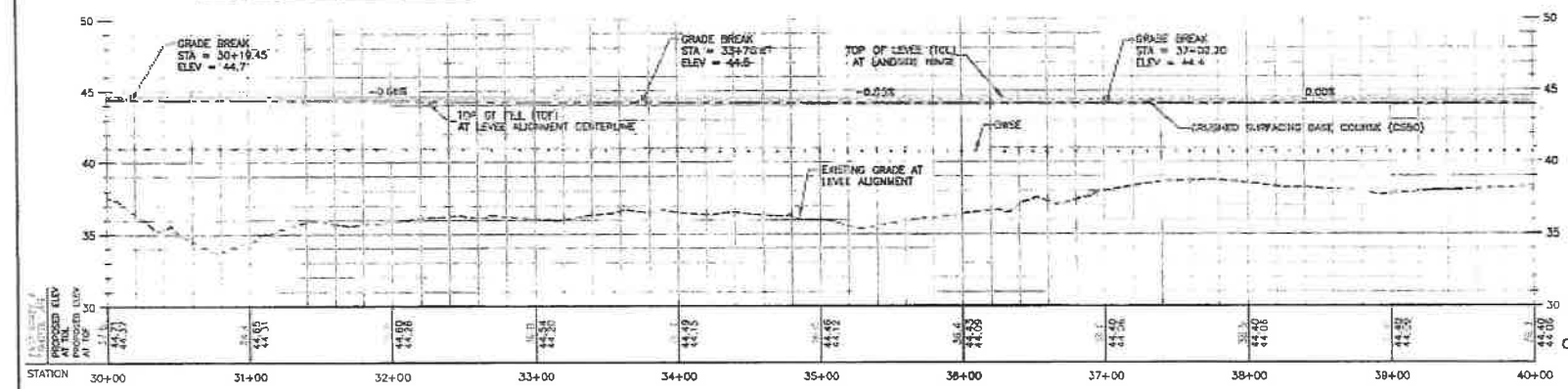
LEVEE ALIGNMENT CURVE TABLE				
No.	R	Δ	L	T
C9	300.00	44	229.60	224.04
C10	310.00	24	127.88	126.97

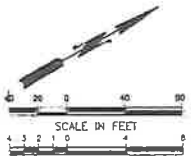
ACCESS #3 CURVE TABLE				
No.	R	Δ	L	T
C1	200.00	23	81.37	80.81

ACCESS #4 CURVE TABLE				
No.	R	Δ	L	T
C1	25.00	117	51.06	42.64

ACCESS #5 CURVE TABLE				
No.	R	Δ	L	T
C1 9	39.00	64	43.76	41.50

ACCESS #6 CURVE TABLE				
No.	R	Δ	L	T
C1	25.00	70	30.75	28.85





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.

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

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

HDR Engineering Inc.

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
PROPOSED LEVEE
PLAN AND PROFILE
STA 30+00 TO 40+00

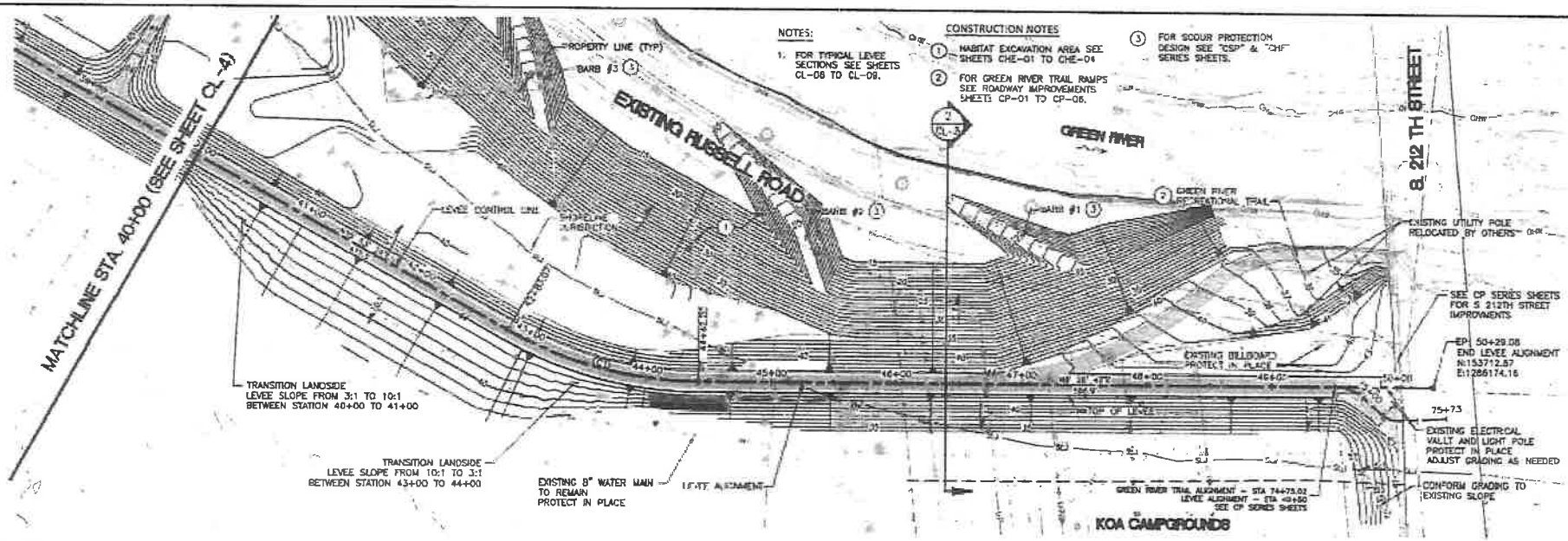
SHEET
CL-04

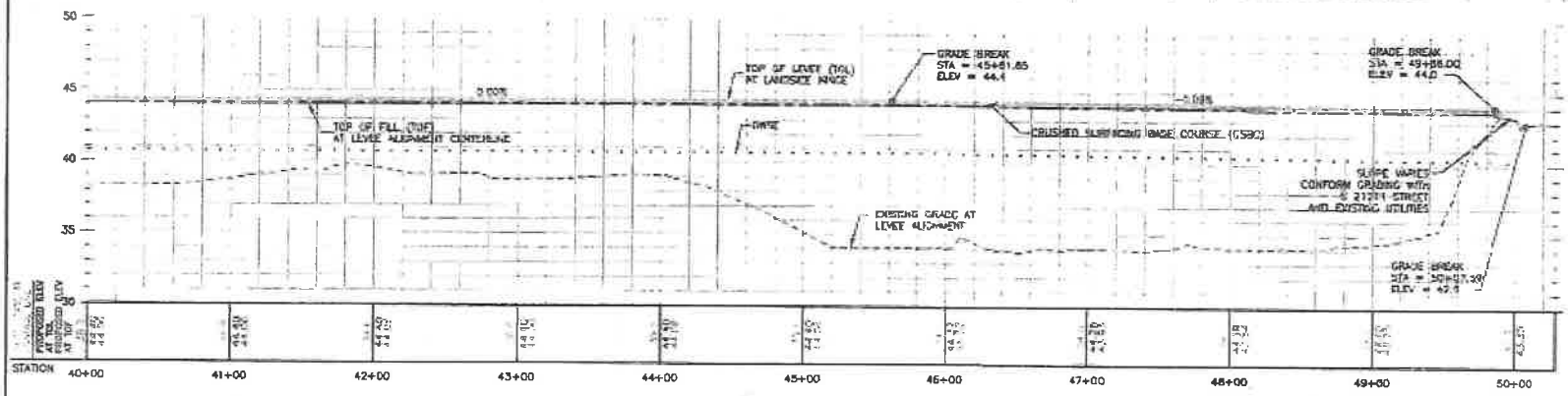
NOTES:

1. FOR TYPICAL LEVEE SECTIONS SEE SHEETS CL-08 TO CL-09.

CONSTRUCTION NOTES

1. HABITAT EXCAVATION AREA SEE SHEETS CHE-01 TO CHE-04
2. FOR GREEN RIVER TRAIL RAMPS SEE ROADWAY IMPROVEMENTS SHEETS CP-01 TO CP-08.
3. FOR SCOUR PROTECTION DESIGN SEE "CSP" & "CHF" SERIES SHEETS.





LEVEE ALIGNMENT CURVE TABLE				
No.	R	Δ	L	T
C1	310.00	29	159.14	157.40

SCALE IN FEET

SCALE IN FEET

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

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

SURVEY JOB NO/SQUECE:	—	—
CHECKED:	—	—
CAD ENTERED:	RD	11/19
DESIGNED:	VR	11/19
CHECKED:	KF	11/19
SUPERVISOR:	SJ	11/19

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR

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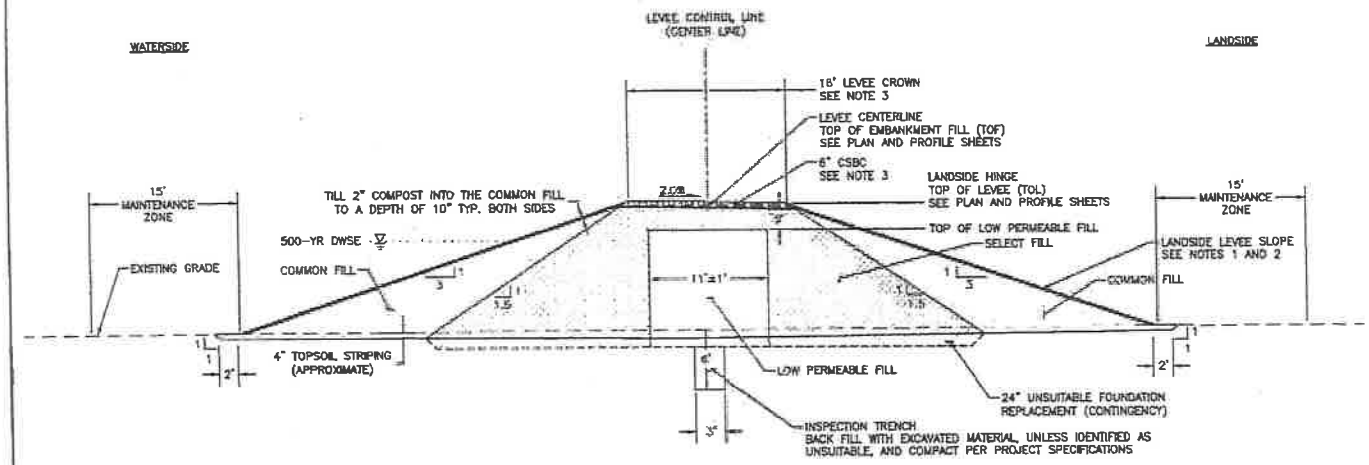
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
PROPOSED LEVEE
PLAN AND PROFILE
STA 40+00 TO 50+29

SHEET
CL-05

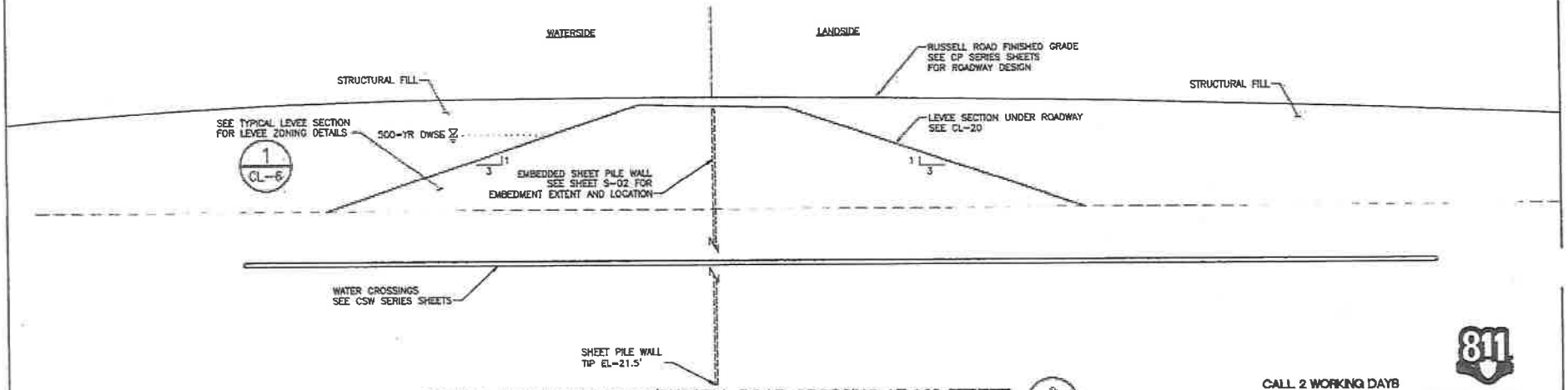


TYPICAL LEVEE SECTION

3

NOTES:

1. THE LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3(H):1(V) TO 6(H):1(V) BETWEEN STATIONS 20+50 TO 21+00 AND BACK FROM 6(H):1(V) TO 3(H):1(V) BETWEEN STATIONS 32+50 TO 33+00. THE FLATTER SLOPE WILL BE CONSTRUCTED WITH COMMON FILL. SEE SHEETS CL-03 AND CL-04.
2. THE LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3(H):1(V) TO 10(H):1(V) BETWEEN STATIONS 40+00 TO 41+00 AND BACK FROM 10(H):1(V) TO 3(H):1(V) BETWEEN STATIONS 43+00 TO 44+00. THE FLATTER SLOPE WILL BE CONSTRUCTED WITH COMMON FILL. SEE SHEETS CL-05.
3. THE LEVEE CROWN WILL CONSIST OF 6 INCHES OF CRUSHED SURFACING BASE COURSE (CSBC) EXCEPT WHERE IT HAS BEEN IDENTIFIED TO BE PAVED. SEE SHEETS CL-01 THROUGH CL-05 FOR LEVEE CROWN PAVEMENT EXTENTS AND CL-09 FOR PAVED LEVEE CROWN DETAIL.
4. FOR PAVED ROADWAY AND TRAIL SECTIONS SEE THE "CP" SERIES SHEETS.
5. ROADWAY CROSSINGS AND LEVEE TRAIL ACCESS RAMPS NOT SHOWN FOR CLARITY. SEE SHEETS CL-01 THROUGH CL-05 AND "CP" SERIES SHEETS FOR RAMP AND TRAIL DESIGNS. ALL ROAD WAY AND TRAIL RAMPS WILL CONSIST OF COMMON FILL.
6. THE EMBANKMENT CORE CONSISTS OF THE LOW PERMEABLE FILL AND SELECT FILL ZONES. SOIL TYPE AND COMPACTION FOR THE RESPECTIVE FILL TYPES SHALL BE IN ACCORDANCE WITH SPECIFICATION SECTION 31 23 00.



TYPICAL LEVEE SECTION W/RUSSELL ROAD CROSSING AT 228 STREET

2 S-02

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

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

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

FUNDING:

PROJECT No. 1112056

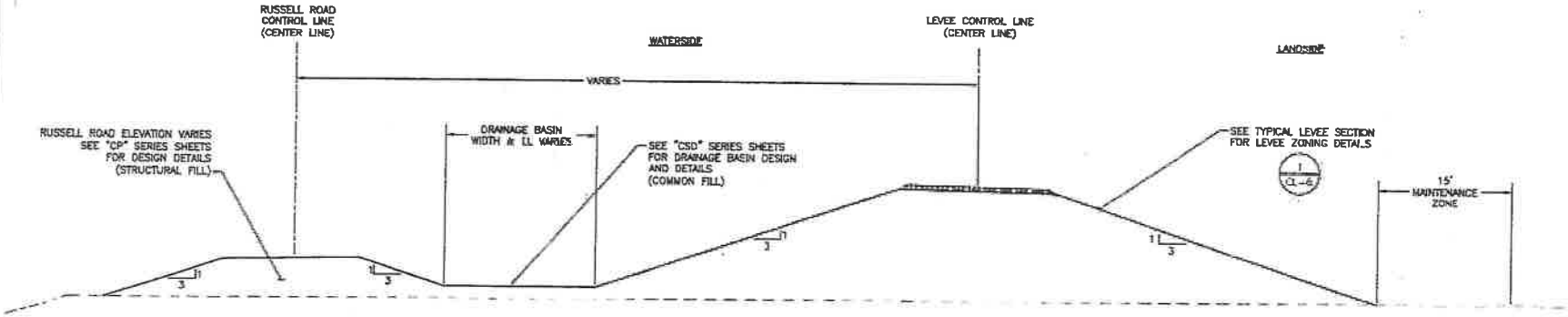
CONTRACT No. C01415C20

HDR Engineering Inc.

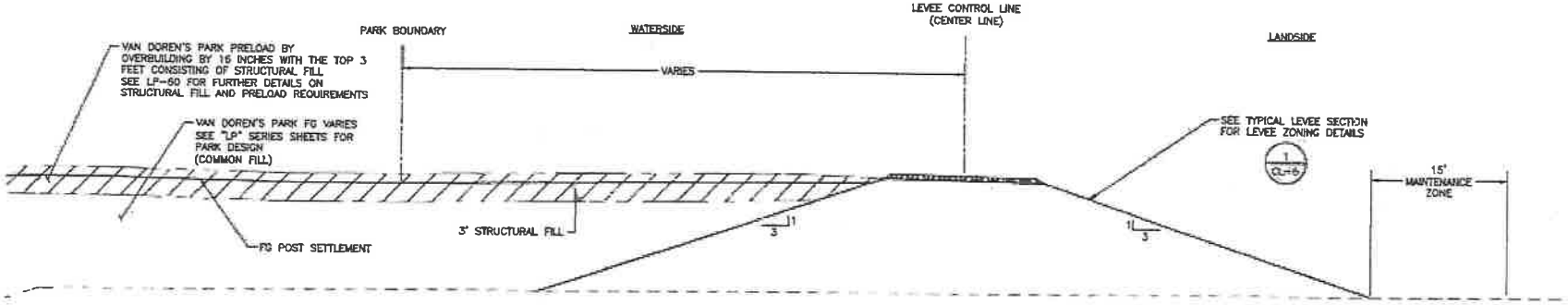
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

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

SHEET
CL-06



TYPICAL LEVEE SECTION AND RUSSELL ROAD INTERACTION (1 / CL-1)



TYPICAL LEVEE SECTION AND VAN DOREN'S PARK INTERACTION (2 / CL-2)

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

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

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

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

HDR Engineering Inc.

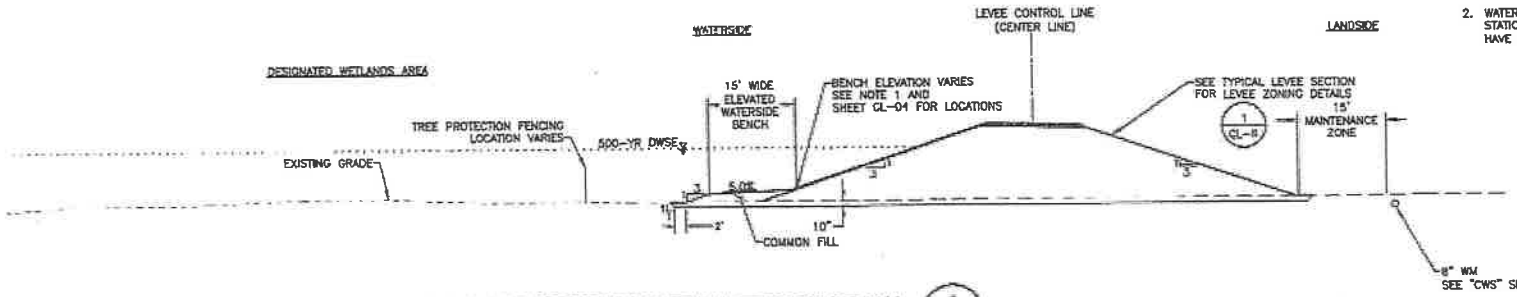
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

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

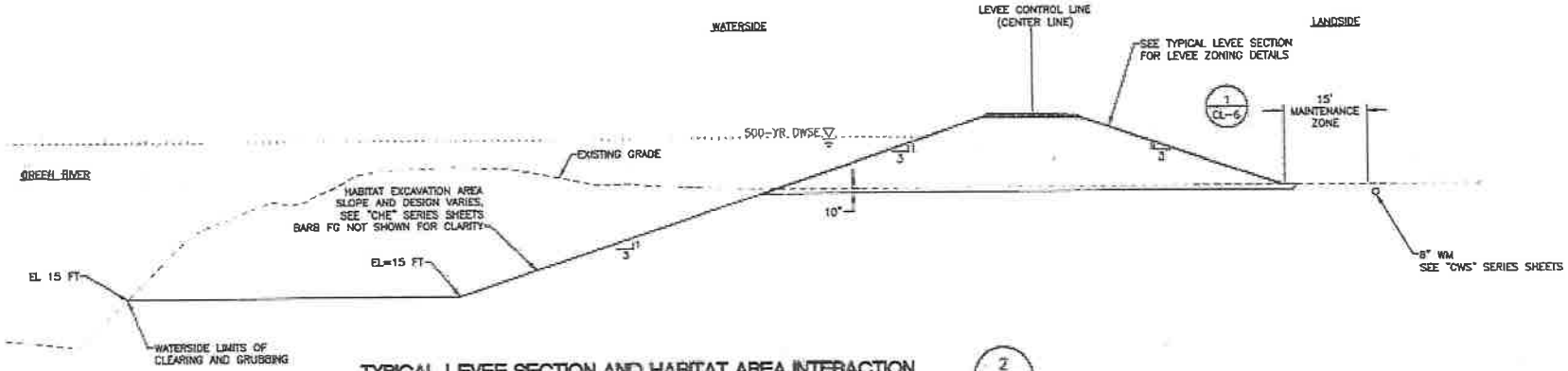
SHEET CL-07

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 (1 / CL-4)



TYPICAL LEVEE SECTION AND HABITAT AREA INTERACTION (2 / CL-5)

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

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

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

FUNDING:

PROJECT No. 1112056

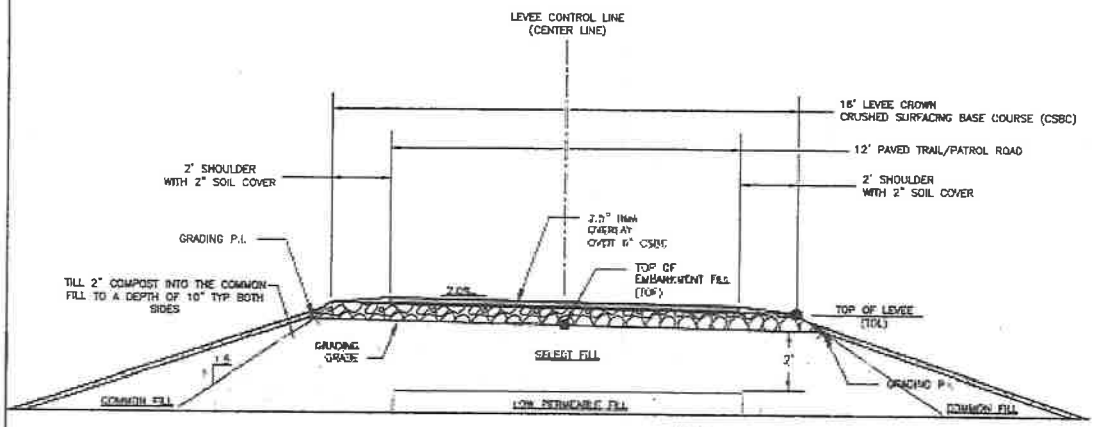
CONTRACT No. C01415C20

HDR Engineering Inc.

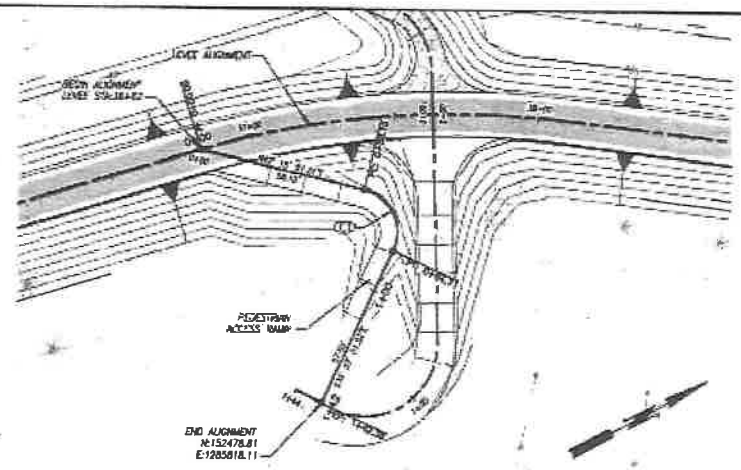
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2
TYPICAL LEVEE SECTIONS AND DETAILS 3

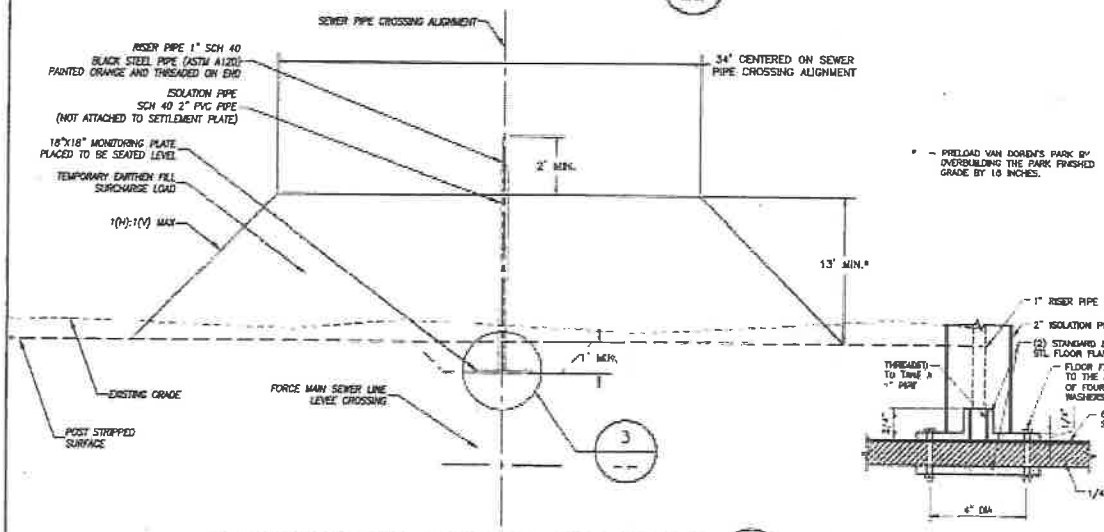
SHEET CL-08



TYPICAL PAVED LEVEE CROWN (1)

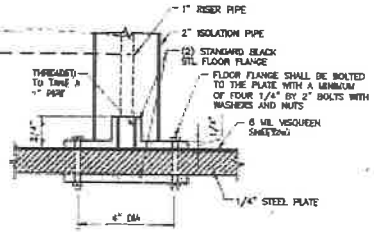


PEDESTRIAN ACCESS RAMP CURVE TABLE				
No.	R	Δ	L	T
C1	15.00	102	26.80	23.25

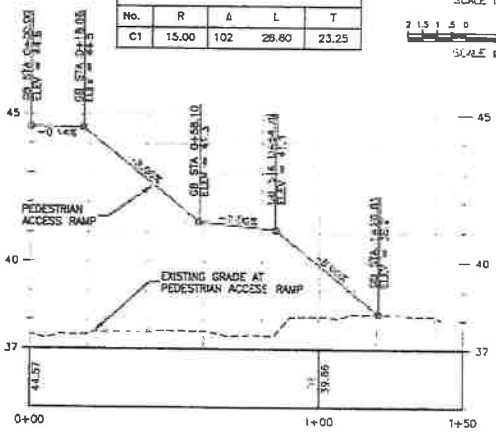


* – PRELOAD VAN DOREN'S PARK BY OVERBUILDING THE PARK FINISHED GRADE BY 10 INCHES.

LEVEE SEWER PIPE CROSSING PRELOAD SECTION (2)



MONITORING PLATE CONNECTION (3)



PEDESTRIAN ACCESS RAMP (4)

SCALE IN FEET

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

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

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

REVISIONS	BY	DATE
RECORD CHANGES APPROVED	BY	DATE

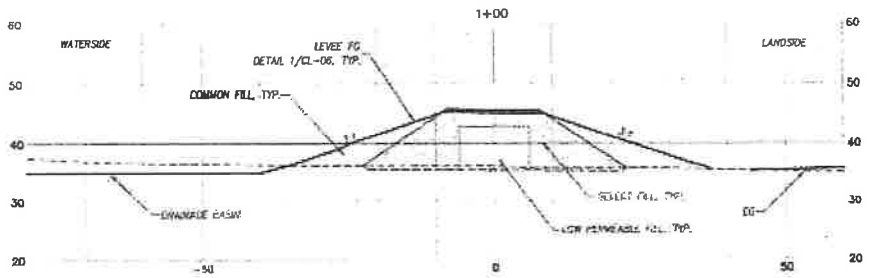
Finaled:
PROJECT No. 1120266
CONTRACT No. C014552C20

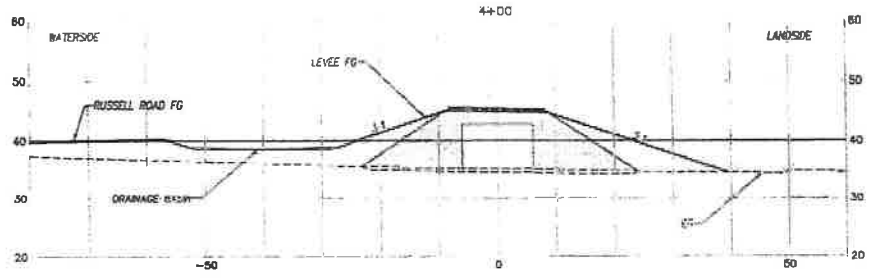
HDR Engineering Inc.

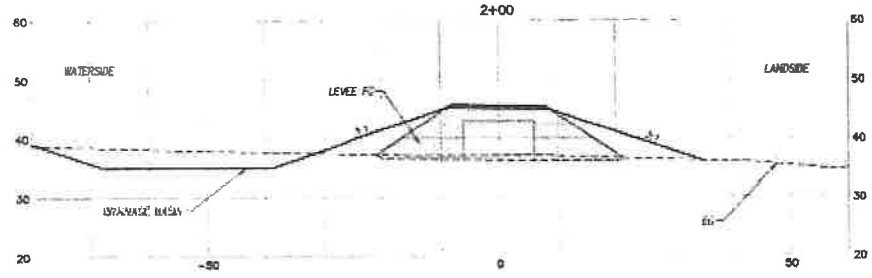
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

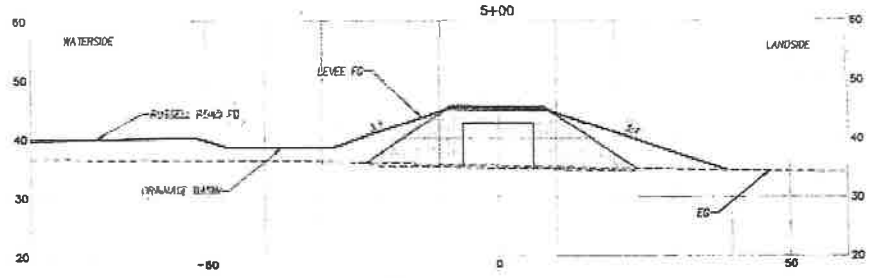
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
TYPICAL PAVED LEVEE CROWN DETAIL
PEDESTRIAN ACCESS RAMP PLAN AND PROFILE

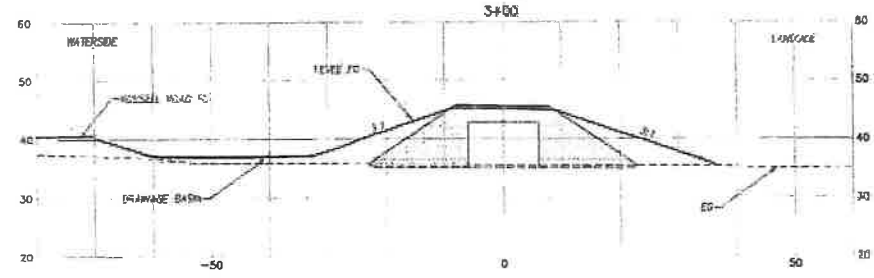
SHEET
CL-09

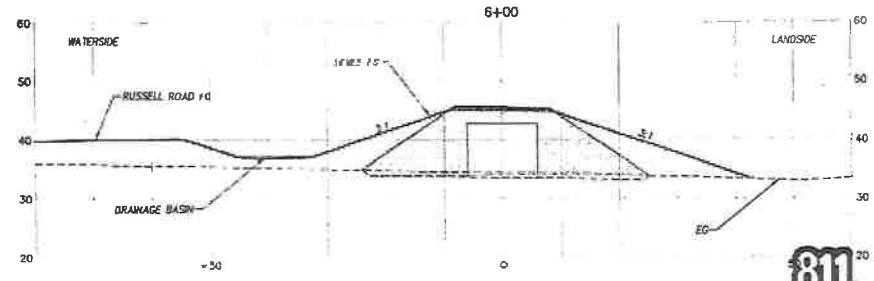












SCALE IN FEET

SCALE IN FEET

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

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

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

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

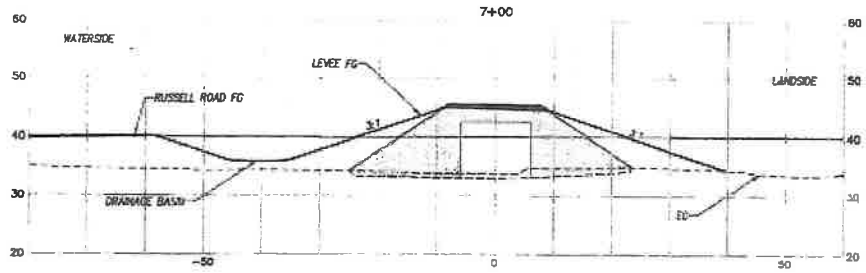
CONTRACT No. C01415C20

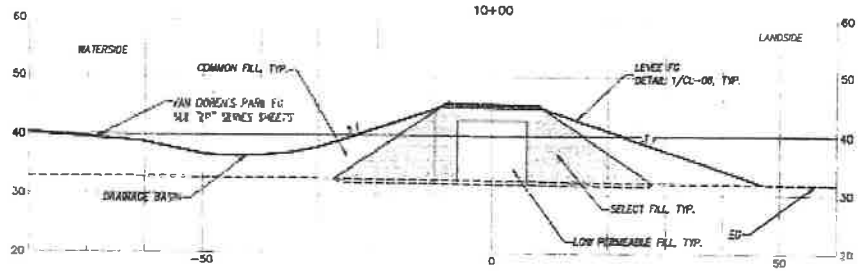
HDR Engineering Inc.

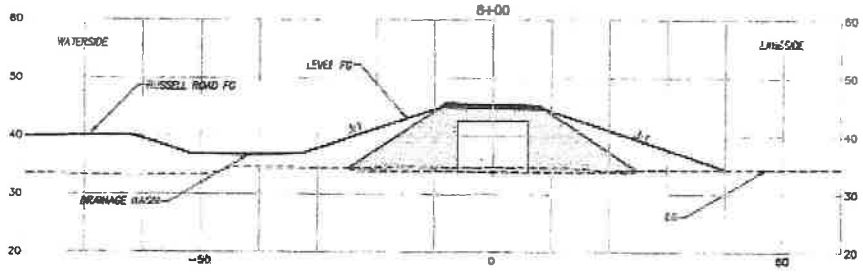
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

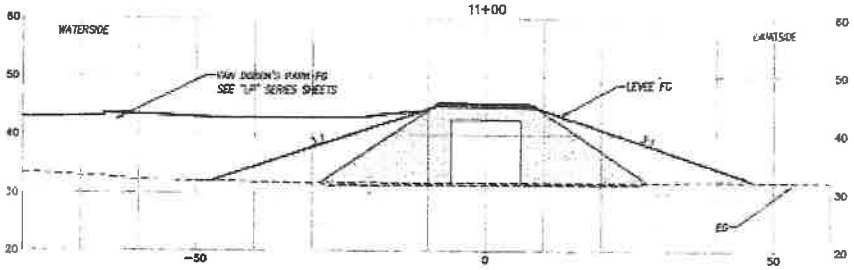
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
PROPOSED LEVEE
CROSS SECTIONS
STA 1+00 TO 6+00

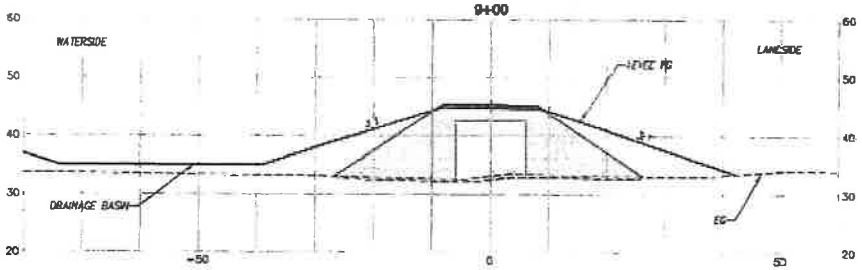
SHEET
CL-10

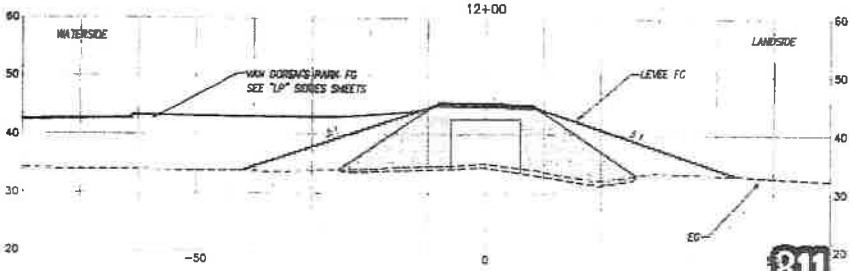












SCALE IN FEET

SCALE IN FEET

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/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	RD	8/18			
DESIGNED:	VR	8/18	NUM.	REVISION	BY / DATE
CHECKED:	JG	8/18			
SUPERVISOR:	BK	8/18			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING

PROJECT No. 1112056

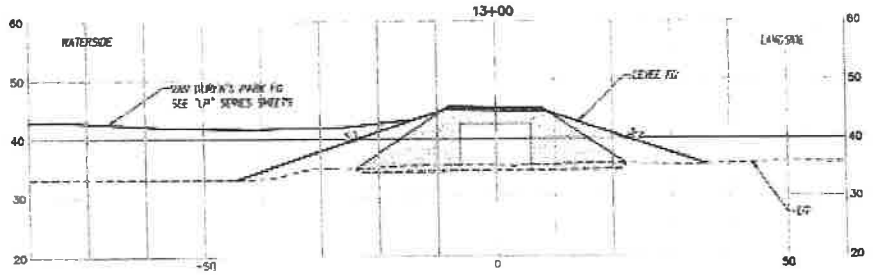
CONTRACT No. C01415C20

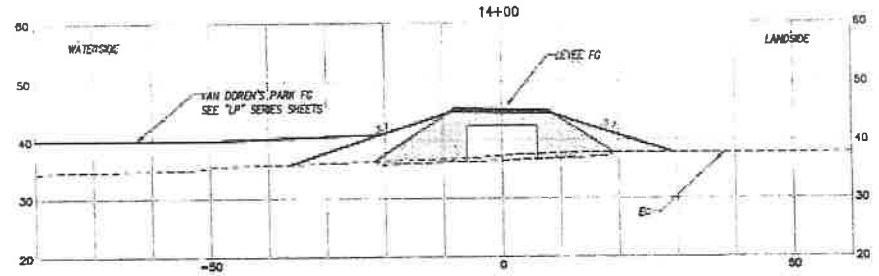
HDR Engineering Inc.

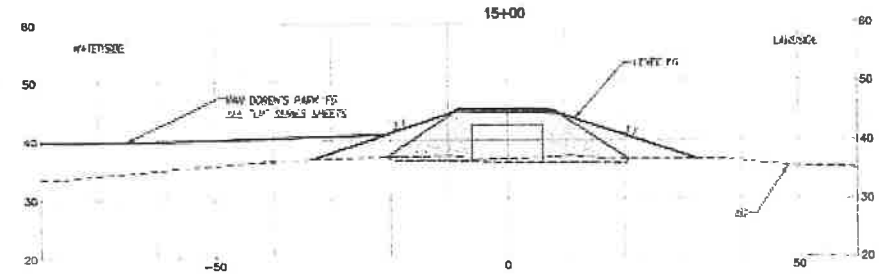
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

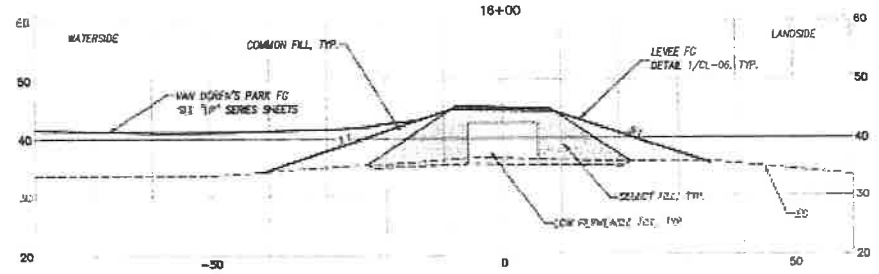
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
PROPOSED LEVEE
CROSS SECTIONS
STA 7+00 TO 12+00

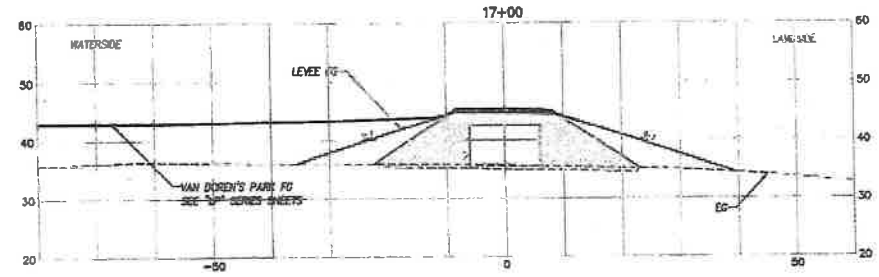
SHEET
CL-11

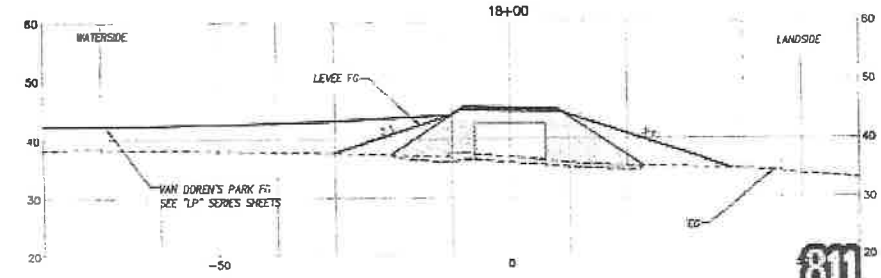












SCALE IN FEET

SCALE IN FEET

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

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

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

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

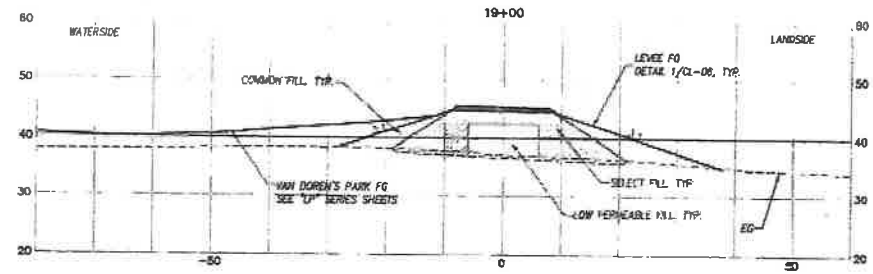
HDR Engineering, Inc.

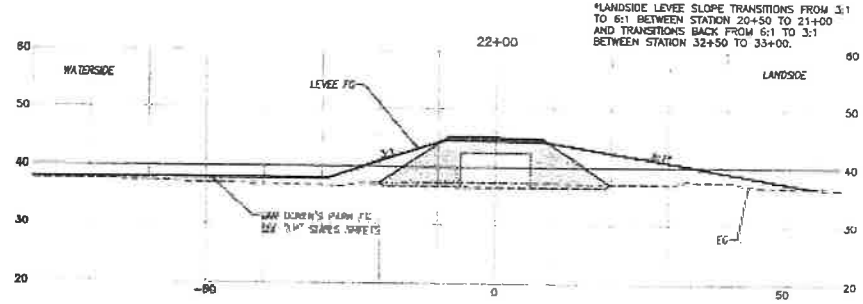
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

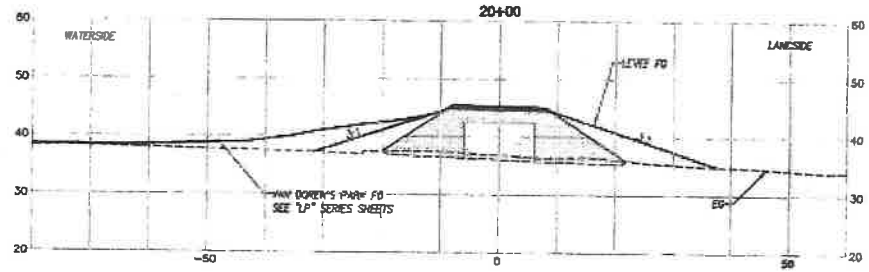
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
PROPOSED LEVEE
CROSS SECTIONS
STA 13+00 TO 18+00

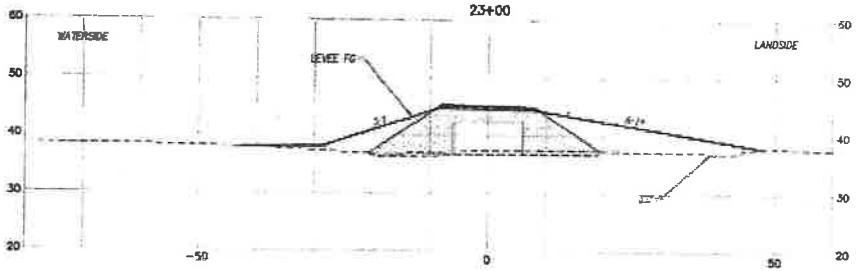
SHEET
CL-12

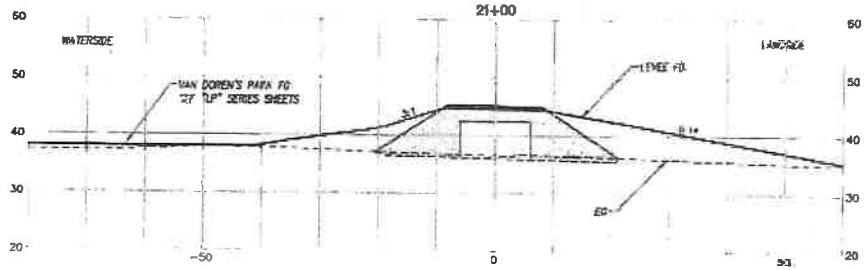
*LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3:1 TO 6:1 BETWEEN STATION 20+50 TO 21+00 AND TRANSITIONS BACK FROM 6:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.

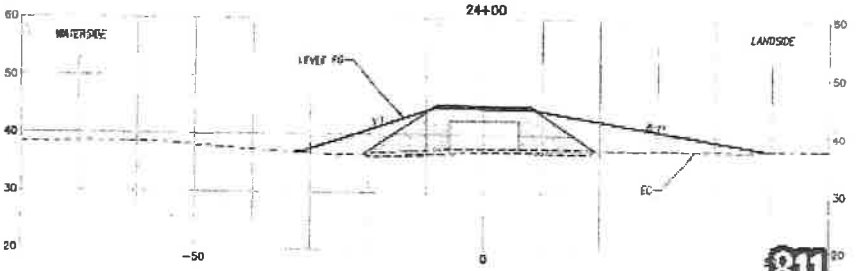












10 5 0 10 20 SCALE IN FEET

10 5 0 10 20 SCALE IN FEET

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

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

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

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1113096

CONTRACT No. CD1415C20

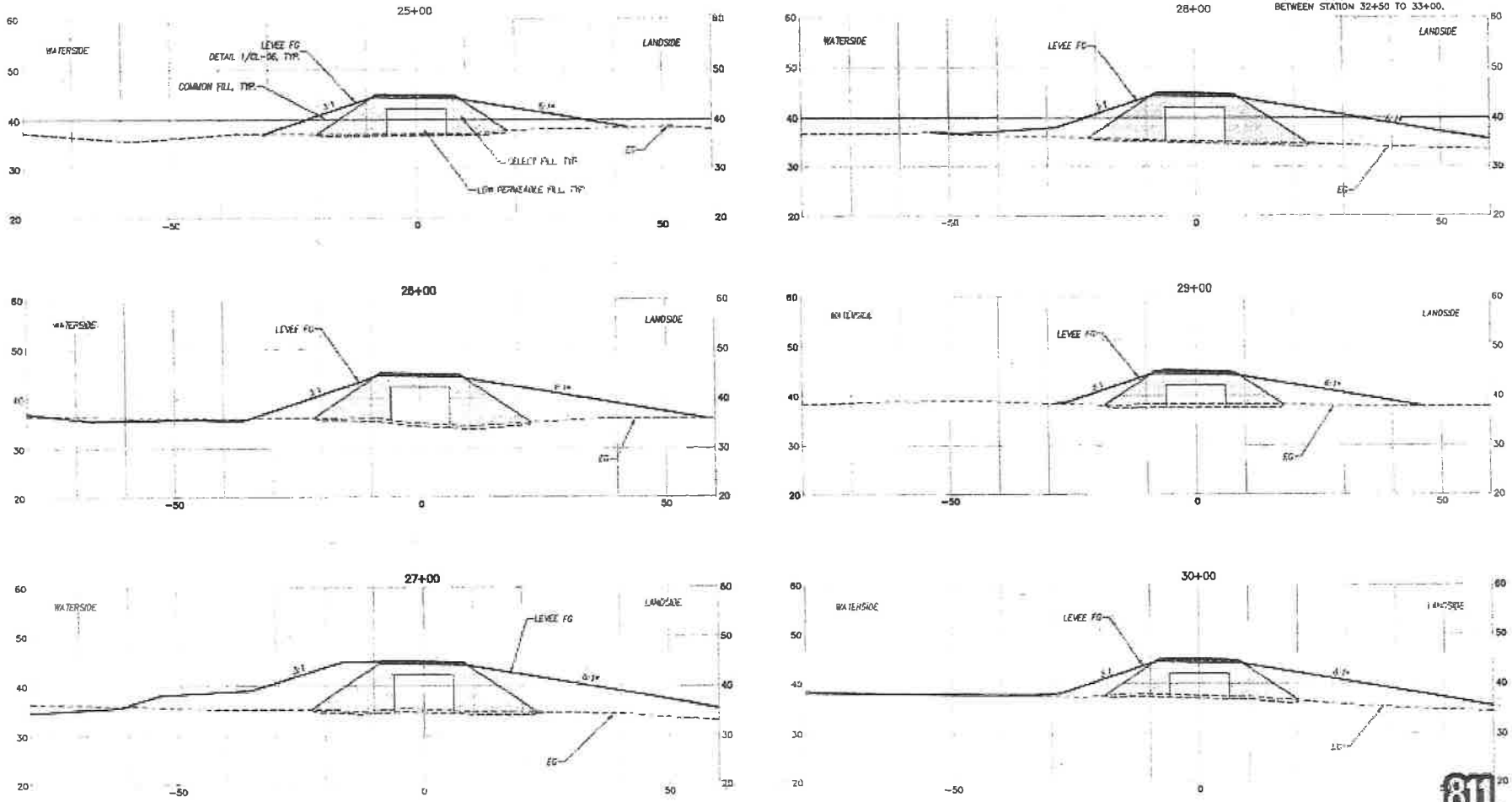
HDR Engineering Inc.

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
PROPOSED LEVEE
CROSS SECTIONS
STA 19+00 TO 24+00

SHEET
CL-13

*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.



SCALE IN FEET

SCALE IN FEET

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

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

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

FUNDING:

PROJECT No. 1112056

CONTRACT No. C0141SC20

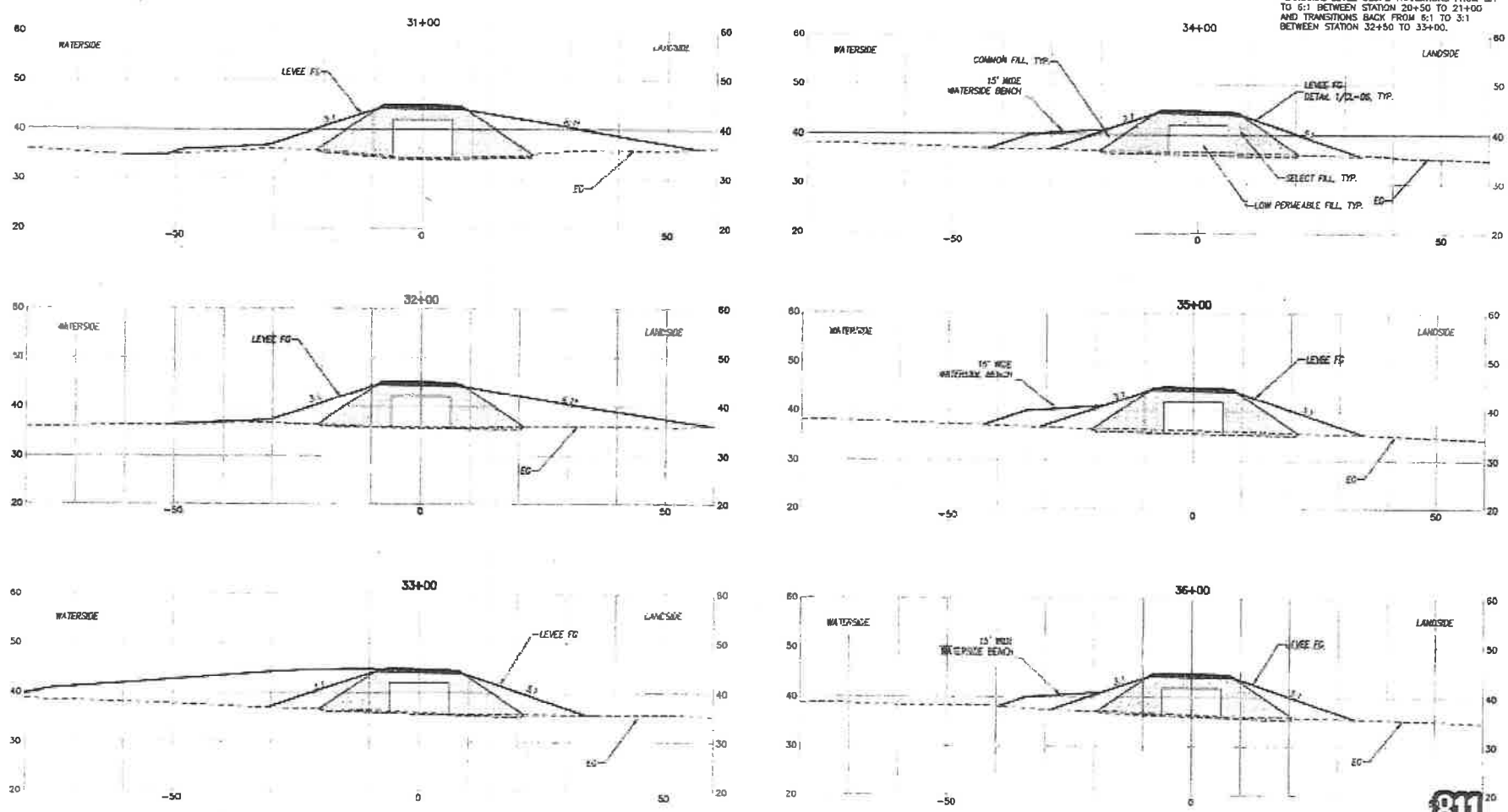
HDR Engineering Inc.

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
PROPOSED LEVEE CROSS SECTIONS
STA 25+00 TO 30+00

SHEET
CL-14

*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.)

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

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

PLANNING

PROJECT No. 1112056

CONTRACT No. C01415C20

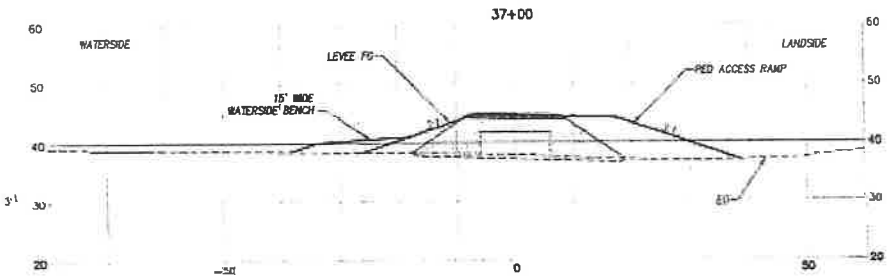
HDR Engineering Inc.

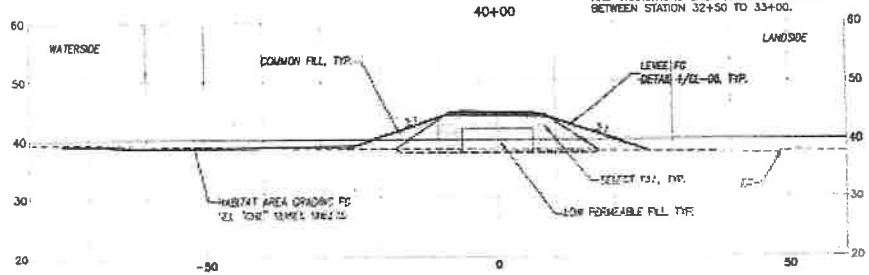
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True Director

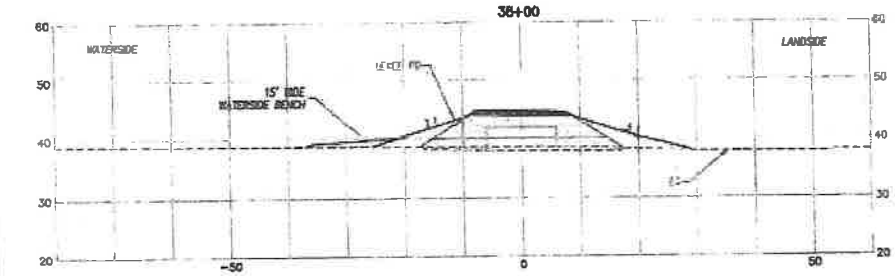
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
PROPOSED LEVEE
CROSS SECTIONS
STA 31+00 TO 36+00

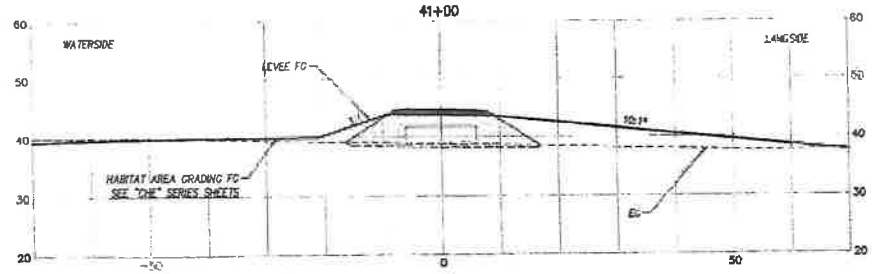
SHEET
CL-15

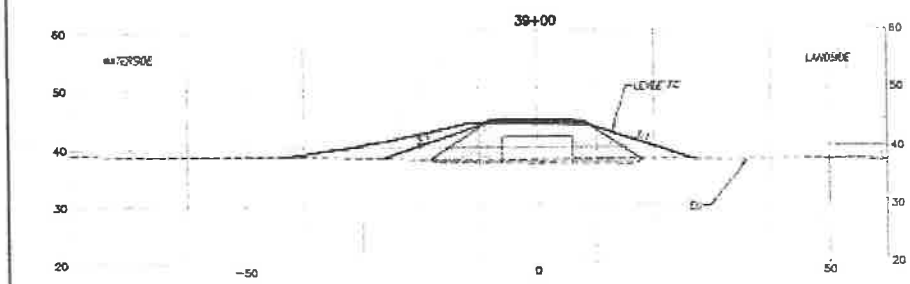
*LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3:1 TO 6:1 BETWEEN STATION 20+50 TO 21+00 AND TRANSITIONS BACK FROM 6:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.

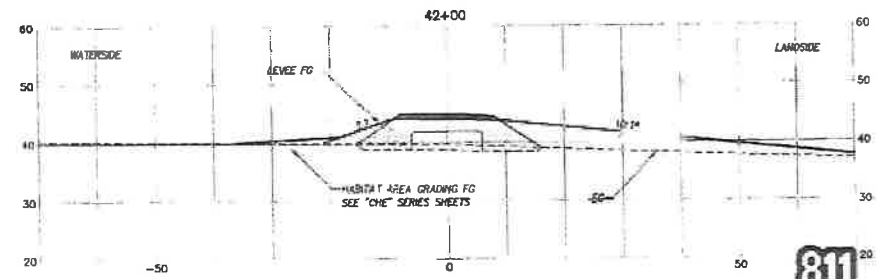












SCALE IN FEET

SCALE IN FEET

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

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

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

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

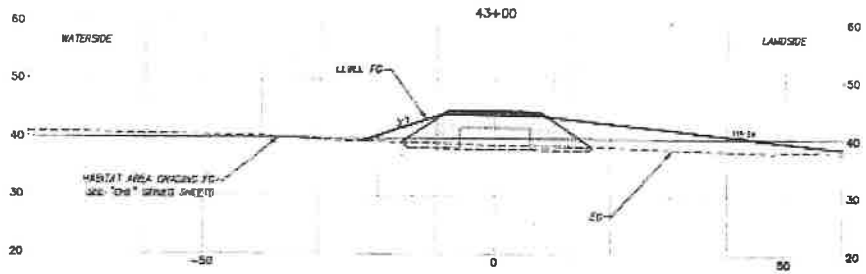
HDR Engineering Inc.

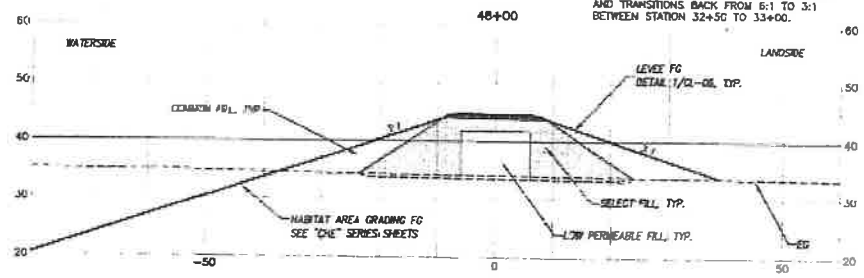
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

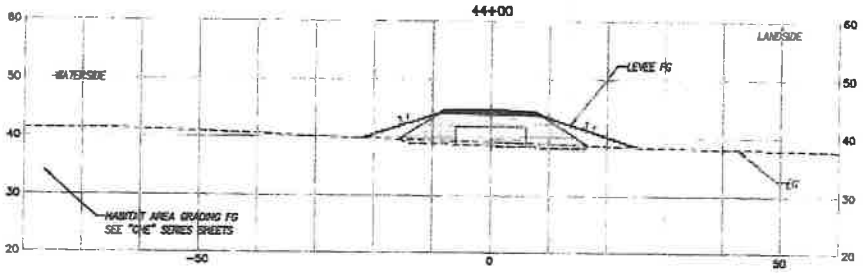
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
PROPOSED LEVEE
CROSS SECTIONS
STA 37+00 TO 42+00

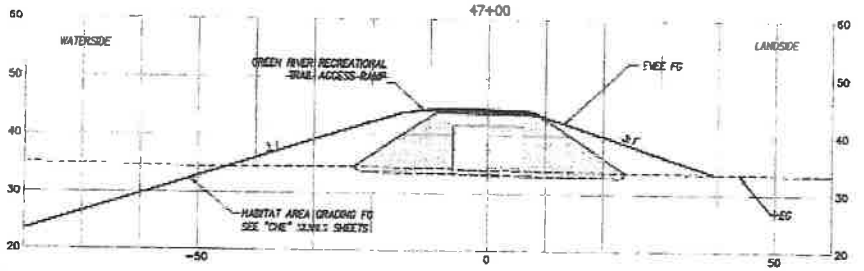
SHEET
CL-16

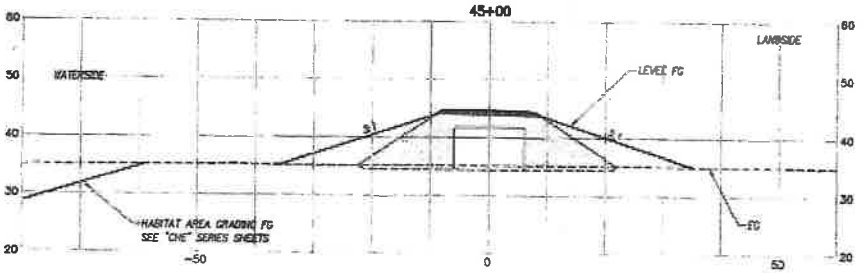
*LANDSIDE LEVEE SLOPE TRANSITIONS FROM 3:1 TO 6:1 BETWEEN STATION 20+50 TO 21+00 AND TRANSITIONS BACK FROM 6:1 TO 3:1 BETWEEN STATION 32+50 TO 33+00.

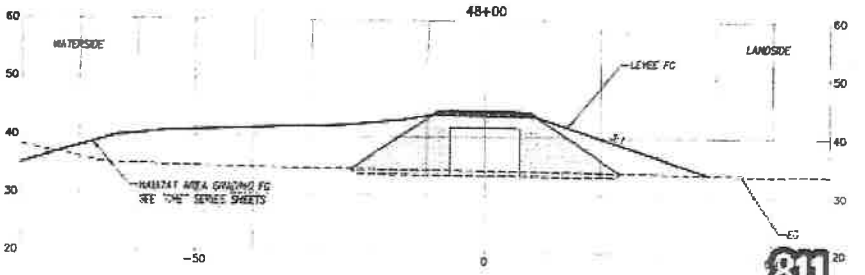












10 5 0 10 20 SCALE IN FEET

10 5 0 10 20 SCALE IN FEET

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

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

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

FUNDING:

PROJECT No. 1112056

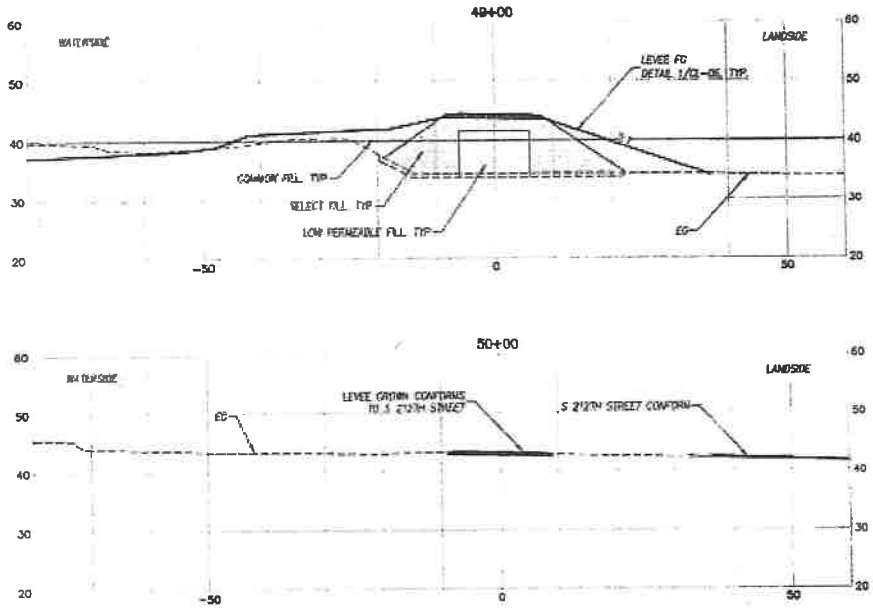
CONTRACT No. C01415C20

HDR Engineering Inc.

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
PROPOSED LEVEE CROSS SECTIONS
STA 43+00 TO 48+00

SHEET
CL-17



SCALE IN FEET

SCALE IN FEET

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

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

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

FUNDING:

PROJECT No. 1112056

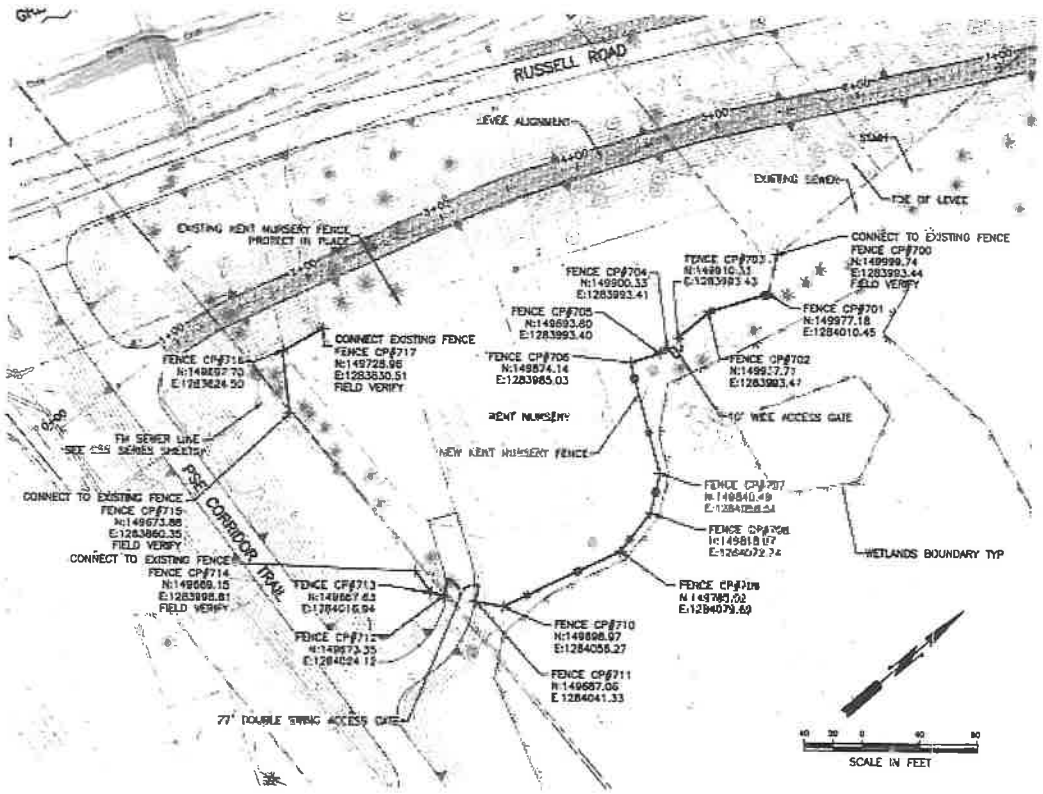
CONTRACT No. C01415C20

HDR Engineering Inc.

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
PROPOSED LEVEE CROSS SECTIONS
STA 49+00 TO 50+00

SHEET
CL-18



NOTES:

1. THE EXISTING KENT NURSERY FENCE AND DRIVEWAY TO BE REMOVED TO THE EXTENT SHOWN ON THE "CR" SERIES SHEETS. REMAINING EXISTING KENT NURSERY FENCE TO BE PROTECTED IN PLACE AND CONNECTIONS BETWEEN THE NEW AND EXISTING FENCES SHALL BE FIELD FIT BASED ON REMAINING FENCE OR AS DIRECTED IN THE FIELD BY THE REPRESENTATIVE.
2. NEW KENT NURSERY FENCE SHALL BE A 6 FEET TALL, BLACK POLYMER CHAIN LINK FENCE. SEE SPECIFICATION SECTION 32 31 13 – CHAINLINK FENCES AND GATES.

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

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

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

FUNDING: _____

PROJECT No. 1112336

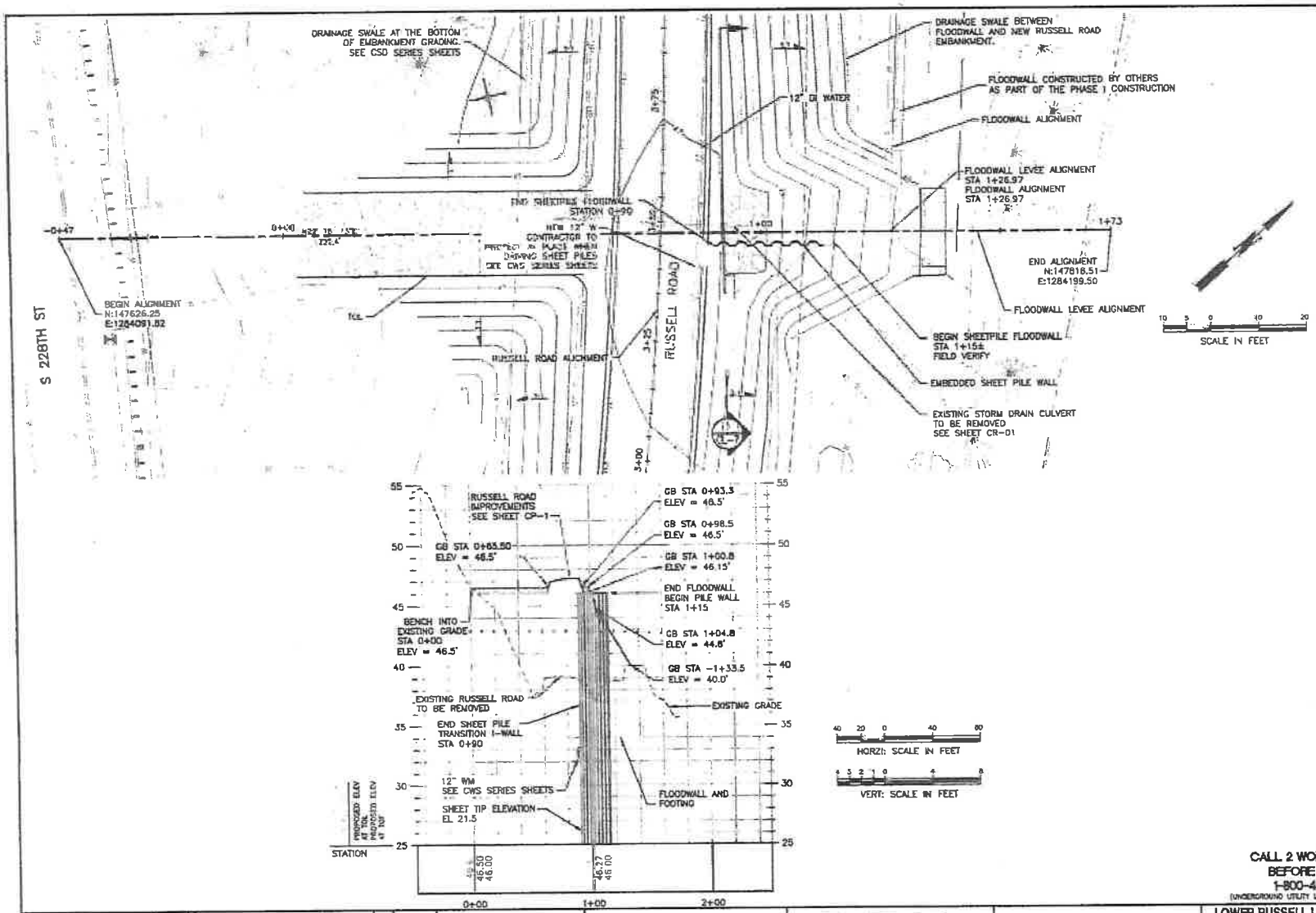
CONTRACT No. C01415C20

HDR Engineering Inc.

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
PROPOSED KENT NURSERY FENCE AND GATE PLAN
STA 0+00 TO 10+00

SHEET CL-19



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

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

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

FUNDING:

PROJECT No. 1112056

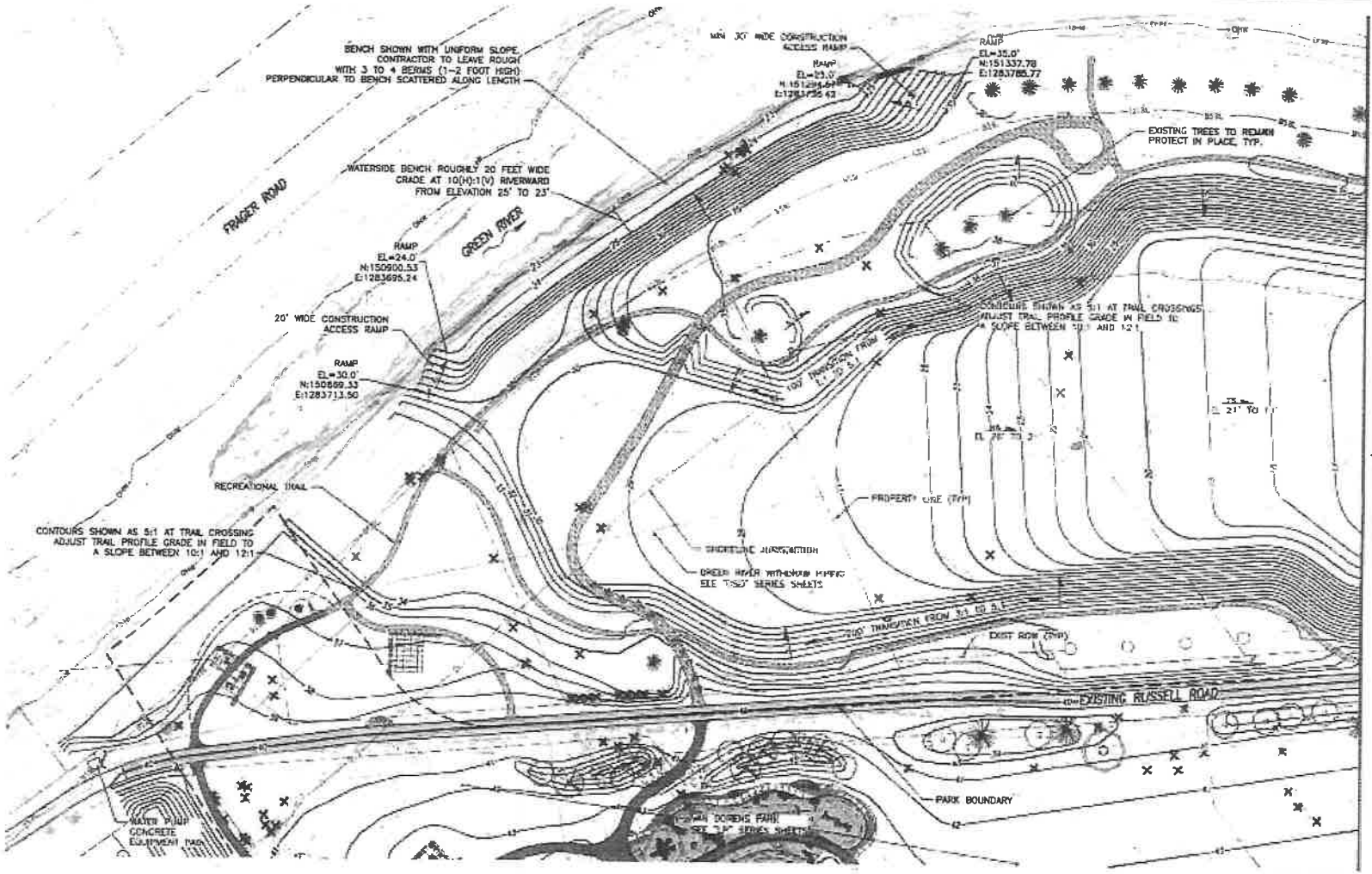
CONTRACT No. C0141SC20

HDR Engineering Inc.

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
PROPOSED FLOODWALL LEVEE
PLAN AND PROFILE
STA -0+47 TO 1+73

SHEET
CL-20



NOTES

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

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

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

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

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

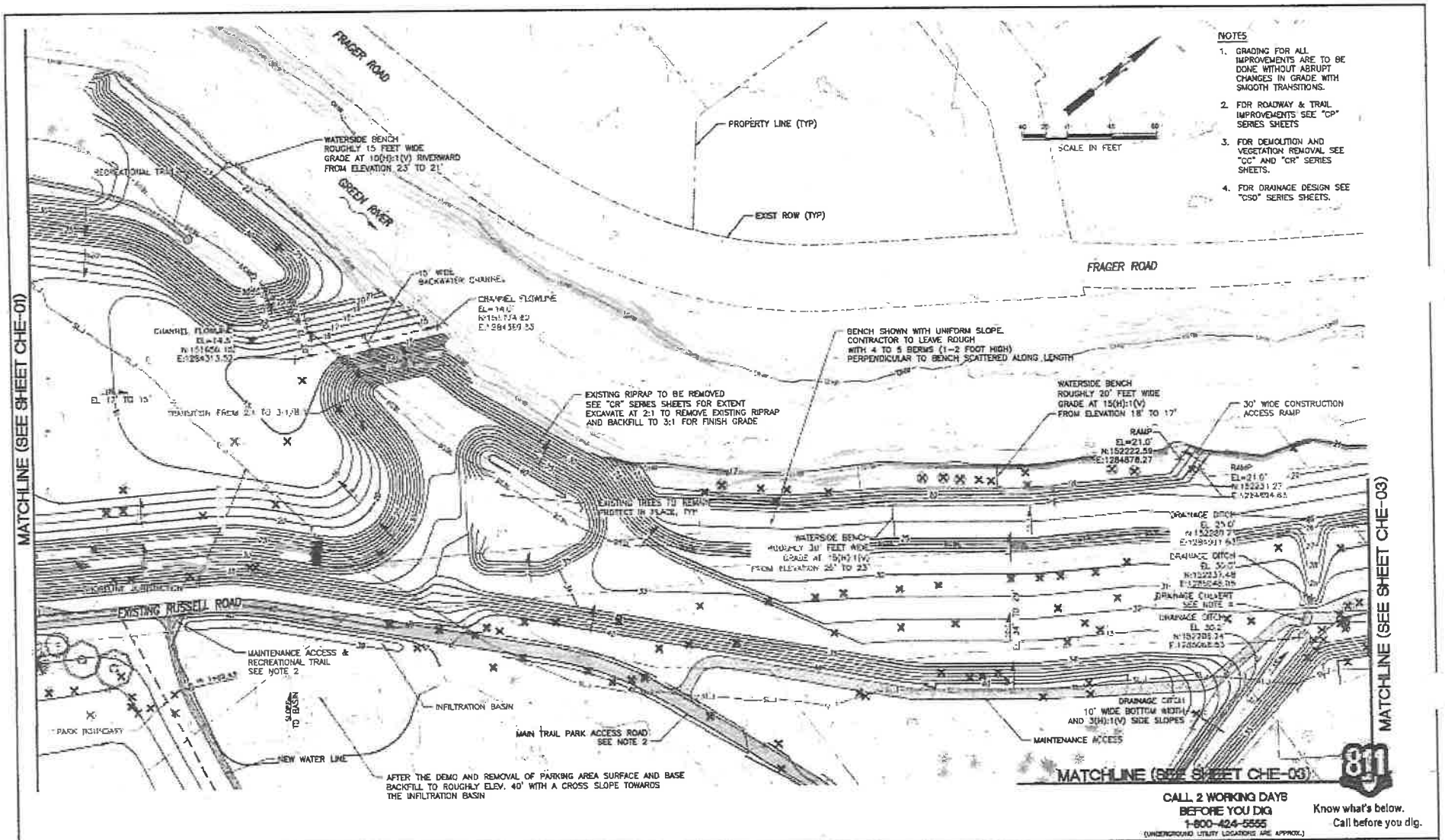
HDR Engineering Inc.

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 AREA EXCAVATION 1

SHEET
CHE-01



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 "CC" AND "CR" SERIES SHEETS.
4. FOR DRAINAGE DESIGN SEE "CSD" 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.

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

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

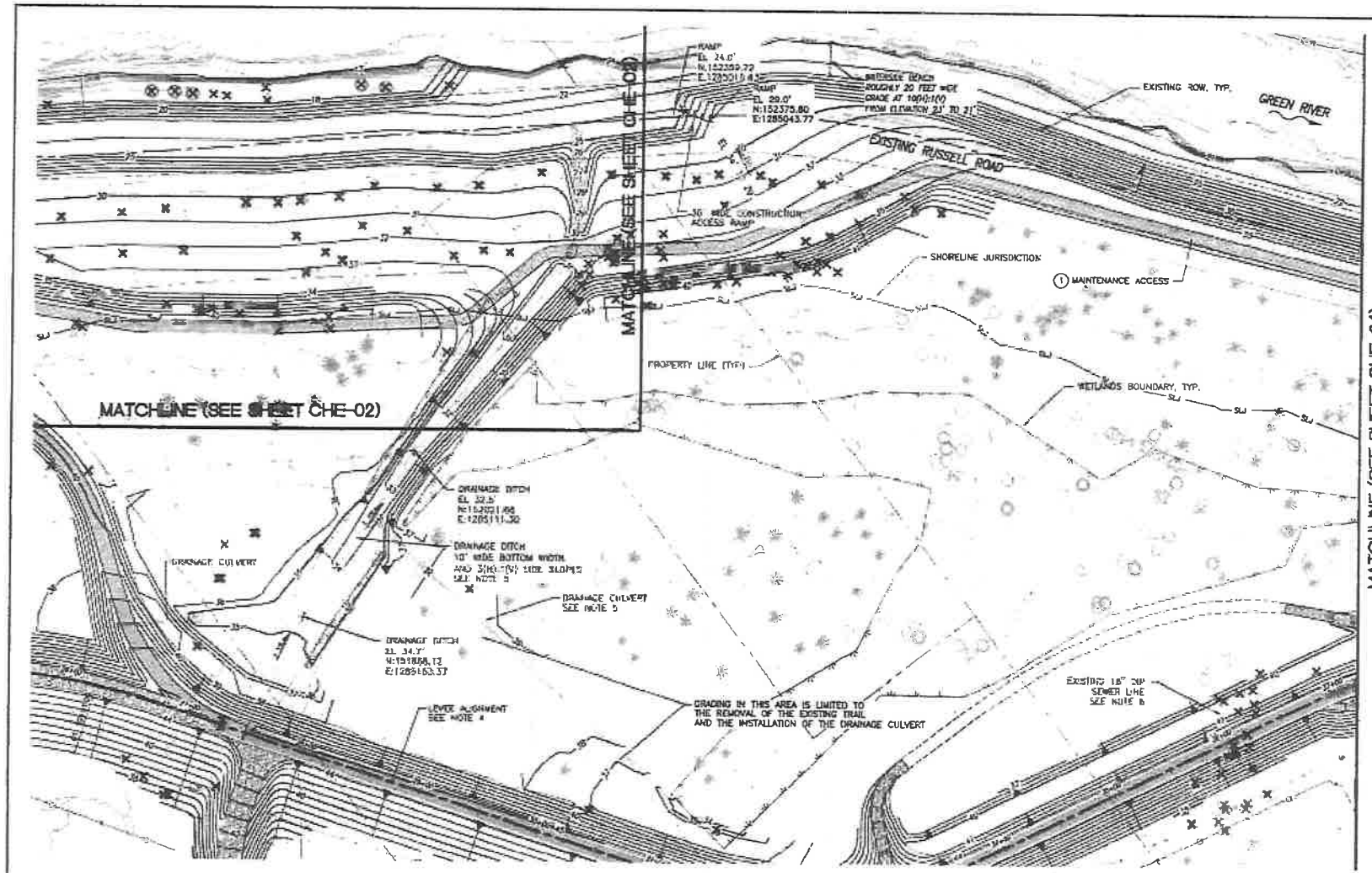
HDR Engineering Inc.

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 AREA EXCAVATION 2

SHEET
CHE-02



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 "CC" AND "CR" SERIES SHEETS.
4. FOR LEVEE GRADING SEE "CL" SERIES SHEETS.
5. FOR DRAINAGE DESIGN SEE "CSD" SERIES SHEETS.
6. THE EXACT LOCATION AND DEPTH OF THIS 18" DIP STORM DRAINAGE PIPE IS UNKNOWN. LOCATION SHOW IS APPROXIMATE. CONTRACTOR SHALL FIELD VERIFY LOCATION. SEE SHEET CSS-04 FOR ABANDONMENT DETAILS.

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

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

SURVEY JOB NO/SEQUENCE:	--	--				
CHECKED:	--	--				
CAD ENTERED:	RD	11/18				
DESIGNED:	VR	11/18	NO.	REVISION	BY	DATE
CHECKED:	KF	11/18				
SUPERVISOR:	SJ	11/18				
			NO.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

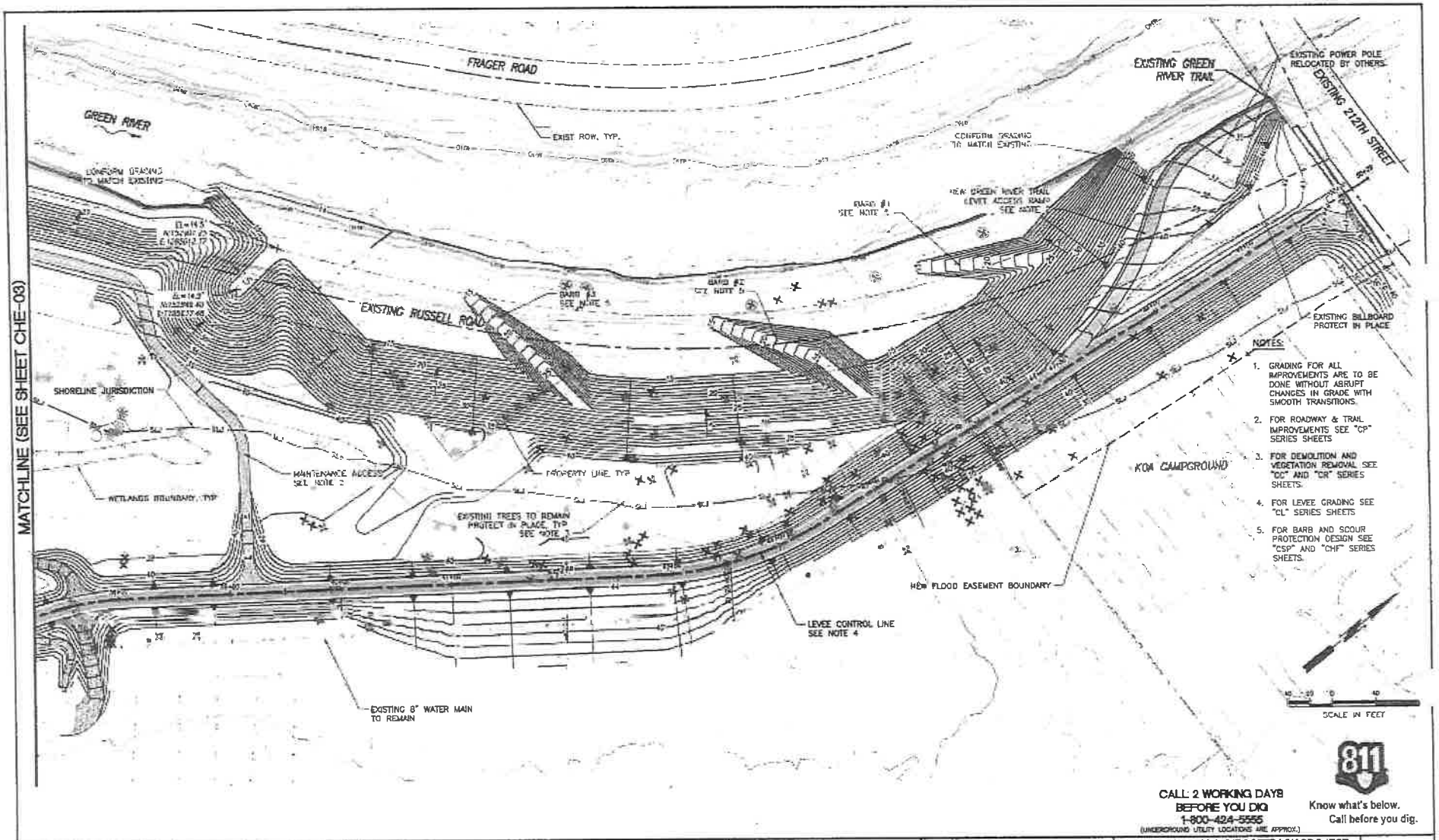
HDR Engineering Inc.

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 AREA EXCAVATION 3

SHEET
CHE-03



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 "CC" AND "CR" SERIES SHEETS.
4. FOR LEVEE GRADING SEE "CL" SERIES SHEETS
5. FOR BARB AND SCOUR PROTECTION DESIGN SEE "CSP" AND "CHF" 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.

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

NUM.	REVISION	BY	DATE
FINAL	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

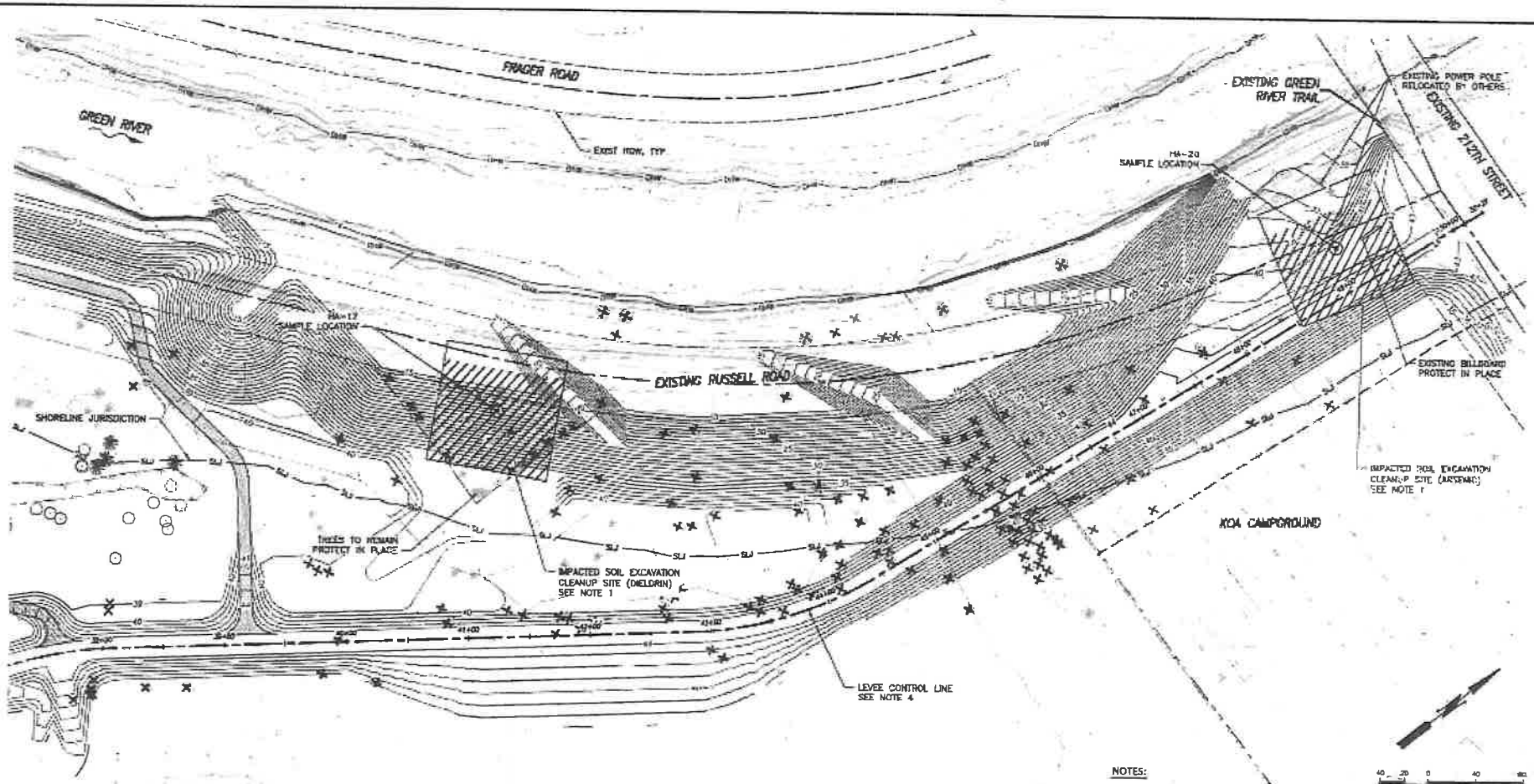
HDR Engineering Inc.

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 AREA EXCAVATION 4

SHEET
CHE-04



NOTES:

1. PRIOR TO EXCAVATION OF THE HABITAT AREAS EXCAVATE THE IMPACTED SOIL EXCAVATION SITES TO A DEPTH OF 1 FOOT AND DISPOSE OF MATERIAL OFFSITE AT A QUALIFIED DISPOSAL FACILITY.

SCALE IN FEET

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

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

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

FUNDING:

PROJECT No. 1112056

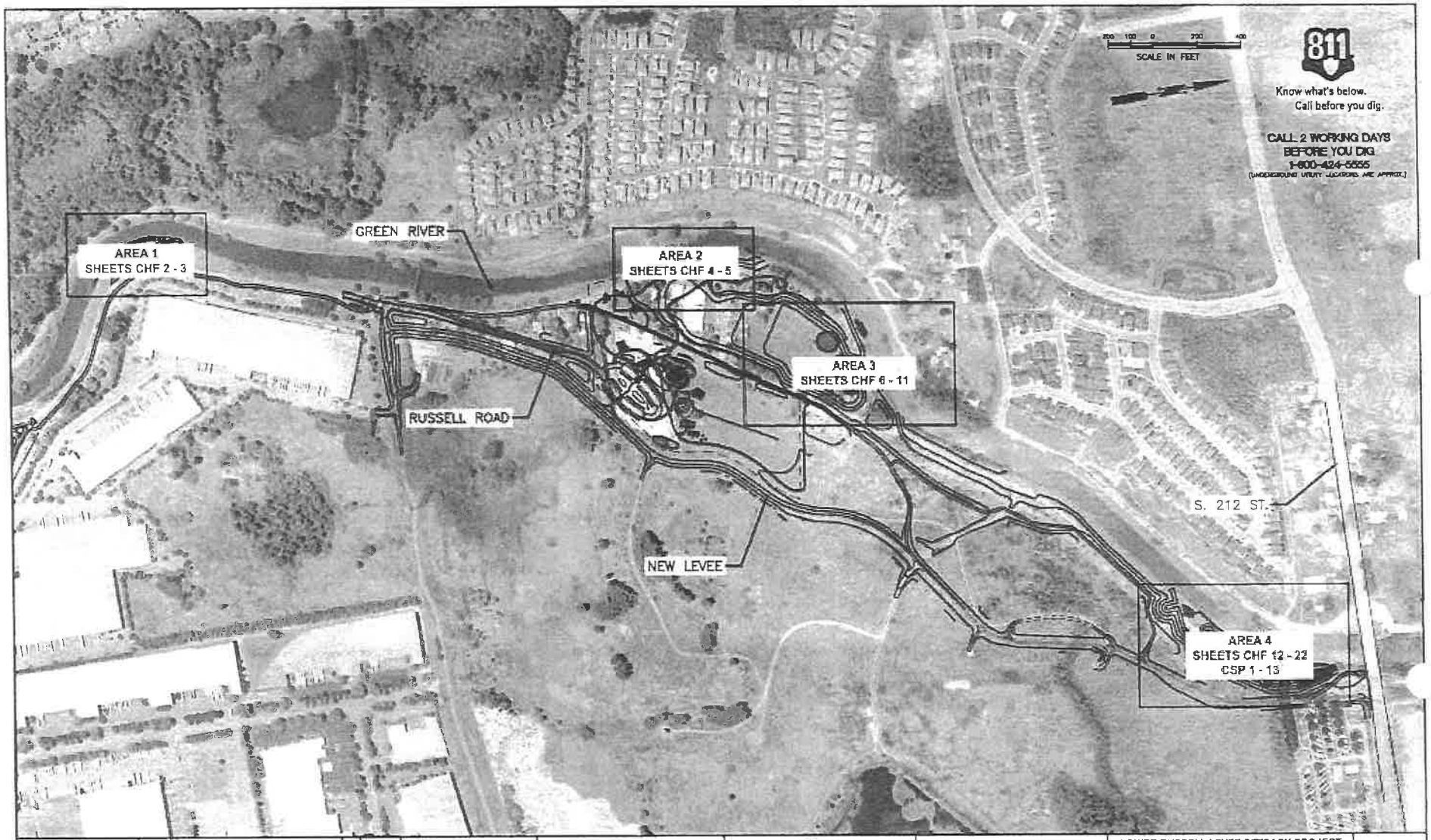
CONTRACT No. C01415C20

HDR Engineering, Inc.

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
CONTAMINATED SOIL REMOVAL SITES

SHEET
CHE-05



SURVEY JOB NO/SEQUENCE:					
CHECKED:					
CAD ENTERED:	DDH	10/19			
DESIGNED:	VDC	10/19	NUM.	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDER(s): _____

PROJECT No: 1112056

CONTRACT No: C01415C20

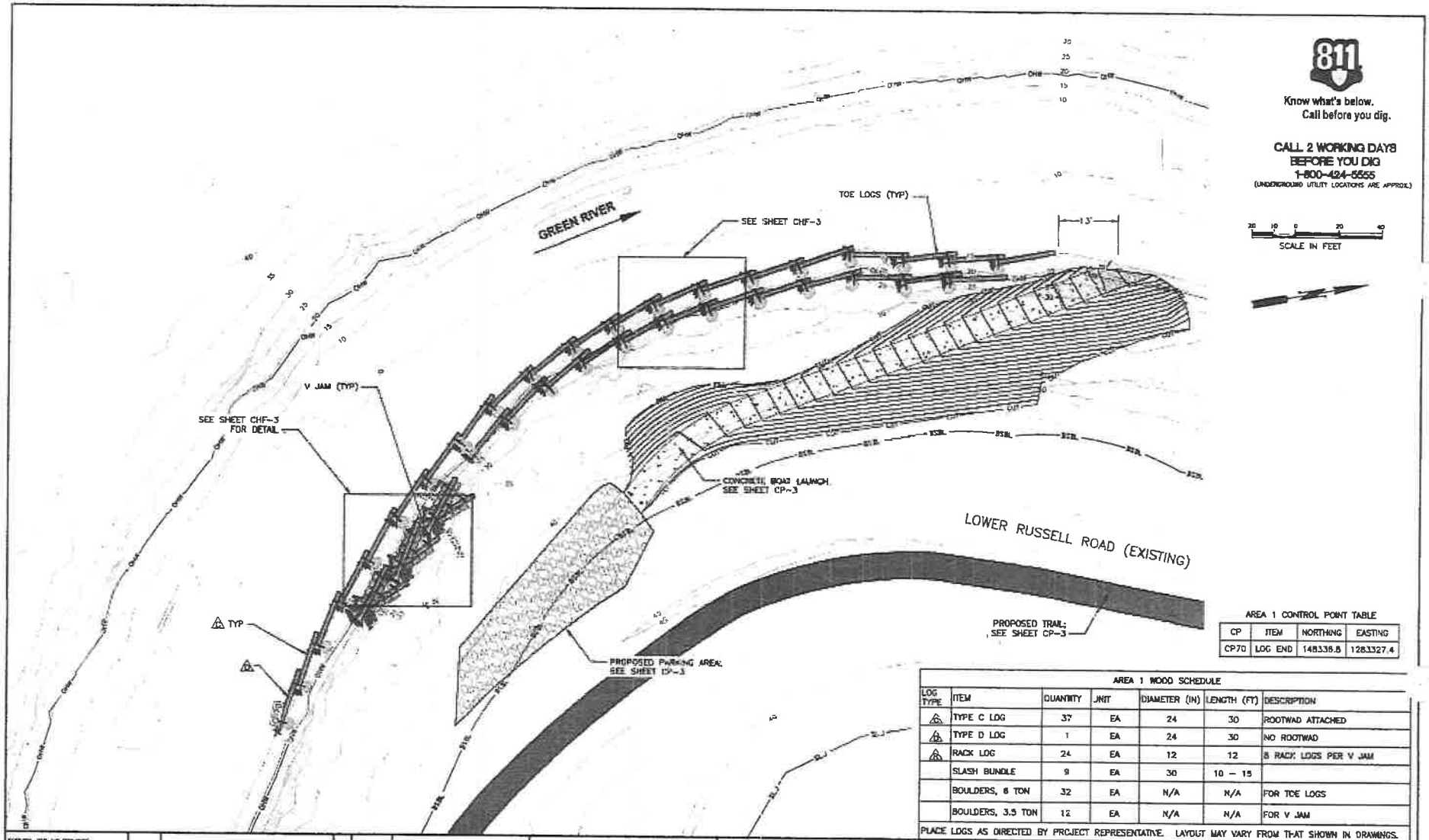
nhc
northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD & SCOUR PROTECTION
SITE PLAN & KEY MAP

SHEET
CHF-01



AREA 1 CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP70	LOG END	148336.8	1283327.4

AREA 1 WOOD SCHEDULE

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	37	EA	24	30	ROOTWAD ATTACHED
B	TYPE D LOG	1	EA	24	30	NO ROOTWAD
B	RACK LOG	24	EA	12	12	8 RACK LOGS PER V JAM
	SLASH BUNDLE	9	EA	30	10 – 15	
	BOULDERS, 6 TON	32	EA	N/A	N/A	FOR TOE LOGS
	BOULDERS, 3.5 TON	12	EA	N/A	N/A	FOR V JAM

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

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENGINEER:	DOH	10/19
DESIGNED:	VOC	10/19
CHECKED:	CTL	10/19
SUPERVISOR:	VOC	10/19

NUM	REVISION	BY	DATE

NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

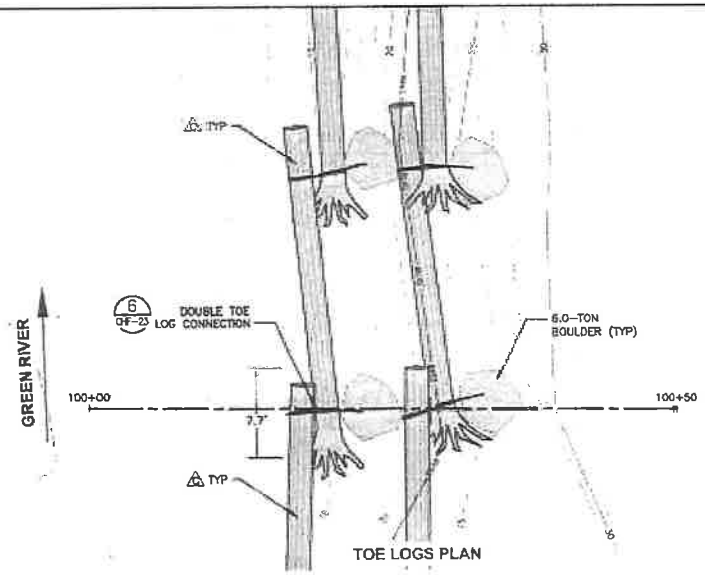
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 1
PLAN

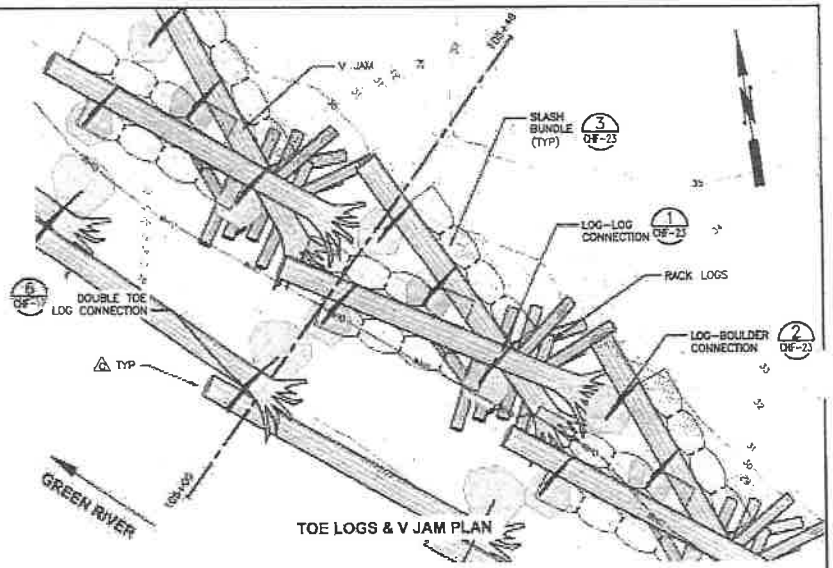
SHEET
CHF-02



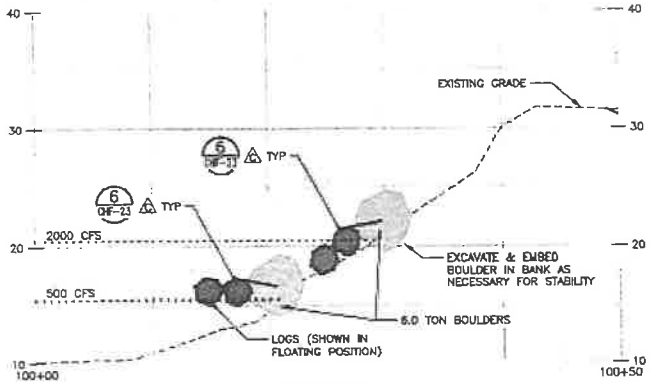
TOE LOGS PLAN

Know what's below.
Call before you dig.

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



TOE LOGS & V JAM PLAN

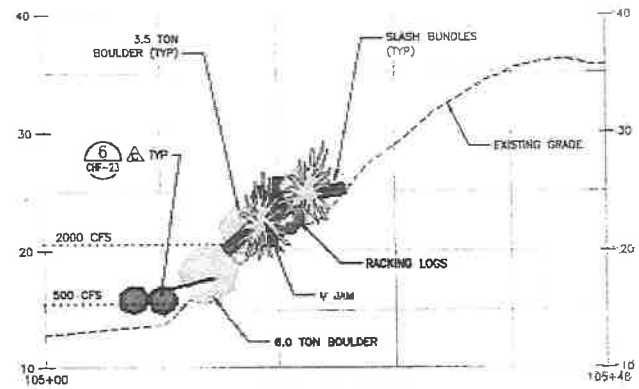


TOE LOGS
CONCEPTUAL ELEVATION VIEW AT A-A

NOTES:
1. RIVER WSEL AT 500 CFS (TYPICAL SUMMER FLOW) AND 2000 CFS SHOWN FOR REFERENCE.

TOE LOG SEQUENCE NOTES:
1. PLACE 6.0 TON BOULDER AT TOE OF SLOPE.
2. CONNECT TYPE C TOE LOGS TO EACH OTHER AND THE BOULDER WITH CHAIN.

V JAM SEQUENCE NOTES:
1. PLACE RACK LOGS ON SLOPE.
2. PLACE TYPE C LOGS IN "V" POSITION AS SHOWN AND SUCH THAT LOGS PIN RACK LOGS TO SLOPE & TOE LOG BOULDER SUPPORTS V JAM.
3. PLACE 3.5 TON BOULDERS AND SECURE TO V JAM LOGS. BOULDERS MAY BE PARTIALLY BURIED FOR STABILITY ON THE SLOPE.
4. ENSURE ALL PARTS OF V JAM ARE LANDWARD OF TOE LOGS & WILL NOT IMPEDE FREE FLOTATION OF TOE LOGS.
5. SECURE SLASH BUNDLES TO LOGS AS DIRECTED BY PROJECT REPRESENTATIVE.



TOE LOGS & V JAM
CONCEPTUAL ELEVATION VIEW AT A-A

5 2.5 0 5 10
SCALE IN FEET

SURVEY JOB NO/SQUEEZE:					
CHECKED:					
CAD ENTERED:	DGH	10/18			
DESIGNED:	VDC	10/18	NO.	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			NO.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

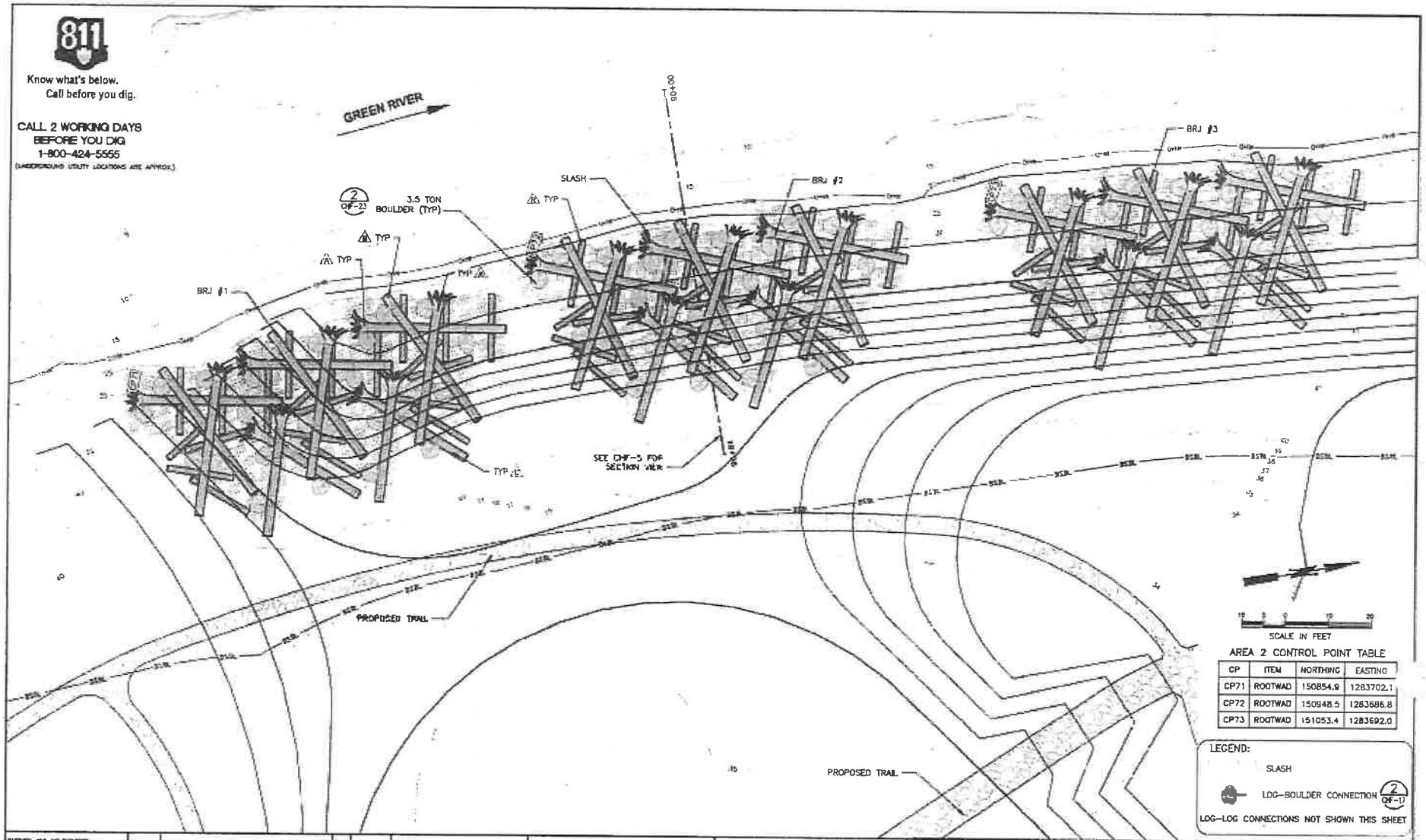
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 1
SECTION

SHEET
CHF-03



AREA 2 CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP71	ROOTWAD	150854.9	1283702.1
CP72	ROOTWAD	150948.5	1283686.8
CP73	ROOTWAD	151053.4	1283692.0

LEGEND:

SLASH

LOG–BOULDER CONNECTION (2 / CHF-1)

LOG–LOG CONNECTIONS NOT SHOWN THIS SHEET

SURVEY JOB NO/SCALE:					
CHECKED:					
CAD ENTERED:	DBM	12/19			
DESIGNED:	VDC	12/19	NUM	REVISION	BY	DATE
CHECKED:	CTL	12/19				
SUPERVISOR:	VDC	12/19				
			NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING

PROJECT No. 1112056

CONTRACT No. C01415C20

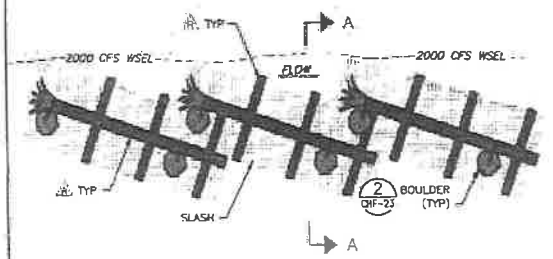
nhc northwest hydraulic consultants

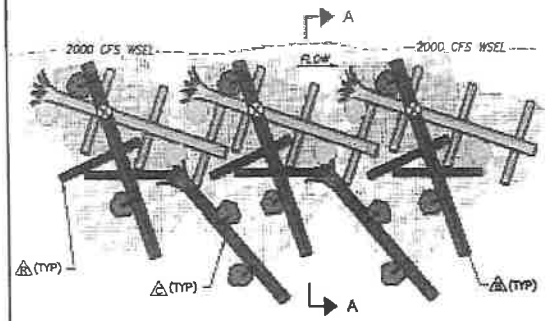
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

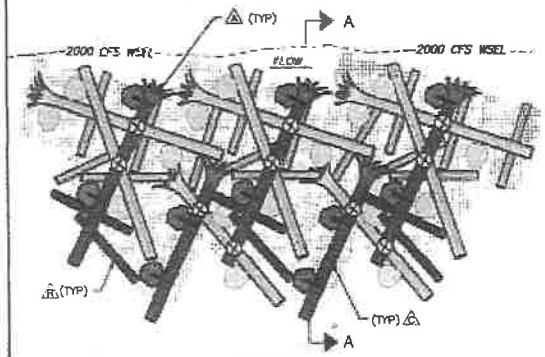
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 2
PLAN

SHEET
CHF-04



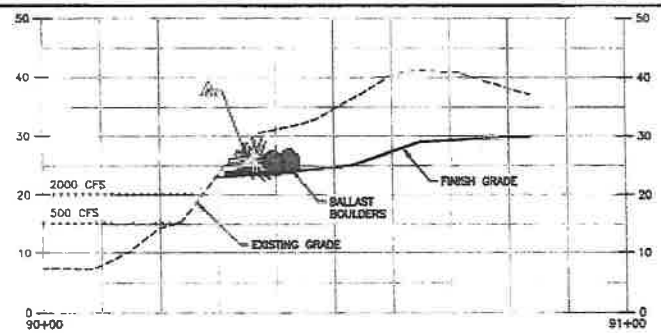




10 5 0 10 20

SCALE IN FEET

PLAN VIEW

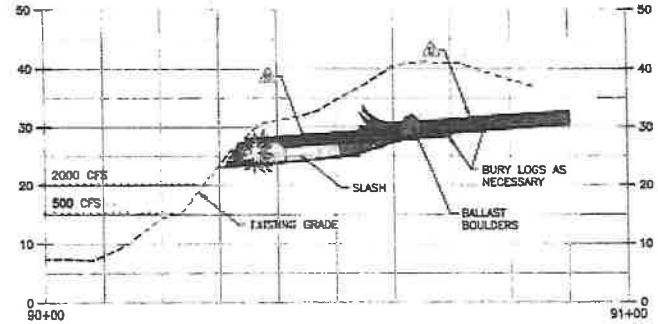


STEP 1

SEQUENCE NOTES:
1. PLACE 150 CY OF SLASH AS DIRECTED BY THE PROJECT REPRESENTATIVE.
2. PLACE 9 RACK LOGS ON SLASH.
3. PLACE AND SECURE 3 TYPE A LOGS.
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (1 CHF-23) (2 CHF-23)

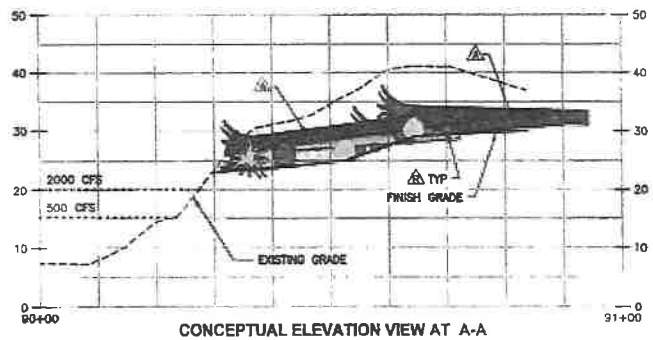
AREA 2 WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE A LOG	18	EA	24	35	ROOTWAD ATTACHED
B	TYPE B LOG	9	EA	24	35	NO ROOTWAD
C	TYPE C LOG	12	EA	24	30	ROOTWAD ATTACHED
R	RACKING LOGS	63	EA	12	12-20	
	SLASH	1,080	CY	REFER TO SPECIFICATIONS		
	BOULDERS	78	EA	N/A	N/A	3.5-TON BOULDERS

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



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 UNDERLYING TYPE A LOGS, AND CONNECT BOULDERS TO TYPE B LOGS. (1 CHF-23) (2 CHF-23)
4. PLACE 2 TYPE C LOGS AND CONNECT TO BOULDERS. (2 CHF-23)



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 3

SEQUENCE NOTES:
1. PLACE 60 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 6 RACK LOGS ON SLASH.
3. PLACE 3 TYPE A LOGS.
4. CONNECT 3 TYPE A LOGS TO ADJACENT LOGS. (1 CHF-23) (2 CHF-23)
5. CONNECT BOULDERS TO 3 TYPE A LOGS.
6. PLACE 2 TYPE C LOGS, CONNECT TO BOTTOM TYPE C LOGS, AND SECURE TO BOULDERS. (1 CHF-23) (2 CHF-23)

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.)

LEGEND:
- SLASH
- LOG-LOG CONNECTION (1 CHF-17)
- LOG-BOULDER CONNECTION (2 CHF-17)
- 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.

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENTERED:	DDH	10/19
DESIGNED:	VDC	10/19
CHECKED:	CTL	10/19
SUPERVISOR:	VDC	10/19

REV.	REVISION	BY	DATE

REV.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

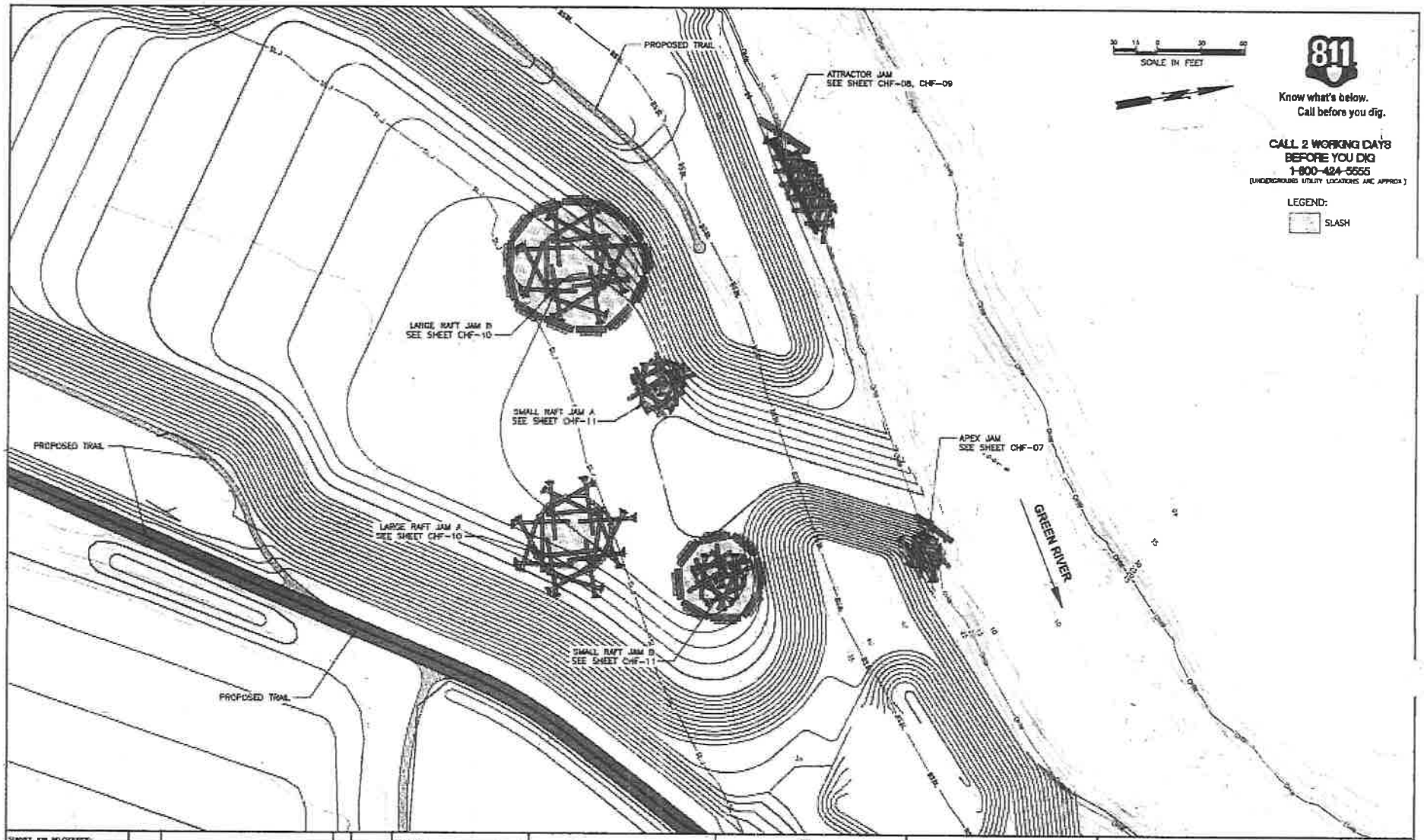
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 2
BANK ROUGHENING JAM LAYERING PLAN

SHEET
CHF-05



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CHECKED:					
CAD ENTERED: DGH	10/1/19				
DESIGNED: VDC	10/1/19	NUM.	REVISION	BY	DATE
CHECKED: CTL	10/1/19				
SUPERVISOR: VDC	10/1/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

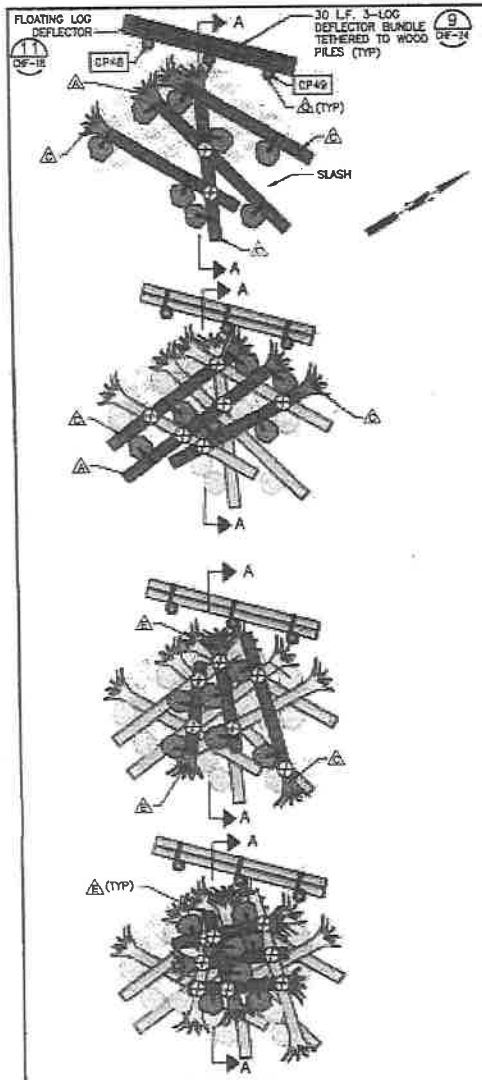
nhc northwest hydraulic consultants

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

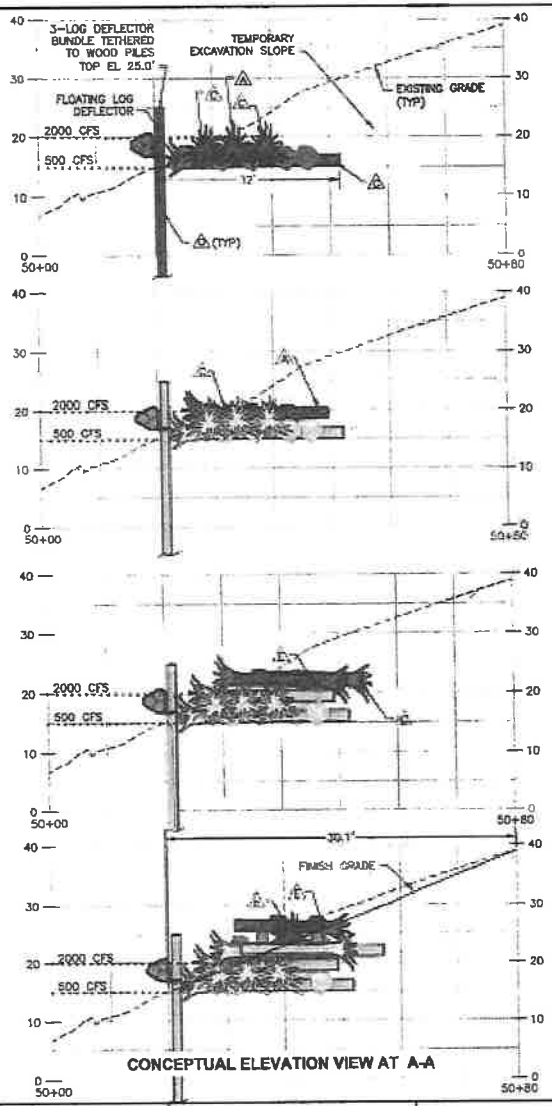
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 3
PLAN

SHEET
CHF-06



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 1

NOTES:
1. EXCAVATE WORK SITE TO EL 15.0' SUFFICIENT TO SEAT LOGS AND DAYLIGHT TEMPORARY CUT SLOPE UP TO EXISTING.
2. INSTALL 3 TYPE Q WOOD PILES.
3. ATTACH FLOATING LOG DEFLECTOR, CONSISTING OF 3 TYPE D LOGS, TO WOOD PILES. (11 CHF-24)
4. PLACE 20 CY OF SLASH LAYER OVER JAM FOOTPRINT AS SHOWN OR AS DIRECTED BY PROJECT REPRESENTATIVE
5. PLACE 1 TYPE C LOG.
6. PLACE 2 TYPE C LOGS AND 1 TYPE A LOG.
7. MAKE 3 LOG-LOG CONNECTIONS AS SHOWN. (1 CHF-23)
8. CONNECT 2 BOULDERS TO EACH LOG. (2 CHF-23)

STEP 2

NOTES:
1. PLACE 10 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 2 TYPE C LOGS & 1 TYPE A LOG.
3. MAKE 6 LOG-LOG CONNECTIONS. (1 CHF-23)
4. CONNECT 2 BOULDERS TO EACH LOG. (2 CHF-23)

STEP 3

NOTES:
1. BACKFILL OVER STEPS 1 & 2 LOGS AND BUCKET COMPACT.
2. ADD 10 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
3. PLACE 1 TYPE C LOG AND 2 TYPE E LOGS.
4. MAKE 6 LOG-LOG CONNECTIONS.
5. CONNECT 2 BOULDERS TO EACH LOG. (1 CHF-23) (2 CHF-23)

STEP 4

NOTES:
1. ADD 10 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 4 TYPE E LOGS.
3. TOP WITH 1 TYPE E LOG.
4. MAKE 8 LOG-LOG CONNECTIONS.
5. CONNECT 2 BOULDERS TO EACH LOG.
6. PLACE BACKFILL TO DESIGN GRADE.

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.

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.)

LEGEND:
- SLASH
- LOG-LOG CONNECTION (1 CHF-17)
- LOG-BOULDER CONNECTION (2 CHF-17)

10 5 0 10 20
SCALE IN FEET

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
A	TYPE A LOG	2	EA	24	35	ROOTWAD ATTACHED
C	TYPE C LOG	6	EA	24	30	ROOTWAD ATTACHED
D	TYPE D LOG	3	EA	24	30	NO ROOTWAD
E	TYPE E LOG	6	EA	24	20	ROOTWAD ATTACHED
	SLASH	50	CY	REFER TO SPECIFICATIONS		
Q	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.

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	DDH	10/19		
DESIGNED:	VDC	10/19	NUM. REVISION	BY DATE
CHECKED:	CTL	10/19		
SUPERVISOR:	VDC	10/19		
			NUM. RECORD CHANGES APPROVED	BY DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

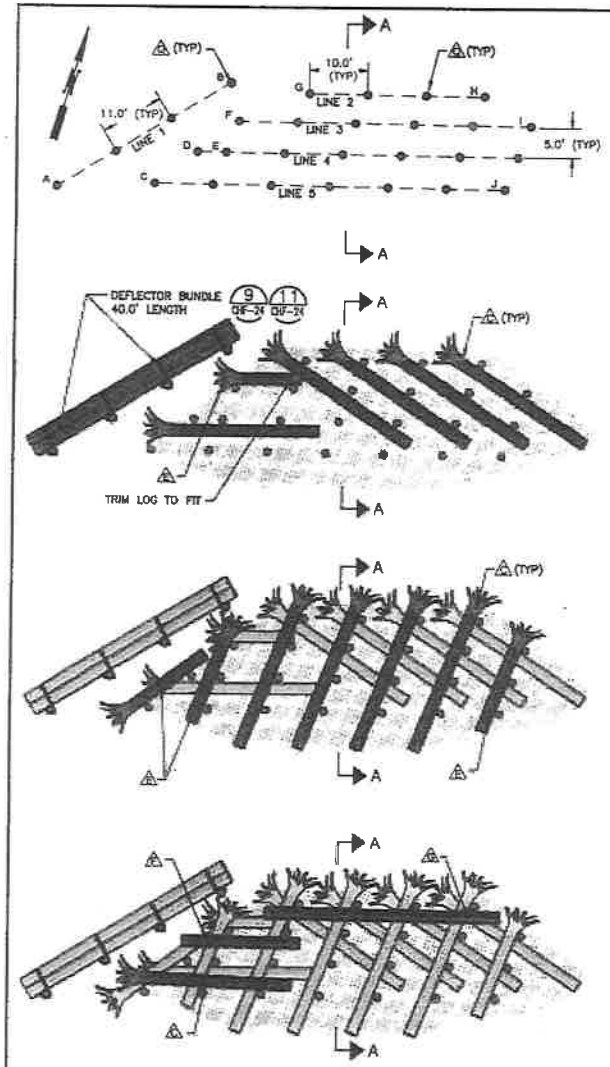
nhc northwest hydraulic consultants

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

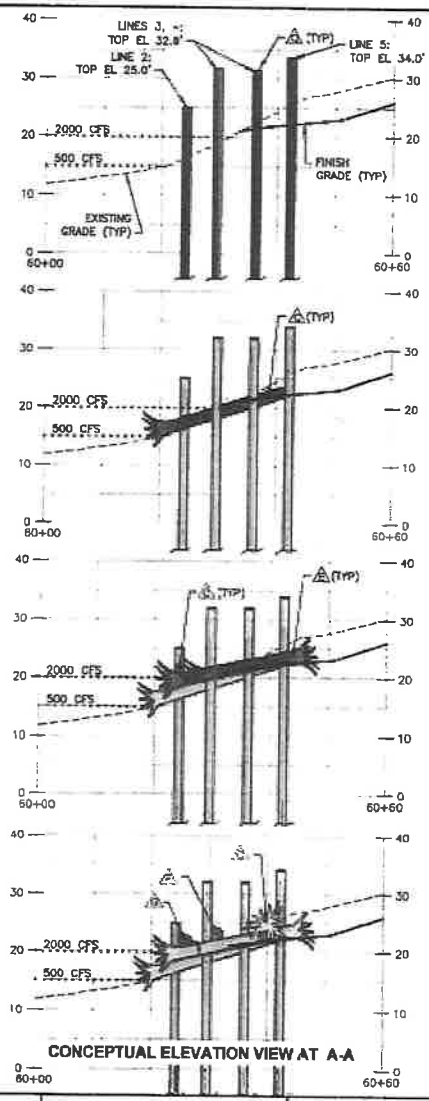
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 3
APEX JAM LAYERING PLAN

SHEET
CHF-07



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 1

NOTE:
1. INSTALL 28 TYPE Q WOOD PILES, 35.0' DRIVE DEPTH.
2. PILE LINES ARE AT 5' SPACING.
3. PILES WITHIN EACH ROW ARE AT 10' SPACING, EXCEPT PILE LINES 1 AND PILES D & E.
4. PILE LINE 1 TOP ELEVATION OF 25.0'.

STEP 2

NOTES:
1. ADJUST FINISH GRADE BETWEEN PILES AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 150 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
3. PLACE 5 TYPE C LOGS AND 1 TYPE E LOG.
4. CONNECT LOGS TO TYPE Q WOOD PILES (16). 7 CHF-24
5. INSTALL 3-LOG (TYPE G) DEFLECTOR BUNDLE. 9 CHF-24 11 CHF-24

STEP 3

NOTES:
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY). 7 CHF-24
2. PLACE 4 TYPE C LOGS & 3 TYPE E LOGS.
3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (24).

STEP 4

NOTES:
1. ADD 40 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 1 TYPE C LOG, 1 TYPE F LOG, & 1 TYPE G LOG.
3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (9). 7 CHF-24

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.

AREA 3 WOOD SCHEDULE

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	16	EA	24	30	ROOTWAD ATTACHED
B	TYPE E LOG	8	EA	24	20	ROOTWAD ATTACHED
F	TYPE F LOG	3	EA	24	20	NO ROOTWAD
G	TYPE G LOG	7	EA	24	40	NO ROOTWAD
	SLASH	550	CY	REFER TO SPECIFICATIONS		
Q	TYPE Q (PILE)	28	EA	18	50	35' (MIN) DRIVE DEPTH

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

ATTRACTOR JAM CONTROL POINT TABLE

	CP	ITEM	NORTHING	EASTING
A	CP78	PILE	151703.4	1284093.7
B	CP79	PILE	151729.2	1284116.9
C	CP80	PILE	151708.9	1284109.6
D	CP81	PILE	151716.2	1284115.0
E	CP82	PILE	151717.6	1284119.9
F	CP83	PILE	151723.4	1284120.9
G	CP84	PILE	151732.5	1284130.4
H	CP85	PILE	151740.9	1284139.2
I	CP86	PILE	151737.5	1284166.9
J	CP87	PILE	151725.8	1284167.1

LEGEND:
SLASH

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Know what's below.
Call before you dig.

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

SCALE IN FEET

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: DDN	10/19				
DESIGNED: VDC	10/19	NUM.	REVISION	BY	DATE
CHECKED: CTL	10/19				
SUPERVISOR: VDC	10/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

PLANNED:
PROJECT No. 1112056
CONTRACT No. C01415C20

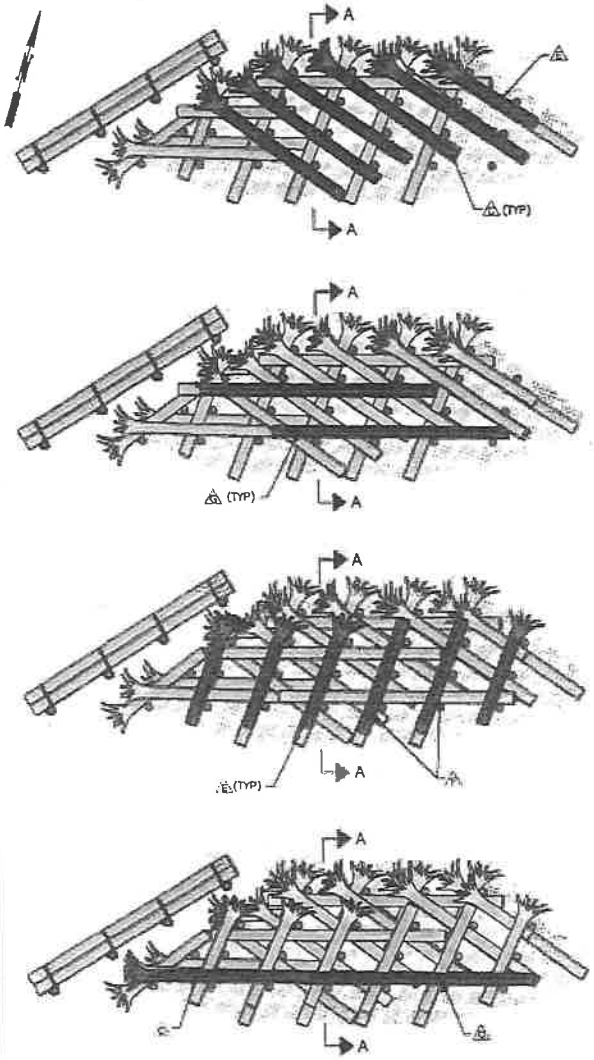
nhc northwest hydraulic consultants

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

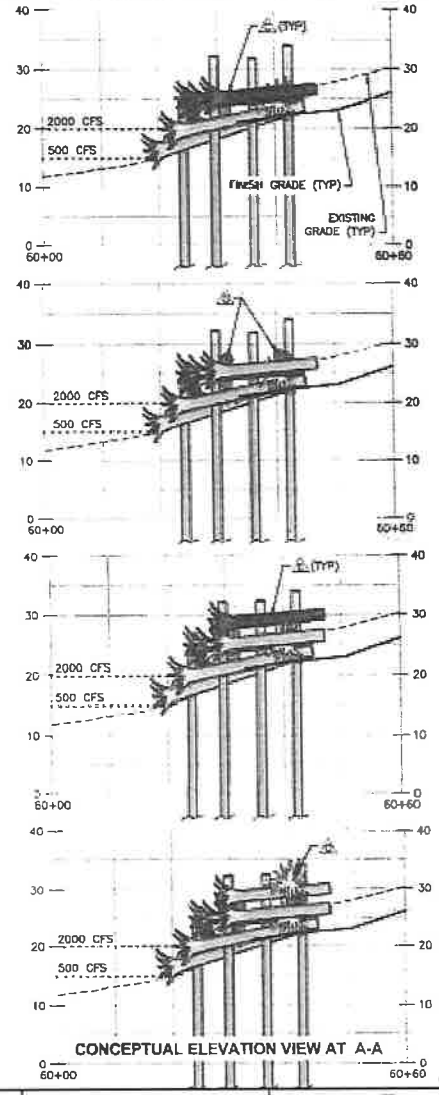
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 3 - ATTRACTOR JAM LAYERING PLAN A

SHEET
CHF-08



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 5

NOTES:
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 5 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 2 TYPE G 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 LOGS.
3. CONNECT LOGS TO ADJACENT TYPE Q WOOD PILES (7).

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.

811
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1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

10 5 0 10 20
SCALE IN FEET

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	DGH	10/19		
DESIGNED:	VDC	10/19		
CHECKED:	CTL	10/19		
SUPERVISOR:	VDC	10/19		

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

RUNDATE:
PROJECT No. 1112056
CONTRACT No. C9941SC20

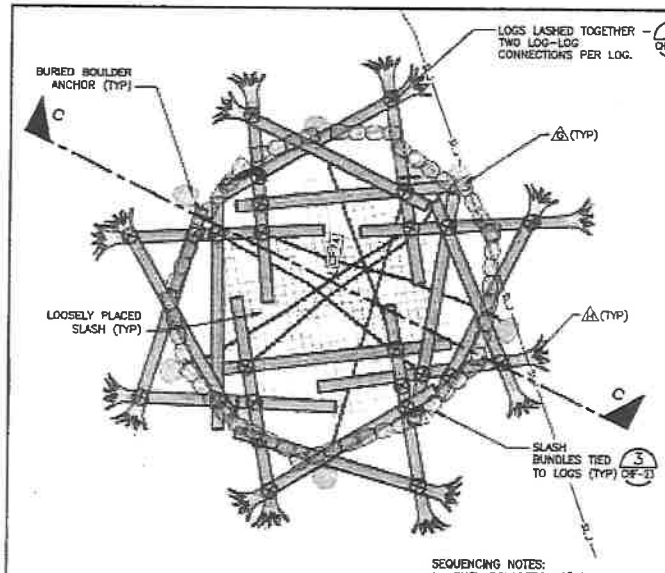
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 3 - ATTRACTOR JAM LAYERING PLAN B

SHEET
CHF-09



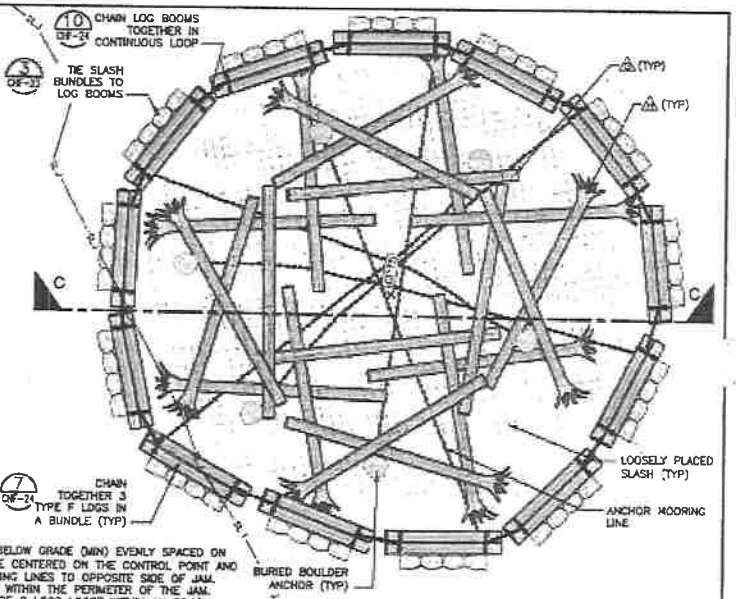
LARGE RAFT JAM A PLAN

LARGE RAFT JAM A WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
	TYPE G LOG	4	EA	24	40	NO ROOTWAD
	TYPE H LOG	16	EA	24	40	ROOTWAD ATTACHED
	SLASH BUNDLE	14	EA	30	10-15	UNCOMPACTED DIAMETER; 1.4 C.Y. EACH
	SLASH	400	CY	REFER TO SPECIFICATIONS		
	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
	TYPE F LOG	39	EA	24	20	NO ROOTWAD
	TYPE G LOG	4	EA	24	40	NO ROOTWAD
	TYPE H LOG	16	EA	24	40	ROOTWAD ATTACHED
	SLASH BUNDLE	13	EA	30	12	UNCOMPACTED DIAMETER; 1.4 C.Y. EACH
	SLASH	800	CY	REFER TO SPECIFICATIONS		
	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 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 MIDDLE OF THE JAM.
3. PLACE LOGS ON THE FINISH GRADE AS SHOWN.
4. CONNECT OVERLAPPING LOGS WITH CHAIN & SECURE, TWO LOG-LOG CONNECTIONS PER LOG (MIN).
5. CONNECT BURIED BOULDER ANCHOR MOORING LINES TO A LOG-LOG CONNECTION ON OPPOSITE SIDE OF JAM.
6. TIE SLASH BUNDLES TO TYPE G & H LOGS AROUND THE PERIMETER. (3 CHF-23)

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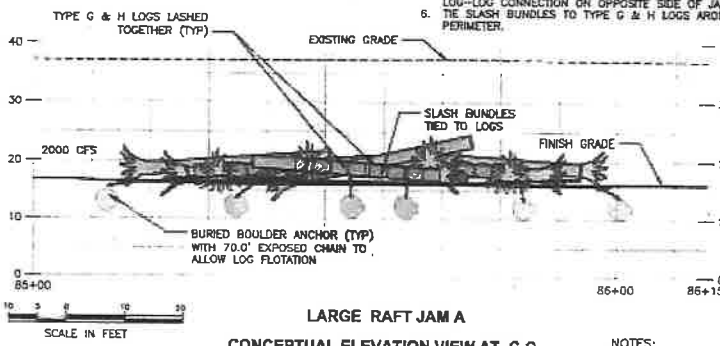
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

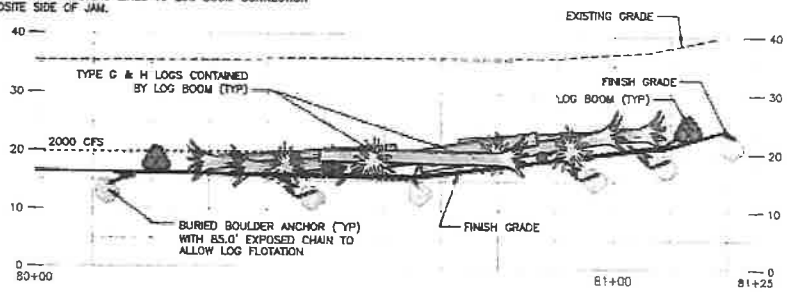
SEQUENCING NOTES:
1. BURY BOULDERS 12" BELOW GRADE (MIN) EVENLY SPACED ON A 60' DIAMETER CIRCLE CENTERED ON THE CONTROL POINT AND EXTEND ANCHOR MOORING LINES TO OPPOSITE SIDE OF JAM.
2. PLACE SLASH LOOSELY WITHIN THE PERIMETER OF THE JAM.
3. PLACE TYPE H AND TYPE G LOGS LOOSE WITHIN AN 80.0' DIAMETER PERIMETER AS SHOWN.
4. CONSTRUCT 13 LOG BOOMS BY BUNDLING 3 TYPE F LOGS WITH CHAIN.
5. CHAIN LOG BOOMS TOGETHER SURROUNDING LOOSELY PLACED INTERIOR LOGS.
6. TIE SLASH BUNDLES TO LOG BOOMS.
7. CONNECT ANCHOR MOORING LINES TO LOG BOOM CONNECTION AT OPPOSITE SIDE OF JAM.



LARGE RAFT JAM A
CONCEPTUAL ELEVATION VIEW AT C-C

LARGE RAFT JAM CONTROL POINT TABLE:			
CP74	CENTER A	151530.7	1284344.7
CP75	CENTER B	151564.7	1284167.5

LEGEND:
- LOOSE SLASH
- LOG-LOG CONNECTION (1 CHF-23)
- SLASH BUNDLE (3 CHF-23)



LARGE RAFT JAM B
CONCEPTUAL ELEVATION VIEW AT C-C

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.
2. 3-LOG BUNDLE BOOM IS ONLY INSTALLED ON LARGE RAFT JAM B & SMALL RAFT JAM B.

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENTERED:	DOH	10/19
DESIGNED:	VDC	10/19
CHECKED:	CTL	10/19
SUPERVISOR:	VDC	10/19

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

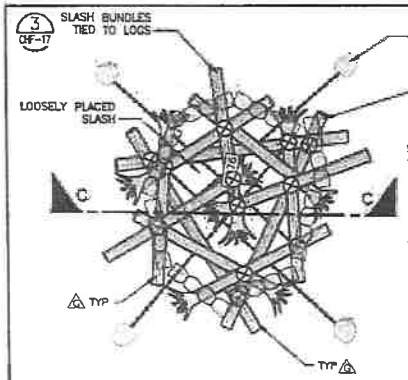
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 3
LARGE RAFT JAM

SHEET
CHF-10



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. PLACE 3 TYPE G LOGS ON THE FINISH GRADE, THEN TOP WITH 9 TYPE C LOGS.
4. CONNECT OVERLAPPING LOGS WITH CHAIN & SECURE. A MINIMUM OF TWO LOG–LOG CONNECTIONS PER LOG.
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 A PLAN

SMALL RAFT JAM A WOOD SCHEDULE

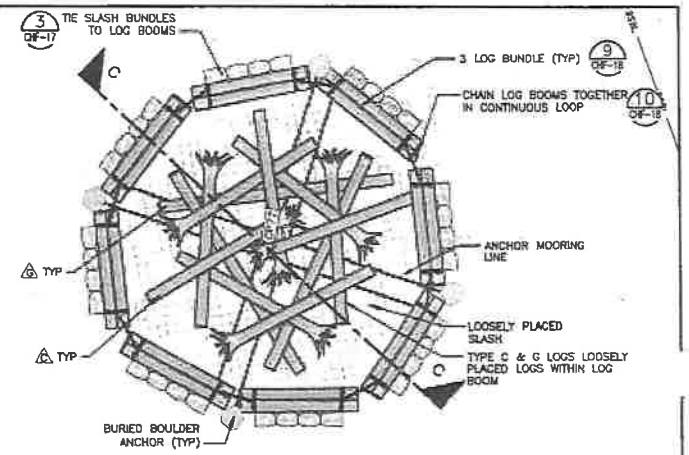
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	9	EA	24	30	ROOTWAD ATTACHED
A	TYPE G LOG	3	EA	24	40	NO ROOTWAD
	SLASH BUNDLE	8	EA	30	10 – 15	UNCOMPACTED DIAMETER; 1.4 C.Y. EACH
	SLASH	60	CY	REFER TO SPECIFICATIONS		
	3.5 TON BOULDER	4	EA	N/A	N/A	

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
A	TYPE C LOG	9	EA	24	30	ROOTWAD ATTACHED
A	TYPE F LOG	24	EA	24	20	NO ROOTWAD
A	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	CY	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.

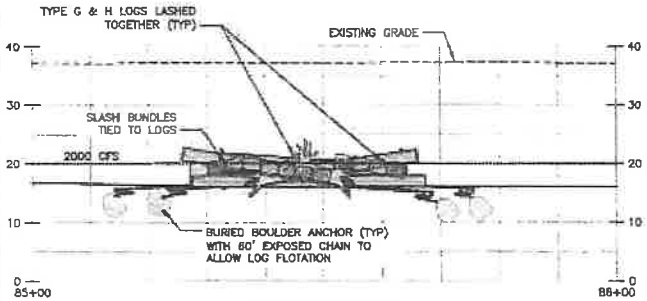


SMALL RAFT JAM B PLAN

SEQUENCING NOTES:
1. 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. LOOSELY PLACE 3 TYPE G LOGS 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 INTERIOR LOGS.
6. TIE SLASH BUNDLES TO LOG BOOMS.
7. CONNECT ANCHOR MOORING LINES TO LOG BOOM CONNECTION ON OPPOSITE SIDE OF JAM.

SMALL RAFT JAM CONTROL POINT TABLE:

CP	ITEM	NORTHING	EASTING
CP76	CENTER A	151606.6	1284255.6
CP77	CENTER B	151624.8	1284392.6



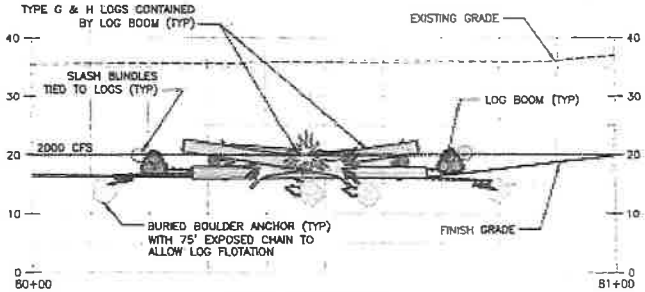
SMALL RAFT JAM A

CONCEPTUAL ELEVATION VIEW AT C-C

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.)

LEGEND:
LOOSE SLASH
LOG–LOG CONNECTION 1 CHF-17
SLASH BUNDLE 3 CHF-17



SMALL RAFT JAM B

CONCEPTUAL ELEVATION VIEW AT C-C

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.

10 5 0 10 20
SCALE IN FEET

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	DOH	10/19			
DESIGNED:	VDC	10/19	MUN.	REVISION	BY	DATE
CHECKED:	CTL	10/19			
SUPERVISOR:	VDC	10/19			
			MUN.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

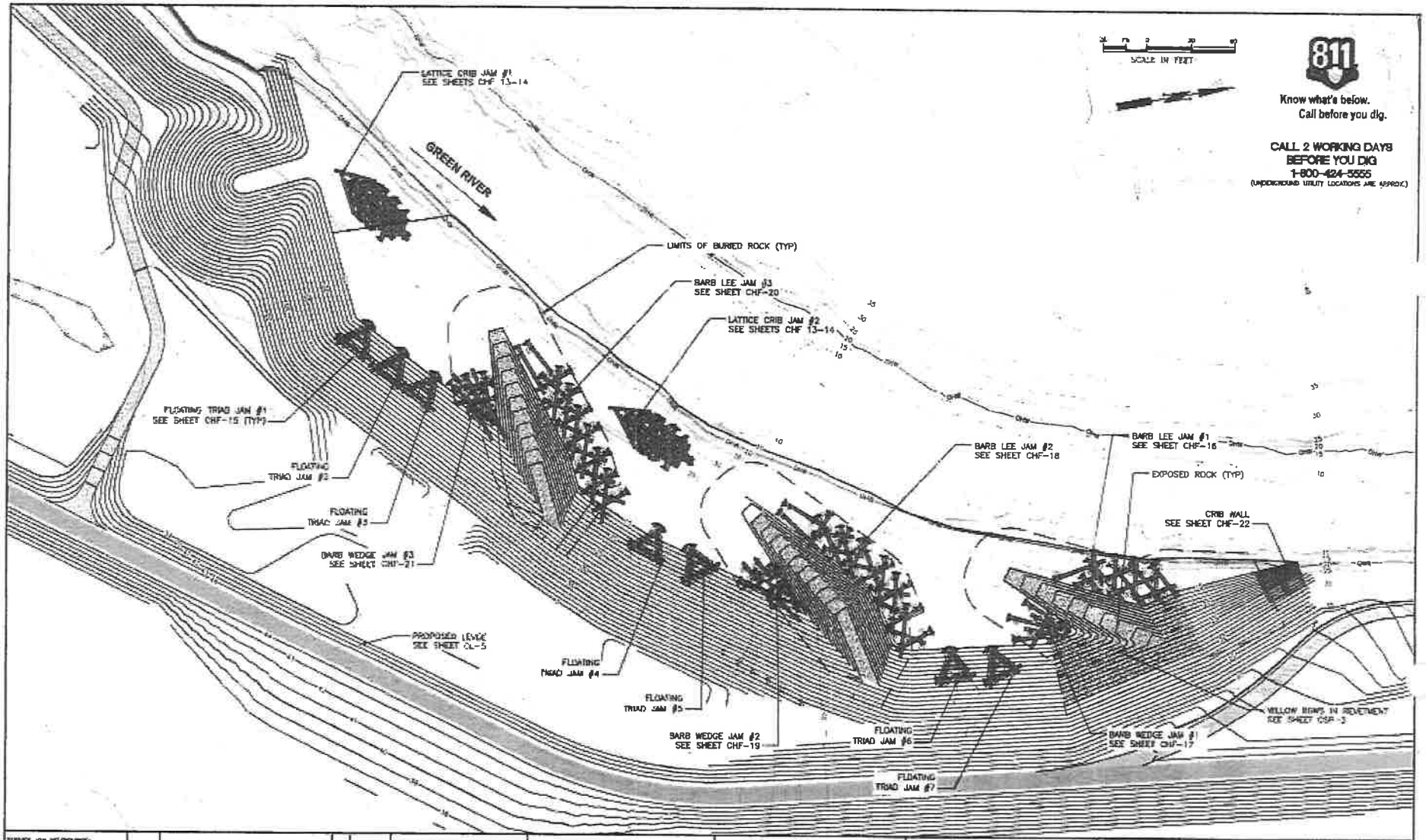
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 3
SMALL RAFT JAM

SHEET
CHF-11



SURVEY JOB NO/SOURCE:					
CHECKED:					
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DESIGNED:	VDE	10/19	MARK	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			M.M.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

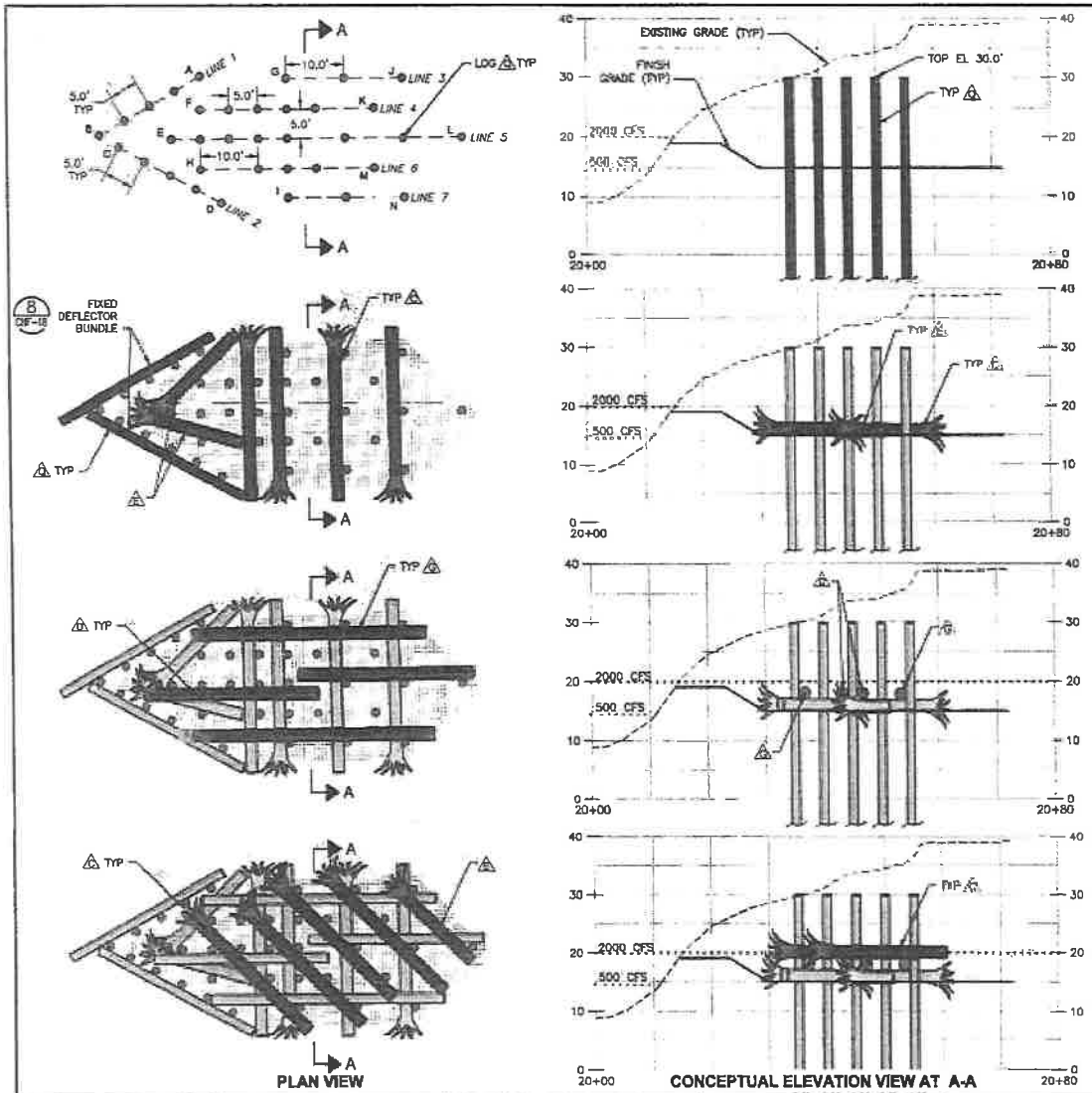
nhc
northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 4
PLAN

SHEET
CHF-12



STEP 1

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.

STEP 2

NOTES:
1. ADD 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). (7 CHF-18)
4. INSTALL TWO FIXED DEFLECTOR BUNDLES.
5. CUT OFF FIXED DEFLECTOR BUNDLE PILES 2.0' ABOVE TOP DEFLECTOR LOG. (8 CHF-18)

STEP 3

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 WOOD PILES (13). (7 CHF-18)

STEP 4

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 CHF-18)

SCALE IN FEET

Know what's below.
Call before you dig.

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

LATTICE CRIB JAMS 1 & 2 WOOD SCHEDULE

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	26	EA	24	30	ROOTWAD ATTACHED
B	TYPE D LOG	4	EA	24	30	NO ROOTWAD
E	TYPE E LOG	8	EA	24	20	ROOTWAD ATTACHED
F	TYPE F LOG	12	EA	24	20	NO ROOTWAD
G	TYPE G LOG	10	EA	24	40	NO ROOTWAD
	SLASH	1500	CY	REFER TO SPECIFICATIONS		
Q	TYPE Q (PILE)	70	EA	18	50	35' MIN. DRIVE DEPTH
Q	TYPE Q (LOG)	16	EA	18	30	FIXED DEFLECTOR BUNDLE

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

LATTICE CRIB JAM 1 CONTROL POINT TABLE

	CP	ITEM	NORTHING	EASTING
A	CP90	PILE	152940.2	1285633.4
B	CP91	PILE	152922.0	1285625.1
C	CP92	PILE	152922.4	1285628.9
D	CP93	PILE	152925.1	1285648.7
E	CP94	PILE	152928.7	1285635.5
F	CP95	PILE	152935.7	1285636.6
G	CP96	PILE	152948.6	1285645.7
H	CP97	PILE	152927.7	1285642.5
I	CP98	PILE	152932.5	1285657.5
J	CP99	PILE	152960.4	1285661.8
K	CP100	PILE	152953.5	1285660.7
L	CP101	PILE	152958.3	1285675.8
M	CP102	PILE	152945.5	1285666.7
N	CP103	PILE	152944.3	1285673.7

LATTICE CRIB JAM 2 CONTROL POINT TABLE

	CP	ITEM	NORTHING	EASTING
A	CP104	PILE	153087.2	1285822.6
B	CP105	PILE	153106.6	1285827.6
C	CP106	PILE	153088.3	1285826.3
D	CP107	PILE	153094.4	1285845.4
E	CP108	PILE	153095.7	1285831.7
F	CP109	PILE	153102.7	1285831.6
G	CP110	PILE	153095.8	1285838.8
H	CP111	PILE	153117.0	1285838.3
I	CP112	PILE	153103.2	1285852.8
J	CP113	PILE	153131.8	1285866.3
K	CP114	PILE	153124.4	1285852.3
L	CP115	PILE	153117.5	1285859.5
M	CP116	PILE	153131.4	1285852.2
N	CP117	PILE	153117.6	1285866.5

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.

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	DDH	10/19		
DESIGNED:	VDC	10/19		
CHECKED:	CTL	10/19		
SUPERVISOR:	VDC	10/19		

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

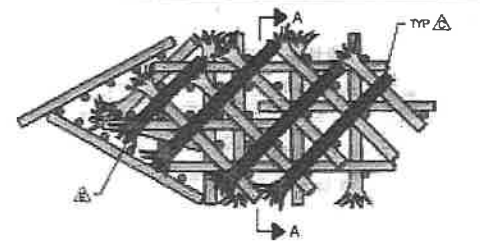
nhc northwest hydraulic consultants

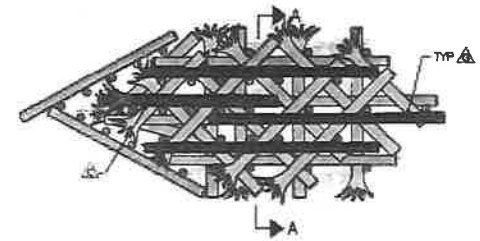
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

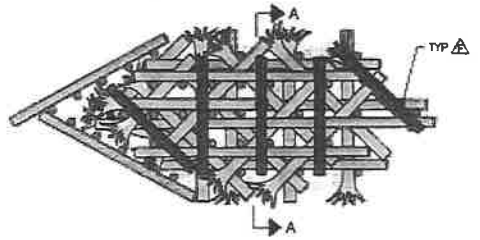
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

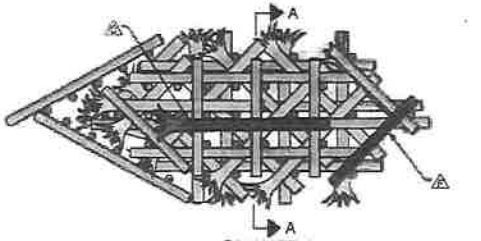
HABITAT WOOD AREA 4
LATTICE CRIB JAM LAYERING PLAN A

SHEET
CHF-13

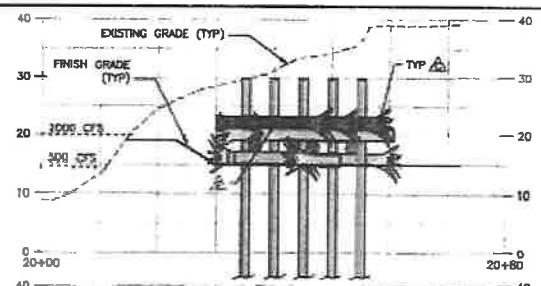


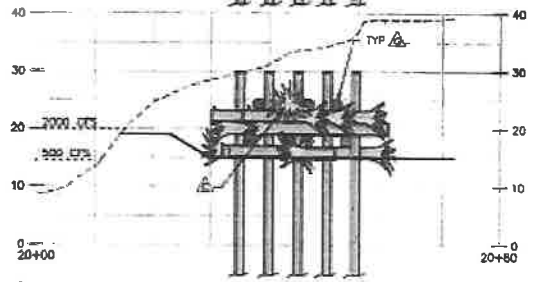


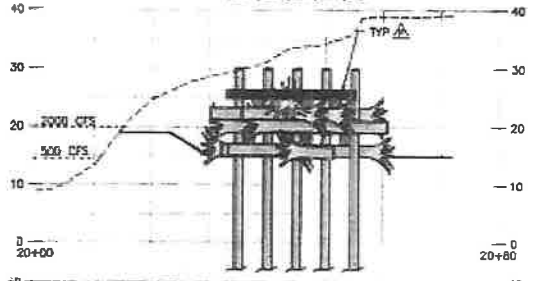


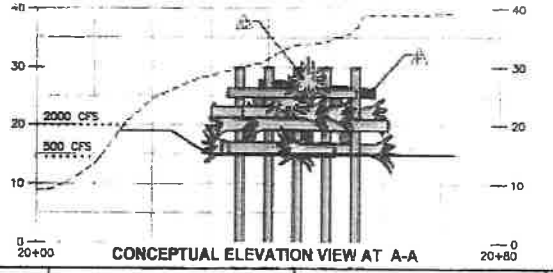


PLAN VIEW









CONCEPTUAL ELEVATION VIEW AT A-A

STEP 5

NOTES:
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 1 TYPE E & 3 TYPE C LOGS.
3. SECURE LOGS WITH CHAIN TO ADJACENT WOOD PILES (13). (7 / CHF-18)

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). (7 / CHF-18)

STEP 7

NOTES:
1. ADD 100 CY OF SLASH AS DIRECTED BY PROJECT REPRESENTATIVE (NOT SHOWN FOR CLARITY).
2. PLACE 5 TYPE F LOGS.
3. SECURE LOGS WITH CHAIN TO ADJACENT WOOD PILES (10). (7 / CHF-18)

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). (7 / CHF-18)

10 5 0 10 30
SCALE IN FEET

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.

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.)

SURVEY JOB NO./SOURCE:					
CHECKED:					
CAD ENTERED:	DDH	10/19			
DESIGNED:	VDC	10/19	NUM.	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112058
CONTRACT No. C01415C20

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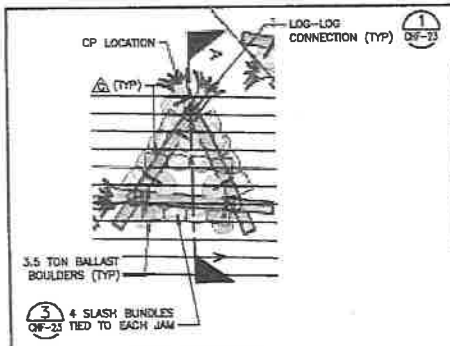
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

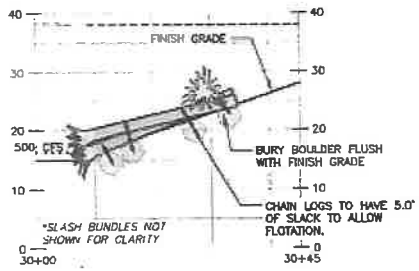
HABITAT WOOD AREA 4
LATTICE CRIB JAM LAYERING PLAN B

SHEET
CHF-14



TRIAD JAM PLAN

TRIAD JAM WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	21	EA	24	30	ROOTWAD ATTACHED
	SLASH BUNDLES	28	EA	30	10 – 15	
	3.5 TON BOULDER	42	EA	N/A	N/A	
PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.						



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	152981.0	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

10 5 0 10 20
SCALE IN FEET

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.

811
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1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	DGH	10/19			
DESIGNED:	VOC	10/19	NUM.	REVISION	BY / DATE
CHECKED:	CTL	10/19			
SUPERVISOR:	VOC	10/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

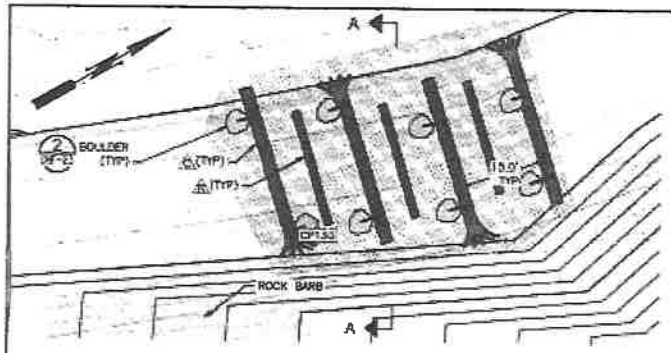
FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

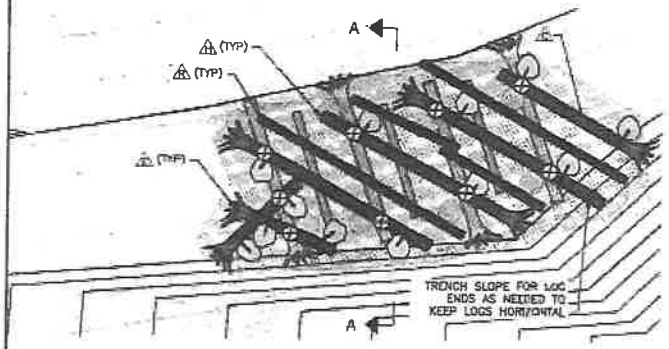
nhc northwest hydraulic consultants

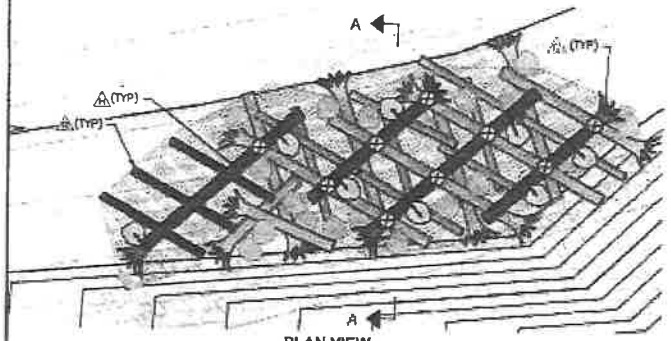
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

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

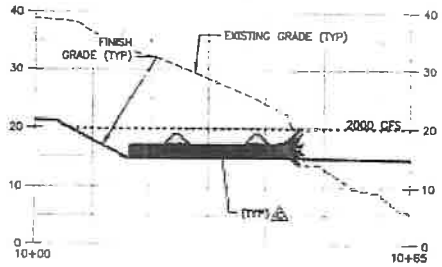
SHEET
CHF-15





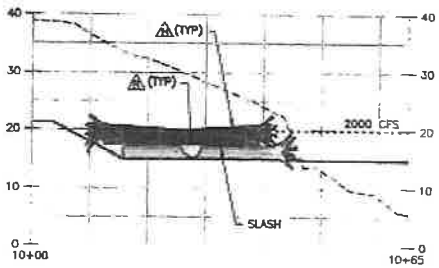


PLAN VIEW



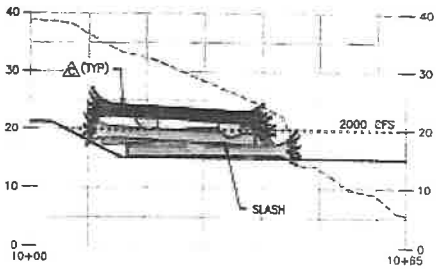
STEP 1

NOTES:
1. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. INSTALL 4 TYPE C LOGS AT 15.0' SPACING.
3. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)
4. PLACE 3 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.



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. (1 CHF-23)
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)
5. PLACE 6 RACKING LOGS BETWEEN 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. PLACE 2 TYPE C LOGS & 2 TYPE H LOGS.
4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)

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.

CONCEPTUAL ELEVATION VIEW AT A-A

BARB LEE JAM #1 WOOD SCHEDULE

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	7	EA	24	30	ROOTWAD ATTACHED
B	TYPE E LOG	2	EA	24	20	ROOTWAD ATTACHED
C	TYPE H LOG	5	EA	24	40	ROOTWAD ATTACHED
D	RACKING LOG	12	EA	12	12–20	
	SLASH	450	CY	REFER TO SPECIFICATIONS		
	BOULDERS	28	EA	N/A	N/A	3.5–TON BOULDERS

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

LEGEND:

- LOG–LOG CONNECTION (1 CHF-23)
- LOG–BOULDER CONNECTION (2 CHF-23)
- LOG TYPE
- SLASH

BARB LEE & WEDGE JAM CONTROL POINT TABLE

CP	ITEM	NORTHING	EASTING
CP130	BARB LEE JAM #1	154328.1	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	155151.8	1294137.0
CP135	BARB WEDGE JAM #3	155118.1	1294148.5

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.)

10 5 0 10 20
SCALE IN FEET

SURVEY JOB NO/SECTION:					
CHECKED:					
CAD ENTERED:	DDH	10/10			
DESIGNED:	VGC	10/10	PLAN REVISION	BY	DATE
CHECKED:	CTL	10/10			
SUPERVISOR:	VGC	10/10			
			RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112026
CONTRACT No. C08415C10

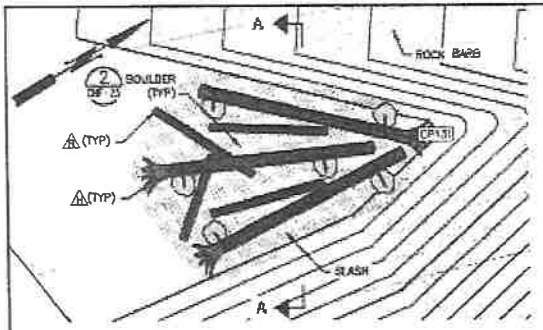
nhc northwest hydraulic consultants

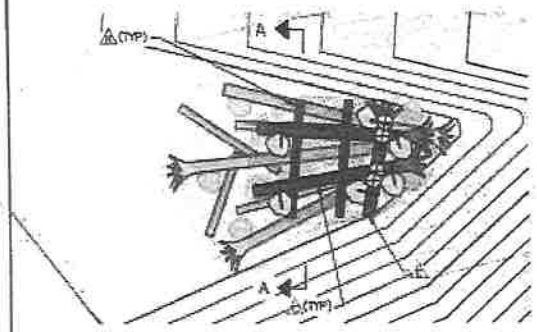
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

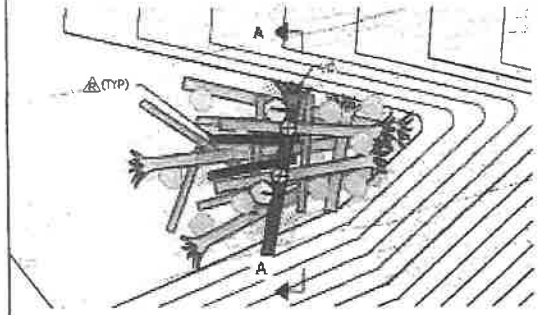
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 4
BARB LEE JAM #1

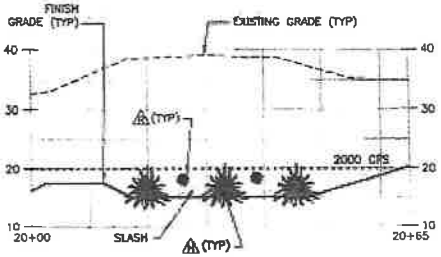
SHEET
CHF-16





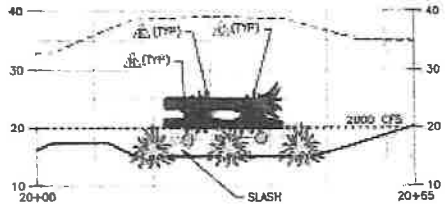


PLAN VIEW



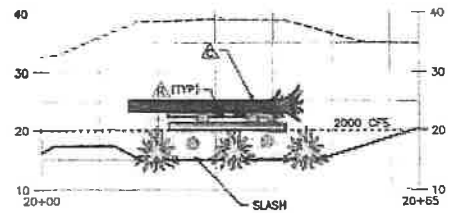
STEP 1

NOTE:
1. PLACE 50 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 4 RACKING LOGS ON SLASH.
3. INSTALL 3 TYPE H LOGS AS SHOWN.
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)



STEP 2

NOTES:
1. PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 2 RACKING LOGS ON SLASH AS SHOWN.
3. PLACE 1 TYPE E LOG AND 2 TYPE C LOGS OVER STEP 1 LOGS AS SHOWN. (1 CHF-23)
4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN UPPER KEY LOGS TO STEP 1 KEY LOGS. (2 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOGS.



STEP 3

NOTES:
1. PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 2 RACKING LOGS ON SLASH AS SHOWN.
3. PLACE 1 TYPE C LOG.
4. ENSURE OVERLAPPING LOG IS TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOG. (2 CHF-23)

CONCEPTUAL ELEVATION VIEW AT A-A

BARB WEDGE JAM #1 WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	3	EA	24	30	ROOTWAD ATTACHED
A	TYPE E LOG	2	EA	24	20	ROOTWAD ATTACHED
A	TYPE H LOG	3	EA	24	40	ROOTWAD ATTACHED
A	RACKING LOG	8	EA	12	12–20	
	SLASH	150	CY	REFER TO SPECIFICATIONS		
	BOULDERS	14	EA	N/A	N/A	3.5–TON BOULDERS
PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.						

LEGEND:

- LOG–LOG CONNECTION (1 CHF-23)
- LOG–BOULDER CONNECTION (2 CHF-23)
- LOG TYPE
- SLASH

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

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.)

10 5 0 10 20
SCALE IN FEET

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.

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED:	DDH	10/19	
DESIGNED:	VDC	10/19	
CHECKED:	CTL	10/18	
SUPERVISOR:	VDC	10/19	

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

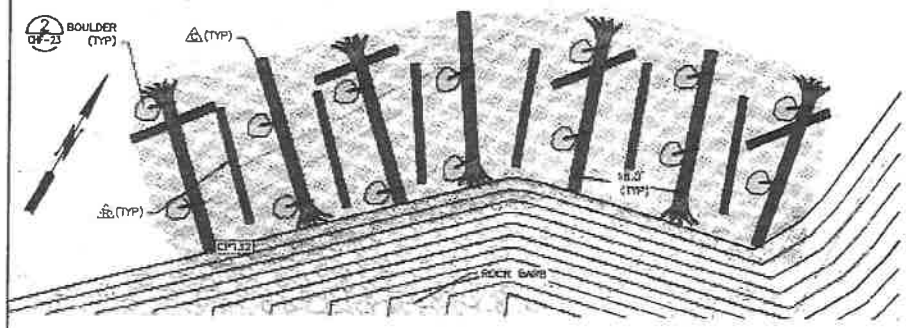
nhc northwest hydraulic consultants

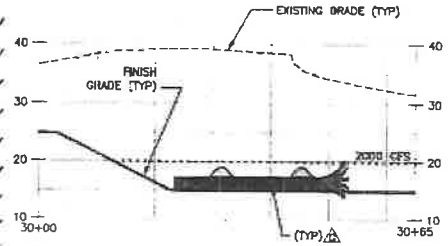
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 4
BARB WEDGE JAM #1

SHEET
CHF-17





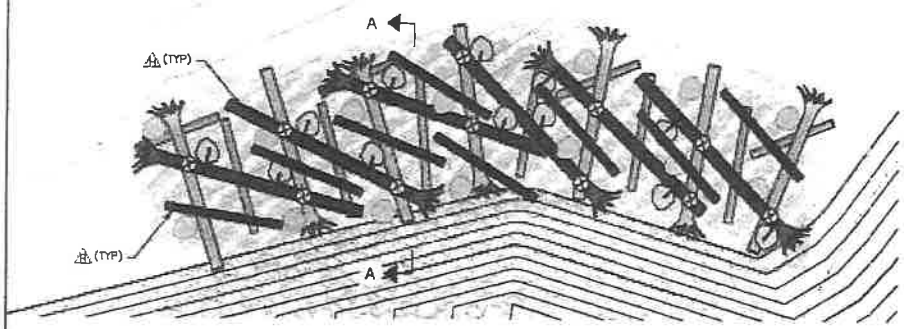
STEP 1

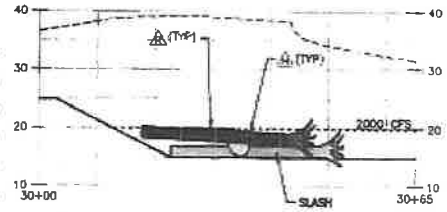
NOTE:
1. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 10 RACKING LOGS AS SHOWN ON SLASH.
3. INSTALL 7 TYPE C LOGS LOGS AT 18.0' SPACING.
4. CONNECT BALLAST BOULDERS TO KEY LOGS.

BARB LEE JAM #2 WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	13	EA	24	50	ROOTWAD ATTACHED
B	TYPE H LOG	8	EA	24	40	ROOTWAD ATTACHED
C	RACKING LOG	20	EA	12	12–20	
	SLASH	450	CY	REFER TO SPECIFICATIONS		
	BOULDERS	42	EA	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	154326.1	1294141.3
CP131	BARB WEDGE JAM #1	154304.8	1294168.6
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



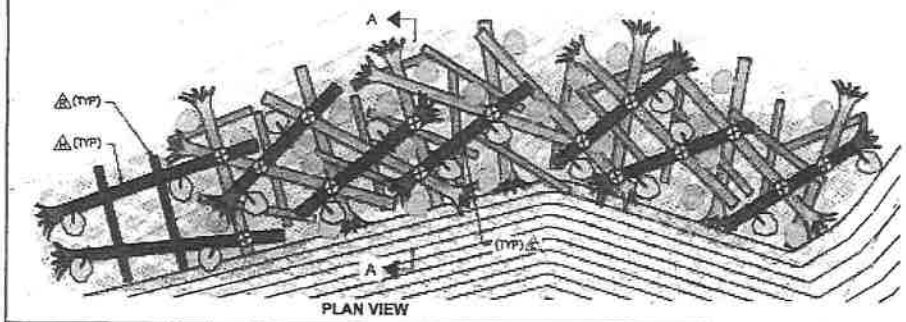


STEP 2

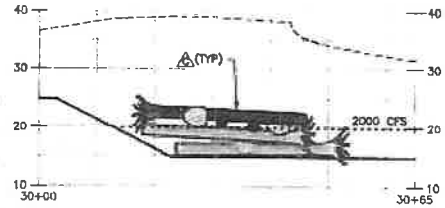
NOTES:
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 6 TYPE H LOGS OVER PREVIOUS LAYER OF LOGS AS SHOWN.
3. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS.
4. CONNECT BALLAST BOULDERS TO KEY LOGS.
5. PLACE 8 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.

LEGEND:

- LOG–LOG CONNECTION (1 CHF-23)
- LOG–BOULDER CONNECTION (2 CHF-23)
- LOG TYPE
- SLASH



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 3

NOTES:
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 2 RACKING LOGS ON SLASH AS SHOWN.
3. PLACE 2 TYPE H LOGS & 6 TYPE C LOGS.
4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)

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.

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.)

SCALE IN FEET

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	DDH	10/19			
DESIGNED:	VDC	10/19	NUM.	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

PLANNED:
PROJECT No. 1112056
CONTRACT No. C01415C20

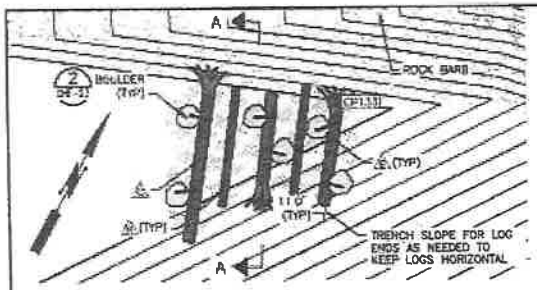
nhc northwest hydraulic consultants

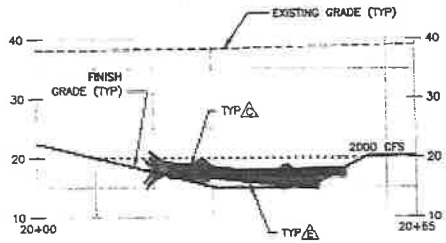
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 4
BARB LEE JAM #2

SHEET
CHF-18





STEP 1

NOTE:
1. PLACE 50 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. INSTALL 1 TYPE C LOG AND 2 TYPE E LOGS AT 11.0' SPACING.
3. CONNECT BALLAST BOULDERS (2 CHF-23) TO KEY LOGS.
4. PLACE 2 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.

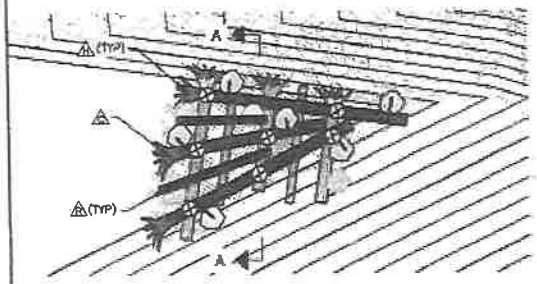
BARB WEDGE JAM #2 WOOD SCHEDULE

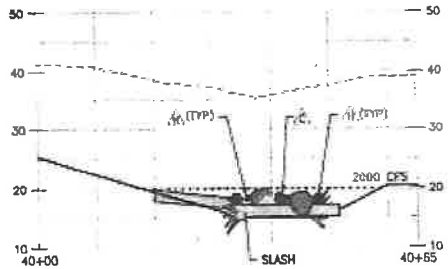
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	4	EA	24	30	ROOTWAD ATTACHED
B	TYPE E LOG	5	EA	24	20	ROOTWAD ATTACHED
H	TYPE H LOG	2	EA	24	40	ROOTWAD ATTACHED
A	RACKING LOG	5	EA	12	12–20	
	SLASH	150	CY	REFER TO SPECIFICATIONS		
	BOULDERS	22	EA	N/A	N/A	3.5–TON BOULDERS

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

LEGEND:

- LOG–LOG CONNECTION (1 CHF-23)
- LOG–BOULDER CONNECTION (2 CHF-23)
- LOG TYPE
- SLASH



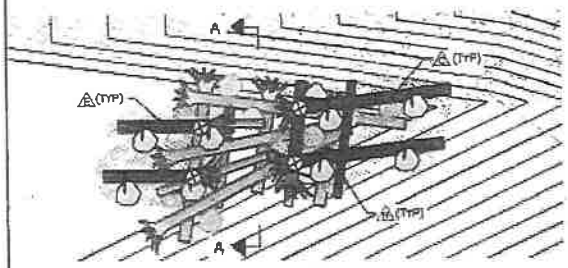


STEP 2

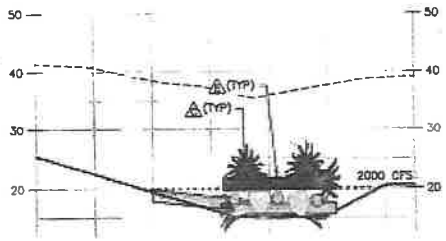
NOTES:
1. PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 1 TYPE C LOG AND 2 TYPE H LOGS OVER PREVIOUS LAYER OF LOGS AS SHOWN.
3. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)
5. PLACE 2 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.

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



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 3

NOTES:
1. PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 1 RACKING LOG ON SLASH.
3. PLACE 3 TYPE E LOGS & 2 TYPE C LOGS.
4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)

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.

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.)

10 5 0 10 20 SCALE IN FEET

SURVEY JOB NO./SQUADS:					
CHECKED:					
CAD ENTERED:	DDH	10/19			
DESIGNED:	VDC	10/19	NUM.	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

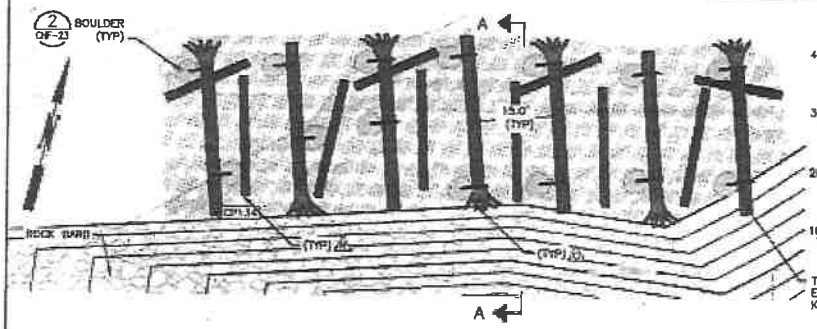
nhc northwest hydraulic consultants

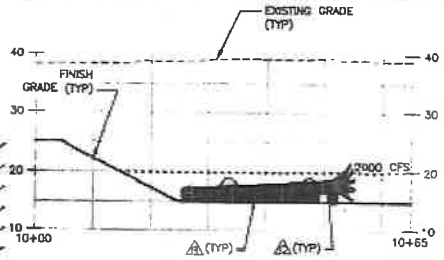
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie Tree, Director

LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2

HABITAT WOOD AREA 4
BARB WEDGE JAM #2

SHEET CHF-19





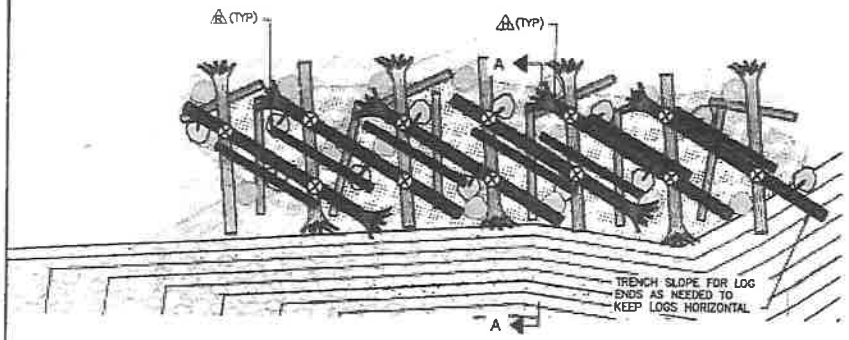
STEP 1

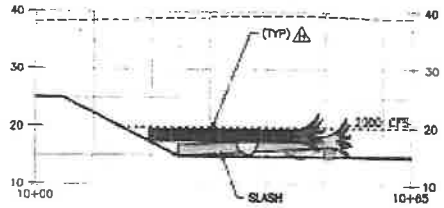
NOTE:
1. PLACE 150 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 10 RACKING LOGS AS SHOWN ON SLASH.
3. INSTALL 7 TYPE C LOGS AT 15.0' SPACING WITH END BUTTED AGAINST TOE OF ROCK BARB ON SLOPE.
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)

BARB LEE JAM #3 WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	13	EA	24	30	ROOTWAD ATTACHED
A	TYPE H LOG	6	EA	24	40	ROOTWAD ATTACHED
A	RACKING LOG	20	EA	12	12–20	
	SLASH	450	CY	REFER TO SPECIFICATIONS		
	BOULDERS	42	EA	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	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



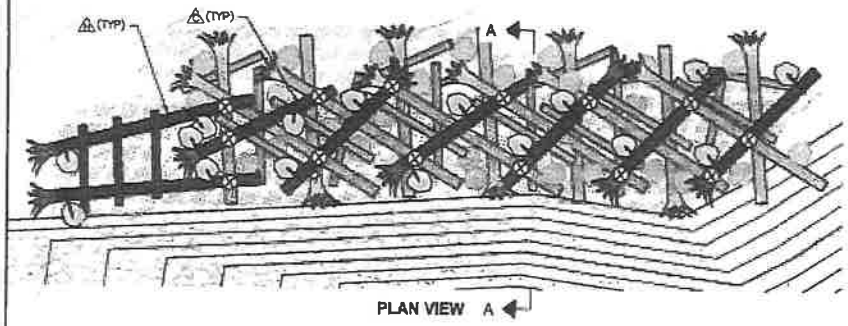


STEP 2

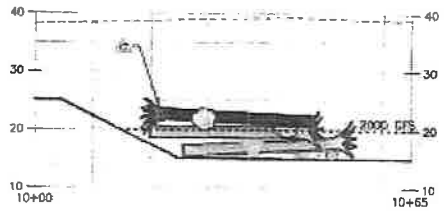
NOTES:
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 6 TYPE H LOGS OVER PREVIOUS LAYER OF LOGS AS SHOWN.
3. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)
5. PLACE 7 RACKING LOGS BETWEEN KEY LOGS AND OVER SLASH.

LEGEND:

- LOG–LOG CONNECTION (1 CHF-23)
- LOG–BOULDER CONNECTION (2 CHF-23)
- LOG TYPE
- SLASH



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 3

NOTES:
1. PLACE 150 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 3 RACKING LOGS.
3. PLACE 6 TYPE C LOGS & 2 TYPE H LOGS.
4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)

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

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.)

SCALE IN FEET

SURVEY JOB NO/SOURCE:						
CHECKED:						
CAD ENTERED:	DDH	10/19	NUM	REVISION	BY	DATE
DESIGNED:	VDC	10/19				
CHECKED:	GTL	10/19				
SUPERVISOR:	VDC	10/19	NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

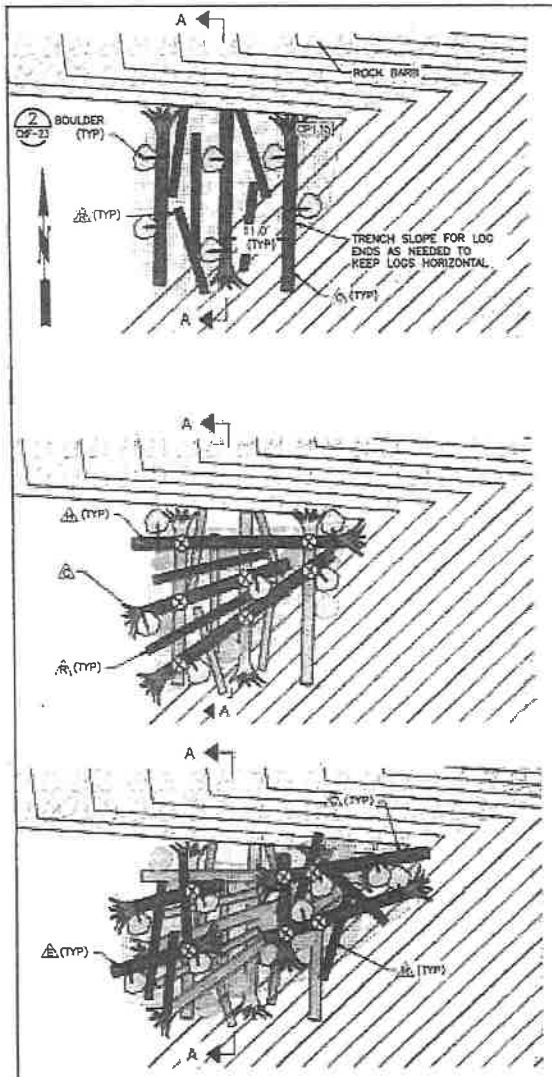
nhc northwest hydraulic consultants

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

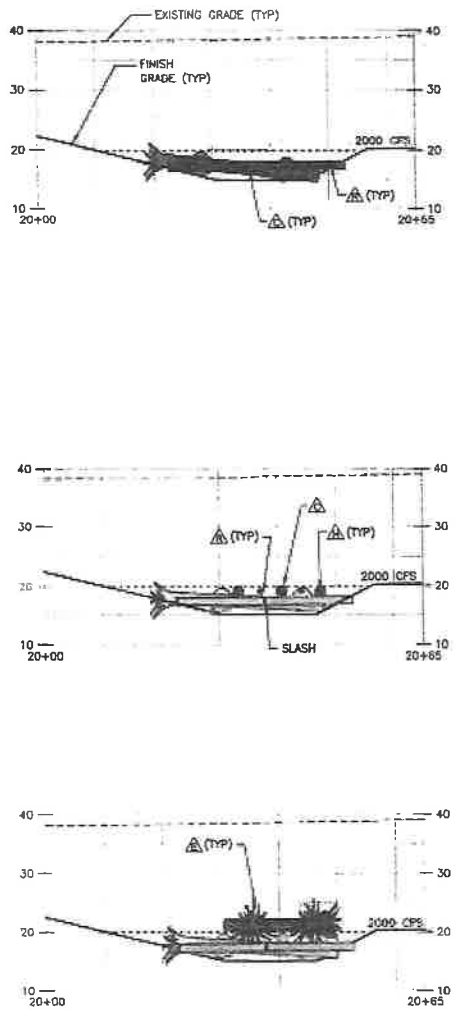
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 4
BARB LEE JAM #3

SHEET CHF-20



PLAN VIEW



CONCEPTUAL ELEVATION VIEW AT A-A

STEP 1

NOTE:
1. PLACE 50 CY SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. INSTALL 3 TYPE C LOGS AT 11.0' SPACING WITH TRUNK END BUTTED AGAINST TOE OF ROCK BARB.
3. CONNECT BALLAST BOULDERS (2 CHF-23) TO KEY LOGS.
4. PLACE 5 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.

STEP 2

NOTES:
1. PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 1 TYPE C LOG AND 2 TYPE H LOGS OVER PREVIOUS LAYER OF KEY LOGS AS SHOWN.
3. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN UPPER LOGS TO UNDERLYING KEY LOGS AT LOG-LOG CONNECTION POINTS. (1 CHF-23)
4. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)
5. PLACE 2 RACKING LOGS BETWEEN KEY LOGS AND ON SLASH.

STEP 3

NOTES:
1. PLACE 50 CY ADDITIONAL SLASH AS DIRECTED BY PROJECT REPRESENTATIVE.
2. PLACE 6 RACKING LOGS ON SLASH.
3. PLACE 3 TYPE E LOGS & 2 TYPE C LOGS.
4. ENSURE OVERLAPPING KEY LOGS ARE TOUCHING AND CHAIN TO UNDERLYING KEY LOGS. (1 CHF-23)
5. CONNECT BALLAST BOULDERS TO KEY LOGS. (2 CHF-23)

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.

BARB WEDGE JAM #3 WOOD SCHEDULE

LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
A	TYPE C LOG	6	EA	24	30	ROOTWAD ATTACHED
A	TYPE E LOG	3	EA	24	20	ROOTWAD ATTACHED
A	TYPE H LOG	2	EA	24	40	ROOTWAD ATTACHED
A	RACKING LOG	13	EA	12	12–20	
	SLASH	150	CY	REFER TO SPECIFICATIONS		
	BOULDERS	22	EA	N/A	N/A	3.5-TON BOULDERS

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

LEGEND:

- LOG–LOG CONNECTION (1 CHF-23)
- LOG–BOULDER CONNECTION (2 CHF-23)
- LOG TYPE
- SLASH

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	1294169.8
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

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.)

10 5 0 10 20
SCALE IN FEET

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	DDH	10/19			
DESIGNED:	VDC	10/19	NUM.	REVISION	BY	DATE
CHECKED:	CTL	10/19				
SUPERVISOR:	VDC	10/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C0141SC20

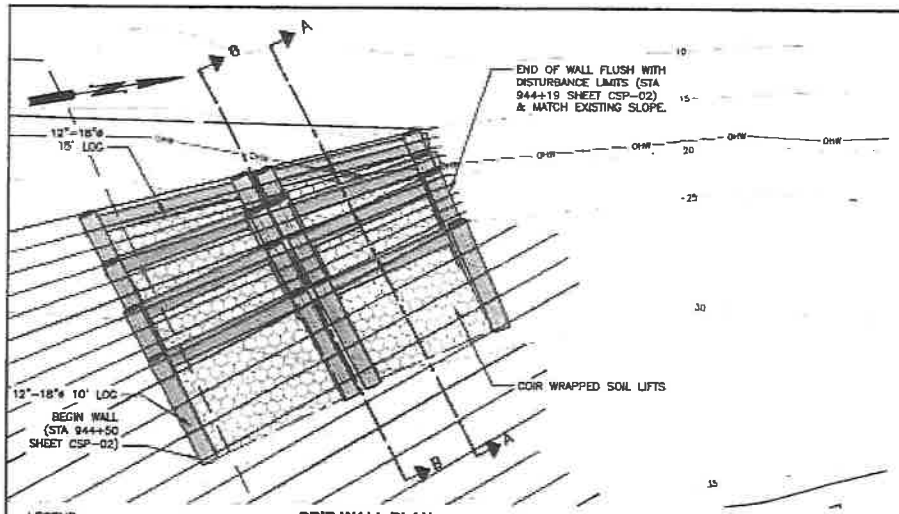
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

HABITAT WOOD AREA 4
BARB WEDGE JAM #3

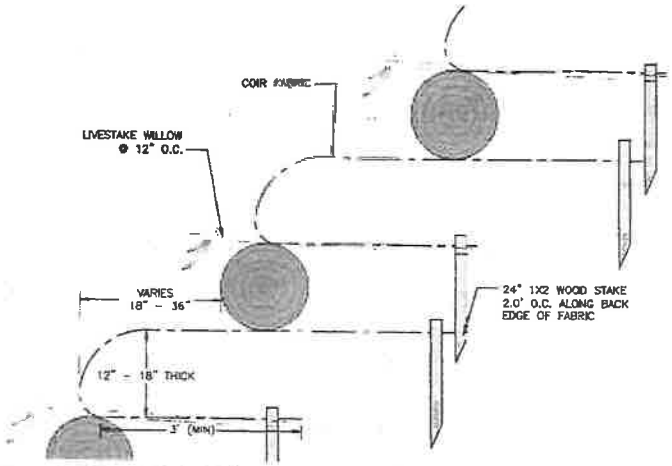
SHEET CHF-21



CRIB WALL PLAN

LEGEND:

COIR

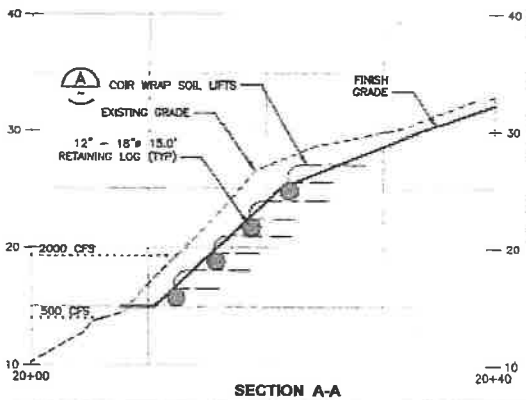


A COIR WRAP DETAIL
NTS

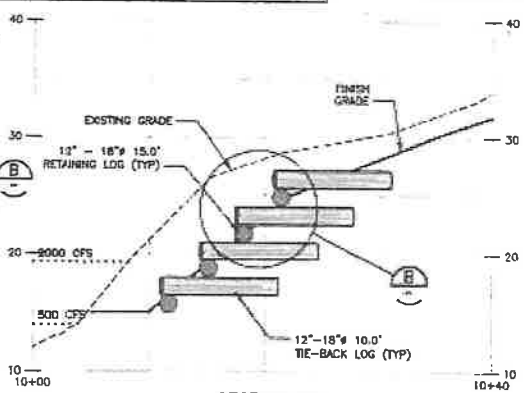
CRIB WALL LOG WOOD SCHEDULE						
LOG TYPE	ITEM	QUANTITY	UNIT	DIAMETER (IN)	LENGTH (FT)	DESCRIPTION
	TIE-BACK LOG	16	EA	15	10	WOOD MAY BE SOURCED FROM ON-SITE CONIFERS OF ANY SPECIES
	RETAINING LOG	8	EA	15	15	WOOD MAY BE SOURCED FROM ON-SITE CONIFERS OF ANY SPECIES
PLACE LOGS AS DIRECTED BY PROJECT REPRESENTATIVE. LAYOUT MAY VARY FROM THAT SHOWN IN DRAWINGS.						

SEQUENCE NOTES:

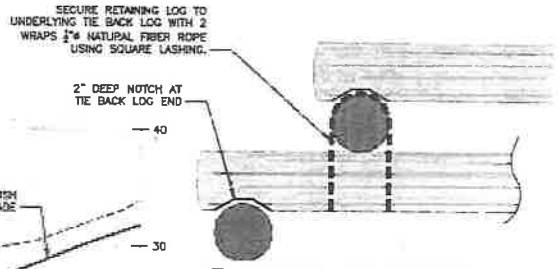
1. BEGIN WALL AT DOWNSTREAM DISTURBANCE EXTENTS MATCHING EXISTING GRADE. WALL TO EXTEND UPWARDS TO MEET APPROXIMATE 3:1 UPPER SLOPE.
2. BEGIN WALL ON EXISTING ROCK AND SOIL BASE ABOVE EL. 15.0'. SMOOTH BASE AS NECESSARY FOR WALL FOUNDATION.
3. FLARE WALL IN UPSTREAM DIRECTION UNTIL IT MATCHES FINISH GRADE AT APPROXIMATE SLOPE OF 2.5:1.
4. MAKE 2" NOTCHES IN TIE-BACK LOGS TO HOLD RETAINING LOGS. TIE RETAINING LOG TO TIE-BACK LOGS WITH ½" NATURAL FIBER ROPE.
5. USE COIR SOIL WRAPS BETWEEN TIE-BACK LOGS TO RETAIN SOIL.
6. INSTALL WILLOW STAKES PER SPECIFICATION SECTION 32 93 35 - LIVE STAKES SECTION 3.2(c).



SECTION A-A



SECTION B-B



B CRIB WALL LOG CONNECTION DETAIL
NTS

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.)

SCALE IN FEET

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	DOH	10/19		
DESIGNED:	VDC	10/19	NUM.	REVISION
CHECKED:	CTL	10/19		
SUPERVISOR:	VDC	10/19		
			NUM.	RECORD CHANGES APPROVED

BY | DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

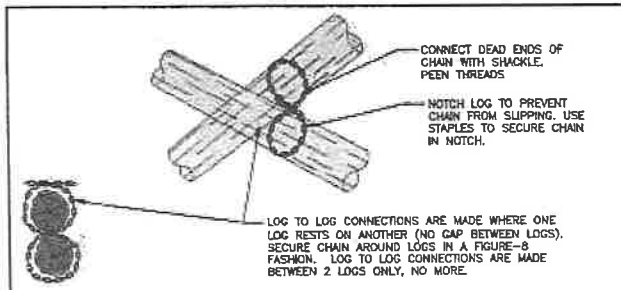
nhc northwest hydraulic consultants

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

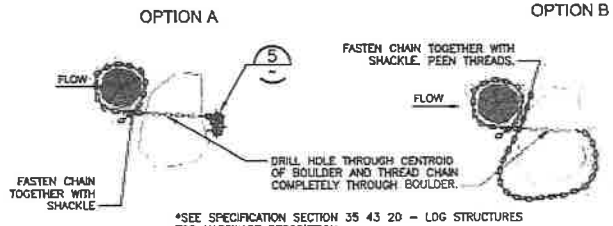
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

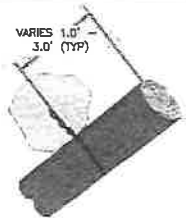
HABITAT WOOD AREA 4
CRIB WALL

SHEET
CHF-22



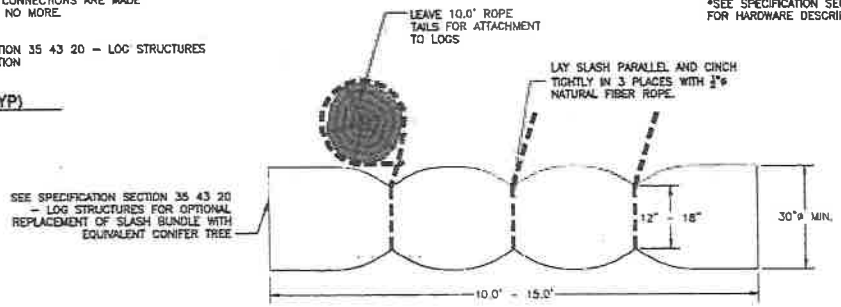
1 LOG TO LOG CONNECTION (TYP)
NTS



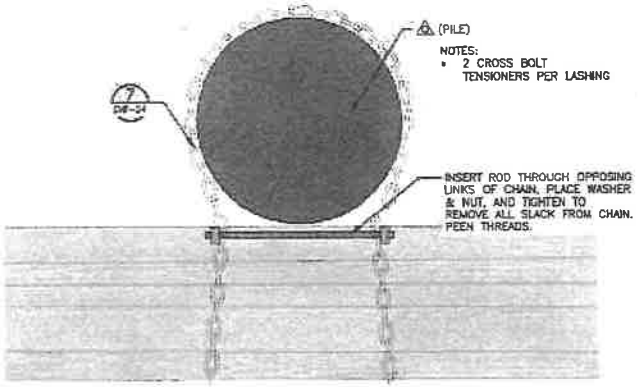


NOTES:
- PROVIDE 2" DEEP NOTCH AND SEAT CHAIN WITHIN THE GROOVE. USE STAPLES TO SECURE CHAIN WITHIN NOTCH.
- BOULDERS AS CLOSE TO EACH LOG AS POSSIBLE, NO SLACK IN THE CHAIN UNLESS OTHERWISE NOTED.
- ALWAYS PLACE BOULDERS ON THE UPSTREAM SIDE OF THE LOGS THEY ARE SECURED TO OR AS DIRECTED BY PROJECT'S REPRESENTATIVE.

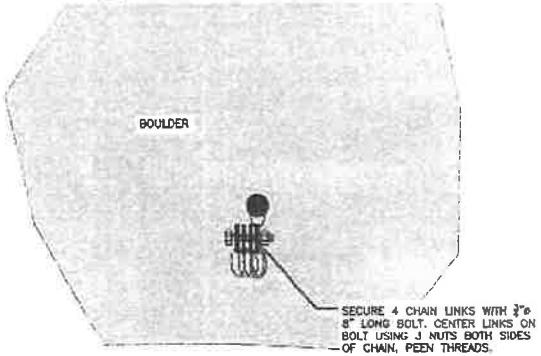
2 LOG TO BOULDER CONNECTION (TYP)
NTS



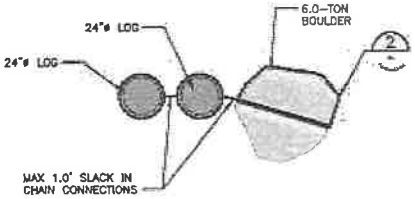
3 SLASH BUNDLE DETAIL
NTS



4 CROSS BOLT TENSIONER DETAIL
NTS



5 BOULDER STOPPER DETAIL
NTS



6 DOUBLE TOE LOG CONNECTION DETAIL
NTS

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	DDH	10/19			
DESIGNED:	VDC	10/19	REV.	REVISION	BY	DATE
CHECKED:	CTL	10/19			
SUPERVISOR:	VDC	10/19			
			REC.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

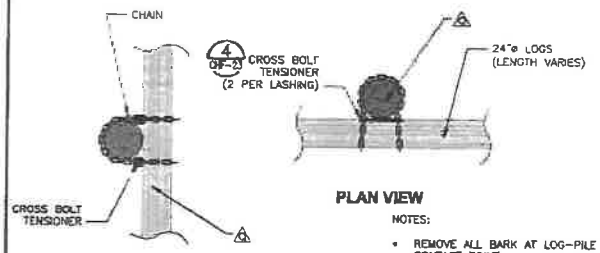
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

STANDARD ANCHORING DETAILS A

SHEET
CHF-23



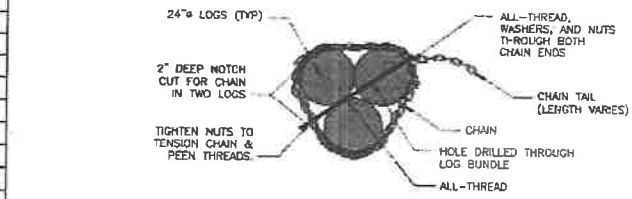
NOTES:

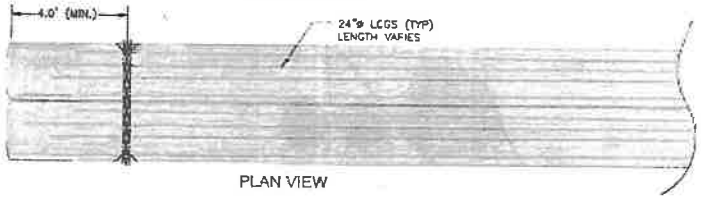
- REMOVE ALL BARK AT LOG-PILE CONTACT POINT
- CONNECT LOG TO PILE WITH CHAIN-CHAIN CONNECTION
- TIGHTEN LASHING USING CROSS BOLT TENSIONER.

7 LOG TO PILE CONNECTION
NTS

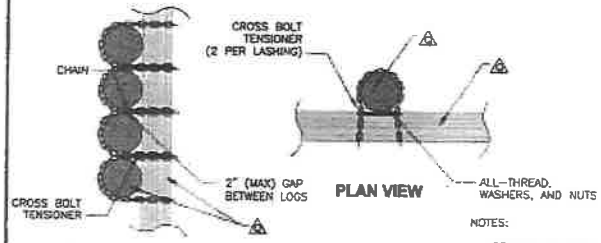
ALLOWABLE CHAIN TYPE FOR CONNECTIONS	
CONNECTION NAME	ALLOWABLE CHAIN TYPES
LOG TO LOG	LONG LINK OR SHORT LINK
LOG TO BOULDER	LONG LINK
LOG TO PILE	SHORT LINK
DOUBLE TOE LOG	LONG LINK
3 LOG BUNDLE	LONG LINK OR SHORT LINK
LOG BOOM	LONG LINK OR SHORT LINK
FLOATING LOG DEFLECTOR	LONG LINK
ANCHOR MOORING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

NOTE: SEE SPECIFICATION 3G 43 20 FOR ALLOWABLE BOLT/THREADED ROD AND ASSOCIATED HARDWARE SIZE WHERE TWO CHAIN TYPES ARE ALLOWED.





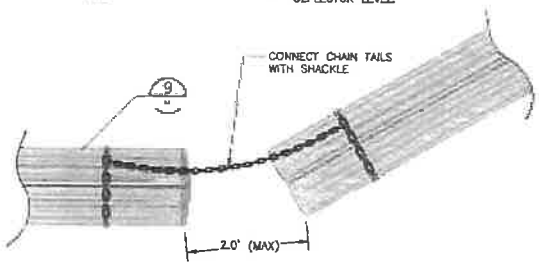
9 3 LOG BUNDLE CONNECTION
NTS



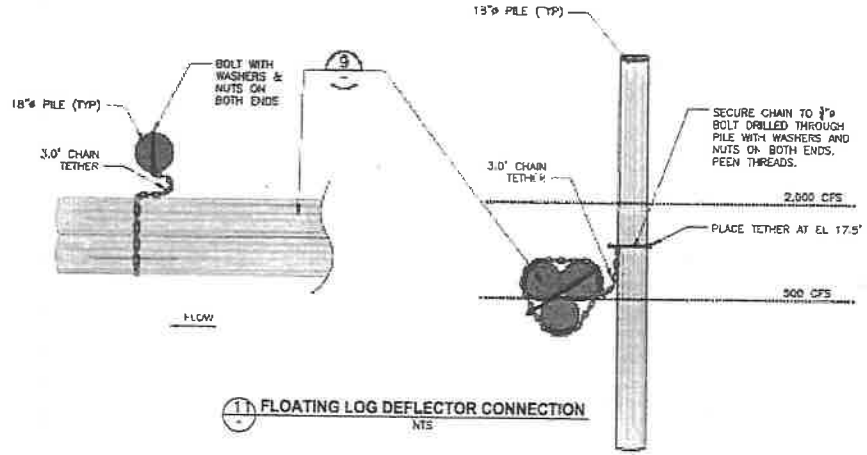
NOTES:

- REMOVE ALL BARK AT LOG-PILE CONTACT POINT
- CONNECT LOG TO PILE WITH CHAIN-CHAIN CONNECTION. 4 17
- TIGHTEN LASHING USING CROSS BOLT TENSIONER.
- ALTERNATE BUTT ENDS TO KEEP DEFLECTOR LEVEL.

8 FIXED DEFLECTOR BUNDLE
NTS



10 LOG BOOM CONNECTION
NTS



11 FLOATING LOG DEFLECTOR CONNECTION
NTS

SURVEY JOB NO/DATE:					
CHECKED:					
CAD ENTERED: DOH	10/18				
DESIGNED: VDC	10/18	NUM.	REVISION	BY	DATE
CHECKED: CTL	10/18				
SUPERVISOR: VDC	10/18				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____
PROJECT No. 1112056
CONTRACT No. C01415C20

nhc northwest hydraulic consultants

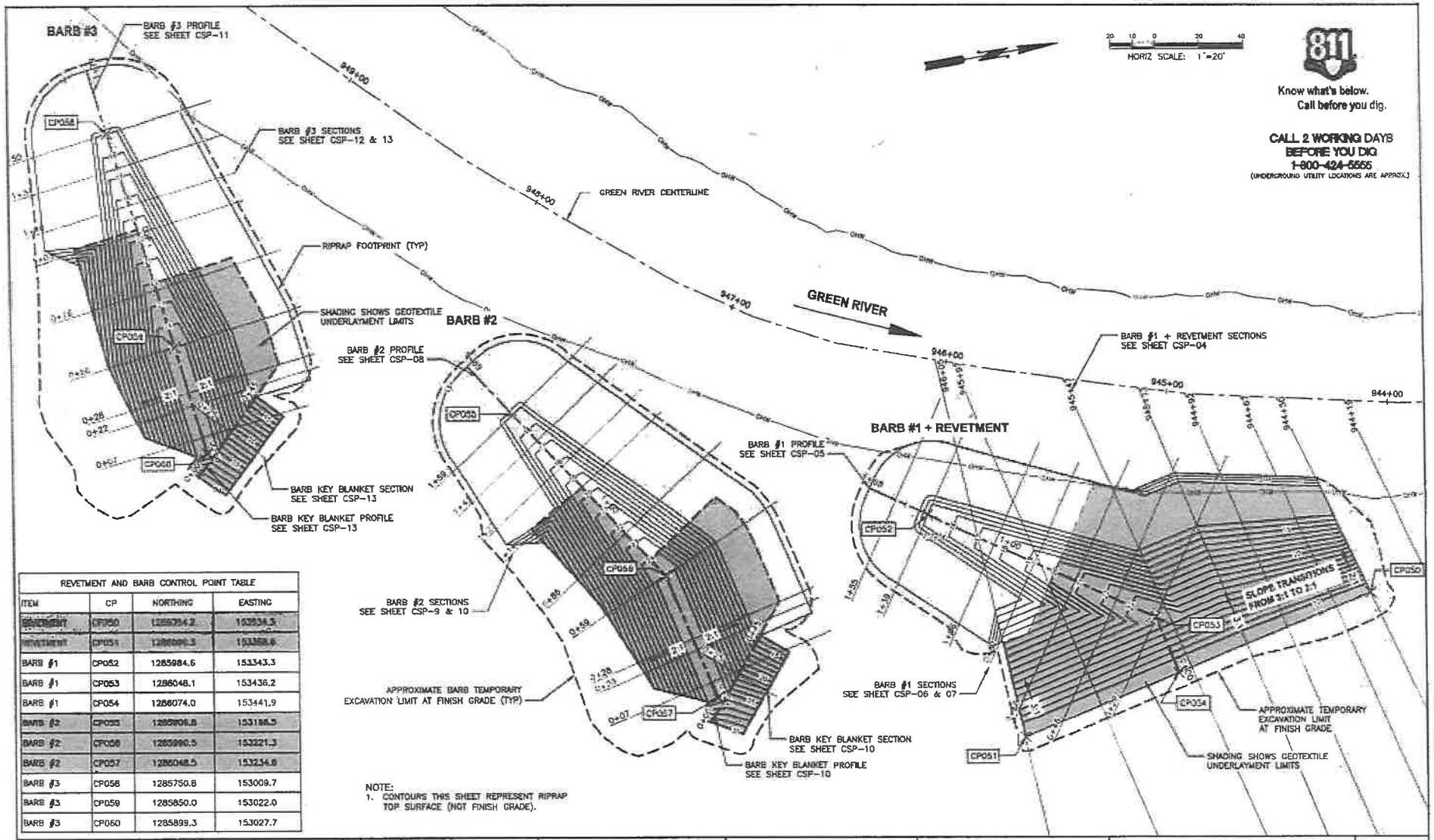
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

STANDARD ANCHORING DETAILS B

SHEET
CHF-24

Attachment 1b



REVETMENT AND BARB CONTROL POINT TABLE			
ITEM	CP	NORTHING	EASTING
REVETMENT	CP050	1285954.2	153534.3
REVETMENT	CP051	1285896.3	153358.6
BARB #1	CP052	1285984.6	153343.3
BARB #1	CP053	1286048.1	153436.2
BARB #1	CP054	1286074.0	153441.9
BARB #2	CP055	1285906.8	153186.5
BARB #2	CP056	1285990.5	153221.3
BARB #2	CP057	1286048.5	153234.8
BARB #3	CP058	1285750.8	153009.7
BARB #3	CP059	1285850.0	153022.0
BARB #3	CP060	1285899.3	153027.7

NOTE:
1. CONTOURS THIS SHEET REPRESENT RIPRAP TOP SURFACE (NOT FINISH GRADE).

SURVEY JOB NO/SQUEEZE:		
CHECKED:		
CAD ENTERED:	CTL	10/18
DESIGNED:	CTL	10/19
CHECKED:	DOH	10/19
SUPERVISOR:	VDC	10/19

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112089
CONTRACT No. D01418C20

11/26/2019

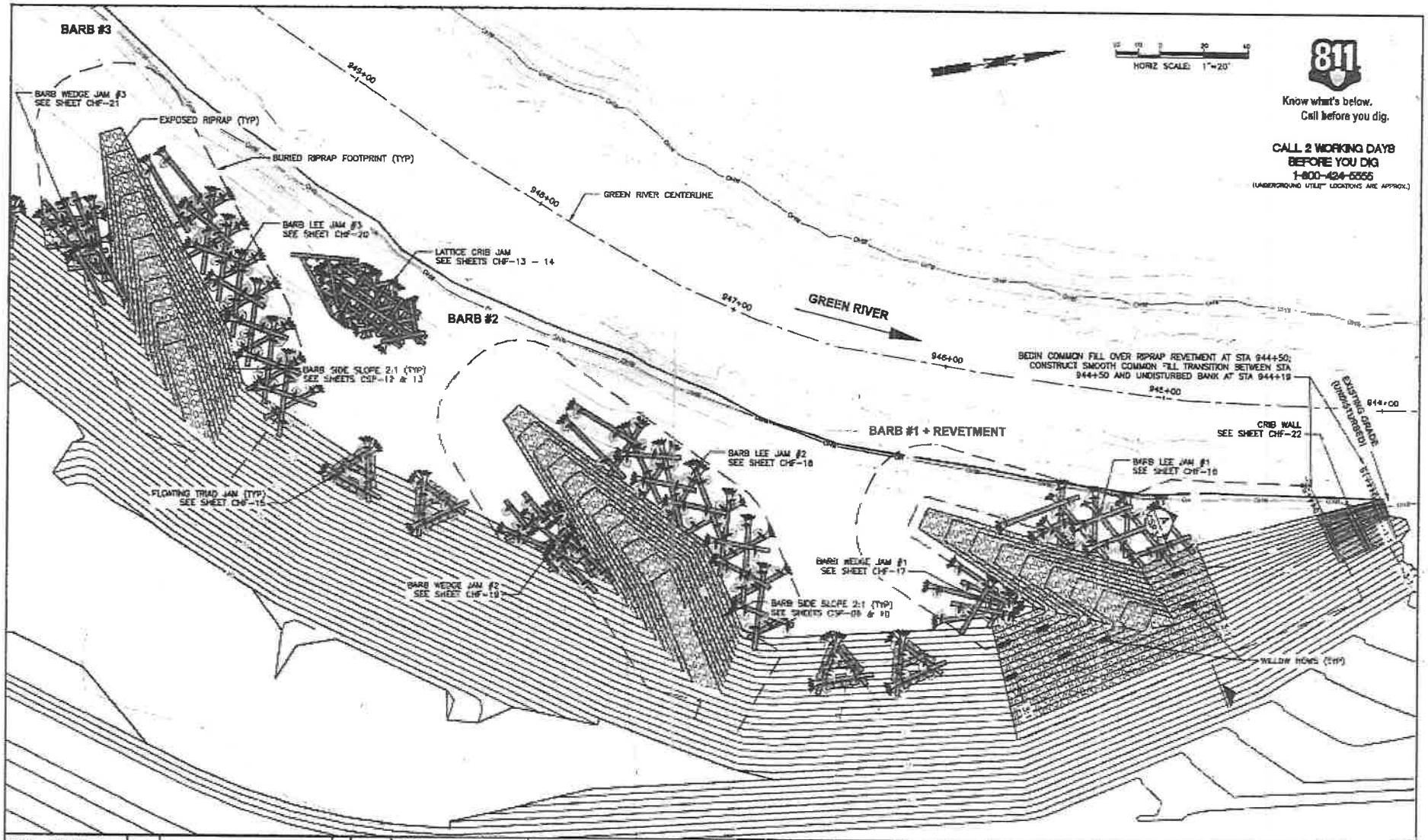
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2

AREA 4 RIPRAP TOP SURFACE

SHEET CSP-01



SURVEY JOB NO/SOURCE					
CHECKED:					
CAD ENTERED:	CTL	10/19			
DESIGNED:	CTL	10/19	MUNI	REVISION	BY	DATE
CHECKED:	DOH	10/19			
SUPERVISOR:	VDC	10/19			
			MUNI	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1118088

CONTRACT No. 0214BC20

11/26/2019

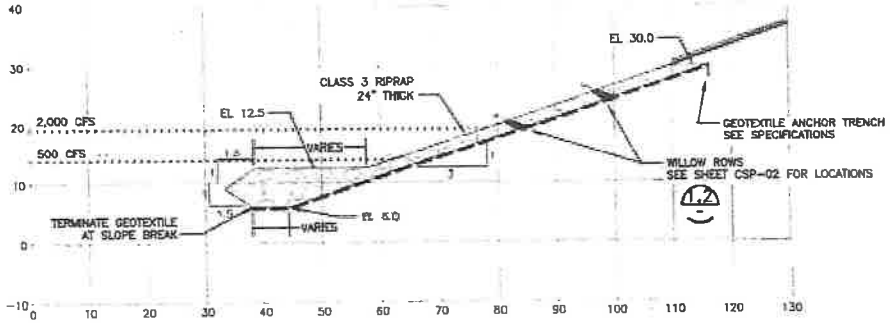
nhc
northwest hydraulic consultants

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

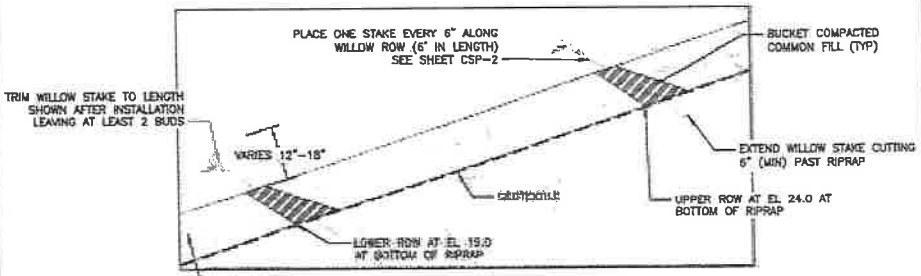
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

AREA 4 FINISH GRADE SURFACE

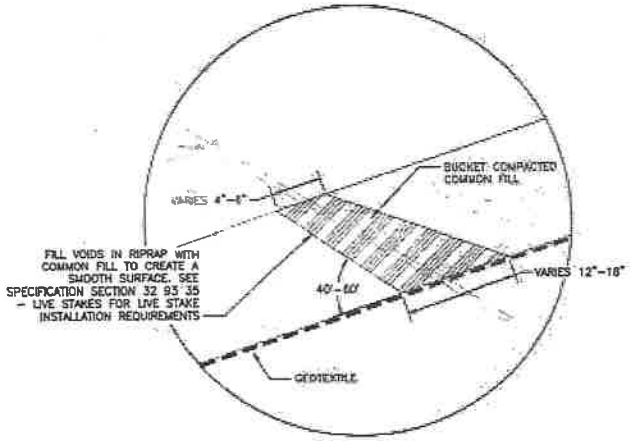
SHEET
CSP-02



TYPICAL REVETMENT SECTION (A) CSP-02



WILLOW ROW DETAIL (1) NTS



WILLOW ROW DETAIL (2) NTS

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 WSEL AT 2,000 AND 500 CFS (TYPICAL SUMMER FLOW) SHOWN FOR REFERENCE. GROUNDWATER LEVELS WITHIN EXCAVATION LIMITS MAY VARY SIGNIFICANTLY FROM RIVER WSEL, WHICH MAY ALSO VARY.

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

WILLOW ROW STAKE SCHEDULE (7 ROWS)			
SPECIES	LENGTH (FT)	DIAMETER (IN)	TOTAL QUANTITY
SITKA (SALIX SITCHENSIS)	6	½-2	91

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.)

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	CTL	10/19			
DESIGNED:	CTL	10/19	NUM.	REVISION	BY / DATE
CHECKED:	DOH	10/19			
SUPERVISOR:	VDC	10/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:
PROJECT No. 1112066
CONTRACT No. C01455C20

11/26/2019

nhc northwest hydraulic consultants

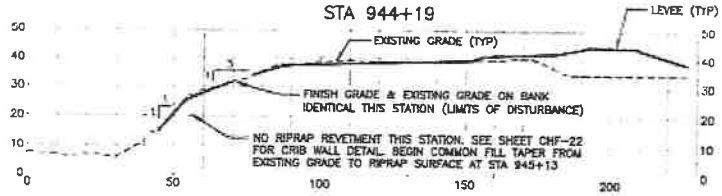
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

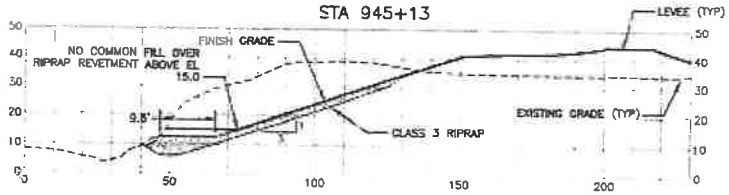
RIPRAP REVETMENT TYPICAL SECTION
AND WILLOW ROW DETAILS

SHEET
CSP-03

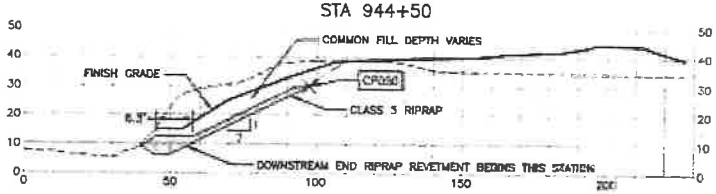
STA 944+19



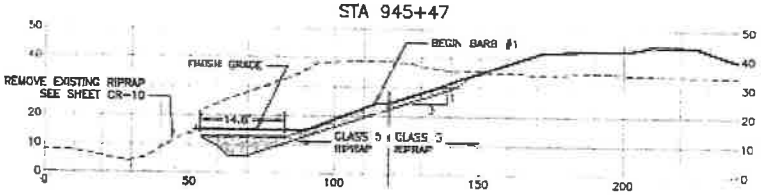
STA 945+13



STA 944+50



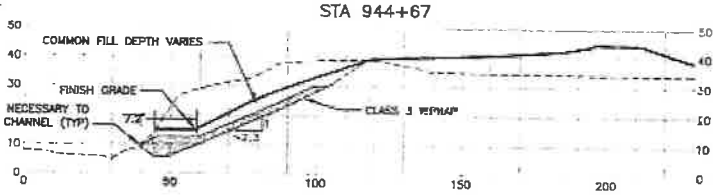
STA 945+47



NOTES:

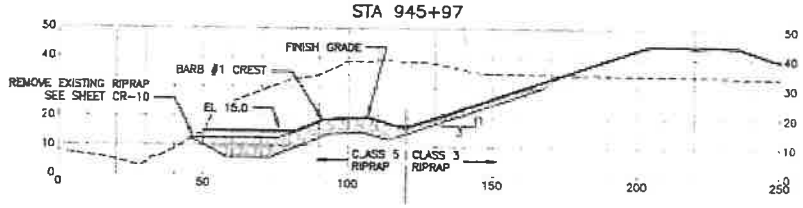
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
2. ADJUST RIPRAP LIMITS AS NECESSARY TO AVOID FILLING INTO EXISTING CHANNEL.
3. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
4. SECTION LOCATIONS SHOWN ON CSP-01

STA 944+67



HORIZ SCALE: 1"=20'

STA 945+97

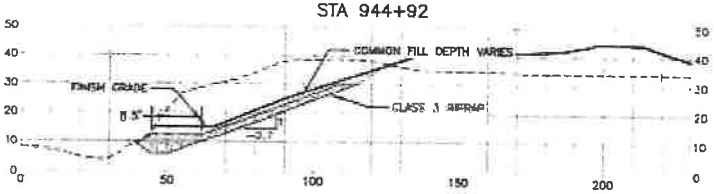


811

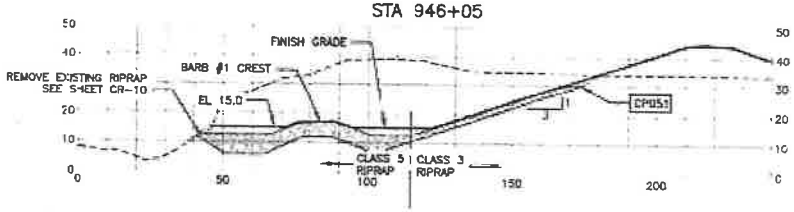
Know what's below.
Call before you dig.

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

STA 944+92



STA 946+05



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

FUNDING:
PROJECT No. 1112068
CONTRACT No. C01419C90

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 True, Director

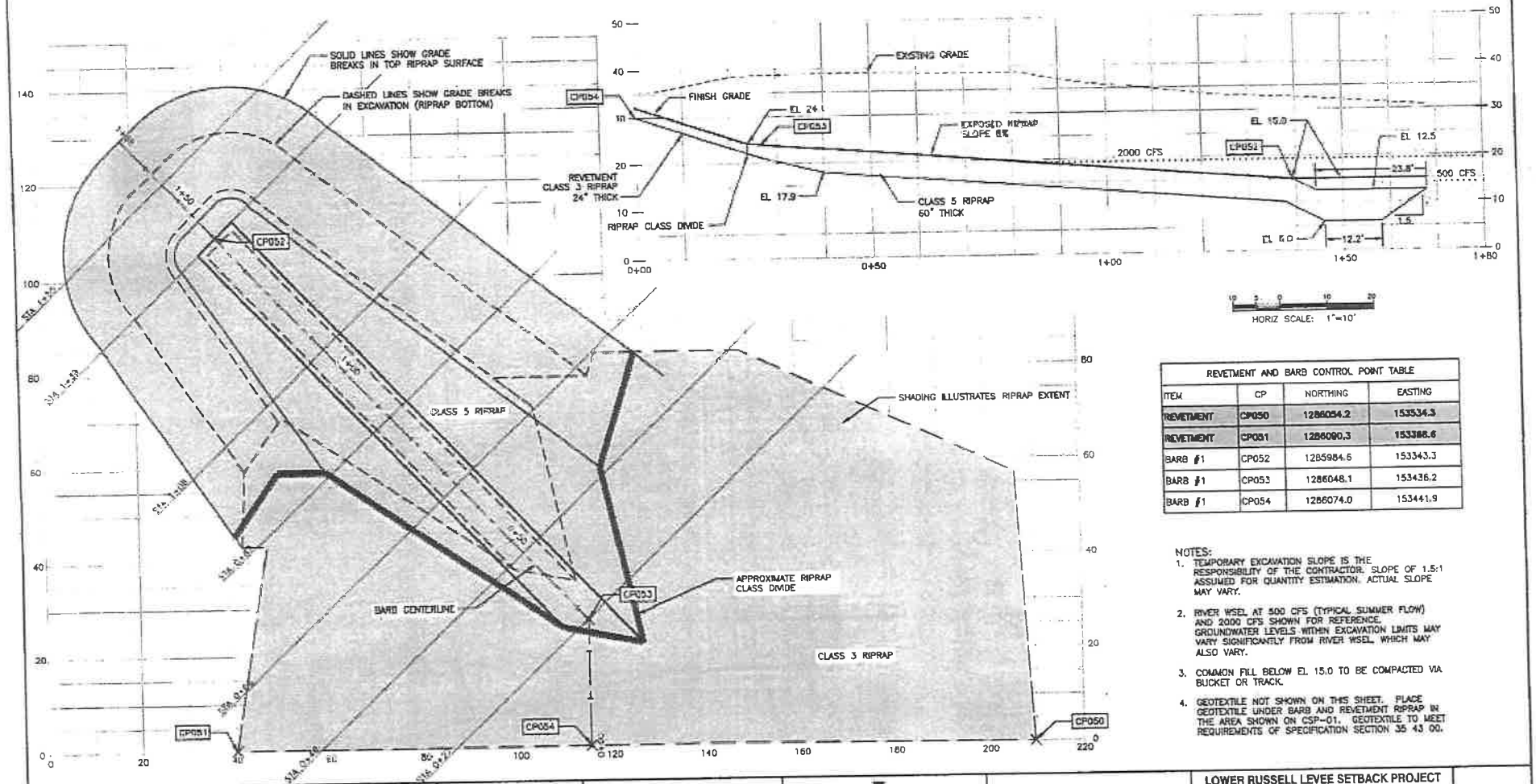
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

RIPRAP REVETMENT SECTIONS

SHEET CSP-04

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

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



REVETMENT AND BARB CONTROL POINT TABLE			
ITEM	CP	NORTHING	EASTING
REVETMENT	CP050	1286054.2	153534.3
REVETMENT	CP051	1286090.3	153388.6
BARB #1	CP052	1285984.6	153343.3
BARB #1	CP053	1286048.1	153436.2
BARB #1	CP054	1286074.0	153441.9

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 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 REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENTERED:	CTL	10/19
DESIGNED:	CTL	10/19
CHECKED:	DCH	10/19
SUPERVISOR:	VDC	10/19

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112068
CONTRACT No. CD1416C20

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 True, Director

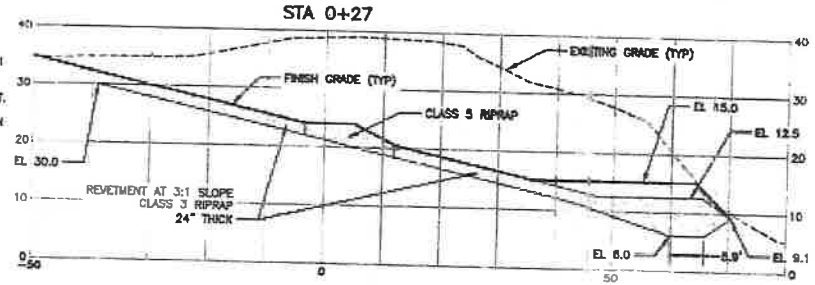
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

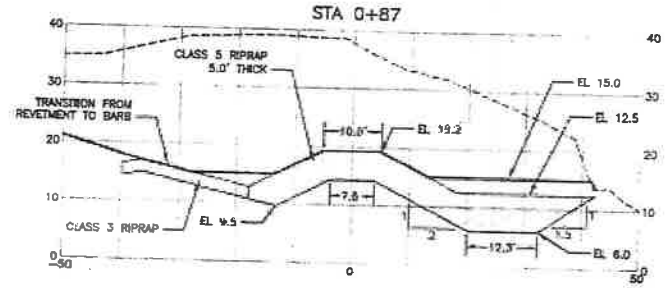
BARB #1
PROFILE AND PLAN

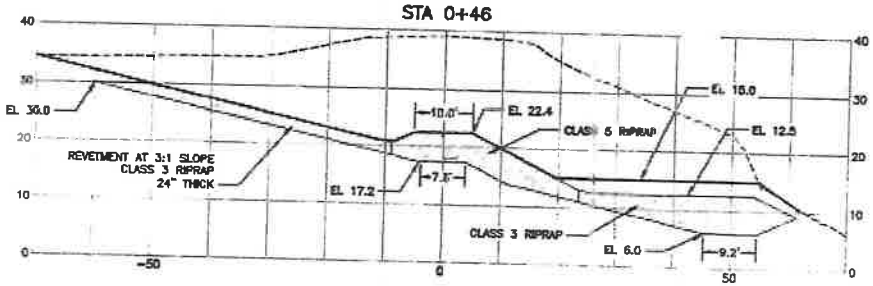
SHEET
CSP-05

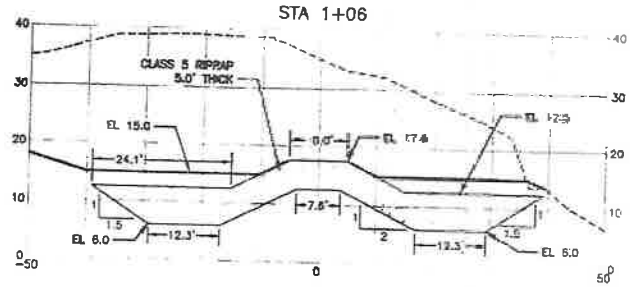
NOTES:

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-05.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 33 43 00.

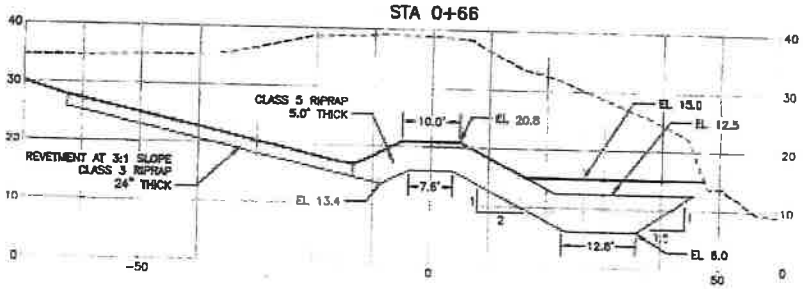


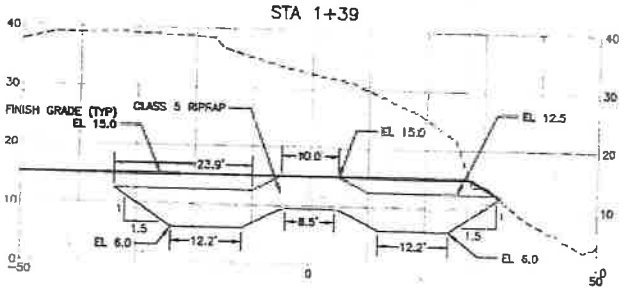






HORIZ SCALE: 1"=10'





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.)

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	CTL	10/19			
DESIGNED:	CTL	10/19	NUM.	REVISION	BY / DATE
CHECKED:	DDH	10/19			
SUPERVISOR:	VDC	10/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1113088

CONTRACT No. C01495C20

11/26/2019

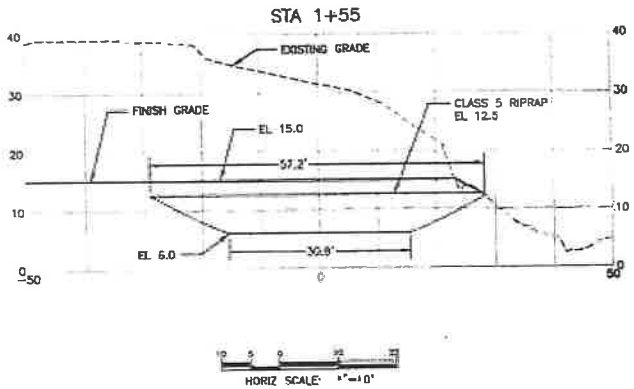
nhc northwest hydraulic consultants

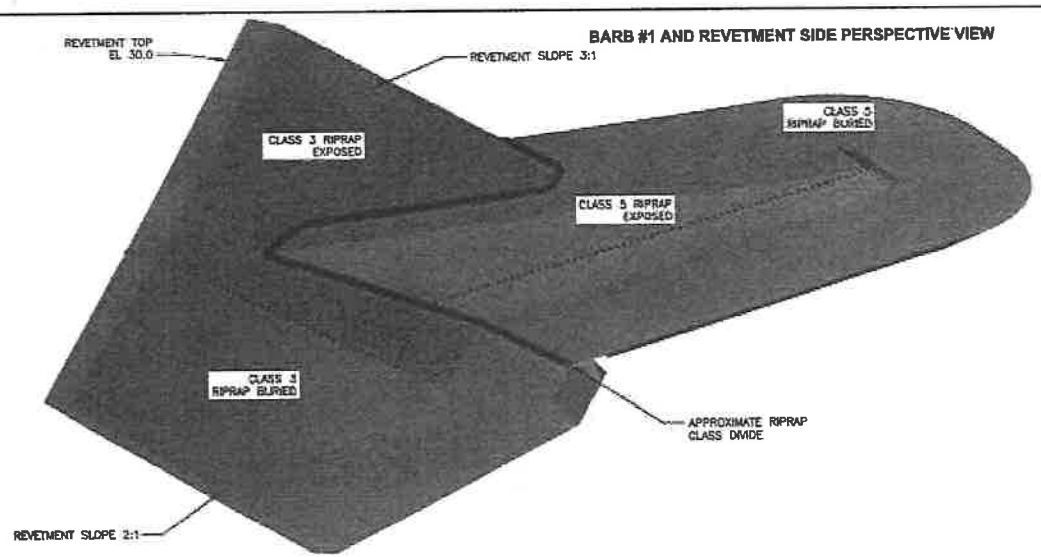
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

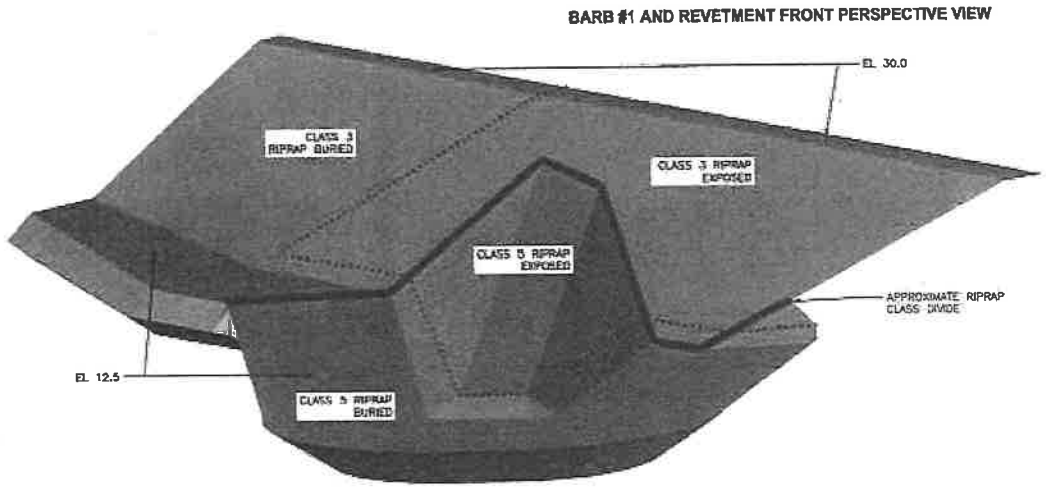
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

BARB #1 SECTIONS

SHEET
CSP-06







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-05.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-1. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

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

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

SURVEY JOB NO/SOURCE:							
CHECKED:							
CAD ENTERED:	CTL	10/19					
DESIGNED:	CTL	10/19	NUM.	REVISION	BY	DATE	
CHECKED:	DOH	10/19					
SUPERVISOR:	VDC	10/19					
			NUM.	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:
PROJECT No. 1112008
CONTRACT No. 001415C20

1/26/2019

nhc northwest hydraulic consultants

King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, 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 OF 1.5:1 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.
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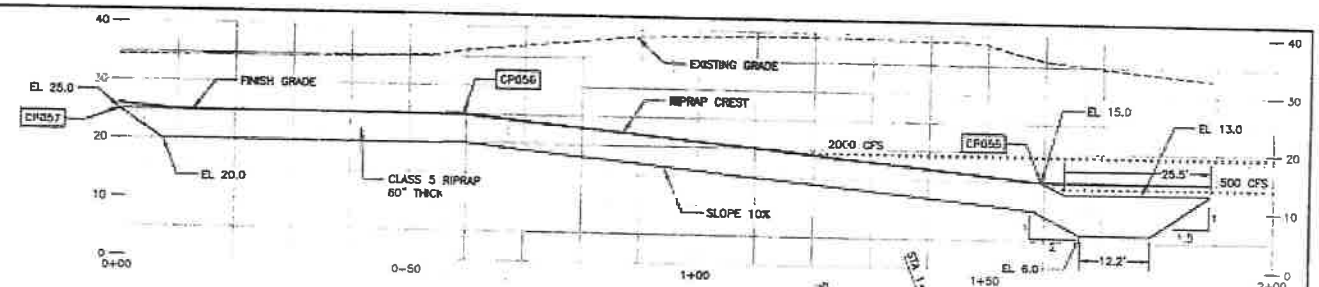
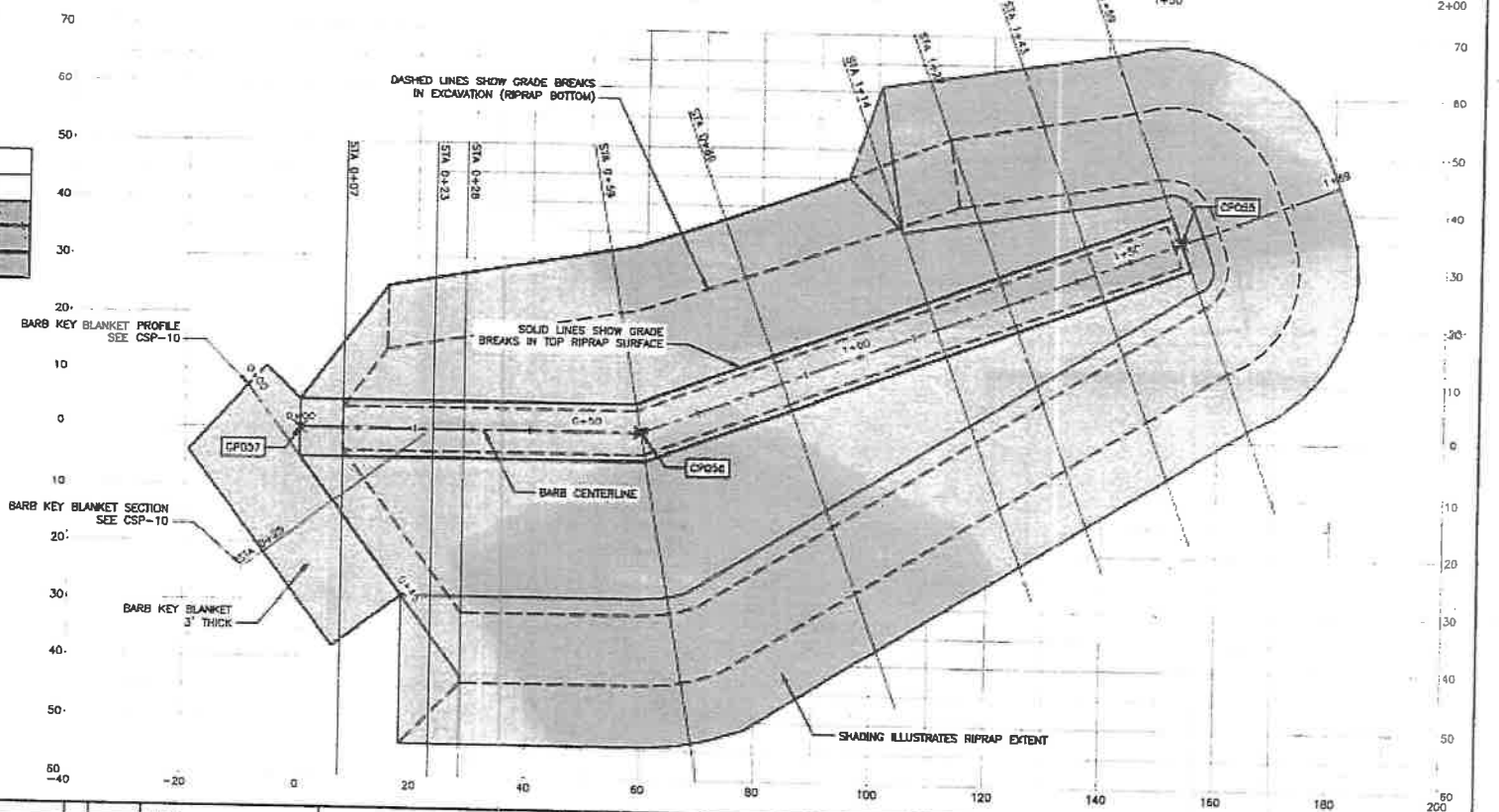
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

REVETMENT AND BARB CONTROL POINT TABLE			
ITEM	CP	NORTHING	EASTING
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]





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.)

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	CTL	10/19		
DESIGNED:	CTL	10/19		
CHECKED:	DDH	10/19		
SUPERVISOR:	VDC	10/19		

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112[illegible]

CONTRACT No. C014EC20

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 True, Director

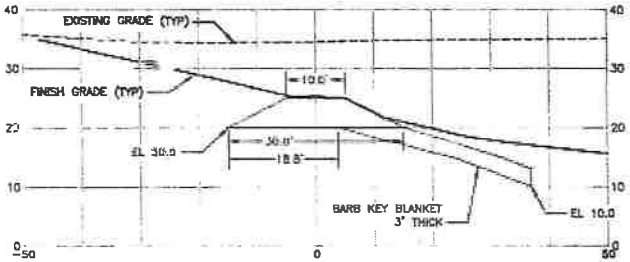
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

BARB #2
PROFILE AND PLAN

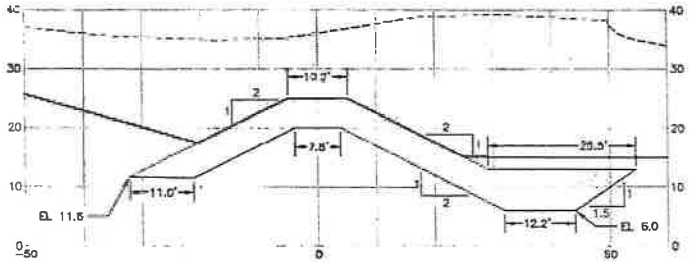
SHEET
CSP-08

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-08.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

STA 0+07



STA 0+59



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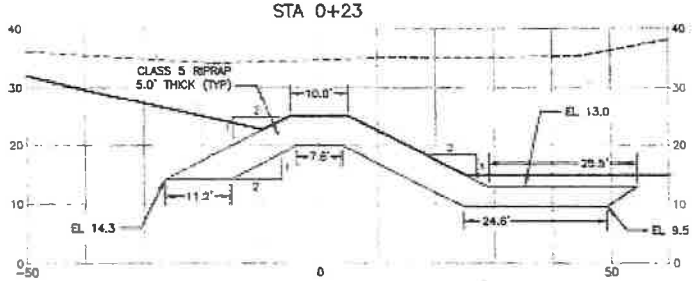
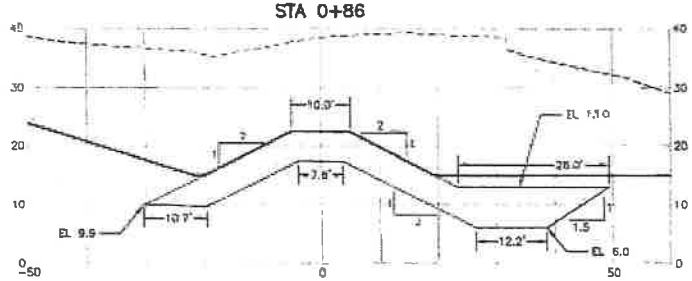
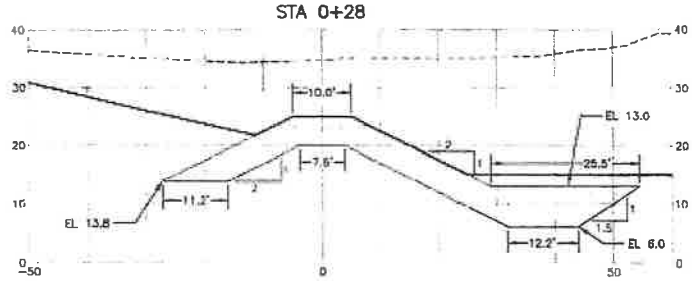


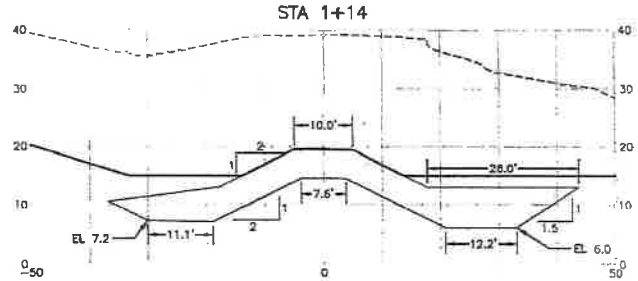
STA 0+86



STA 0+28



STA 1+14



HORIZ SCALE: 1"=10'

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.)

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	CTL	10/19		
DESIGNED:	CTL	10/19	NUM.	REVISION
CHECKED:	DDH	10/19		
SUPERVISOR:	VDC	10/19		
			NUM.	RECORD CHANGES APPROVED

		BY	DATE
		BY	DATE

FINISHED:
PROJECT No. 1112069
CONTRACT No. C0141SC20

11/26/2019

nhc northwest hydraulic consultants

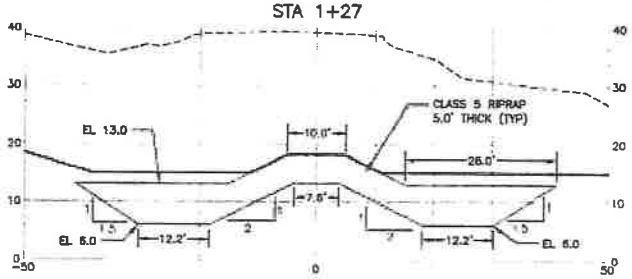
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

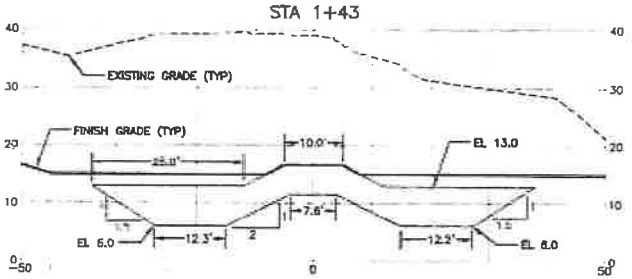
BARB #2 SECTIONS

SHEET
CSP-09

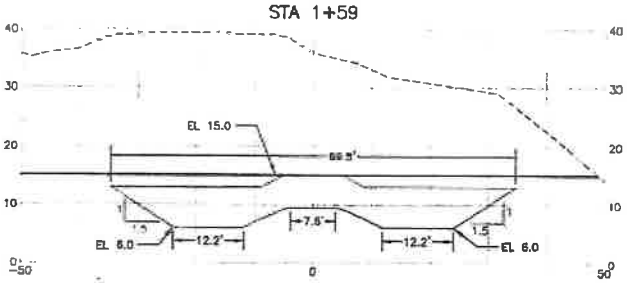
STA 1+27



STA 1+43



STA 1+59



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-08.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

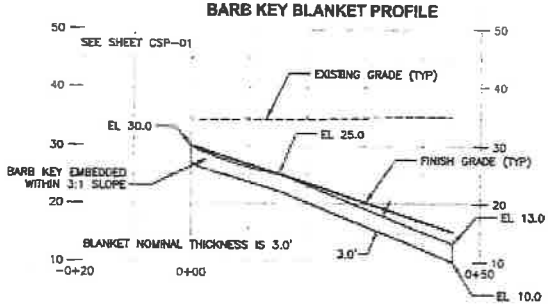
HORIZ SCALE: 1"=10'

811

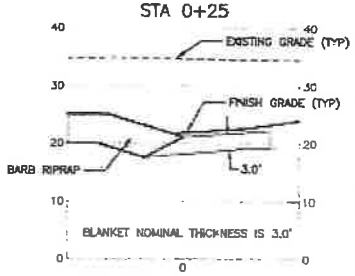
Know what's below.
Call before you dig.

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

BARB KEY BLANKET PROFILE



STA 0+25



BARB KEY BLANKET SECTION

SURVEY JOB NO/SOURCE:							
CHECKED:							
CAD ENTERED:	CTL	10/19					
DESIGNED:	CTL	10/19	MUNI	REVISION	BY	DATE	
CHECKED:	DDH	10/19					
SUPERVISOR:	VDC	10/19					
			MUNI	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

PROJECT No. 1113000

CONTRACT No. C01415C20

11/25/2019

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

BARB #2 SECTIONS
AND KEY BLANKET

SHEET:
CSP-10

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 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.
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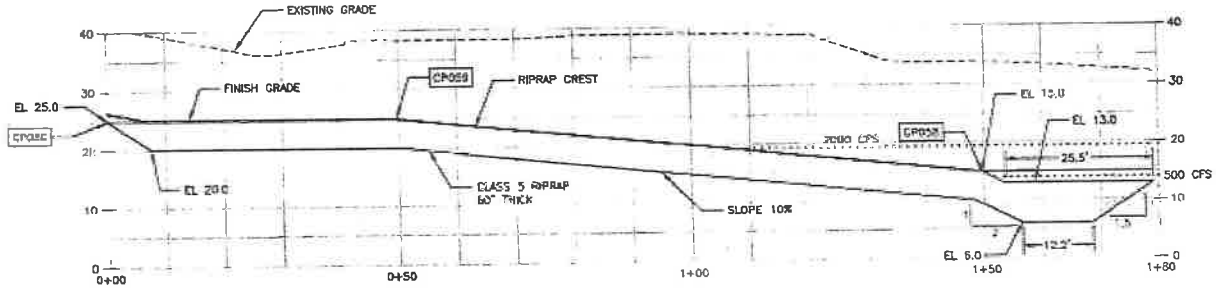
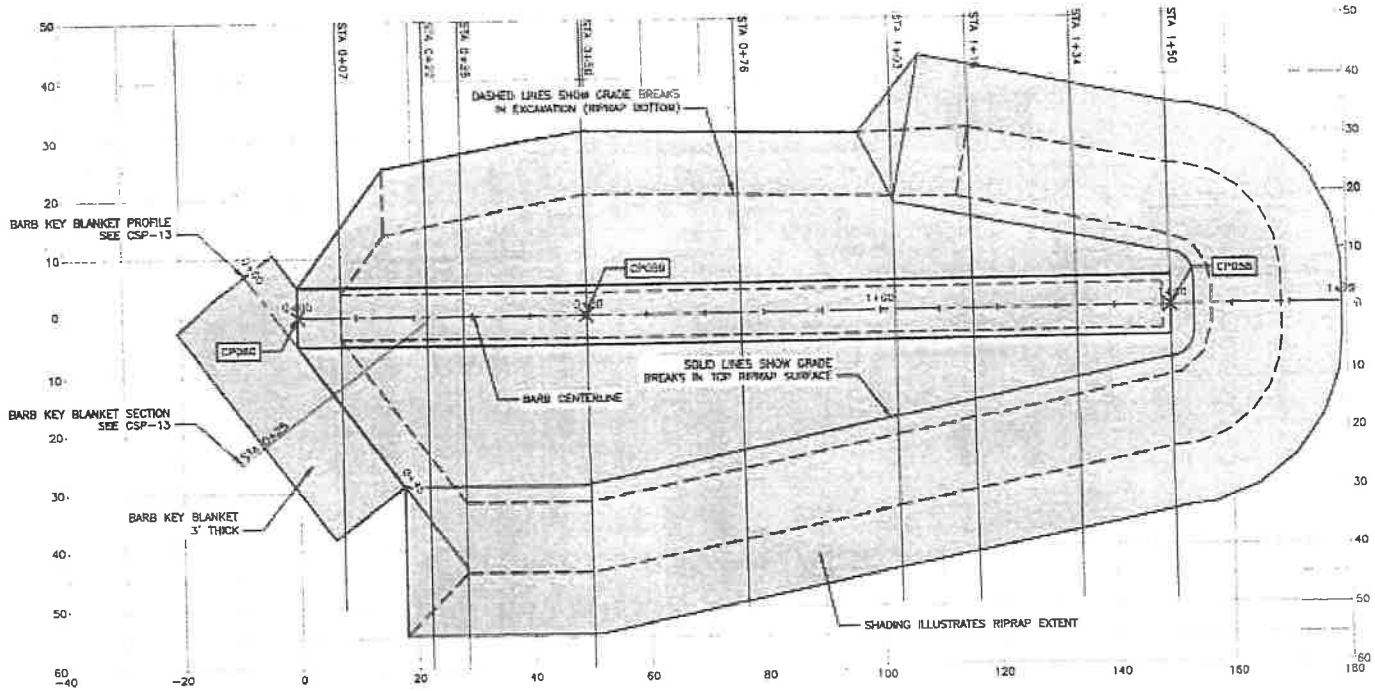


REVETMENT AND BARB CONTROL POINT TABLE			
ITEM	CP	NORTHING	EASTING
BARB #3	CP058	1285750.8	153009.7
BARB #3	CP059	1285850.0	153022.0
BARB #3	CP060	1285899.3	153027.7



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/SOLEPS:					
CHECKED:					
CAD ENTERED:	CTL	10/19			
DESIGNED:	CTL	10/19	NUM.	REVISION	BY / DATE
CHECKED:	DOH	10/19			
SUPERVISOR:	VDC	10/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:
PROJECT No. 1112038
CONTRACT No. C01415C20

11/25/2019

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

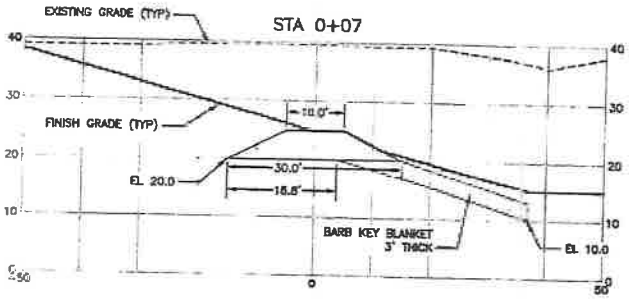
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

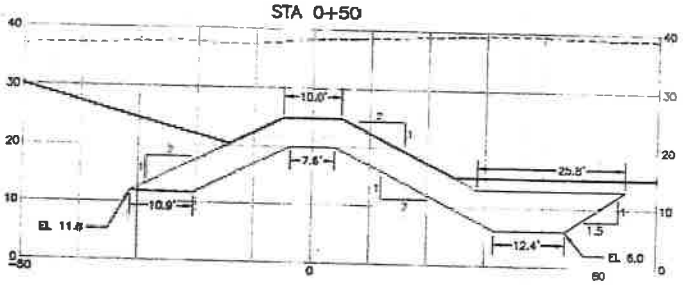
BARB #3
PROFILE AND PLAN

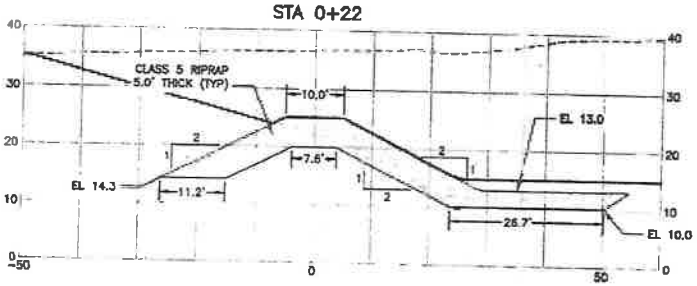
SHEET
CSP-11

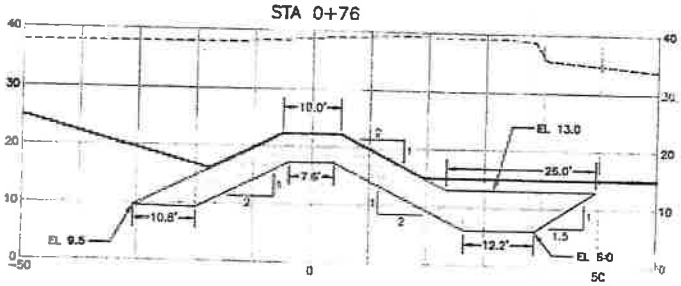
NOTES:

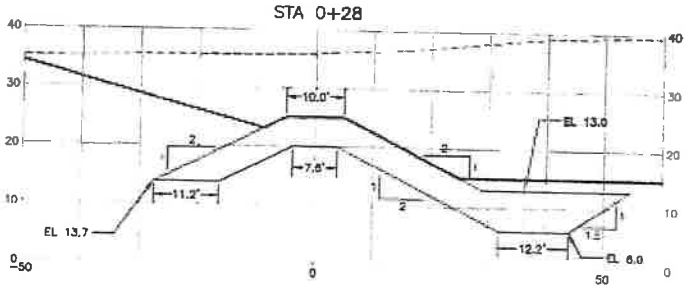
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
2. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-11.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

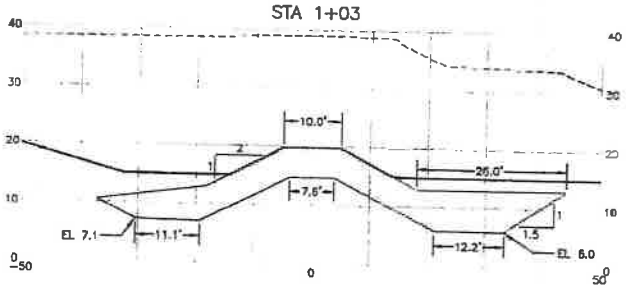












HORIZ SCALE: 1"=10'

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/SOURCE:					
CHECKED:					
CAD ENTERED: CTL	10/19				
DESIGNED: CTL	10/19	NUM.	REVISION	BY	DATE
CHECKED: DDH	10/19				
SUPERVISOR: VDC	10/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____
PROJECT No. 1112059
CONTRACT No. C01445C20

11/26/2019

nhc northwest hydraulic consultants

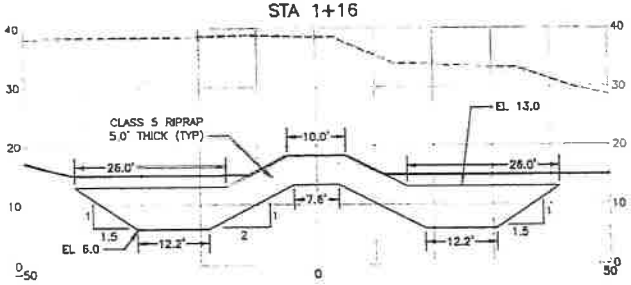
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

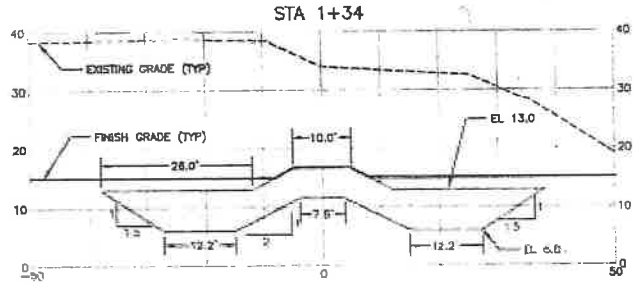
BARB #3 SECTIONS

SHEET
CSP-12

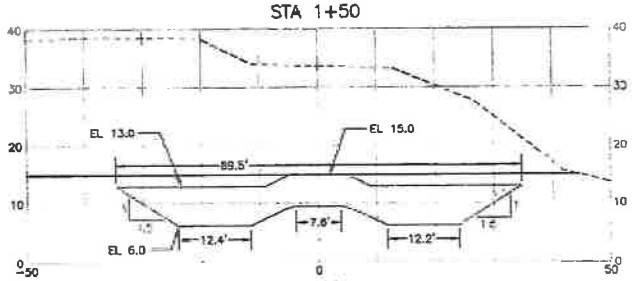
STA 1+16



STA 1+34



STA 1+50



NOTES:

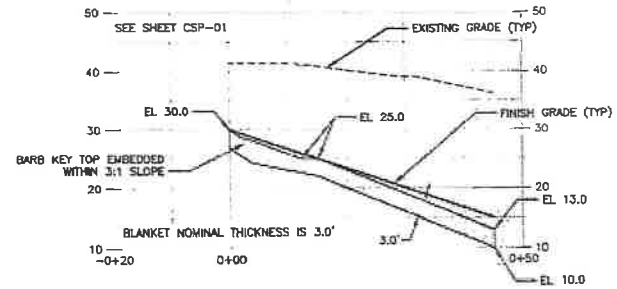
1. TEMPORARY EXCAVATION SLOPE IS THE RESPONSIBILITY OF THE CONTRACTOR. SLOPE OF 1.5:1 ASSUMED FOR QUANTITY ESTIMATION. ACTUAL SLOPE MAY VARY.
2. COMMON FILL BELOW EL 15.0 TO BE COMPACTED VIA BUCKET OR TRACK.
3. SECTION LOCATIONS SHOWN ON CSP-01 AND CSP-11.
4. GEOTEXTILE NOT SHOWN ON THIS SHEET. PLACE GEOTEXTILE UNDER BARB AND REVETMENT RIPRAP IN THE AREA SHOWN ON CSP-01. GEOTEXTILE TO MEET REQUIREMENTS OF SPECIFICATION SECTION 35 43 00.

HORIZ SCALE: 1"=10'

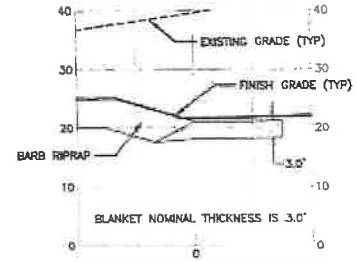
Know what's below.
Call before you dig.

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

BARB KEY BLANKET PROFILE



STA 0+25



BARB KEY BLANKET SECTION

SURVEY JOB NO/SOURCE:						PUNCHING:	
CHECKED:							
CAD ENTERED:	CTL	10/19				PROJECT No.	1112058
DESIGNED:	CTL	10/19	MARK	REVISION	BY	DATE	
CHECKED:	DOH	10/19				CONTRACT No.	C01415C20
SUPERVISOR:	VDC	10/19					
			MUNI	RECORD CHANGES APPROVED	BY	DATE	

11/26/2019

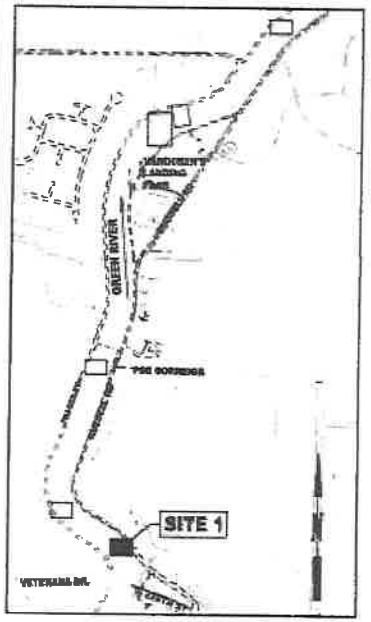
nhc northwest hydraulic consultants

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

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

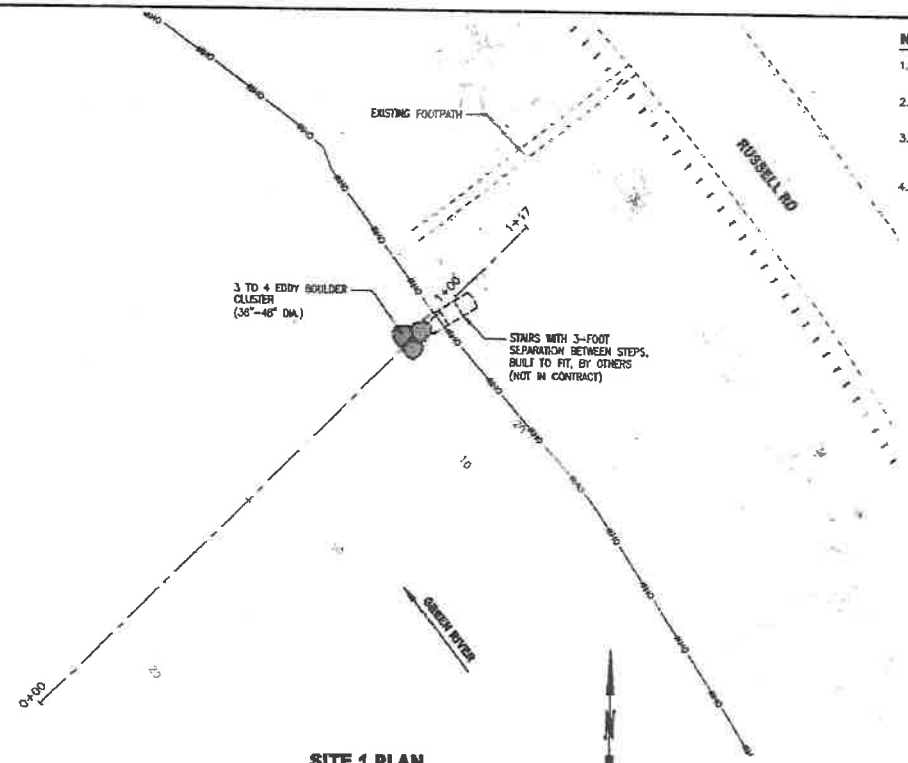
BARB #3 SECTIONS
AND KEY BLANKET

SHEET
CSP-13



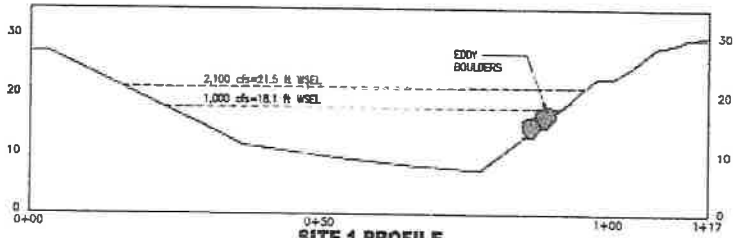
KEY MAP

0 500' 1,000'



SITE 1 PLAN

0 10' 20'



SITE 1 PROFILE

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 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.

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	MARK	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		MAR.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

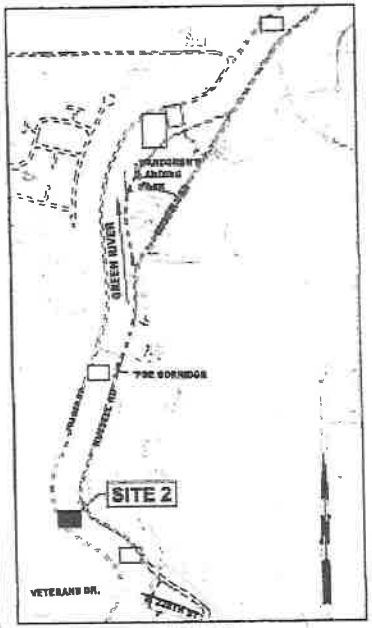
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

SITE 1 EDDY FEATURE

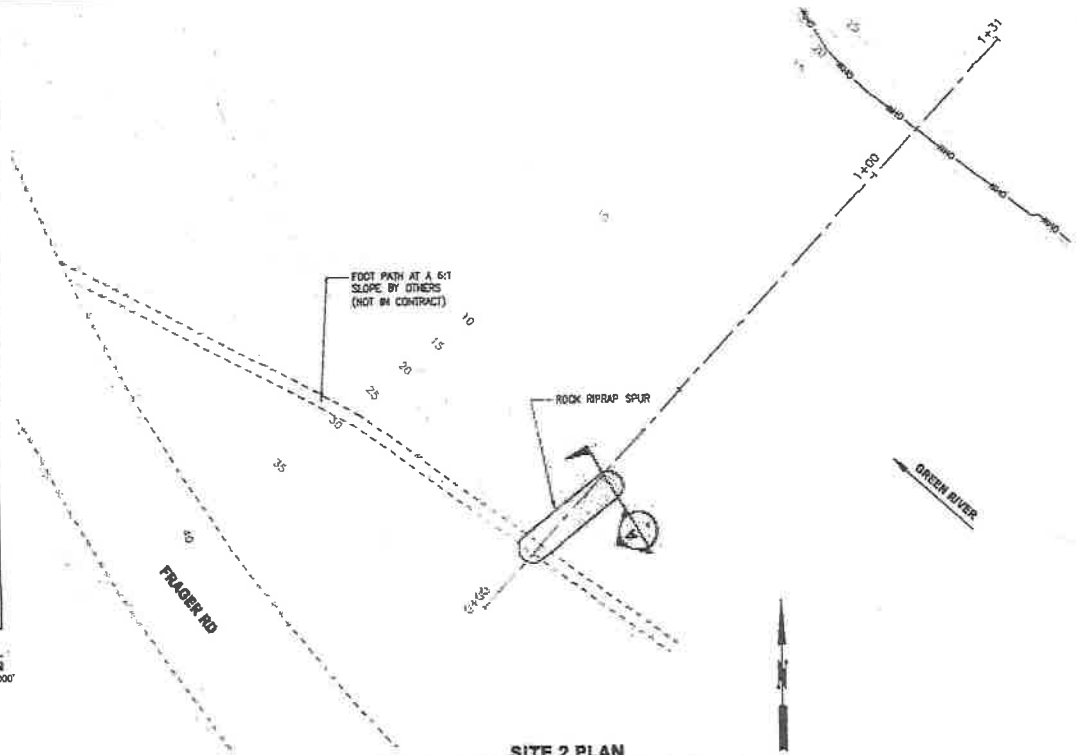
SHEET
CSP-14

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_EDDY.dwg, 11/26/2019 1:21:32 PM, _AutoCAD PDF (General Documentation).pc3



KEY MAP

0 500' 1,000'

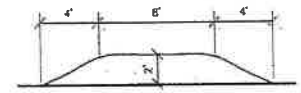


SITE 2 PLAN

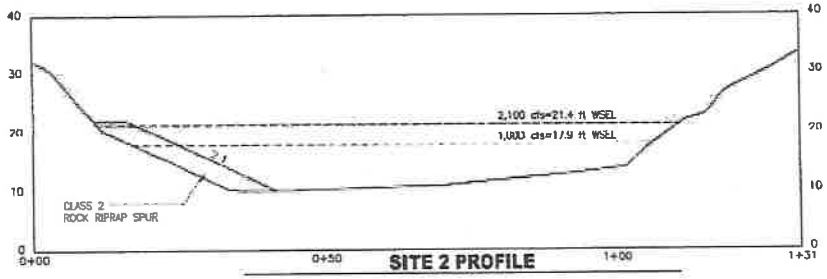
0 10' 20'

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 22 AND 23.
3. PROTECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS.



A TYPICAL SECTION
SCALE: NTS



SITE 2 PROFILE

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	HUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		HUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

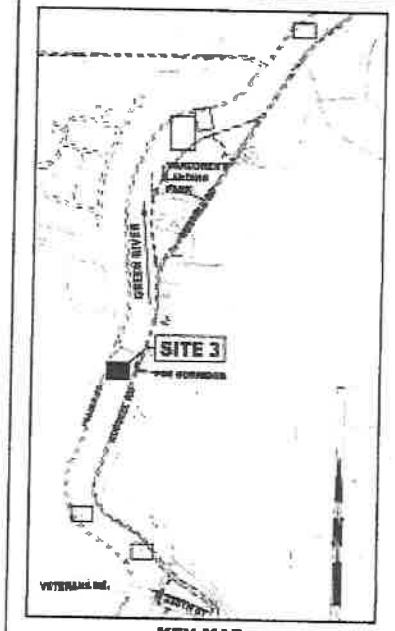
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

SITE 2 EDDY FEATURE

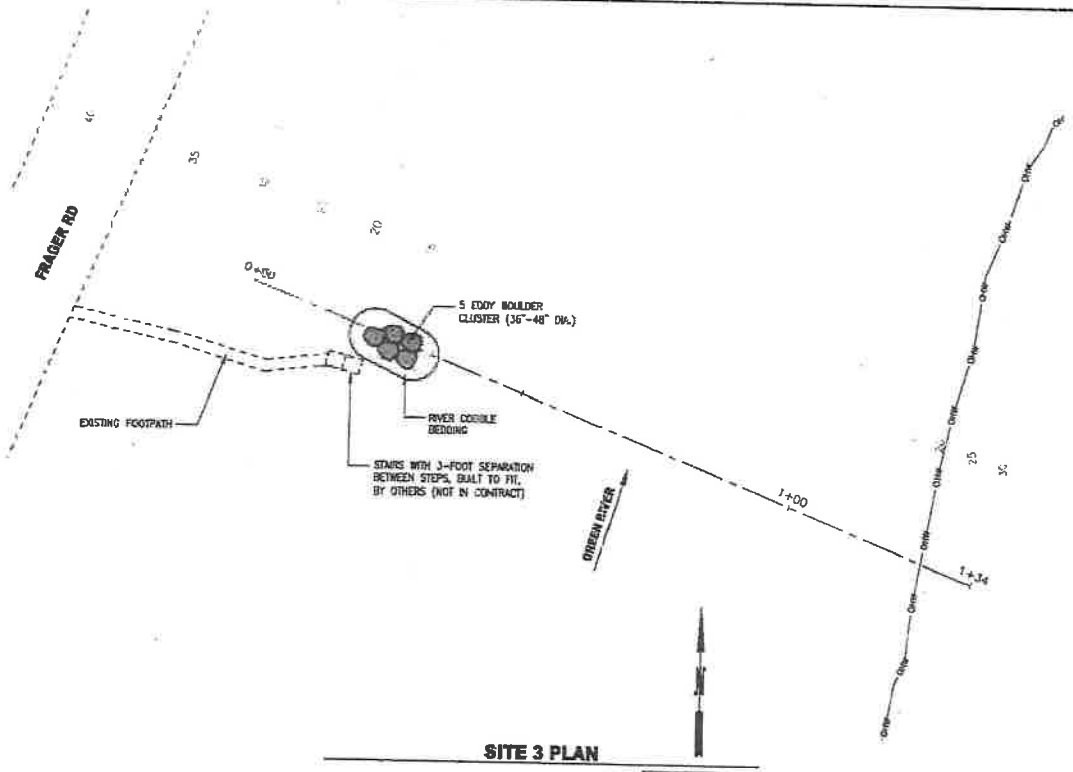
SHEET
CSP-15

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_EDDY.dwg, 11/26/2019 1:23:32 PM, _AutoCAD PDF (General Documentation).pc3



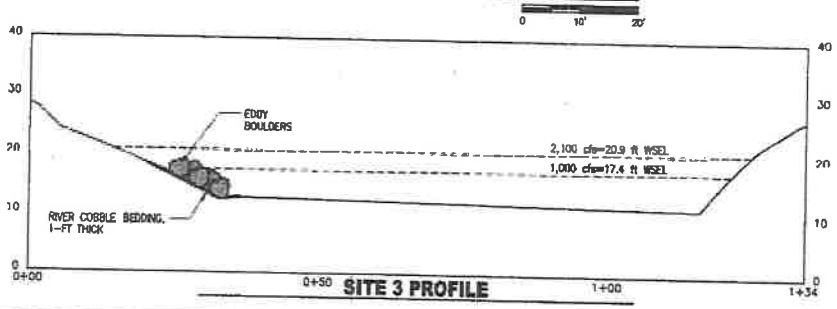
KEY MAP

0 500' 1,000'



SITE 3 PLAN

0 10' 20'



SITE 3 PROFILE

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 18 AND 19.
3. PROTECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS.

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

SURVEY JOB NO/SELECT:			
CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019		
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN RENELT, P.E.	11/2019		

MUN.	REVISION	BY	DATE
MUN.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

11/26/19

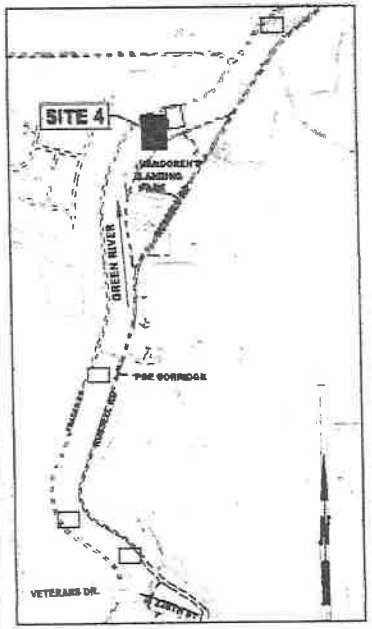
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

SITE 3 EDDY FEATURE

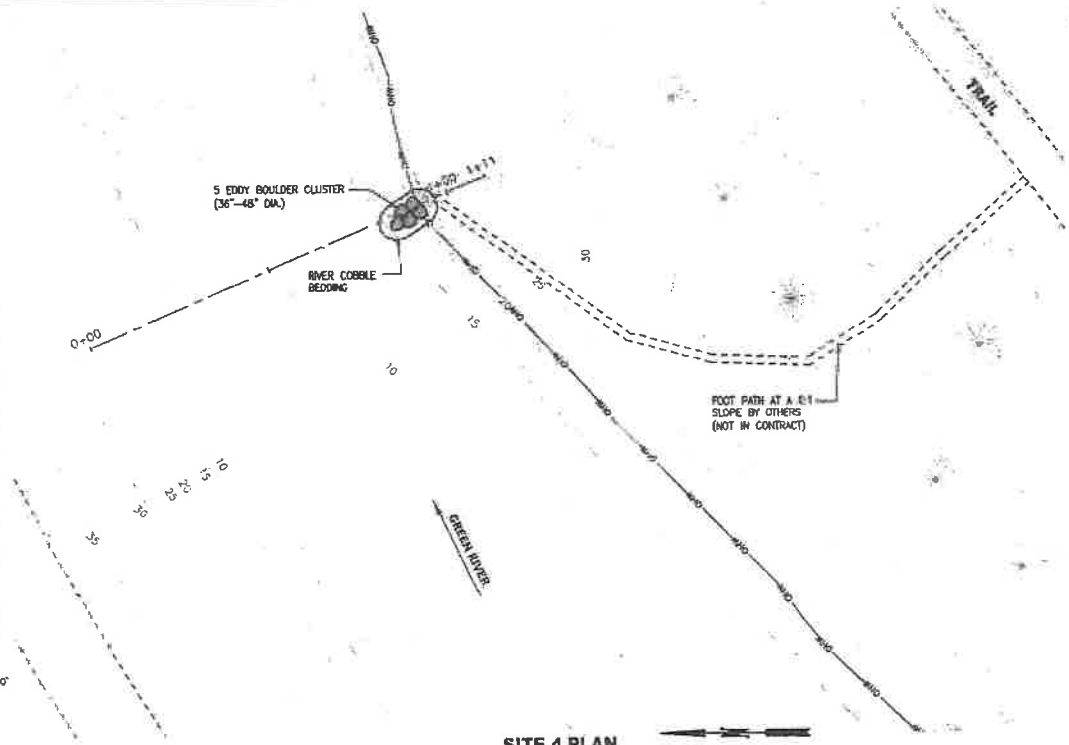
SHEET
CSP-16

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_EDDY.dwg, 11/26/2019 1:24:39 PM, AutoCAD PDF (General Documentation).pc3



KEY MAP

0 500' 1,000'

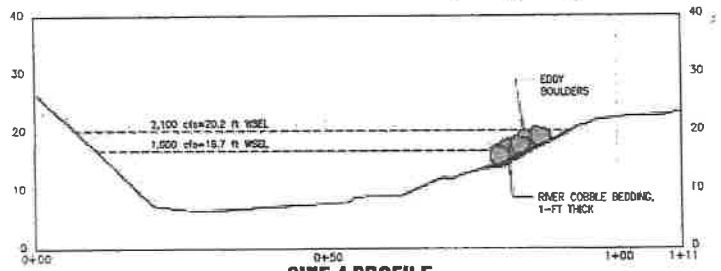


SITE 4 PLAN

0 15' 30'

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 PROFILE

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 91120158

CONTRACT No. C01415C20

11/26/19

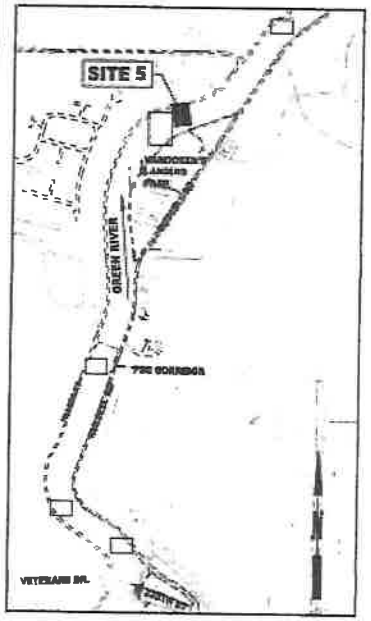
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

SITE 4 EDDY FEATURE

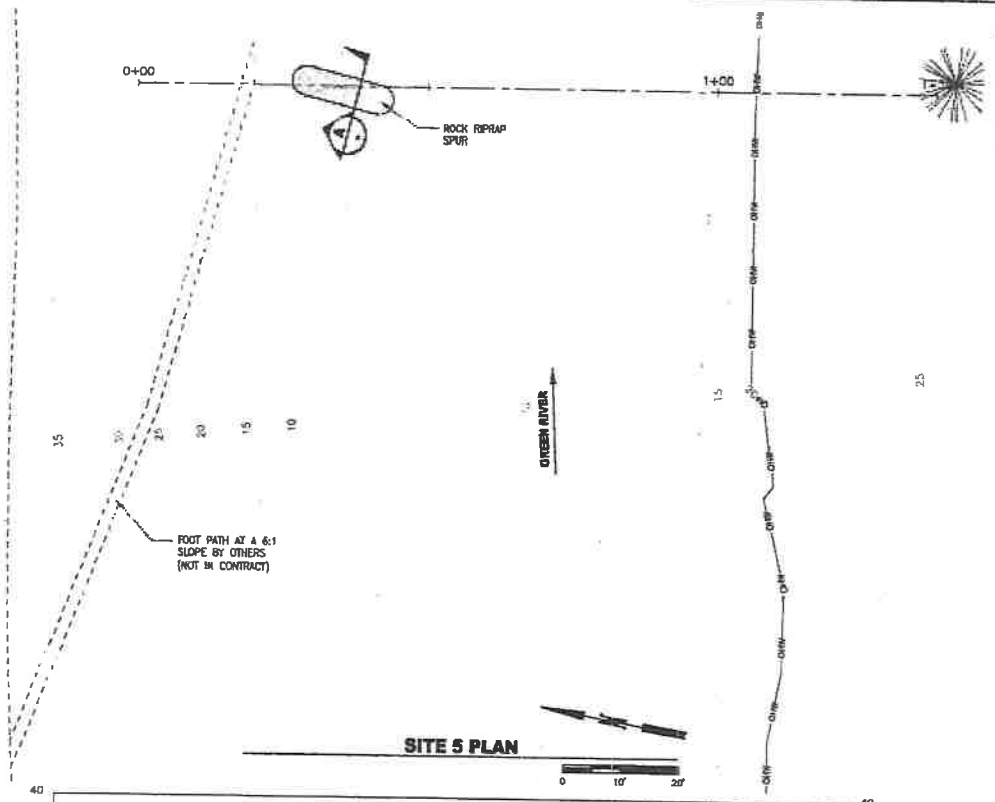
SHEET
CSP-17

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_EDDY.dwg, 11/26/2019 1:25:39 PM, _AutoCAD PDF (General Documentation).pc3



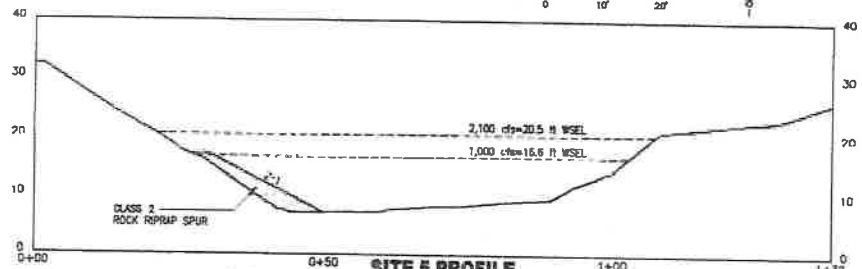
KEY MAP

0 500' 1,000'



SITE 5 PLAN

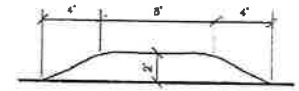
0 10' 20'



SITE 5 PROFILE

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 17 AND 19.
3. PROTECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS.



A TYPICAL SECTION
SCALE: NTS

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112059

CONTRACT No. C01415C20

11/26/19

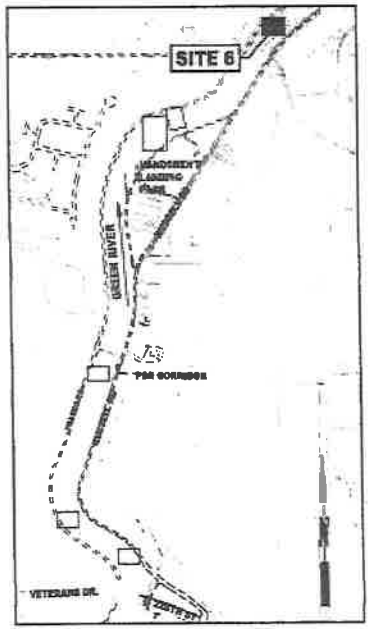
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

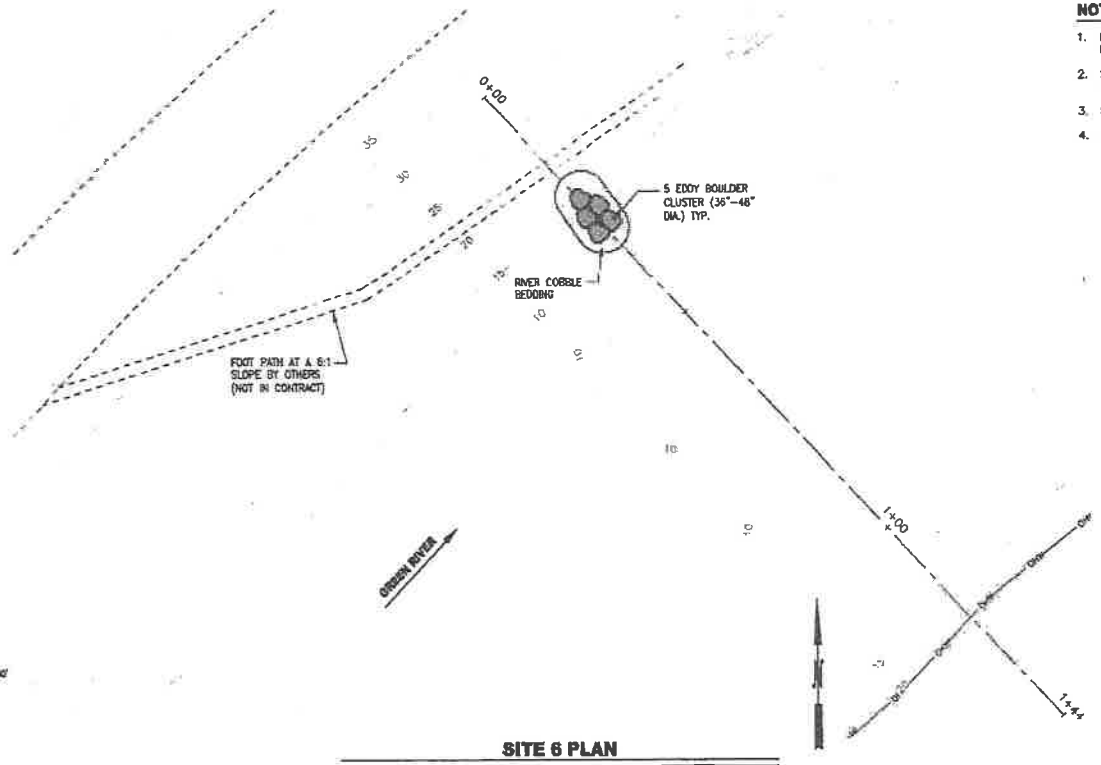
SITE 5 EDDY FEATURE

SHEET
CSP-18

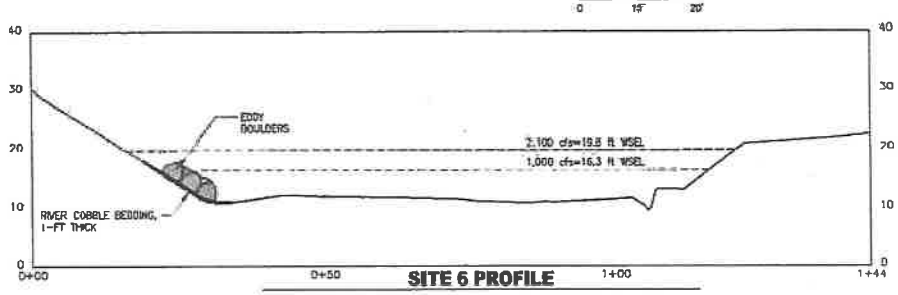
I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_EDDY.dwg, 11/26/2019 1:26:29 PM, _AutoCAD PDF (General Documentation).pc3



KEY MAP



SITE 6 PLAN



SITE 6 PROFILE

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 17 AND 18.
3. PROTECT EXISTING TRAIL SURFACE.
4. PLACE ROCK WITH CRANE DUE TO ACCESS CONSTRAINTS.

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

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: K. KITAMURA	11/2019		
DESIGNED: ERIK PETERS, P.E.	11/2019		
CHECKED: ERIK PETERS, P.E.	11/2019		
SUPERVISOR: LORIN REINELT, P.E.	11/2019		

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

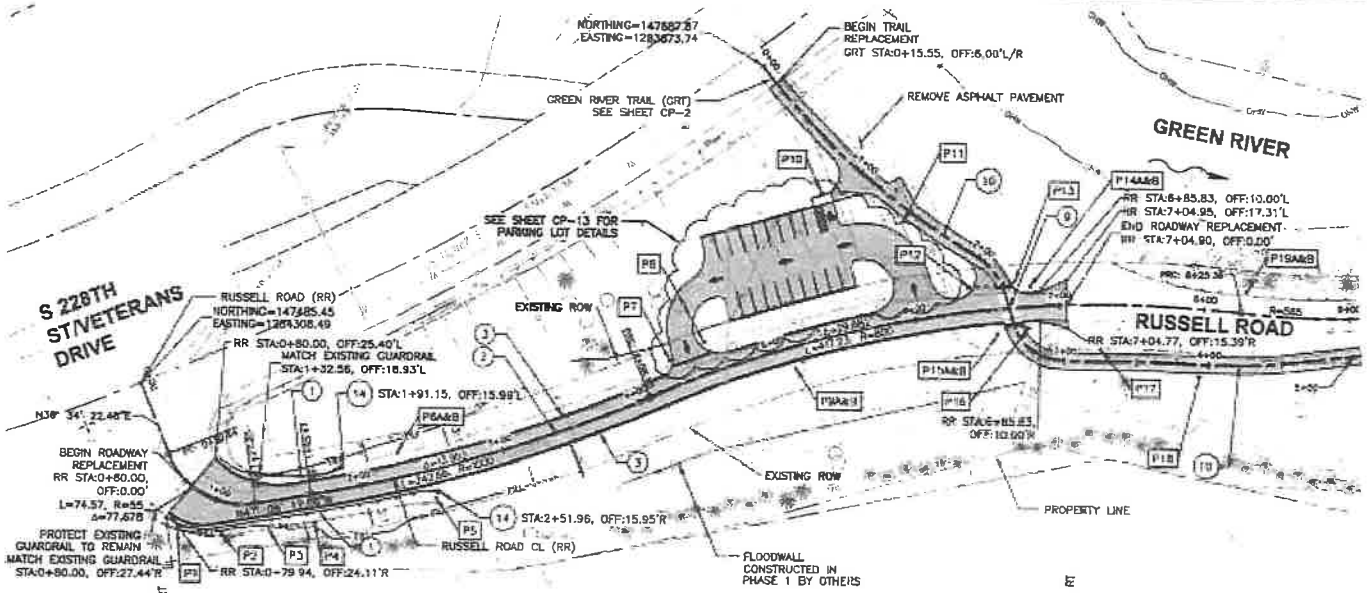
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

SITE 6 EDDY FEATURE

SHEET
CSP-19

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_EDDY.dwg, 11/26/2019 1:27:19 PM, _AutoCAD PDF (General Documentation).pc3



NOTES:

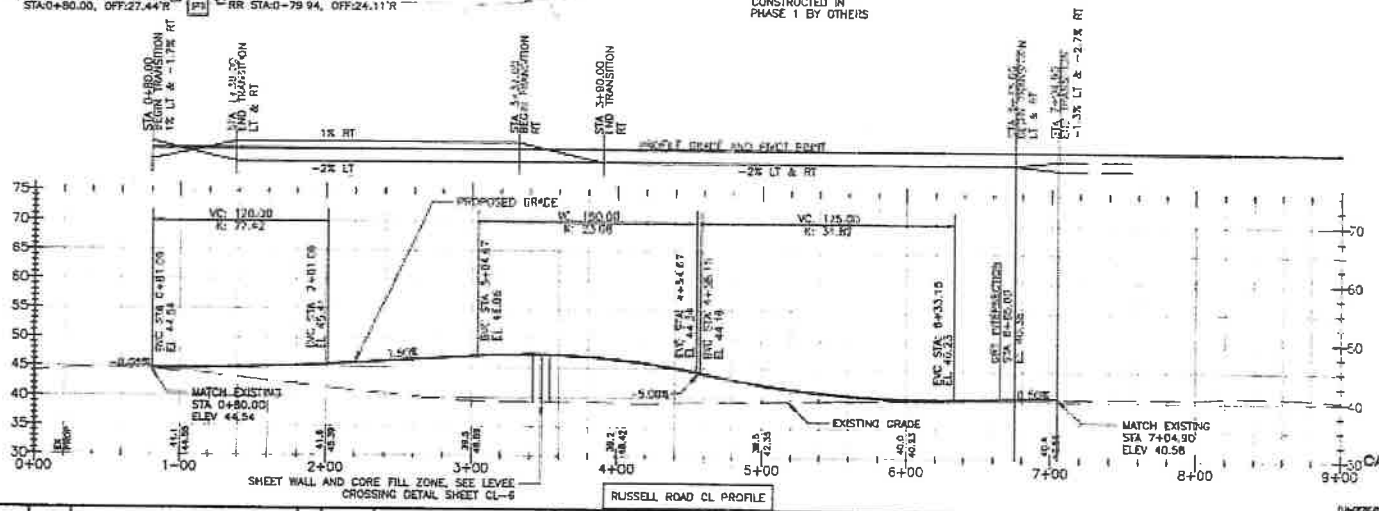
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLEBLOCK
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING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

LEGEND:

ASPHALT PAVEMENT
CONCRETE SIDEWALK, 4" DEPTH
GUARDRAIL
SIGN P#6

CONSTRUCTION NOTES:

1. GUARDRAIL TYPE 31 – 8 FT LONG POST, WSDOT ST 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
9. THERMOPLASTIC CROSSWALK MARKINGS, CITY OF KENT STD. PLAN 6-75
10. GREEN RIVER REGIONAL TRAIL (SHEET CP-2) (SEE TYPICAL SECTIONS ON SHEET CP-15)
14. NON-FLARED TERMINAL, WSDOT STD. PLAN C-22.45-03 WITH BEAM GUARDRAIL END SECTION DESIGN G, WSDOT STD. PLAN C-7



RUSSELL ROAD CL PROFILE

HORIZ SCALE IN FEET

VERT SCALE IN FEET

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/SOURCE:					
CHECKED:					
CAD ENTERED: J. FRYE	11/27/19				
DESIGNED: K. MCDONALD	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19				
SUPERVISOR: S. JOHNSON	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

PLANNING:

PROJECT No. 1112056

CONTRACT No. C01415C20

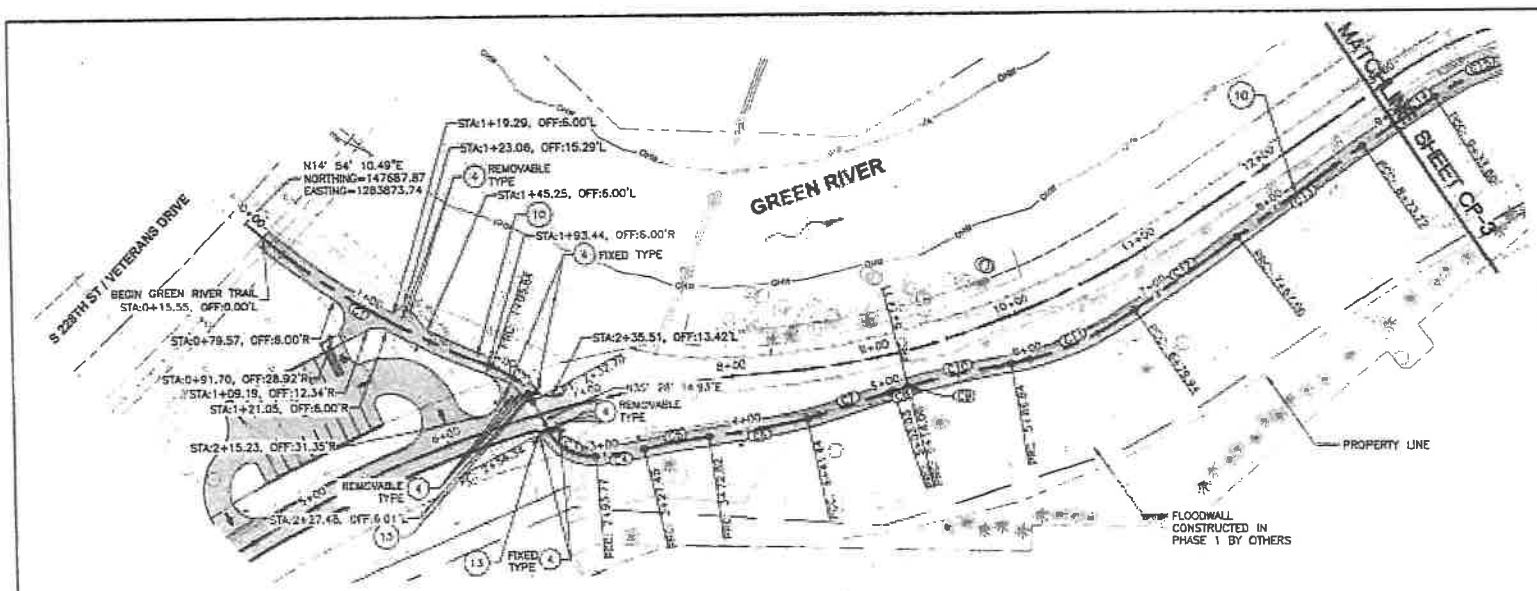
HDR Engineering Inc

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
STREET IMPROVEMENTS
PLAN AND PROFILE
RUSSELL ROAD STA 0+00 TO 9+00

SHEET CP-1

C:\pwworking\sea\d2041749\KCLRR_CP-1.dwg, KCLRR_CP-1, 11/26/2019 10:23:28 AM, KMCDONALD



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 TITLEBLOCK
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL 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

CONSTRUCTION NOTES:

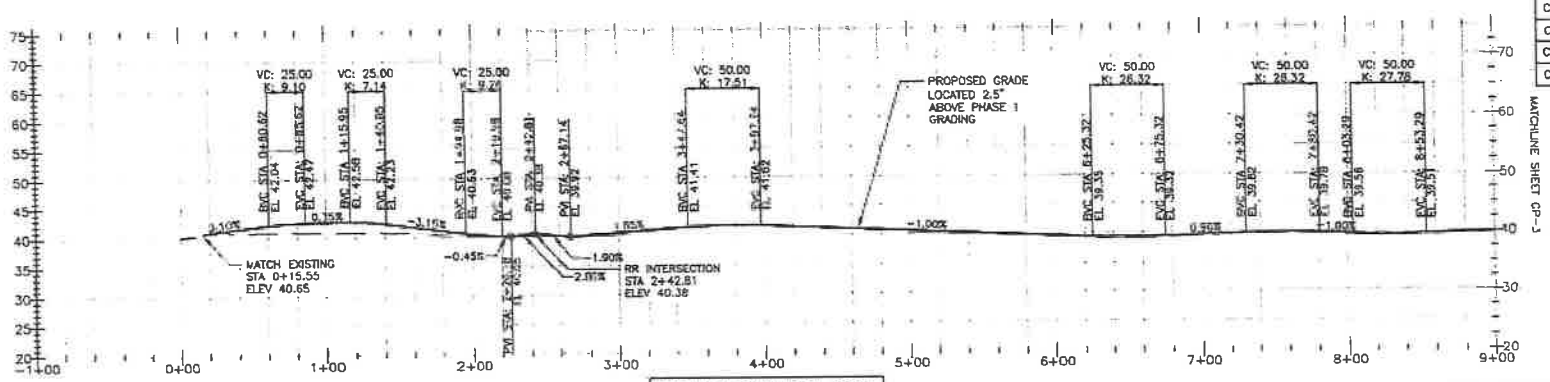
(4) BOLLARD (SEE SHEETS CP-7 AND CP-25)

(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	Δ	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	61.58	61.58
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	23.760	93.10	92.43
C12	3506.41	1.433	87.71	87.71
C13	2892.73	2.109	106.11	106.11



GREEN RIVER REGIONAL TRAIL PROFILE

HORIZ SCALE IN FEET

VERT SCALE IN FEET

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/SOURCE:				
CHECKED:				
CAD ENTERED: J. FRYE	11/27/19			
DESIGNED: K. MCDONALD	11/27/19	NUM.	REVISION	BY / DATE
CHECKED: B. MAGEE	11/27/19			
SUPERVISOR: S. JOHNSON	11/27/19			
		NUM.	RECORD CHANGES APPROVED	BY / DATE

RUN/DWG: _____

PROJECT No. N137068

CONTRACT No. C01415C20

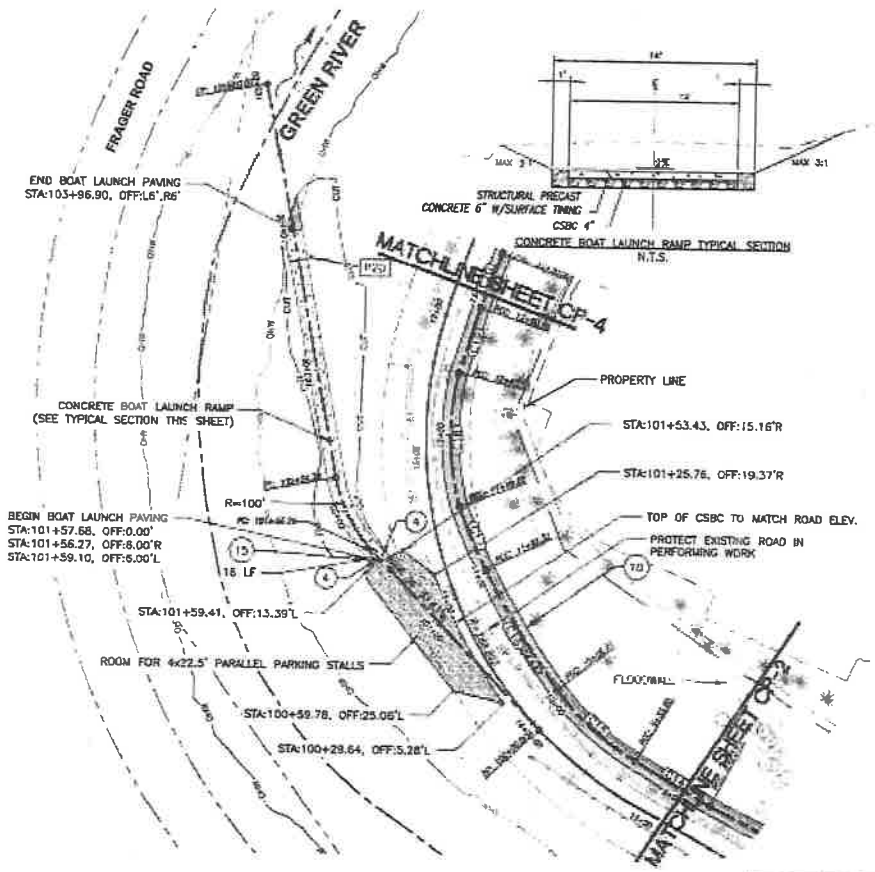
HDR Engineering Inc.

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

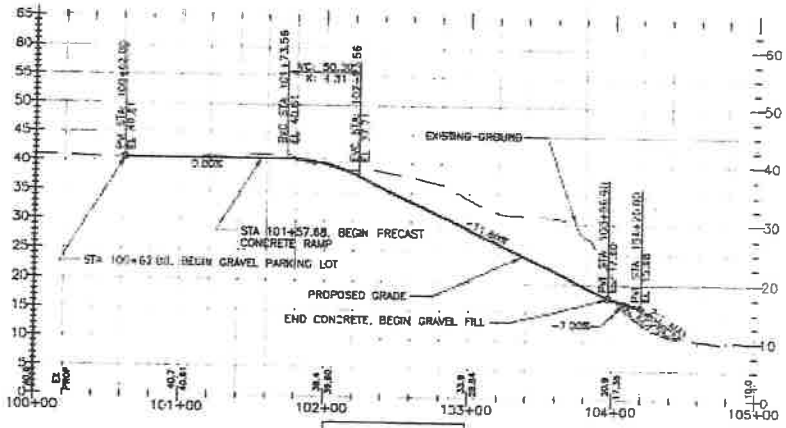
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
TRAIL IMPROVEMENTS
PLAN AND PROFILE
GREEN RIVER TRAIL STA 0+00 TO 9+00

SHEET CP-2

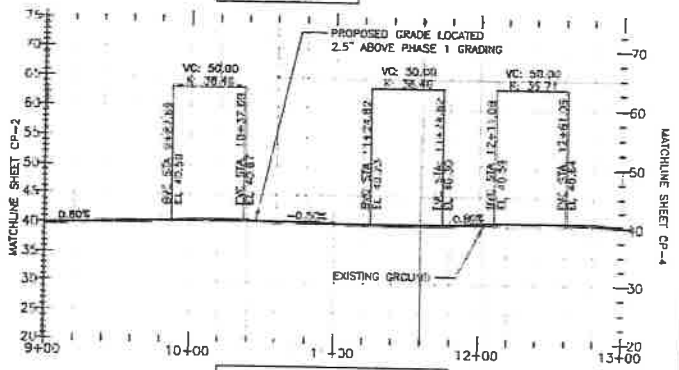
C:\pwworking\sea\d2041749\CLRR_CP-2,4,8,10,11.dwg, CP-2, 11/26/2019 10:30:50 AM, KMCDONALD



CONCRETE BOAT LAUNCH RAMP TYPICAL SECTION
N.T.S.



BOAT LAUNCH PROFILE



GREEN RIVER REGIONAL TRAIL PROFILE

NOTES:

1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. GRADE GRAVEL PARKING AREA TO DRAIN TOWARDS RIVER
3. 15% MAX SLOPE ON BOAT LAUNCH
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR TRAIL SURFACING INFORMATION
5. GRAVEL PARKING AREA TO BE 4 IN. LAYER OF CSBC ON EXISTING SURFACE (SEE GRAVEL PARKING AREA DETAIL THIS SHEET)
6. SEE SHEET CP-23 FOR SIGN SCHEDULE
7. SEE CSD SHEETS FOR GRADING CONTOURS

LEGEND:

CRUSHED SURFACING BASE COURSE
STRUCTURAL PRECAST CONCRETE
ASPHALT PAVEMENT
SIGN P##

CONSTRUCTION NOTES:

4 BOLLARD (SEE SHEETS CP-7 AND CP-25)

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

15 6" SDR 21 PVC SLEEVE, SEE DETAIL 2 ON SHEET LP-59

TRAIL ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C14	1129.45	3.045	60.03	60.03
C15	200.38	20.847	72.91	72.51
C16	504.65	10.855	95.61	95.46
C17	345.65	7.873	47.50	47.46
C18	191.25	27.818	93.19	92.27
C19	3878.56	0.702	47.55	47.55

GRAVEL PARKING AREA DETAIL
N.T.S.

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

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

SURVEY JOB NO/SQUADS:				
CHECKED:				
CAD ENTERED: J. FRIX	11/27/19			
REVIEWED: K. MCDONALD	11/27/19	NUM. REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19			
SUPERVISOR: S. JOHNSON	11/27/19			
		NUM. RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112036

CONTRACT No. C01415C20

HDR Engineering Inc.

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
BOAT LAUNCH
TRAIL IMPROVEMENTS
PLAN & PROFILE
GREEN RIVER TRAIL STA 9+00 TO 13+00
BOAT LAUNCH

SHEET CP-3

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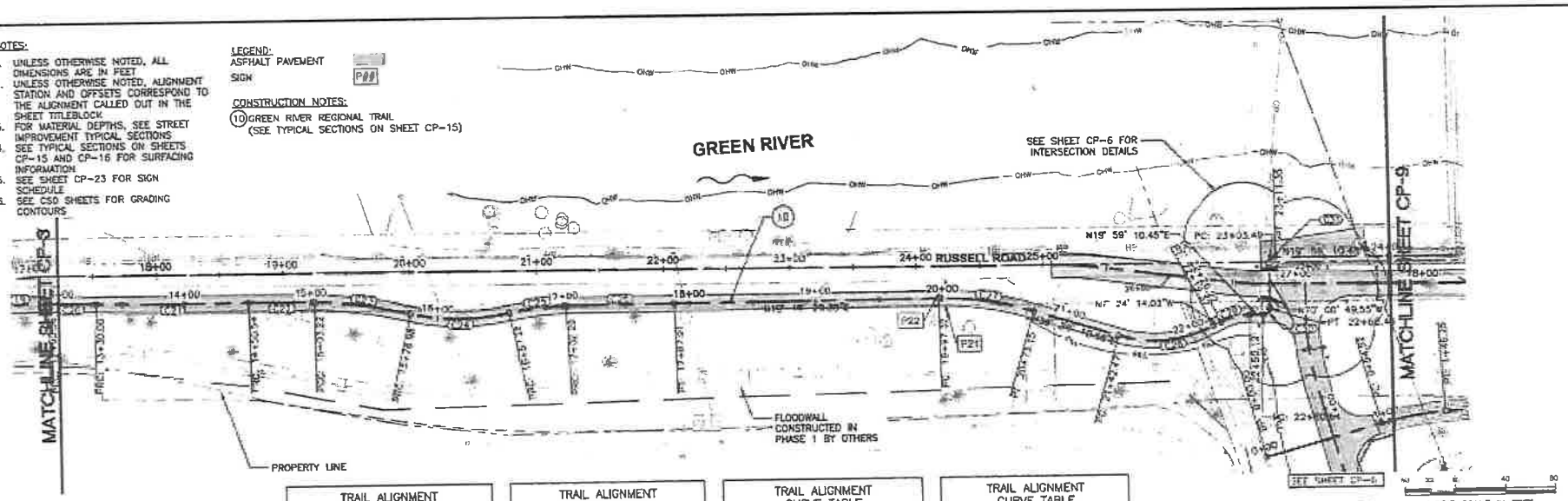
NOTES:

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 TITLEBLOCK
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL 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 C50 SHEETS FOR GRADING CONTOURS

LEGEND:
ASPHALT PAVEMENT
SIGN P##

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

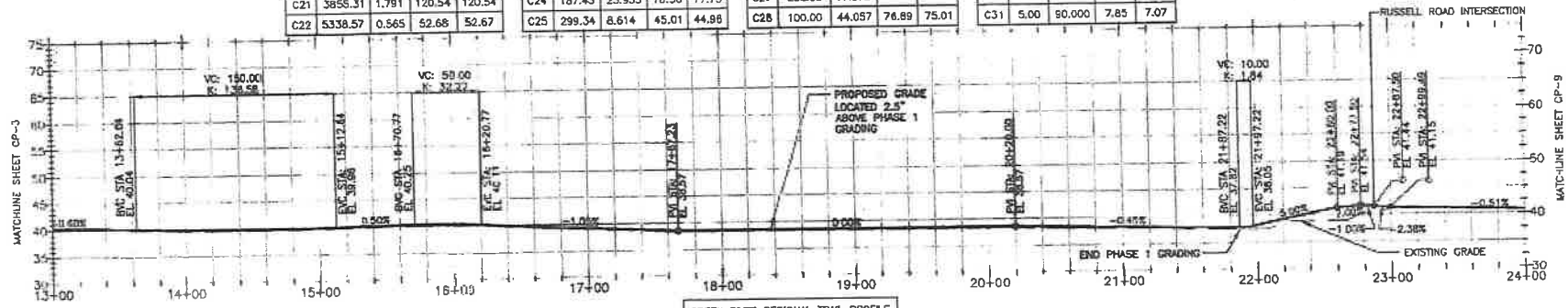


TRAIL ALIGNMENT CURVE TABLE				
No.	R	Δ	L	T
C20	4121.94	0.548	39.44	39.44
C21	3858.31	1.791	120.54	120.54
C22	5338.57	0.565	52.68	52.67

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	44.98

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
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



GREEN RIVER REGIONAL TRAIL PROFILE

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: J. FRYE	11/27/19				
DESIGNED: K. MCDONALD	11/27/19	REV.	REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19				
SUPERVISOR: S. JOHNSON	11/27/19				
		REM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

HDR Engineering Inc.

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
TRAIL IMPROVEMENTS
PLAN & PROFILE
GREEN RIVER TRAIL STA 13+00 TO 24+00

SHEET CP-4

C:\pwworking\seattle\d0417490\CLRR_CP-2,4,8,10,-1.dwg, CP-4, 11/26/2019 10:33:31 AM, KMCDONALD

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 TITLEBLOCK.
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL 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

CONSTRUCTION NOTES:

(4) BOLLARD (SEE SHEETS CP-7 AND CP-25)
(11) TRAFFIC CALMING CUSHION PER CITY OF KENT STD DETAIL 6-29
(15) 6" SDR 21 PVC SLEEVE, SEE DETAIL 2 ON SHEET LP-59

LEGEND:

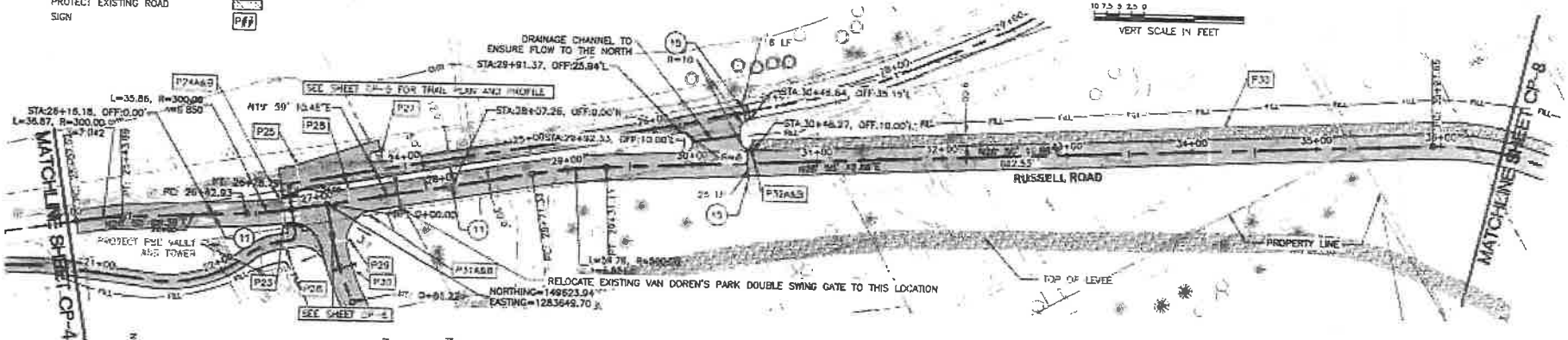
ASPHALT PAVEMENT
CRUSHED SURFACING BASE COURSE
PROTECT EXISTING ROAD
SIGN P##

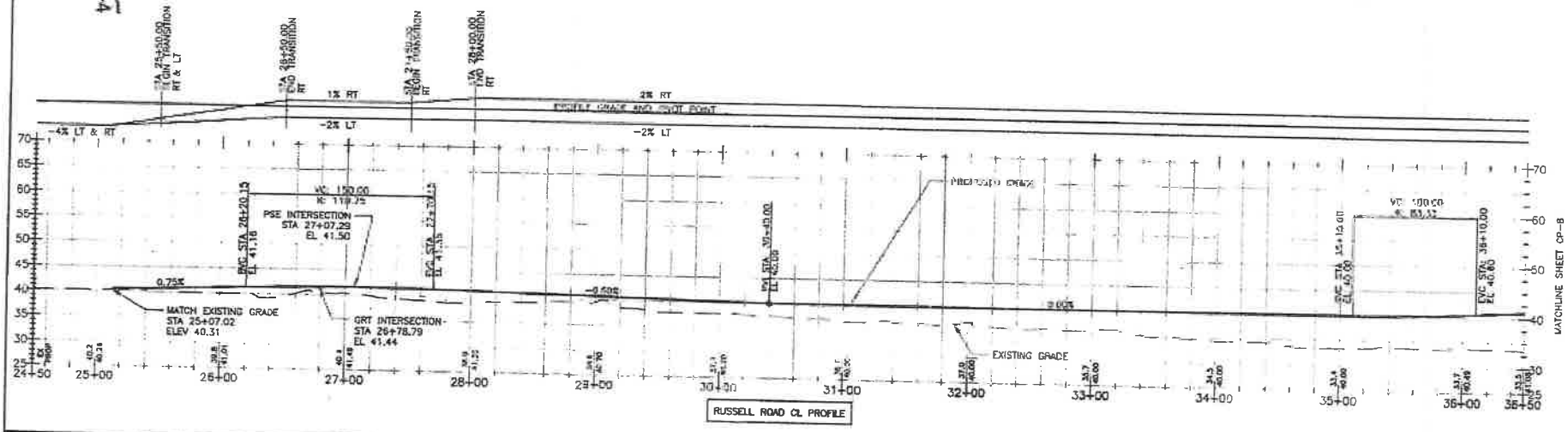
CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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

HORIZ SCALE IN FEET (40 20 0)

VERT SCALE IN FEET (10 7.5 5 2.5 0)





SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: J. FRYE	11/27/19				
DESIGNED: K. MCDONALD	11/27/19	MUNI	REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19				
SUPERVISOR: S. JOHNSON	11/27/19				
		MUNI	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

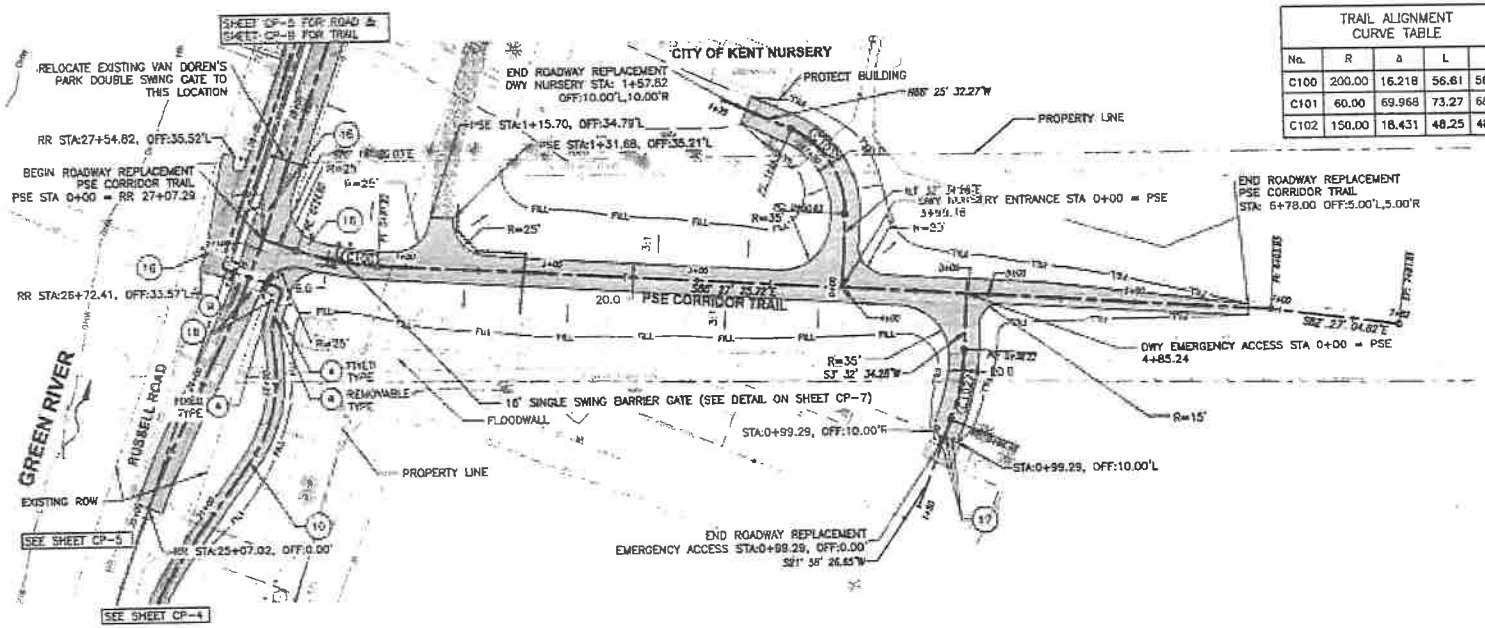
HDR Engineering Inc.

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
STREET IMPROVEMENTS
PLAN AND PROFILE
RUSSELL ROAD STA 25+00 TO 36+50

SHEET CP-5

C:\pwworking\seattle\d2041749\KCLRR_CP-5.dwg, C-114, 11/26/2019 10:54:17 AM, KMCDONALD



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

NOTES:

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3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. FOR EMERGENCY ACCESS AND NURSERY ENTRANCE PROFILES SEE SHEET CP-8
5. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION
6. LOCATION OF CROSSWALK AND STOP BARS TO BE APPROVED BY CITY ENGINEER BEFORE INSTALLATION.
7. SEE CSD SHEETS FOR GRADING CONTOURS

LEGEND:

ASPHALT PAVEMENT

CONSTRUCTION NOTES:

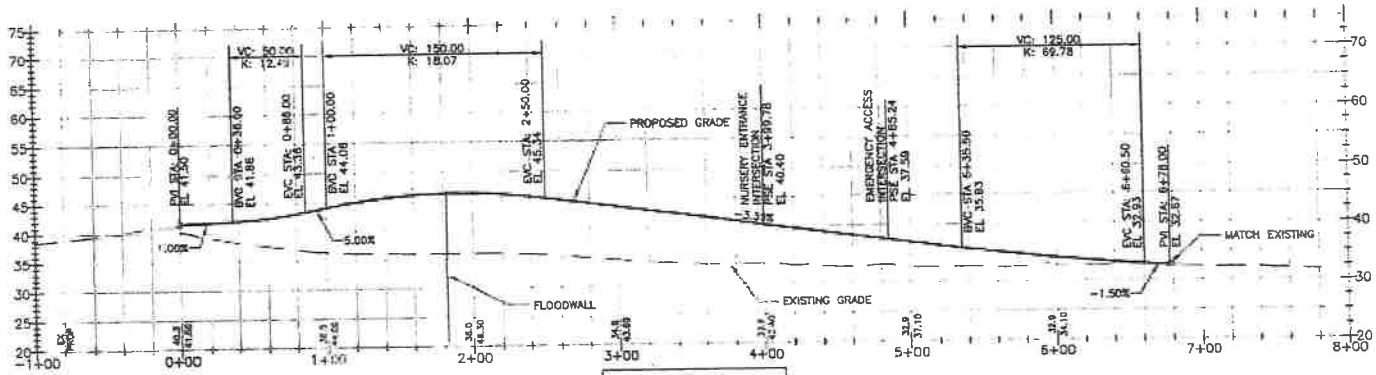
(4) BOLLARD (SEE SHEETS CP-7 AND CP-25)

(9) THERMOPLASTIC CROSSWALK MARKINGS, CITY OF KENT STD. PLAN 6-75

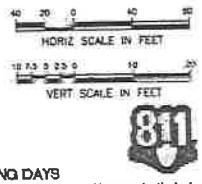
(10) GREEN RIVER REGIONAL TRAIL (SEE TYPICAL SECTIONS ON SHEET CP-15)

(16) STOP BAR, CITY OF KENT STD. PLAN 6-76

(17) PROTECT COLLAPSIBLE BOLLARD IN PLACE



PSE CORRIDOR TRAIL PROFILE



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

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

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENTERED: J. FRYE	11/23/10	
DESIGNED: K. MCDONALD	11/23/10	
CHECKED: D. MAGEE	11/23/10	
SUPERVISOR: S. JOHNSON	11/23/10	

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering Inc.

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

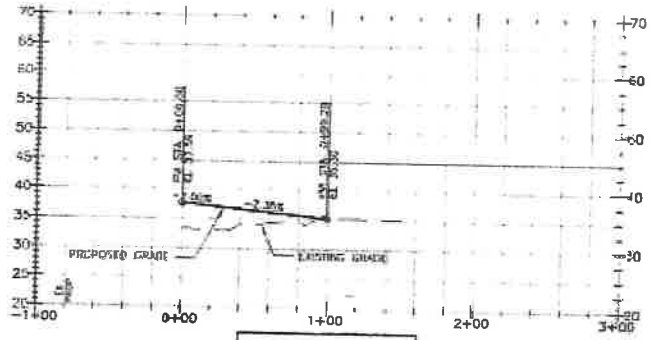
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
STREET IMPROVEMENTS PLAN AND PROFILE
PSE CORRIDOR TRAIL STA 0+00 TO 8+00

SHEET **CP-6**

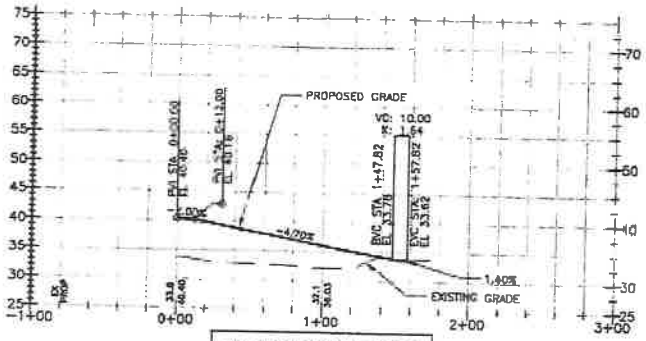
C:\pwworking\sea\d0417459\KCLRR_CP-6.dwg, KCLRR_C-112, 11/28/2010 11:05:57 AM, KMCDONALD

NOTES:

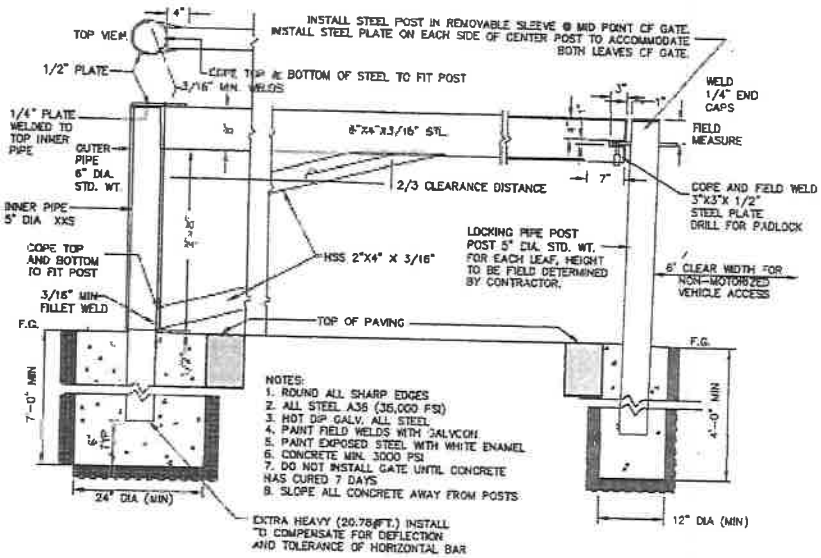
1. FOR ROADWAY ALIGNMENTS SEE SHEET CP-6



EMERGENCY ACCESS PROFILE

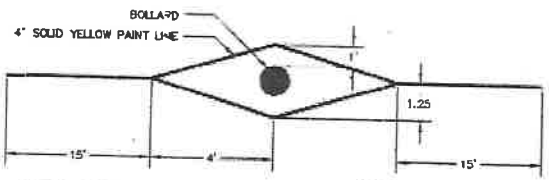


DWY NURSERY ENTRANCE PROFILE



NOTES:
1. ROUND ALL SHARP EDGES
2. ALL STEEL A36 (35,000 PSI)
3. HOT DIP GALV. ALL STEEL
4. PAINT FIELD WELDS WITH GALVCON
5. PAINT EXPOSED STEEL WITH WHITE ENAMEL
6. CONCRETE MIN. 3000 PSI
7. DO NOT INSTALL GATE UNTIL CONCRETE HAS CURED 7 DAYS
8. SLOPE ALL CONCRETE AWAY FROM POSTS

SINGLE SWING GATE (1/CP)
SCALE: NTS



BOLLARD APPROACH MARKINGS (2/CP)
SCALE: NTS

HORIZ SCALE IN FEET

VERT SCALE IN FEET

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

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

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED: J. FRY	11/20/19			
DESIGNED: E. MCDONALD	11/20/19	NUM. REVISION	BY	DATE
CHECKED: S. BROTZ	11/20/19			
SUPERVISOR: S. JOHNSON	11/20/19			
		NUM. RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

HDR Engineering Inc.

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

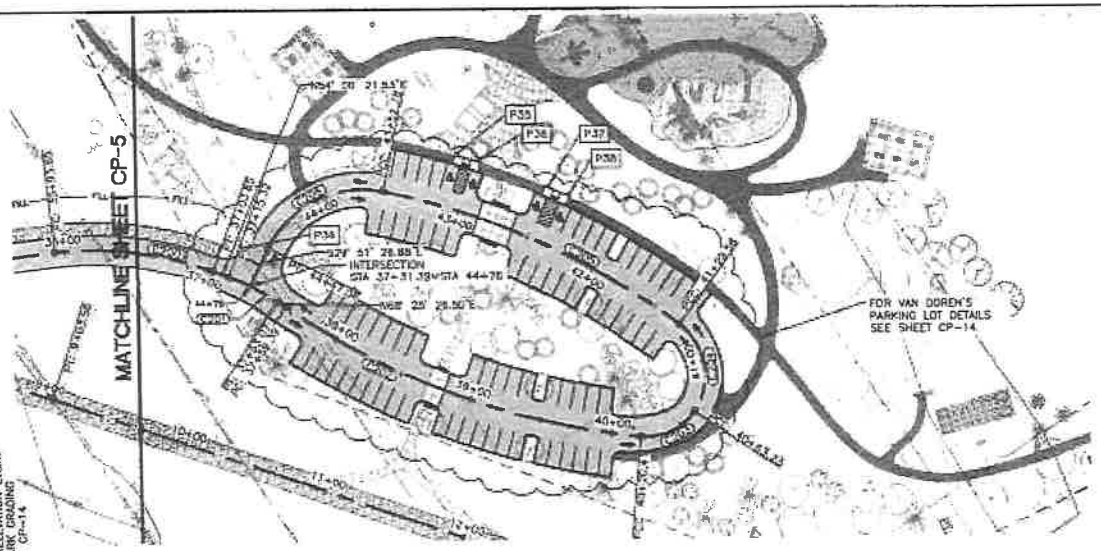
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

STREET IMPROVEMENTS
EMERGENCY ACCESS &
NURSERY ACCESS PROFILES

STA -1+00 TO 3+00

SHEET CP-7

C:\pwworking\seattle\d2041749\KCLRR_CP-7.dwg, KCLRR_C-113, 11/26/2019 11:11:13 AM, KMCDONALD



NOTES:

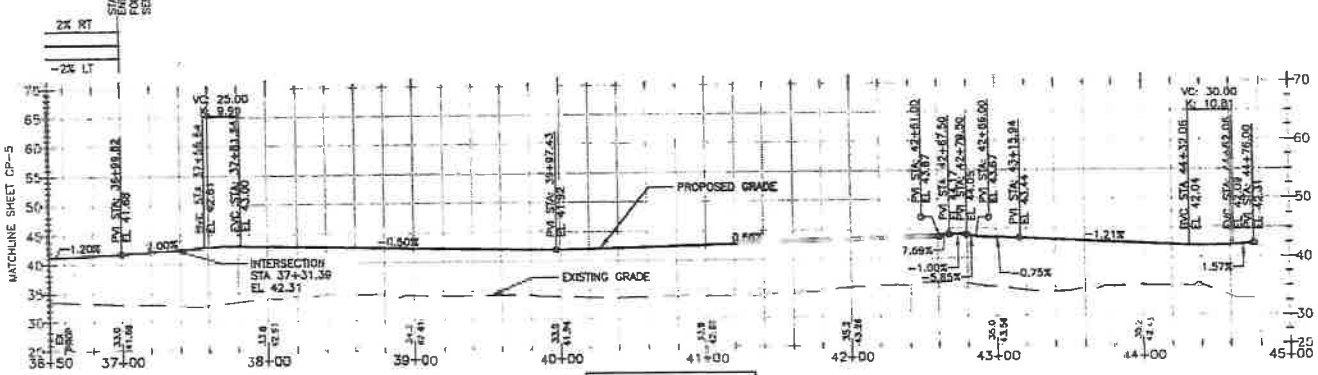
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLEBLOCK.
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION
5. SEE SHEET CP-14 FOR VAN DOREN'S PARK PARKING LOT DETAIL
6. SEE CSD SHEETS FOR GRADING CONTOURS

LEGEND:

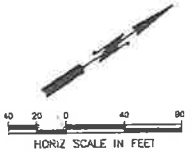
ASPHALT PAVEMENT
CRUSHED SURFACING BASE COURSE
SIGN P##

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



RUSSELL ROAD CL PROFILE



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

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

SURVEY: JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: J. FRYE	11/27/18		
DESIGNED: K. MCDONALD	11/27/18		
CHECKED: B. WAGEE	11/27/18		
SUPERVISOR: S. JOHNSON	11/27/18		

NO.	REVISION	BY	DATE

NO.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112696

CONTRACT No. C01415C20

HDR Engineering Inc.

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
STREET IMPROVEMENTS
PLAN & PROFILE
RUSSELL ROAD STA 36+50 TO 45+00
AND VAN DOREN'S PARKING LOT

SHEET CP-8

C:\pwworking\seattle\20417459\KCLRR_CP-2,4,8,10,11.dwg, CP-8, 11/29/2019 10:35:49 AM, KMCDONALD

NOTES:

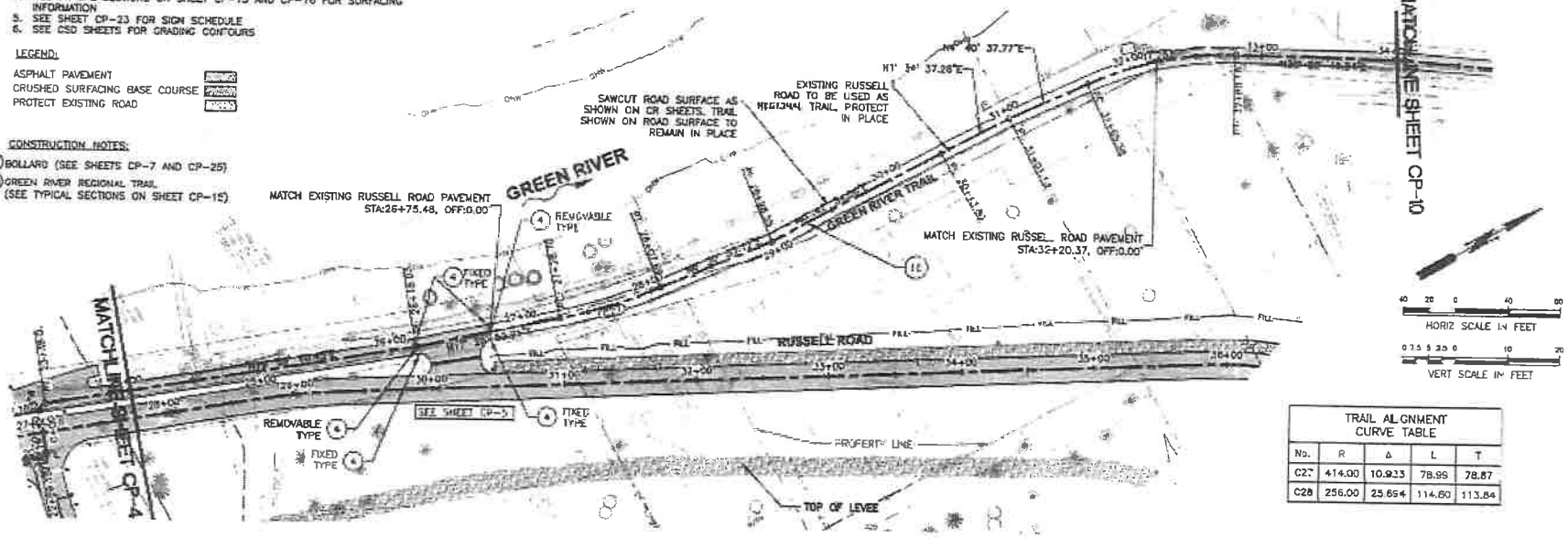
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLEBLOCK.
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. SEE TYPICAL SECTIONS ON SHEET CP-15 AND CP-16 FOR SURFACING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

LEGEND:

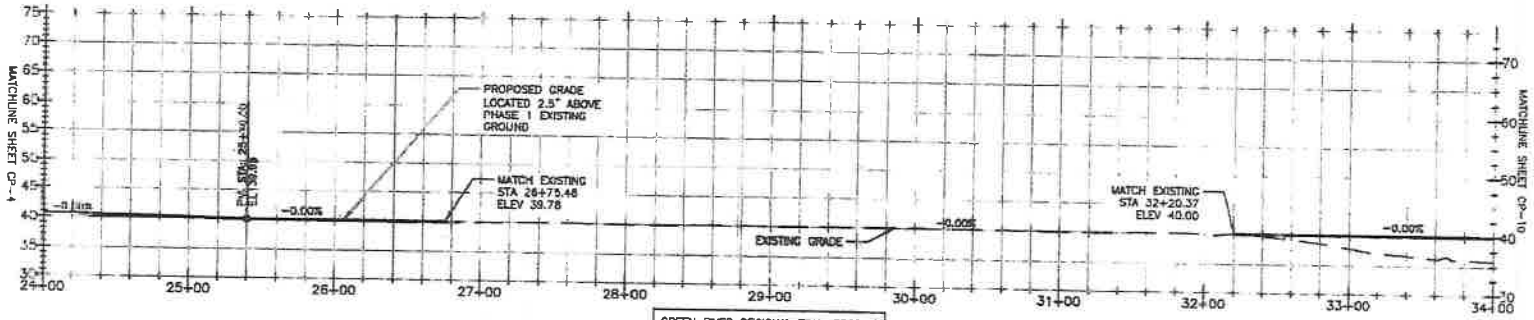
ASPHALT PAVEMENT
CRUSHED SURFACING BASE COURSE
PROTECT EXISTING ROAD

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	10.923	78.99	78.87
C28	256.00	25.654	114.60	113.84



GREEN RIVER REGIONAL TRAIL PROFILE

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: J. FENG	11/27/19				
DESIGNED: K. MCDONALD	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19				
SUPERVISOR: S. JOHNSEN	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. G01415C20

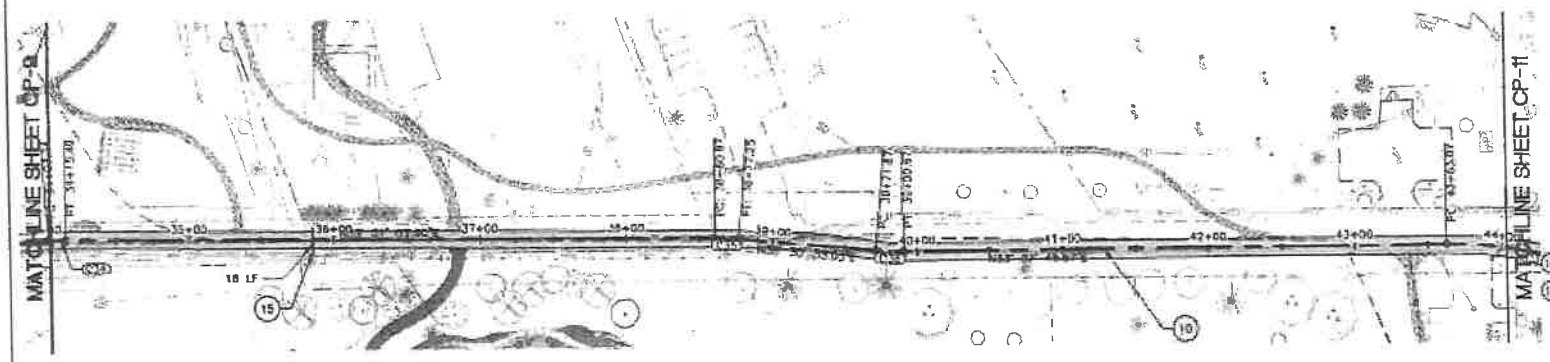
HDR Engineering Inc.

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
TRAIL IMPROVEMENTS
PLAN AND PROFILE
GREEN RIVER TRAIL STA 24+00 TO 34+00

SHEET CP-9

C:\pwworking\seattle\d0417495\KCLRR_CP-9.dwg, C-114, 11/26/2019 10:12:48 AM, KMCDONALD



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 TITLEBLOCK.
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL 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:

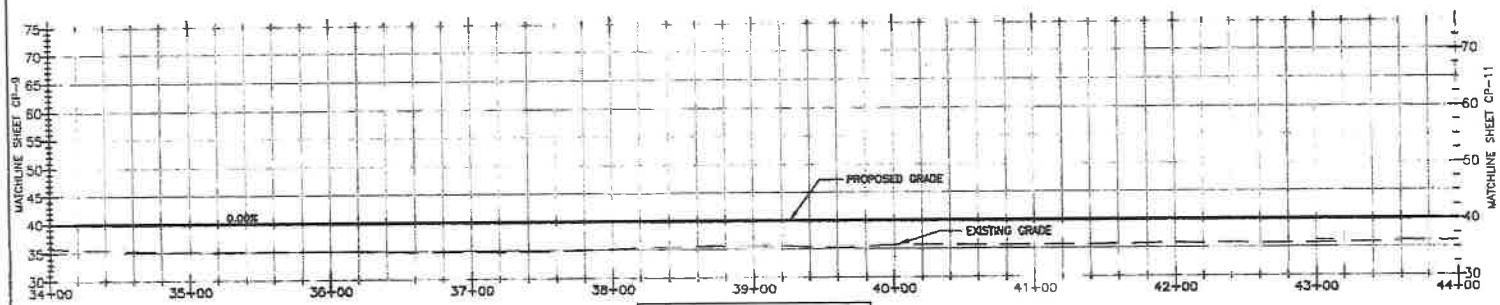
ASPHALT PAVEMENT

CONSTRUCTION NOTES:

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

15 6" SDR 21 PVC SLEEVE. SIM DTL 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



GREEN RIVER REGIONAL TRAIL PROFILE

HORIZ SCALE IN FEET

VERT SCALE IN FEET

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: J. FRYE	11/27/18				
DESIGNED: K. MCDONALD	11/27/18	NUM.	REVISION	BY	DATE
CHECKED: S. MAGEE	11/27/18				
SUPERVISOR: S. JOHNSON	11/27/18				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

(FUNDING) _____

PROJECT No. 3E130058

CONTRACT No. C01415C20

HDR Engineering Inc.

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
TRAIL IMPROVEMENTS
PLAN & PROFILE
GREEN RIVER TRAIL STA 34+00 TO 44+00

SHEET CP-10

C:\pwworking\sea\d2041749\KCLRR_CP-2,4,8,10,11.dwg, CP-10, 11/28/2019 10:37:20 AM, KMCDONALD

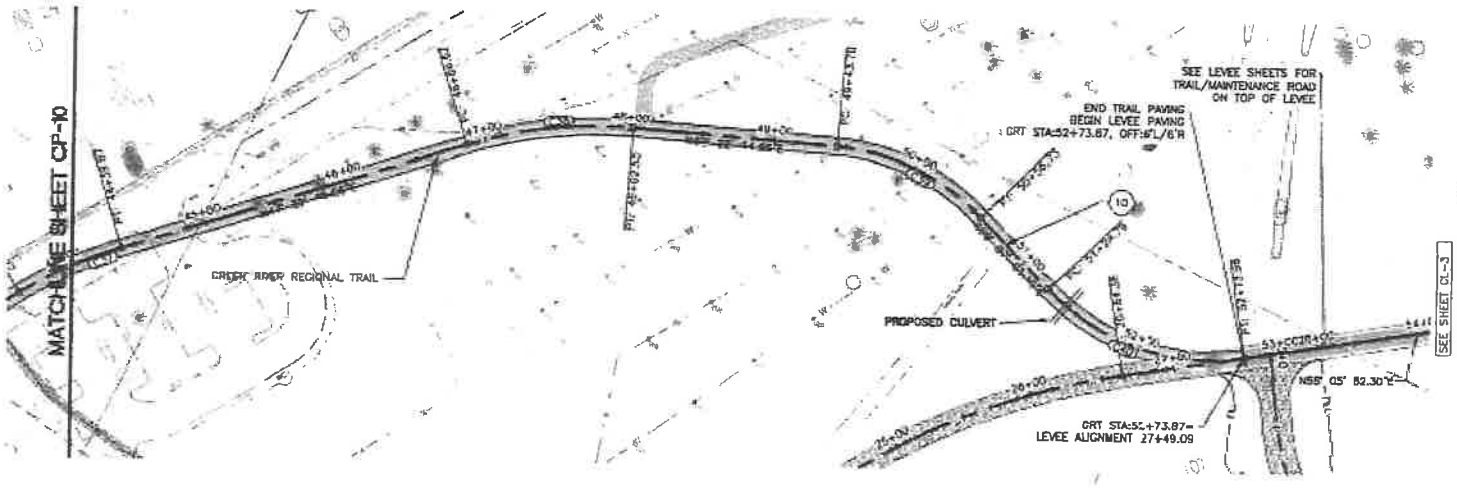
NOTES:
1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLEBLOCK.
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING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

LEGEND:

ASPHALT PAVEMENT

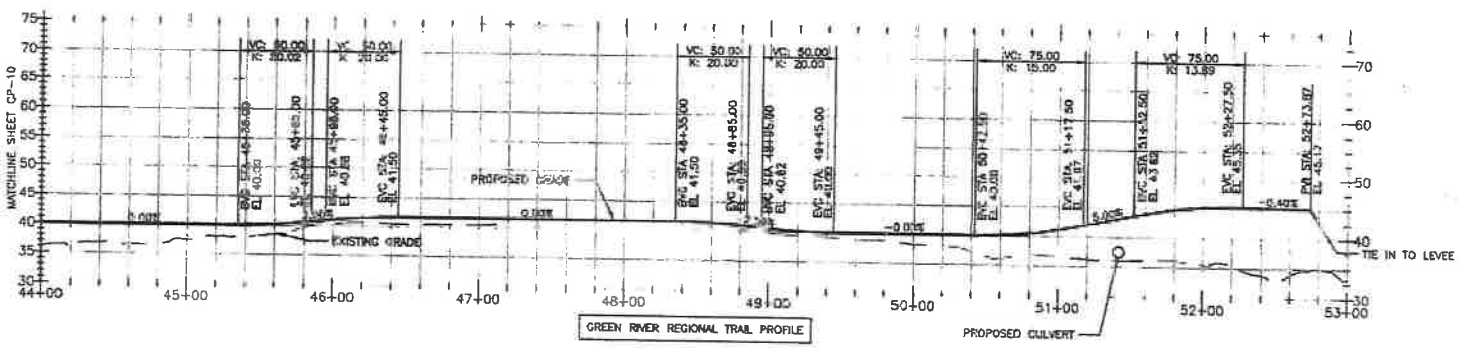
CONSTRUCTION NOTES:

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

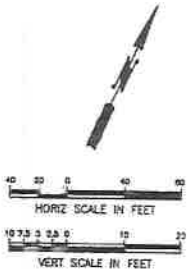


TRAIL ALIGNMENT CURVE TABLE

No.	R	Δ	L	T
C37	303.00	14.523	76.80	76.6
C38	305.00	21.708	115.94	115.[illegible]
C39	156.00	41.512	113.03	110.[illegible]
C40	156.00	54.785	149.16	143.[illegible]



GREEN RIVER REGIONAL TRAIL PROFILE



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

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

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: J. BRITE	11/27/18		
DESIGNED: K. MCDONALD	11/27/18	MAR. REVISION	BY DATE
CHECKED: B. MACEE	11/27/18		
SUPERVISOR: S. JOHNSON	11/27/18		
		MAR. RECORD CHANGES APPROVED	BY DATE

FUNDING:
PROJECT No. 1112058
CONTRACT No. C01415C20

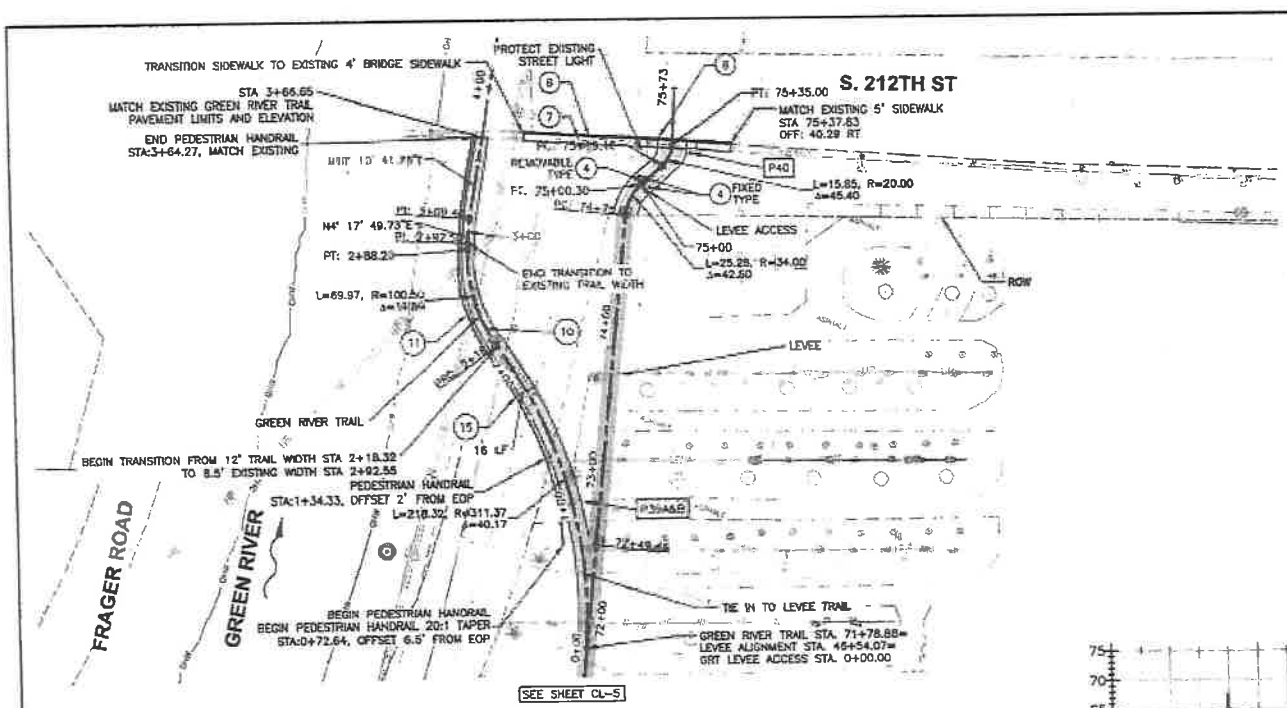
HDR Engineering Inc.

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

SHEET CP-11

C:\pwworking\seattle\d0401749\KCLRR_CP-2,4,8,10,11.dwg, CP-11, 11/26/2018 10:41:36 AM, KMCDONALD



NOTES:

1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
3. UNLESS OTHERWISE NOTED, ALIGNMENT STATION AND OFFSETS CORRESPOND TO THE ALIGNMENT CALLED OUT IN THE SHEET TITLEBLOCK
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 TOP OF THE HMA LAYER. THE PROFILE SHOWN ON THE LEVEE PLAN AND PROFILE SHEETS DOES NOT (CL SERIES). PROFILE TIE 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

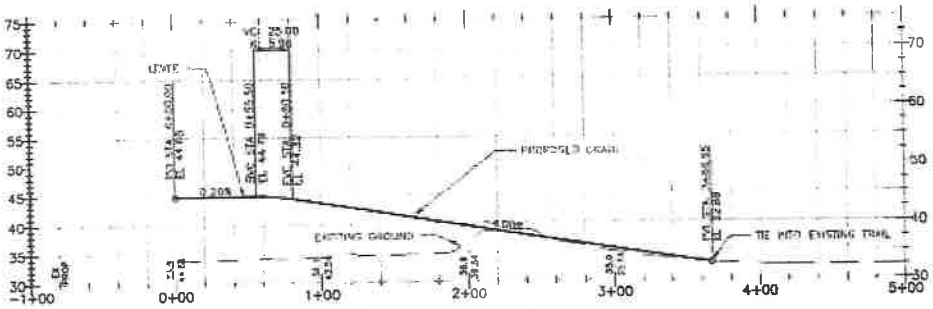
LEGEND:

ASPHALT PAVEMENT
SIGN P#

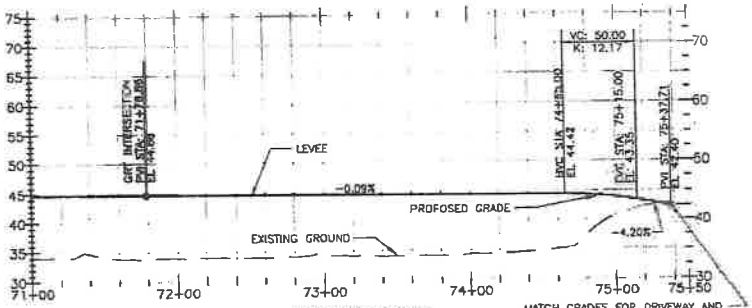
CONSTRUCTION NOTES:

(4) BOLLARD (SEE SHEETS CP-7 AND CP-25)
(6) 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

HORIZ SCALE IN FEET — VERT SCALE IN FEET



GREEN RIVER TRAIL LEVEE ACCESS PROFILE



LEVEE ACCESS PROFILE

MATCH GRADES FOR DRIVEWAY AND ROADWAY AT 212TH

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

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

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: J. FRYE	11/27/19		
DESIGNED: K. MCDONALD	11/27/19		
CHECKED: B. MAGEE	11/27/19		
SUPERVISOR: S. JOHNSON	11/27/19		

NUM.	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

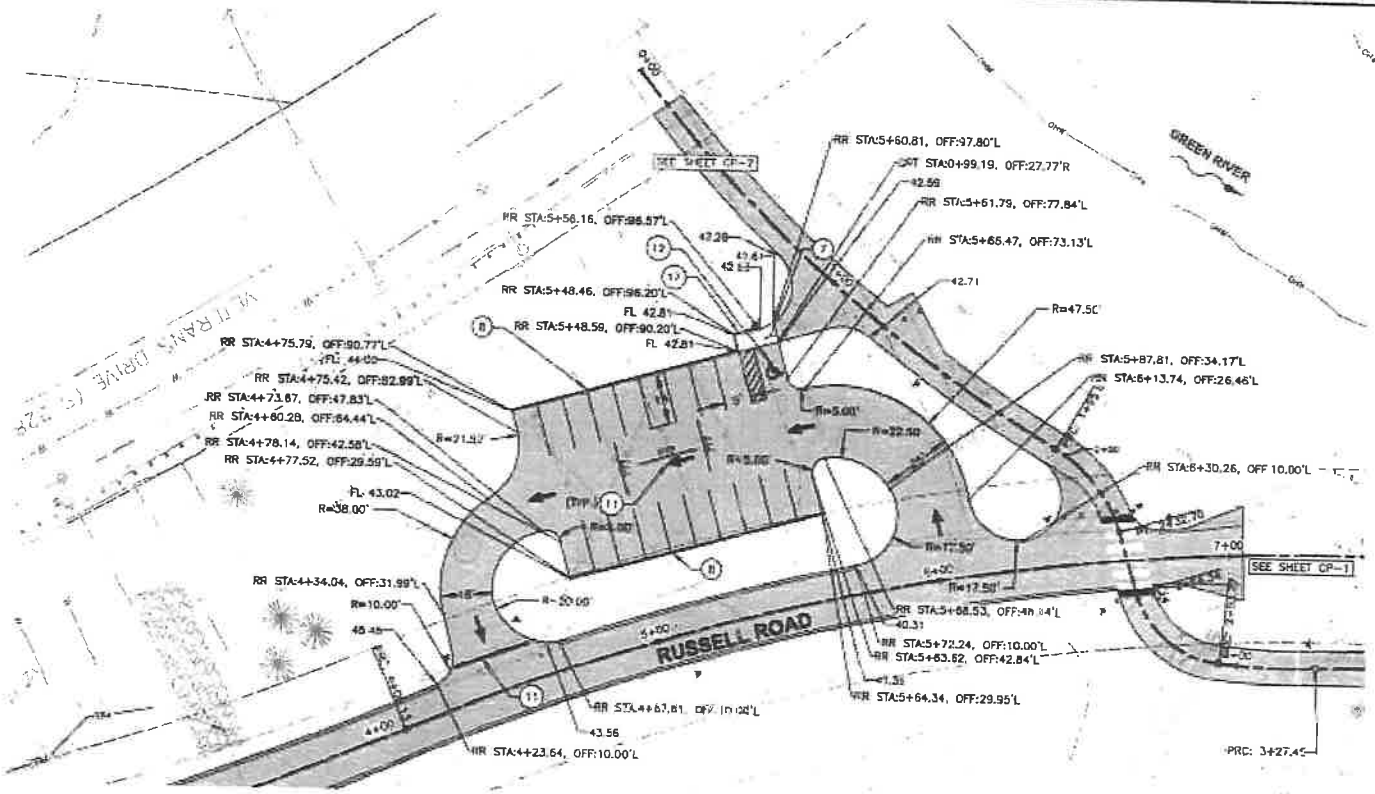
HDR Engineering Inc.

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
STREET & TRAIL IMPROVEMENTS
PLAN AND PROFILE
LEVEE STA 71+00 TO 75+50
GREEN RIVER TRAIL LEVEE ACCESS

SHEET CP-12

C:\pwworking\seis\d20417435\KCLRR_CP-12.dwg, KCLRR_C-12, 11/26/2019 11:16:10 AM, KMCDONALD



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 TITLEBLOCK.
3. FOR MATERIAL DEPTHS, SEE STREET IMPROVEMENT TYPICAL SECTIONS
4. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION
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 6-75W (MODIFIED)
(12) ADA PARKING SIGN, SYMBOL, AND WHEEL STOP PER WSDOT SIGN FABRICATION MANUAL R7-801 AND WSDOT STD. PLAN M-17.10-02
(17) CONCRETE EXTRUDED CURB, CITY OF KENT STD. PLAN 6-35

40 20 0 40 80
HORIZ SCALE IN FEET

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

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

SURVEY JOB NO/SUBJECT:				
CHECKED:				
CAD ENTERED: J. FRYE	11/27/19			
DESIGNED: K. MCDONALD	11/27/19	MUN. REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19			
SUPERVISOR: S. JOHNSON	11/27/19			
		MUN. RECORD CHANGES APPROVED	BY	DATE

STACKING:
PROJECT No. 1112056
CONTRACT No. C01415C20

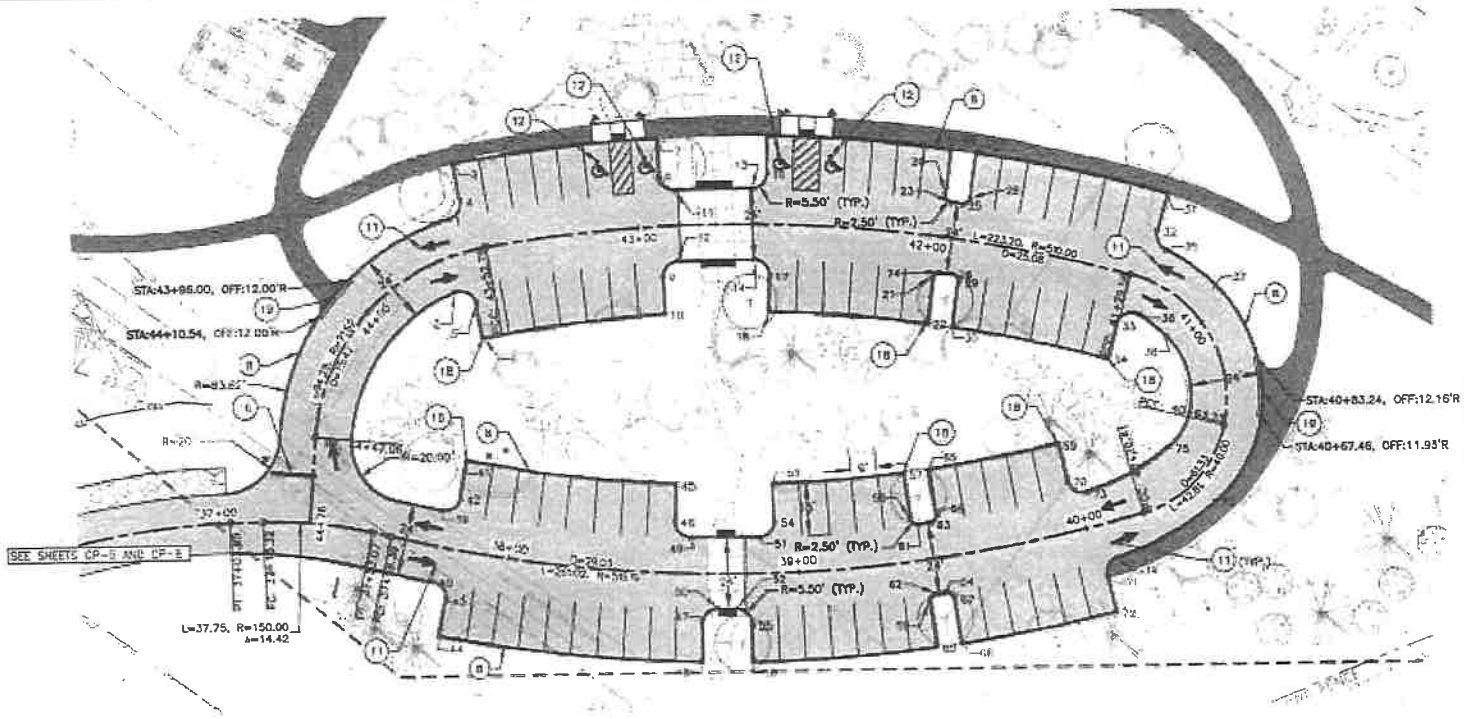
HDR Engineering Inc.

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
RUSSELL WOODS TRAILHEAD
PARKING LOT DETAIL

SHEET
CP-13

C:\pwworking\sea\d2041749\KCLRR_CP-13,14,23.dwg, CP-13, 11/26/2019 11:24:22 AM, KMCDONALD



NOTES:

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2. UNLESS 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. SEE TYPICAL SECTIONS ON SHEETS CP-15 AND CP-16 FOR SURFACING INFORMATION
5. ALL POINTS ARE LOCATED AT FLOWLINE OF CURB UNLESS OTHERWISE NOTED
7. PARKING STALL STRIPING TO BE 4" WIDE WHITE PAINT SOLID LINE.
8. FOR SURROUNDING PARK DETAILS, SEE LP SHEETS
9. SEE SHEET CP-23 FOR SIGN SCHEDULE
10. SEE SHEET CP-24 FOR RAISED CROSSING DETAIL

LEGEND:

ASPHALT PAVEMENT
CONCRETE SIDEWALK, 4" DEPTH

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 AND SYMBOL, WSDOT SIGN FABRICATION MANUAL R7-801 AND WSDOT STD. PLAN M-24.60-04
(16) STOP BAR, CITY OF KENT STD. PLAN 6-76
(18) CURB CUT (SEE DETAIL ON SHEET CP-25).
(19) ROLLED CURB, CITY OF KENT STD. PLAN 6-33

Point Table

Point #	Elevation	STATION	OFFSET
1	43.07	43+61.81	12.00'R
2	42.62	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	43.18	42+82.84	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

Point Table

Point #	Elevation	STATION	OFFSET
14	43.52	42+60.18	12.14'L
15	44.00	42+55.72	29.86'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+93.78	11.90'R
24	43.06	41+94.68	12.06'L
25	43.37	41+90.13	11.88'R
26	43.02	41+90.26	12.01'L

Point Table

Point #	Elevation	STATION	OFFSET
27	44.00	41+87.70	29.95'R
28	43.50	41+87.69	14.37'R
29	42.96	41+87.85	14.51'L
30	42.72	41+87.57	30.05'L
31	44.00	41+26.58	30.18'R
32	43.40	41+28.02	17.26'R
33	42.53	41+30.27	18.04'L
34	42.38	41+30.26	29.98'L
35	42.93	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 Table

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+66.58	17.47'R
48	43.02	38+66.58	30.00'R
49	42.42	38+62.53	12.00'L
50	42.72	38+71.90	12.00'R
51	42.31	38+86.70	12.00'L
52	42.69	38+78.27	12.00'R

Point Table

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	39+40.18	30.00'L
58	41.97	39+40.33	14.50'L
59	42.42	39+43.13	14.46'R
60	42.64	39+43.13	30.00'R
61	42.02	39+42.91	12.02'L
62	42.38	39+45.53	11.97'R
63	41.99	39+47.30	12.02'L
64	42.35	39+49.19	11.93'R
65	41.71	39+49.73	30.00'L

Point Table

Point #	Elevation	STATION	OFFSET
66	41.93	39+49.88	14.55'L
67	42.40	39+51.63	14.43'R
68	42.59	39+51.63	30.00'R
69	41.47	39+97.51	30.00'L
70	41.66	39+97.51	17.33'L
71	42.21	40+02.88	17.46'R
72	42.39	40+02.68	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+44.95	14.17'L
76	42.85	40+41.13	9.58'R

20 10 0 20 40
HORIZ SCALE IN FEET

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.)

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED: J. FRYE	11/27/19		
DESIGNED: K. MCDONALD	11/27/19		
CHECKED: B. HAGEE	11/27/19		
SUPERVISOR: S. JOHNSON	11/27/19		

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING

PROJECT No. 1112056

CONTRACT No. C01415C20

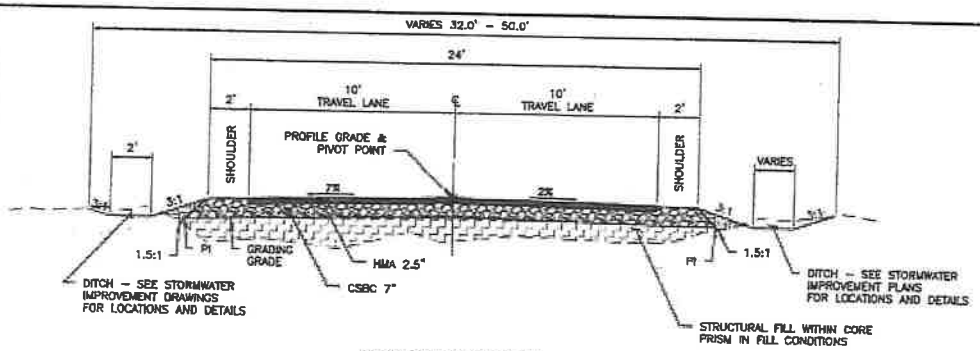
HDR Engineering Inc

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
VAN DOREN'S PARK
PARKING LOT DETAIL
RUSSELL ROAD STA 36+50 TO 44+77

SHEET
CP-14

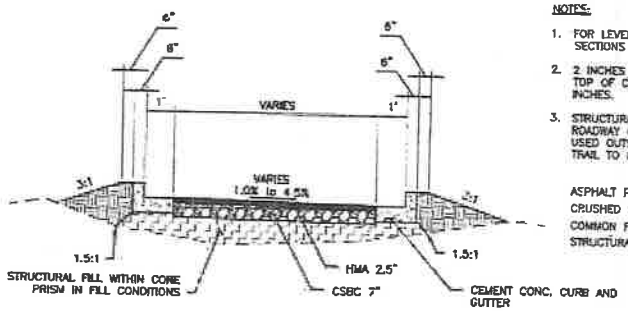
C:\pwworking\sea\d2041749\KCLRR_CP-13,14,23.dwg CP-14, 11/26/2019 11:22:36 AM, KMCDONALD



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
EMERGENCY ACCESS STA 0+10 TO STA 0+99.29
NURSERY ENTRANCE STA 0+10 TO STA 1+57.82



RUSSELL WOODS TRAILHEAD AND VAN DOREN'S PARK PARKING LOT

N.T.S.

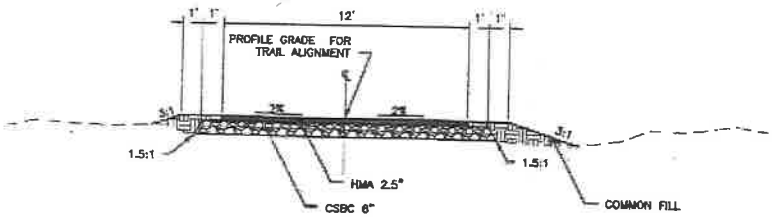
RUSSELL ROAD STA 4+28.50 TO STA 6+23.07
RUSSELL ROAD STA 37+03.77 TO STA 44+77.03

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.

LEGEND

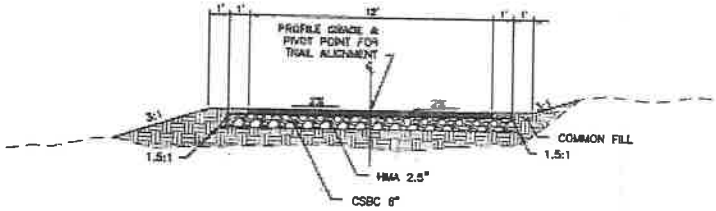
ASPHALT PAVEMENT
CRUSHED SURFACING BASE COURSE
COMMON FILL
STRUCTURAL FILL



PAVED TRAIL TYPICAL SECTION

N.T.S.

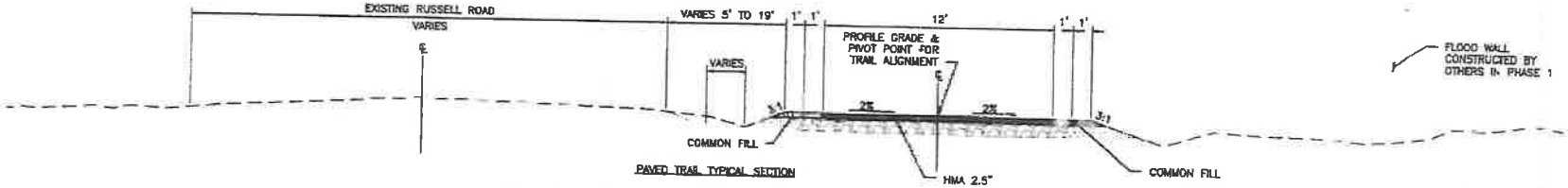
GREEN RIVER TRAIL STA 0+16 TO STA 2+32.50



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

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD DWENER: J. FRYE	11/27/19				
DESIGNED: K. MCDONALD	11/27/19	NUM	REVISION	BY	DATE
CHECKED: B. MAGEE	11/27/19				
SUPERVISOR: S. JOHNSON	11/27/19				
		NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

SCOTT JOHNSON STATE OF WASHINGTON 37011 REGISTERED PROFESSIONAL ENGINEER 11/27/19

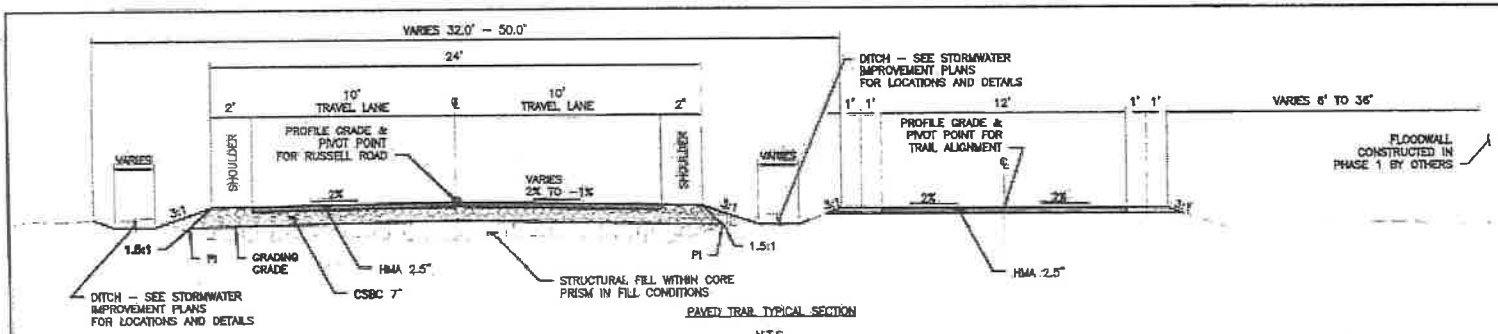
HDR Engineering Inc.

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
STREET & TRAIL IMPROVEMENTS
TYPICAL SECTIONS

SHEET
CP-15

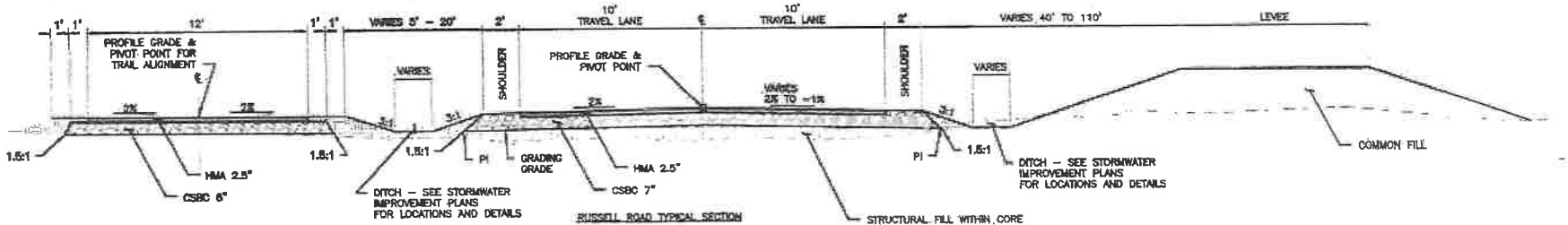
C:\pwworking\seattl\d2041749\KCLRR_CP-15.dwg, KCLRR_C-110, 11/26/2019 12:18:09 PM, KMCDONALD



PAVED TRAIL TYPICAL SECTION

N.T.S.

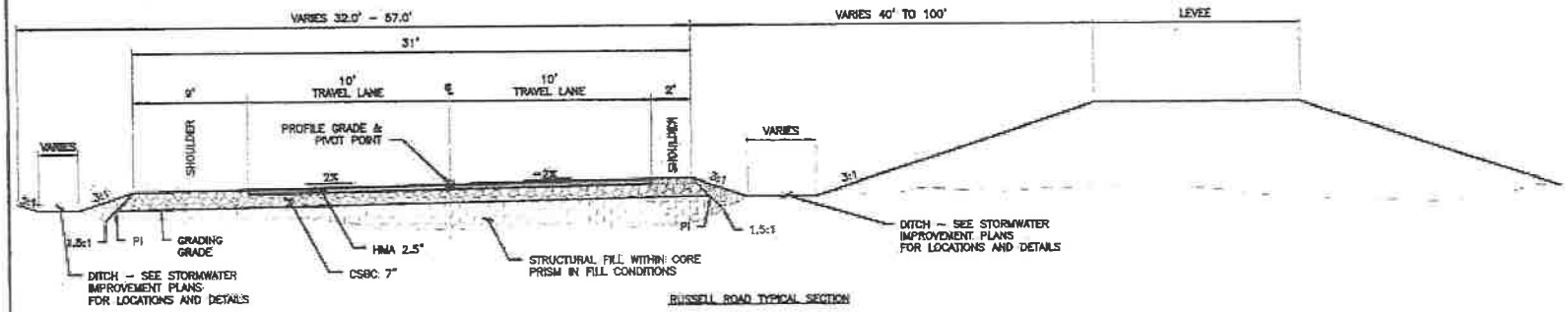
RUSSELL ROAD STA 25+08.61 TO STA 26+68.44



RUSSELL ROAD TYPICAL SECTION

N.T.S.

RUSSELL ROAD STA 26+68.44 TO STA 30+35.00



RUSSELL ROAD TYPICAL SECTION

N.T.S.

RUSSELL ROAD STA 30+35.00 TO STA 37+03.77

NOTES:

1. FOR LEVEE MAINTENANCE ROAD TYPICAL SECTIONS SEE SHEET CL-5.
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.

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.)

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

CAD LAYERED:	A. FINK	11/22/19	
DESIGNED:	K. MCDONALD	11/22/19	
CHECKED:	B. MAGOT	11/22/19	
SUPERVISOR:	T. JOHNSON	11/22/19	

NUM.	REVISION	BY	CK
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056

HDR Engineering, Inc.

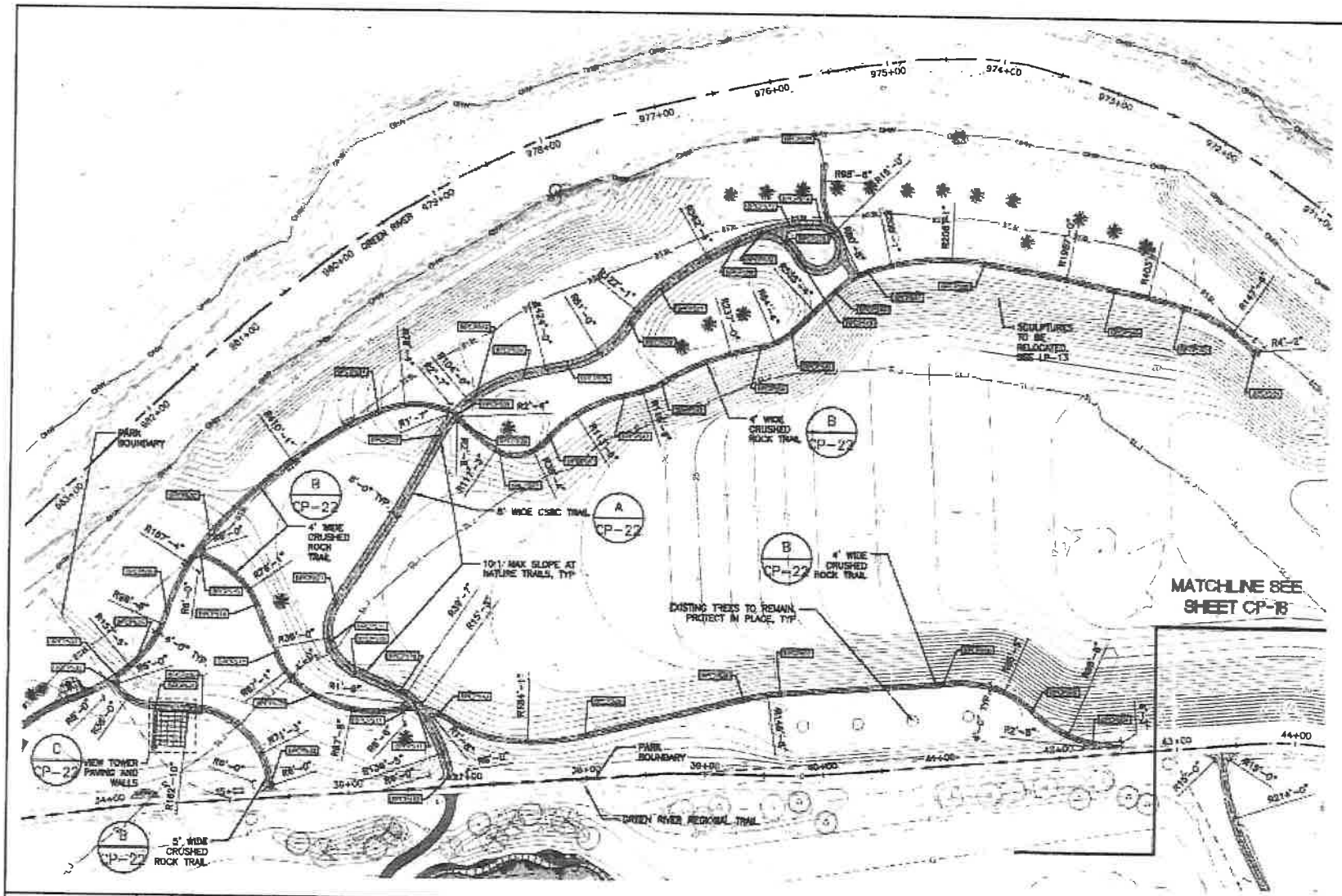
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

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

SHEET CP-16

C:\pwworking\seattle\d0417498\KCLRR_CP-16.dwg, KCLRR_C-111, 11/26/2019 12:23:37 PM, KMCDONALD

NOTES:
1. ARC RADIUS PROVIDED BETWEEN CONTROL POINTS (CP). WHEN 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/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/DS	11/27/19	REV.	REVISION	BY	DATE
CHECKED: DS	11/27/19				
SUPERVISOR: DS	11/27/19				
		FINAL	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

11/27/19

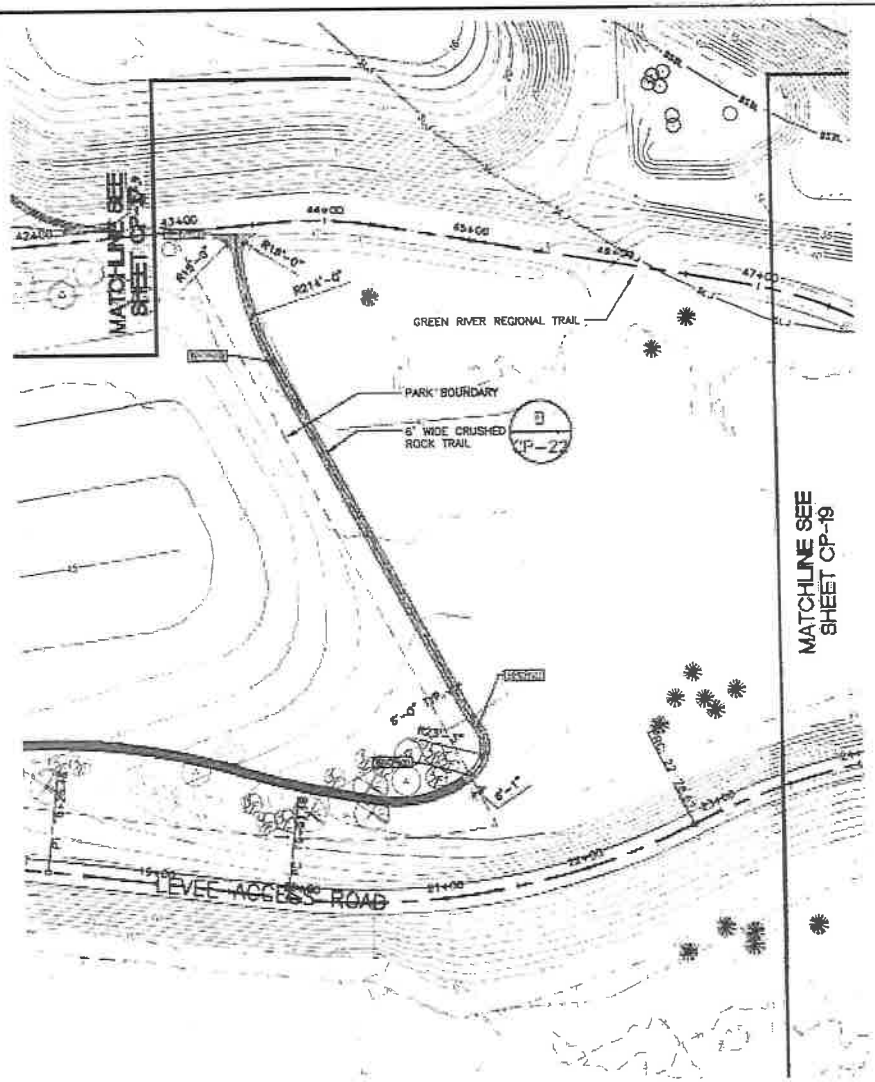
PARTNERSHIP berger

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 A

SHEET
CP-17

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



HORIZ SCALE: 1"=40'

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JZ/JF	11/27/19			
DESIGNED:	JZ/GB	11/27/19	NUM.	REVISION	BY / DATE
CHECKED:	GB	11/27/19			
SUPERVISOR:	GB	11/27/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

RUNDMO: _____

PROJECT No. 1112058

CONTRACT No. C01415C20

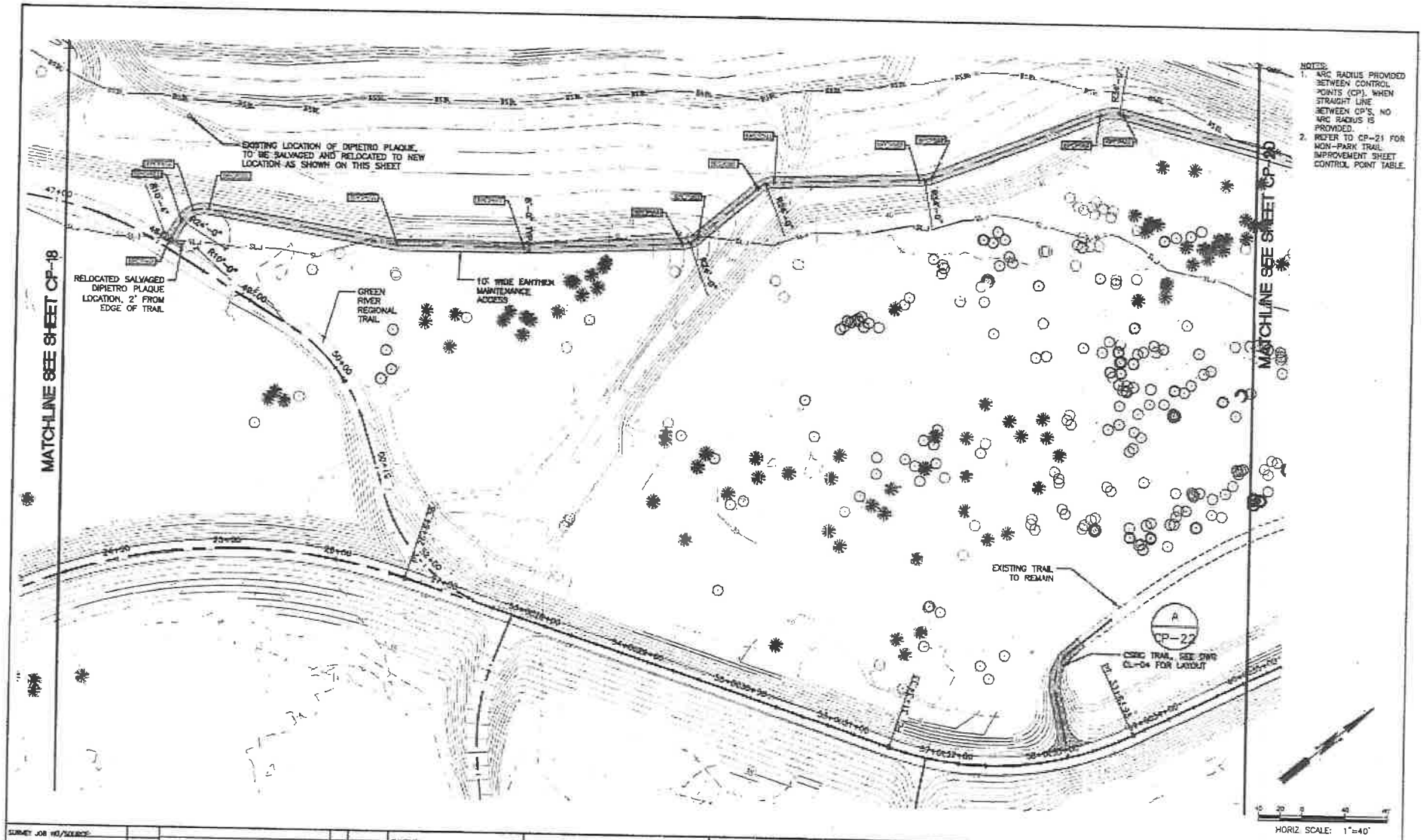
11/27/19

PARTNERSHIP berger

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 B

SHEET
CP-18



NOTES:
1. ARC RADIUS PROVIDED BETWEEN CONTROL POINTS (CP). WHEN 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/SOURCE:					
CHECKED:					
CAD ENTERED:	22/28 11/27/19				
DESIGNED:	22/28 11/27/19	MUM	REVISION	BY	DATE
CHECKED:	GB 11/27/19				
SUPERVISOR:	GB 11/27/19				
		MUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

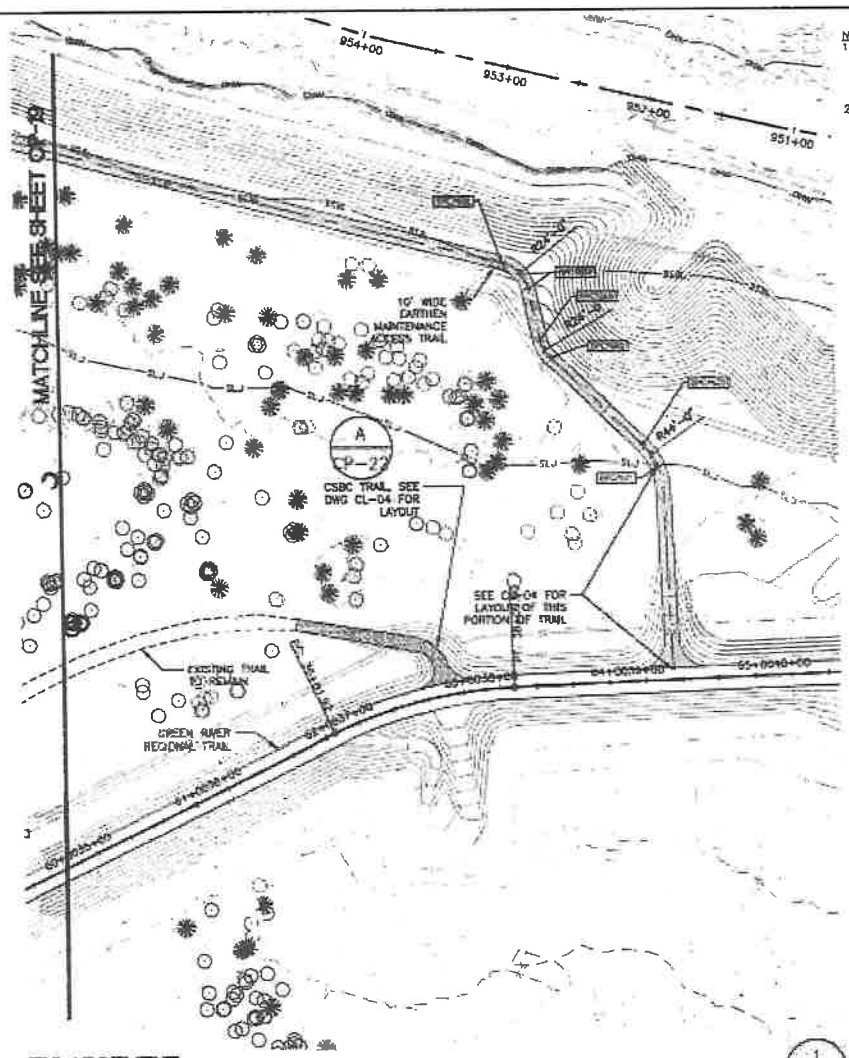
PARTNERSHIP berger

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 C

SHEET
CP-19

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



ENLARGEMENT
SCALE: 1"=40'-0"

1

HORIZ SCALE: 1"=40'

SURVEY JOB NO/SOURCE					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GS	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: GS	11/27/19				
SUPERVISOR: GS	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112058
CONTRACT No. C01415C20

11/27/19

PARTNERSHIP berger

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

NUMBER	EASTING	NORTHING
BPCP500	E: 1284806.61	N: 151315.0890
BPCP501	E: 1284783.98	N: 151339.6595
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: 151154.6779
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: 150899.5842
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
BPCP524	E: 1283809.80	N: 151146.1972
BPCP525	E: 1283826.07	N: 151179.7009
BPCP526	E: 1283829.04	N: 151243.7111
BPCP527	E: 1283822.70	N: 151281.0179
BPCP528	E: 1283830.77	N: 151357.1204
BPCP529	E: 1283957.37	N: 150786.0950
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: 150720.6936
BPCP534	E: 1283804.16	N: 150742.1371
BPCP535	E: 1283787.13	N: 150788.8443
BPCP536	E: 1283757.74	N: 150854.7816
BPCP537	E: 1283760.69	N: 151030.2324
BPCP538	E: 1283802.00	N: 151079.4616
BPCP539	E: 1283815.28	N: 151081.1968
BPCP540	E: 1283849.30	N: 151090.0077
BPCP541	E: 1283864.90	N: 151131.3486
BPCP542	E: 1283875.43	N: 151202.7556
BPCP543	E: 1283886.34	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: 151585.2183
BPCP550	E: 1284102.59	N: 151622.8980
BPCP551	E: 1284168.62	N: 151648.9491
BPCP552	E: 1284763.16	N: 151739.0421
BPCP553	E: 1284755.46	N: 151759.4936
BPCP554	E: 1284754.59	N: 151773.6002
BPCP555	E: 1284761.82	N: 151785.7472
BPCP556	E: 1284891.34	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: 152505.5909
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

1
–

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED:	JJ/JF	11/27/19		
DESIGNED:	JJ/DB	11/27/19		
CHECKED:	DB	11/27/19		
SUPERVISOR:	DB	11/27/19		

MARK	REVISION	BY	DATE
MARK	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112058

CONTRACT No. C01415C20

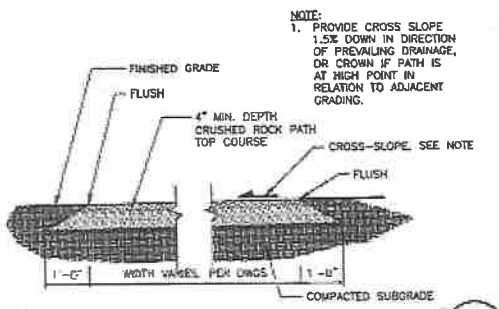
11/27/19

PARTNERSHIP berger

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 - CP TABLE

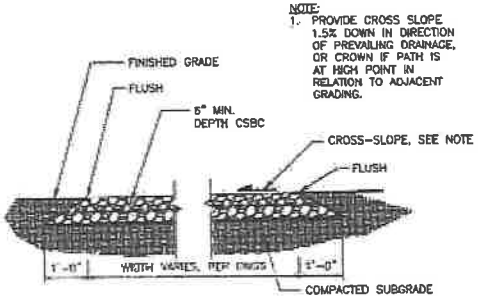
SHEET
CP-21



CRUSHED ROCK TRAIL

SCALE: 3/4"=1'-0"

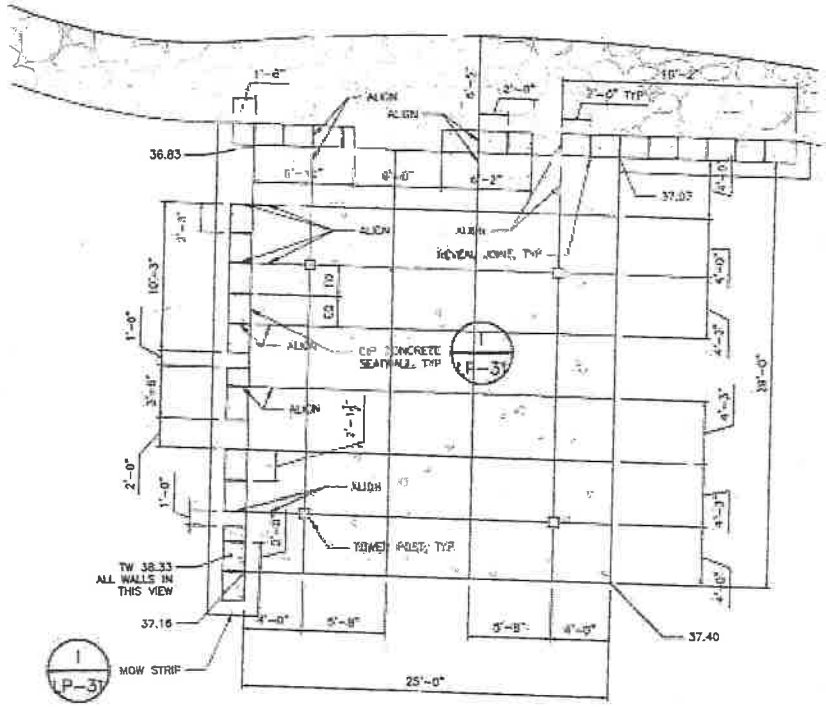
B



CSBC TRAIL

SCALE: 3/4"=1'-0"

A



VIEW TOWER PAVING AND WALLS

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

C

SURVEY JOB NO/SOURCE:						FUNDING:	
CHECKED:							
CAD ENTERED:	JZ/JF	11/27/19				PROJECT No.	1112056
DESIGNED:	JZ/DB	11/27/19	NUM.	REVISION	BY	DATE	CONTRACT No. C01415C20
CHECKED:	DB	11/27/19					
SUPERVISOR:	DB	11/27/19					
			NUM.	RECORD CHANGES APPROVED	BY	DATE	

11/27/19

PARTNERSHIP berger

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
LANDSCAPE DETAILS
NON-PARK

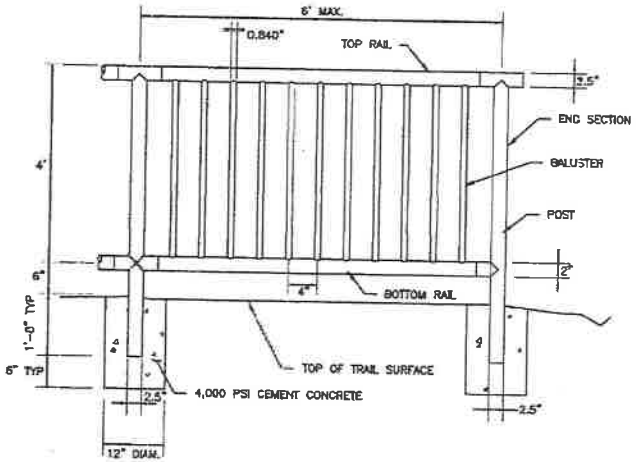
SHEET
CP-22

SIGN SCHEDULE:

PROPOSED SIGNS						
SIGN NO.	DESCRIPTION	SIGN CODE	LOCATION	SIGN SIZE X"	SIGN SIZE Y"	REMARKS
P1	CHEVRON	W1-8	RUSSELL ROAD CL 0+87.14 29.2' R	18	24	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P2	CHEVRON	W1-8	RUSSELL ROAD CL 1+07.81 21.2' R	18	24	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P3	CHEVRON	W1-8	RUSSELL ROAD CL 1+33.19 19.0' R	18	24	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P4	CHEVRON	W1-8	RUSSELL ROAD CL 1+84.92 18.3' R	18	24	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P5	SPEED LIMIT 25 MPH	R2-1	RUSSELL ROAD CL 2+48.37 18.4' R	24	30	
P6A	RIGHT TURN AHEAD	W1-1R	RUSSELL ROAD CL 2+28.90 17.0' L	36	36	EXISTING SIGN TO BE RESET AT NEW ELEVATION
P6B	15 MPH	W13-1P	RUSSELL ROAD CL 2+28.90 17.0' L	18	18	EXISTING SIGN TO BE RESET AT NEW ELEVATION, BELOW P6A
P7	STOP	R1-1	RUSSELL ROAD CL 4+28.00 17.6' L	30	30	REINSTALL SALVAGED STOP SIGN
P8	DO NOT ENTER	R5-1	RUSSELL ROAD CL 4+56.15 21.6' L	30	30	
P9A	TRAIL CROSSING	W11-15a	RUSSELL ROAD CL 5+10.80 14.5' R	30	30	
P9B	AHEAD	W16-9P	RUSSELL ROAD CL 5+10.80 14.5' R	24	12	LOCATED BELOW P9A
P10	RESERVED PARKING	R7-801	RUSSELL ROAD CL 5+55.13 96.5' L	12	18	WSDOT SIGN CATALOG
P11	STOP AHEAD	W3-1	RUSSELL ROAD CL 6+01.75 68.1' L	30	30	
P12	STOP	R1-1	RUSSELL ROAD CL 6+28.14 16.5' L	30	30	REINSTALL SALVAGED STOP SIGN
P13	STOP	R1-1	RUSSELL ROAD CL 6+70.18 18.6' L	30	30	
P14A	TRAIL CROSSING	W11-15	RUSSELL ROAD CL 6+80.04 14.0' L	30	30	
P14B	DOWNWARD DIAGONAL ARROW	W16-7P	RUSSELL ROAD CL 6+80.04 14.0' L	24	12	LOCATED BELOW P14A
P15A	TRAIL CROSSING	W11-15	RUSSELL ROAD CL 6+55.32 16.8' R	30	30	
P15B	DOWNWARD DIAGONAL ARROW	W16-7P	RUSSELL ROAD CL 6+55.32 16.8' R	24	12	LOCATED BELOW P15A
P16	STOP	R1-1	RUSSELL ROAD CL 6+77.35 14.1' R	30	30	
P17	STOP AHEAD	W3-1	RUSSELL ROAD CL 7+27.75 30.5' R	30	30	
P18	CITY OF KENT PROPERTY NO TRESPASSING		RUSSELL ROAD CL 8+03.45 46.6' R			EXISTING SIGN TO BE RELOCATED EAST OF TRAIL
P19A	TRAIL CROSSING	W11-15A	RUSSELL ROAD CL 8+27.37 14.9' L	30	30	
P19B	AHEAD	W16-9P	RUSSELL ROAD CL 8+27.37 14.9' L	24	12	LOCATED BELOW P19A
P20	BOAT RAMP ENDS 20 FEET BEYOND SIGN		RUSSELL ROAD CL 13+05.80 100.4' L	18	24	
P21	STOP AHEAD	W3-1	RUSSELL ROAD CL 24+23.81 33.6' R	30	30	
P22A	SPEED HUMP AHEAD	W17-1	RUSSELL ROAD CL 24+33.26 12.9' R	30	30	
P22B	15 MPH	W13-1P	RUSSELL ROAD CL 24+33.26 12.9' R	18	18	LOCATED BELOW P22A
P23	STOP	R1-1	RUSSELL ROAD CL 26+70.73 12.5' R	30	30	
P24A	SPEED HUMP AHEAD	W17-1	RUSSELL ROAD CL 26+68.96 12.8' L	30	30	
P24B	15 MPH	W13-1P	RUSSELL ROAD CL 26+68.96 12.8' L	18	18	LOCATED BELOW P24A
P25	STOP	R1-1	RUSSELL ROAD CL 26+87.62 37.0' L	30	30	
P26	STOP	R1-1	RUSSELL ROAD CL 26+71.63 32.5' R	30	30	
P27	STOP AHEAD	W3-1	RUSSELL ROAD CL 27+34.92 31.6' L	30	30	
P28	STOP	R1-1	RUSSELL ROAD CL 27+25.12 12.4' L	30	30	
P29	STOP	R1-1	RUSSELL ROAD CL 27+20.74 30.6' R	30	30	
P30	NO TRUCKS SYMBOL		RUSSELL ROAD CL 27+33.61 57.0' R	18	18	REINSTALL SALVAGED NO TRUCKS SYMBOL
P31A	SPEED HUMP AHEAD	W17-1	RUSSELL ROAD CL 27+40.26 14.3' R	30	30	
P31B	SPEED HUMP AHEAD	W13-1P	RUSSELL ROAD CL 27+40.26 14.3' R	18	18	LOCATED BELOW P31A
P32A	SPEED HUMP AHEAD	W17-1	RUSSELL ROAD CL 30+46.38 12.8' L	30	30	
P32B	15 MPH	W13-1P	RUSSELL ROAD CL 30+46.38 12.8' L	18	18	LOCATED BELOW P32A
P33	SPEED LIMIT 25 MPH	R2-1	RUSSELL ROAD CL 34+27.86 21.3' L	24	30	
P34	STOP	R1-1	RUSSELL ROAD CL 44+58.56 16.7' R	30	30	
P35	RESERVED PARKING	R7-801	RUSSELL ROAD CL 43+11.02 38.3' R	12	18	WSDOT SIGN CATALOG
P36	RESERVED PARKING	R7-801	RUSSELL ROAD CL 42+96.53 38.2' R	12	18	WSDOT SIGN CATALOG
P37	RESERVED PARKING	R7-801	RUSSELL ROAD CL 42+69.58 38.3' R	12	18	WSDOT SIGN CATALOG
P38	RESERVED PARKING	R7-801	RUSSELL ROAD CL 42+35.29 38.6' R	12	18	WSDOT SIGN CATALOG
P38A	GREEN RIVER TRAIL		RUSSELL ROAD CL 40+88.41 323.0' R	24	18	
P38B	DOWNWARD DIAGONAL ARROW	W16-7P	RUSSELL ROAD CL 40+88.41 323.0' R	24	12	LOCATED BELOW 38A
P40	STOP	R1-1	RUSSELL ROAD CL 40+90.25 247.1' R	30	30	

SIGN CONSTRUCTION NOTES:

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



PEDESTRIAN HANDRAIL DETAIL
N.T.S.

HANDRAIL NOTES:

1. RAILING SHALL BE CV PIPE RAIL, GALVANIZED STEEL OR APPROVED EQUIVALENT. INSTALLATION PER MANUFACTURER'S RECOMMENDATIONS.
2. SHOP DRAWINGS OF RAILINGS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL SHOWING COMPLETE DIMENSIONS AND DETAILS OF FABRICATION AND INCLUDING AN ERECTION DIAGRAM. MATERIALS BEING USED SHALL BE SPECIFIED IN THE SHOP DRAWINGS.
3. ALL GALVANIZED STEEL PARTS SHALL BE GIVEN A CLEAR ANODIC COATING AT LEAST 0.0006 INCH THICK AND BE HOT WATER SEALED AND SHALL HAVE A UNIFORM FINISH.
4. PIPE RAILING AND PIPE RAILING SPLICES MAY BE HEATED TO NOT MORE THAN 400°F FOR A PERIOD NOT TO EXCEED 30 MINUTES TO FACILITATE FORMING OR BENDING.
5. CUTTING SHALL BE DONE BY SAWING OR MILLING AND ALL CUTS SHALL BE TRUE AND SMOOTH. FLAME CUTTING WILL NOT BE PERMITTED.
6. PIPE RAILING, PIPE BALUSTERS AND PIPE RAILING SPLICES SHALL BE ADEQUATELY WRAPPED TO ENSURE SURFACE PROTECTION DURING HANLDING AND TRANSPORTATION TO THE JOB SITE.
7. WELDING OF GALVANIZED STEEL SHALL BE IN ACCORDANCE WITH WSDOT STANDARD SPECIFICATION 6-03.3(25).
8. ALLOW FOR EXPANSION AT APPROXIMATELY EVERY FOURTH POST.
9. RAILS, POSTS, AND FORMED ELBOWS SHALL BE ASTM A53. BRACKETS, END CAPS AND OTHER FITTINGS SHALL BE ASTM A865. SPLICES AND REPAIRS SHALL BE GALVANIZED PER ASTM A780. 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.)

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

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENTERED: J. FRYE	11/27/19	
DESIGNED: K. MCDONALD	11/27/19	
CHECKED: B. MACEE	11/27/19	
SUPERVISOR: S. JOHNSON	11/27/19	

NUM.	REVISION	BY	DATE
NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

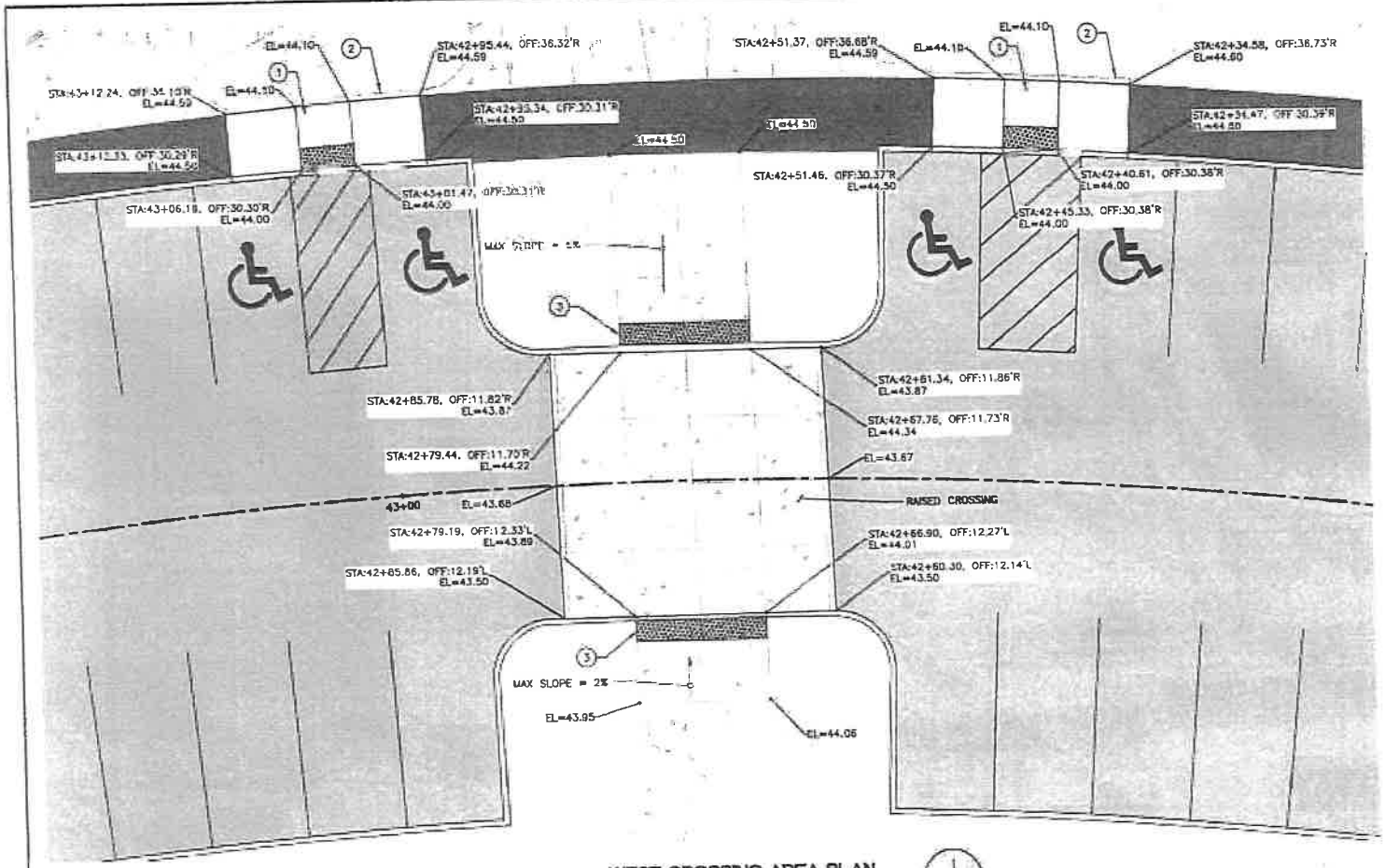
HDR Engineering Inc.

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
SIGN SCHEDULE
AND HANDRAIL DETAIL

SHEET
CP-23

C:\pwworking\sea\d2041749\KCLRR_CP-13,14,23.dwg, CP-23, 11/26/2019 11:27:29 AM, KMCDONALD



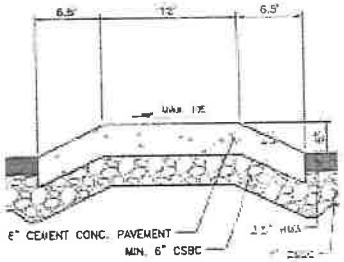
WEST CROSSING AREA PLAN
SCALE: 1"=5'
1 / CP-14

NOTES:

1. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN FEET
2. ELEVATIONS NEAR THE FACE OF CURB ARE PROVIDED AT FLOWLINE.

CONSTRUCTION NOTES:

1. CEMENT CONC. CURB RAMP TYPE PARALLEL A PER WSDOT STD. PLAN F-40.12-03
2. CEMENT CONCRETE PEDESTRIAN CURB PER WSDOT STD. PLAN F-10.12-03
3. DETECTABLE WARNING SURFACE PER WSDOT STD. PLAN F-45.10-02



RAISED CROSSING
SCALE: NTS
2 / CP-14

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.

SURVEY JOB NO/SOURCE:			
CHECKED:			
CAD ENTERED:	J. FRYE	11/27/19	
DESIGNED:	R. MCDONALD	11/27/19	
CHECKED:	B. MAGEE	11/27/19	
SUPERVISOR:	S. JOHNSON	11/27/19	

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FILENAME: _____
PROJECT No. 1112056
CONTRACT No. C01415C20

HDR Engineering Inc.

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

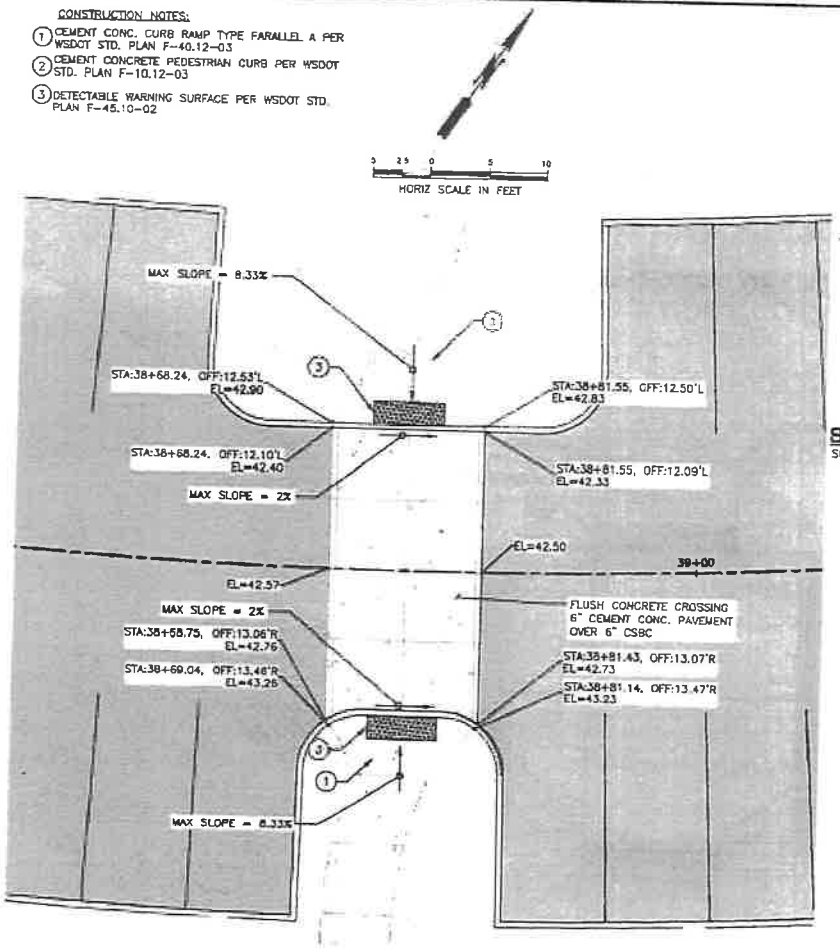
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
VAN DOREN'S PARK
PARKING LOT DETAILS
CURB RAMPS AND CURB CUTS

SHEET
CP-24

C:\pwworking\seattle\d0417459\CLIRR_CP-24, 25.dwg, CP-24, 11/26/2019 12:46:37 PM, KMCDONALD

CONSTRUCTION NOTES:

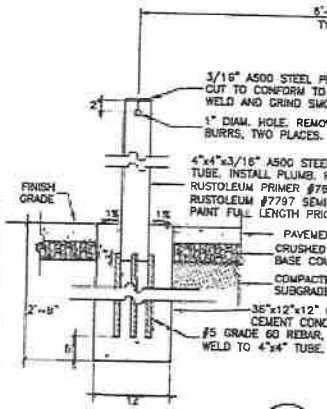
1. CEMENT CONC. CURB RAMP TYPE PARALLEL A PER WSDOT STD. PLAN F-40.12-03
2. CEMENT CONCRETE PEDESTRIAN CURB PER WSDOT STD. PLAN F-10.12-03
3. DETECTABLE WARNING SURFACE PER WSDOT STD. PLAN F-45.10-02



EAST CROSSING AREA PLAN

SCALE: 1"=5'

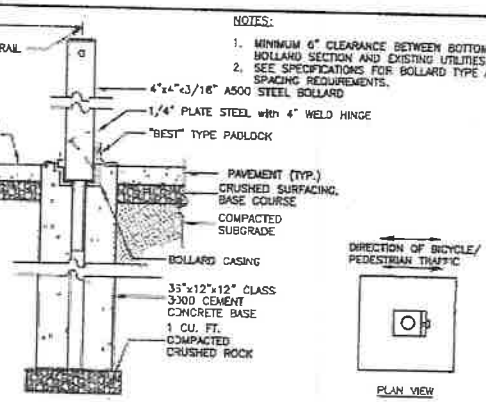
1 / CP-14



SECTION: FIXED BOLLARD

SCALE: NTS

3 / CP



NOTES:

1. MINIMUM 6" CLEARANCE BETWEEN BOTTOM OF BOLLARD SECTION AND EXISTING UTILITIES.
2. SEE SPECIFICATIONS FOR BOLLARD TYPE AND SPACING REQUIREMENTS.

DETAIL: REMOVABLE BOLLARD

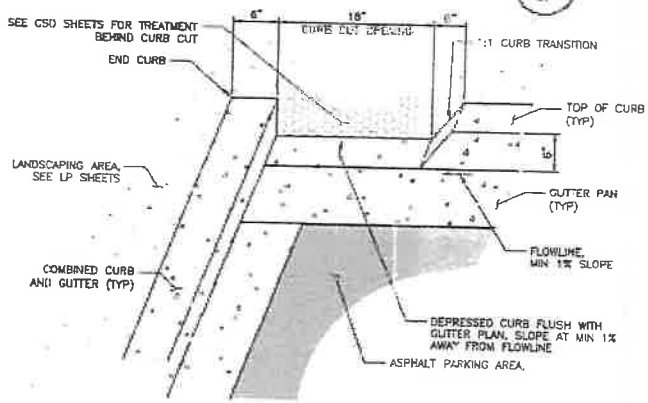
SCALE: NTS

5 / CP

SECTION: REMOVABLE BOLLARD

SCALE: NTS

4 / CP



TYPICAL CURB CUT DETAIL

SCALE: NTS

2 / CP-14

CURB CUT NOTES:

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

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

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

SURVEY JOB NO/SOURCE:						FUNDING:	
CHECKED:							
CAD ENTERED: J. FRYE	11/27/19						
DESIGNED: K. MCDONALD	11/27/19	NUM	REVISION	BY	DATE	PROJECT No. 1117056	
CHECKED: B. MAGEE	11/27/19						
SUPERVISOR: S. JOHNSON	11/27/19					CONTRACT No. C0141SC20	
		NUM	RECORD CHANGES APPROVED	BY	DATE		

HDR Engineering Inc.

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
PARKING LOT DETAILS
CURB RAMPS AND CURB CUTS

SHEET
CP-25

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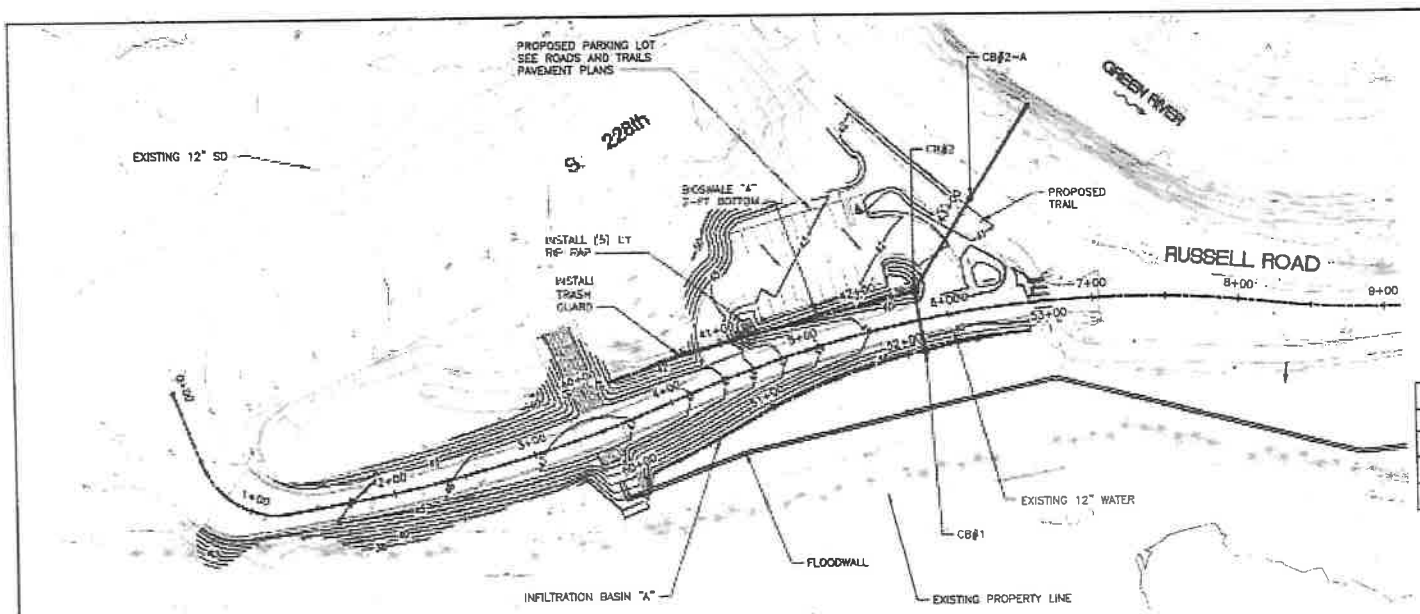
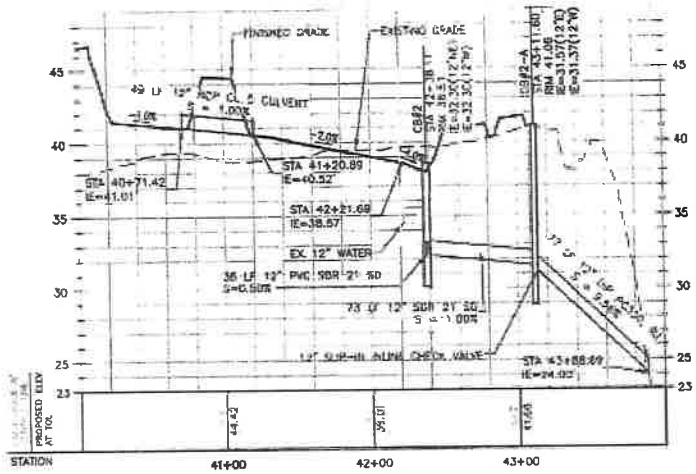


NOTES:

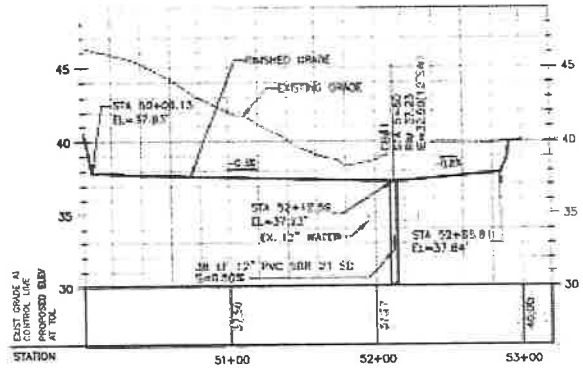
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
4. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION SYSTEMS UNTIL 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

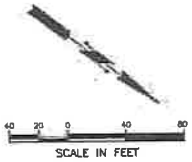
NAME	TYPE	NORTHING	EASTING	RIM ELEVATION	CASTING
CB#1	TYPE 1	147881.55	1283974.80	37.23	GRATE INLET
CB#2	TYPE 2	147851.69	1283947.59	38.51	GRATE INLET
CB#2-A	Type 2	147845.16	1283874.39	41.08	SOLID LID



BIOSWALE "A"



INFILTRATION BASIN "A"



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

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

SURVEY JOB NO/SQUARE:		
CHECKED:		
CAD ENTERED:	C. FRENCH	8/07/18
DESIGNED:	C. FRENCH	8/07/18
CHECKED:	J. GRIFFIN	8/07/18
SUPERVISOR:	T. JOHNSON	8/07/18

MAIL	REVISION	BY	DATE

MAIL	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering Inc.

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
STORM DRAIN IMPROVEMENTS
PLAN AND PROFILE
STA 0+00 TO 9+00

SHEET
CSD-1

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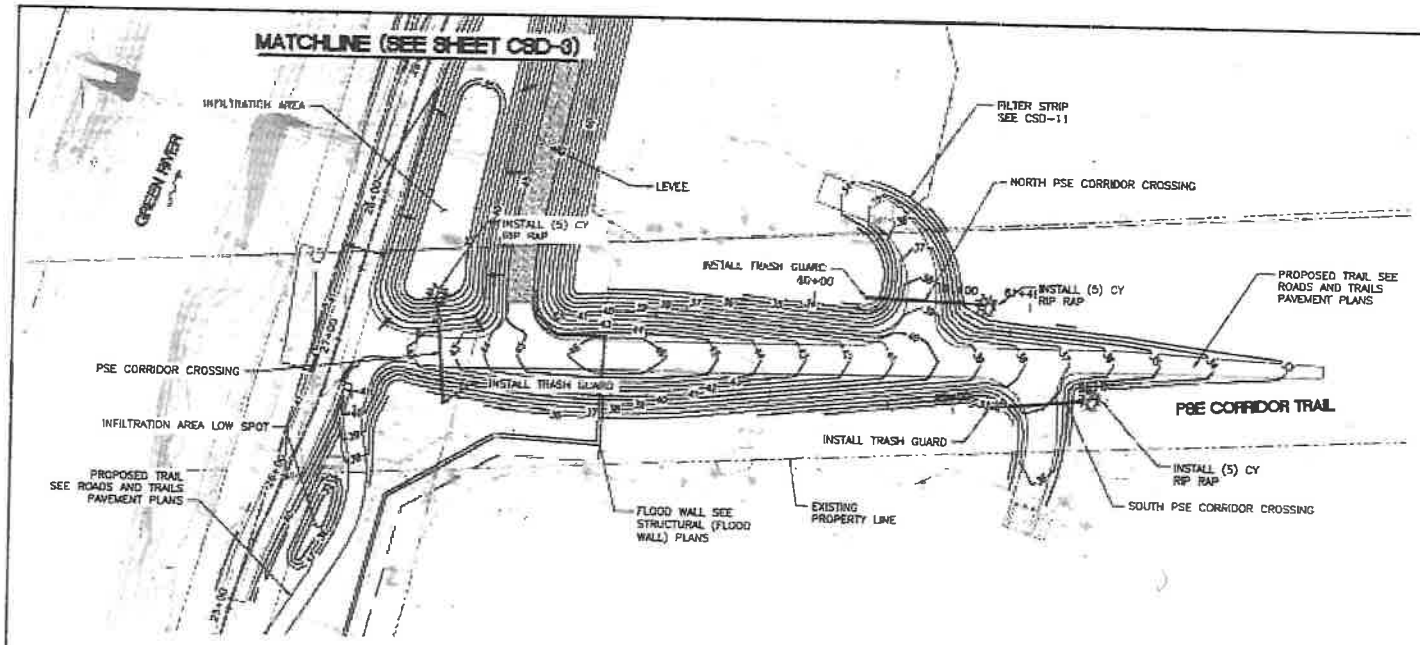
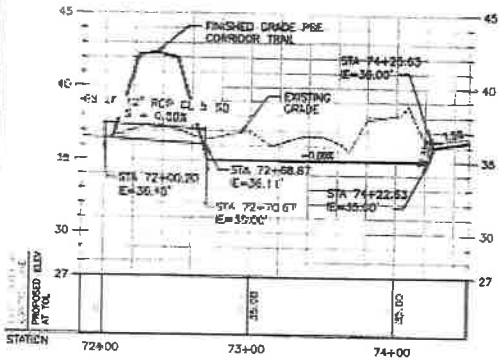
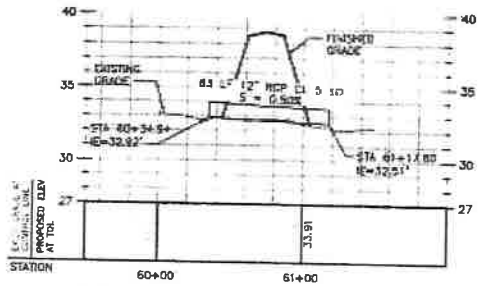


NOTES:

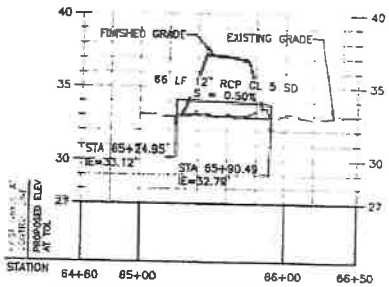
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
4. SEE LEVEE PLANS FOR LEVEE DESIGN.
5. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION SYSTEMS UNTIL THE CONTRIBUTING DRAINAGE AREA AND/OR ADJACENT CONSTRUCTION HAS BEEN COMPLETELY 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.



PSE CORRIDOR CROSSING



NORTH PSE CORRIDOR CROSSING



SOUTH PSE CORRIDOR CROSSING

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	C. FRENCH	9/07/16			
DESIGNED:	C. FRENCH	9/07/16	MUNI.	REVISION	BY / DATE
CHECKED:	J. GRIFFIN	9/07/16			
SUPERVISOR:	T. JOHNSON	9/07/16			
			MUNI.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

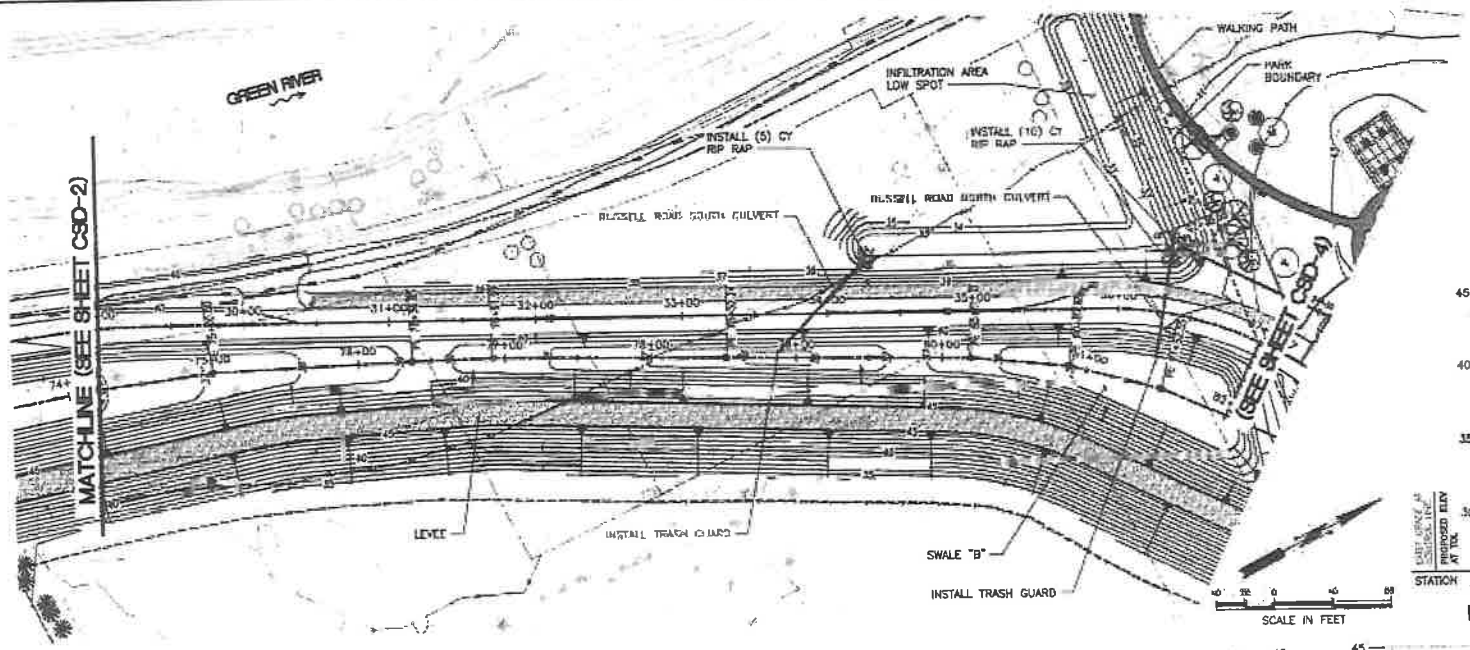
HDR Engineering Inc.

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
STORM DRAIN IMPROVEMENTS
PLAN AND PROFILE
STA 25+00 TO 29+00
STA 0+00 TO 7+50

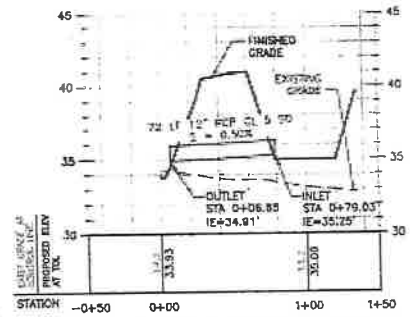
SHEET
CSD-2

C:\pwworking\seattle\d0417459\KCLRR_CSD-2.dwg, KCLRR_CSD-2, 11/28/2019 3:32:02 PM, CFRENCH

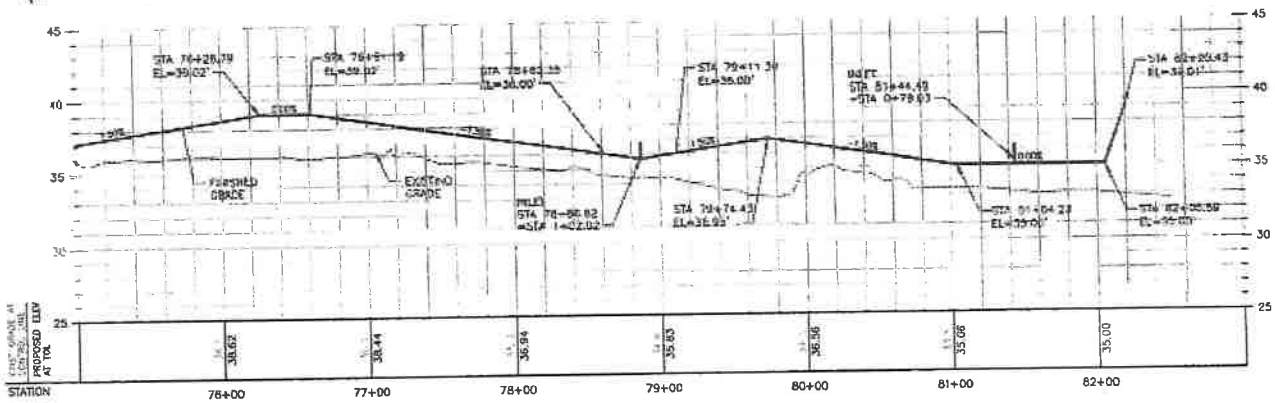


NOTES:

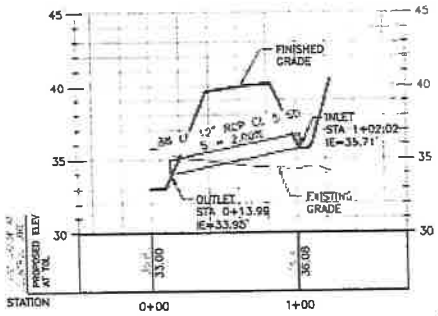
1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. SEE ROADS AND TRAILS PAVEMENT PLANS FOR ROADWAY DESIGN.
3. SEE HABITAT FEATURES AND SCOUR PROTECTION FOR HABITAT DETAILS.
4. SEE STRUCTURAL LEVEE PLANS FOR LEVEE DESIGN.
5. DO NOT CONSTRUCT INFILTRATION AREAS AND CONSTRUCTED INFILTRATION SYSTEMS UNTIL THE CONTRIBUTING DRAINAGE AREA AND/OR ADJACENT CONSTRUCTION HAS BEEN COMPLETELY 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.



RUSSELL ROAD NORTH CULVERT



SWALE "B"



RUSSELL ROAD SOUTH CULVERT

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	C. FRENCH	9/07/18			
DESIGNED:	C. FRENCH	9/07/18	NUM.	REVISION	BY / DATE
CHECKED:	J. GRIFFIN	9/07/18			
SUPERVISOR:	T. JOHNSON	9/07/18			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

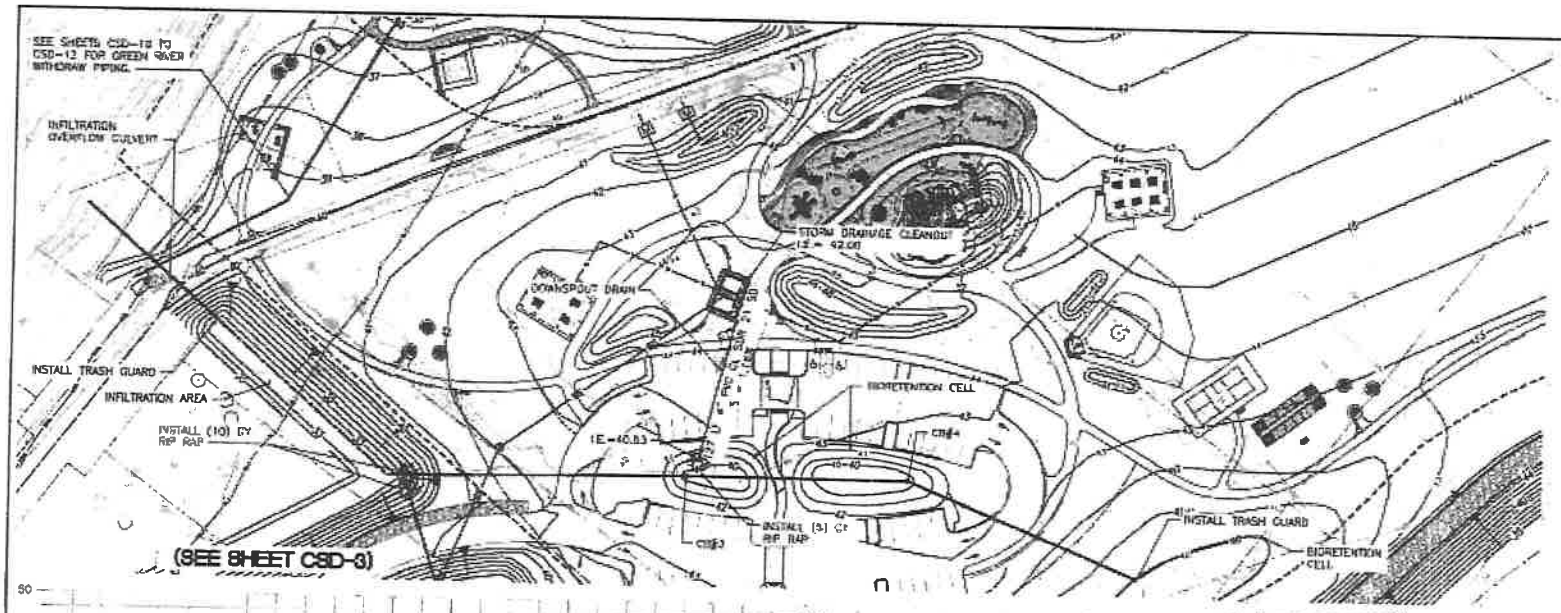
HDR Engineering Inc.

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
STORM DRAIN IMPROVEMENTS
PLAN AND PROFILE
STA 29+00 TO 37+00

SHEET CSD-3

C:\pwworking\seed\20417495\KCLRR_CSD-3.dwg, KCLRR_CSD-3, 11/20/2019 3:57:44 PM, CFRENCH



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. SEE SHEET CSD-9 FOR TYPICAL BIORETENTION CELL SECTION.
6. SEE SHEET CSD-9 FOR DOWNSPOUT CONNECTION AND STORM DRAINAGE CLEANOUT DETAILS.
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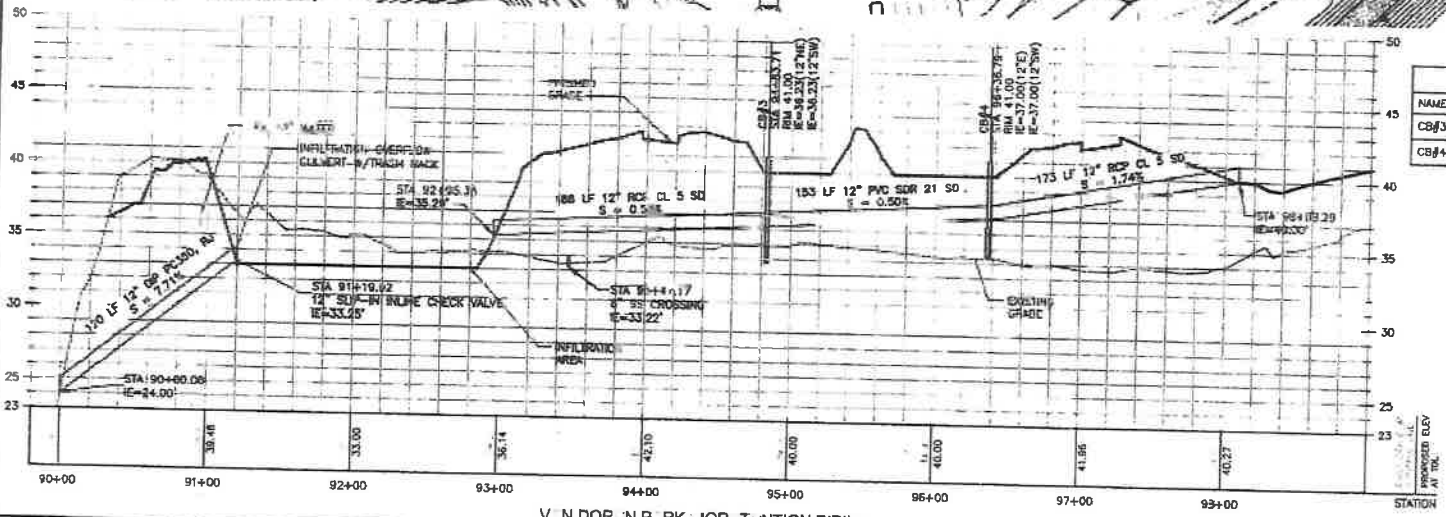
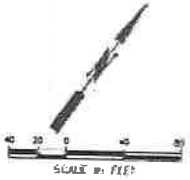


V N DOR N P RK IOR T NTION PIPIN

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	1284288.96	41.00	BEEHIVE GRATE



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

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

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED: C. FRENCH	9/07/18			
DESIGNED: C. FRENCH	9/07/18	MARK REVISION	BY	DATE
CHECKED: A. GRIFFIN	9/07/18			
SUPERVISOR: T. JOHNSON	9/07/18			
		MARK RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

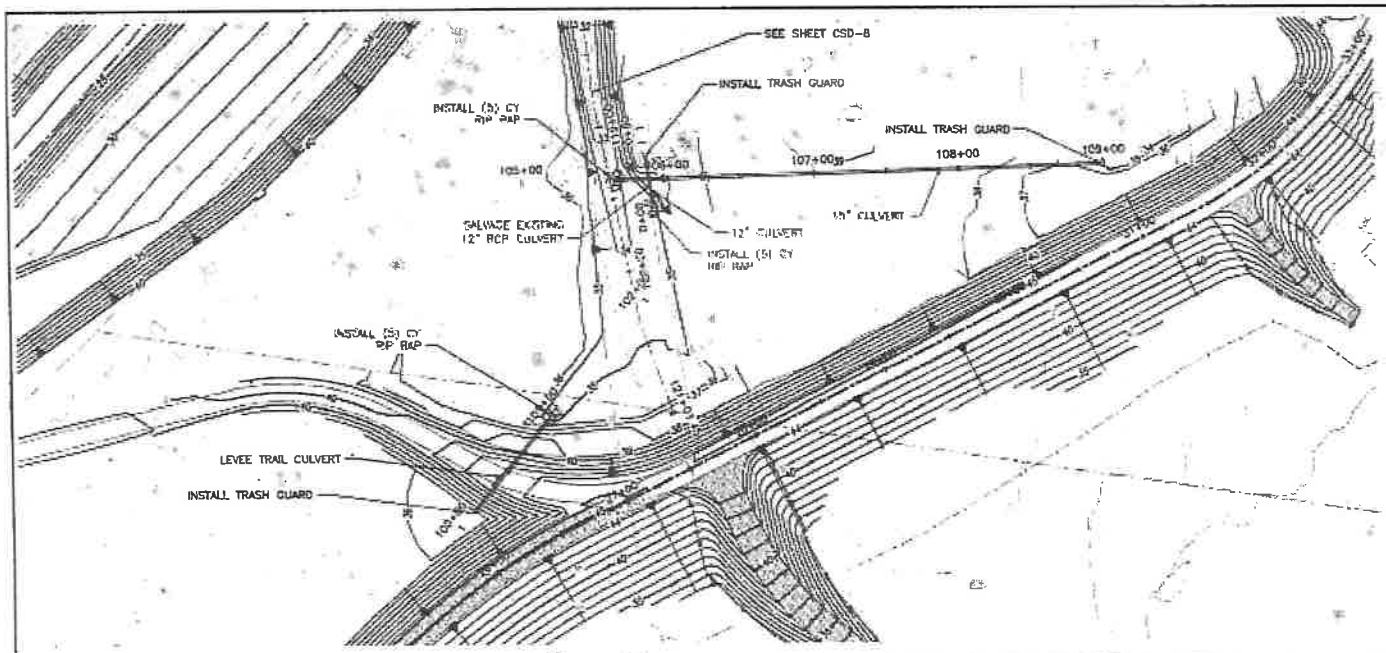
HDR Engineering Inc.

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
STORM DRAIN IMPROVEMENTS
PLAN AND PROFILE

SHEET
CSD-4

C:\pwworking\seattle\d0401749\KCLRR_CSD-4.dwg,KCLRR_CSD-4, 11/26/2019 4:11:12 PM, CFRENCH



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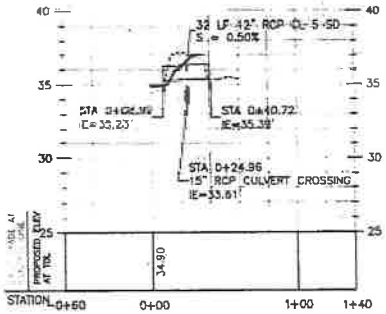
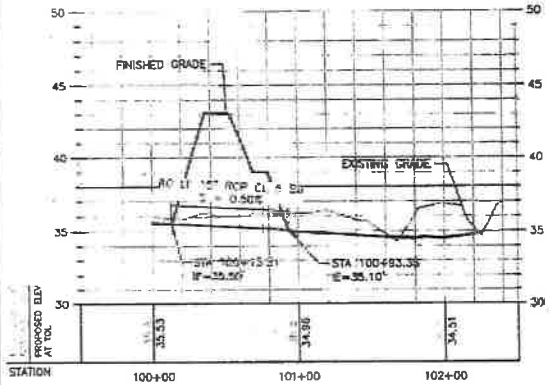
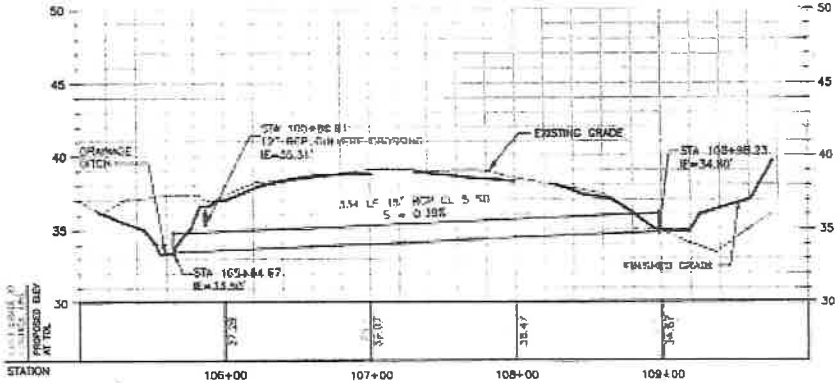


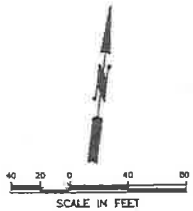
15" CULVERT



LEVEE TRAIL CULVERT



12" CULVERT



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

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SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	C. FRENCH	8/07/18			
DESIGNED:	C. FRENCH	8/07/18	NUM.	REVISION	BY / DATE
CHECKED:	J. GRIFFIN	8/07/18			
SUPERVISOR:	T. JOHNSON	8/07/18			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

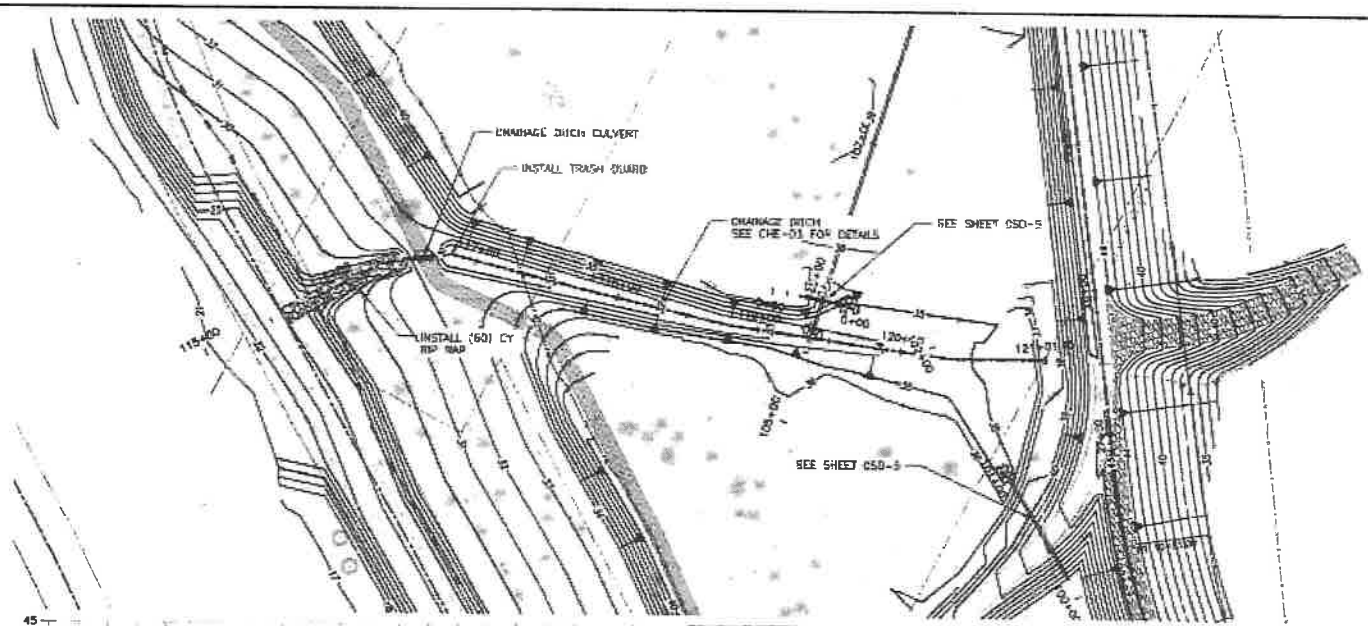
HDR Engineering, Inc.

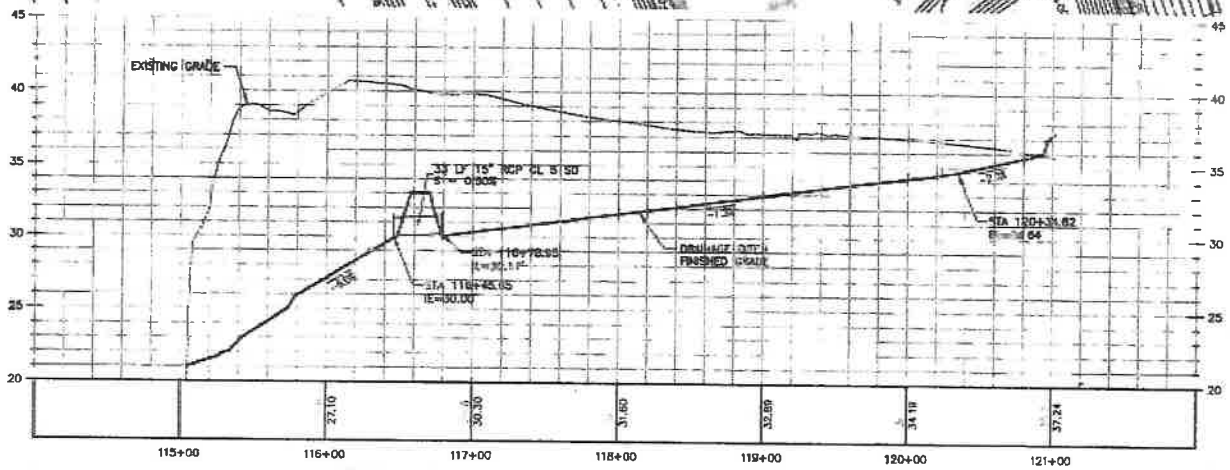
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

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

SHEET
CSD-5

C:\pwworking\sea\d2041749\KCLRR_CSD-5.dwg, KCLRR_CSD-5, 11/28/2019 4:23:46 PM, CFRENCH





DRAINAGE DITCH CULVERT

NOTES:

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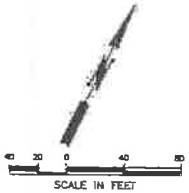

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

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

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED: C. FRENCH	8/27/18			
DESIGNED: C. FRENCH	8/27/18	NUM. REVISION	BY	DATE
CHECKED: J. GRIFFIN	8/27/18			
SUPERVISOR: T. JOHNSON	8/27/18			
		NUM. RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112059

CONTRACT No. C01415C20

HDR Engineering Inc.

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
STORM DRAIN IMPROVEMENTS
PLAN AND PROFILE

SHEET
CSD-6

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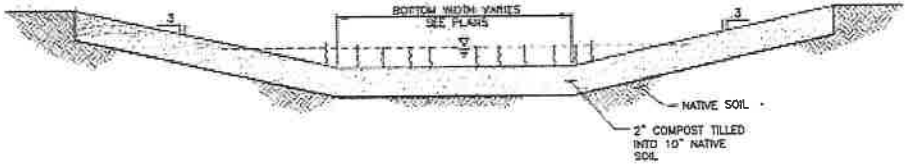
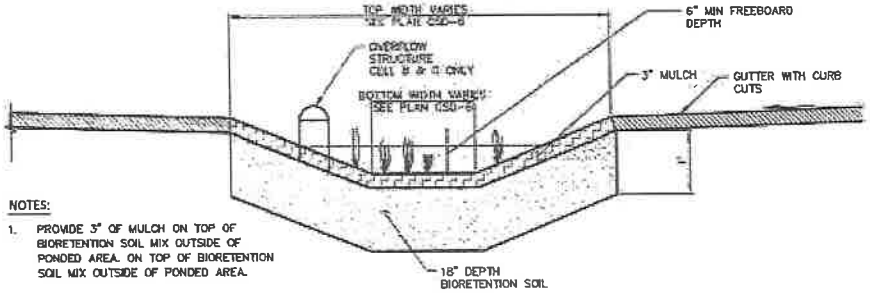


TYPICAL BIOSWALE CROSS SECTION (1)

NTS
SEE SHEET CSD-1

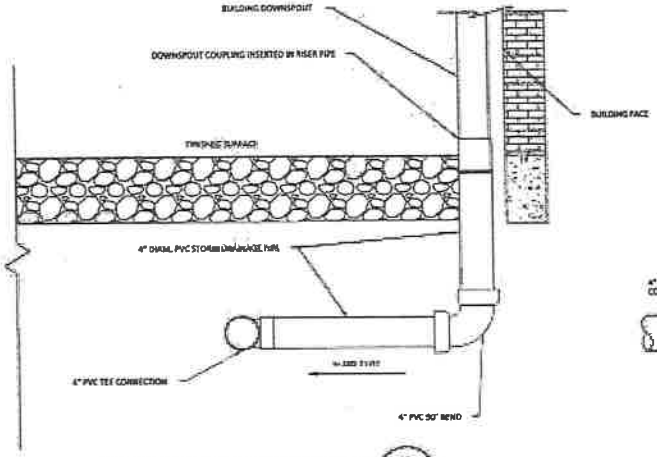


NOTES:

1. PROVIDE 3" OF MULCH ON TOP OF BIORETENTION SOIL MIX OUTSIDE OF PONDED AREA. ON TOP OF BIORETENTION SOIL MIX OUTSIDE OF PONDED AREA.

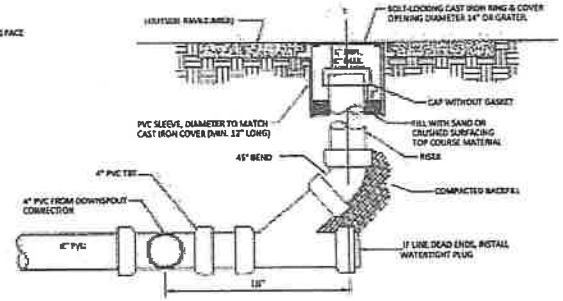
BIORETENTION CELL SECTION (2)

NTS
SEE SHEET CSD-6



DOWNSPOUT CONNECTION (5)

NTS
SEE SHEET CSD-6



STORM DRAINAGE CLEANOUT (6)

NTS
SEE SHEET CSD-6

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: C. FRENCH	8/07/18				
DESIGNED: C. FRENCH	8/07/18	NUM.	REVISION	BY	DATE
CHECKED: J. GRIFFIN	8/07/18				
SUPERVISOR: T. JOHNSON	8/07/18				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112058
CONTRACT No. C01415C20

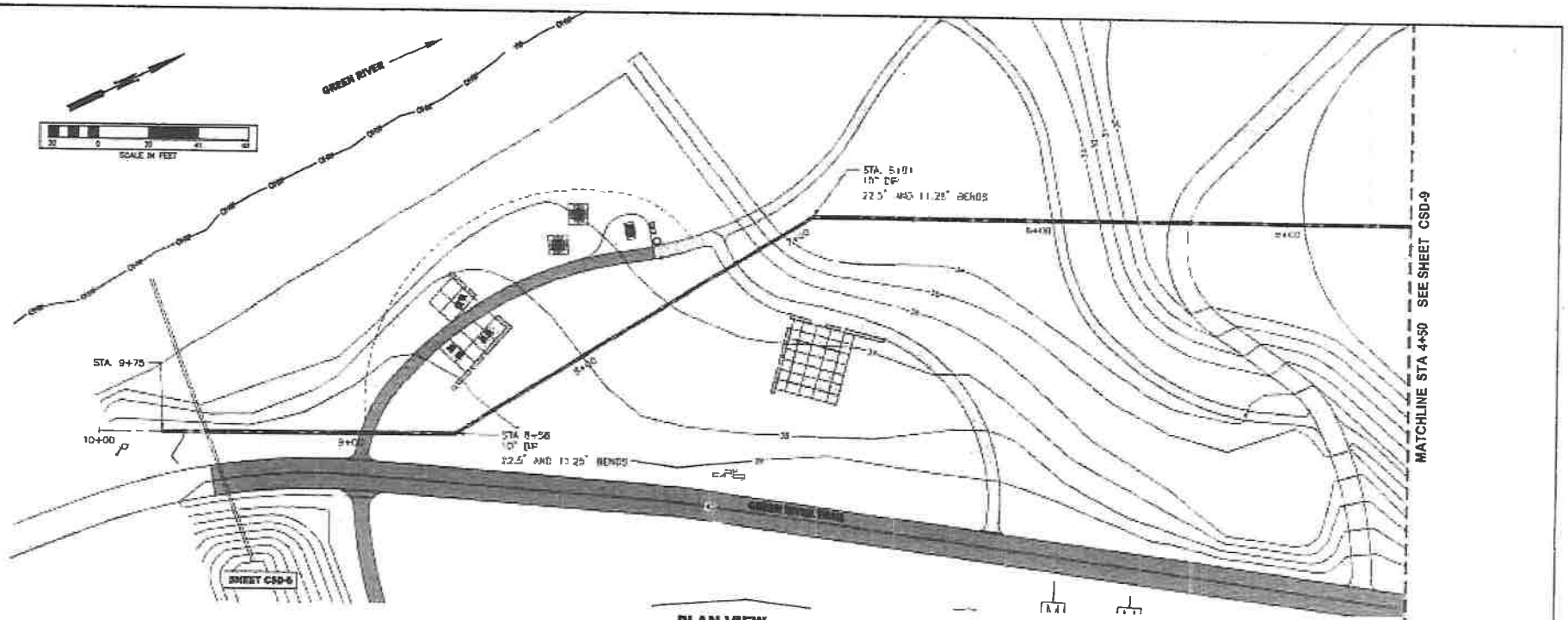
HDR Engineering Inc.

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

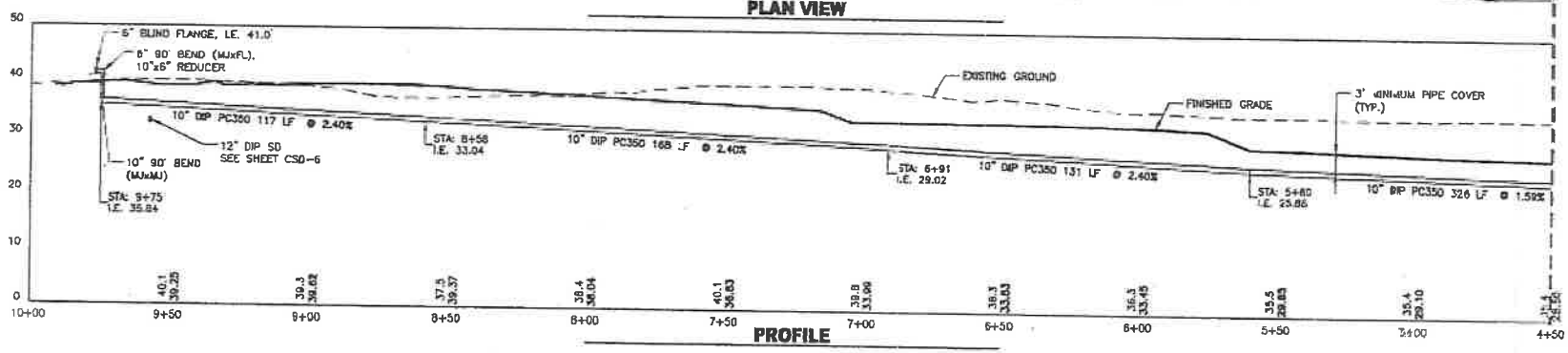
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
STORM DETAILS

SHEET
CSD-7

C:\pwworking\seg\d2041749\KCLRR_CSD-7.dwg, KCLRR_CSD-7, 11/20/2019 4:40:03 PM, CFRENCH



PLAN VIEW



PROFILE

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN RENELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112036

CONTRACT No. C01415C20

11/26/19

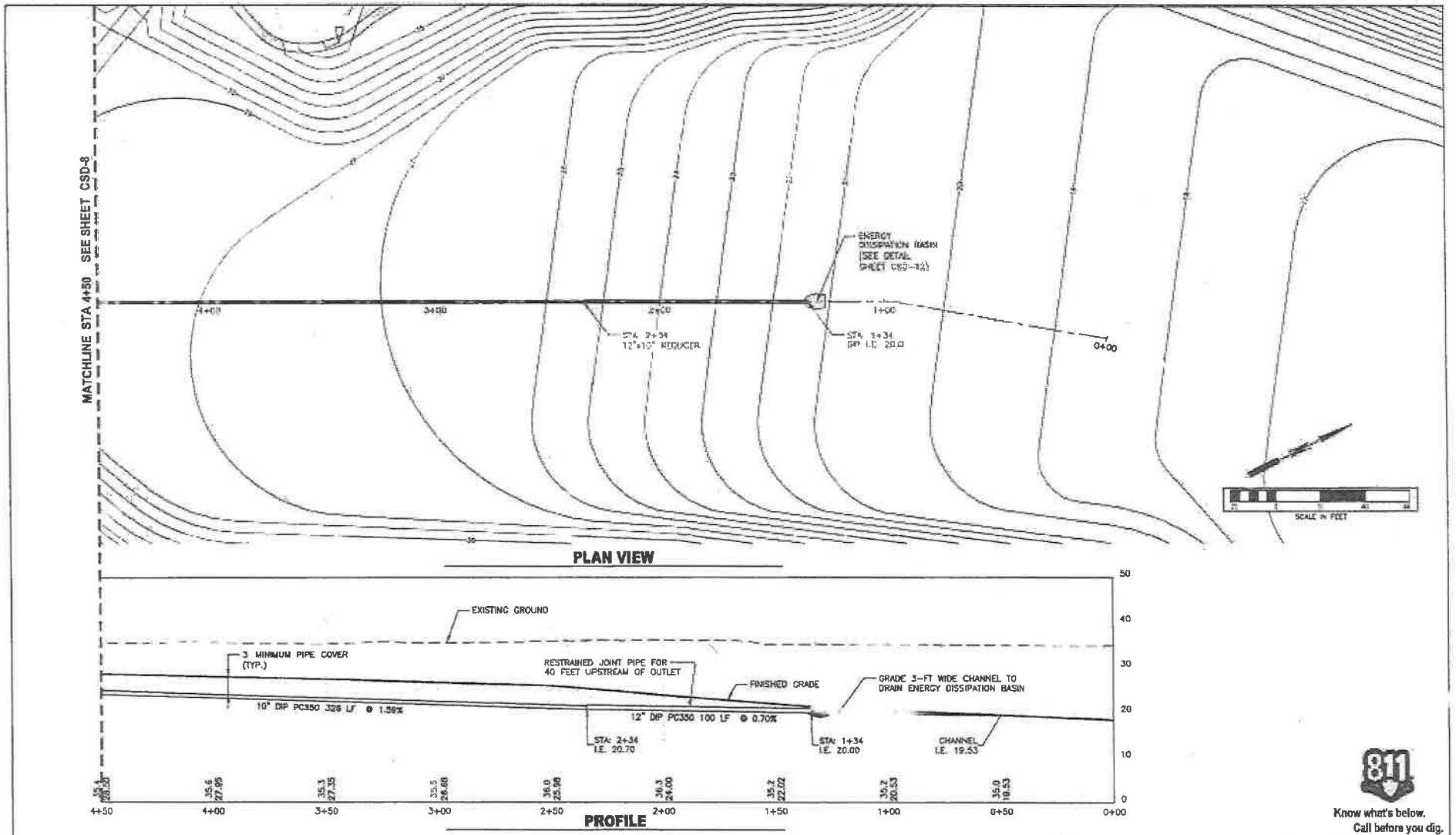
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

GREEN RIVER WITHDRAW PIPING

SHEET
CSD-8

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_CSD.dwg, 11/26/2019 10:09:47 AM, Bluebeam PDF_300dpi.pc3



Know what's below.
Call before you dig.
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SURVEY JOB NO/SQUARE:					
CHECKED:					
CAD ENTERED: K. KITAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

11/26/19

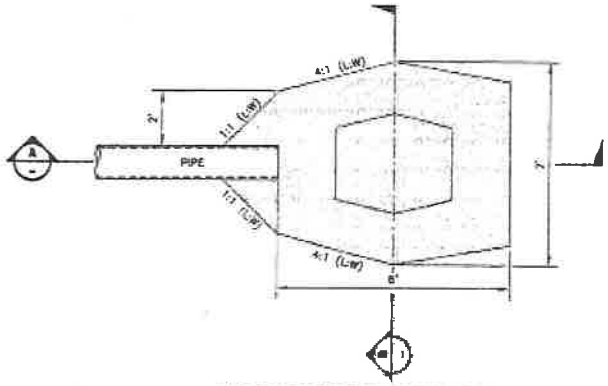
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

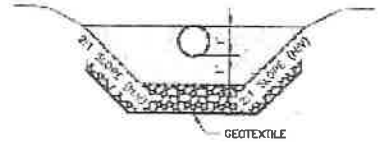
GREEN RIVER WITHDRAW PIPING

SHEET
CSD-9

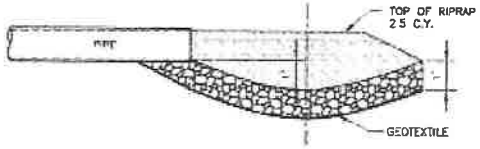
I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_CSD.dwg, 11/25/2019 3:02:19 PM, Bluebeam PDF_300dpi.pc3



ENERGY DISSIPATION BASIN DETAIL
SCALE: NTS



B SECTION B-B
SCALE: NTS



A PROFILE A-A
SCALE: NTS

Know what's below.
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SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: K. IGTAMURA	11/2019				
DESIGNED: ERIK PETERS, P.E.	11/2019	NUM.	REVISION	BY	DATE
CHECKED: ERIK PETERS, P.E.	11/2019				
SUPERVISOR: LORIN REINELT, P.E.	11/2019				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING
PROJECT No. 1112056
CONTRACT No. C01415C20

11/26/19

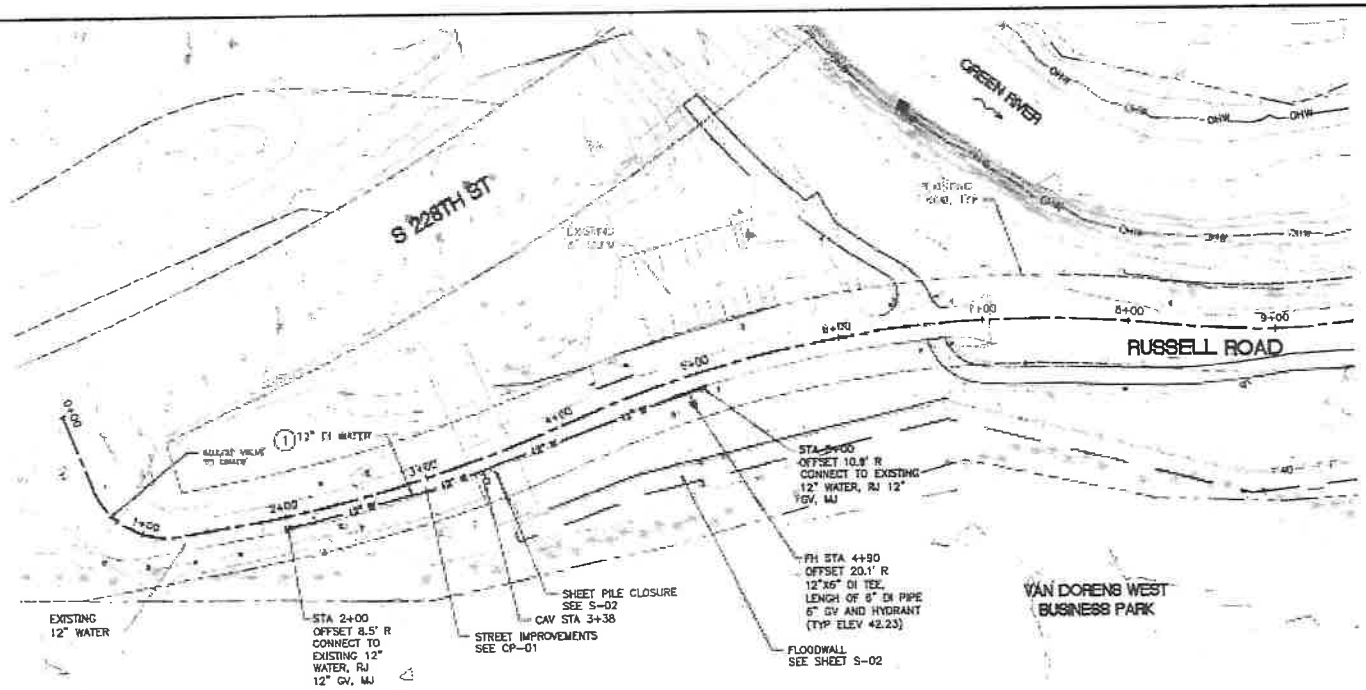
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

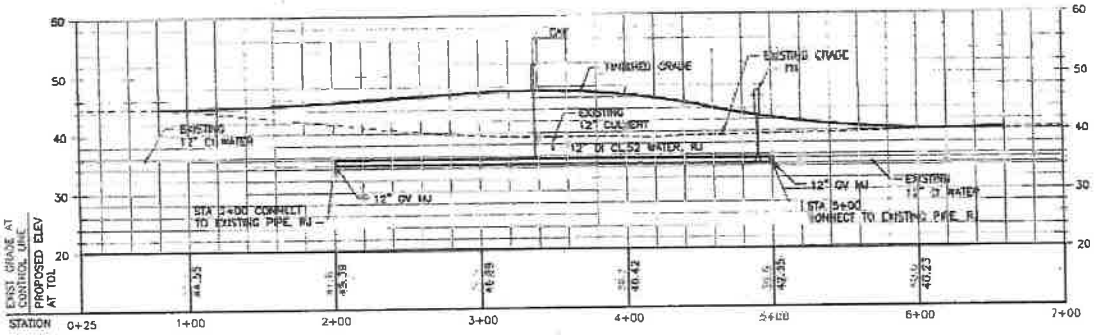
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

GREEN RIVER WITHDRAW PIPING DETAILS

SHEET
CSD-10

I:\1-RIVERS CAD SUPPORT\LowRussRdLevee_PHASE_2\P2_LRR_CSD.dwg, 11/25/2019 3:02:00 PM, Bluebeam PDF 3000dpi.pc3





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 ½" & 2" SERVICE
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, CONTRACTOR TO FIELD VERIFY ALL UTILITY LOCATIONS AS NEEDED.
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.

HORIZ SCALE: IN FEET

VERT SCALE: IN FEET

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

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

SURVEY JOB NO./SHEET:					
CHECKED:					
CAD ENTERED:	JTC	11/19			
DESIGNED:	AE	11/19			
CHECKED:	MB	11/19			
SUPERVISOR:	SS	11/19			

INIAL	REVISION	BY	DATE

INIAL	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

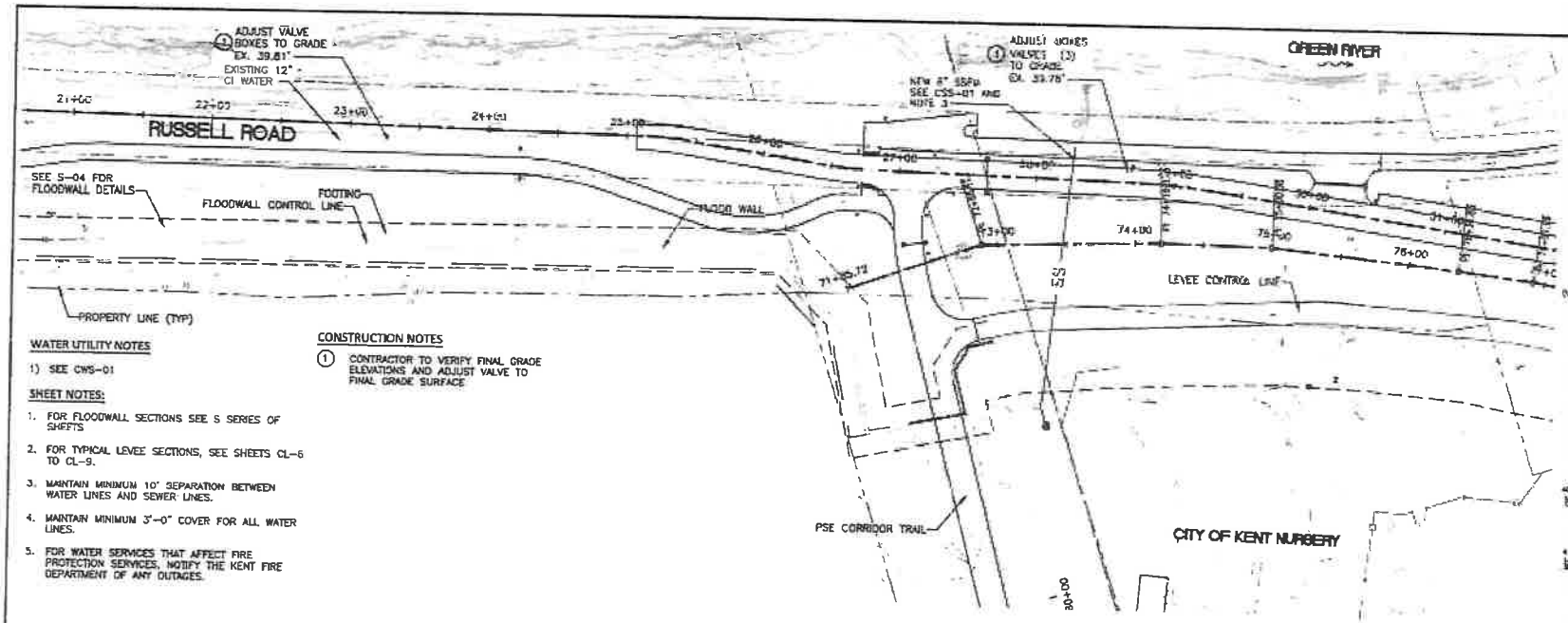
CONTRACT No. C01415C20

HDR Engineering Inc

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
WATER
PLAN AND PROFILE
STA 0+00 TO 7+00

SHEET
CWS-01



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.)

HORIZ SCALE: IN FEET

VERT SCALE: IN FEET

WATER UTILITY NOTES

1) SEE CWS-01

SHEET NOTES:

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

CONSTRUCTION NOTES

1. CONTRACTOR TO VERIFY FINAL GRADE ELEVATIONS AND ADJUST VALVE TO FINAL GRADE SURFACE

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JTG	11/19			
DESIGNED:	AE	11/19	MARK	REVISION	BY	DATE
CHECKED:	MB	11/19				
SUPERVISOR:	SS	11/19				
			MARK	RECORD CHANGES APPROVED	BY	DATE

Funding: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

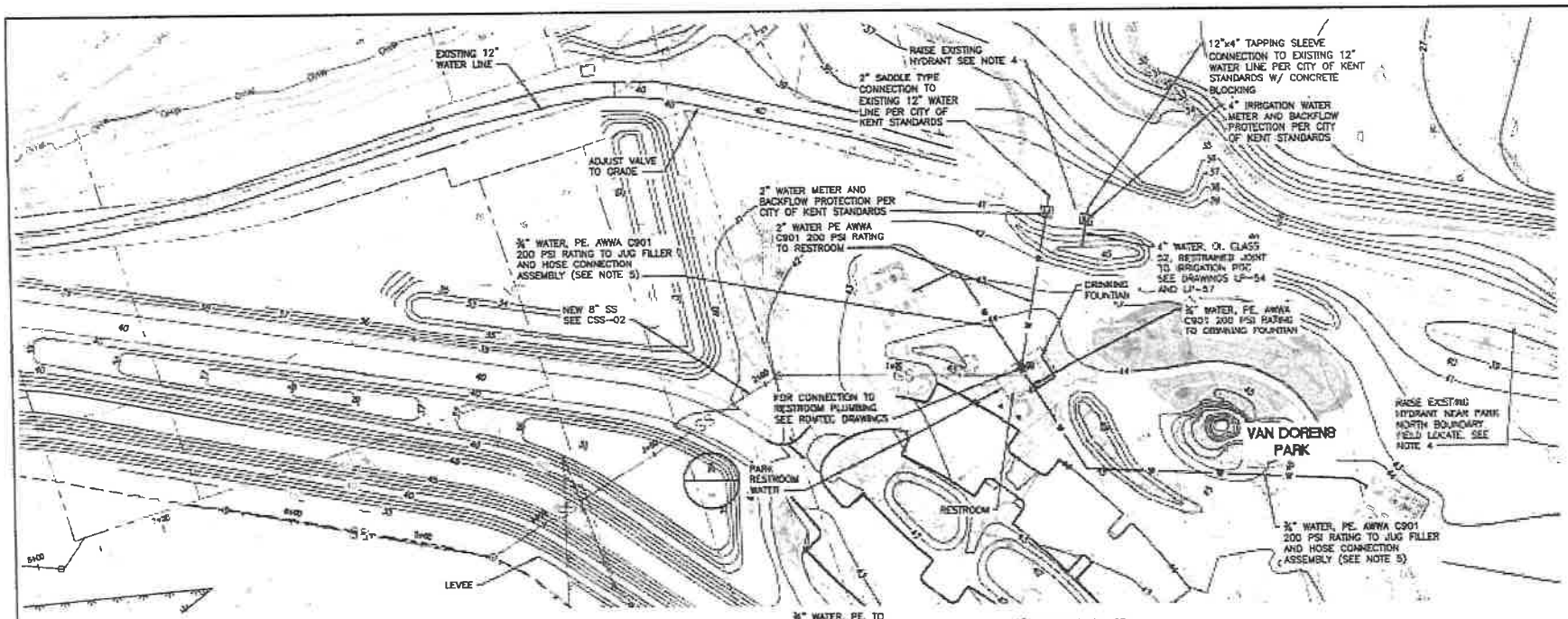
11/27/19

HDR Engineering Inc.

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
WATER
PLAN AND PROFILE
TIAA-CREF AND CITY OF KENT
NURSERY WATER SERVICE

SHEET
CWS-02

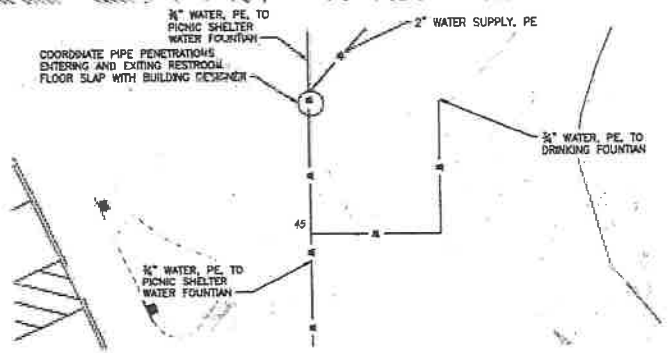


WATER UTILITY NOTES

1) SEE CWS-01

SHEET NOTES:

1. MAINTAIN MINIMUM 10" SEPARATION BETWEEN WATER LINES AND SEWER LINES.
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.
4. RAISE/ADJUST EXISTING HYDRANTS AND GV BOXES ALONG EXISTING 12" WATER LINE TO ACCOMMODATE PARK FILL.
5. HOSE CONNECTION ASSEMBLY WITH BELOW GROUND ISOLATION VALVE AND SILLCOCK KEY VALVE TO BE MOUNTED TO SHELTER AREA POST 24" ABOVE GROUND LEVEL. ANCHOR TO POST USING SADDLE CLIP.



PARK RESTROOM WATER

A

HORIZ SCALE: IN FEET

VERT SCALE: IN FEET

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.)

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JTG	11/19			
DESIGNED:	AE	11/19	NUM.	REVISION	BY / DATE
CHECKED:	MB	11/19			
SUPERVISOR:	SS	11/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

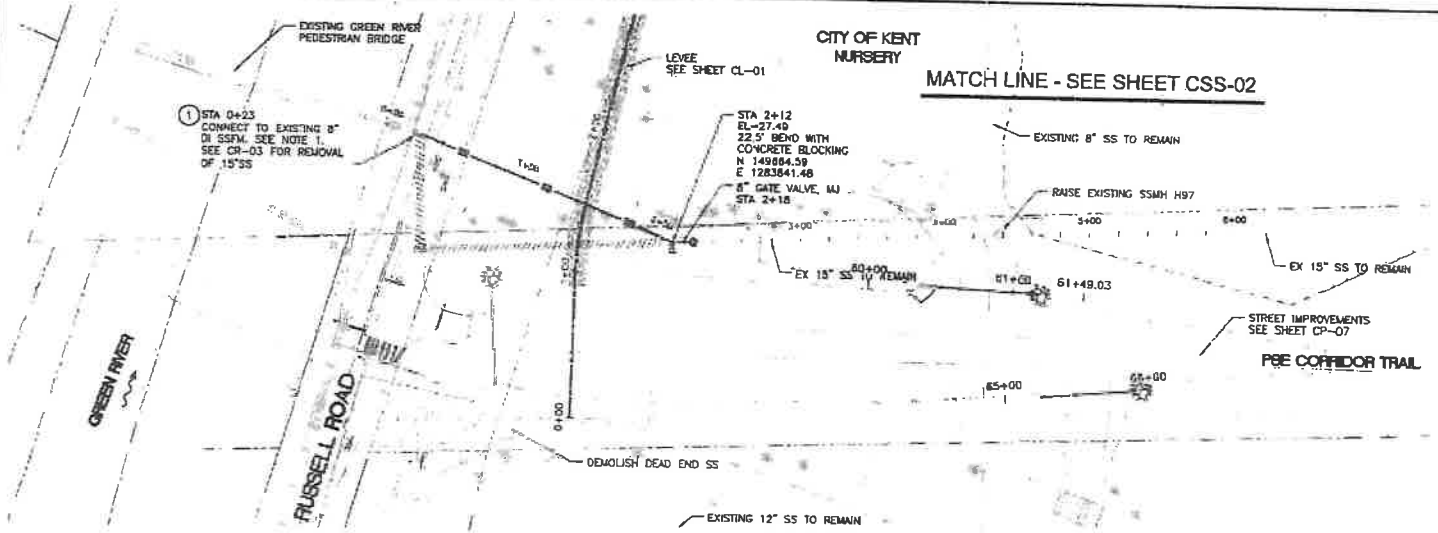
11/27/19

HDR Engineering Inc.

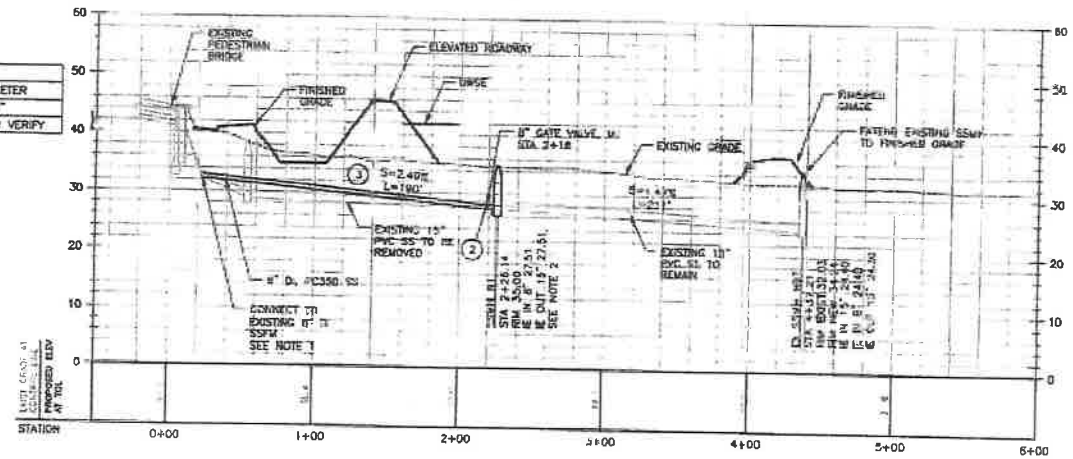
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
WATER
PLAN
VAN DORENS PARK

SHEET
CWS-03



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



SEWER UTILITY NOTES:

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

STANDARD PLAN	TITLE
3-2	CONCRETE BLOCKING
4-1	MANHOLE TYPE 1 48" & 54"
WSDOT 8-30.70-03	CIRCULAR FRAME (RING) AND COVER
4-5	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" SSFM NOT CURRENTLY IN SERVICE
2. WATER TIGHT PIPE CONNECTION AND CONCRETE CHANNELING
3. INSTALL PIPE JOINT AT CENTER OF LEVEE, WITH 6" CROWN. CROWN TO BE MEASURED FROM HIGHEST PIPE ELEVATION MEASURED 40' HORIZONTALLY FROM CENTER OF LEVEE.

HORIZ SCALE: IN FEET

VERT SCALE: IN FEET

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

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

SURVEY JOB NO/SOURCE:		
CHECKED:		
CAD ENTERED:	JTG	11/19
DESIGNED:	AE	11/19
CHECKED:	MB	11/19
SUPERVISOR:	SS	11/19

MUN.	REVISION	BY	DATE
MUN.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

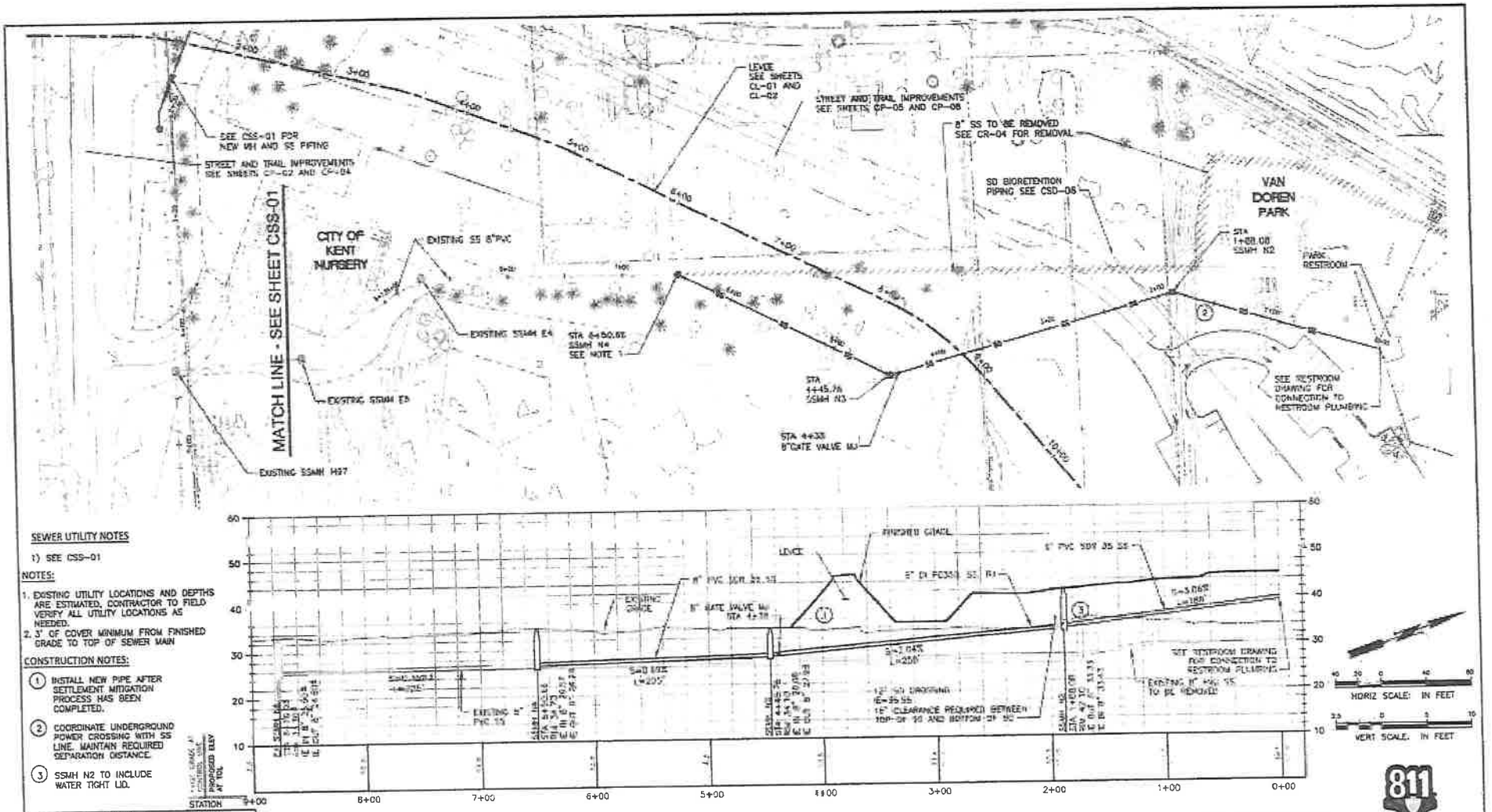
CONTRACT No. C01415C20

HDR Engineering Inc.

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
SEWER
PLAN AND PROFILE
KENT FORCE MAIN

SHEET
CSS-01



SEWER UTILITY NOTES

1) SEE CSS-01

NOTES:

1. EXISTING UTILITY LOCATIONS AND DEPTHS ARE ESTIMATED. CONTRACTOR TO FIELD VERIFY ALL UTILITY LOCATIONS AS NEEDED.
2. 3' OF COVER MINIMUM FROM FINISHED GRADE TO TOP OF SEWER MAIN

CONSTRUCTION NOTES:

1. INSTALL NEW PIPE AFTER SETTLEMENT MITIGATION PROCESS HAS BEEN COMPLETED.
2. COORDINATE UNDERGROUND POWER CROSSING WITH SS LINE. MAINTAIN REQUIRED SEPARATION DISTANCE.
3. SSMH N2 TO INCLUDE WATER TIGHT LID.

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

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

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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JTG	11/19			
DESIGNED:	AE	11/19	NUM.	REVISION	BY / DATE
CHECKED:	MG	11/19			
SUPERVISOR:	SS	11/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

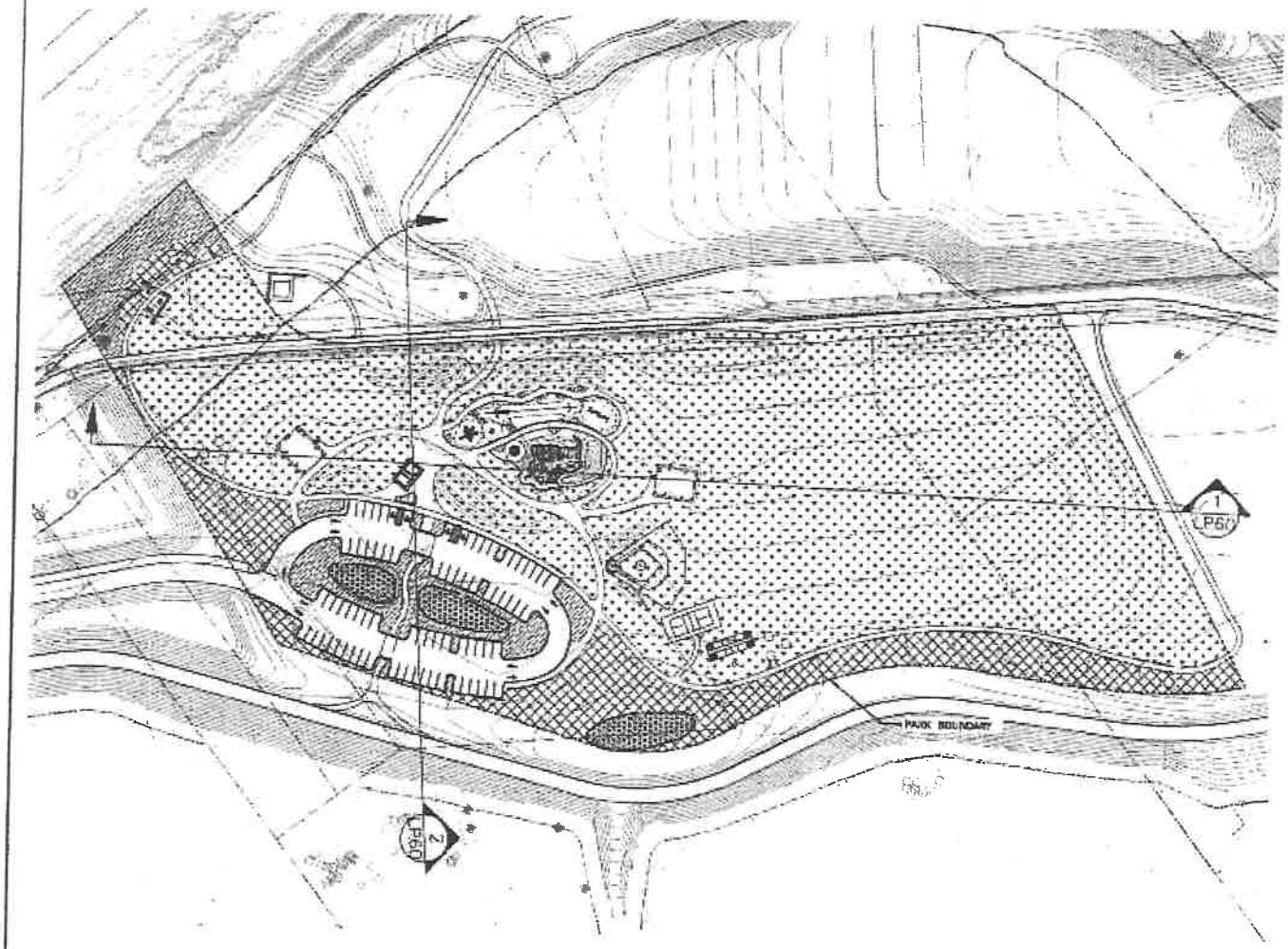
FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

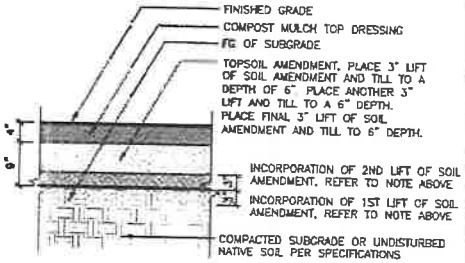
HDR Engineering Inc.

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
SEWER
PLAN AND PROFILE
PARK SEWER

SHEET
CSS-02

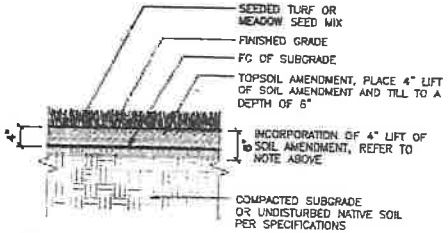




SOIL PROFILE – SHRUB PLANTING BED

SCALE: 1/2"=1'-0"

A



SOIL PROFILE – TURF AND MEADOW

SCALE: 1/2"=1'-0"

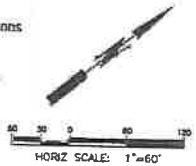
B

SOIL PREPARATION LEGEND

- TURF SOIL PROFILE
- MEADOW SOIL PROFILE
- GROUNDCOVER AND SHRUB SOIL PROFILE
- STORMWATER BIORETENTION AREA SOIL PROFILE – REFER TO 2 / CS0-5

NOTE:

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



SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19	NUM.	REVISION	BY	DATE
DESIGNED: JZ/GD	11/27/19				
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

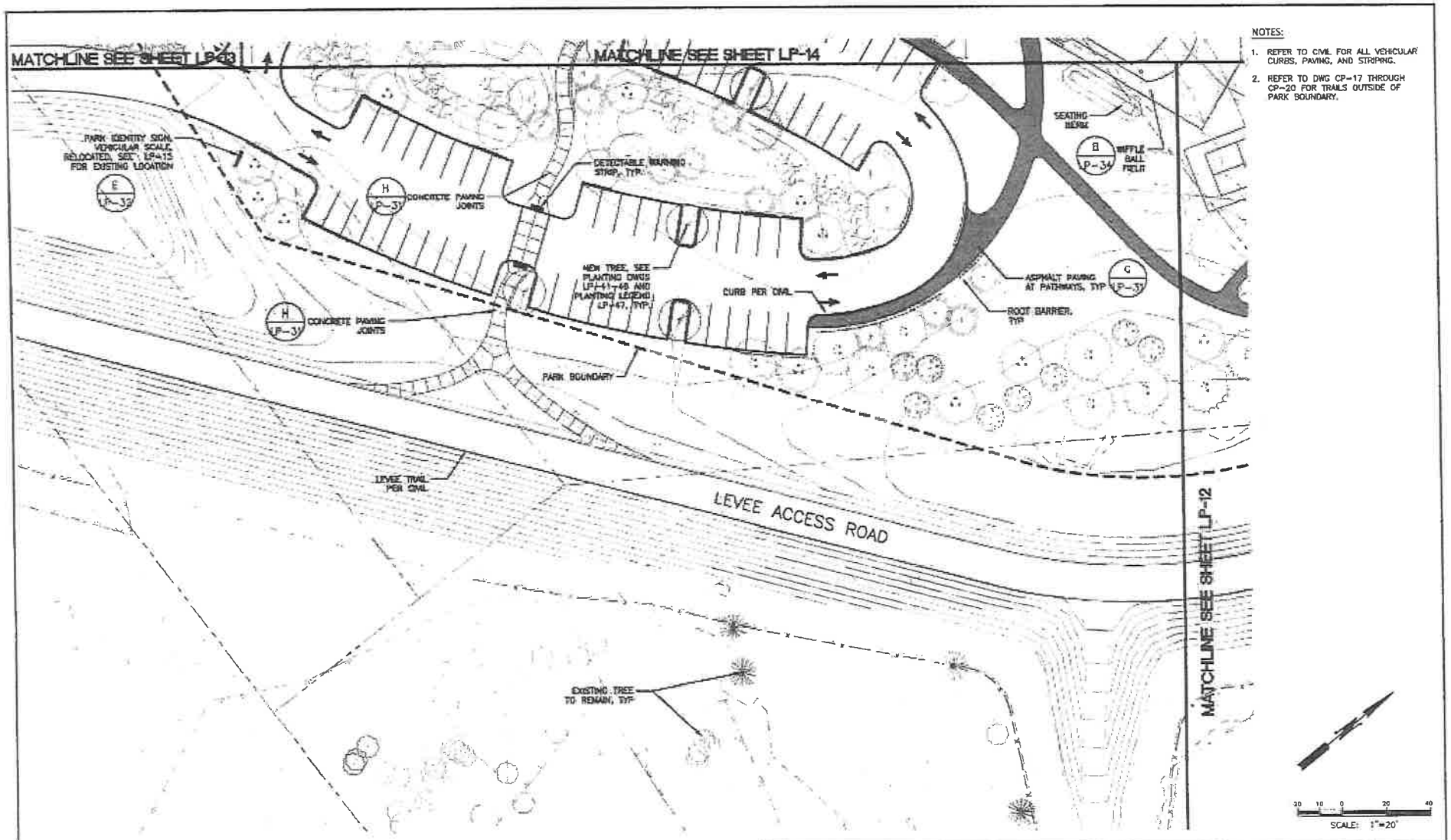
11/27/19

PARTNERSHIP berger

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
SOIL PREPARATION PLAN

SHEET
LP-01



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.

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

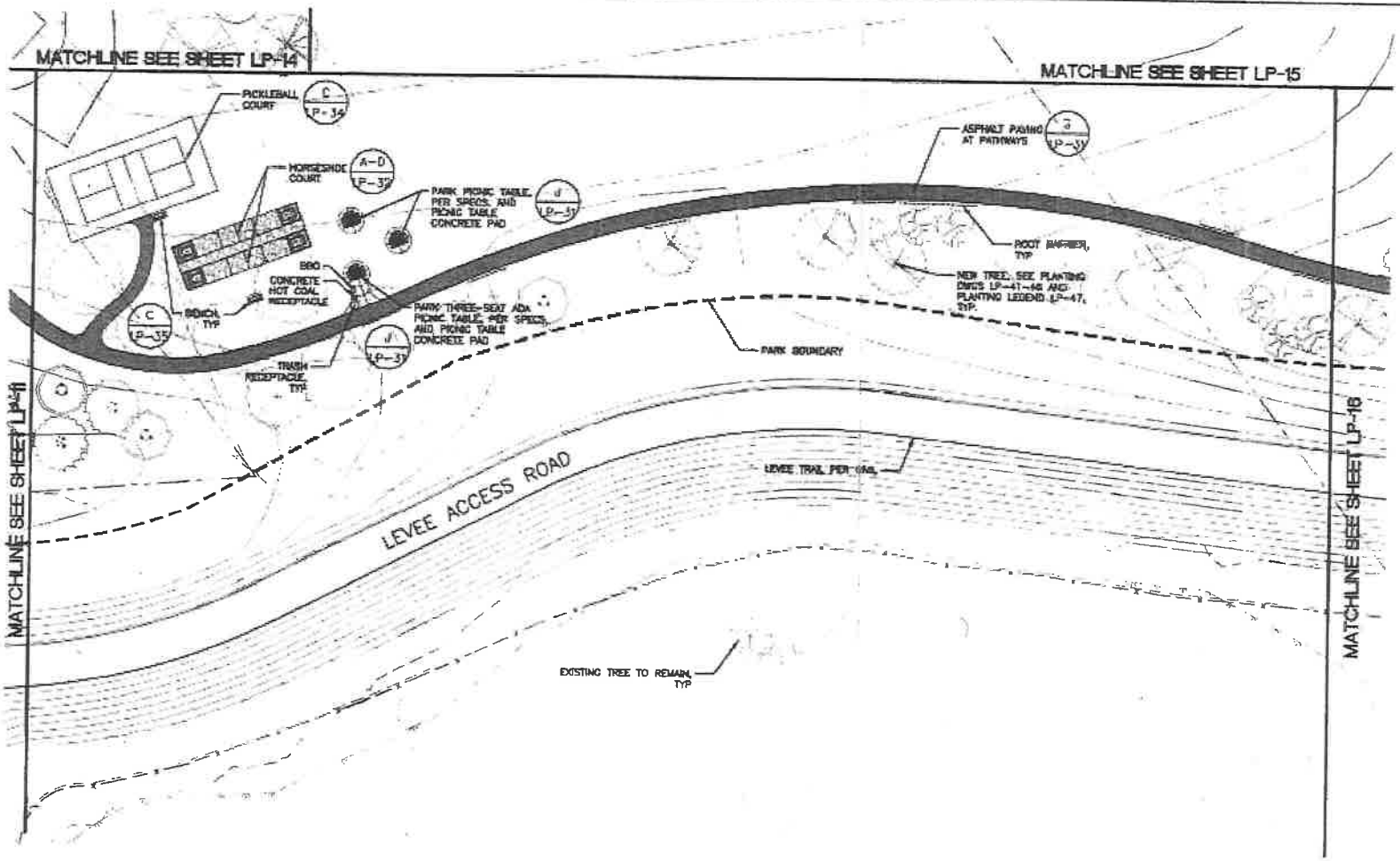
11/27/19

PARTNERSHIP berger

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
LANDSCAPE MATERIALS PLAN A

SHEET
LP-11



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.

SURVEY JOB NO./SOURCE:					
CHECKED:					
CAD ENTERED: JE/JF 11/15/19					
DESIGNED: JJ/GB 11/27/19	MIN	REVISION	BY	DATE	
CHECKED: GB 11/27/19					
SUPERVISOR: GB 11/27/19					
	MIN	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

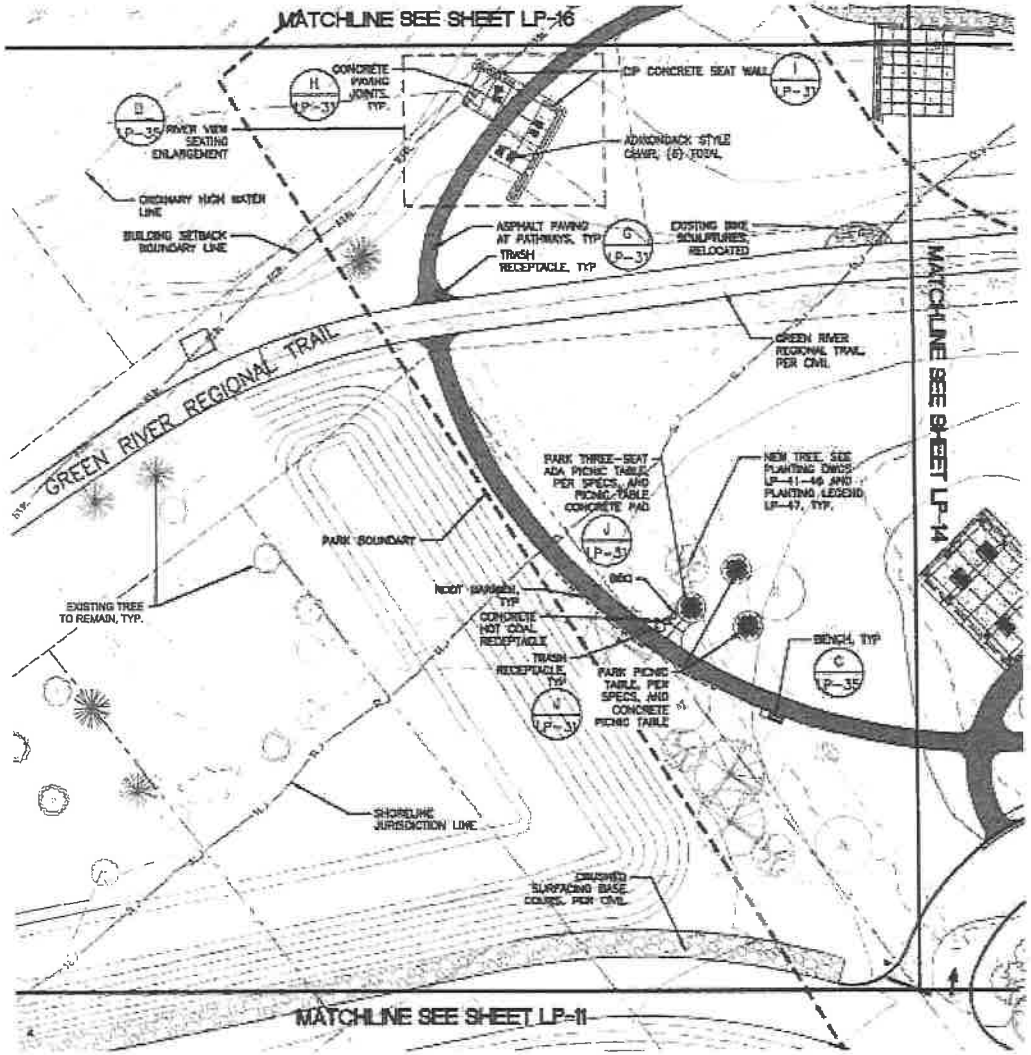
11/27/19

PARTNERSHIP berger

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

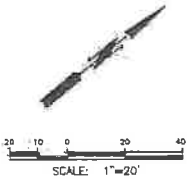
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
LANDSCAPE MATERIALS PLAN B

SHEET
LP-12



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.



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CHECKED:							
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DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE		
CHECKED: GB	11/27/19						
SUPERVISOR: GB	11/27/19						
		NUM.	RECORD CHANGES APPROVED	BY	DATE		

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

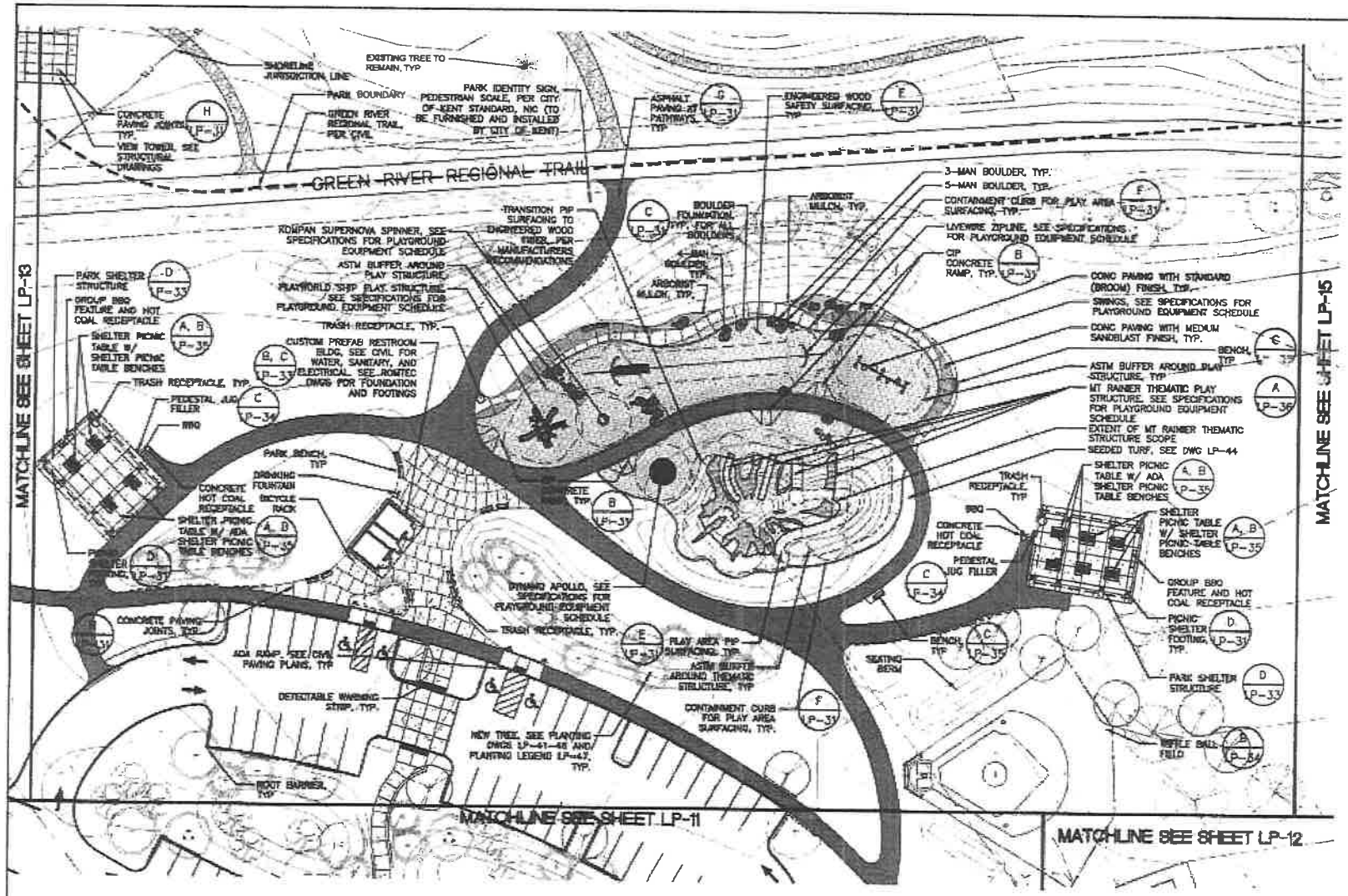
11/27/19

PARTNERSHIP berger

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
LANDSCAPE MATERIALS PLAN C

SHEET
LP-13



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.
3. REFER TO SPECIFICATIONS PLAYGROUND EQUIPMENT SCHEDULE
4. REFER TO CIVIL FOR TYPICAL CONCRETE PAVING PROFILE AND SUB-GRADE PREPARATION.
5. PROVIDE ROOT BARRIERS WHERE SHOWN IN PLANS, ROOT BARRIERS SHALL EXTEND 8' MIN IN EACH DIRECTION FROM CENTER LINE OF TREE TRUNKS WITHIN 12' OF PAVING.

SCALE: 1"=20'

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JJ/SF	11/27/19				
DESIGNED: JJ/DB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: DB	11/27/19				
SUPERVISOR: DB	11/27/19				
		NUM	RECORD CHANGES APPROVED	BY	DATE

Funding:

PROJECT No. 1112056

CONTRACT No. C01415C20

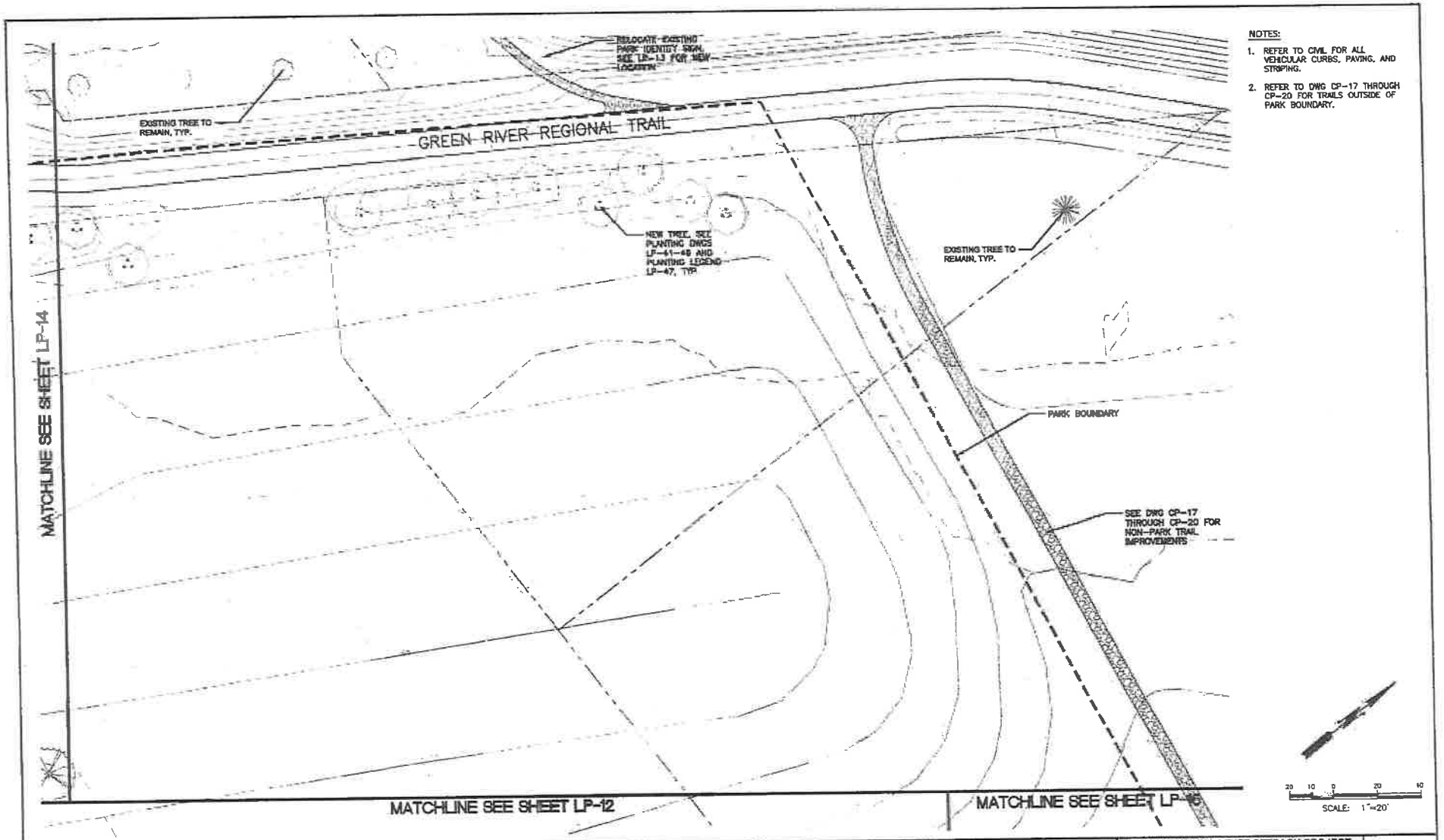
11/27/19

PARTNERSHIP berger

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
LANDSCAPE MATERIALS
PLAN D

SHEET
LP-14



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.

SURVEY JOB NO/SOURCE:						FUNDING:	
CHECKED:							
CAD ENTERED: JZ/JF	11/27/19						
DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE	PROJECT No. 1112056	
CHECKED: GB	11/27/19						
SUPERVISOR: GB	11/27/19					CONTRACT No. C01415C20	
		NUM.	RECORD CHANGES APPROVED	BY	DATE		

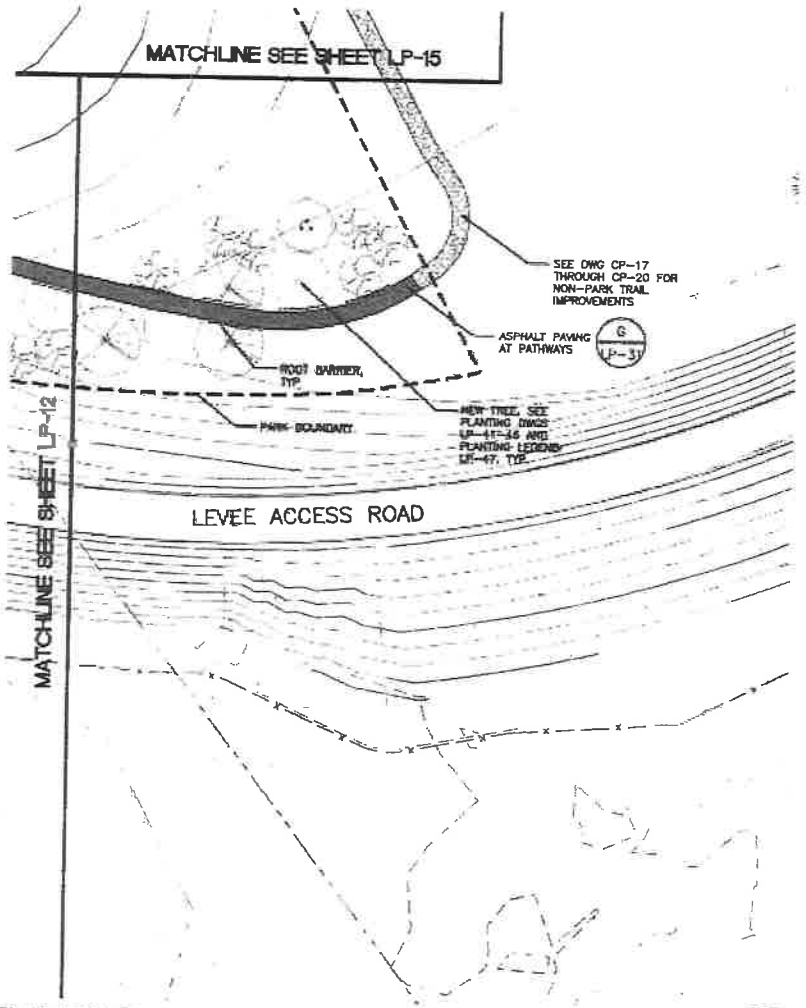
11/27/19

PARTNERSHIP berger

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

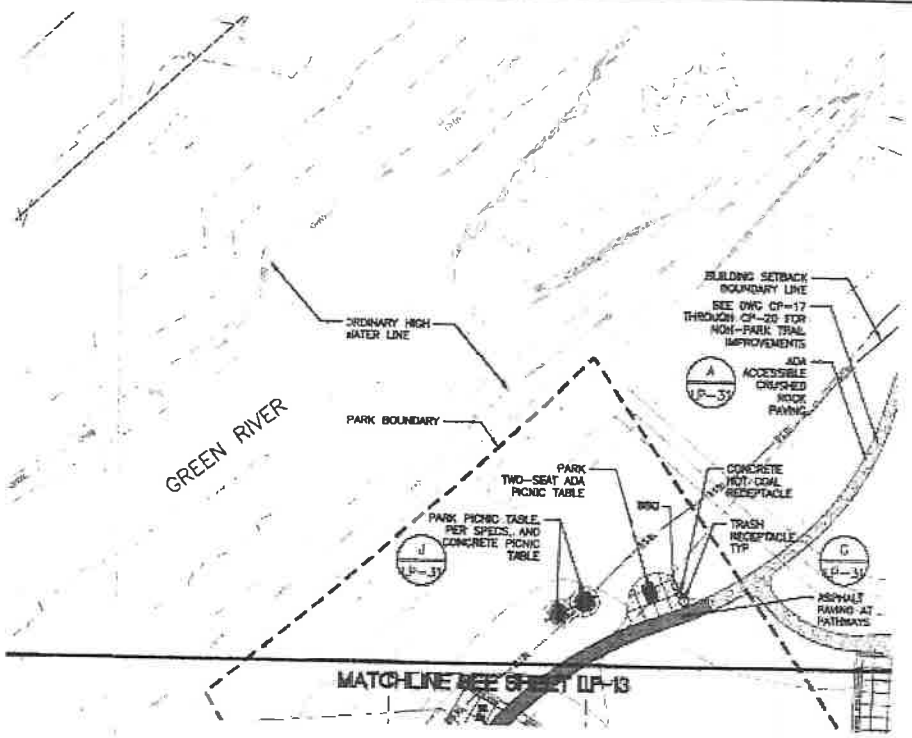
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
LANDSCAPE MATERIALS
PLAN E

SHEET
LP-15



PLAN AREA G
SCALE: 1"=20'-0"

G



PLAN AREA F
SCALE: 1"=20'-0"

F

NOTES:

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

SCALE: 1"=20'

SURVEY JOB NO/SOURCE:						
CHECKED:						
CAD ENTERED: JZ/JF	11/27/19					
DESIGNED: JZ/DB	11/27/19	NUM.	REVISION	BY	DATE	
CHECKED: DB	11/27/19					
SUPERVISOR: DB	11/27/19					
		NUM.	RECORD CHANGES APPROVED	BY	DATE	

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01413C20

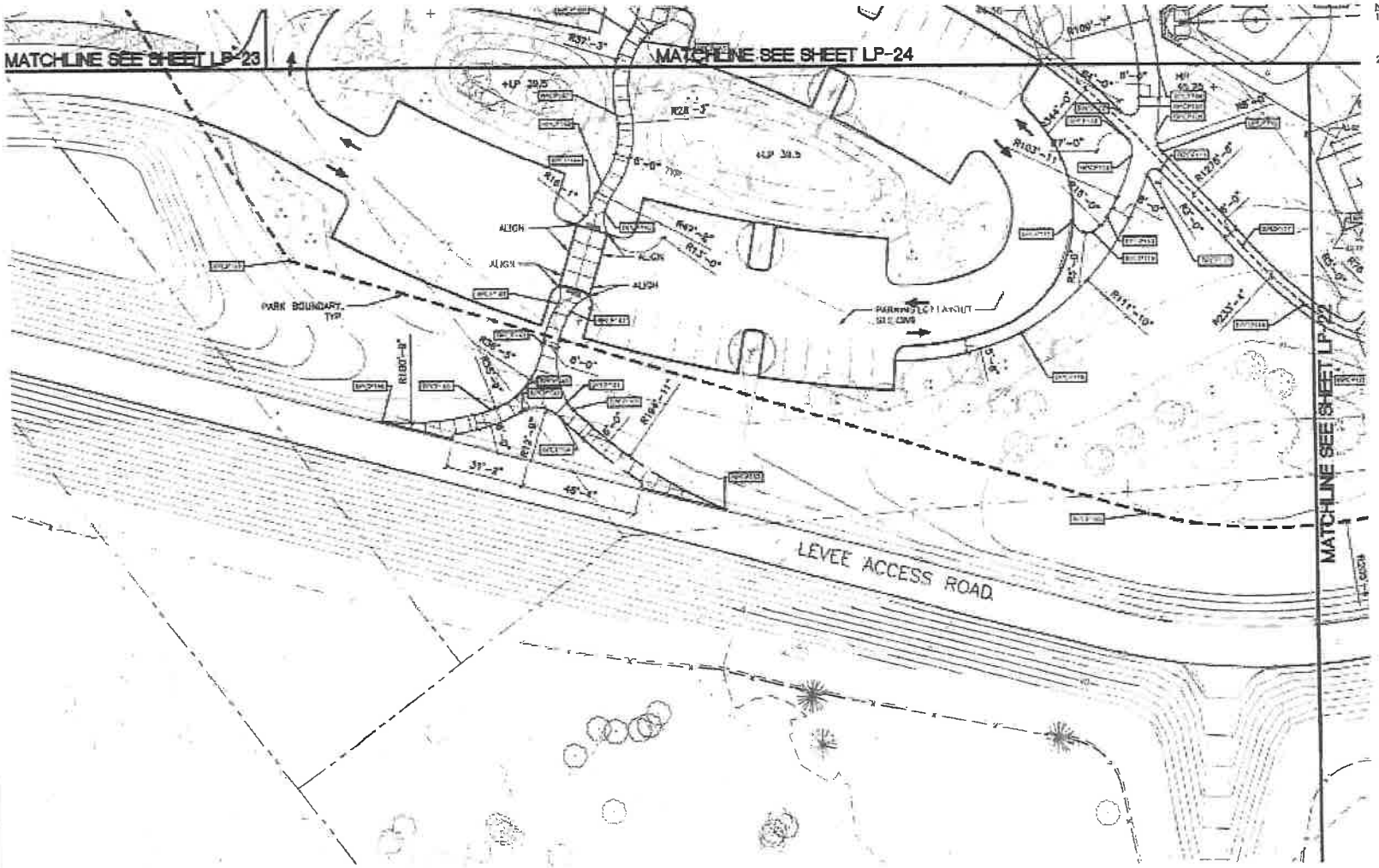
11/27/19

PARTNERSHIP berger

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
LANDSCAPE MATERIALS
PLAN F & G

SHEET
LP-16



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

20 10 0 20 40
SCALE: 1"=20'

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/22/19				
DESIGNED: JZ/GB	11/22/19	NUM.	REVISION	BY	DATE
CHECKED: GB	11/22/19				
SUPERVISOR: GB	11/22/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

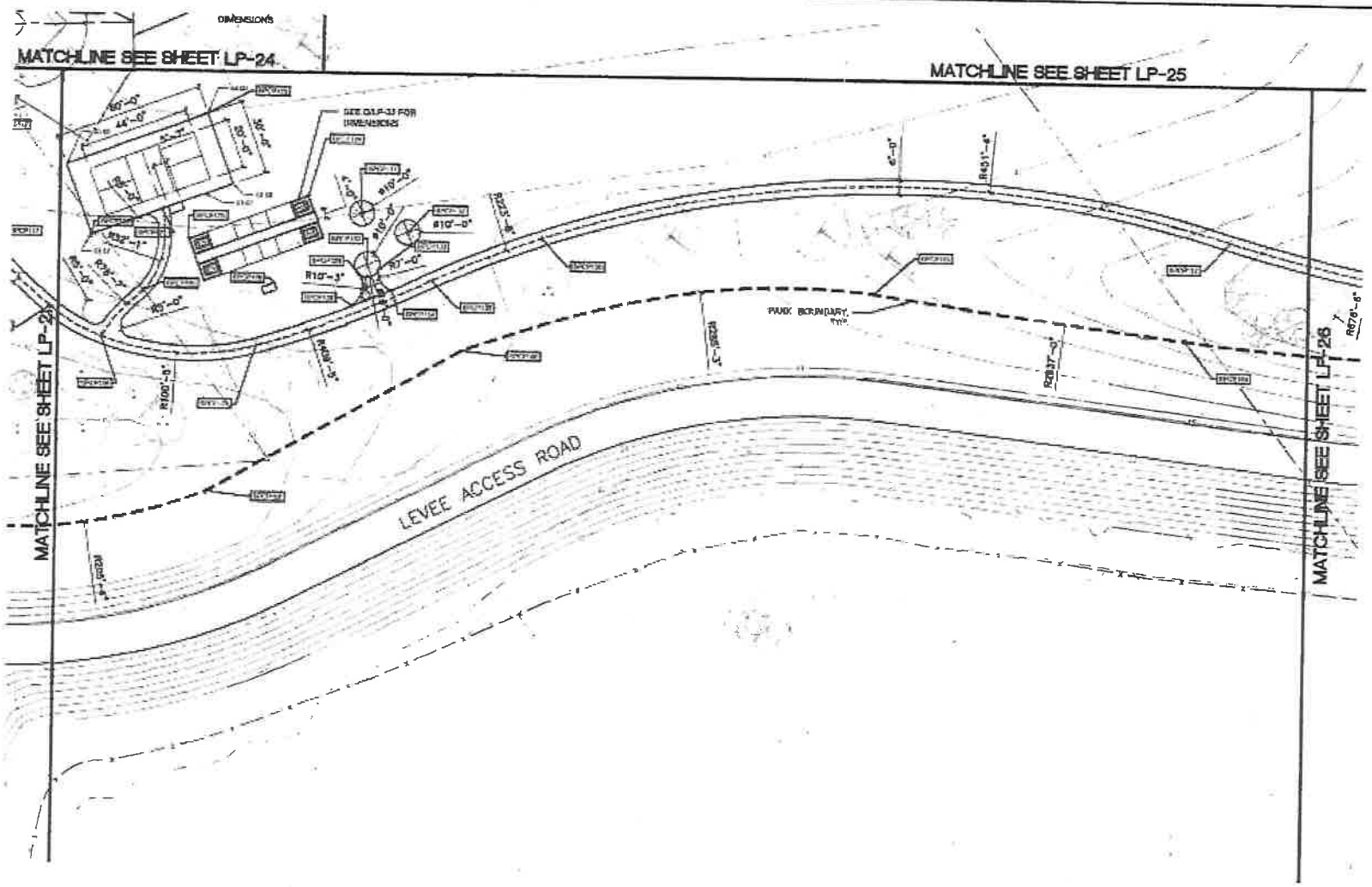
11/27/19

PARTNERSHIP berger

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
LAYOUT & GRADING
PLAN A

SHEET
LP-21



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

SCALE: 1"=20'

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/DB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

11/27/19

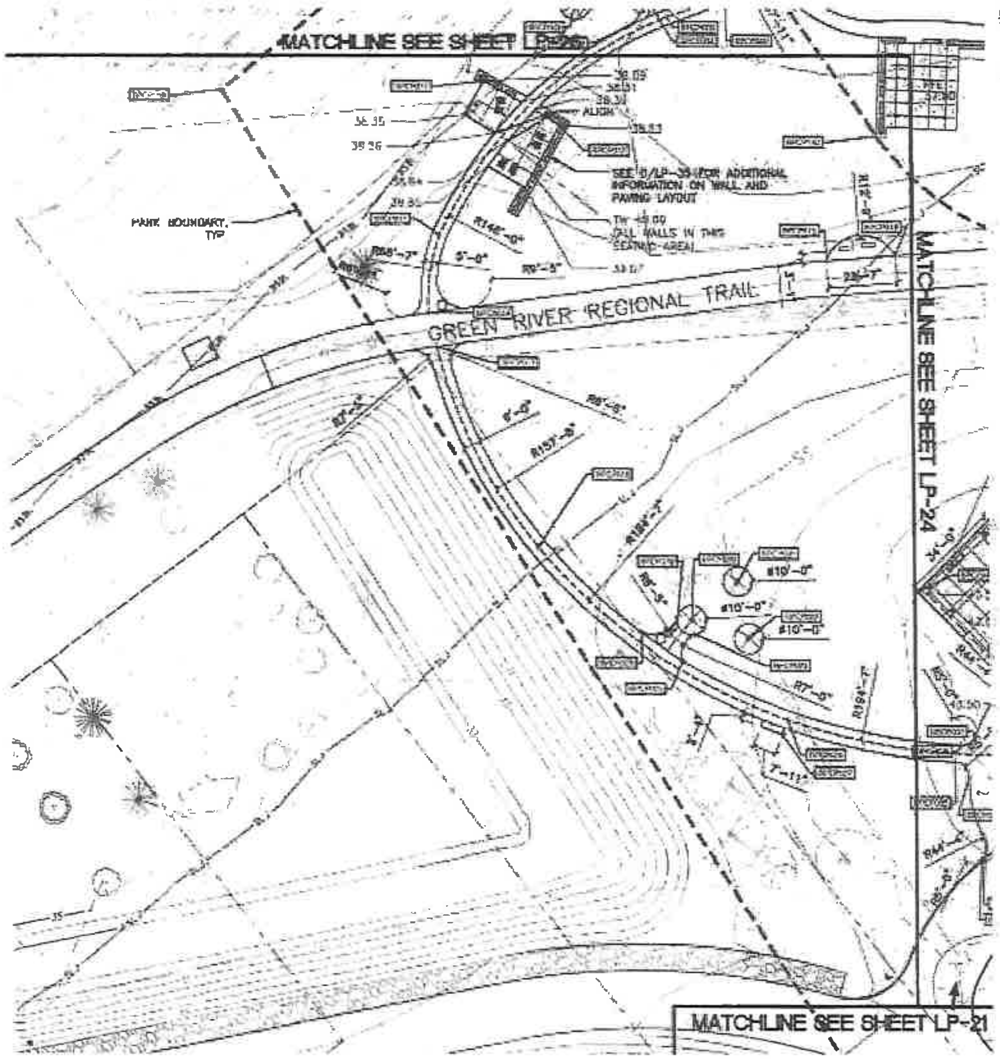
PARTNERSHIP berger

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
LAYOUT & GRADING
PLAN B

SHEET
LP-22

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



SCALE: 1"=20'

SURVEY JOB NO/SOURCE:						FUNDING:
CHECKED:						
CAD ENTERED:	JJ/JF	11/27/19				PROJECT No. 1112056
DESIGNED:	JJ/GG	11/27/19	NUM.	REVISION	BY / DATE	
CHECKED:	GB	11/27/19				CONTRACT No. C01415C20
SUPERVISOR:	GB	11/27/19				
			NUM.	RECORD CHANGES APPROVED	BY / DATE	

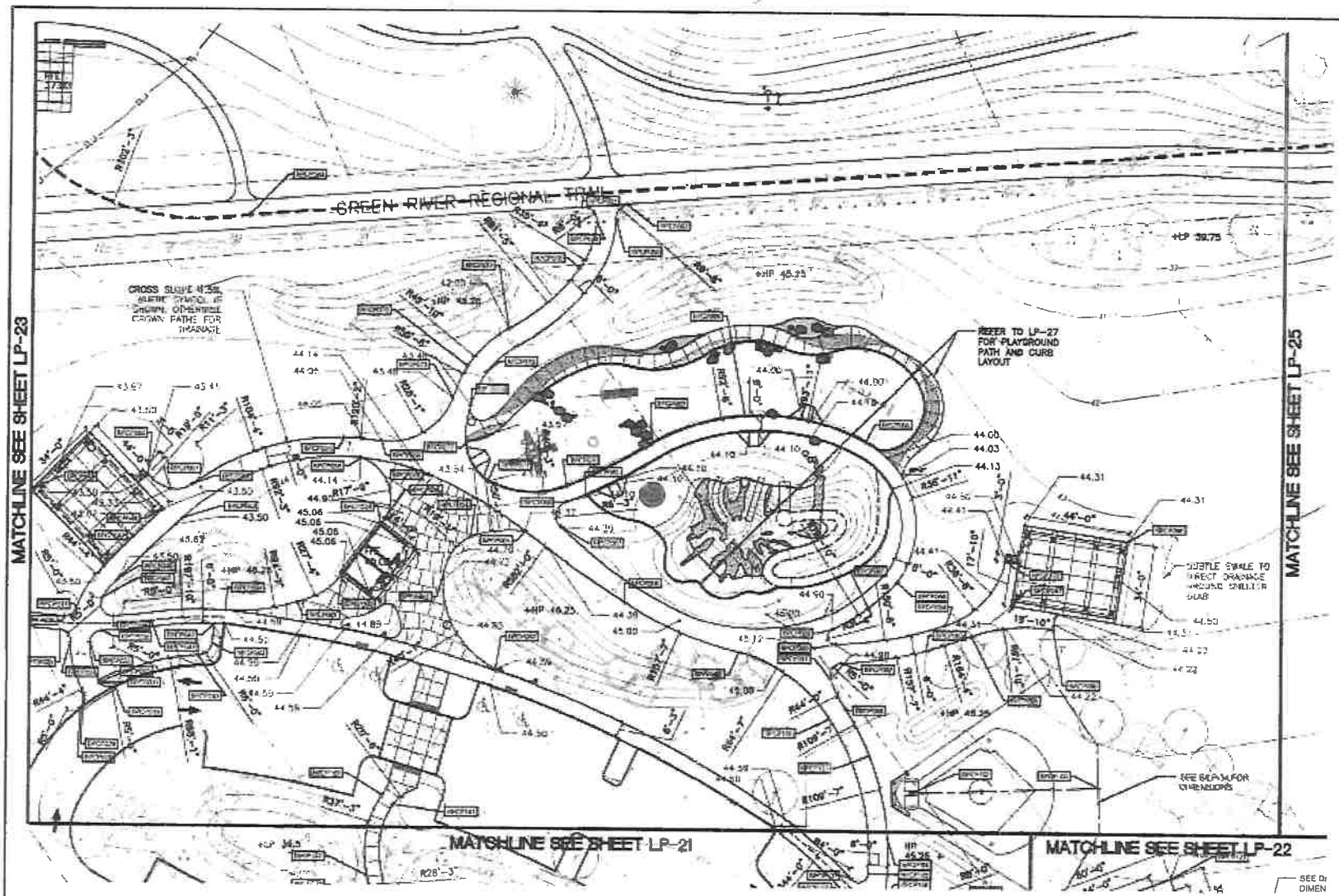
11/27/19

PARTNERSHIP berger

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
LAYOUT & GRADING
PLAN C

SHEET
LP-23



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

SURVEY JOB NO/SOURCE					
CHECKED:					
CAD ENTERED: JZ/JP	11/27/19				
DESIGNED: JZ/GB	11/27/19	NUM	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

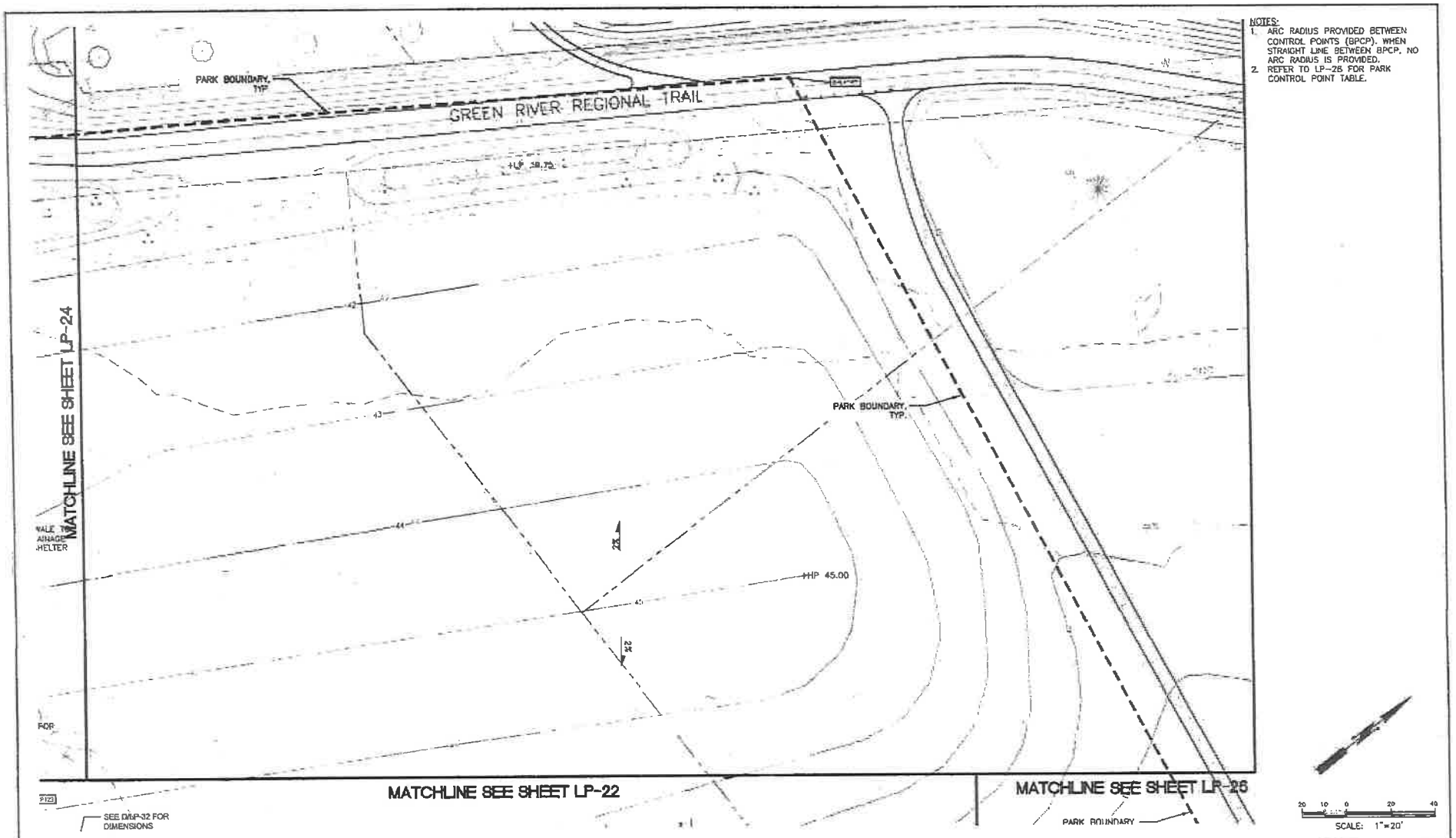
PARTNERSHIP berger

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
LAYOUT & GRADING
PLAN D

SHEET
LP-24

NOTES:
1. ARC RADIUS PROVIDED BETWEEN CONTROL POINTS (BPCP). WHEN STRAIGHT LINE BETWEEN BPCP, NO ARC RADIUS IS PROVIDED.
2. REFER TO LP-26 FOR PARK CONTROL POINT TABLE.



SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JZ/JF 11/27/19				
DESIGNED:	JZ/GB 11/27/19	NUM.	REVISION	BY	DATE
CHECKED:	GB 11/27/19				
SUPERVISOR:	GB 11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

Publication: _____

PROJECT No. 1112056

CONTRACT No. C01415C20

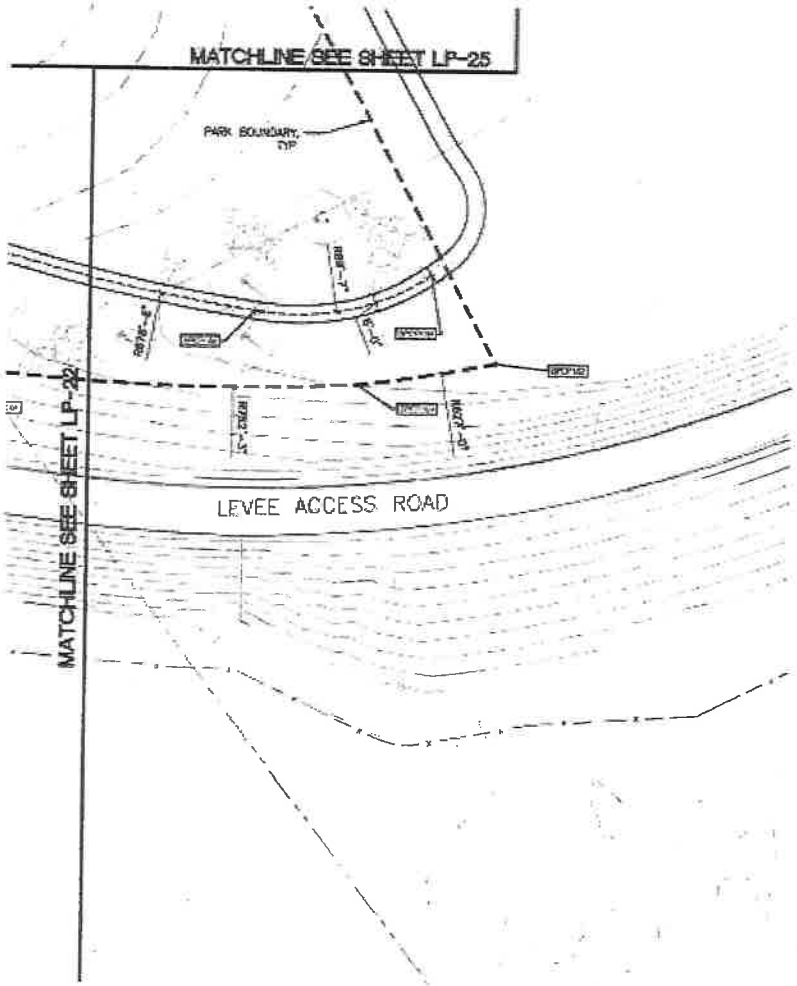
11/27/19

PARTNERSHIP berger

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

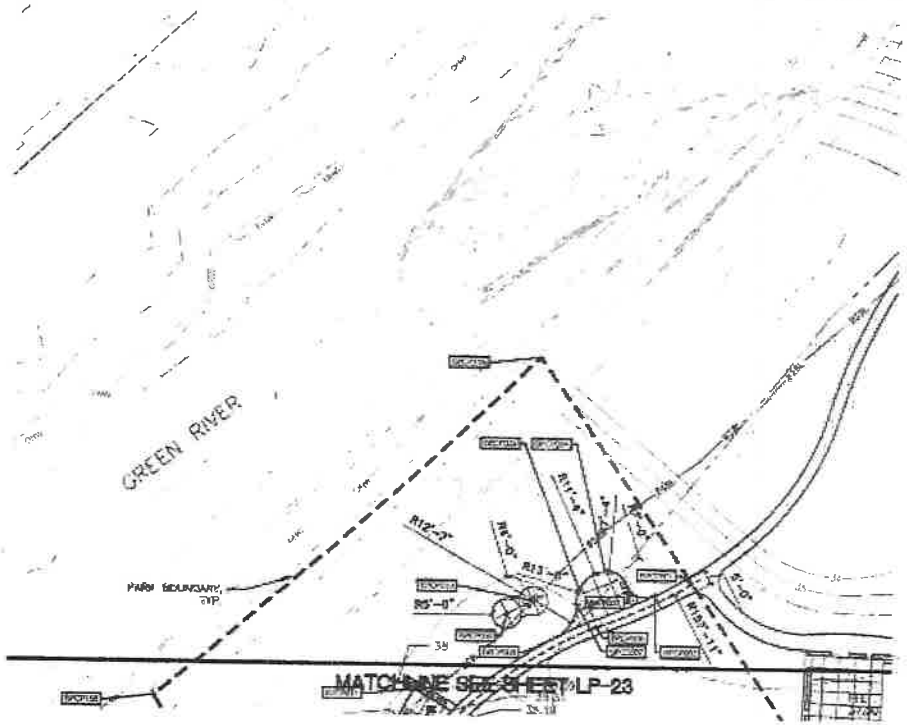
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
LAYOUT & GRADING PLAN E

SHEET
LP-25



PLAN G
SCALE: 1"=20'-0"

B



PLAN F
SCALE: 1"=20'-0"

A

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

20 10 0 20 40
SCALE: 1"=20'

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JZ/JF	11/27/19			
DESIGNED:	JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED:	GB	11/27/19				
SUPERVISOR:	GB	11/27/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

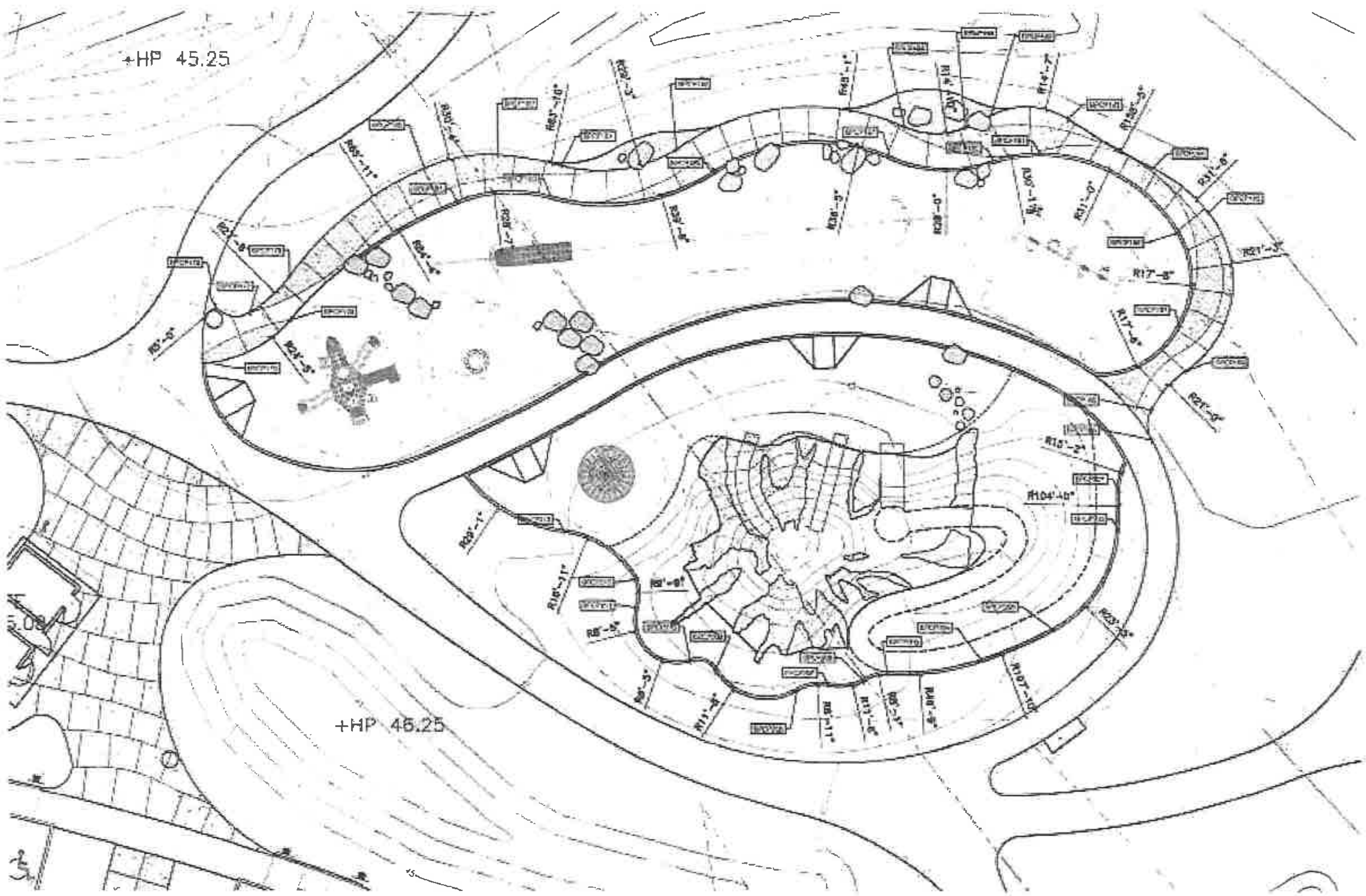
PARTNERSHIP berger

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
LAYOUT & GRADING
PLAN F & G

SHEET
LP-26

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



SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JJ/JF	11/27/19			
DESIGNED:	JJ/GB	11/27/19	NUM. REVISION	BY	DATE
CHECKED:	GB	11/27/19			
SUPERVISOR:	GB	11/27/19	NUM. RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112056
CONTRACT No. C01415C20

11/27/19

PARTNERSHIP berger

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
LAYOUT & GRADING
PLAYGROUND ENLARGEMENT

SHEET
LP-27

NUMBER	NORTHING	EASTING
BPCP001	N:150710.8951	E:1283804.09
BPCP002	N:150698.2565	E:1283799.53
BPCP003	N:150692.9411	E:1283790.70
BPCP004	N:150689.6413	E:1283782.33
BPCP005	N:150678.6773	E:1283781.85
BPCP006	N:150675.7951	E:1283795.80
BPCP007	N:150674.9714	E:1283785.37
BPCP008	N:150663.2474	E:1283790.18
BPCP009	N:150653.8792	E:1283773.32
BPCP010	N:150663.7138	E:1283775.47
BPCP011	N:150612.9544	E:1283774.39
BPCP012	N:150624.1314	E:1283802.06
BPCP013	N:150568.4816	E:1283805.87
BPCP014	N:150548.7924	E:1283824.40
BPCP015	N:150667.1919	E:1283894.35
BPCP016	N:150666.7795	E:1283907.49
BPCP017	N:150543.9312	E:1283835.58
BPCP018	N:150528.8469	E:1283909.80
BPCP019	N:150551.7083	E:1283957.50
BPCP020	N:150554.7253	E:1283961.49
BPCP021	N:150575.1436	E:1283960.90
BPCP022	N:150566.1254	E:1283978.47
BPCP023	N:150552.4278	E:1283965.93
BPCP024	N:150538.5212	E:1283954.24
BPCP025	N:150543.7230	E:1283970.42
BPCP026	N:150559.2667	E:1284008.36
BPCP027	N:150554.7216	E:1284011.19
BPCP028	N:150582.0414	E:1284066.38
BPCP029	N:150586.9202	E:1284082.18
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BPCP031	N:150594.9881	E:1284083.19
BPCP032	N:150595.0640	E:1284082.01
BPCP033	N:150601.9756	E:1284067.01
BPCP034	N:150595.8536	E:1284061.85
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BPCP039	N:150618.5423	E:1284064.14
BPCP040	N:150634.3035	E:1284096.85
BPCP041	N:150627.9393	E:1284075.23
BPCP042	N:150647.8535	E:1284092.38
BPCP043	N:150642.0490	E:1284098.21
BPCP044	N:150654.9336	E:1284090.79
BPCP045	N:150617.5958	E:1284055.36
BPCP046	N:150627.1244	E:1284053.11
BPCP047	N:150628.3353	E:1284045.15
BPCP048	N:150660.0779	E:1284041.44
BPCP049	N:150621.4806	E:1284001.42
BPCP050	N:150663.9106	E:1284025.95
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BPCP057	N:150756.4858	E:1284097.42
BPCP058	N:150730.7699	E:1284101.10
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BPCP063	N:150736.4406	E:1284133.84
BPCP064	N:150753.9537	E:1284129.02
BPCP065	N:150773.3831	E:1284140.97
BPCP066	N:150788.4663	E:1284189.92
BPCP067	N:150786.3106	E:1284148.60
BPCP068	N:150794.5051	E:1284141.60
BPCP069	N:150803.1106	E:1284144.02
BPCP070	N:150798.6664	E:1284136.58
BPCP071	N:150774.0861	E:1284114.66
BPCP072	N:150777.0948	E:1284096.52
BPCP073	N:150783.8737	E:1284078.12
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BPCP078	N:150858.1774	E:1284067.71
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BPCP112	N:150786.5715	E:1284363.84
BPCP113	N:150763.3143	E:1284367.39
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BPCP116	N:150707.1533	E:1284381.67
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BPCP149	N:150532.4832	E:1284275.85
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BPCP151	N:150547.0071	E:1284290.38
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BPCP191	N:150929.7893	E:1284164.49
BPCP192	N:150926.9480	E:1284153.09
BPCP193	N:150938.2456	E:1284162.78
BPCP194	N:150945.3235	E:1284180.24
BPCP195	N:150948.4021	E:1284193.59
BPCP196	N:150941.5554	E:1284193.18
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BPCP200	N:150912.3358	E:1284221.21
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BPCP202	N:150896.4309	E:1284230.89
BPCP203	N:150874.5803	E:1284238.31
BPCP204	N:150859.9694	E:1284234.46
BPCP205	N:150843.9847	E:1284225.15
BPCP206	N:150839.4756	E:1284223.39
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BPCP208	N:150829.0159	E:1284216.72
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BPCP210	N:150815.2556	E:1284199.54
BPCP211	N:150813.2360	E:1284184.55
BPCP212	N:150816.8247	E:1284180.52
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PARK CONTROL POINT TABLE

NTS

A

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED: JZ/JF	11/27/19			
DESIGNED: JZ/GB	11/27/19	NUM. REVISION	BY	DATE
CHECKED: GB	11/27/19			
SUPERVISOR: GB	11/27/19			
		FINAL RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

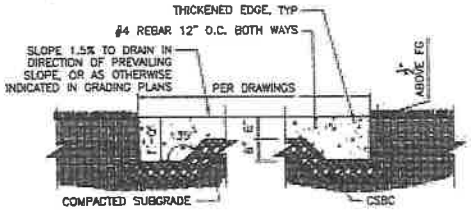
11/27/19

PARTNERSHIP berger

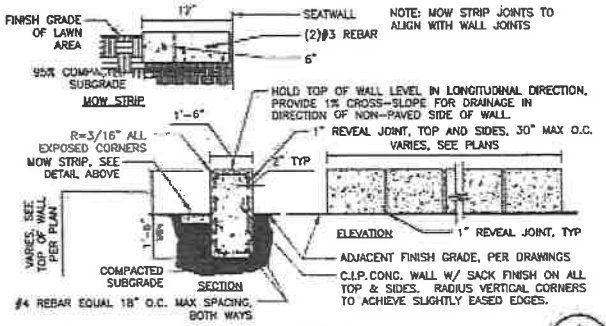
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

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

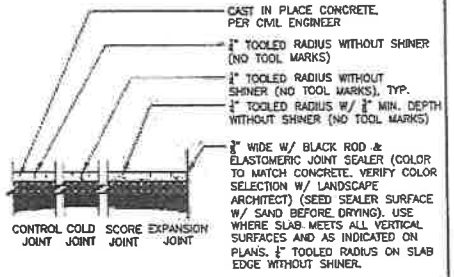
SHEET
LP-28



PICNIC TABLE CONCRETE PAD (J)
SCALE: 3/4"=1'-0"

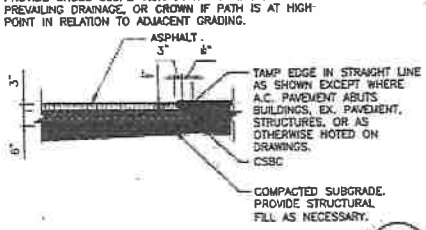


C.I.P. CONCRETE SEAT WALL (I)
SCALE: 1/2"=1'-0"

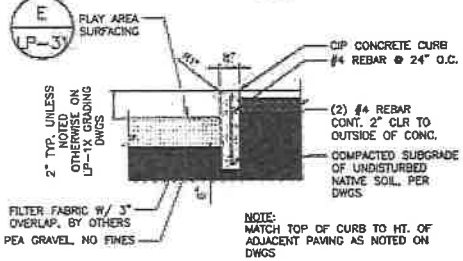


CONCRETE PAVING JOINTS (H)
SCALE: 1/2"=1'-0"

NOTE:
PROVIDE CROSS SLOPE PER GRADING PLANS. WHERE NO CROSSLOPE IS INDICATED BASED ON GRADING PLANS, PROVIDE CROSS SLOPE 1.5% DOWN IN DIRECTION OF PREVAILING DRAINAGE, OR CROWN IF PATH IS AT HIGH POINT IN RELATION TO ADJACENT GRADING.

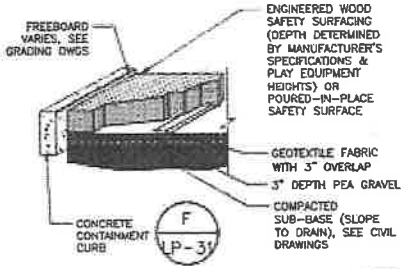


ASPHALT PAVING AT PATHWAYS (G)
SCALE: 1/2"=1'-0"

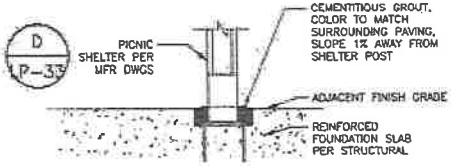


NOTE:
MATCH TOP OF CURB TO HT. OF ADJACENT PAVING AS NOTED ON DWGS

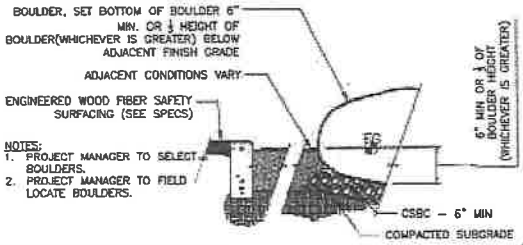
CONTAINMENT CURB (F)
SCALE: 1/2"=1'-0"



PLAY AREA SURFACING (E)
SCALE: 1/2"=1'-0"

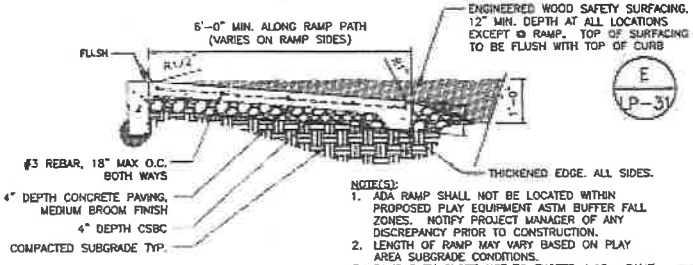


PICNIC SHELTER FOOTING (D)
SCALE: 1/2"=1'-0"



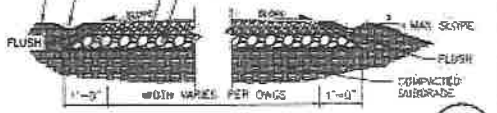
NOTES:
1. PROJECT MANAGER TO SELECT BOULDERS.
2. PROJECT MANAGER TO FIELD LOCATE BOULDERS.

BOULDER FOUNDATION (C)
SCALE: 3/4"=1'-0"



NOTE(S):
1. ADA RAMP SHALL NOT BE LOCATED WITHIN PROPOSED PLAY EQUIPMENT ASTM BUFFER FALL ZONES. NOTIFY PROJECT MANAGER OF ANY DISCREPANCY PRIOR TO CONSTRUCTION.
2. LENGTH OF RAMP MAY VARY BASED ON PLAY AREA SUBGRADE CONDITIONS.
3. RAMP PATH SLOPE NOT TO EXCEED 1:12 RAMP SIDE SLOPES TO BE 1:10

C.I.P. CONCRETE RAMP (B)
SCALE: 3/4"=1'-0"



NOTE:
1. PROVIDE CROSS SLOPE PER GRADING PLANS. WHERE NO CROSS-SLOPE IS INDICATED BASED ON GRADING PLANS, 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 PAVING (A)
SCALE: 3/4"=1'-0"

SURVEY JOB NO/SCALE:					
CHECKED:					
CAD ENTERED:	JZ/JF	11/27/19			
DESIGNED:	JZ/CB	11/27/19	NUM.	REVISION	BY / DATE
CHECKED:	CB	11/27/19			
SUPERVISOR:	CB	11/27/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

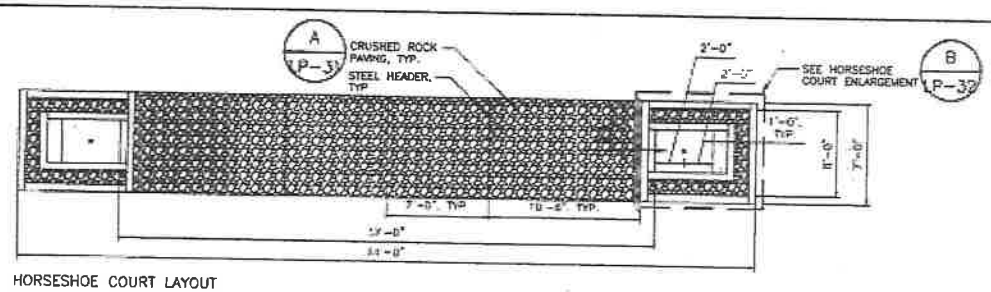
11/27/19

PARTNERSHIP berger

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
LANDSCAPE PARK DETAILS

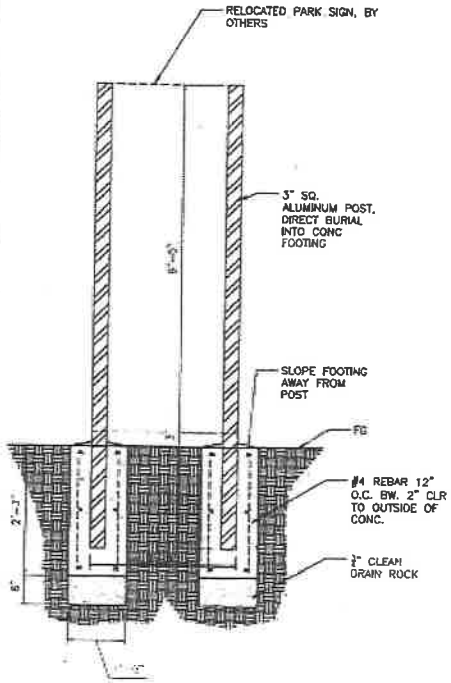
SHEET
LP-31



HORSESHOE COURT LAYOUT

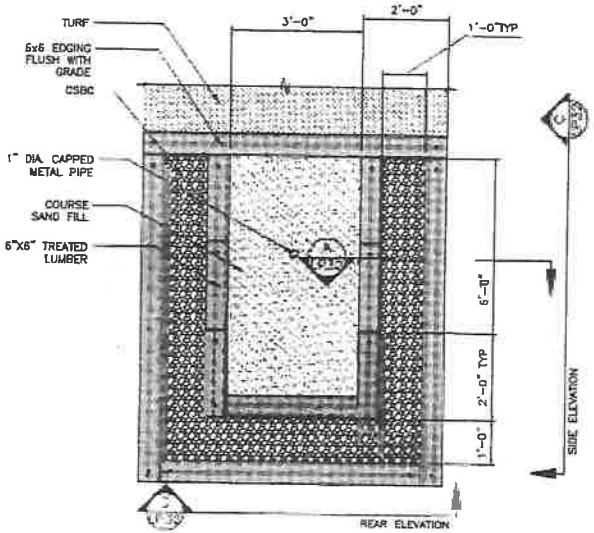
HORSESHOE COURT LAYOUT
SCALE: 1/4" = 1'-0"

D



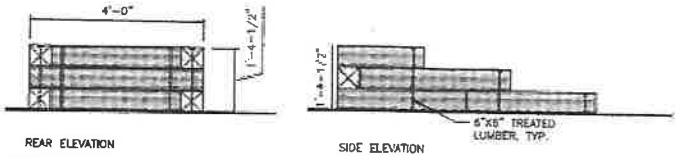
PARK SIGN FOOTING
SCALE: 1" = 1'-0"

E



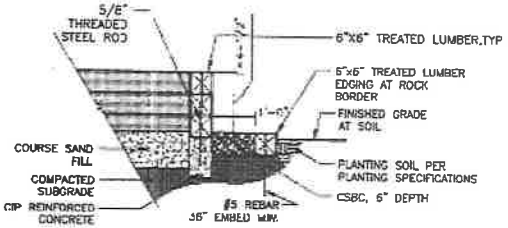
HORSESHOE COURT ENCLOSURE PLAN ENLARGEMENT
SCALE: 3/4" = 1'-0"

B



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

C



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

A

SURVEY AGB NO/SQUARE:					
CHECKED:					
CAD ENTERED:	JZ/GB	11/27/19			
DESIGNED:	JZ/GB	11/27/19	REV.	REVISION	BY / DATE
CHECKED:	GB	11/27/19			
SUPERVISOR:	GB	11/27/19			
			MUN	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

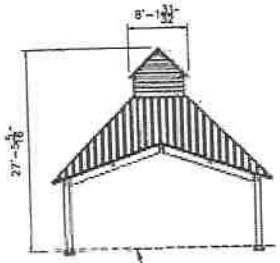
11/27/19

PARTNERSHIP berger

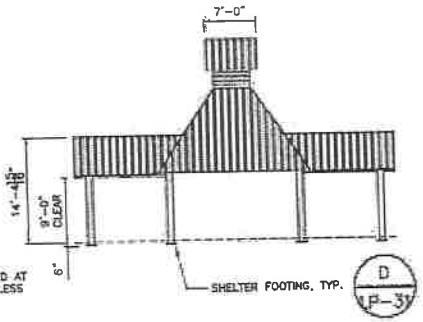
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
LANDSCAPE PARK DETAILS

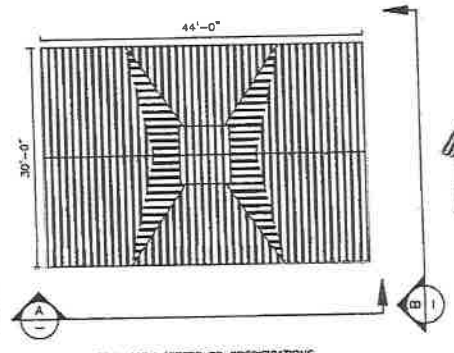
SHEET
LP-32



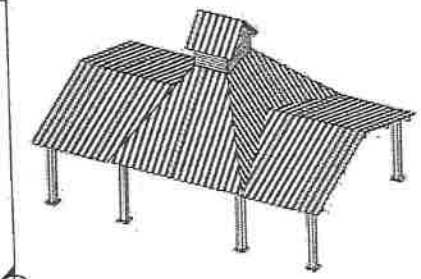
ELEVATION B (REFER TO SPECIFICATIONS APPENDIX FOR ADDITIONAL INFORMATION)



ELEVATION A (REFER TO SPECIFICATIONS APPENDIX FOR ADDITIONAL INFORMATION)



PLAN VIEW (REFER TO SPECIFICATIONS APPENDIX FOR ADDITIONAL INFORMATION)

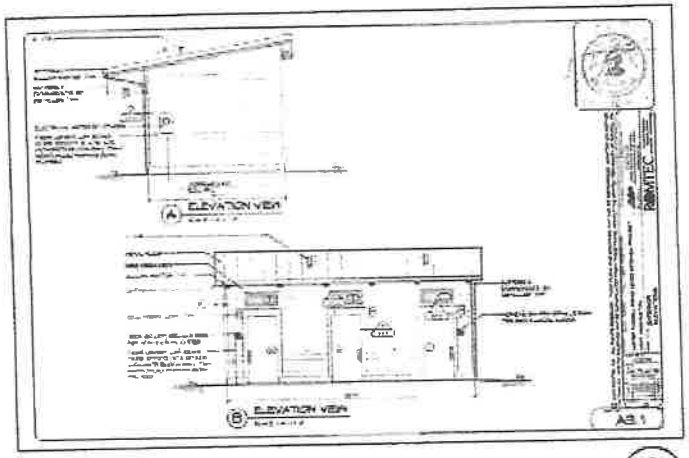


PERSPECTIVE (FOR REFERENCE ONLY)

SHELTER

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

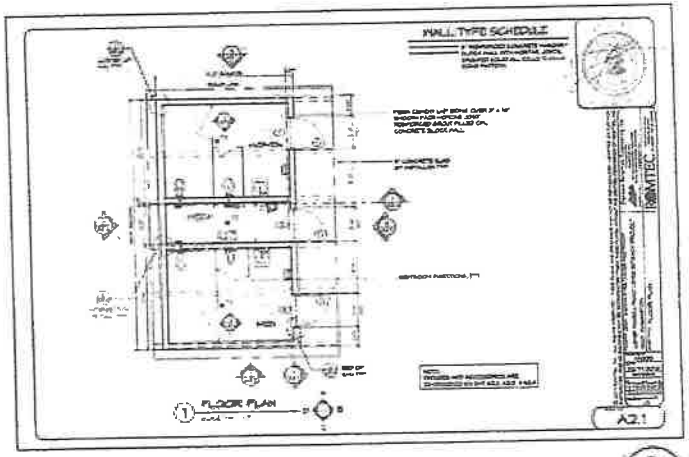
D



RESTROOM - ELEVATIONS

NTS

C



RESTROOM - PLAN

NTS

B

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JZ/JF	11/27/19			
DESIGNED:	JZ/GB	11/27/19	M.N.	REVISION	BY	DATE
CHECKED:	GB	11/27/19			
SUPERVISOR:	GB	11/27/19			
			MNN.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

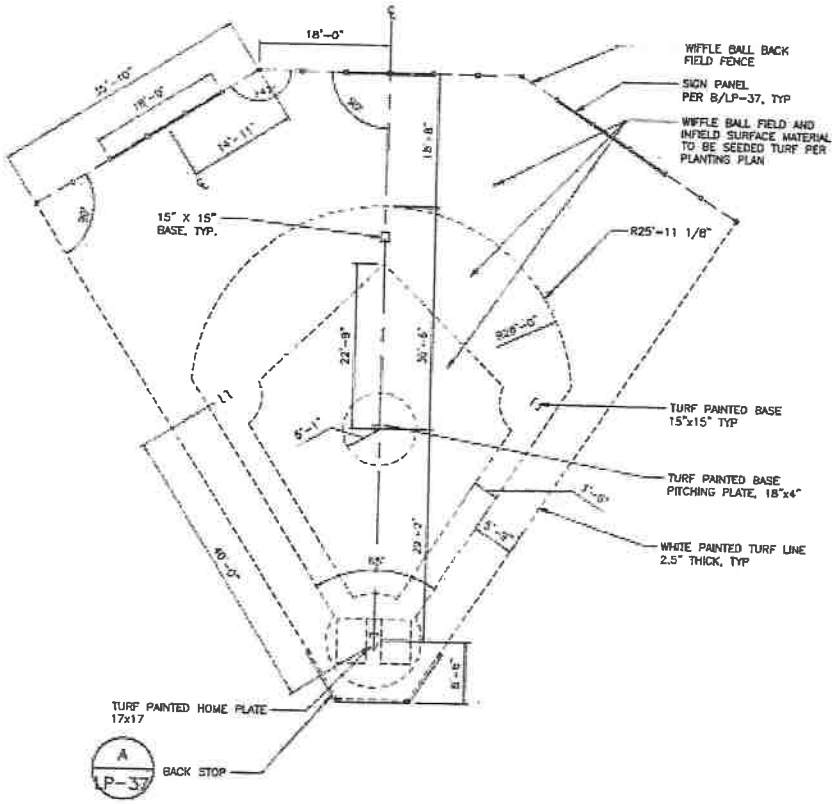
11/27/19

PARTNERSHIP berger

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
LANDSCAPE PARK DETAILS

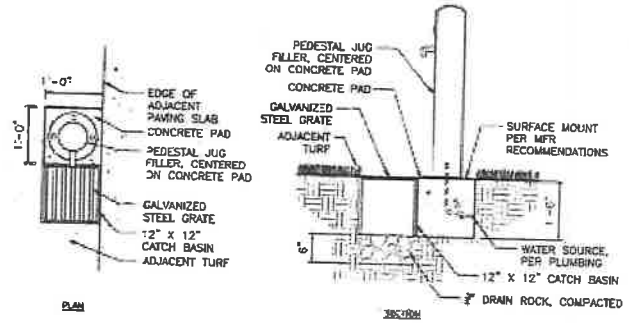
SHEET
LP-33



WIFFLE BALL FIELD

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

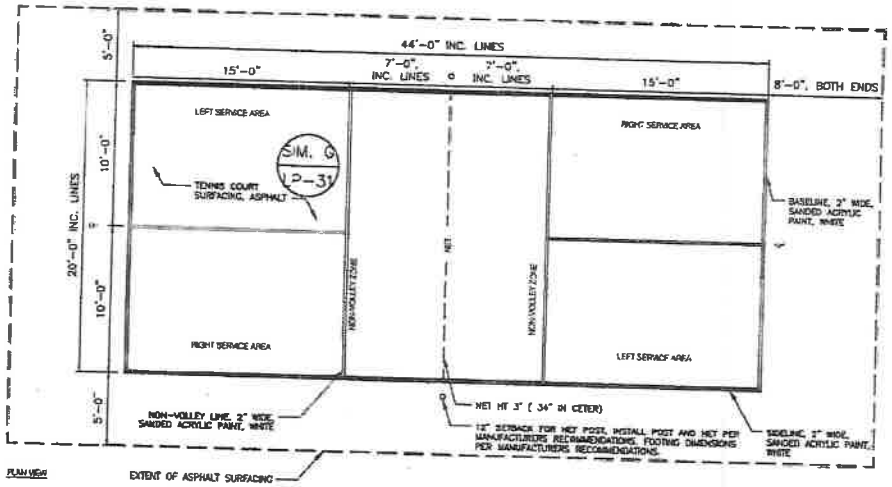
B



PEDESTAL JUG FILLER

SCALE: 1"=1'-0"

C



PICKLEBALL COURT

SCALE: 1/4"=1'-0"

A

SURVEY JOB NO/SOURCE:						FUNDING:	
CHECKED:							
CAD ENTERED:	JZ/JF	11/27/19					
DESIGNED:	JZ/GB	11/27/19	NUM.	REVISION	BY	DATE	PROJECT No. 1112056
CHECKED:	GB	11/27/19					
SUPERVISOR:	GB	11/27/19					CONTRACT No. CD1415C20
			NUM.	RECORD DRAWINGS APPROVED	BY	DATE	

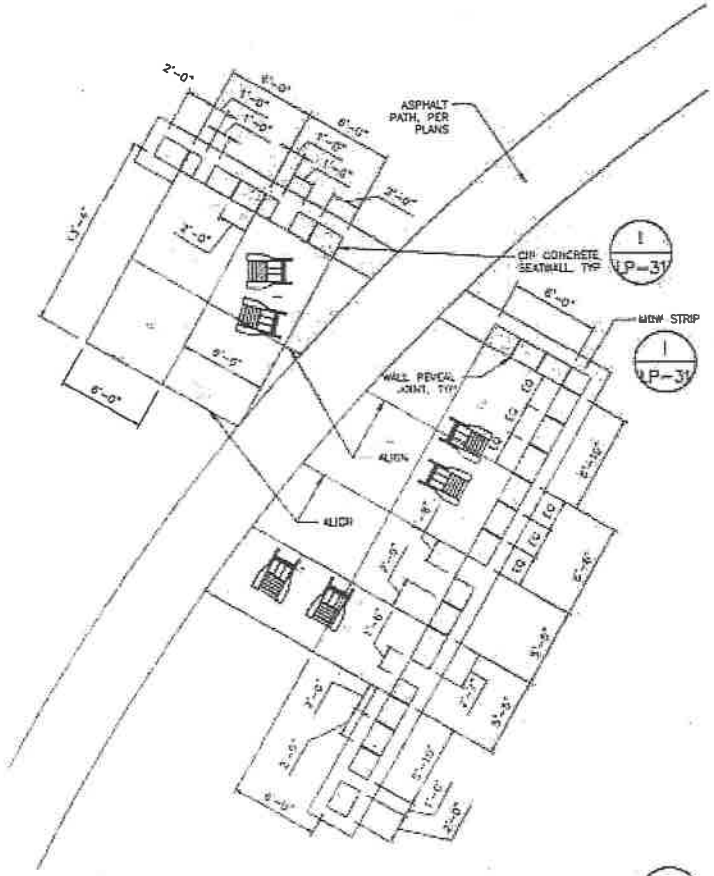
11/27/19

PARTNERSHIP berger

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

LOWER FUSSELL LEVEE SETBACK PROJECT
PHASE 2
LANDSCAPE PARK DETAILS

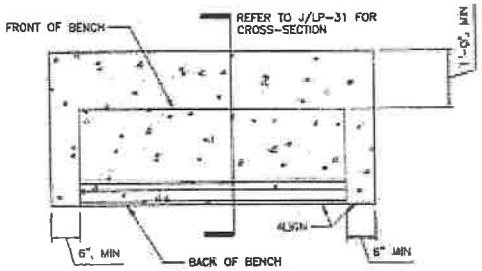
SHEET
LP-34



RIVER VIEW SEATING AREA ENLARGEMENT

NTS

D

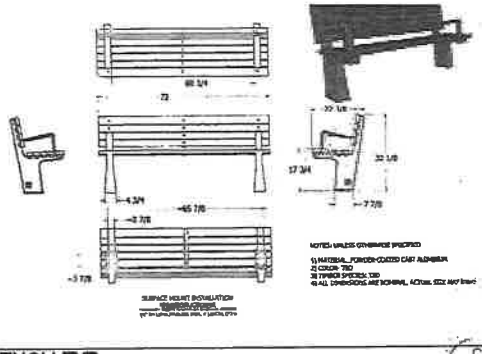


BENCH PAD TYPICAL CONDITION

SCALE: 1"=1'-0"

E

NOTE:
1. PROVIDE "BLACK" POWDER COATING.
2. PROVIDE BOULEVARD WOOD.
3. PROVIDE CONC. FOOTING FOR EACH BENCH LEG WHEN NECESSARY
4. REFER TO E/LP-35 FOR TYPICAL BENCH CONCRETE PAD

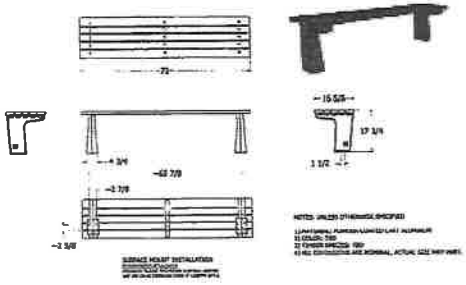


BENCH TYP.

NTS

C

NOTE:
1. WHEN NOTED AS "W/ ADA", PROVIDE (1) FULL LENGTH 72" BENCH AND (1) CUSTOM LENGTH 32" BENCH JUSTIFIED TO TO ALLOW ADA WHEELCHAIR ACCESS.
2. PROVIDE "BLACK" POWDER COATING.
3. PROVIDE BOULEVARD WOOD.

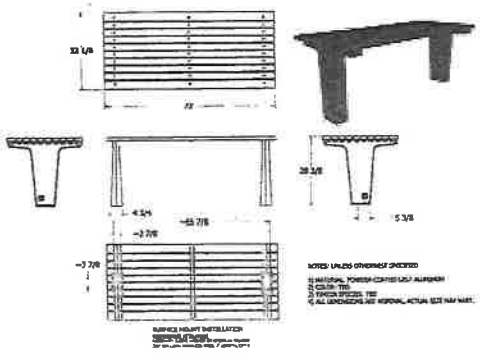


SHELTER PICNIC TABLE BENCHES

NTS

B

NOTE:
1. PROVIDE (2) PICNIC TABLE BENCHES PER PICNIC TABLE. SEE DRAWING B/LP-35.
2. PROVIDE "BLACK" POWDER COATING.
3. PROVIDE BOULEVARD WOOD.



SHELTER PICNIC TABLE

NTS

A

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED:	JJ/JF	11/27/19			
DESIGNED:	JJ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED:	GB	11/27/19				
SUPERVISOR:	GB	11/27/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

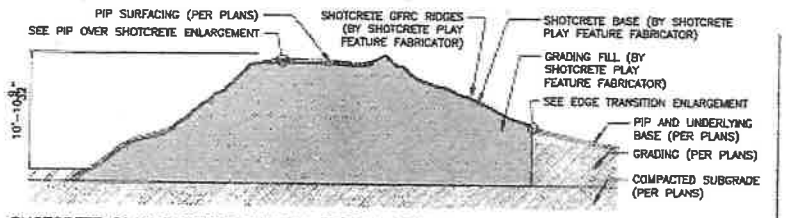
PARTNERSHIP berger

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
LANDSCAPE PARK DETAILS

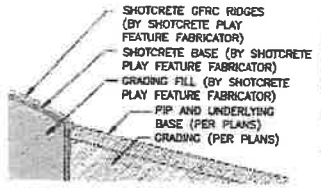
SHEET
LP-35

NOTES:
1. REFER TO PLANS FOR GRADING.
2. SUBMIT DETAIL SHOP DRAWINGS FOR ALL COMPONENTS FOR APPROVAL PRIOR TO FABRICATION.
3. GFRC RIDGES SHALL BE FORMED, COLORED, AND TEXTURED TO REPLICATE ROCK FORMATIONS.
4. SUBMIT MATERIAL SAMPLE FOR SHOTCRETE FINISHES AND COLORS FOR APPROVAL PRIOR TO FABRICATION.



SHOTCRETE PLAY FEATURE OVERALL TYPICAL SECTION
SCALE: 3/16" = 1'-0"

DESIGN INTENT – VIEW 1
(SEE PLAN FOR LOCATION)

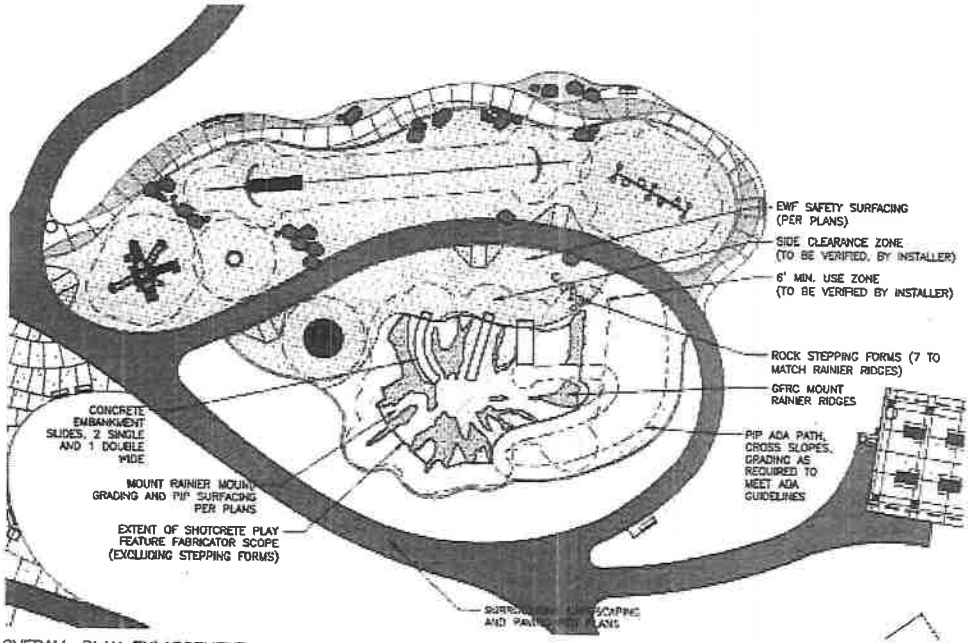


ENLARGEMENT – EDGE TRANSITION
(NTS)

DESIGN INTENT – VIEW 2
(SEE PLAN FOR LOCATION)

ENLARGEMENT – PIP OVER SHOTCRETE
(NTS)

THEMATIC STRUCTURE – GFRC SHOTCRETE MINI MT. RAINIER



OVERALL PLAN ENLARGEMENT DIAGRAM
SCALE: 1/16" = 1'-0"

A

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JJ/JF	11/27/19				
DESIGNED: JJ/GB	11/27/19	MUM	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISION: GB	11/27/19				
		MUM	REVISIONS CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 8112006
CONTRACT No. C01415C20

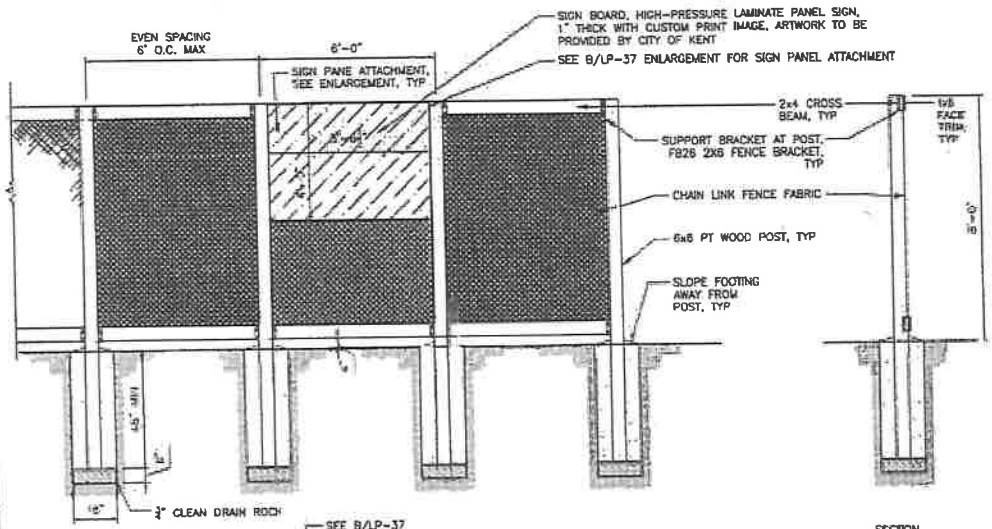
11/27/19

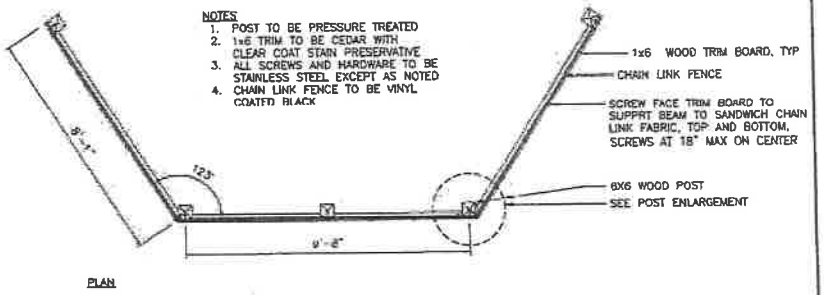
PARTNERSHIP berger

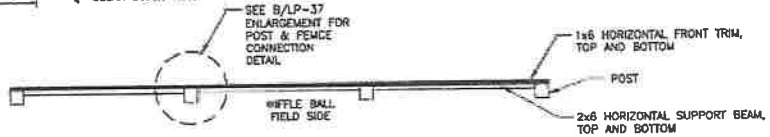
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Christie True, Director

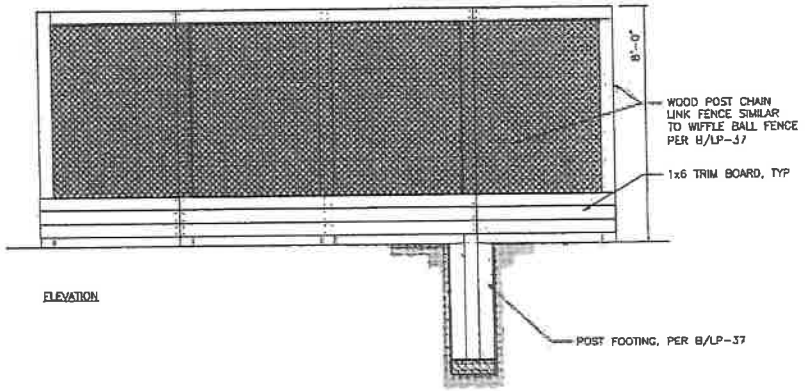
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
LANDSCAPE PARK DETAILS

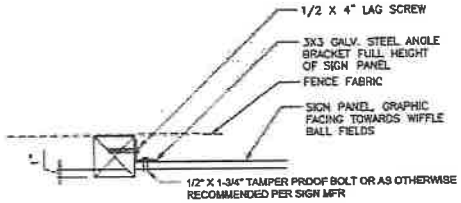
SHEET
LP-36



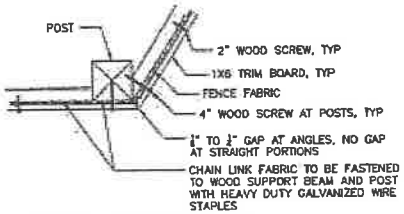








ENLARGEMENT-SIGN PANEL ATTACHMENT (PLAN-NTS)



ENLARGEMENT - POST CONNECTION (NTS)

WIFFLE BALL BACKFIELD FENCE

B

WIFFLE BALL BACKSTOP

A

SURVEY JOB NO/SOURCE:						FUNDING:	
CHECKED:							
CAD ENTERED: JZ/JF	11/27/19					PROJECT No.	1112058
DESIGNED: JZ/DB	11/27/19	NUM.	REVISION	BY	DATE		
CHECKED: DB	11/27/19					CONTRACT No.	C01415C20
SUPERVISOR: DB	11/27/19						
		NUM.	RECORD CHANGES APPROVED	BY	DATE		

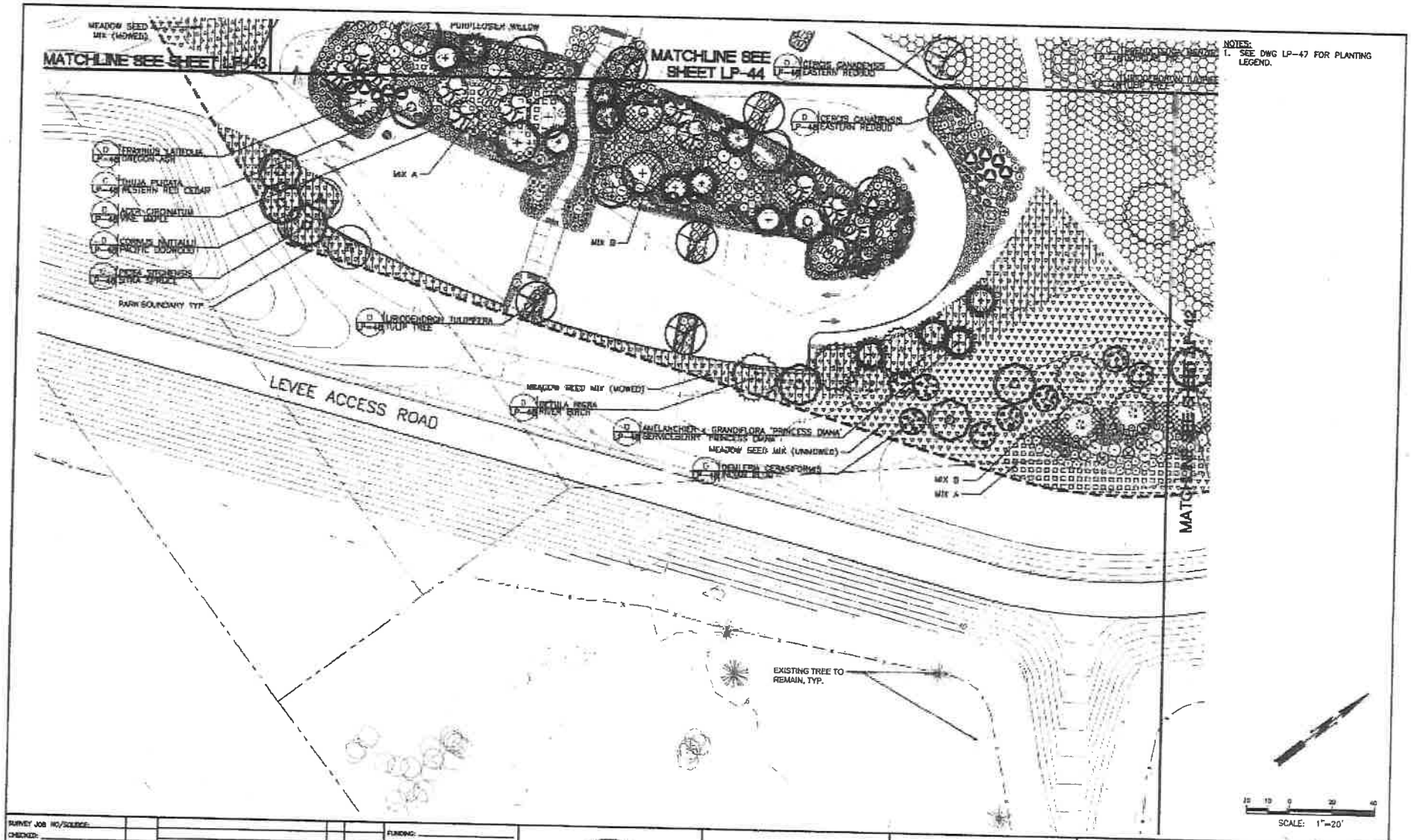
11/27/19

PARTNERSHIP berger

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
LANDSCAPE PARK DETAILS

SHEET
LP-37



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

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19	MARK	REVISION	BY	DATE
DESIGNED: JZ/GB	11/27/19				
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19	MARK	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

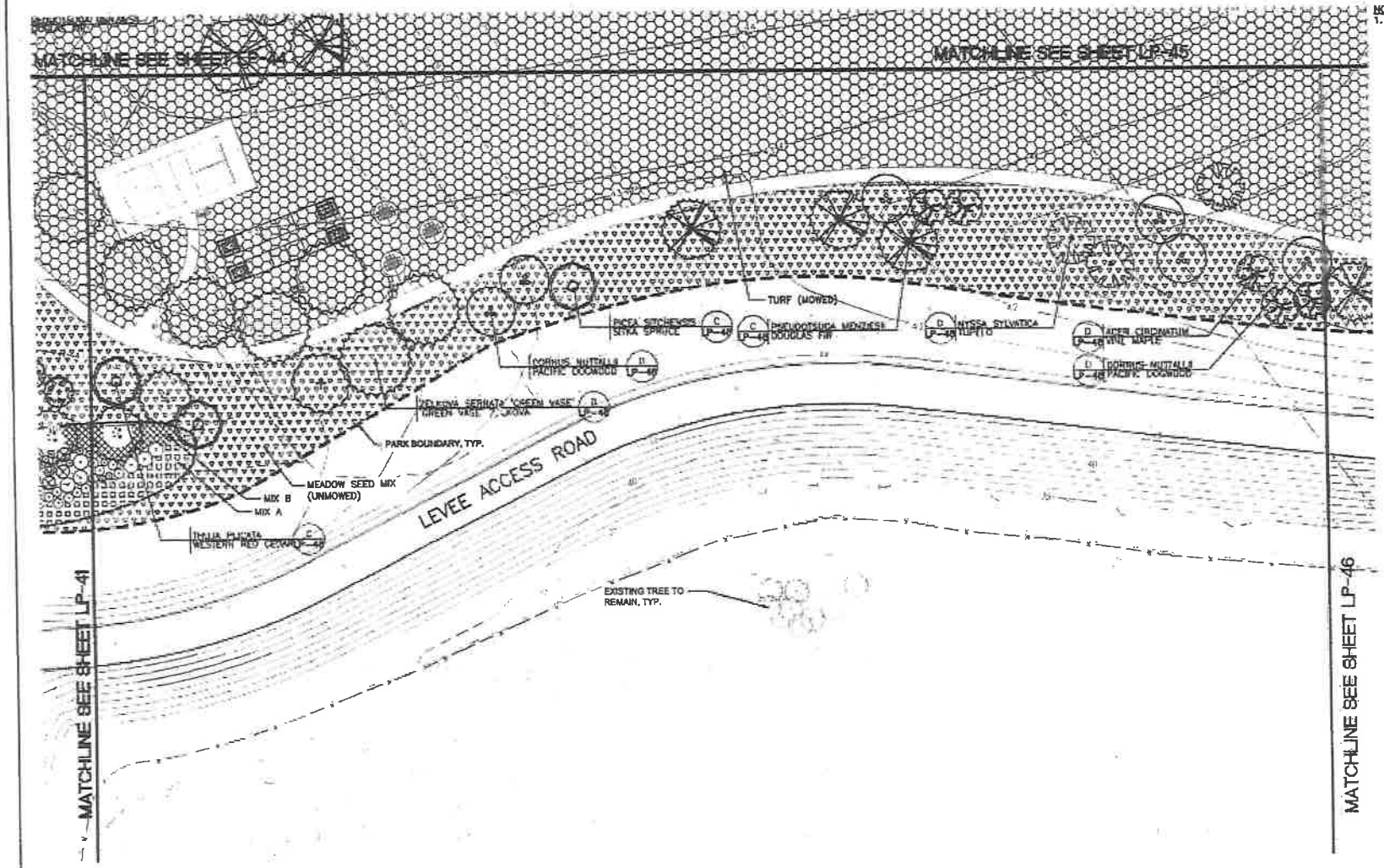
PARTNERSHIP berger

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 A

SHEET
LP-41

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



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CAD ENTERED:	JZ/JF	11/27/19			
DESIGNED:	JZ/DB	11/27/19	NUM.	REVISION	BY / DATE
CHECKED:	DB	11/27/19			
SUPERVISOR:	DB	11/27/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

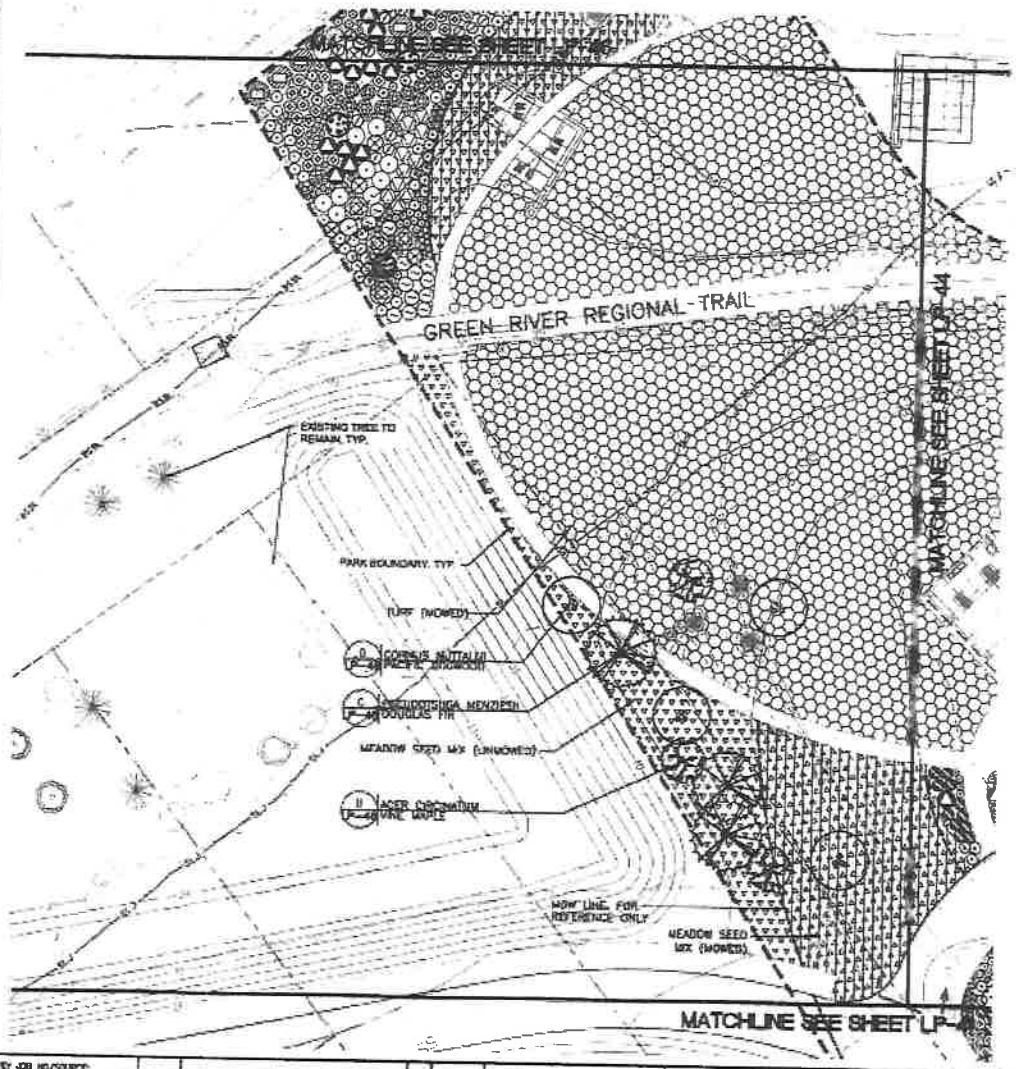
PARTNERSHIP berger

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.



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CAD ENTERED: JZ/JF	11/27/19						
DESIGNED: JZ/CD	11/27/19	NUM.	REVISION	BY	DATE		
CHECKED: DB	11/27/19						
SUPERVISOR: DB	11/27/19						
		NUM.	RECORD CHANGES APPROVED	BY	DATE		

FUNDING: _____

PROJECT No. 1112084

CONTRACT No. C01413C20

11/27/19

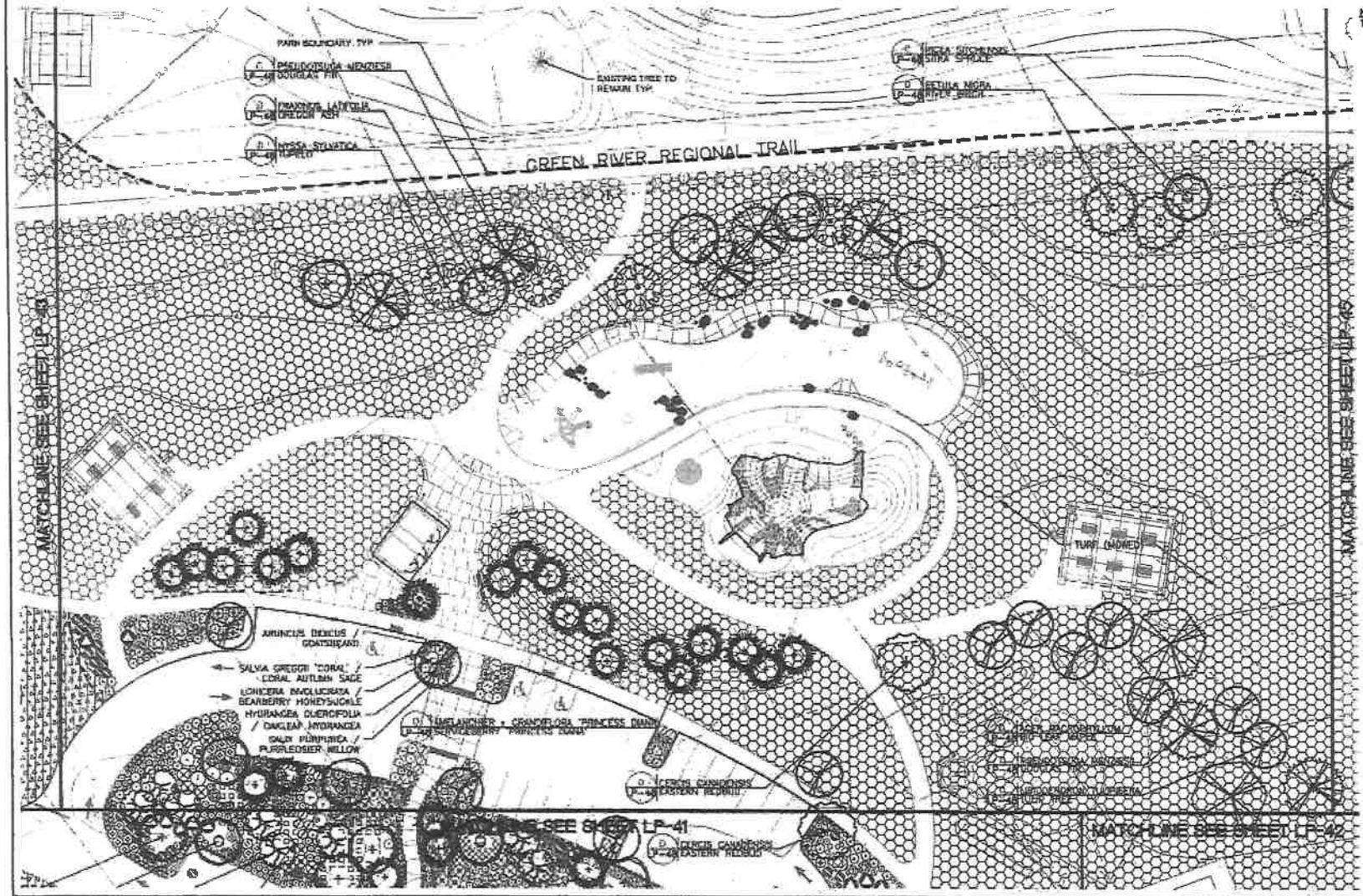
PARTNERSHIP berger

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 C

SHEET
LP-43

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



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CHECKED:	GB	11/27/19				
SUPERVISOR:	GB	11/27/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112056

CONTRACT No. C01415C2D

11/27/19

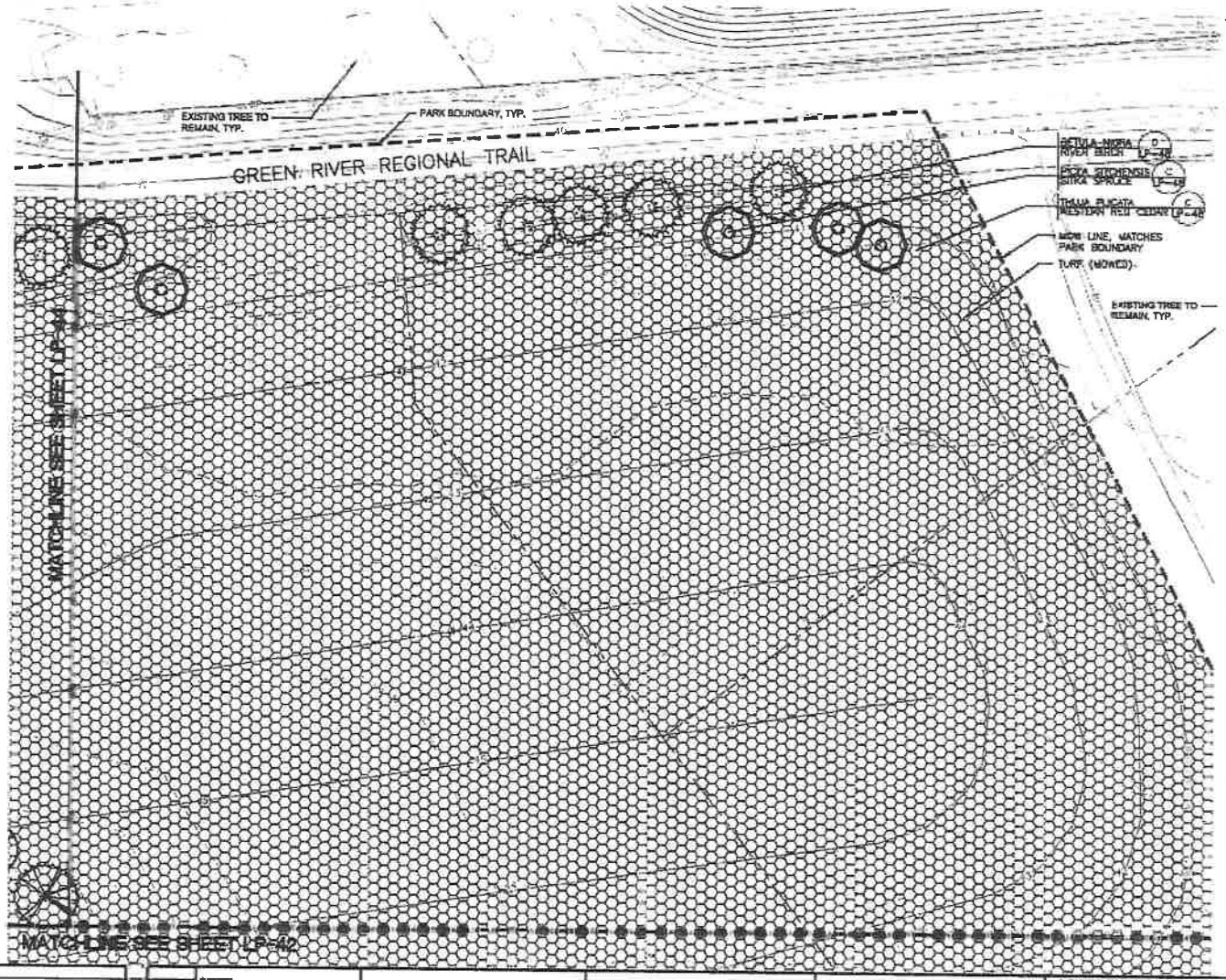
PARTNERSHIP berger

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 D

SHEET
LP-44

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



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DESIGNED:	JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED:	GB	11/27/19				
SUPERVISOR:	GB	11/27/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

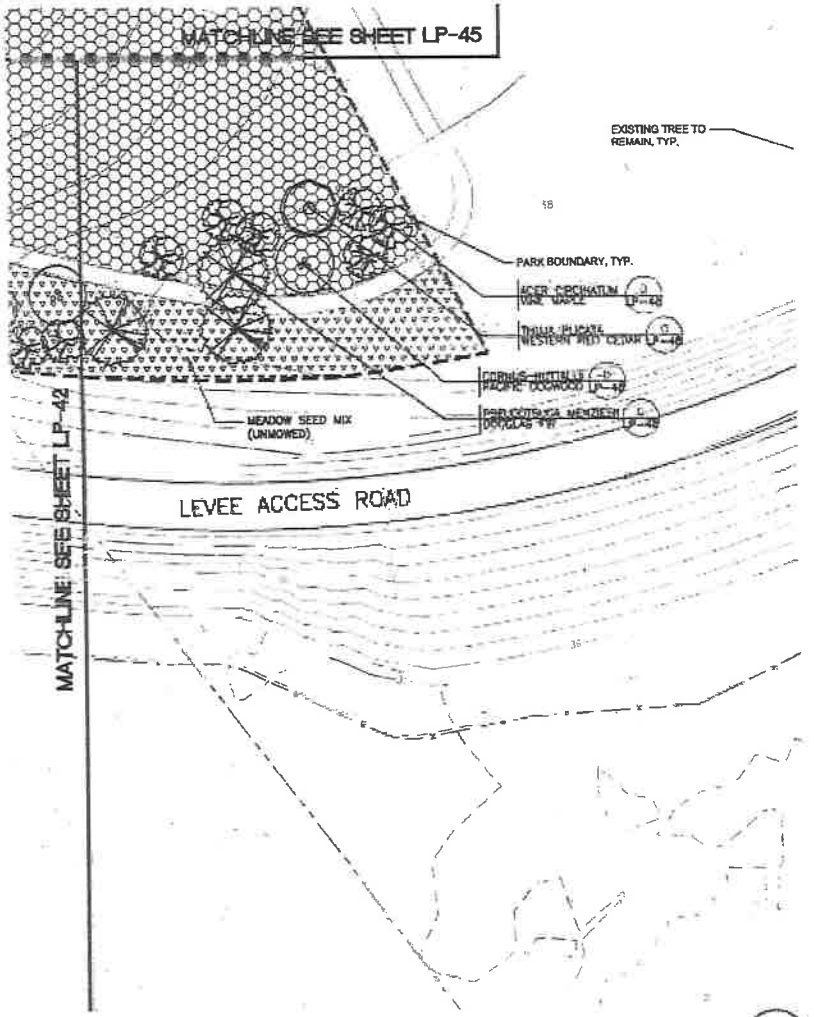
11/27/19

PARTNERSHIP berger

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 E

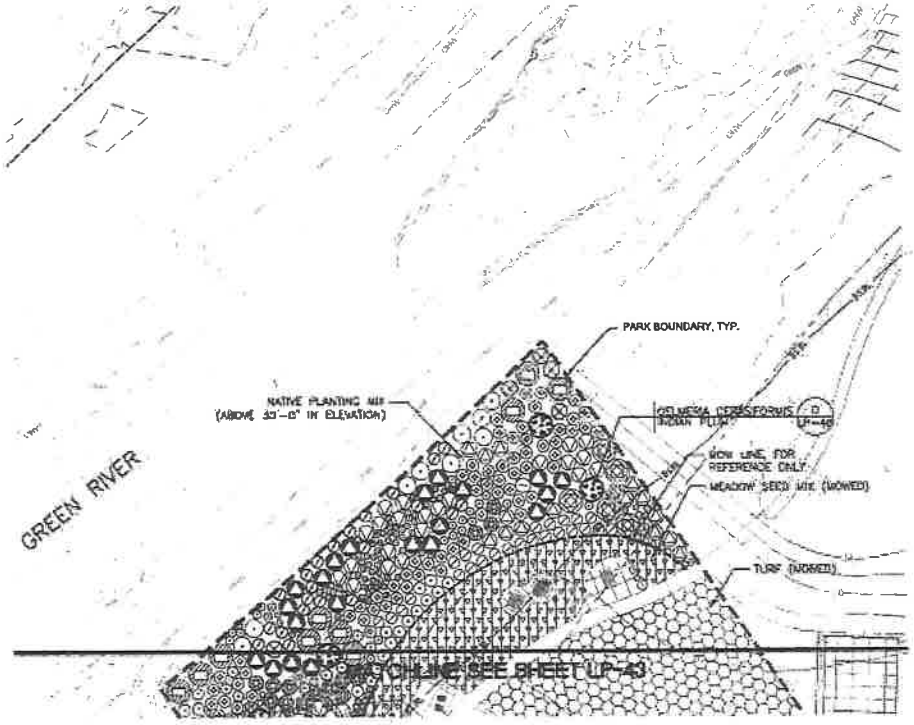
SHEET
LP-45



PLANTING AREA G

SCALE: 1"=20'-0"

A LP-46



PLANTING AREA F

SCALE: 1"=20'-0"

B LP-46

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

SCALE 1"=20'

SURVEY JOB NO/SOURCE:					
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CAD ENTERED:	JZ/JF	11/27/19			
DESIGNED:	JZ/DB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED:	DB	11/27/19				
SUPERVISOR:	DB	11/27/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING: _____

PROJECT No. 1112058

CONTRACT No. 001415C20

11/27/19

PARTNERSHIP berger

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 F & G

SHEET
LP-46

VAN DOREN'S PARK PLANT LIST

TREES

QTY	BOTANICAL NAME	COMMON NAME	SIZE
17	BETULA NIGRA	RIVER BIRCH	8' HT
26	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
26	ACER CIRCINATUM	VINE MAPLE	6' HT / B&B
32	AMELANCHIER X GRANDIFLORA 'PRINCESS DIANA'	SERVICEBERRY	8' HT / B&B /
3	CERCIS CANADENSIS	EASTERN REDBUD	8' HT / 2" MIN
13	CORNUS NUTTALLII	PACIFIC DOGWOOD	8' HT / 2" MIN
8	OEMLERIA CERASIFORMIS	INDIAN PLUM	#5

SHRUBS

QTY	BOTANICAL NAME	COMMON NAME	SIZE
16	ARCTOSTAPHYLOS COLUMBIANA 'OREGON HYBRID'	HAIRY MANZANITA	#5
35	ARUNCUS DIOICUS VAR. ACUMINATUS	GOATSBEARD	#3
50	BRACHYGLOTTIS 'SILVER DORMOUSE'	BRACHYGLOTTIS 'SILVER DORMOUSE'	#3
16	CARPENTERIA CALIFORNICA	BUSH ANEMONE	#5
62	CORNUS SANGUINEA 'ARTIC SUN'	'ARCTIC SUN' REDTWIG DOGWOOD	#3
24	CORNUS SANGUINEA 'MIDWINTER FIRE'	BLOODTWIG DOGWOOD	#5
37	CORNUS SERICEA	REDTWIG DOGWOOD	#5
108	GAULTHERIA SHALLON	SALAL	#3
10	HOLODISCUS DISCOLOR	OCEANSPRAY	#5
41	HYDRANGEA QUERCIFOLIA 'SNOWQUEEN'	OAKLEAF HYDRANGEA	#5
22	LONICERA INVOLUCRATA	TWINBERRY HONEYSUCKLE	#5
14	LONICERA PILEATA	BOXLEAF HONEYSUCKLE	#3
238	MAHONIA NERVOSA	CASCADE OREGON GRAPE	#1
83	MAHONIA REPENS	CREEPING OREGON GRAPE	#1
43	RIBES SANGUINEUM	RED-FLOWERING CURRANT	#3
77	SALIX PURPUREA	PURPLEOSIER WILLOW	#5
338	SALVIA GREGGII 'CORAL'	'CORAL' AUTUMN SAGE	#3
70	SARCOCOCCA RUSCIFOLIA	SWEETBOX	#5
70	SYMPHORICARPOS ALBUS	SNOWBERRY	#5

SHRUBS (CONT'D)

QTY	BOTANICAL NAME	COMMON NAME	SIZE
31	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	#5
18	VACCINIUM PARVIFOLIUM	RED HUCKLEBERRY	#5

GRASSES & FERNS

QTY	BOTANICAL NAME	COMMON NAME	SIZE
75	BLECHNUM SPICANT	DEER FERN	#1
332	MISCANTHUS SINENSIS 'YAKU JIMA'	DWARF MAIDEN GRASS	#3
59	OSMUNDA REGALIS 'PURPURASCENS'	PURPLE ROYAL FERN	#3
265	POLYSTICHUM MUNITUM	WESTERN SWORD FERN	#3

GRASS & SEDGES MIXES:

	QTY	BOTANICAL NAME	COMMON NAME	SIZE
MIX A: 2386 SF.	35%	JUNCUS ENSIFOLIUS	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 'HAMELIN'	DWARF FOUNTAIN GRASS	#1 / 2' O.C. (AT LEAST 3' FROM CURBS)
MIX B: 1693 SF.	40%	BLECHNUM SPICANT	DEER FERN	#1 / 2' O.C.
	35%	JUNCUS PATENS 'ELK BLUE'	ELK BLUE CALIFORNIA GRAY RUSH	#1 / 2' O.C. (IN GROUPS OF 3)
	25%	MUHLENBERGIA CAPILLARIS 'LENCA'	PINK MUHLYGRASS	#1 / 2' O.C. (AT LEAST 3' FROM CURBS)

MEADOW SEED MIX (UNMOWED): 34,181 SF

MEADOW SEED MIX PER SPECIFICATIONS.

MEADOW SEED MIX (MOWED): 14,422 SF

MEADOW SEED MIX PER SPECIFICATIONS.

SEED TURF: 274,945 SF

TURF SEED MIX PER SPECIFICATIONS.

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

SURVEY JOB NO/SOLEDCO:			
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CAD ENTERED:	JZ/JP	11/27/19	
DESIGNED:	JZ/GB	11/27/19	
CHECKED:	GB	11/27/19	
SUPERVISOR:	GB	11/27/19	

INIT.	REVISION	BY	DATE

INIT.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

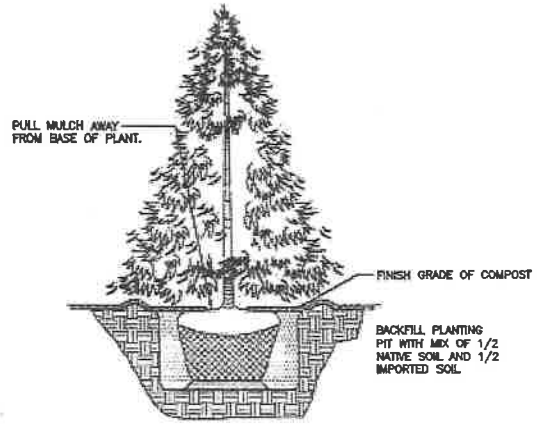
11/27/19

PARTNERSHIP berger

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 LEGEND

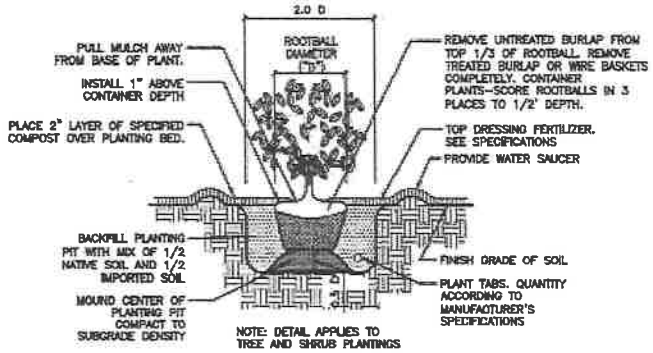
SHEET
LP-47



EVERGREEN TREE PLANTING

SCALE: 1/2"=1'-0"

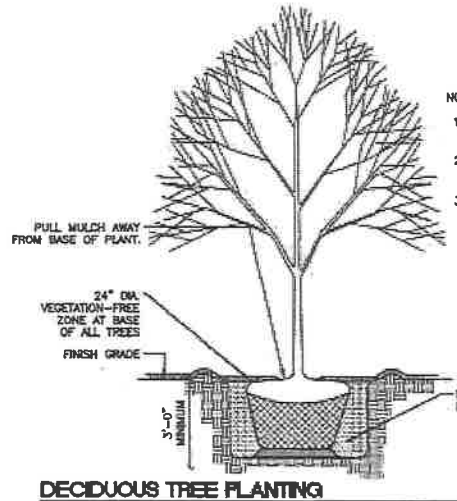
C



SHRUB PLANTING

SCALE: 3/4"=1'-0"

B



NOTES:

1. WHERE TREES OCCUR IN LAWN AREAS, PROVIDE 3' DIA. COMPOST CIRCLE.
2. BACKFILL PLANTING PIT WITH MIX OF 1/2 NATIVE SOIL AND 1/2 IMPORTED SOIL.
3. VERIFY TREES TO BE STAKED WITH LANDSCAPE ARCHITECT.

DECIDUOUS TREE PLANTING

SCALE: 1/2"=1'-0"

D

GENERAL NOTE FOR PLANTING DETAILS:

1. REMOVE ALL WIRE BASEKETS AND ALL BURLAP FROM ALL PLANTS THAT COME WITH THEM.

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

(Funding): _____

PROJECT No. 1112056

CONTRACT No. C01415C20

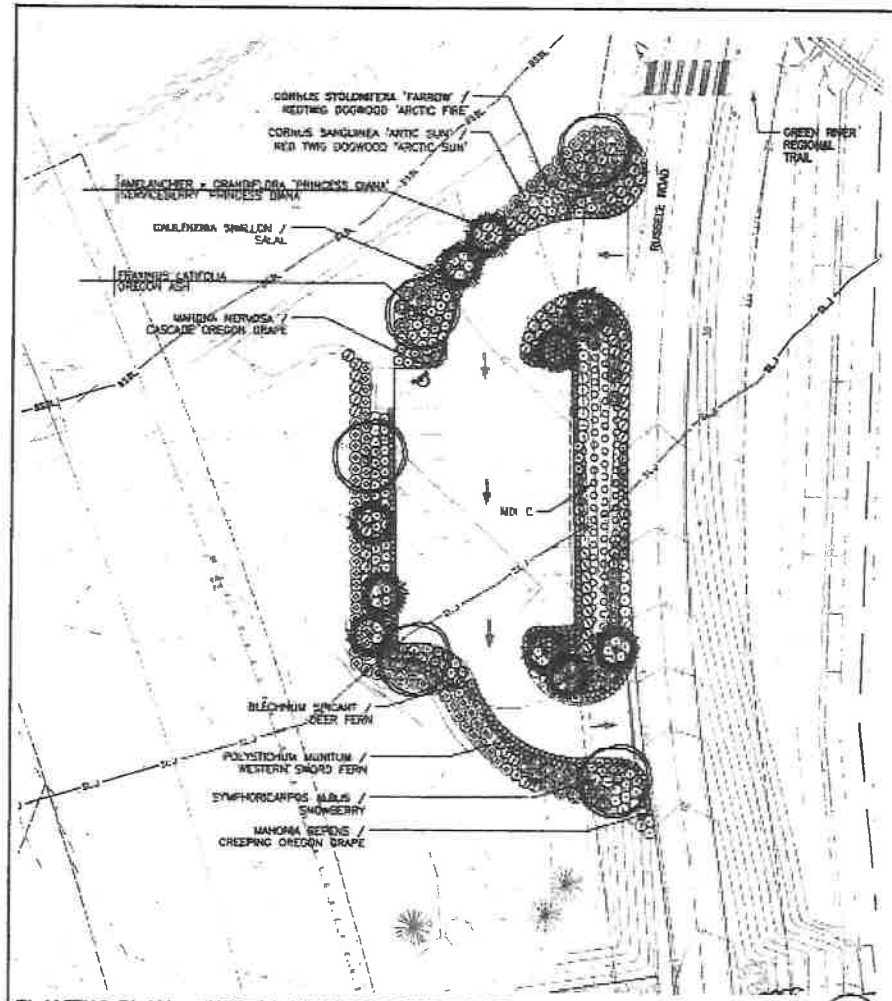
11/27/19

PARTNERSHIP berger

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 DETAILS

SHEET
LP-48



PLANTING PLAN - RUSSELL WOODS PARKING LOT

SCALE: 1"=20'-0"

LP-49

RUSSELL WOODS PARKING LOT – PLANT SCHEDULE

TREES

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
5	FRAXINUS LATIFOLIA	OREGON ASH	8' HT 2" MIN CAL	

TREES – SMALL DECIDUOUS

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
10	AMELANCHIER X GRANDIFLORA 'PRINCESS DIANA'	SERVICEBERRY	8' HT, 2" MIN CAL	MULTISTEM

SHRUBS

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
79	CORNUS SANGUINEA 'ARTIC SUN'	'ARCTIC SUN' REDTWIG DOGWOOD	#3	
60	CORNUS STOLONIFERA 'FARROW'	'ARCTIC FIRE' REDTWIG DOGWWOD	#3	
91	GAULTHERIA SHALLON	SALAL	#3	
222	MAHONIA NERVOSA	CASCADE OREGON GRAPE	#1	
102	MAHONIA REPENS	CREEPING OREGON GRAPE	#1	
86	SYMPHORICARPOS ALBUS	SNOWBERRY	#5	

GRASSES & FERNS

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

GROUNDCOVER & SEDGES MIXES:

MIX C: 1138 SF.

QTY	BOTANICAL NAME	COMMON NAME	SIZE	COMMENTS
35%	JUNCUS ENSIFOLIUS	SWORDLEAF RUSH	#2 / 2' O.C. (IN GROUPS OF 3)	
35%	JUNCUS TENUIS	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, NIC, COORDINATE WITH COUNTY PROJECT REPRESENTATIVE TO ENSURE NO CAP IN WATERING AFTER INSTALLATION.

20 10 0 20 40
SCALE: 1"=20'

SURVEY JOB NO/SOURCE:				
CHECKED:				
CAD ENTERED: JZ/JF	11/27/19			
DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: GB	11/27/19			
SUPERVISOR: GB	11/27/19			
		NUM.	RECORD CHANGES APPROVED	BY	DATE

PLANNING: _____
PROJECT No. 1112056
CONTRACT No. C01415C20

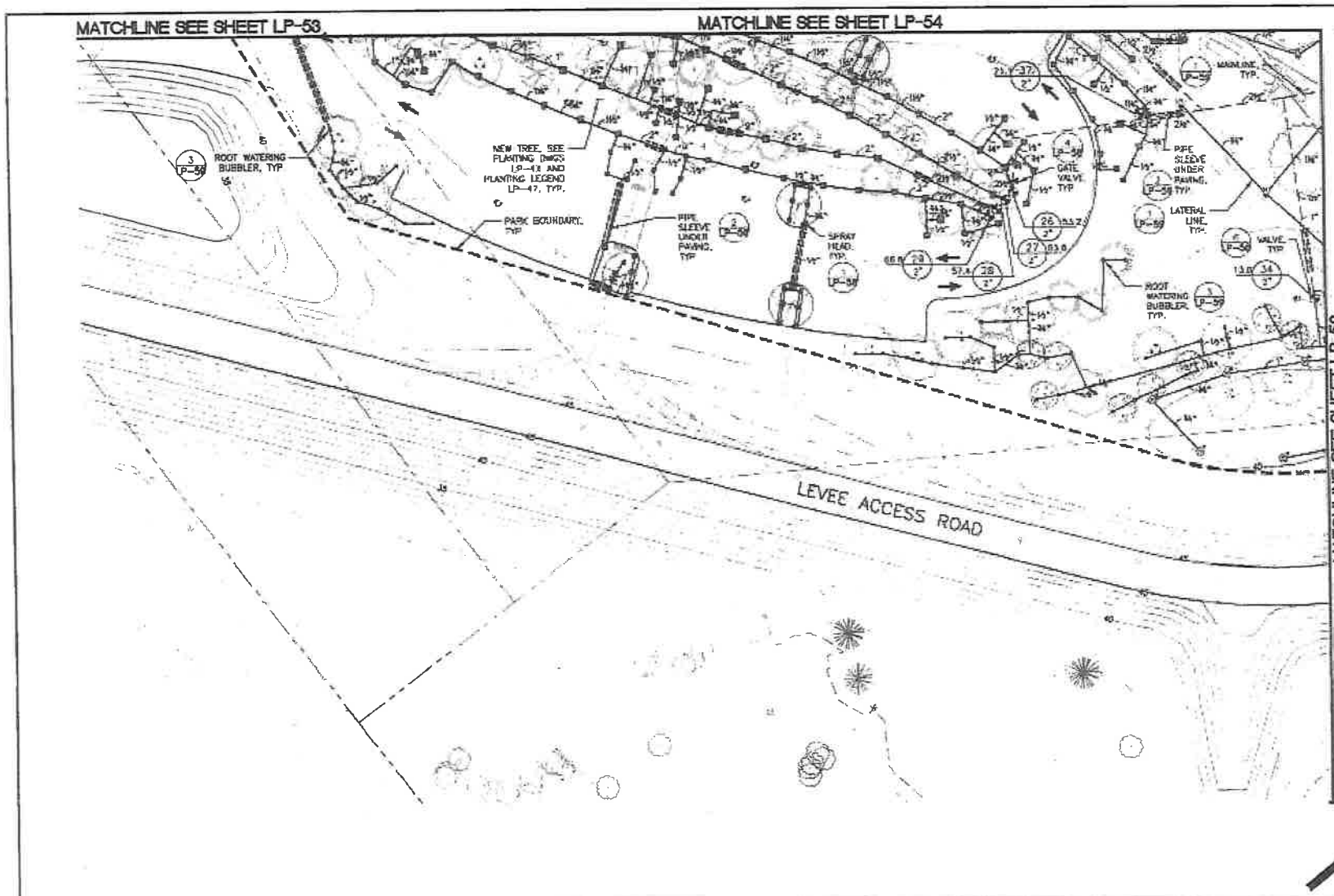
11/27/19

PARTNERSHIP berger

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 - RUSSELL WOODS PARKING LOT

SHEET
LP-49



NOTES:

1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, MECHANICAL 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 THE POINT OF CONNECTION (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.), WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.
7. LOCATE PIPE NEAR PERMANENT STRUCTURES WHERE POSSIBLE, (I.E. 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 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 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 COMMON TRENCH. ALLOW A MINIMUM OF 4" BETWEEN PARALLEL PIPE LINES. LOCATE TRENCHES 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 ADJUSTING RADIUS TO MAXIMIZE COVERAGE AND MINIMIZE OVERSPRAY ONTO HARDSCAPE SURFACE.

20 10 0 20 40
SCALE 1"=20'

SURVEY JOB NO/SOURCE:					
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CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/DB	11/27/19	MUNI.	REVISION	BY	DATE
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SUPERVISOR: DB	11/27/19				
		MUNI.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

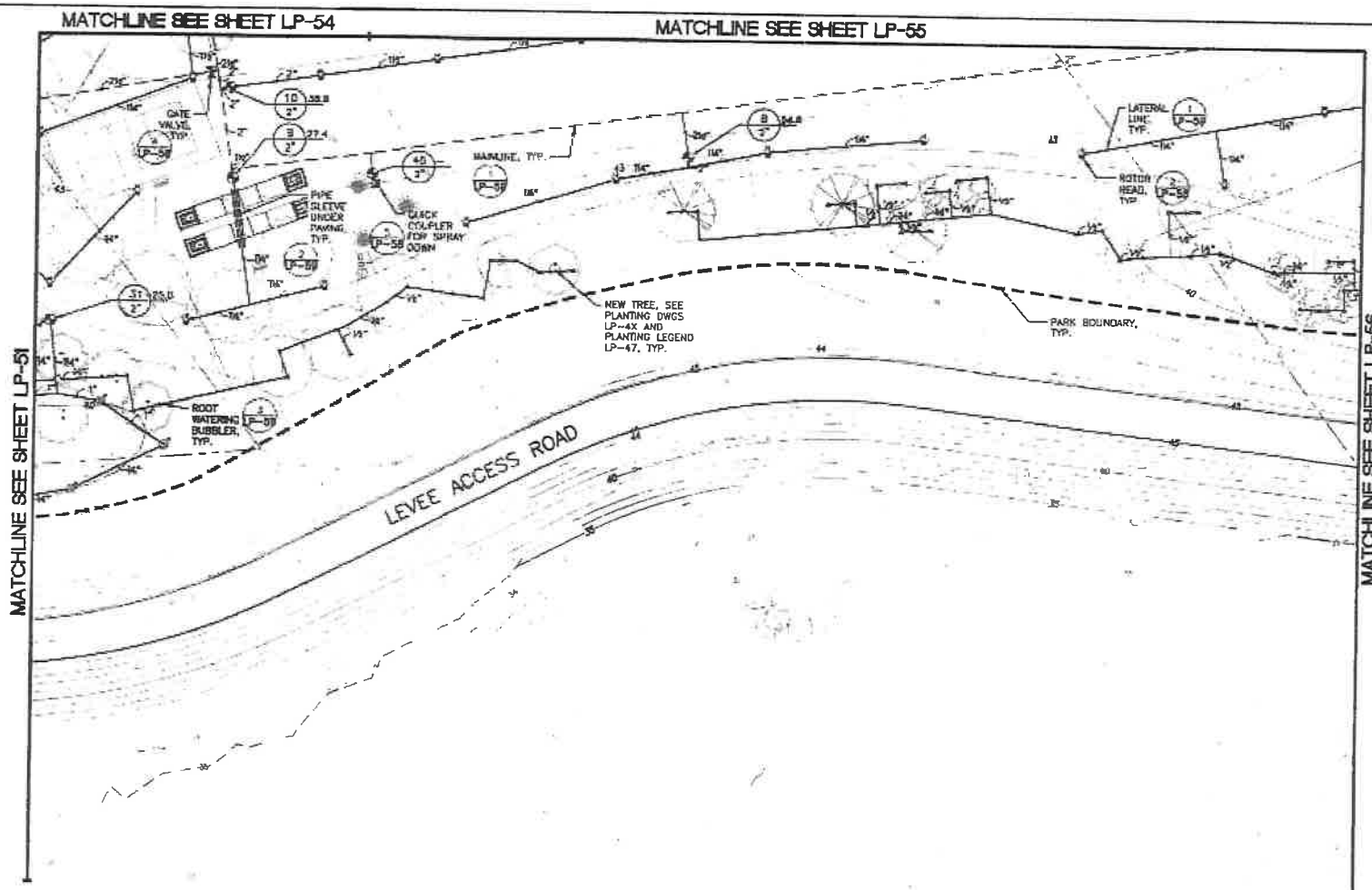
11/27/19

PARTNERSHIP berger

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
IRRIGATION
PLAN A

SHEET
LP-51



NOTES:

1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, MECHANICAL SCHEDULE, AND VALVE SCHEDULE.
2. ALL DRAWINGS ARE DIAGRAMMATIC. FIELD VARIANCES MAY OCCUR. NOTIFY PROJECT REPRESENTATIVE IMMEDIATELY.
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4. PRIOR TO THE COMMENCEMENT OF WORK, CONTRACTOR MUST VERIFY STATIC WATER PRESSURE (PSI) AT THE POINT OF CONNECTION (EXPECTED RANGE 70-85 PSI). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
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12. PIPING MAY BE INSTALLED IN A COMMON TRENCH. ALLOW A MINIMUM OF 4" BETWEEN PARALLEL PIPE LINES. LOCATE TRENCHES TO AVOID CONFLICT WITH INSTALLATION OF TREES & SHRUBS.
13. INSTALL NP ROTATOR NOZZLES AS NOTED ON DWG LP-57. CONTRACTOR RESPONSIBLE FOR FINE TUNING AND ADJUSTING RADIUS TO MAXIMIZE COVERAGE AND MINIMIZE OVERSPRAY ONTO HARDSCAPE SURFACE.

20 10 0 20 40

SCALE: 1"=20'

SURVEY JOB NO/SCALE:						
CHECKED:						
CAD ENTERED:	JJ/JB	11/27/19				
DESIGNED:	JJ/DB	11/27/19	HUM.	REVISION	BY	DATE
CHECKED:	GD	11/27/19				
SUPERVISOR:	GD	11/27/19				
			HUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

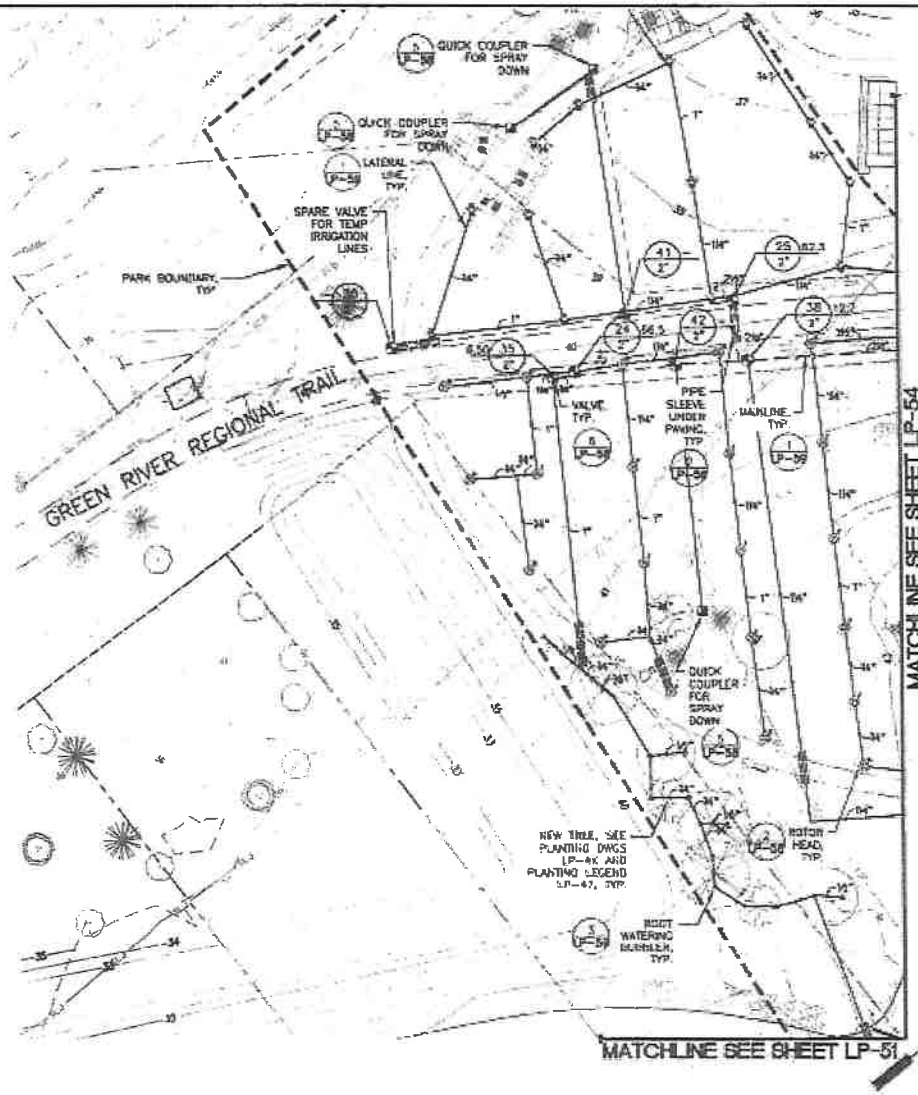
11/27/19

PARTNERSHIP berger

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
IRRIGATION
PLAN B

SHEET
LP-52



NOTES:

1. SEE SHEET LP-57 FOR IRRIGATION SCHEDULE, SYMBOL LEGEND, MECHANICAL 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 THE POINT OF CONNECTION (EXPECTED RANGE 70-85 PSI). IMMEDIATELY NOTIFY PROJECT REPRESENTATIVE OF RESULTS.
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7. LOCATE PIPE NEAR PERMANENT STRUCTURES WHERE POSSIBLE, (I.E. ALONG EDGES OF SIDEWALKS, ETC). LEAVE PIPE SIZING FACE UP IN TRENCH TO FACILITATE REPAIR.
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SCALE: 1"=20'

SURVEY JOB NO/SOURCE:					
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CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GB	11/27/19	NUM.	REVISION	BY	DATE
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FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

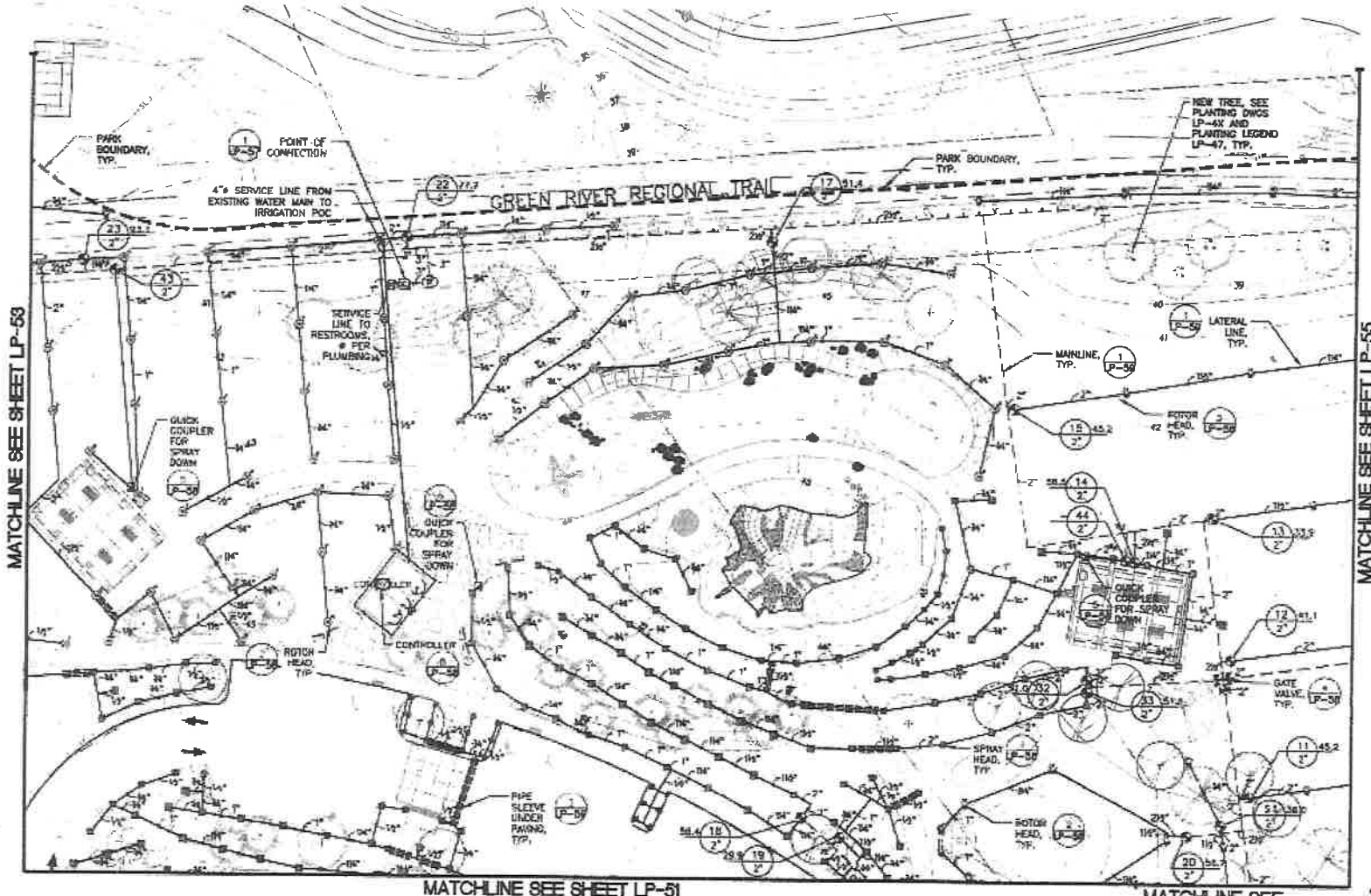
11/27/19

PARTNERSHIP berger

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
IRRIGATION
PLAN C

SHEET
LP-53



NOTES:

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SCALE: 1"=20'

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CHECKED:	DB	11/27/19			
SUPERVISOR:	DB	11/27/19			
			NUM.	RECORD CHANGES APPROVED	BY / DATE

PLANNING: _____

PROJECT No. 1112056

CONTRACT No. CD1415C20

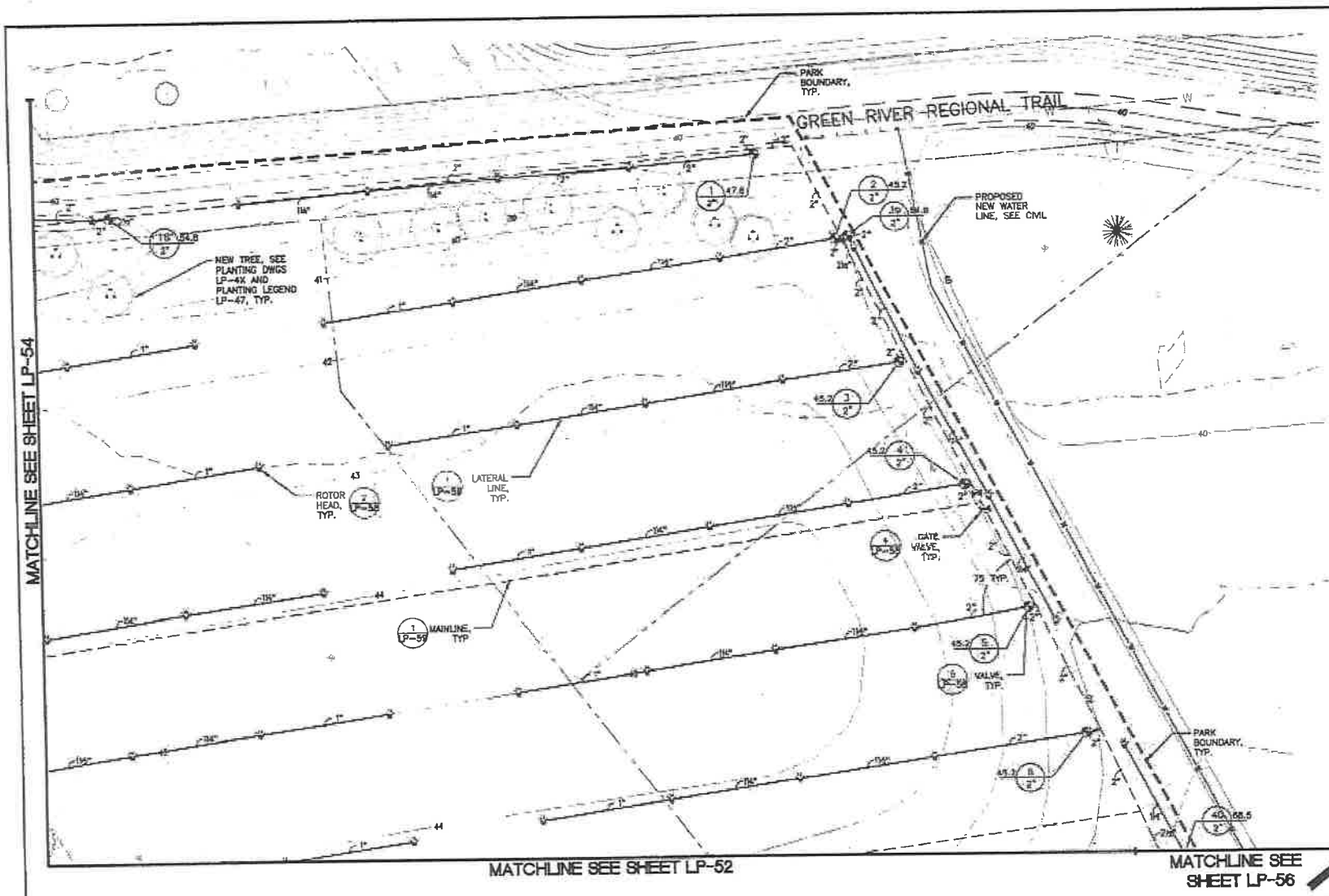
11/27/19

PARTNERSHIP berger

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
IRRIGATION
PLAN D

SHEET
LP-54



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CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		FINAL	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112058

CONTRACT No. C01415C20

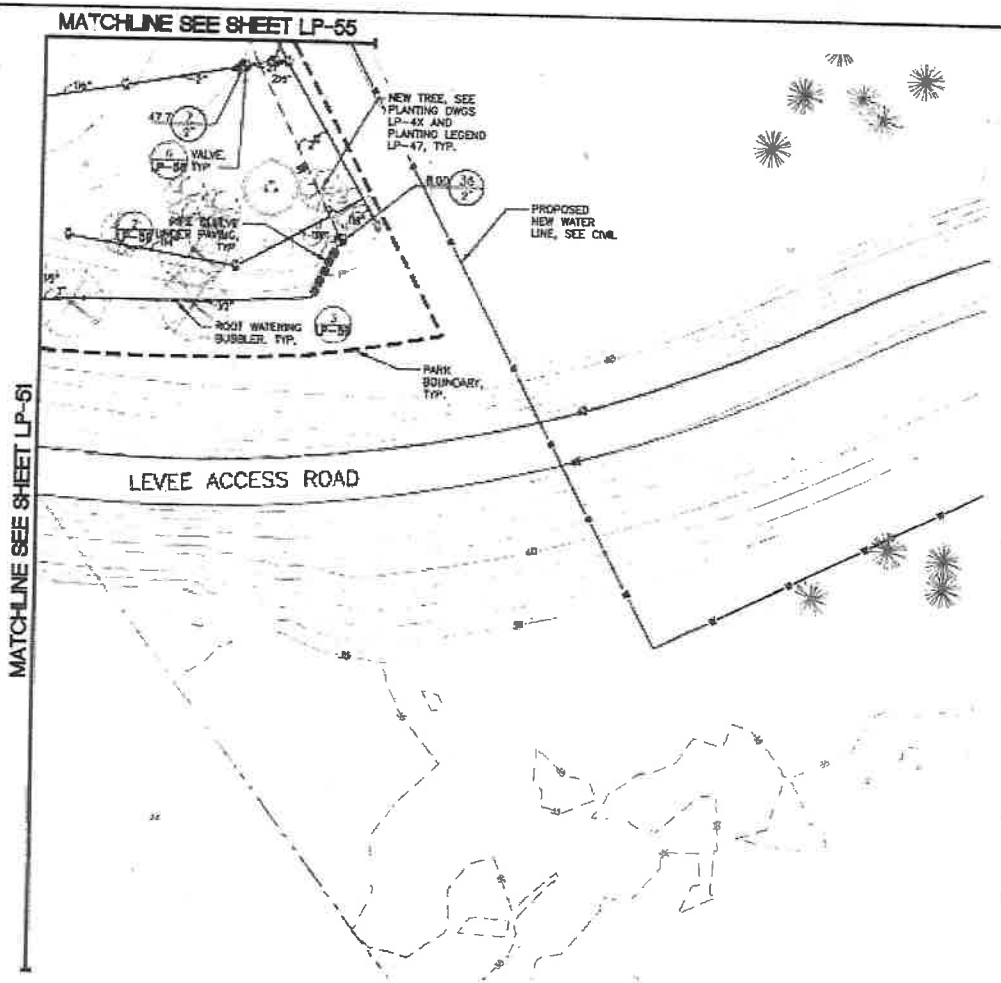
11/27/19

PARTNERSHIP berger

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
IRRIGATION
PLAN E

SHEET
LP-55



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SCALE: 1"=20'

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FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

11/27/19

PARTNERSHIP berger

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
IRRIGATION
PLAN G

SHEET
LP-56

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD RD-12-S-P30-U 15' STRIP SERIES 12.0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, AND SEAL-A-MATIC CHECK VALVE. 1/2" NPT FEMALE THREADED INLET.	2	30
	RAIN BIRD RD-12-S-P30-U U8 SERIES 12.0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, AND SEAL-A-MATIC CHECK VALVE. 1/2" NPT FEMALE THREADED INLET.	61	30
	RAIN BIRD RD-12-S-P30-U U10 SERIES 12.0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, AND SEAL-A-MATIC CHECK VALVE. 1/2" NPT FEMALE THREADED INLET.	11	30
	RAIN BIRD RD-12-S-P30-U U12 SERIES 12.0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, AND SEAL-A-MATIC CHECK VALVE. 1/2" NPT FEMALE THREADED INLET.	20	30
	RAIN BIRD RD-12-S-P30-U U15 SERIES 12.0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, AND SEAL-A-MATIC CHECK VALVE. 1/2" NPT FEMALE THREADED INLET.	138	30
	RAIN BIRD RD-12Z-S-P30-U ADJ 12.0" POP-UP, WITH 30 PSI IN-STEM PRESSURE REGULATION, AND SEAL-A-MATIC CHECK VALVE. 1/2" NPT FEMALE THREADED INLET.	49	30
	RAIN BIRD RWS-B-C-SOCK ROOT WATERING SYSTEM WITH 4.0" DIAMETER X 36.0" LONG WITH LOCKING GRATE, SEMI-RIGID MESH TUBE, CHECK VALVE AND SAND SOCK. RAIN BIRD BUBBLER OPTION AS INDICATED: 1401 0.25 GPM, 1402 0.5 GPM, 1404 1.0 GPM, 1408 2.0 GPM.	110	30

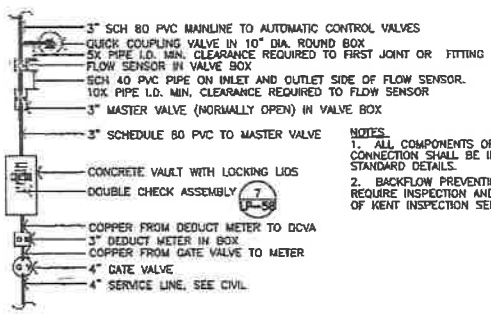
SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
	RAIN BIRD 5006-PL-PC,FC-MPR-SAM-R TURF ROTOR, 6.0" POP-UP, PLASTIC RISER, WITH FLOW SHUT-OFF DEVICE. MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. WITH SEAL-A-MATIC CHECK VALVE, AND IN-STEM PRESSURE REGULATOR.	22	35
	RAIN BIRD 5006-PL-PC,FC-MPR-SAM-R TURF ROTOR, 6.0" POP-UP, PLASTIC RISER, WITH FLOW SHUT-OFF DEVICE. MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. WITH SEAL-A-MATIC CHECK VALVE, AND IN-STEM PRESSURE REGULATOR.	22	35
	RAIN BIRD 5006-PL-PC,FC-MPR-SAM-R TURF ROTOR, 6.0" POP-UP, PLASTIC RISER, WITH FLOW SHUT-OFF DEVICE. MATCHED PRECIPITATION ROTOR (MPR NOZZLE), ARC AND RADIUS AS PER SYMBOL. 25 FT=RED, 30 FT=GREEN, 35FT=BEIGE. WITH SEAL-A-MATIC CHECK VALVE, AND IN-STEM PRESSURE REGULATOR.	47	35
	RAIN BIRD F4-PC, FC TURF ROTOR, 4.0" POP-UP, PLASTIC RISER, ADJUSTABLE AND FULL CIRCLE. WITH REMOVABLE SEAL-A-MATIC CHECK VALVE. 1" FEMALE THREADED INLET.	17	40
	RAIN BIRD F4-PC, FC TURF ROTOR, 4.0" POP-UP, PLASTIC RISER, ADJUSTABLE AND FULL CIRCLE. WITH REMOVABLE SEAL-A-MATIC CHECK VALVE. 1" FEMALE THREADED INLET.	4	40
	RAIN BIRD F4-PC, FC TURF ROTOR, 4.0" POP-UP, PLASTIC RISER, ADJUSTABLE AND FULL CIRCLE. WITH REMOVABLE SEAL-A-MATIC CHECK VALVE. 1" FEMALE THREADED INLET.	2	40
	RAIN BIRD F4-PC, FC TURF ROTOR, 4.0" POP-UP, PLASTIC RISER, ADJUSTABLE AND FULL CIRCLE. WITH REMOVABLE SEAL-A-MATIC CHECK VALVE. 1" FEMALE THREADED INLET.	4	40
	RAIN BIRD F4-PC, FC TURF ROTOR, 4.0" POP-UP, PLASTIC RISER, ADJUSTABLE AND FULL CIRCLE. WITH REMOVABLE SEAL-A-MATIC CHECK VALVE. 1" FEMALE THREADED INLET.	41	40
	RAIN BIRD F4-PC, FC TURF ROTOR, 4.0" POP-UP, PLASTIC RISER, ADJUSTABLE AND FULL CIRCLE. WITH REMOVABLE SEAL-A-MATIC CHECK VALVE. 1" FEMALE THREADED INLET.	25	40

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	RAIN BIRD PEB-PRS-D 1", 1-1/2", 2" PLASTIC INDUSTRIAL VALVES. LOW FLOW OPERATING CAPABILITY. GLOBE CONFIGURATION. WITH PRESSURE REGULATOR MODULE.	45
	NIBCO P-619-RW 2" TO 12" CAST IRON MANUAL CONTROL VALVE, SAME SIZE AS MAINLINE PIPE WHERE LOCATED. RESILIENT WEDGE NON-RISING STEM FLOW CONTROL WITH IPS PUSH-ON ENDS.	1
	BUCKNER-SUPERIOR QBRB-LRC 1" ONE PIECE, DOUBLE SLOT BRASS QUICK COUPLING VALVE. WITH LOCKING YELLOW TUFF TOP LID. COMPATIBLE WITH RAIN BIRD MODELS.	7
	NIBCO T-113-K CLASS 125 BRONZE GATE SHUT OFF VALVE WITH CROSS HANDLE, SAME SIZE AS MAINLINE PIPE DIAMETER AT VALVE LOCATION.	7
	FEBCO 850U 2" DOUBLE CHECK BACKFLOW PREVENTION WITH UNION END BALL VALVE, 1/2" TO 2".	1
CONTROLLER	CALSENSE CS3000 AUTOMATIC CONTROLLER FLOW SENSING TWO-WIRE DECODER COMMERCIAL CONTROLLER, 48 STATIONS, UV-RESISTANT, OUTDOOR-RATED, POWDER-COATED METAL CABINET.	1
POC 1	WATER METER 3"	1
	LATERAL LINE: PVC SCHEDULE 40. SOLVENT WELD.	13,261 L.F.
	MAINLINE: PVC SCHEDULE 40. SOLVENT WELD.	3,518 L.F.
	PIPE SLEEVE: PVC SCHEDULE 40 PROVIDE (2) PARALLEL PIPE SLEEVES. TYPICAL PIPE SLEEVE FOR IRRIGATION PIPE. PIPE SLEEVE SIZE SHALL ALLOW FOR IRRIGATION PIPING AND THEIR RELATED COUPLINGS EXTEND SLEEVES 18 INCHES BEYOND EDGES OF PAVING OR CONSTRUCTION. SECOND PIPE SLEEVE IS FOR WIRING.	425.1 L.F.

Valve Callout
Valve Number
Valve Size
Valve Size

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	47.60	823.5	47.89	60.17	0.81 in/h
2	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	887.0	49.77	61.64	0.42 in/h
3	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	940.3	49.76	61.65	0.42 in/h
4	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	1,002	49.77	61.70	0.42 in/h
5	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	1,057	49.76	61.91	0.42 in/h
6	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	1,119	49.93	62.43	0.42 in/h
7	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	47.70	1,184	48.08	61.54	0.58 in/h
8	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	54.80	954.6	46.22	61.45	0.73 in/h
9	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	27.40	769.2	46.48	55.27	0.88 in/h
10	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	38.80	732.0	49.12	59.72	0.38 in/h
11	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	683.9	49.32	60.77	0.42 in/h
12	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	41.10	629.1	47.62	57.98	0.44 in/h
13	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	33.90	573.8	48.68	57.77	0.42 in/h
14	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	58.50	555.1	38.72	51.52	0.95 in/h
15	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	45.20	447.5	49.49	59.04	0.42 in/h
16	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	54.80	548.6	47.75	59.82	0.74 in/h
17	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	51.40	288.9	44.23	52.55	0.66 in/h
18	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	58.43	932.2	36.97	55.63	1.01 in/h
19	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	29.85	920.1	37.51	47.19	1.01 in/h
20	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	56.70	715.1	46.93	61.09	2.06 in/h
21	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	36.00	704.0	52.30	52.23	0.44 in/h
22	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	77.65	159.5	44.49	52.48	0.65 in/h
23	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	93.11	286.0	46.97	56.96	0.62 in/h
24	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	66.49	415.7	43.19	53.29	0.59 in/h
25	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	62.30	378.3	48.14	57.33	0.89 in/h
26	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	53.18	950.7	40.40	55.62	0.91 in/h
27	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	83.58	955.4	40.62	59.27	0.77 in/h
28	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	57.35	960.7	38.82	55.40	0.81 in/h
29	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	56.76	965.1	40.34	60.28	0.94 in/h
30	RAIN BIRD PEB-PRS-D	2"	FOR TEMP IRRI	0.00	496.1	4.80	10.80	FOR TEMP IRRI
31	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	24.98	905.9	43.94	53.99	0.58 in/h
32	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	50.98	888.0	40.23	52.77	0.78 in/h
33	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	51.79	687.7	39.09	51.77	0.75 in/h
34	RAIN BIRD PEB-PRS-D	2"	BUBBLER	13.00	898.5	40.09	47.10	0.85 in/h
35	RAIN BIRD PEB-PRS-D	2"	BUBBLER	6.50	421.9	40.55	46.92	0.85 in/h
36	RAIN BIRD PEB-PRS-D	2"	BUBBLER	8.00	1,246	40.00	47.53	0.85 in/h
37	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	21.08	876.7	37.99	45.78	1.42 in/h
38	RAIN BIRD PEB-PRS-D	2"	SHRUB SPRAY	12.72	354.7	37.87	43.96	1.41 in/h
39	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	54.80	885.5	47.77	61.81	0.79 in/h
40	RAIN BIRD PEB-PRS-D	2"	TURF ROTOR	68.50	1,184	47.24	67.36	1.08 in/h
41	RAIN BIRD PEB-PRS-D	2"	QUICK COUPLER	0.00	417.3			QUICK COUPLER
42	RAIN BIRD PEB-PRS-D	2"	QUICK COUPLER	0.00	379.4			QUICK COUPLER
43	RAIN BIRD PEB-PRS-D	2"	QUICK COUPLER	0.00	269.6			QUICK COUPLER
44	RAIN BIRD PEB-PRS-D	2"	QUICK COUPLER	0.00	550.4			QUICK COUPLER
45	RAIN BIRD PEB-PRS-D	2"	QUICK COUPLER	0.00	828.3			QUICK COUPLER
AT POC	NIBCO P-619-RW	4"		0.00			1	Unknown
	Common Wire				3,518			



NOTES

1. ALL COMPONENTS OF SCHEMATIC POINT OF CONNECTION SHALL BE INSTALLED PER STANDARD DETAILS.
2. BACKFLOW PREVENTION DEVICE INSTALLATIONS REQUIRE INSPECTION AND CERTIFICATION BY CITY OF KENT INSPECTION SERVICES.

P.O.C. DIAGRAM

SCALE: 1/2"=1'-0"

1
LP-54

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/DB	11/27/19	NUM.	REVISION	BY	DATE
CHECKED: DB	11/27/19				
SUPERVISOR: DB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

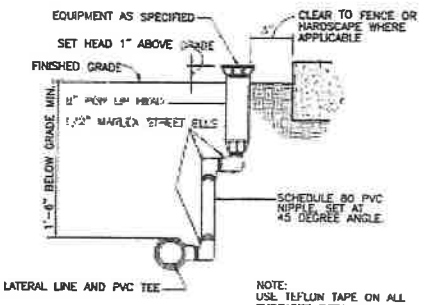
11/27/19

PARTNERSHIP berger

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

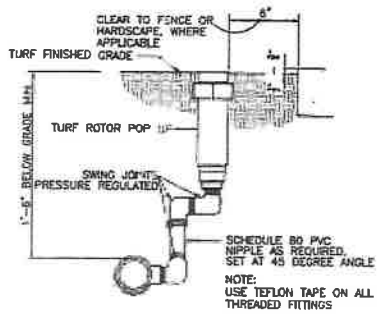
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
IRRIGATION
SCHEDULES & DETAILS

SHEET
LP-57



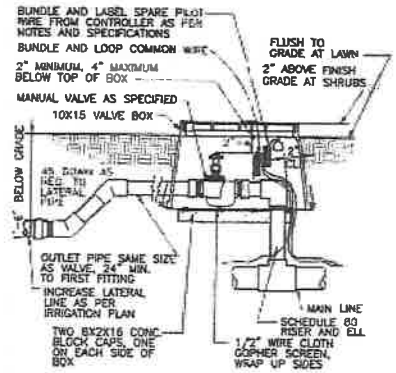
SHRUB SPRAY 6" POPUP (1)

SCALE: 3"=1'-0"



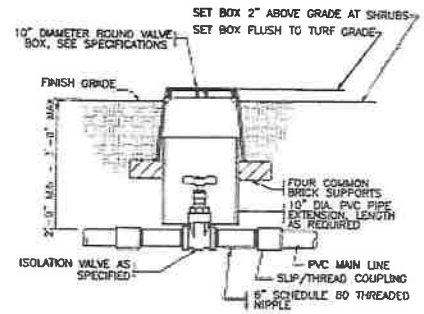
TURF ROTOR ASSEMBLY (2)

SCALE: 3"=1'-0"



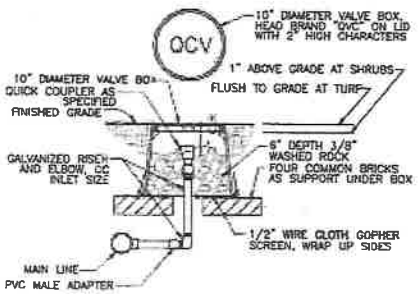
MANUAL CONTROL VALVE IN BOX (3)

SCALE: 1 1/2"=1'-0"



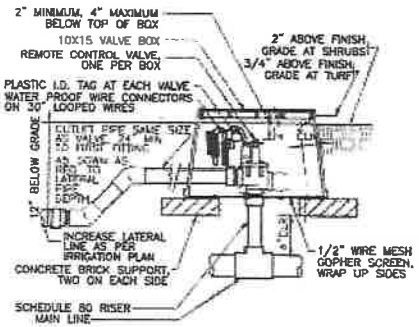
GATE VALVE (4)

SCALE: 1 1/2"=1'-0"



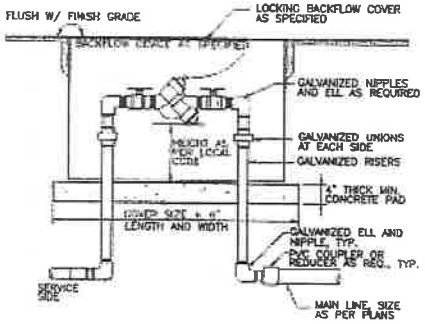
QUICK COUPLING VALVE IN BOX (5)

SCALE: 1 1/2"=1'-0"



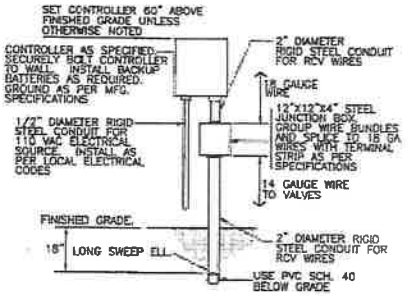
AUTOMATIC CONTROL VALVE (6)

SCALE: 1 1/2"=1'-0"



BACKFLOW W/ ENCLOSURE (7)

SCALE: 1"=1'-0"



WALL MOUNT CONTROLLER (8)

SCALE: 1"=1'-0"

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GB	11/27/19	MUM	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		MUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

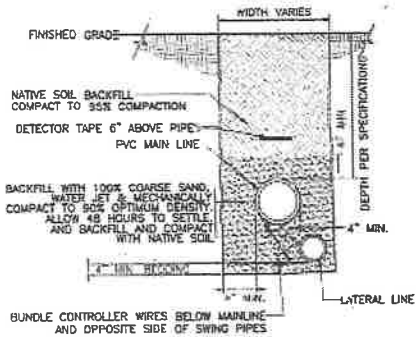
11/27/19

PARTNERSHIP berger

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

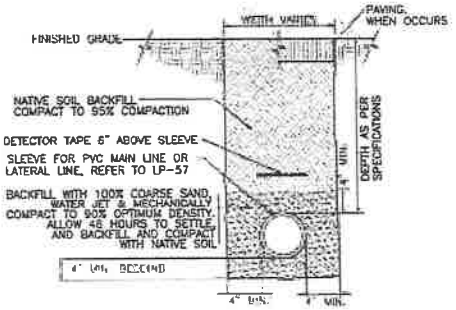
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
IRRIGATION DETAILS

SHEET
LP-58



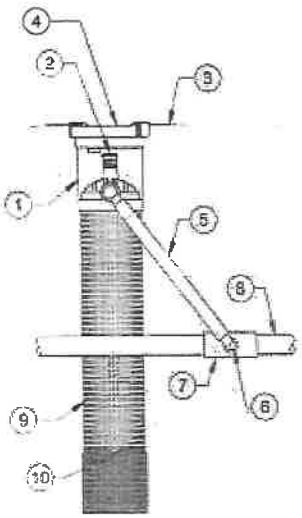
MAINLINE AND LATERAL LINES (1)

SCALE: 1 1/2"=1'-0"



PIPE SLEEVES (2)

SCALE: 1 1/2"=1'-0"



1. ROOT WATERING SYSTEM: RAIN BIRD RWS-B-X-1401 (INCLUDES RETAINER, 36"(91.4 cm) TUBE, 0.25 GPM (0.95 L/M) BUBBLER, 4"(10.2 cm) GRATE, 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 (RWS-SOCK) FOR SANDY SOILS

NOTES:
1. PROVIDE (2) PER TREE AS NOTED ON DRAWINGS.
2. 4" (10.2 cm) GRATE IS ALSO AVAILABLE IN PURPLE (RWS-GRATE-P).
3. INSTALL PRODUCT SO THAT THE GRATE IS EVEN WITH FINISH GRADE OR TOP OF MULCH.
4. OPTIONAL SAND SOCK (RWS-SOCK) IS 34" (86.4 cm) IN LENGTH TO COVER MESH BASKET AREA.
5. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1.9 cm) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
6. ONCE RWS HAS BEEN INSTALLED FILL THE BASKET WITH PEA GRAVEL BEFORE LOCKING LID.

ROOT WATERING BUBBLER (3)

SCALE: NTS

SURVEY JOB NO/SOURCE:					
CHECKED:					
CAD ENTERED: JZ/JF	11/27/19				
DESIGNED: JZ/GB	11/27/19	NUM	REVISION	BY	DATE
CHECKED: GB	11/27/19				
SUPERVISOR: GB	11/27/19				
		NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

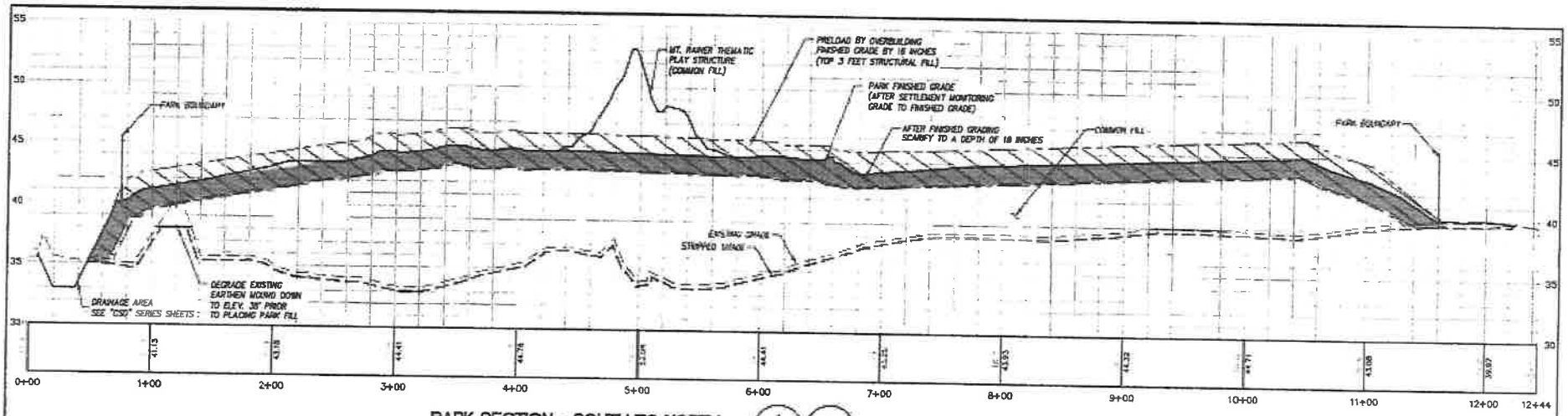
11/27/19

PARTNERSHIP berger

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

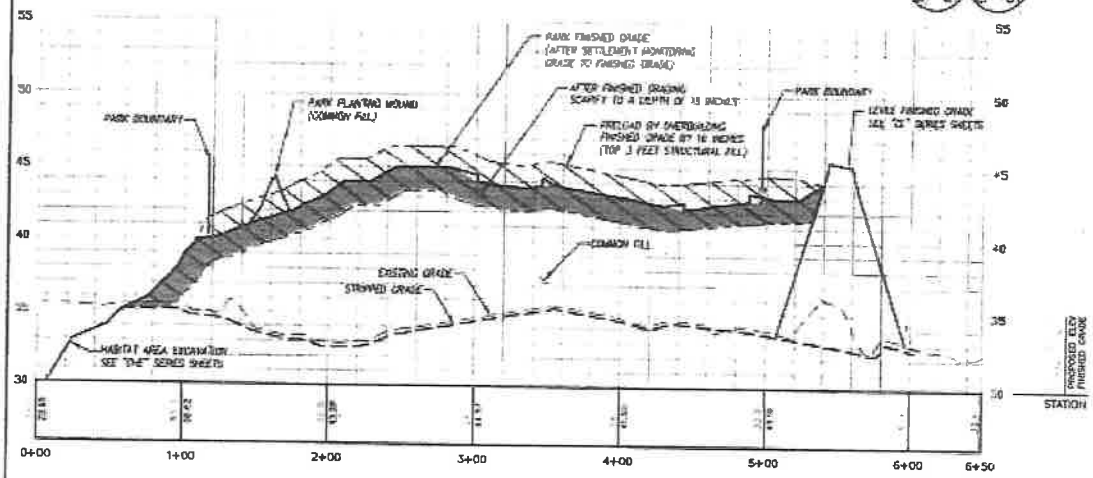
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2
IRRIGATION
DETAILS

SHEET
LP-59



PARK SECTION - SOUTH TO NORTH

1 LP-01 / LP-61



PARK SECTION - WEST TO EAST

2 LP-01 / 2 LP-61

H: SCALE IN FEET

V: SCALE IN FEET

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

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

SURVEY JOB NO/SOURCE:	—	—			
CHECKED:	—	—			
CAD ENTERED:	RD	11/10			
DESIGNED:	VR	11/10	REVISION	BY	DATE
CHECKED:	JC	11/10			
SUPERVISOR:	SJ	11/10			
			RECORD CHANGES APPROVED	BY	DATE

FILENAME:

PROJECT No. 1112056

CONTRACT No. C01415C20

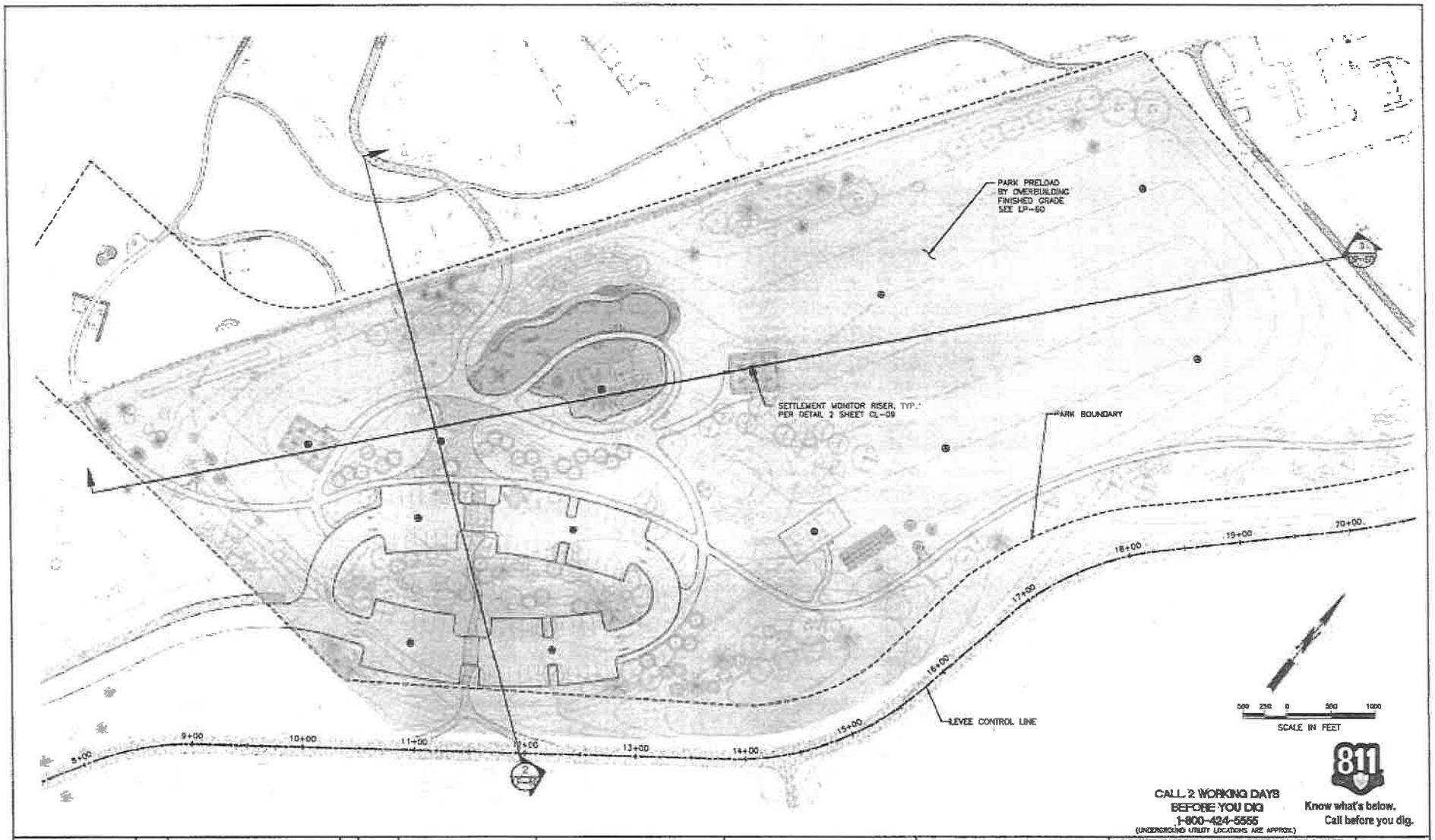
HDR Engineering Inc.

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

PARK GRADING SECTIONS

SHEET
LP-60



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

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

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

FUNDING:

PROJECT No. 1112058

CONTRACT No. C014ISC20

HDR Engineering Inc.

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
VAN DOREN'S LANDING PARK
SETTLEMENT MONITORING PLAN

SHEET
LP-61

GENERAL

G1 SCOPE
THE NOTES ON THIS SHEET AND THE STANDARD STRUCTURAL DETAILS ARE GENERAL AND APPLY TO THE ENTIRE PROJECT WHETHER SPECIFICALLY CALLED OUT OR NOT, EXCEPT WHERE THERE ARE SPECIFIC INDICATIONS TO THE CONTRARY ON STRUCTURAL SHEETS. IF THERE ARE QUESTIONS, THEY SHALL BE SUBMITTED TO THE STRUCTURAL ENGINEER AND ANSWERED IN WRITING PRIOR TO CONSTRUCTION

G2 APPLICABLE SPECIFICATIONS AND CODES
A. INTERNATIONAL BUILDING CODE 2015
WITH APPLICABLE EDITIONS OF THE CODE REFERENCED STANDARDS
B. LOCAL JURISDICTION AMENDMENTS
C. AISC 341

G3 DESIGN CRITERIA
1. APPLIES TO ALL STRUCTURES (UNO)
A. DEAD LOAD
1 ACTUAL TRIBUTARY STRUCTURE WEIGHT
2 SUPERIMPOSED ROOF DEAD LOAD: 10 PSF
B. LIVE LOAD
1. ELEVATED FLOORS: 100 PSF
2 WALKWAYS, STAIRS, GRATING: 100 PSF
3 SLAB ON GRADE 250 PSF
4 ROOF 20 PSF (NOT REDUCIBLE)
C. WIND
1 ULTIMATE DESIGN WIND SPEED 110 MPH
2 NOMINAL DESIGN WIND SPEED 85 MPH
3 RISK CATEGORY: II
4. EXPOSURE: C
5 ALL STRUCTURES ARE OPEN EXCEPT AS FOLLOWS: RESTROOM
6 INTERNAL PRESSURE COEFFICIENT: ±0
7 COMPONENT AND CLADDING PRESSURE: 35 PSF
D. SEISMIC
1 RISK CATEGORY
2 OCCUPANCY CATEGORY II
3 IMPORTANCE FACTOR 1.0
4 SPECTRAL RESPONSE ACCELERATION, SS = 1.08
5 SPECTRAL RESPONSE ACCELERATION, S1 = 0.618
6 SITE CLASS D
7. SEISMIC DESIGN CATEGORY E
8 SPECTRAL RESPONSE COEFFICIENT, SDS = 0.828
9 SPECTRAL RESPONSE COEFFICIENT, SD1 = 0.629
10 BASIC SEISMIC FORCE RESISTING SYSTEM OCBF AND OMF PER AISC 341
11. ANALYSIS PROCEDURE ELF
12. DESIGN BASE SHEAR. 48 20K
13 SEISMIC RESPONSE COEFFICIENT, = 0.240
14 RESPONSE MODIFICATION FACTOR, = 3.25
E. SNOW LOAD
1 GROUND SNOW LOAD= 20 PSF
2. FLAT ROOF SNOW LOAD= 20 PSF
3 EXPOSURE FACTOR= 0.9
4. IMPORTANCE FACTOR, = 1.0
5 THERMAL FACTOR= 1.2
6 NO DRIFT LOADS CONSIDERED

G4 THE FOLLOWING NON-CONTRACTUAL GEOTECHNICAL REPORT WAS DEVELOPED FOR THIS PROJECT AND IS THE BASIS OF THIS STRUCTURAL DESIGN
GEOTECHNICAL FIRM NAME: ASPECT CONSULTING, LLC
ADDRESS 401 2ND AVE S, SUITE 201, SEATTLE WA 98104
REPORT NUMBER 140108
REPORT DATE 08/2016
ALLOWABLE NET STATIC SOIL BEARING = 5,000 PSF
ALLOWABLE NET SEISMIC SOIL BEARING = 1,000 PSF
NOTE: SITE IS SUBJECT TO LIQUEFACTION

G5 SAFETY
SAFETY AND STRUCTURE STABILITY DURING CONSTRUCTION ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. STRUCTURES HAVE BEEN DESIGNED TO RESIST THE DESIGN LIVE LOADS ONLY AS A COMPLETED STRUCTURE.

G6 SPECIAL INSPECTIONS
SPECIAL INSPECTIONS ARE REQUIRED IN ACCORDANCE WITH CHAPTER 1 AND CHAPTER 17 OF THE IBC. PAYMENT FOR THESE INSPECTIONS IS NOT THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK BY THE SPECIAL INSPECTOR AND SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS

G7 STANDARD DETAILS
THE STANDARD DETAILS DEPICT TYPICAL DETAILING TO BE USED ON THIS PROJECT. IF CONDITIONS ARE NOT EXPLICITLY SHOWN ON THE DRAWINGS THEY SHALL BE MADE SIMILAR TO THE STANDARD DETAILS. OBTAIN APPROVAL OF ENGINEER IN WRITING FOR SIMILAR CONDITIONS PRIOR TO CONSTRUCTION

G8 THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND ELEVATIONS OF EXISTING CONSTRUCTION AS REQUIRED TO COORDINATE NEW CONSTRUCTION. SUBMIT REQUIRED CHANGES FOR APPROVAL

G9 CONTRACTOR TO SUBMIT FOR REVIEW ALL EQUIPMENT SIZES, OPERATING WEIGHTS, VIBRATION FORCES, SUPPORT LOCATIONS, ALONG WITH ANY FLOOR OPENINGS, NOTCHES AND RECESSES REQUIRED BY SUCH EQUIPMENT. CONCRETE SUPPORT PADS AND/OR FRAMING REQUIRED TO SUPPORT SAID EQUIPMENT SHALL NOT BE FABRICATED AND PLACED UNTIL THE CONCRETE SUPPORT PADS AND/OR FRAMING IS APPROVED TO SUPPORT THE EQUIPMENT

CONCRETE

C1 DESIGN STRENGTHS
$F'c$ = 4,000 PSI
Fy = 60,000 PSI

C2 CONCRETE COVER
UNLESS OTHERWISE NOTED, PROVIDE CONCRETE COVER FOR REINFORCING AS FOLLOWS
CONCRETE DEPOSITED AGAINST EARTH 3"
ALL OTHER 2"
SEE DRAWINGS FOR EXCEPTIONS

C3 SEE SPECIFICATIONS FOR REINFORCING PLACEMENT REQUIREMENTS

C4 REFER TO OTHER DISCIPLINE DRAWINGS PRIOR TO CONSTRUCTION FOR EMBEDDED ITEMS AND PENETRATIONS NOT SHOWN ON STRUCTURAL DRAWINGS. AS REQUIRED TO ACCOMMODATE ALL WORK SHOWN OR SPECIFIED IN THE CONTRACT DOCUMENTS AND OTHERWISE REQUIRED FOR THE FURNISHING OF A FUNCTIONALLY COMPLETE PROJECT, REINFORCE AROUND OPENINGS PER STANDARD STRUCTURAL DETAILS UNLESS OTHERWISE SHOWN

C5 PROVIDE 3/4" CHAMFERS AT ALL EXPOSED EDGES NOT ALL CHAMFERS MAY BE SHOWN ON DRAWINGS

C6 FIELD ADJUST REINFORCING AT OPENINGS AND EMBEDDED ITEMS AS INDICATED

C7 ANCHOR BOLTS NOT SPECIFIED BY ENGINEER SHALL BE DESIGNED AND CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER, RETAINED BY THE CONTRACTOR, IN ACCORDANCE WITH APPLICABLE PROJECT AND CODE REQUIREMENTS. SUBMIT AS A SHOP DRAWING FOR REVIEW AND APPROVAL BY THE ENGINEER. COORDINATE LOCATION, SIZE AND EMBEDMENT PRIOR TO CASTING CONCRETE.

C8 ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT SPECIFIC APPROVAL FROM THE STRUCTURAL ENGINEER.

C9 ALL CAST IN PLACE AND POST-INSTALLED ANCHORS INDICATED ON THE STRUCTURAL DOCUMENTS SHALL COMPLY WITH CHAPTER 17 OF THE ACI 318-14. ALL EXPANSION AND ADHESIVE ANCHORS SHALL HAVE THE ICC REPORT SHOWING EQUIVALENT LOAD CAPACITY SUBMIT AND INSTALL PER THE ICC EVALUATION REPORT

STEEL

S1 DESIGN STRENGTHS

WIDE FLANGE AND TEES	Fy=50 KSI
PIPES	Fy=35 KSI
STAINLESS STEEL	Fy=30 KSI
RECTANGULAR HSS	Fy=46 KSI
ROUND HSS	Fy=42 KSI
ALL OTHER PLATES AND SHAPES	Fy=36 KSI

S2 DIMENSIONS
TO CENTERLINES OF COLUMNS AND BEAMS. TOP SURFACES OF BEAMS AND TUBES AND BACKS OF CHANNELS AND ANGLES UNO

S3 ELEVATIONS
TOP OF STEEL REFERS TO TOP SURFACE OF MEMBER OR FLANGE UNO

S4 WHEN FILLET WELD SIZE IS NOT INDICATED, PROVIDE MAXIMUM WELD SIZE BASED ON MATERIAL THICKNESS IN ACCORDANCE WITH AISC SPECIFICATIONS

S5 ALL BOLTED STRUCTURAL CONNECTIONS ARE BEARING TYPE CONNECTIONS UNLESS OTHERWISE SPECIFIED TO BE SLIP-CRITICAL. PROVIDE LOAD INDICATING WASHERS AT SLIP-CRITICAL CONNECTIONS

S6 CONFORM TO AISC 360 STEEL CONSTRUCTION MANUAL AND AISC 341, SEISMIC DESIGN MANUAL

S7 THE SEISMIC LOAD RESISTING SYSTEM (SLRS) IS DENOTED ON THE FRAMING PLANS AND FRAME ELEVATIONS. THE SLRS DESIGNATION INCLUDES THE MEMBER AND CONNECTIONS AT EACH END. FRAMES ARE DENOTED AS FOLLOWS
(SLRS)
A MOMENT FRAME:
(SLRS)
B CONCENTRICALLY BRACED FRAME

FOR SLRS SYSTEMS OR PARTS OF SYSTEMS THAT ARE NOT INCLUDED IN FRAMES, (SLRS) IS PLACED NEXT TO THE BEAM SIZE ON THE FRAMING PLAN (eg: ON A COLLECTOR ELEMENT (DRAG STRUT)). MEMBER DESIGNATION (SLRS)

S8 ALL STEEL BEAMS SHALL RECEIVE STANDARD CAMBER PER THE SPECIFICATIONS UNLESS NOTED OTHERWISE ON THE PLANS. BEAMS REQUIRING SPECIAL CAMBER ARE DENOTED ON THE BEAMS SHOWN ON THE FRAMING PLANS. EXAMPLE: (-1/2" INDICATES ½"

METAL DECKING

SD1 THE DESIGN, FABRICATION, AND ERECTION OF METAL DECKING SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE SDI SPECIFICATIONS AND THE SDI DIAPHRAGM MANUAL.

SD2 STEEL FLOOR DECK IS 1-1/2 INCH
20 GAUGE GALVANIZED COMPOSITE DECK, AS SHOWN ON THE PLANS. MINIMUM SECTION PROPERTIES ARE AS FOLLOWS
Ip = 0.219 IN4/FT In = 0.201 IN4/FT, Sp=0.200 IN3/FT, Sn =0.237 IN3/FT

SD3 STEEL FLOOR DECK IS TO BE A STRUCTURAL DIAPHRAGM AND SHALL BE FASTENED AS SHOWN IN SPECIFICATIONS.

SD4 THE PLANS INDICATE DECK SPAN DIRECTION

SD5 SUSPENDED CEILINGS, LIGHT FIXTURES, DUCTS, AND OTHER UTILITIES SHALL NOT BE SUPPORTED FROM THE STEEL DECK

WOOD

W1 FRAMING SHALL BE DOUGLAS FIR NO 1. LUMBER SIZES ARE NOMINAL UNO

W2 WOOD SHEATHING SHALL BE 4x8 STRUCTURAL 1C-C EXT-APA

W3 WOOD FASTENERS
a PROVIDE WASHERS UNDER HEADS AND NUTS OF ALL BOLTS BEARING ON WOOD
b ALL NAILING SHALL BE STAGGERED TO AVOID SPLITTING OF MEMBERS
c BOLTS USED IN FRAMING SHALL BE ASTM A307 WITH STANDARD HEX HEAD DIMENSIONS CONFORMING TO ANSI/ASME B18.2.1
d PLATES USED IN WOOD FRAMING SHALL BE ASTM A572 GRADE 50
e PROVIDE AND INSTALL ALL BOLTS AND NAILS TO ALL CONNECTORS PER THE MANUFACTURERS RECOMMENDATIONS
f ALL NAILING SHALL BE IN ACCORDANCE WITH 2015 IBC CHAPTER 23. USE COMMON TYPE NAILS UNLESS OTHERWISE SPECIFIED. ALL FASTENERS IN CONTACT WITH WITH PRESSURE TREATED WOOD SHALL BE HOT DIPPED GALVANIZED FASTENERS (MEETING ASTM A153) AND CONNECTORS (ASTM A653 CLASS G185 SHEET), OR BETTER
g DIAPHRAGM SHALL BE UNBLOCKED W/ 6" EDGE NAILING AND 12" FIELD NAILING.
h ALL NAILS TO BE COMMON NAILS, UNO

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

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

SURVEY JOB NO/FILE:			FUNDING:			LOWER RUSSELL LEVEE SETBACK PROJECT PHASE 2 OBSERVATION TOWER GENERAL STRUCTURAL NOTES	SHEET LS-01
CHECKED							
CAD ENTERED	J PERUCHINI						
DESIGNED	D PRINDLE	REV	REVISION	BY	DATE	PROJECT No 1112056	
CHECKED	C GIBSON						
SUPERVISOR	C GIBSON	RCM	RECORD CHANGES APPROVED	BY	DATE	CONTRACT No. C01415C20	

1/27/19

HDR Engineering, Inc.

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

WORKSPACE FILE EDITION: KCWTD-G3850-Block-TB-Border
CLASSIFIED 11/05/2018 10:24:20 AM
PLOTTED 1/15/2019 10:24:20 AM
SHEETS
IMAGES

SCHEDULE OF SPECIAL INSPECTION SERVICES

INSPECTION ITEM REQUIRED	INSPECTION ITEM REQUIRED		CODE REFERENCE	REMARKS
		PERIODIC		
GENERAL STRUCTURAL OBSERVATIONS				
CONDUCT DAILY VISUAL OBSERVATION OF THE STRUCTURAL SYSTEMS FOR GENERAL CONFORMANCE TO THE CONSTRUCTION DOCUMENTS PREPARE WEEKLY REPORT OF OBSERVATIONS DESCRIBING WORK PROGRESS AND NON-CONFORMING ITEMS	-	X		
SOIL AND EARTHWORK				
VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	-	X	TABLE 1705.6	
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X		
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	-	X		
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESS DURING PLACEMENT AND COMPACTION OF COMPACTED FILL	X	-		
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY	-	X		
CONCRETE AND REINFORCING STEEL			TABLE 1705.3	
TYPE	**CONTINUOUS SPECIAL INSPECTION**	**PERIODIC SPECIAL INSPECTION**	**REFERENCED STANDARD**	**IBC REFERENCE**
INSPECT REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	ACI 318 CH. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4
REINFORCING BAR WELDING a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706. b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16", AND c. INSPECT ALL OTHER WELDS.	- - X	X X -	AWS D1.4 ACI 318, 26.5.4	-
INSPECT ANCHORS CAST IN CONCRETE	-	X	ACI 318, 17.8.2	
INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN a. (ABOVE PARAGRAPH)	X	X	ACI 318, 17.8.2.4 ACI 318; 17.8.2	-
VERIFY USE OF REQUIRED DESIGN MIX.	-	X	ACI 318 CH 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF CONCRETE	X	-	ASTM C 172 ASTM C 31 ACI 318, 26.4.5, 26.12	1908.10
INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318, 26.4.5	1909.6, 1908.7 1908.8
VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES	-	X	ACI 318; 26.4.7-26.4.9	1908.9
VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	-	X	ACI 318 26.10.3	
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF CONCRETE MEMBER BEING FORMED.	-	X	ACI 318; 26.10.1 (b)	-

STATEMENT OF SPECIAL INSPECTIONS CONTINUED (IBC 1705)

SCHEDULE OF SPECIAL INSPECTION SERVICES (CONTINUED)

INSPECTION ITEM REQUIRED	INSPECTION ITEM REQUIRED		CODE REFERENCE	REMARKS
		PERIODIC		
STRUCTURAL STEEL				
VERIFY FABRICATOR CERTIFICATION	-	X		FEMA 353 RECOMMENDATION
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS: IDENTIFICATION MARKINGS TO CONFIRM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	-	X		
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS. IDENTIFICATION MARKINGS TO CONFIRM TO ASTM STANDARDS SPECIFIED IN THE APPROVED CONSTRUCTION DOCUMENTS	-	X	AISC 360, SECTION A3.3 AND APPLICABLE ASTM MATERIAL STANDARDS	
MATERIAL VERIFICATION OF HIGH-STRENGTH BOLTS, NUTS, AND WASHERS MANUFACTURER'S CERTIFICATE OF COMPLIANCE	-	X		
INSPECTION OF HIGH-STRENGTH BOLTING SNUG-TIGHT JOINTS	-	X	AISC 360, SECTION M2.5	
INSPECTION OF HIGH-STRENGTH BOLTING PRETENSIONED AND SLIP-CRITICAL JOINTS USING TURN-OF-NUT WITH MATCHMARKING, TWIST-OFF BOLT OR DIRECT TENSION INDICATOR METHODS OF INSTALLATION		X		
OBSERVE AND TEST ALL FIELD APPLIED HEADED STUDS	X	-		
MATERIAL VERIFICATION OF WELD FILLER MATERIALS: IDENTIFICATION MARKINGS TO CONFIRM TO AWS SPECIFICATION IN THE APPROVED CONSTRUCTION DOCUMENTS		X	AISC 360 SECTION A3.5 AND APPLICABLE AWS-AS DOCUMENTS	
MATERIAL VERIFICATION OF WELD FILLER MATERIALS MANUFACTURER'S CERTIFICATE OF COMPLIANCE REQUIRED.	-	X		
VERIFY CONTRACTORS RECIEPT OF WELDER CERTIFICATIONS	-	X	AWS D1.1	
VISUALLY INSPECT ALL WELDS	-	X	AWS D1.1 AND D1.3	
PERFORM LIQUID DYE PENETRATION TESTING ON 20% OF ALL PARTIAL PENETRATION AND FILLET WELDS	-	X		
PERFORM ULTRASONIC OR MAGNETIC PARTICLE TESTING ON ALL FULL PENETRATION WELDS	-	X		
INSPECTION OF WELDING FOR STRUCTURAL STEEL AND COLD-FORMED DECKING COMPLETE AND PARTIAL JOINT PENETRATION GROOVE WELDS	X	-		
INSPECTION OF WELDING FOR STRUCTURAL STEEL AND COLD-FORMED DECKING, MULTIPASS FILLET WELDS	X	-		
INSPECTION OF WELDING FOR STRUCTURAL STEEL AND COLD-FORMED DECKING SINGLE-PASS FILLET WELDS > 5/16"	X			
INSPECTION OF WELDING FOR STRUCTURAL STEEL AND COLD-FORMED DECKING PLUG AND SLOT WELDS	X	-		
INSPECTION OF WELDING FOR STRUCTURAL STEEL AND COLD - FORMED DECKING; SINGLE-PASS FILLET WELDS <= 5/16"	-	X		

STATEMENT OF SPECIAL INSPECTIONS (IBC 1705)

UNLESS NOTED OTHERWISE

S1. SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS ARE REQUIRED IN ACCORDANCE WITH IBC 2015 CHAPTER 1 AND CHAPTER 17. PAYMENT FOR THESE INSPECTIONS AND OBSERVATIONS ARE THE RESPONSIBILITY OF OWNER AND NOT THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE FOR FULL ACCESS TO THE WORK BY THE SPECIAL INSPECTOR AND SHALL PROVIDE FOR THESE INSPECTIONS IN HIS CONSTRUCTION SCHEDULE IN ACCORDANCE WITH THE SPECIFICATIONS

S2. SHOP FABRICATED ITEMS BY APPROVED FABRICATOR IS EXEMPT FROM SPECIAL INSPECTION. UPON COMPLETION, APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE STATING WORK WAS PERFORMED IN ACCORDANCE WITH APPROVED CONSTRUCTION DOCUMENTS

S3. SEISMIC REQUIREMENTS
- A. DESIGNED SEISMIC SYSTEMS OCBF AND OMF PER AISC 341
- B. SPECIAL INSPECTIONS ARE REQUIRED FOR SEISMIC FORCE RESISTING SYSTEMS, AND ARCHITECTURAL, MECHANICAL AND ELECTRICAL COMPONENTS IN THE FOLLOWING TABLE

S4. SEISMIC CERTIFICATION OF NON STRUCTURAL COMPONENTS:
- A. THE MANUFACTURE OF THE FOLLOWING SYSTEMS SHALL SUBMIT A CERTIFICATION OF COMPLIANCE TO THE REGISTERED DESIGN PROFESSIONAL AND BUILDING OFFICIAL.
  - 1. MECHANICAL AND ELECTRICAL EQUIPMENT INTENDED TO REMAIN IN SERVICE FOLLOWING DESIGN EARTHQUAKE SHALL BE CERTIFIED AS OPERABLE BY MANUFACTURER PER ASCE 7-10 13.2
  - 2. COMPONENTS CONTAINING HAZARDOUS MATERIALS SHALL BE CERTIFIED AS MAINTAINING CONTAINMENT BY MANUFACTURER PER ASCE 7-10 13.2.
- B. CERTIFICATION SHALL BE BASED ON ANALYSIS PER ASCE 7-10 CHAPTER 13, TESTING PER ASCE 7-10 13.2.5, OR EXPERIENCED DATA PER ASCE 7-10 13.2.5

S5. CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY PRIOR TO CONSTRUCTION, INCLUDING:
- A. ACKNOWLEDGEMENT OF SPECIAL INSPECTION REQUIREMENTS
- B. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXCERCISED TO CONFIRM WITH APPROVED CONSTRUCTION DOCUMENTS
- C. PROCEDURES FOR EXCERCISING CONTROL, INCLUDING METHOD AND FREQUENCY OF REPORTING, AND DISTRIBUTION OF REPORTS.
- D. IDENTIFICATION AND QUALIFICATIONS OF PERSONNEL EXCERCISING SUCH CONTROL

S6. THE FOLLOWING CONSTRUCTION IS SUBJECT TO SPECIAL INSPECTIONS

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

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

SURVEY JOB NO/SOURCE		FUNDING	
CHECKED		PROJECT No.	1112056
CAD ENTERED	J. PERUCHINI	CONTRACT No	C01415C20
DESIGNED	D. PRINDLE		
CHECKED	C. GIPSON		
SUPERVISOR	C. GIPSON		

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED BY		DATE

11/27/19

HDR Engineering Inc.

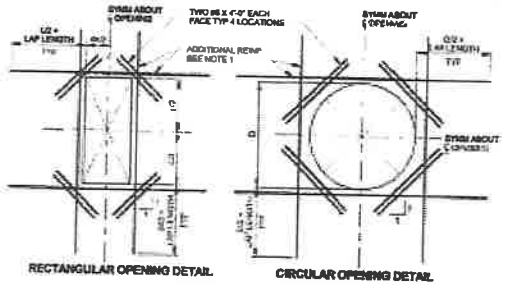
King County
Department of Natural Resources and Parks
Water and Land Resources Division
River and Floodplain Management Section
Carolie True, Director

LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

OBSERVATION TOWER
SPECIAL INSPECTIONS

SHEET
LS-02

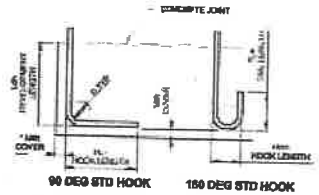
SURVEY FILE EXPORS: KCWTD-301056 Dwg-TB Border
CHECKED: N:\5001107 - ACL\PBLR - STRUCTURAL\00001\sum\TB\BDR.rvt
PLOTTED 11/26/2019 10:29:26 AM
SHEETS
IMAGES



NOTES:

1. PROVIDE ADDITIONAL REINFORCING THE SAME SIZE AS DISCONTINUOUS REINFORCEMENT AT OPENING. QUANTITY OF REINFORCING IN EACH DIRECTION SHALL BE EQUAL TO: OR ONE GREATER THAN THE NUMBER OF DISCONTINUOUS BARS. PLACE 1/2 OF ADDITIONAL REINFORCING BARS EACH SIDE OF OPENING. PLACE ADDITIONAL REINFORCEMENT AT 3" OC (TYPICAL BOTH DIRECTIONS AND ALL LAYERS OF REINFORCEMENT). START FIRST BAR 2" CLEAR TO OPENING
2. EXTEND ADDITIONAL REINFORCING BEYOND EDGE OF OPENING AS SHOWN ABOVE. ADDITIONAL BARS MAY TERMINATE AT THE END OF THE WALL WITH A STANDARD HOOK WHERE THE LENGTH OF THE WALL WILL NOT PERMIT BARS TO EXTEND AS SHOWN ABOVE
3. TYPICAL WALL OR SLAB REINFORCING NOT SHOWN FOR CLARITY. TERMINATE TYPICAL REINFORCING 2" CLEAR TO OPENING
4. OPENINGS 12" OR LESS IN SLABS AND WALLS: NO EXTRA REBARS ARE REQUIRED (UNLESS SHOWN OTHERWISE. TYPICAL REINFORCING SHALL BE REPACED (NOT CUT) TO ALLOW FOR OPENINGS TO BE MADE
5. UNLESS SHOWN OTHERWISE ON DRAWINGS, PROVIDE 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.

1 EXTRA REINFORCING AROUND OPENINGS
NOT TO SCALE



BAR SIZE (GRADE 60)	HL	HW	TL	D	Form B OR 4.5 KSI Lab
#3	5"	3"	3"	2 1/4"	6"
#4	6"	4"	4 1/2"	3"	7"
#5	10"	5"	5"	3 3/4"	9"
#6	1'-0"	6"	6"	4 1/2"	10"
#7	1'-4"	7"	7"	5 1/4"	12"
#8	1'-4"	8"	8"	6"	14"
#9	1'-7"	11 3/8"	10 1/2"	8 1/2"	18"
#10	1'-10"	1'-1 1/8"	11 1/2"	10 3/4"	22"
#11	2'-0"	1'-3 3/4"	1'-1"	12"	26"

COMPLYING WITH MINIMUM COVER REQUIREMENTS OF ACI 318, 12.5.3. OTHERWISE Lab MUST BE RE-CALCULATED

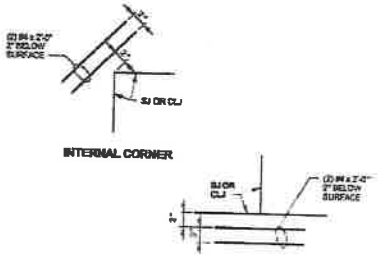
2 REINFORCING HOOK SCHEDULE
NOT TO SCALE

LAP SPLICE AND EMBEDMENT LENGTHS fy = 60 ksi f'c = 4.5 ksi		
BAR	BARS SPACED GREATER THAN 4"	BARS SPACED LESS THAN OR EQUAL TO 4"
#3	14"	20"
#4	19"	32"
#5	29"	48"
#6	38"	62"
#7	58"	87"
#8	66"	107"
#9	76"	118"
#10	87"	140"
#11	100"	146"

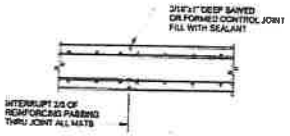
NOTES:

1. PROVIDE MINIMUM LAP SPLICE LENGTHS AND EMBEDMENTS PER TABLE UNLESS NOTED OTHERWISE. EMBEDMENT LENGTH EQUALS THE LAP SPLICE LENGTH UNLESS OTHERWISE NOTED
2. BAR SPACING AT LAP SPLICE IS THE MINIMUM CLEAR DISTANCE BETWEEN LAPPED BARS PLUS ONE BAR DIAMETER
3. ALL SPLICES TO BE CONTACT SPLICES AND WIRED TOGETHER UNLESS OTHERWISE APPROVED BY THE ENGINEER

2 CONCRETE REINFORCING LAP AND EMBEDMENT SCHEDULE
12" = 1'-0"



4 TYPICAL SLAB ON GRADE REINFORCING DETAILS
1" = 1'-0"



1 CONTROL JOINT (CJ)
1" = 1'-0"

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

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

SURVEY JOB NO/SOURCE			
CHECKED			
CAD ENTERED	J. PERUCHINI		
DESIGNED	D. PRINDLE		
CHECKED	C. GIPSON		
SUPERVISOR	C. GIPSON		

MARK	REVISION	BY	DATE
HDR	RECORD CHANGES APPROVED	BY	DATE

PLACING
PROJECT No. 1112088
CONTRACT No. C01415C20

1/27/19

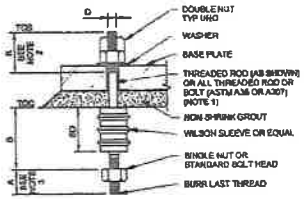
HDR Engineering, Inc.

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
OBSERVATION TOWER FOUNDATION STANDARD DETAILS

SHEET
LS-03

DGN/DWG FILE EDITION: KCWTD-S01R0-Dec-15-Bentley
CONTRACT: C01415C20 - LOWER RUSSELL SETBACK
PLOTTED: 1/18/2019 02:29:00 AM
BY: PERUCHINI

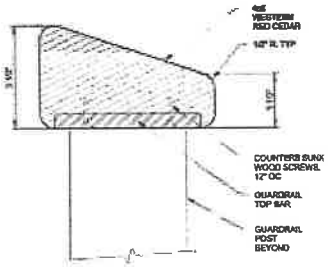


SCHEDULE-ANCHOR BOLT TYPE A				
D	A	B	*	REMARKS
3/8"	7"	5"	2 3/4"	
1/2"	1 1/4"	6"	2"	
5/8"	1 1/2"	10"	3 5/8"	
3/4"	1 3/4"	12"	3 1/2"	
7/8"	2"	14"	3 3/4"	
1"	2 1/4"	16"	4"	
1 1/8"	2 1/2"	18"	4 1/2"	
1 1/4"	2 3/4"	20"	4 1/2"	
1 3/8"	3"	22"	4 3/4"	
1 1/2"	3 1/4"	24"	5"	
1 3/4"	3 3/4"	28"	5 1/2"	
2"	4 1/4"	32"	6"	
2 1/2"	5 1/2"	40"	7"	
3"	6 1/4"	48"	8"	

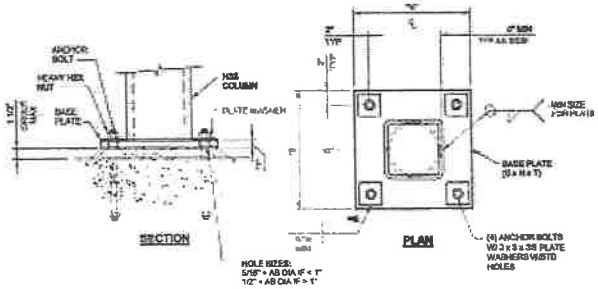
NOTES:

1 PROVIDE SS7 ANCHOR BOLTS WHERE INDICATED IN SECTIONS AND DETAILS
2 STANDARD BOLT THREAD LENGTH MAY BE USED WHERE APPLICABLE
3 DIMENSION IN SCHEDULE OR STANDARD BOLT HEAD
4 PROVIDE ANCHOR BOLT DIMENSIONS PER THE ABOVE TABLE UNO

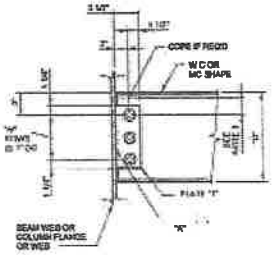
ANCHOR BOLT
NOT TO SCALE



GUARDRAIL TOP RAIL
6" = 1' 0"



COLUMN BASE PLATE
NOT TO SCALE



PERPENDICULAR CONNECTION

SINGLE PLATE BEAM CONNECTION SCHEDULE 3/4" DIA BOLTS			
NOMINAL BEAM DEPTH "D"	NUMBER OF BOLT ROWS "N"	PLATE THICKNESS "T"	WELD SIZE "K"
W12	3	3/16"	1/4"

NOTES:

1 ALL BOLTS SHALL BE 3/4" DIA A325-N UNLESS NOTED OTHERWISE.

2 PROVIDE MINIMUM NUMBER OF BOLT ROWS "N" SHOWN AS THE TYPICAL CONN. INCREASE NUMBER OF ROWS AND/OR BOLT DIA IF INDICATED ON PLANS.

3 MIN. DISTANCE FROM CL OF TOP BOLT TO A COPE SHALL BE 1 1/2". WHERE DEEP COPES ARE REQD, INCREASE DISTANCE FROM TOP OF BEAM TO CL OF TOP BOLT.

4 USE STANDARD OR SHORT HORIZONTAL SLOTTED HOLES AS REQUIRED

SINGLE PLATE BEAM CONNECTION
NOT TO SCALE

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

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

SURVEY JOB NO/SOURCE			FUNDING:		
CHECKED					
CAD ENTERED	J PERUCHINI	NEW	REVISION	BY	DATE
DESIGNED	D PRINDLE				
CHECKED	C GIPSON				
SUPERVISOR	C GIPSON	NUM	RECORD CHANGES APPROVED BY		DATE

PROJECT No. 1112056
CONTRACT No. C01416C20

1/27/19

HDR Engineering Inc.

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

OBSERVATION TOWER STEEL STANDARD DETAILS

SHEET LS-04

BORDER FILE EDITION NCWTD-2015SS.Dwg-TB Revise
C:\WCD\BRIDGEPORT\ 10 SHEETS STRUCTURAL_Hydraulics\W\BD7H1
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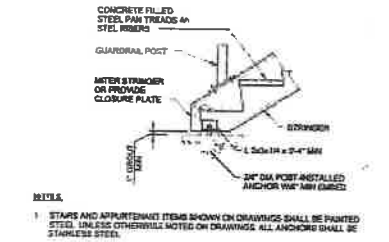
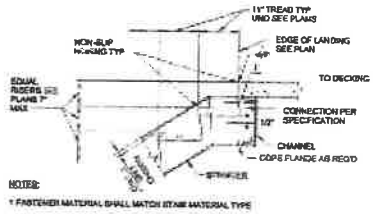
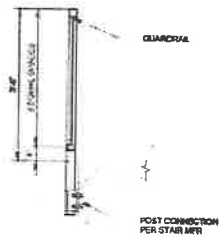
XREFS
IMAGES



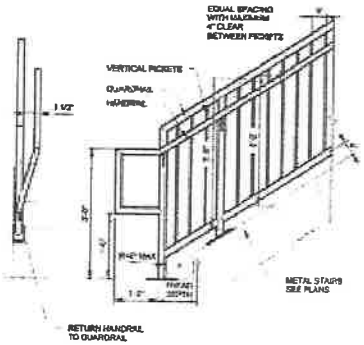
1 STAIR BOTTOM CONNECTION
NOT TO SCALE



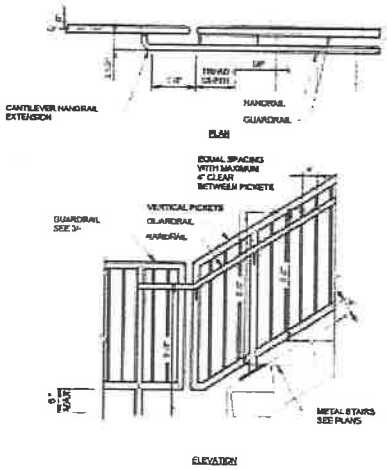
2 STAIR TOP CONNECTION AT BEAM
NOT TO SCALE



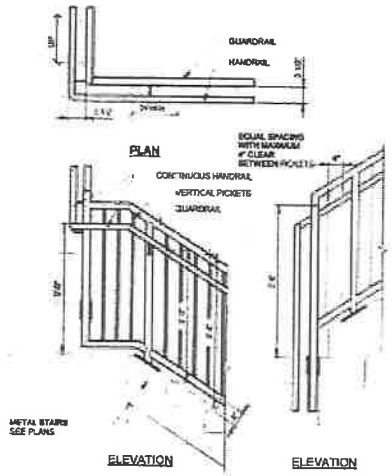
3 GUARDRAIL ON METAL BEAM DETAIL
NOT TO SCALE



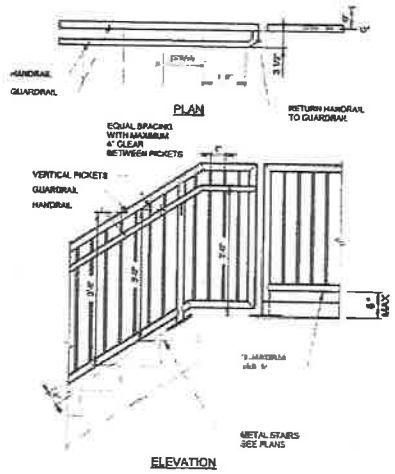
4 VERTICAL PICKETS ON METAL STAIR
3/4" = 1'-0"



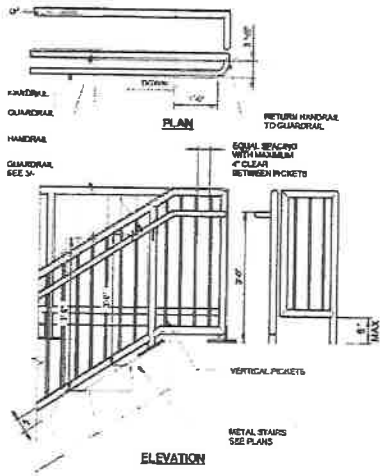
5 PICKETS WITH GUARDRAIL ON METAL STAIRS
3/4" = 1'-0"



6 PICKETS 90 DEGREE TURN ON METAL STAIRS
3/4" = 1'-0"



7 PICKETS TOP WITH GUARDRAIL ON METAL STAIRS
3/4" = 1'-0"



8 PICKETS TOP 90 DEGREE TURN ON METAL STAIRS
3/4" = 1'-0"

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.

SURVEY JOB NO/SOURCE			FUNDING		
CHECKED					
CAD ENTERED	J. PERUCHINI		PROJECT No.	1112056	
DESIGNED	D. PRINDLE		CONTRACT No.	C01415C20	
CHECKED	C. GIPSON				
SUPERVISOR	C. GIPSON				

SIGN | REVISION | BY | DATE
RECORD CHANGES APPROVED BY | DATE

11/27/19

HDR Engineering Inc

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

OBSERVATION TOWER STEEL FABRICATIONS STANDARD DETAILS

SHEET
LS-05

BORDER FILE EDITION: KCWTD-201903 Dolan TB-Bunny
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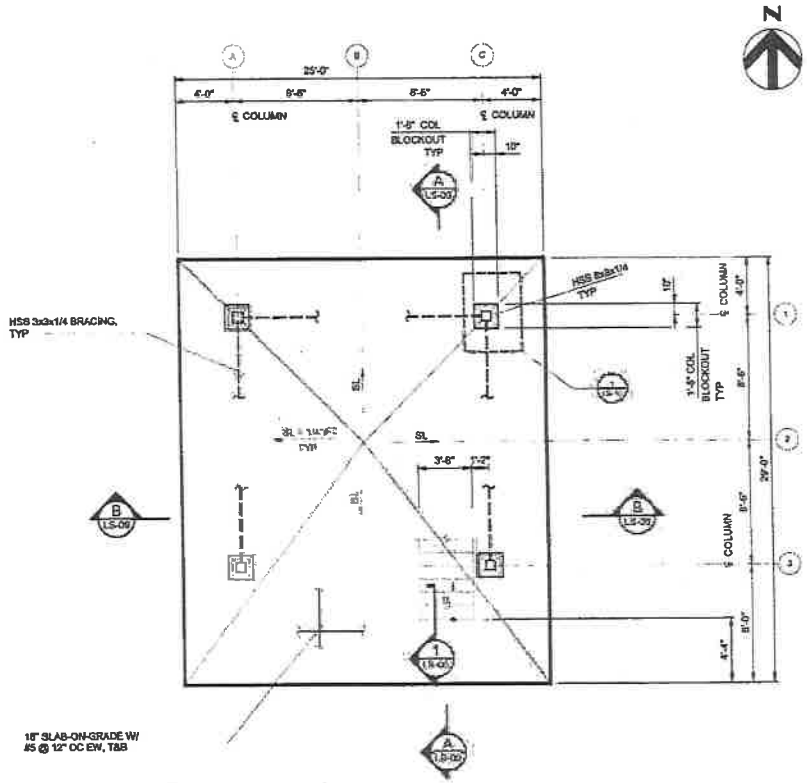
3D VIEW OBSERVATION TOWER



FOUNDATION PLAN
1/4" = 1'-0"

NOTES:
1. FOR STRUCTURAL NOTES, SEE LS-01

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

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

SURVEY JOB NO/SOURCE		FUNDING	
CHECKED			
CAD ENTERED:	J. PERUCHINI	PROJECT No	1112056
DESIGNED:	D. PRINDLE	CONTRACT No:	C01415C20
CHECKED:	C. GIPSON		
SUPERVISOR	C. GIPSON		

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

11/27/19

HDR Engineering Inc

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

OBSERVATION TOWER PLANS

SHEET
LS-06

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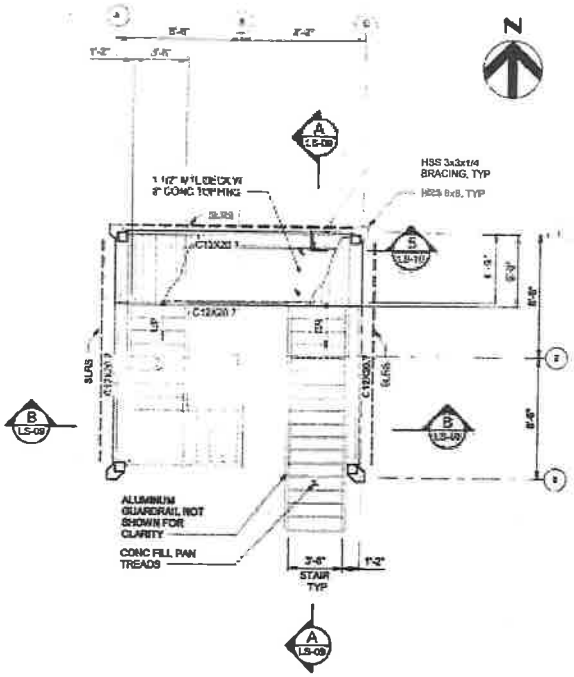
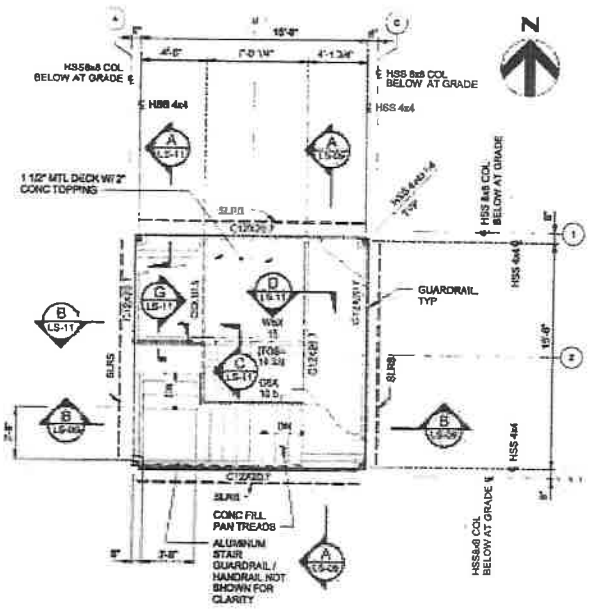


NOTE:

1. PLATFORM TOS EL = 9.21, UNO
2. ALL DIMENSIONS TO CHANNELS ARE TO THE BACK OF CHANNEL.

LANDING PLAN

1/4" = 1'-0"

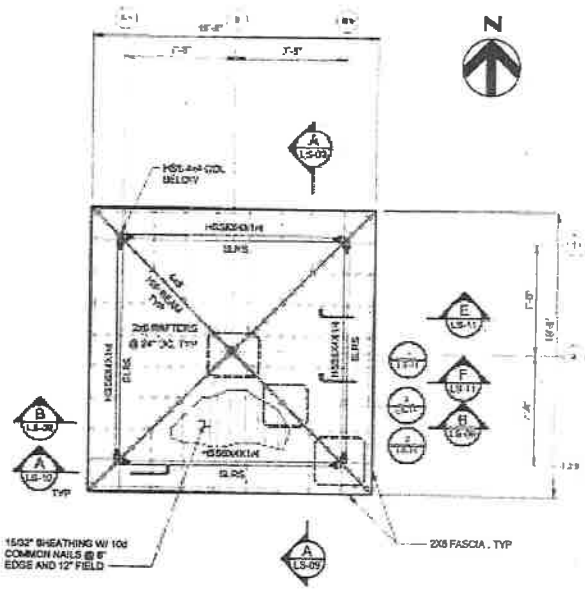


NOTE:

1. PLATFORM TOS EL = 19.71 UON
2. ALL DIMENSIONS TO CHANNELS ARE TO THE BACK OF CHANNEL.

PLATFORM PLAN

1/4" = 1'-0"



ROOF PLAN

1/4" = 1'-0"

NOTES:

1. FOR STRUCTURAL NOTES, SEE LS-01

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

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

SURVEY JOB NO/SOURCE	
CHECKED	
CAD ENTERED	J. PERUCHINI
DESIGNED	D. PRINDLE
CHECKED	C. GIPSON
SUPERVISOR	C. GIPSON

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

FUNDING:
PROJECT No. 1112068
CONTRACT No. C01416C20

WASHINGTON STATE REGISTERED PROFESSIONAL ENGINEER
01/27/19

HDR Engineering Inc

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

OBSERVATION TOWER PLANS

SHEET
LS-07

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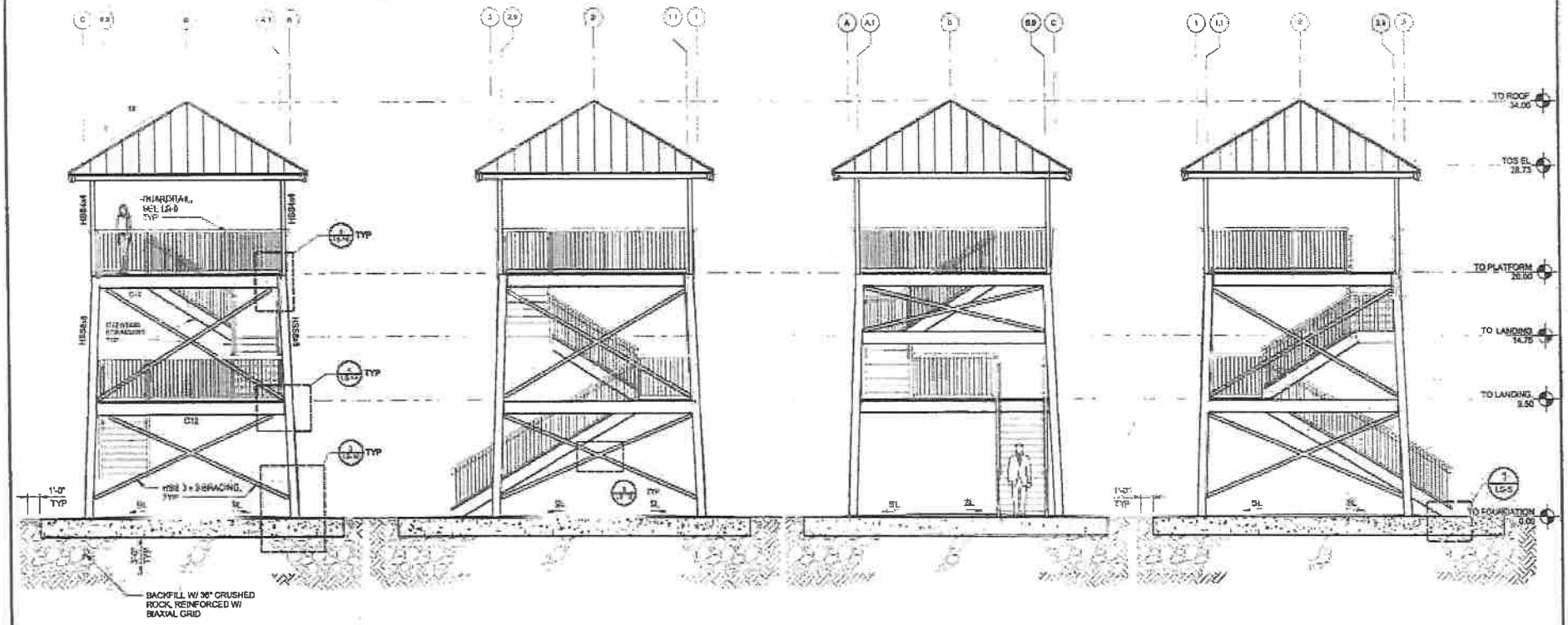
PLOT BY: CHUCK
IMAGES:



NORTH ELEVATION

EAST ELEVATION

SOUTH ELEVATION

WEST ELEVATION

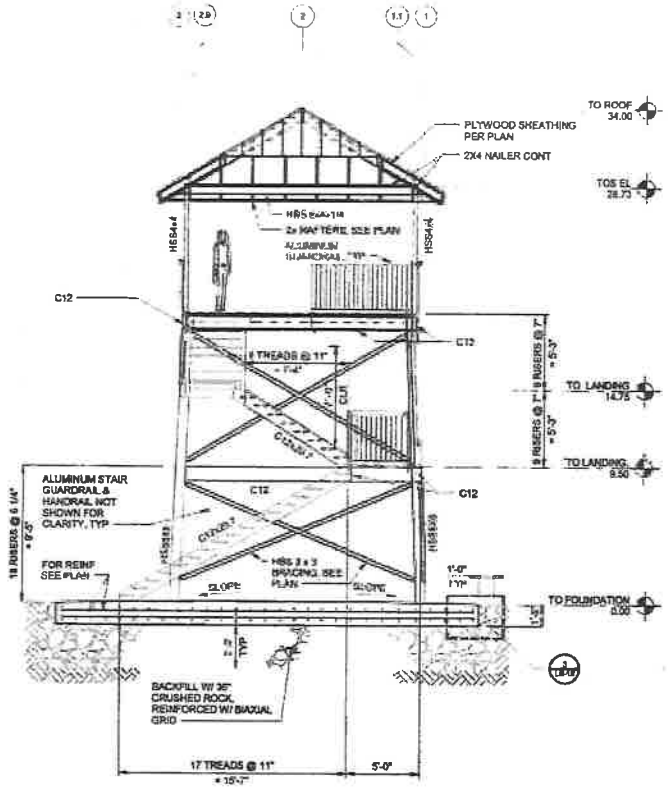
NOTES:
1. FOR STRUCTURAL NOTES, SEE LS-01

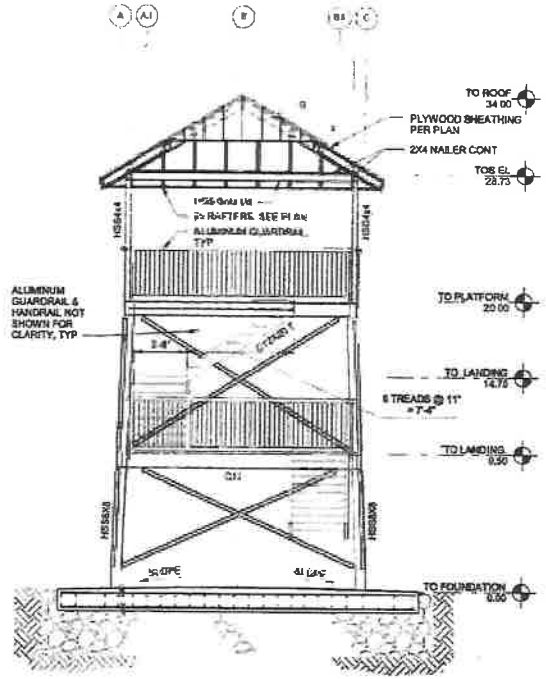
811 Know what's below. Call before you dig.

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

(UNDERGROUND UTILITY LOCATIONS ARE APPROX.)

SURVEY JOB NO/SOURCE CHECKED: CAD ENTERED J. PERUCHINI DESIGNED D PRINDLE CHECKED C. GIPSON SUPERVISOR C GIPSON	NUM REVISION BY DATE NUM RECORD CHANGES APPROVED BY DATE	FUNDING PROJECT No 1112056 CONTRACT No C01416C20	11/17/19	HDR Engineering Inc.	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 OBSERVATION TOWER ELEVATIONS	SHEET LS-08





NOTES:
1. FOR STRUCTURAL NOTES, SEE LS-01

CALL 2 WORKING DAYS BEFORE YOU DIG
1-800-424-5555
(EMERGENCY/LIVE UTILITY LOCATIONS ARE ALWAYS)

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

SURVEY JOB NO/SOURCE		FUNDING	
CHECKED			
CAD ENTERED	J. PERUCHINI	PROJECT No	1112058
DESIGNED	D. PRINDLE	CONTRACT No	C01415C20
CHECKED	C. GIPSON		
SUPERVISOR	C. GIPSON		

NUM	REVISION	BY	DATE
NUM	RECORD CHANGES APPROVED	BY	DATE

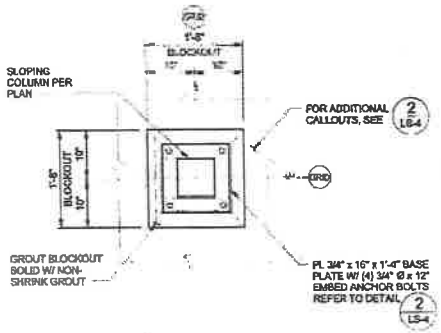
HDR Engineering Inc

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

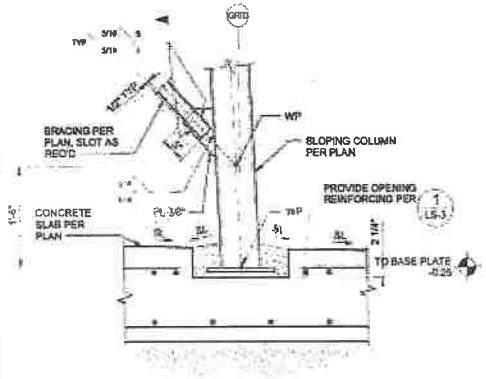
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

OBSERVATION TOWER SECTIONS

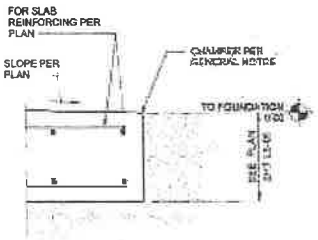
SHEET
LS-09



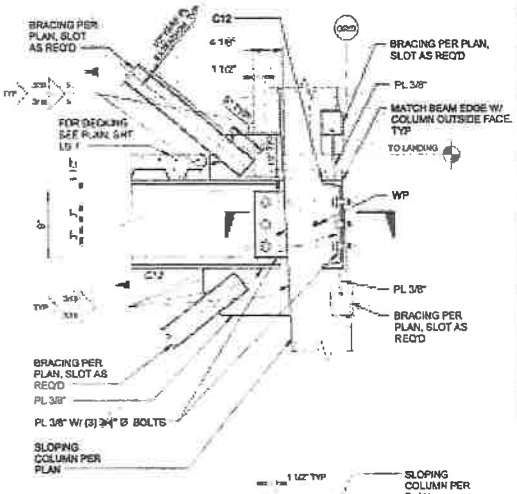
1 LS-05 DETAIL 1" = 1'-0"

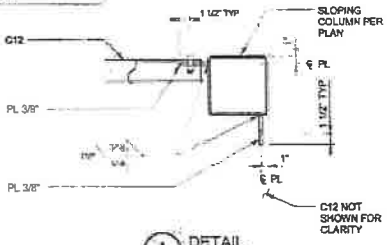


2 LS-05 DETAIL 1" = 1'-0"

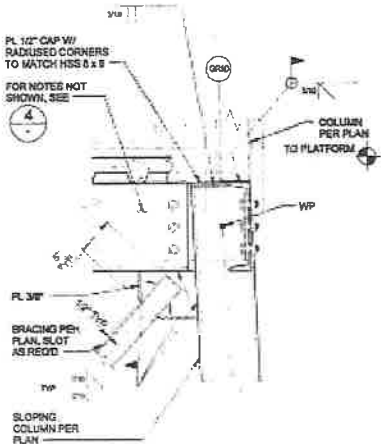


3 LS-05 DETAIL 1" = 1'-0"

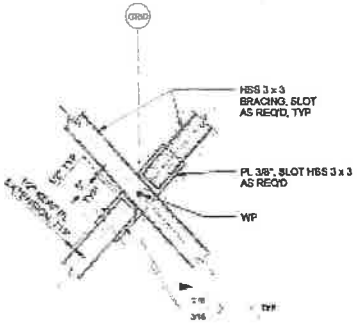




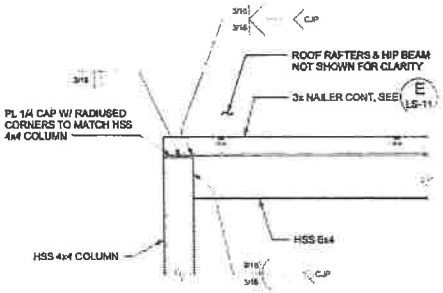
4 LS-05 DETAIL 1 1/2" = 1'-0"



5 LS-05 DETAIL 1 1/2" = 1'-0"



6 LS-05 DETAIL 1 1/2" = 1'-0"



A LS-07 SECTION 1 1/2" = 1'-0"

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.

SURVEY JOB NO/SOURCE				FUNDING	
CHECKED					
CAD ENTERED	J PERUCHINI			PROJECT No.	1112058
DESIGNED	D PRINDLE	RUN	REVISION BY DATE		
CHECKED	C GIPSON			CONTRACT No.	C01415C20
SUPERVISOR	C GIPSON	NUM	RECORD CHANGES APPROVED BY DATE		

1/27/19

HDR Engineering Inc.

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

OBSERVATION TOWER DETAILS

SHEET
LS-10

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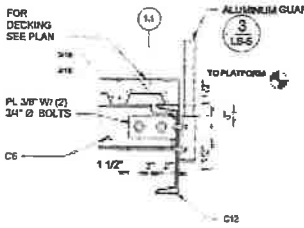
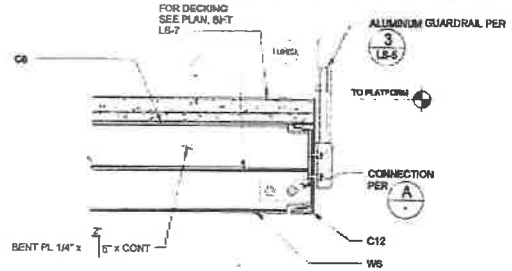
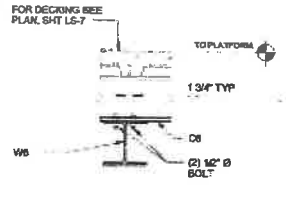
RIVER
WATER



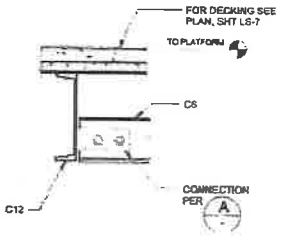
A LS-07 SECTION 1 1/2" = 1'-0"



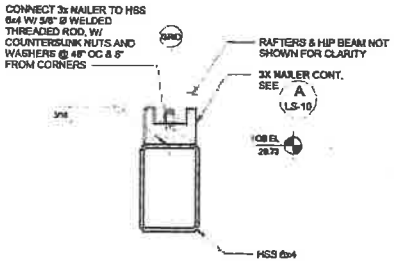
B LS-07 SECTION 1 1/2" = 1'-0"



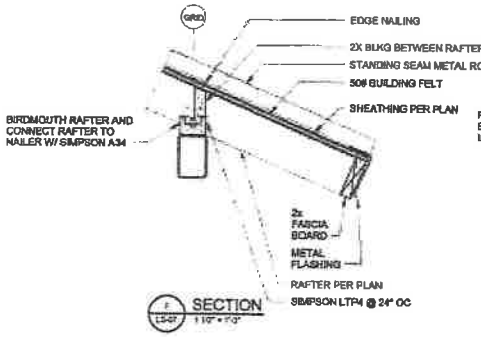
C LS-07 SECTION 1 1/2" = 1'-0"



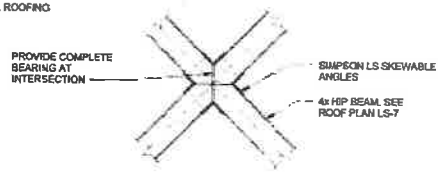
D LS-07 SECTION 1 1/2" = 1'-0"



E LS-07 SECTION 3" = 1'-0"

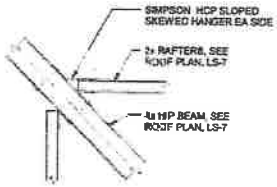


F LS-07 SECTION 1 1/2" = 1'-0"

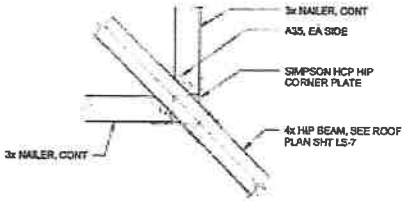


NOTE:
AT CONTRACTORS OPTION, CONNECTOR MAY BE REPLACED WITH A SINGLE LIGHT-GAGE STEEL BRACKET CAPABLE OF RESISTING A COMPRESSIVE FORCE OF 1200 LB UNDER SNOW LOADING AND A TENSILE FORCE OF 50 LB UNDER WIND LOADING

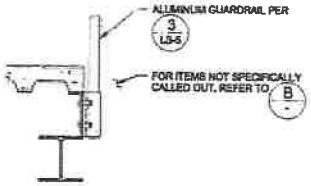
1 LS-07 DETAIL 1 1/2" = 1'-0"



2 LS-07 DETAIL 1 1/2" = 1'-0"



3 LS-07 DETAIL 1 1/2" = 1'-0"



D LS-07 SECTION 1 1/2" = 1'-0"

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

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

SURVEY JOB NO/SOURCE			
CHECKED			
CAD ENTERED	J. PERUCHINI		
DESIGNED	D. PRINDLE		
CHECKED	C GIPSON		
SUPERVISOR	C GIPSON		

NUM REVISION BY DATE

NUM RECORD CHANGES APPROVED BY DATE

FUNDING

PROJECT No. 1112058

CONTRACT No. C01416C20

11/27/19

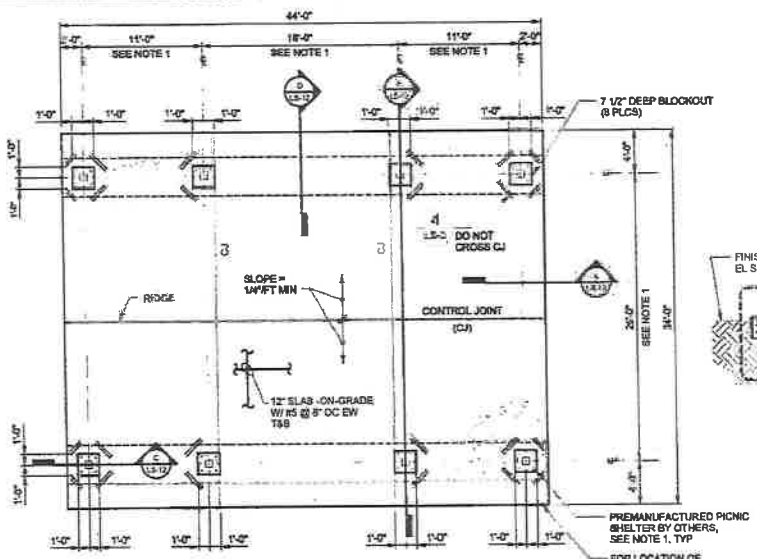
HDR Engineering Inc.

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

OBSERVATION TOWER DETAILS

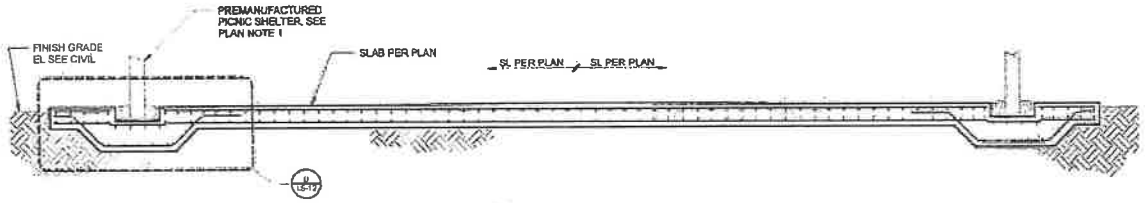
SHEET
LS-11



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 5/LS-3



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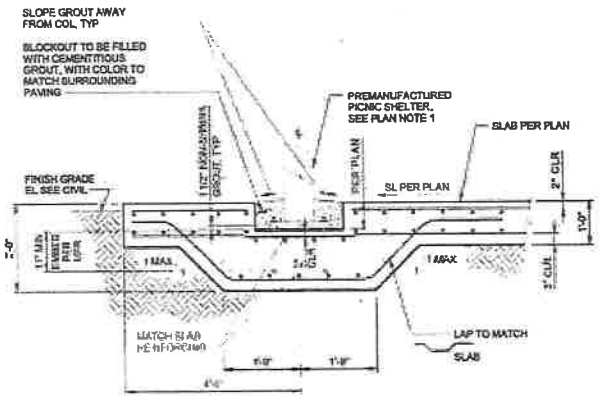

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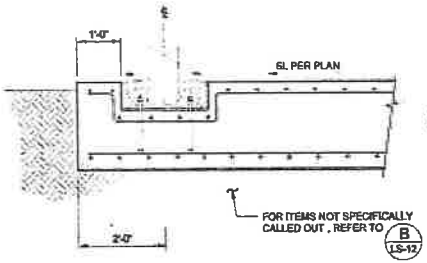

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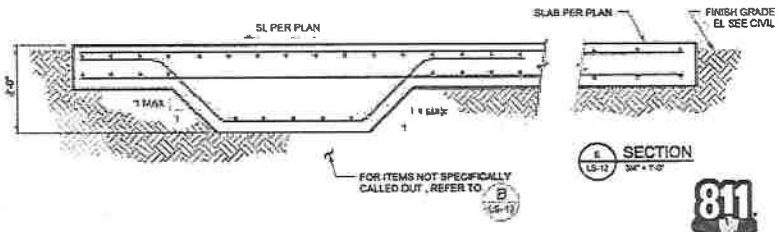


SECTION

SECTION

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

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

SURVEY JOB NO/SOURCE		FUNDING	
CHECKED			
CAD ENTERED	J PERUCHINI	PROJECT No	1112056
DESIGNED	D PRINDLE	CONTRACT No	C01415C20
CHECKED	C GIPSON		
SUPERVISOR	C GIPSON		

MUNI | REVISION | BY | DATE

MUNI | RECORD CHANGES APPROVED | BY | DATE

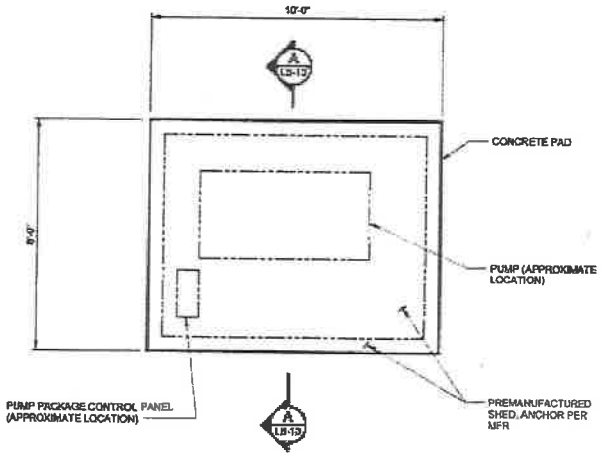
HDR Engineering Inc

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

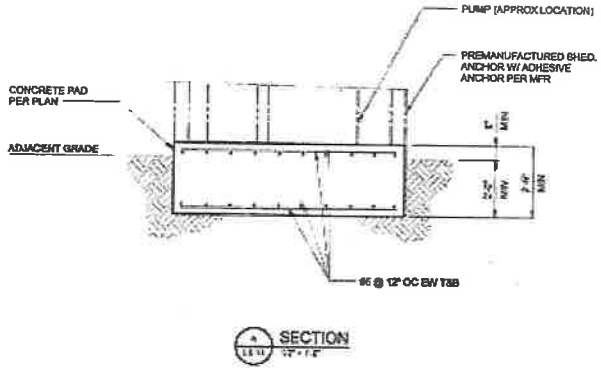
LOWER RUSSELL LEVEE SETBACK PROJECT
PHASE 2

PICNIC SHELTER FOUNDATION PLAN AND DETAILS

SHEET LS-12



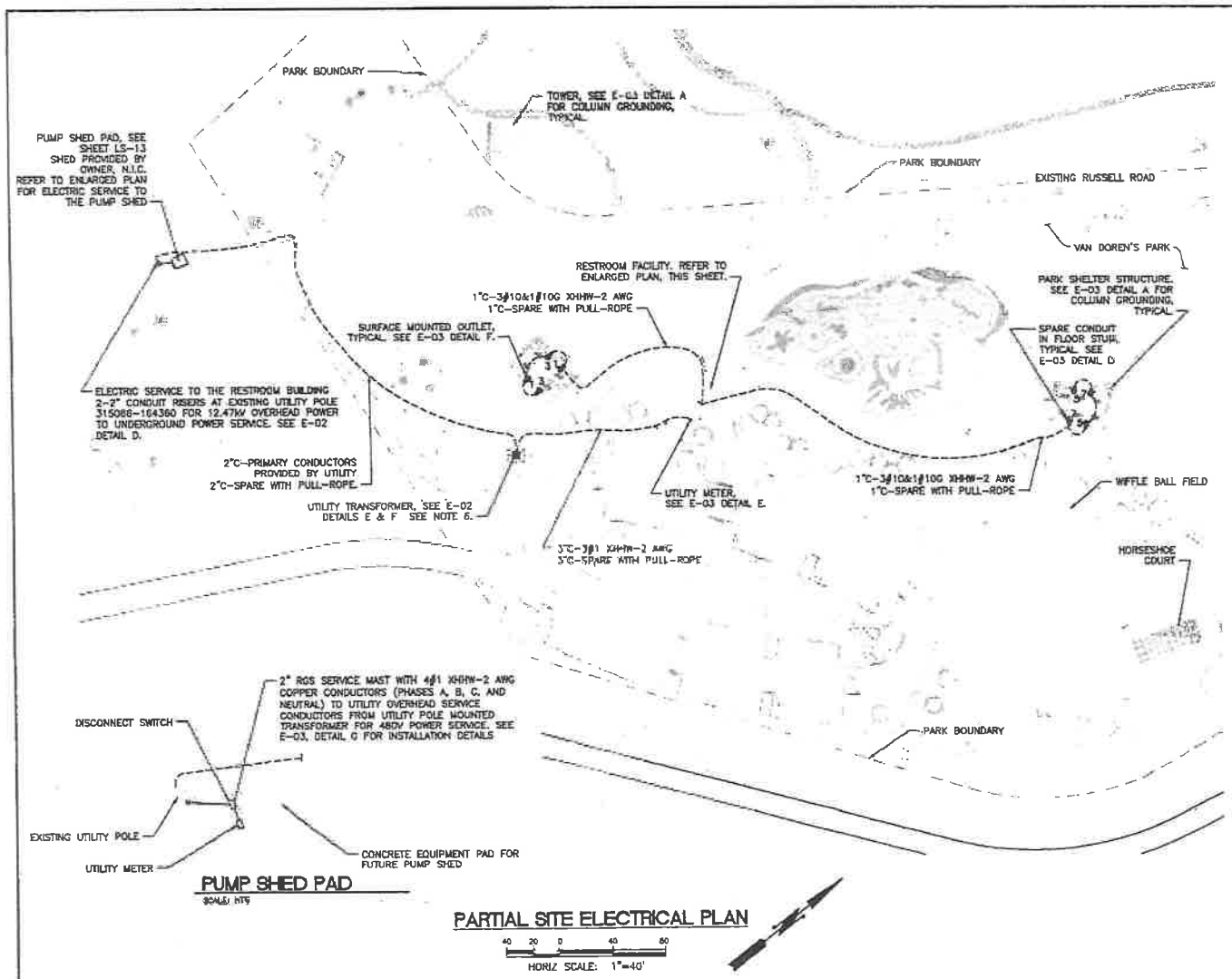
STORMWATER PUMP & ENCLOSURE FOUNDATION PLAN



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

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

SURVEY JOB NO/SOURCE:	NUM REVISION BY DATE	FUNDING		HDR Engineering Inc	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 STORMWATER PUMP AND ENCLOSURE FOUNDATION PLAN AND SECTION	SHEET LS-13
CHECKED:		PROJECT No 1112058	11/27/19				
CAD ENTERED: J. PERUCHIN		CONTRACT No CD1415C20					
DESIGNED: D. PRINDLE							
CHECKED: C. GIPSON							
SUPERVISOR: C. GIPSON	NUM RECORD CHANGES APPROVED BY DATE						



PUMP SHED PAD

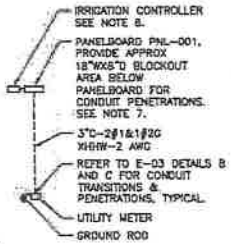
SCALE: NTS

PARTIAL SITE ELECTRICAL PLAN

40 20 0 40 80

HORIZ SCALE: 1"=40'

ELECTRICAL LEGEND	
▭	ELECTRICAL EQUIPMENT ENCLOSURE: EQUIPMENT AS INDICATED. ESTIMATED SIZE AS SHOWN.
⊖Y	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE SUBSCRIPTS: Y – INDICATES CIRCUIT NUMBER FROM PANELBOARD
▲	EXTERIOR PAD MOUNTED TRANSFORMER (ARROW POINTING TO FRONT)



NOTE:

1. REFER TO SECTION 32 33 00 FOR FURTHER RESTROOM FACILITY REQUIREMENTS.

RESTROOM FACILITY

SCALE: NTS

NOTES:

1. COORDINATE WITH UTILITY (PSE) FOR RISER AND UNDERGROUND ELECTRICAL FROM POWER UTILITY POLE TO NEW UTILITY 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 (1220).
2. FIELD VERIFY THE LOCATION, RELOCATION, ABANDONMENT AND/OR TEMPORARY SUPPORT OF ALL UTILITIES, IN PARTICULAR ELECTRICAL, UNDERGROUND AND ABOVE GROUND, AFFECTED BY CONSTRUCTION.
3. ALL AREAS SHALL BE CONSIDERED WET, OUTDOOR AREAS.
4. PROVIDE DUCTBANKS AS FOLLOWS:
   - FOR UTILITY PRIMARY SERVICE DUCTBANKS, SEE E-02 DETAIL A.
   - FOR DUCTBANKS UNDER ROADWAYS SEE E-02 DETAIL B.
   - FOR ALL OTHER DUCTBANKS, SEE E-02 DETAIL C.
5. PROVIDE HANDHOLES AND JUNCTION BOXES AS REQUIRED TO FACILITATE CABLE PULLING FOR DISTANCES GREATER THAN 500 FEET AND TO KEEP TOTAL CONDUIT RUN BENDING RADIUS TO 270° OR LESS.
6. PROVIDE GROUNDING FOR SINGLE PHASE 25kVA 12.47kV-120/240V PAD MOUNTED UTILITY TRANSFORMER PER UTILITY REQUIREMENTS.
7. ROMTEC RESTROOM PANELBOARD PNL-001 SHALL BE SERVICE ENTRANCE RATED 125A FRAME, 100A MAIN CIRCUIT BREAKER (MCB), 120/240V, 24 20A/1P CIRCUIT BREAKERS, NEMA 3R RATED.
8. PROVIDE CONDUIT AND CONDUCTORS FOR POWER TO IRRIGATION CONTROLLER FROM PANELBOARD PNL-001, CKT 9. SIZE PER MANUFACTURER REQUIREMENTS.
9. COORDINATE ROUTING AND LOCATION OF UNDERGROUND ELECTRICAL AMONG TRADES.

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.)

SURVEY JOB NO/SOURCE:	—	—		
CHECKED:	—	—		
CAD ENTERED:	EP	11/19		
DESIGNED:	MH	11/19	NUM.	REVISION	BY	DATE
CHECKED:	IR	11/19		
SUPERVISOR:	IR	11/19		
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

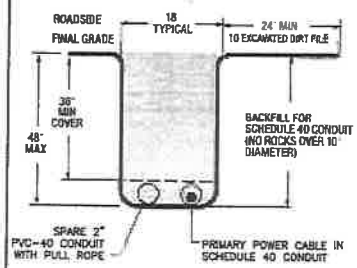
CONTRACT No. C01415C20

HDR Engineering Inc.

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
VAN DOREN'S PARK
ELECTRICAL PLAN

SHEET E-01



(PUGET SOUND ENERGY)

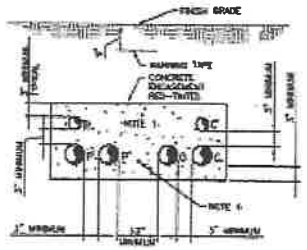
NOTE:

1. RED WARNING TAPE SHALL BE PLACED 6" BELOW FINISHED GRADE ABOVE DUCTBANKS.

PRIMARY POWER CABLE SCHEDULE 40 CONDUIT INSTALLATION

SCALE: NTS

A / E-01



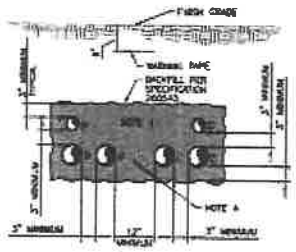
NOTES:

1. NUMBER OF CONDUITS AS REQUIRED FOR THE APPLICATION.
2. P SUBSCRIPT ELECTRICAL POWER OR CONTROL CONDUIT.
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.
4. #2 AWG BARE COPPER GROUNDING CONDUCTOR.

TYPICAL CONCRETE ENCASED DUCTBANK SECTION

SCALE: NTS

B / E-01



NOTES:

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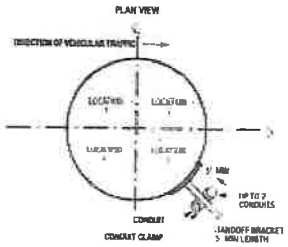
3. C SUBSCRIPT COMMUNICATION (TELEPHONE, DATA, INSTRUMENTATION) CONDUIT.
4. #2 AWG BARE COPPER GROUNDING CONDUCTOR.

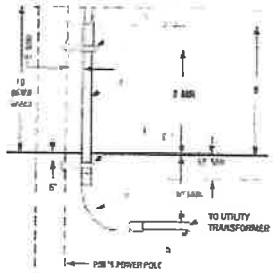
TYPICAL DIRECT BURIED DUCTBANK SECTION

SCALE: NTS

C / E-01



(PUGET SOUND ENERGY)



KEY NOTES:

1. TWO 15" MIN LONG STANDOFF BRACKETS
2. TWO CONDUIT CLAMPS
3. TWO 90° PVC BENDS (2")
4. TWO 10FT SCH 80 PVC CONDUITS (2")
5. TWO SCH 40 PVC CONDUITS (2")

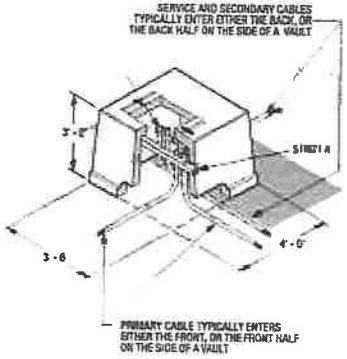
NOTE:

1. REFER TO SECTION 26 05 00 1.4 FOR DIVISION OF WORK.

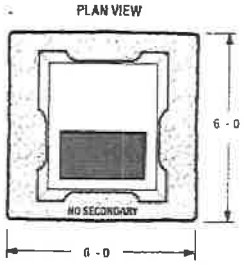
UTILITY CONDUIT RISER INSTALLATION

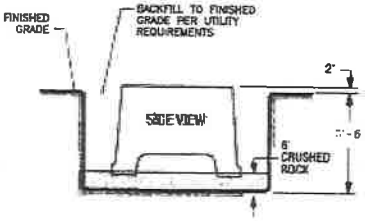
SCALE: NTS

D / E-01



(PUGET SOUND ENERGY)





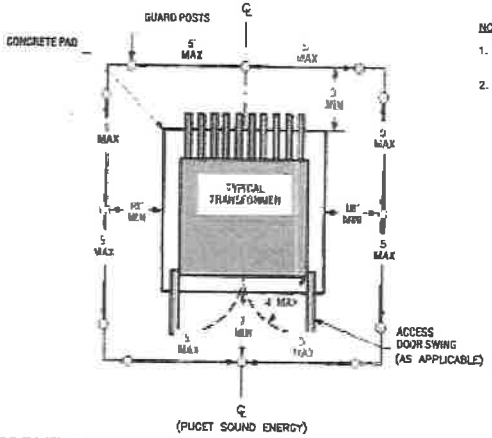
NOTE:

1. BACKFILL TRANSFORMER VAULT HOLE AFTER VAULT AND CONDUITS HAVE BEEN WITNESSED AND APPROVED BY ENGINEER AND UTILITY.

SINGLE-PHASE PADMOUNT TRANSFORMER VAULT

SCALE: NTS

E / E-01



(PUGET SOUND ENERGY)

NOTES:

1. INSTALLATION OF GUARD POSTS MUST BE COMPLETED BEFORE THE PRIMARY CABLE IS INSTALLED.
2. REFER TO PSE ELECTRIC SERVICE HANDBOOK 2017 (1220) FOR APPROVED GUARD POSTS.

TRANSFORMER GUARD POST LOCATION REQUIREMENTS

SCALE: NTS

F / E-01

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

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

SURVEY JOB NO/SOURCE:	—	—
CHECKED:	—	—
CAD ENTERED:	EP	11/18
DESIGNED:	MH	11/18
CHECKED:	IR	11/18
SUPERVISOR:	IR	11/18

NUM.	REVISION	BY	DATE

NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1115056

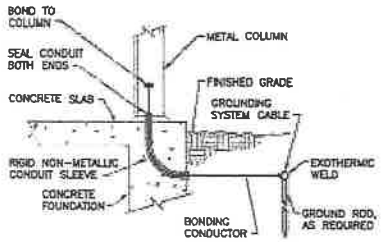
CONTRACT No. C01415C20

HDR Engineering Inc.

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
VAN DOREN'S PARK
ELECTRICAL DETAILS 1

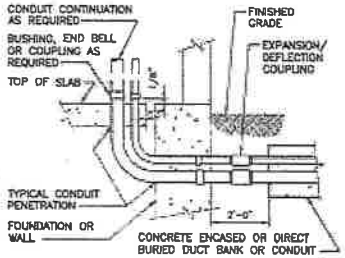
SHEET E-02



TYPICAL METAL COLUMN GROUND CONNECTION

A / E-01

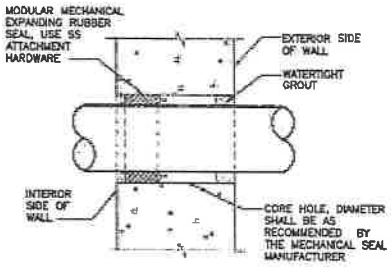
SCALE: NTS



TYPICAL CONDUIT TRANSITION TO ABOVE GRADE (EXTERIOR OR INTERIOR)

B / E-01

SCALE: NTS



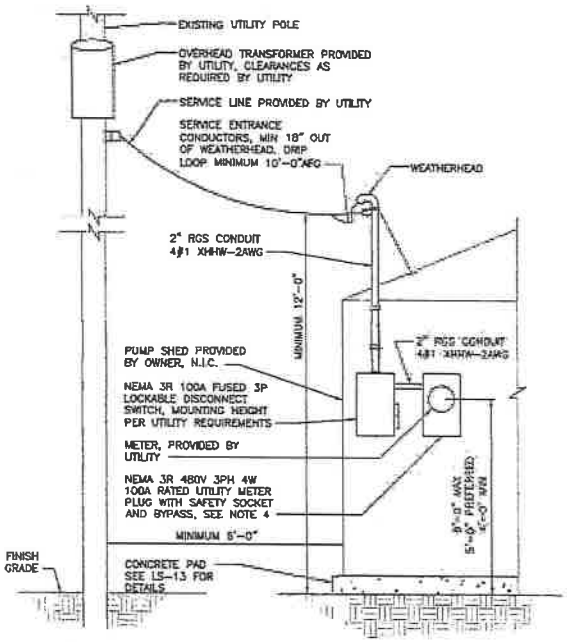
NOTE:

1. USE DOUBLE MECHANICAL SEAL WHEN WALL THICKNESS IS GREATER THAN 12".

TYPICAL CONDUIT PENETRATION

C / E-01

SCALE: NTS



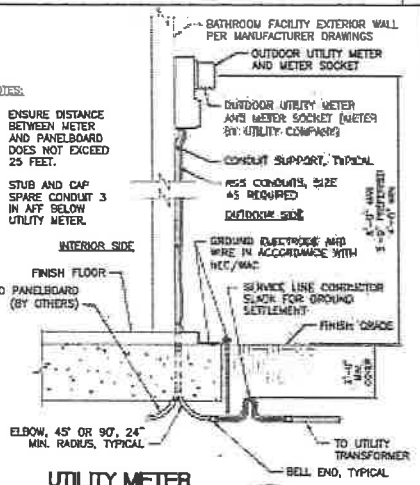
NOTE:

1. CONCEPTUAL REPRESENTATION ONLY, NOT TO SCALE.
2. GROUNDING AND BONDING NOT SHOWN IN DETAIL FOR CLARITY. PROVIDE GROUNDING AND BONDING PER SECTION 26 05 26 AND NEC 250 REQUIREMENTS.
3. REFER TO THE PSE 1220 HANDBOOK, THE NEC AND THE WAC FOR FURTHER INSTALLATION REQUIREMENTS.
4. PROVIDE PENETRATION IN 2" CONDUIT TO SHED INTERIOR FROM METER LOAD SIDE FOR FUTURE POWER CONNECTION BY OTHERS.

UTILITY METER INSTALLATION 480V 3PH 4W OVERHEAD SERVICE

G / E-01

SCALE: NTS



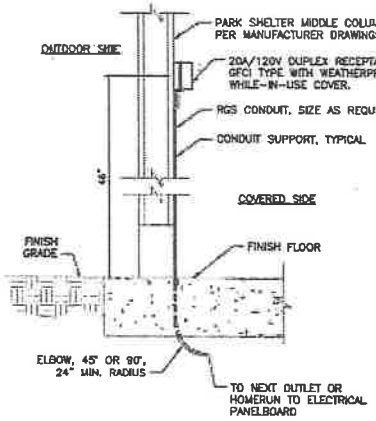
NOTES:

1. ENSURE DISTANCE BETWEEN METER AND PANELBOARD DOES NOT EXCEED 25 FEET.
2. STUB AND CAP SPARE CONDUIT 3 IN AFF BELOW UTILITY METER.

UTILITY METER INSTALLATION

E / E-01

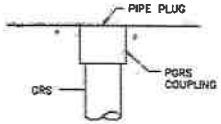
SCALE: NTS



TYPICAL PARK SHELTER OUTLET DETAIL

F / E-01

SCALE: NTS



IN-FLOOR CONDUIT STUB

D / E-01

SCALE: NTS

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SUPERVISOR:	IR	11/19				
			NUM.	RECORD CHANGES APPROVED	BY	DATE

FUNDING:

PROJECT No. 1112056

CONTRACT No. C01415C20

HDR Engineering Inc.

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

VAN DOREN'S PARK
ELECTRICAL DETAILS 2

SHEET
E-03