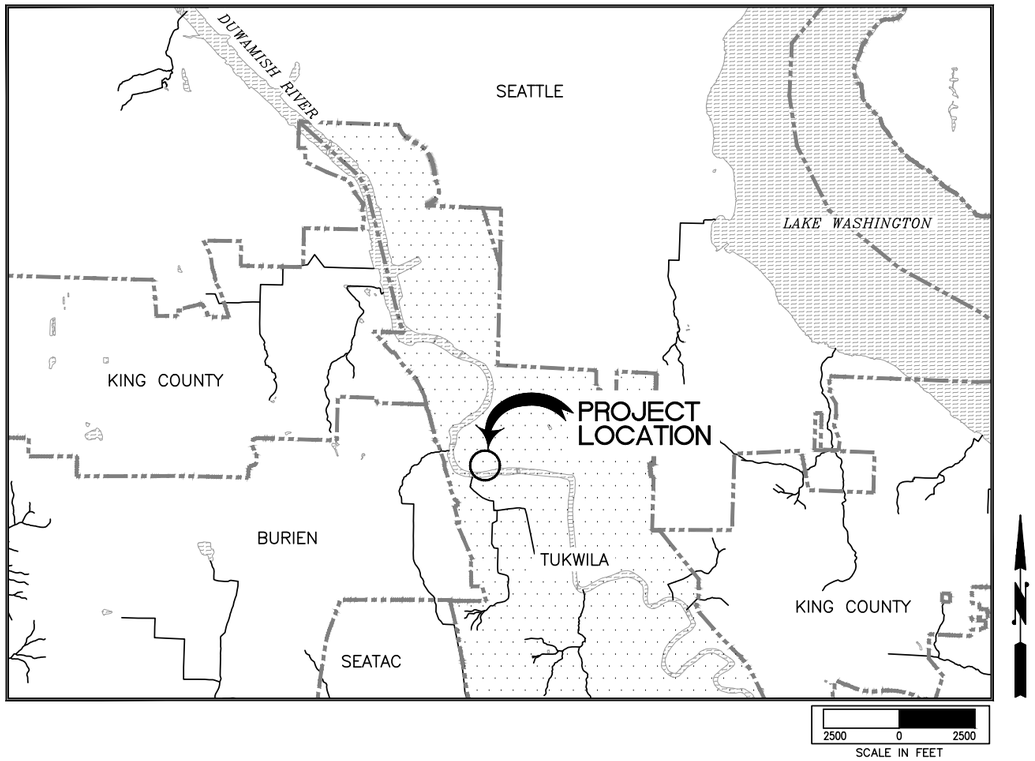
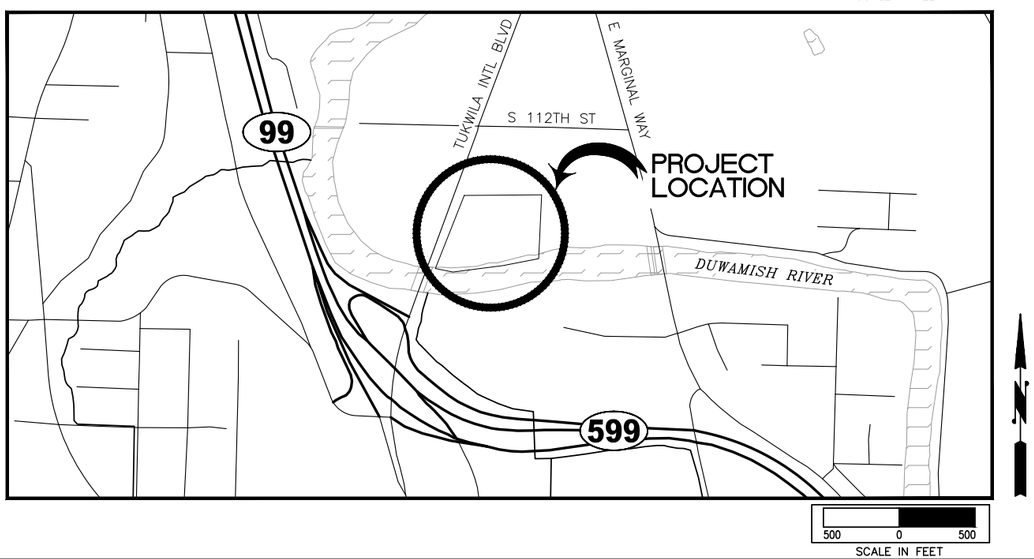
VICINITY MAP

NTS





SHEET INDEX

SHEET	DESCRIPTION
1	COVER, VICINITY MAP & INDEX
2	LEGEND AND ABBREVIATIONS
3	EXISTING SITE CONDITIONS
4	DEMOLITION PLAN AND TREE SALVAGE PLAN
5	TESC AND DEWATERING
6	TESC AND DEWATERING DETAILS
7	WETLAND GRADING PLAN
8	WETLAND GRADING SECTIONS AND CHANNEL PROFILES
9	WOOD PLACEMENT PLAN
10	WOOD PLACEMENT DETAILS
11	GOOSE EXCLUSION PLAN
12	GOOSE EXCLUSION DETAILS
13	PLANTING PLAN
14	PLANTING DETAILS
15	PLANTING NOTES AND SCHEDULE

CHINOOK WIND MITIGATION PROJECT

PROJECT SITE ADDRESS: 11244 TUKWILA INTERNATIONAL BOULVARD
TUKWILA, WA 98168

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

FIELD BOOK: 18039	5/2018
SURVEYED: G. ELDER	5/2018
SURVEY BASE MAP: C. SIMEONA	5/2018
CHECKED: J. EVANS	6/2018

NUM.	REVISION	BY	DATE
	30% DESIGN		

NUM.	RECORD CHANGES APPROVED	BY	DATE

APPROVED:	WILLIS R. MANSFIELD, P.E.	3/2019
PROJECT MANAGER:	LAIRD O'ROLLINS	3/2019
DESIGNED:	MASON BOWLES, P.W.S.	3/2019
	RACHAEL VAICUNAS, P.E.	3/2019
	CRISTINA OLIVARES, E.I.T.	3/2019
CAD DESIGN:	KEVIN WARD	3/2019

PROJECT No. 1126895

CONTRACT No. –

WILLIS R. MANSFIELD
STATE OF WASHINGTON
46388
REGISTERED
PROFESSIONAL ENGINEER

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

CHINOOK WIND MITIGATION PROJECT

COVER, VICINITY MAP & INDEX

SHEET **1** OF **15** SHEETS

2018-04

ABBREVIATIONS

APPROX	APPROXIMATELY
BMP	BEST MANAGEMENT PRACTICE
C	CENTERLINE
CY	CUBIC YARD
EA	EACH
EL	ELEVATION
EOP	EDGE OF PAVEMENT
ESA	ENDANGERED SPECIES ACT
EXIST	EXISTING
FT	FEET/FOOT
G	GAS LINE, GREEN
GD	GROUND
HORIZ	HORIZONTAL
HT	HUB AND TACK
INV	INVERT
IP	IRON PIPE
KC	KING COUNTY
KC WLRD	KING COUNTY WATER AND LAND RESOURCES DIVISION
LCPE	LINED CORRUGATED POLYETHYLENE PIPE
LF	LINEAR FOOT/FEET
LT	LEFT
MAX	MAXIMUM
MIN	MINIMUM
MISC	MISCELLANEOUS
MON	MONUMENT
MW	MONITORING WELL
N	NORTH
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
OHW	ORIDINARY HIGH WATER
PP	POWER POLE
PSP&L	PUGET SOUND POWER AND LIGHT
QTY	QUANTITY
R	RADIUS
RCKC	REBAR AND CAP, KING COUNTY
RD	ROAD
REQ'D	REQUIRED
RT	RIGHT
R/W	RIGHT-OF-WAY
SD	STORM DRAIN
SF	SQUARE FEET/FOOT
SHT	SHEET
SPEC	SPECIAL
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	SEPTIC DRAIN SYSTEM
ST	STREET
STA	STATION
STM	STREAM
T	TELEPHONE
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TEMP	TEMPORARY
TYP	TYPICAL
VERT	VERTICAL
WM	WATER METER
W/O	WITHOUT
YDS	YARDS
&	AND

LEGEND - EXISTING

SURVEY SYMBOLS

- HT — HUB & TACK
- IP — IRON PIPE
- RCKC — REBAR & CAP, KING COUNTY

UTILITIES

- MW — MONITORING WELL
- G — GAS LINE
- SS — SANITARY SEWER LINE
- W — WATER LINE
- SEWER VAULT
- UV — MISCELLANEOUS UTILITY VAULT
- P — POWER METER
- P — POWER RISER
- POWER POLE
- POWER TRANSFORMER
- GUY WIRE
- SS — SEWER MANHOLE
- S — SEWER CLEAN OUT
- SD — STORM DRAIN PIPE
- T — TELEPHONE
- W — WATER METER
- WATER VALVE
- HOSE BIB

SITE LINETYPES AND SYMBOLS

- EXISTING DECIDUOUS TREE
- EXISTING CONIFEROUS TREE
- EXISTING STUMP
- CONCRETE PILING
- EASEMENT
- X — FENCE
- OHW — ORDINARY HIGH WATER
- PROPERTY LINE
- R/W — RIGHT OF WAY
- SURVEY — SURVEY BOUNDARY
- P — EXISTING POWER LINE
- MAJOR CONTOUR
- MINOR CONTOUR
- 100Y — 100 YR FLOODPLAIN

LEGEND - CONSTRUCT

- HVF — HIGH VISIBILITY FENCE
- STRAW WATTLE
- C&G — CLEARING AND GRUBBING LIMITS
- PL — PROJECT LIMITS
- SF — SILT FENCE
- SC — WEIGHTED SILT CURTAIN
- 250 — FINISHED GRADE MAJOR CONTOUR
- 251 — FINISHED GRADE MINOR CONTOUR
- NO GRADING ZONE
- STABILIZED CONSTRUCTION ENTRANCE
- STAGING
- ON-SITE SALVAGED TREE

1 — DETAILS OR SECTION NO.
7 — CALL OUT DESIGNATION
SHEET NO.

811
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DESIGNED:	MASON BOWLES, P.W.S.	3/2019
	RACHAEL VAICUNAS, P.E.	3/2019
	CRISTINA OLIVARES, E.I.T.	3/2019
CAD DESIGN:	KEVIN WARD	3/2019

PROJECT No. 1126895
CONTRACT No. –

WILLIS R. MANSFIELD — STATE OF WASHINGTON — 46388 — REGISTERED PROFESSIONAL ENGINEER

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

CHINOOK WIND MITIGATION PROJECT

LEGEND AND ABBREVIATIONS

SHEET **2** OF **15** SHEETS

2018-04

CONTROL POINT TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
305	186864.5377	1280027.0824	18.444	BD/K25D09
1000	186167.9475	1280623.2540	27.608	RCKC
1100	186140.9995	1280236.4905	21.925	RCKC
1200	185767.1674	1279349.1121	14.581	HT
100	186380.8031	1279460.5388	20.631	MSS
101	186106.6369	1279864.8289	20.621	RCKC
102	186317.9285	1279764.3631	18.366	RCKC
103	186136.9008	1279558.2502	17.022	RCKC

NOTES:

EQUIPMENT AND PROCEDURE

METHOD OF SURVEY
SURVEY PERFORMED BY FIELD TRAVERSE

INSTRUMENTATION
LEICA TCRP–1203 ELECTRONIC TOTAL STATION
CARLSON BRX6 GPS RECEIVER

PRECISION
MEETS OR EXCEEDS STATE STANDARDS WAC 322–130–090

BASIS OF BEARING
THE NORTH LINE OF THE NE 1/4 SEC 9, T23N, R4E, W.M. BEING THE INVERSE BETWEEN KING COUNTY ID NO'S 3427 AND 3428 AS THE BEARING OF N89°21'54"W, 2624.59' PER COORDINATES REPORTED ON WGS (GSOW) DATA SHEETS & SHOWN HEREON.

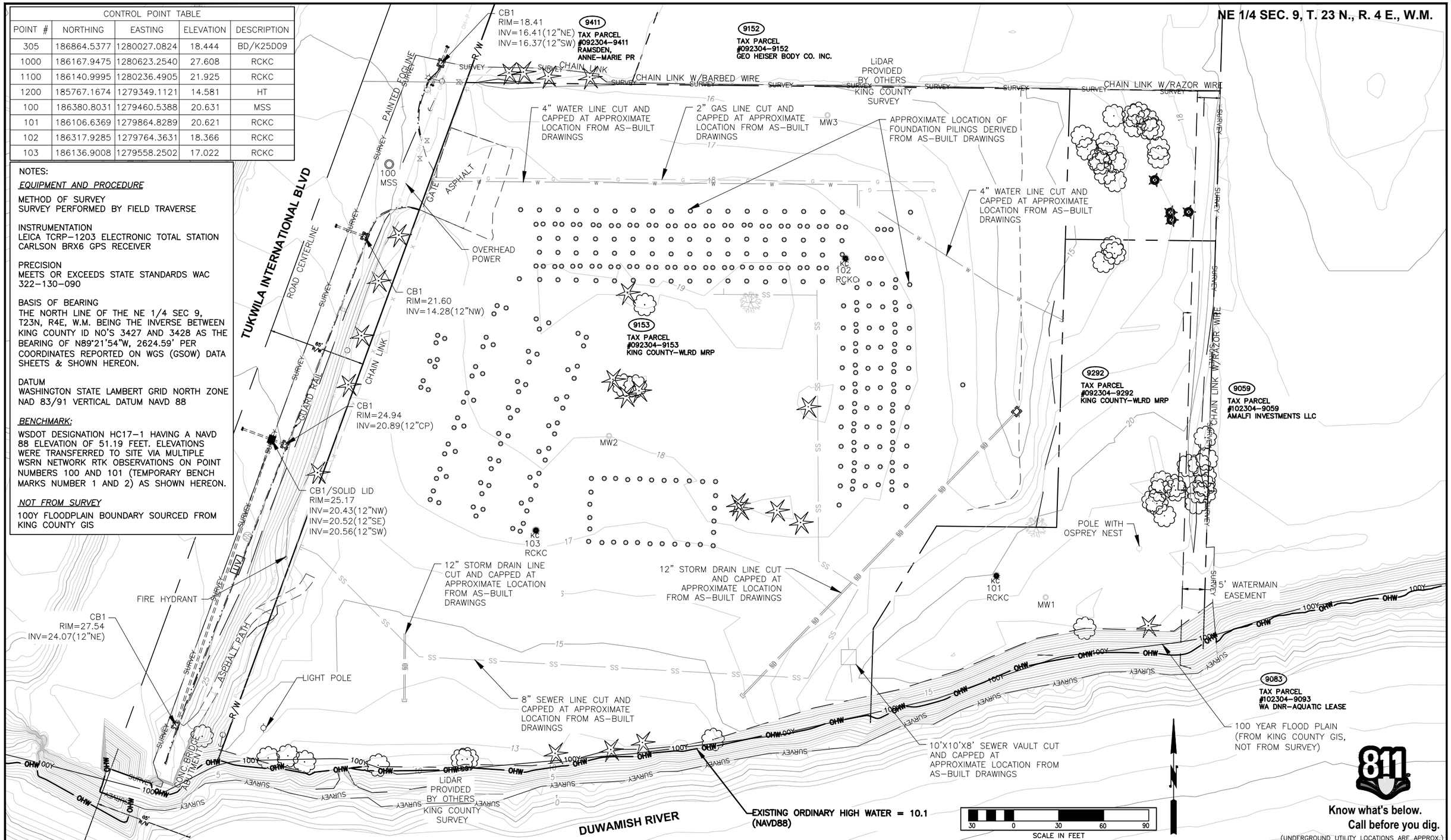
DATUM
WASHINGTON STATE LAMBERT GRID NORTH ZONE NAD 83/91 VERTICAL DATUM NAVD 88

BENCHMARK:

WSDOT DESIGNATION HC17–1 HAVING A NAVD 88 ELEVATION OF 51.19 FEET. ELEVATIONS WERE TRANSFERRED TO SITE VIA MULTIPLE WSRN NETWORK RTK OBSERVATIONS ON POINT NUMBERS 100 AND 101 (TEMPORARY BENCH MARKS NUMBER 1 AND 2) AS SHOWN HEREON.

NOT FROM SURVEY

100Y FLOODPLAIN BOUNDARY SOURCED FROM KING COUNTY GIS



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SURVEY BASE MAP: C. SIMEONA	5/2018		30% DESIGN			DESIGNED: MASON BOWLES, P.W.S. 3/2019
CHECKED: J. EVANS	6/2018					RACHAEL VAICUNAS, P.E. 3/2019
		NUM.	RECORD CHANGES APPROVED	BY	DATE	CRISTINA OLIVARES, E.I.T. 3/2019
						CAD DESIGN: KEVIN WARD 3/2019

PROJECT No. 1126895
CONTRACT No. –

JARED K. EVANS
STATE OF WASHINGTON
42431
REGISTERED PROFESSIONAL LAND SURVEYOR

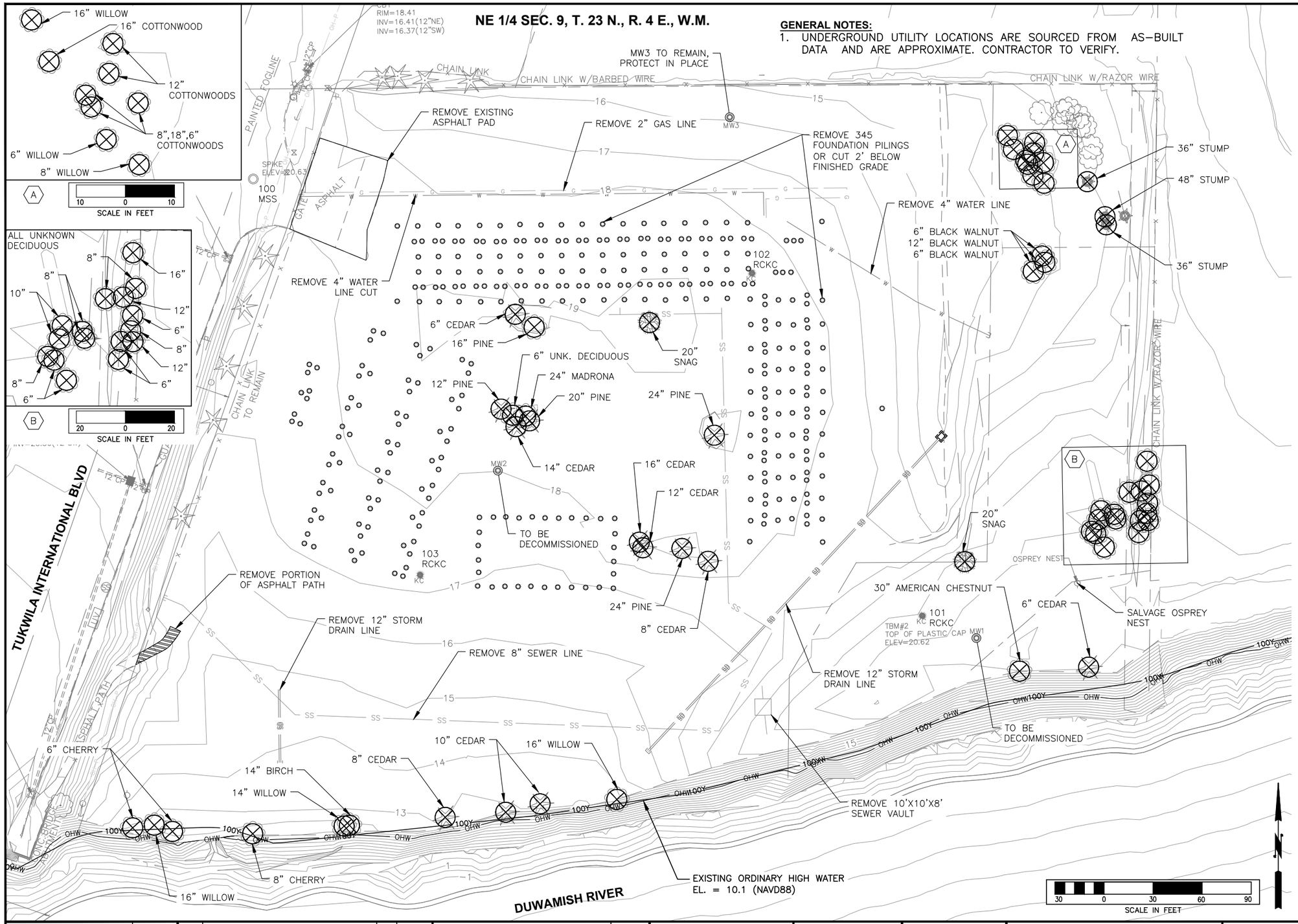
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

EXISTING SITE CONDITIONS

SHEET **3** OF **15** SHEETS

2018-04



SALVAGED TREES	
DIAMETER (IN)	SPECIES
16	WILLOW
16	COTTONWOOD
12	COTTONWOOD
12	COTTONWOOD
8	COTTONWOOD
18	COTTONWOOD
6	COTTONWOOD
6	WILLOW
8	WILLOW
6	BLACK WALNUT
12	BLACK WALNUT
6	BLACK WALNUT
16	UNKNOWN DECIDUOUS
8	UNKNOWN DECIDUOUS
12	UNKNOWN DECIDUOUS
8	UNKNOWN DECIDUOUS
6	UNKNOWN DECIDUOUS
8	UNKNOWN DECIDUOUS
6	UNKNOWN DECIDUOUS
12	UNKNOWN DECIDUOUS
6	UNKNOWN DECIDUOUS
10	UNKNOWN DECIDUOUS
10	UNKNOWN DECIDUOUS
8	UNKNOWN DECIDUOUS
6	UNKNOWN DECIDUOUS
6	UNKNOWN DECIDUOUS
8	UNKNOWN DECIDUOUS
8	UNKNOWN DECIDUOUS
6	CEDAR
30	AMERICAN CHESTNUT
16	WILLOW
10	CEDAR
10	CEDAR
8	CEDAR
14	BIRCH
14	WILLOW
8	CHERRY
6	CHERRY
16	WILLOW
6	CHERRY
6	CEDAR
16	PINE
12	PINE
6	UNKNOWN DECIDUOUS
24	MADRONA
14	CEDAR
20	PINE
24	PINE
16	CEDAR
12	CEDAR
24	PINE
8	CEDAR

NOTE:
TREES SALVAGED SHALL BE HANDLED SO AS TO MAXIMIZE LENGTH, MAINTAIN ROOTWAD, AND MINIMIZE BREAKAGE OF BRANCHES.

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

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		NUM.	RECORD CHANGES APPROVED	BY	DATE	CRISTINA OLIVARES, E.I.T.	3/2019
						CAD DESIGN: KEVIN WARD	3/2019

PROJECT No. 1126895
CONTRACT No. –

WILLIS R. MANSFIELD — STATE OF WASHINGTON — 46388 — REGISTERED PROFESSIONAL ENGINEER

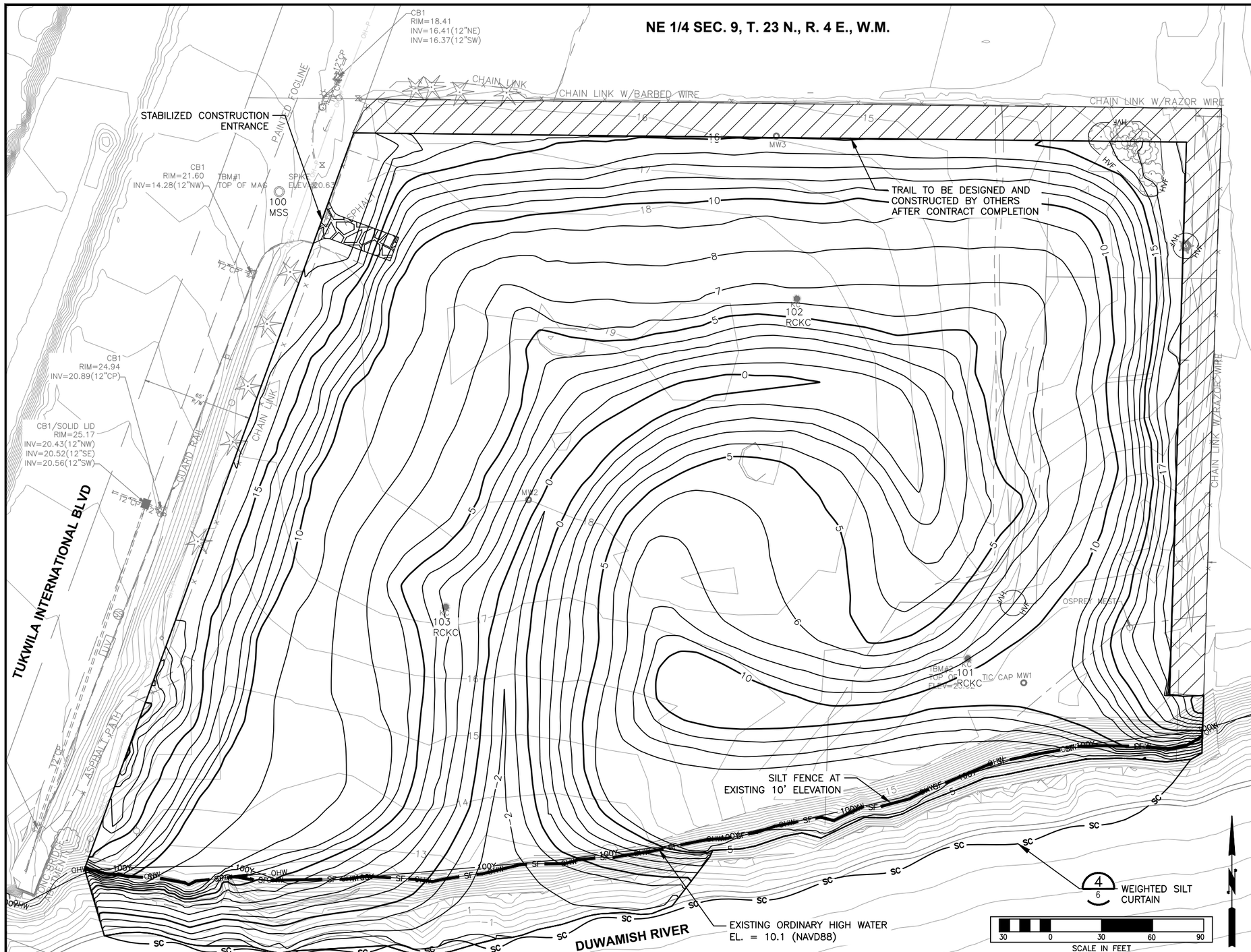
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

DEMOLITION PLAN AND TREE SALVAGE PLAN

SHEET **4** OF **15** SHEETS

2018-04



TEMPORARY EROSION AND SEDIMENT CONTROL NOTES:

1. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS COMPLETED.
2. THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY IDENTIFIED BY A CONTINUOUS LENGTH OF SURVEY TAPE (OR FENCING, IF REQUIRED) PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE CLEARING LIMITS SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
3. THE TESC FACILITIES SHOWN ON THE PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING AS TO ENSURE THAT THE TRANSPORT OF SEDIMENT TO SURFACE WATERS, DRAINAGE SYSTEMS, AND ADJACENT PROPERTIES IS MINIMIZED.
4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED AS NEEDED FOR UNEXPECTED STORM EVENTS AND MODIFIED TO ACCOUNT FOR CHANGING SITE CONDITIONS (E.G.. ADDITIONAL SUMP PUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC.).
5. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTIONING. WRITTEN RECORDS SHALL BE KEPT OF WEEKLY REVIEWS OF TESC FACILITIES DURING WET SEASON (OCT. 1 TO MARCH 31) AND MONTHLY REVIEWS DURING THE DRY SEASON (APRIL 1 TO SEPT. 30).
6. ANY AREAS OF EXPOSED SOILS, INCLUDING ROADWAY EMBANKMENTS, SHALL BE ADDRESSED WITHIN FIFTEEN (15) DAYS.
7. THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR 48 HOURS FOLLOWING A STORM EVENT.
8. THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR 48 HOURS FOLLOWING A STORM EVENT.
9. THE CLEARING OPERATIONS SHALL NOT FLUSH SEDIMENT–LADEN WATER INTO THE DOWNSTREAM SYSTEM.
10. STABILIZED CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION ENTRANCES AND ROADS SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT. ADDITIONAL MEASURES, SUCH AS WASH PADS MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
11. WHERE STRAW MULCH FOR TEMPORARY EROSION CONTROL IS REQUIRED, IT SHALL BE APPLIED AT A MINIMUM THICKNESS OF 3 INCHES.

811
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	CRISTINA OLIVARES, E.I.T.	3/2019
CAD DESIGN:	KEVIN WARD	3/2019

PROJECT No. 1126895

CONTRACT No. –

WILLIS R. MANSFIELD — STATE OF WASHINGTON — 46388 — REGISTERED PROFESSIONAL ENGINEER

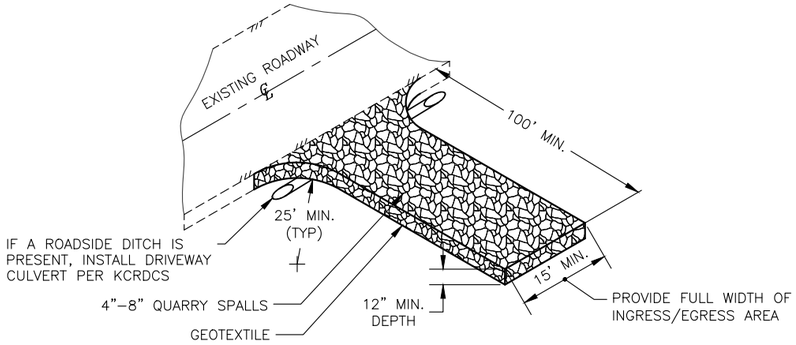
King County
Department of Natural Resources and Parks
Water and Land Resources Division
Rural and Regional Services Section
Ecological Restoration and Engineering Services Unit
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

TESC AND DEWATERING

SHEET **5** OF **15** SHEETS

2018-04

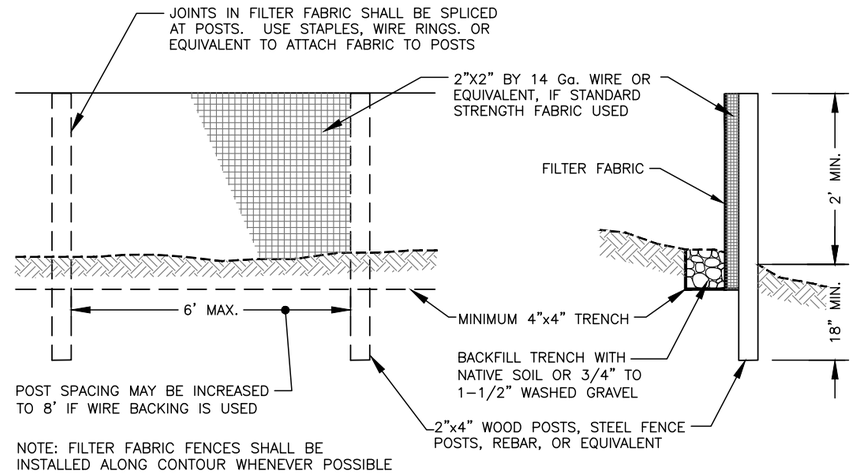


NOTES:

- PER KING COUNTY ROAD DESIGN AND CONSTRUCTION STANDARDS (KCRDCS), DRIVEWAYS SHALL BE PAVED TO EDGE OF R–O–W PRIOR TO INSTALLATION OF THE CONSTRUCTION ENTRANCE TO AVOID DAMAGING OF THE ROADWAY.
- IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED SO THAT RUNOFF DRAINS OFF THE PAD.

1/5 STABILIZED CONSTRUCTION ENTRANCE

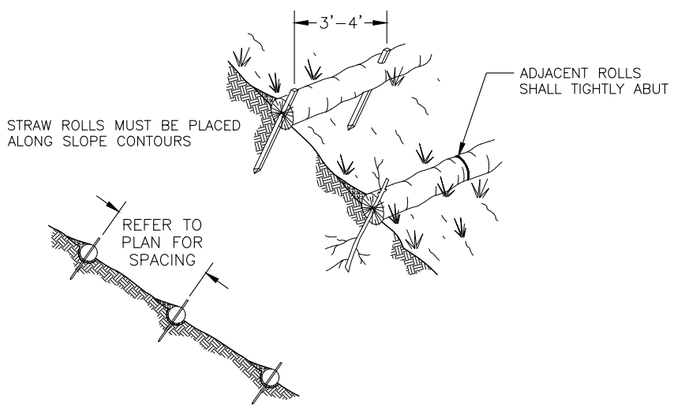
SCALE: NTS

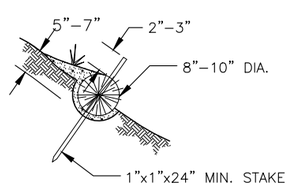


NOTE: FILTER FABRIC FENCES SHALL BE INSTALLED ALONG CONTOUR WHENEVER POSSIBLE

2/5 SILT FENCE DETAIL

SCALE: NTS





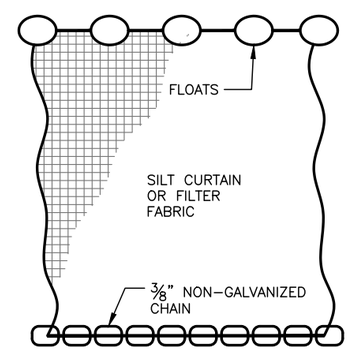
STRAW WATTLES

NOTES:

1. STRAW ROLL INSTALLATION REQUIRES THE PLACEMENT AND SECURE STAKING OF THE ROLL IN A TRENCH, 5" x 7" DEEP, DUG ON CONTOUR.
2. RUNOFF MUST NOT BE ALLOWED TO RUN UNDER OR AROUND ROLL.
3. REMOVE SEDIMENT ACCUMULATION WHEN IT EXCEDES HALF THE HEIGHT BETWEEN TOP OF WATTLE AND GROUND SURFACE.

3/5 STRAW WATTLES

SCALE: NTS



4/5 WEIGHTED SILT CURTAIN (TYP.)

SCALE: NTS

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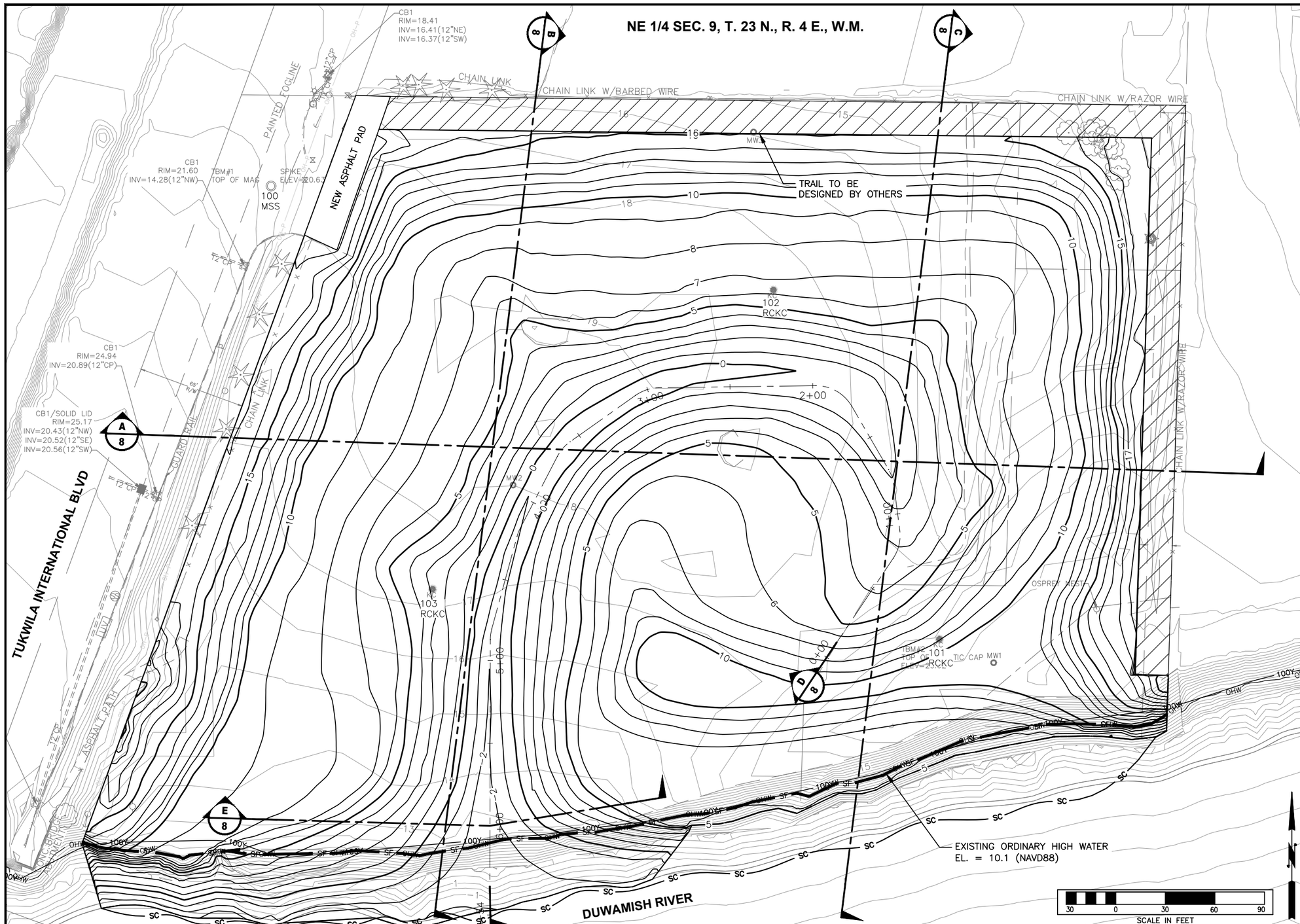
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

TESC AND DEWATERING DETAILS

SHEET **6** OF **15** SHEETS

2018-04



NOTES:

1. TO CONVERT TO SEATTLE AREA TIDE TABLES DATUM, ADD 2.35–FT TO NAVD 88 ELEVATIONS.
2. EXCAVATED AREA ABOVE 5' NAVD88 TO BE OVEREXCAVATED 1' AND REPLACED WITH SOIL MIX.

DESCRIPTION (OHWM 10.1')	NAVD 88	SEATTLE AREA TIDE TABLES
MHHW	9.01	11.36
MHW	8.14	10.49
MLW	0.48	2.83
MLLW	–2.35	0
100 YR FLOOD	10.61	12.96
HIGHEST RECORDED TIDE	12.13	14.48

811
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King County
Department of Natural Resources and Parks
Water and Land Resources Division
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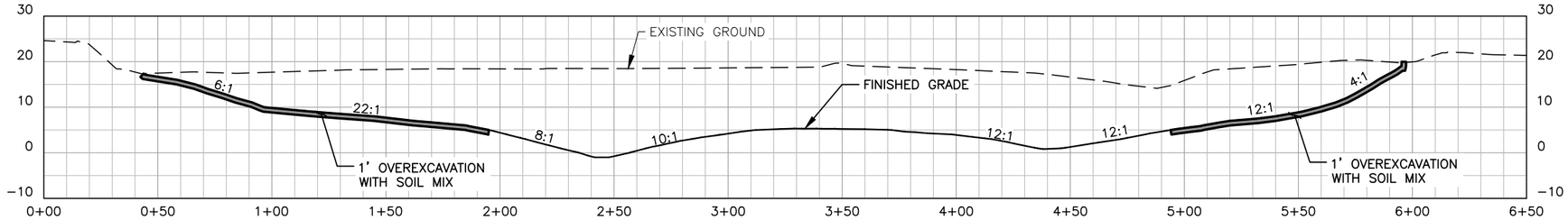
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

WETLAND GRADING PLAN

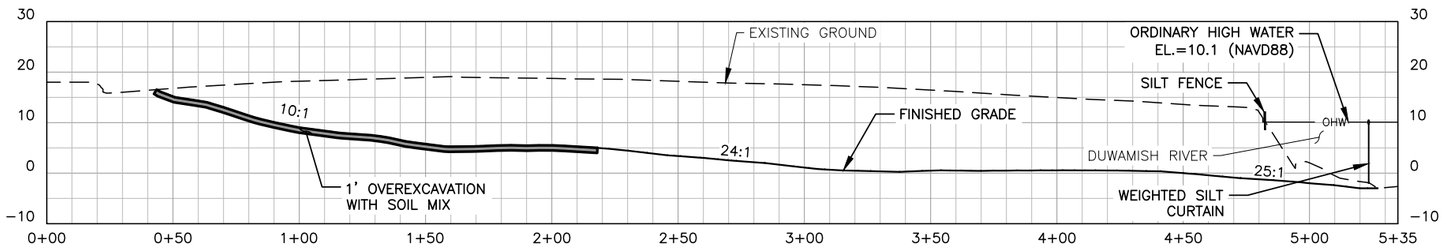
SHEET **7** OF **15** SHEETS

2018-04



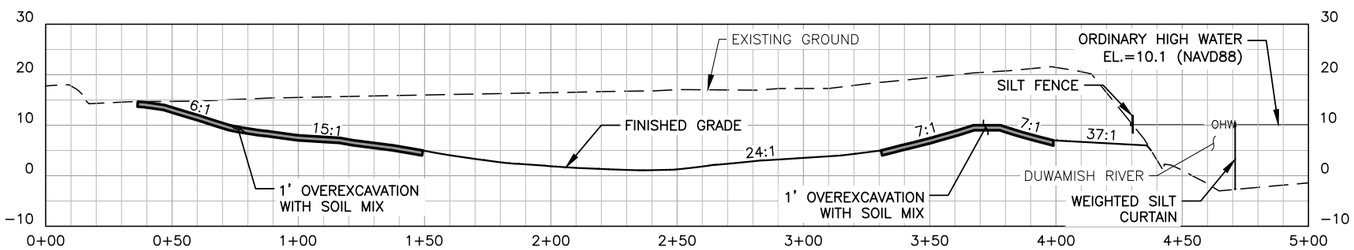
SECTION A 7

SCALE: 1"=1' HORIZ., 1"=2' VERT.



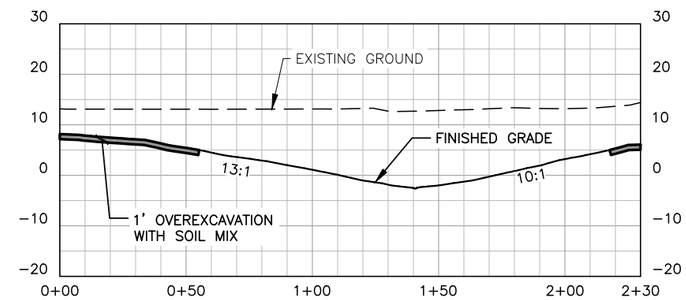
SECTION B 7

SCALE: 1"=1' HORIZ., 1"=2' VERT.



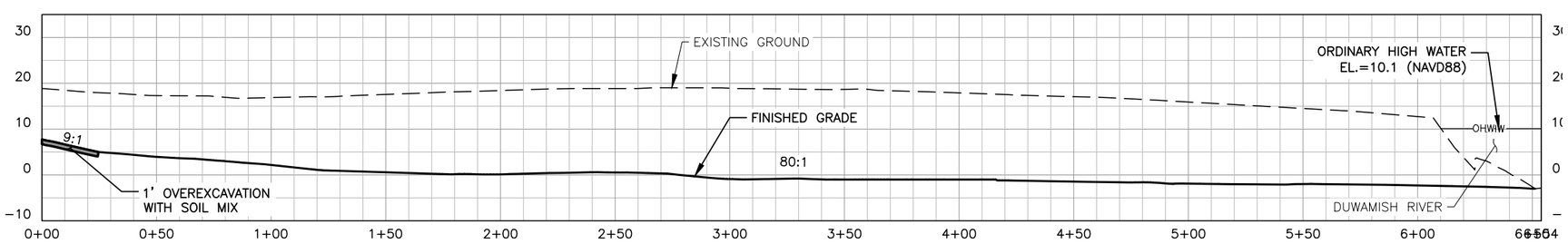
SECTION C 7

SCALE: 1"=1' HORIZ., 1"=2' VERT.



SECTION E 7

SCALE: 1"=1' HORIZ., 1"=2' VERT.



CHANNEL BOTTOM PROFILE D 7

SCALE: 1"=1' HORIZ., 1"=2' VERT.

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CHECKED: J. EVANS	6/2018

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	30% DESIGN		

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PROJECT MANAGER:	LAIRD O'ROLLINS	3/2019
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	RACHAEL VAICUNAS, P.E.	3/2019
	CRISTINA OLIVARES, E.I.T.	3/2019
CAD DESIGN:	KEVIN WARD	3/2019

PROJECT No. 1126895

CONTRACT No. –

WILLIS R. MANSFIELD — STATE OF WASHINGTON — 46388 — REGISTERED PROFESSIONAL ENGINEER

King County
Department of Natural Resources and Parks
Water and Land Resources Division
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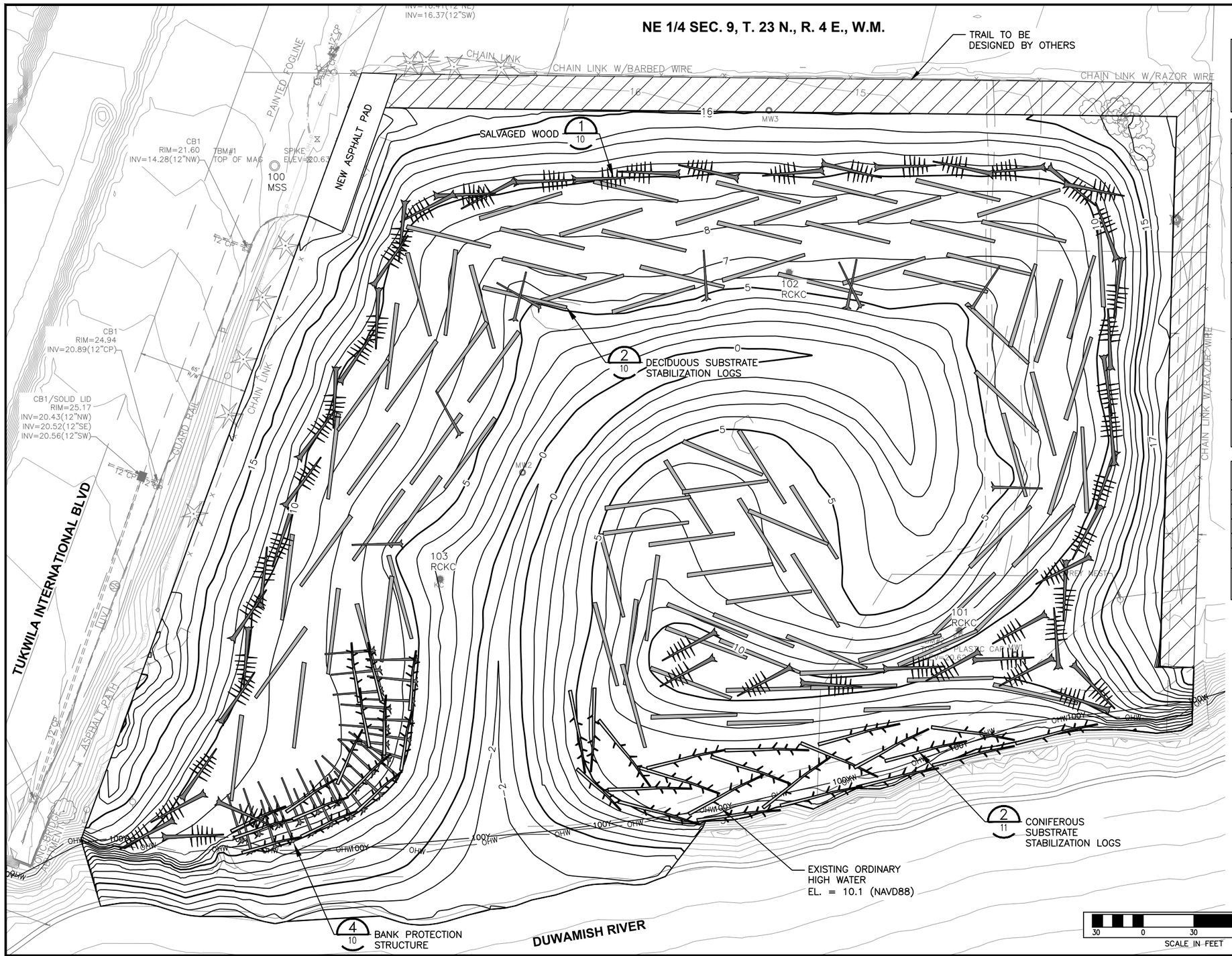
Ecological Restoration and Engineering Services Unit
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

WETLAND GRADING SECTIONS AND CHANNEL PROFILES

SHEET **8** OF **15** SHEETS

2018-04



NOTE:

ANY EXCESS SALVAGED WOOD WILL BE USED AS SLASH AT DIRECTION OF PROJECT REPRESENTATIVE

WOOD TABLE			
SYMBOL	DESCRIPTION	LENGTH	QUANTITY
	12 TO 16 DBH WESTERN RED CEDAR OR DOUGLAS FIR WITH ROOTWAD FOR BANK PROTECTION STRUCTURE	30 FT	39
	12 IN DBH WESTERN RED CEDAR OR DOUGLAS FIR WITHOUT ROOTWAD FOR BANK PROTECTION STRUCTURE AND SUBSTRATE STABILIZATION LOGS	35 FT	37
	12 IN DBH RED ALDER OR COTTONWOOD WITHOUT ROOTWAD FOR SUBSTRATE STABILIZATION LOGS	35 FT	99
	SALVAGED WOOD	VARIES	52

DESCRIPTION (OHWM 10.1')	NAVD 88	SEATTLE AREA TIDE TABLES
MHHW	9.01	11.36
MHW	8.14	10.49
MLW	0.48	2.83
MLLW	−2.35	0
100 YR FLOOD	10.61	12.96
HIGHEST RECORDED TIDE	12.13	14.48

811
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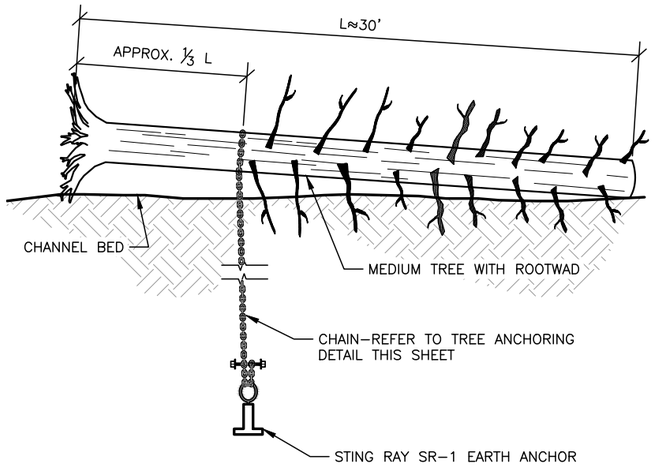
CHINOOK WIND MITIGATION PROJECT

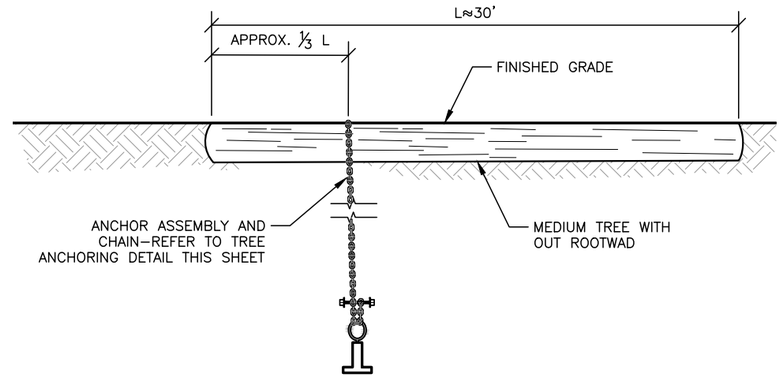
WOOD PLACEMENT PLAN

SHEET **9** OF **15** SHEETS

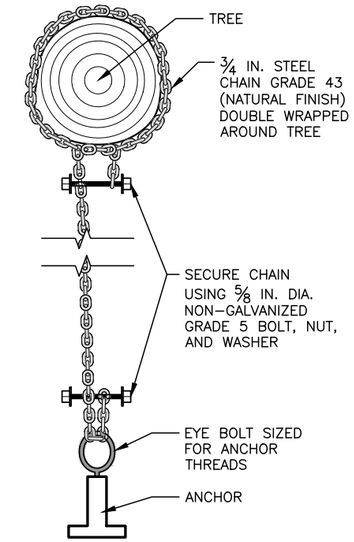
2018-04



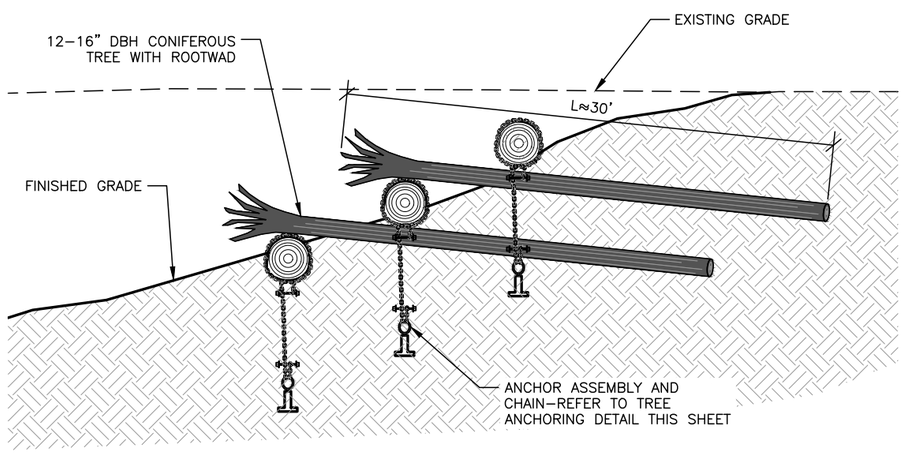
1/9 SALVAGED WOOD
SCALE: NTS

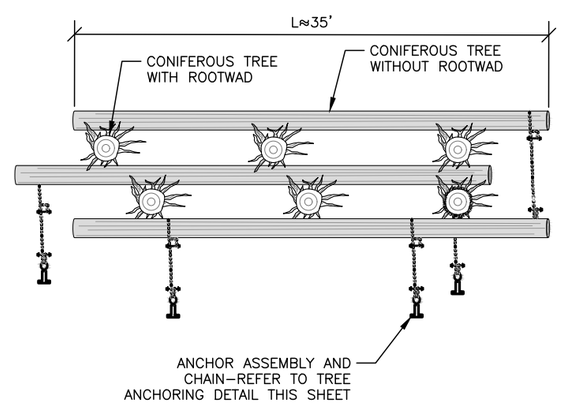


2/9 CONIFEROUS AND DECIDUOUS STABILIZATION LOGS
SCALE: NTS

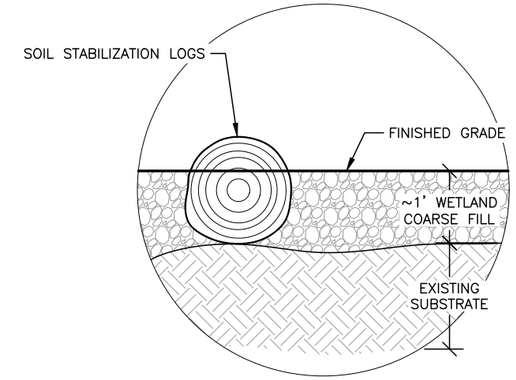


3/9 TREE ANCHORING DETAIL
SCALE: NTS





4/9 BANK PROTECTION STRUCTURES
SCALE: NTS



5/9 MATERIALS TYPICAL CROSS SECTION
SCALE: NTS

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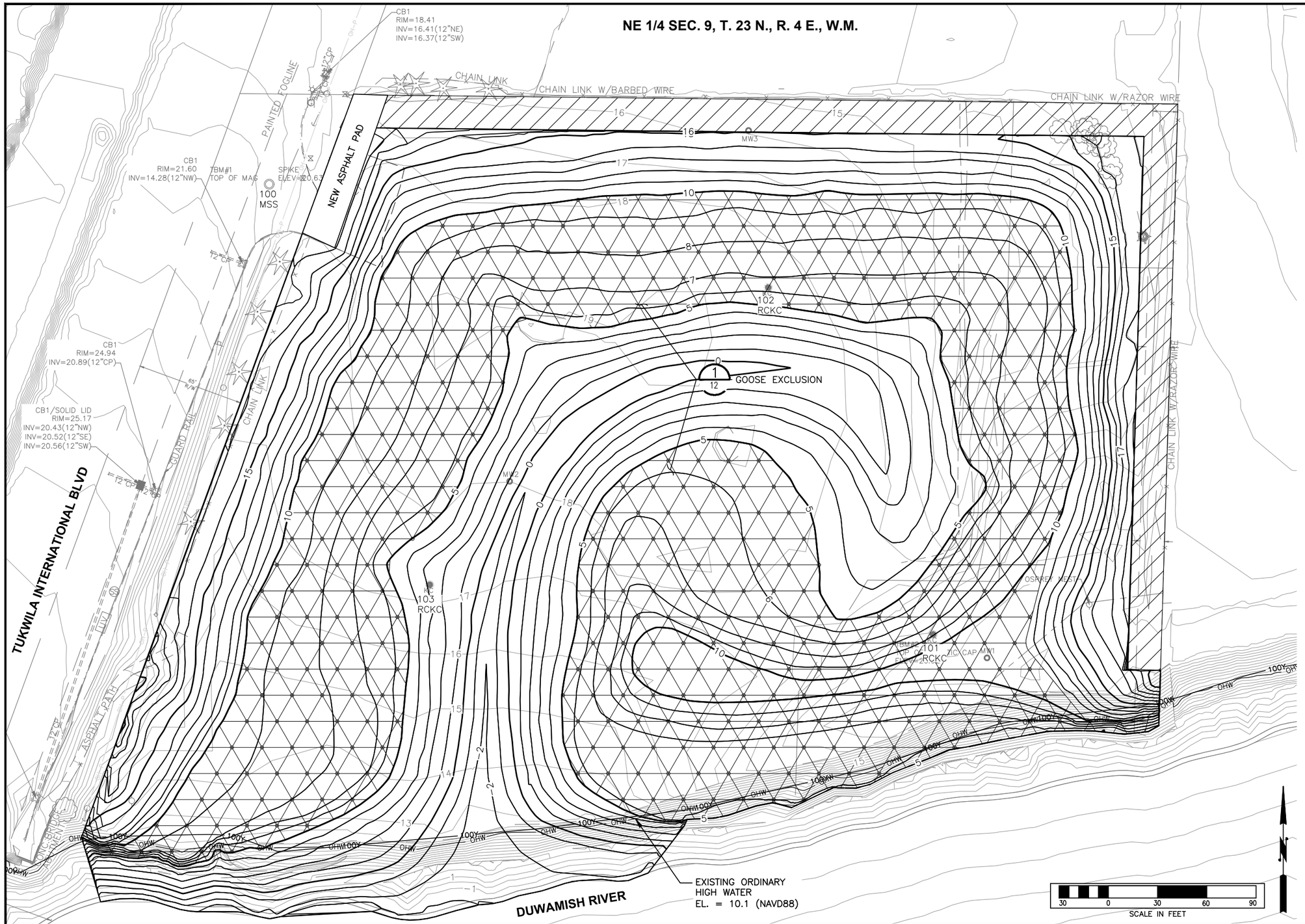
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

WOOD PLACEMENT DETAILS

SHEET **10** OF **15** SHEETS

2018-04



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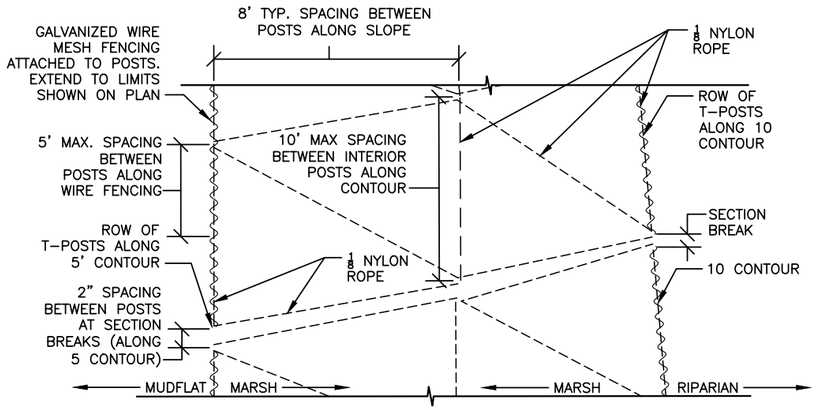
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

GOOSE EXCLUSION PLAN

SHEET **11** OF **15** SHEETS

2018-04



NOTE:

1. BUILD GOOSE EXCLUSION SYSTEM IN SECTIONS NO GREATER THAN 30' ALONG CONTOUR (6 POSTS SPACED AT 5')

2. ALL NEW PLANTING SHALL BE IMMEDIATELY PROTECTED WITH GOOSE EXCLUDER, GALVANIZED FENCING OR OTHER TEMPORARY MEANS IMMEDIATELY UPON PLANT/SEED INSTALLATION

1/11 GOOSE EXCLUSION

SCALE: NTS

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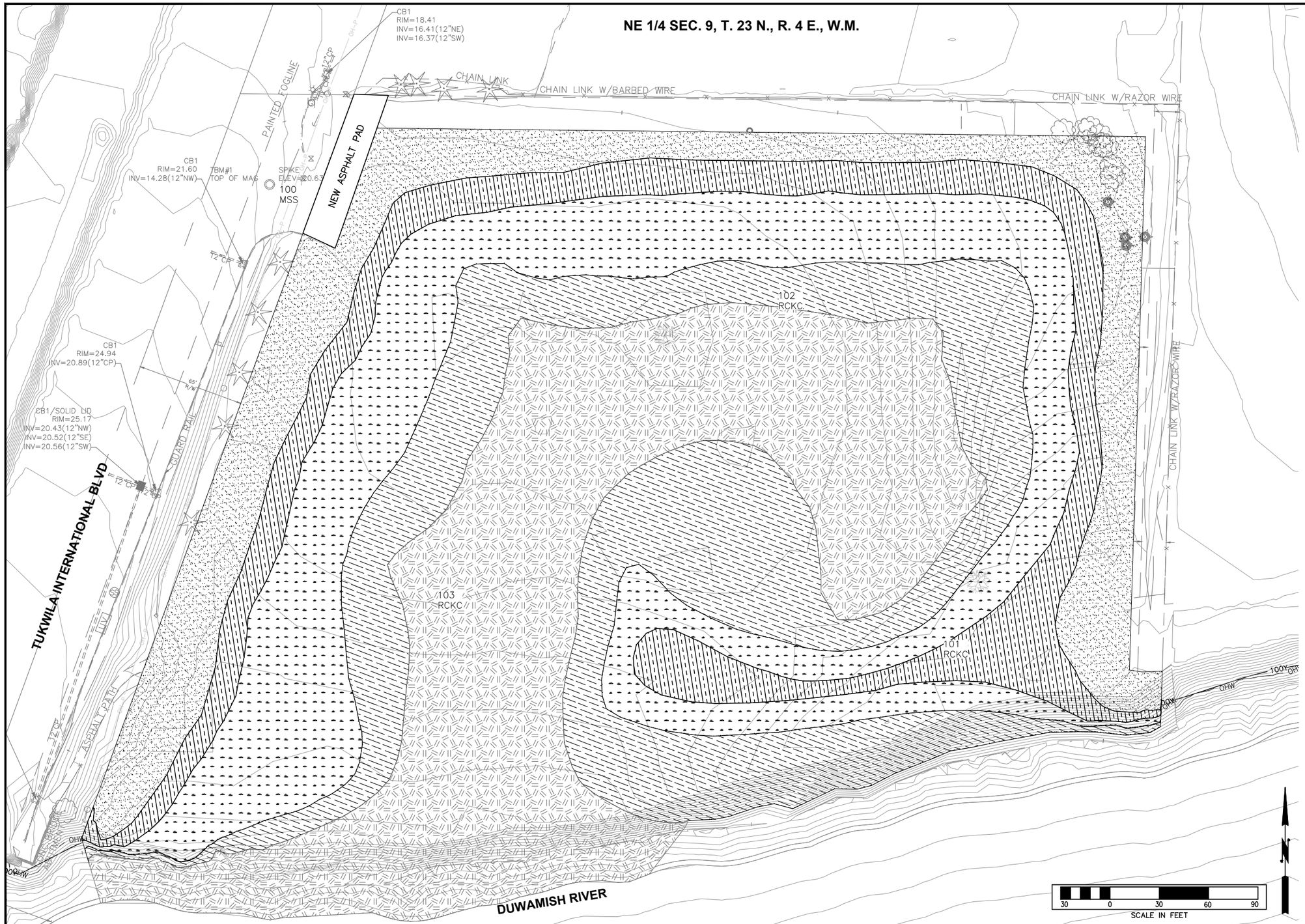
Christie True, Director

CHINOOK WIND MITIGATION PROJECT

GOOSE EXCLUSION DETAILS

SHEET **12** OF **15** SHEETS

2018-04



PLANT LEGEND

- UPLAND RIPARIAN 13'+
- MOIST RIPARIAN 10' TO 13'
- HIGH MARSH 7.5' TO 10'
- LOW MARSH 5' TO 7.5'
- MUDFLAT/AQUATIC –1' TO 5' (NO PLANTS)

811
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CHINOOK WIND MITIGATION PROJECT

PLANTING PLAN

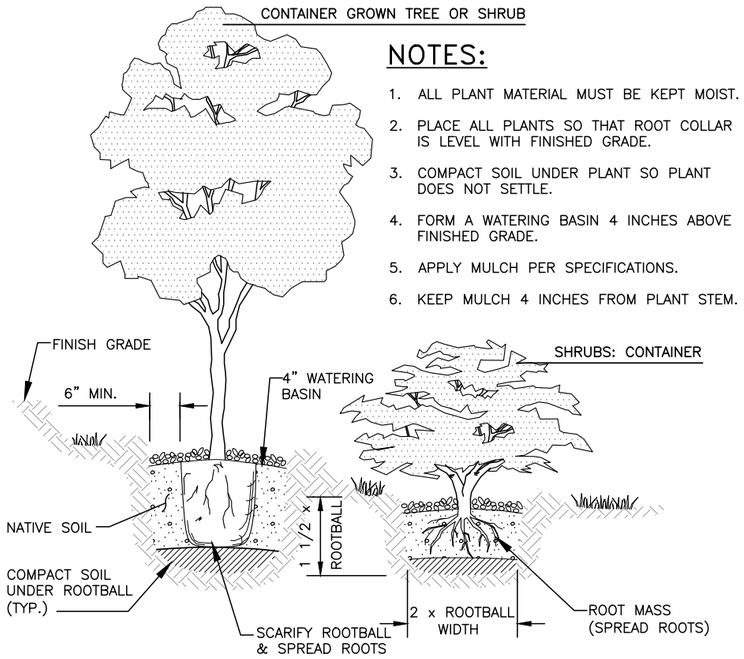
SHEET **13** OF **15** SHEETS

2018-04

CONTAINER GROWN TREE OR SHRUB

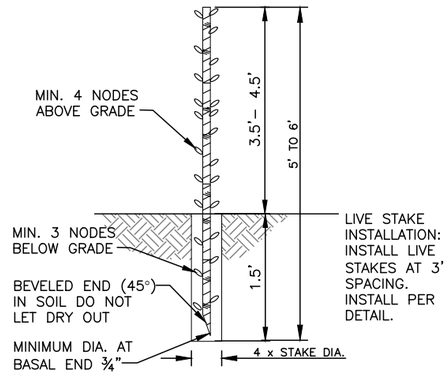
NOTES:

1. ALL PLANT MATERIAL MUST BE KEPT MOIST.
2. PLACE ALL PLANTS SO THAT ROOT COLLAR IS LEVEL WITH FINISHED GRADE.
3. COMPACT SOIL UNDER PLANT SO PLANT DOES NOT SETTLE.
4. FORM A WATERING BASIN 4 INCHES ABOVE FINISHED GRADE.
5. APPLY MULCH PER SPECIFICATIONS.
6. KEEP MULCH 4 INCHES FROM PLANT STEM.



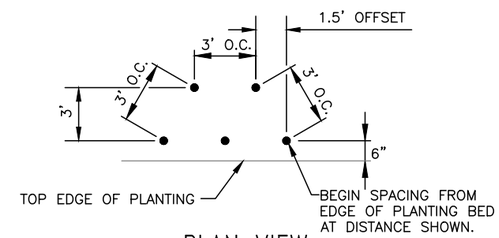
TREE AND SHRUB DETAIL (TYPICAL)

NTS



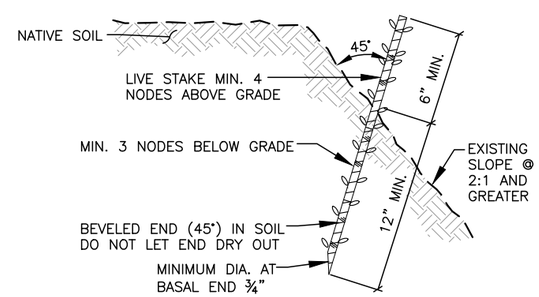
ELEVATION VIEW – HORIZONTAL GRADIENT
TYPICAL LIVE STAKE INSTALLATION

NTS



PLAN VIEW
TYPICAL LIVE STAKE INSTALLATION

NTS



ELEVATION VIEW – SLOPE GRADIENT
TYPICAL LIVE STAKE INSTALLATION

NTS

NOTES:

1. KEEP LIVE STAKES MOIST AT ALL TIMES.
2. INSTALL LIVESTAKES IN GROWTH POSITION. IF BOTTOM END OF STAKE HAS DRIED OUT, CUT FRESH END PRIOR TO INSTALLING.
3. INSTALL LIVE STAKES WITH 36" ON CENTER SQUARE SPACING, OFFSET ALTERNATE ROWS 18" AS SHOWN ON PLANS VIEW DETAIL.
4. MINIMUM EMBEDMENT OF ALL STAKES IS 18".
5. INSTALL STAKES WITH MINIMUM OF 3 NODES BELOW GRADE AND MINIMUM OF 4 NODES ABOVE GRADE.
6. FORM HOLE IN SUBGRADE WITH STEEL BAR. CAREFULLY PLANT STAKE IN HOLE WITHOUT BREAKING OFF LEAF NODES. BACKFILL HOLE AND TAMP TO FILL VOID SPACES.
7. IN GRAVELY OR COMPACTED SOILS, FORM HOLE WITH A BAR OR AUGER. CAREFULLY BACKFILL HOLE AND TAMP TO FILL VOID SPACES. DO NOT AUGER DEEPER THAN PLANTING DEPTH.

811
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CHINOOK WIND MITIGATION PROJECT

PLANTING DETAILS

SHEET **14** OF **15** SHEETS

2018-04

UPLAND RIPARIAN

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SPACING FT OC	FINAL QUANTITY
TREES				
AM	ARBUTUS MENZIESII	MADRONE	15.0000	60
Am	ACER MACROPHYLLUM	BIG LEAF MAPLE	15.0000	60
Pc	PINUS CONTORTA	SHORE PINE	15.0000	60
PM	PSEUDOTSUGA MENZESIII	DOUGLAS FIR	15.0000	60
PS	PICEA SITCHENSIS	SITKA SPRUCE	15.0000	60
				181
SHRUBS				
HD	HOLODISCUS DISCOLOR	OCEANSPRAY	4.0000	610
MA	MAHONIA AQUIFOLIUM	TALL OREGON GRAPE	4.0000	407
RN	ROSA NUTKANA	WILD ROSE	4.0000	610
RS	RIBES SANGUINEUM	RED FLOWERING CURRENT	4.0000	203
Sa	SYMPHOCARPUS ALBA	SNOWBERRY	4.0000	610
SR	SAMBUCUS RACEMOSA	RED ELDERBERRY	5.0000	254
UC	UMBELLLULARIA CALIFORNICA	BAY LAUREL	6.0000	341
RP	RUBUS PARVIFLORUS	THIMBLEBERRY	7.0000	121
				3155
HERBS				
Pm	POLYSTICHUM MUNITUM	SWORD FERN	2.0000	6826
FI	FESTUCA IDAHOENSIS	IDAHO FESCUE	1.5000	6716
LM	ELYMUS MOLLIS	AMERICAN DUNE GRASS	1.5000	6716
				20259

MOIST RIPARIAN

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SPACING FT OC	FINAL QUANTITY
TREES				
AR	ALNUS RUBRA	RED ALDER	15.0000	7
PB	POPULUS BALSAMIFERA	BLACK COTTONWOOD	15.0000	7
PT	POPULUS TREMULOIDES	QUAKING ASPEN	15.0000	14
TP	THUJA PLICATA	WESTERN RED CEDAR	15.0000	7
				28
SHRUBS				
AA	AMELANCHIER ALNIFOLIUM	SERVICEBERRY	4.0000	69
AC	ACER CIRCINATUM	VINE MAPLE	4.0000	46
CS	CORNUS SERICEA	RED OSIER DOGWOOD	4.0000	92
LI	LONICERA INVOLUCRATA	TWINBERRY	4.0000	92
PC	PHYSOCARPUS CAPITATUS	PACIFIC NINEBARK	5.0000	43
SH	SALIX HOOKERIANA	HOOKER WILLOW	6.0000	38
				381
HERBS				
Pm	POLYSTICHUM MUNITUM	SWORD FERN	2.0000	388
FI	FESTUCA IDAHOENSIS	IDAHO FESCUE	1.5000	1538
LM	ELYMUS MOLLIS	AMERICAN DUNE GRASS	1.5000	769
				2695

HIGH MARSH

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SPACING FT OC	FINAL QUANTITY
HERBS				
AE	ARGENTINA EGEDII	PACIFIC SILVERWEED	1.5000	2960
Ae	AGROSTIS EXARATA	SPIKE BENTGRASS	1.5000	2960
AS	AGROSTIC STOLONIFERA	CREEPING BENTGRASS	1.5000	2960
CL	CAREX LYNBYEI	LYNGBYEI SEDGE	1.5000	2960
CN	CALAMAGROSTIS NUTKAENSIS	PACIFIC REEDGRASS	1.5000	2960
DC	DESCHAMPSIA CAESPITOSA	TUFTED HAIRGRASS	1.5000	2960
EP	ELEOCHARUS PALUSTRIS	CREEPING SPIKERUSH	1.5000	2960
JA	JUNCUS ARTICULATUS	JOINTED RUSH	1.5000	2960
SS	SYMPHYOTRICHUM SUBSPICATUM	DOUGLAS ASTER	1.5000	2960
				26641

LOW MARSH

SYMBOL	SCIENTIFIC NAME	COMMON NAME	SPACING FT OC	FINAL QUANTITY
HERBS				
BM	BOLBOSCHOENUS MARITIMUS	SALT MARSH BULL RUSH	1.5000	7244
CL	CAREX LYNBYEI	LYNGBYEI SEDGE	1.5000	0
EP	ELEOCHARUS PALUSTRIS	CREEPING SPIKERUSH	1.5000	0
JO	CAREX OBNUPTA	SLOUGH SEDGE	1.5000	0
SA	SCHOENOPLECTUS ACUTUS	COMMON TULE	1.5000	5795
SM	SCIRPUS MICROCARPUS	SMALL FRUITED BULRUSH	1.5000	2897
SP	SCHOENOPLECTUS PUNGENS	COMMON BULRUSH, SWEETGRASS	1.5000	7244
ST	SCHOENOPLECTUS TABERNAEMONTANI	SOFTSTEM BULRUSH	1.5000	5795
				28974

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CHINOOK WIND MITIGATION PROJECT

PLANTING NOTES AND SCHEDULE

SHEET **15** OF **15** SHEETS

2018-04