CITY OF SAMMAMISH

KING COUNTY, WASHINGTON

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT

FINAL SET - APRIL 2018

PUBLIC WORKS DEPARTMENT
801 228TH AVENUE SE
SAMMAMISH, WA 98075

Otak
11241 Willows Road NE, Suite 200
Redmond, WA 98052
425.822.4446
www.otak.com

CITY OF SAMMAMISH

CHRISTIE MALCHOW
MAYOR

TOM HORNISH
DEPUTY MAYOR

KAREN MORAN
JASON RICHIE
CHRIS ROSS
PAMELA STEWART
RAMIRO VALDERRAMA
COUNCIL

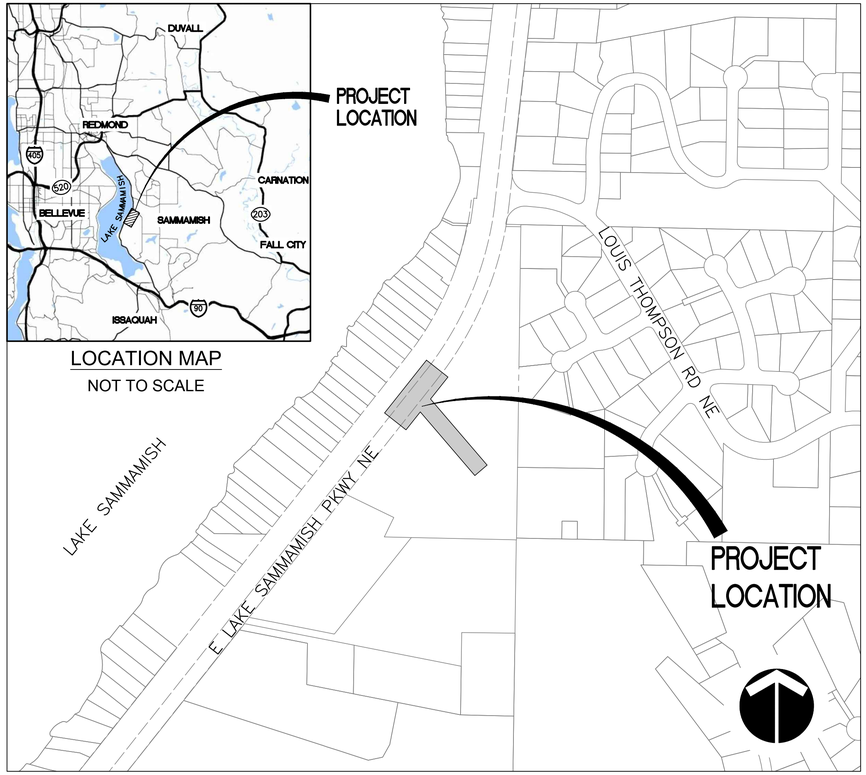
LYMAN HOWARD
CITY MANAGER

STEVE LENISZEWSKI, PE
DIRECTOR OF PUBLIC WORKS

ANDREW ZAGARS, PE
CITY ENGINEER

TAWNI DALZIEL, PE
PROJECT MANAGER

LOCATION MAP
NOT TO SCALE



VICINITY MAP
NOT TO SCALE

CONTACT PERSONNEL

GREG LAIRD, DESIGN PM	(425) 822-4446
TAWNI DALZIEL, CITY PM	(425) 295-0567
CITY OF SAMMAMISH M&O	(425) 952-2115
EASTSIDE FIRE AND RESCUE	(425) 392-3433
SAMMAMISH PLATEAU WATER	(425) 392-6256
COMCAST	(425) 263-5353
FRONTIER	(425) 261-6342
PUGET SOUND ENERGY (GAS)	(425) 449-7410
PUGET SOUND ENERGY (POWER)	(425) 457-4542
CENTURY LINK	(206) 261-1402

SCHEDULE A1, A2 & A3 SHEET INDEX

RECOMMENDED FOR APPROVAL:

PROJECT ENGINEER
APPROVED BY:

CITY ENGINEER PUBLIC WORKS DIRECTOR

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

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

SHEET	OF
1	34

Plotted: May 24, 2018 – 4:47pm courtneymo K:\project\32700\32794\CADD\ACAD\Dwg\01_G01.dwg Layout Name: G01

LEGEND

LINES

EXISTING	PROPOSED	DESCRIPTION
	***	CONTOUR
		CREEK/DITCH CENTERLINE
X X		FENCE
		GUARDRAIL
		PAVEMENT/SIDEWALK
		ROCK FENCING
OHW OHW		ORDINARY HIGH WATER MARK
		WETLAND BOUNDARY
		WETLAND BUFFER

EROSION AND SEDIMENT CONTROL:

		HIGH VISIBILITY SILT FENCE
	HVF	HIGH VISIBILITY FENCE
		WATTLE
		CLEARING LIMITS

SURVEY:

		CENTERLINE
		EASEMENT
		PROPERTY LINE
		RIGHT-OF-WAY

UTILITIES:

COM COM		BURIED COMMUNICATION LINE
FO FO		BURIED FIBER OPTIC LINE
G G		BURIED GAS LINE
P P		BURIED POWER LINE
OHL OHL		OVERHEAD POWER LINE
SD SD		BURIED STORM DRAIN LINE
SS SS	SS SS	BURIED SANITARY SEWER LINE
W W	W W	BURIED WATER LINE

SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
DRAINAGE:		
		STORM DRAIN PIPE
		TYPE 1 CATCH BASIN PER WSDOT STD PLAN B-5.20-02
		TYPE 2 CATCH BASIN PER WSDOT STD PLAN B-10.20-01
		CULVERT
EROSION AND SEDIMENT CONTROL:		
		ARBORIST WOOD CHIP MULCH
		PUMP
		FISH SCREEN
SURVEY:		
		CONTROL POINT
		BENCH MARK
		BLOCK CORNER
		MAILBOX
		MONUMENT (IN CASE)
		MONUMENT (SURFACE)
		POTHOLE LOCATION
		TREE (CONIFER)
		TREE (DECIDUOUS)
		SIGN
		SIGN POST
UTILITIES:		
		COMMUNICATION MANHOLE
		COMMUNICATION RISER
		FIRE HYDRANT
		GAS VALVE
		POWER MANHOLE
		SANITARY SEWER MANHOLE
		TRAFFIC SIGNAL CONTROL CAB
		UTILITY POLE
		WATER MANHOLE
		WATER METER
		WATER VALVE

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABAND	ABANDONED
AC	ACRE, ASBESTOS CEMENT
ADA	AMERICANS WITH DISABILITIES ACT
ADDL	ADDITIONAL
ADDM	ADDENDUM
ADJ	ADJUST
ALT	ALTERNATIVE
AL	ALUMINUM
ALUM	ALUMINUM
APPD	APPROVED
APPROX	APPROXIMATE
APPX	APPROXIMATE
AP	ANGLE POINT
APWA	AMERICAN PUBLIC WORKS ASSOCIATION
ASPH	ASPHALT
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
AVE	AVENUE
AVG	AVERAGE
BFW	BANKFULL WIDTH
BLDG	BUILDING
BLVD	BOULEVARD
BM	BENCH MARK
BMP	BEST MANAGEMENT PRACTICE
BOC	BACK OF CURB
BP	BEGIN POINT
BTWN	BETWEEN
BW	BOTTOM WIDTH
CALCS	CALCULATIONS
CB	CATCH BASIN
CD	CONTRACT DOCUMENT
CERT	CERTIFY
CF	CUBIC FEET
CFS	CUBIC FEET PER SECOND
CI	CAST IRON
CIP	CAST IN PLACE
CL	CLASS
℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
COS	CITY OF SAMMAMISH
COM	COMMUNICATION LINE
COMB	COMBINED, COMBINATION
CONC	CONCRETE
CONN	CONNECT
CONST	CONSTRUCTED
CONT	CONTINUE(OUS)
CPSSP	CORRUGATED POLYETHYLENE STORM SEWER PIPE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CTR	CENTER
CY	CUBIC YARDS
D	DRAIN PIPE
DBH	DIAMETER AT BREAST HEIGHT
DET	DETAIL
DI	DUCTILE IRON
DIAG	DIAGONAL
DIAM	DIAMETER
DIM	DIMENSION
DIST	DISTANCE, DISTRIBUTE(ION)
DWG	DRAWING
DWY	DRIVEWAY
E	EAST
EA	EACH
EG	EXISTING GROUND
ELEV	ELEVATION
ELEC	ELECTRICAL
ELSP	EAST LAKE SAMMAMISH PARKWAY
EMB	EMBANKMENT
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EP	END POINT
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE
ESMT	EASEMENT
EST	ESTIMATE
ETC	ET CETERA
EXCL	EXCLUDE
EXIST	EXISTING
FCA	FLANGED COUPLING ADAPTOR
FG	FINISHED GROUND
FH	FIRE HYDRANT
FIG	FIGURE
FO	FIBER OPTIC
FOC	FACE OF CURB
FT, '	FOOT/FEET
FL	FLOW LINE
FROP	FLOW RESTRICTOR/OIL POLLUTION
G	GAS LINE
GAL	GALLON
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GEN	GENERAL
GIS	GEOGRAPHIC INFORMATION SYSTEM
GND	GROUND
GV	GAS VALVE
HMA	HOT MIX ASPHALT
HORIZ, HORZ	HORIZONTAL
HPA	HYDRAULIC PROJECT APPROVAL
HR	HOUR
HT	HEIGHT
HUND	HUNDRED
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IN, "	INCH(ES)
INCL	INCLUDE
INFO	INFORMATION
JB	JUNCTION BOX
JT	JOINT
LB	POUND
LF	LINEAR FOOT/FEET
LN	LANE
LOC	LOCATE
LRFD	LOAD AND RESISTANCE FACTOR DESIGN
LS	LUMP SUM
LT	LEFT
MATL	MATERIAL
MAX	MAXIMUM
MEAS	MEASURE
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOD	MODIFY
MON	MONUMENT
MP	MIDPOINT
MPH	MILES PER HOUR
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
N	NORTH
N/A	NOT APPLICABLE
NE	NORTHEAST
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC	ON CENTER
OD	OUTER DIAMETER
OHL	OVERHEAD UTILITY LINE
OHW	ORDINARY HIGH WATER
OP	OVERHEAD POWER
OPP	OPPOSITE
OT	OVERHEAD TELEPHONE
P	POLE, POWER
PC	POINT OF CURVATURE
PED	PEDESTRIAN
PERF	PERFORATED
PERM	PERMANENT
PH	POTHLING
PI	POINT OF INTERSECTION
PL	PROPERTY LINE
PNT	PAINT(ED)
PP	POWER POLE
PRELIM	PRELIMINARY
PREP	PREPARE(ATION)
PROP	PROPERTY
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
QTY	QUANTITY
R	RADIUS
RD	ROAD
REF	REFERENCE
REG	REGULATION
REINF	REINFORCED
RELOC	RELOCATE
REQD	REQUIRED
REV	REVISE, REVISION
RFI	REQUEST FOR INFORMATION
ROW, R/W	RIGHT-OF-WAY
RT	RIGHT
S	SLOPE, SOUTH
SCHED	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SECT	SECTION
SEP	SEPARATE
SERV	SERVICE
SF	SQUARE FOOT/FEET
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION(S)
SR	STATE ROUTE
SS	SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
SUB	SUBSTITUTE
SW	SOUTHWEST
S/W	SIDEWALK
SY	SQUARE YARD
SYS	SYSTEM
TEL	TELEPHONE
TAN	TANGENT
TBM	TEMPORARY BENCH MARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TECH	TECHNICAL
TEMP	TEMPORARY
TESC	TEMPORARY EROSION & SEDIMENT CONTROL
THK	THICK
TYP	TYPICAL
UD	UNDERDRAIN PIPE
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UTIL	UTILITY
VAR	VARIATION, VARIES
VERT	VERTICAL
VMS	VARIABLE MESSAGE SIGN
W	WEST, WATER
W/	WITH
WM	WATER METER
W/O	WITHOUT
WSE	WATER SURFACE ELEVATION
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WV	WATER VALVE
XS	CROSS SECTION
YD	YARD
YR	YEAR
&	AND

PROJECT GENERAL NOTES:

1. PROTECTION OF THE ENVIRONMENT: NO CONSTRUCTION RELATED ACTIVITY SHALL CONTRIBUTE TO THE DEGRADATION OF THE ENVIRONMENT, ALLOW MATERIAL TO ENTER SURFACE OR GROUND WATER, OR ALLOW PARTICULATE EMISSIONS TO ENTER THE ATMOSPHERE, WHICH EXCEED STATE OR FEDERAL STANDARDS. ANY ACTIONS THAT POTENTIALLY ALLOW A DISCHARGE TO STATE WATERS MUST HAVE PRIOR APPROVAL FROM THE WASHINGTON STATE DEPARTMENT OF ECOLOGY.
2. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

SEE APPLICABLE DISCIPLINE FOR ADDITIONAL LEGEND

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

City of Sammamish Washington

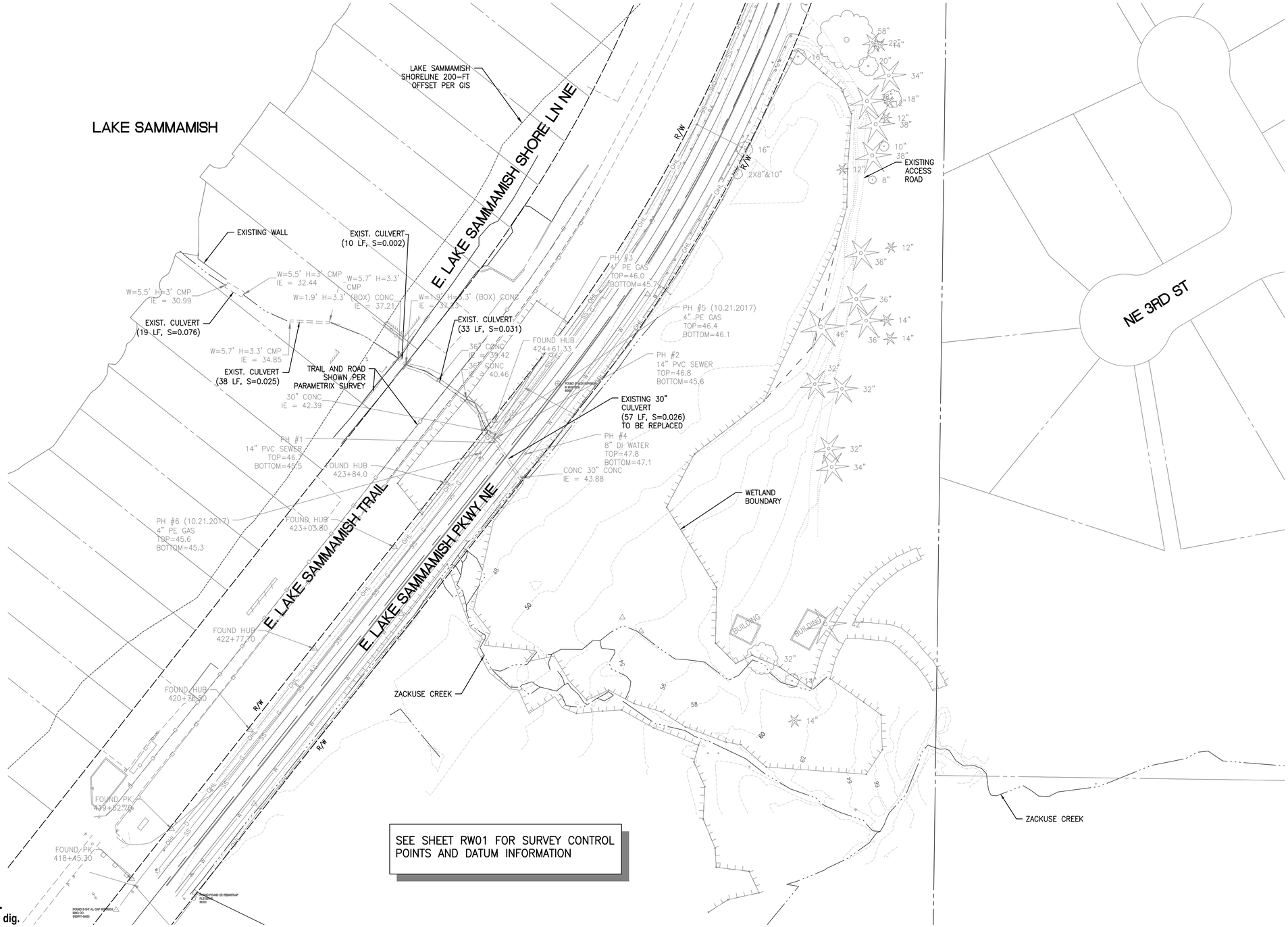
GREGORY S. LATHEN — STATE OF WASHINGTON — 15758 — REGISTERED PROFESSIONAL ENGINEER

LEGEND, GENERAL NOTES, AND ABBREVIATIONS

G02

SHEET 2 OF 34

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



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

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018	EXISTING SURVEY CONDITIONS	G03	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH		SHEET	OF
	2					3	34
	3			DRAWN BY: AK			
	4			REVIEWED BY:			
	5						

City of Sammamish Washington

GREGORY S. LARSEN — STATE OF WASHINGTON — 25754 — REGISTERED PROFESSIONAL ENGINEER — 4.3.18

PROJECT MANAGER / ENGINEER

Plotted: Apr 03, 2018 – 12:56pm evah K:\project\32700\32794\CADD\ACAD\Dwg\01_G03.dwg Layout Name: G03

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.

SCHEDULE DESCRIPTION OF WORK

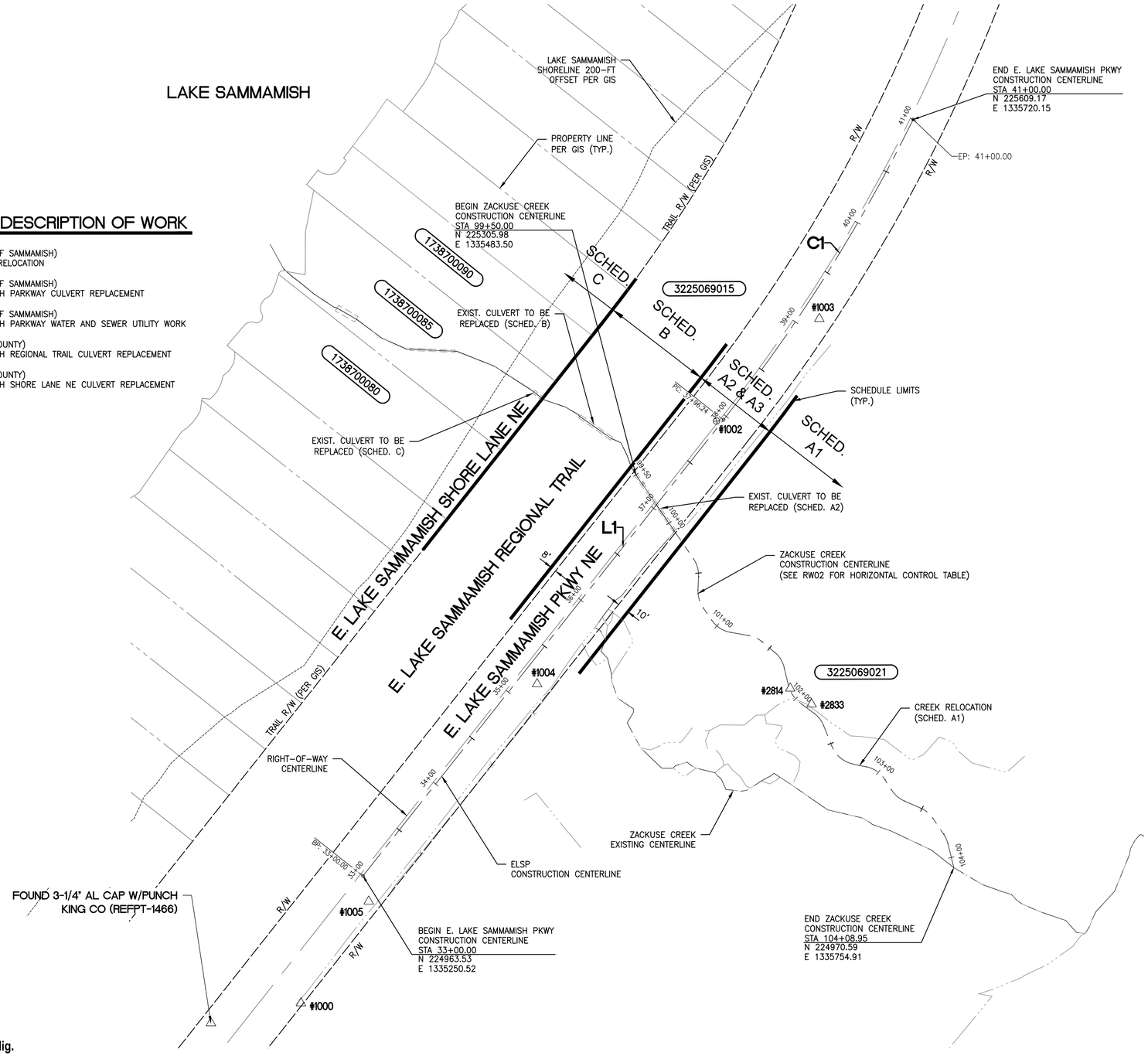
SCHEDULE A1 (CITY OF SAMMAMISH)
- ZACKUSE CREEK RELOCATION

SCHEDULE A2 (CITY OF SAMMAMISH)
- E LAKE SAMMAMISH PARKWAY CULVERT REPLACEMENT

SCHEDULE A3 (CITY OF SAMMAMISH)
- E LAKE SAMMAMISH PARKWAY WATER AND SEWER UTILITY WORK

SCHEDULE B (KING COUNTY)
- E LAKE SAMMAMISH REGIONAL TRAIL CULVERT REPLACEMENT

SCHEDULE C (KING COUNTY)
- E LAKE SAMMAMISH SHORE LANE NE CULVERT REPLACEMENT



SURVEY NOTES

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE, NORTH ZONE, NAD83/91.

   BASED ON WASHINGTON STATE REFERENCE NETWORK AND CONSTRAINED TO PUBLISHED COORDINATES OF KING COUNTY CONTROL POINTS 1966, 1499, AND 1561, AS DESCRIBED IN CONTROL TABLE.

   PROJECT HORIZONTAL CONTROL WAS ESTABLISHED BY A COMBINATION OF FIELD TRAVERSE AND GPS RTK THAT MEETS OR EXCEEDS WAC 332-130-090.

   ALL UNITS IN US SURVEY FEET.

2. VERTICAL DATUM: NAVD88

   BASED ON ELEVATION INFORMATION FOR KING COUNTY CONTROL POINT 1499. WITH A PUBLISHED ELEVATION 58.86'.

3. FIELD SURVEY PERFORMED BY OTAK, INC. BETWEEN OCTOBER 2016 AND JANUARY 2017.

4. ALL LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN ESTABLISHED BY FIELD SURVEY OF ABOVE GROUND FACILITIES AND LOCATED PAINT MARKS BY APS INC. OR OBTAINED FROM AVAILABLE RECORDS AND SHOULD THEREFORE BE CONSIDERED APPROXIMATE ONLY AND NOT NECESSARILY COMPLETE.

SAMMAMISH PKWY CONSTRUCTION CENTERLINE

NUMBER	BEGIN STATION	LENGTH	END STATION	RADIUS	BEARING	DELTA
L1	33+00.00	496.24'	37+96.24		N38°19'49"E	
C1	37+96.24	303.76'	41+00.00	1435.19'	N32°16'01"E	12°07'36"

NOTE:
CONSTRUCTION CENTERLINE DOES NOT EQUAL RIGHT-OF-WAY CENTERLINE

SURVEY CONTROL

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1000	224855.01	1335197.60	50.00	FOUND 1/2 REBAR/CAP
1001	224682.11	1335063.23	51.11	FOUND PK NAIL IN FENCE POST BASE
1002	225351.85	1335552.27	50.27	FOUND 3" MON W/PUNCH
1003	225439.14	1335640.06	52.80	SET PK NAIL
1004	225127.34	1335399.19	48.81	SET PK W/WASHER
1005	224941.79	1335255.43	49.20	SET MAG W/OTAK WASHER
1019	223160.85	1333822.12	51.27	FOUND 2-1/2" BRASS DISK W/PUNCH
1020	224664.14	1335916.86	94.67	FOUND 1-3/4" IRON PIPE
1466	224837.97	1335120.70	49.02	FOUND 3-1/4" AL CAP W/PUNCH KING CO
1489	223958.96	1334477.51	44.96	FOUND 2" AL MON IN CONC BASE (MON BOX)
1499	226078.91	1335855.74	58.86	FOUND 1-1/2" BRASS DISK W/'X' IN CASE
2814	225123.63	1335615.25	53.46	2" IRON PIPE
2833	225110.10	1335633.50	54.19	2" IRON PIPE, 1.6' ABOVE GROUND

LEGEND

XXXXXX — PARCEL NUMBER

△ — SURVEY CONTROL POINT

50' 0' 50' 100'
SCALE IN FEET

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. LARSEN — STATE OF WASHINGTON — 20758 — REGISTERED PROFESSIONAL ENGINEER — 4-5-18

ROADWAY CONSTRUCTION
CENTERLINE, SURVEY CONTROL PLAN
AND SCHEDULE LIMITS

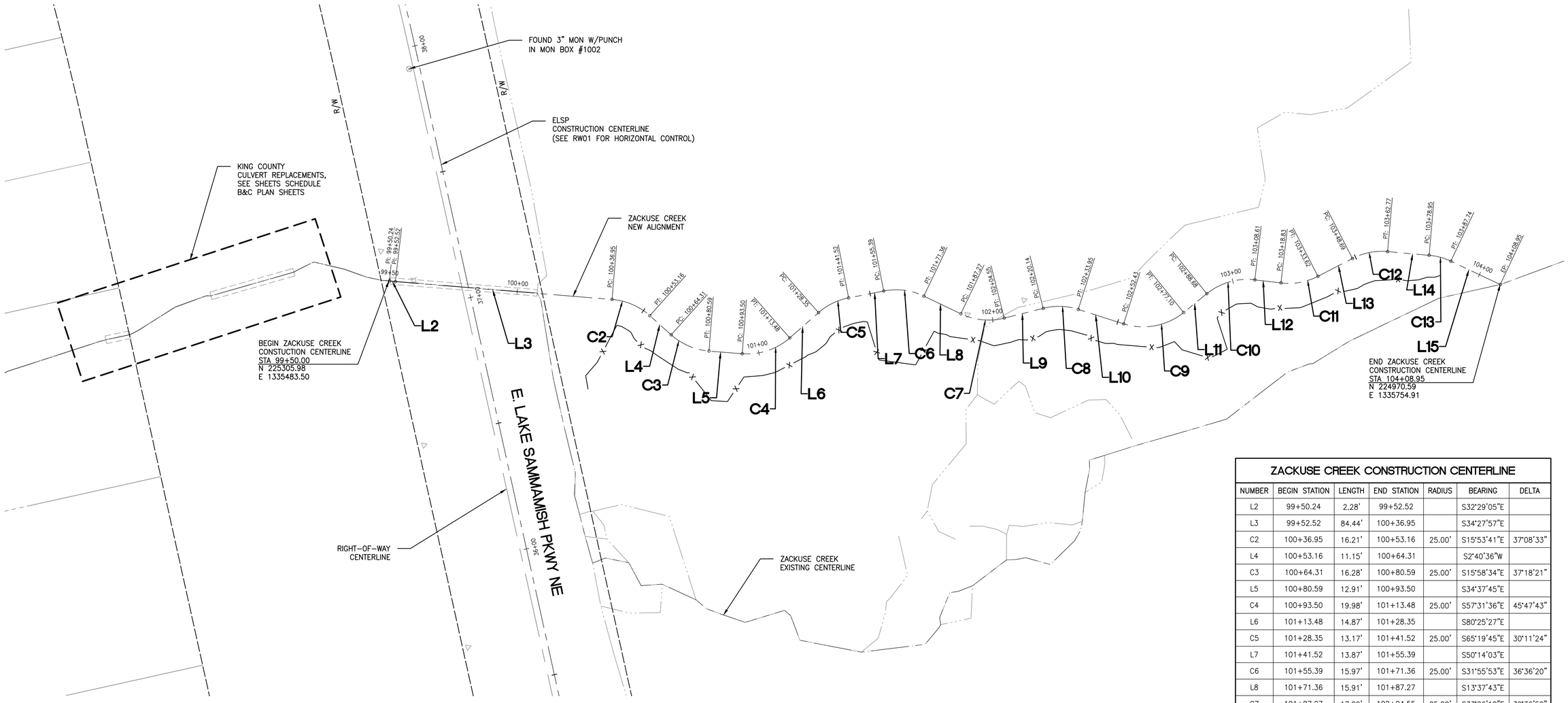
RW01

SHEET 4 OF 34

Plotted: Apr 03, 2018 – 12:56pm evah K:\project\32700\32794\CADD\ACAD\Dwg\02_RW01.dwg Layout Name: RW01

PROJECT MANAGER / ENGINEER

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



SEE SHEET RW01 FOR SURVEY CONTROL POINTS AND DATUM INFORMATION

ZACKUSE CREEK CONSTRUCTION CENTERLINE

NUMBER	BEGIN STATION	LENGTH	END STATION	RADIUS	BEARING	DELTA
L2	99+50.24	2.28'	99+52.52		S32°29'05"E	
L3	99+52.52	84.44'	100+36.95		S34°27'57"E	
C2	100+36.95	16.21'	100+53.16	25.00'	S15°53'41"E	37°08'33"
L4	100+53.16	11.15'	100+64.31		S2°40'36"W	
C3	100+64.31	16.28'	100+80.59	25.00'	S15°58'34"E	37°18'21"
L5	100+80.59	12.91'	100+93.50		S34°37'45"E	
C4	100+93.50	19.98'	101+13.48	25.00'	S57°31'36"E	45°47'43"
L6	101+13.48	14.87'	101+28.35		S80°25'27"E	
C5	101+28.35	13.17'	101+41.52	25.00'	S65°19'45"E	30°11'24"
L7	101+41.52	13.87'	101+55.39		S50°14'03"E	
C6	101+55.39	15.97'	101+71.36	25.00'	S31°55'53"E	36°36'20"
L8	101+71.36	15.91'	101+87.27		S13°37'43"E	
C7	101+87.27	17.29'	102+04.55	25.00'	S33°26'12"E	39°36'59"
L9	102+04.55	15.58'	102+20.14		S53°14'42"E	
C8	102+20.14	13.81'	102+33.95	25.00'	S37°24'58"E	31°39'27"
L10	102+33.95	18.48'	102+52.43		S21°35'15"E	
C9	102+52.43	24.67'	102+77.10	25.00'	S49°51'36"E	56°32'43"
L11	102+77.10	11.58'	102+88.68		S78°07'57"E	
C10	102+88.68	19.93'	103+08.61	25.00'	S55°17'35"E	45°40'44"
L12	103+08.61	10.22'	103+18.83		S32°27'13"E	
C11	103+18.83	14.79'	103+33.62	25.00'	S49°24'09"E	33°53'50"
L13	103+33.62	15.07'	103+48.69		S66°21'04"E	
C12	103+48.69	14.07'	103+62.77	25.00'	S50°13'25"E	32°15'19"
L14	103+62.77	16.18'	103+78.95		S34°05'45"E	
C13	103+78.95	8.80'	103+87.74	25.00'	S24°00'56"E	20°09'39"
L15	103+87.74	21.21'	104+08.95		S13°56'06"E	

20' 0' 20' 40'
SCALE IN FEET

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. LAIRD — 25758 — REGISTERED PROFESSIONAL ENGINEER

CREEK CONSTRUCTION CENTERLINE AND SURVEY CONTROL PLAN

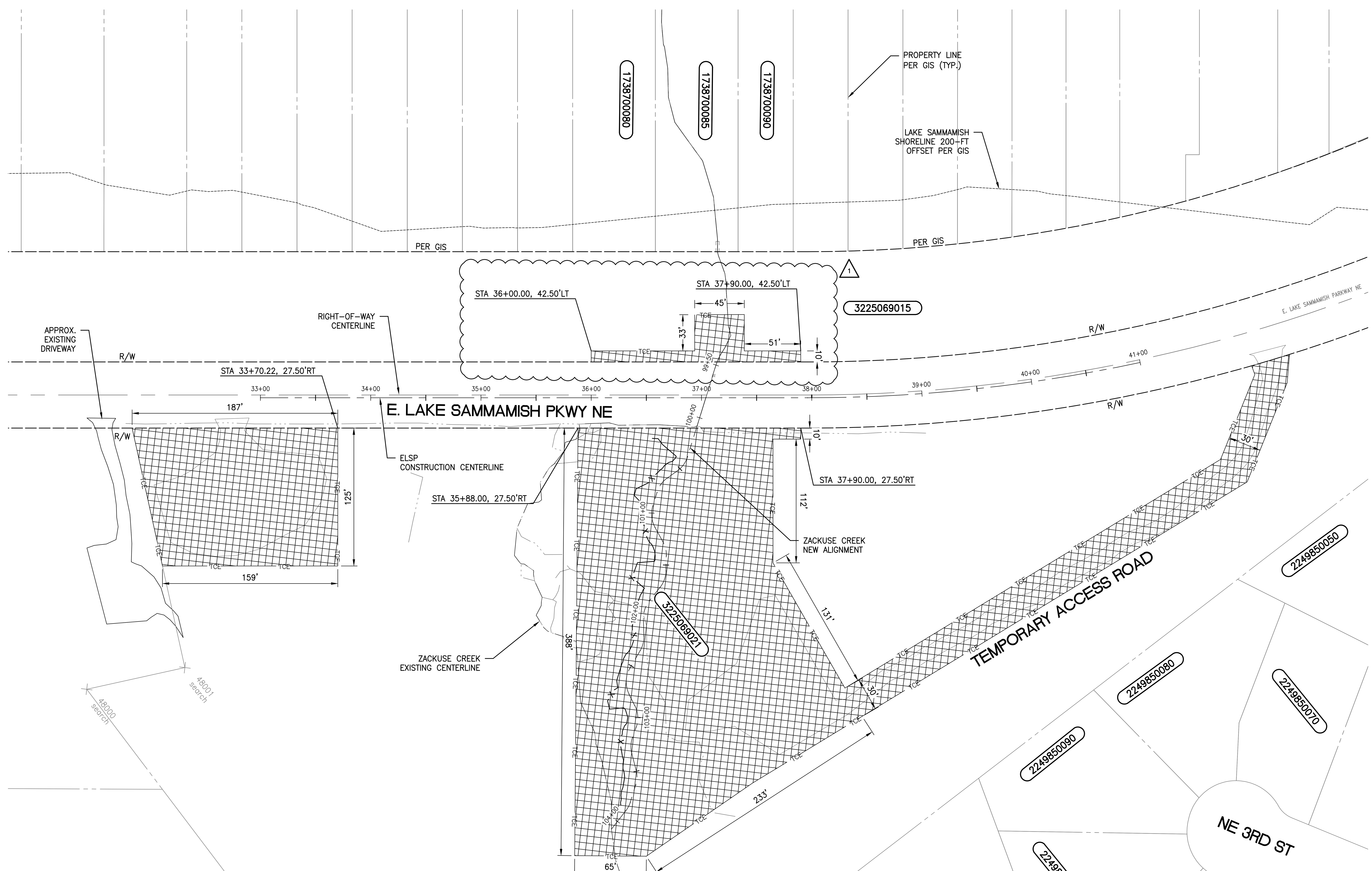
RW02

SHEET 5 OF 34

Plotted: Apr 03, 2018 – 12:56pm evah K:\project\32700\32794\CADD\ACAD\Dwg\02_RW02.dwg Layout Name: RW02

PROJECT MANAGER / ENGINEER

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



LEGEND

(line)	PROPERTY LINE
(dashed line)	RIGHT-OF-WAY
(hatch) TCE	TEMPORARY CONSTRUCTION EASEMENT
XXXXXX	PARCEL NUMBER

OWNERSHIP TABLE

KING COUNTY PARCEL NO.	PROPERTY OWNER	TOTAL AREA (SF) *	PERMANENT SLOPE EASEMENT (SF)	PARCEL REMAINDER (SF)		TEMPORARY CONSTRUCTION EASEMENT (SF)
				LT.	RT.	
322506-9015	KING COUNTY PARKS	597,153	–	597,153	–	3,382
322506-9021	PEREYRA	468,484	–	–	468,484	109,454

* ALL TOTAL PARCEL AREAS CALCULATED FROM KING COUNTY PARCEL MAP UNLESS NOTED OTHERWISE.

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

SCALE 50' 0' 50' 100' IN FEET

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1	TCE LIMITS	04/24/2018
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. LAIRD, PROFESSIONAL ENGINEER, 5-24-18

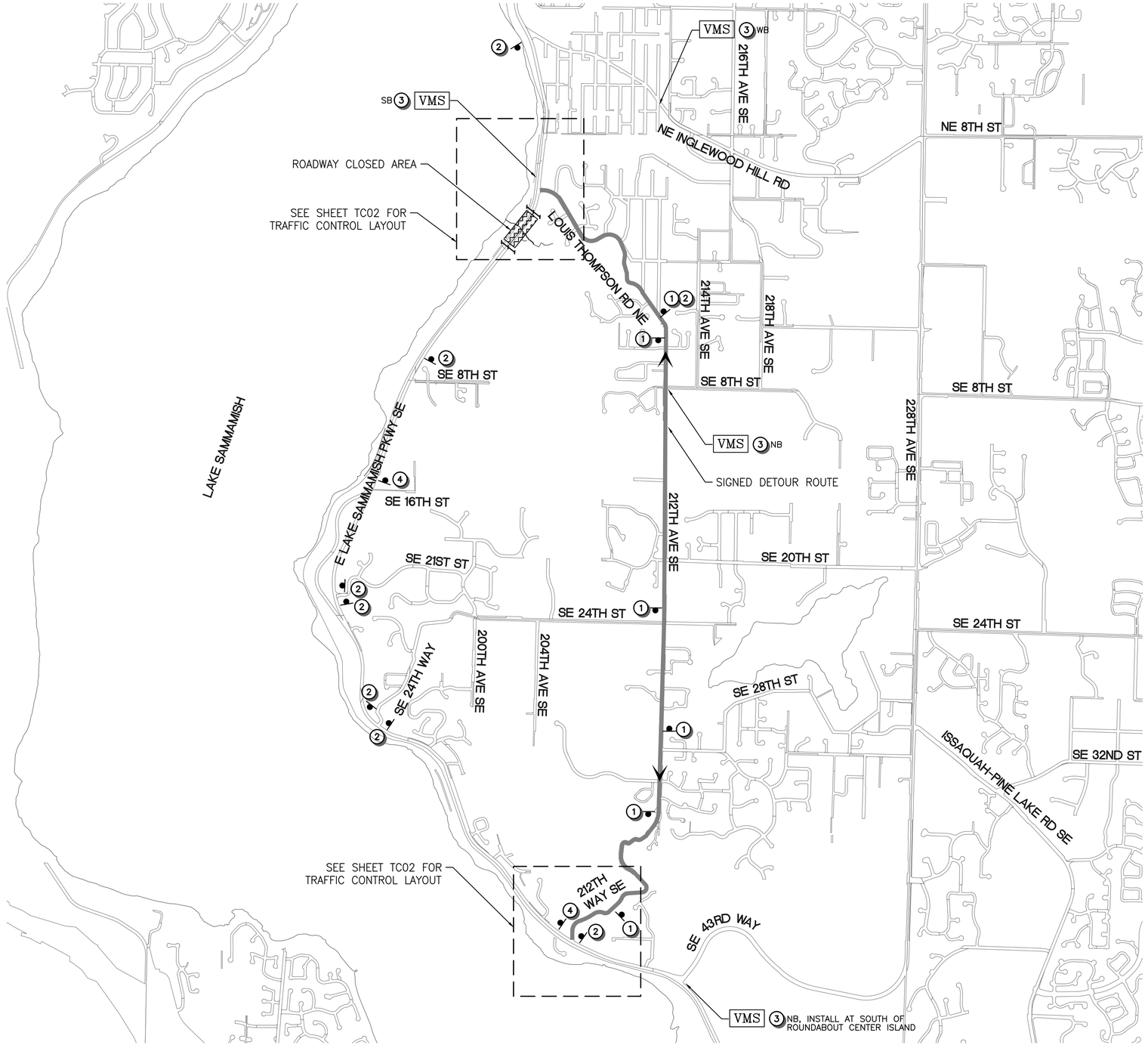
PROJECT MANAGER / ENGINEER

TEMPORARY CONSTRUCTION EASEMENT PLAN

RW03

SHEET 6 OF 34

Plotted: May 24, 2018 – 4:47pm courtneymo K:\project\32700\32794\CADD\ACAD\Dwg\02_RW03.dwg Layout Name: RW03



CONSTRUCTION NOTES

1. INSTALL M4-9 "DETOUR" (UP) WITH D3-101 "E LAKE SAMMAMISH PKWY NE".
2. INSTALL R11-3 (MODIFIED) "E LAKE SAMMAMISH PKWY NE CLOSED AT LOUIS THOMPSON RD NE (DATE) TO (DATE) ALTERNATE ROUTE ADVISED". INSTALL TWO WEEKS PRIOR TO CLOSURE AND REMOVE IMMEDIATELY AFTER ROAD IS OPEN TO TRAFFIC.
3. PROVIDE VARIABLE MESSAGE SIGN (VMS) CHANGE MESSAGE ON VMS AS DIRECTED BY THE CITY. LOCATION TO BE AS DIRECTED BY THE CITY.
4. INSTALL R11-4 "ROAD CLOSED TO THRU TRAFFIC" WITH "LOCAL TRAFFIC ONLY".

GENERAL NOTES

1. SIGN POSITIONS SHOWN ARE NOT TO SCALE.
2. SEE WASHINGTON STATE "SIGN FABRICATION MANUAL" FOR CODE REFERENCES.
3. VMS BOARD TO BE INSTALLED 2 WEEKS PRIOR TO START OF CONSTRUCTION WORK AT SITE AND MESSAGE CHANGED 2 WEEKS PRIOR TO ELSP ROAD CLOSURE.
4. EXISTING MARKINGS IN CONFLICT WITH THE PROPOSED CHANNELIZATION IN TRAFFIC PLAN SHALL BE REMOVED.

LEGEND

- ROAD/LANE CLOSED AREA
- SIGNED DETOUR ROUTE
- TYPE III BARRICADE
- VMS — VARIABLE MESSAGE SIGN
- TEMPORARY SIGN LOCATION

1200' 0' 1200' 2400'
SCALE IN FEET

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

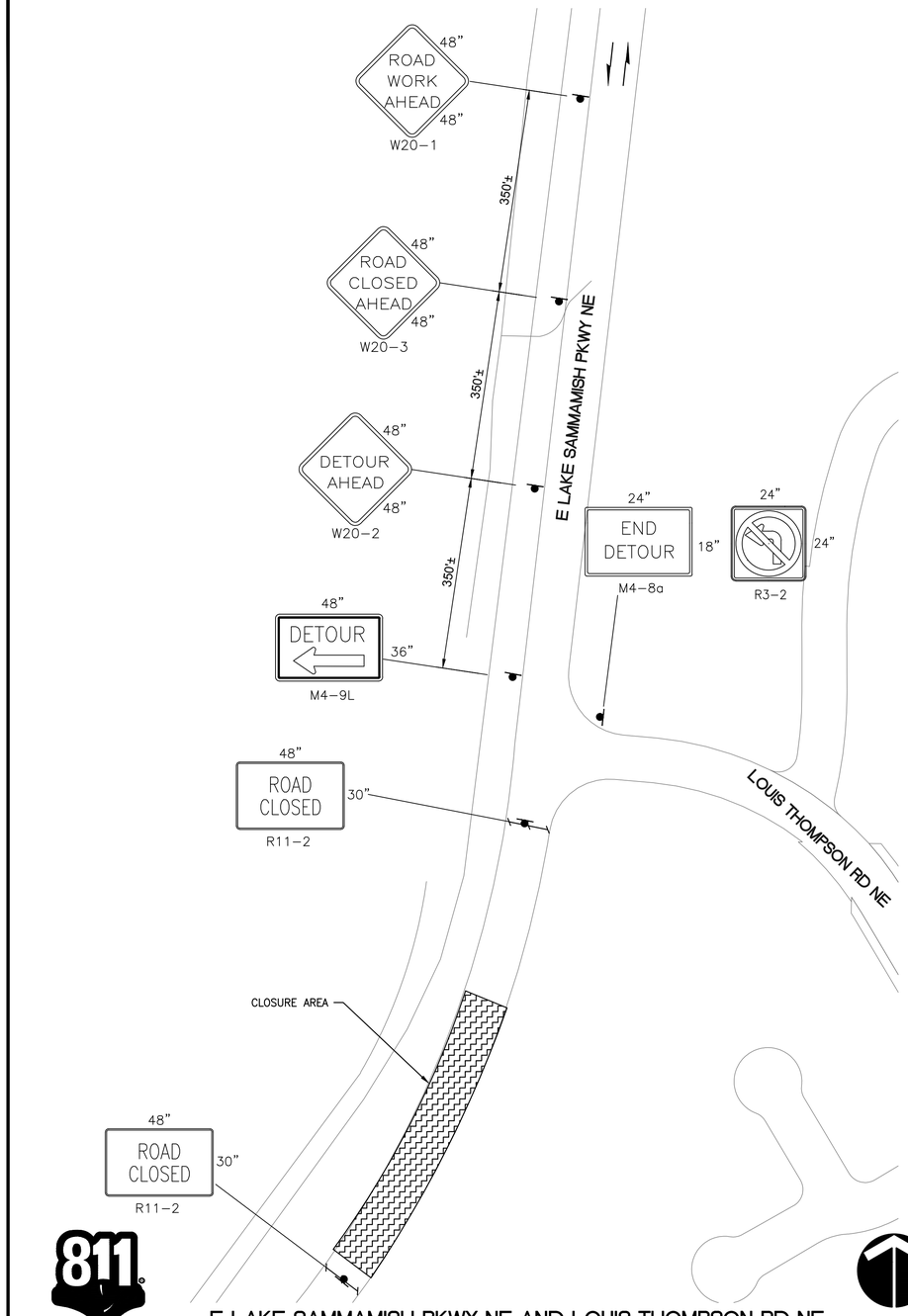
City of Sammamish Washington

GREGORY S. LAREN — STATE OF WASHINGTON — 35750 — PROFESSIONAL ENGINEER — 4-5-18

DETOUR PLAN

TC01

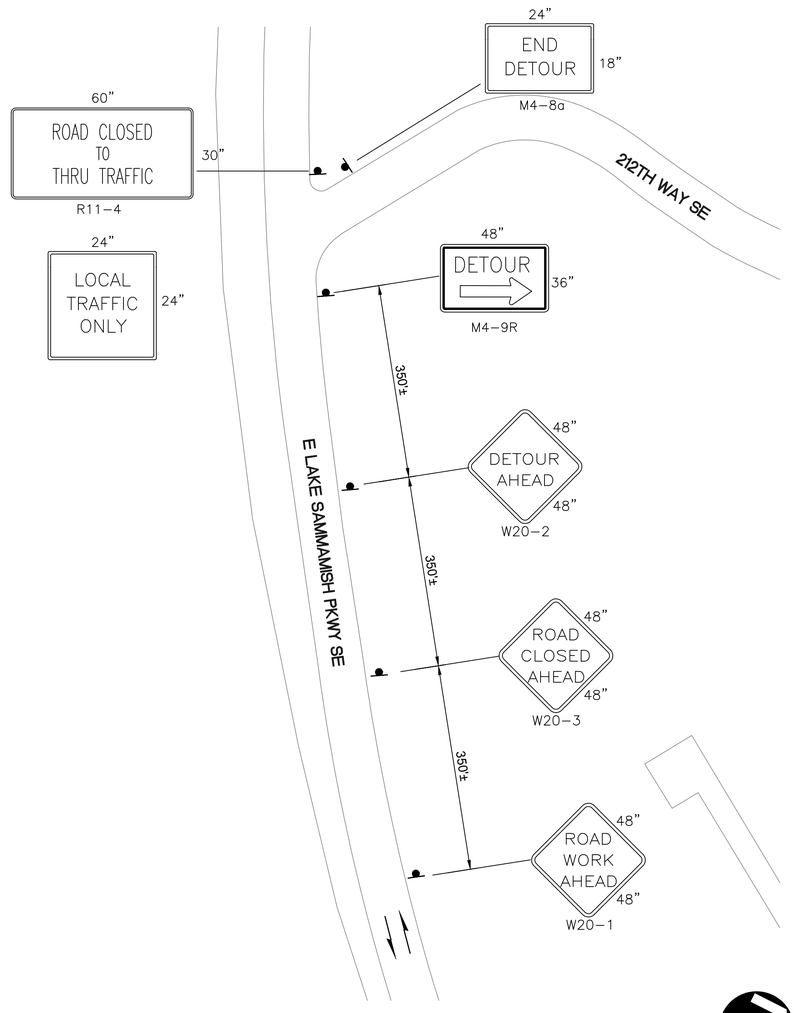
SHEET 7 OF 34



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

E LAKE SAMMAMISH PKWY NE AND LOUIS THOMPSON RD NE

NOT TO SCALE



E LAKE SAMMAMISH PKWY NE AND 212TH WAY SE

NOT TO SCALE

GENERAL NOTES

1. SIGN SPACING SHALL BE AS FOLLOWS:
   25/30 MPH – 200'
   35/40 MPH – 350'
2. SIGN POSITIONS SHOWN ARE NOT TO SCALE.
3. SEE WASHINGTON STATE "SIGN FABRICATION MANUAL" FOR CODE REFERENCES.
4. SEE CITY OF SAMMAMISH STANDARD PLAN FIG09-01 TO FIG09-15 FOR WORK ZONE TRAFFIC CONTROL FOR TEMPORARY ROAD/LANE CLOSURE. PROVIDE ALL REQUIRED TRAFFIC CONTROL DEVICES.
5. NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
6. SEE SPECIAL PROVISION SECTION 1-08, FOR WORK HOUR RESTRICTIONS.
7. TYPICAL APPLICATION SHOWN, ADJUST FOR SITE CONDITIONS AND WORK SCHEDULE AS NECESSARY.
8. FULL ROAD CLOSURE OF ELSP LIMITED TO TWO WEEKS MAXIMUM.

LEGEND

- TYPE III BARRICADE
- TEMPORARY SIGN LOCATION
- CLOSURE AREA

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

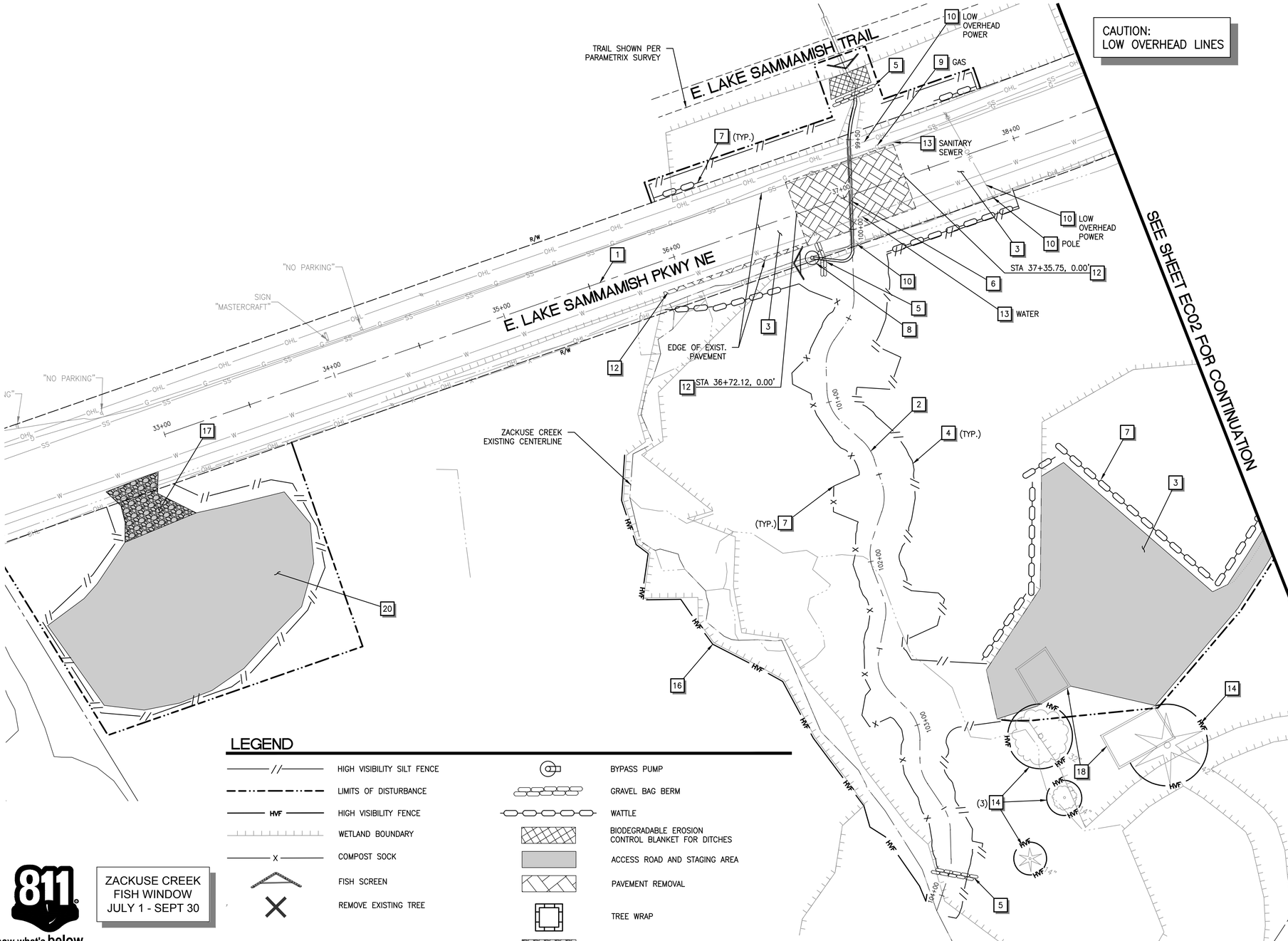
TRAFFIC CONTROL PLAN

TC02

SHEET 8 OF 34

PROJECT MANAGER / ENGINEER

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



TESC & DEMOLITION NOTES

1. ELSP CONSTRUCTION CENTERLINE, SEE SHEET RW01 FOR DETAILS.
2. ZACKUSE CREEK CONSTRUCTION CENTERLINE, SEE SHEET RW02 FOR DETAILS
3. CONSTRUCT ACCESS ROAD (NOMINALLY 12' WIDE) AND STAGING AREA FOR STREAM RESTORATION AS NECESSARY. LOCATION SHALL BE FIELD LOCATED AND APPROVED BY ENGINEER. CONTRACTOR MAY PROPOSE ALTERNATIVES THAT REDUCE WETLAND IMPACTS (IF APPROVED BY CITY) AND USE CLOSURE ON ELSP NE FOR STAGING AREA, PROTECT EXISTING PAVEMENT. SEE SHEET EC03 FOR DETAILS.
4. INSTALL HIGH VISIBILITY SILT FENCE PER WSDOT STD. PLAN I-30.16-00.
5. INSTALL TEMPORARY GRAVEL BAG BERM PER LOCATIONS AND DETAILS SHOWN ON SHEETS BP01-BP02.
6. REMOVE EXISTING CULVERT, 36" DIAMETER, 55' LENGTH.
7. INSTALL STRAW WATTLE PER WSDOT STD PLAN I-30.30-01, OR COMPOST SOCK PER STD PLAN 1-30.40-01.
8. TEMPORARY STREAM BYPASS. SEE PLAN ON SHEET BP01 AND DETAILS ON SHEET BP02.
9. PROTECT EXISTING UTILITY DURING CONSTRUCTION.
10. CONTRACTOR SHALL COORDINATE WITH PSE FOR SUPPORTING AND PROTECTING EXISTING POLE, POWER LINES, AND GUY WIRE DURING CONSTRUCTION.
11. REMOVE EXISTING TREES. TREE TO BE USED AS NEEDED IN WOOD STRUCTURE CONSTRUCTION FOR STREAM RESTORATION. REPLACE IN KIND, ON EASTERN SIDE OF ROAD, WITH WESTERN RED CEDAR OR SITKA SPRUCE, SIZING PER SHEET LS06.
12. SAWCUT AND REMOVE EXISTING PAVEMENT, INCLUDING HMA PAVEMENT AND CONC. PANEL UNDERNEATH.
13. EXISTING UTILITY TO BE RELOCATED/ADJUSTED, SEE SHEETS UT01-UT02 FOR DETAILS.
14. PROTECT EXISTING TREE PER TREE/SHRUB PROTECTION DETAIL ON SHEET EC03.
15. PROTECT EXISTING TREE PER TREE WRAP PROTECTION, SEE SHEET EC03 FOR DETAILS.
16. INSTALL HIGH VISIBILITY FENCE PER WSDOT STD I-10.10-01.
17. INSTALL STABILIZED CONSTRUCTION ENTRANCE PER WSDOT STD PLAN I-80.10-02. PROVIDE TEMPORARY CULVERT UNDER CONSTRUCTION ENTRANCE TO MAINTAIN DRAINAGE.
18. EXISTING STRUCTURES TO BE DEMOLISHED. DEMOLITION WILL REQUIRE A CITY OF SAMMAMISH DEMOLITION PERMIT ACQUIRED BY CONTRACTOR. FILL VOID WITH COMMON BORROW.
19. REMOVE EXISTING GUARDRAIL, LIMITS PER PLAN.
20. EXISTING TREES 8" AND GREATER CALIPER (DBH) SHALL BE PROTECTED WITHIN STAGING AREA. TREES SMALLER THAN 8" MAY BE REMOVED. APPROX. STAGING AREA IS SHOWN.

GENERAL NOTES

1. SEE SHEET EC02 FOR TREES ALONG THE TEMPORARY ACCESS ROAD THAT HAVE BEEN IDENTIFIED TO BE PROTECTED (PER DETAILS ON SHEET EC03) OR TO BE FELLED AND USED AS PART OF THE STREAM RESTORATION CONSTRUCTION.
2. TESC MEASURES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL FIELD LOCATE TO ACCOMMODATE SITE CONDITIONS AND WORK SCHEDULE.
3. PROTECT ALL EXISTING FEATURES AND VEGETATION NOT CALLED TO BE REMOVED.
4. SEE SHEET EC03 FOR EROSION AND SEDIMENT CONTROL NOTES.

LEGEND

- HIGH VISIBILITY SILT FENCE
- LIMITS OF DISTURBANCE
- HVF — HIGH VISIBILITY FENCE
- WETLAND BOUNDARY
- COMPOST SOCK
- FISH SCREEN
- REMOVE EXISTING TREE
- BYPASS PUMP
- GRAVEL BAG BERM
- WATTLE
- BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES
- ACCESS ROAD AND STAGING AREA
- PAVEMENT REMOVAL
- TREE WRAP
- STABILIZED CONSTRUCTION ENTRANCE

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

ZACKUSE CREEK FISH WINDOW JULY 1 - SEPT 30

30' 0' 30' 60'
SCALE IN FEET

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE
	1		
	2		
	3		
	4		
	5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. CLARK — STATE OF WASHINGTON — 25756 — REGISTERED PROFESSIONAL ENGINEER — 4-5-18

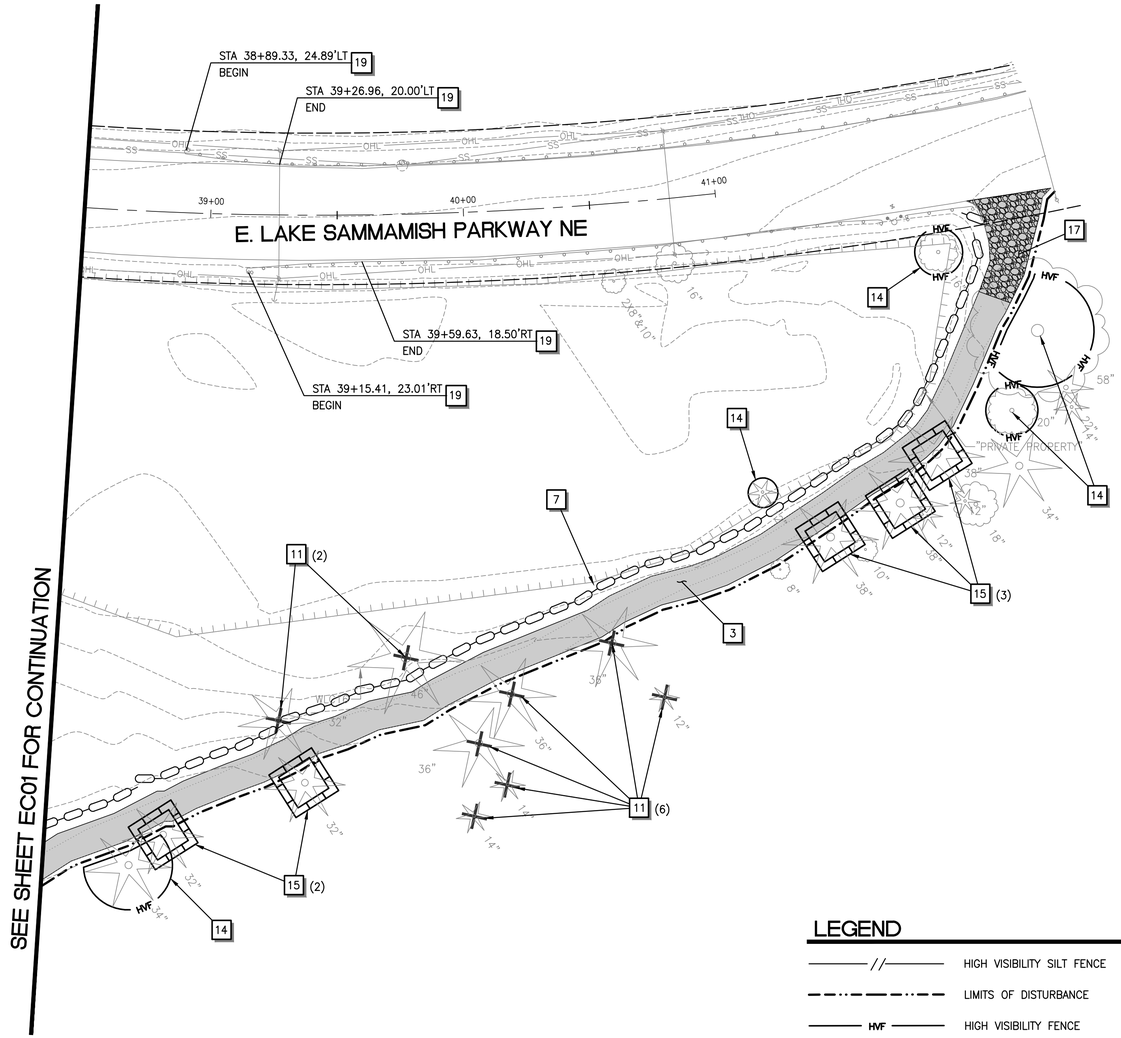
PROJECT MANAGER / ENGINEER

TESC AND DEMOLITION PLAN
1 OF 2

EC01

SHEET 9 OF 34

Plotted: Apr 03, 2018 – 12:58pm evah K:\project\32700\32794\CADD\ACAD\Dwg\04_EC01.dwg Layout Name: EC01



TESC & DEMOLITION NOTES

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2. ZACKUSE CREEK CONSTRUCTION CENTERLINE, SEE SHEET RW02 FOR DETAILS
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15. PROTECT EXISTING TREE PER TREE WRAP PROTECTION, SEE SHEET EC03 FOR DETAILS.
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GENERAL NOTES

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2. TESC MEASURES SHOWN ARE APPROXIMATE AND CONTRACTOR SHALL FIELD LOCATE TO ACCOMMODATE SITE CONDITIONS AND WORK SCHEDULE.
3. PROTECT ALL EXISTING FEATURES AND VEGETATION NOT CALLED TO BE REMOVED.

LEGEND

- HIGH VISIBILITY SILT FENCE
- LIMITS OF DISTURBANCE
- HIGH VISIBILITY FENCE
- WETLAND BOUNDARY
- COMPOST SOCK
- FISH SCREEN
- REMOVE EXISTING TREE
- BYPASS PUMP
- GRAVEL BAG BERM
- WATTLE
- BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES
- ACCESS ROAD AND STAGING AREA
- PAVEMENT REMOVAL
- TREE WRAP
- STABILIZED CONSTRUCTION ENTRANCE

30' 0' 30' 60'
SCALE IN FEET

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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

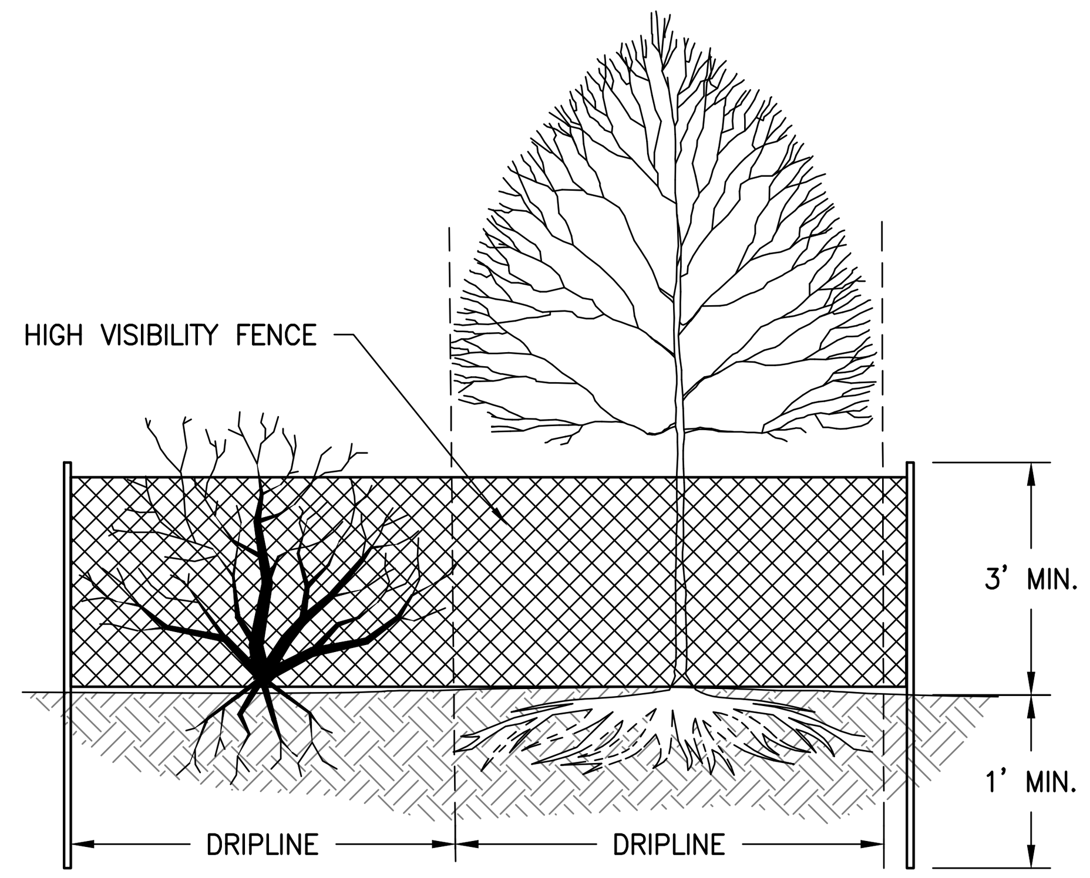
GREGORY S. LAIRD — STATE OF WASHINGTON — 35756 — REGISTERED PROFESSIONAL ENGINEER — 4-3-18

TESC AND DEMOLITION PLAN
2 OF 2

EC02
SHEET 10 OF 34

Plotted: Apr 03, 2018 – 12:59pm evah K:\project\32700\32794\CADD\ACAD\Dwg\04_EC02.dwg Layout Name: EC02

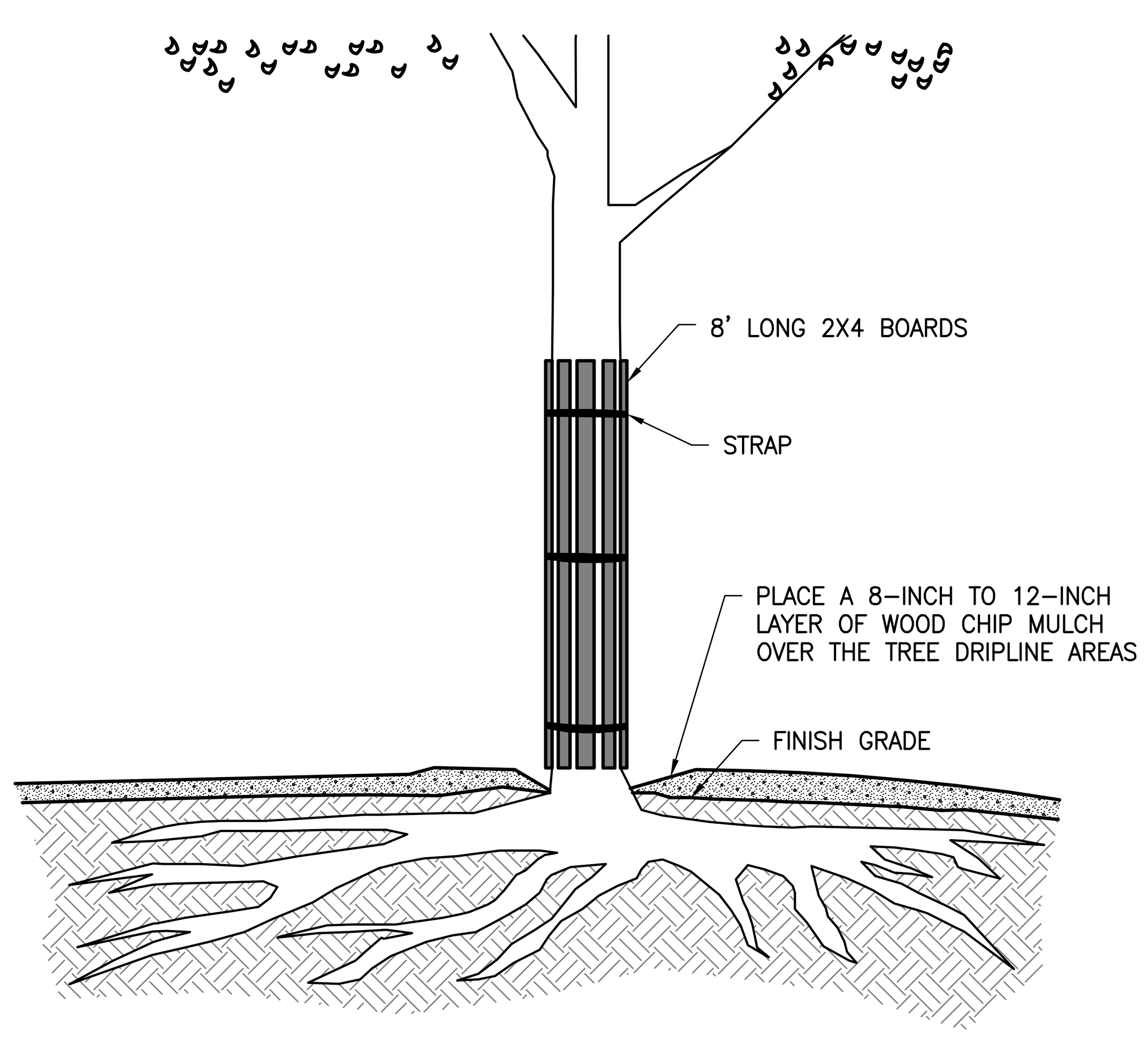
PROJECT MANAGER / ENGINEER



NOTES:
1. 3' HIGH VISIBILITY FENCE SHALL BE PLACED AT DRIPLINE OF TREE TO BE SAVED UNLESS OTHERWISE SHOWN ON PLAN. FENCE SHALL COMPLETELY ENCIRCLE TREE(S). AVOID DRIVING POSTS OR STAKES INTO MAJOR ROOTS.
2. TREATMENT OF ROOTS EXPOSED DURING CONSTRUCTION: FOR ROOTS OVER 1" IN DIAMETER DAMAGED DURING CONSTRUCTION, MAKE A CLEAN, STRAIGHT CUT TO REMOVE DAMAGED PORTION OF ROOT. ALL EXPOSED ROOTS SHALL BE TEMPORARILY COVERED WITH DAMP BURLAP TO PREVENT DRYING, AND COVERED WITH SOIL AS SOON AS POSSIBLE.
3. WORK WITHIN PROTECTION FENCE SHALL BE DONE MANUALLY. NO STOCKPILING OF MATERIALS, VEHICULAR TRAFFIC, OR STORAGE OF EQUIPMENT OR MACHINERY SHALL BE ALLOWED WITHIN THE LIMIT OF THE FENCING.
4. SEE SPECS FOR ADDITIONAL DETAILS.

TREE/SHRUB PROTECTION DETAIL

NOT TO SCALE



NOTES:
1. PRUNE TO CROWN RAISE THE CANOPY TO PROVIDE SUFFICIENT CLEARANCE FOR CONSTRUCTION EQUIPMENT AND VEHICLES.
2. REMOVE TRUNK PROTECTION STRUCTURE AT CONCLUSION OF PROJECT.
3. THE ENGINEER MAY APPROVE THE USE OF ALTERNATIVE TREE PROTECTION TECHNIQUES IF A PROTECTED TREE WILL BE PROTECTED TO AN EQUAL OR GREATER DEGREE THAN THROUGH ALTERNATIVE TECHNIQUES.

TREE WRAP PROTECTION DETAIL

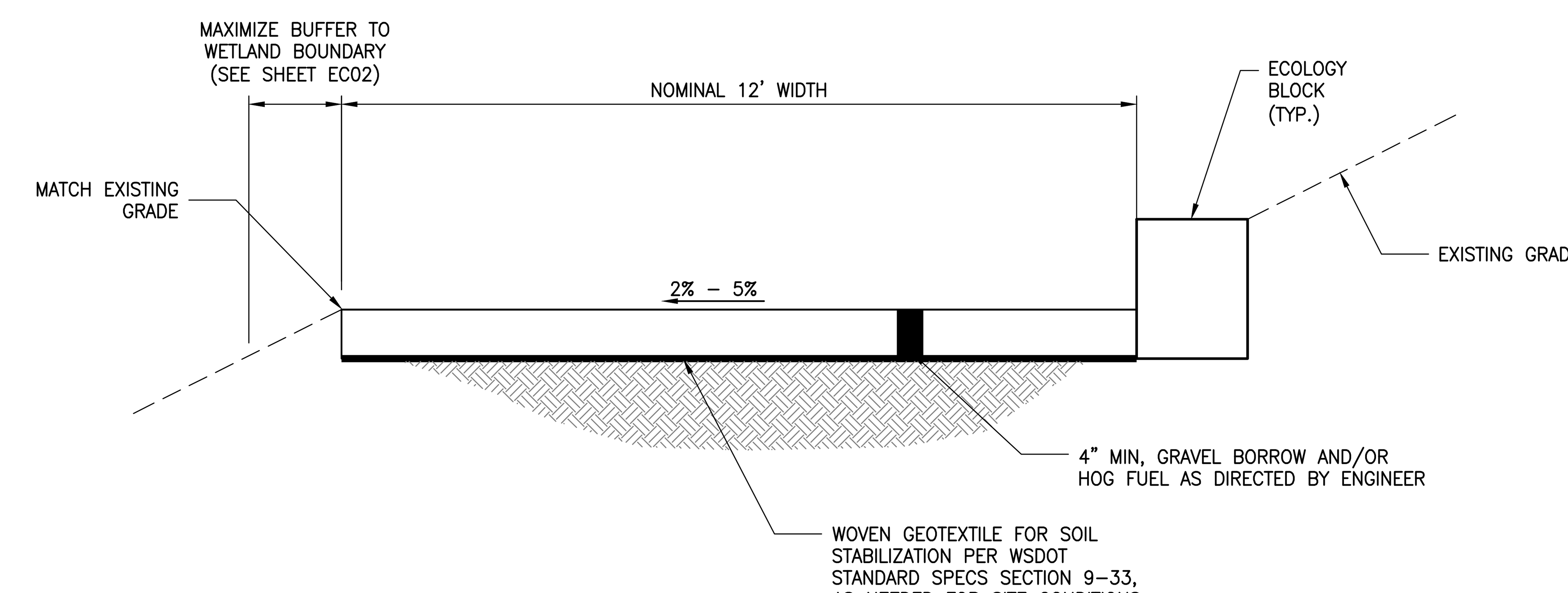
NOT TO SCALE

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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

EROSION & SEDIMENT CONTROL NOTES

1. THE TEMPORARY EROSION AND SEDIMENT CONTROL FEATURES SHALL BE CONSTRUCTED PRIOR TO ANY GRADING OR EXTENSIVE LAND CLEARING IN ACCORDANCE WITH THE PLANS AND AS DIRECTED BY THE ENGINEER. THESE FACILITIES MUST BE SATISFACTORILY MAINTAINED UNTIL CONSTRUCTION AND LANDSCAPING ARE COMPLETED, AND SITE IS STABILIZED. SEDIMENT LADEN WATER SHALL NOT ENTER THE NATURAL DRAINAGE SYSTEMS.
2. TEMPORARY SILT FENCE SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL, AND AT LEAST DAILY DURING PROLONGED RAINFALL. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED WATTLES, END RUNS, AND UNDER-CUTTING BENEATH WATTLES. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
3. ALL CLEARING, GRUBBING, AND GRADING SHALL BE CONTAINED WITHIN THE LIMITS ESTABLISHED BY THE ENGINEER. ALL VEGETATION OUTSIDE DESIGNATED LIMITS SHALL REMAIN UNDISTURBED.
4. ALL STOCKPILES ARE TO BE LOCATED IN SAFE AREAS AND PROTECTED FROM EROSION BY MECHANICAL OR VEGETATIVE MEANS.
5. ALL EXPOSED AND UNWORKED SOILS SHALL BE STABILIZED BY SEEDING, MULCHING, MATTING OR PLASTIC COVERING. FROM OCT. 1 TO APRIL 30 NO SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN 2 DAYS. FROM MAY 1 TO SEPT. 30, NO SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN 7 DAYS.
6. ALL PROPERTIES ADJACENT TO THE PROJECT SHALL BE PROTECTED FROM SEDIMENT DEPOSIT.
7. DE-WATERING DEVICES SHALL DISCHARGE INTO A SEDIMENT TRAP, SEDIMENT POND, OR OTHER DEVICE APPROVED BY THE ENGINEER.
8. ALL POLLUTANTS OTHER THAN SEDIMENTS THAT OCCUR ON-SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER. SEE DEPARTMENT OF ECOLOGY STORM WATER MANAGEMENT MANUAL FOR WESTERN WASINGTON, 2012, VOLUME 2, CHAPTER 4.
9. SEDIMENTS TRANSPORTED ONTO A ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND BE TRANSPORTED TO A CONTROLLED SEDIMENT DISPOSAL AREA. SEE SPECIAL PROVISION, DISPOSAL OF SURPLUS MATERIAL. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
10. CITY OF SAMMAMISH WILL TRANSFER GENERAL STORMWATER CONSTRUCTION PERMIT TO CONTRACTOR.



ACCESS ROAD TYPICAL SECTION

NOT TO SCALE

1. ACCESS ROAD SHALL BE MAINTAINED DURING CONSTRUCTION AND REPAIR DAMAGES AS NECESSARY PRIOR TO COMPLETION OF SCHEDULE A1

1

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1	ACCESS ROAD CLARIFICATION	04/25/2018
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

PROJECT MANAGER / ENGINEER

City of Sammamish Washington

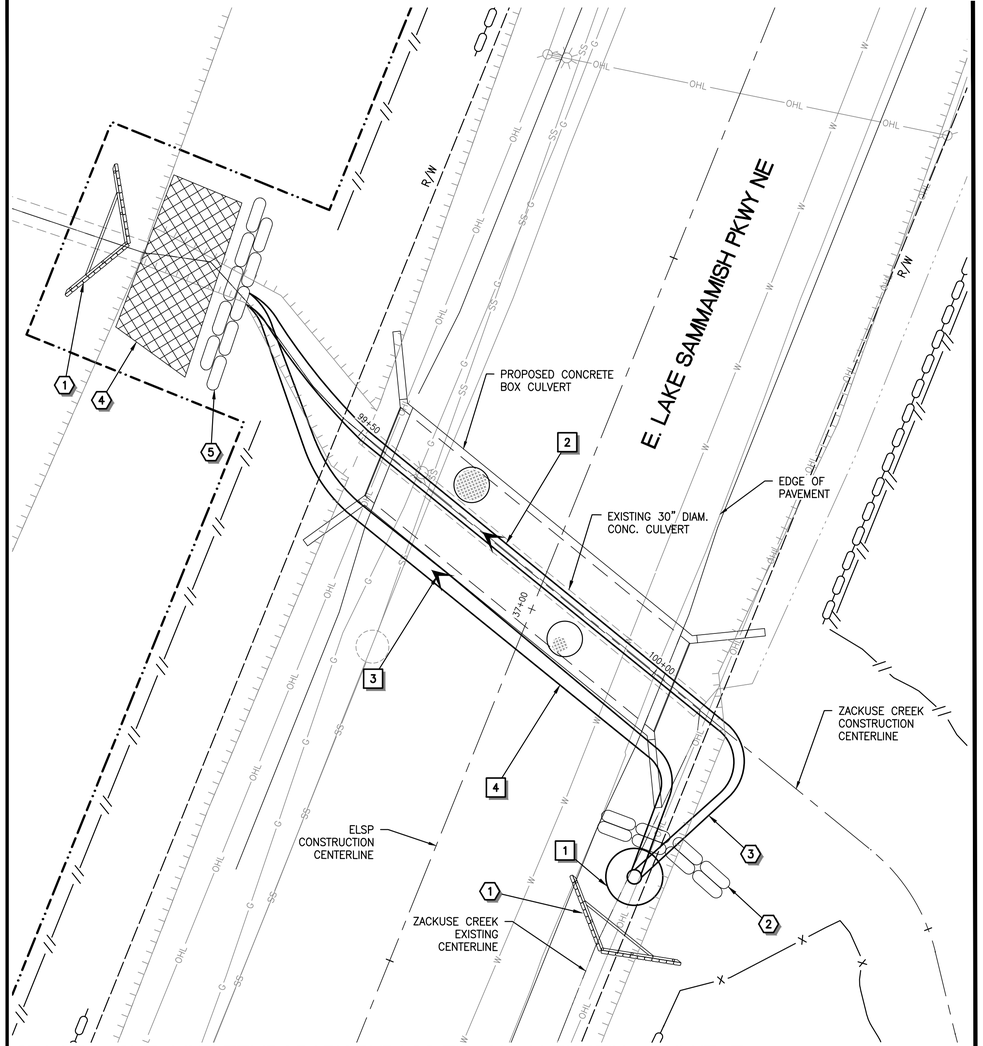
TESC DETAILS

EC03

SHEET 11 OF 34

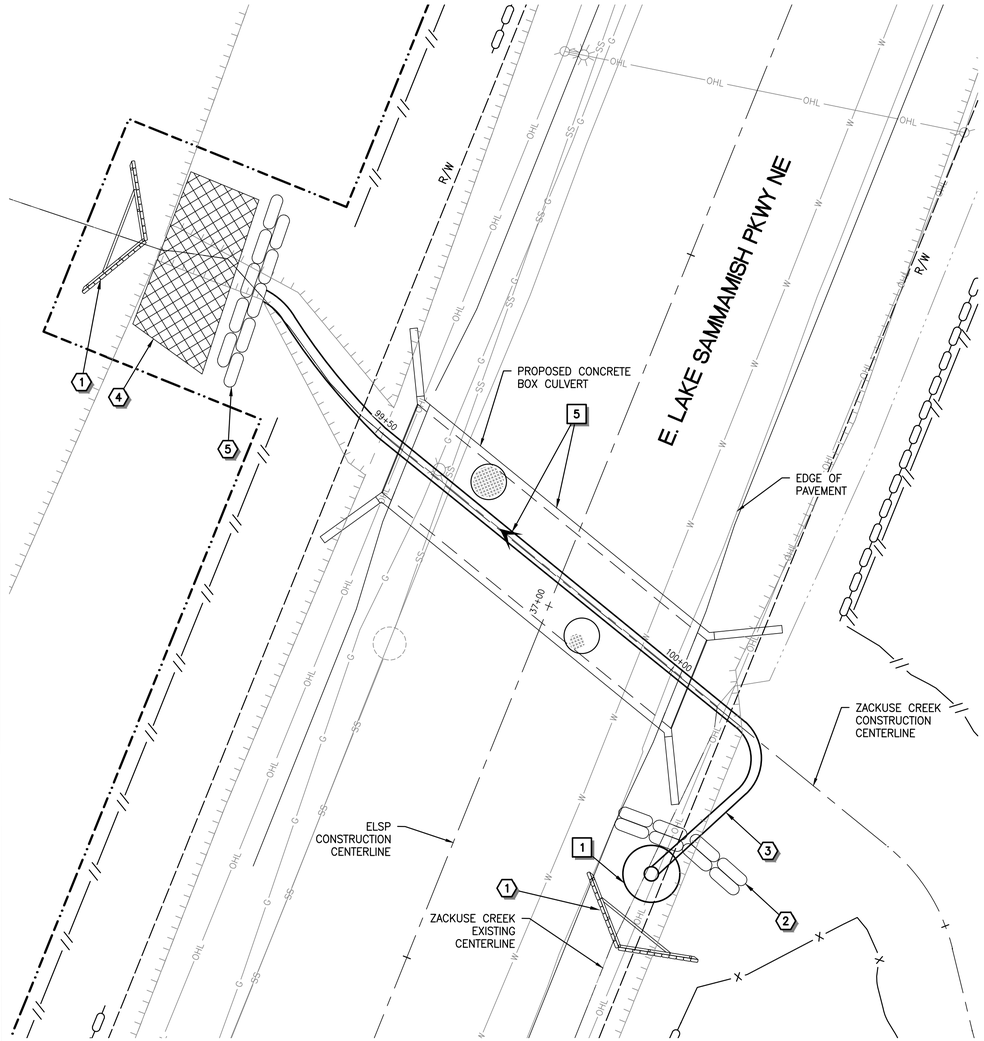
Plotted: May 24, 2018 - 4:48pm courtneymo K:\project\32700\32794\CADD\ACAD\Dwg\04_EC03.dwg Layout Name: EC03

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



STAGE 1: SLIP-LINE TEMPORARY BYPASS THROUGH EXISTING CULVERT

STAGE 2: MOVE TEMPORARY BYPASS PIPE WITHIN LIMITS OF EXCAVATION TRENCH



STAGE 3: TEMPORARY BYPASS PIPE IN PLACE UNTIL END OF PROJECT

STREAM BYPASS NOTES

1. INSTALL FISH SCREEN PER DETAIL ON SHEET BP02.
2. INSTALL TEMP. GRAVEL BAG BERM PER DETAIL ON SHEET BP02.
3. INSTALL 24" DIAM. BYPASS PIPE. SEE PROFILES ON THIS SHEET. INSTALL GRAVEL BAGS ON/AROUND PIPE INLET TO STABILIZE.
4. INSTALL BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES, PER DETAIL ON SHEET BP02.
5. INSTALL SUFFICIENT GRAVEL BAGS AT BYPASS OUTFALL TO PREVENT EROSION.

IN-WATER WORK TESC PLAN NOTES AND RECOMMENDED SEQUENCING

1. PROVIDE TEMPORARY PUMP SYSTEM FOR DEWATERING AS NEEDED. APPROXIMATE LOCATION SHOWN. DISCHARGE TO SEDIMENT FILTER MAT OR OTHER APPROVED TESC MEASURE. SEE SPECIFICATIONS FOR DEWATERING REQUIREMENTS.
2. INSTALL TEMPORARY STORM DRAIN PIPE THROUGH EXISTING 30" DIAM. CONC. CULVERT IN THE APPROXIMATE LOCATION SHOWN.
3. EXCAVATE NEW CHANNEL WITH EXISTING PIPE IN PLACE.
4. INSTALL TEMPORARY DIVERSION PIPE IN NEW CHANNEL FOR REMOVAL OF EXISTING 30" DIAM. CONC. CULVERT.
5. INSTALL CONCRETE BOX CULVERT BOTTOM AND STREAMBED GRAVELS. TRANSFER TEMPORARY DIVERSION PIPE TO WITHIN BOX CULVERT FOR REMAINDER OF BOX CULVERT CONSTRUCTION AND RESTORATION WORK.

IN-WATER WORK TESC PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL SUBMIT THE TEMPORARY BYPASS AND ISOLATION SYSTEM PLAN TO THE ENGINEER FOR REVIEW AND APPROVAL. THE TEMPORARY BYPASS SYSTEM AND ISOLATION BERM SHOWN ON PLAN IS SUGGESTED ONLY.
2. THE TEMPORARY BYPASS AND ISOLATION SYSTEM PLAN SHALL MEET ALL PERMIT REQUIREMENTS. CONTRACTOR SHALL REMOVE ALL TEMPORARY BYPASS MEASURES AFTER COMPLETION OF PROJECT.
3. THE TEMPORARY STREAM BYPASS SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED TO ENSURE CONTINUED PROPER FUNCTION.
4. PEAK FLOW RATES ANTICIPATED DURING THE PERIOD OF CONSTRUCTION COULD BE AS HIGH AS 15 CFS. FLOW MAY BE HIGHER DURING HIGH RAINFALL EVENTS. CONTRACTOR SHALL BE PREPARED TO PROTECT WORK SITE DURING HIGHER FLOWS.
5. FISH EXCLUSION AND FISH REMOVAL SHALL BE PERFORMED FOR IN-WATER WORK IN ACCORDANCE WITH THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE HPA.
6. PUMP SYSTEM WILL REQUIRE POWER FROM OVERHEAD UTILITY. GENERATORS WILL NOT BE ALLOWED. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY TO PROVIDE POWER DROP FROM OVERHEAD LINE.

LEGEND

- HIGH VISIBILITY SILT FENCE
- LIMITS OF DISTURBANCE
- FISH SCREEN
- BYPASS PUMP
- GRAVEL BAG BERM
- WATTLE
- BIODEGRADABLE EROSION CONTROL BLANKET FOR DITCHES

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

ZACKUSE CREEK FISH WINDOW JULY 1 - SEPT 30

ZACKUSE CREEK FISH WINDOW JULY 1 - SEPT 30

10' 0' 10' 20'
HORZ SCALE IN FEET

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
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3		
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DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. LAYER — STATE OF WASHINGTON — 15756 — REGISTERED PROFESSIONAL ENGINEER

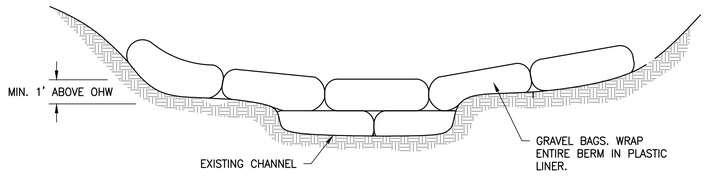
STREAM BYPASS PLAN

BP01

SHEET 12 OF 34

PROJECT MANAGER / ENGINEER

Plotted: Apr 03, 2018 – 1:01pm evah K:\project\32700\32794\CADD\ACAD\Dwg\04_BP01.dwg Layout Name: BP01

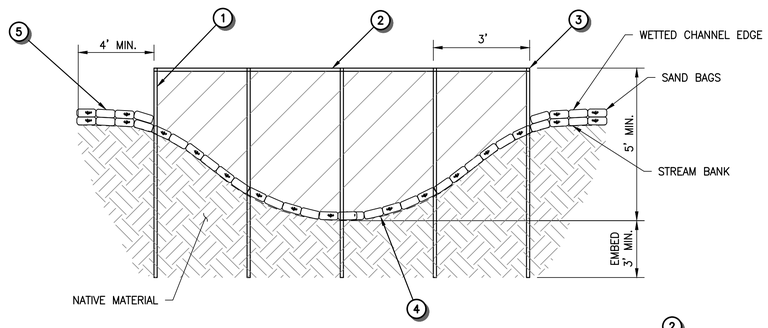


NOTES:

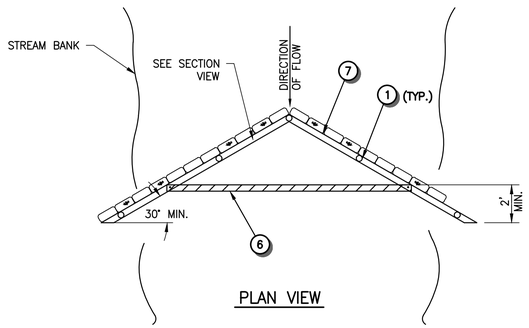
1. GRAVEL BAGS SHALL BE FILLED WITH STREAMBED SEDIMENT PER WSDOT SPEC. 9-03.11(1). STREAMBED SEDIMENT SHALL BE WASTED TO UPSTREAM END OF HABITAT CHANNEL UPON COMPLETION OF WORK.
2. INITIAL ROW OF GRAVEL BAGS SHALL BE KEYED INTO THE GROUND SUCH THAT THEY MAKE TIGHT CONTACT WITH THE GROUND FOR THE LENGTH OF THE BERM.

TEMPORARY GRAVEL BAG BERM DETAIL

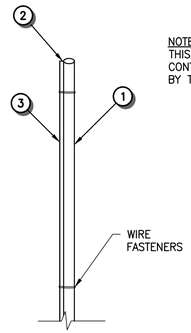
NOT TO SCALE



FRONT VIEW



PLAN VIEW



SECTION VIEW

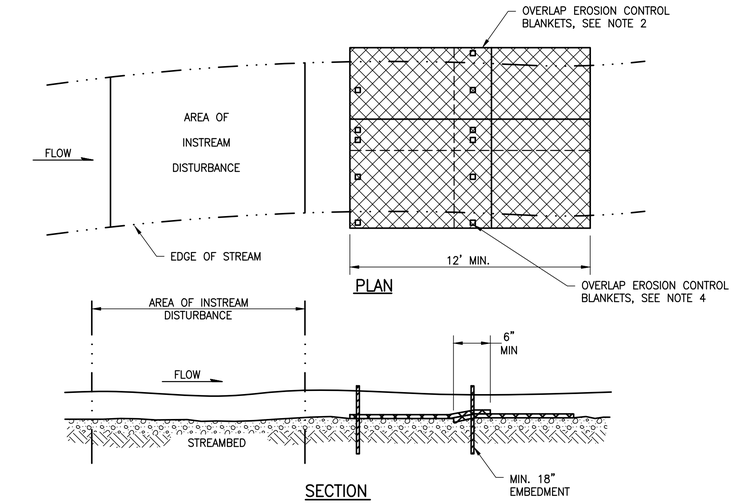
FISH SCREEN CONSTRUCTION SEQUENCE

1. INSTALL 2" GALVANIZED TUBES ON 3' CENTERS.
2. SECURE WIRE MESH TO 2" GALVANIZED TUBES WITH WIRE FASTENER.
3. SECURE ¼" MAX. FISH NYLON NET TO UPSTREAM SIDE OF WIRE MESH WITH WIRE FASTENER.
4. SECURE NYLON FISH NET TO STREAM BOTTOM WITH SAND BAGS.
5. EXTEND SAND BAGS 4' MIN. INTO STREAM BANKS.
6. ADD BRACING TIMBER AS NEEDED TO SUPPORT THE SCREEN.
7. REMOVAL OF DEBRIS FROM THE UPSTREAM SIDE OF THE FENCE IS NECESSARY OTHERWISE THE SCREEN WILL BECOME CLOGGED AND WATER MAY TOPPLE OR BREACH THE SCREEN.

NOTE:
THIS IS A RECOMMENDED METHOD FOR CONSTRUCTION SEQUENCE. CONTRACTOR MAY SUBMIT AN ALTERNATE FISH PLAN FOR APPROVAL BY THE ENGINEER.

FISH SCREEN DETAIL

NOT TO SCALE



PLAN

SECTION

NOTES:

1. INSTALL EROSION CONTROL BLANKETS FLAT ON THE STREAM BOTTOM AT DOWNSTREAM EDGE OF DISTURBED AREA IMMEDIATELY PRIOR TO INSTREAM DISTURBANCE AND REMOVE IMMEDIATELY AFTER INSTREAM ACTIVITIES ARE COMPLETED.
2. OVERLAP THE TRAILING EDGE OF UPSTREAM EROSION CONTROL BLANKETS OVER THE LEADING EDGE OF DOWNSTREAM EROSION CONTROL BLANKETS BY AT LEAST 6". OVERLAP SIDES A MINIMUM OF 6".
3. HOLD THE LEADING EDGE OF THE MATS TIGHTLY TO STREAMBED CONTOURS WITH ROCKS OR OTHER WEIGHTS SUFFICIENT TO PREVENT MAT FROM LIFTING. ROCKS SHALL BE LARGE ENOUGH THAT THE FORCE OF A 2-YR STORM EVENT WILL NOT CAUSE THE EROSION CONTROL BLANKETS FROM DISLODGING.
4. SECURE UPSTREAM CORNERS AND CENTERS OF EROSION CONTROL BLANKETS IN THE STREAMBED WITH 2"x2"x2' LONG WOOD STAKES.
5. IF STREAM VELOCITY IS HIGH. ENGINEER MAY REQUIRE ADDITIONAL LENGTH OF EROSION CONTROL BLANKET.

TESC EROSION CONTROL BLANKET DETAIL

NOT TO SCALE

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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. LAIER — STATE OF WASHINGTON — 25770 — REGISTERED PROFESSIONAL ENGINEER — 4-5-18

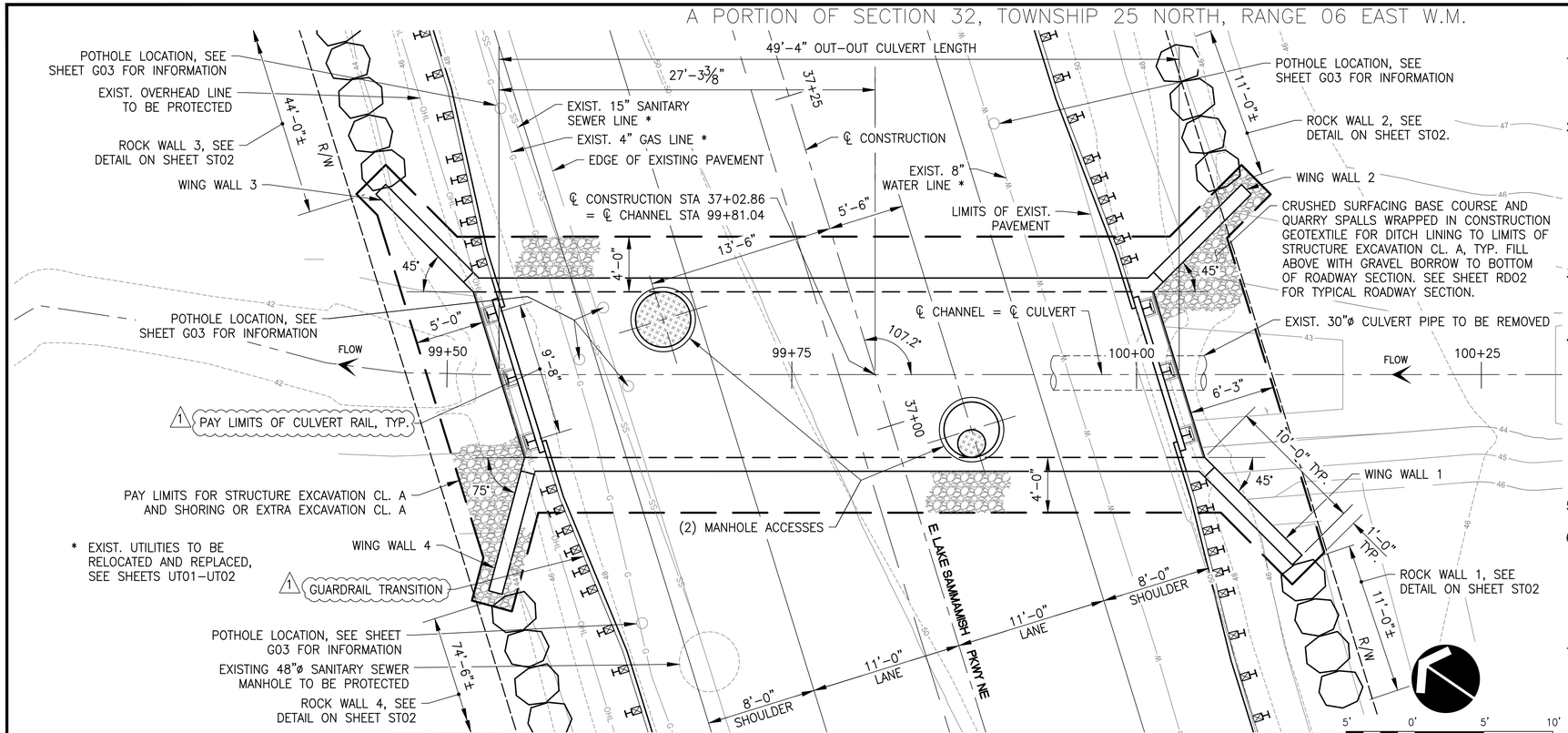
STREAM BYPASS DETAILS

BP02

SHEET 13 OF 34

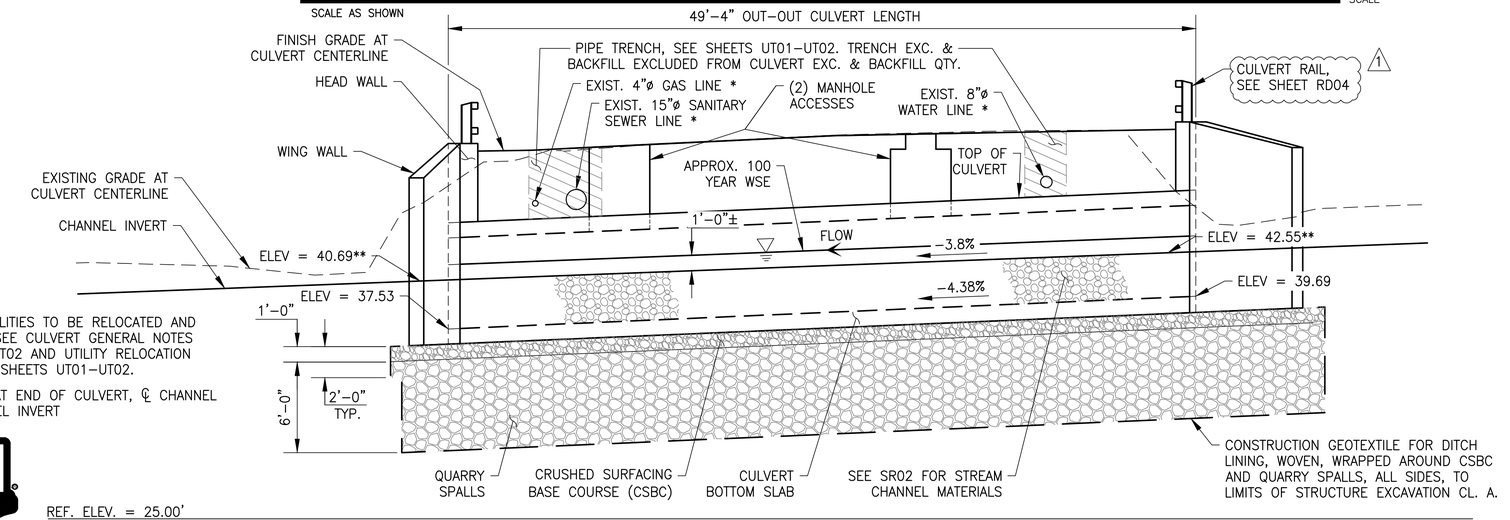
PROJECT MANAGER / ENGINEER

Plotted: Apr 03, 2018 – 1:01pm evah K:\project\32700\32794\CADD\ACAD\Dwg\04_BP02.dwg Layout Name: BP02



CULVERT PLAN

SCALE AS SHOWN



* EXISTING UTILITIES TO BE RELOCATED AND REPLACED. SEE CULVERT GENERAL NOTES ON SHEET ST02 AND UTILITY RELOCATION DETAILS ON SHEETS UT01-UT02.

** ELEVATION AT END OF CULVERT, ℄ CHANNEL AND CHANNEL INVERT

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

REF. ELEV. = 25.00'

CULVERT ELEVATION

SCALE AS SHOWN

CULVERT GENERAL NOTES

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION DATED 2016, AND AMENDMENTS.
2. THE PRECAST REINFORCED CONCRETE BOX CULVERT (PRCBC) WILL BE PROVIDED BY THE CITY, INCLUDING WING WALLS, HEAD WALLS, AND MANHOLE RISERS, LADDER AND LID FOR THE MANHOLE TO BE INSTALLED IN THE NORTHBOUND LANE. THE CULVERT WILL BE DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 7TH EDITION 2014 WITH INTERIM THROUGH 2016. PRECAST BOX UNITS WILL BE MANUFACTURED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 6-02.3(28) WITH SHEAR KEYS. THE FABRICATOR WILL DESIGN FOR LIFTING AND TRANSPORTING PER STANDARD SPECIFICATION SECTION 7-02.3(6)A2.
3. THE CONTRACTOR SHALL TRANSPORT AND INSTALL THE CULVERT. JOINTS SHALL BE SEALED WITH SEALANT PER ASTM C 990 AND WRAPPED WITH EXTERNAL SEALING BAND PER ASTM C 877.
4. MANHOLE ACCESS WILL CONSIST OF 48"ø BLOCKOUTS THROUGH CULVERT TOP SLAB WITH RISERS AND LIDS IN ACCORDANCE WITH THE FOLLOWING. SEE THE SPECIAL PROVISIONS FOR MANHOLE LID REQUIREMENTS.
   - 4.1. THE CONTRACTOR SHALL PROVIDE AND CONSTRUCT THE MANHOLE IN THE SHOULDER OF THE SOUTHBOUND LANE WHICH SHALL CONSIST OF 48"ø CONCRETE RISERS, 48"ø LID AND GALVANIZED STEEL LADDER.
   - 4.2. THE MANHOLE AND LID IN THE NORTHBOUND LANE WILL BE PROVIDED BY THE CITY AND SHALL BE INSTALLED BY THE CONTRACTOR WHICH WILL CONSIST OF 48"ø AND 24"ø CONCRETE RISERS, 24"ø LID AND GALVANIZED STEEL LADDER.
5. CONCRETE SHALL BE CLASS 4000 MIN.
6. STEEL PLATES AND SHAPES SHALL BE ASTM A36 OR ASTM A 992. BOLTS, NUTS AND WASHERS (UNLESS NOTED OTHERWISE) SHALL BE ASTM A 307 AND COMPLY WITH STANDARD SPECIFICATION SECTION 9-16.3(4), AND RESIN BONDED ANCHORS SHALL BE ASTM A 193 GRADE B7, OR ASTM A 449. STEEL PLATES SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 111 AFTER FABRICATION. BOLTS AND HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH AASHTO M 232.
7. UNLESS OTHERWISE SHOWN IN THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2" AT THE TOP OF THE TOP SLAB, 1½" AT THE BOTTOM OF THE TOP SLAB, 3" AT THE BOTTOM OF THE BOTTOM SLAB, AND 2" AT ALL OTHER LOCATIONS.
8. BACKFILL ON BOTH SIDES OF THE BOX SHALL BE PLACED IN SEQUENCE AND COMPACTED IN ACCORDANCE WITH STANDARD SPECIFICATION SECTION 2-09.3(1)E. THE MAXIMUM FILL HEIGHT DIFFERENCE BETWEEN EACH SIDE OF THE CULVERT SHALL BE NO MORE THAN 2'-0".
9. SEE PROJECT GEOTECHNICAL REPORT PREPARED BY ASPECT CONSULTING, DATED 9/14/2017 FOR SUBSURFACE INFORMATION.
10. POTHOLES REPRESENT UTILITY LOCATES AND WERE SURVEYED AT THE LOCATIONS SHOWN. CONTRACTOR SHALL VERIFY UTILITY LOCATIONS. SEE SHEET G03 FOR POTHOLE INFORMATION NOT SHOWN.
11. EXISTING FEATURES INCLUDING, BUT NOT LIMITED TO, TREES, UTILITIES, PAVEMENT AND STREAM, SHALL BE PROTECTED UNLESS OTHERWISE SHOWN TO BE RELOCATED, GRADED, REMOVED OR ADJUSTED. DAMAGE TO EXISTING FEATURES THAT SHOULD BE PROTECTED SHALL BE REPAIRED. REPAIR COSTS SHALL BE INCLUDED IN THE BID PRICE OF ADJACENT WORK.
12. PROVIDE 6" MIN. CLEARANCE BETWEEN BOTTOM OF SANITARY SEWER PIPE AND TOP OF CULVERT. BASED ON POTHOLE INFORMATION, THE LOWEST BOTTOM OF SEWER PIPE ELEVATION OVER THE CULVERT IS APPROXIMATELY **45.31'**. BOTTOM OF PIPE ELEVATION AT CULVERT AND AT EXISTING 48"ø SEWER MANHOLE SHALL BE FIELD VERIFIED.

12'-0" SPAN X 6'-0" RISE X 49'-4" LONG
PRECAST REINFORCED CONCRETE BOX CULVERT (PRCBC)
LOADING: AASHTO HL-93

NO.	REVISIONS	DATE
1	CULVERT RAIL MATERIAL AND COATING	4/25/2018
2		
3		
4		
5		

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

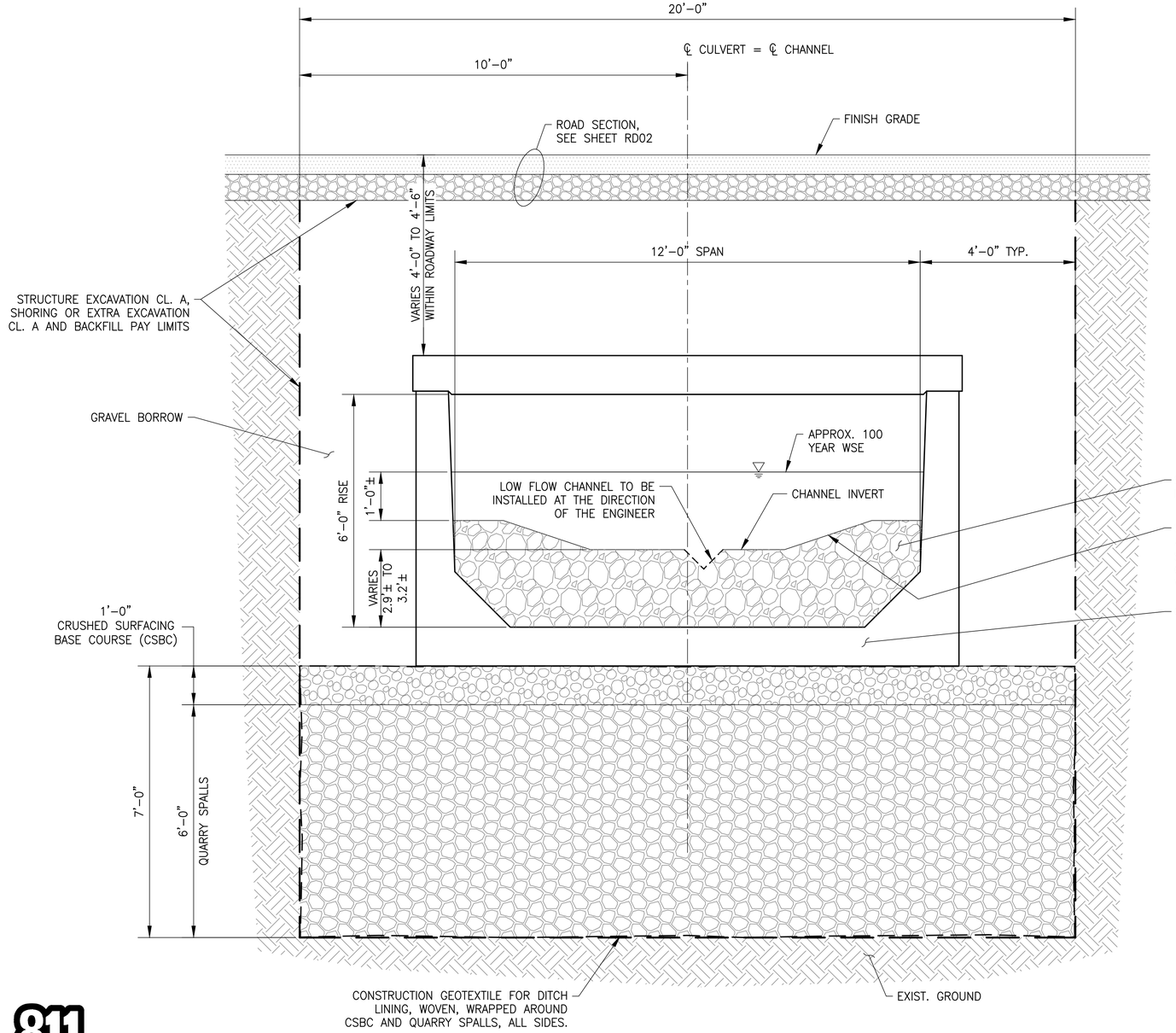
ROBERT P. FORBES — STATE OF WASHINGTON — 43405 — REGISTERED PROFESSIONAL ENGINEER — 5/25/18

PROJECT MANAGER / ENGINEER

CULVERT LAYOUT

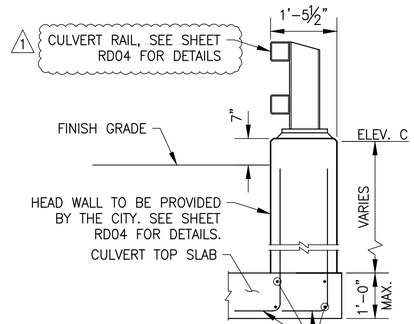
ST01

SHEET 14 OF 14 34



CULVERT TYPICAL SECTION

SCALE AS SHOWN



NOTES:
SEE WING WALL LAYOUT TABLE ON SHEET ST03 FOR ELEV. C.

HEADWALL DETAIL

SCALE AS SHOWN

20' 0' 20' 40'
SCALE IN FEET

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1	CULVERT RAIL MATERIAL AND COATING	4/25/2018
2		
3		
4		
5		

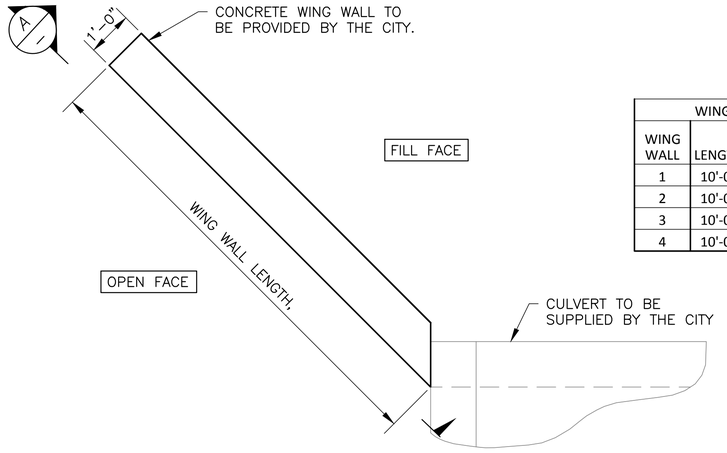
DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

ROBERT P. DOREY — STATE OF WASHINGTON — 43425 — REGISTERED PROFESSIONAL ENGINEER — 5/25/18

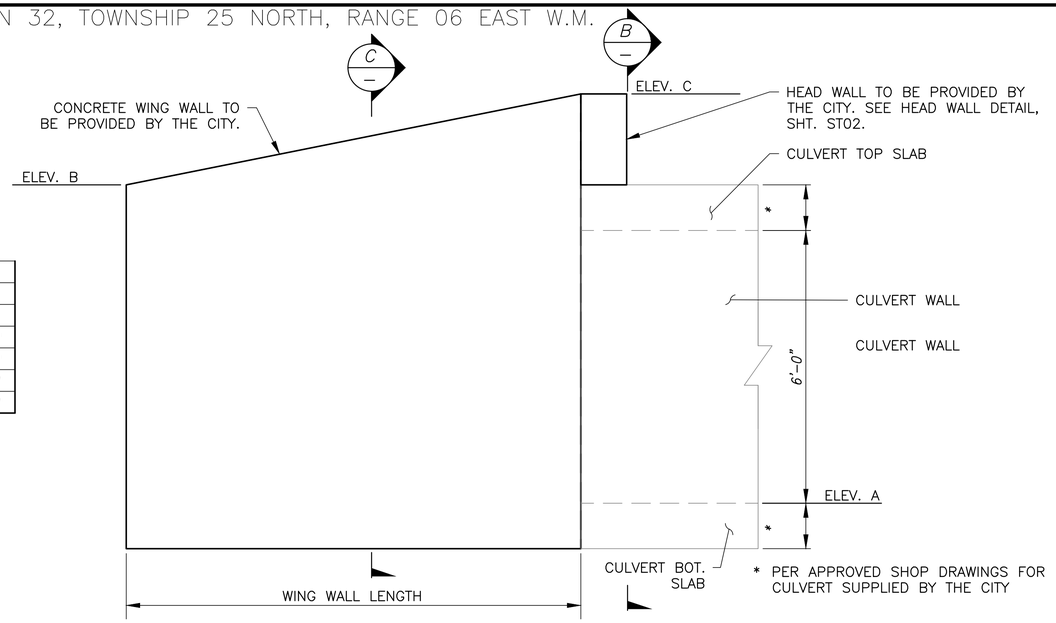
CULVERT DETAILS 1 OF 2

ST02
SHEET 15 OF
15 34



WING WALL LAYOUT TABLE				
WING WALL	LENGTH	ELEV. A	ELEV. B	ELEV. C
1	10'-0"	39.9'	49.5'	50.5'
2	10'-0"	39.9'	48.0'	50.5'
3	10'-0"	37.7'	48.5'	49.3'
4	10'-0"	37.7'	47.5'	49.3'

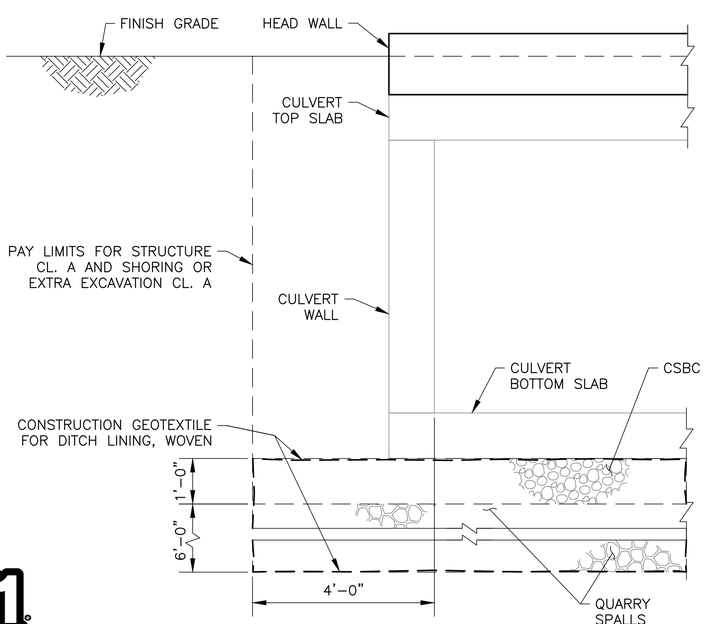
WINGWALL PLAN
SCALE AS SHOWN



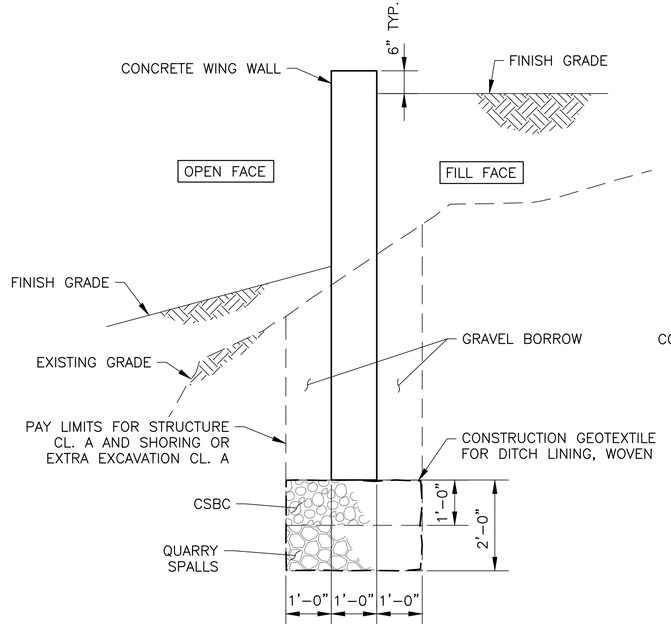
A/— VIEW
SCALE AS SHOWN

ROCK WALL LAYOUT TABLE			
ROCK WALL	LENGTH	ELEV. BOW	ELEV. TOW
1	11'-0"	45.0'	49.5'
2	11'-0"	46.0'	48.0'
3	44'-0"	43.0'	48.5'
4	74'-6"	43.0'	47.5'

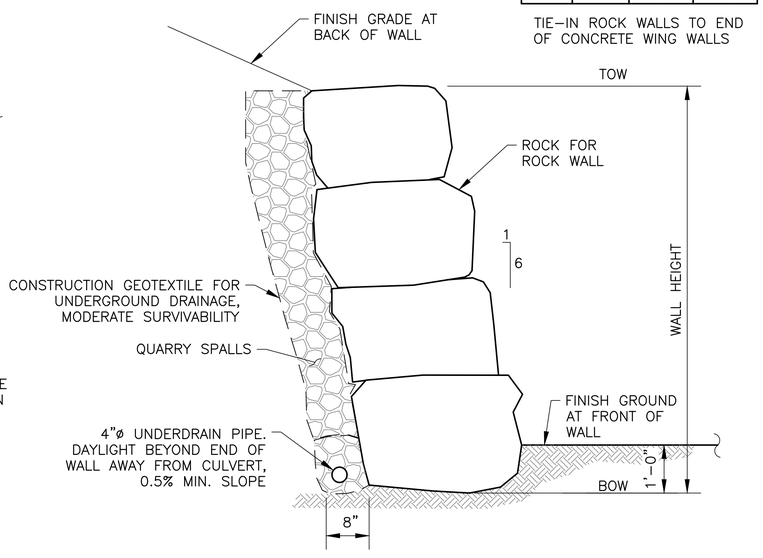
TIE-IN ROCK WALLS TO END OF CONCRETE WING WALLS



B/— SECTION
SCALE AS SHOWN



C/— SECTION
SCALE AS SHOWN



ROCK WALL
SCALE AS SHOWN

HORZ SCALE 20' 0' 20' 40' IN FEET

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

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE
	1		
	2		
	3		
	4		
	5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

ROBERT P. DOSSETT — STATE OF WASHINGTON — 43425 — REGISTERED PROFESSIONAL ENGINEER — 5/25/18

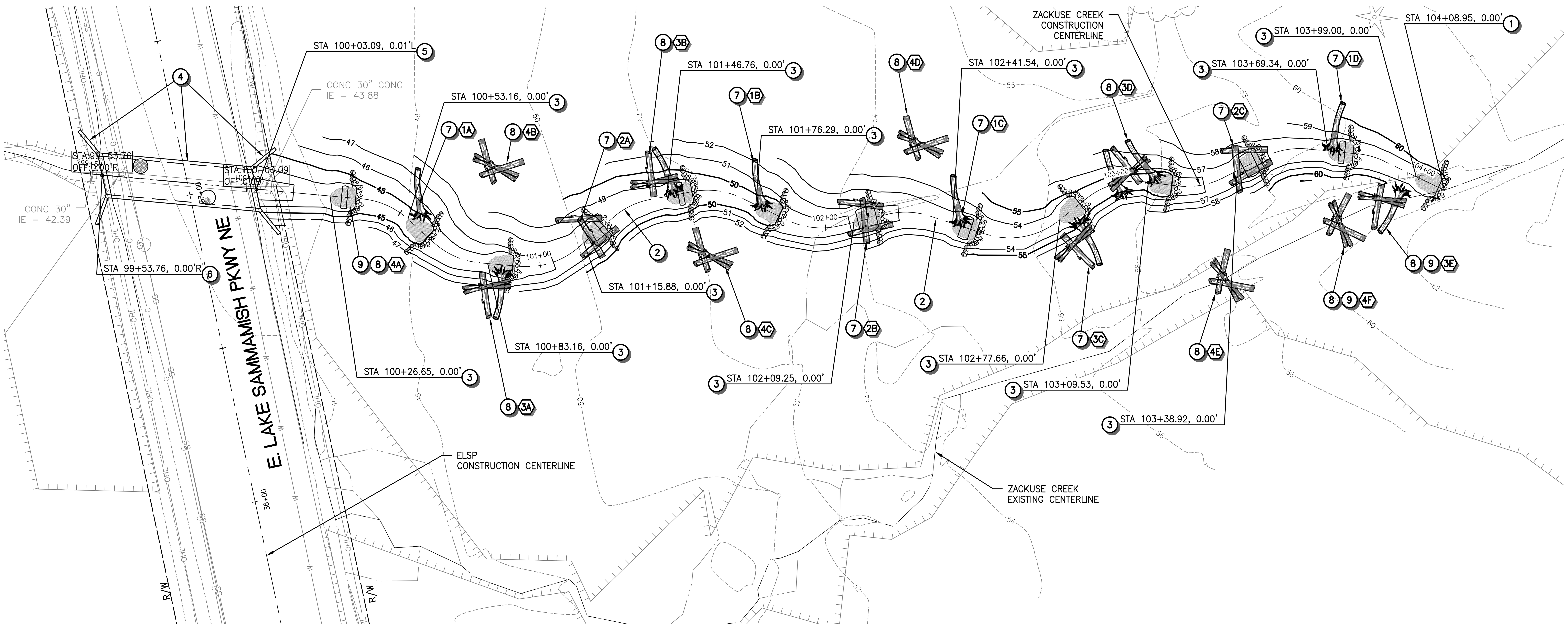
PROJECT MANAGER / ENGINEER

CULVERT DETAILS 2 OF 2

ST03

SHEET 16 OF 34

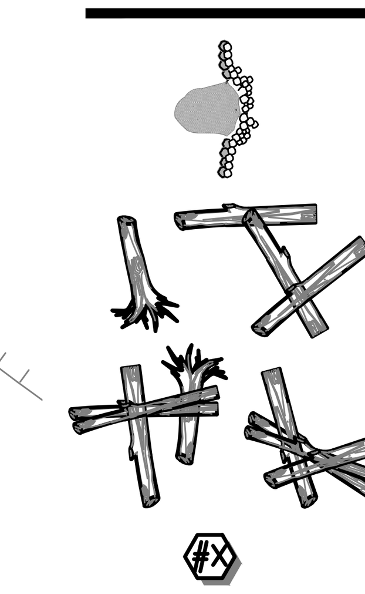
A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



CONSTRUCTION NOTES

1. TIE IN TO EXISTING ZACKUSE CREEK CENTERLINE.
2. CONSTRUCT STREAM CHANNEL ALIGNMENT SHOWN ON SHEET RW02 AND PER PROFILE ON THIS SHEET AND TYPICAL BEDFORM AND CROSS-SECTION DETAIL ON SHEET SR03.
3. CONSTRUCT TYPICAL STREAM BEDFORM STEP AND POOL PER DETAILS ON SHEET SR03. SEE SHEET SR03 FOR CONTROL POINT LOCATION.
4. INSTALL CULVERT AND WING WALLS PER DETAILS ON SHEETS ST01–ST06.
5. TIE IN UPSTREAM END OF PROPOSED CULVERT TO STREAM CHANNEL PER DETAILS ON SHEETS ST01–ST03.
6. TIE IN DOWNSTREAM END OF PROPOSED CULVERT TO KING COUNTY FINISH GRADE. SEE SHEET ST01 FOR ELSP CULVERT PROFILE AND SHEETS KC-XX TO KC-XX FOR DOWNSTREAM GRADING PLANS.
7. CONSTRUCT TYPE 1 OR TYPE 2 WOOD STRUCTURE PER DETAILS ON SHEET SR04, STRUCTURE TYPE AS INDICATED.
8. CONSTRUCT TYPE 3 OR TYPE 4 WOOD STRUCTURE PER DETAILS ON SHEET SR05, STRUCTURE TYPE AS INDICATED.
9. INSTALL DIVERSION LOG STRUCTURES ONCE STREAM IS ESTABLISHED IN CONSTRUCTED CHANNEL.

LEGEND



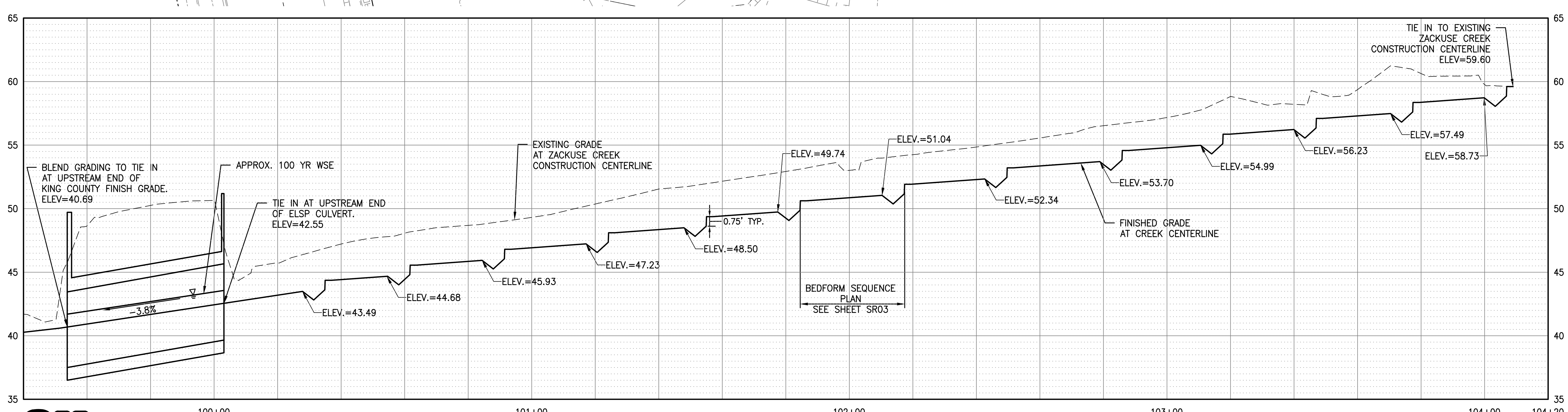
STEP POOL

LARGE WOOD STRUCTURE – SEE NOTE FOR TYPE

LARGE WOOD STRUCTURE TYPE (NUMBER) AND ID NAME (LETTER)

GENERAL NOTES

1. LOG STRUCTURES SHOWN IN PLAN VIEW ARE APPROXIMATE REPRESENTATIONS OF DETAIL TYPE. REFER TO SHEETS SR04–SR05 FOR DETAILS AND SECTIONS FOR EACH TYPE.



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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

ZACKUSE CREEK PROFILE

HORZ SCALE 20' 0' 20' 40' IN FEET

VERT SCALE 5' 0' 5' 10' IN FEET

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

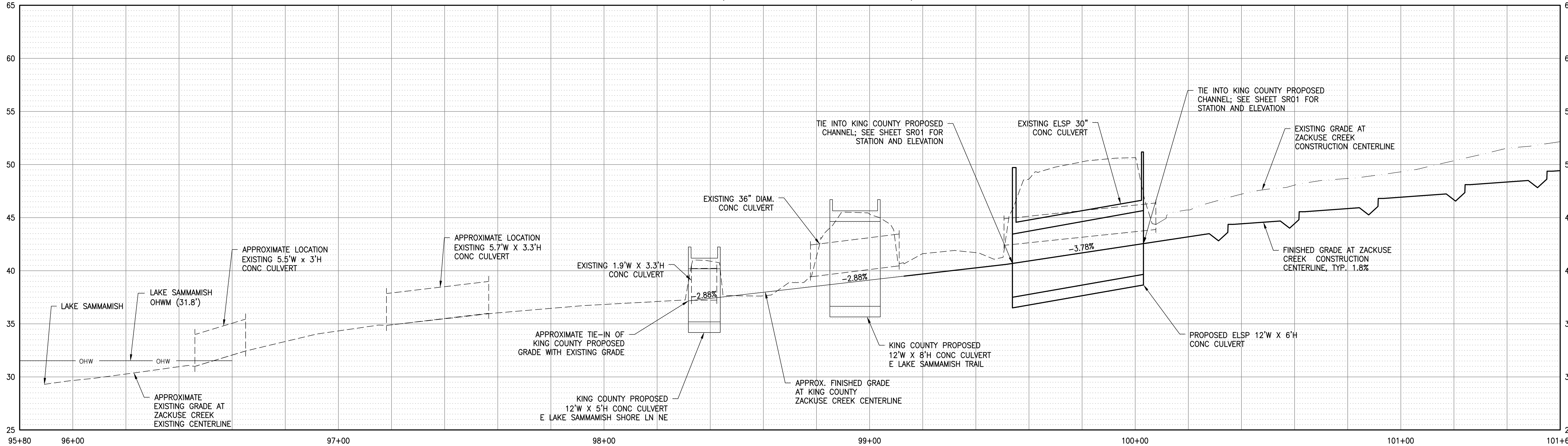
GREGORY S. LAIRD, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER 25758

STREAM CHANNEL GRADING PLAN AND PROFILE

SR01

SHEET 17 OF 34

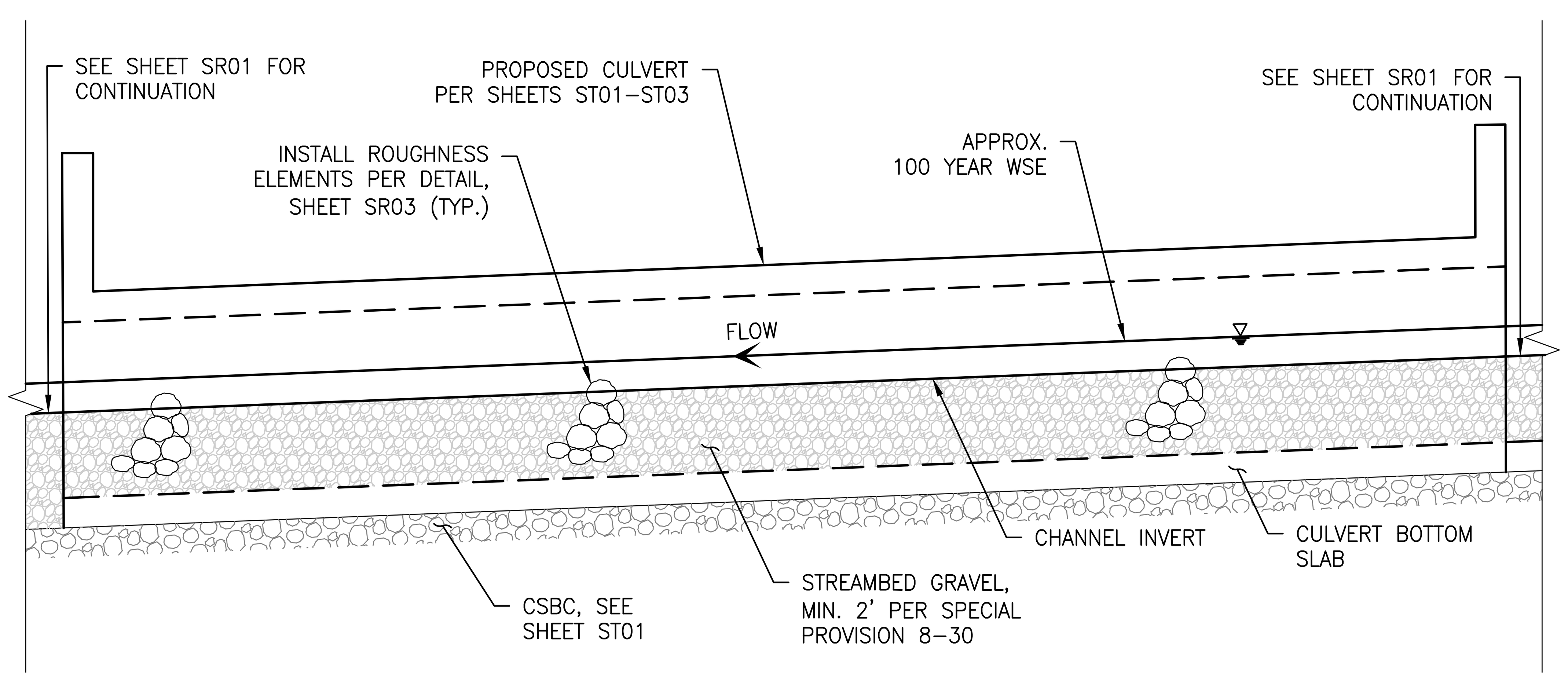
A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.



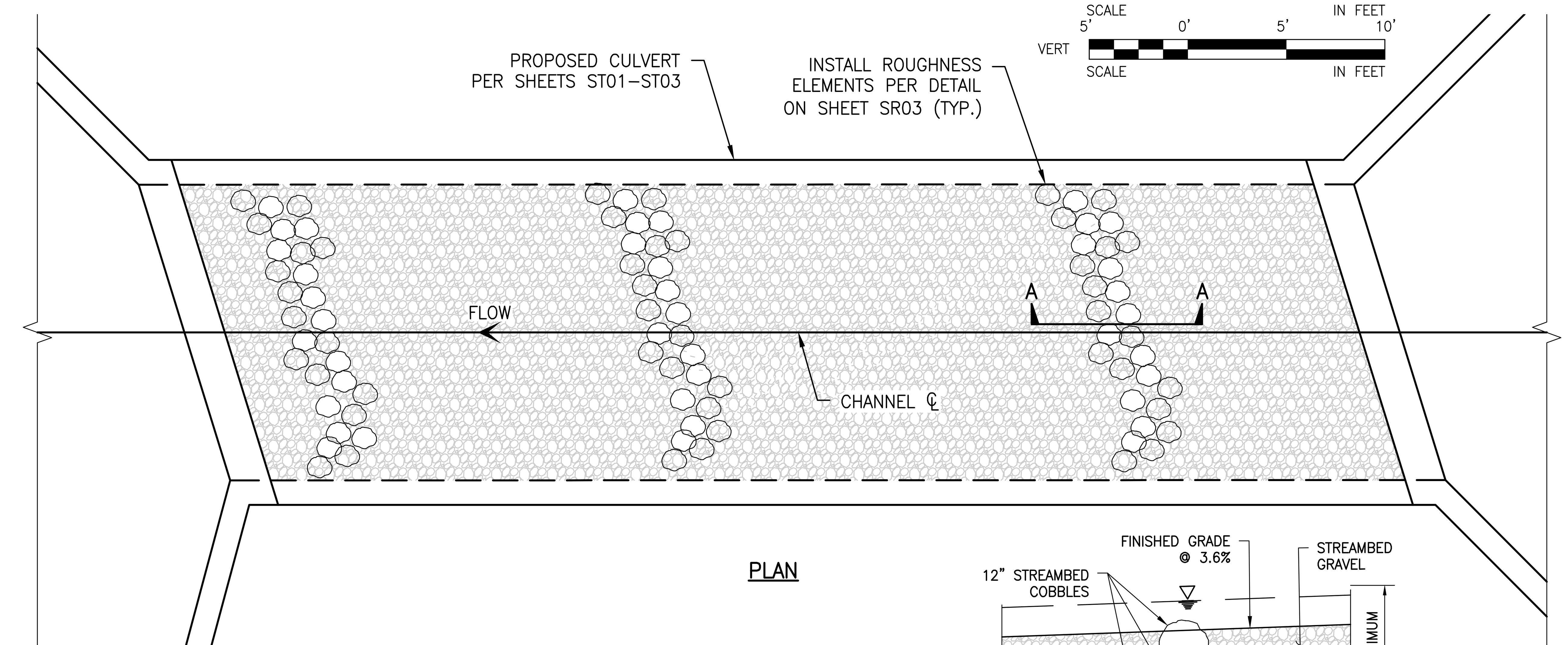
ZACKUSE CREEK CHANNEL PROFILE, LAKE SAMMAMISH TO STA 101+60

HORZ 20' 0' 20' 40' SCALE IN FEET

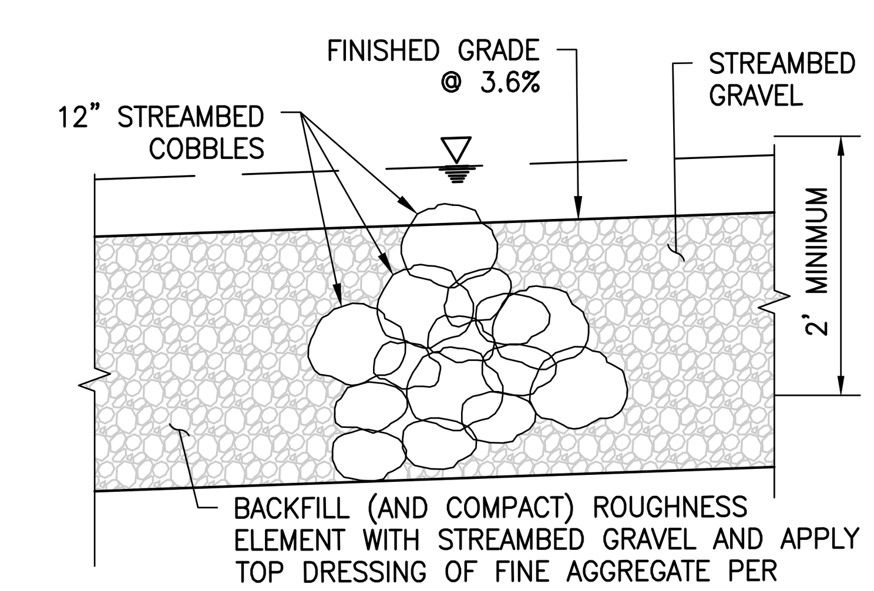
VERT 5' 0' 5' 10' SCALE IN FEET



PROFILE



PLAN



SECTION A–A

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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

ZACKUSE CREEK CULVERT ROUGHNESS ELEMENT PLACEMENT

NOT TO SCALE

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

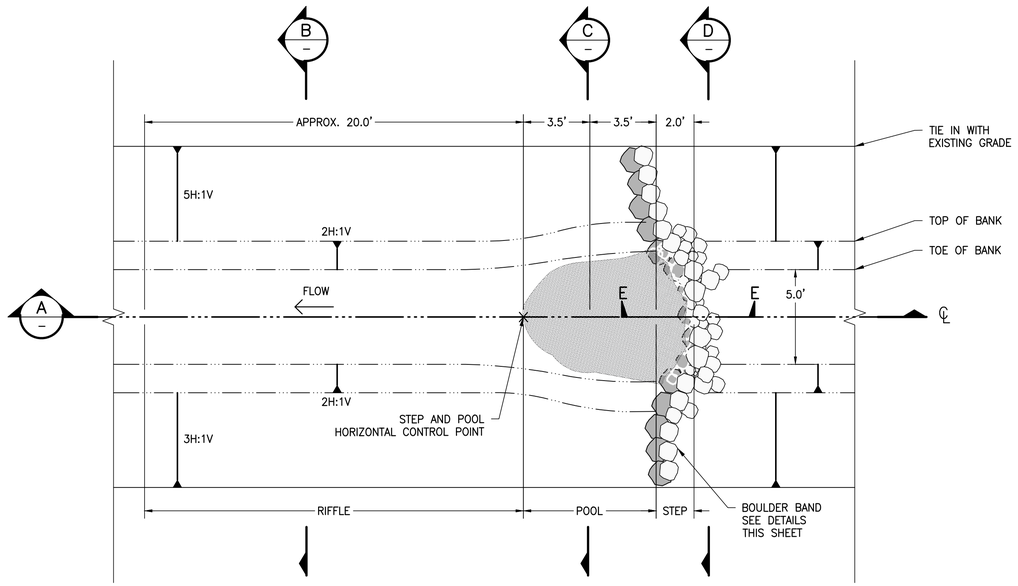
PROJECT MANAGER / ENGINEER

City of Sammamish Washington

STREAM CHANNEL PLAN AND PROFILE

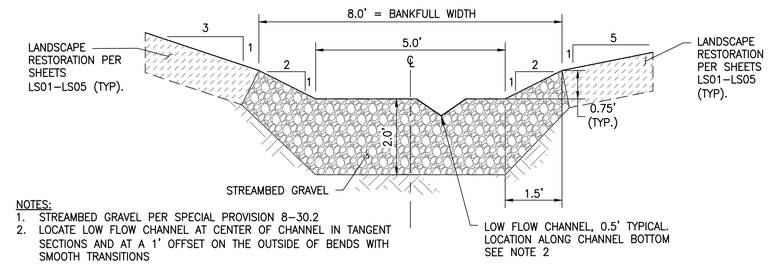
SR02

SHEET 18 OF 34



BEDFORM SEQUENCE PLAN

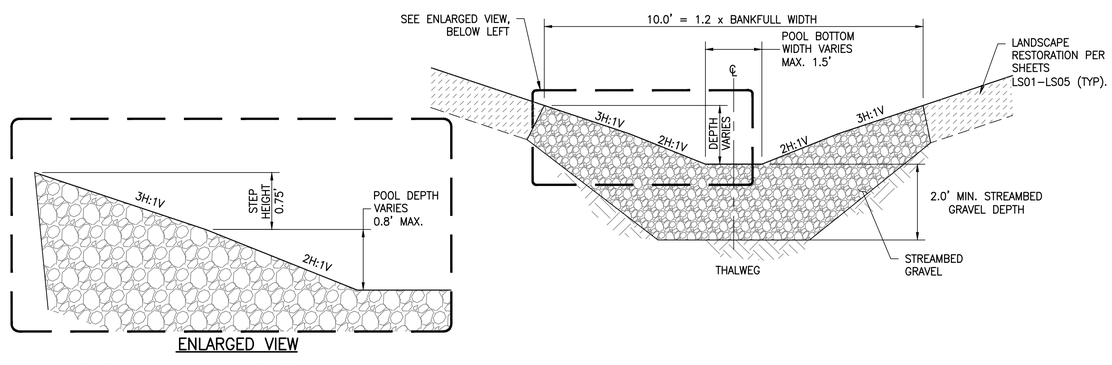
NOT TO SCALE



NOTES:
1. STREAMBED GRAVEL PER SPECIAL PROVISION 8–30.2
2. LOCATE LOW FLOW CHANNEL AT CENTER OF CHANNEL IN TANGENT SECTIONS AND AT A 1' OFFSET ON THE OUTSIDE OF BENDS WITH SMOOTH TRANSITIONS

B TYPICAL CHANNEL, HABITAT RIFFLE SECTION

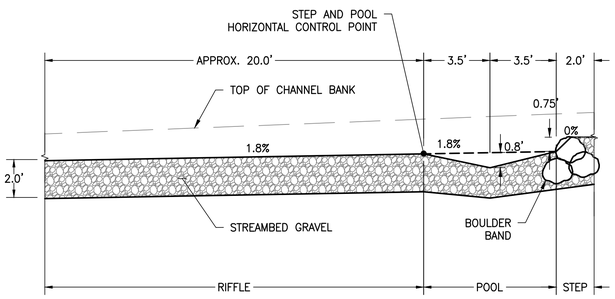
NOT TO SCALE



ENLARGED VIEW

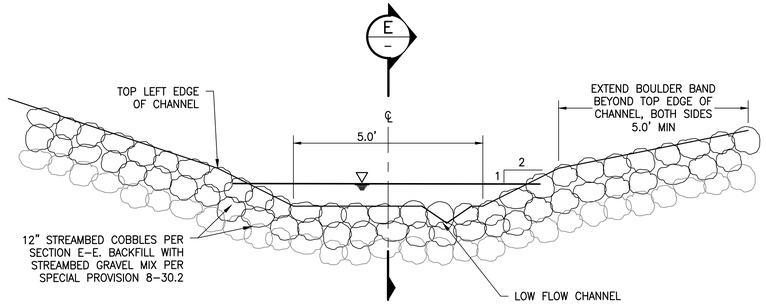
C TYPICAL POOL SECTION

NOT TO SCALE



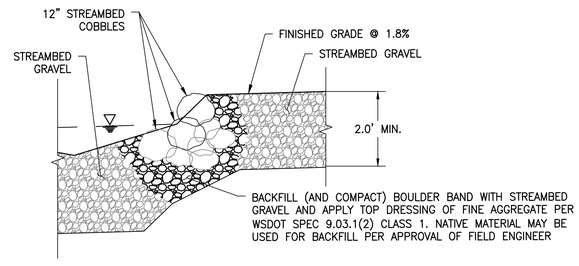
A STREAM BEDFORM SECTION

NOT TO SCALE



D TYPICAL BOULDER BAND SECTION

NOT TO SCALE



E BOULDER BAND DETAIL

NOT TO SCALE

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

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY D. LATHEN — STATE OF WASHINGTON — 35754 — REGISTERED PROFESSIONAL ENGINEER — 4.3.18

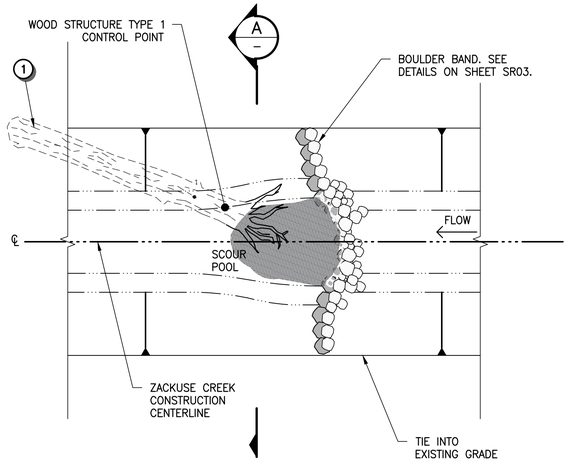
STREAM CHANNEL TYPICAL SECTIONS

SR03

SHEET 19 OF 34

PROJECT MANAGER / ENGINEER

Plotted: Apr 03, 2018 – 1:03pm evah K:\project\32700\32794\CADD\ACAD\Dwg\06_SR03–SR04.dwg Layout Name: SR03



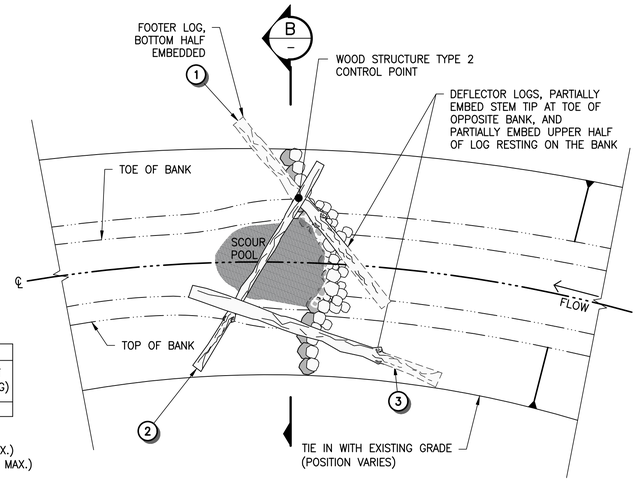
PLAN VIEW

STRUCTURE #	STATION	OFFSET	ELEVATION	# LOGS*
1A	100+53.97	5.08' L	45.6180	1
1B	101+76.76	2.50' L	49.7280	1
1C	102+42.70	3.37' L	52.4160	1
1D	103+70.71	3.68' L	57.7400	1

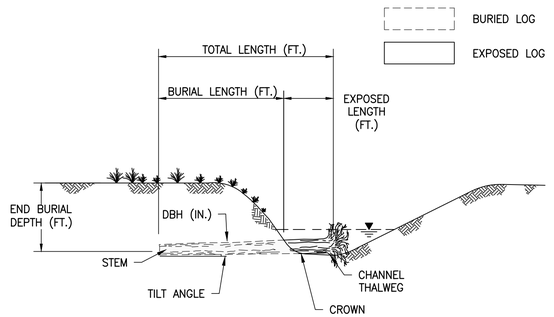
* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

TYPE 1 LARGE WOOD STRUCTURE MATERIAL SCHEDULE (PER STRUCTURE)						
LOG ORDER	DBH (IN)	LENGTH (FT)	ROOTWAD ATTACHED ?	MIN PERCENT OF LOG BURIED (%)	MIN END BURIAL DEPTH (FT)	STEM TILT ANGLE (DEG)
1	16	12	Yes	75	1.5	0

*ANGLE (TILT) FROM LOG TO VERTICAL
0 DEG = STEM LYING FLAT, PARALLEL TO STREAM BED
(+) DEG = STEM TILTED UP FROM STREAM BED; ROOTWAD TILTED DOWN (90 DEG MAX.)
(−) DEG = STEM TILTED DOWN TOWARDS STREAM BED; ROOTWAD TILTED UP (90 DEG MAX.)

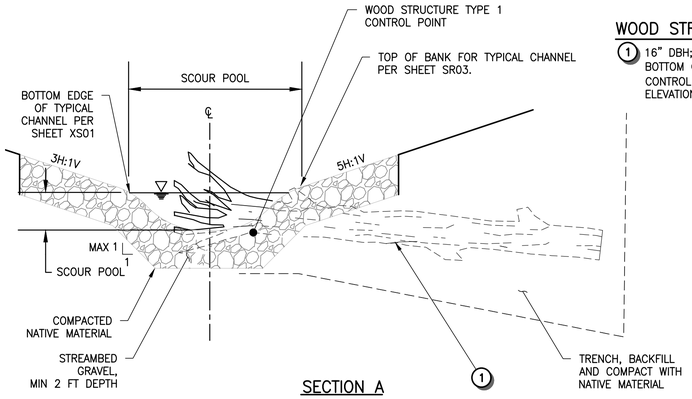


PLAN VIEW



A TYPICAL LOG REFERENCE KEY AND LEGEND

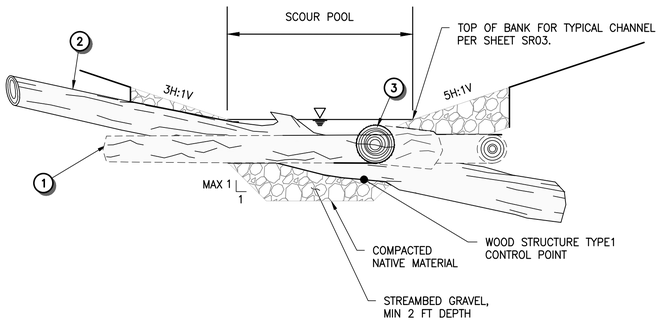
NOT TO SCALE



SECTION A

WOOD STRUCTURE TYPE 1 NOTES

1. 16" DBH; PARTIALLY BURIED WITH ROOTWAD; SET ROOTWAD BOTTOM CROWN AT MIN. ELEVATION OF POOL (12' L). CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION AT BANK SLOPE INTERSECTION



SECTION B

WOOD STRUCTURE TYPE 2 TREE DIMENSION NOTES

1. 16" DBH; PARTIALLY BURIED (16' L).
2. 12" DBH; PARTIALLY BURIED (15' L).
3. 16" DBH; PARTIALLY BURIED (20' L).

GENERAL NOTES

1. CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION AT BANK SLOPE INTERSECTION.

STRUCTURE #	STATION	OFFSET	ELEVATION	# LOGS*
2A	101+18.27	3.19' R	47.0020	3
2B	102+12.32	3.20' R	50.6550	3
2C	103+38.10	2.65' R	56.2490	3

* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

TYPE 2 LARGE WOOD STRUCTURE MATERIAL SCHEDULE (PER STRUCTURE)						
LOG ORDER	DBH (IN)	LENGTH (FT)	ROOTWAD ATTACHED?	MIN PERCENT OF LOG BURIED (%)	MIN END BURIAL DEPTH (FT)	STEM TILT ANGLE (DEG)
1	16	18	No	60	1.75	0
2	12	15	No	60	3	9
3	16	20	No	65	2.75	−5

*ANGLE (TILT) FROM LOG TO VERTICAL
0 DEG = STEM LYING FLAT, PARALLEL TO STREAM BED
(+) DEG = STEM TILTED UP FROM STREAM BED; ROOTWAD TILTED DOWN (90 DEG MAX.)
(−) DEG = STEM TILTED DOWN TOWARDS STREAM BED; ROOTWAD TILTED UP (90 DEG MAX.)

WOOD STRUCTURE TYPE 1 - ROOTWAD DETAIL

NOT TO SCALE

WOOD STRUCTURE TYPE 2 - CREST STRUCTURE DETAIL

NOT TO SCALE

GENERAL NOTES:

1. LARGE WOOD MATERIALS: SPECIES OF WOOD FOR USE IN LARGE WOOD STRUCTURES SHALL BE DOUGLAS-FIR OR WESTERN RED CEDAR, OR SITKA SPRUCE. SIZE OF LARGE WOOD MATERIAL SHALL BE PER DRAWINGS AND SPECIFICATIONS PER SHEETS SR04-SR05. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER IF A SPECIFIED LOG SIZE IS NOT AVAILABLE. WOOD MATERIAL SHALL BE FREE OF CRACKS, DECAY, OR OTHER STRUCTURAL DEFICIENCIES, AND SHALL BE DISEASE AND PARASITIC INSECT-FREE. LARGE WOOD MATERIAL FOR STRUCTURES SHALL BE SECURED FROM THE FOLLOWING SOURCES:
   - SALVAGED TREES AND EXISTING LOGS REMOVED DURING CONSTRUCTION GRADING ACTIVITIES PER SHEET EC02, AS APPROVED BY THE ENGINEER (LIMITED QUANTITY AVAILABLE)
   - IMPORTED LARGE WOOD FROM AN OFF-SITE SOURCE (PROCURED AND HAULED TO SITE BY CONTRACTOR)
2. THE CONTRACTOR SHALL PROVIDE A LIST OF THE LOGS THAT ARE AVAILABLE (ONSITE AND OFFSITE) TO BE USED FOR THE PROJECT. FOR EACH LOG, THE LIST SHALL DESCRIBE THE TREE SPECIES, DIAMETER (DBH), LENGTH, AND ROOTWAD DIAMETER. THE LARGE WOOD STRUCTURE CONFIGURATIONS AND MATERIAL SCHEDULES SHOWN IN THE PLANS ARE CONSIDERED PRELIMINARY, AND ARE SUBJECT TO REVISION BY THE ENGINEER UPON RECEIPT OF THE LIST OF LOG MATERIAL. SPECIFIED DIAMETER OF LOGS SHALL BE MEASURED AT BREAST HEIGHT (DBH). LENGTHS OF LOGS SHALL INCLUDE THE ROOTWAD PORTIONS OF THE LOG, IF ROOTWAD IS PRESENT. LOG SIZE SHALL BE WITHIN THE SPECIFIED RANGE OF DIAMETERS SHOWN ON THE PLANS. ROOTWAD DIAMETER SHALL TYPICALLY BE A MINIMUM OF 3 TIMES THE DBH OF THE LOG, UNLESS OTHERWISE APPROVED BY THE ENGINEER. THE CONTRACTOR SHALL TAKE CARE TO PROTECT THE ROOTWADS FROM DAMAGE DURING HANDLING OF LARGE WOOD MATERIAL.
3. THE LOCATION AND CONFIGURATION OF LARGE WOOD STRUCTURES AS NOTED IN DETAIL TABLES MAY VARY IN FIELD DUE TO SITE CONDITIONS, AND THE FINAL LOCATION OF THESE STRUCTURES WILL BE FLAGGED BY THE ENGINEER DURING CONSTRUCTION.
4. THE CONTRACTOR MAY SALVAGE STOCKPILED COTTONWOOD MATERIALS ON SITE. COORDINATE WITH PROPERTY OWNER. COTTONWOOD MAY ONLY BE USED IN TYPE 4 STRUCTURES. THE AREA USED BY THE PROPERTY OWNER FOR STOCKPILING WOOD SHALL NOT BE USED BY THE CONTRACTOR FOR STAGING/STOCKPILING OTHER MATERIALS.

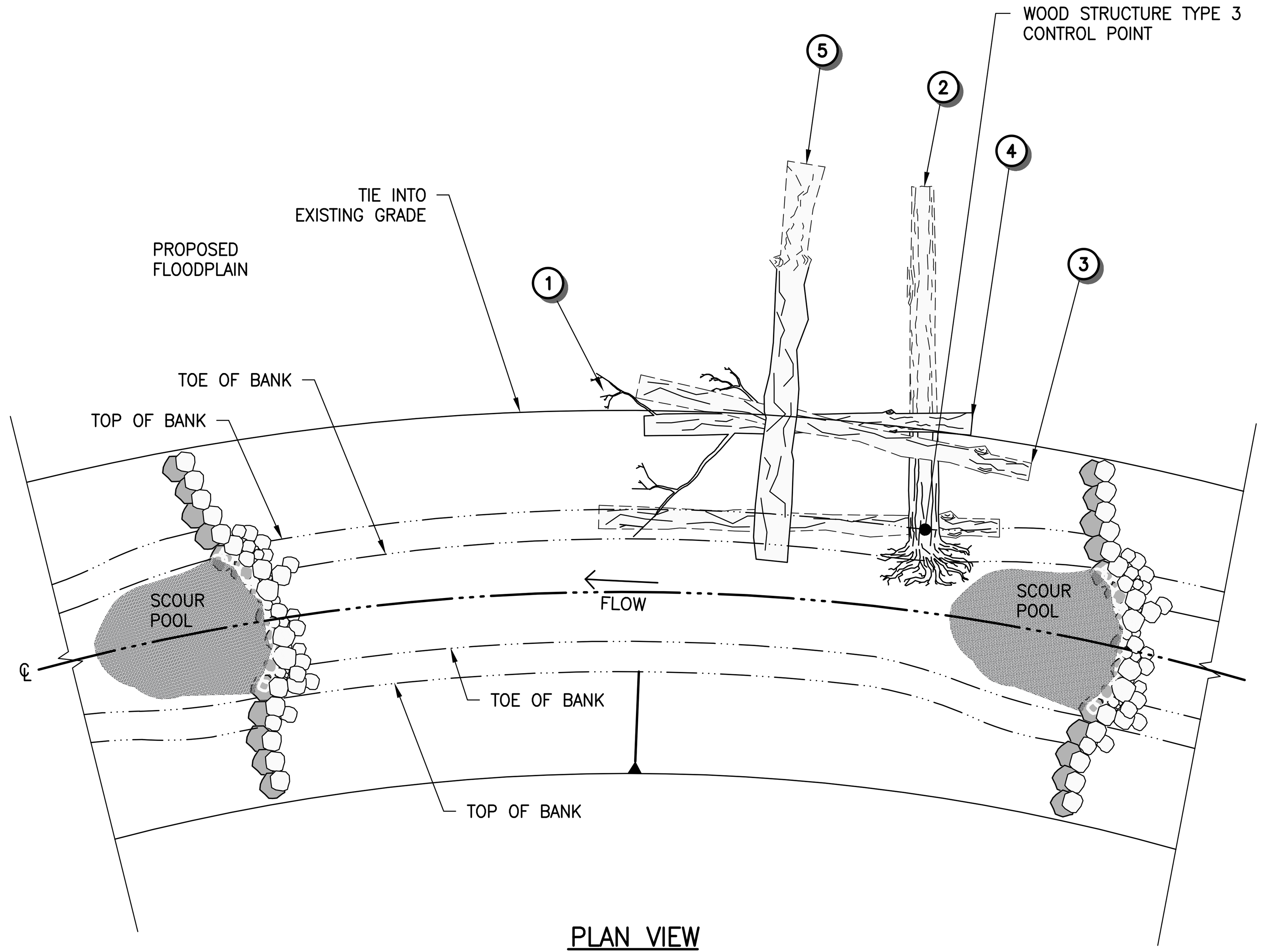
811 Know what's **below.** **Call** before you dig.

ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018	STREAM IMPROVEMENT DETAILS 1 OF 2	SR04	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH		SHEET	OF
	2					20	34
	3			DRAWN BY: AK			
	4			REVIEWED BY:			
	5						

City of Sammamish Washington

PROJECT MANAGER / ENGINEER



PLAN VIEW

STRUCTURE #	STATION	OFFSET	ELEVATION	# LOGS*
3A	100+88.20	4.03' R	45.7860	5
3B	101+49.11	2.92' L	48.2720	5
3C	102+81.74	6.17' R	55.4050	5
3D	103+10.26	2.72' L	54.9800	5
3E	104+01.29	8.42' R	59.5500	5

* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

TYPE 3 LARGE WOOD STRUCTURE MATERIAL SCHEDULE (PER STRUCTURE)						
LOG ORDER	DBH (IN)	LENGTH (FT)	ROOTWAD ATTACHED?	MIN PERCENT OF LOG BURIED (%)	MIN END BURIAL DEPTH (FT)	STEM TILT ANGLE (DEG)
1	10	20	No	70	2	−2
2	16	12	Yes	75	2	−3
3	6	20	No	65	1	5
4	6	20	No	75	1.5	3.5
5	12	15	No	60	1.25	−2

*ANGLE (TILT) FROM LOG TO VERTICAL
0 DEG = STEM LYING FLAT, PARALLEL TO STREAM BED
(+) DEG = STEM TILTED UP FROM STREAM BED; ROOTWAD TILTED DOWN (90 DEG MAX.)
(−) DEG = STEM TILTED DOWN TOWARDS STREAM BED; ROOTWAD TILTED UP (−90 DEG MAX.)

WOOD STRUCTURE TYPE 3 TREE DIMENSION NOTES

1. 10" DBH WITH BRANCHES (20' L), FULLY BURIED
2. 16" DBH WITH ROOT WAD (12' L).
3. 6" DBH WITH BRANCHES (20' L).
4. 6" DBH WITH BRANCHES (20' L).
5. 12" DBH (15' L).

GENERAL NOTES

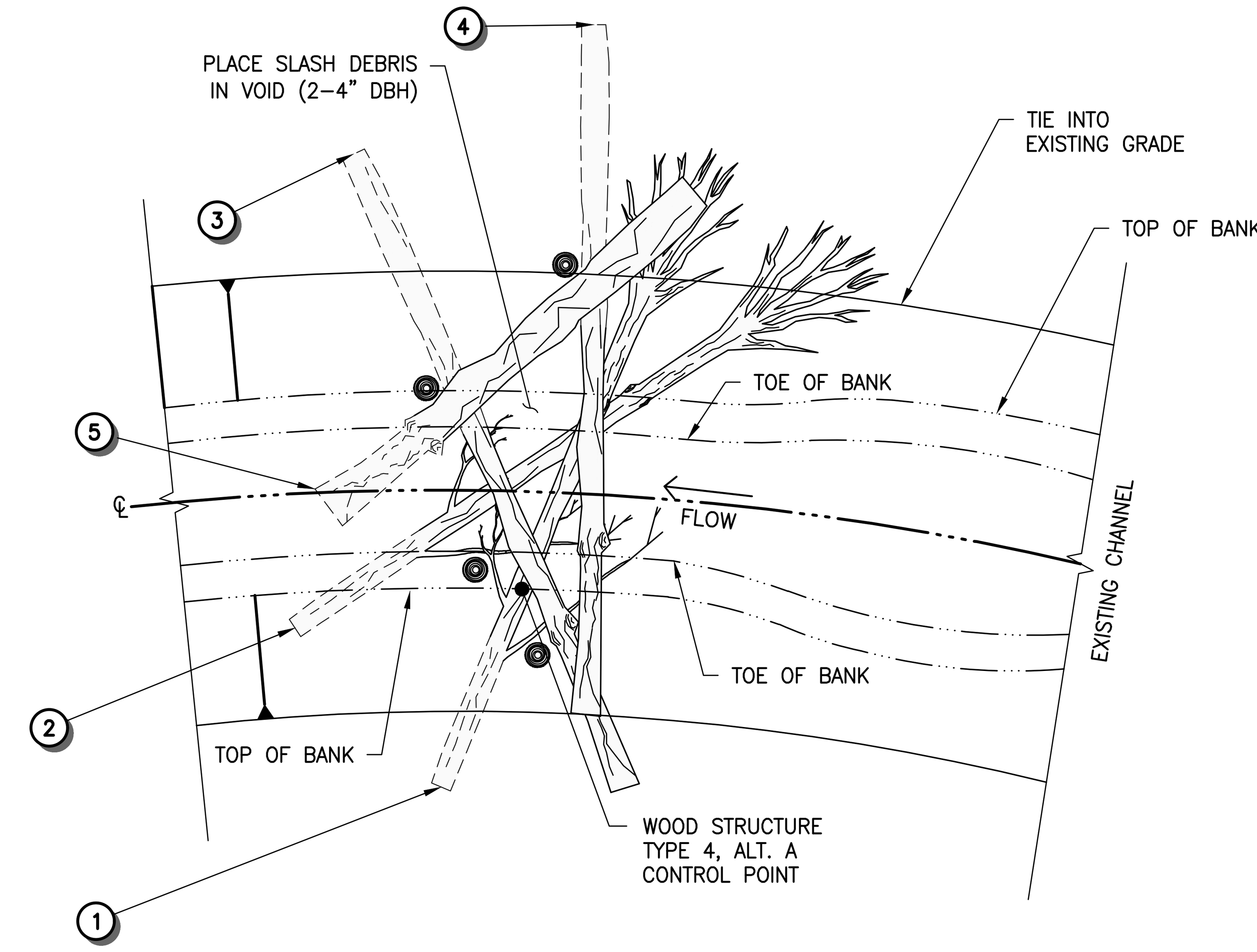
1. CONTROL POINT SHOWN AT BOTTOM OF ROOT WAD (FINISH GRADE) ELEVATION OF LOG 1/LOG 2 INTERSECTION.

WOOD STRUCTURE TYPE 3 - REVETMENT STRUCTURE DETAIL

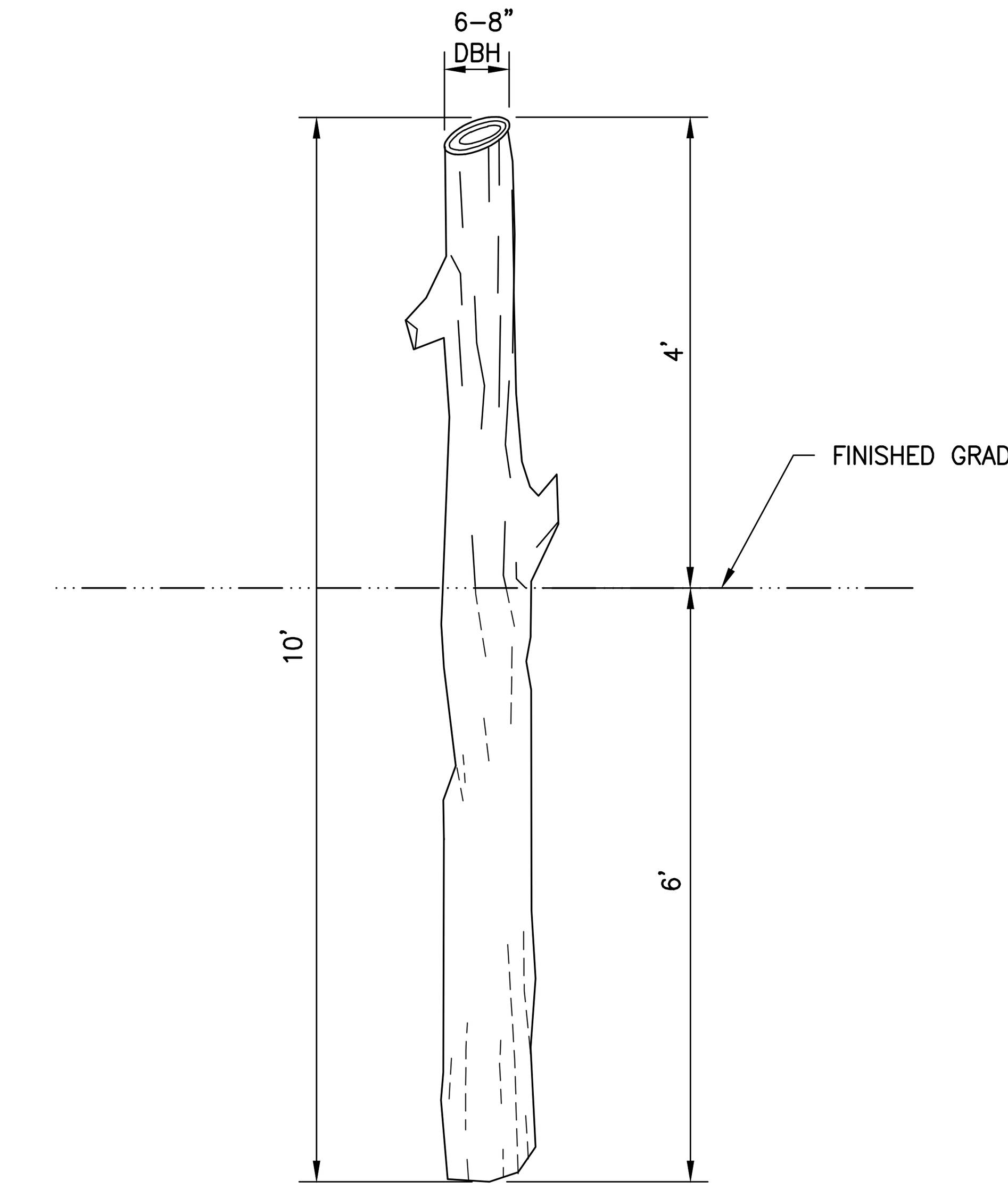
NOT TO SCALE

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

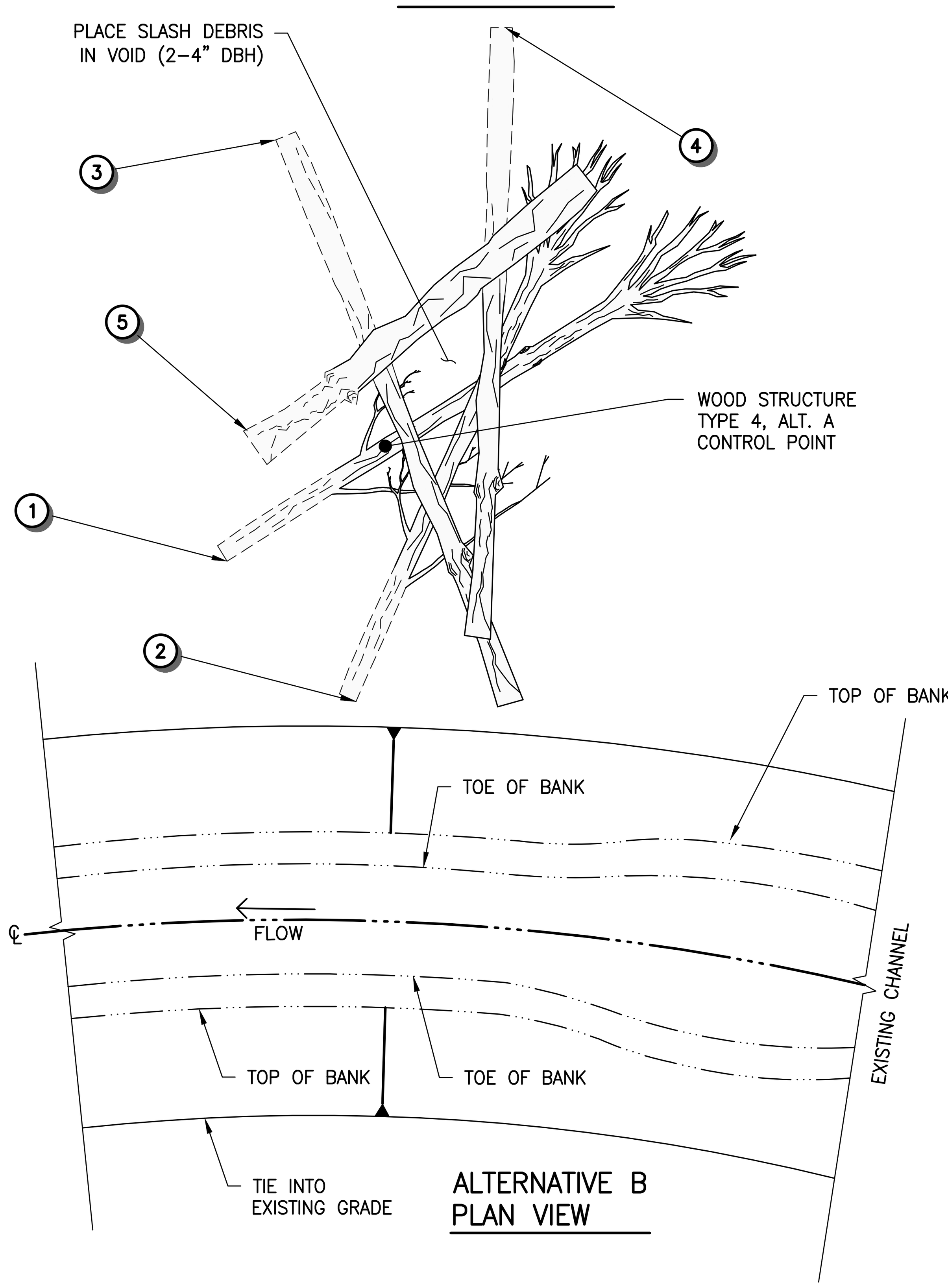
ZACKUSE CREEK
FISH WINDOW
JULY 1 - SEPT 30



ALTERNATIVE A PLAN VIEW



PILE SECTION VIEW



ALTERNATIVE B PLAN VIEW

STRUCTURE #	ALT.	STATION	OFFSET	ELEVATION
4B	B	100+56.97	29.87' L	49.0830
4C	B	101+52.42	17.22' R	51.9180
4D	B	102+25.86	24.73' L	54.2990
4E	A	103+24.19	30.33' R	56.8240
4F	A	103+88.89	24.67' R	59.2570

* SEE NOTES IN SECTION VIEW BELOW FOR APPROXIMATE LOG LENGTHS, DIAMETERS, AND ROOTWAD OR BRANCH REQUIREMENTS.

WOOD STRUCTURE TYPE 4 TREE DIMENSION NOTES

1. 6–10" DBH WITH BRANCHES (20' L).
2. 6–10" DBH WITH BRANCHES (20' L).
3. 6–10" DBH (20' L).
4. 6–8" DBH (20' L).
5. 8–12" DBH (20' L). PARTIALLY BURIED, ANGLES ABOVE OTHER BASE STRUCTURE.

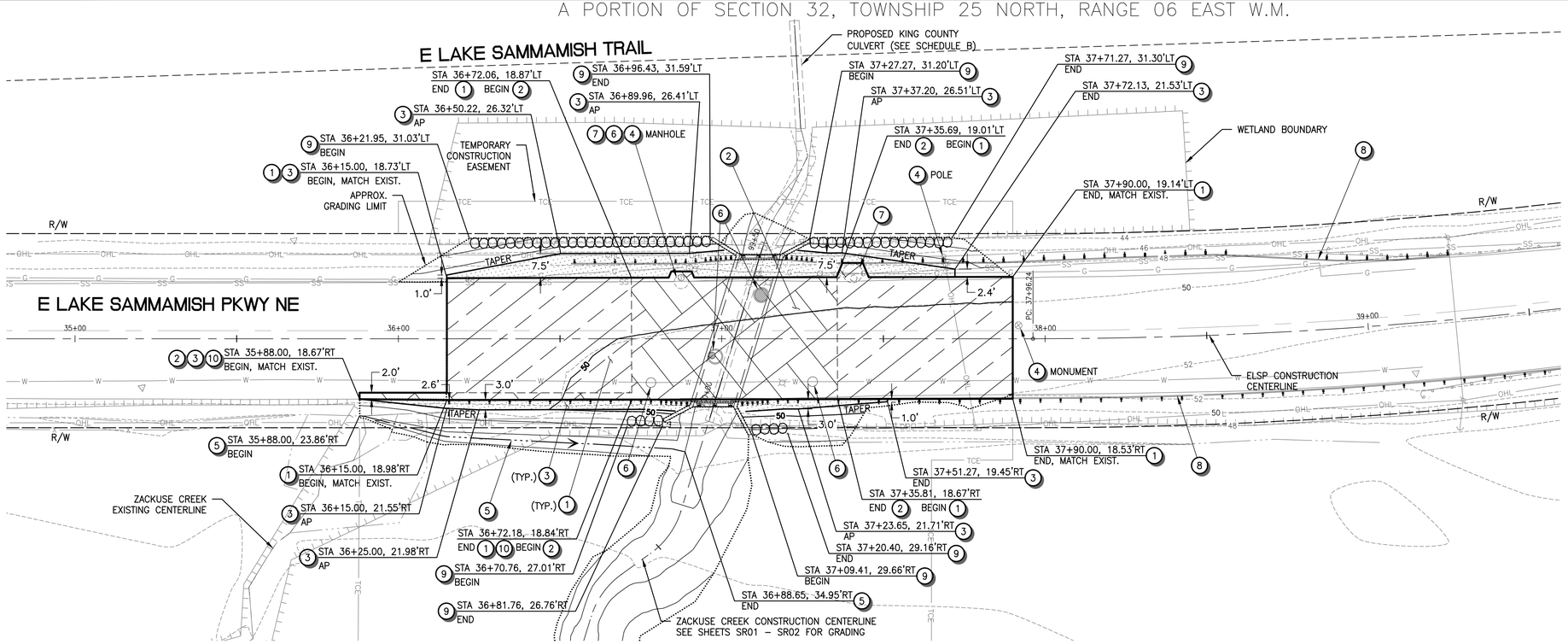
GENERAL NOTES

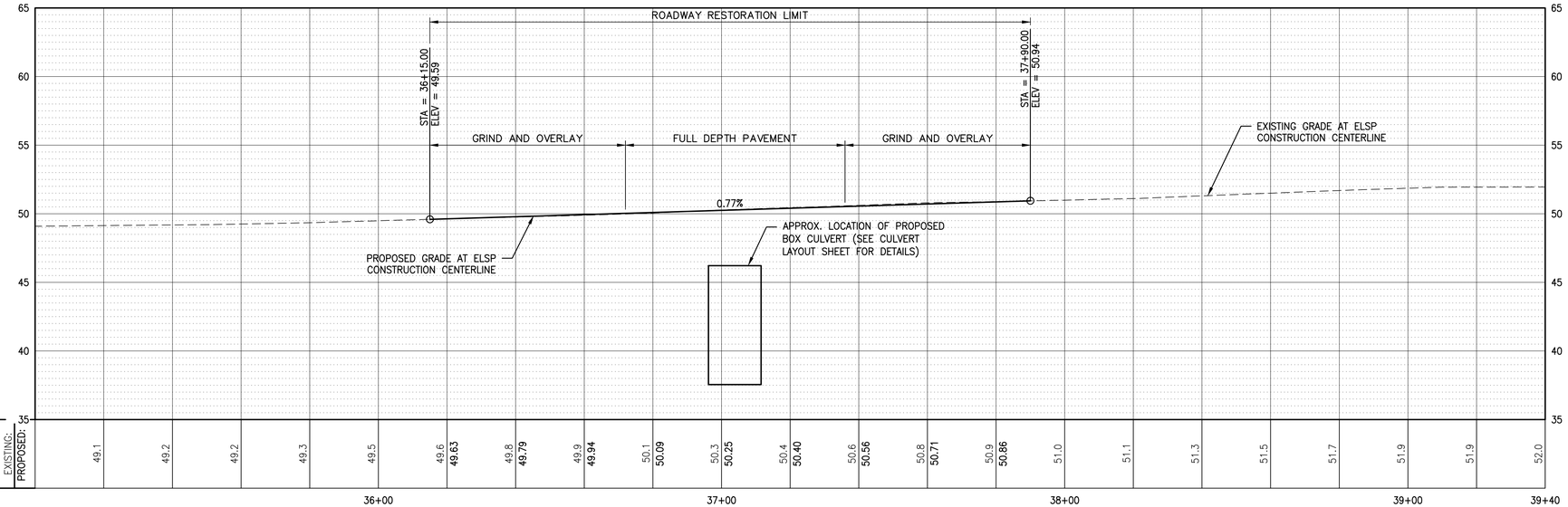
1. ALT. A CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION OF LOG 1 INTERSECTION WITH TOP OF BANK.
2. ALT. B CONTROL POINT SHOWN AT BOTTOM (FINISH GRADE) ELEVATION OF LOG 1 INTERSECTION WITH MATCHLINE TO EXISTING GRADE.
3. LOG 4 IN ALT. A SHALL BE PLACED PERPENDICULAR TO CHANNEL CENTERLINE.
4. LOGS SHOWN AS PARTIALLY BURIED SHOULD BE BURIED A MINIMUM OF 0.5–1 FT FOR ALTERNATIVE B AND 1–1.5 FT FOR ALTERNATIVE A.

WOOD STRUCTURE TYPE 4 - OFF CHANNEL STRUCTURE DETAIL

NOT TO SCALE

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.





CONSTRUCTION NOTES

1. GRIND AND OVERLAY ASPHALT PAVEMENT, LIMITS PER PLAN. SEE SHEET RD02 FOR DETAILS.
2. CONSTRUCT FULL DEPTH ASPHALT CONCRETE PAVEMENT PER ROADWAY SECTION ON SHEET RD02, LIMITS PER PLAN.
3. INSTALL GRAVEL SHOULDER PER ROADWAY SECTION ON SHEET RD02, LIMITS PER PLAN.
4. EXISTING FEATURES OR STRUCTURE TO REMAIN, PROTECT DURING CONSTRUCTION.
5. RESTORE RELOCATED ZACKUSE CREEK CHANNEL PER DETAIL ON SHEET RD02.
6. ADJUST EXISTING UTILITY COVER TO FINISHED GRADE.
7. PROVIDE PAVEMENT AROUND MANHOLE.
8. NEW GUARDRAIL, SEE SHEET RD03 FOR DETAILS.
9. INSTALL ROCKERY WALL PER DETAIL ON SHEET STO3.
10. EXCAVATE UNSUITABLE MATERIAL AND RESTORE PER DETAIL ON SHEET RD02, LIMITS PER PLAN.

LEGEND

- HMA PAVEMENT OVERLAY
- FULL DEPTH ASPHALT CONCRETE PAVEMENT
- GRAVEL SHOULDER

HORZ SCALE 20' 0' 20' 40' IN FEET

VERT SCALE 5' 0' 5' 10' IN FEET

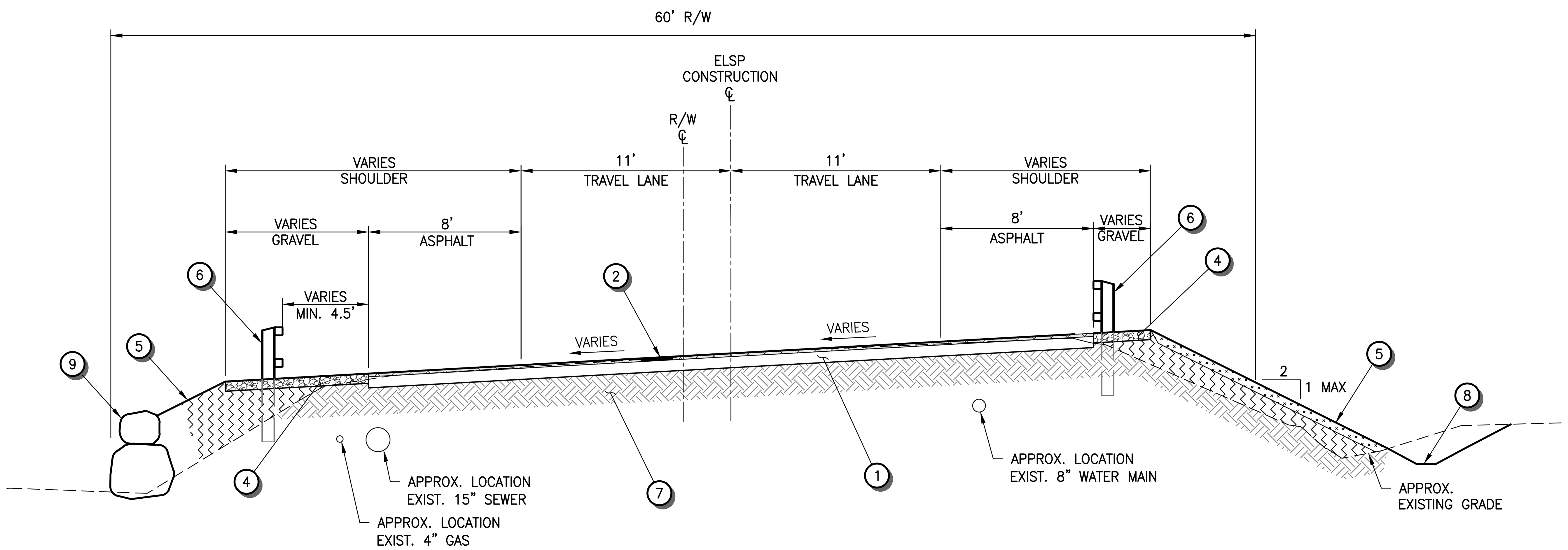
811 Know what's **below.** **Call** before you dig.

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018	ROADWAY PLAN AND PROFILE	RD01	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH		SHEET	OF
	2					22	34
	3			DRAWN BY: AK			
	4			REVIEWED BY:			
	5						

City of Sammamish Washington

GREGORY S. LAIRD — STATE OF WASHINGTON — 25756 — REGISTERED PROFESSIONAL ENGINEER — 4-3-18

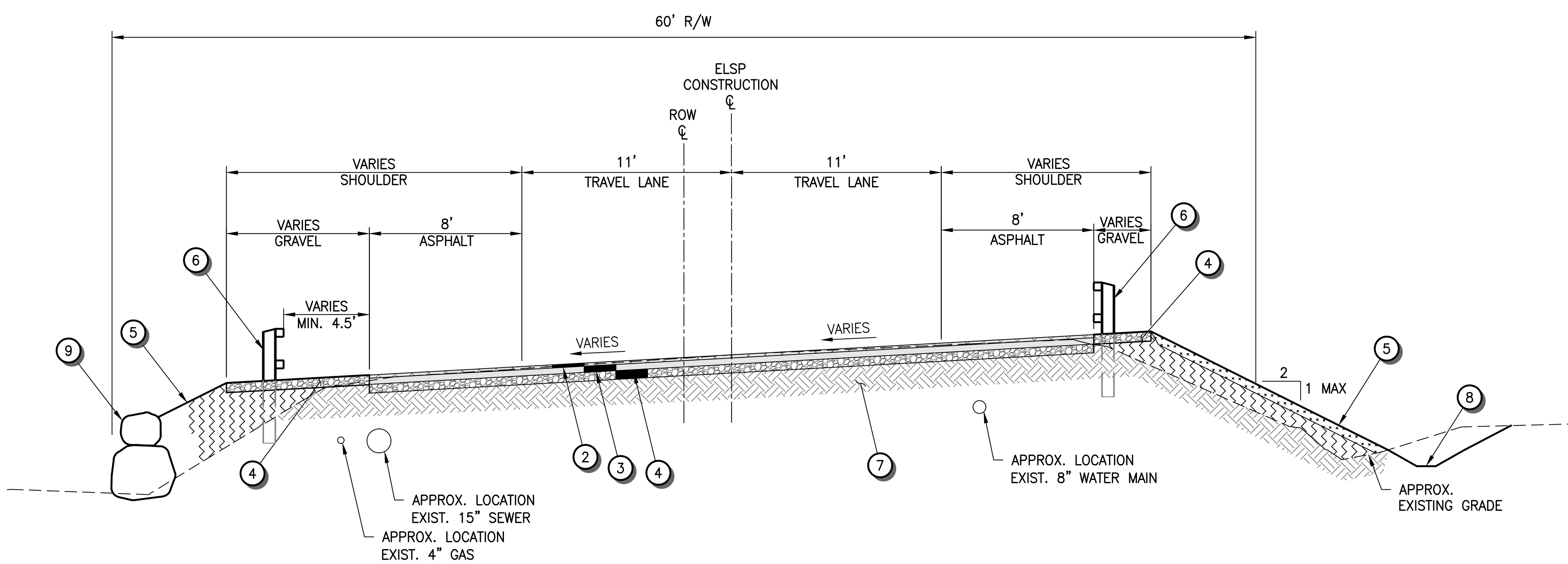
PROJECT MANAGER / ENGINEER



HMA PAVEMENT OVERLAY SECTION

NOT TO SCALE

STA. 36+15 TO STA. 36+72
STA. 37+36 TO STA. 37+90



FULL DEPTH PAVEMENT SECTION

NOT TO SCALE

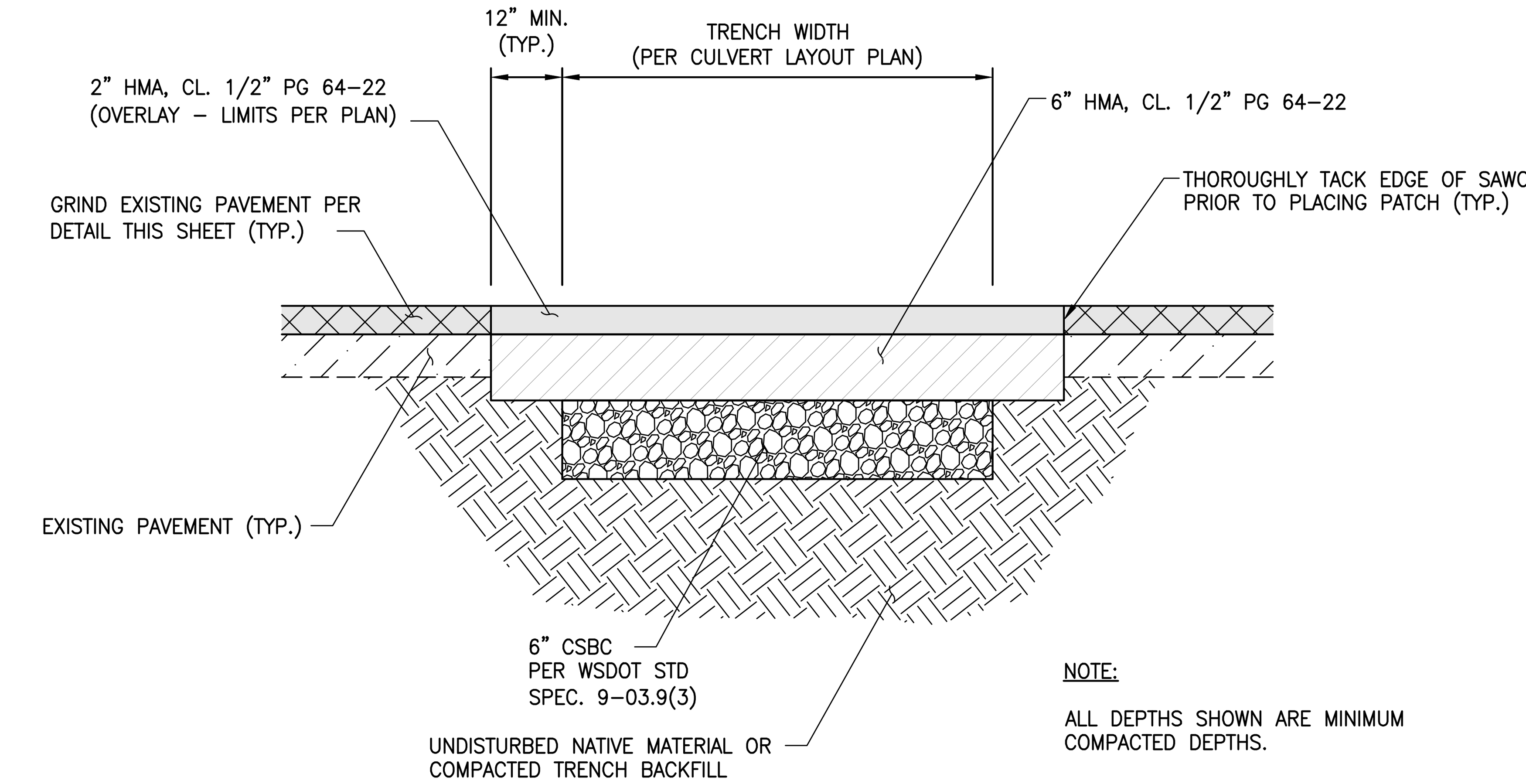
STA. 36+72 TO STA. 37+36

(STA. 36+90 TO STA. 37+20 SEE DWG ST01 FOR CULVERT SECTION)

PAVEMENT SECTION NOTES

1. EXISTING HMA PAVEMENT.
2. 2" HMA OVERLAY, CLASS 1/2" PG 64-22.
3. 6" HMA, CLASS 1/2" PG 64-22.
4. 6" CRUSHED SURFACING BASE COURSE (CSBC).
5. EXISTING GRADE OR PROPOSED FINISHED GRADE. FINISHED GRADE SHALL NOT BE STEEPER THAN 2H:1V UNLESS NOTED OTHERWISE. SEE LANDSCAPE AND PLANTING PLAN FOR SURFACE TREATMENT.
6. GUARDRAIL PER DETAILS ON SHEET RD03, LOCATION AND LIMITS PER PLAN.
7. COMPACTED SUBGRADE OR UNDISTURBED NATIVE MATERIAL.
8. CREEK CHANNEL RELOCATION PER DETAIL THIS SHEET, LOCATION PER PLAN.
9. ROCKERY WALL PER DETAIL ON SHEET ST03, LIMITS PER PLAN ON SHEET RD01.

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

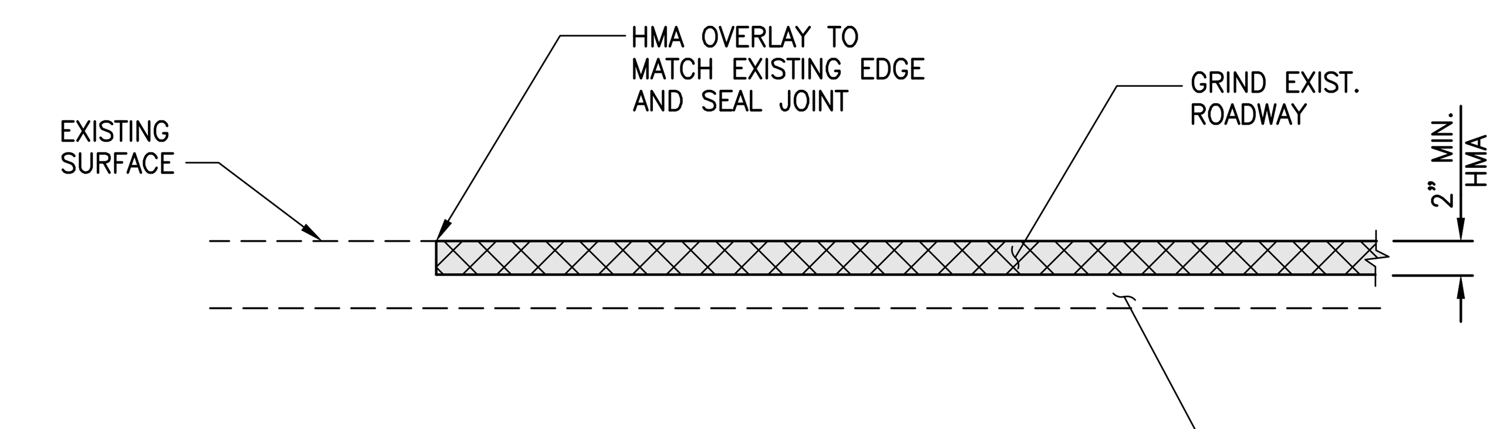


NOTE:

ALL DEPTHS SHOWN ARE MINIMUM COMPACTED DEPTHS.

ROADWAY PAVEMENT RESTORATION

NOT TO SCALE

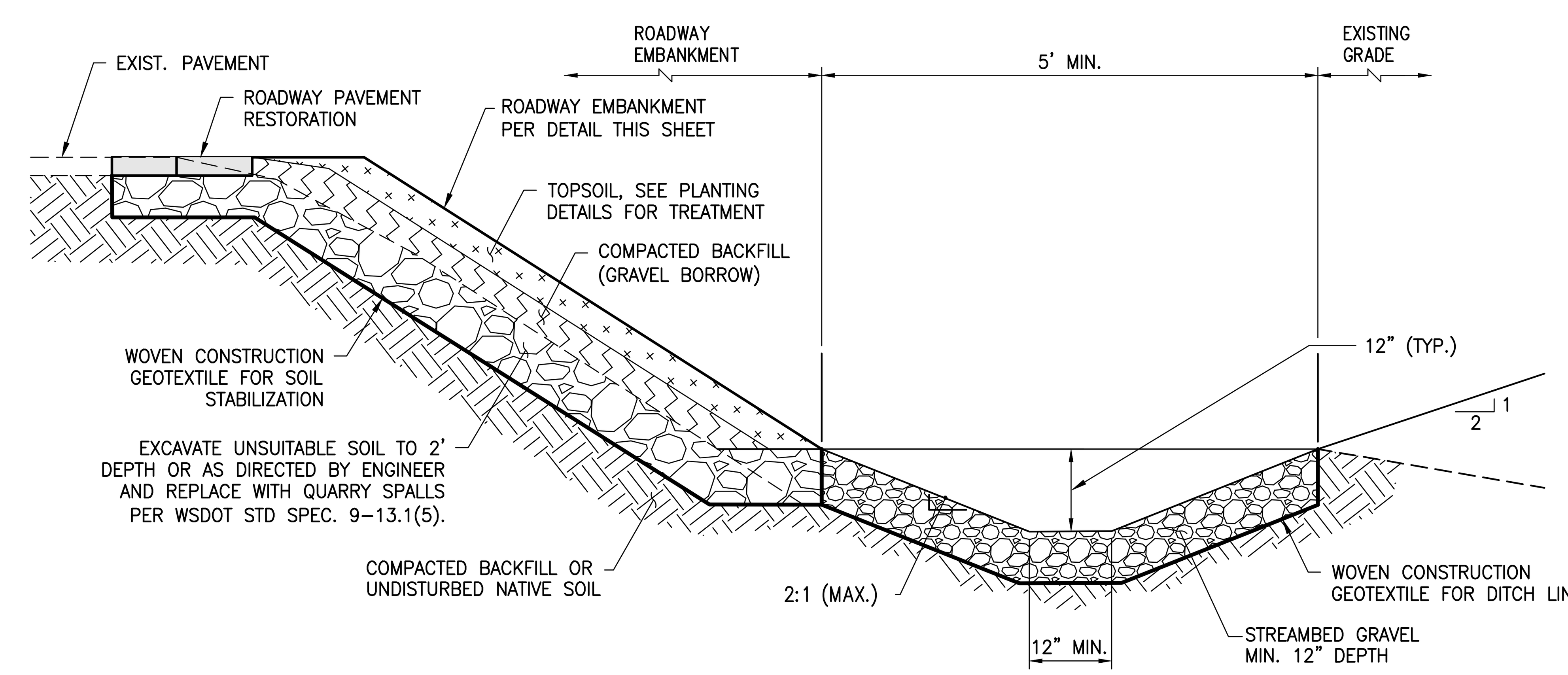


NOTES:

1. PROVIDE TEMPORARY ASPHALT RAMP UNTIL FINAL PAVING.

PAVEMENT PLANING AND OVERLAY

NOT TO SCALE



RELOCATED ZACKUSE CREEK CHANNEL AND UNSUITABLE EXCAVATION

NOT TO SCALE

ELSP ROADWAY STA 35+88 (RT) – STA 36+89 (RT)

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

GREGORY S. LAIRD, STATE OF WASHINGTON, 25758, REGISTERED PROFESSIONAL ENGINEER, 4-3-18

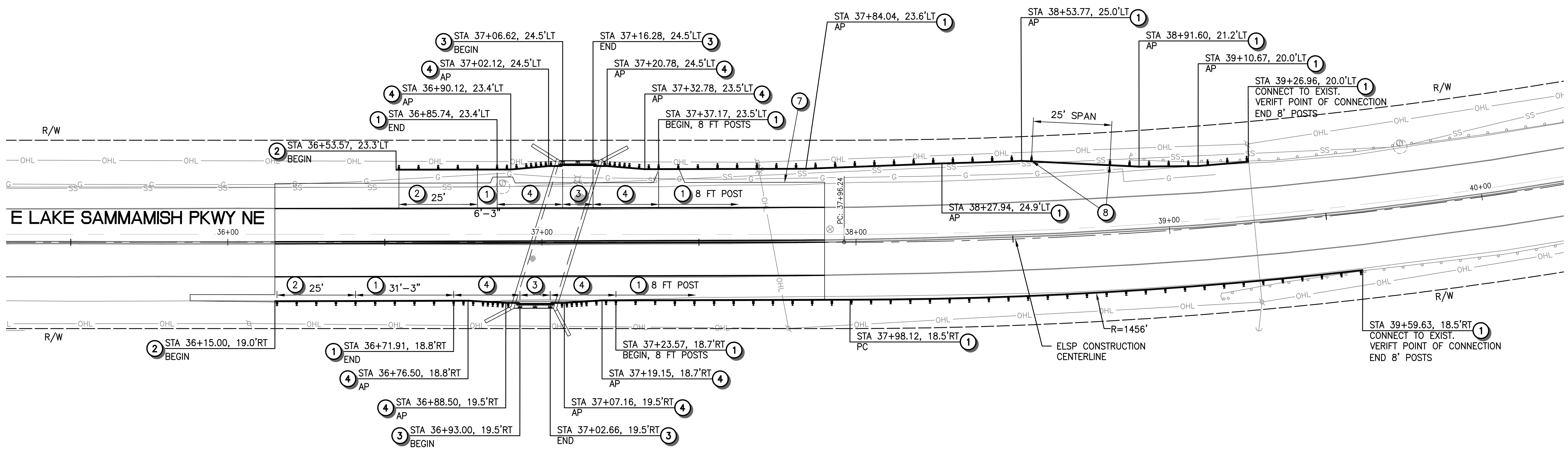
ROADWAY TYPICAL SECTION AND DETAILS

RD02

SHEET 23 OF 34

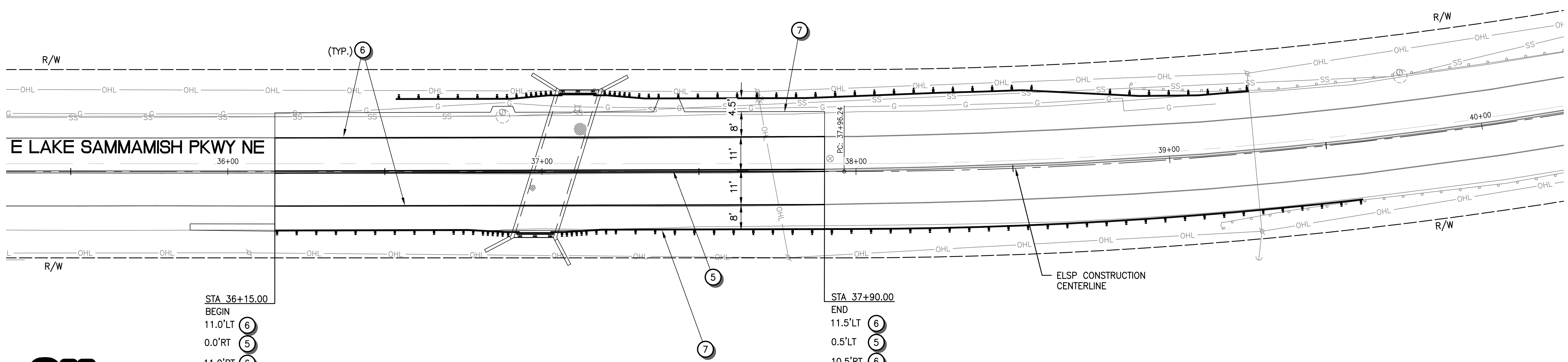
Plotted: Apr 03, 2018 – 1:04pm evah K:\project\32700\32794\CADD\ACAD\Dwg\07_RD02.dwg Layout Name: RD02

PROJECT MANAGER / ENGINEER



GUARDRAIL PLAN

SCALE AS SHOWN



CHANNELIZATION PLAN

SCALE AS SHOWN

CONSTRUCTION NOTES

1. INSTALL BEAM GUARDRAIL TYPE 31 PER WSDOT STD PLAN C-20.10-04. 6' GUARDRAIL POSTS UNLESS NOTED OTHERWISE.
2. INSTALL BEAM GUARDRAIL TYPE 31 NON-FLARED TERMINAL MSKT-SP-MGS (TL-2) PER WSDOT STD PLAN C-22.45-03.
3. INSTALL WEATHERED STEEL GUARDRAIL PER DETAIL ON SHEET RD04.
4. INSTALL WEATHERED STEEL GUARDRAIL TRANSITION PER DETAIL ON SHEET RD05.
5. INSTALL PAINTED DOUBLE YELLOW CENTERLINE SUPPLEMENTED WITH TYPE 2YY RPM PER COS STD PLAN FIG. 04-03A.
6. INSTALL 8-INCH PAINTED WIDE LINE PER COS STD PLAN FIG. 04-03A.
7. PROPOSED EDGE OF NEW PAVEMENT, SEE SHEET RD01 FOR LIMIT AND DETAILS.
8. POTHOLE EXISTING UTILITY AND NOTIFY THE ENGINEER IF CONFLICTS EXIST.

LEGEND

GUARDRAIL

HORZ SCALE 20' 0' 20' 40' IN FEET
VERT SCALE 5' 0' 5' 10' IN FEET

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

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH
	2			
	3			DRAWN BY: AK
	4			REVIEWED BY:
	5			

City of Sammamish Washington

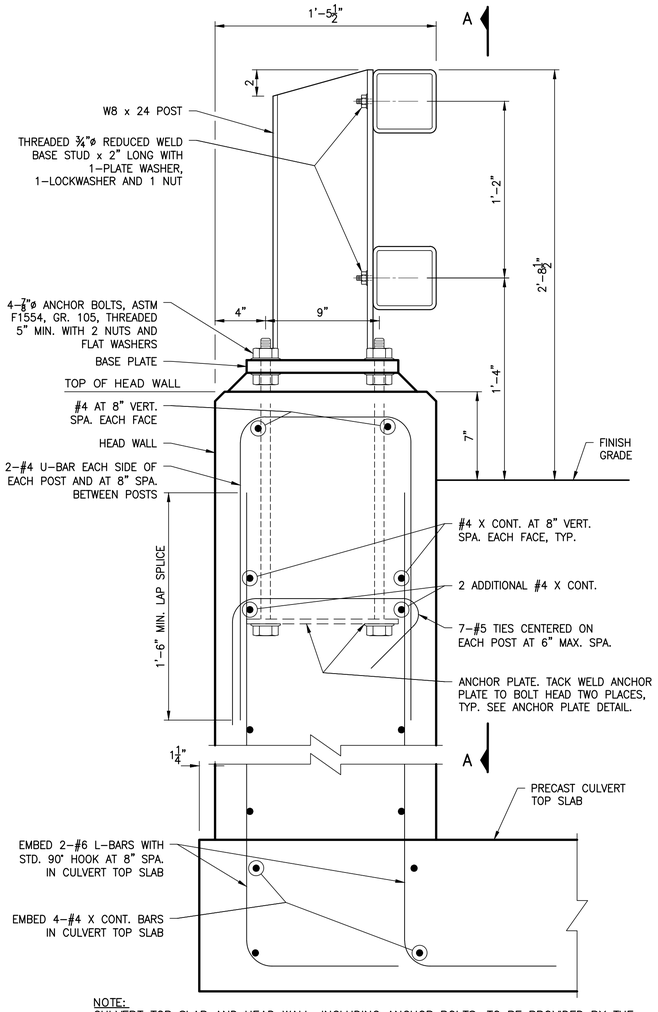
GUARDRAIL AND CHANNELIZATION PLAN

RD03

SHEET 24 OF 34

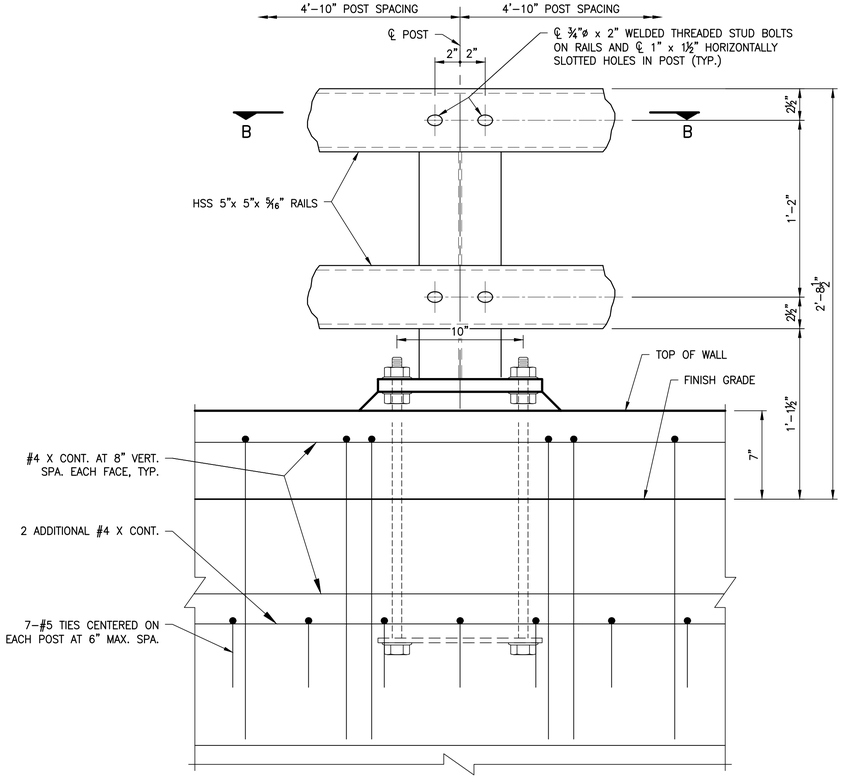
Plotted: Apr 03, 2018 – 1:04pm evah K:\project\32700\32794\CADD\ACAD\Dwg\07_RD03.dwg Layout Name: RD03

PROJECT MANAGER / ENGINEER

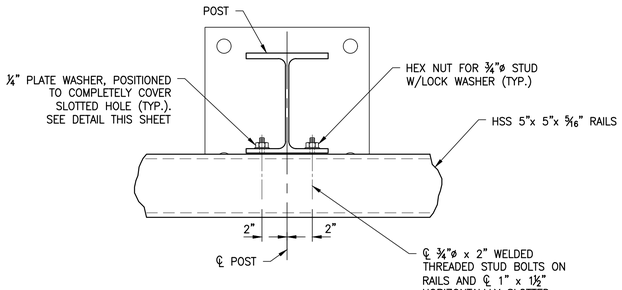


NOTE:
CULVERT TOP SLAB AND HEAD WALL, INCLUDING ANCHOR BOLTS, TO BE PROVIDED BY THE CITY. THE CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT PRIOR TO RAIL FABRICATION.

RAIL TYPICAL SECTION



VIEW A-A



SECTION B-B

GENERAL NOTES

MATERIALS:
1 STEEL POSTS, BASE PLATES, PLATE WASHERS AND SPLICE SLEEVE SHALL CONFORM TO AASHTO M183 (ASTM A36). STRUCTURAL TUBING FOR RAILS SHALL CONFORM TO ASTM A500, GRADE B, OR ASTM A501. BOLTS SHALL CONFORM TO ASTM F3125, GRADE A325, TYPE 1. ANCHOR BOLTS SHALL CONFORM TO ASTM F1554, GRADE 105. NUTS SHALL CONFORM TO ASTM A563, GRADE DH OR AASHTO M292, GRADE 2H. WASHERS SHALL CONFORM TO ASTM F436. STEEL AND HARDWARE SHALL BE GALVANIZED AFTER FABRICATION. STRUCTURAL TUBING, POSTS AND BASE PLATES SHALL BE POWDER COATED AFTER GALVANIZING IN CONFORMANCE WITH WSDOT STD. SPECIFICATION 6-07 AND THE SPECIAL PROVISIONS. EXPOSED BOLTS, NUTS AND WASHERS CONNECTING POWDER COATED PIECES SHALL BE FIELD PAINTED AFTER INSTALLATION TO MATCH THE APPROVED POWDER COATING COLOR.

FABRICATION:
STRUCTURAL STEEL SHALL BE SHOP FABRICATED. SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO FABRICATION. WELDING SHALL CONFORM TO THE ANSI/AASHTO/AWS D1.5, AND SHALL BE BY A CERTIFIED WELDER. WELDING FOR WELDED STUD BOLTS SHALL CONFORM TO ANSI/AASHTO/AWS D1.5, CHAPTER 7.

ERECTION:
NO FIELD CUTTING OR WELDING IS PERMITTED UNLESS APPROVED BY THE ENGINEER. ALL RAIL POSTS SHALL BE SET VERTICALLY AND THE RAILING ERECTED PARALLEL TO THE ROADWAY PROFILE.

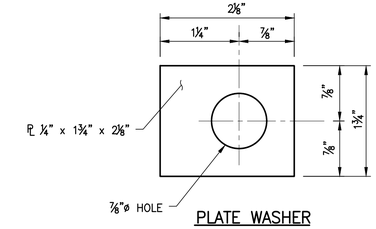
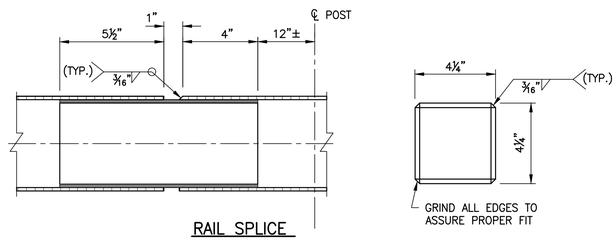
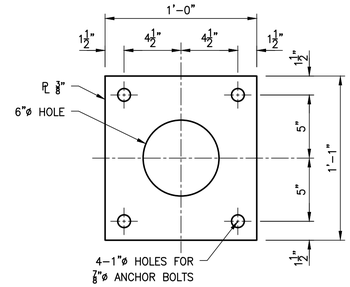


PLATE WASHER

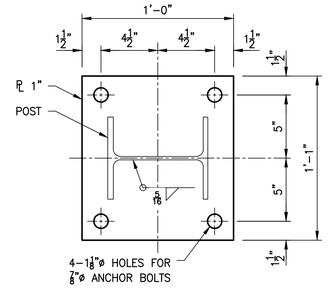


RAIL SPLICE

NOTE:
1" GAP AT SPLICE. RAIL MAYBE CONTINUOUS OVER A MAXIMUM OF TWO POSTS. NO SPLICE IS ALLOWED IN THE RAIL SPAN OVER THE CULVERT.



ANCHOR PLATE DETAIL



BASE PLATE DETAIL

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

1 CULVERT RAIL

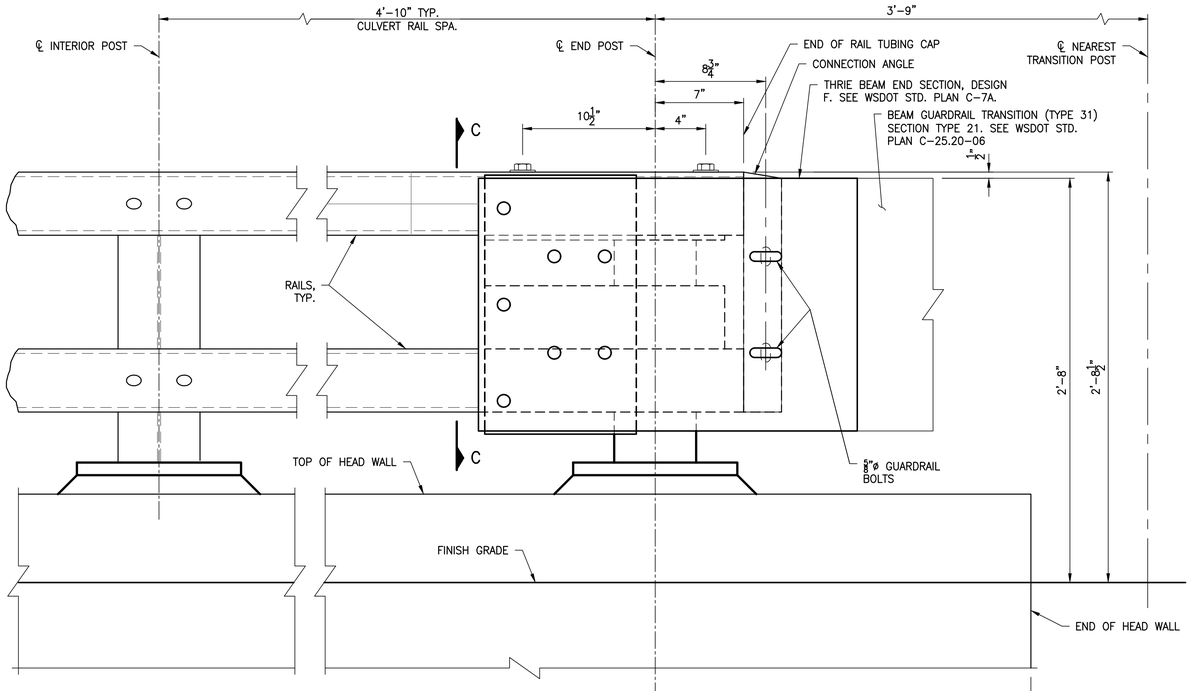
NOT TO SCALE

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018	RD04
	1	CULVERT RAIL MATERIAL AND COATING	4/25/2018	DESIGNED BY: BS/DC/BD/MM/CEM/EH	SHEET 25 OF 34
	2				
	3			DRAWN BY: AK	
	4			REVIEWED BY:	
	5				

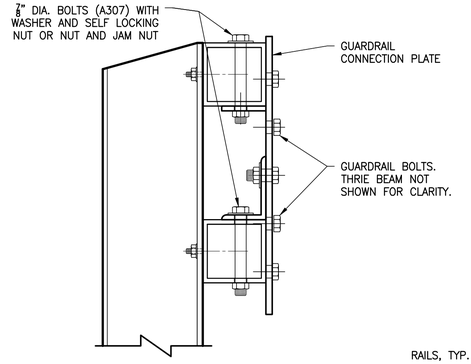
City of Sammamish Washington

ROBERT P. MONTGOMERY 43425 REGISTERED PROFESSIONAL ENGINEER 5/25/18

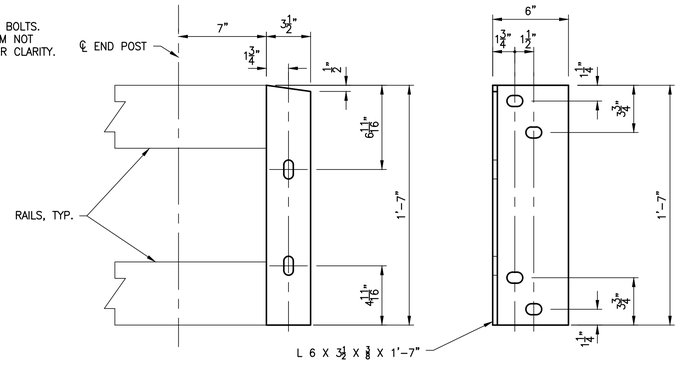
1 CULVERT RAIL DETAILS 1 OF 2



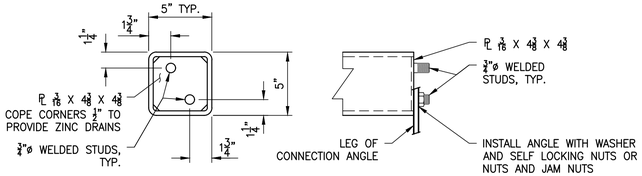
ELEVATION – TRANSITION CONNECTION



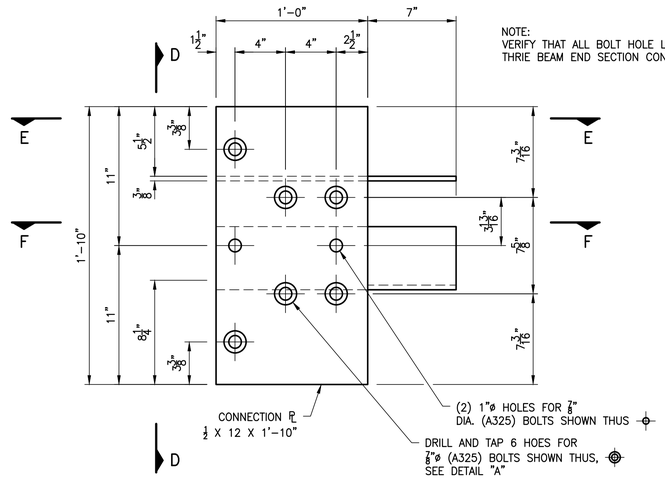
SECTION C–C

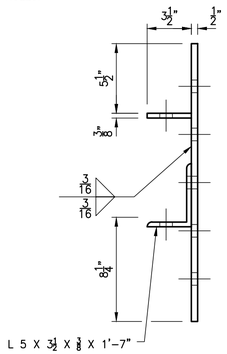


CONNECTION ANGLE

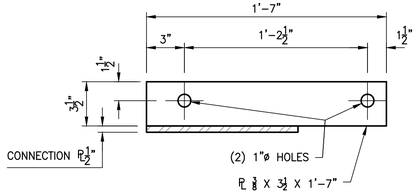


RAIL END CAP

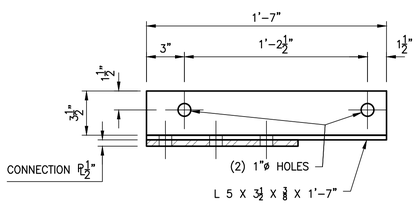




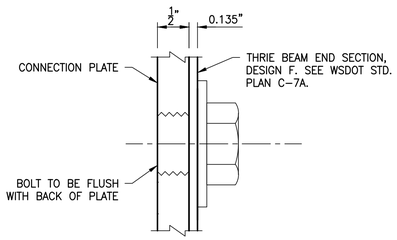
VIEW D–D



SECTION E–E



SECTION F–F



DETAIL "A"

GUARDRAIL CONNECTION PLATE

1 CULVERT RAIL AND TRANSITION CONNECTION

NOT TO SCALE

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1	CULVERT RAIL MATERIAL AND COATING	4/25/2018
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

City of Sammamish Washington

ROBERT P. DORSEY — STATE OF WASHINGTON — 43425 — REGISTERED PROFESSIONAL ENGINEER — 5/25/18

PROJECT MANAGER / ENGINEER

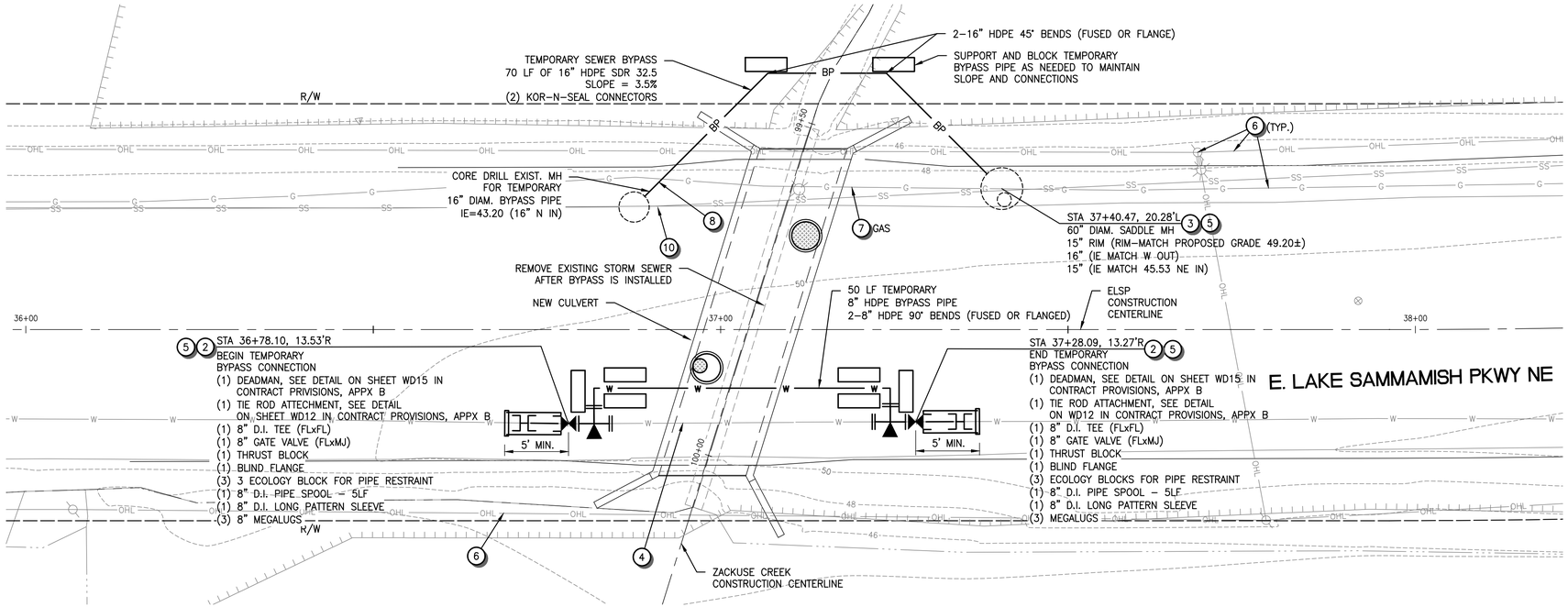
1 CULVERT RAIL DETAILS 2 OF 2

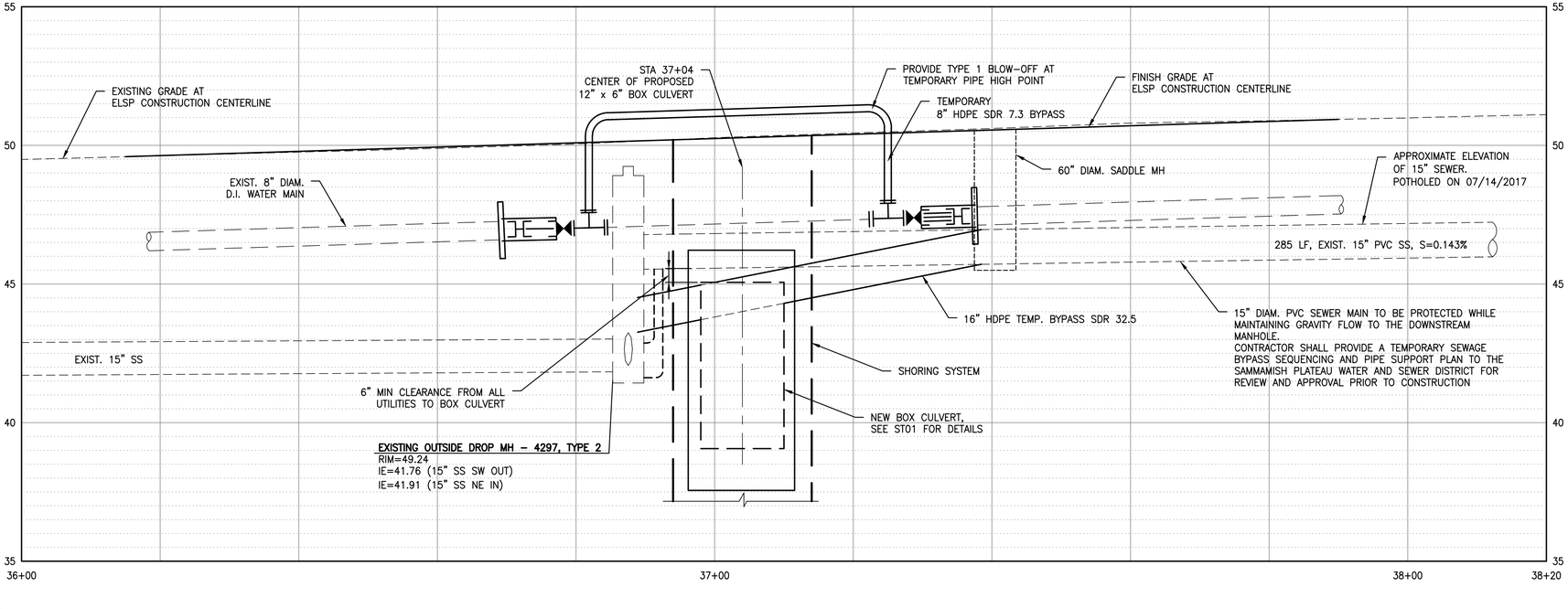
RD05

SHEET 26 OF 34

Plotted: May 25, 2018 – 11:13am bobdo K:\project\32700\32794\CADD\ACAD\Dwg\07_RD04-RD05.dwg Layout Name: RD05

A PORTION OF SECTION 32, TOWNSHIP 25 NORTH, RANGE 06 EAST W.M.





UTILITY RELOCATION NOTES

1. INSTALL 8" CLASS 52 DUCTILE IRON WATER MAIN RESTRAINED JOINT PER SAMMAMISH PLATEAU WATER AND SEWER DISTRICT STANDARD PLANS.
2. CONNECT TO EXISTING WATER MAIN. CONTRACTOR SHALL VERIFY FITTING PRIOR TO CONSTRUCTION. COORDINATE WITH SAMMAMISH PLATEAU WATER DISTRICT FOR SHUT DOWN.
3. INSTALL NEW MANHOLE, TYPE AND SIZE AS INDICATED.
4. REMOVE EXISTING 8" WATER MAIN BETWEEN NEW CONNECTIONS. AFTER INSTALLATION, DISINFECTION AND TESTING TEMPORARY BYPASS PIPE.
5. SEE CONTRACT PROVISIONS FOR SAMMAMISH PLATEAU WATER AND SEWER DISTRICT DETAILS.
6. EXISTING UTILITY TO BE PROTECTED, SHORED AND SUPPORTED DURING CONSTRUCTION.
7. EXISTING UTILITY TO BE RELOCATED BY OTHERS.
8. INSTALL TEMPORARY SEWER BYPASS AS SHOWN.
9. INSTALL PERMANENT SEWER AS SHOWN.
10. CONTRACTOR SHALL SURVEY EXISTING I.E. AT SEWER MAIN INLET TO DROP STRUCTURE AND PROVIDE TO SAMMAMIMSH PLATEAU WATER DISTRICT PRIOR TO REMOVING 15" PVC.

UTILITY RELOCATION GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE WHEN TRENCHING ACROSS OR BESIDE EXISTING UTILITIES.
2. ALL EXISTING UTILITY CONDITIONS INCLUDING BURIED DEPTH ARE APPROXIMATE.
3. SAMMAMISH PLATEAU IS RESPONSIBLE FOR WATER VALVES OPERATION. THE CONTRACTOR SHALL NOTIFY WATER DISTRICT AND THE CITY 72 HOURS PRIOR TO SCHEDULING A WATER SYSTEM SHUTDOWN.
4. MAINTAIN ALL WATER SERVICES UNTIL NEW MAIN IS ACTIVATED.
5. RELOCATED UTILITIES SHOWN HEREIN ARE ANTICIPATED LOCATION ONLY. UTILITY AGENCIES TO DETERMINE FINAL LOCATION. GRADES, AND TIMING OF CONSTRUCTION WORK. CONTRACTOR SHALL COORDINATE WITH UTILITY AGENCIES AND FIELD VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THESE PLANS AND THE RELOCATED UTILITY.
6. THRUST BLOCKS SHALL BE INSTALLED IN ACCORDANCE WITH SAMMAMISH PLATEAU WATER AND SEWER DISTRICT STANDARD PLANS.
7. PROVIDE MIN. 6" VERTICAL CLEARANCE FROM BOX CULVERT TO SEWER MAIN.
8. PROVIDE MIN 6" VERTICAL CLEARANCE TO BOX CULVERT AND 3' COVER OVER WATER MAIN.

LEGEND

- WATER LINE JOINT
- PROPOSED WATER MAIN
- THRUST BLOCK
- WATER VALVE
- ECOLOGY BLOCK

HORZ SCALE: 10' 0' 10' 20' IN FEET

VERT SCALE: 5' 0' 5' 10' IN FEET

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

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE
	1		
	2		
	3		
	4		
	5		

DATE: 02/23/2018
DESIGNED BY: BS/DC/BD/MM/CEM/EH
DRAWN BY: AK
REVIEWED BY:

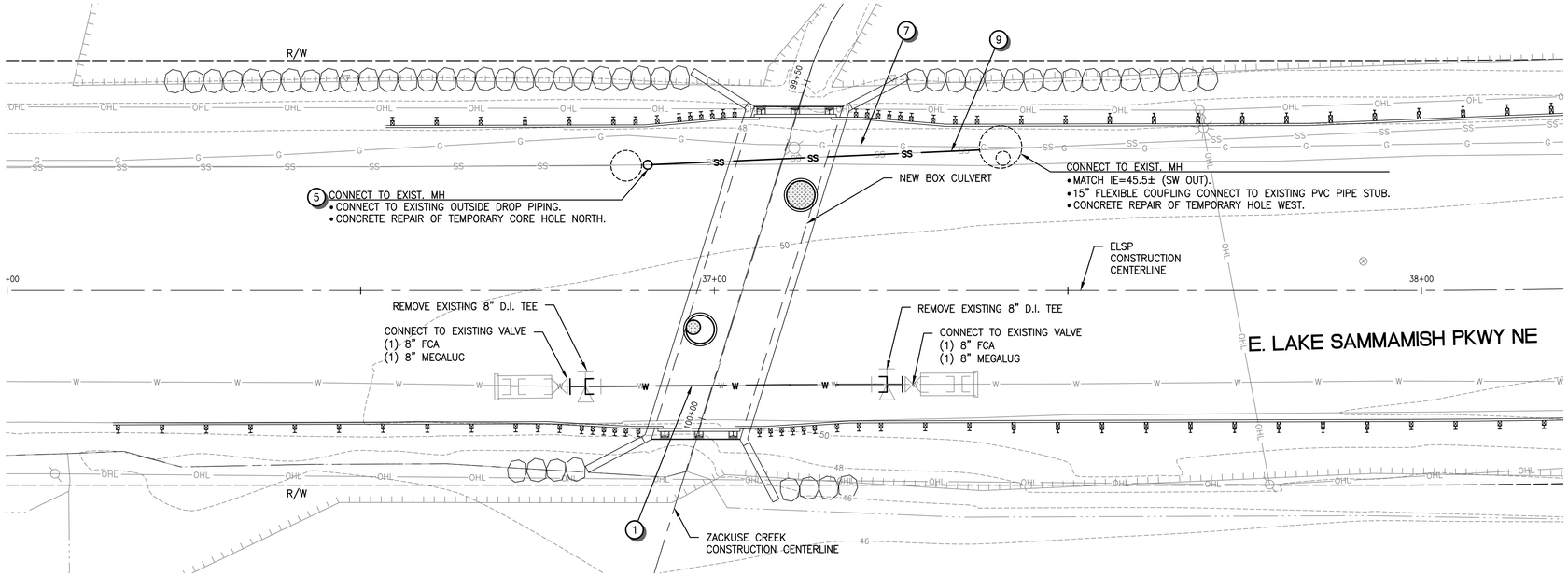
City of Sammamish Washington

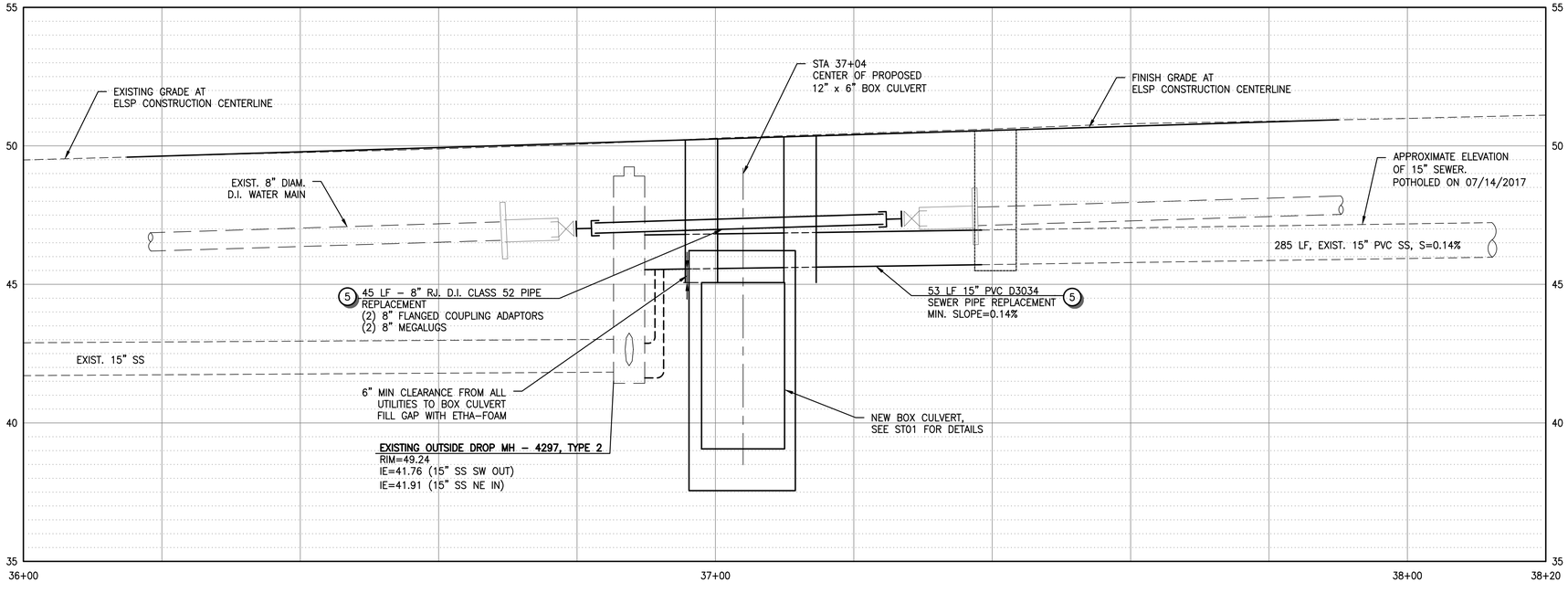
GREGORY S. LAIER — STATE OF WASHINGTON — 25750 — REGISTERED PROFESSIONAL ENGINEER — 4-5-18

UTILITY RELOCATION PLAN AND PROFILE TEMPORARY UTILITY BYPASS

UT01

SHEET 27 OF 34





UTILITY RELOCATION NOTES

1. INSTALL 8" CLASS 52 DUCTILE IRON WATER MAIN RESTRAINED JOINT PER WSDOT STD PLAN B-55.20-00.
2. CONNECT TO EXISTING WATER MAIN. CONTRACTOR SHALL VERIFY FITTING PRIOR TO CONSTRUCTION. COORDINATE WITH SAMMAMISH PLATEAU WATER DISTRICT FOR SHUT DOWN.
3. INSTALL NEW MANHOLE, TYPE AND SIZE AS INDICATED.
4. REMOVE EXISTING 8" WATER MAIN BETWEEN NEW CONNECTIONS. AFTER INSTALLATION, DISINFECTION AND TESTING TEMPORARY BYPASS PIPE.
5. SEE CONTRACT PROVISIONS FOR SAMMAMISH PLATEAU WATER AND SEWER DISTRICT DETAILS.
6. EXISTING UTILITY TO BE PROTECTED, SHORED AND SUPPORTED DURING CONSTRUCTION.
7. EXISTING UTILITY TO BE RELOCATED BY OTHERS.
8. INSTALL TEMPORARY SEWER BYPASS AS SHOWN.
9. INSTALL PERMANENT SEWER AS SHOWN.
10. CONTRACTOR SHALL SURVEY EXISTING I.E. AT SEWER MAIN INLET TO DROP STRUCTURE AND PROVIDE TO SAMMAMIMSH PLATEAU WATER DISTRICT PRIOR TO REMOVING 15" PVC.

UTILITY RELOCATION GENERAL NOTES

1. THE CONTRACTOR SHALL PROTECT ALL PRIVATE AND PUBLIC UTILITIES FROM DAMAGE WHEN TRENCHING ACROSS OR BESIDE EXISTING UTILITIES.
2. ALL EXISTING UTILITY CONDITIONS INCLUDING BURIED DEPTH ARE APPROXIMATE.
3. SAMMAMISH PLATEAU IS RESPONSIBLE FOR WATER VALVES OPERATION. THE CONTRACTOR SHALL NOTIFY WATER DISTRICT AND THE CITY 72 HOURS PRIOR TO SCHEDULING A WATER SYSTEM SHUTDOWN.
4. MAINTAIN ALL WATER SERVICES UNTIL NEW MAIN IS ACTIVATED.
5. RELOCATED UTILITIES SHOWN HEREIN ARE ANTICIPATED LOCATION ONLY. UTILITY AGENCIES TO DETERMINE FINAL LOCATION. GRADES, AND TIMING OF CONSTRUCTION WORK. CONTRACTOR SHALL COORDINATE WITH UTILITY AGENCIES AND FIELD VERIFY EXISTING UTILITIES PRIOR TO BEGINNING CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THESE PLANS AND THE RELOCATED UTILITY.
6. THRUST BLOCKS SHALL BE INSTALLED IN ACCORDANCE WITH WSDOT STD PLANS B-90.40-00 AND B-90.50-00. SEE SHEET UT02.
7. PROVIDE MIN. 6" VERTICAL CLEARANCE FROM BOX CULVERT TO SEWER MAIN.
8. PROVIDE MIN 6" VERTICAL CLEARANCE TO BOX CULVERT AND 3' COVER OVER WATER MAIN.

LEGEND

- WATER LINE JOINT
- W — PROPOSED WATER MAIN
- THRUST BLOCK
- GUARDRAIL
- WATER VALVE

HORZ SCALE 10' 0' 10' 20' IN FEET
VERT SCALE 5' 0' 5' 10' IN FEET

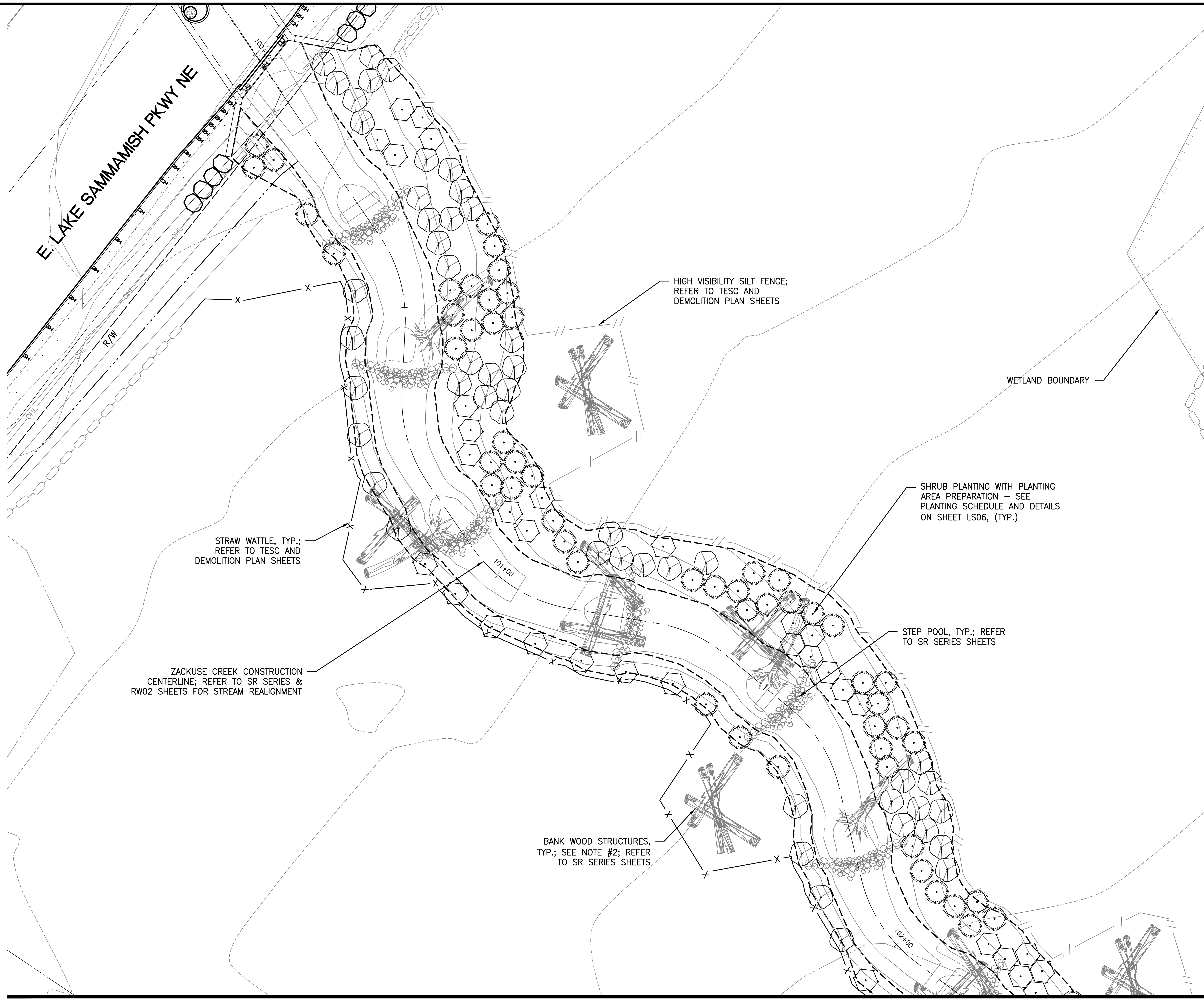
811 Know what's below. Call before you dig.

ZACKUSE CREEK FISH PASSAGE AND STREAM RESTORATION PROJECT SAMMAMISH, WASHINGTON	NO.	REVISIONS	DATE	DATE: 02/23/2018	UTILITY RELOCATION PLAN AND PROFILE FINAL CONFIGURATION	UT02	
	1			DESIGNED BY: BS/DC/BD/MM/CEM/EH		SHEET	OF
	2					28	34
	3			DRAWN BY: AK			
	4			REVIEWED BY:			
	5						

City of Sammamish Washington

GREGORY S. LATHEN STATE OF WASHINGTON 25750 PROFESSIONAL ENGINEER 4-5-18

PROJECT MANAGER / ENGINEER



MATCHLINE SEE SHEET LS02

SHRUB UNDERSTORY PLANTING LEGEND

SHRUBS	BOTANICAL NAME / COMMON NAME
(symbol)	CORNUS SERICEA / RED TWIG DOGWOOD
(symbol)	LONICERA INVOLUCRATA / TWINBERRY
(symbol)	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK
(symbol)	ROSA PISOCARPA / CLUSTERED WILD ROSE
(symbol)	RUBUS SPECTABILIS / SALMONBERRY
(symbol)	SYMPHORICARPOS ALBUS / COMMON SNOWBERRY
- - - - - - -	LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

GENERAL NOTES:

1. TREE PLANTING SHOWN SEPARATELY ON SHEETS LS03 AND LS04;
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF TREES;

- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

SEE SHEET LS05 FOR ROADWAY EMBANKMENT SEEDING

HORZ SCALE 10' 0' 10' 20' IN FEET

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: CL/DC/BD/MM/CEM/EH
DRAWN BY: BS
REVIEWED BY:

PROJECT MANAGER / ENGINEER

City of Sammamish Washington

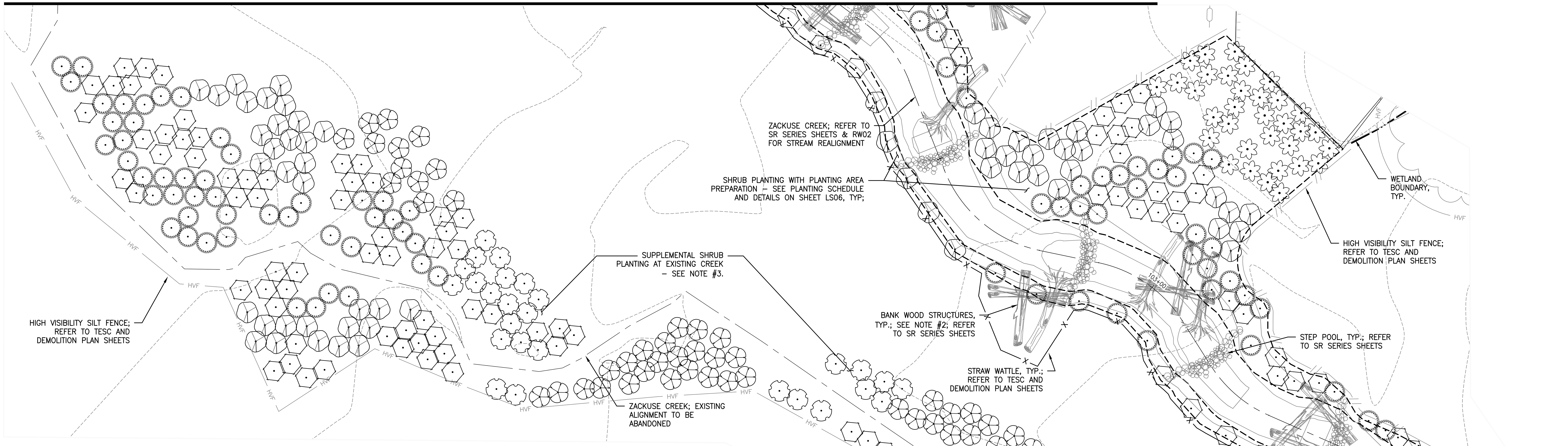
STATE OF WASHINGTON LANDSCAPE ARCHITECT

STREAM RESTORATION: SHRUB UNDERSTORY PLANTING PLAN
SHEET 1 OF 2

LS01

Plotted: Apr 03, 2018 – 12:51pm evah K:\project\32700\32794\CADD\ACAD\Dwg\09_LS01.dwg Layout Name: LS01

MATCHLINE SEE SHEET LS01



SHRUB UNDERSTORY PLANTING LEGEND

SHRUBS	BOTANICAL NAME / COMMON NAME
(symbol)	CORNUS SERICEA / RED TWIG DOGWOOD
(symbol)	LONICERA INVOLUCRATA / TWINBERRY
(symbol)	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK
(symbol)	ROSA PISOCARPA / CLUSTERED WILD ROSE
(symbol)	RUBUS SPECTABILIS / SALMONBERRY
(symbol)	SYMPHORICARPOS ALBUS / COMMON SNOWBERRY
– – – – – – –	LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

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

GENERAL NOTES:

1. TREE PLANTING SHOWN SEPARATELY ON SHEETS LS03 AND LS04;
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF TREES;
3. DO NOT CLEAR AND GRUB PLANTING AREAS ADJACENT TO EXISTING CREEK. CLEAR ONLY INVASIVE SPECIES. SUPPLEMENT EXISTING NATIVE PLANTING WITH SHRUBS SHOWN ON THIS PLAN. APPLY ONE INCH DEPTH OF FINE COMPOST OVER EXISTING SOIL.

HORZ SCALE 10' 0' 10' 20' IN FEET

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: CL/DC/BD/MM/CEM/EH
DRAWN BY: BS
REVIEWED BY:
PROJECT MANAGER / ENGINEER

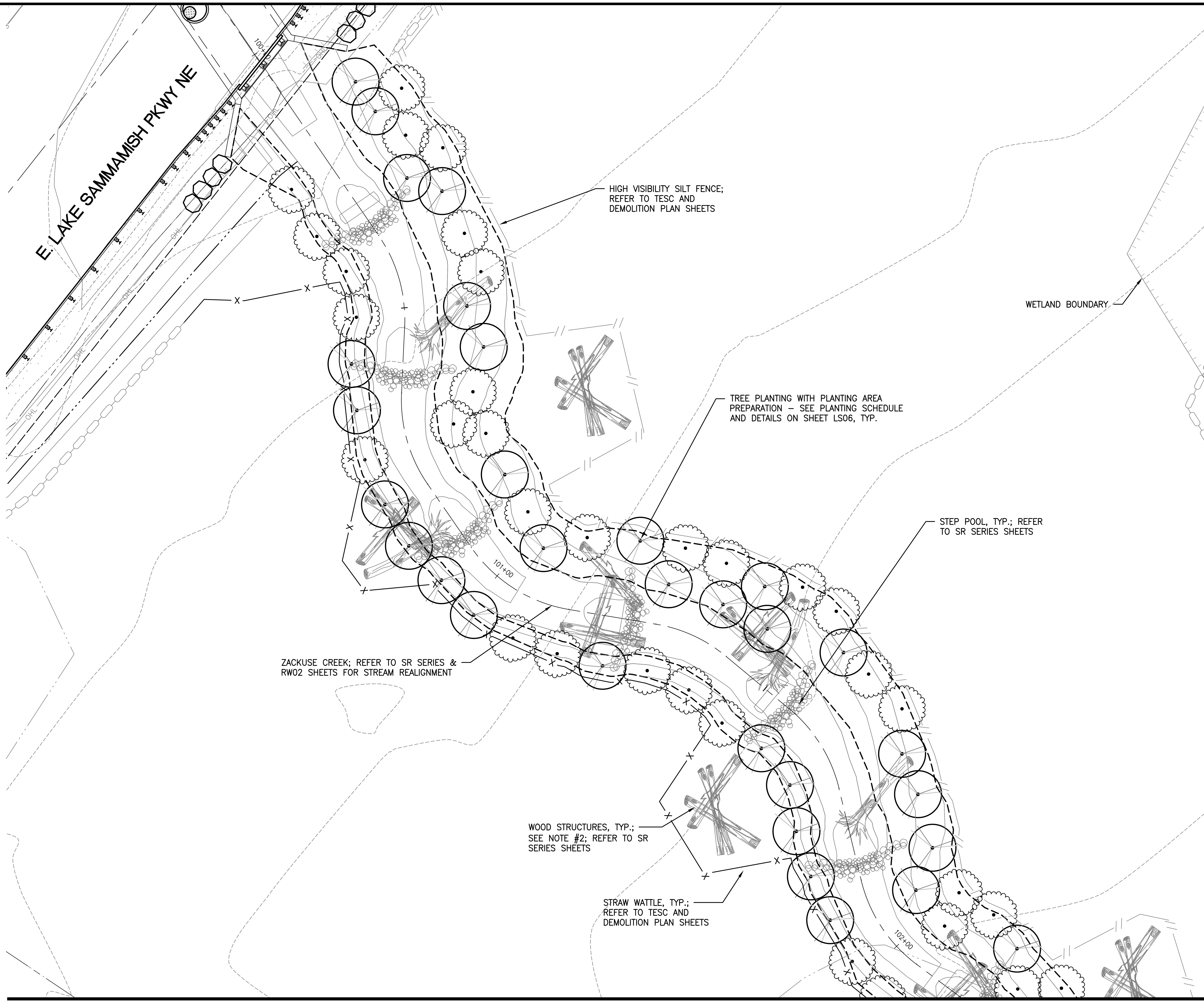
City of Sammamish Washington

STATE OF WASHINGTON REGISTERED LANDSCAPE ARCHITECT

STREAM RESTORATION: SHRUB UNDERSTORY PLANTING PLAN SHEET 2 OF 2

LS02

Plotted: Apr 03, 2018 – 12:52pm evah K:\project\32700\32794\CADD\ACAD\Dwg\09_LS01.dwg Layout Name: LS02



MATCHLINE SEE SHEET LS04

TREE PLANTING LEGEND

TREES	BOTANICAL NAME / COMMON NAME
	MALUS FUSCA / WESTERN CRABAPPLE
	PICEA SITCHENSIS / SITKA SPRUCE
	POPULUS BALSAMIFERA SSP. TRICHOCARPA / BLACK COTTONWOOD
	SALIX HOOKERIANA / HOOKER'S WILLOW
	SALIX LASIANDRA / PACIFIC WILLOW
	THUJA PLICATA / WESTERN RED-CEDAR
- - - - - - -	LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

GENERAL NOTES:

1. SHRUB UNDERSTORY PLANTING SHOWN SEPARATELY ON SHEETS LS01 AND LS02;
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF PLANTS;

- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

SEE SHEET LS05 FOR ROADWAY EMBANKMENT SEEDING

HORZ 10' 0' 10' 20' SCALE IN FEET

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM
RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: CL/DC/BD/MM/CEM/EH
DRAWN BY: BS
REVIEWED BY:
PROJECT MANAGER / ENGINEER

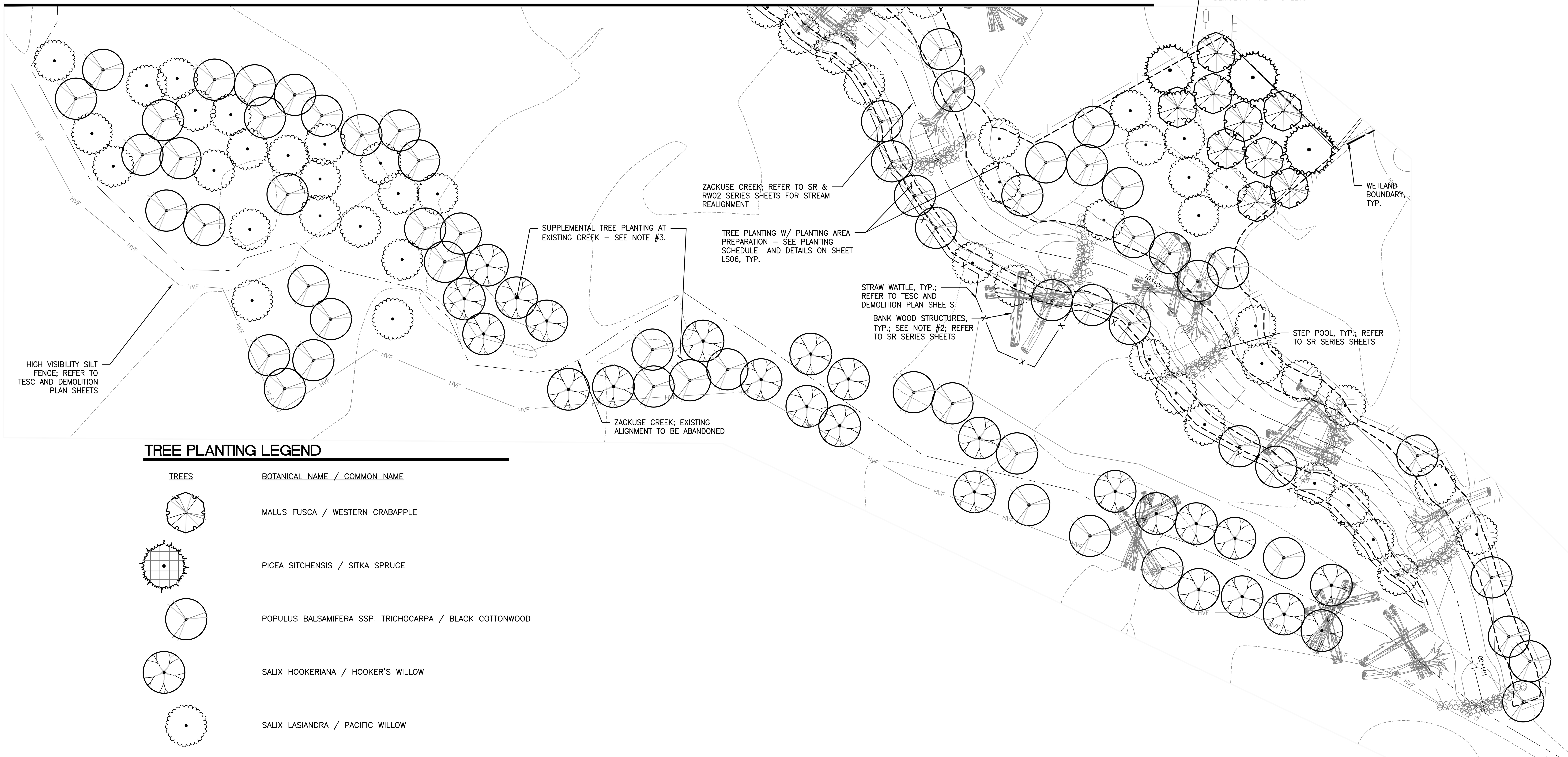
City of Sammamish Washington

STREAM RESTORATION:
TREE PLANTING PLAN
SHEET 1 OF 2

LS03
SHEET 31 OF 34

Plotted: Apr 03, 2018 – 12:52pm evah K:\project\32700\32794\CADD\ACAD\Dwg\09_LS01.dwg Layout Name: LS03

MATCHLINE SEE SHEET LS03



TREE PLANTING LEGEND

TREES	BOTANICAL NAME / COMMON NAME
(symbol)	MALUS FUSCA / WESTERN CRABAPPLE
(symbol)	PICEA SITCHENSIS / SITKA SPRUCE
(symbol)	POPULUS BALSAMIFERA SSP. TRICHOCARPA / BLACK COTTONWOOD
(symbol)	SALIX HOOKERIANA / HOOKER'S WILLOW
(symbol)	SALIX LASIANDRA / PACIFIC WILLOW
(symbol)	THUJA PLICATA / WESTERN RED–CEDAR
– – – – – – –	LIMITS OF PLANTING AREA TO RECEIVE PLANTING AREA PREPARATION; REFER TO DETAIL ON SHEET LS06

GENERAL NOTES:

1. TREE PLANTING SHOWN SEPARATELY ON SHEETS LS03 AND LS04;
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM WOOD STRUCTURES TO CENTER OF TREES;
3. DO NOT CLEAR AND GRUB PLANTING AREAS ADJACENT TO EXISTING CREEK. CLEAR ONLY INVASIVE SPECIES. SUPPLEMENT EXISTING NATIVE PLANTING WITH TREES SHOWN ON THIS PLAN. APPLY ONE INCH DEPTH OF FINE COMPOST OVER EXISTING SOIL.

- PLANTING WORK TO BE DONE BY OTHERS.
- SITE PREPARATION AND SEEDING INCLUDED IN CONTRACT.

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

HORZ SCALE 10' 0' 10' 20' IN FEET

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

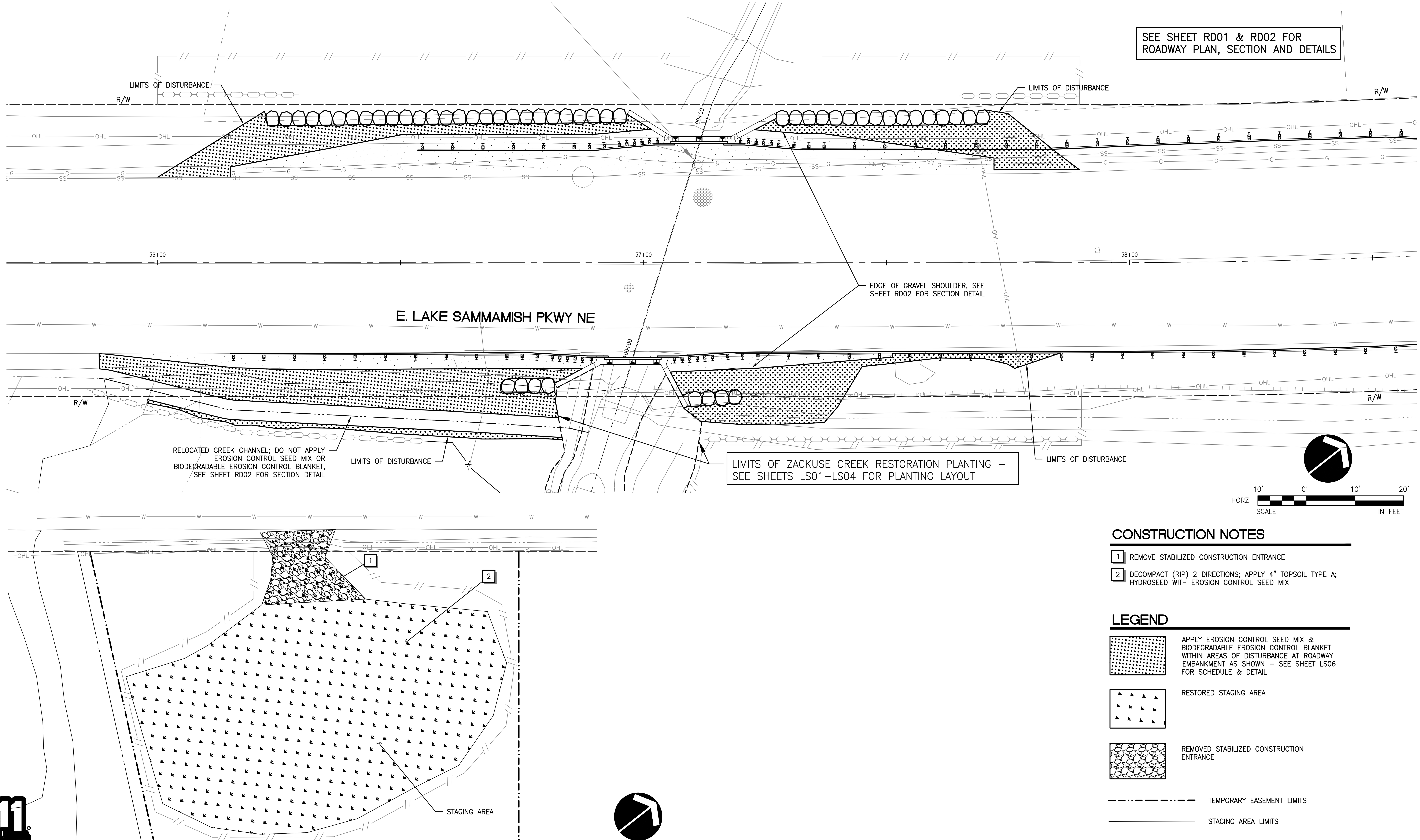
DATE: 02/23/2018
DESIGNED BY: CL/DC/BD/MM/CEM/EH
DRAWN BY: BS
REVIEWED BY:

City of Sammamish Washington

STREAM RESTORATION:
TREE PLANTING PLAN
SHEET 2 OF 2

LS04
SHEET 32 OF 34

PROJECT MANAGER / ENGINEER



CONSTRUCTION NOTES

1. REMOVE STABILIZED CONSTRUCTION ENTRANCE
2. DECOMPACT (RIP) 2 DIRECTIONS; APPLY 4" TOPSOIL TYPE A; HYDROSEED WITH EROSION CONTROL SEED MIX

LEGEND

- APPLY EROSION CONTROL SEED MIX & BIODEGRADABLE EROSION CONTROL BLANKET WITHIN AREAS OF DISTURBANCE AT ROADWAY EMBANKMENT AS SHOWN – SEE SHEET LS06 FOR SCHEDULE & DETAIL
- RESTORED STAGING AREA
- REMOVED STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY EASEMENT LIMITS
- STAGING AREA LIMITS

Know what's below. Call before you dig.

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: CL/DC/BD/MM/CEM/EH
DRAWN BY: BS
REVIEWED BY:

City of Sammamish Washington

ROADWAY EMBANKMENT & STAGING AREA RESTORATION PLANS

LS05
SHEET 33 OF 34

PROJECT MANAGER / ENGINEER

Plotted: Apr 03, 2018 – 12:52pm evah K:\project\32700\32794\CADD\ACAD\Dwg\09_LS01.dwg Layout Name: LS05

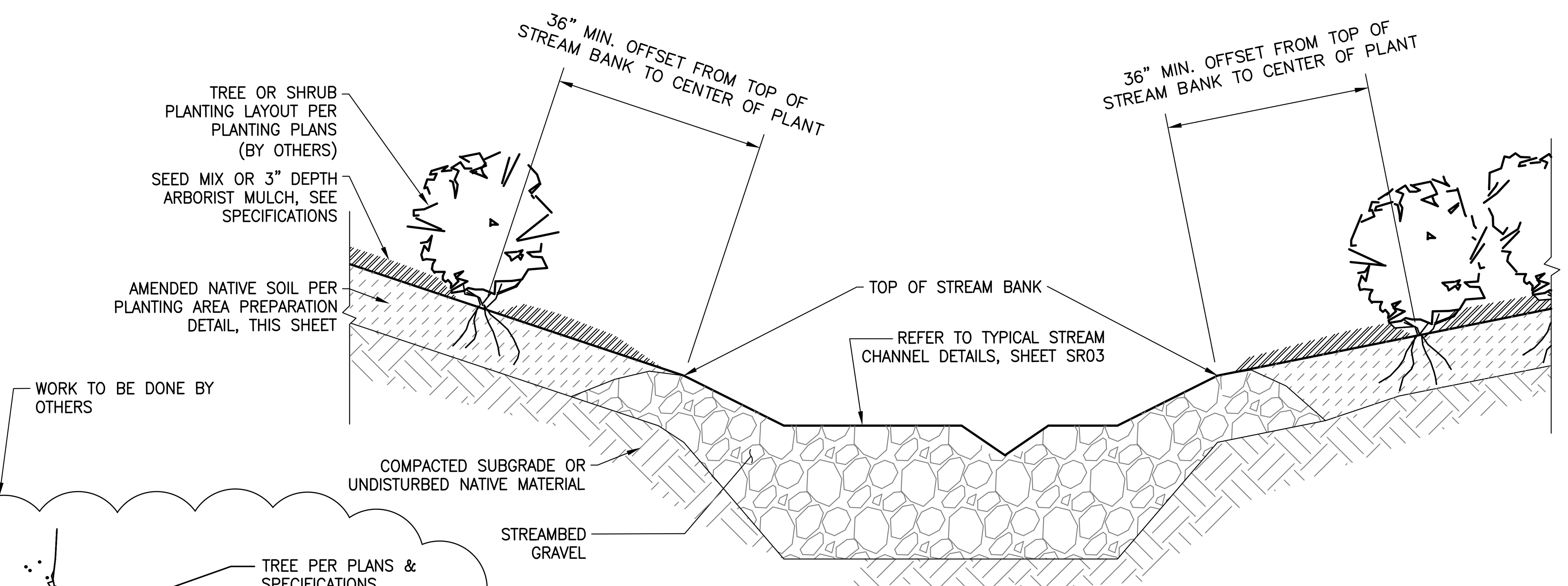
PLANT SCHEDULE

TREES	BOTANICAL NAME / COMMON NAME	CONT	QTY	REMARKS
	MALUS FUSCA / WESTERN CRABAPPLE	2 GAL.	9	
	PICEA SITCHENSIS / SITKA SPRUCE	5 GAL	4	15' O.C. MIN.
	POPULUS BALSAMIFERA SSP. TRICHOCARPA / BLACK COTTONWOOD	1 GAL.	91	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	SALIX HOOKERIANA / HOOKER'S WILLOW	1 GAL.	24	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	SALIX LASIANDRA / PACIFIC WILLOW	1 GAL.	81	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	THUJA PLICATA / WESTERN RED-CEDAR	5 GAL	7	15' O.C. MIN.

SHRUBS	BOTANICAL NAME / COMMON NAME	CONT	SPACING	QTY	REMARKS
	CORNUS SERICEA / RED TWIG DOGWOOD	1 GAL	48" o.c.	145	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	LONICERA INVOLUCRATA / TWINBERRY	1 GAL	48" o.c.	117	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	PHYSOCARPUS CAPITATUS / PACIFIC NINEBARK	1 GAL	48" o.c.	46	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	ROSA PISOCARPA / CLUSTERED WILD ROSE	1 GAL	48" o.c.	144	
	RUBUS SPECTABILIS / SALMONBERRY	1 GAL	48" o.c.	69	LIVE STAKES ARE ACCEPTABLE IF PLANTING OCCURS BETWEEN THE MONTHS OF DEC AND FEB
	SYMPHORICARPOS ALBUS / COMMON SNOWBERRY	1 GAL	48" o.c.	33	

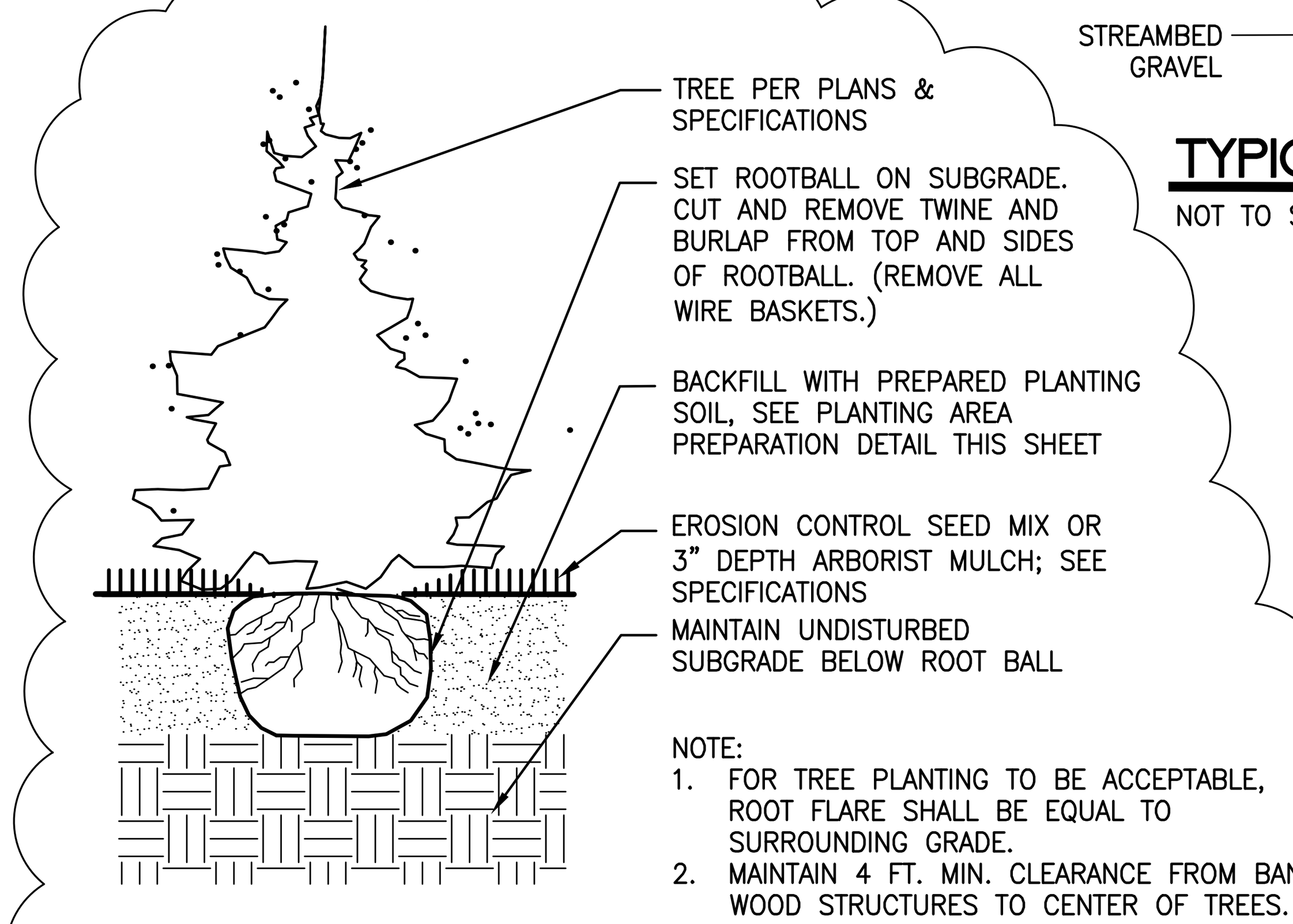
EROSION CONTROL SEED MIX AT ROADWAY EMBANKMENT (TOTAL AREA: 1,550 S.Y.)

%	BOTANICAL NAME / COMMON NAME	REMARKS
30%	ELYMUS GLAUCUS / BLUE WILDRYE	ALL EROSION CONTROL SEEDING AT ROADWAY EMBANKMENT TO BE COVERED IN BIODEGRADABLE EROSION CONTROL BLANKETS PER WSDOT STANDARD SPECIFICATIONS. SEE DETAIL THIS SHEET. BIODEGRADABLE EROSION CONTROL FABRIC IS NOT REQUIRED AT STAGING AREA RESTORATION.
30%	DESCHAMPSIA CESPITOSA / TUFTED HAIRGRASS	
30%	FESTUCA RUBRA / NATIVE RED FESCUE	
10%	AGROSTIS GIGANTEA / REDTOP	



TYPICAL STREAM CHANNEL PLANTING - SECTION

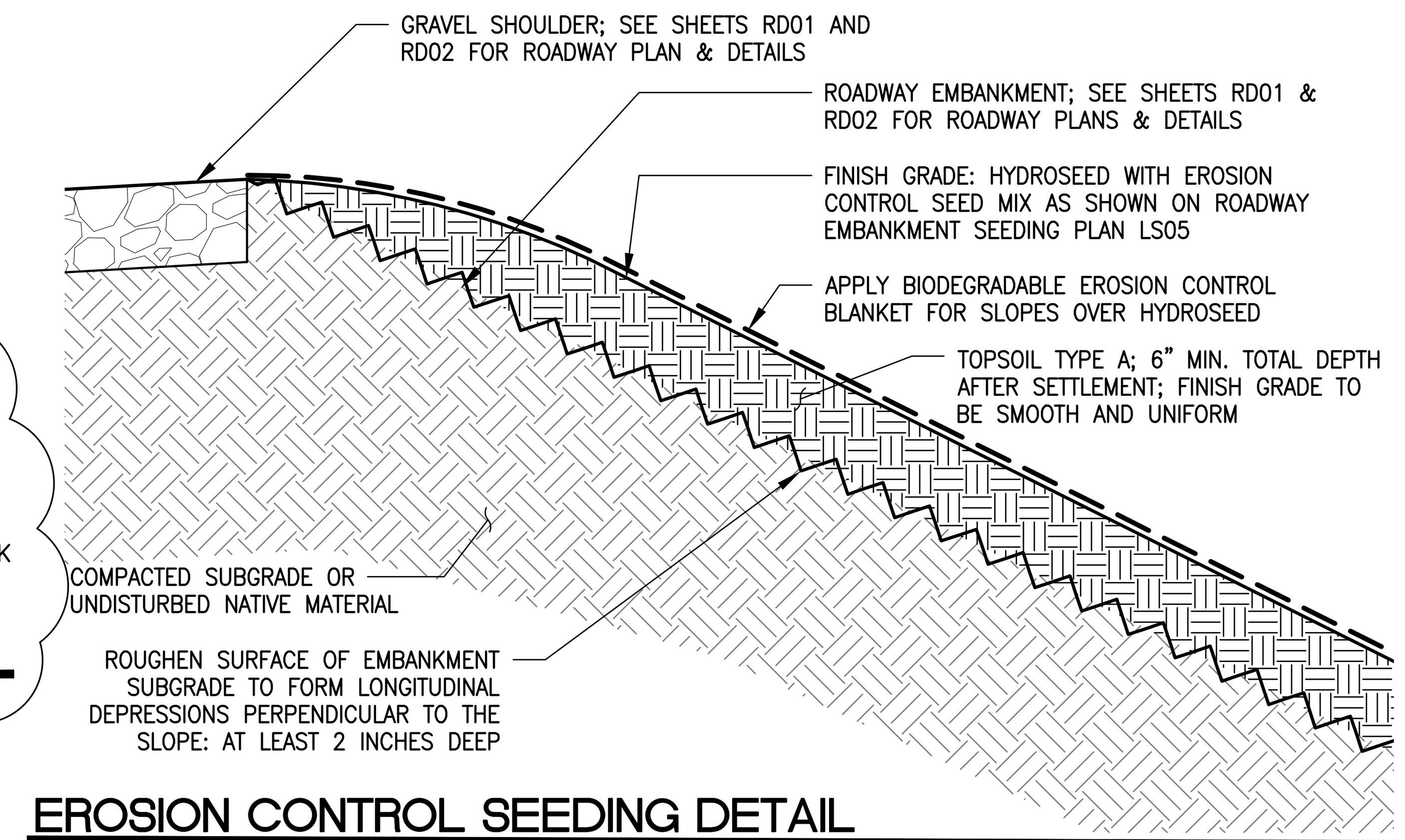
NOT TO SCALE



NOTE:
1. FOR TREE PLANTING TO BE ACCEPTABLE, ROOT FLARE SHALL BE EQUAL TO SURROUNDING GRADE.
2. MAINTAIN 4 FT. MIN. CLEARANCE FROM BANK WOOD STRUCTURES TO CENTER OF TREES.

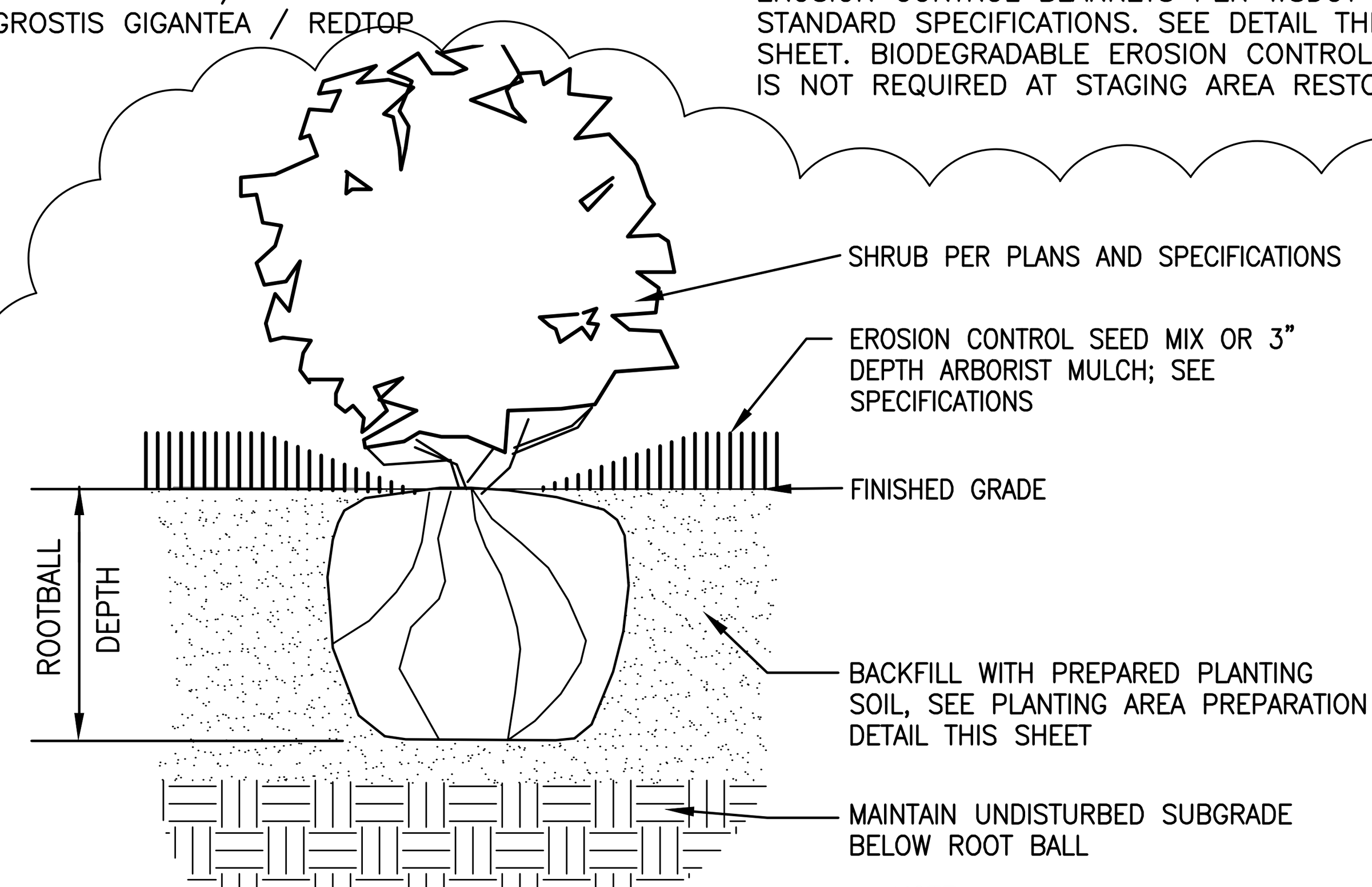
TREE PLANTING DETAIL

NOT TO SCALE



EROSION CONTROL SEEDING DETAIL

NOT TO SCALE



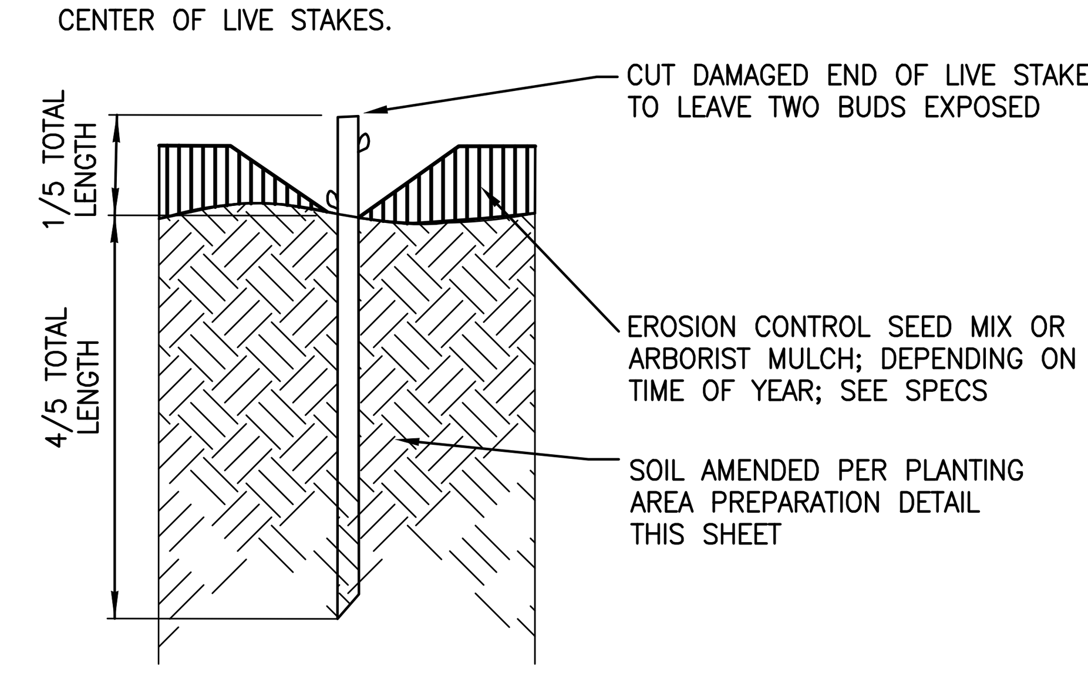
NOTE:
1. MAINTAIN 4 FT. MIN. CLEARANCE FROM BANK WOOD STRUCTURES TO CENTER OF PLANTS.

CONTAINER SHRUB PLANTING DETAIL

NOT TO SCALE

LIVE STAKE INSTALLATION NOTES:

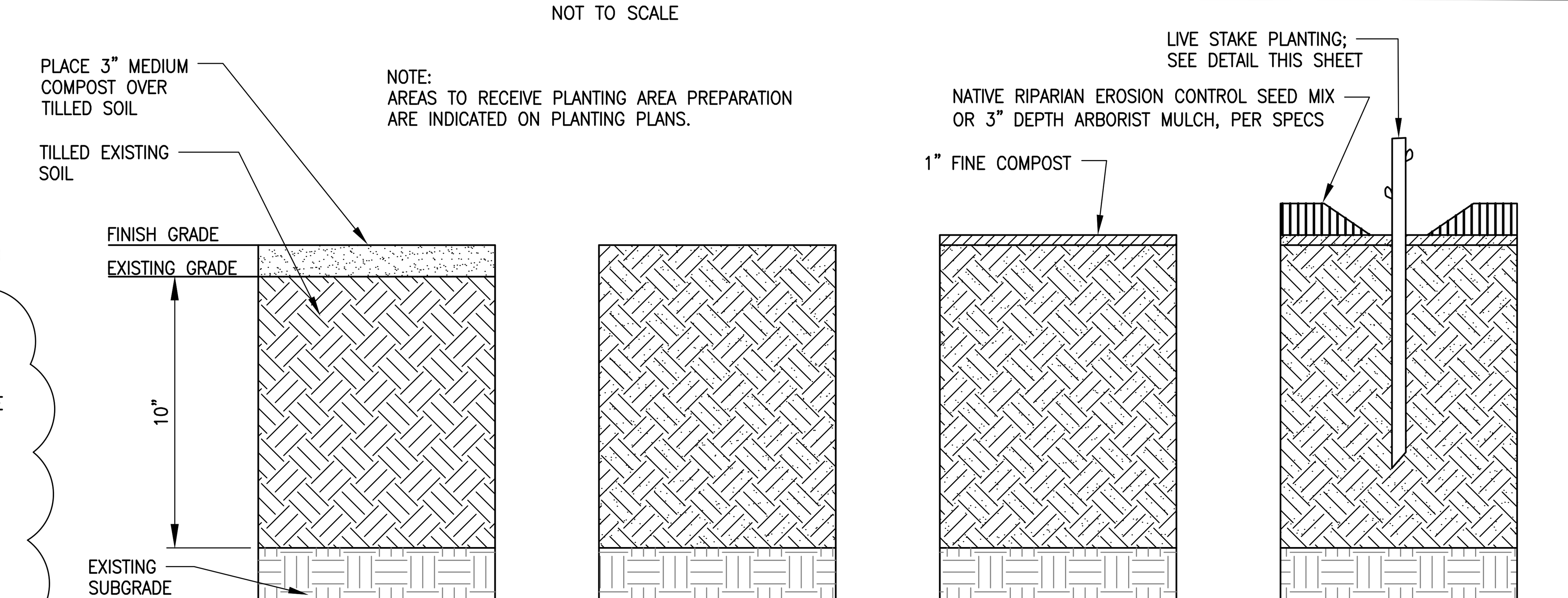
1. KEEP LIVE STAKES MOIST/WET IN BUCKETS OR WET BURLAP SACKS. ON HOT DAYS, KEEP STAKES IN THE SHADE UNTIL YOU PLANT THEM.
2. IN HARD GROUND, USE AN IRON BAR OR STAR DRILL TO PREPARE THE HOLES FOR THE LIVE STAKE.
3. PLACE LIVE STAKE IN PREPARED HOLE; DO NOT USE AXE OR SLEDGE FOR DRIVING LIVE STAKES.
4. AVOID STRIPPING BARK OR BRUISING LIVE STAKES DURING INSTALLATION.
5. BURY 4/5 OF LIVE STAKE LENGTH.
6. AFTER LIVE STAKE IS PLACED IN GROUND, CUT DAMAGED END OF LIVE STAKE TO LEAVE AT LEAST TWO BUDS EXPOSED, MIN.
7. FILL VOID AROUND LIVE STAKE WITH SOIL.
8. LENGTH OF LIVE STAKES TO BE 36" MIN; DIAMETER TO BE 3/4" TO 1-1/2" OVER ENTIRE LENGTH
9. MAINTAIN 4 FT. MIN. CLEARANCE FROM BANK WOOD STRUCTURES TO CENTER OF LIVE STAKES.



LIVE STAKE PLANTING DETAIL

NOT TO SCALE

NOTE:
AREAS TO RECEIVE PLANTING AREA PREPARATION ARE INDICATED ON PLANTING PLANS.



STEP 1:
A. CLEAR AND GRUB ALL PLANTING AREAS;
B. TILL OR RIP SOIL IN PLANTING AREAS TO 10" DEPTH;
C. PLACE 3" OF MEDIUM COMPOST OVER SOIL SURFACE.

STEP 2:
TILL MEDIUM COMPOST INTO TOP 10" OF ENTIRE PLANTING AREA.

STEP 3:
INSTALL 1" FINE COMPOST OVER PLANTING AREAS FOR A TOTAL DEPTH OF 11" OF PREPARED PLANTING SOIL

STEP 4:
A. INSTALL PLANT PER DETAIL THIS SHEET
B. INSTALL SEED MIX OR 3" DEPTH ARBORIST MULCH, PER SPECS;

PLANTING AREA PREPARATION DETAIL

NOT TO SCALE

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

ZACKUSE CREEK
FISH PASSAGE AND STREAM RESTORATION PROJECT
SAMMAMISH, WASHINGTON

NO.	REVISIONS	DATE
1		
2		
3		
4		
5		

DATE: 02/23/2018
DESIGNED BY: CL/DC/BD/MM/CEM/EH
DRAWN BY: BS
REVIEWED BY:

PROJECT MANAGER / ENGINEER

City of Sammamish Washington

PLANTING DETAILS

LS06

SHEET 34 OF 34

Plotted: Apr 03, 2018 – 12:52pm evah K:\project\32700\32794\CADD\ACAD\Dwg\09_LS01.dwg Layout Name: LS06