PACIFICORP ENERGY
A PACIFICORP COMPANY

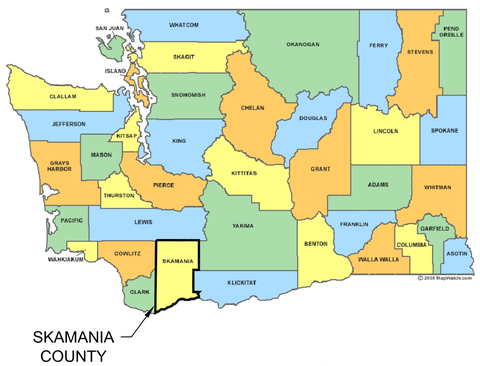
MCMILLEN, LLC

PACIFICORP ENERGY
LEWIS RIVER
CRAB CREEK ACCLIMATION POND

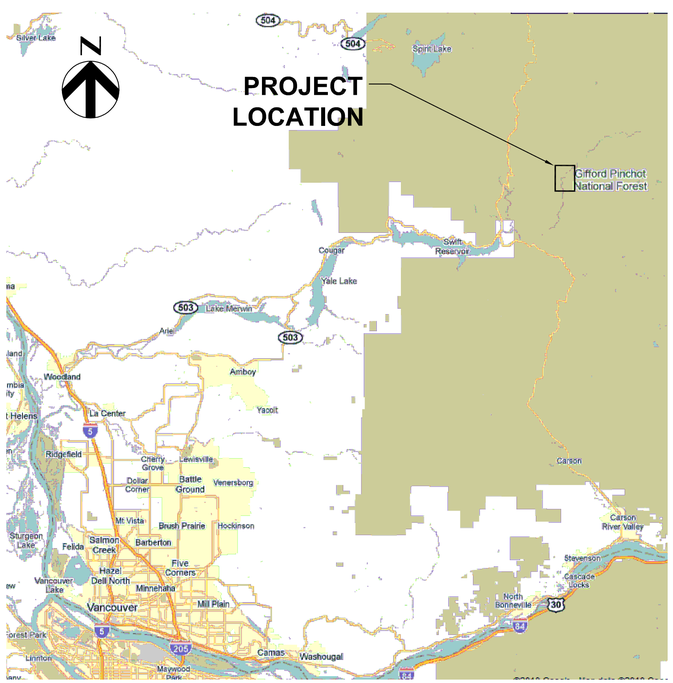
VOLUME II - CONSTRUCTION DRAWINGS
JUNE 2011

ISSUED FOR CONSTRUCTION

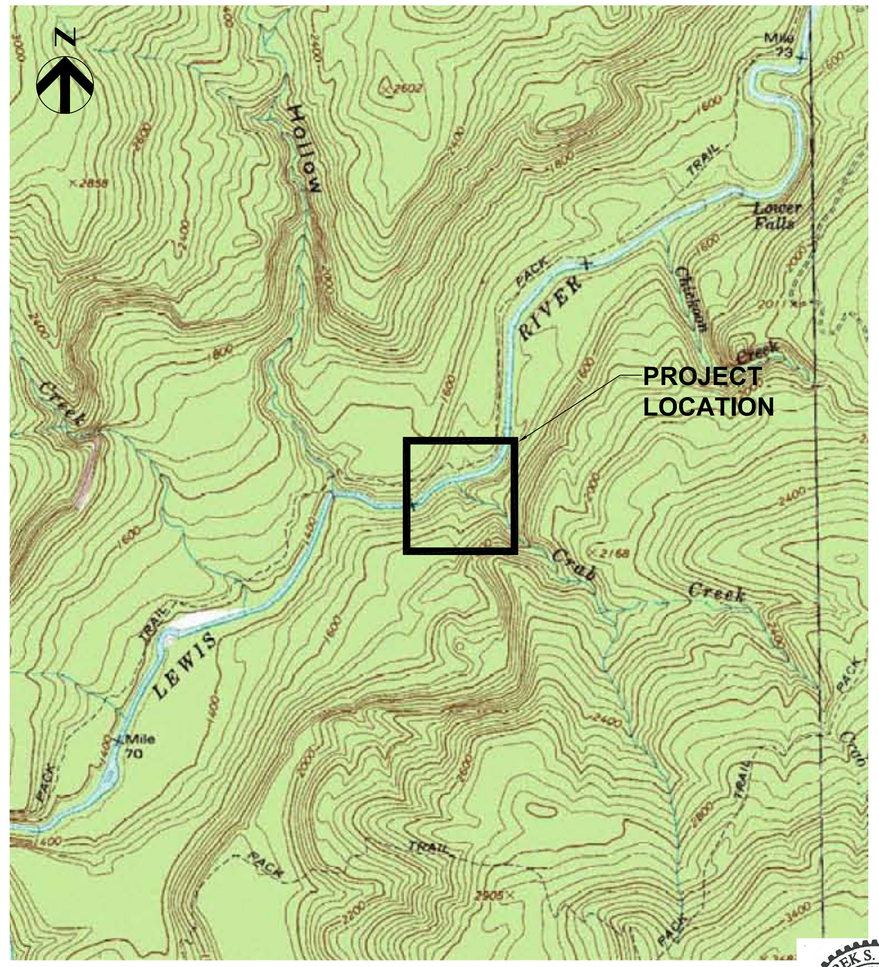
PACIFICORP ENERGY
LEWIS RIVER
CRAB CREEK ACCLIMATION POND



LOCATION MAP
NTS



VICINITY MAP
NTS



PROJECT LIMITS
SECTION 35, TOWNSHIP 8N, RANGE 7E
WILLAMETTE MERIDIAN
SKAMANIA COUNTY, WASHINGTON

DRAWING INDEX	
DWG NO.	DESCRIPTION
	GENERAL
–	COVER SHEET
G–1	LOCATION MAP, VICINITY MAP AND DRAWING INDEX
G–2	STANDARD SYMBOLS AND ABBREVIATIONS
	EROSION AND SEDIMENT CONTROL
ESC–1	EROSION AND SEDIMENT CONTROL PLAN
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	CIVIL
CR–C1	EXISTING SITE PLAN, CONTRACTOR STAGING AND SURVEY CONTROL
CR–C2	SITE PLAN
CR–C3	POND PLAN AND SECTIONS
CR–C4	POND DETAILS

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SAP#			
PL#			
DATE	6/24/11		
ENG	DSN	DES	DSN
DR	RLG	CH	MDM
APPROVAL			

LEWIS RIVER
CRAB CREEK ACCLIMATION POND
LOCATION MAP, VICINITY MAP
AND DRAWING INDEX

PACIFICORP ENERGY
A PACIFICORP COMPANY
HYDRO

SCALE: NONE | SHEET G–1 | REV. 0

No.	DATE	REVISION	BY	CHK	APP
0	6/24/11	ISSUED FOR CONSTRUCTION	RG	DSN	MDM

PLOT SCALE: 1 =

REFERENCE DRAWINGS	DRAWING No.	REFERENCE DRAWINGS	DRAWING No.

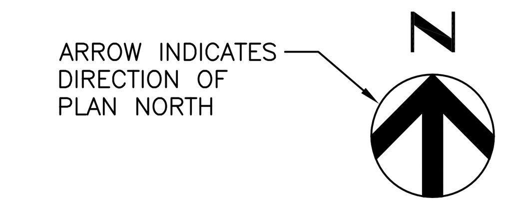
ABBREVIATIONS

A/E	ARCHITECT/ENGINEER
AB	ANCHOR BOLT
ABC	AGGREGATE BASE COURSE
ABAN	ABANDON
AC	ALTERNATING CURRENT
ACK	ACKNOWLEDGE
ACP	ASPHALTIC CONCRETE PAVEMENT
AD	ADDENDUM, AREA DRAIN
ADDL	ADDITIONAL
ADH	ADHESIVE
ADJ	ADJUSTABLE, ADJACENT
AF	AMP FRAME, AMP FUSE
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AGGR	AGGREGATE
AI	AREA INLET
ALIG	ALIGNMENT
ALUM	ALUMINUM
AMB	AMBIENT
ANC	ANCHOR
AP	ACCESS PANEL
APRX	APPROXIMATE
APVD	APPROVED
ASSY	ASSEMBLY
AT	AMP TRIP
ATM	ATMOSPHERE
AUTO	AUTOMATIC
AUX	AUXILIARY
AVE	AVENUE
AVG	AVERAGE
BD	BOARD
BE	BOTH ENDS, BELL END
BF	BOTH FACES, BOTTOM FACE, BLIND FLANGE, BOARD FEET
BITUM	BITUMINOUS
BKG	BACKING
BL	BASE LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BENCHMARK, BEAM
BOC	BACK OF CURB
BOP	BOTTOM OF PIPE, BEGINNING OF PIPE
BOT	BOTTOM
BP	BASE PLATE
BRG	BEARING
BRGP	BEARING PLATE
BRKT	BRACKET
BS	BOTH SIDES
BTW	BETWEEN
BTWLD	BUTT WELD
BU	BELL UP, BUILT UP
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
BYP	BYPASS
C TO C	CENTER TO CENTER
C	CONDUIT
CAV	CONTINUOUS ACTING AIR VALVE
CB	CATCH BASIN
CCB	CONCRETE BLOCK
CCW	COUNTER CLOCKWISE
CE	CONCRETE EDGE
CF	CUBIC FEET (FOOT)
CHFR	CHAMFER
CHD	CHORD
CHH	COMMUNICATION HANDHOLE
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT
CJP	COMPLETE JOINT PENETRATION
CL	CENTERLINE, CLASS, CLOSE
CLJ	CONTROL JOINT
CLR	CLEAR
CMP	CORRUGATED METAL PIPE
CO	CLEAN OUT, CONCRETE OPENING
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMP	COMPOSITION, COMPRESSIBLE, COMPOSITE
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
COOR	COORDINATE
CORR	CORRUGATED
CP	CONTROL POINT
CPLG	COUPLING
CRL	CORROSION RESISTANT LINING
CSC	COMPRESSION SLEEVE COUPLING
CSK	COUNTERSINK
CTR	CENTER
CTRL	CONTROL
CVT	CULVERT
CU	CUBIC
CW	CLOCKWISE
CY	CUBIC YARD
D	DEEP, DIFFUSER
DB	DUCT BANK, DECIBEL, DRY BULB
DBA	DEFORMED BAR ANCHOR
DC	DIRECT CURRENT
DEG	DEGREE
DEG C	DEGREE CENTIGRADE
DEG F	DEGREE FAHRENHEIT
DEMO	DEMOLITION
DET	DETAIL
DI	DUCTILE IRON
DIA	DIAMETER
DIAG	DIAGONAL, DIAGRAM
DIFF	DIFFERENTIAL, DIFFERENCE
DIM	DIMENSION
DISCH	DISCHARGE
DIST	DISTANCE, DISTRIBUTION
DIV	DIVISION
DMJ	DOUBLE MECHANICAL JOINT
DP	DEPTH
DUP	DUPLICATE
DWG	DRAWING
E	EAST, ELECTRICAL (DWG DISCIPLINE)
EA	EACH
EDB	ELECTRICAL DUCT BANK
EE	EACH END
EF	EACH FACE
EFF	EFFLUENT, EFFICIENCY
EL	ELBOW
ELEV	ELEVATION
EMBD	EMBEDDED
EMER	EMERGENCY
ENCL	ENCLOSURE
ENGR	ENGINEER
EOP	END OF PIPE
EQ	EQUAL
EQUIP	EQUIPMENT
EQUIV	EQUIVALENT
ES	EACH SIDE, EQUAL SPACE,
EST	ESTIMATE
EW	EACH WAY
EXC	EXCAVATION
EXST	EXISTING
EXP	EXPANSION, EXPOSED
EXT	EXTERIOR, EXTERNAL, EXTENSION
FAB	FABRICATE
FBO	FURNISHED BY OWNER
FC	FLUSHING CONNECTION
FCA	FLANGED COUPLING ADAPTER
FD	FLOOR DRAIN
FDC	FLEXIBLE DUCT CONNECTION
FDTN	FOUNDATION
FE	FLANGED END
FES	FIRE EXTINGUISHER CABINET
FG	FINISHED GRADE
FIG	FIGURE
FL	FLOW, FLOW LINE
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FN	FENCE
FO	FINISHED OPENING
FOC	FACE OF CONCRETE
FOT	FLAT ON TOP
FPT	FEMALE PIPE THREAD
FR	FRAME
FRP	FIBERGLASS REINFORCED PLASTIC
FS	FLOOR SINK
FT	FEET, FOOT
FTG	FOOTING, FITTING
FUT	FUTURE
FW	FIELD WELD
FWD	FORWARD
FWE	FURNISHED WITH EQUIPMENT
GA	GAGE (METAL THICKNESS)
GAL	GALLON
GALV	GALVANIZED
GB	GRADE BREAK
GC	GROOVED COUPLING
GEN	GENERAL
GND	GROUND
GP	GUY POLE
GPNF	GIFFORD PINCHOT NATIONAL FOREST
GR	GRADE
GRTG	GRATING
GT	GREASE TRAP
GVL	GRAVEL
H	HIGH
HC	HORIZONTAL CENTERLINE
HDR	HEADER
HEX	HEXAGONAL
HH	HANDHOLE
HID	HIGH INTENSITY DISCHARGE HOLLOW
HM	METAL
HORIZ	HORIZONTAL
HP	HORSEPOWER
HPC	HORIZONTAL POINT OF CURVATURE
HPT	HORIZONTAL POINT OF TANGENCY
HR	HOUR
HR	HOUR
HS	HIGH STRENGTH
HSS	HOLLOW STRUCTURAL SHAPE
HT	HEIGHT
HWL	HIGH WATER LEVEL
HYD	HYDRAULIC
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IF	INSIDE FACE
IN	INCH
INC	INCLUDE
INF	INFLUENT
INSTR	INSTRUMENTATION
INT	INTERSECTION
INTR	INTERMEDIATE
INV	INVERT
IPS	IRON PIPE SIZE
IPT	INTERNAL PIPE THREAD
IR	INSIDE RADIUS
IRR	IRRIGATION
ISO	ISOMETRIC
JB	JUNCTION BOX
JCT	JUNCTION
JF	JOINT FILLER
JT	JOINT
KO	KNOCK OUT
L	LENGTH
LAD	LADDER
LATL	LATERAL
LB	LAG BOLT, POUND
LE	LIFTING EYE
LF	LINEAR FOOT
LG	LONG
LIN	LINEAR
LIQ	LIQUID
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LNG	LONGITUDINAL
LOC	LOCATION
LP	LOW POINT
LT	LEFT
LTD	LIMITED
LW	LIGHTWEIGHT
LWC	LIGHTWEIGHT CONCRETE
LWL	LOW WATER LEVEL
MACH	MACHINED
MAINT	MAINTENANCE
MAN	MANUAL
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MECHANICAL COUPLING
MECH	MECHANICAL
MED	MEDIUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MMB	MEMBRANE
MO	MASONRY OPENING
MOD	MODIFY
MON	MONUMENT
MPT	MALE PIPE THREAD
MSL	MEAN SEA LEVEL
MT	MOUNT
MU	MASONRY UNIT
MW	MONITORING WELL
N	NORTH, NEUTRAL
NA	NOT APPLICABLE
NAT	NATURAL
NEG	NEGATIVE
NO	NUMBER
NOM	NOMINAL
NPS	NOMINAL PIPE SIZE
NPT	NATIONAL PIPE THREAD
NTS	NOT TO SCALE
NWL	NORMAL WATER LEVEL
O TO O	OUT-TO-OUT
OC	ON CENTER
OD	OUTSIDE DIAMETER
OED	OPEN END DUCT
OG	ORIGINAL GROUND
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPT	OPTIONAL
OR	OUTSIDE RADIUS
ORIG	ORIGINAL
OHWM	ORDINARY HIGH WATER MARK
OVFL	OVERFLOW
OVHG	OVERHANG
OZ	OUNCE
PAR	PARALLEL
PC	POINT OF CURVE, PRECAST
PCC	POINT OF COMPOUND CURVATURE
PCF	POUNDS PER CUBIC FOOT
PCT	PERCENT
PED	PEDESTAL
PEN	PENETRATION
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PH	PHASE
PI	POINT OF INTERSECTION
PJP	PARTIAL JOINT PENETRATION
PL	PLATE, PROPERTY LINE
POS	POSITIVE, POSITION
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PREFAB	PREFABRICATED
PRELIM	PRELIMINARY
PREP	PREPARE
PRES	PRESSURE
PRI	PRIMARY
PROP	PROPERTY
PROT	PROTECTION
PS	PIPE SUPPORT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSIA	POUNDS PER SQUARE INCH ABSOLUTE
PSIG	POUNDS PER SQUARE INCH GAGE
PT	POINT, POINT OF TANGENCY
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
PZ	PIEZOMETER
Q	RATE OF FLOW
QTR	QUARTER
QTY	QUANTITY
QUAL	QUALITY
R&R	REMOVE AND REPLACE
R&S	REMOVE AND SALVAGE
R	RADIUS
RB	ROCK BEAM
REC	RECESS
RECD	RECEIVED
RECT	RECTANGULAR
RED	REDUCER
REF	REFERENCE
REINF	REINFORCING
REM	REMOVE
REQD	REQUIRED
RESIL	RESILIENT
RET	RETAINING
REV	REVISION
RGH	ROUGH
RGS	RIGID GALVANIZED STEEL
RGS-PVC	PVC COATED RGS
RND	ROUND
ROW	RIGHT OF WAY
RPM	REVOLUTIONS PER MINUTE
RR	RAILROAD
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
S	SOUTH
SAN	SANITARY
SB	SPLASH BLOCK
SCH	SCHEDULE
SCHEM	SCHEMATIC
SCN	SCREEN
SE	STEEL/ALUMINUM EDGE
SEC	SECONDARY, SECONDS
SECT	SECTION
SEP	SEPARATE
SF	SQUARE FOOT
SHT	SHEET
SHTG	SHEATHING
SL	SLOPE
SLTD	SLOTTED
SLV	SLEEVE
SMLS	SEAMLESS
SOG	SLAB ON GRADE
SOP	STAKEOUT POINT
SP	STANDPIPE
SPA	SPACING
SPEC	SPECIFICATION
SPLY	SUPPLY
SPT	SET POINT
SQ	SQUARE
SST	STAINLESS STEEL
ST	STREET
STA	STATION
STD	STANDARD
STIF	STIFFENER
STIR	STIRRUP
STL	STEEL
STOR	STORAGE
STR	STRAIGHT
SUB	SUBSTITUTE
SUC	SUCTION
SUSP	SUSPENDED
SY	SQUARE YARD
SYM	SYMBOL
SYMM	SYMMETRICAL
SYN	SYNTHETIC
SYS	SYSTEM
TAN	TANGENT
TBF	TURBULENT FOUNTAIN SCREEN
TBM	TEMPORARY BENCHMARK
TEMP	TEMPORARY, TEMPERATURE
THD	THREAD
TOB	TOP OF BANK
TOC	TOP OF CONCRETE
TOD	TOP OF DUCT
TOF	TOP OF FOOTING
TOG	TOP OF GRATING
TOL	TOLERANCE
TOP	TOP OF PLATE
TOPO	TOPOGRAPHY
TOS	TOP OF SLAB, TOP OF STEEL
TOW	TOP OF WALL
TP	TELEPHONE POLE
TRANS	TRANSITION
TRD	TRENCH DRAIN
TYP	TYPICAL
UG	UNDERGROUND
ULT	ULTIMATE
UNO	UNLESS NOTED OTHERWISE
USFS	UNITED STATES DEPT OF AGRICULTURE FOREST SERVICE
UTIL	UTILITY
VA	VOLT AMPERE
VAC	VACUUM
VAR	VARIABLE
VB	VALVE BOX
VC	VERTICAL CURVE
VCT	VERTICAL CENTERLINE
VEL	VELOCITY
VENT	VENTILATION
VERT	VERTICAL
VIF	VERIFY IN FIELD
VIN	VINYL
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
W/	WITH
W/O	WITHOUT
W	WEST
WC	WATER COLUMN
WD	WIDTH
WG	WATER GAGE
WL	WATER LEVEL
WLD	WELDED
WM	WIRE MESH
WP	WATERPROOF
WTHP	WEATHERPROOF
WS	WATER SURFACE
WT	WEIGHT, WATER TIGHT
WWF	WELDED WIRE FABRIC
XSECT	CROSS SECTION

GENERAL NOTES:

1. THESE ABBREVIATIONS APPLY TO THE ENTIRE SET OF CONTRACT DRAWINGS.
2. LISTING OF ABBREVIATIONS DOES NOT IMPLY ALL ABBREVIATIONS ARE USED IN THE CONTRACT DRAWINGS.
3. ABBREVIATIONS SHOWN ON THIS SHEET INCLUDE VARIATIONS OF THE WORD. FOR EXAMPLE, "MOD" MAY MEAN MODIFY OR MODIFICATION; "INC" MAY MEAN INCLUDED OR INCLUDING; "REINF" MAY MEAN EITHER REINFORCE OR REINFORCING.
4. SCREENING OR SHADING OF WORK IS USED TO INDICATE EXISTING COMPONENTS OR TO DE-EMPHASIZE PROPOSED IMPROVEMENTS TO HIGHLIGHT SELECTED TRADE WORK. REFER TO CONTEXT OF EACH SHEET FOR USAGE.

SYMBOLS

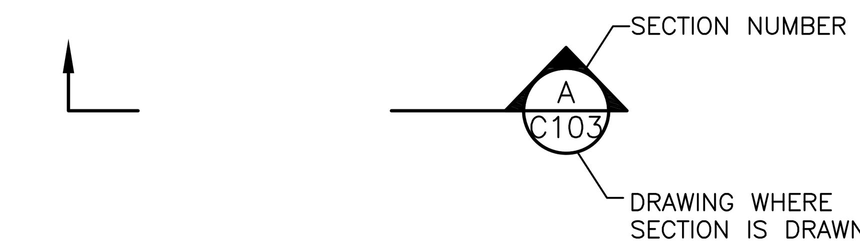


PLAN

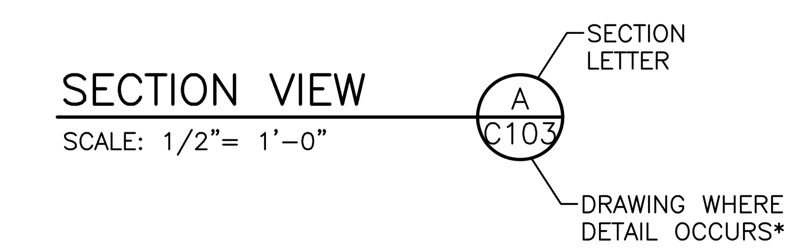
SCALE: 1/2"= 1'-0"

SECTION IDENTIFICATION

(1) SECTION CUT ON DRAWING C102:

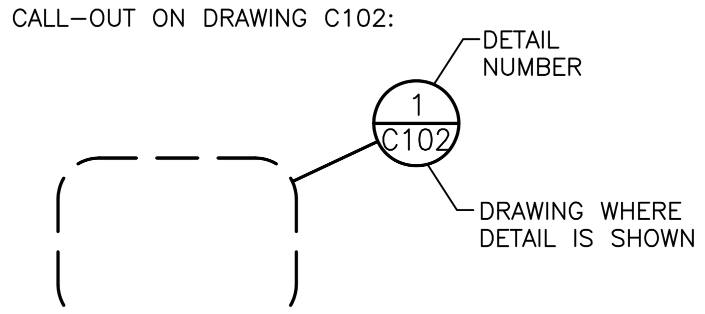


(2) ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:

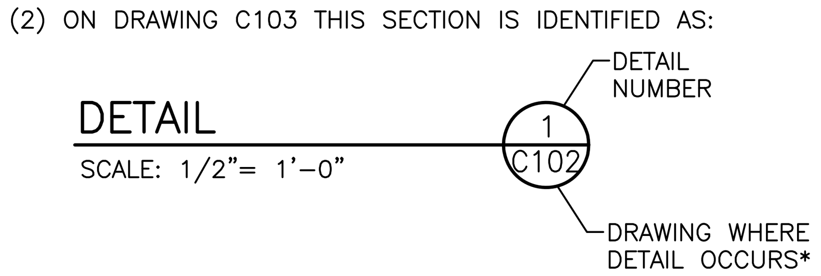


DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON DRAWING C102:



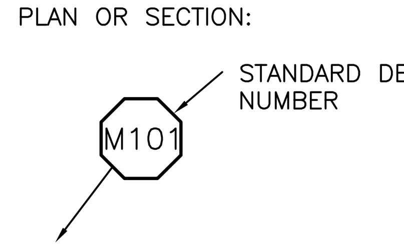
(2) ON DRAWING C103 THIS SECTION IS IDENTIFIED AS:



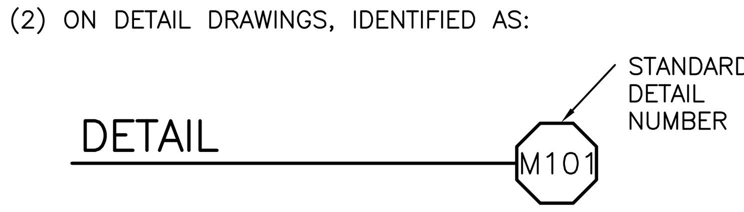
*NOTE: IF PLAN AND SECTION (OR DETAIL CALL-OUT AND DETAIL) ARE SHOWN ON SAME DRAWING. DRAWING NUMBER IS REPLACED BY A LINE.

STANDARD DETAIL IDENTIFICATION

(1) DETAIL CALL-OUT ON PLAN OR SECTION:



(2) ON DETAIL DRAWINGS, IDENTIFIED AS:



* IF PLAN AND SECTION, OR DETAIL CALL-OUT AND DETAIL ARE SHOWN ON SAME SHEET, SHEET NUMBER IS REPLACED BY A LINE (–).

DEREK S. NELSON — STATE OF WASHINGTON — 45757 — REGISTERED PROFESSIONAL ENGINEER — 6/24/11

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SAP#	
PL#	
DATE	6/24/11
ENG DSN	DES DSN
DR RLG	CH MDM
APPROVAL	

LEWIS RIVER
CRAB CREEK ACCLIMATION POND
STANDARD SYMBOLS
AND ABBREVIATIONS

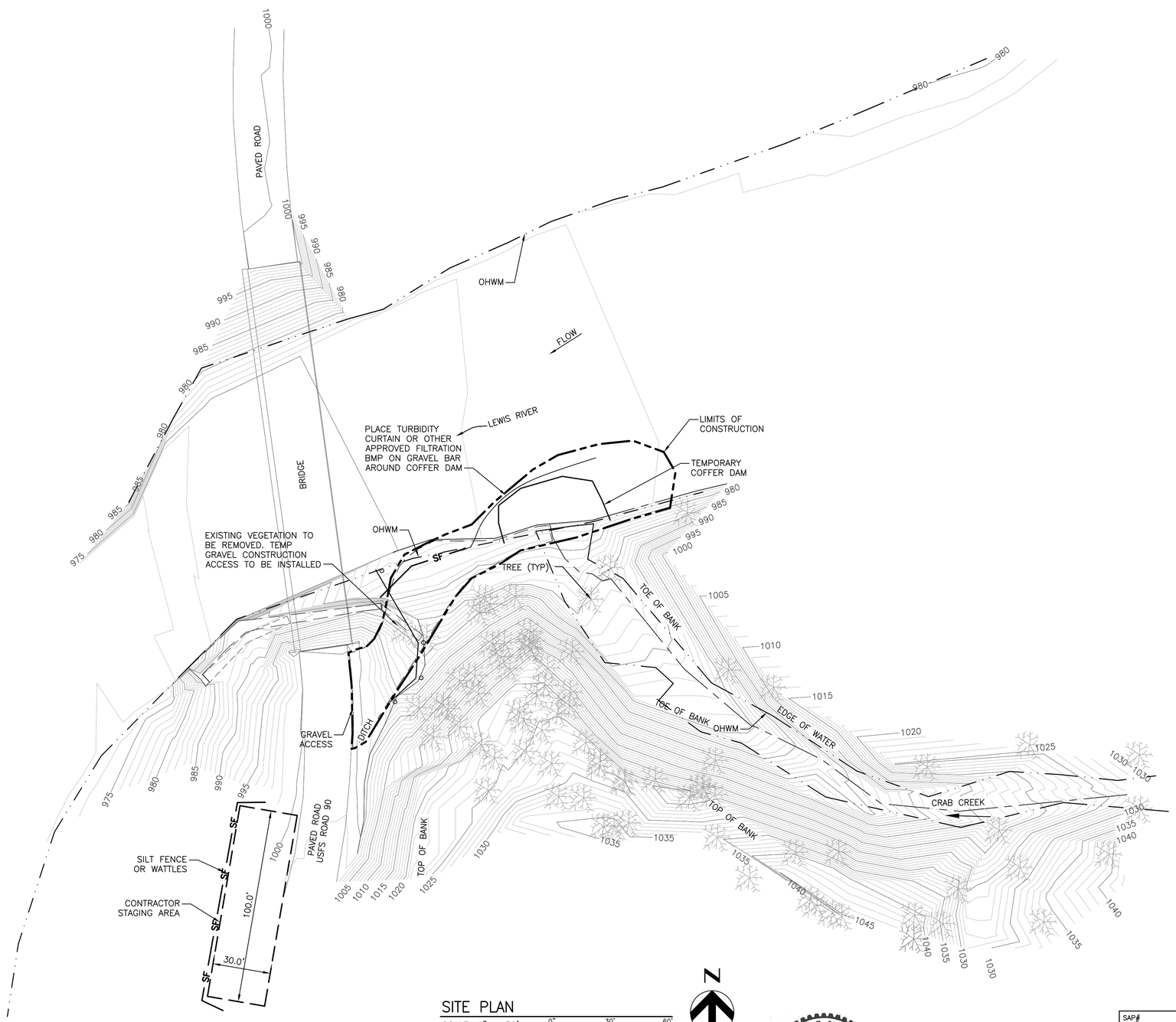
PACIFICORP ENERGY — A PACIFICORP COMPANY — HYDRO

SCALE: NONE | SHEET G-2 | REV. 0

No.	DATE	REVISION	BY	CHK	APP
0	6/24/11	ISSUED FOR CONSTRUCTION	RG	DSN	MDM

PLOT SCALE: 1 =

BORDER REVISED 10/31/08 D.M.J.



SITE PLAN

SCALE: 1" = 30'

0' 30' 60'

N

EROSION CONTROL NOTES:

1. CONTRACTOR SHALL DEVELOP AN EROSION AND SEDIMENT CONTROL PLAN TO BE SUBMITTED AND APPROVED BY THE OWNER THAT MEETS ALL PROJECT PERMITS AND FEDERAL, STATE, AND LOCAL REQUIREMENTS. THE EROSION AND SEDIMENT CONTROL PLAN (THIS DRAWING) AND DRAWING ESC–2 ARE PROVIDED TO AID THE CONTRACTOR IN DEVELOPING THE EROSION AND SEDIMENT CONTROL PLAN ACCORDING TO THE CONTRACTOR SCHEDULE AND PHASING OF THE PROJECT.
2. THE CONTRACTOR IS RESPONSIBLE FOR INSPECTING AND MAINTAINING ALL EROSION AND SEDIMENT CONTROL MEASURES THROUGHOUT THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL FACILITIES, FENCING, AND STAGING AREA MATERIALS WHEN CONSTRUCTION IS COMPLETE. NO CONSTRUCTION DEBRIS, DEMOLITION MATERIALS, OR EXCESS EQUIPMENT SHALL BE LEFT ON SITE.
4. CONTRACTOR SHALL REGRADE AND VEGETATE DISTURBED SLOPES TO NEAR EXISTING CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE. ALL FINISHED CONSTRUCTED SLOPES SHALL HAVE BIO–DEGRADABLE FIBER WATTLES INSTALLED AT THE TOE OF THE FINISHED SLOPE.
5. ALL RUNOFF FROM SITE CONSTRUCTION ACTIVITIES AND FROM RAINFALL EVENTS SHALL BE RETAINED ON SITE.
6. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT:
   A. TRACKING OF MUD AND DIRT ONTO ROADS. ROAD SWEEPING IS REQUIRED IF TRACKING OCCURS.
   B. ACCUMULATION OF CONSTRUCTION WASTE AND LITTER ON SITE.
   C. NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR OUTSIDE OF THE PROPOSED IMPROVEMENTS SHOWN ON THE PLANS FOR THE PROJECT.
7. STOCKPILED EXCAVATION MATERIALS SHALL BE PROTECTED FROM WATER AND WIND EROSION BY COVERING AS APPROPRIATE.
8. THE SILT FENCE AND/OR WATTLES SHALL BE CONSTRUCTED PRIOR TO ANY CONSTRUCTION ACTIVITIES.
9. CONTRACTOR SHALL PROVIDE DUST ABATEMENT OVER ALL DISTURBED AREAS BY WATER SPRAY AS NEEDED.
10. MINIMIZE DISTURBANCES TO EXISTING VEGETATION – UTILIZE AS NATURAL BUFFER STRIPS.
11. DETAILS ON DRAWING ESC–2 ARE WASHINGTON DOT STANDARD DRAWINGS.
12. ALL IN WATER WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE PROJECT PERMITS AND CONTRACT SPECIFICATIONS.

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APPROVAL			

LEWIS RIVER
CRAB CREEK ACCLIMATION POND
EROSION AND SEDIMENT
CONTROL PLAN

PACIFICORP ENERGY
A PACIFICORP COMPANY

HYDRO

SCALE: AS NOTED | SHEET ESC–1 | REV. 0

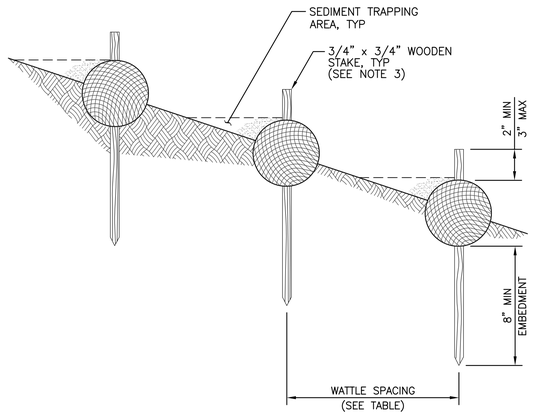
No.	DATE	REVISION	BY	CHK	APP
0	6/24/11	ISSUED FOR CONSTRUCTION	RG	DSN	MDM

No.	DATE	REVISION	BY	CHK	APP

REFERENCE DRAWINGS | DRAWING No. | REFERENCE DRAWINGS | DRAWING No.

PLOT SCALE: 1 =

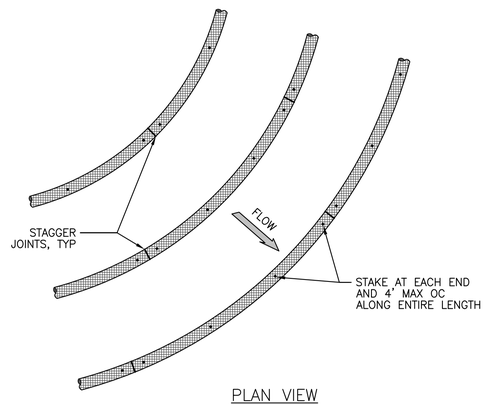
BORDER REVISED 10/31/08 G.M.J.



ELEVATION VIEW

WATTLE SPACING TABLE	
SLOPE	MAXIMUM SPACING
1:1	10 FEET
2:1	20 FEET
3:1	30 FEET
4:1	40 FEET
>4:1	80 FEET

NOTES
1. INSTALL WATTLES ALONG CONTOURS.
2. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RUNOFF PRODUCING RAINFALL, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
3. LIVE STAKES MAY BE USED FOR PERMANENT INSTALLATIONS.
4. INSTALL WATTLES SNUGLY INTO THE TRENCH. ABUT ADJACENT WATTLES TIGHTLY, END TO END, WITHOUT OVERLAPPING THE ENDS.
5. PILOT HOLES MAY BE DRIVEN THROUGH THE WATTLE AND INTO THE SOIL, WHEN SOIL CONDITIONS REQUIRE.
6. INSTALL AT TOE OF SLOPES. SLOPES GREATER THAN 15' IN LENGTH SHALL HAVE A WATTLE INSTALLED MID SLOPE.
7. WATTLES SHALL MEET WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION, 2008 REQUIREMENTS.

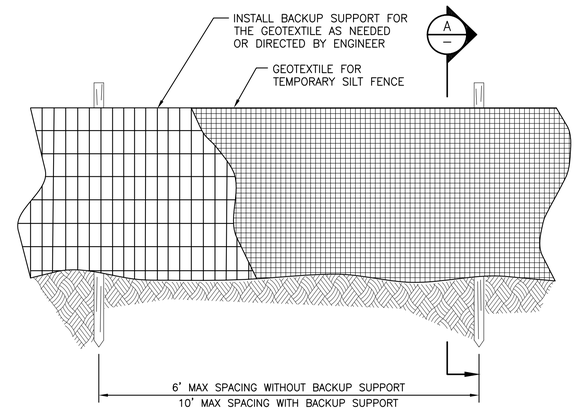


PLAN VIEW

WSDOT WATTLE INSTALLATION ON SLOPE (1/–)

SCALE: NTS

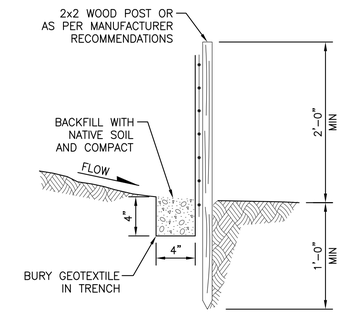
NOTE:
1. MAXIMIZE DETENTION OF STORM WATER BY PLACING FENCE AS FAR AWAY FROM THE TOE OF SLOPE AS POSSIBLE WITHOUT ENCROACHING ON SENSITIVE AREAS OR OUTSIDE OF THE CLEARING BOUNDARIES.
2. INSTALL SILT FENCING ALONG CONTOURS WHENEVER POSSIBLE.
3. INSTALL THE ENDS OF THE SILT FENCE TO POINT SLIGHTLY UP–SLOPE TO PREVENT SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.
4. PERFORM MAINTENANCE WHEN ACCUMULATED SILT EXCEEDS 12" DEPTH



ELEVATION VIEW

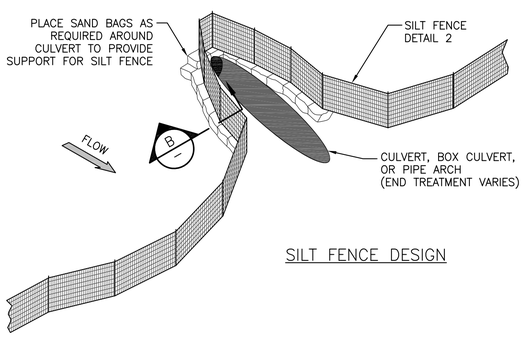
WSDOT SILT FENCE (2/–)

SCALE: NTS



SECTION (A/–)

SCALE: NTS

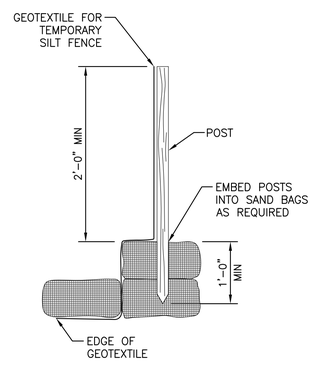


SILT FENCE DESIGN

NOTE:
PERFORM MAINTENANCE IN ACCORDANCE WITH DETAIL 2 ON THIS SHEET.

WSDOT EROSION CONTROL AT CULVERT ENDS (3/–)

SCALE: NTS



SECTION (B/–)

SCALE: NTS

GENERAL NOTES:
1. REFERENCE SPECIFICATION SECTION 31 35 26, EROSION CONTROL BARRIER FOR MATERIAL SPECIFICATIONS.
2. REFERENCE SPECIFICATION SECTION 31 35 28, EROSION CONTROL, FOR REQUIREMENTS ON ALL DISTURBED AREAS THAT ARE NOT TO BE PAVED OR OTHERWISE TREATED AREAS WITHIN THE GPNF INCLUDING SEEDING, FERTILIZER, AND MULCH.

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DATE	6/24/11
ENG DSN	DES DSN
DR RLG	CH MDM
APPROVAL	

LEWIS RIVER
CRAB CREEK ACCLIMATION POND
EROSION AND SEDIMENT
CONTROL DETAILS

PACIFICORP ENERGY
A PACIFICORP COMPANY
HYDRO

SCALE: NONE | SHEET ESC–2 | REV. 0

No.	DATE	REVISION	BY	CHK	APP
0	6/24/11	ISSUED FOR CONSTRUCTION	RG	DSN	MDM

REFERENCE DRAWINGS	DRAWING No.	REFERENCE DRAWINGS	DRAWING No.

PLOT SCALE: 1 =

BORDER REVISED 10/21/08 D.M.J.

CRAB CREEK FROM BRIDGE (1)
SCALE: NONE

EXISTING SITE PLAN
SCALE: 1" = 30'

GENERAL NOTES:
1. SURVEY COMPLETED BY FINLEY ENGINEERING, JULY 8, 2009.
2. SURVEY IS BASED ON A LOCAL COORDINATE SYSTEM.
3. BASIS OF COORDINATES ARE ASSUMED. COORDINATE UNITS ARE IN U.S. FEET.
4. CONTRACTOR SHALL STAKE LIMITS OF CONSTRUCTION PRIOR TO ANY CONSTRUCTION ACTIVITIES FOR APPROVAL BY OWNER REPRESENTATIVE.
5. CONTRACTOR SHALL VERIFY WITH OWNER REPRESENTATIVE ALL VEGETATION TO BE SALVAGED PRIOR TO ANY CONSTRUCTION ACTIVITIES.

CONTROL POINTS

PNT#	NORTHING	EASTING	ELEVATION	DESCRIPTION
CP10	11000.000	11000.000	1000.000	PK NAIL
CP11	10742.939	11045.327	1000.583	PK NAIL
CP12	10686.288	11296.475	1040.805	HUB AND TACK
CP13	10759.255	11163.706	1024.961	HUB AND TACK

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LEWIS RIVER
CRAB CREEK ACCLIMATION POND
EXISTING SITE PLAN, CONTRACTOR
STAGING AND SURVEY CONTROL

PACIFICORP ENERGY
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SCALE: AS NOTED | SHEET CR-C1 | REV. 0

PLOT SCALE: 1 =

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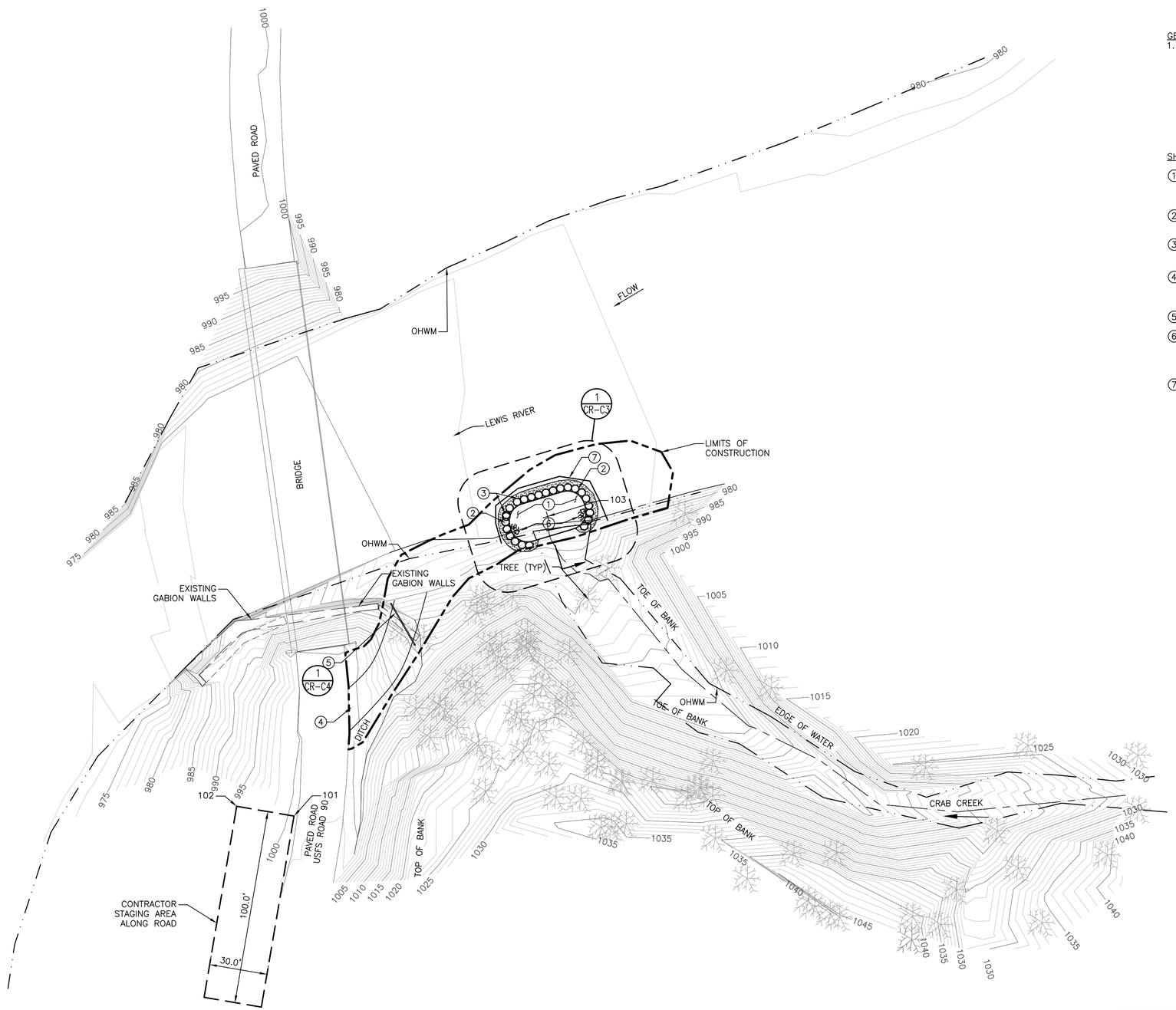
No.	DATE	REVISION	BY	CHK	APP



GENERAL NOTES:

1. EXACT LOCATION OF THE POND SHALL BE STAKED BY CONTRACTOR AND APPROVED BY OWNER REPRESENTATIVE PRIOR TO EXCAVATION. PROJECT COORDINATE POINTS MAY VARY BY UP TO 30 FEET BASED ON OWNER REPRESENTATIVE DIRECTION.

SHEET KEY NOTES:

1. EXCAVATE POND AT CONFLUENCE OF CRAB CREEK AND LEWIS RIVER. FINISHED POND SHALL BE APPROXIMATELY 40' LONG, 20' WIDE, BY 3' DEEP. RETAIN EXCAVATED GRAVELS FOR RE-USE.
2. PLACE 4 TO 6 FOOT DIAMETER BOULDERS AROUND PERIMETER OF POND. INTERLOCK BOULDERS AS MUCH AS POSSIBLE. (23 BOULDERS MAXIMUM)
3. PLACE AND COMPACT AS MUCH AS POSSIBLE EXCAVATED MATERIALS AROUND AND BETWEEN BOULDERS. PLACE 6" LAYER OF GRAVELS IN POND BOTTOM.
4. CONSTRUCT 12' WIDE ACCESS TO RIVER. REMOVE, RETAIN, AND PROTECT SMALL TREES AND SHRUBS TO BE RE-ESTABLISHED UPON PROJECT COMPLETION. AVOID, RETAIN AND PROTECT EXISTING RETAINING WALLS.
5. INSTALL 20 FEET OF 6" CMP CULVERT IN DRAINAGE DITCH.
6. INSTALL ROOT WADS FOR FISH COVER. BURY LOWER THIRD INTO SUBSTRATE. OWNER TO PROVIDE ROOT WADS. CONTRACTOR SHALL PROVIDE EQUIPMENT AND LABOR TO MOVE, LOAD AND TRANSPORT ROOT WADS TO PROJECT SITE. ROOT WADS SHALL BE LOCATED WITHIN 30 MILES OF THE PROJECT SITE.
7. INSTALL COFFERDAM ACCORDING TO PROJECT PERMITS AND SPECIFICATION 02 15 00 AS NEEDED FOR ACCLIMATION CONSTRUCTION.

PROJECT COORDINATE POINTS

PNT#	NORTHING	EASTING	DESCRIPTION
101	10714.238	11019.574	CONTRACTOR STAGING AREA
102	10719.286	10990.015	CONTRACTOR STAGING AREA
103	10868.938	11150.530	CENTER OF POND

SITE PLAN
SCALE: 1" = 30'
0' 30' 60'

N

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LEWIS RIVER
CRAB CREEK ACCLIMATION POND
SITE PLAN

PACIFICORP ENERGY
A PACIFICORP COMPANY
HYDRO

SCALE: AS NOTED | SHEET CR-C2 | REV. 0

PLOT SCALE: 1 =

No.	DATE	REVISION	BY	CHK	APP
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No.	DATE	REVISION	BY	CHK	APP

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REFERENCE DRAWINGS | DRAWING No.

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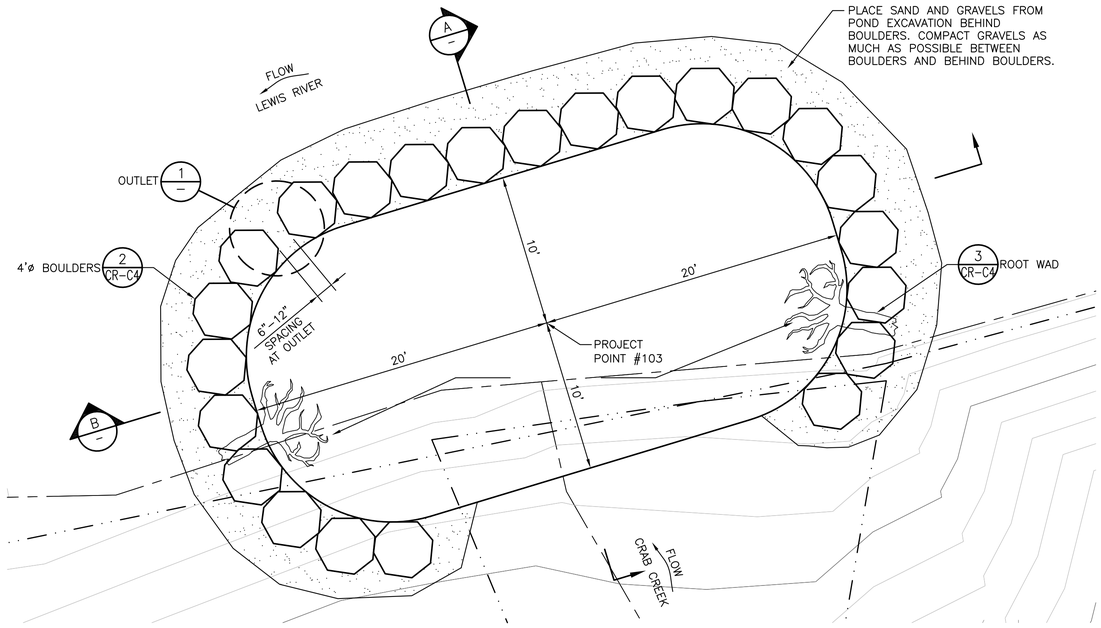


ACCLIMATION POND PLAN

SCALE: 1" = 5'

0" 5' 10'

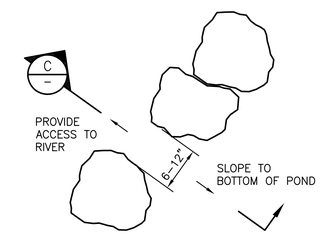
1 CR-C2

N

GENERAL NOTES:
1. OWNER REPRESENTATIVE SHALL BE ON-SITE THROUGHOUT CONSTRUCTION TO PROVIDE GUIDANCE ON BOULDER AND ROOTWAD INSTALLATION.
2. POND BOTTOM ELEVATION BASED ON LEWIS RIVER WATER ELEVATION ON JULY 8, 2009 OF 976.33 FEET.
3. POND WATER SUPPLY BASED ON LEWIS RIVER SUBSURFACE FLOW AND FLOW FROM CRAB CREEK.

OPERATIONAL SEQUENCE (RECOMMENDED):
1. VERIFY POND BOULDERS AND ROOTWADS ARE SECURE AND EQUIPMENT IS NOT REQUIRED TO CLEAN POND.
2. MANUALLY CLEAN POND OF EXCESS DEBRIS.
3. CLEAR THE OUTLET AND INSTALL EXCLUSION NET.
4. VERIFY OVER A WEEK THAT SUFFICIENT FLOW AND DEPTH ARE MAINTAINED IN POND DAILY OPERATIONS.

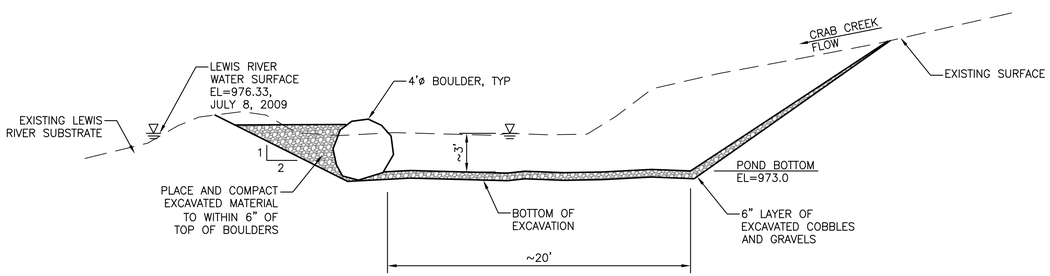
DAILY OPERATIONS (RECOMMENDED):
1. TRAVEL TO SITE WITH MAINTENANCE EQUIPMENT.
2. FEED FISH.
3. MAINTAIN OUTLET.
4. VERIFY SUFFICIENT WATER FLOW AND DEPTH.
5. DATA COLLECTION OF WATER TEMPERATURES, TURBIDITY AND FLOW.



OUTLET PLAN

SCALE: NTS

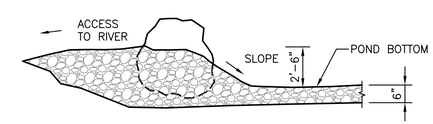
1



SECTION

SCALE: 1"=5'

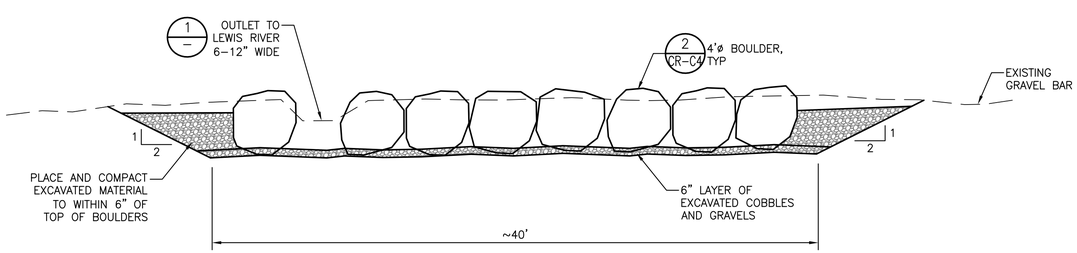
A



OUTLET SECTION

SCALE: NTS

C



SECTION

SCALE: 1"=5'

B

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LEWIS RIVER
CRAB CREEK ACCLIMATION POND
POND PLAN AND SECTIONS

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SCALE: AS NOTED | SHEET CR-C3 | REV. 0

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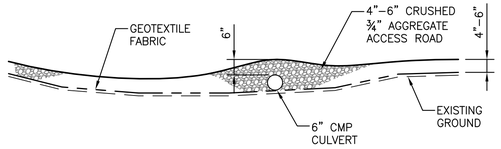
PLOT SCALE: 1 = 1

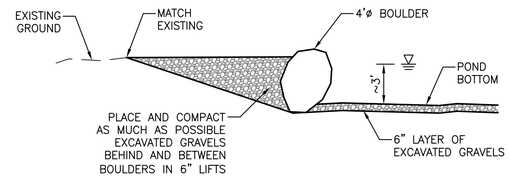


NOTES:
1. REMOVE AS LITTLE VEGETATION AS POSSIBLE. RETAIN AND PROTECT SMALL TREES AND SHRUBS REMOVED FROM ACCESS AREA TO BE RE–ESTABLISHED AT PROJECT COMPLETION.
2. PROVIDE MEANS TO WRAP AND WATER ALL ROOTBALLS OF TREES AND SHRUBS TO BE RE–ESTABLISHED.
3. REMOVE ALL GRAVEL FABRIC AND PIPE AFTER COMPLETION OF IMPROVEMENTS.
4. RESTORE ACCESS TO NEAR NATURAL STATE AT PROJECT COMPLETION. SEED AND MULCH WITH GPNF APPROVED SEED MIX AND MULCH. ALL ACCESS MATERIALS TO BE REMOVED AND DISPOSED OF AT AN APPROVED OFF–SITE FACILITY.

EQUIPMENT ACCESS

SCALE: NTS

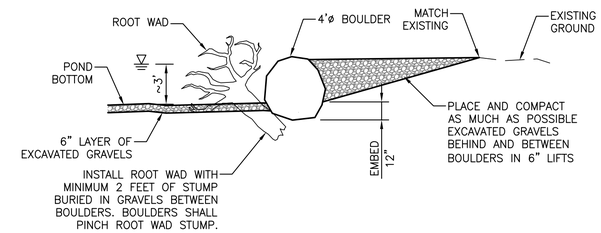
1 / CR–C2



BOULDERS

SCALE: NTS

2 / CR–C3



ROOT WADS

SCALE: NTS

3 / CR–C3

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LEWIS RIVER
CRAB CREEK ACCLIMATION POND
POND DETAILS

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HYDRO

SCALE: NONE | SHEET CR–C4 | REV. 0

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No.	DATE	REVISION	BY	CHK	APP

REFERENCE DRAWINGS | DRAWING No. | REFERENCE DRAWINGS | DRAWING No.

PLOT SCALE: 1 =

BORDER REVISED 10/31/08 D.M.J.