US Army Corps of Engineers
Seattle District

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Joint Public Notice

Application for a Department of the Army Permit and a Washington Department of Ecology Water Quality Certification and/or Coastal Zone Management Consistency Concurrence

US Army Corps of Engineers
Regulatory Branch
P.O. Box 3755
Seattle, WA 98124-3755
Telephone (360) 734-3156
Attn: Mr. Randel Perry
Project Manager

WA Department of Ecology
SEA Program
P.O. Box 47600
Olympia, WA 98504-7600
Telephone (360) 407-6068
Attn: SEA Program
Federal Permit Coordinator

Public Notice Date: May 17, 2016
Expiration Date: June 16, 2016

Reference No.: NWS-2016-327
Name: Whatcom County Flood Control Zone District

Interested parties are hereby notified that the U.S. Army Corps of Engineers (Corps) and the Washington Department of Ecology (Ecology) have received an application to perform work in waters of the U.S. as described below and shown on the enclosed drawings dated May 5, 2016.

The Corps will review the work in accordance with Section 404 of the Clean Water Act (CWA). Ecology will review the work pursuant to Section 401 of the CWA, with applicable provisions of State water pollution control laws and the Coastal Zone Management Act.

APPLICANT: Whatcom County Flood Control Zone District
322 North Commercial Street, Suite 120
Bellingham, Washington 98225-4042
Attention: Ms. Paula Harris
Telephone: (360) 778-6285

AGENT: Whatcom County Public Works
322 North Commercial Street, Suite 110
Bellingham, Washington 98225-4042
Attention: Mr. John Thompson
Telephone: (360) 778-6230

LOCATION: In High Creek and abutting wetlands near Deming, Whatcom County, Washington.

WORK: Excavate and place fill in 3,000 linear feet of a tributary and excavate in 0.06 acre of wetlands.

PURPOSE: Reduce flooding in the vicinity of the High Creek crossing of State Route 542 (SR 542) (Mount Baker Highway). NOTE: The proposed sediment collection areas are designed to be maintained annually as part of a regular maintenance program by the Flood Control Zone District/Whatcom County. Future removal of sediments from the collection areas may be authorized under Nationwide Permit 31 (Maintenance of Existing Flood Control Facilities).

ADDITIONAL INFORMATION: All work in High Creek will occur when the stream is dry. The applicant proposes to excavate approximately 21,000 cubic yards of accumulated sand and gravel from 3,000 linear feet of

High Creek to re-establish channel depths. A tracked excavator with lidded bucket will be used to excavate sediments from the channel. Excess material not used for berm improvements will be immediately loaded into trucks and transported to an upland disposal site. Grade control weirs (20 logs with concrete anchors) will be installed approximately every 200 feet downstream of the SR 542 crossing. The project also involves construction of two in-channel sediment collection areas; one sediment collection area will be installed immediately upstream of the SR 542 bridge and the second will be installed east of the Kendall wetland boundary. The upstream basin (east of SR 542) will be 534 feet long by 39 feet wide with a capacity for 1,952 cubic yards of sediments; the downstream basin (west of SR 542) will be 493 feet long by 32 feet wide with a capacity for 1,125 cubic yards of sediments. A total of 815 cubic yards of light loose rip rap will be placed to maintain bed and bank stability at the upstream end of the weirs in both collection areas. Grade control weirs (logs with concrete anchors) will be installed near the sediment trap inlets and outlets. The existing north and south berms will be modified as necessary to provide consistent top elevations able to convey the 100 year recurrence interval flood. Excavated sediments will be used to repair eroded portions of the berms and to widening the berms at the sediment collections areas. All material placed for berm repairs will be above the ordinary high water line. A channel will be excavated downstream of the lower collection area to re-connect High Creek to Kendall Creek through Wetland A. Large woody debris will be installed in Kendall Creek at and near the re-connected confluence with High Creek. An excavator with lidded bucket will be used to remove approximately 18 cubic yards within the 0.06 acres of the wetland area. All excavated material will be transported to berm areas above the ordinary high water mark and used for berm improvements; unsuitable materials will removed to an upland disposal site. The re-connected channel will replace the channel formed by the avulsion to the north. No fill will be placed in the existing channel; the channel will be allowed to revert to wetland or wetland buffer. No berms will be placed in the wetland area.

Copies of this public notice which have been mailed or otherwise physically distributed feature project drawings in black and white. The electronic version features those drawings in color, which we think more accurately communicates the scope of project impacts. To access the electronic version of this public notice, go to the Seattle District's web page at http://www.nws.usace.army.mil/ and under the heading Open Public Comment Periods select Regulatory Public Notices. Recently-issued public notices are listed in chronological order of the date of issuance.

MITIGATION: All temporarily disturbed wetland outside the wetted perimeter of the re-connected channel will be replanted and temporary wetland buffer impacts will be mitigated on-site by replanting disturbed areas in and adjacent to the wetland buffer. In addition, to compensate for unavoidable permanent loss of wetland acreage, the applicant is proposing to purchase 0.144 credits (1.2:1 ratio) from the Lummi Nation Wetland and Habitat Mitigation Bank.

ENDANGERED SPECIES: The Endangered Species Act (ESA) requires Federal agencies to consult with the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) pursuant to Section 7 of the ESA on all actions that may affect a species listed (or proposed for listing) under the ESA as threatened or endangered or any designated critical habitat. The Corps has determined that the activity may affect endangered or threatened species, or their critical habitat. Consultation under Section 7 of the ESA is required.

ESSENTIAL FISH HABITAT: The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996, requires all Federal agencies to consult with the NMFS on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). The proposed action would impact EFH in the project area. The Corps has determined that the proposed action will not adversely affect designated EFH for federally managed fisheries in Washington waters. No further EFH consultation is necessary.

CULTURAL RESOURCES: The Corps has reviewed the latest published version of the National Register of Historic Places, lists of properties determined eligible and other sources of information. The permit area is likely to contain historic properties eligible for inclusion in the National Register. An investigation for the presence of

eligible historic properties is justified and an archeological survey has been requested. The Corps invites responses to this public notice from Native American Tribes or Tribal governments; Federal, State, and local agencies; historical and archeological societies; and other parties likely to have knowledge of or concerns regarding historic properties and sites of religious and cultural significance at or near the project area. After receipt of comments from this public notice, the Corps will evaluate potential impacts and consult with the State Historic Preservation Officer and Native American Tribes in accordance with Section 106 of the National Historic Preservation Act, as appropriate.

PUBLIC HEARING: Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing.

EVALUATION – CORPS: The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits, which reasonably may be expected to accrue from the proposal, must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered, including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership, and, in general, the needs and welfare of the people.

The Corps is soliciting comments from the public; Native American Nations or Tribal governments; Federal, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for the work. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the activity.

The described discharge will be evaluated for compliance with guidelines promulgated by the Environmental Protection Agency under authority of Section 404(b)(1) of the CWA. These guidelines require an alternatives analysis for any proposed discharge of dredged or fill material into waters of the U.S.

SOURCE OF FILL MATERIAL: The source of the fill material will be native sediments (gravels, etc.) from onsite and large rock from a commercial source.

EVALUATION – ECOLOGY: Ecology is soliciting comments from the public; Federal, Native American Nations or Tribal governments, State, and local agencies and officials; and other interested parties in order to consider and evaluate the impacts of this activity. Ecology will be considering all comments to determine whether to certify or deny certification for the proposed project.

ADDITIONAL EVALUATION: This proposal is the subject of Shorelines Substantial Development Permit being processed by Whatcom County Planning and Development Services (reference number SHX 2016-0033).

COMMENT AND REVIEW PERIOD: Conventional mail or e-mail comments on this public notice will be accepted and made part of the record and will be considered in determining whether it would be in the public interest to authorize this proposal. In order to be accepted, e-mail comments must originate from the author's e-mail account and must include on the subject line of the e-mail message the permit applicant's name and

reference number as shown below. Either conventional mail or e-mail comments must include the permit applicant's name and reference number, as shown below, and the commentator's name, address, and phone number. All comments whether conventional mail or e-mail must reach this office, no later than the expiration date of this public notice to ensure consideration.

CORPS COMMENTS: All e-mail comments should be sent to randel.j.perry@usace.army.mil. Conventional mail comments should be sent to: U.S. Army Corps of Engineers, Regulatory Branch, Attention: Mr. Randel Perry, P.O. Box 3755, Seattle, Washington 98124-3755. All comments received will become part of the administrative record and are subject to public release under the Freedom of Information Act including any personally identifiable information such as names, phone numbers, and addresses.

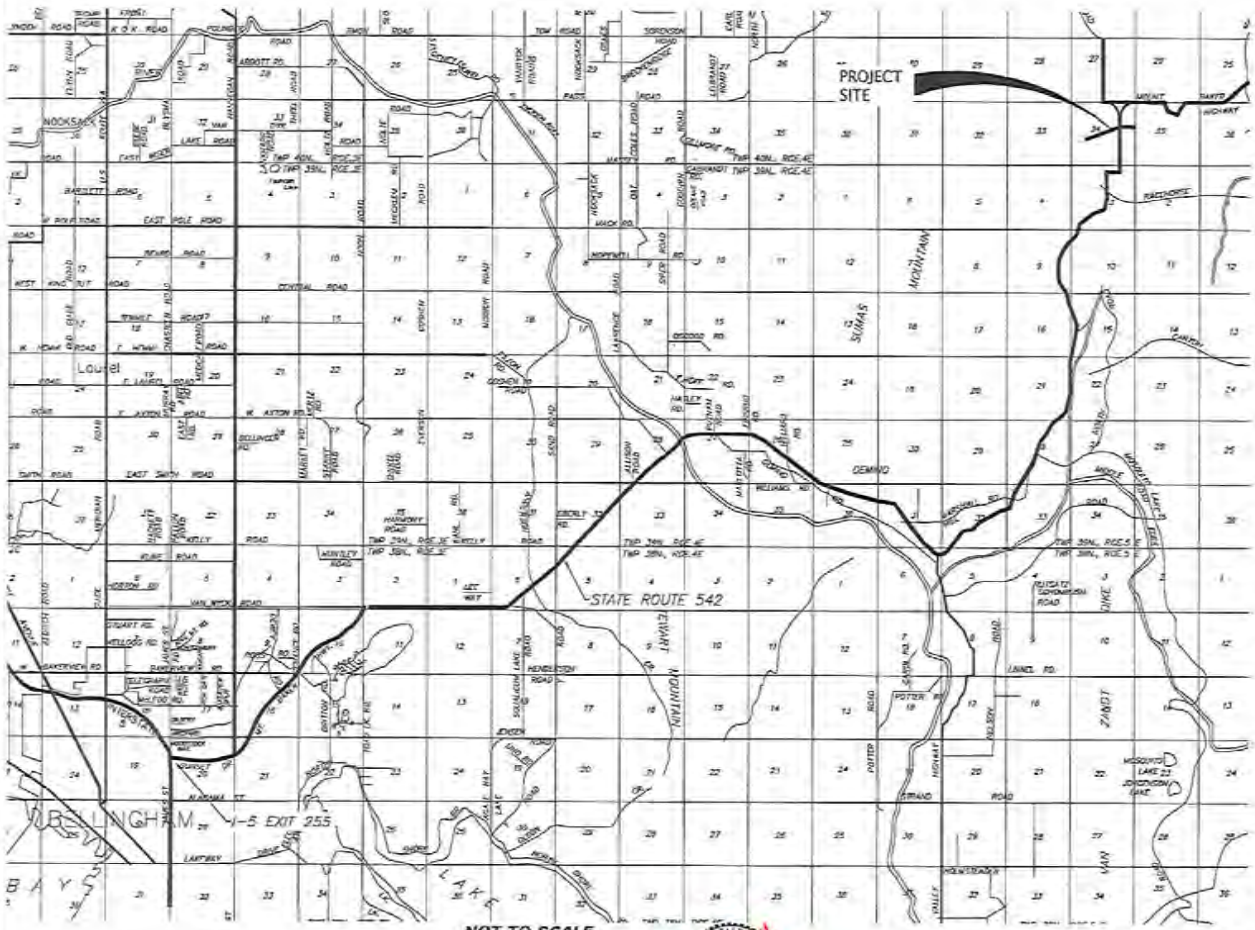
ECOLOGY COMMENTS: Any person desiring to present views on the project pertaining to a request for water quality certification under Section 401 of the CWA and/or Coastal Zone Management consistency concurrence, may do so by submitting written comments to the following address: Washington State Department of Ecology, Attention: SEA program – Federal Permit Coordinator, P.O. Box 47600, Olympia, Washington 98504-7600, or e-mail to ecyrefedpermits@ecy.wa.gov.

To ensure proper consideration of all comments, responders must include the following name and reference number in the text of their comments: Whatcom County Flood Control Zone District, NWS-2016-327.

Encl: Figures (13)

HIGH CREEK CHANNEL RESTORATION

DEMING, WASHINGTON, SECTION 34, TOWNSHIP 40 NORTH, RANGE 5 EAST



SHEET INDEX

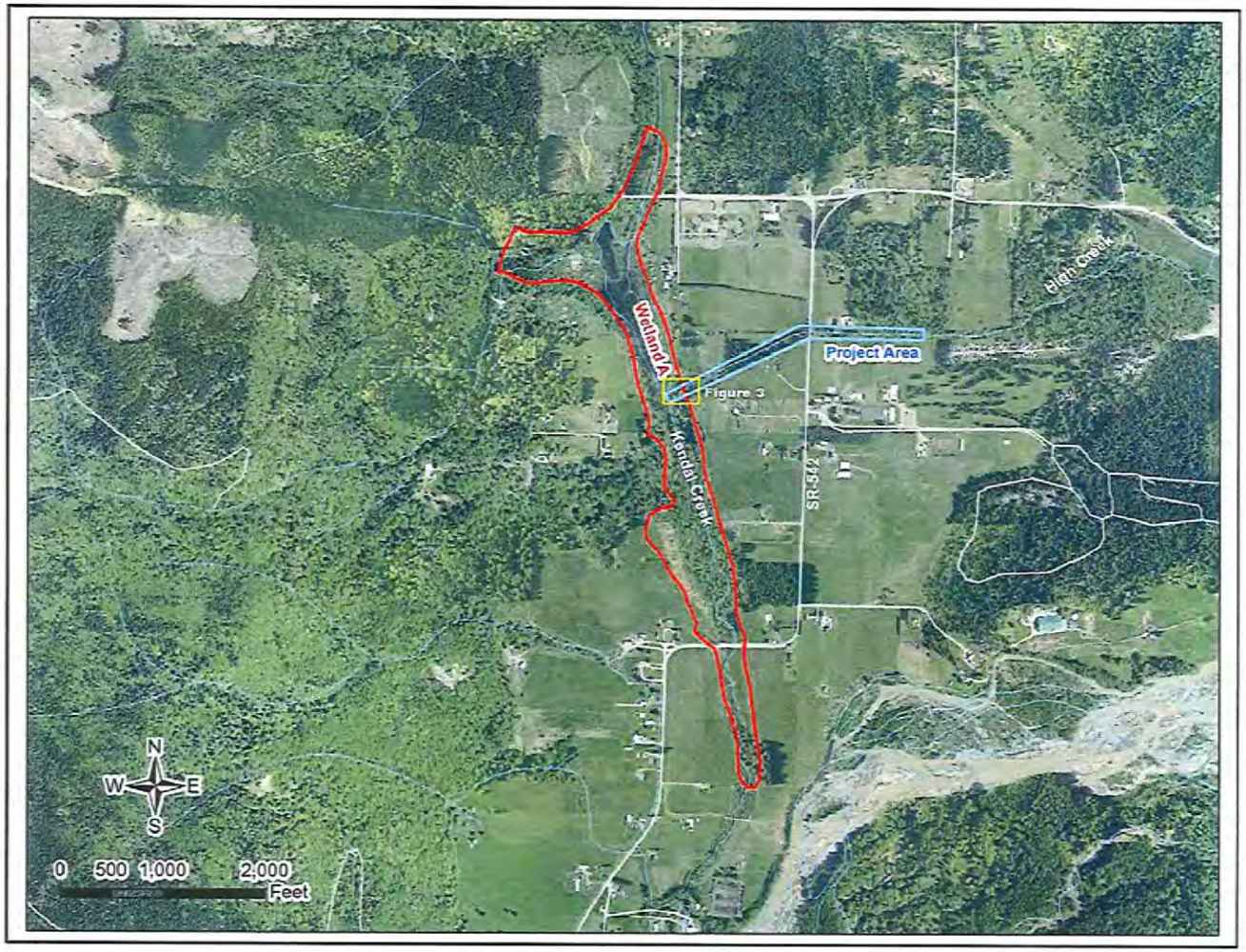
1 VICINITY MAP
2 EXISTING CONDITIONS
3 EXISTING CONDITIONS DETAIL
4 PROJECT OVERVIEW
5 PLAN & PROFILE STA 9+00 TO 12+00
6 PLAN & PROFILE STA 12+00 TO 18+00
7 PLAN & PROFILE STA 18+00 TO 25+00
8 PLAN & PROFILE STA 25+00 TO 34+00
9 PLAN & PROFILE STA 34+00 TO 40+00
10 CROSS SECTIONS - RIP RAP
11 CROSS SECTIONS
12 PLANTING PLAN
13 PLANTING LIST

DIRECTIONS TO PROJECT SITE:

-FROM INTERSTATE 5, TAKE EXIT 255 (STATE ROUTE 542)
-HEAD EAST ON STATE ROUTE 542, SITE IS APPROXIMATELY 0.6 MILES PAST MILE POST 22

DATE: MAY 25, 2016	VERSION: 000	PUBLIC WORKS DIRECTOR: JON HUTCHINGS	WHATCOM COUNTY PUBLIC WORKS DEPARTMENT	PROJECT NAME: HIGH CREEK CHANNEL RESTORATION CORPS REF: NWS-2016-327	DRAWN:
CORP: 020202	DRAWN: K TITTMART	RIVER & FLOOD MANAGER: PAULA COOPER P.E.		DRAWING NAME: VICINITY MAP	SCALE: 1 = 13
BOAR NO: 000	CHECKED: DAVID GALBRAITH	PROJECT MANAGER: JOHN THOMPSON	322 N. COMMERCIAL ST., BELLINGHAM, WA 98225 (360) 715-7450		

Corps Ref# NWS-2016-327



DATE	NO.	REVISION	BY
	4		
	3		
	2		
	1		

DATE: MAY 05, 2016
CEP: 000000
ROAD NO: 000

DESIGNED : 000
DRAWN : K.STEWART
CHECKED : DAVID CALDEMITH

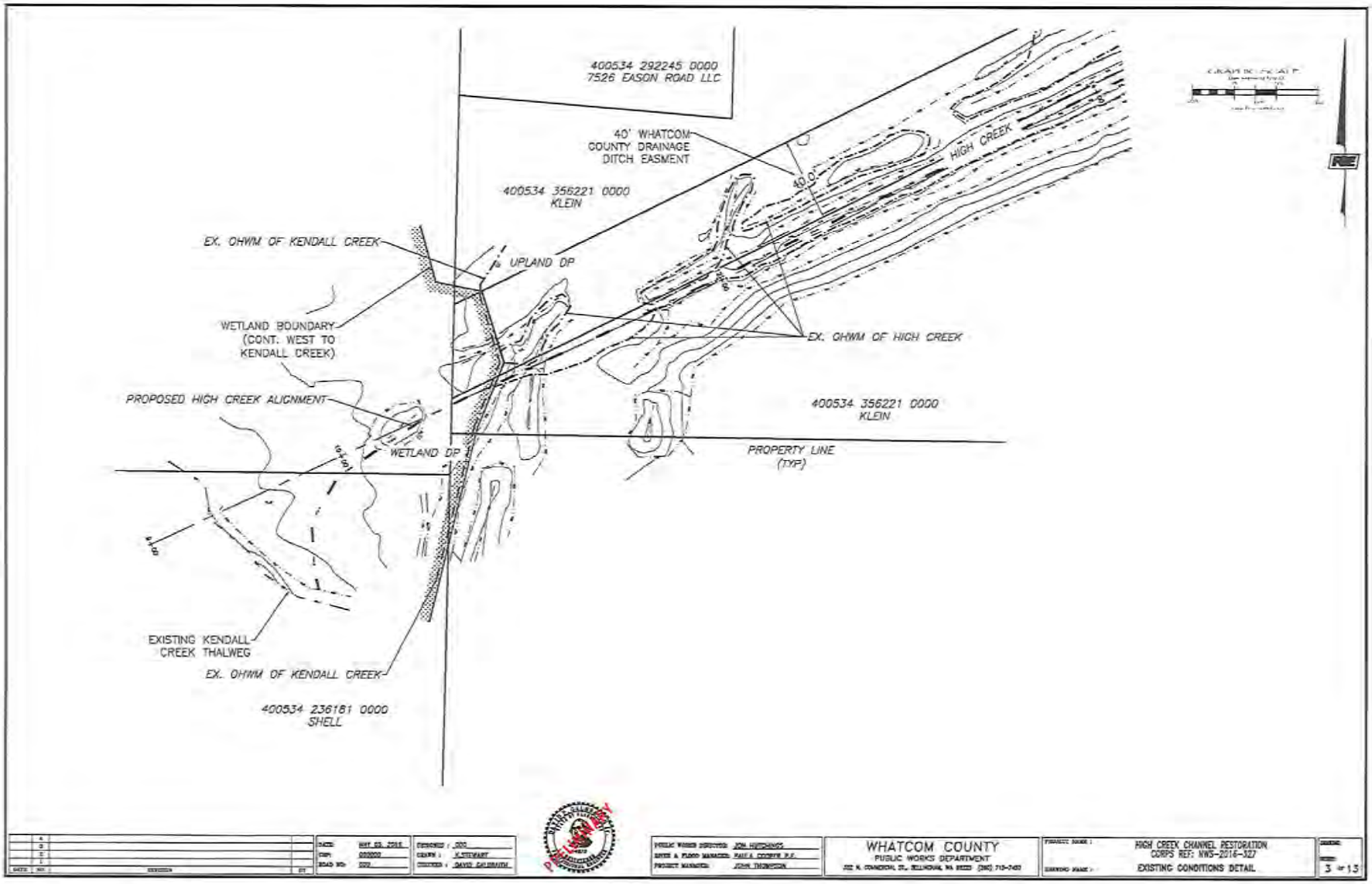
PUBLIC WORKS DIRECTOR: JON HUTCHINGS
RIVER & FLOOD MANAGER: PAULA COOPER P.E.
PROJECT MANAGER: JOHN THOMPSON

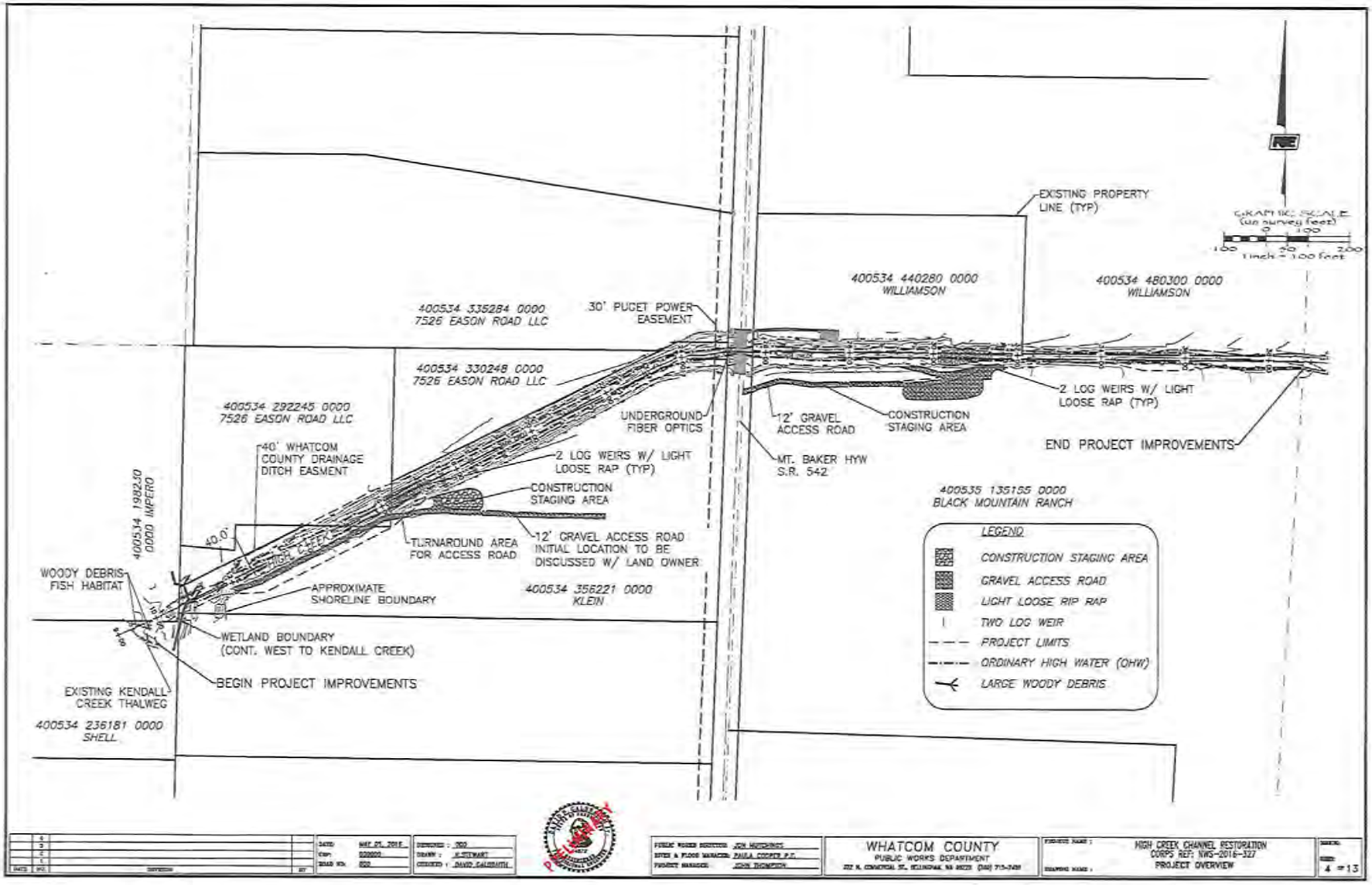
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
322 N. COMMERCIAL ST., BELLINGHAM, WA 98225 (360) 715-7450

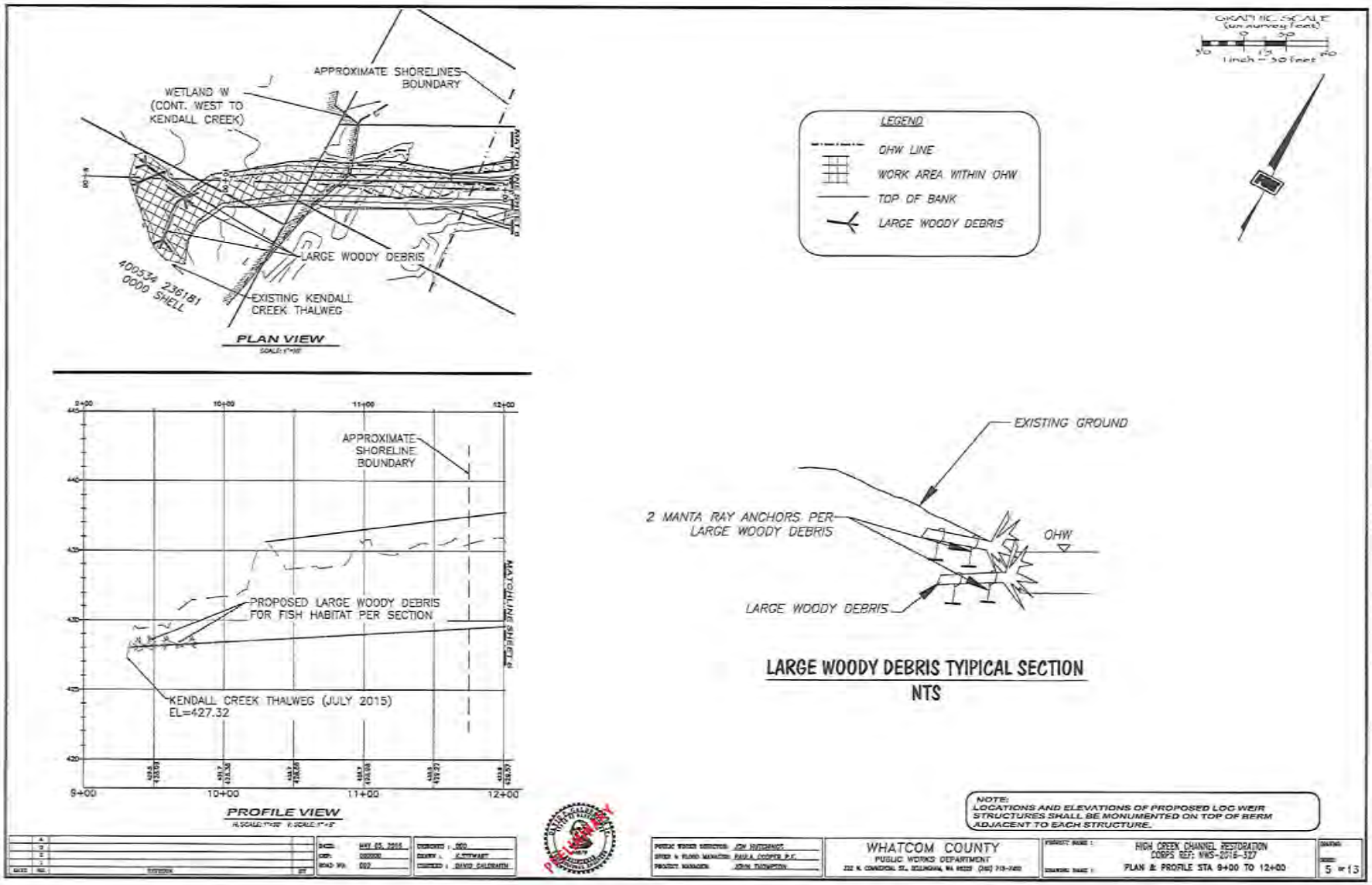
PROJECT NAME : HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
DRAWING NAME : EXISTING CONDITIONS

DRAWING:
SHEET: 2 OF 13

NWS-2016-327

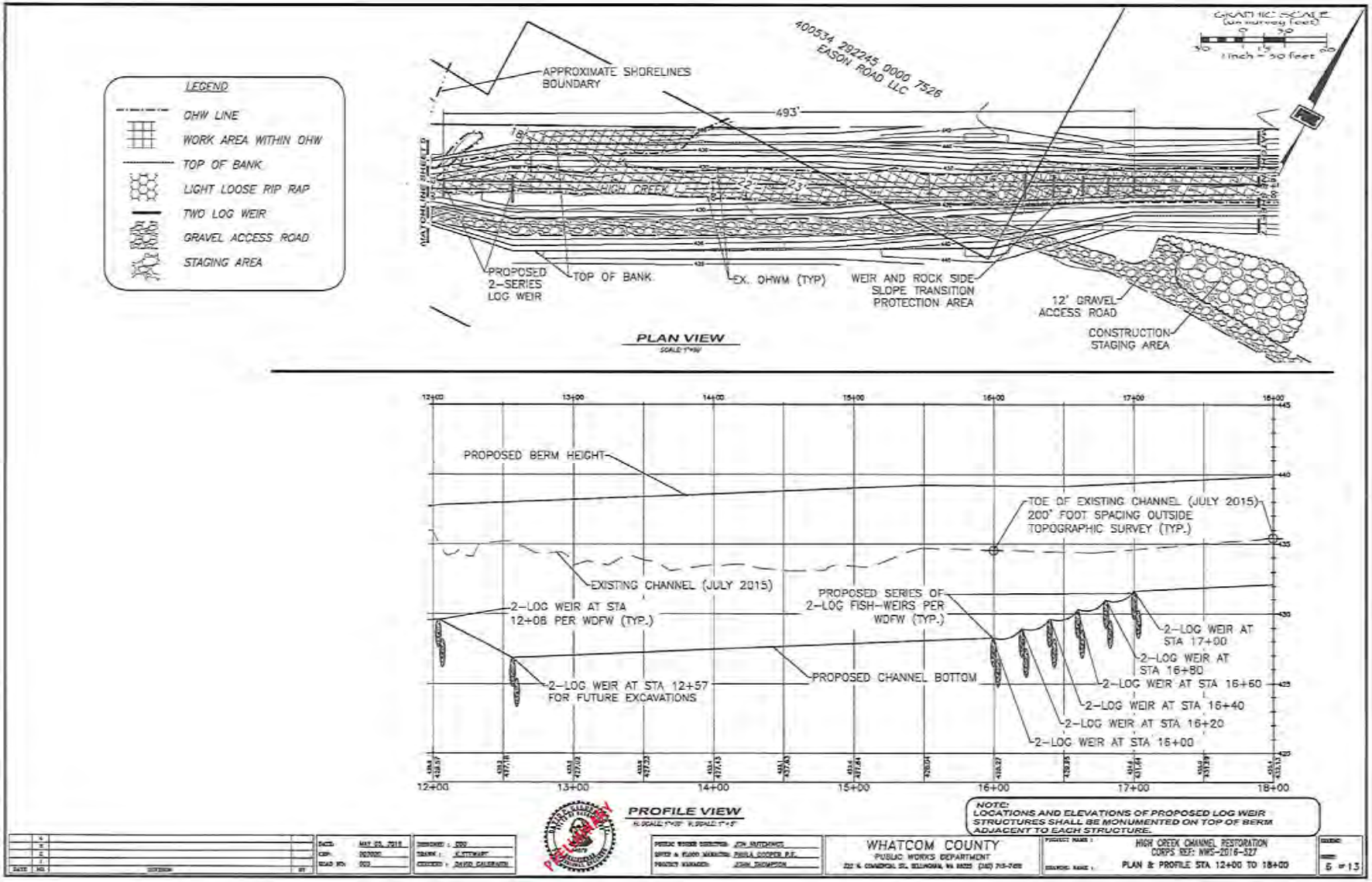

400534 292245 0000
7526 EASON ROAD LLC
40' WHATCOM COUNTY DRAINAGE DITCH EASMENT
400534 356221 0000
KLEIN
HIGH CREEK
EX. OHWM OF KENDALL CREEK
UPLAND DP
WETLAND BOUNDARY (CONT. WEST TO KENDALL CREEK)
EX. OHWM OF HIGH CREEK
PROPOSED HIGH CREEK ALIGNMENT
400534 356221 0000
KLEIN
WETLAND DP
PROPERTY LINE (TYP)
EXISTING KENDALL CREEK THALWEG
EX. OHWM OF KENDALL CREEK
400534 236181 0000
SHELL
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
EXISTING CONDITIONS DETAIL
3 of 13

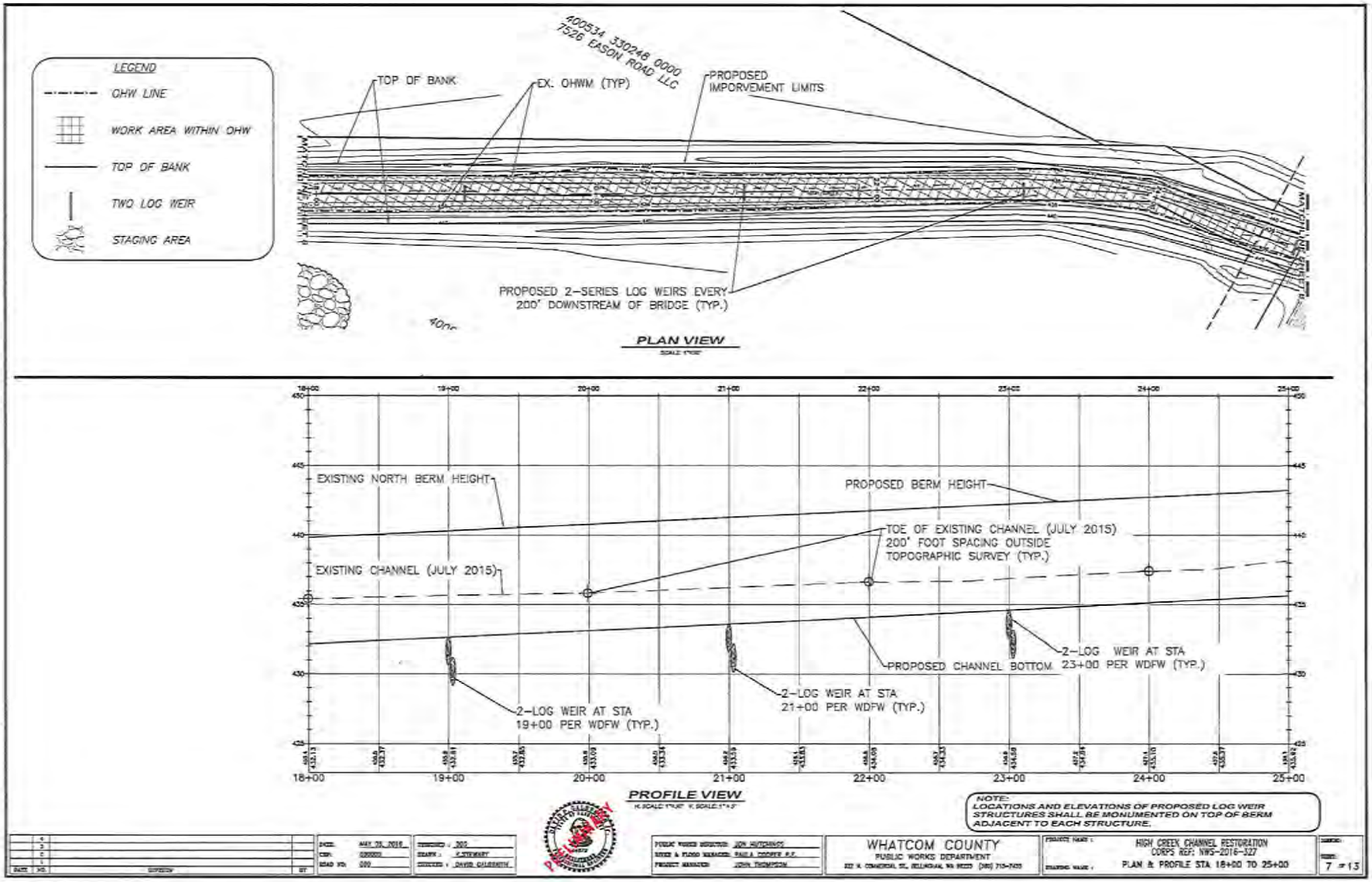

EXISTING PROPERTY LINE (TYP)
GRAPHIC SCALE (as survey feet)
0 100 200
1 inch = 100 feet
400534 440280 0000
WILLIAMSON
400534 480300 0000
WILLIAMSON
400534 335284 0000
7526 EASON ROAD LLC
30' PUGET POWER EASEMENT
400534 330248 0000
7526 EASON ROAD LLC
400534 292245 0000
7526 EASON ROAD LLC
UNDERGROUND FIBER OPTICS
12' GRAVEL ACCESS ROAD
CONSTRUCTION STAGING AREA
2 LOG WEIRS W/ LIGHT LOOSE RAP (TYP)
END PROJECT IMPROVEMENTS
40' WHATCOM COUNTY DRAINAGE DITCH EASMENT
2 LOG WEIRS W/ LIGHT LOOSE RAP (TYP)
MT. BAKER HYW S.R. 542
CONSTRUCTION STAGING AREA
400534 192230 0000 IMPERO
400535 135155 0000
BLACK MOUNTAIN RANCH
40.0'
TURNAROUND AREA FOR ACCESS ROAD
12' GRAVEL ACCESS ROAD INITIAL LOCATION TO BE DISCUSSED W/ LAND OWNER
WOODY DEBRIS FISH HABITAT
APPROXIMATE SHORELINE BOUNDARY
400534 356221 0000
KLEIN
WETLAND BOUNDARY (CONT. WEST TO KENDALL CREEK)
BEGIN PROJECT IMPROVEMENTS
EXISTING KENDALL CREEK THALWEG
400534 236181 0000
SHELL
LEGEND
CONSTRUCTION STAGING AREA
GRAVEL ACCESS ROAD
LIGHT LOOSE RIP RAP
TWO LOG WEIR
PROJECT LIMITS
ORDINARY HIGH WATER (OHW)
LARGE WOODY DEBRIS
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PROJECT OVERVIEW
4 of 13

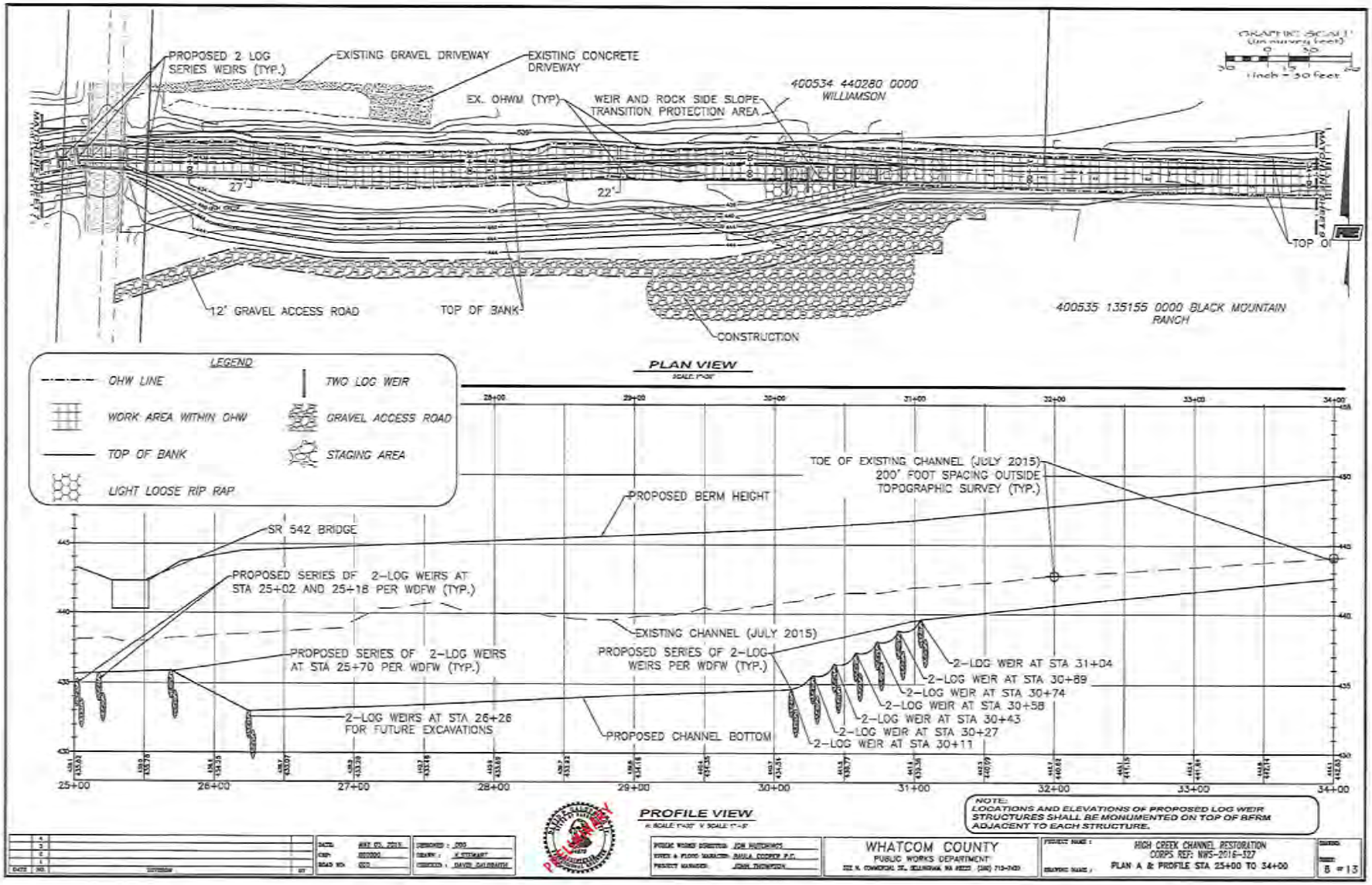


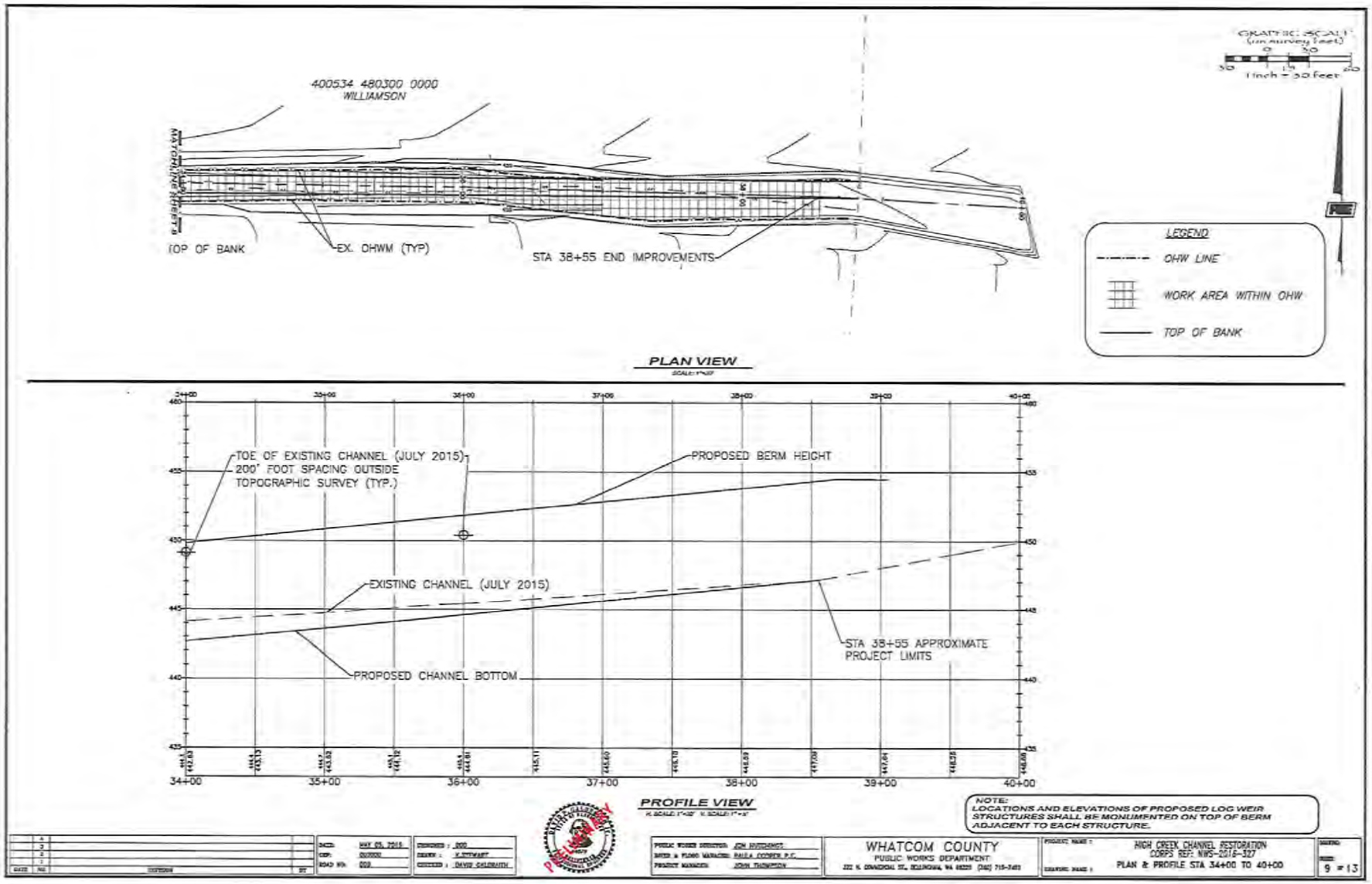
APPROXIMATE SHORELINES BOUNDARY
WETLAND W (CONT. WEST TO KENDALL CREEK)
LARGE WOODY DEBRIS
400534 236181 0000 SHELL
EXISTING KENDALL CREEK THALWEG
PLAN VIEW
APPROXIMATE SHORELINE BOUNDARY
PROPOSED LARGE WOODY DEBRIS FOR FISH HABITAT PER SECTION
KENDALL CREEK THALWEG (JULY 2015) EL=427.32
MATCHLINE SHEET 6
9+00
10+00
11+00
12+00
PROFILE VIEW
LEGEND
OHW LINE
WORK AREA WITHIN OHW
TOP OF BANK
LARGE WOODY DEBRIS
EXISTING GROUND
2 MANTA RAY ANCHORS PER LARGE WOODY DEBRIS
OHW
LARGE WOODY DEBRIS
LARGE WOODY DEBRIS TYIPICAL SECTION
NTS
NOTE:
LOCATIONS AND ELEVATIONS OF PROPOSED LOG WEIR STRUCTURES SHALL BE MONUMENTED ON TOP OF BERM ADJACENT TO EACH STRUCTURE.
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PLAN & PROFILE STA 9+00 TO 12+00
5 of 13

NWS-2016-327

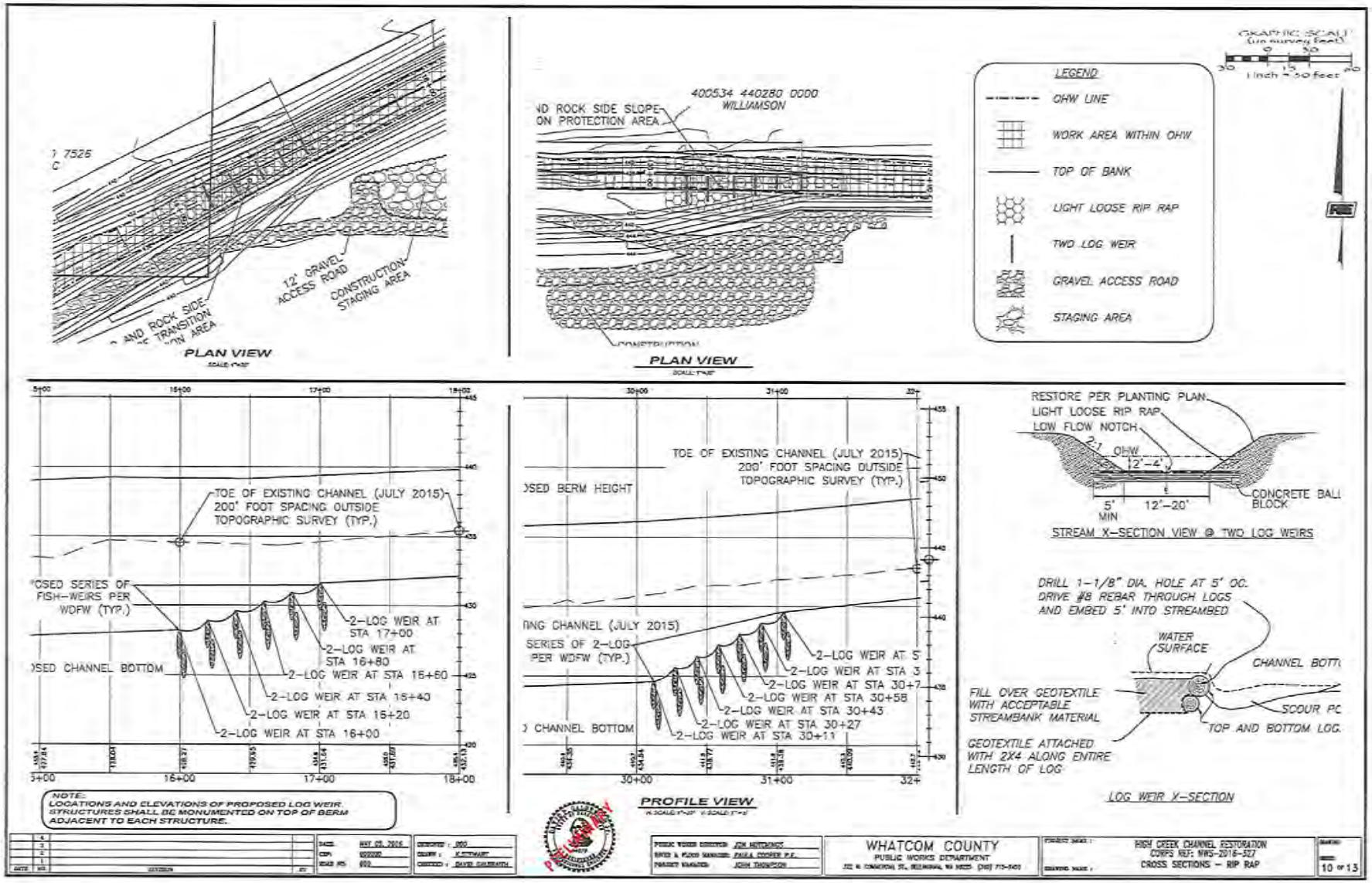

LEGEND
OHW LINE
WORK AREA WITHIN OHW
TOP OF BANK
LIGHT LOOSE RIP RAP
TWO LOG WEIR
GRAVEL ACCESS ROAD
STAGING AREA
APPROXIMATE SHORELINES BOUNDARY
400534 292245 0000 7526
EASON ROAD LLC
493'
HIGH CREEK
PROPOSED 2-SERIES LOG WEIR
TOP OF BANK
EX. OHWM (TYP)
WEIR AND ROCK SIDE SLOPE TRANSITION PROTECTION AREA
12' GRAVEL ACCESS ROAD
CONSTRUCTION STAGING AREA
PLAN VIEW
1 inch = 30 feet
PROPOSED BERM HEIGHT
TOE OF EXISTING CHANNEL (JULY 2015) 200' FOOT SPACING OUTSIDE TOPOGRAPHIC SURVEY (TYP.)
EXISTING CHANNEL (JULY 2015)
2-LOG WEIR AT STA 12+08 PER WDFW (TYP.)
PROPOSED SERIES OF 2-LOG FISH-WEIRS PER WDFW (TYP.)
2-LOG WEIR AT STA 17+00
2-LOG WEIR AT STA 16+80
2-LOG WEIR AT STA 16+60
2-LOG WEIR AT STA 16+40
2-LOG WEIR AT STA 16+20
2-LOG WEIR AT STA 16+00
2-LOG WEIR AT STA 12+57 FOR FUTURE EXCAVATIONS
PROPOSED CHANNEL BOTTOM
12+00
13+00
14+00
15+00
16+00
17+00
18+00
PROFILE VIEW
NOTE:
LOCATIONS AND ELEVATIONS OF PROPOSED LOG WEIR STRUCTURES SHALL BE MONUMENTED ON TOP OF BERM ADJACENT TO EACH STRUCTURE.
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PLAN & PROFILE STA 12+00 TO 18+00
5 of 13

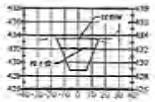

LEGEND
OHW LINE
WORK AREA WITHIN OHW
TOP OF BANK
TWO LOG WEIR
STAGING AREA
400534 330248 0000
7526 EASON ROAD LLC
TOP OF BANK
EX. OHWM (TYP)
PROPOSED IMPORVEMENT LIMITS
PROPOSED 2-SERIES LOG WEIRS EVERY 200' DOWNSTREAM OF BRIDGE (TYP.)
PLAN VIEW
EXISTING NORTH BERM HEIGHT
PROPOSED BERM HEIGHT
TOE OF EXISTING CHANNEL (JULY 2015) 200' FOOT SPACING OUTSIDE TOPOGRAPHIC SURVEY (TYP.)
EXISTING CHANNEL (JULY 2015)
PROPOSED CHANNEL BOTTOM
2-LOG WEIR AT STA 23+00 PER WDFW (TYP.)
2-LOG WEIR AT STA 21+00 PER WDFW (TYP.)
2-LOG WEIR AT STA 19+00 PER WDFW (TYP.)
18+00
19+00
20+00
21+00
22+00
23+00
24+00
25+00
PROFILE VIEW
NOTE:
LOCATIONS AND ELEVATIONS OF PROPOSED LOG WEIR STRUCTURES SHALL BE MONUMENTED ON TOP OF BERM ADJACENT TO EACH STRUCTURE.
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PLAN & PROFILE STA 18+00 TO 25+00
7 of 13

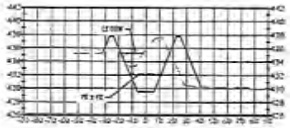

PROPOSED 2 LOG SERIES WEIRS (TYP.)
EXISTING GRAVEL DRIVEWAY
EXISTING CONCRETE DRIVEWAY
EX. OHWM (TYP)
WEIR AND ROCK SIDE SLOPE TRANSITION PROTECTION AREA
400534 440280 0000 WILLIAMSON
GRAPHIC SCALE (in survey feet)
1 inch = 30 feet
27'
22'
TOP OF
12' GRAVEL ACCESS ROAD
TOP OF BANK
CONSTRUCTION
400535 135155 0000 BLACK MOUNTAIN RANCH
LEGEND
OHW LINE
WORK AREA WITHIN OHW
TOP OF BANK
LIGHT LOOSE RIP RAP
TWO LOG WEIR
GRAVEL ACCESS ROAD
STAGING AREA
PLAN VIEW
SCALE: 1"=30'
TOE OF EXISTING CHANNEL (JULY 2015) 200' FOOT SPACING OUTSIDE TOPOGRAPHIC SURVEY (TYP.)
PROPOSED BERM HEIGHT
SR 542 BRIDGE
PROPOSED SERIES OF 2-LOG WEIRS AT STA 25+02 AND 25+18 PER WDFW (TYP.)
EXISTING CHANNEL (JULY 2015)
PROPOSED SERIES OF 2-LOG WEIRS AT STA 25+70 PER WDFW (TYP.)
PROPOSED SERIES OF 2-LOG WEIRS PER WDFW (TYP.)
2-LOG WEIR AT STA 31+04
2-LOG WEIR AT STA 30+89
2-LOG WEIR AT STA 30+74
2-LOG WEIR AT STA 30+58
2-LOG WEIR AT STA 30+43
2-LOG WEIR AT STA 30+27
2-LOG WEIR AT STA 30+11
2-LOG WEIRS AT STA 26+26 FOR FUTURE EXCAVATIONS
PROPOSED CHANNEL BOTTOM
25+00
26+00
27+00
28+00
29+00
30+00
31+00
32+00
33+00
34+00
PROFILE VIEW
H. SCALE: 1"=30' V. SCALE: 1"=5'
NOTE:
LOCATIONS AND ELEVATIONS OF PROPOSED LOG WEIR STRUCTURES SHALL BE MONUMENTED ON TOP OF BERM ADJACENT TO EACH STRUCTURE.
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PLAN A & PROFILE STA 25+00 TO 34+00
8 of 13

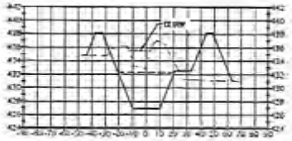

GRAPHIC SCALE
(on survey feet)
1 inch = 30 feet
400534 480300 0000
WILLIAMSON
MATCHLINE SHEET 8
TOP OF BANK
EX. OHWM (TYP)
STA 38+55 END IMPROVEMENTS
LEGEND
OHW LINE
WORK AREA WITHIN OHW
TOP OF BANK
PLAN VIEW
TOE OF EXISTING CHANNEL (JULY 2015)
200' FOOT SPACING OUTSIDE
TOPOGRAPHIC SURVEY (TYP.)
PROPOSED BERM HEIGHT
EXISTING CHANNEL (JULY 2015)
PROPOSED CHANNEL BOTTOM
STA 38+55 APPROXIMATE
PROJECT LIMITS
34+00
35+00
36+00
37+00
38+00
39+00
40+00
PROFILE VIEW
NOTE:
LOCATIONS AND ELEVATIONS OF PROPOSED LOG WEIR
STRUCTURES SHALL BE MONUMENTED ON TOP OF BERM
ADJACENT TO EACH STRUCTURE.
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PLAN & PROFILE STA 34+00 TO 40+00
9 of 13

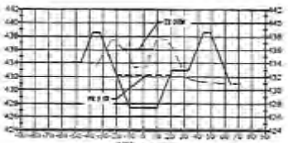
NWS-2016-327

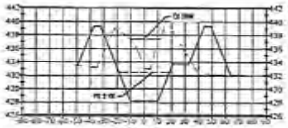

PLAN VIEW
12' GRAVEL ACCESS ROAD
CONSTRUCTION STAGING AREA
400534 440280 0000 WILLIAMSON
PLAN VIEW
LEGEND
OHW LINE
WORK AREA WITHIN OHW
TOP OF BANK
LIGHT LOOSE RIP RAP
TWO LOG WEIR
GRAVEL ACCESS ROAD
STAGING AREA
TOE OF EXISTING CHANNEL (JULY 2015) 200' FOOT SPACING OUTSIDE TOPOGRAPHIC SURVEY (TYP.)
2-LOG WEIR AT STA 17+00
2-LOG WEIR AT STA 16+80
2-LOG WEIR AT STA 16+60
2-LOG WEIR AT STA 16+40
2-LOG WEIR AT STA 16+20
2-LOG WEIR AT STA 16+00
2-LOG WEIR AT STA 30+27
2-LOG WEIR AT STA 30+11
2-LOG WEIR AT STA 30+43
2-LOG WEIR AT STA 30+58
2-LOG WEIR AT STA 30+7
PROFILE VIEW
RESTORE PER PLANTING PLAN
LIGHT LOOSE RIP RAP
LOW FLOW NOTCH
OHW
12'-4'
5' MIN
12'-20'
CONCRETE BALL BLOCK
STREAM X-SECTION VIEW @ TWO LOG WEIRS
DRILL 1-1/8" DIA. HOLE AT 5' OC. DRIVE #8 REBAR THROUGH LOGS AND EMBED 5' INTO STREAMBED
WATER SURFACE
FILL OVER GEOTEXTILE WITH ACCEPTABLE STREAMBANK MATERIAL
GEOTEXTILE ATTACHED WITH 2X4 ALONG ENTIRE LENGTH OF LOG
TOP AND BOTTOM LOG
LOG WEIR X-SECTION
NOTE: LOCATIONS AND ELEVATIONS OF PROPOSED LOG WEIR STRUCTURES SHALL BE MONUMENTED ON TOP OF BERM ADJACENT TO EACH STRUCTURE.
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CROSS SECTIONS - RIP RAP
10 of 13

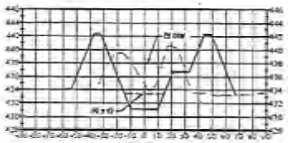

STA 10+50

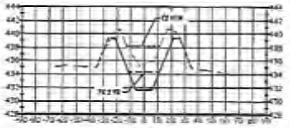

STA 12+00

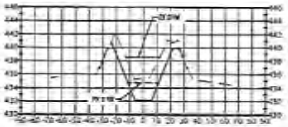

STA 13+00

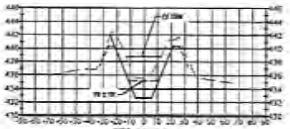

STA 14+00

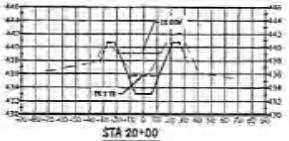

STA 15+00

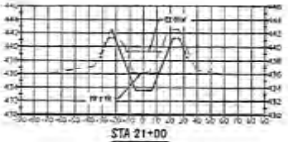

STA 16+00

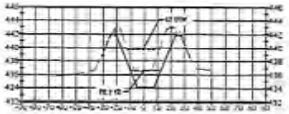

STA 17+00

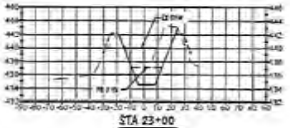

STA 18+00

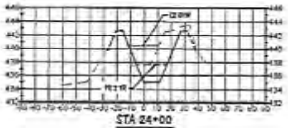

STA 19+00

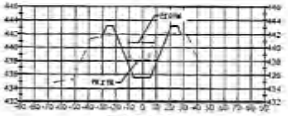

STA 20+00

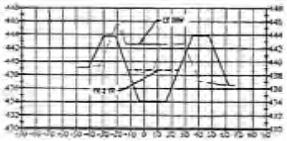

STA 21+00

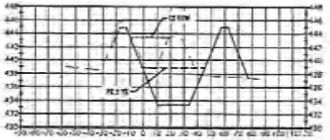

STA 22+00

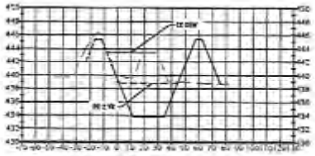

STA 23+00

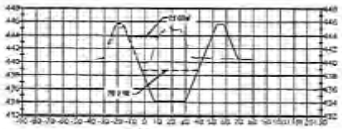

STA 24+00

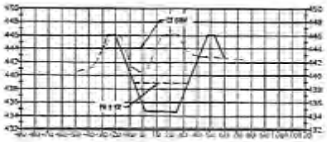

STA 25+00

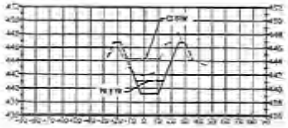

STA 26+00

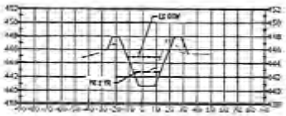

STA 27+00

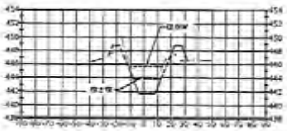

STA 28+00

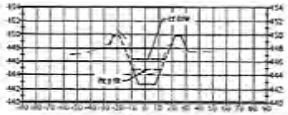

STA 29+00

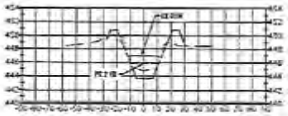

STA 30+00

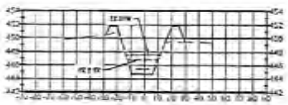

STA 31+00

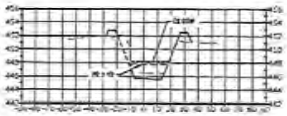

STA 32+00

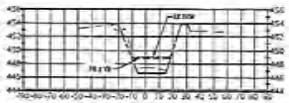

STA 33+00


STA 34+00


STA 35+00


STA 36+00


STA 37+00


STA 38+00

NOTES:

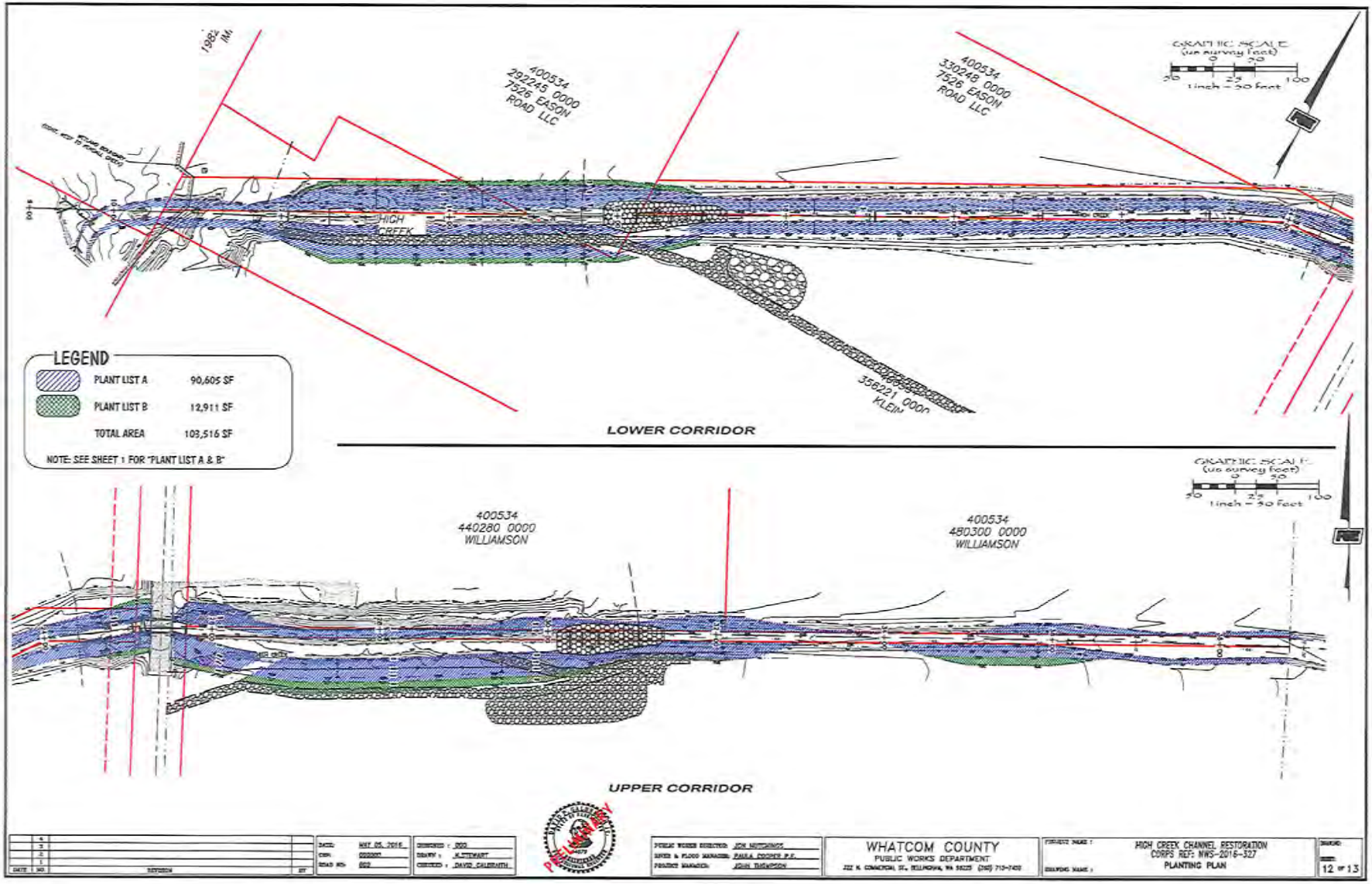
- INSIDE AND OUTSIDE SLOPES ARE 2H:1V
- SECTIONS ARE LOOKING UP STREAM
- PROPOSED FINISHED GRADE
- EXISTING GRADE
- EXISTING OHW (2-YEAR WATER SURFACE)
- PROPOSED 2 YEAR WATER SURFACE (OHW)
- AREA LOCATIONS WHERE EXISTING GRADES ARE WITHIN ACCEPTABLE TOLERANCE OF PROPOSED WORK, NO WORK PROPOSED

ORDINARY HIGH WATER MARK ASSUMED TO BE THE EXISTING 2 YEAR WATER SURFACE ELEVATION OR EXISTING TOP OF BANK WHICHEVER IS LOWER

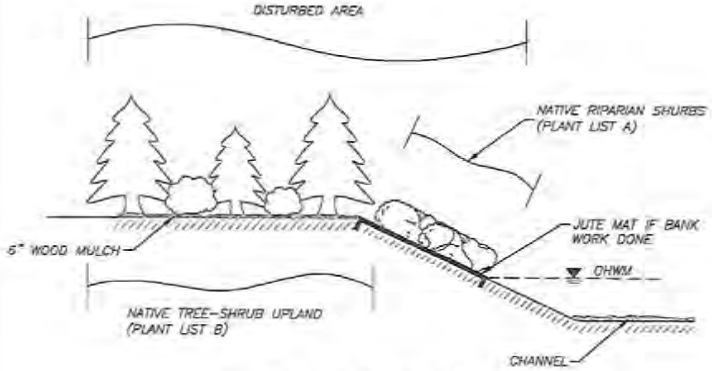
DATE: MAY 25, 2016	DESIGNED: DDD	PUBLIC WORKS DIRECTOR: JON HUTCHINGS	WHATCOM COUNTY PUBLIC WORKS DEPARTMENT 322 N. COMMERCIAL ST., BELLINGHAM, WA 98225 (360) 715-7400
CADD: 020000	DRAWN: K.STEWART	SENIOR & FLOOD MANAGER: PAULA COOPER P.E.	PROJECT NAME: HIGH CREEK CHANNEL RESTORATION CORPS REF: NWS-2016-327
BOND NO: 023	CHECKED: DAVID GAUGHRIN	PROJECT MANAGER: JOHN THOMPSON	DRAWING NAME: CROSS SECTIONS
			SCALE: 1" = 1.3'

PRELIMINARY

NWS-2016-327

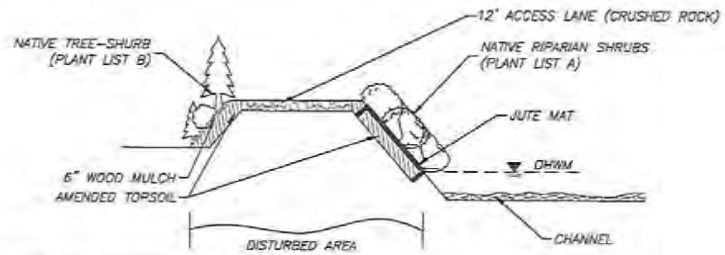

400534
292245 0000
7526 EASON
ROAD LLC
400534
330248 0000
7526 EASON
ROAD LLC
HIGH
CREEK
356221 0000
KLEIN
GRAPHIC SCALE
(us survey feet)
1 inch = 50 feet
LEGEND
PLANT LIST A 90,605 SF
PLANT LIST B 12,911 SF
TOTAL AREA 103,516 SF
NOTE: SEE SHEET 1 FOR "PLANT LIST A & B"
LOWER CORRIDOR
400534
440280 0000
WILLIAMSON
400534
480300 0000
WILLIAMSON
UPPER CORRIDOR
PRELIMINARY
WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
PLANTING PLAN
12 of 13

NWS-2016-327



TYPE 1 PLANTING CROSS SECTION

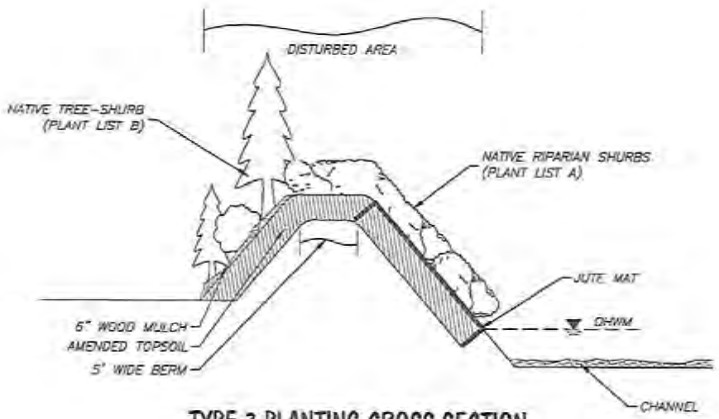
NOT TO SCALE



NOTES: LEAVE TREES-SHRUBS AND/OR ROOTMASS TO EXTENT POSSIBLE. DO NOT PUSH FILL UP AROUND ESTABLISHED WOODY VEGETATION FIRS.

TYPE 2 PLANTING CROSS SECTION

NOT TO SCALE



TYPE 3 PLANTING CROSS SECTION

NOT TO SCALE

PLANTING PLAN RECOMMENDED SPECIES

PLANT LIST A - RIPARIAN CHANNEL BANK SHRUBS AND SMALL TREE

SHRUBS PLANTED 3' ON-CENTER

- RED OSIER DOGWOOD *(CORNUS SERICEA)*
- PACIFIC WILLOW *(SALIX LUCIDA)*
- SITKA WILLOW (*SALIX SITCHENSIS*)
- PACIFIC NINEBARK (*PHYSOCARPUS CAPITATUS*)
- CASCARA (*RHAMNUS PURSHIANA*)
- SALMON BERRY (*RUBUS SPECTABILIS*)
- NOOTKA ROSE (*ROSA NUTKANA*)

PLANT LIST B - UPLAND AREA TREE AND SHRUBS

SHRUBS PLANTED 3' ON-CENTER

TREES PLANTED 10' ON-CENTER

TREES (APPROXIMATELY 25% OF TOTAL VEGETATIVE COVER)

- DOUGLASS FIR (*PSEUDOTSUGA MENZIESII*)
- LODGE-POLE PINE (*PINUS CONTORTA*)
- WESTERN RED CEDAR (*THUJA PLICATA*)
- RED ALDER (*ALNUS RUBRA*)
- BIG LEAF MAPLE (*ACER MACROPHYLLUM*)
- VINE MAPLE (*ACER CIRCINATUM*)

SHRUBS

- SALAL (*GAULTHERIA SHALLON*)
- SWORD FERN (*POLYSTICHUM MUNITUM*)
- SALMON BERRY (*RUBUS SPECTABILIS*)
- OREGON GRAPE (*MAHONIA AQUIFOLIUM*)

			DATE: MAY 05, 2016	DESIGNED : DDD	
			COPY: 000000	DRAWN : K.STEWART	
			DRAWING NO: 000	CHECKED : DAVID GALBRAITH	
DATE	NO.	REVISION	BY		

PUBLIC WORKS DIRECTOR: JON HILTGUNTZ
DEPUTY & PLANS MANAGER: PAULA COOPER P.E.
PROJECT MANAGER: JOHN THOMPSON

WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT
322 N. COMMERCIAL ST., BELLINGHAM, WA 98225 (360) 733-2400

PROJECT NAME: HIGH CREEK CHANNEL RESTORATION
CORPS REF: NWS-2016-327
DRAWING NAME: PLANTING LIST

SHEET: 13 of 13