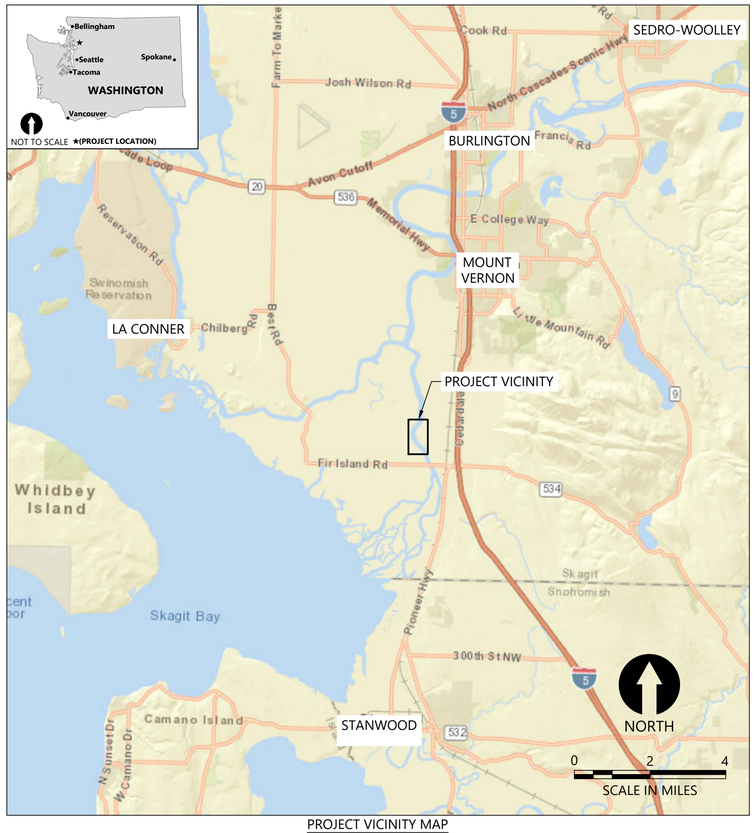
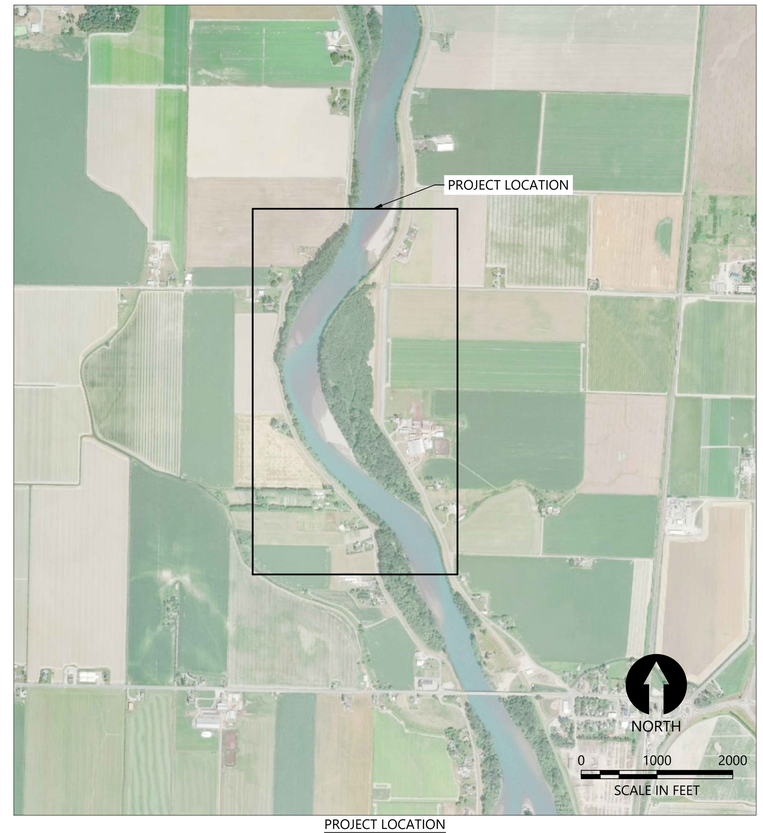
100% DESIGN SUBMITTAL

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

SKAGIT COUNTY PUBLIC WORKS DEPARTMENT



PROJECT VICINITY MAP
SOURCE: MAP FROM ESRI



PROJECT LOCATION
SOURCE: AERIAL FROM ESRI

SHEET INDEX

SHEET	DRAWING	DESCRIPTION
1	T-01	COVER SHEET
2	G-01	GENERAL NOTES AND LEGEND
3	C-01	EXISTING CONDITIONS
4	C-02	SITE ACCESS, STAGING, AND TESC PLAN
5	C-03	SURVEY CONTROL PLAN
6	C-04	CARE OF WATER PLAN
7	C-05	FLOODPLAIN GRADING PLAN
8	C-06	PROPOSED CONDITIONS (1 OF 3)
9	C-07	PROPOSED CONDITIONS (2 OF 3)
10	C-08	PROPOSED CONDITIONS (3 OF 3)
11	C-09	CHANNEL PROFILES
12	C-10	CROSS SECTIONS (1 OF 2)
13	C-11	CROSS SECTIONS (2 OF 2)
14	C-12	WOODY MATERIAL PLACEMENT DETAIL
15	C-13	SPECIFICATIONS (1 OF 2)
16	C-14	SPECIFICATIONS (2 OF 2)

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

COVER SHEET

T-01

SHEET # 1 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-001.dwg T-01
Aug 22, 2019 8:38am chewett

PROJECT INFORMATION

PROJECT LOCATION:	20144 DIKE ROAD MOUNT VERNON, WA 98273
SECTION/TOWNSHIP/RANGE	12-33N-3E, 13-33N-3E, 7-33N-4E, 18-33N-4E
OWNER:	SKAGIT COUNTY PUBLIC WORKS 1800 CONTINENTAL PLACE MOUNT VERNON, WA 98273 PHONE: (360) 416-1400 CONTACT: EMILY DERENNE
ENGINEER:	ANCHOR QEA, LLC 1605 CORNWALL AVENUE BELLINGHAM, WA 98225 PHONE: (360) 715-2703 CONTACT: TRACY DRURY, P.E.

ABBREVIATIONS

BEG.	BEGIN
DIA.	DIAMETER
H/HOR.	HORIZONTAL
LOC.	LOCATION
N	NORTH, NORTHING
NAD83	NORTH AMERICAN DATUM OF 1983
NAVD88	NORTH AMERICAN VERTICAL DATUM OF 1988
OHWM	ORDINARY HIGH WATER MARK
TESC	TEMPORARY EROSION AND SEDIMENT CONTROL
TYP.	TYPICAL
V	VERTICAL
WA	WASHINGTON

LEGEND:

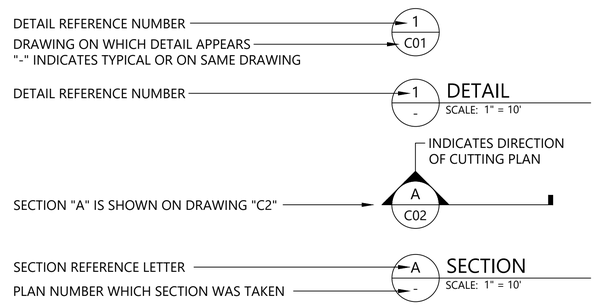
- PARCEL BOUNDARY (SKAGIT COUNTY GIS)
- EXISTING CONTOURS (1' AND 5' INTERVALS)
- APPROXIMATE EXISTING ORDINARY HIGH WATER MARK
- ORDINARY HIGH WATER MARK (POST-CONSTRUCTION)
- APPROXIMATE EXISTING SIDE CHANNEL
- ACCESS ROUTE
- FISH EXCLUSION NETTING
- STAGING AREA
- STRAW BALE CHECK DAMS
- PROPOSED CONTOURS (1' AND 5' INTERVALS)
- PROPOSED CHANNEL
- PROPOSED DAYLIGHT
- PROPOSED LARGE WOODY MATERIAL

SURVEY NOTES:

1. HORIZONTAL DATUM: WASHINGTON STATE PLANE NORTH ZONE, NAD83 FEET.
2. VERTICAL DATUM: NAVD88, FEET.
3. TOPOGRAPHIC SURVEY PROVIDED BY NORTHLINE SURVEYING, DATED SEPTEMBER 2018.

STANDARD CIVIL NOTES:

1. ALL WORK AND MATERIALS SHALL CONFORM TO THE 2018 LATEST EDITION OF THE WSDOT M41-10 STANDARD SPECIFICATIONS.
2. ALL WORK AND MATERIALS SHALL CONFORM TO SKAGIT COUNTY PUBLIC WORKS ENGINEERING STANDARDS FOR SOIL EROSION AND SEDIMENTATION.
3. REPORT ANY DISCREPANCIES BETWEEN THE DRAWINGS AND EXISTING SITE CONDITIONS TO THE ENGINEER IMMEDIATELY FOR RESOLUTION.
4. DO NOT EXCAVATE OR DISTURB BEYOND THE JOB SITE AREA UNLESS NOTED OTHERWISE.
5. CONTRACTOR AND ITS EMPLOYEES SHALL PROVIDE SAFETY TRAINING FOR THE WORK CREW PRIOR TO STARTING THE PROJECT.
6. THE AREAS OF THE JOB SITE DISTURBED BY THE WORK SHALL BE GRADED SMOOTH TO THE PRE-CONSTRUCTION GRADE AND PROTECTED AND/OR REVEGETATED AS SPECIFIED HEREIN. COMPACTED AREAS NEED TO BE RIPPED PRIOR TO SMOOTHING TO LEAVE AN AREA SUITABLE FOR PLANTING.
7. ALL MATERIALS SHALL BE NEW AND UNDAMAGED, UNLESS OTHERWISE APPROVED BY THE OWNER. THE SAME MANUFACTURER OF EACH ITEM SHALL BE USED THROUGHOUT THE WORK UNLESS OTHERWISE APPROVED BY THE OWNER.



DETAIL AND SECTION REFERENCING

ESTIMATED QUANTITIES	
	CUBIC YARDS
CHANNEL EXCAVATION	18,670
POND EXCAVATION	62,900
OFFSITE MATERIAL HAUL	81,570

GENERAL CONSTRUCTION NOTES:

1. CONTRACT DOCUMENTS REFER TO THESE DRAWINGS AND PROJECT SPECIFICATIONS INCLUDED HEREIN.
2. CONTRACTOR SHALL FURNISH ALL MATERIALS, EQUIPMENT, AND LABOR NECESSARY TO COMPLETE ALL WORK AS INDICATED ON THE CONTRACT DOCUMENTS.
3. CONTRACTOR SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRM THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION.
4. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE OWNER PRIOR TO PROCEEDING WITH THE WORK.
5. THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE BY THE OWNER OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
7. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
8. CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THIS CONTRACT.
10. DETAILS ARE INTENDED TO SHOW THE FINAL RESULT OF THE DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB SITE DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
11. THE CONTRACTOR SHALL MAKE ALL NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, ROADWAY, DRAINAGE WAYS, CULVERTS, AND VEGETATION UNTIL SUCH ITEMS ARE TO BE DISTURBED OR REMOVED AS INDICATED ON THE CONTRACT DOCUMENTS.
12. CONTRACTOR SHALL KEEP JOB SITE AREA CLEAN AND HAZARD-FREE. CONTRACTOR SHALL DISPOSE OF ALL DEBRIS AND RUBBISH FOR DURATION OF THE WORK. UPON COMPLETION OF WORK, CONTRACTOR SHALL REMOVE ALL MATERIAL AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY.
13. REPRESENTATIONS OF TRUE NORTH SHALL NOT BE USED TO IDENTIFY OR ESTABLISH THE BEARING OF TRUE NORTH AT THIS JOB SITE.
14. WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
15. NOTES AND DETAILS ON THE CONTRACT DOCUMENTS SHALL TAKE PRECEDENCE OVER GENERAL NOTES HEREIN.
16. DIMENSION CALLOUTS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON THE CONTRACT DOCUMENTS.
17. THE CONTRACT DOCUMENTS REPRESENT THE FINISHED GRADES. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURES, WORKERS, AND THE PUBLIC DURING CONSTRUCTION.
18. ASTM, AASHTO, WSDOT AND OTHER STANDARD SPECIFICATIONS NOTED ON THE CONTRACT DOCUMENTS SHALL BE OF THE LATEST VERSION, UNLESS NOTED OTHERWISE.
19. THE OWNER SHALL FURNISH THE FOLLOWING ITEMS FOR USE IN CONSTRUCTION. AT THE OPTION OF THE OWNER, THE OWNER MAY REQUEST THE CONTRACTOR TO FURNISH ADDITIONAL MATERIALS. REFER TO THE SPECIFICATIONS FOR FURTHER DETAIL.
20. NONE IDENTIFIED.
21. CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING PRIOR TO COMMENCEMENT OF THE CONSTRUCTION. MEETING, LOCATION, DATE, AND TIME TO BE DETERMINED BY THE OWNER.

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

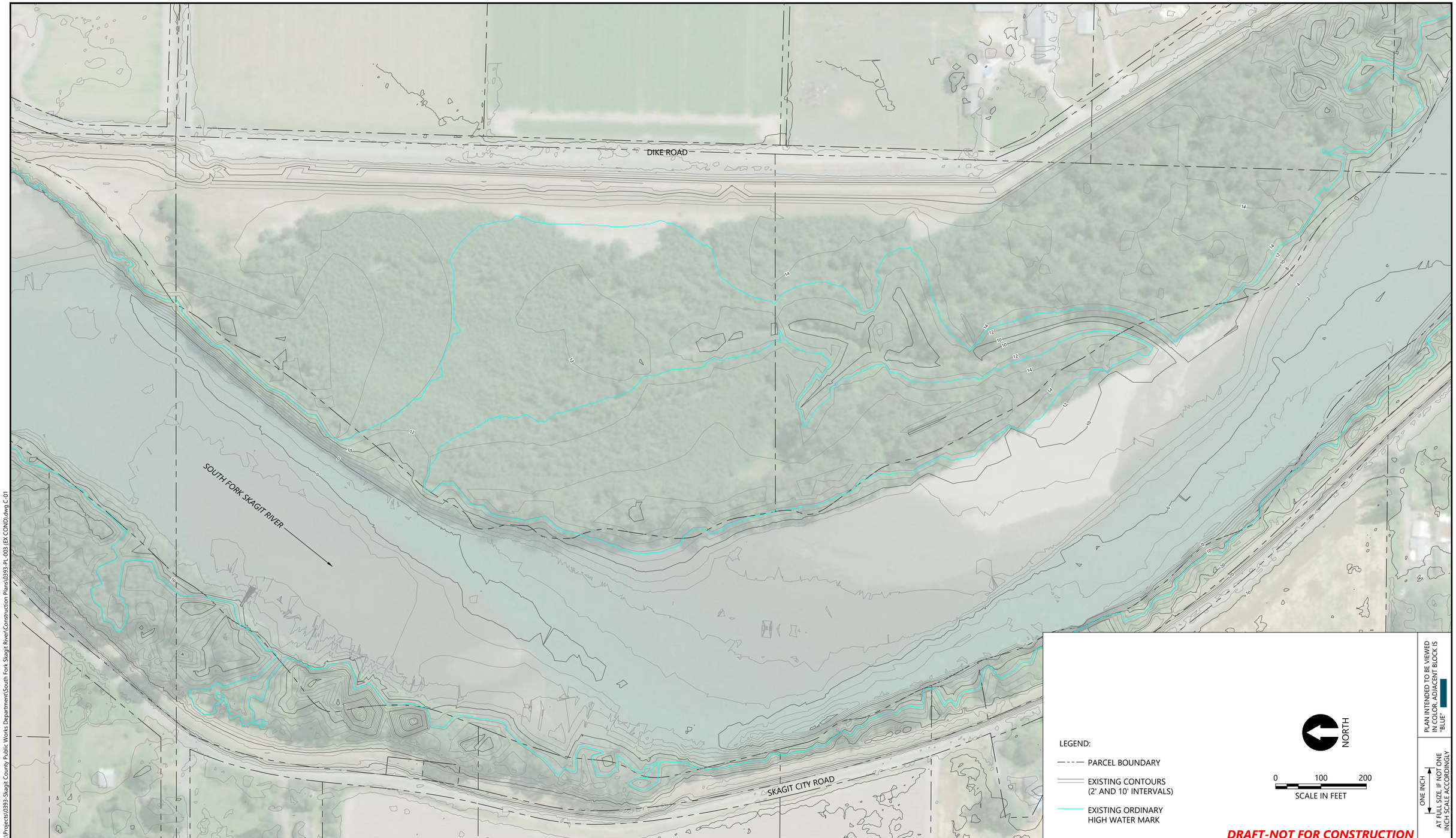
SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

GENERAL NOTES AND LEGEND

G-01

SHEET # 2 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-001.dwg G-01
Aug 22, 2019 8:38am chewett



K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-003 (EX COND).dwg C-01

Aug 22, 2019 8:39am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

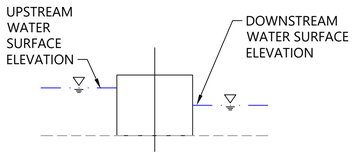
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

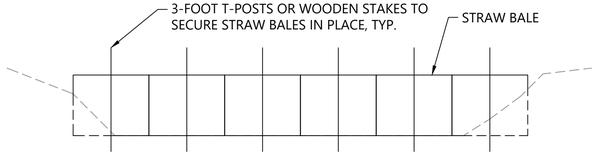
EXISTING CONDITIONS

C-01

SHEET # 3 OF 16



1 TYPICAL STRAW BALE CHECK DAM SECTION
SCALE: NOT TO SCALE



2 TYPICAL STRAW BALE CHECK DAM ELEVATION
SCALE: NOT TO SCALE

DIKE ROAD

EXCAVATE POND USING ACCESS ROUTE FROM PROPOSED PRIMARY SIDE CHANNEL

INSTALL STRAW BALE CHECK DAM OR EQUIVALENT TO LIMIT TURBIDITY LEAVING SITE DURING EXCAVATION (SEE DETAILS, THIS SHEET)

EXCAVATE SECONDARY SIDE CHANNEL USING ACCESS ROUTE FROM PROPOSED PRIMARY SIDE CHANNEL

SOUTH FORK SKAGIT RIVER

ACCESS ROUTE THROUGH PROPOSED PRIMARY SIDE CHANNEL

EXCAVATE POND USING ACCESS ROUTE FROM PROPOSED PRIMARY SIDE CHANNEL

SKAGIT CITY ROAD

ACCESS, STAGING AND TESC NOTES:

1. STAGE EQUIPMENT ON PROPERTY ADJACENT TO PARKING LOT.
2. ACCESS SITE ALONG EXISTING FOOT PATH AND IN FOOTPRINT OF EXCAVATED PRIMARY SIDE CHANNEL ALL FEATURES INCLUDING PONDS AND CHANNELS NEED TO BE CONSTRUCTED USING THIS ACCESS ROUTE ONLY. DO NOT CLEAR OR DISTURB BEYOND THE FOOTPRINT OF THESE PROPOSED FEATURES.
3. INSTALL ALL TESC MEASURES PRIOR TO CHANNEL EXCAVATION.
4. MULCH DISTURBED AREAS ALONG ACCESS ROUTE OUTSIDE OF THE EXCAVATION FOOTPRINT AND IN OTHER LOCATIONS IDENTIFIED IN THE CONTRACTING DOCUMENTS DURING DE-MOBILIZATION WITH WOODY MATERIALS CLEARED DURING EXCAVATION AND RUN THROUGH A WOOD CHIPPER.

LEGEND:

- PARCEL BOUNDARY
- ACCESS ROUTE
- STAGING AREA
- STRAW BALE CHECK DAMS
- PROPOSED EXCAVATION FOOTPRINT

NORTH

0 150 300
SCALE IN FEET

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-003 (EX COND).dwg C-02

Aug 22, 2019 8:39am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

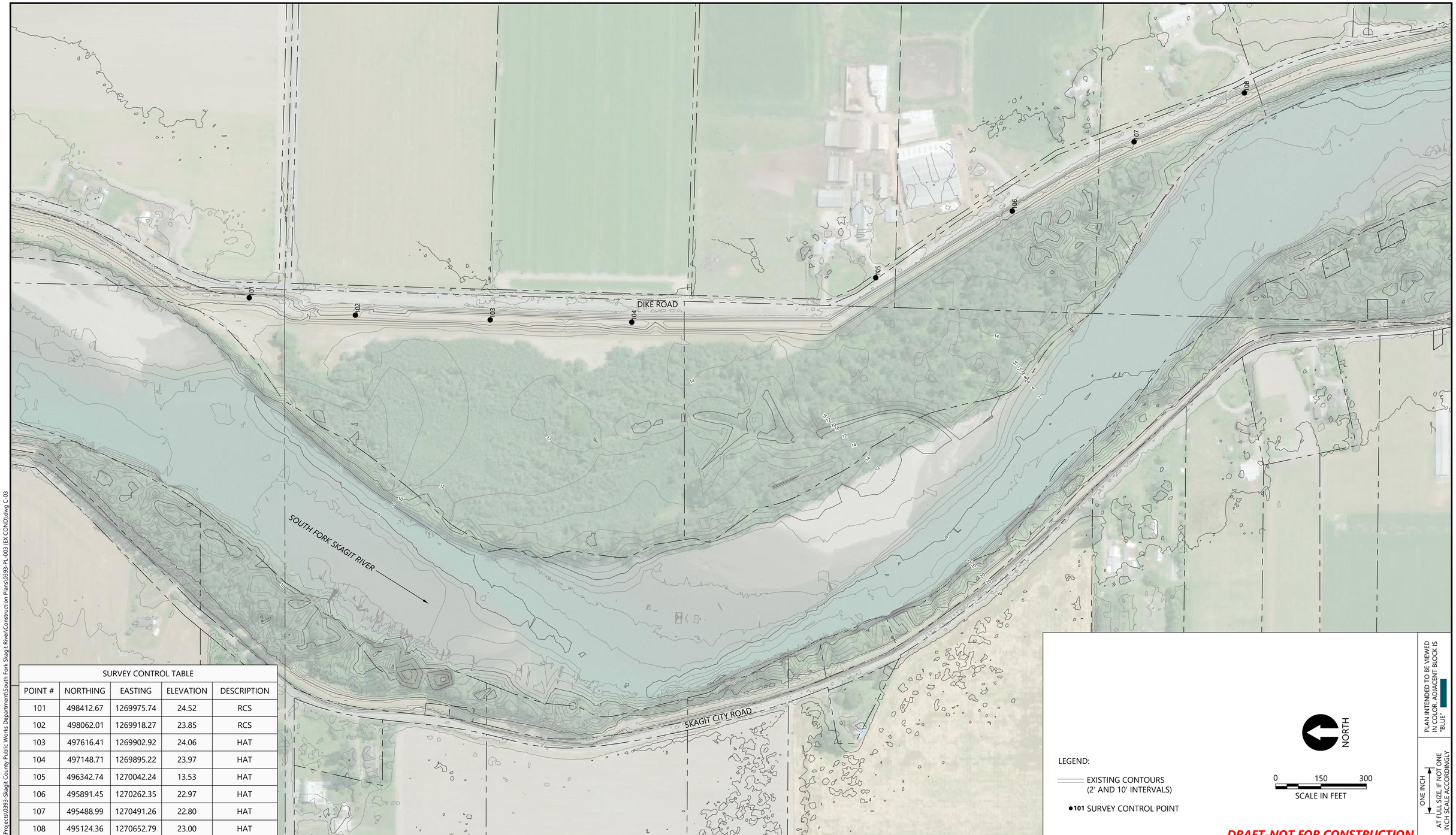
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

SITE ACCESS, STAGING, AND TESC PLAN

C-02

SHEET # 4 OF 16



SURVEY CONTROL TABLE				
POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	498412.67	1269975.74	24.52	RCS
102	498062.01	1269918.27	23.85	RCS
103	497616.41	1269902.92	24.06	HAT
104	497148.71	1269895.22	23.97	HAT
105	496342.74	1270042.24	13.53	HAT
106	495891.45	1270262.35	22.97	HAT
107	495488.99	1270491.26	22.80	HAT
108	495124.36	1270652.79	23.00	HAT

LEGEND:

EXISTING CONTOURS (2' AND 10' INTERVALS)

●101 SURVEY CONTROL POINT

NORTH

0 150 300
SCALE IN FEET

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-003 (EX COND).dwg C-03

Aug 22, 2019 8:39am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

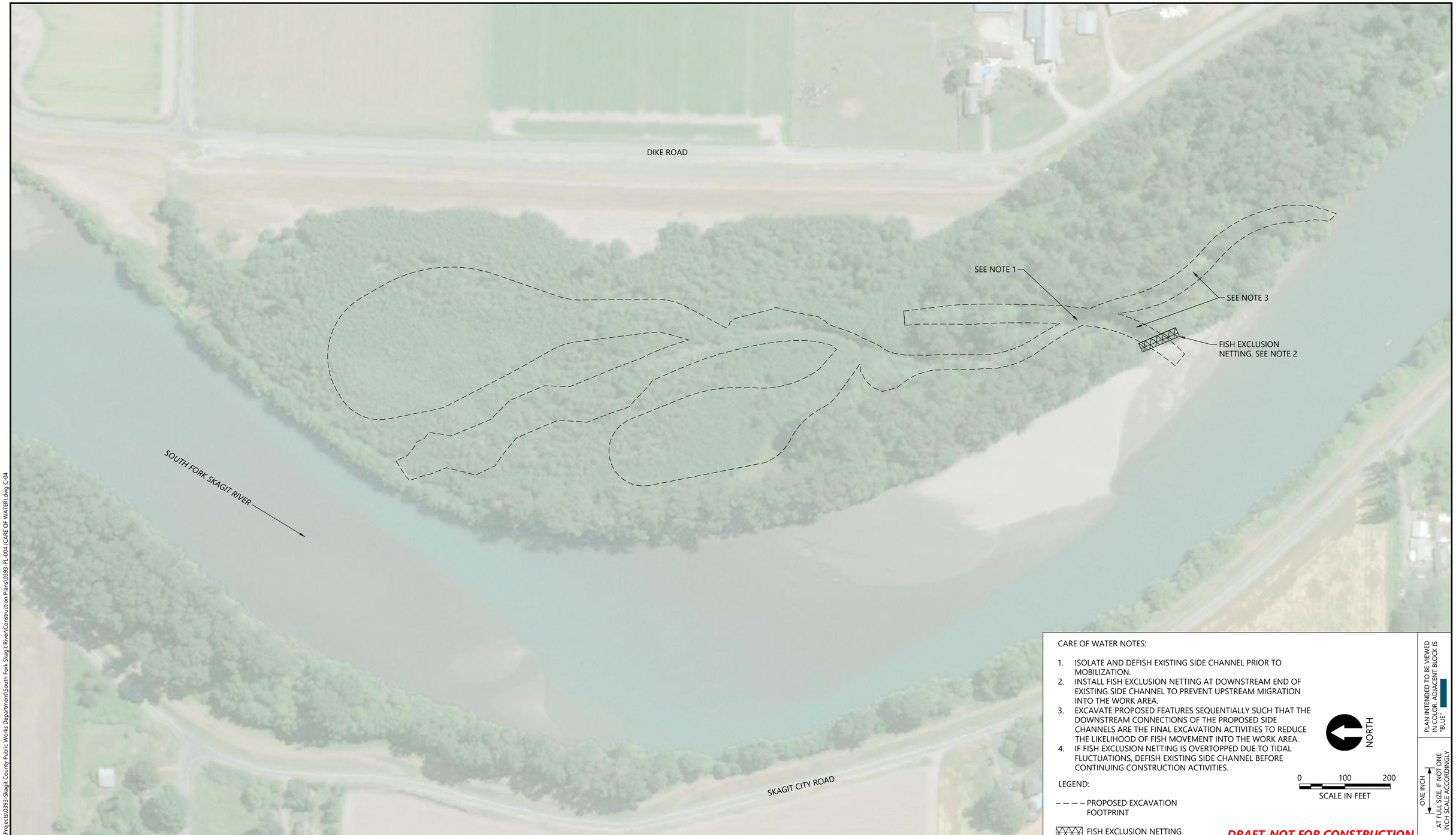
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

SURVEY CONTROL PLAN

C-03

SHEET # 5 OF 16



CARE OF WATER NOTES:

1. ISOLATE AND DEFISH EXISTING SIDE CHANNEL PRIOR TO MOBILIZATION.
2. INSTALL FISH EXCLUSION NETTING AT DOWNSTREAM END OF EXISTING SIDE CHANNEL TO PREVENT UPSTREAM MIGRATION INTO THE WORK AREA.
3. EXCAVATE PROPOSED FEATURES SEQUENTIALLY SUCH THAT THE DOWNSTREAM CONNECTIONS OF THE PROPOSED SIDE CHANNELS ARE THE FINAL EXCAVATION ACTIVITIES TO REDUCE THE LIKELIHOOD OF FISH MOVEMENT INTO THE WORK AREA.
4. IF FISH EXCLUSION NETTING IS OVERTOPPED DUE TO TIDAL FLUCTUATIONS, DEFISH EXISTING SIDE CHANNEL BEFORE CONTINUING CONSTRUCTION ACTIVITIES.

LEGEND:

– – – – PROPOSED EXCAVATION FOOTPRINT

FISH EXCLUSION NETTING

NORTH

0 100 200
SCALE IN FEET

DRAFT-NOT FOR CONSTRUCTION

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-004 (CARE OF WATER).dwg C-04

Aug 22, 2019 8:40am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

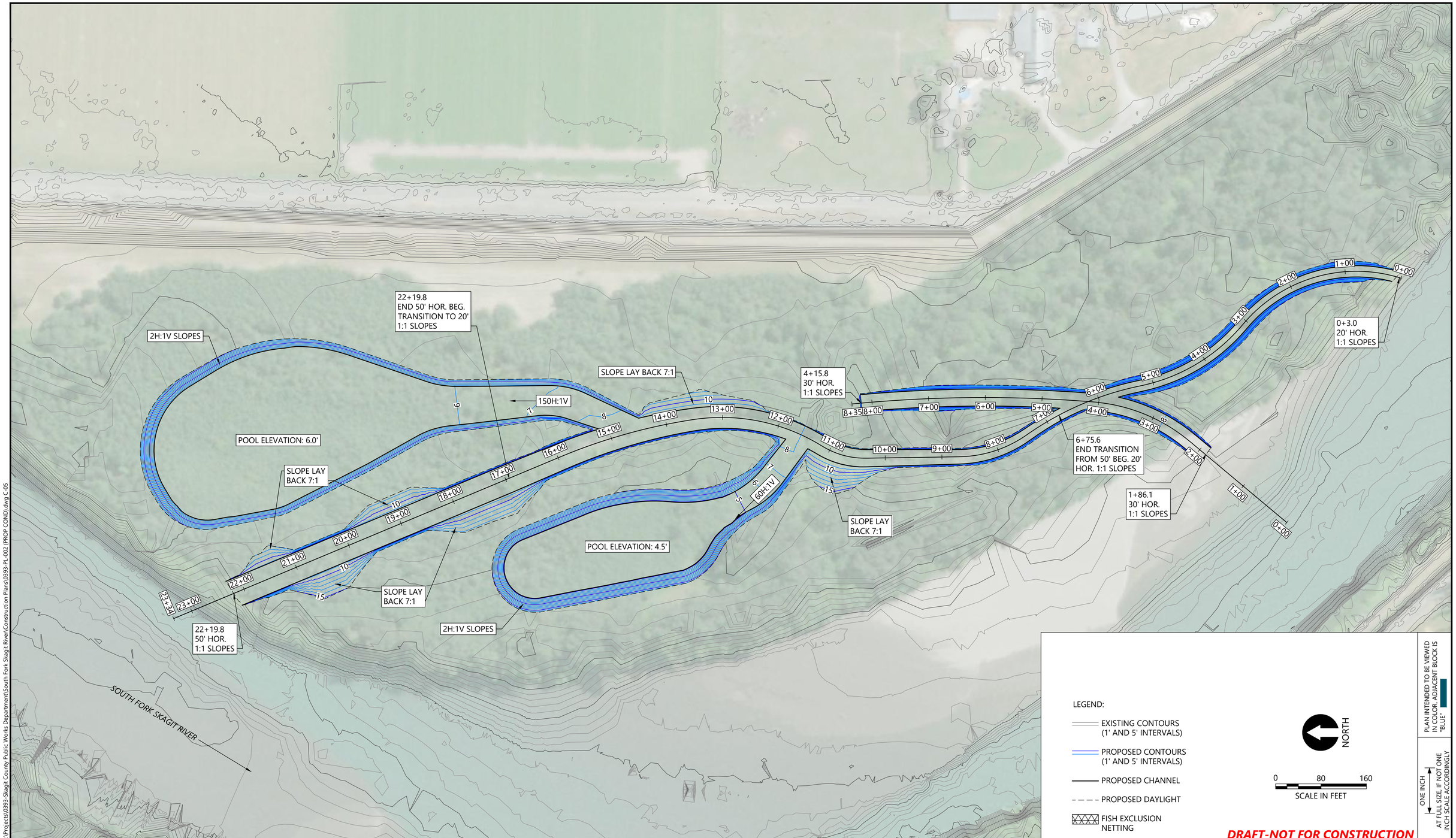
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

CARE OF WATER PLAN

C-04

SHEET # 6 OF 16



K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-05

Aug 22, 2019 8:40am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

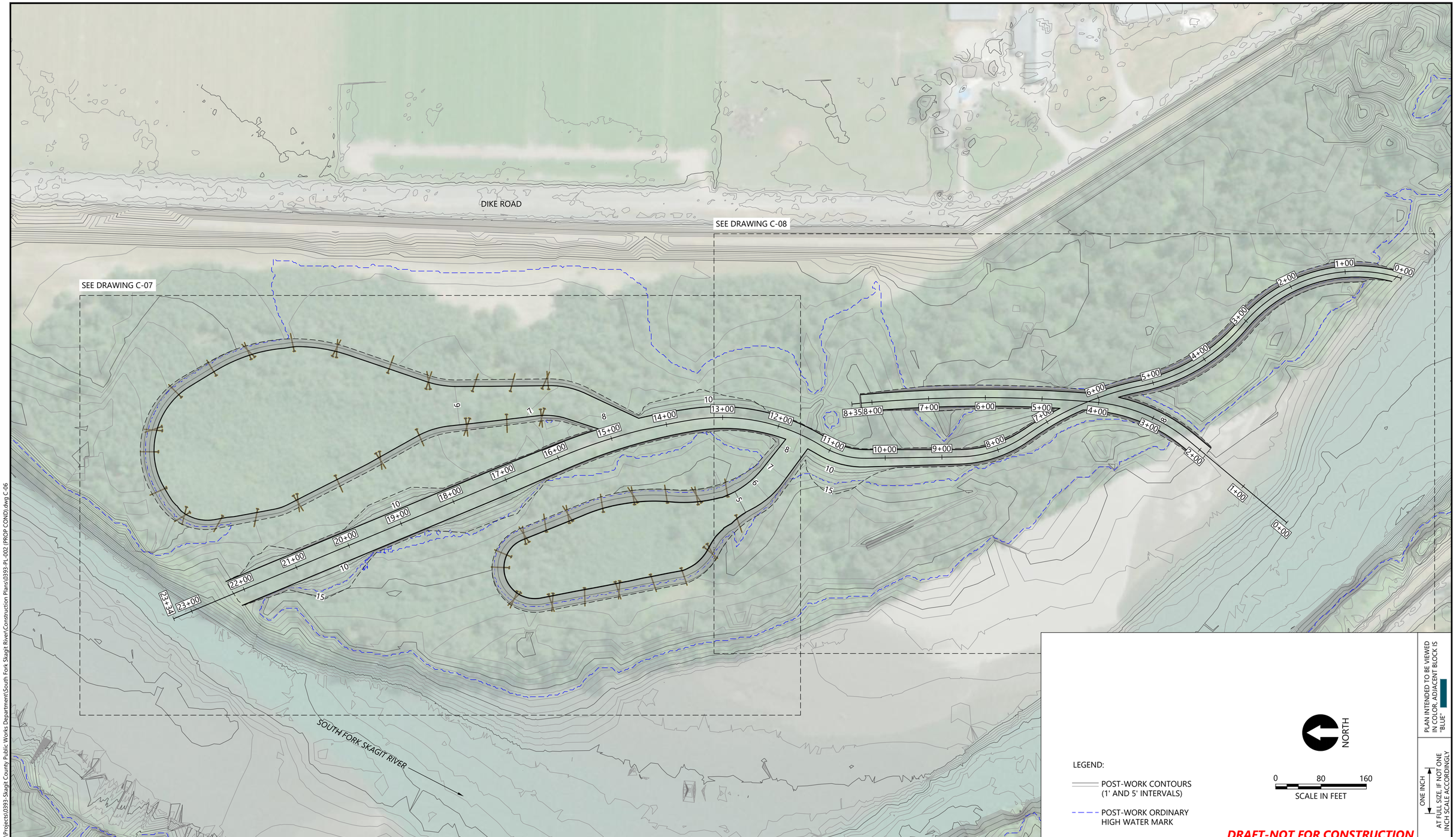
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

FLOODPLAIN GRADING PLAN

C-05

SHEET # 7 OF 16



PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-06

Aug 22, 2019 8:40am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

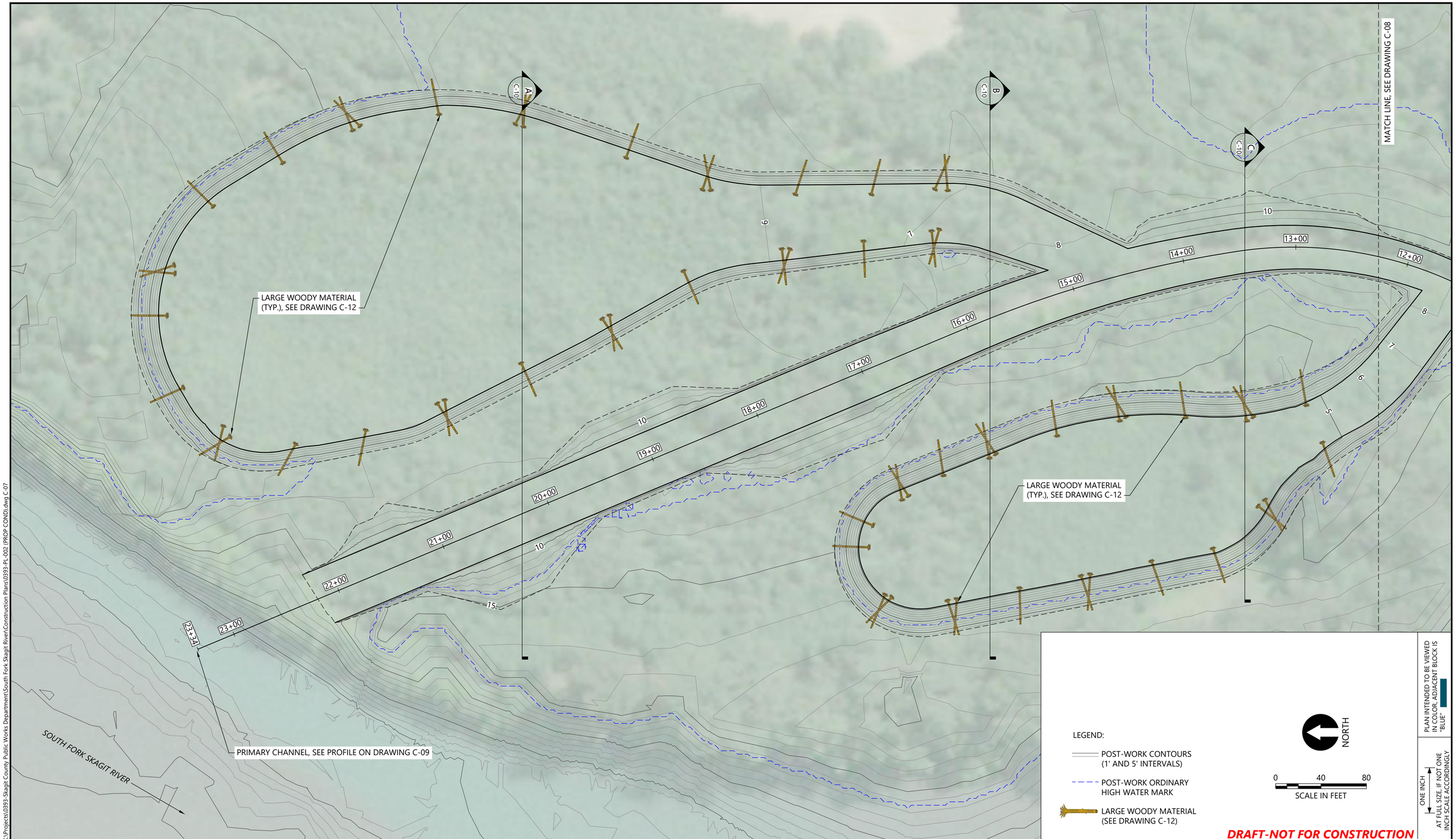
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

PROPOSED CONDITIONS (1 OF 3)

C-06

SHEET # **8** OF **16**



K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-07

Aug 22, 2019 8:40am chewett

ANCHOR QEA

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

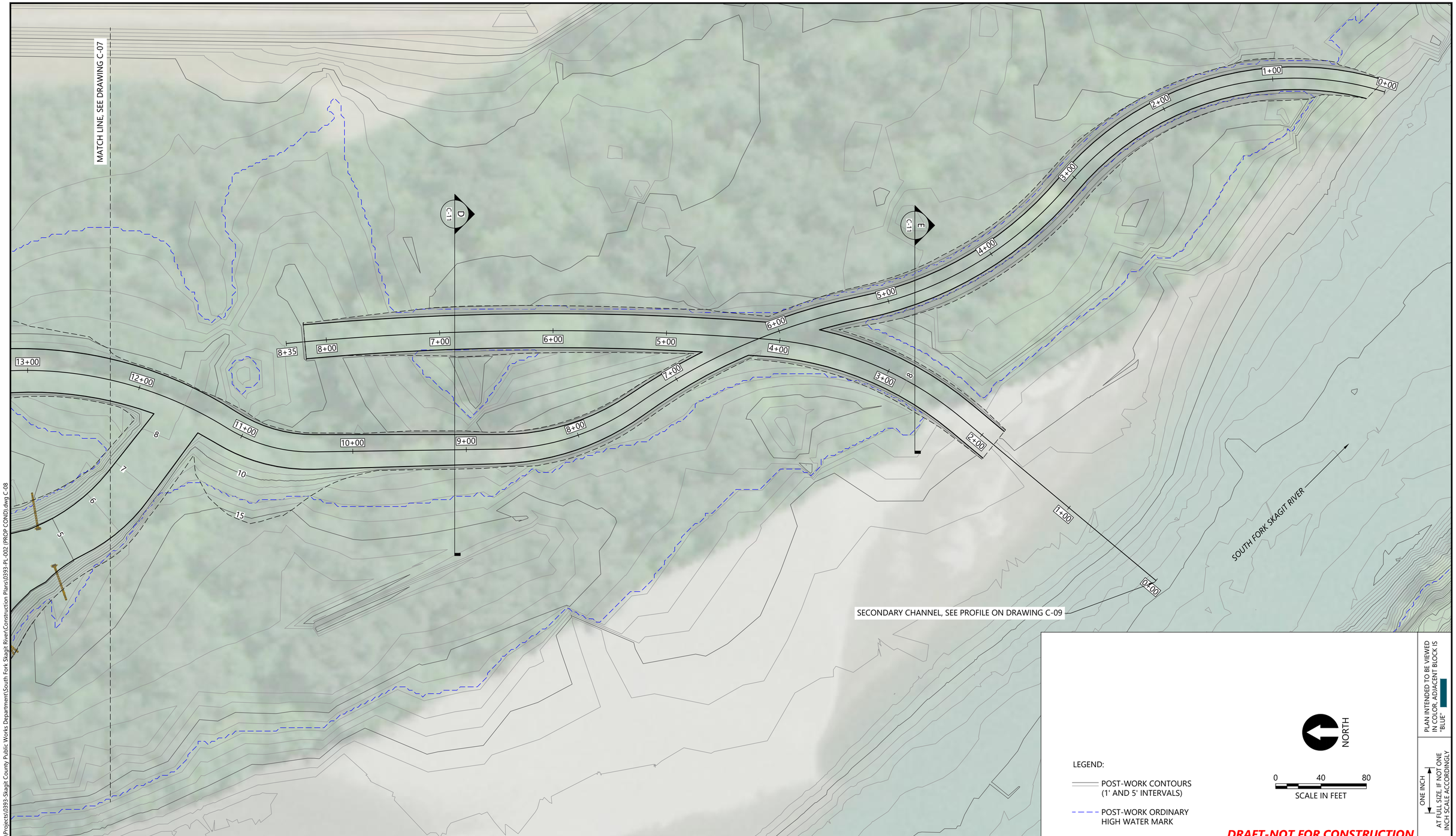
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

PROPOSED CONDITIONS (2 OF 3)

C-07

SHEET # 9 OF 16



DRAFT-NOT FOR CONSTRUCTION

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-08

Aug 22, 2019 8:40am chewett

ANCHOR QEA

REVISIONS				
REV	DATE	BY	APP'D	DESCRIPTION

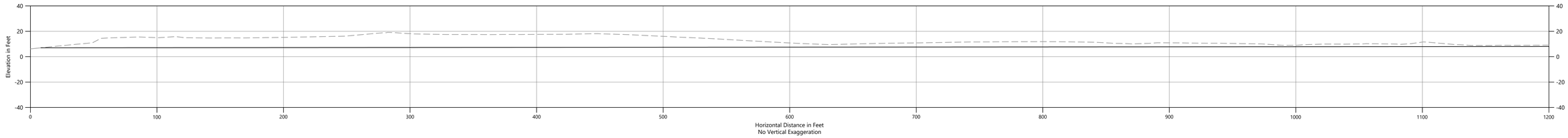
DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

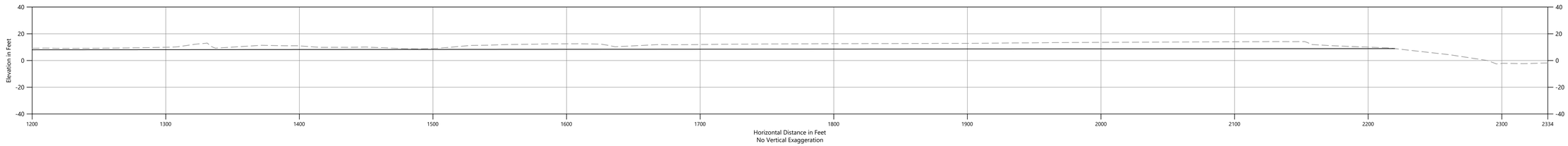
SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

PROPOSED CONDITIONS (3 OF 3)

C-08

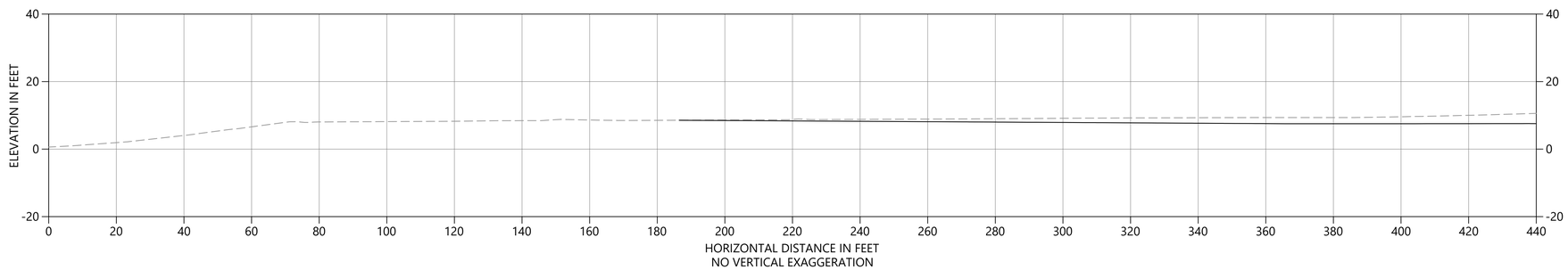
SHEET # **10** OF **16**

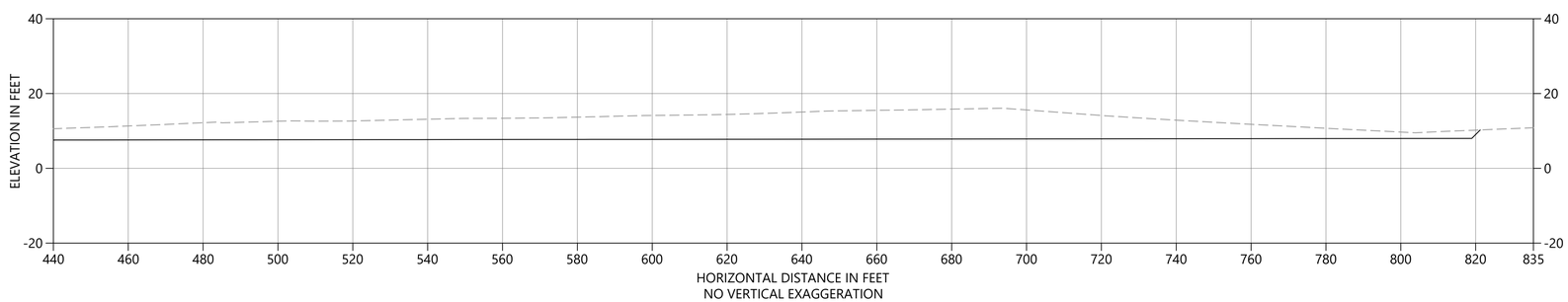




1 / - PRIMARY CHANNEL SECTION

HORIZ. SCALE: 1" = 40'
VERT. SCALE: 1" = 40'





2 / - SECONDARY CHANNEL SECTION

HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'

LEGEND:

- - - - EXISTING GRADE

——— PROPOSED GRADE

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

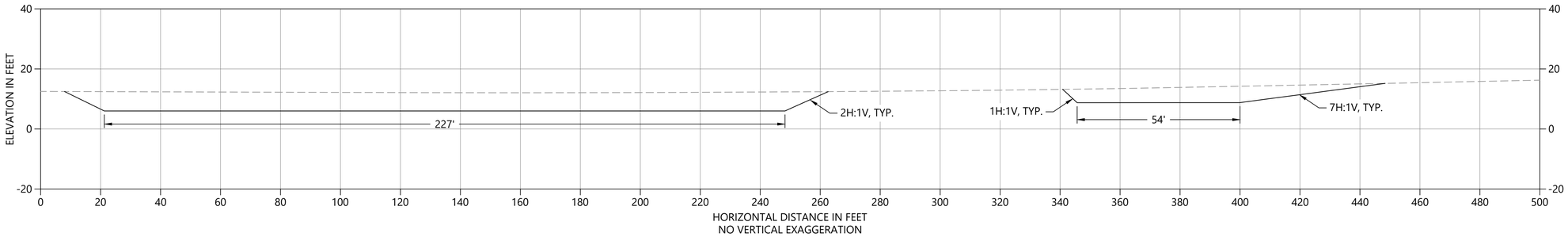
CHANNEL PROFILES

C-09

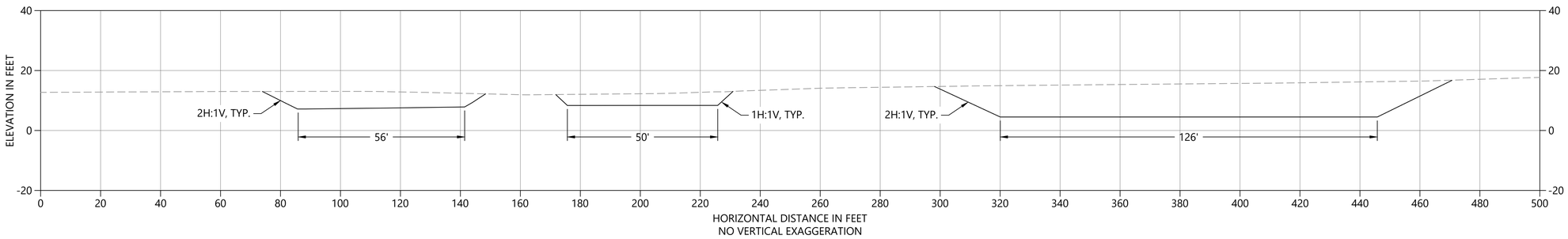
SHEET # 11 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-09

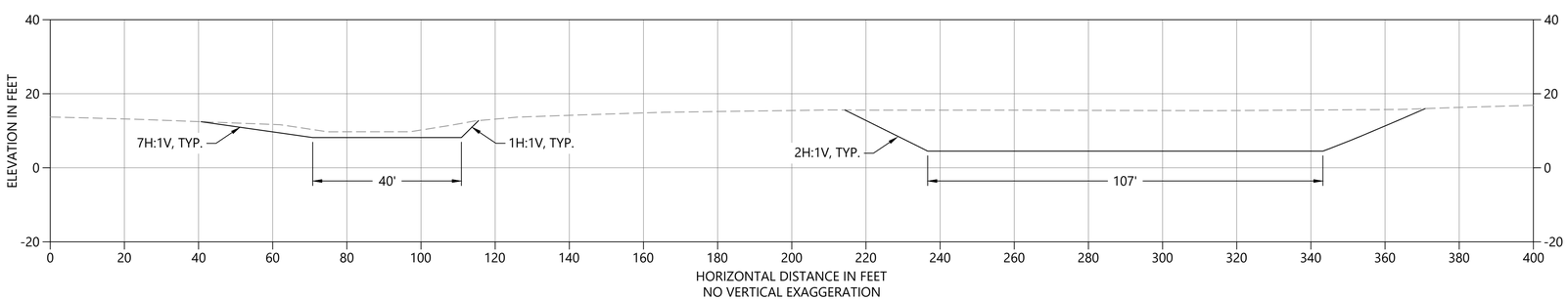
Aug 22, 2019 8:40am chewett



A / C-07 SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'



B / C-07 SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'



C / C-07 SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'

LEGEND:

- - - - EXISTING GRADE

——— PROPOSED GRADE

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

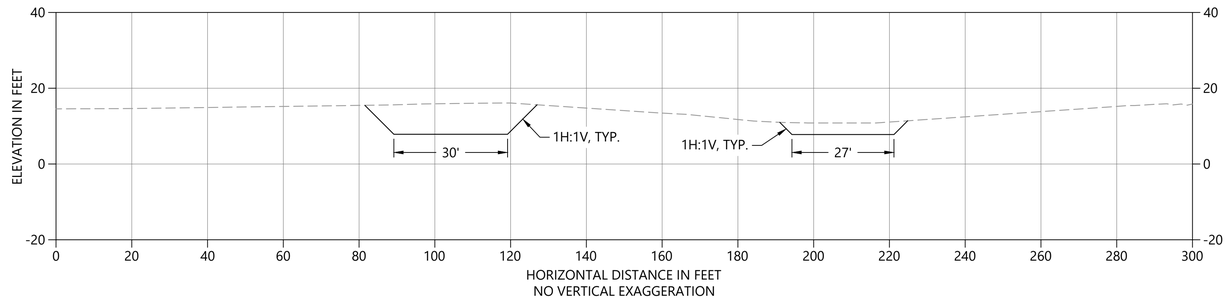
CROSS SECTIONS (1 OF 2)

C-10

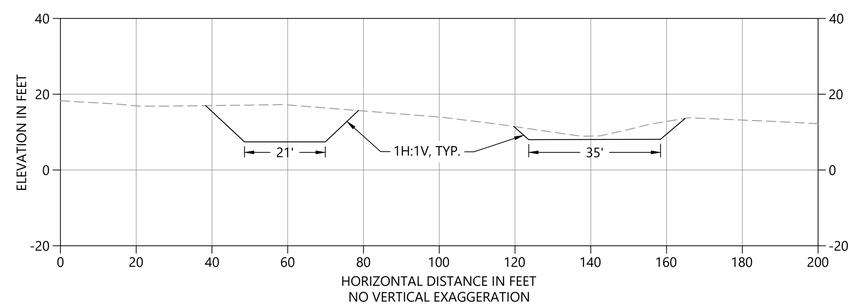
SHEET # 12 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-10

Aug 22, 2019 8:40am chewett



D / C-08 SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'



E / C-08 SECTION
HORIZ. SCALE: 1" = 20'
VERT. SCALE: 1" = 20'

LEGEND:

- - - - EXISTING GRADE

——— PROPOSED GRADE

PLAN INTENDED TO BE VIEWED IN COLOR; ADJACENT BLOCK IS "BLUE"

ONE INCH

AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

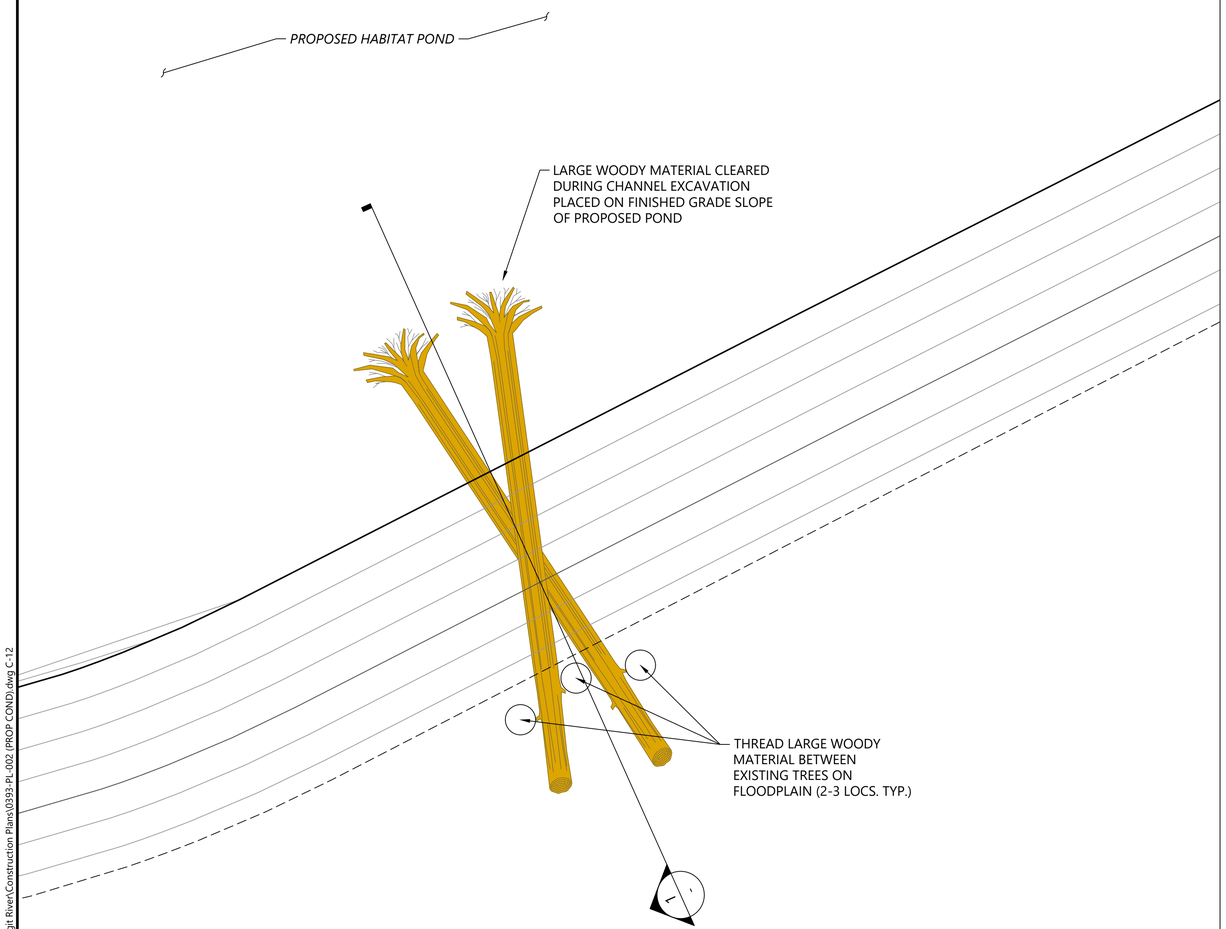
SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

CROSS SECTIONS (2 OF 2)

C-11

SHEET # 13 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-11
Aug 22, 2019 8:40am chewett



1 WOODY MATERIAL PLACEMENT PLAN VIEW (TYP.)
SCALE: 1" = 5'

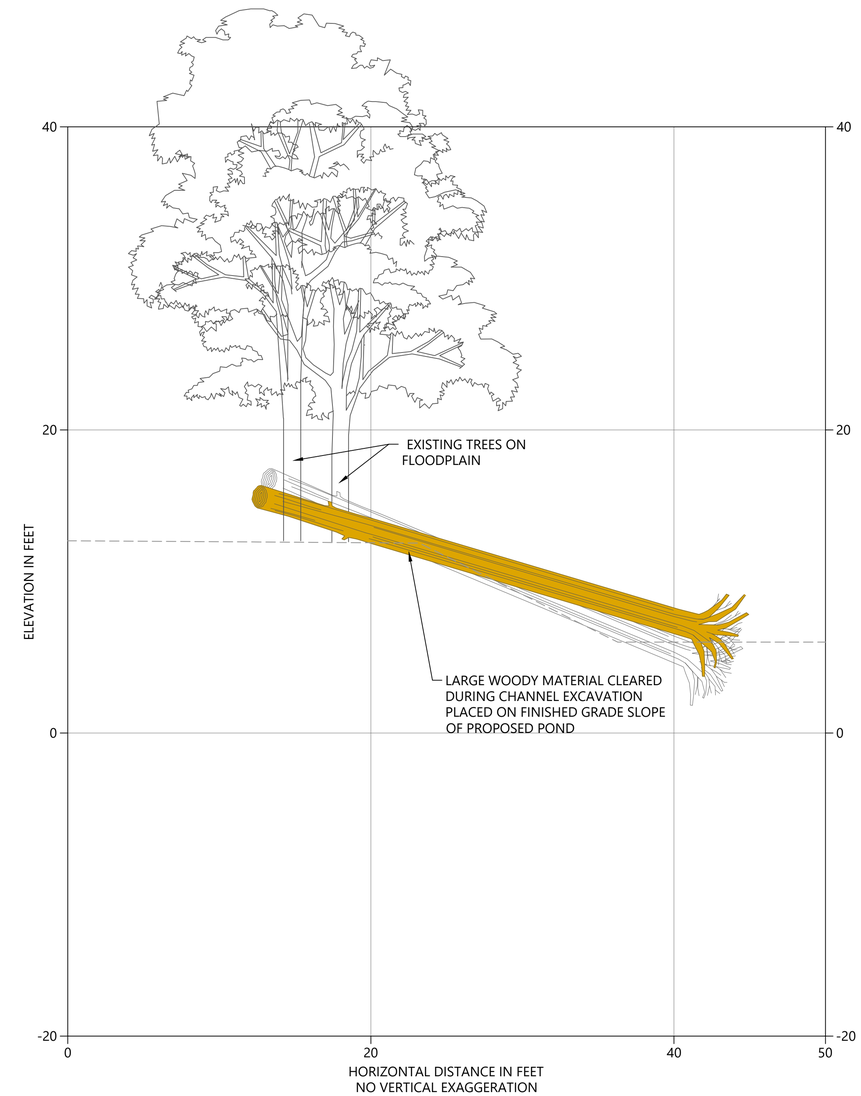
LEGEND:

POST-WORK CONTOURS (1' AND 5' INTERVALS)

LARGE WOODY MATERIAL

NORTH

0 5 10
SCALE IN FEET



1 WOODY MATERIAL PLACEMENT SECTION
SCALE: 1" = 5'

LEGEND:

POST-WORK GRADE

LARGE WOODY MATERIAL

WOODY MATERIAL PLACEMENT NOTES:

1. PLACE ALL WOODY MATERIAL AS APPROVED BY THE ENGINEER.
2. WHEN CLEARING AND GRUBBING, FELL ALL LARGE MATURE TREES GREATER THAN 10" IN DIA. WITH ROOTWAD INTACT FOR PLACEMENT IN THE PROPOSED PONDS.

0 5 10
SCALE IN FEET

DRAFT-NOT FOR CONSTRUCTION

PLAN INTENDED TO BE VIEWED IN COLOR, ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-12

Aug 22, 2019 8:40am chewett

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

WOODY MATERIAL PLACEMENT DETAIL

C-12

SHEET # 14 OF 16

1 LARGE WOODY MATERIAL HABITAT FEATURES – GENERAL

1.01 DESCRIPTION OF WORK

A. In general, the various large woody material (LWM) features provide habitat enhancement and promote desirable geomorphic processes. Specific benefits include but are not limited to hydraulic refuge, cover, food, and shading for the benefit of fish species.

B. Note that much of the Work will take place away from existing infrastructure and may require the use of self-powered or generator-powered equipment; all equipment operated in or near natural waterways may be subject to hydraulic permit conditions.

C. The Contractor shall furnish all materials, equipment, and labor necessary for the construction of the LWM structures as indicated on the Contract Drawings and as described in the Specifications. Work includes the following as applicable:

1. Working along the riverbanks, floodplain, and side channels.

2. Clearing, grubbing, and stripping areas to be excavated as indicated on the Contract Drawings and described in the Specifications, or as required by the Contracting Officer.

3. Installing the LWM members to the locations, extents, elevations, lines, and grades indicated on the Contract Drawings and as described in the Specifications. Installation includes the following:

a) Placing LWM members in the locations and positions and to the dimensions and elevations indicated on the Contract Drawings and as described in the Specifications, or as approved by the Engineer.

4. Restoration of areas disturbed by construction as directed by the Contracting Agency.

1.02 SUBMITTALS

A. Submit the following:

1. Safety Plan: The work area, conditions, and type of work required create considerable potential for accidents.

1.03 QUALITY ASSURANCE

A. The Contracting Agency reserves the right to inspect the LWM features throughout the construction process.

2 LARGE WOODY MATERIAL HABITAT FEATURES – PRODUCTS

2.01 LARGE WOODY MATERIALS

A. The Contractor shall source materials from on site during site clearing and grubbing activities as indicated on the Contract Drawings and as described in the Specifications.

1. Shall be mature alders or other species found on site.

2. Shall include an intact rootwad mass consisting of root fibers ranging in size down to a diameter of 1 inch or less.

3. Shall have a diameter at breast height (DBH) of 10 inches or greater as shown on the Contract Drawings.

3 LARGE WOODY MATERIAL HABITAT FEATURES – EXECUTION

3.01 SITE PREPARATION

A. Vegetation removal shall be minimized to the extent practicable. Removal of trees larger than 12 inches DBH shall require approval from the Contracting Officer. Refer to the section on Site Clearing.

3.02 EXCAVATION

A. General

1. These features will be field located by the Engineer adjacent to existing trees and do not require excavation because they will be secured to the adjacent trees as indicated on the Contract Drawings.

3.03 INSTALLATION

A. General

1. The Contractor is responsible for installing the structures at the location, elevations, and extents indicated on the Contract Drawings; the location of the structures may vary from the Contract Drawings under the direction of the Engineer.

2. The structures shall be installed to the elevations shown on the Contract Drawings.

3. The Contractor shall place the individual members of LWM comprising the bottom layer of the structures to the bottom design elevations indicated on the Contract Drawings. Variations in diameter of the LWM members may require localized adjustments to the bottom grade.

4. The natural variations in LWM may cause members to roll, pitch, and/or yaw when placed atop another member. Dry-fit placement of members shall be performed to ensure a snug and stable fit.

5. Individual members of LWM may require field cutting to maintain the structure alignment and design elevations. Field cutting of rootwad logs shall be allowed only as approved by the Engineer.

3.04 COMPLETION

A. The Contractor shall collect finish elevations for the structure and note changes to the construction of the structure in accordance with preparation of as-built documents.

3.05 ORDERLY WORK AREA AND SITE CLEANUP

A. The Contractor shall maintain neat and orderly storage and work areas, as much as possible. The Contract will not be considered complete until all of the Contractor's tools, equipment, and property have been removed from the Project site, and the Contractor's storage and work areas have been properly cleaned up.

B. The Contractor shall collect and properly dispose of remaining materials, debris, and rubbish resulting from stock piling of LWM.

C. Special care shall be taken to ensure that no foreign materials fall into or contaminate project waters.

4 SITE CLEARING – GENERAL

4.01 DESCRIPTION OF WORK

A. The Work described in this section includes, but is not limited to, site clearing; removal of trees and brush; grubbing, stripping, and stockpiling of native topsoil and groundcover plants; and removal of other miscellaneous items needed to complete construction of the Project.

4.02 EXISTING CONDITIONS

A. It is the responsibility of the Contractor to determine the location of all existing utilities adequately to avoid damage to utilities prior to initiating Work related to this section.

5 SITE CLEARING – EXECUTION

5.01 CLEARING

A. The Contractor shall mark clearing units for approval by the Contracting Agency prior to commencing clearing.

B. The Contractor shall preserve and provide protection for the following:

1. Adjacent facilities: The Contractor shall exercise extreme care to prevent damage to adjacent facilities that are to remain.

2. Monuments: The Contractor shall carefully maintain benchmarks, monuments, and other reference points. If disturbed or destroyed, the Contractor shall replace the monument or other reference point at no cost to the Contracting Agency, as directed by the Contracting Agency or representative of the monument agency. The Contractor shall note the position of all monuments on the As-Built Drawings. The Contractor shall maintain at least two benchmarks on the site that are at least 500 feet apart from one another and that are established by a professional land surveyor, licensed in the State of Washington.

3. Flag existing vegetation to remain: The Contractor shall notify the Contracting Agency 7 calendar days prior to beginning clearing or grading activities. The Contracting Officer will flag existing trees/vegetation to remain within the clearing limits. Any living woody plant outside the clearing limits that is damaged during construction shall be treated within 24 hours of occurrence. The Contracting Agency shall be notified immediately of any damage incident. Immediately after damage occurs, the Contractor shall perform wound-shaping treatment, which includes, but is not limited to, evenly cutting broken branches, exposed roots, and damaged tree bark. Injured plants shall be thoroughly watered, and additional measures shall be taken, as appropriate, to aid in plant survivability.

4. Salvaged vegetation and materials: The Contractor shall salvage LWM for reuse within the project limit lines as shown on the Contract Drawings. The Contractor shall carefully stockpile salvaged materials for later relocation. The Contractor shall exercise care when moving plant materials to avoid breaking branches or breaking roots. Salvaged materials will be reviewed by the Contracting Officer prior to final placement. Any materials deemed unsatisfactory by the Contracting Officer (due to damage during relocation) shall be replaced with imported material at the Contractor's expense. If salvaged materials cannot be moved directly to permanent locations, the Contractor shall ensure that stockpile areas are large enough to accommodate materials, and plants are maintained.

C. It is the Contractor's responsibility to visit the Project site during the pre-bid meeting to generally ascertain vegetation to be removed for construction.

D. The Contractor shall remove vegetation only as required. Do not do an initial general clearing and grubbing of the Project site that leaves areas exposed that will not have immediate follow-up construction.

E. The Contractor shall clear vegetation and debris adjacent to cut-and-fill sections to a minimum distance of 1 foot outside of slope lines. Do not clear beyond clearing limits shown on the Contract Drawings.

F. All temporary erosion and sediment control measures must be in place prior to clearing and grubbing.

5.02 CHEMICAL CONTROL OF VEGETATION

A. Herbicide application on nuisance vegetation will be allowed with written authorization by the Contracting Agency only. All herbicide applications shall be applied per manufacturer's instructions.

B. A minimum of two herbicide applications shall occur prior to planting. Applications shall be made a minimum of 2 weeks prior to planting and a minimum of 6 weeks apart.

5.03 GRUBBING

A. In areas indicated for clearing and grubbing on the Contract Drawings, the Contractor shall grub deep enough to remove all roots and other vegetative material or to the depth shown on the Contract Drawings, whichever is greater. Any grubbed material containing non-native and invasive seed or plant material, such as Himalayan blackberry, reed canary grass, or English ivy, shall be removed immediately from the Project site for disposal at an approved off-site location. This material shall not be used for topsoil. Grub to a minimum of 6 inches below subgrade and remove organic matter from the Project site.

B. Any material not specifically approved by the Contracting Agency for reuse on site shall be removed from the site within 48 hours or less.

5.04 DISPOSAL OF CLEARED MATERIAL

A. The Contractor shall remove and legally dispose of all cleared material at an approved off-site location. The Contractor, in a manner consistent with all government regulations, shall dispose of the refuse resulting from clearing and grubbing. In no case shall refuse material be left on the Project site or be buried in embankments or trenches on the Project site unless directed otherwise by the Contracting Agency.

1. Cleared woody vegetation that is entirely free of weeds, weed seed, or other deleterious material will be stockpiled by the Contractor and hauled to a location approved by the Contracting Agency for mulching and reuse by others.

5.05 TREE AND SHRUB PROTECTION

A. The Contractor shall protect trees and shrubs in accordance with the section on Vegetation Protection and Restoration.

6 EXCAVATION AND FILL – GENERAL

6.01 DESCRIPTION OF WORK

A. The Work described in this section includes, but is not limited to, the following:

1. Site excavation, grading, and compaction as required to achieve the lines and grades shown on the Contract Drawings

2. Other miscellaneous earthwork required to complete the Project

6.02 DEFINITIONS

A. Additional excavation: Excavation performed for the convenience, fault, or operation of the Contractor beyond specified or directed excavation lines.

6.03 QUALITY ASSURANCE

A. It is the responsibility of the Contractor to verify the accuracy of all survey information provided by the Contracting Agency prior to commencing excavations operations. Commencement of these operations constitutes acceptance of the survey information as appropriate to meet the intent of the Contract.

B. Transportation of known or potentially contaminated materials shall be performed by properly licensed, insured, and registered waste haulers that are acceptable to the Contracting Agency and in accordance with applicable local, state, and federal regulations for transportation. Transportation contractors shall submit documentation that demonstrates proper licensing and compliance with applicable Washington State Department of Transportation regulations, as well as a copy of contingency and spill control plans describing measures to be implemented in the event of spills or discharges during material handling and transporting.

C. The Contractor shall schedule a minimum of two inspection times for grading inspection of planting areas by the Contracting Officer. The first inspection shall occur when approximately one-third of the area is graded to elevations shown on the Contract Drawings. The second inspection shall occur when the grading is complete but before grading equipment has been removed from the Project site.

6.04 EXISTING CONDITIONS

A. In the event previously unknown chemical contamination is suspected or detected during excavation, the Contractor shall immediately notify the Contracting Agency.

B. All excavated soils shall be removed from the Project site and disposed of in accordance with the Contractor's approved Waste Management Plan. All soils from cleared and grubbed areas heavily infested with Himalayan blackberry or other weeds shall be removed from the Project site and shall be disposed of in accordance with the Contractor's approved Waste Management Plan.

C. No documentation regarding existing conditions, in addition to the current survey supplied on the Contract Drawings, is available. It is the Contractor's responsibility to be familiar with site conditions.

Suspect soils or materials, if encountered in place, shall be left in place until further direction is received from the Contracting Agency. If excavated, the suspect soils or materials shall be carefully segregated and kept in a separate, isolated stockpile that is fully protected against the elements (precipitation, surface water, and wind) until the Contracting Agency has determined appropriate handling and disposal options for the materials. "Suspect soils" are evidenced by one or more of the following:

1. Characteristics (waste drums, tanks, etc.)

2. Visual evidence (discoloration or staining of soil)

3. Odor

4. Development of oily sheen on water in contact with the soil

5. Position near or adjacent to discovered suspect debris, features, items, or structures

6.05 SUBMITTALS

A. The Contractor shall submit the following for approval by the Contracting Agency, as further specified in this section:

B. Earthwork Plan

1. Prior to commencing Work associated with the sections on Site Clearing, Vegetation Protection and Restoration, and Large Woody Material Habitat Features, the Contractor shall prepare and submit an Earthwork Plan for approval by the Contracting Agency. Approval of the plan by the Contracting Agency shall not relieve the Contractor of the responsibility for full compliance with the Contract Documents. The Earthwork Plan shall include, at a minimum, detailed descriptions of the following items:

a) Methods and equipment that will be used for excavation

b) Methods and equipment that will be used for grading to achieve finished grades and elevations

c) Methods and equipment that will be used for transport and hauling of excavated materials

d) Sequence and estimated duration of excavation activity, including anticipated cubic yards of excavated materials handled daily

e) Means by which limits and cut depths will be checked and verified by the Contractor

f) Means by which the Contractor shall ensure that temporary stockpiles shall be located and controlled, including isolation of stockpiled soil from the environment and preventing unfiltered runoff water from entering site waters

g) Means by which the Contractor shall ensure that sediment and soil stockpiles are protected from erosion, wind, and spillage

2. If the Earthwork Plan is judged unsatisfactory to the Contracting Agency, then it will be returned to the Contractor for amendment and resubmission. No physical work at the site shall be started until the Earthwork Plan is accepted.

CONTINUED ON SHEET C-14

PLAN INTENDED TO BE VIEWED IN COLOR. ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

SPECIFICATIONS (1 OF 2)

C-13

SHEET # 15 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 (PROP COND).dwg C-13
Aug 22, 2019 8:40am chewett

7 EXCAVATION AND FILL – EXECUTION

7.01 SUBMITTALS

A. The following submittals shall be provided and approved as required by the Project permits.

B. Temporary Erosion and Sediment Control (TESC) Plan

1. At the preconstruction conference, the Contractor shall be prepared to discuss TESC. Following the outcome of these discussions, the Certified Erosion and Sediment Control Lead (CESCL) shall prepare and submit a TESC Plan as indicated in Table 015713A, or unless agreed to otherwise at the preconstruction conference.

2. In Table 015713A, NTPD = Notice to Proceed Date.

3. Time allowed for TESC Plan submittal and Engineer review:

Table 015713A – TESC Plan Submittal and Engineer Review

TESC Plan Submittal	Comment
TESC Plan for all Work is due within 10 working days of NTPD	Allow 5 working days for Engineer review

4. Content of the TESC Plan:

a) The TESC Plan shall show, as it relates to the Contractor's Critical Path Schedule, the scheduling of installation, maintenance, phasing, and removal of erosion and sedimentation controls as they relate to the Work. Work areas to be addressed in this plan include as applicable:

1.) The Project site, identifying staging, storage, stockpiling, non-Work boundaries, and other construction-related areas

2.) Areas beyond the Project site

3.) Transportation facilities, including construction traffic routes and access/exit control areas on and off the Project site

4.) Environmentally critical areas within or near the Project site, such as geologic hazard areas, flood-prone areas, riparian corridors, wetlands, fish and wildlife habitat conservation areas, and abandoned landfills

5.) Inlets, catch basins, ditches, and channels whether dry or water filled, and other surface-drainage facilities

6.) Surface waters such as streams, lakes, and other bodies of water

7.) Areas of erodible soil not being worked that may be exposed that exceed 4,000 square feet, or may be unprotected or uncovered for more than 2 calendar days

5. Maintaining TESC Plan Current:

a) During the course of the Work, the Contractor and CESCL shall be prepared to discuss with the Engineer the status of TESC controls in progress as they relate to the Work, to the progress schedule, to permits, to Change Order, and as may be required in the Contract.

b) When revisions to the current TESC Plan are required by the Contracting Agency, the Contractor and CESCL shall be prepared to update the TESC Plan as discussed and shall submit the updated TESC Plan to the Contracting Agency within 5 working days unless the Contracting Agency agrees to other arrangements.

7.02 CLEARING AND GRUBBING

A. The Contractor shall clear vegetation within the excavation footprint prior to excavation, in accordance with the section on Site Clearing.

7.03 STRIPPING

A. The Contractor shall strip areas to remove topsoil prior to excavation, in accordance with the section on Site Clearing.

7.04 SITE EXCAVATION, GRADING, AND BACKFILL

A. Earthwork – General

1. The Contractor shall notify the Contracting Agency at least 48 hours prior to any excavation.

2. The Contractor shall provide survey control and stake grades at the Contracting Agency's request.

3. The Contractor shall excavate material encountered within the limits, lines, and grades specified on the Contract Drawings. The Contractor shall maintain side slopes of excavations so that they remain stable and free of sloughing soil.

4. The Contracting Officer reserves the right, during progress of Work, to vary slopes, grades, and dimensions of excavations from those specified on the Contract Drawings.

5. Excavation on slopes shall proceed downward, working from the top of slope to toe of slope. As the Work progresses, it is anticipated that some slope material will slough into the cut area. The Contractor shall remove this material and make a final pass with the excavator bucket along the sections' edges when the excavation is completed to help ensure that proper grades are achieved.

6. The Contractor shall not store any equipment within 5 horizontal feet of the upper edge of any excavation or further as deemed necessary for safety reasons. The Contractor shall locate and retain soil materials away from the edge of excavations and drip lines of trees to remain.

7. The Contracting Agency does not represent that excavation performed under these Specifications can be made to or maintained at pay lines shown on the Contract Drawings or described in these Specifications.

8. The Contractor shall not excavate in frozen material without the written approval of the Contracting Agency.

9. In performing the excavation, the Contractor shall pay particular attention to the conditions of issued permits and authorizations requiring the minimization of turbidity and siltation and adherence to water quality requirements.

10. Blasting is not allowed.

B. Over-excavation

1. Removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Contracting Agency is not authorized. Unauthorized excavation, as well as remedial work directed by the Contracting Agency, shall be at the Contractor's expense.

C. Grading – General

1. The Contractor shall rough grade areas within the limits of grading under this section. Roughen the finished surface within specified areas. Roughen the finished surface of habitat ponds and channels within specified tolerances; create non-uniform, curved slopes between contours where elevations are shown on the Contract Drawings, or between such points and existing grades.

7.05 DEBRIS

A. It is possible that the Contractor may encounter previously buried large debris that extends above or below the planned excavation grades. Depending upon the factors observed, including the type of the debris and its estimated size, the Contracting Officer may or may not require its removal. Removal volume of this previously buried debris (as opposed to surficial debris) may be treated as an Unforeseen Condition under this contract.

B. Such large debris shall be disposed of at an appropriate off-site location.

7.06 DISPOSAL OF EXCAVATED MATERIALS

A. Excavated material from required excavations shall be stockpiled on site above the ordinary high water line (OHWL) or distributed in locations approved by the Contracting Agency.

B. The location of any off-site disposal shall be approved by the Contracting Officer prior to excavation and disposal of material.

C. Waste areas for excavated materials shall be approved by the Contracting Officer.

D. The Contractor shall not waste material by dumping from the top of slope.

E. The Contractor shall grade waste banks to reasonably even and uniform surfaces that blend with the natural terrain.

1. Minimum slope: 2%

2. Maximum slope: 4 horizontal to 1 vertical (4H:1V)

F. The Contractor shall cover waste banks with topsoil and seed as approved by the Contracting Officer.

7.07 TEMPORARY STOCKPILES

A. The Contractor may elect to establish an area for temporary stockpiling of excavated soils, in preparation for their reuse as on-site fill or their transport from the Project site. The location of this area shall avoid any interference with ongoing traffic and activities at and around the Project site and shall be subject to the written approval of the Contracting Agency.

B. The Contractor shall not stockpile contaminated material on the Project site.

C. Stockpiles shall not be placed within 5 horizontal feet of the upper edge of any excavation. Stockpiles and stockpile areas shall be maintained in good condition and constructed of materials that are compatible with the material being stored.

D. The Contractor shall implement the provisions of the Temporary Erosion and Sediment Control Plan as necessary to prevent loss of stockpiled materials by such events as erosion, spillage, or wind. The Contractor shall also prevent loss of material during transfer of materials to and from the stockpile area from trucks or other selected excavation and hauling equipment.

E. Stockpiles shall be placed, graded, and shaped for proper drainage. Stockpiles shall be protected from wind and moisture with plastic sheeting, and sheeting shall be secured with sandbags or other approved material.

F. The Contractor shall not compact stockpiled material.

8 VEGETATION PROTECTION AND RESTORATION – GENERAL

8.01 SUMMARY

A. The Work described in this section includes administrative and procedural requirements for the protection of trees, shrubs, and plant material not designated for removal. Such trees, shrubs, and plant materials shall be left in place and protected from damage or injury by the Contractor during construction using full and adequate methods of protection.

9 VEGETATION PROTECTION AND RESTORATION – EXECUTION

9.01 PRESERVATION AND PROTECTION

A. The Contractor shall preserve natural landscape, and preserve and protect existing vegetation not required or otherwise authorized to be removed.

B. The Contractor shall conduct operations to prevent unnecessary destruction, scarring, or defacing of natural surroundings in the vicinity of the Work.

C. The Contractor shall move crews and equipment within the rights-of-way and over routes provided for access to the Work in a manner to prevent damage to grazing land, crops, or property.

D. The Contractor shall minimize, to the greatest extent practicable, clearings and cuts through vegetation. The Contractor shall irregularly shape authorized clearings and cuts to soften undesirable aesthetic impacts.

E. The Contractor shall not use trees for anchorages except in emergency cases or as approved by the Contracting Officer. For such use, wrap the trunk with a sufficient thickness of approved protective material before any rope, cable, or wire is placed.

9.02 PROTECTION WITHIN THE DRIPLINE

A. Where existing trees are within the area of Work or where existing trees outside the area of Work have driplines extending into the area of Work, the Contractor shall employ all methods to minimize adverse impact to these existing trees, including limbs and roots. The Contractor shall notify the Contracting Officer of any construction work within the dripline of trees at least 1 working day before the scheduled activity. These methods may include, but are not limited to, the following:

1. Temporary tie-up of low limbs

2. Application of a 4- to 6-inch-thick layer of mulch (or wood chips salvaged from clearing and grubbing operations) within the dripline of trees

3. Timber or steel planking for protection of surface roots from equipment

4. Tree root pruning or other tree root treatment as directed by the Contracting Officer

B. No storage of equipment or materials shall be allowed within the dripline of trees not designated for removal. Steel planking, or timber planking made of 4-inch-thick material, each plank covering a minimum of 8 square feet, shall be used to support backhoe and other equipment stabilizers when set within the dripline of a tree or sodded planting strip.

9.03 ABOVE-GRADE WORK

A. When the Contractor anticipates construction operations that will unavoidably affect tree limbs, the Contractor shall notify the Contracting Officer at least 5 working days in advance of commencing such operations.

1. Before trimming any trees, the Contractor shall notify the Contracting Officer of the proposed method and the amount of trimming required.

2. Trimming shall be done in accordance with National Arborist Association tree-pruning standards.

3. The Contractor shall use safety ropes where tree climbing is necessary; do not use climbing spurs.

9.04 TRENCHING AND TUNNELING WITHIN THE DRIPLINE

A. Excavation or tunneling of any kind within the "critical root zone," as defined by the tree dripline, will not be allowed unless the Contractor requests permission to do so at least 5 working days in advance and receives approval from the Contracting Officer.

B. Treatment of roots: excavation around roots 2 inches in diameter and greater requires handwork.

1. Individual tree roots 2 inches or greater in diameter shall not be cut but, rather, protected when within the dripline of the tree.

2. Tree roots smaller than 2 inches in diameter shall be cleanly cut flush with the edge of the trench or tunnel.

3. Ripping or tearing of tree roots will not be allowed.

9.05 REPAIR, REPLACEMENT, AND PAYMENT FOR DAMAGE

A. The Contractor shall restore construction roads to original contours and make impassable to vehicular traffic when no longer required.

B. The Contractor shall scarify and re-grade, after completion of Work, land used for construction purposes and not required for completed installation so that surfaces blend with natural terrain and are in a condition that will facilitate re-vegetation, provide proper drainage, and reduce erosion potential.

C. Trees that are damaged or injured beyond saving by Contractor operations, personnel, or equipment and are authorized to be cut down, as determined by the Contracting Officer, must remain on the floodplain where or near where they were felled. The Contractor shall replace removed tree or shrub with tree or shrub approved by the Contracting Officer.

D. The Contractor shall repair or treat injured vegetation without delay and as recommended by and under direction of an experienced horticulturist or licensed tree surgeon approved by the Contracting Officer.

E. Trees or other plant material not ordered or designated to be removed but that are destroyed or irreparably damaged by Contractor operations, as determined by the Contracting Officer, shall be repaired or replaced by the Contractor in accordance with the Contracting Officer's recommendations.

1. Replacements shall be of the same species and, as nearly as possible, of the same size as the trees to be replaced.

2. The Contractor shall allow 1 working day advance notice for inspection of nursery stock replacements by the Contracting Officer.

F. Payment

1. In addition to the Contractor's restoration approved by the Contracting Officer, the Contractor will be assessed damages for the difference in the dollar value of the damaged tree, shrub, or other plant material, and the dollar value of the replacement.

2. The dollar value will be determined by the Contracting Agency from the *Guide for Establishing Values of Trees and Other Plants* (current edition), prepared by the Council of Tree and Landscape Appraisers. Damages assessed will be deducted from moneys due or that may become due to the Contractor.

G. Planting of replacement stock shall be done in accordance with the requirements of the Contract Documents during the first fall or spring planting period, whichever comes first.

PLAN INTENDED TO BE VIEWED IN COLOR. ADJACENT BLOCK IS "BLUE"

ONE INCH
AT FULL SIZE, IF NOT ONE INCH SCALE ACCORDINGLY

DRAFT-NOT FOR CONSTRUCTION

ANCHOR QEA

REVISIONS

REV	DATE	BY	APP'D	DESCRIPTION

DESIGNED BY: A. BREW
DRAWN BY: C. HEWETT
CHECKED BY: T. DRURY
APPROVED BY: T. DRURY
SCALE: AS NOTED
DATE: JULY 2019

SOUTH FORK SKAGIT RIVER FLOODPLAIN RESTORATION

SPECIFICATIONS (2 OF 2)

C-14

SHEET # 16 OF 16

K:\Projects\0393-Skagit County Public Works Department\South Fork Skagit River\Construction Plans\0393-PL-002 [PROP COND].dwg C-14
Aug 22, 2019 8:40am chewett