



US Army Corps
of Engineers
Seattle District



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
Post Office Box 3755
Seattle, WA 98124-3755
Telephone: (206) 316-3166
ATTN: David Moore,
Project Manager

WA Department of Ecology
SEA Program
Post Office Box 47600
Olympia, WA 98504-7600
Telephone: (360) 407-6076
ATTN: SEA Program,
Federal Permit Coordinator

**Public Notice Date: November 20,
2019**
Expiration Date: December 20, 2019
Reference No.: NWS-2019-509
**Name: Yakima County Water
Resources (Shaw and Wide Hollow
Creeks Flood Control Project)**

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 November 1, 2019.

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 and with applicable provisions of State water pollution control laws.

APPLICANT: Yakima County Water Resources
Attention: Troy Havens
128 North Second Street, 4th Floor Courthouse
Yakima, Washington 98902
Troy.Havens@co.yakima.wa.us
Telephone: (509) 574-2300

AGENT: Widener & Associates
Attention: Ross Widener
1902 120th Place Southeast, Suite 202
Everett, Washington 98208
rwidener@prodigy.net
Telephone: (425) 332-3971

LOCATION: Yakima County near Yakima, Washington. Center coordinates are at 46.5848, -120.6306.

WORK: Relocate 8,600 linear feet (1.59 miles) of Shaw Creek by excavating a new 3,600 linear foot channel to connect to Wide Hollow Creek. Up to 20 cubic yards of fill will be placed over 240 square feet of Shaw Creek to direct flows into the new channel. To handle the additional flows from the new Shaw Creek channel, up to 6,050 linear feet of Wide Hollow Creek and associated wetlands will be impacted by excavating up to 7,200 cubic yards over 0.81 acres and two box culverts will be added to accommodate increased flows by excavating up to 700 cubic

NWS-2019-509, Shaw and Wide Hollow Creeks Flood Control Project

yards over 7,300 square feet (0.16 acres) in Wide Hollow Creek. Up to 1.5 acres of palustrine emergent and forested wetlands will be permanently impacted by dredging Wide Hollow Creek and through the placement of fill in Shaw Creek and up to 0.96 acres of palustrine emergent and forested wetlands will be indirectly impacted through the elimination of flow from re-channeling Shaw Creek. As a result of the new channel, Shaw Creek will be reduced in length by 1.27 miles.

PURPOSE: Reduce residential and infrastructure flooding in the Shaw and Wide Hollow Creek basins.

Dredged Material Testing: Prior to completing our review, the proposed dredged material will be evaluated according to the procedures specified by the Dredged Material Management Program (DMMP). The DMMP evaluation may include both chemical and biological testing of sediments. For this project, the DMMP agencies will determine whether the dredged material is must be disposed of at an upland location. If required, the sediment testing data will be available at the Corps, Seattle District, Dredged Material Management Office.

Disposal Site Use Conditions: The following standard site-use conditions will be specified by the Corps and the Washington Department of Natural Resources as part of the Federal/State permitting processes if a permit is issued: (1) disposal operations must not interfere with Indian treaty fishing at the disposal site, including gill nets and other fishing gear; (2) the permittee must coordinate any nighttime disposal with the Corps, Seattle District, Regulatory Branch Project Manager; and (3) approval must be received from the District Engineer prior to conducting nighttime disposal. Other appropriate special conditions may be added as a result of comments received during the public review period for this public notice.

MITIGATION: The applicant is developing a compensatory mitigation plan for stream and wetland impacts as well as impacts to buffers.

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 Federal Emergency Management Agency (FEMA), as the lead agency for ESA consultation, will consult with the NMFS and/or the USFWS as required under Section 7 of the ESA. They have determined that the project is not likely to adversely affect proposed and/or listed species and their designated critical habitat. Concurrence was issued on July 17, 2015.

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 FEMA, as the lead agency for a determination regarding EFH, will consult with the National Marine Fisheries Services if necessary. They have determined that the project will not adversely affect EFH species.

CULTURAL RESOURCES: The FEMA, as the lead agency for determining compliance with Section 106 of the National Historic Preservation Act, will consult with the State Historic Preservation Officer and Native American Tribes 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

NWS-2019-509, Shaw and Wide Hollow Creeks Flood Control Project

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 United States.

SOURCE OF FILL MATERIAL: The source of the fill material will be the material that is excavated (backfill) for the new channel.

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.

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 authorizing the work would not be contrary to the public interest. 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 commenter'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 david.j.moore@usace.army.mil. Conventional mail comments should be sent to: U.S. Army Corps of Engineers, Regulatory Branch, Attention: David Moore, 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: Federal Permit Coordinator, Post Office Box 47600, Olympia, Washington 98504-7600, or e-mail to ecyrefedpermits@ecy.wa.gov.

NWS-2019-509, Shaw and Wide Hollow Creeks Flood Control Project

To ensure proper consideration of all comments, responders must include the following name and reference number in the text of their comments: [Yakima County Water Resources; NWS-2019-509]

Encl: Figures (28)

SHAW CREEK RELOCATION AND RESTORATION PROJECT

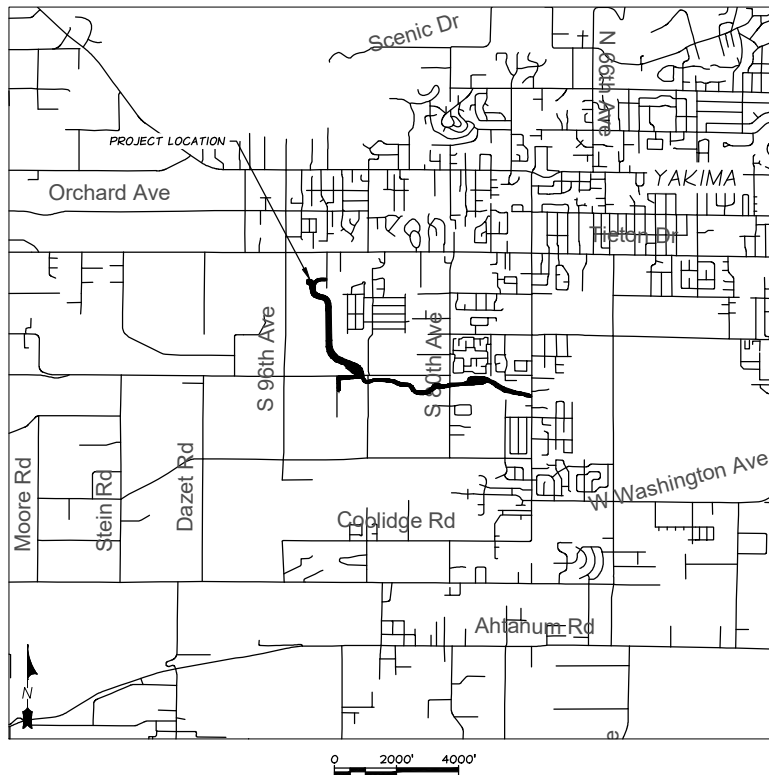
IMPROVEMENT PLANS FOR PERMITTING PURPOSES ONLY

FC-3301

NWS-2019-509
1 November 2019
1/28

Center coordinates:
46.5848, -120.6306

VICINITY MAP



INDEX

Sheet Number	Sheet Title
G-1	COVER SHEET, VICINITY MAP, AND INDEX
G-2	SHEET LAYOUT PLAN
C-1	ACCESS ROAD ENTRANCE PLAN
C-2	PLAN AND PROFILE 1
C-3	PLAN AND PROFILE 2
C-4	PLAN AND PROFILE 3
C-5	PLAN AND PROFILE 4
C-6	PLAN AND PROFILE 5
C-7	PLAN AND PROFILE 6
C-8	PLAN AND PROFILE 7
C-9	PLAN AND PROFILE 8
C-10	PLAN AND PROFILE 9
C-11	PLAN AND PROFILE 10
C-12	PLAN AND PROFILE 11
C-13	PLAN AND PROFILE 12
C-14	PLAN AND PROFILE 13
C-15	PLAN AND PROFILE 14
C-16	PLAN AND PROFILE 15
C-17	PLAN AND PROFILE 16
C-18	PLAN AND PROFILE 17
C-19	PLAN AND PROFILE 18
C-20	WHI EAST - PLAN VIEW 1
C-21	WHI EAST - PLAN VIEW 2 & 3
C-22	WHI EAST - PLAN VIEW 4, PROFILES & SECTIONS
C-23	WHI EAST - PLAN VIEW 5, PROFILES & SECTIONS
C-XX	TYPICAL CHANNEL SECTIONS
P-1	TYPICAL PLANTING SECTIONS
P-2	PLANTING KEY AND DETAILS



SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

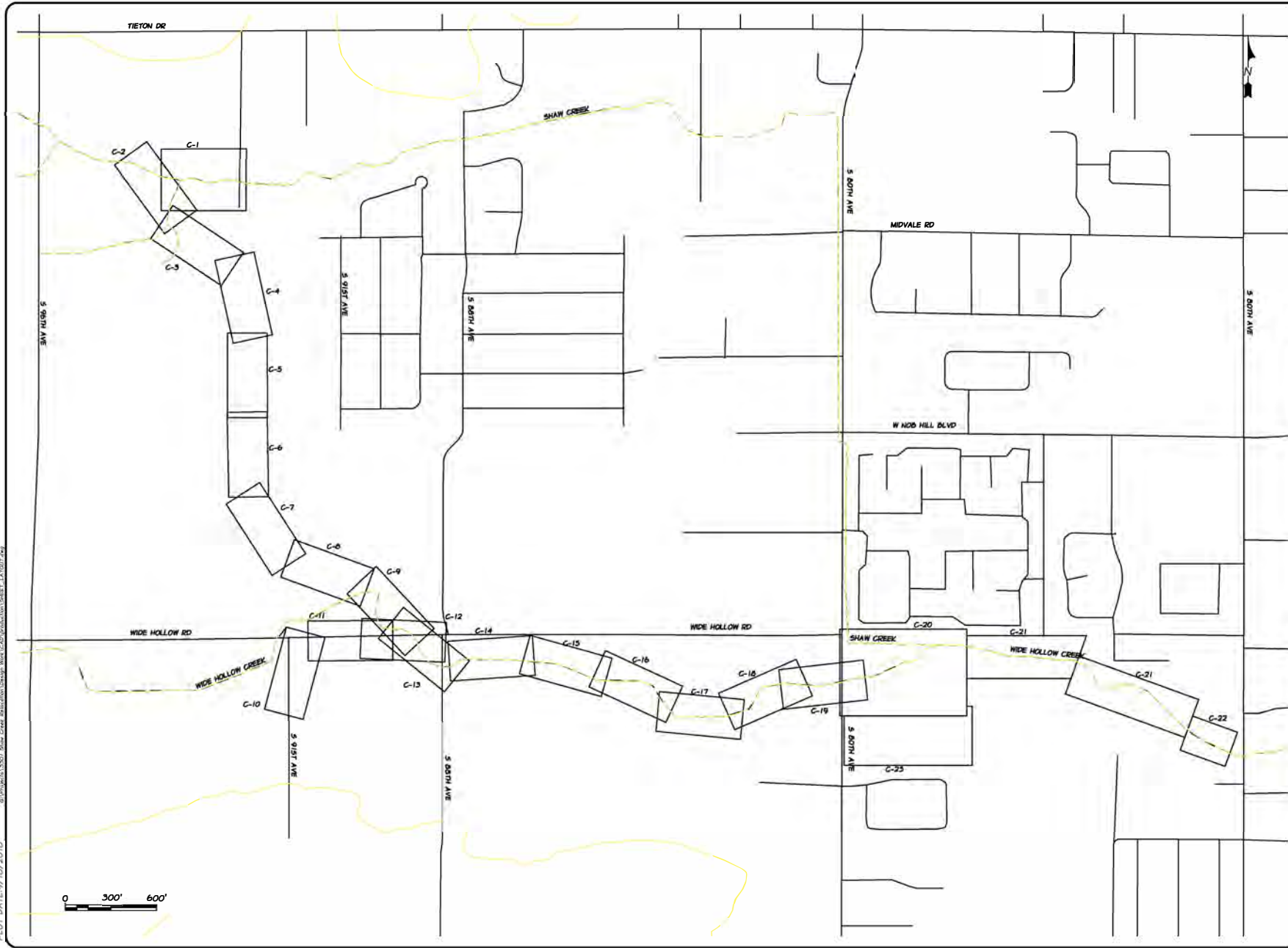
PROJECT ENGINEER:

TBH	
DRAWN: TBH	CHECKED BY: ----
LAST MODIFIED DATE: 2-12-2018	
REVISIONS:	

COVER SHEET
VICINITY MAP
AND INDEX

G-1

SHEET 1 OF ##



**SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT**

FC-3301

**PREPARED UNDER
THE DIRECTION OF:**

PRELIMINARY DRAFT

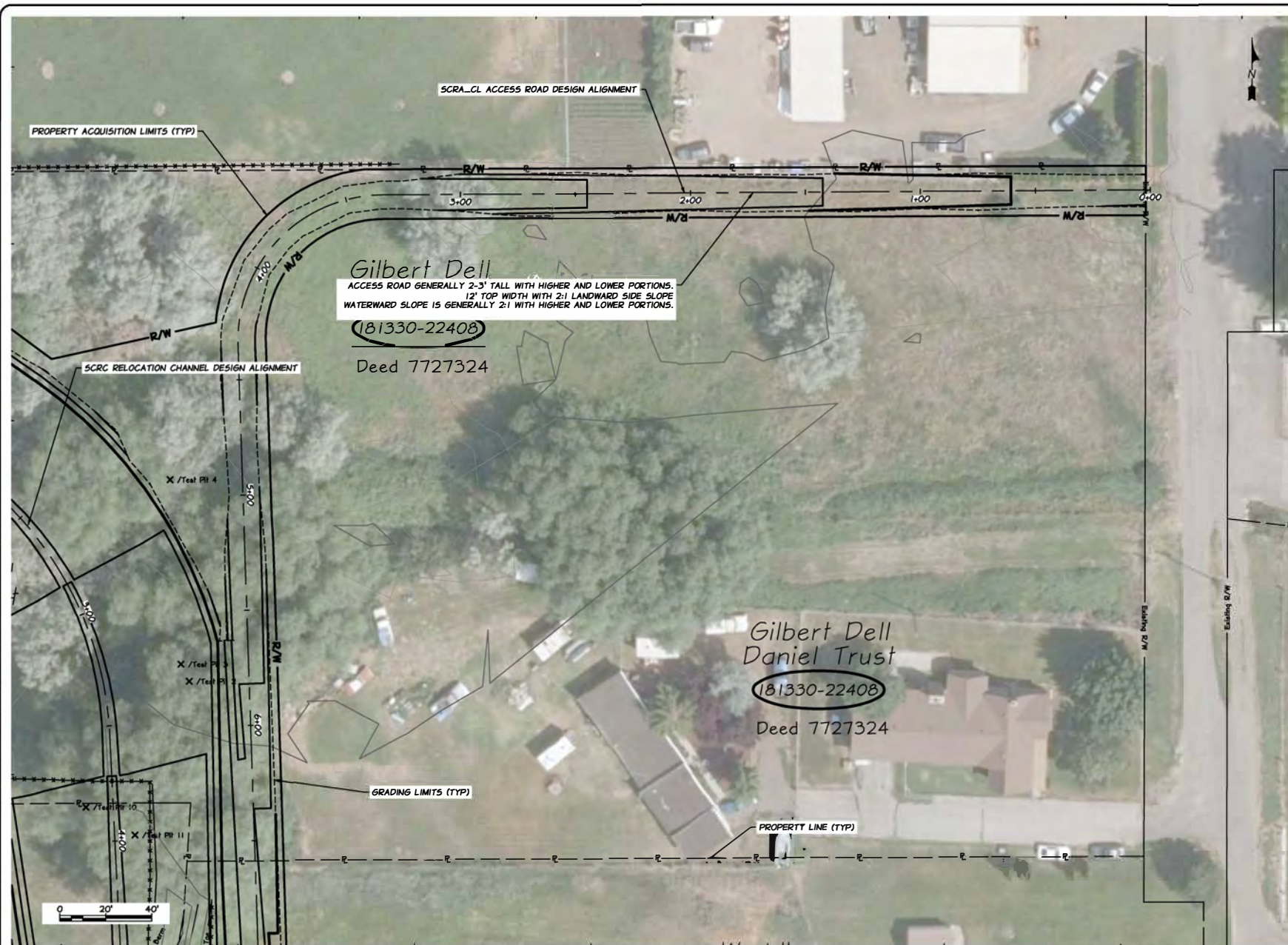
**COUNTY ENGINEER
DATE:**

PROJECT ENGINEER: TBH	
DRAWN: TBH	CHECKED BY:
LAST MODIFIED DATE: 2-12-2018	
REVISIONS:	

SHEET LAYOUT PLAN

G-2
SHEET 2 OF ##

PLOT DATE: 9/18/2018





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE

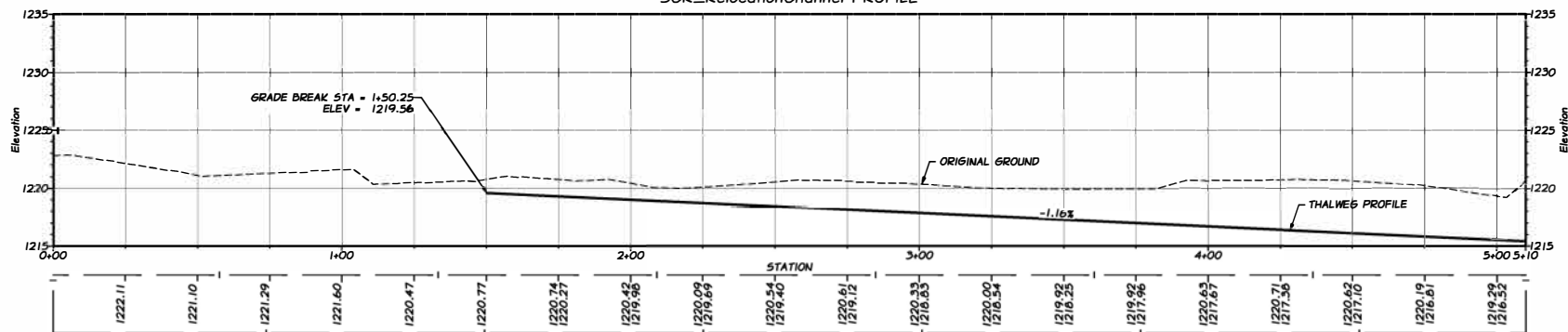
1

C-2

SHEET 4 OF ##



SCR_RelocationChannel PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

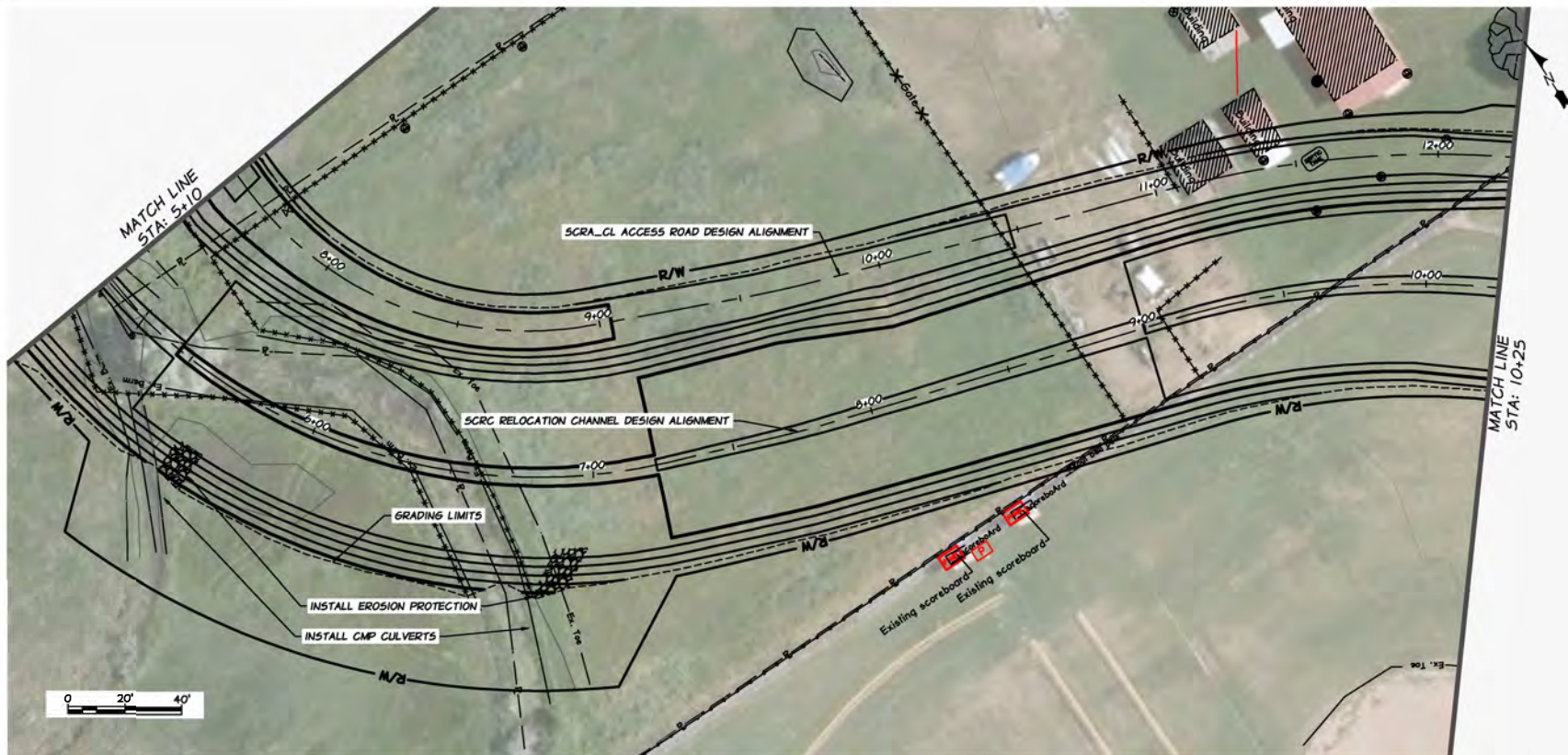
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

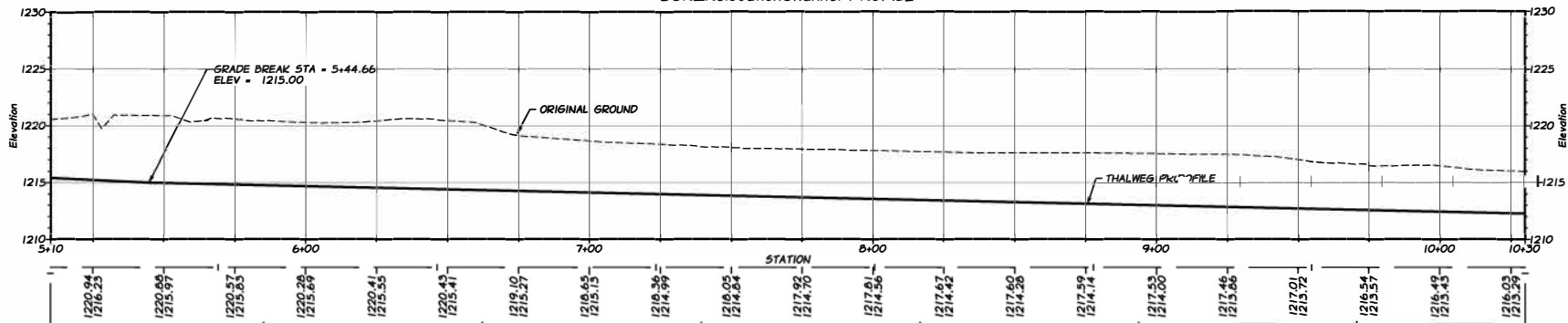
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE
2

C-3
SHEET ## OF ##



SCR_RelocationChannel PROFILE





**SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT**

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

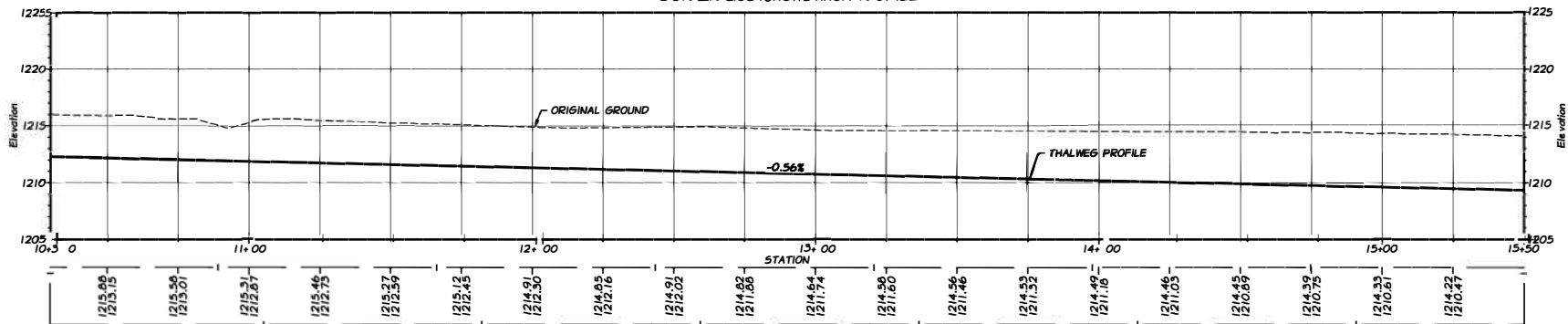
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE
3

C-4
SHEET 4 OF #



SCR _R dca tionCha nnel PR OFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

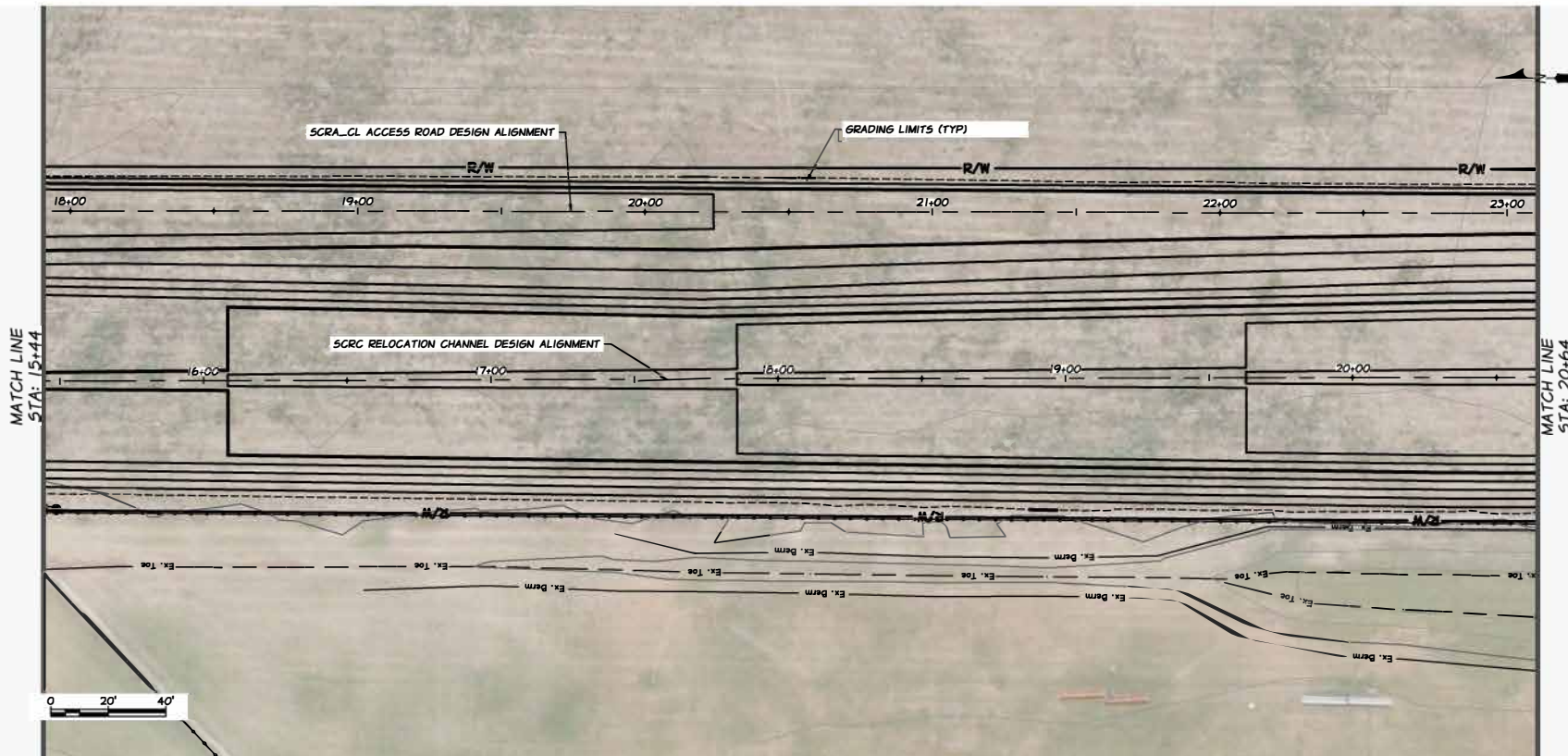
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE

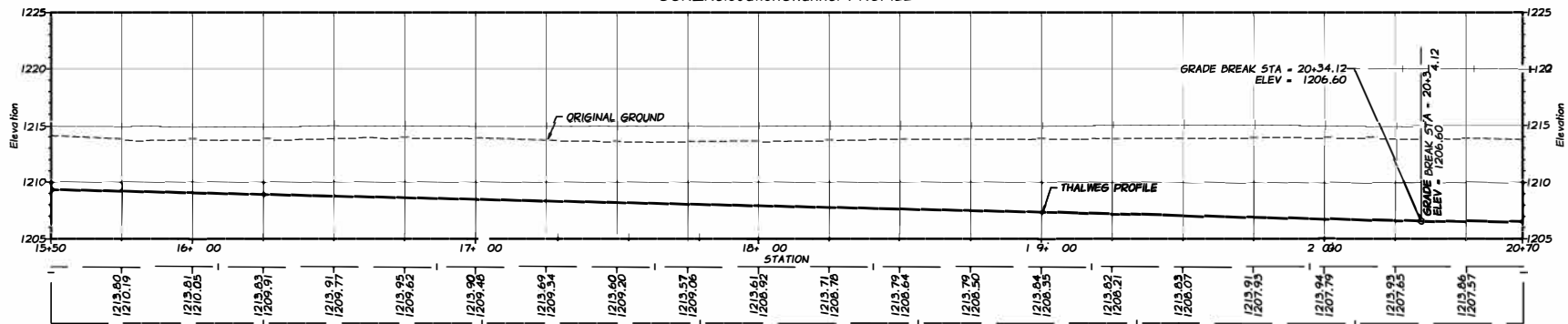
4

C-4

SHEET ## OF ##



SCR_RelocationChannel PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

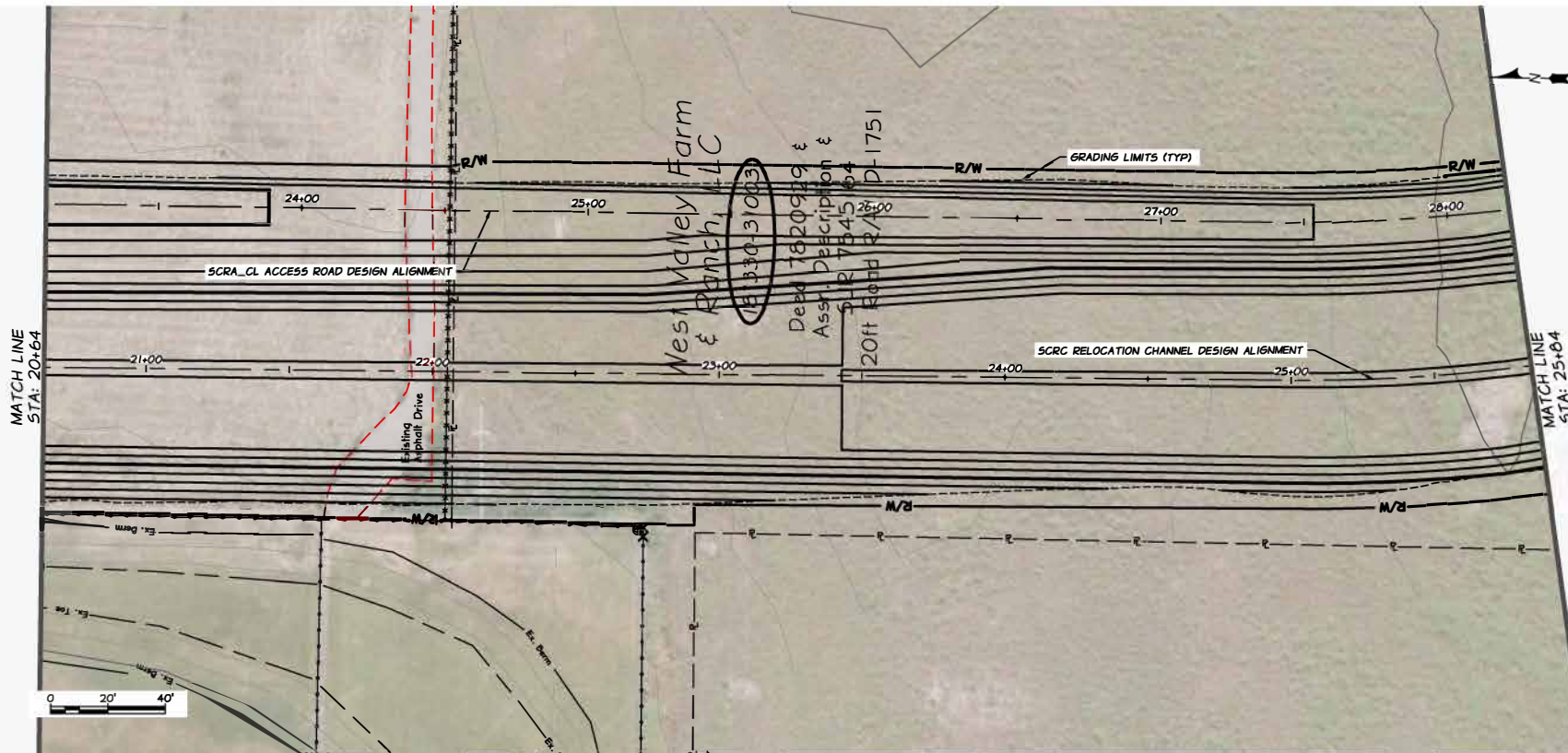
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE:	----
REVISIONS:	

PLAN AND PROFILE

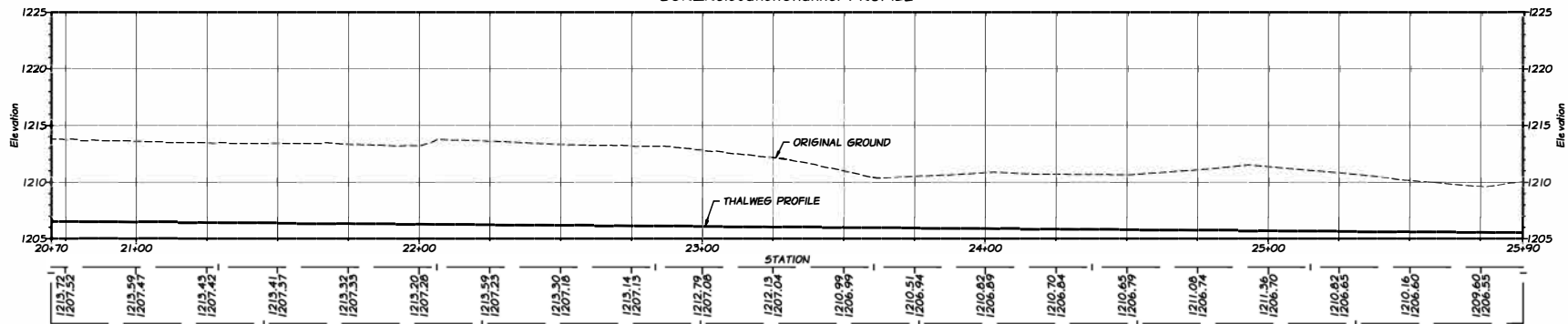
5

C-6

SHEET ## OF ##



SCR_RelocationChannel PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

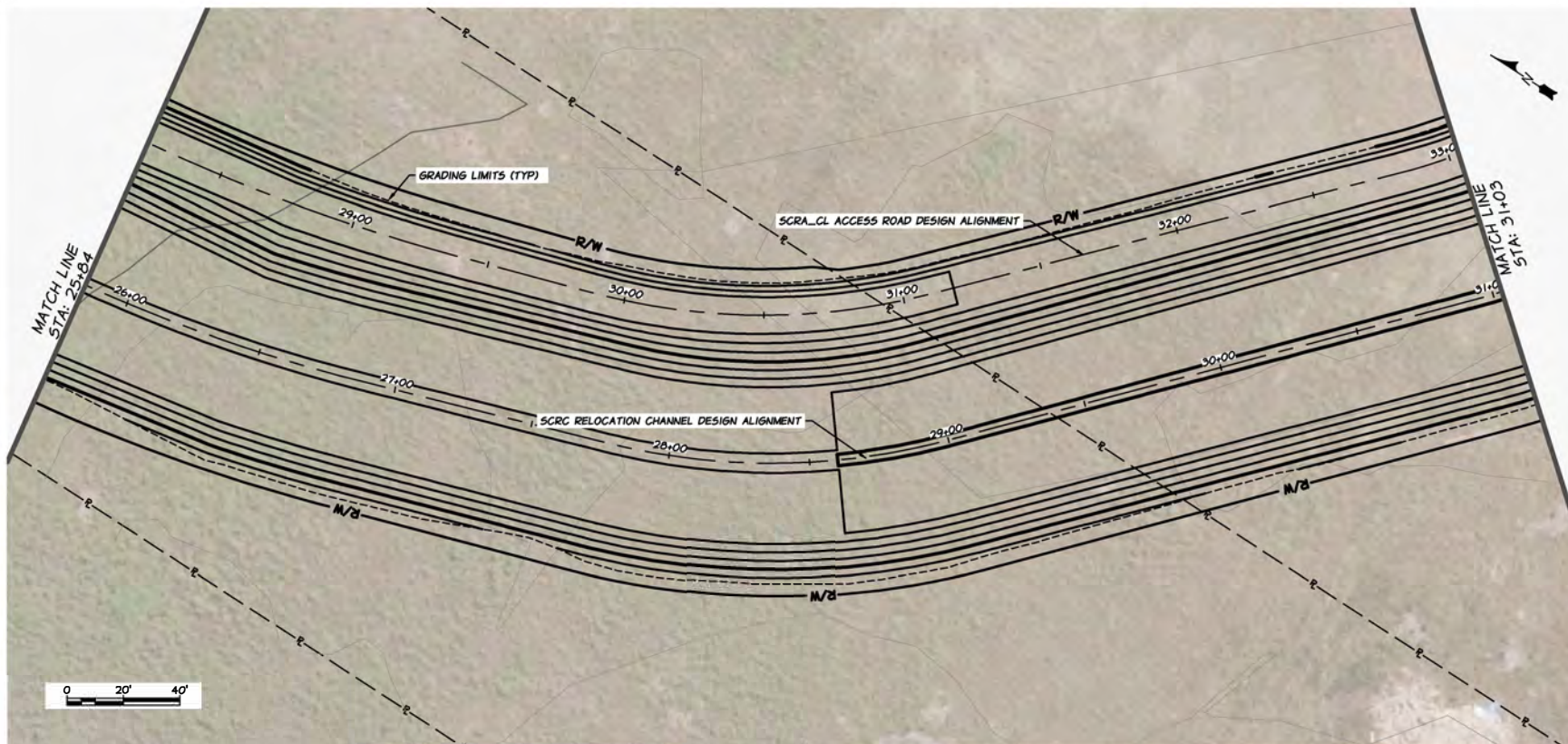
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

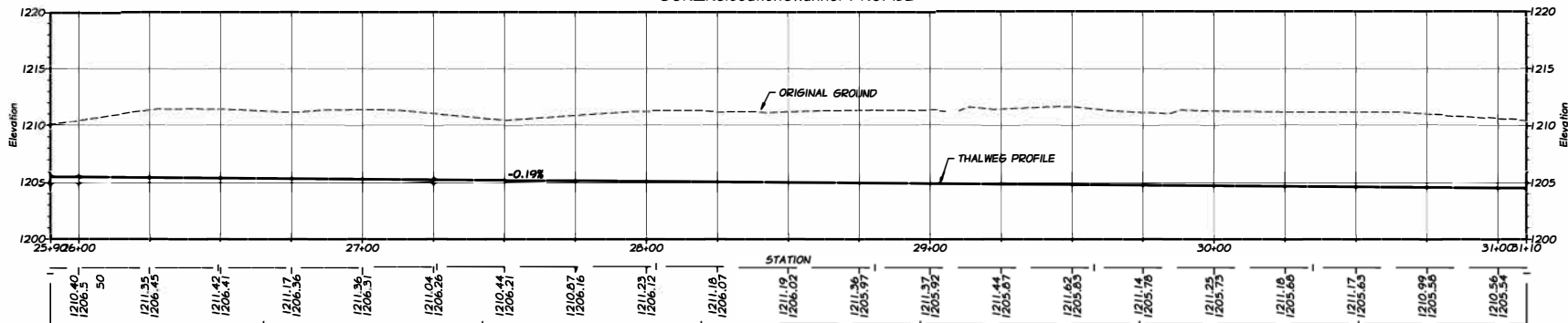
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE
6

C-XX
SHEET ## OF ##



SCR_RelocationChannel PROFILE





**SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT**

FC-3301

**PREPARED UNDER
THE DIRECTION OF:**

PRELIMINARY DRAFT

**COUNTY ENGINEER
DATE:**

PROJECT ENGINEER:
TBH

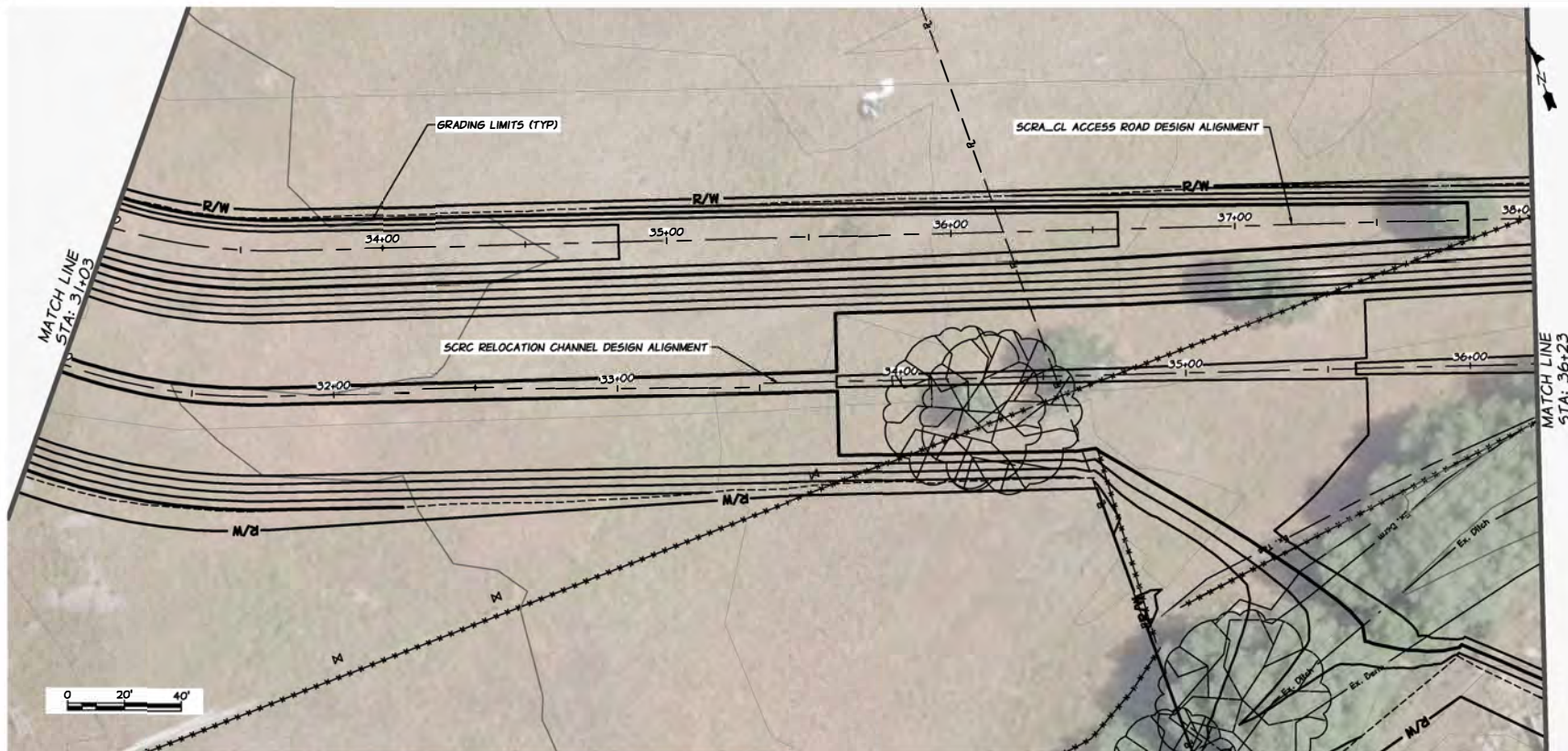
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE

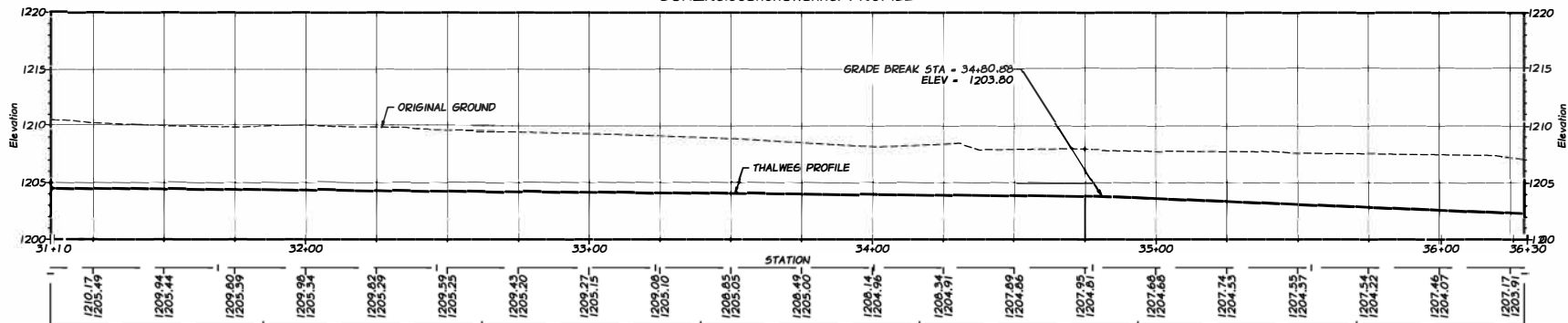
7

C-8

SHEET ## OF ##



SCR_RelocationChannel PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

DRAWN: XXX CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017

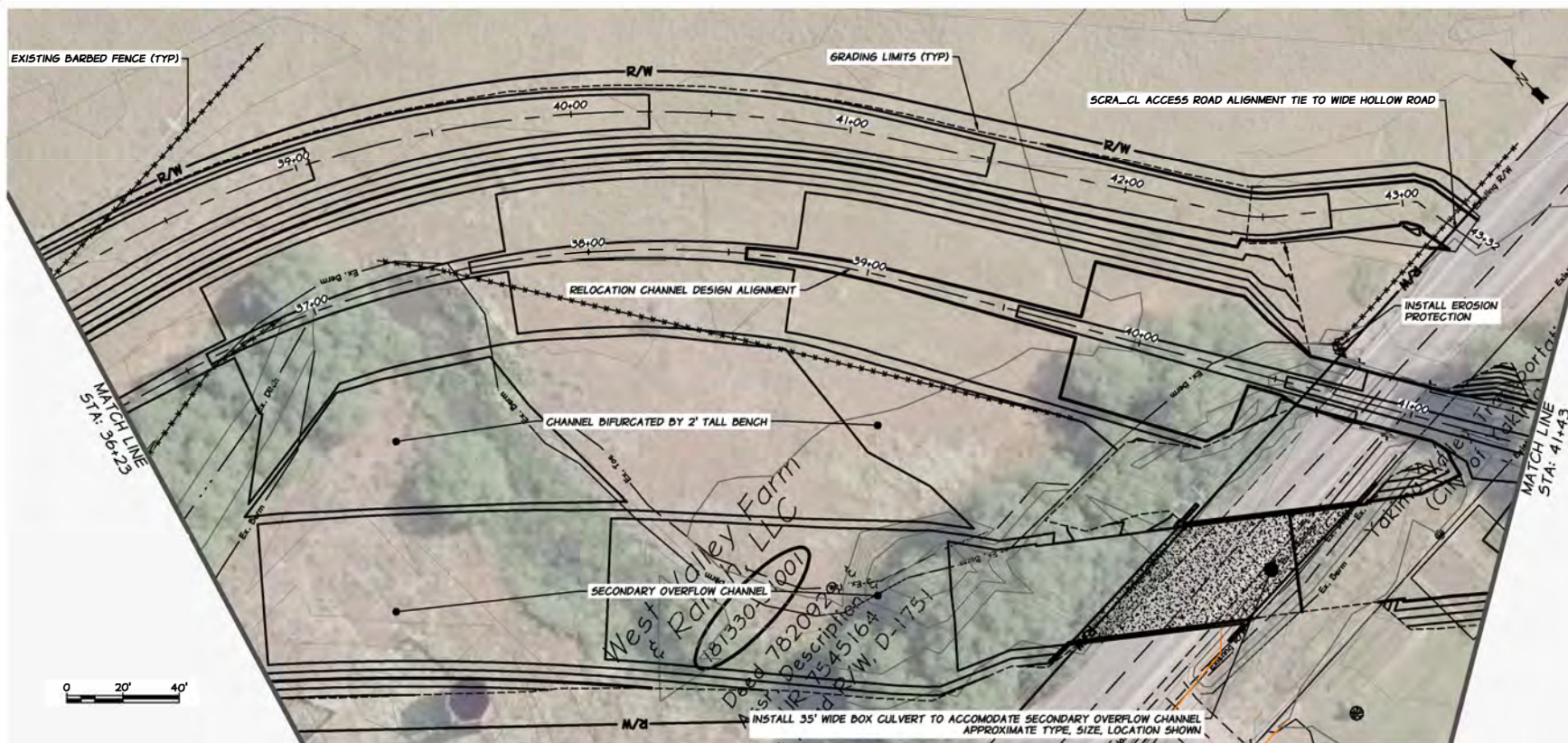
REVISIONS:

PLAN AND PROFILE

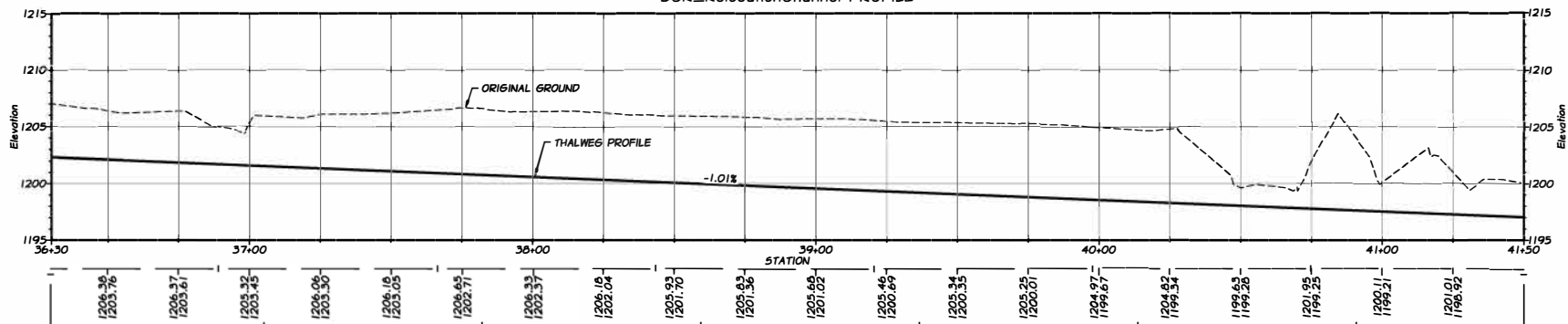
8

C-9

SHEET 10 OF ##



SCR_RelocationChannel PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

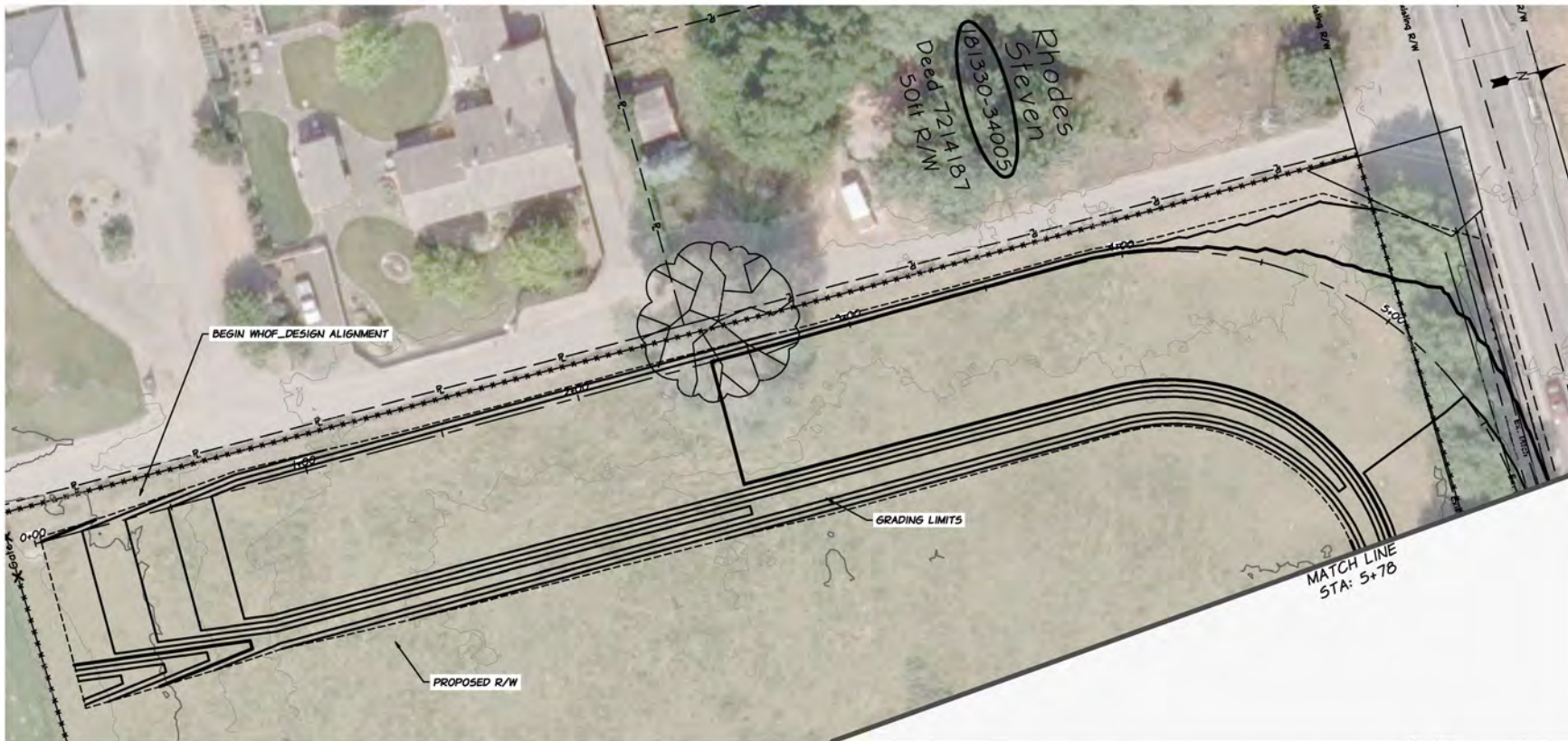
DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017	
REVISIONS:	

PLAN AND PROFILE

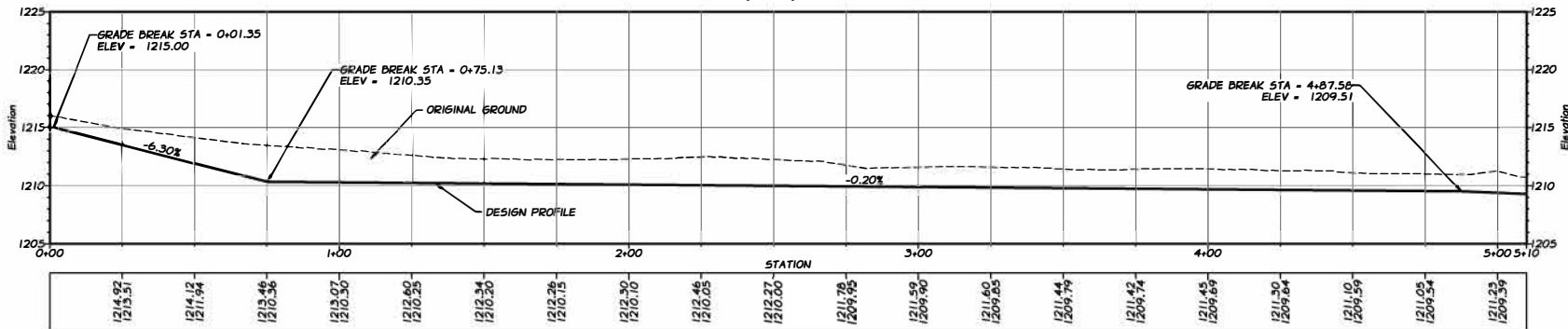
9

C-10

SHEET ## OF ##



WHOF_Design Alignment PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

DRAWN: XXX CHECKED BY: XXX
LAST MODIFIED DATE: 7-11-2017

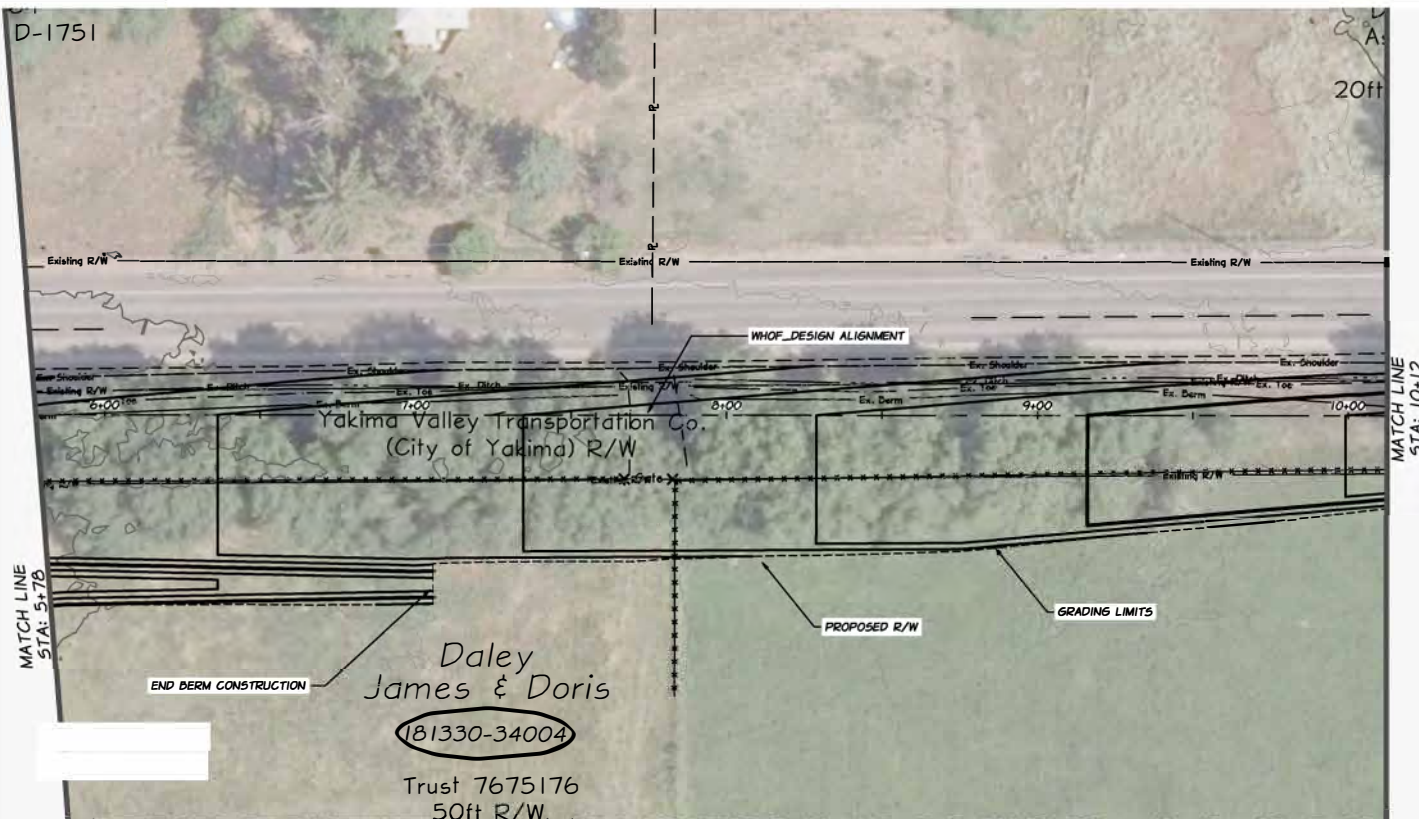
REVISIONS:

PLAN AND PROFILE
10

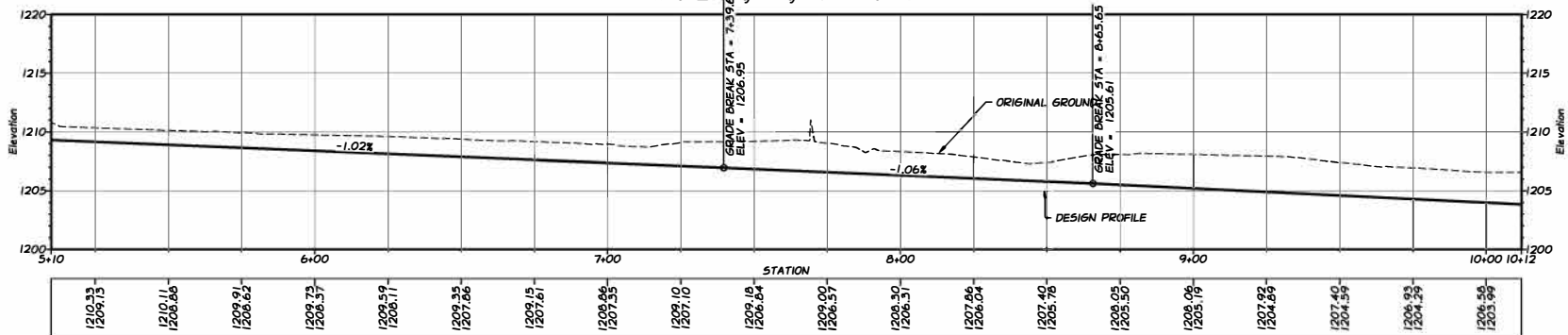
C-11
SHEET ## OF ##

D-1751

20ft



WHOF_Design Alignment PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

DRAWN: XXXX CHECKED BY: XXXX
LAST MODIFIED DATE: 7-11-2017
REVISIONS:

PLAN AND PROFILE

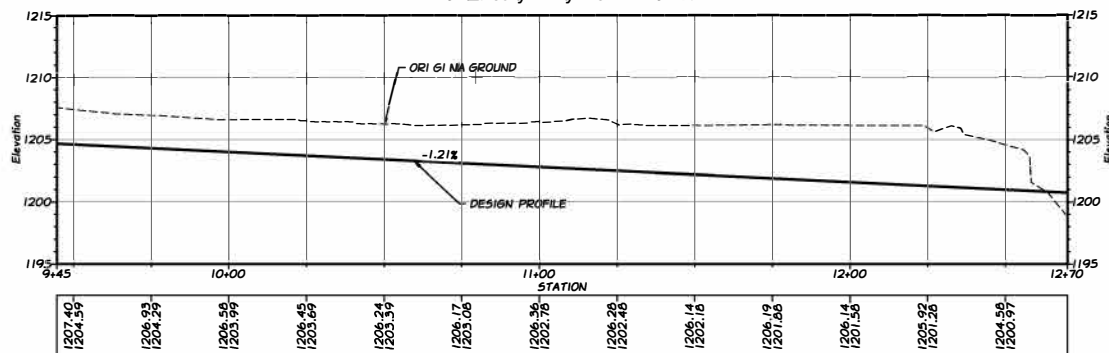
11

C-12

SHEET ## OF ##



WHOF_Design Alignment PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

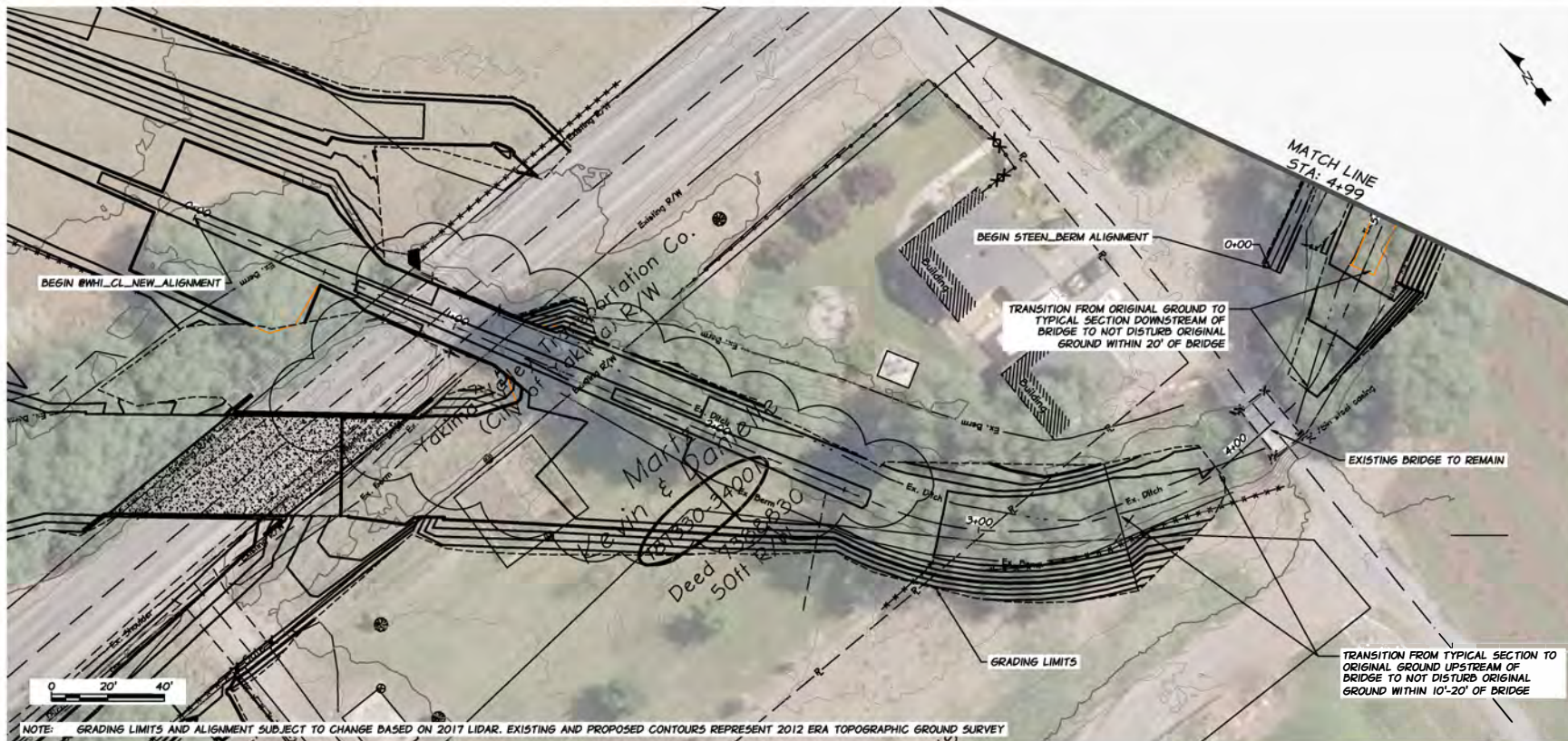
PROJECT ENGINEER:
TBH

DRAWN: TBH
CHECKED BY: XXX
LAST MODIFIED DATE: 8-18-2017

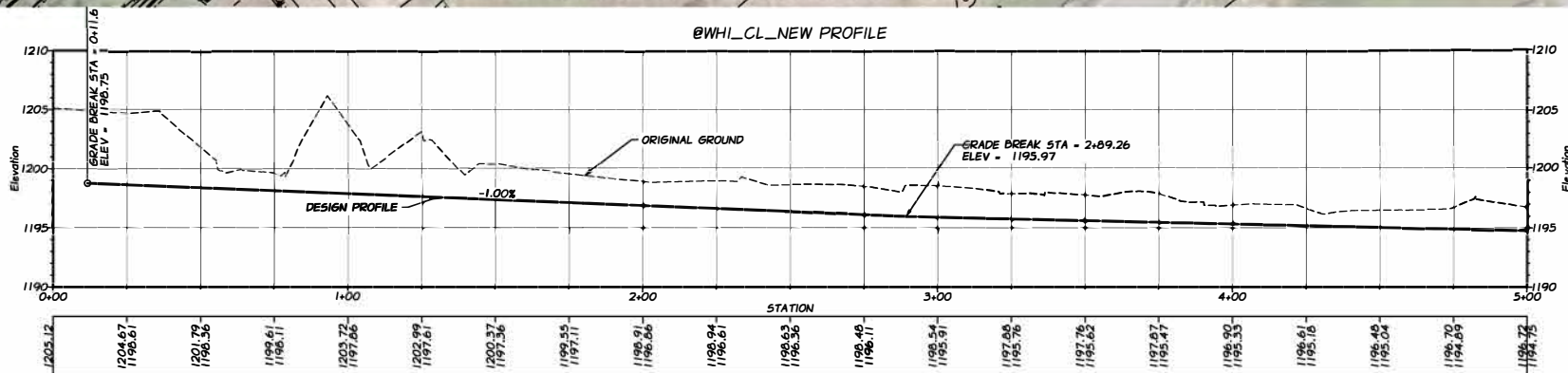
REVISIONS:

PLAN AND PROFILE
12

C-13
SHEET 15 OF ##



@BWHI_CL_NEW PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

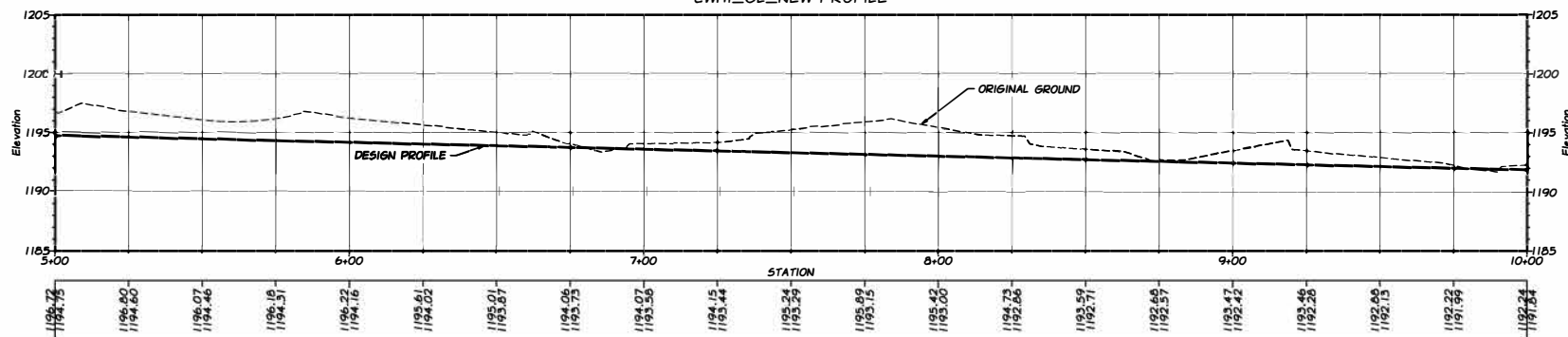
DRAWN: TBH
CHECKED BY: XXX
LAST MODIFIED DATE: 8-18-2017
REVISIONS:

PLAN AND PROFILE
13

C-14
SHEET 16 OF ##



BWHI_CL_NEW PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

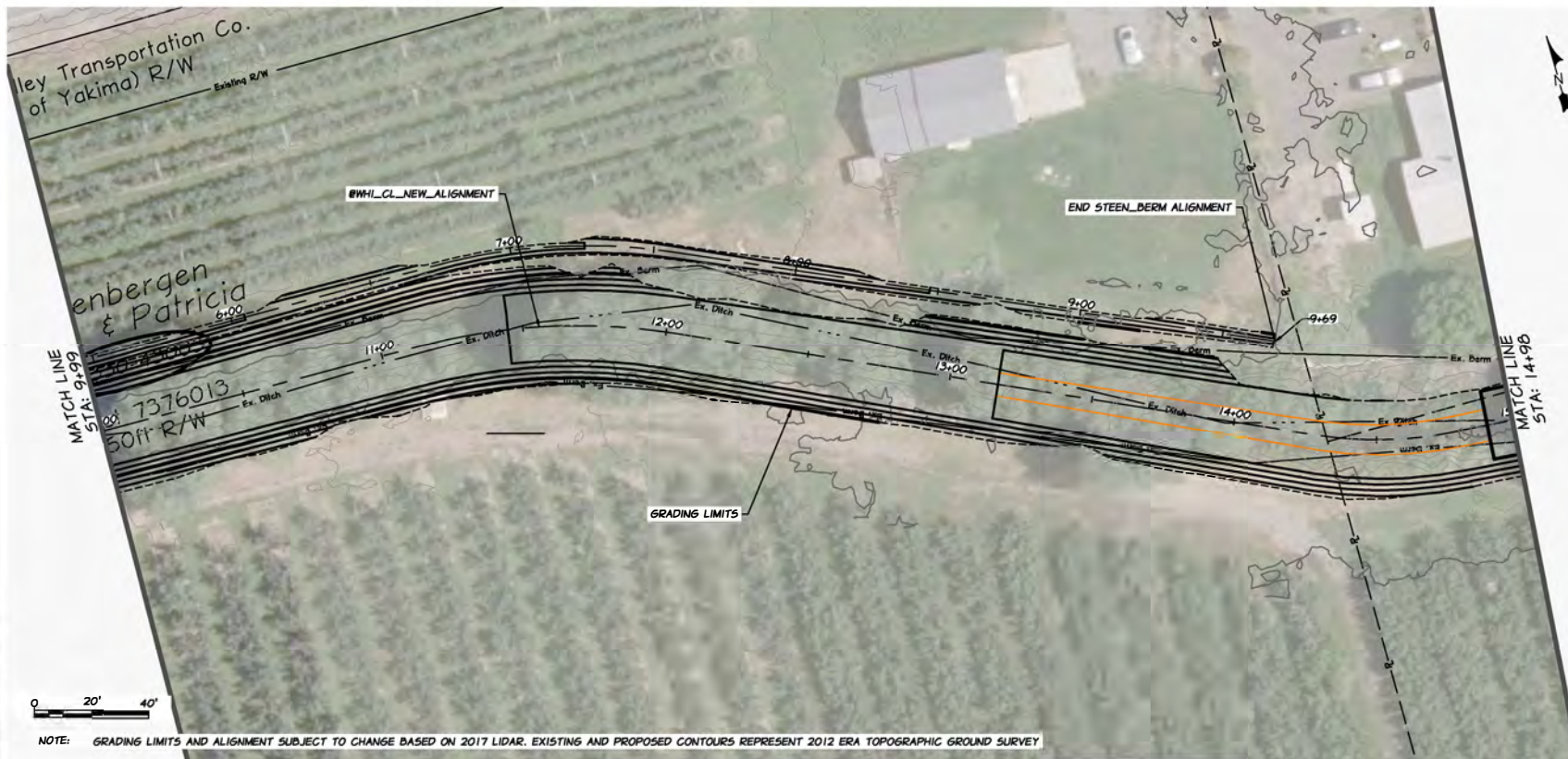
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

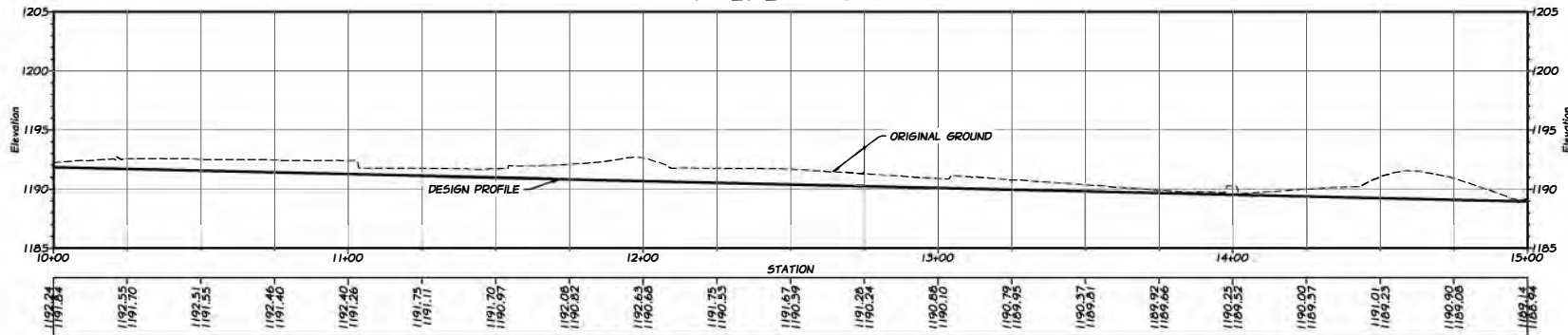
DRAWN: TBH CHECKED BY: XXX
LAST MODIFIED DATE: 8-18-2017
REVISIONS:

PLAN AND PROFILE
14

C-15
SHEET 17 OF ##



BWHI_CL_NEW PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

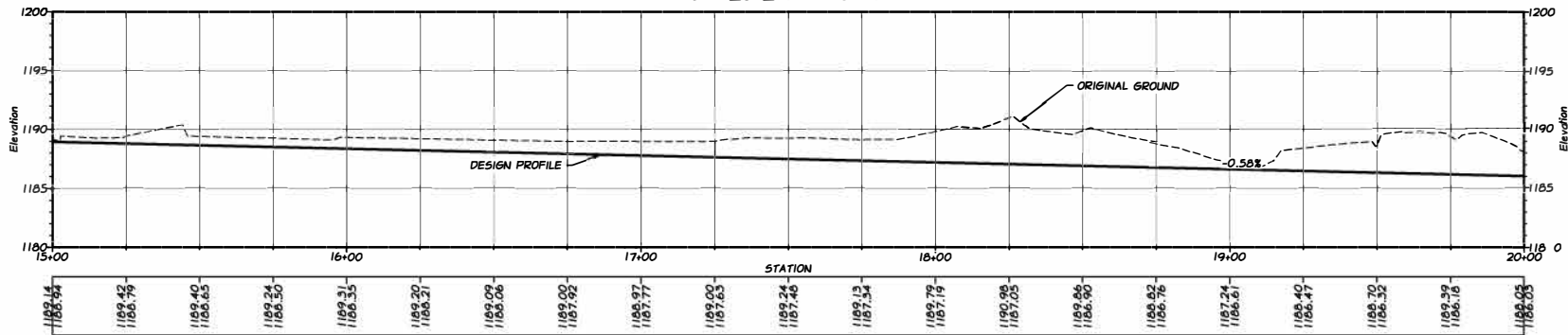
DRAWN: TBH
CHECKED BY: XXX
LAST MODIFIED DATE: 8-18-2017
REVISIONS:

PLAN AND PROFILE
15

C-16
SHEET 18 OF ##



BWHI_CL_NEW PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

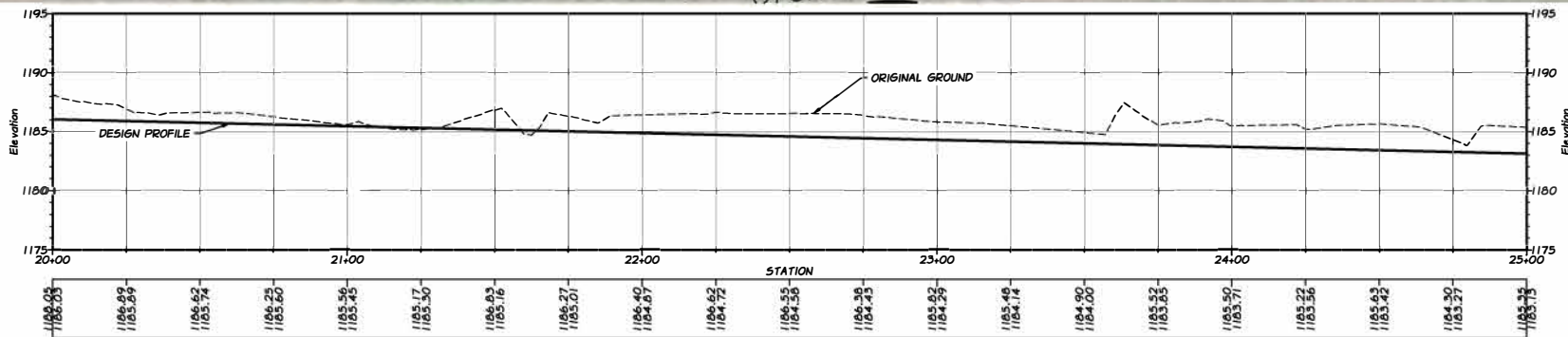
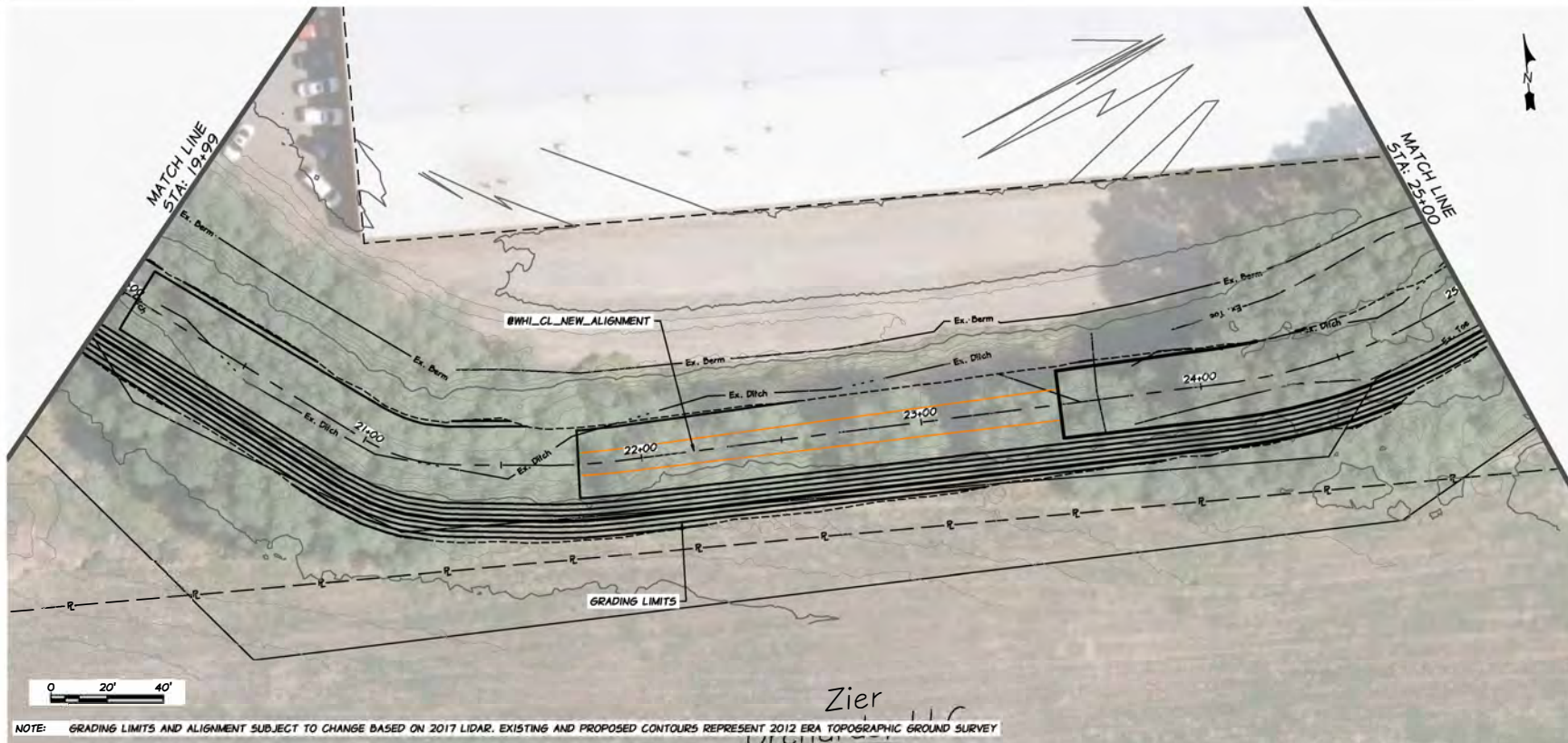
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

DRAWN: TBH
CHECKED BY: XXX
LAST MODIFIED DATE: 8-18-2017
REVISIONS:

PLAN AND PROFILE
16

C-17
SHEET 19 OF ##





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

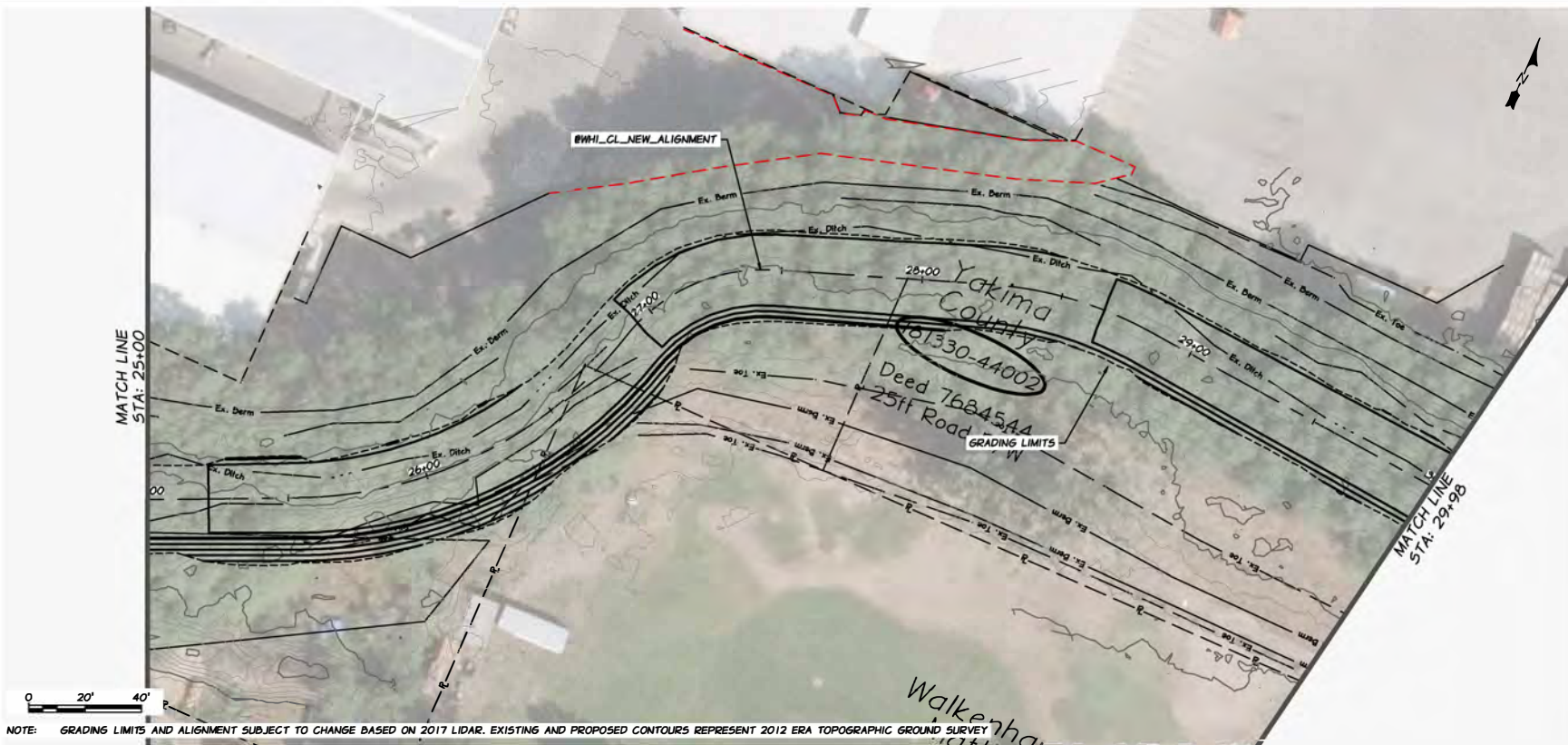
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

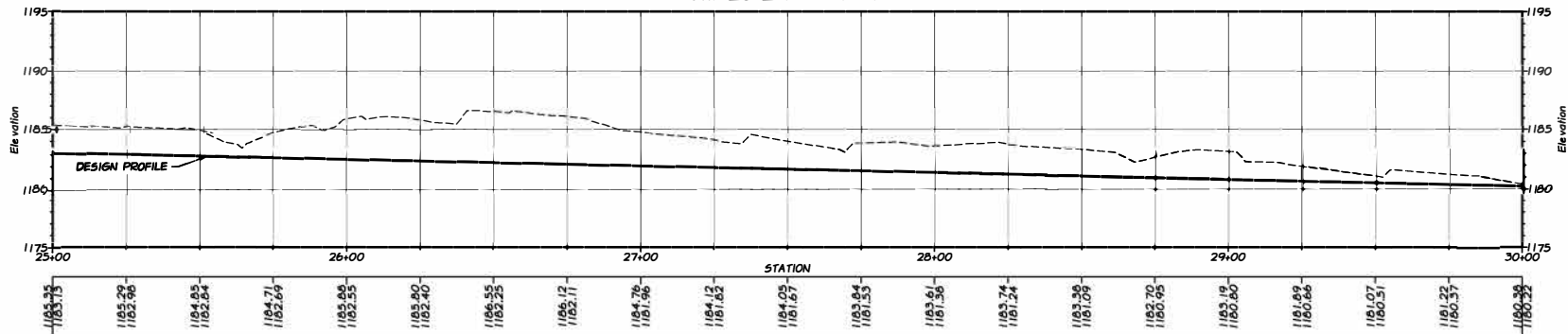
DRAWN: TBH
CHECKED BY: XXX
LAST MODIFIED DATE: 8-18-2017
REVISIONS:

PLAN AND PROFILE
17

C-18
SHEET 20 OF ##



@WHI_CL_NEW PROFILE





**SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT**

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

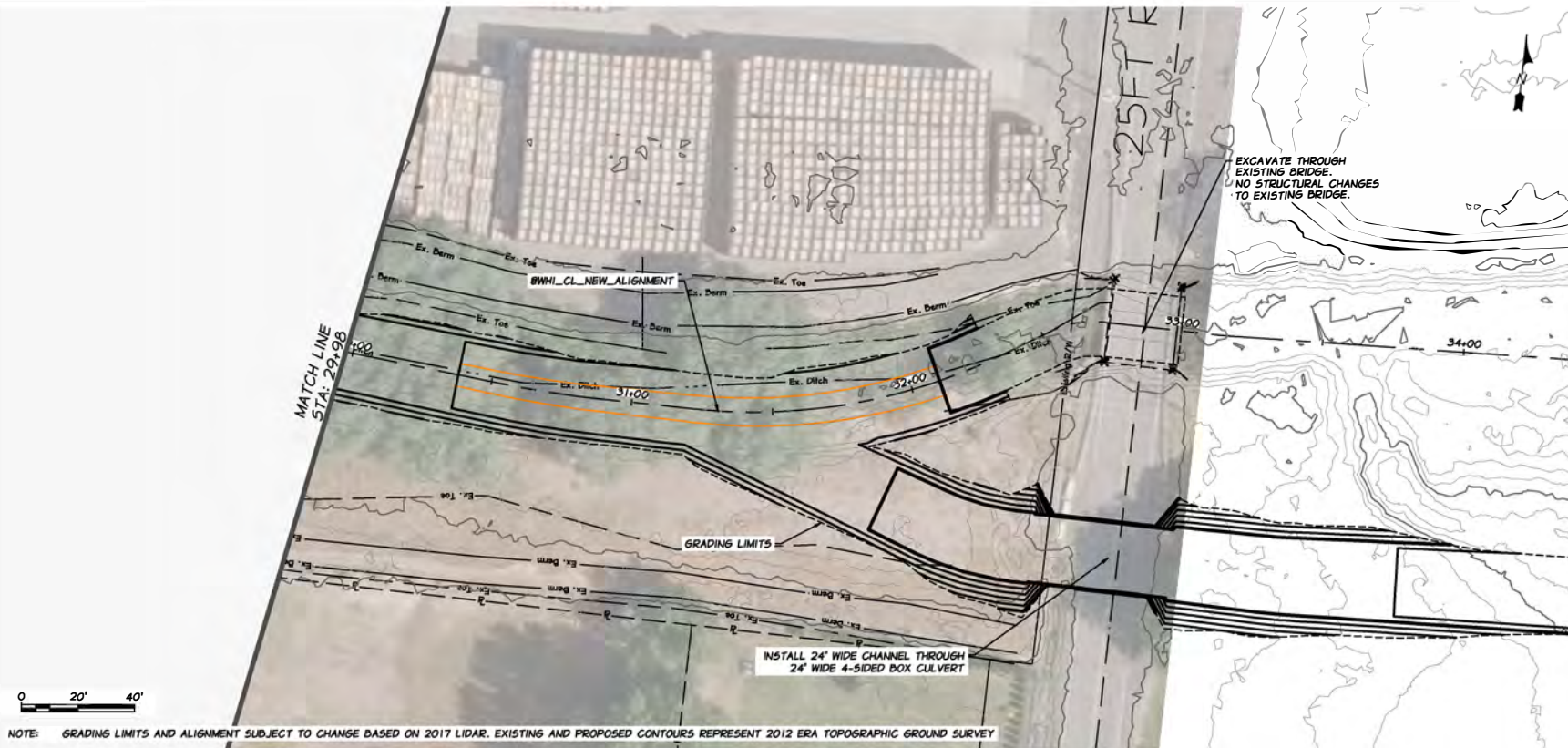
DRAWN: TBH CHECKED BY: XXX

LAST MODIFIED DATE: 8-18-2017

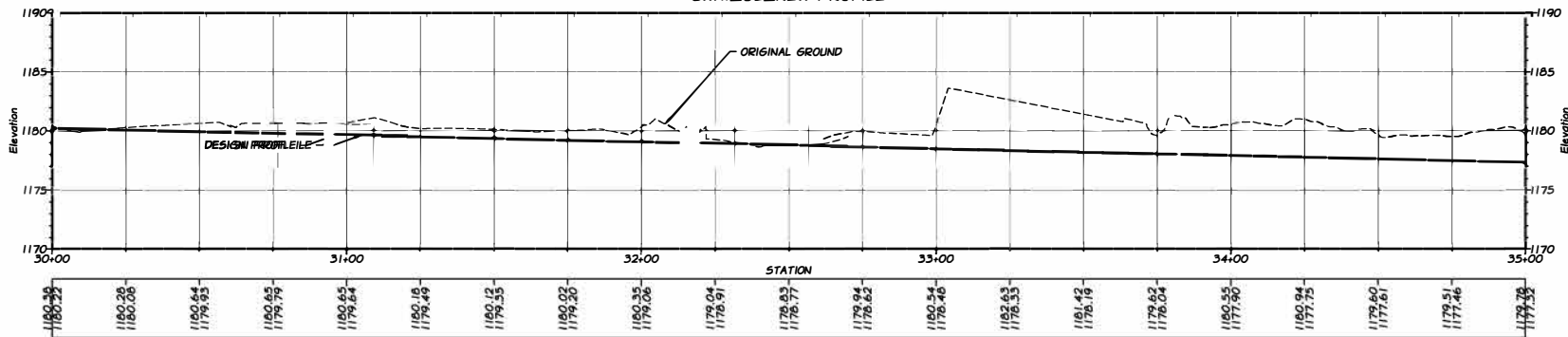
REVISIONS:

PLAN AND PROFILE
18

C-19
SHEET 21 OF ##



@WHI_CL_NEW PROFILE





**SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT**

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

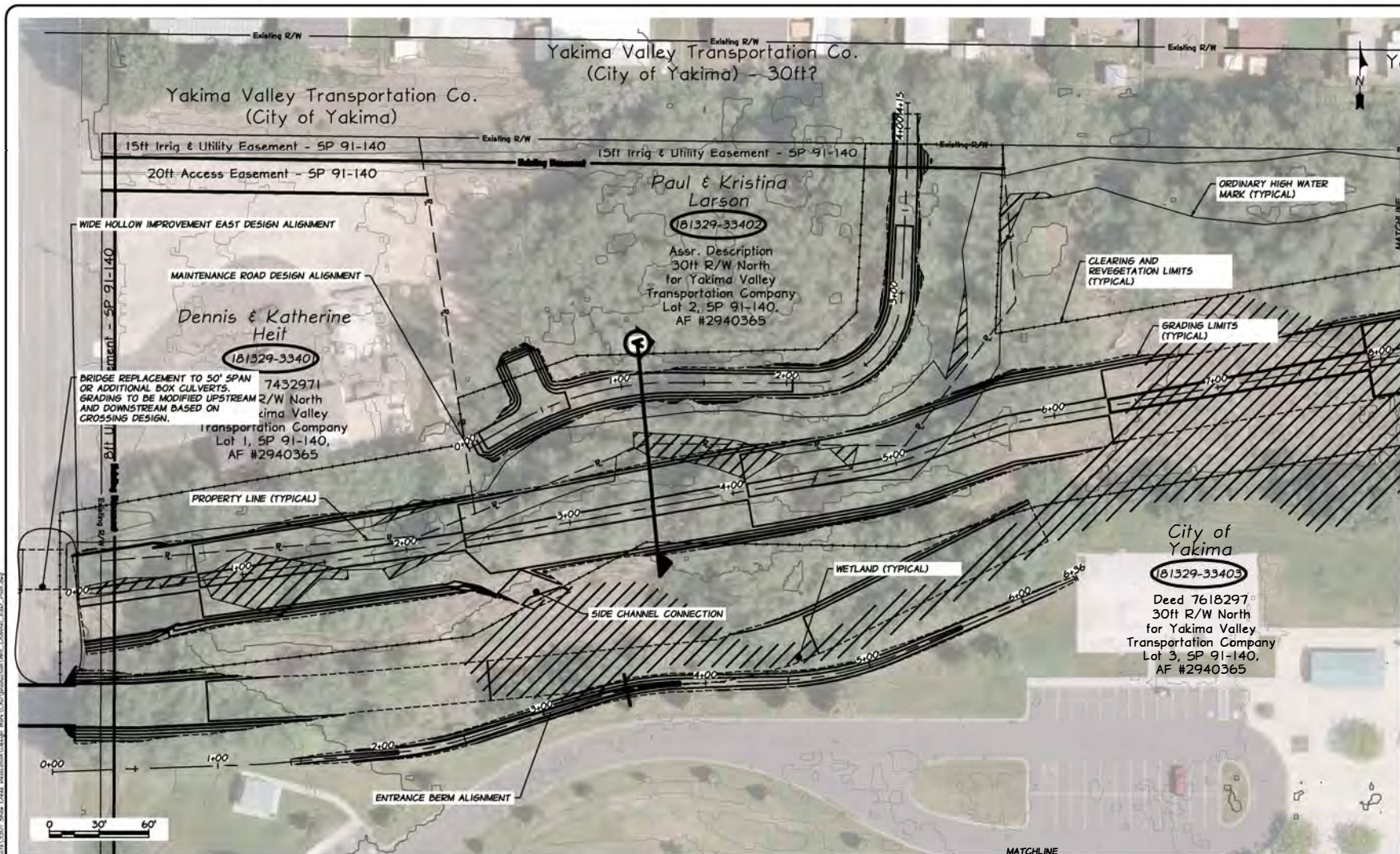
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBN

DRAWN: TBN	CHECKED BY: XXX
LAST MODIFIED DATE: 12/6/2017	
REVISIONS:	

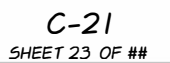
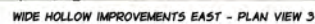
**WIDE HOLLOW
IMPROVEMENTS EAST
PLAN VIEW (I)**

C-20
SHEET 22 OF ##



GENERAL NOTES:

1. CLEARING LIMITS WERE OFFSET APPROXIMATELY 50' FROM CENTERLINE OF WIDE HOLLOW IMPROVEMENTS EAST DESIGN ALIGNMENT, AND 15' FEET LEFT OF THE ACCESS ROAD DESIGN ALIGNMENT.
2. CLEARING LIMITS ARE EQUIVALENT TO LANDOWNER AGREEMENT LIMITS UNDER DEPARTMENT OF ECOLOGY CENTENNIAL GRANT.
3. ACCESS ROAD ALIGNMENT TO TIE-IN TO CITY OF YAKIMA TROLLEY R/W (TO BE CONSTRUCTED).
4. CLEARING INCLUDES REMOVAL OF ALL BRANCHES, TREES, AND TRUNKS OF CRACK WILLOW (SALIX FRAGILIS). NATIVE SPECIES WILL BE SALVAGED AS PRACTICAL.
5. DESIGN SHOWN ON SHEETS C-20 THROUGH C-25 BASED ON 2005 LIDAR AND AWAITING 2017 LIDAR AND FIELD SURVEY TO FINALIZE ALIGNMENTS, PROFILES AND GRADING LIMITS.





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

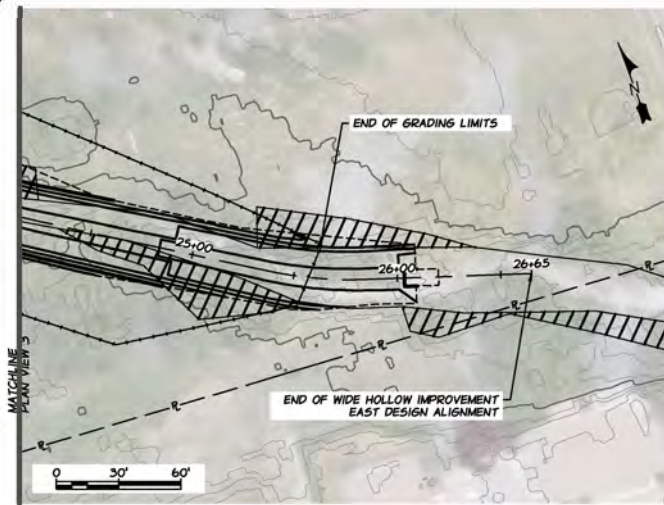
COUNTY ENGINEER
DATE:

PROJECT ENGINEER:
TBH

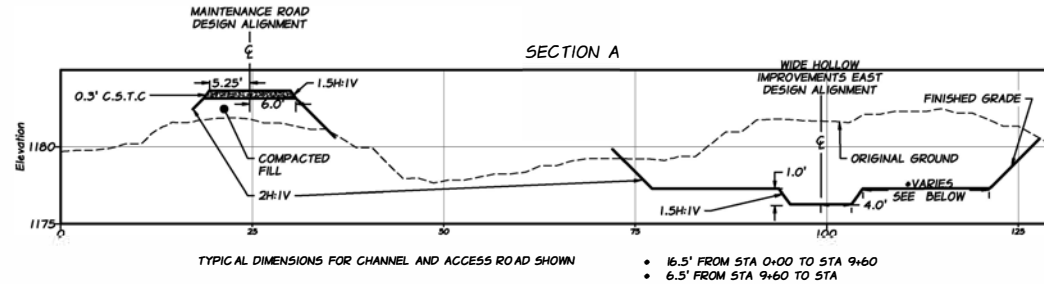
DRAWN: TBH
CHECKED BY: XXX
LAST MODIFIED DATE: 12/6/2017
REVISIONS:

WIDE HOLLOW
IMPROVEMENTS EAST
PLAN VIEW (4),
PROFILES & SECTIONS

C-22
SHEET 24 OF ##

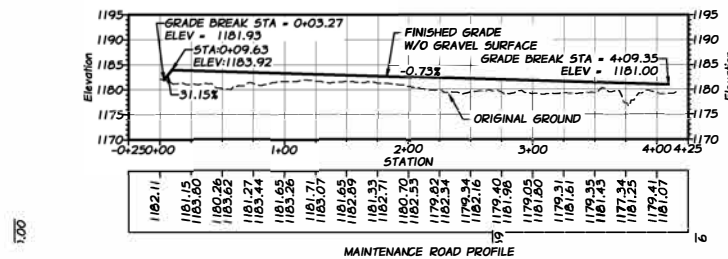


WIDE HOLLOW IMPROVEMENTS EAST - PLAN VIEW 4

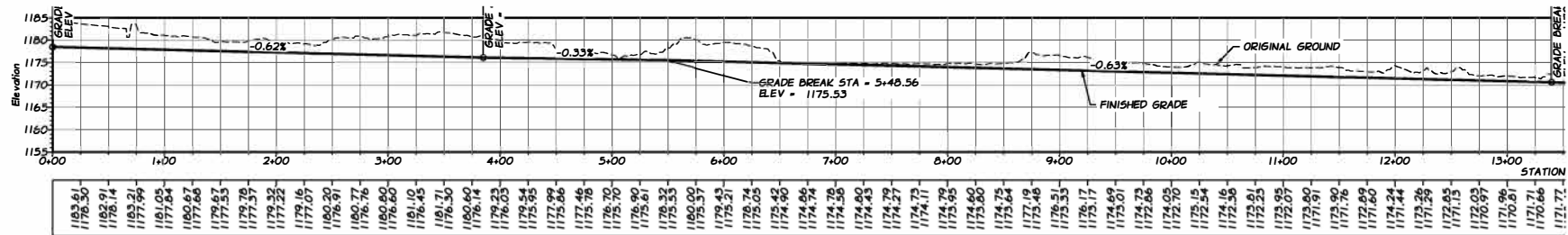


TYPICAL DIMENSIONS FOR CHANNEL AND ACCESS ROAD SHOWN

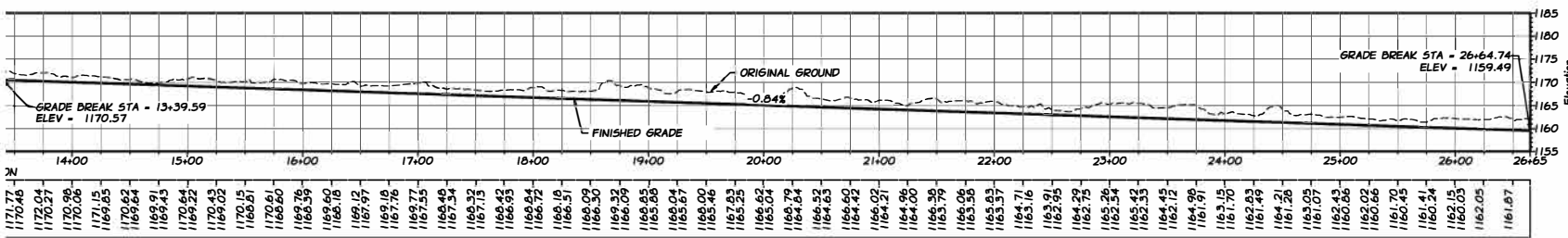
- 16.5' FROM STA 0+00 TO STA 9+60
- 6.5' FROM STA 9+60 TO STA



MAINTENANCE ROAD PROFILE



WIDE HOLLOW IMPROVEMENTS EAST PROFILE STA 0+00 TO STA 13+50



WIDE HOLLOW IMPROVEMENTS EAST PROFILE STA 13+50 TO STA 26+71



SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

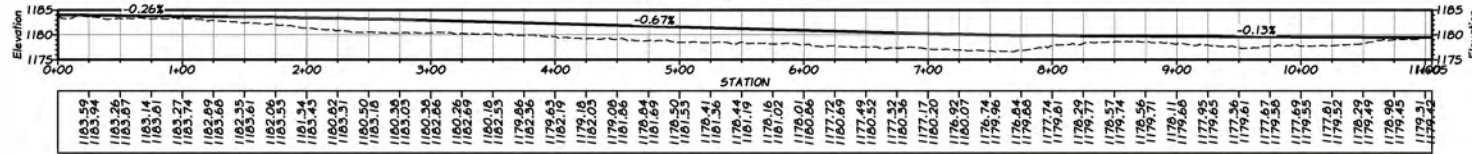
PROJECT ENGINEER:
TBH

DRAWN: XXX	CHECKED BY: XXX
LAST MODIFIED DATE: -----	
REVISIONS:	

SHEET TITLE 1
SHEET TITLE 2
SHEET TITLE 3
SHEET TITLE 4

C-XX
SHEET ## OF ##

PLATH BERM PROFILE



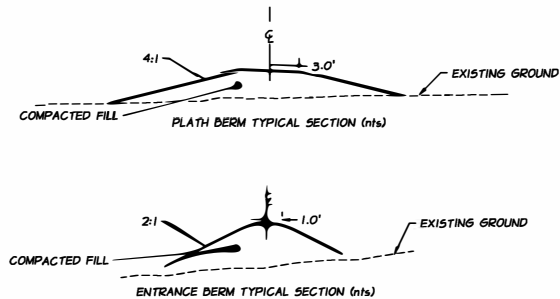
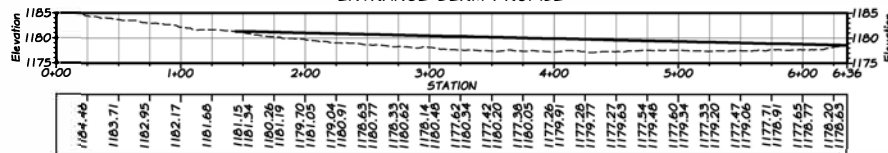
MATCHLINE PLAN VIEW 1

NOTES:
PLATH BERM TOP WIDTH, SIDE SLOPES, AND LENGTHS MAY VARY BASED ON IRRIGATION DESIGN BY PROPERTY OWNER.
GRADING LIMITS AND ALIGNMENT SUBJECT TO CHANGE BASED ON 2017 LIDAR. EXISTING AND PROPOSED CONTOURS
REPRESENT 2005 ERA TOPOGRAPHIC GROUND SURVEY



PLAN VIEW 5

ENTRANCE BERM PROFILE





SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

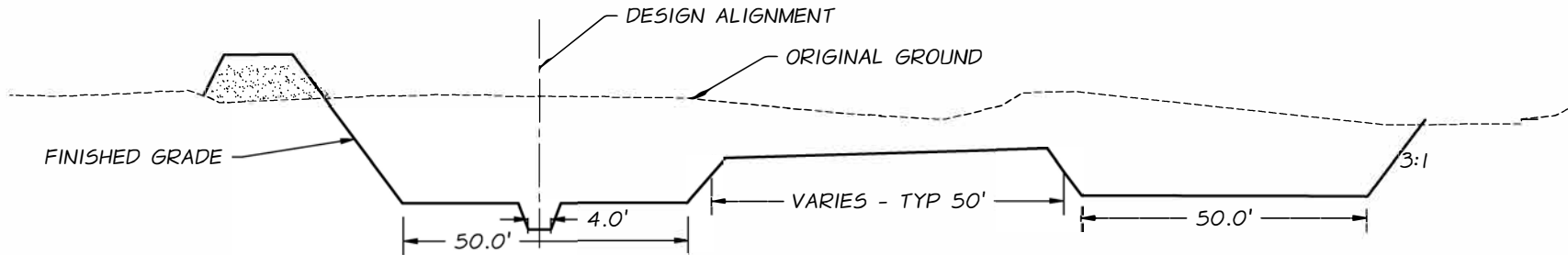
PROJECT ENGINEER:
TBH

DRAWN: TBH	CHECKED BY: XXX
LAST MODIFIED DATE: 9-1-2017	
REVISIONS:	

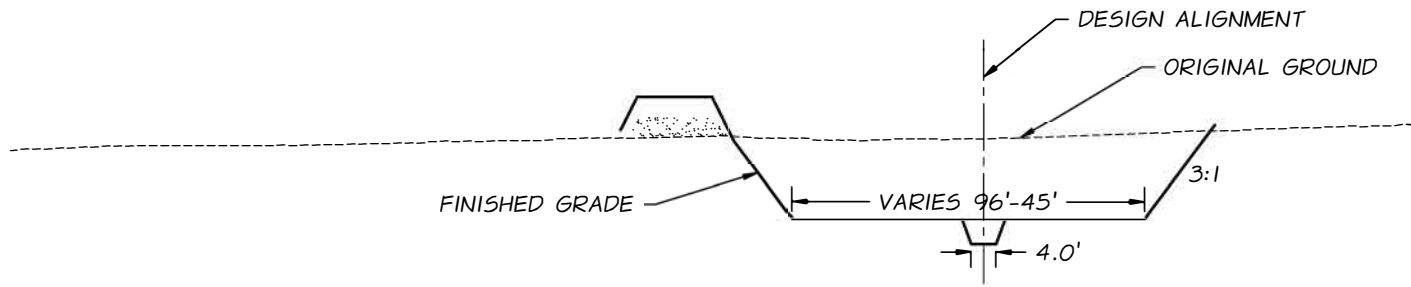
TYPICAL
CHANNEL
SECTIONS

C-XX

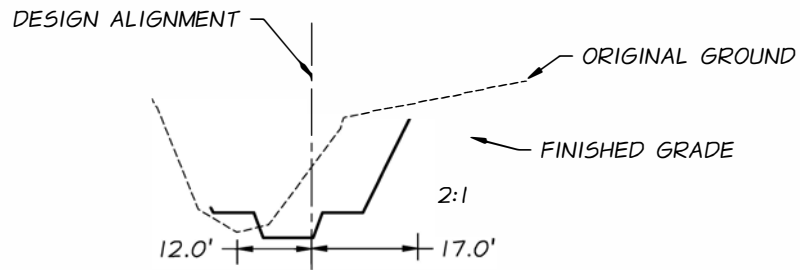
SHEET XX OF ##



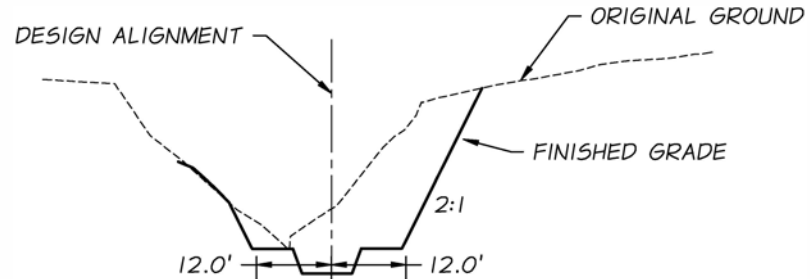
TYPICAL SECTION (nts) - SHAW CREEK RELOCATION CHANNEL - STA 34+75 TO 39+50



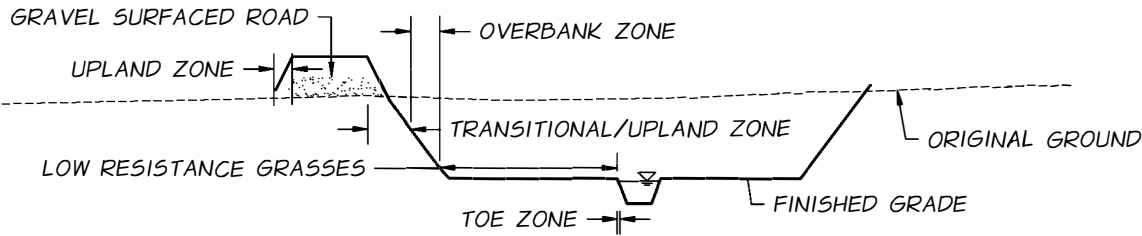
TYPICAL SECTION (nts) - SHAW CREEK RELOCATION CHANNEL - STA 5+00 TO 34+75



TYPICAL SECTION (nts)
WIDE HOLLOW IMPROVEMENT CHANNEL
STA 4+75 TO 17+00

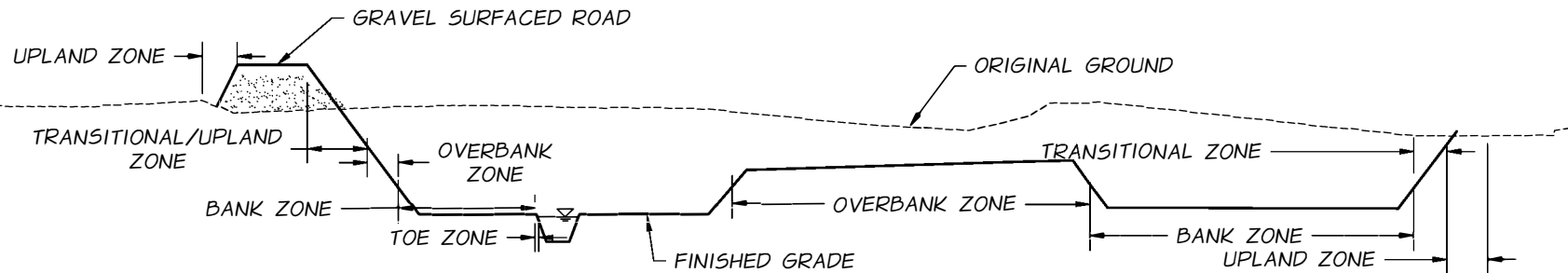


TYPICAL SECTION (nts)
WIDE HOLLOW IMPROVEMENT CHANNEL
STA 17+00 TO 33+15

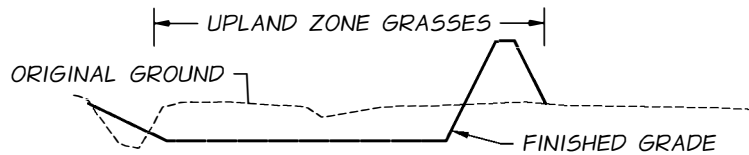


TYPICAL PLANTING SECTION #1 (nts) - SHAW CREEK RELOCATION CHANNEL - STA 5+00 TO 34+75
(MIRROR PLANTINGS ON RIGHT BANK)

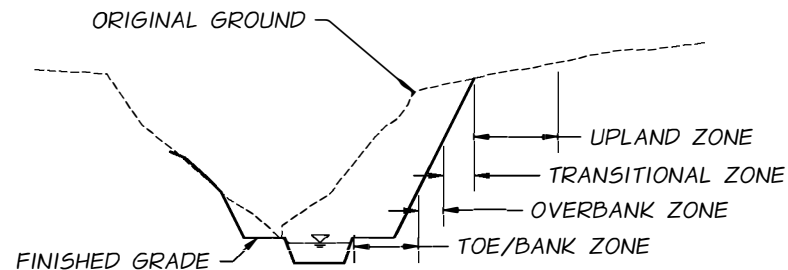
- GENERAL NOTES FOR PLANTING SECTIONS:
1. TYPICAL SUMMER FLOW/IRRIGATION FLOW MODELING NOT COMPLETE TO FINALIZE LOW FLOW CHANNELS AND ASSOCIATED TOE/BANK ZONE
 2. MAY CONSIDER LOW FLOW CHANNEL WITHIN RIGHT CHANNEL OF TYPICAL SECTIONS #2 AND #4



TYPICAL PLANTING SECTION #2 (nts) - SHAW CREEK RELOCATION CHANNEL - STA 34+75 TO 39+50



TYPICAL PLANTING SECTION #3 (nts)
WIDE HOLLOW OVERFLOW CHANNEL



TYPICAL PLANTING SECTION #4 (nts)
WIDE HOLLOW IMPROVEMENT CHANNEL
(MIRROR PLANTINGS ON LEFT BANK AS APPROPRIATE)



SHAW AND
WIDE HOLLOW
CREEKS
FLOOD CONTROL
PROJECT

FC-3301

PREPARED UNDER
THE DIRECTION OF:

PRELIMINARY DRAFT

COUNTY ENGINEER
DATE:

PROJECT ENGINEER:

PROJECT ENGINEER:	TBH
DRAWN:	TBH
CHECKED BY:	XXX
LAST MODIFIED DATE:	9-1-2017
REVISIONS:	

TYPICAL
PLANTING
SECTIONS

P-1

SHEET XX OF ##

GENERAL NOTES:

Riparian Planting Zone	Species Name	Common Plant Name
Toe Zone	<i>Carex spp</i>	Sedges
Toe Zone	<i>Eleocharis spp</i>	Spikerushes
Toe Zone	<i>Scirpus spp</i>	Bulrushes
Toe Zone	<i>Juncus spp</i>	Rushes
Bank Zone	<i>Salix exigua</i>	Coyote willow
Bank Zone	<i>Cornus sericea</i>	Red Osier Dogwood
Overbank Zone	<i>Salix exigua</i>	Coyote willow
Overbank Zone	<i>Cornus sericea</i>	Red Osier Dogwood
Overbank Zone	<i>Ribes aureum</i>	Golden Currant
Transition Zone	<i>Rosa woodsii</i>	Woods Rose
Transition Zone	<i>Ribes cereum</i>	Wax Currant
Transition Zone	<i>Ribes aureum</i>	Golden Currant
Transition Zone	<i>Prunus virginiana</i>	Chokecherry
Transition Zone	<i>Betula occidentalis</i>	Waterbirch
Transition Zone	<i>Pinus ponderosa</i>	Ponderosa Pine
Upland Zone	<i>Artemisia tridentata</i>	Big Sage Brush
Upland Zone	<i>Ericameria nauseosa</i>	Rubber Rabbitbrush
Upland Zone	<i>Pinus ponderosa</i>	Ponderosa Pine
Upland Zone	<i>Elymus lanceolatus</i>	Thickspike Wheatgrass
Upland Zone	<i>Pseudoroegneria spicata</i>	Bluebunch Wheatgrass
Upland Zone	<i>Poa secunda</i>	Sherman Big Bluegrass
Upland Zone	<i>Leymus cinereus</i>	Basin Wildrye
Upland Zone	<i>Elymus trachycaulus</i>	Slender Wheatgrass

