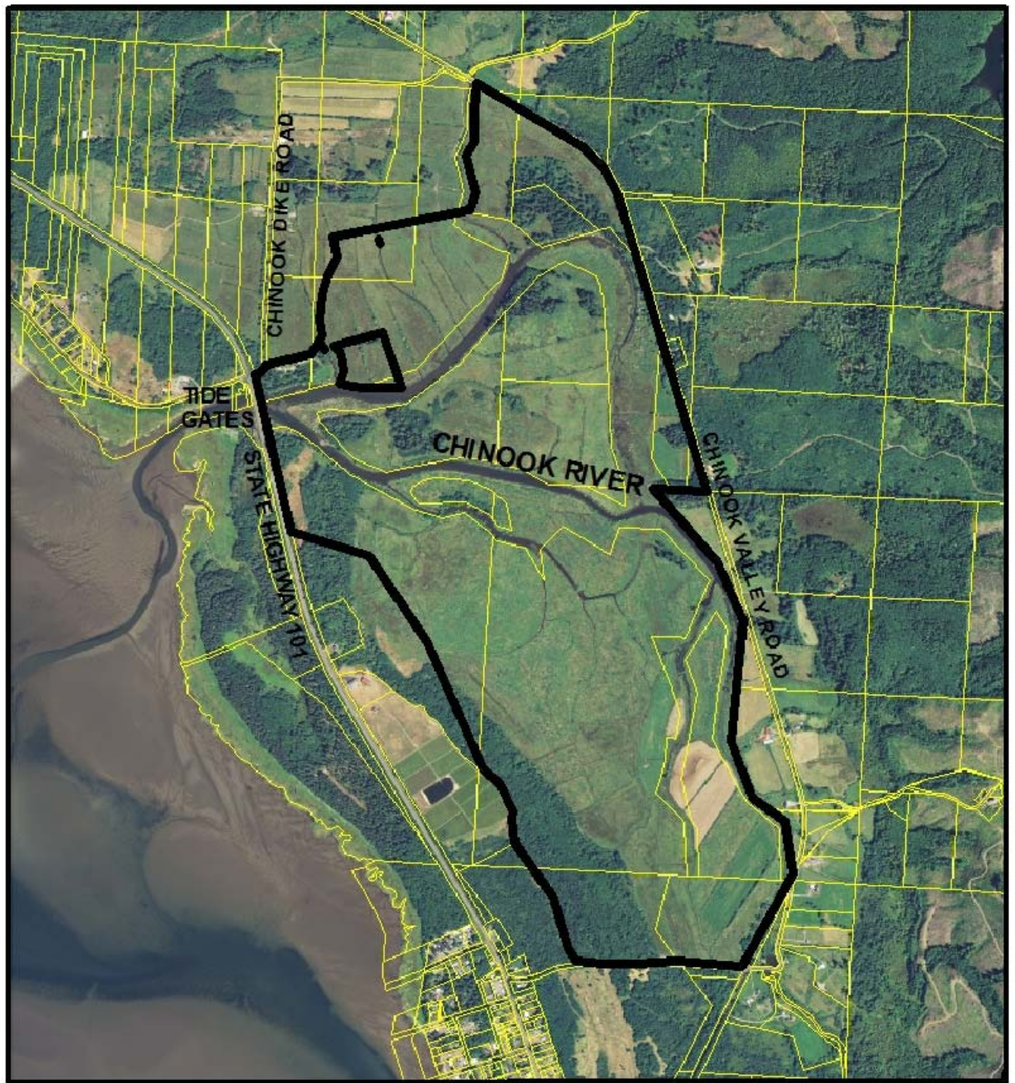
Chinook River Estuary Restoration Project

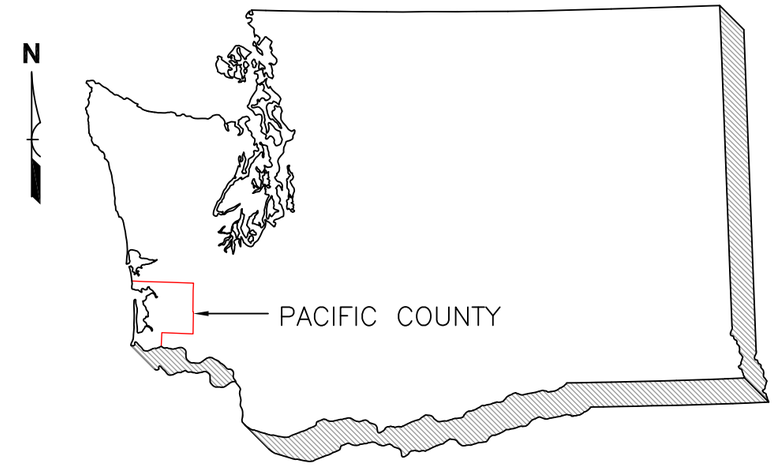
CHINOOK PROJECT AREA



Miles
0 0.075 0.15 0.3 0.45 0.6
SCALE BAR

N

Washington Department of FISH and WILDLIFE



WASHINGTON STATE

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DISCLAIMER

THIS IS NOT A BOUNDARY SURVEY. THESE PLANS ARE INTENDED FOR USE AS TOPOGRAPHICAL MAP ONLY.

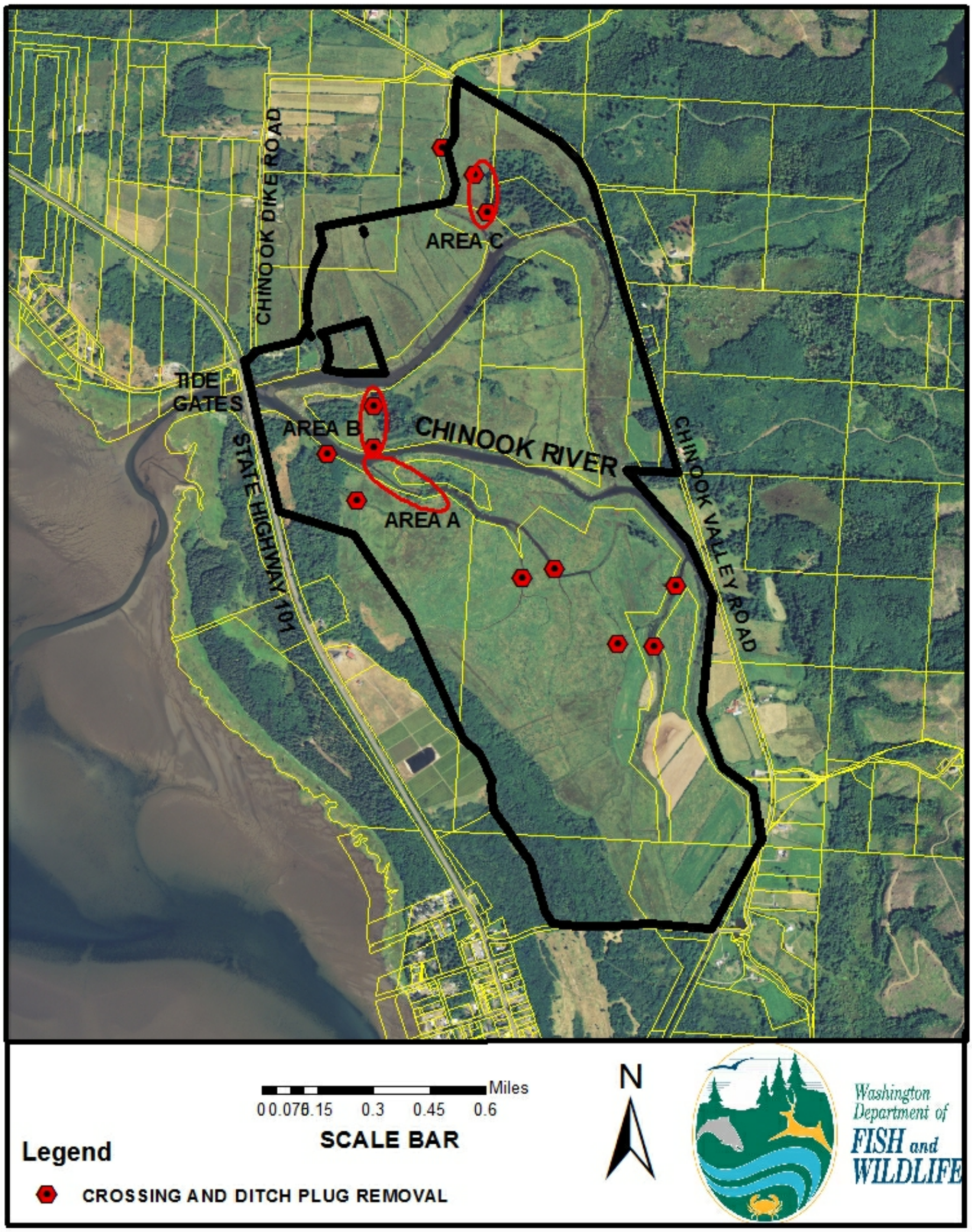
30% Design

Washington Department of FISH and WILDLIFE

Project: CHINOOK RIVER ESTUARY RESTORATION
Engineer: D. Ponder
Subject: Channel A Fill Removal and Channel Design
Drawn by: K. Conwin

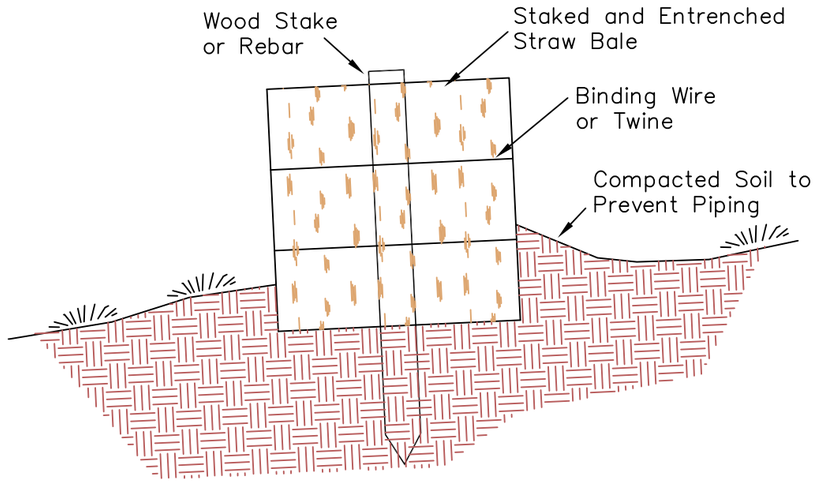
Date: 10-4-13

RESTORATION AREAS AND DITCH PLUG REMOVAL



30% Design

Washington Department of FISH and WILDLIFE	Project: CHINOOK RIVER ESTUARY RESTORATION Engineer: D. Ponder Subject: Channel A Fill Removal and Channel Design Drawn by: K. Corwin	Date: 10-4-13 Sheet 2 of 13



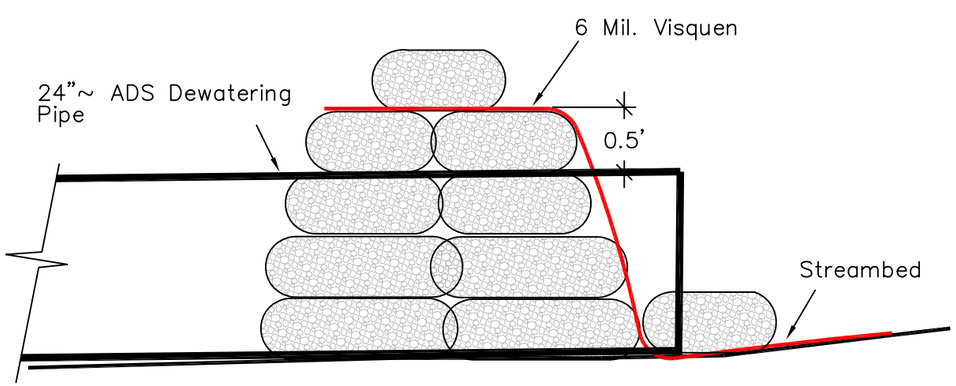
Bales shall be placed in a single row, lengthwise on the contour, with ends of adjacent bales tightly abutting one another.

The barrier shall be entrenched and backfilled. A trench shall be a minimum of 4 inches. Backfill soil shall conform to the ground level on the downhill side and shall be built up 4 inches against the uphill side of the barrier.

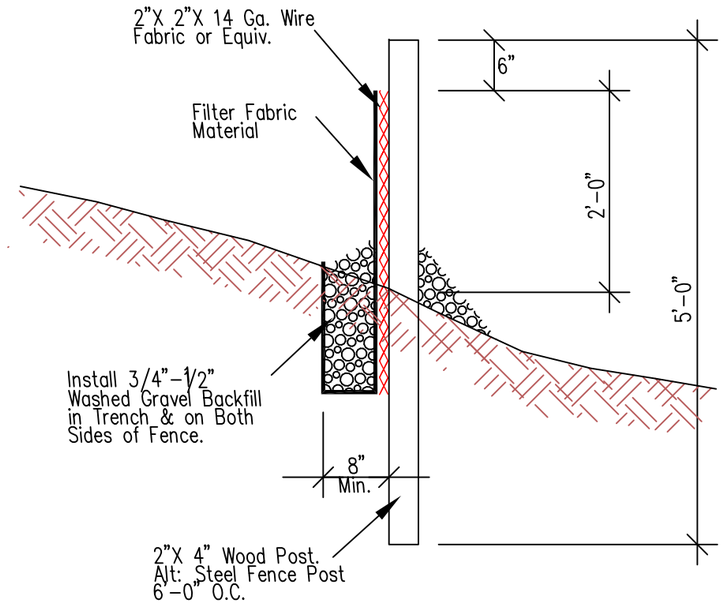
Each bale shall be securely anchored by at least 2 stakes or rebar driven through the bale.

The gap between the bales shall be chinked (filled by wedging) with straw to prevent water from escaping between the bales.

STRAW BALE BARRIER



SANDBAG / VISQUEN DAM



SILT FENCE STANDARD

Crushed Surfacing

Crushed surfacing shall be manufactured from ledge rock, tallus or gravel in accordance with the provisions of section 3-01. The material shall be uniform in quality and substantially free from wood, roots, and other extraneous material and shall meet the following test requirements:

Los Angeles Wear, 500 Rev.	35% max.
Degradation Factor – Top Course	25% min.
Degradation Factor – Base Course	15% min.

Crushed surfacing of various classes shall meet the following requirements for grading and quality when placed in hauling vehicles for delivery to the roadway, or during manufacture and placement into a temporary stockpile. The exact point of acceptance will be determined by the engineer.

Sieve Size	Base Course	Top Course and Keystone
	Percent Passing	
1 1/2" square	100	
1" square	50–80	100
1/2" square	30–50	55–75
U.S. No. 40	3–18	8–24
U.S. No. 200	7.5 max.	10.0 max.
% Fracture	75 min.	75 min.
Sand Equivalent	40 min.	40 min.

All percentages are by weight.

The fracture requirement shall be at least one fractured face and will apply to material retained on each sieve size U.S. No. 40 and above if that sieve retains more than 5 percent of the total sample.

The portion of crushed surfacing retained on a 1-inch square sieve shall not contain more than 0.15 percent wood waste.

Gravel Backfill for Pipe Bedding

Gravel backfill for pipe bedding shall consist of crushed, processed, or naturally occuring granular material. It shall be essentially free from various types of wood waste or other extraneous or objectionable materials. It shall havesuch characteristics of size and shape that it will compact readily and shall meet the following specifications for grading and quality:

Sieve Size	Percent Passing
1" square	100
1/4" square	25–80
U.S. No. 200	15.0 max.
Sand Equivalent	35 min.

All percentages are by weight.

Gravel Borrow

Aggregate for borrow shall conist of granular material, either naturially occuring or processed, and shall meet the following requirements for grading and quality:

Sieve Size	Percent Passing
1 1/4" square	100 [1]
1/4" square	25 min.
U.S. No. 40	40 max.
U.S. No. 200	7.0 max.
Sand Equivalent	50 min.

All percentages are by weight.

[1] If requested by the Contractor, the sieve size may be increased with the approval of the Engineer if it is determined that larger size aggregate will be satisfactory for the specified backfill or embankment construction.

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Washington Department of FISH and WILDLIFE

Chinook River

Channel B

WDFW Hub #A-3
Elev. = 8.99

WDFW Hub #A-4
Elev. = 6.89

CP 213
Elev. = 5.76

Channel Excavation Limits

Proposed Contour
Typ.

Existing Contour
Typ.

Channel A

WDFW Hub #A-1
Elev. = 7.40

0+00
1+00
2+00
3+00
4+00
5+00
5+93
6+00
7+00
8+00
9+00
10+00
10+50
11+00
11+80

Flow

Existing Ditch

30% Design

Note:
Remove fill at mouth of channel and berm
Lower north bench to Elev. ~ 4 to 4.5
Earthwork Excavation area = 68,265 sf.
Excavation volume (Cut) = 1,814 cy.

CHANNEL A RESTORATION PLAN VIEW
Scale: 1" = 80'

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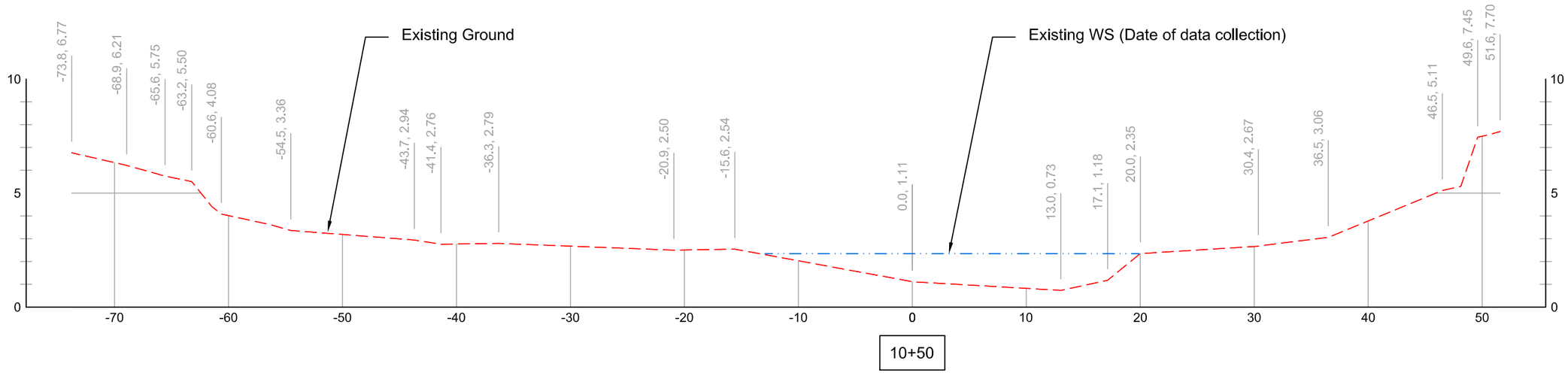
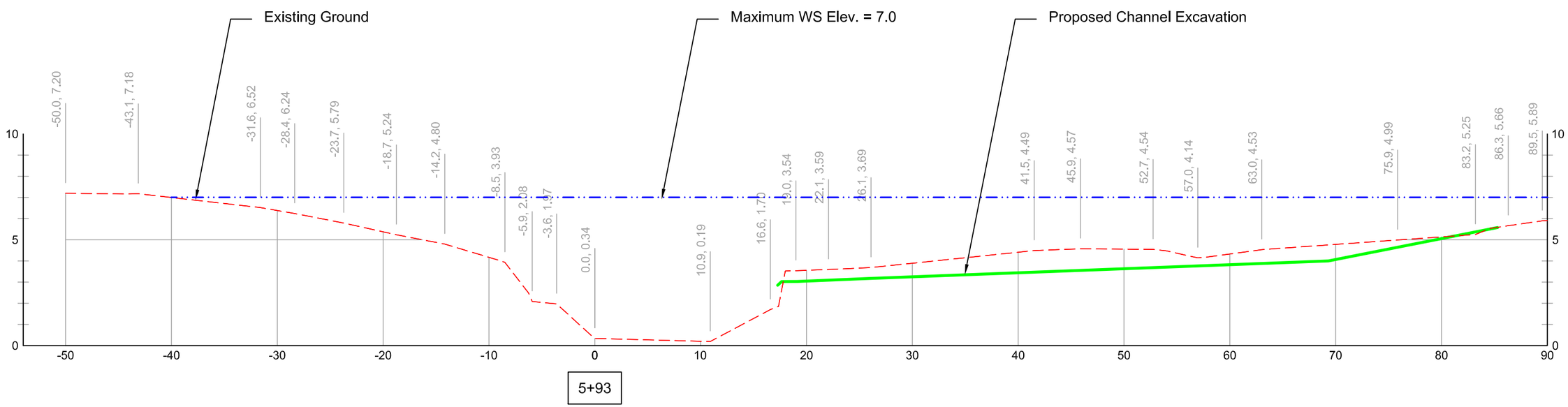
Date: 10-2-13



CHANNEL A EXISTING UPSTREAM SECTION

Scale: 1" = 10' Horiz., 1" = 5' Vert.



CHANNEL A RESTORATION SECTION

Scale: 1" = 10' Horiz., 1" = 5' Vert.

30% Design

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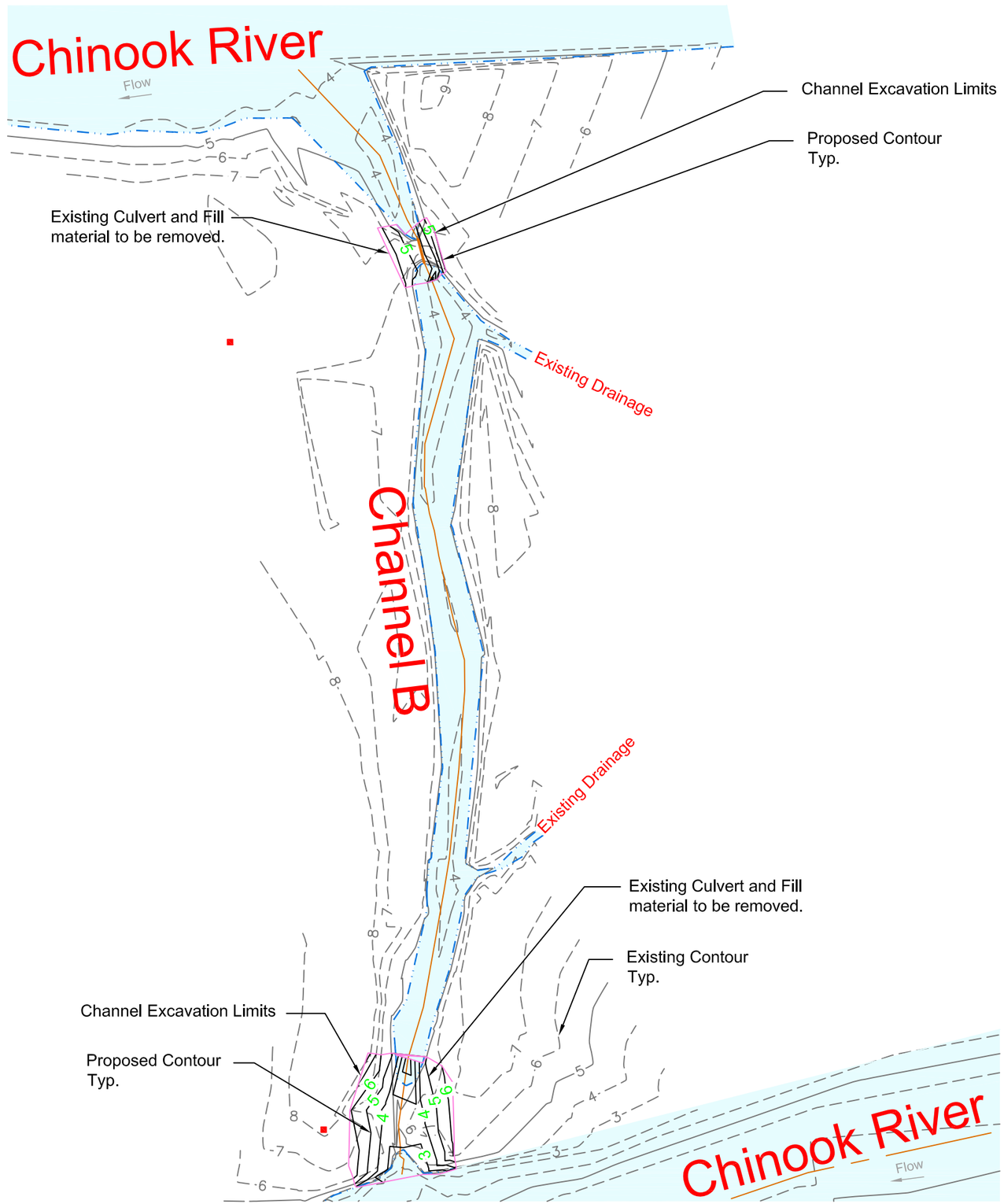

30% Design

CHANNEL B RESTORATION PLAN VIEW

Scale: 1" = 80'

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Engineer: D. Ponder
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Drawn by: K. Conwin

Date: 10-2-13

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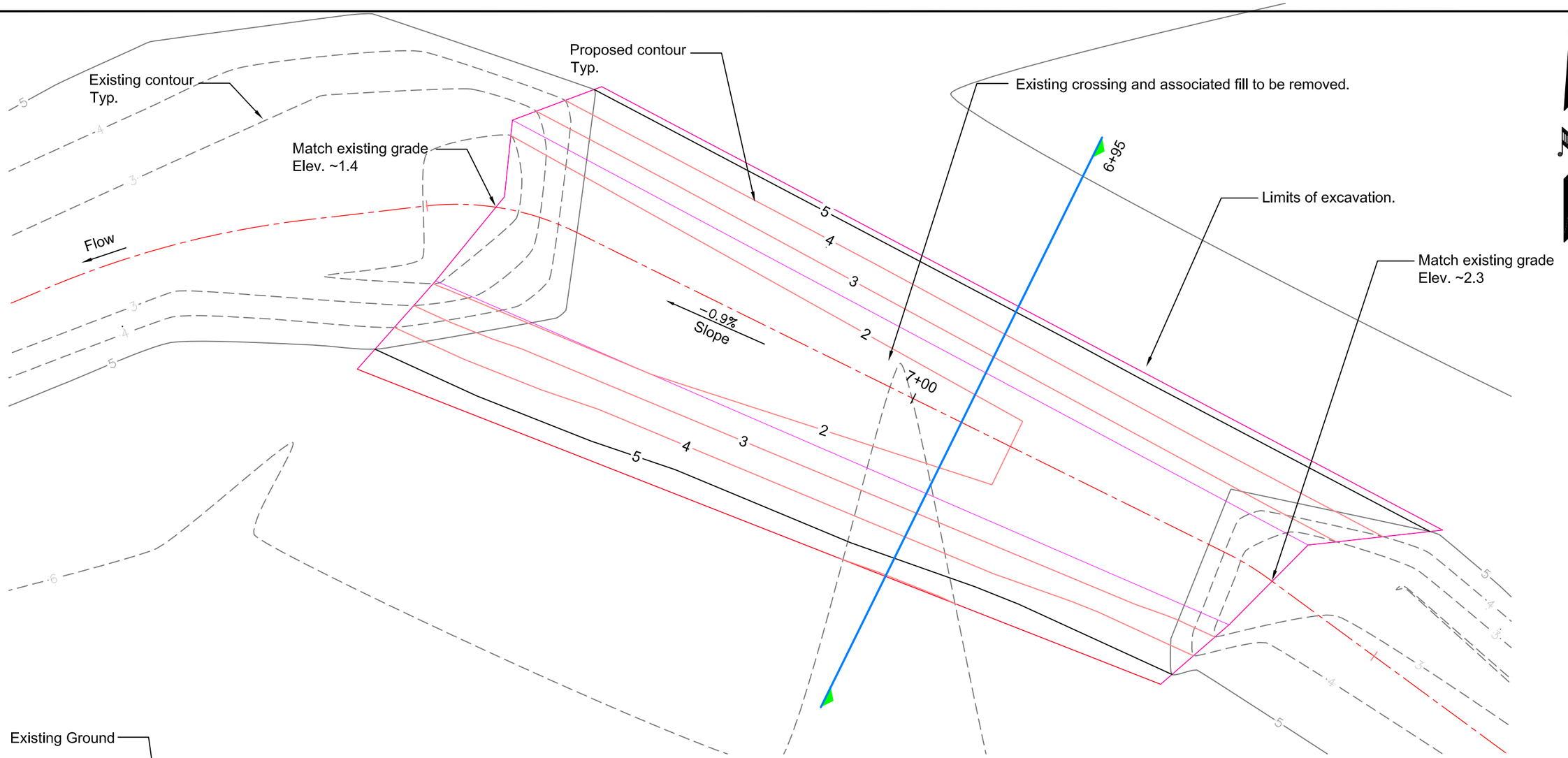
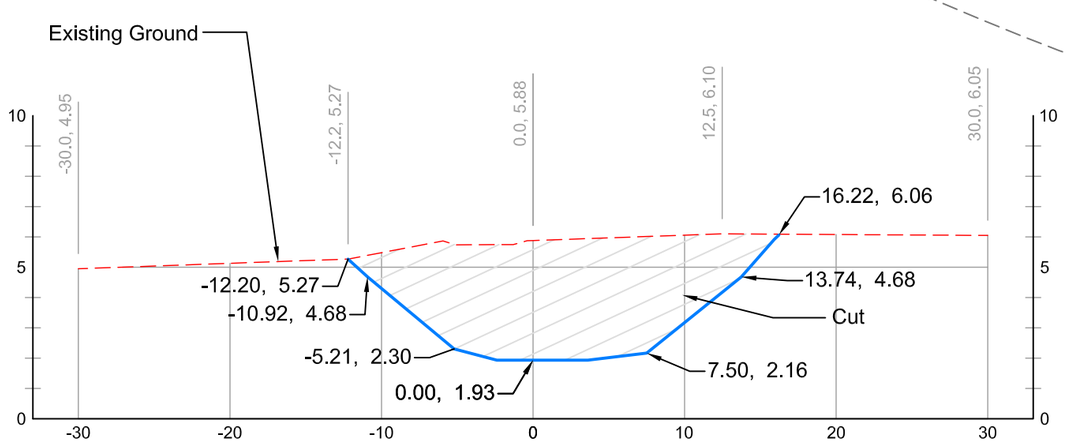


AREA C CROSSING REMOVAL PLAN VIEW

Scale: 1" = 10'



6+95

CROSSING REMOVAL SECTION

0 5' 10' 15' 20'

SCALE: 1" = 10'

30% Design

Note:

Earthwork Cut = 211 CY.
Area of Cut = 2440 SF.

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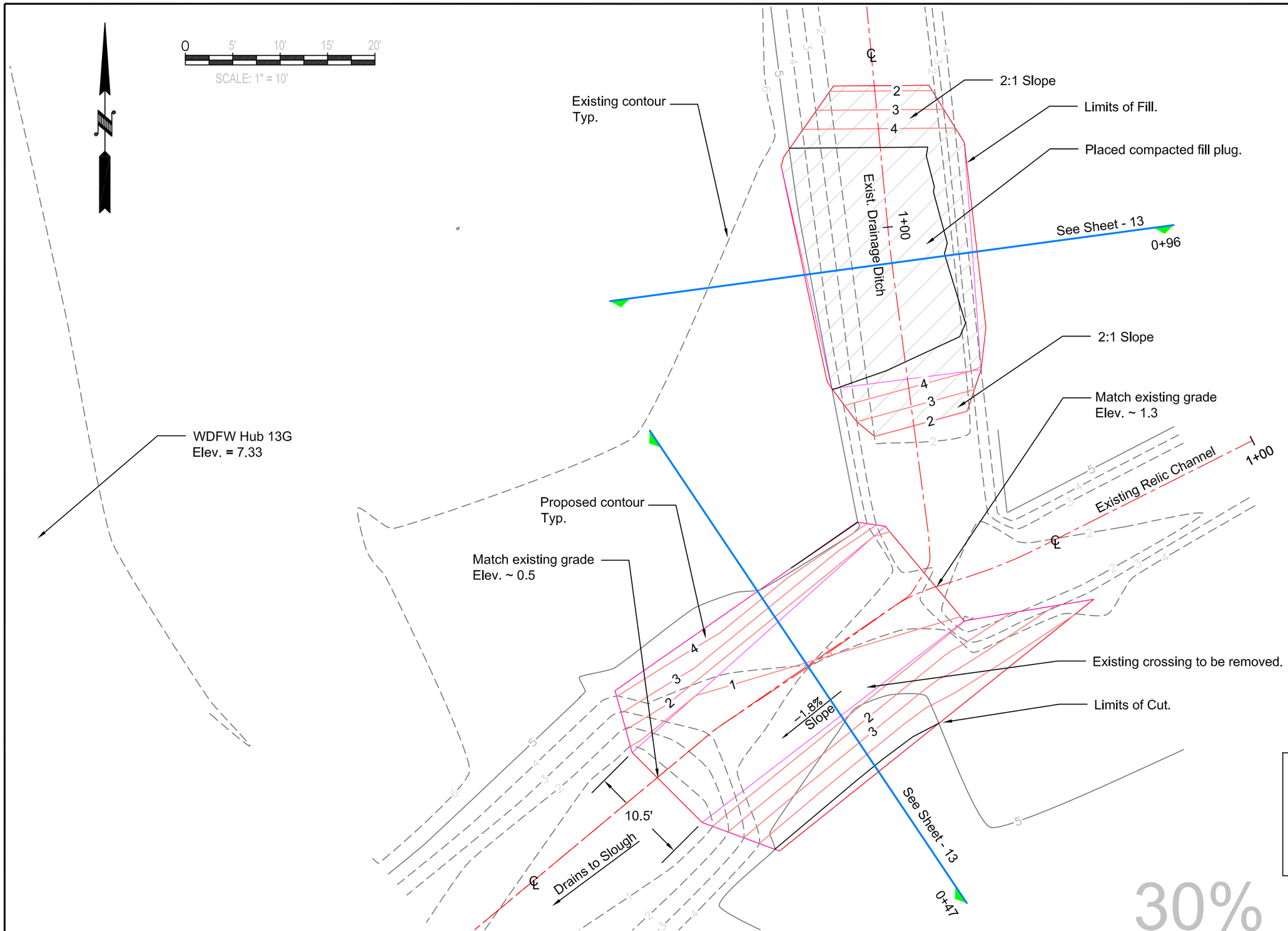

AREA C CROSSING REMOVAL & PLUG PLACEMENT PLAN VIEW

Scale: 1" = 10'

Note:

Earthwork Cut = 65 CY.
Area of Cut = 825 SF.

Earthwork Fill = 52 CY.
Area of Fill = 609 SF.

30% Design

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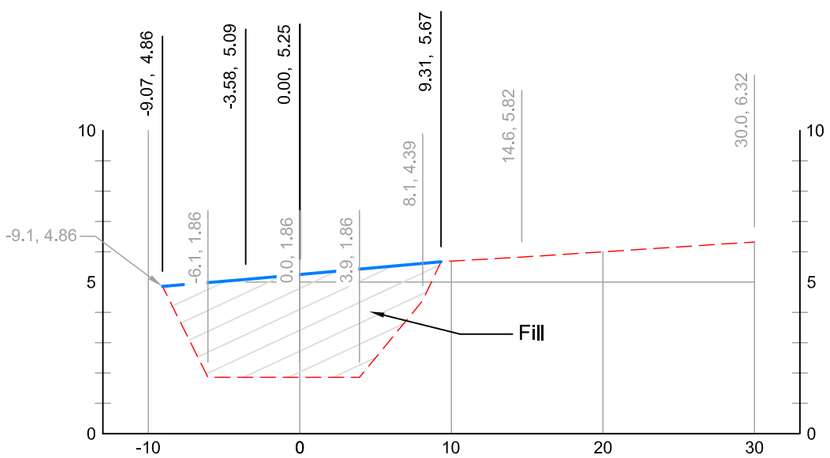

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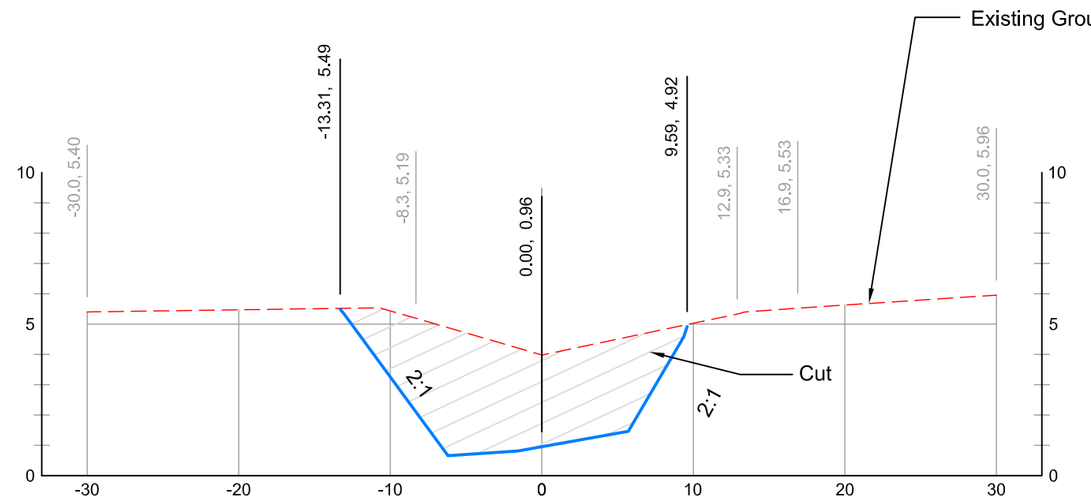

0+47

AREA C SECTIONS

Scale: 1" = 10'

30% Design

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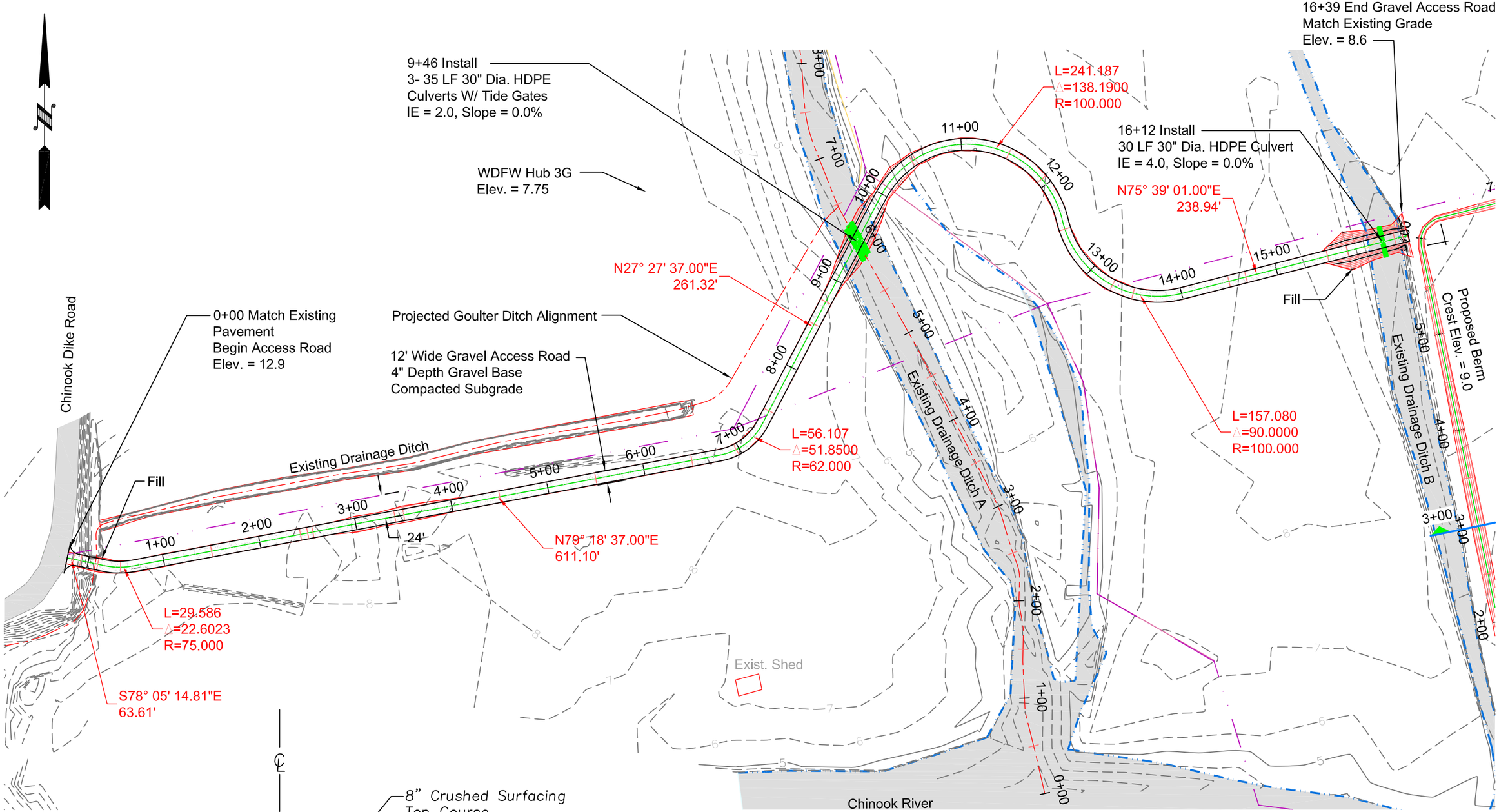

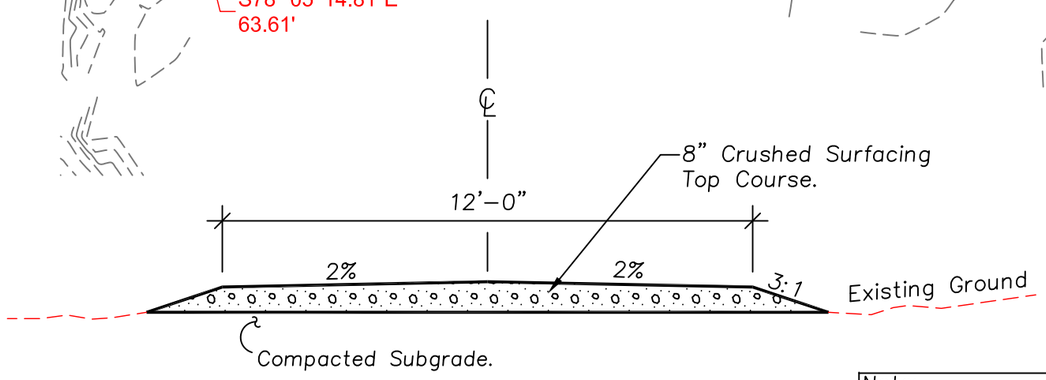

TYPICAL ACCESS ROAD SECTION

Note:
Placed Material Lifts Not To Exceed 12" (Loose).

30% Design

0 50' 100' 150' 200'
SCALE: 1" = 100'

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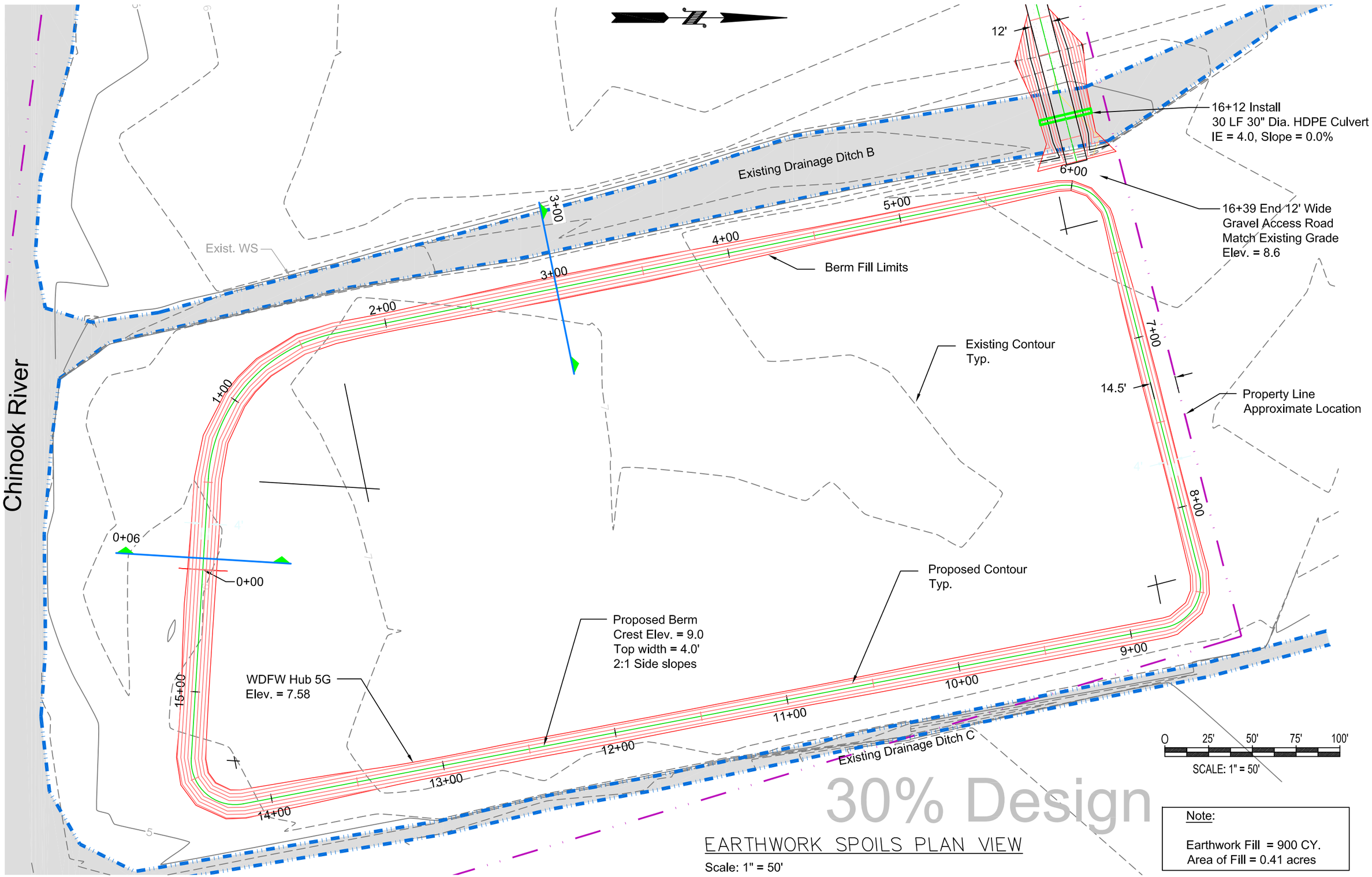

EARTHWORK SPOILS PLAN VIEW

Scale: 1" = 50'

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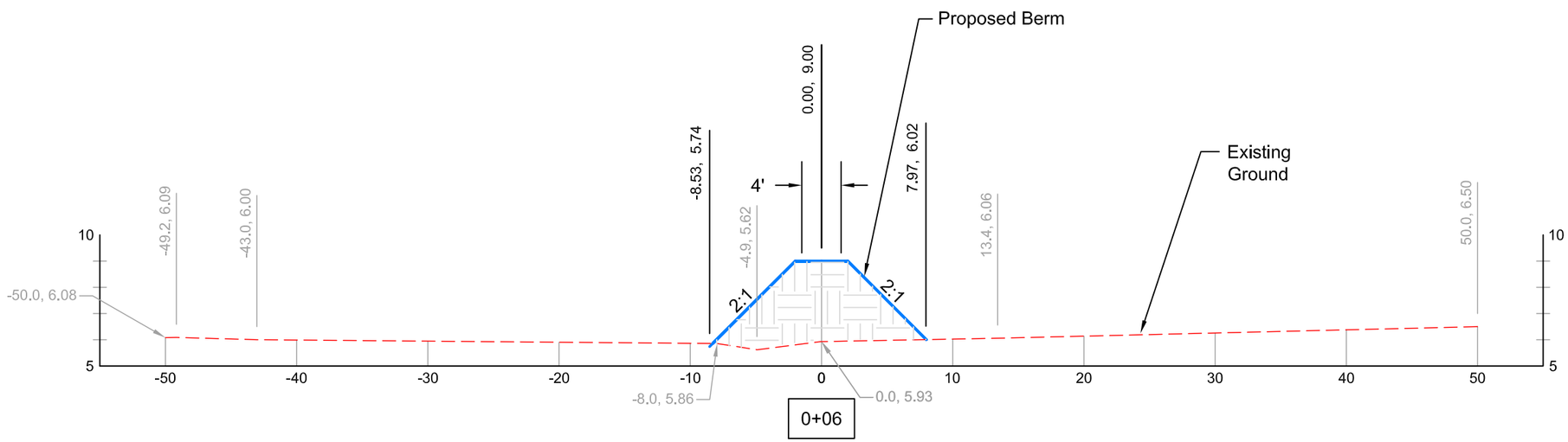

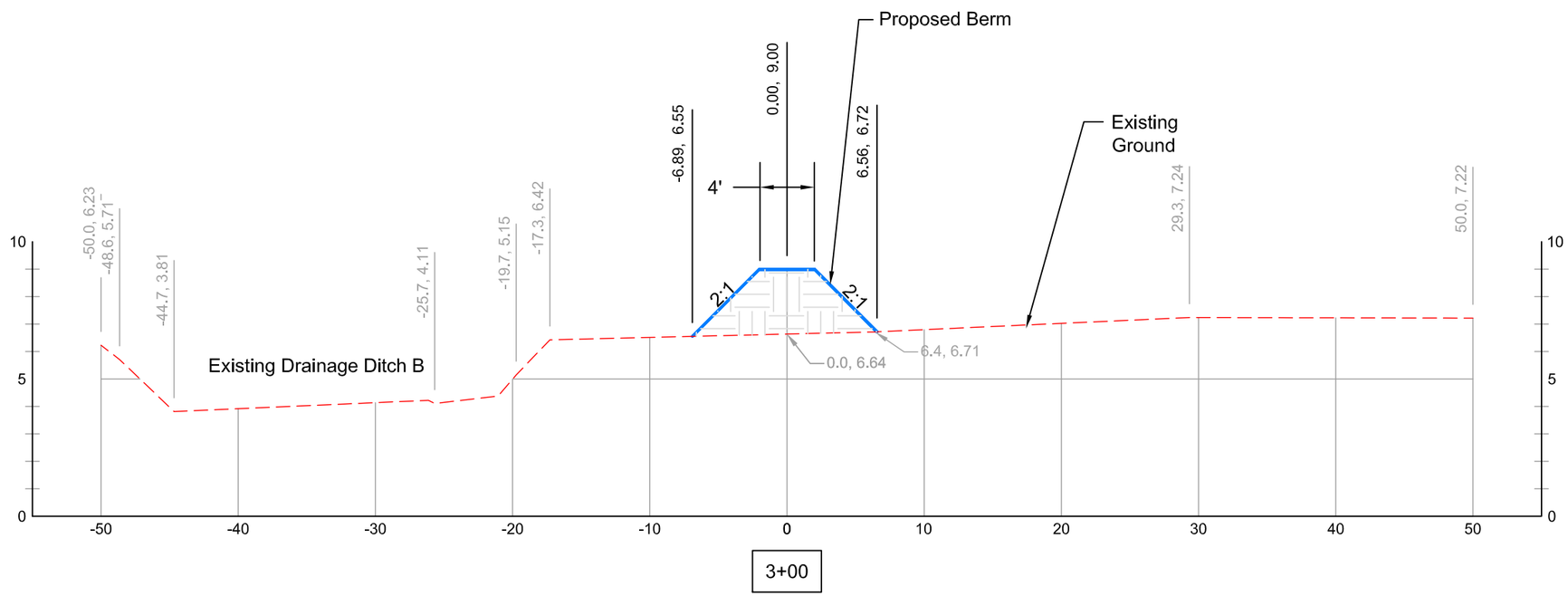

EARTHWORK SPOILS SECTIONS

Scale: 1" = 10' Horiz., 1" = 5' Vert.

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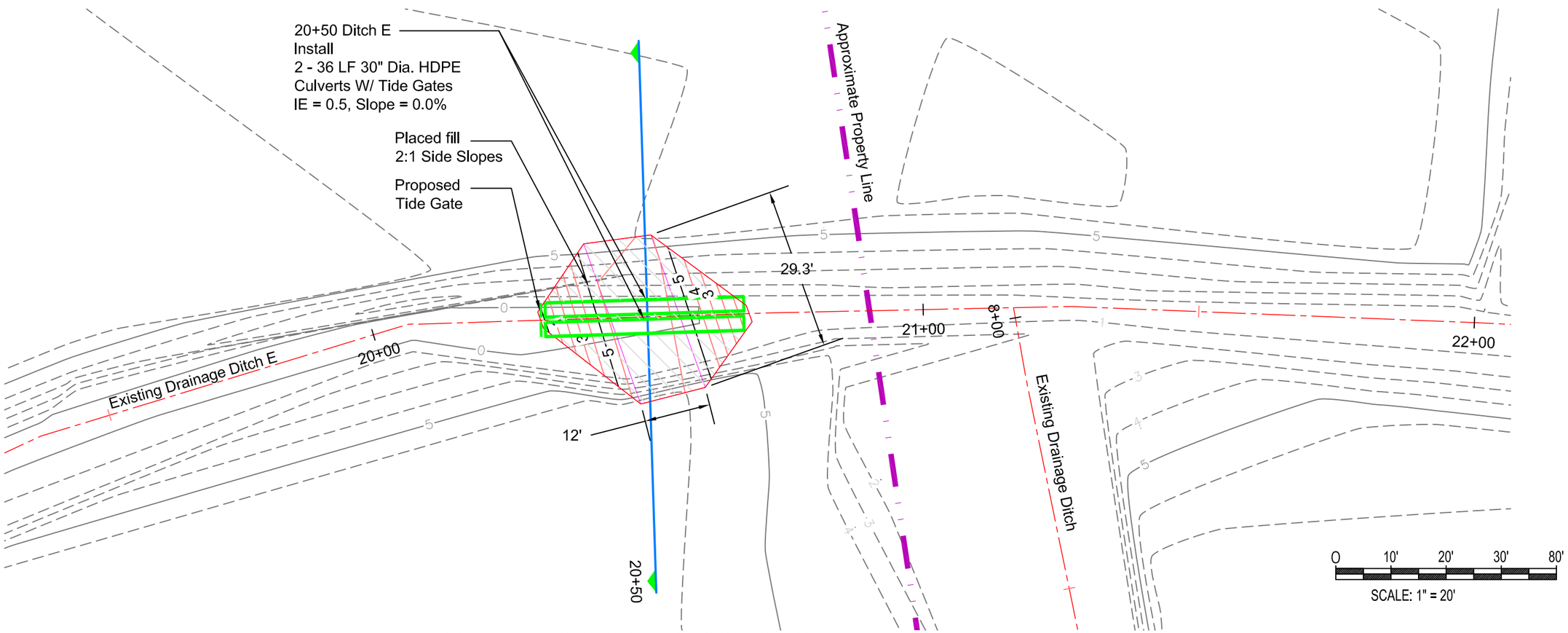
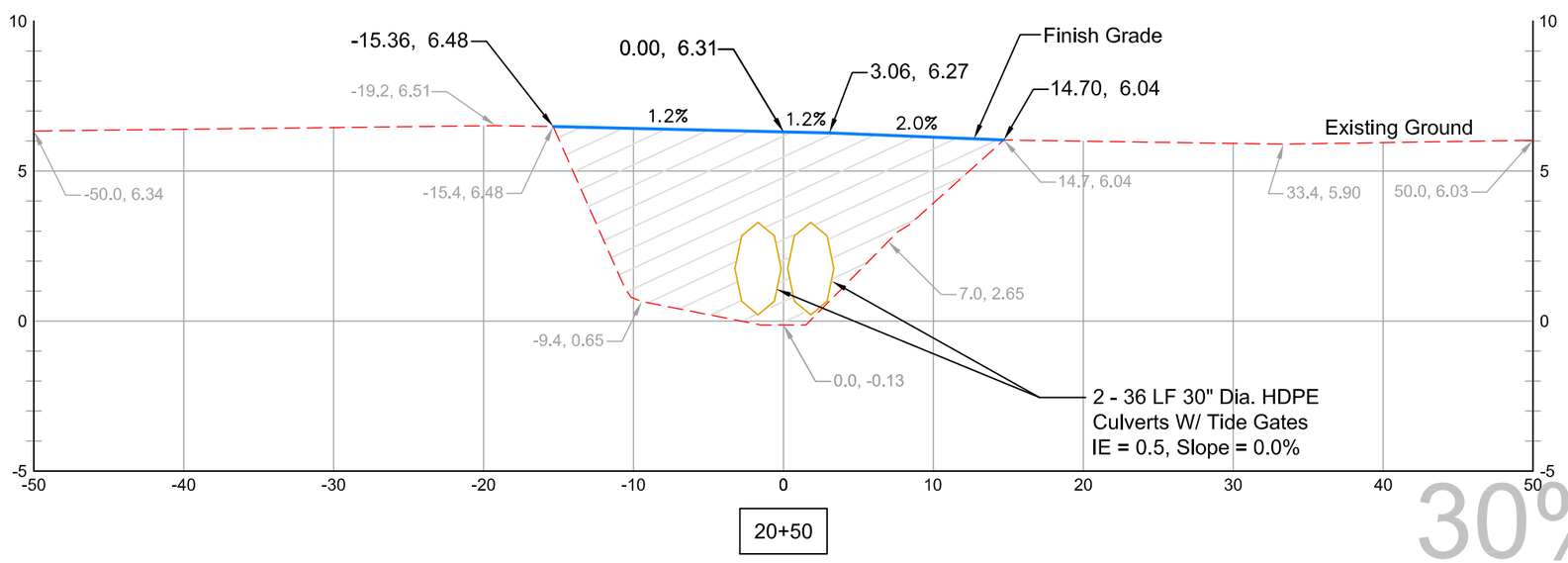


SITE 2 ACCESS CROSSING PLACEMENT PLAN VIEW

Scale: 1" = 20'



Note:

Earthwork Fill = 98 CY.
Area of Fill = 760 SF.

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