 PROJECT SITE

REGIONAL VIEW OF PROJECT LOCATION

RED GULLY RE-ALIGNMENT PROJECT
W. BELLFORT ROAD
FT. BEND COUNTY, TEXAS

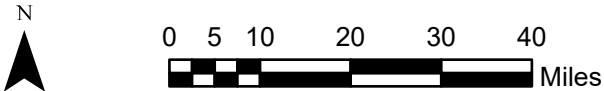
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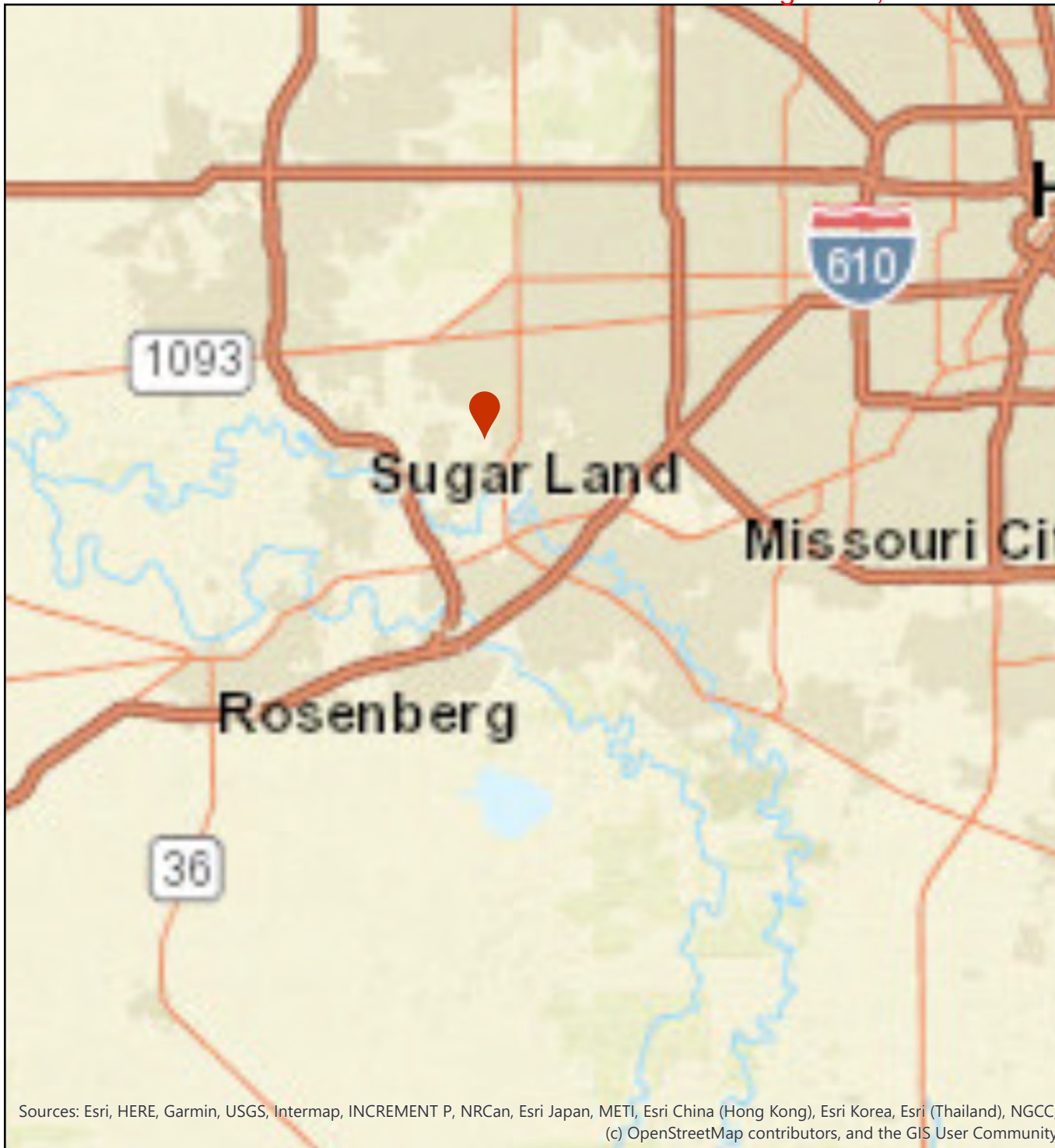


3418 Pickering Lane Pearland, Texas
 77584
 281-997-7911 Office 281-997-7977 Fax
 smcenvironmental.com

Project No.: 150000
 Location: Sugarland / Ft. Bend County
 State: Texas
 Created: July 27, 2020

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community





 PROJECT SITE

FAR AWAY VIEW OF PROJECT LOCATION

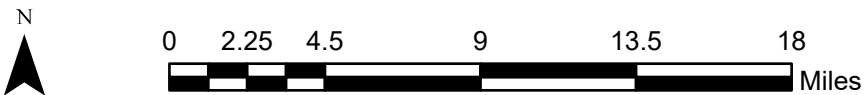
RED GULLY RE-ALIGNMENT PROJECT
 W. BELLFORT ROAD
 FT. BEND COUNTY, TEXAS
 Lat. 29.6604 Long. -95.6792

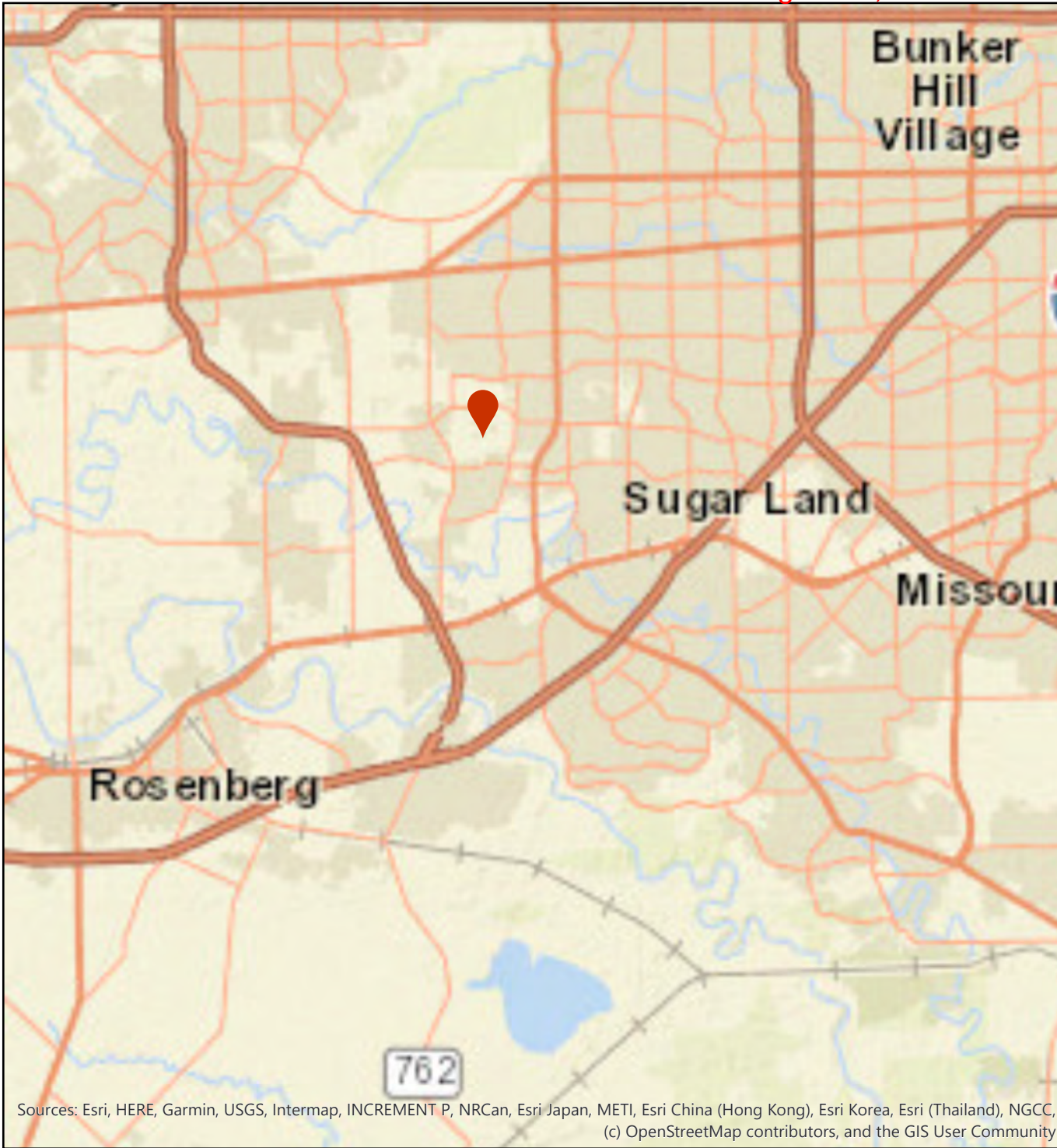



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 PROJECT SITE

WIDE VIEW OF PROJECT LOCATION

RED GULLY RE-ALIGNMENT PROJECT
W. BELLFORT ROAD
FT. BEND COUNTY, TEXAS

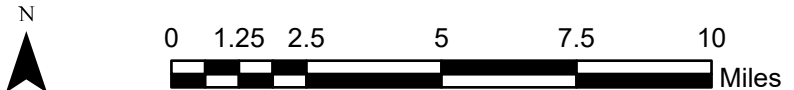
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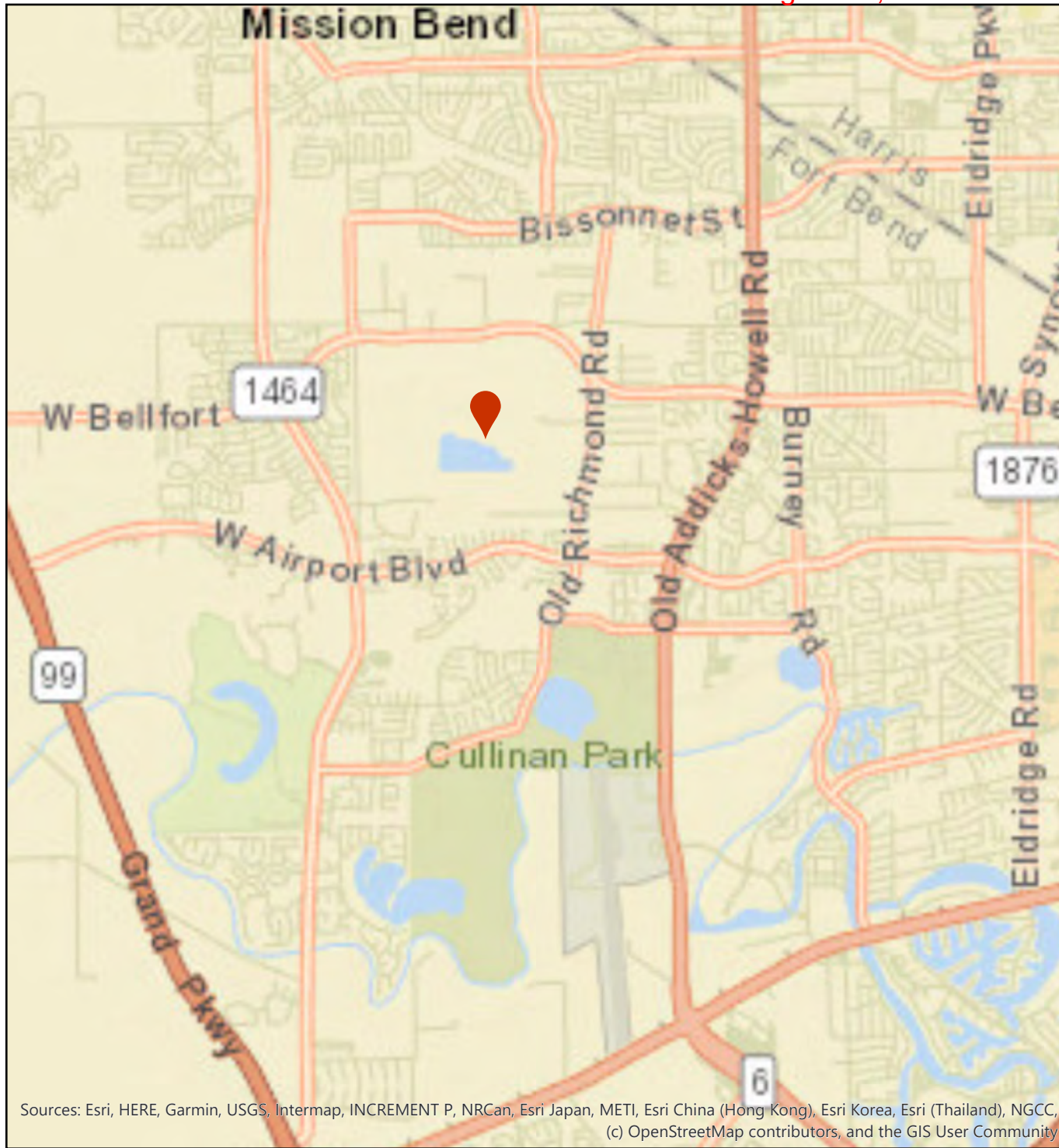


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 PROJECT SITE

MID VIEW OF PROJECT LOCATION

RED GULLY RE-ALIGNMENT PROJECT
W. BELLFORT ROAD
FT. BEND COUNTY, TEXAS

Lat. 29.6604 Long. -95.6792

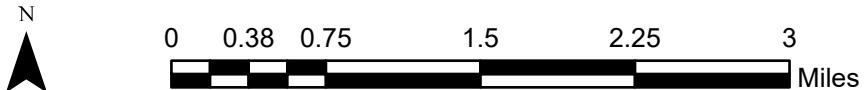


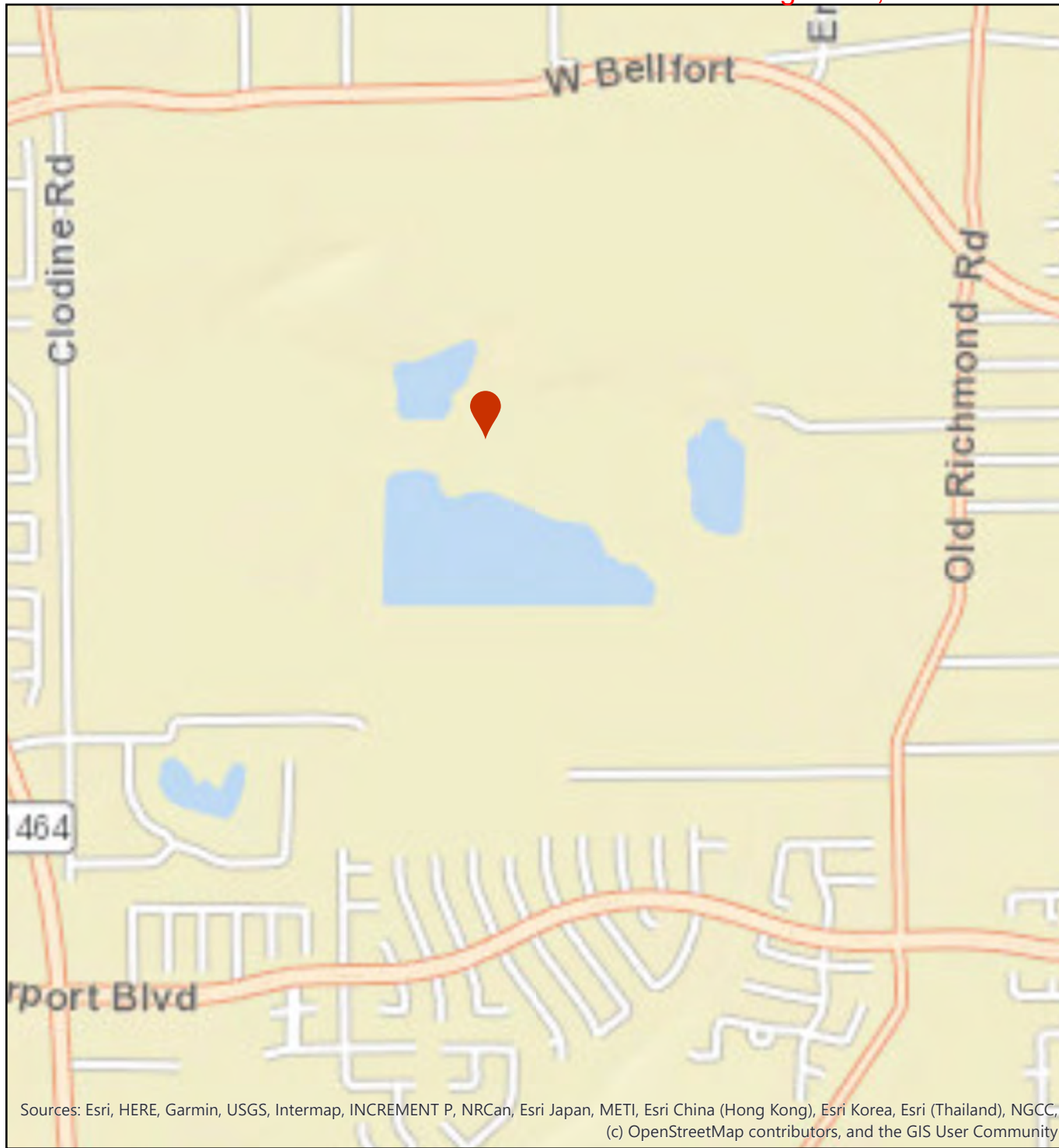
SMC Consulting, Inc.
 environmental engineering

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 281-997-7911 Office 281-997-7977 Fax
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Project No.: 150000
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 PROJECT SITE

CLOSE UP VIEW OF PROJECT LOCATION

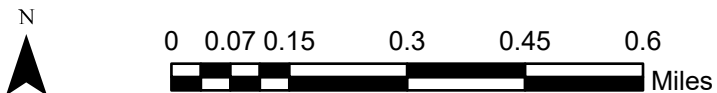
RED GULLY RE-ALIGNMENT PROJECT
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 FT. BEND COUNTY, TEXAS
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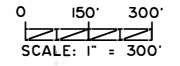
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FILENAME: K:\13794\13794-0022-00_Sprint_For_Land_Fill_Expansion\2_Design_Phase_Analysis\Microstation\SMC_Exhibit\ Pond_Layout.dwg
DRAWING DATE: 7/24/2020



LEGEND

- EXISTING STREAM
- PROPOSED STREAM
- POND MEANDER
- PROPOSED PERMIT BOUNDARY
- PROPERTY BOUNDARY
- STREAM TOP OF BANK
- POND TOP OF BANK

EXISTING RED GULLY CHANNEL - 5037 LINEAR FEET

RED GULLY RE-ESTABLISHMENT CROSS SECTION A

RED GULLY RE-ESTABLISHMENT - 5700 LINEAR FEET

RED GULLY RE-ESTABLISHMENT CROSS SECTION B

RED GULLY RE-ESTABLISHMENT CROSS SECTION C

RED GULLY RE-ESTABLISHMENT CROSS SECTION D

CROSS-SECTION A

CROSS-SECTION B

CROSS-SECTION C

CROSS-SECTION D

PROPOSED DETENTION POND INFLOW 24" RCP

PROPOSED NEW RESTORED RED GULLY ALIGNMENT

PROP. NEW DEEP WATER 5' DEEP PERMANENT POOL HABITAT 2.1 ACRES

PROPOSED DETENTION POND MEANDERING CHANNEL

PROPERTY BOUNDARY

PROPOSED DEEP POOL LENGTH = 700 FT WIDTH = 130 FT AREA = 2.1 ACRES

PROPOSED DETENTION POND OUTFALL 24" RCP

INLET FROM RED GULLY INTO NEW MEANDER CHANNEL / HABITAT / PERMANENT POOL & BASIN AREA.

PROP. NEW NATURAL MEANDER CHANNEL - 3000 LINEAR FEET

OUTLET FROM NEW MEANDER CHANNEL / HABITAT / PERMANENT POOL & BASIN INTO RED GULLY

EXHIBIT DRAFT I PROPOSED LAYOUT RED GULLY

CROSS SECTION "A" - OF RE-ESTABLISHED RED GULLY

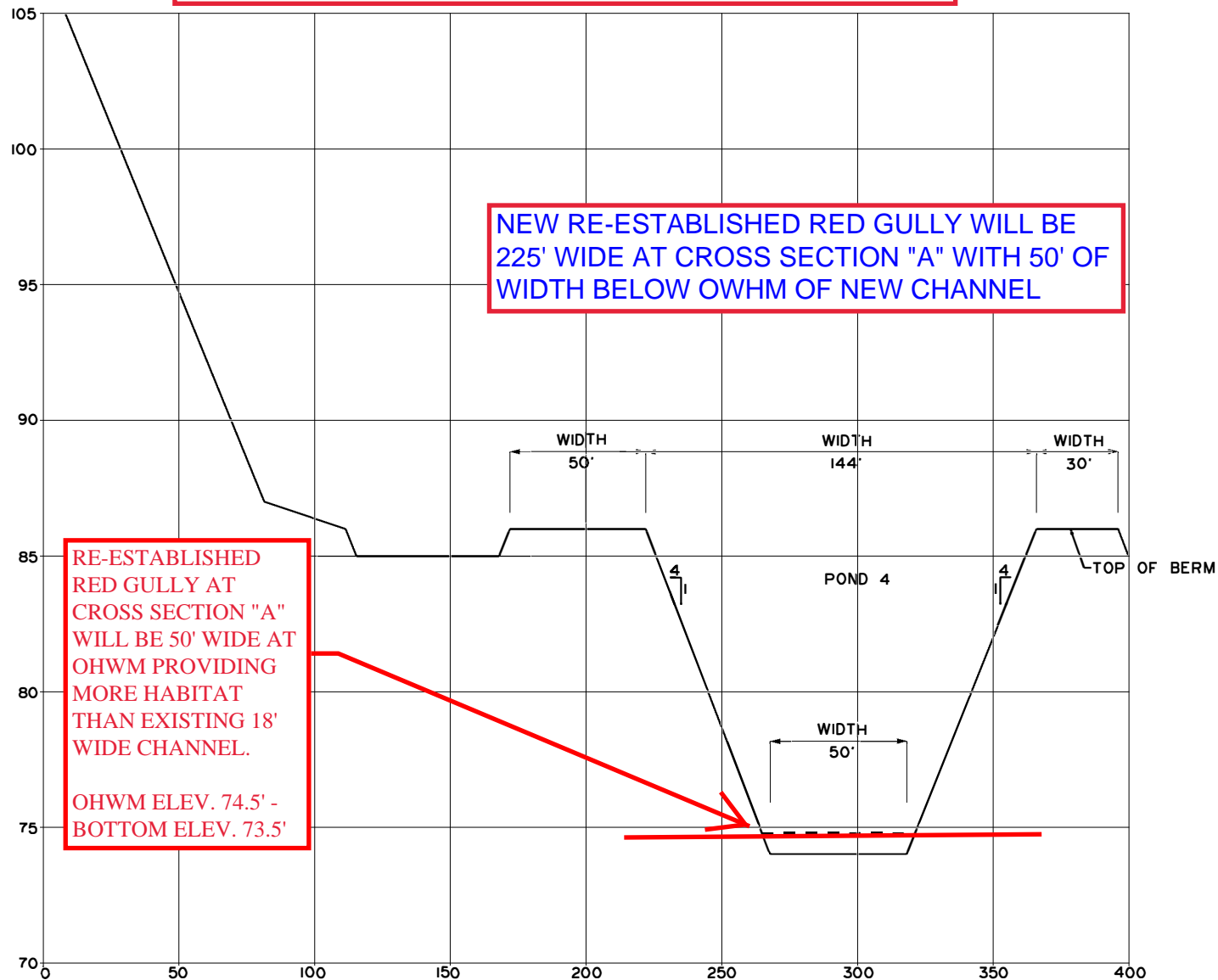


EXHIBIT 2
 DRAFT
 90' TOP WIDTH

RED GULLY
 PRELIMINARY TYPICAL
 CROSS-SECTION A

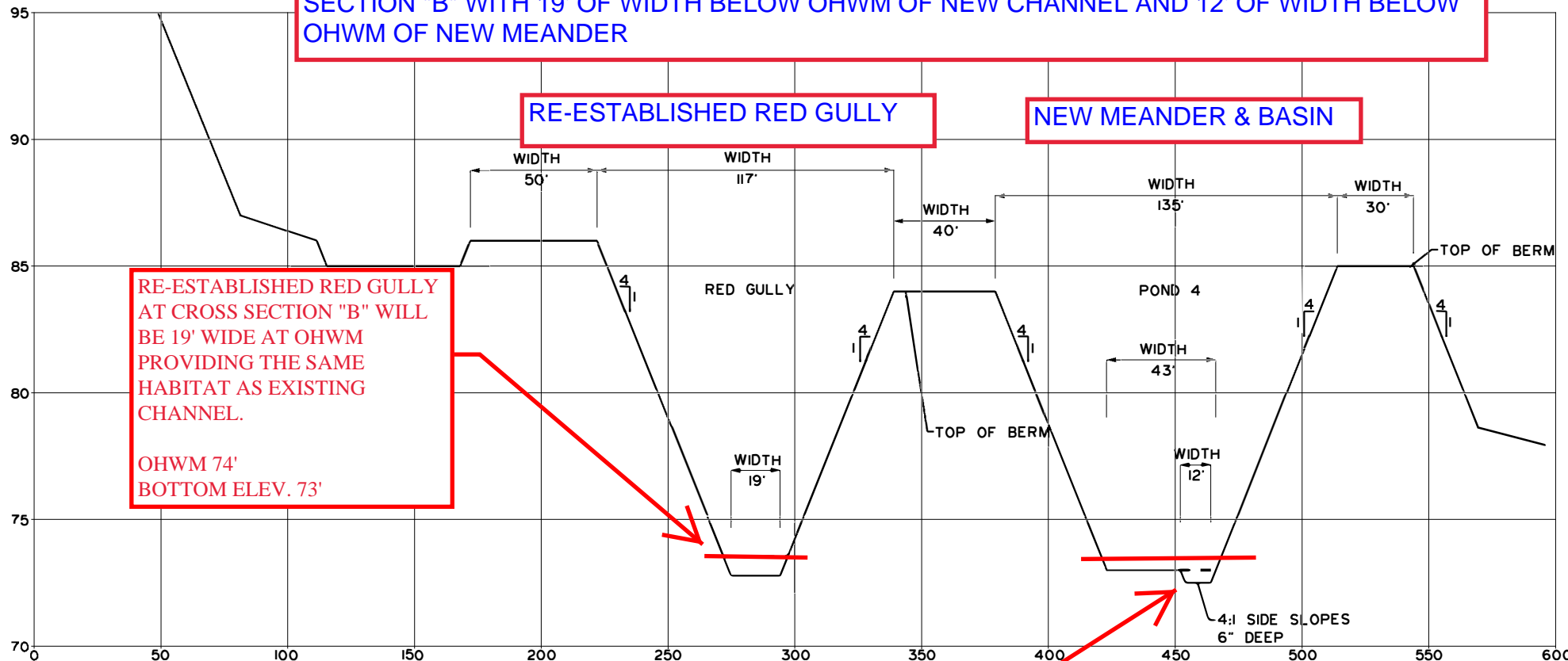
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CROSS SECTION "B" OF RE-ESTABLISHED RED GULLY

NEW RE-ESTABLISHED RED GULLY SOUTHERN SECTION WILL BE 375' WIDE AT CROSS SECTION "B" WITH 19' OF WIDTH BELOW OHWM OF NEW CHANNEL AND 12' OF WIDTH BELOW OHWM OF NEW MEANDER

RE-ESTABLISHED RED GULLY

NEW MEANDER & BASIN



RE-ESTABLISHED RED GULLY AT CROSS SECTION "B" WILL BE 19' WIDE AT OHWM PROVIDING THE SAME HABITAT AS EXISTING CHANNEL.
OHWM 74'
BOTTOM ELEV. 73'

NEW MEANDER CHANNEL IN DETENTION BASIN IS 12' IN WIDTH BELOW OHWM AND IS CONTINUOUSLY FED BY INLET PIPE FROM RED GULLY - CREATING MORE STREAM SECTION WITH BUFFER ZONES
OHWM ELEV. 74'
BOTTOM ELEV. 72.5'

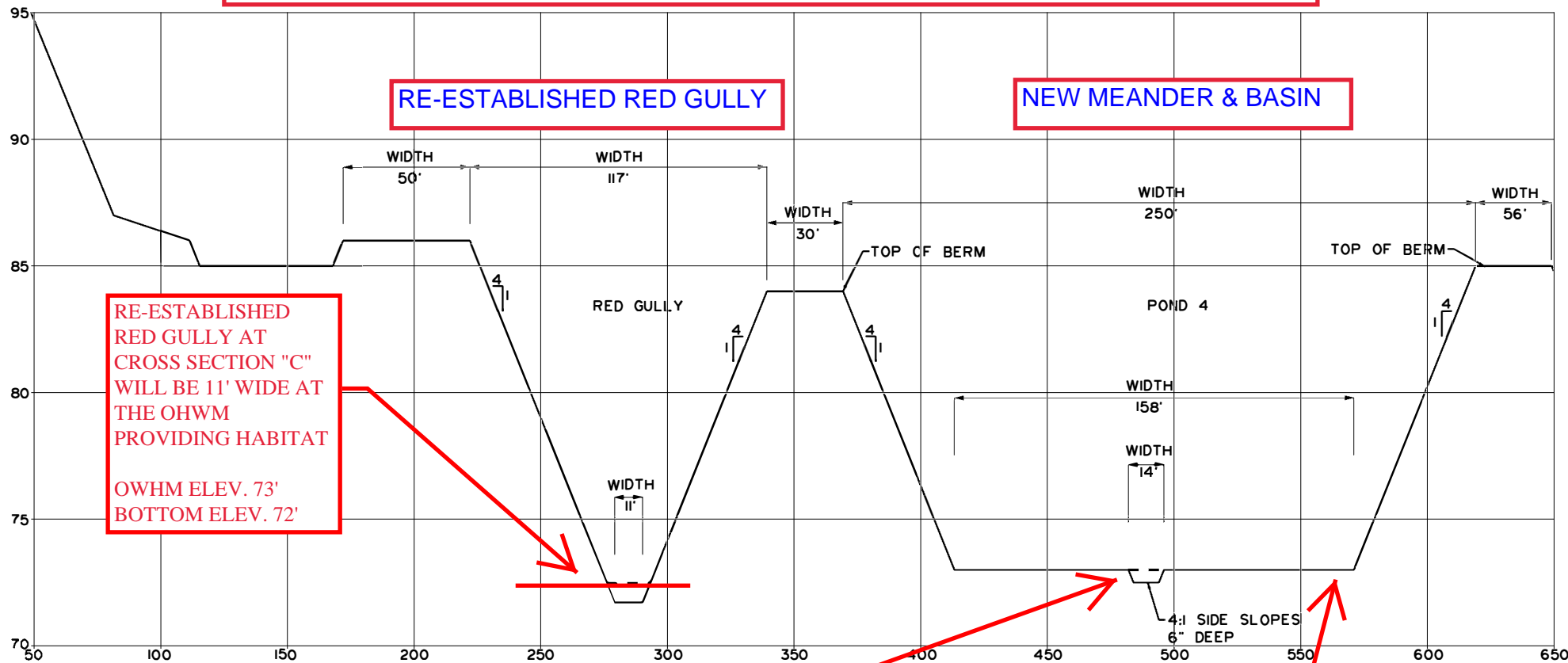
EXHIBIT 3
DRAFT
90' TOP WIDTH

RED GULLY
PRELIMINARY TYPICAL
CROSS-SECTION B

DRAWING DATE: 12/24/2020 FILENAME: K:\13794\13794-0022-00_Sprink_Ford_Land_Fill_Expansion\2_Design_Phase_Analysis\Microstation\X.S.dgn

CROSS SECTION OF "C" OF RE-ESTABLISHED RED GULLY

NEW RE-ESTABLISHED RED GULLY SOUTHERN SECTION WILL BE 500' WIDE AT CROSS SECTION "C" WITH



RE-ESTABLISHED RED GULLY AT CROSS SECTION "C" WILL BE 11' WIDE AT THE OHWM PROVIDING HABITAT
 OHWM ELEV. 73'
 BOTTOM ELEV. 72'

NEW MEANDER CHANNEL IN DETENTION BASIN IS 14' IN WIDTH BELOW OHWM AND IS CONTINUOUSLY FED BY INLET PIPE FROM RED GULLY - CREATING MORE STREAM SECTION WITH BUFFER ZONES
 OHW. ELEV. 73'
 BOTTOM ELEV. 72'

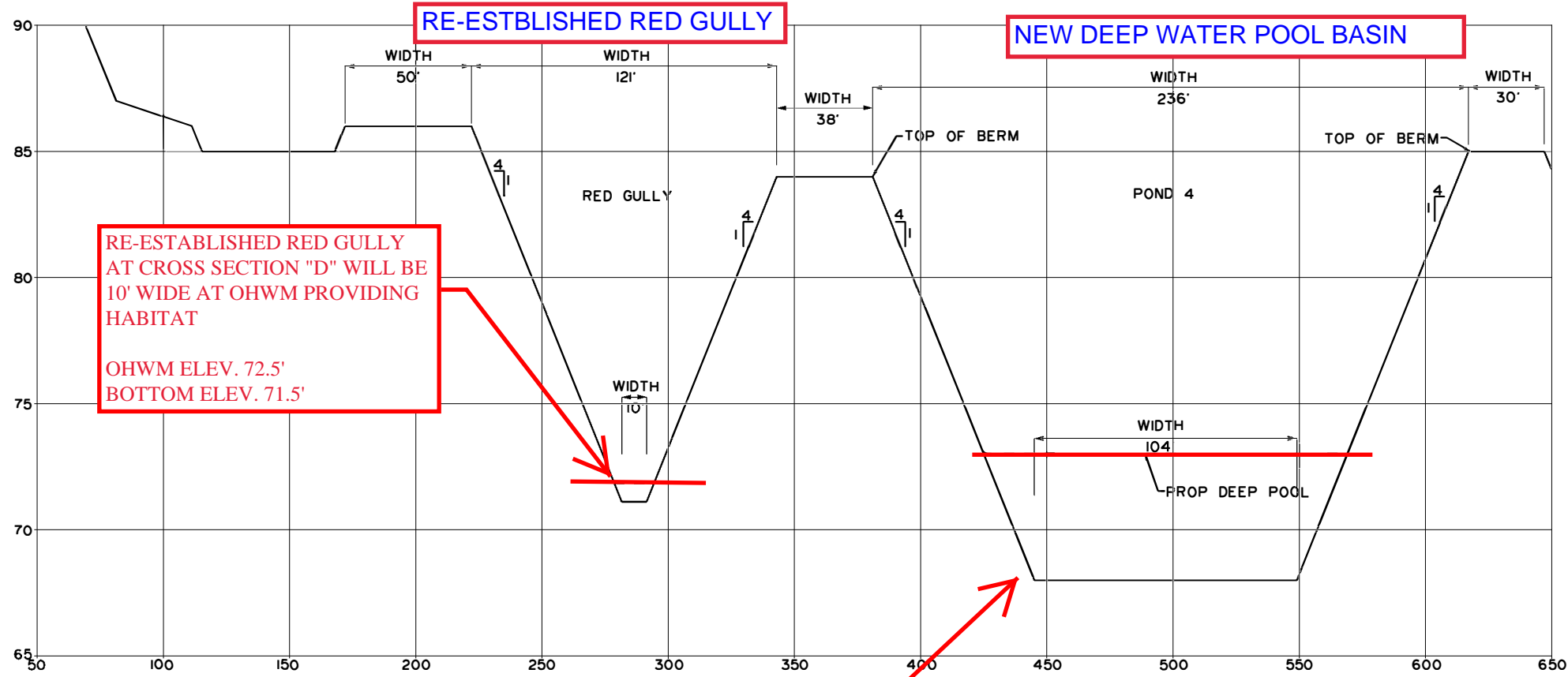
BASIN WIDTH IS 158' AT BOTTOM AND 250' AT TOP

EXHIBIT 4
 DRAFT
 90' TOP WIDTH
 RED GULLY
 PRELIMINARY TYPICAL
 CROSS-SECTION C

DRAWING DATE: 12/24/2020 FILENAME: K:\13794\13794-0022-00_Sprinkl_Ford_Land_Fill_Expansion\2_Design_Phase_Analysis\Microstation\X.S.dgn

CROSS SECTION "D" OF RE-ESTABLISHED RED GULLY

NEW RE-ESTABLISHED RED GULLY SOUTHEASTERN SECTION WILL BE 475' WIDE AT CROSS SECTION "D" WITH 10' OF WIDTH BELOW OHWM OF NEW CHANNEL AND A PERMANENT POOL DEEP WATER POND 104' WIDE PROVIDING 2.1 ACRES OF HABITAT. POND WILL BE APPROX. 5' OF STATIC WATER SURFACE DEPTH. DURING HEAVY RAINFALL EVENTS BOTH RED GULLY AND BASIN WILL ACCEPT FLOOD WATERS TO PROTECT ADJACENT NEIGHBORHOODS.



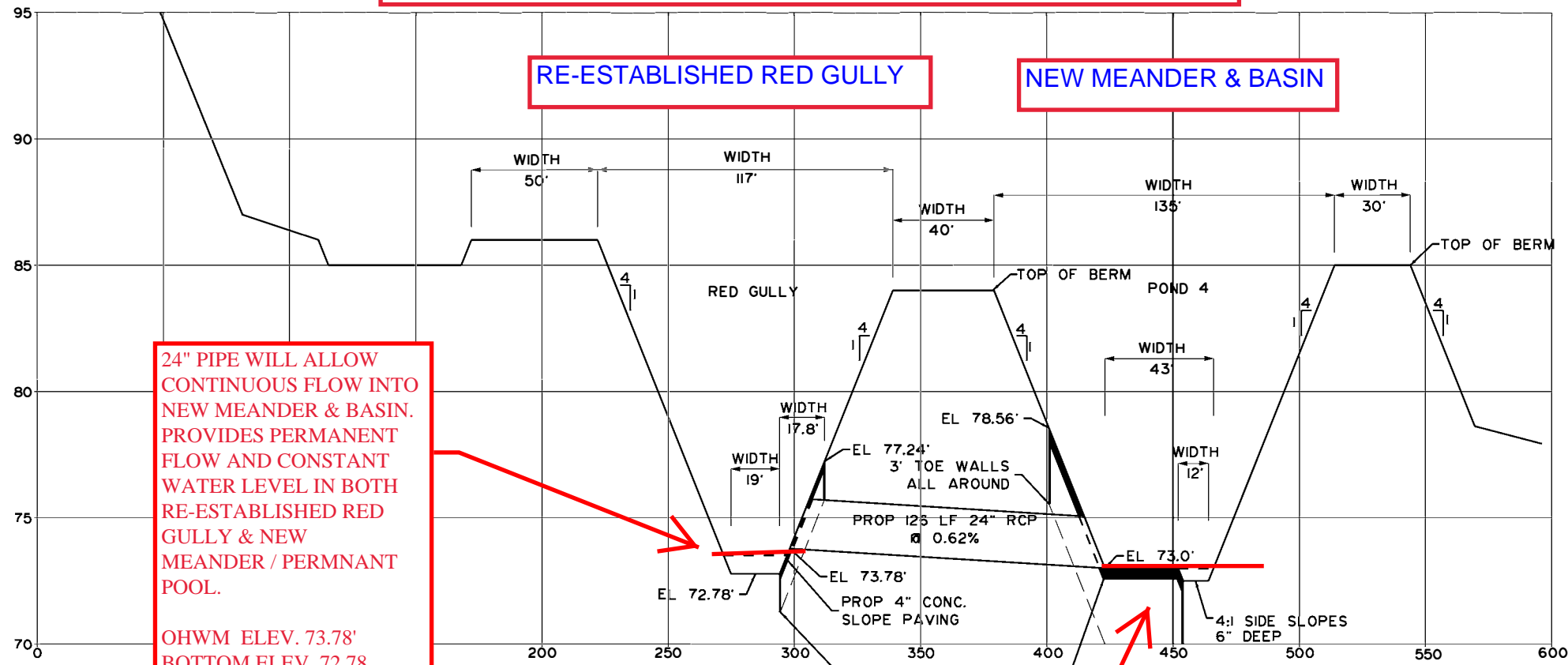
RE-ESTABLISHED RED GULLY AT CROSS SECTION "D" WILL BE 10' WIDE AT OHWM PROVIDING HABITAT
OHWM ELEV. 72.5'
BOTTOM ELEV. 71.5'

NEW PERMANENT DEEP WATER POOL AREA IN SOUTHEASTERN PORTION OF NEW BASIN IS CONTINUOUSLY FED BY INLET PIPE FROM RED GULLY -CREATING DEEP WATER HABITAT AT THE END OF THE NEW 3000 LF. MEANDER CHANNEL. PERMANENT POOL WILL BE 5' DEEP AND 2.1 ACRES IN SIZE.
PERM. POOL NORMAL WSE - 72.5'
PERM. POOL BOTTOM ELEV. - 67.5'
NORM. WATER DEPTH 5'

EXHIBIT 5
DRAFT
90' TOP WIDTH
RED GULLY
PRELIMINARY TYPICAL
CROSS-SECTION D

DRAWING DATE: 12/24/2020 FILENAME: K:\13794\13794-0022-00_Sprink_Ford_Band_Land_Fill_Expansion\2_Design_Phase_Analysis\Microstation\X.S.dwg

CROSS SECTION OF "INLET" PIPE FROM RE-ESTABLISHED RED GULLY INTO NEW MEANDER AND BASIN / HABITAT AREA



24" PIPE WILL ALLOW CONTINUOUS FLOW INTO NEW MEANDER & BASIN. PROVIDES PERMANENT FLOW AND CONSTANT WATER LEVEL IN BOTH RE-ESTABLISHED RED GULLY & NEW MEANDER / PERMANT POOL.

OHWM ELEV. 73.78'
BOTTOM ELEV. 72.78

OHWM ELEV. 73'
BOTTOM ELEV. 72'

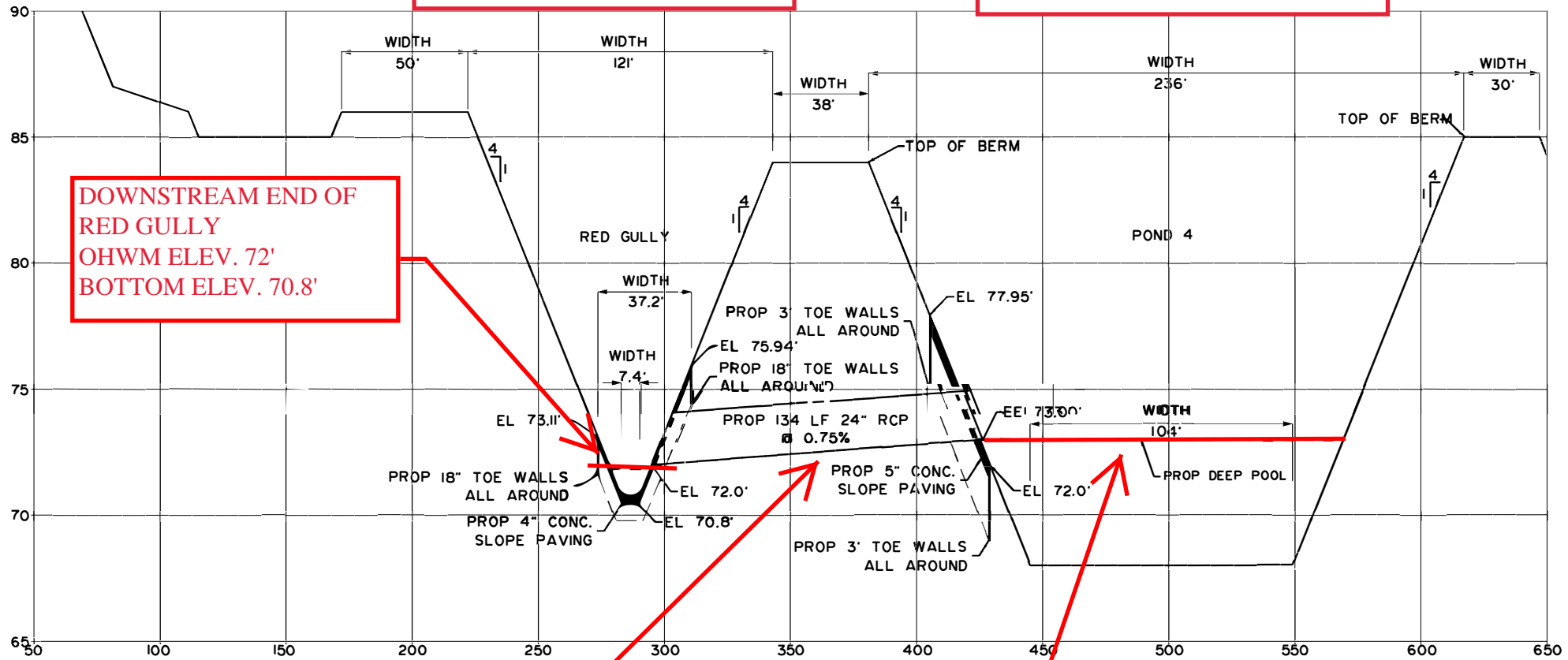
EXHIBIT 6
DRAFT
90' TOP WIDTH
RED GULLY
INFLOW STRUCTURE

DRAWING DATE: 12/24/2020 FILENAME: K:\13794\13794-0022-00_Sprinkl_Ford_Land_Fill_Expansion\2_Design_Phase_Analysis\Microstation\X.S.dgn

CROSS SECTION OF "OUTLET" PIPE FROM MEANDER AND BASIN/
HABITAT AREA BACK INTO RE-ESTABLISHED RED GULLY

RE-ESTABLISHED RED GULLY

PERMANENT POOL & BASIN



DOWNSTREAM END OF
RED GULLY
OHWM ELEV. 72'
BOTTOM ELEV. 70.8'

24" PIPE WILL ALLOW OVERFLOW FROM
NEW MEANDER & BASIN / PERMANENT
POOL TO DISCHARGE BACK INTO RE-
ESTABLISHED RED GULLY.

PERMANENT POOL
WATER SURFACE ELEV. 73'
BOTTOM ELEV. 68'

EXHIBIT 7
DRAFT
90' TOP WIDTH

RED GULLY
OUTFALL STRUCTURE

DRAWING DATE: 1/24/2020 FILENAME: K:\1794\1794-0022-00_Sprinkler_Band_Land_Fill_Expansion\2_Design_Phase_Analysis\Microstation\X.S.dgn