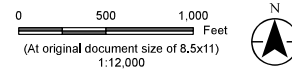


Legend
Project Location



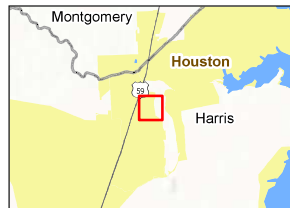
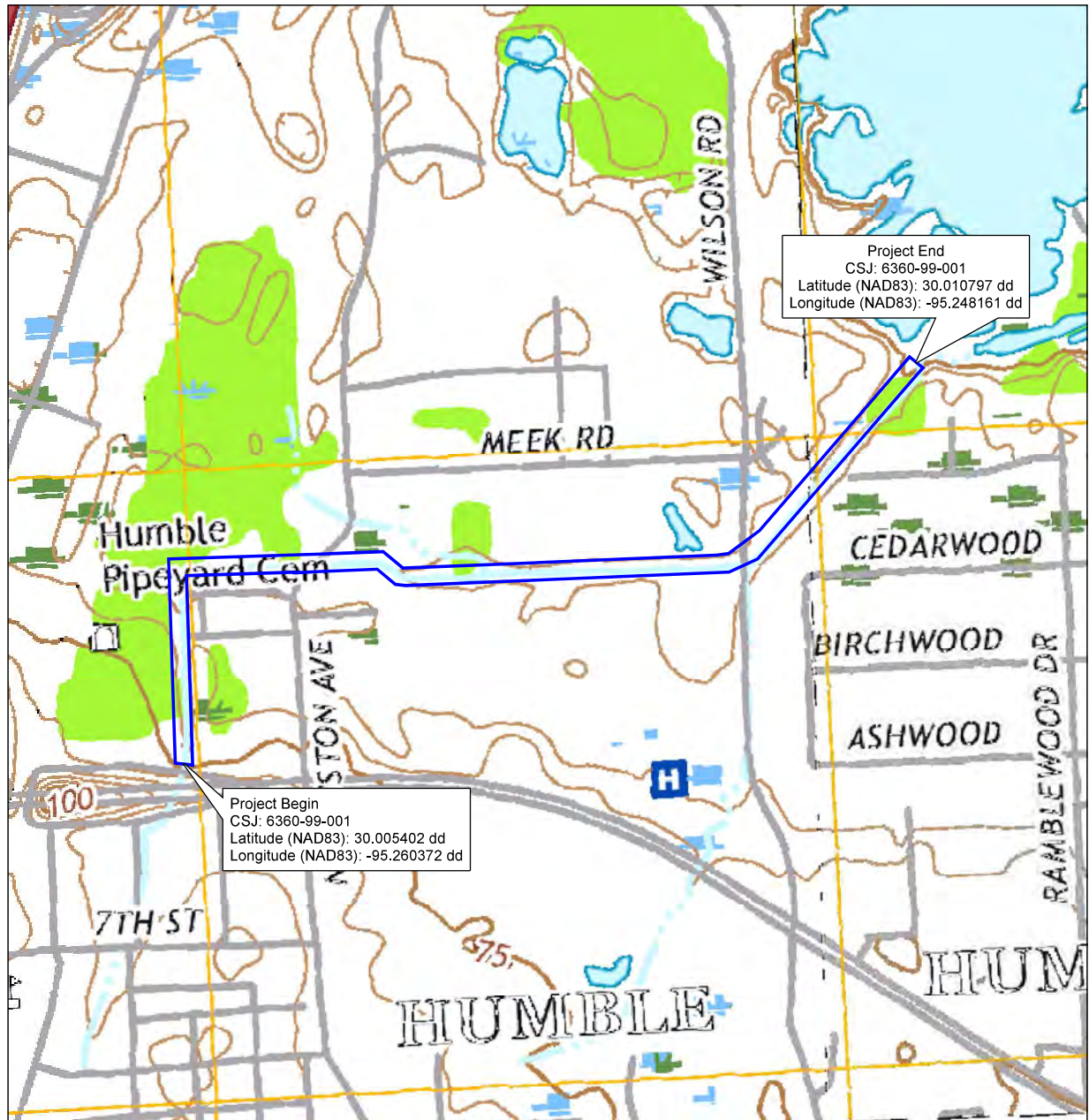
Project Location
Harris Co., TX

Client/Project
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd.
USACE SIP Attachment F - Drawings and Figures

Figure No.
1

Title
Project Location (Road Base)

Notes
1. Coordinate System: NAD 1983 StatePlane Texas
South Central FIPS 4204 Feet
2. Data Sources: Stantec, TxDOT, NADS, USGS
3. Background: Esri World Navigation Map



Legend
Project Location

0 400 800 Feet
(At original document size of 8.5x11)
1:9,600



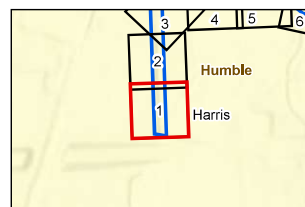
Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

Client/Project
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd.
USACE SIP Attachment F - Drawings and Figures

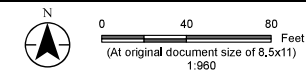
Figure No.
2

Title
Project Location (Topographic
Base)



- Legend**
- Project Location
 - Cross Sections
 - Flexamat
 - Gabion Baskets
 - Side Slope Contouring and Native Fill

- Temporary Construction Area
- Field Delineated Waters**
- WET1
- WET1 (Culverted)
- IS1
- IS1 (Culverted)



- Notes**
1. Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
 2. Data Sources: Stantec, TxDOT, NADS, USGS
 3. Background: NAIP 2020



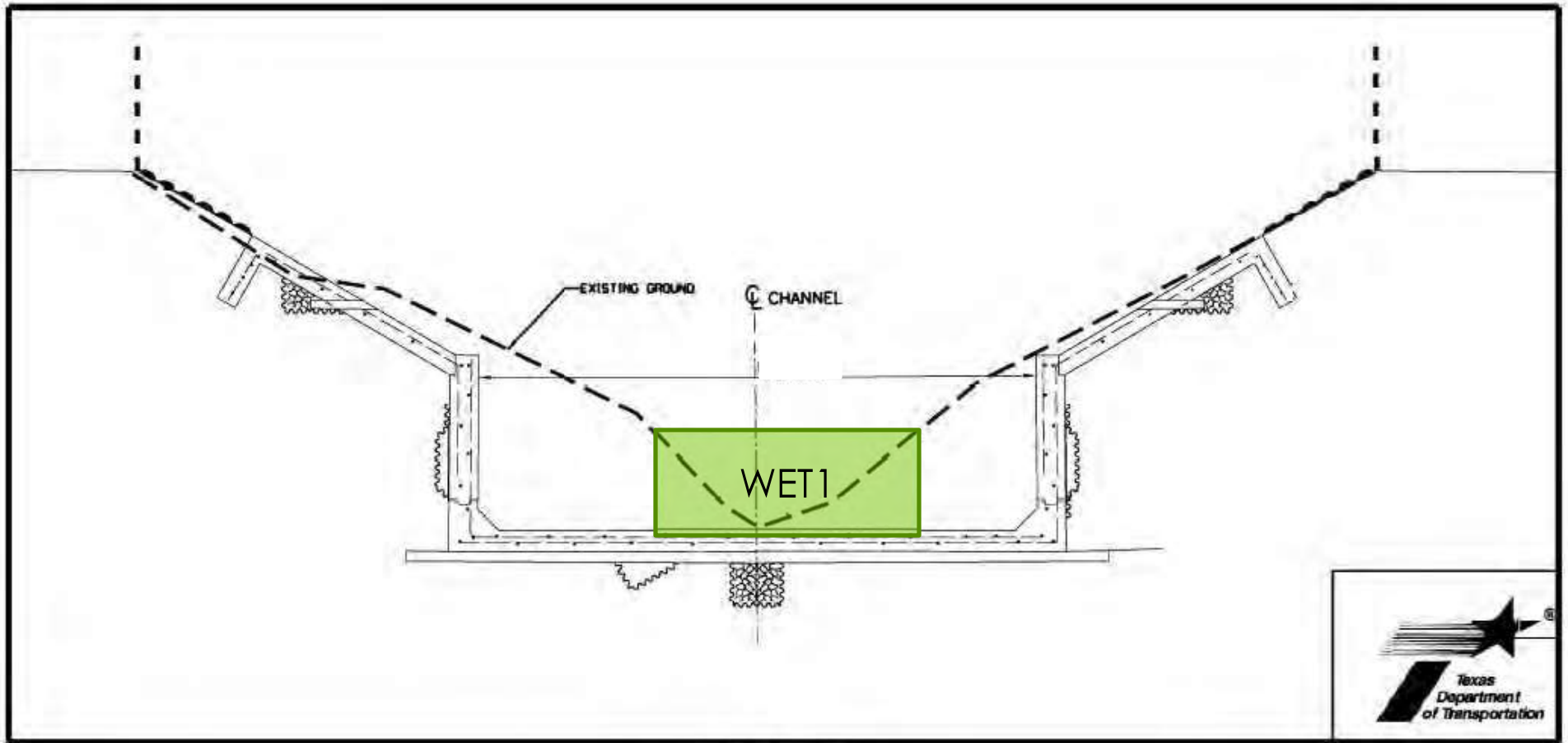
Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

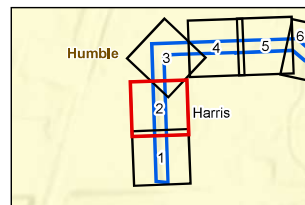
Client/Project
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd,
USACE SIP Attachment F - Drawings and Figures

Figure No.
235300804

Title
Project Impacts Plan View



STA 13+00 X-SEC



- Legend**
- Project Location
 - Cross Sections
 - Flexamat
 - Gabion Baskets
 - Side Slope Contouring and Native Fill

- Temporary Construction Area
- Field Delineated Waters
- WET1
- WET1 (Culverted)
- IS1
- IS1 (Culverted)



0 40 80 Feet
(At original document size of 8.5x11)
1:960

Notes

1. Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
2. Data Sources: Stantec, TxDOT, NADS, USGS
3. Background: NAIP 2020



Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

Client/Project 235300804

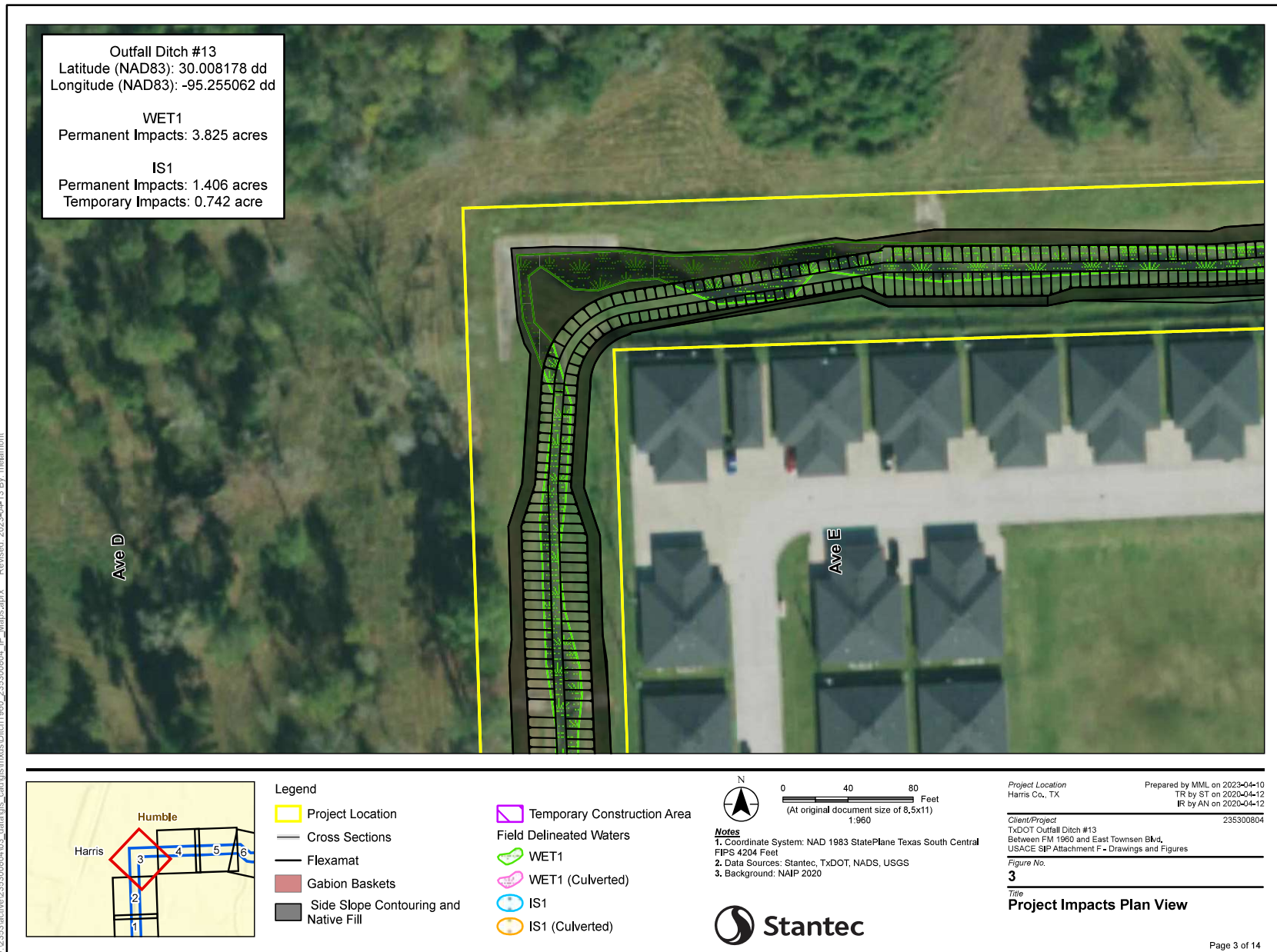
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd,
USACE SIP Attachment F - Drawings and Figures

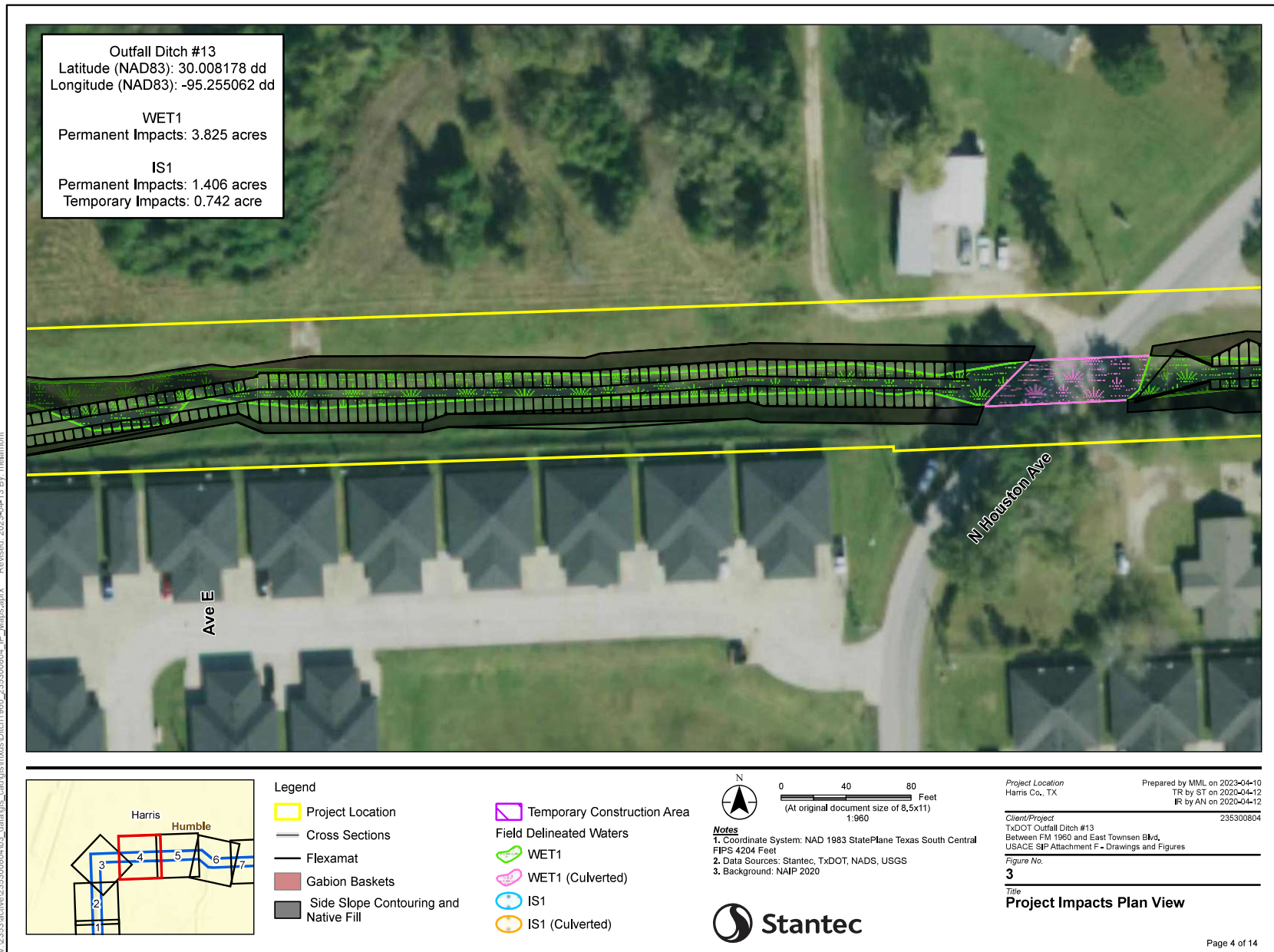
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3

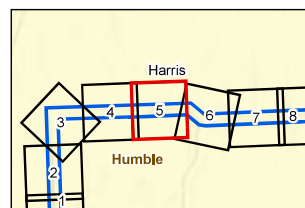
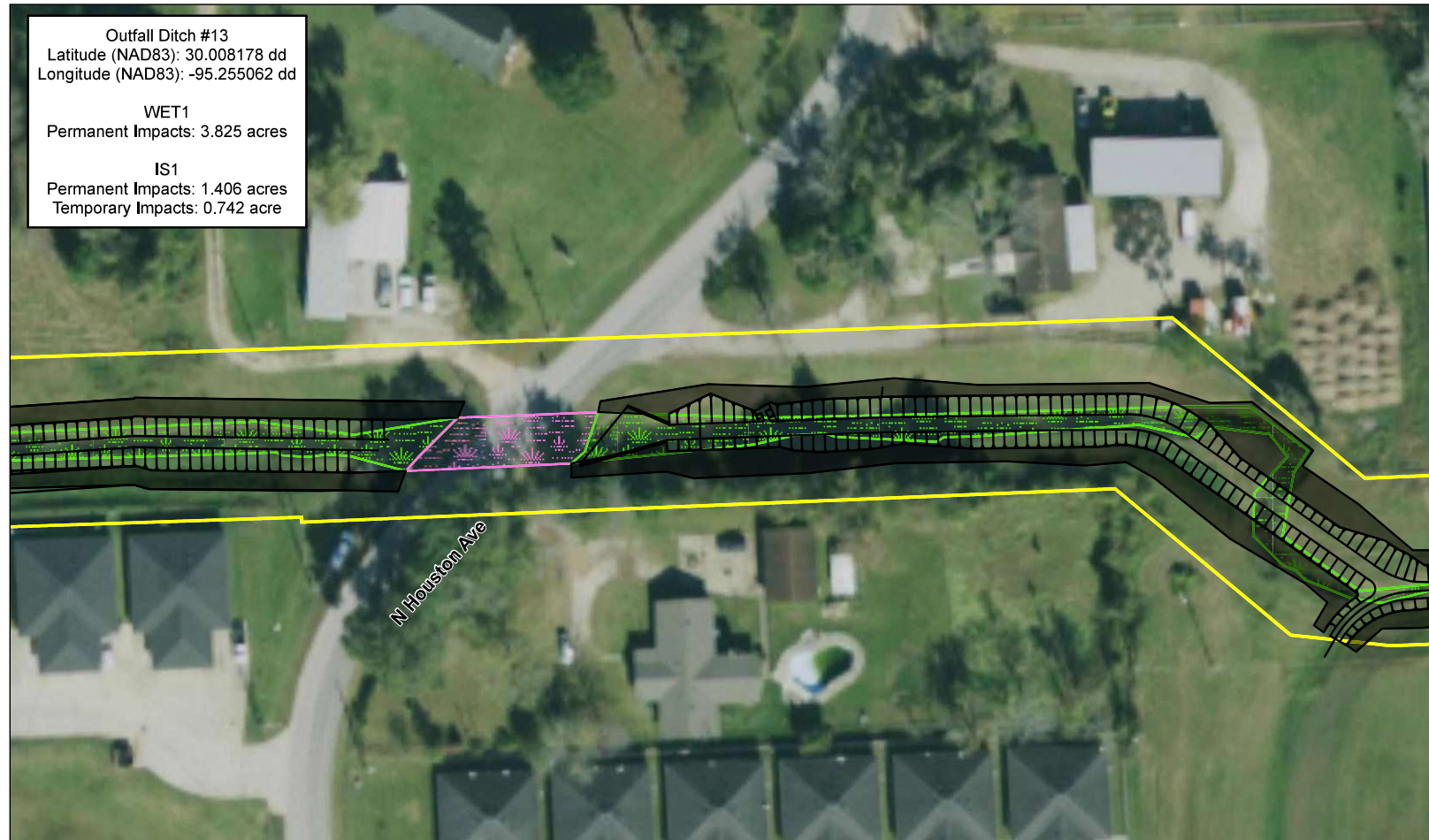
Title

Project Impacts Plan View



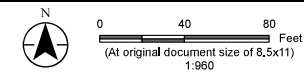


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- Legend**
- Project Location
 - Cross Sections
 - Flexamat
 - Gabion Baskets
 - Side Slope Contouring and Native Fill

- Temporary Construction Area
- Field Delineated Waters**
- WET1
- WET1 (Culverted)
- IS1
- IS1 (Culverted)



Notes
1. Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
2. Data Sources: Stantec, TxDOT, NADS, USGS
3. Background: NAIP 2020



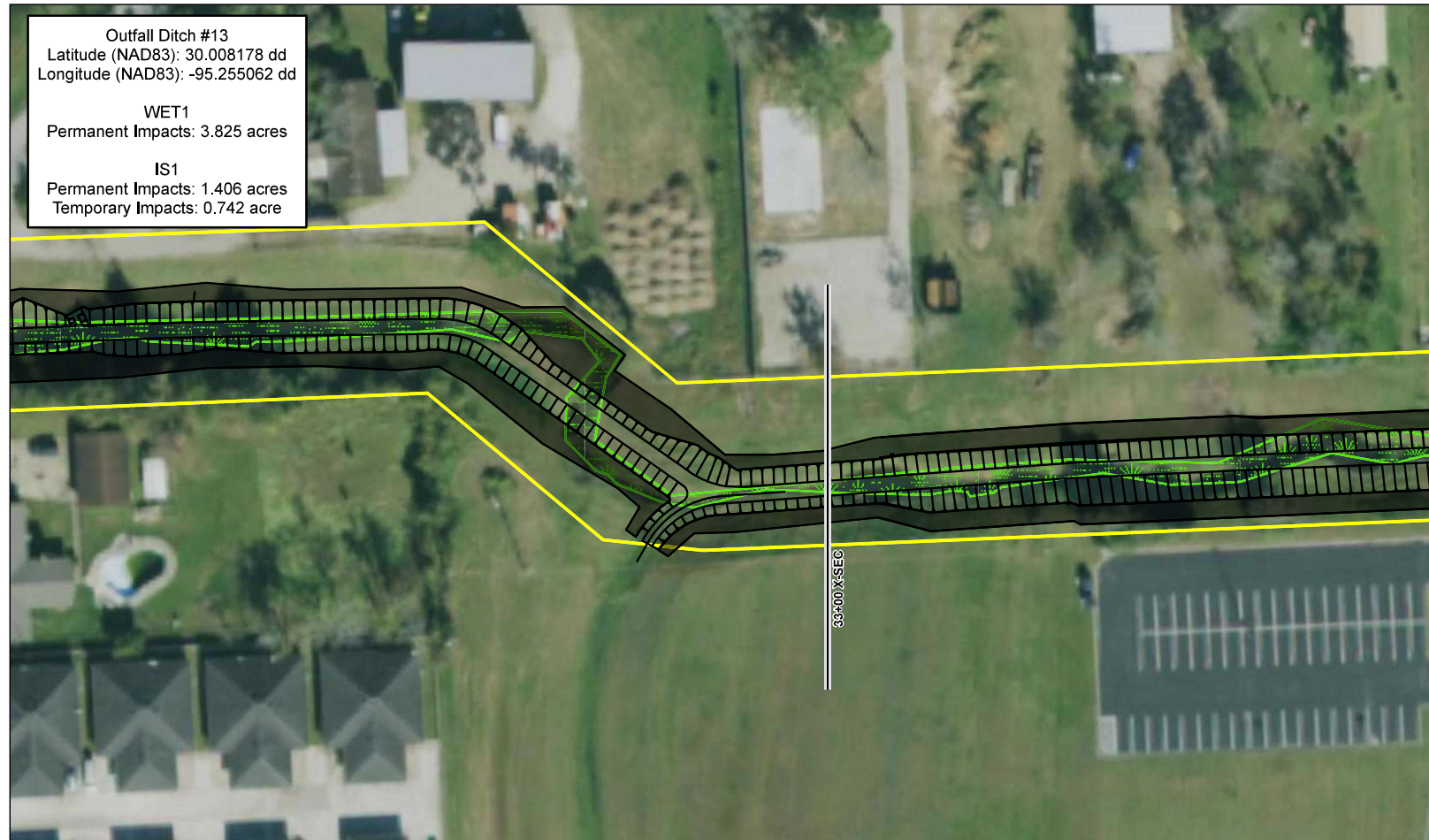
Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

Client/Project
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd,
USACE SIP Attachment F - Drawings and Figures

Figure No.
3

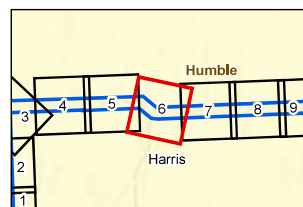
Title
Project Impacts Plan View



Outfall Ditch #13
Latitude (NAD83): 30.008178 dd
Longitude (NAD83): -95.255062 dd

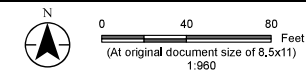
WET1
Permanent Impacts: 3.825 acres

IS1
Permanent Impacts: 1.406 acres
Temporary Impacts: 0.742 acre



- Legend**
- Project Location
 - Cross Sections
 - Flexamat
 - Gabion Baskets
 - Side Slope Contouring and Native Fill

- Temporary Construction Area
- Field Delineated Waters**
- WET1
- WET1 (Culverted)
- IS1
- IS1 (Culverted)



Notes

1. Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
2. Data Sources: Stantec, TxDOT, NADS, USGS
3. Background: NAIP 2020



Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

Client/Project 235300804

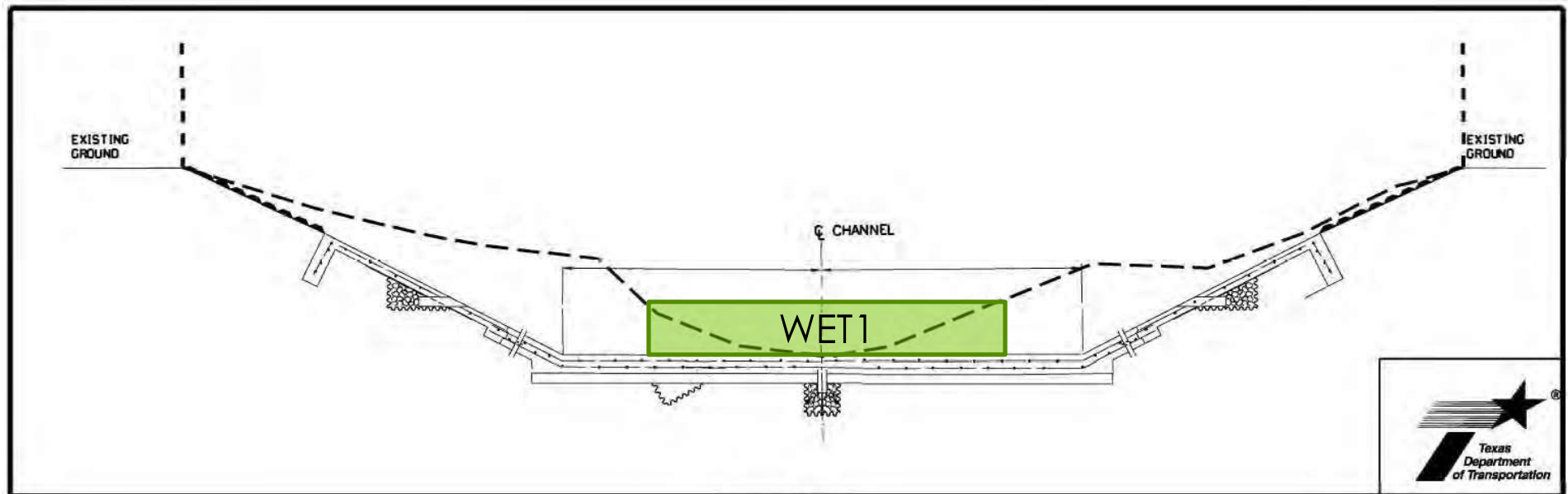
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd,
USACE SIP Attachment F - Drawings and Figures

Figure No.

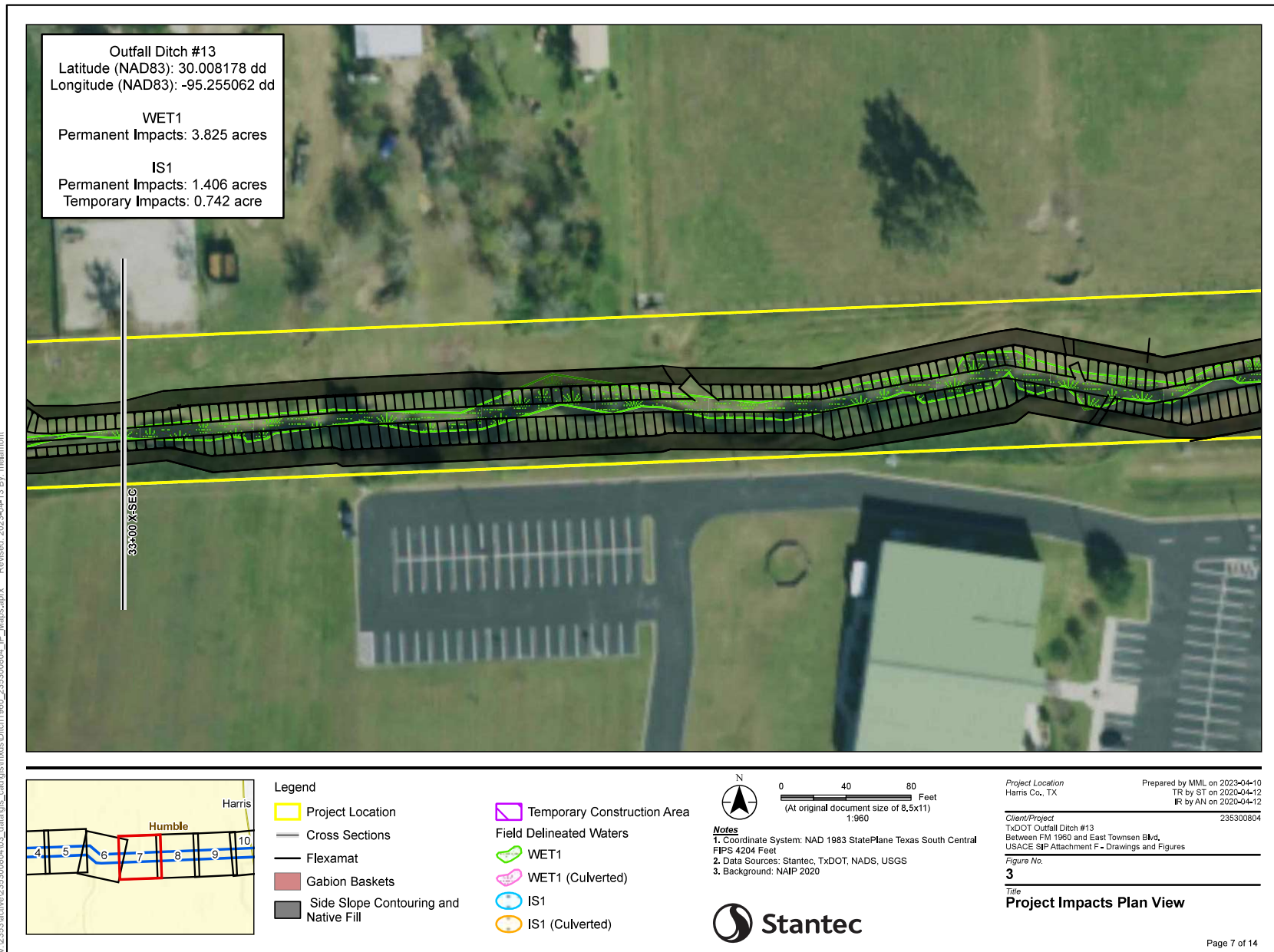
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Title

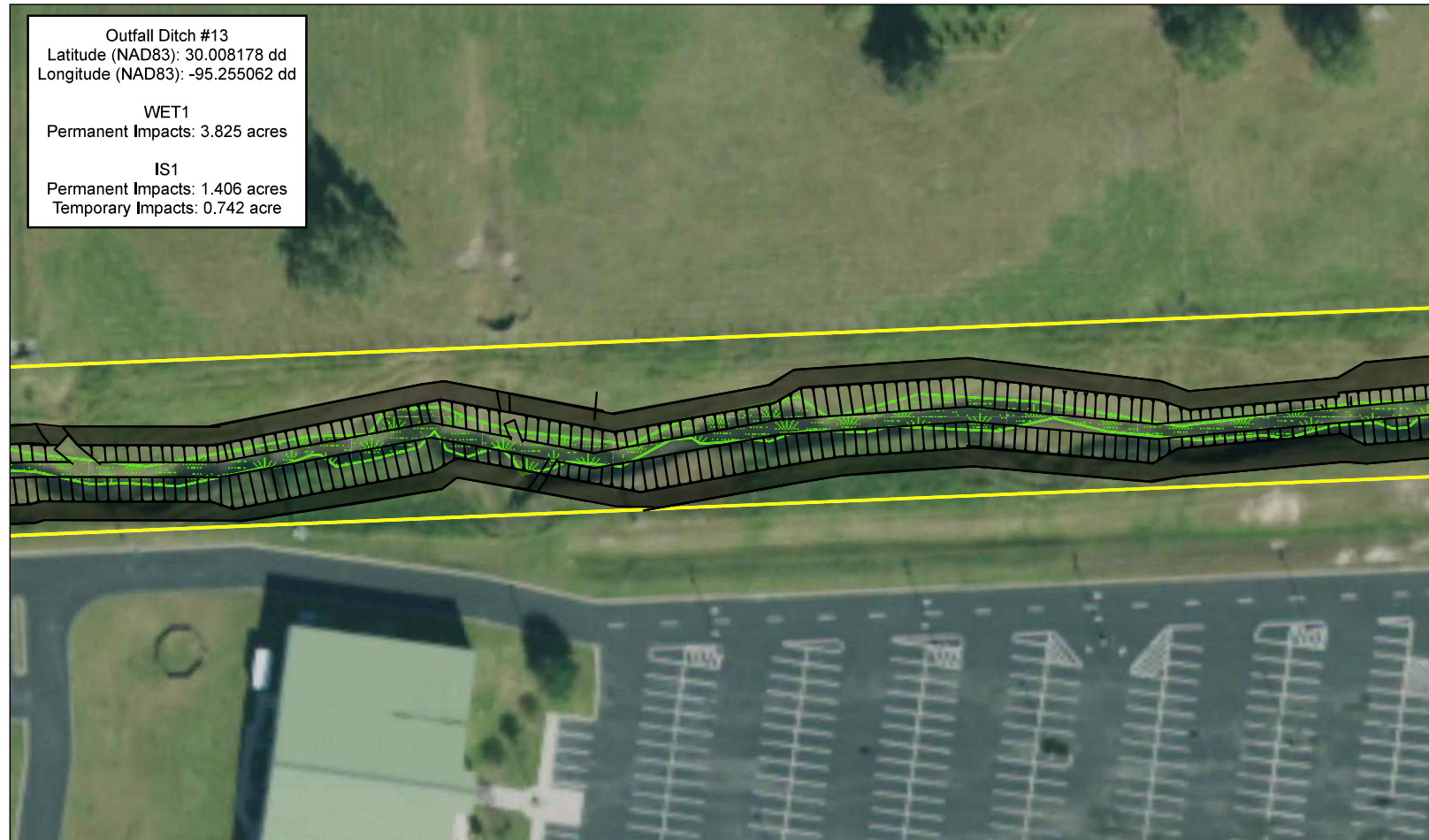
Project Impacts Plan View



STA 33+00 X-SEC



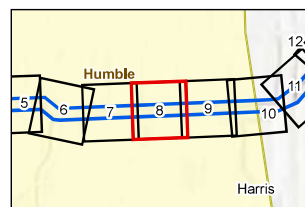
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Outfall Ditch #13
Latitude (NAD83): 30.008178 dd
Longitude (NAD83): -95.255062 dd

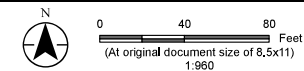
WET1
Permanent Impacts: 3.825 acres

IS1
Permanent Impacts: 1.406 acres
Temporary Impacts: 0.742 acre



- Legend**
- Project Location
 - Cross Sections
 - Flexamat
 - Gabion Baskets
 - Side Slope Contouring and Native Fill

- Temporary Construction Area
- Field Delineated Waters**
- WET1
- WET1 (Culverted)
- IS1
- IS1 (Culverted)



Notes

1. Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
2. Data Sources: Stantec, TxDOT, NADS, USGS
3. Background: NAIP 2020



Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

Client/Project
235300804

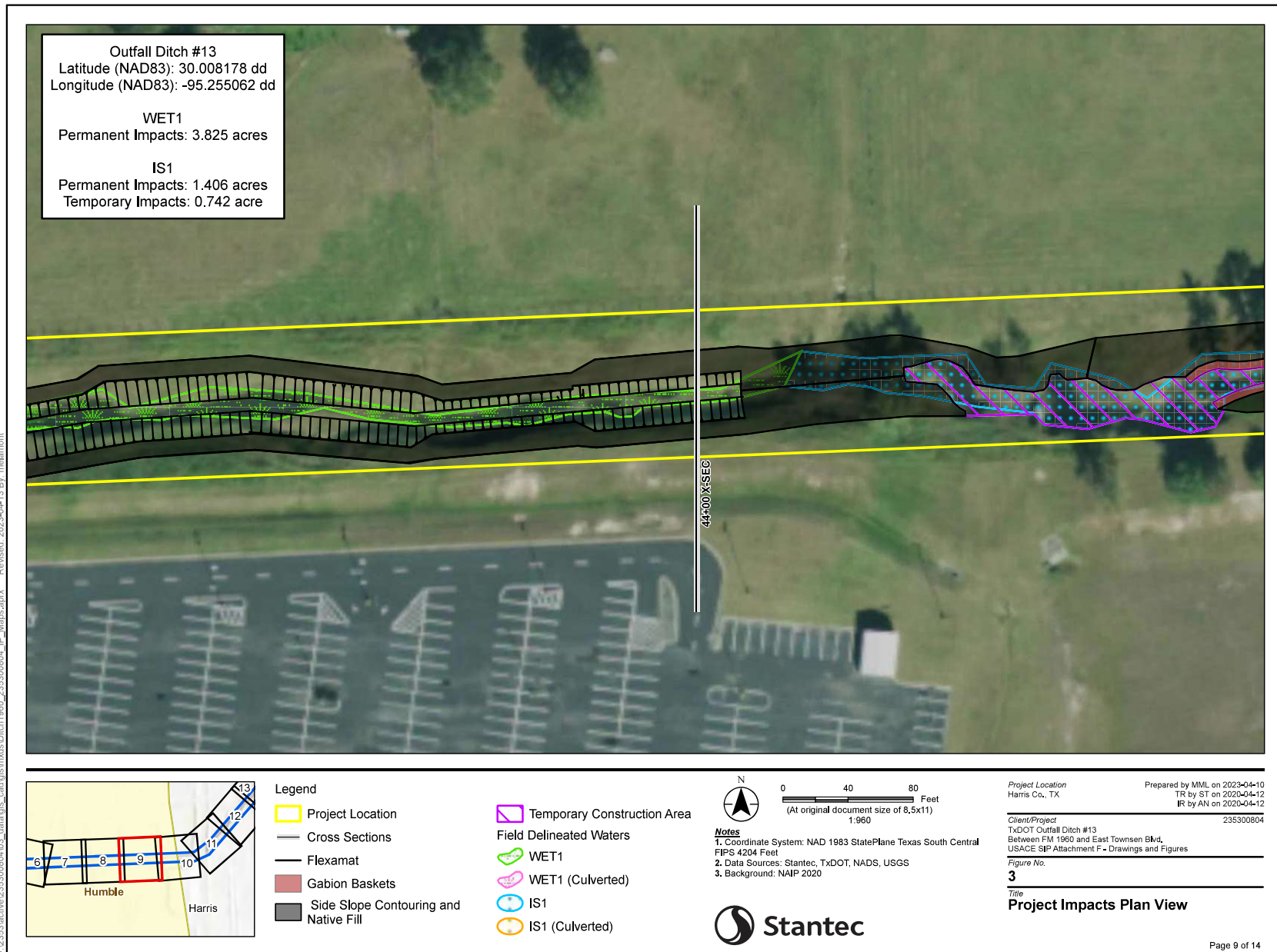
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd,
USACE SIP Attachment F - Drawings and Figures

Figure No.

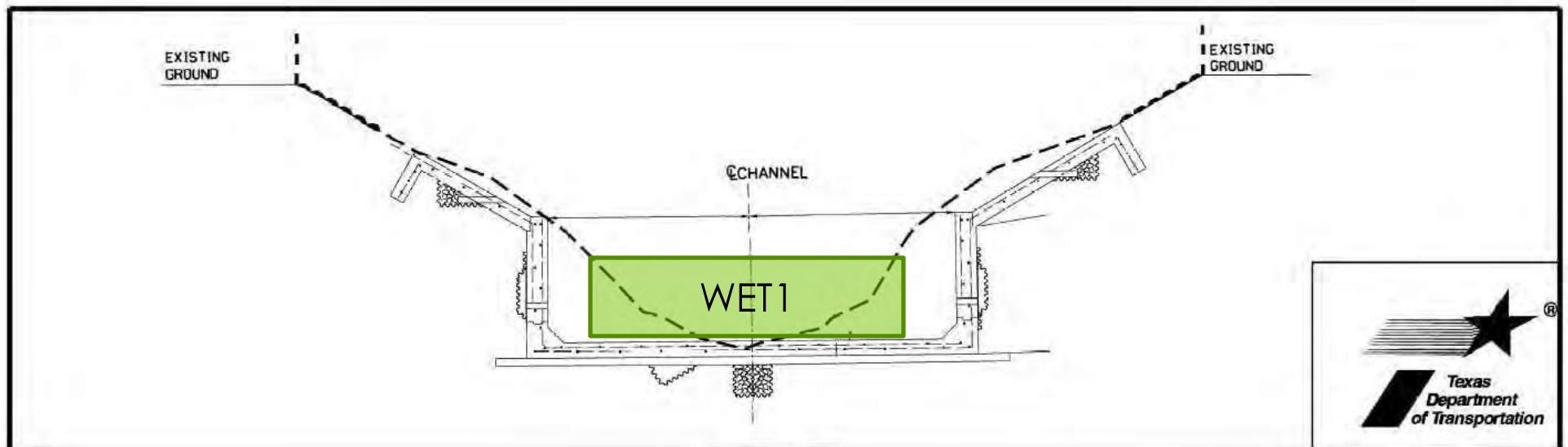
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Title

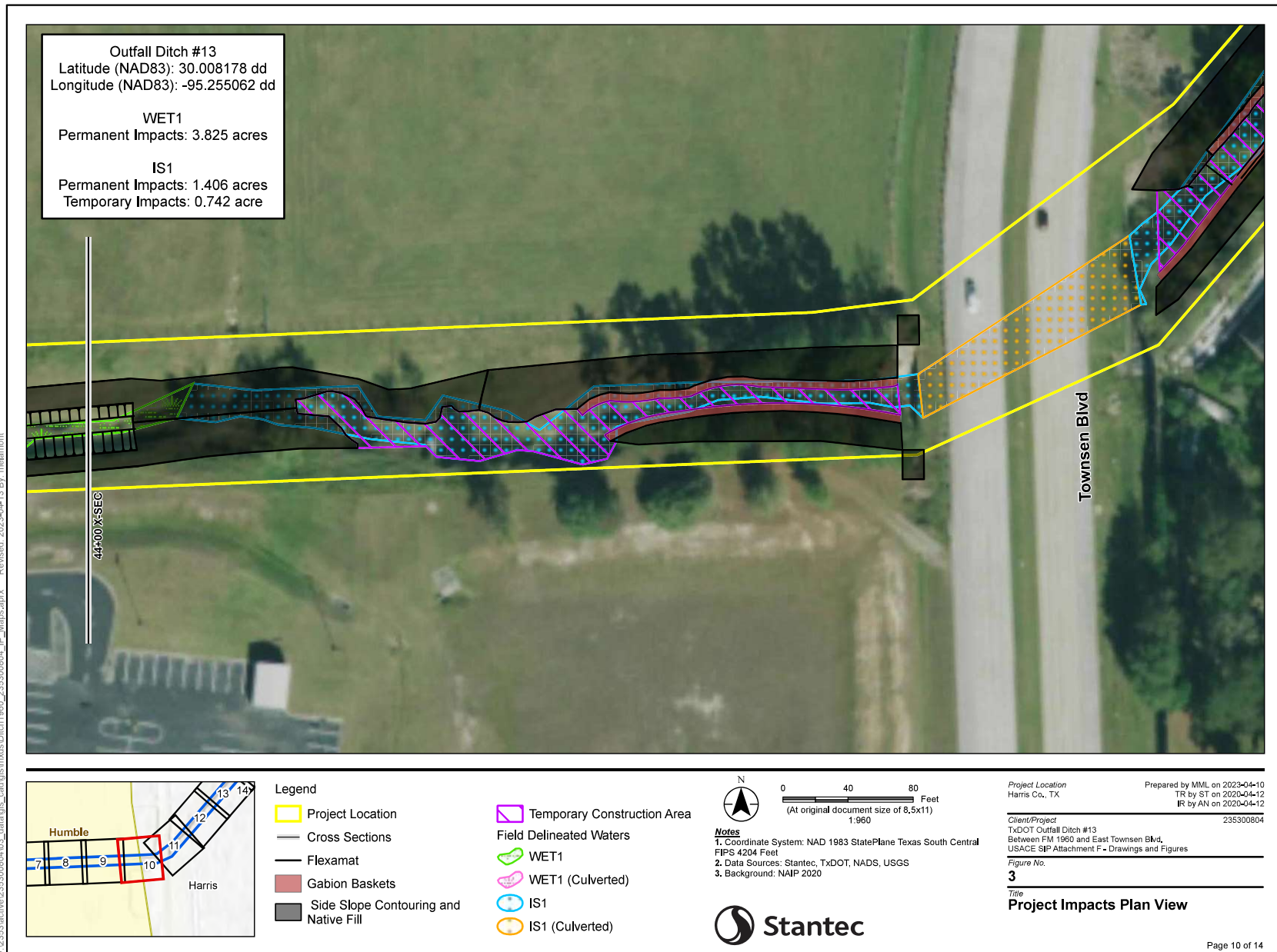
Project Impacts Plan View



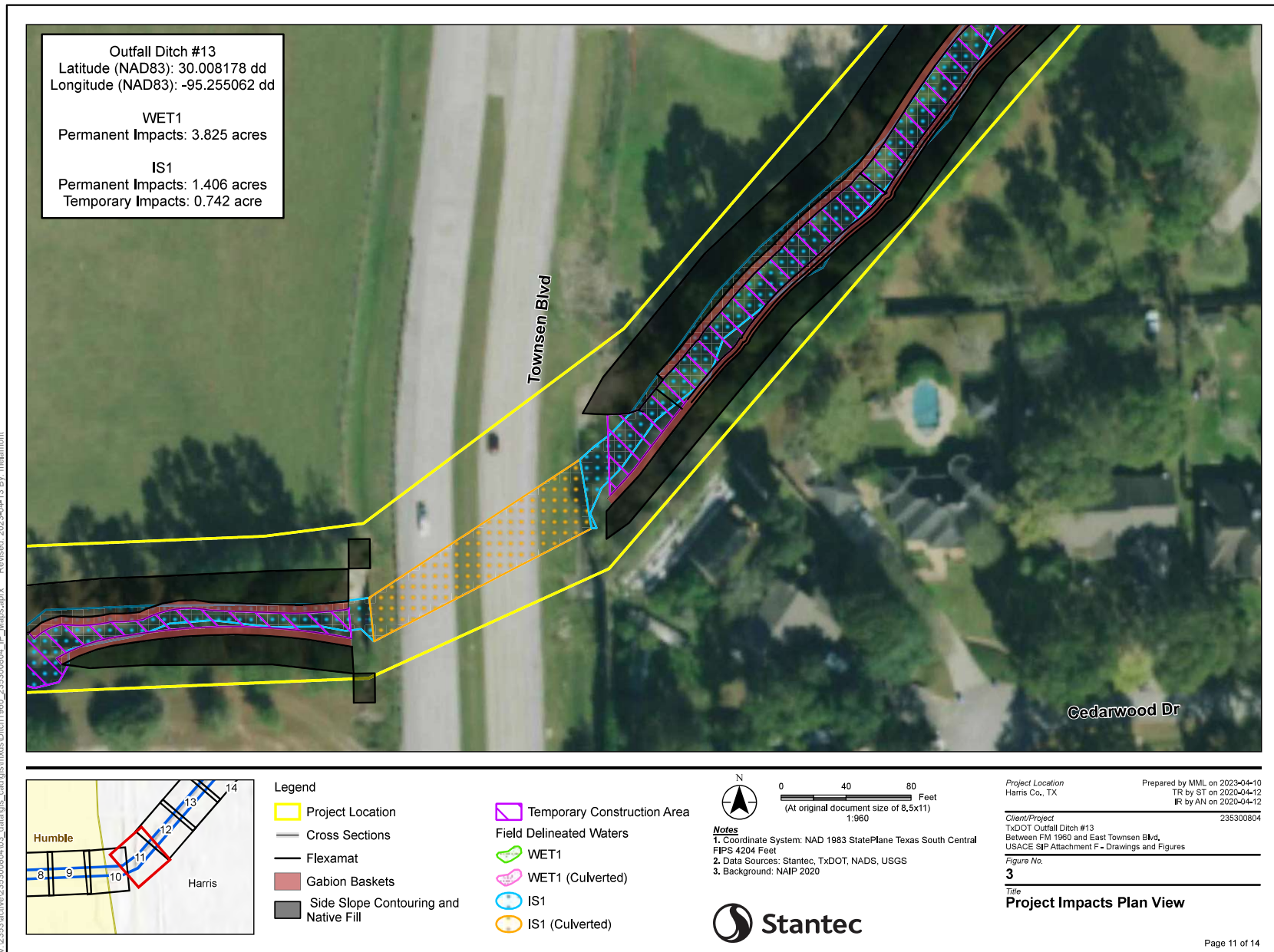
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STA 44+00 X-SEC

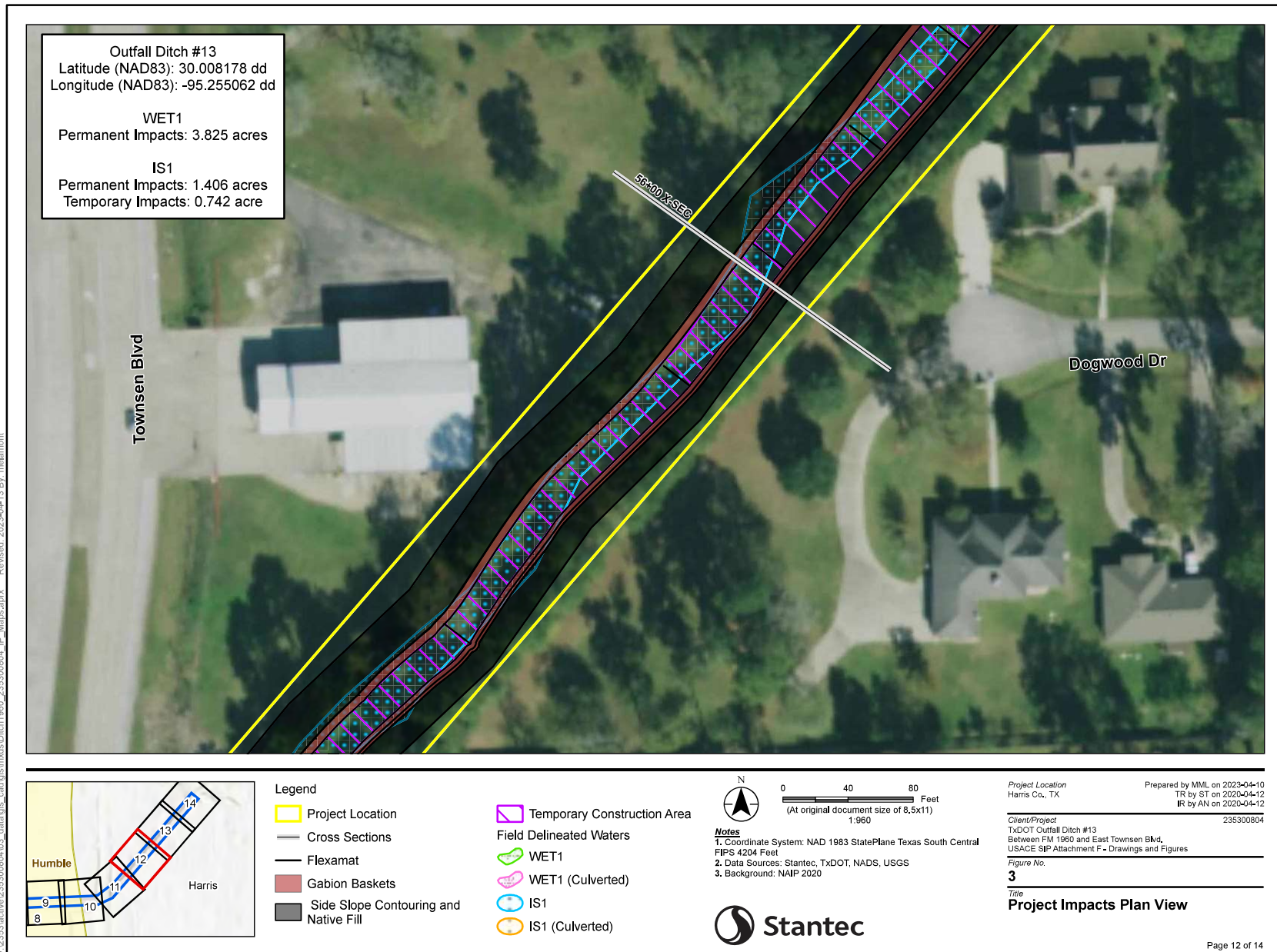


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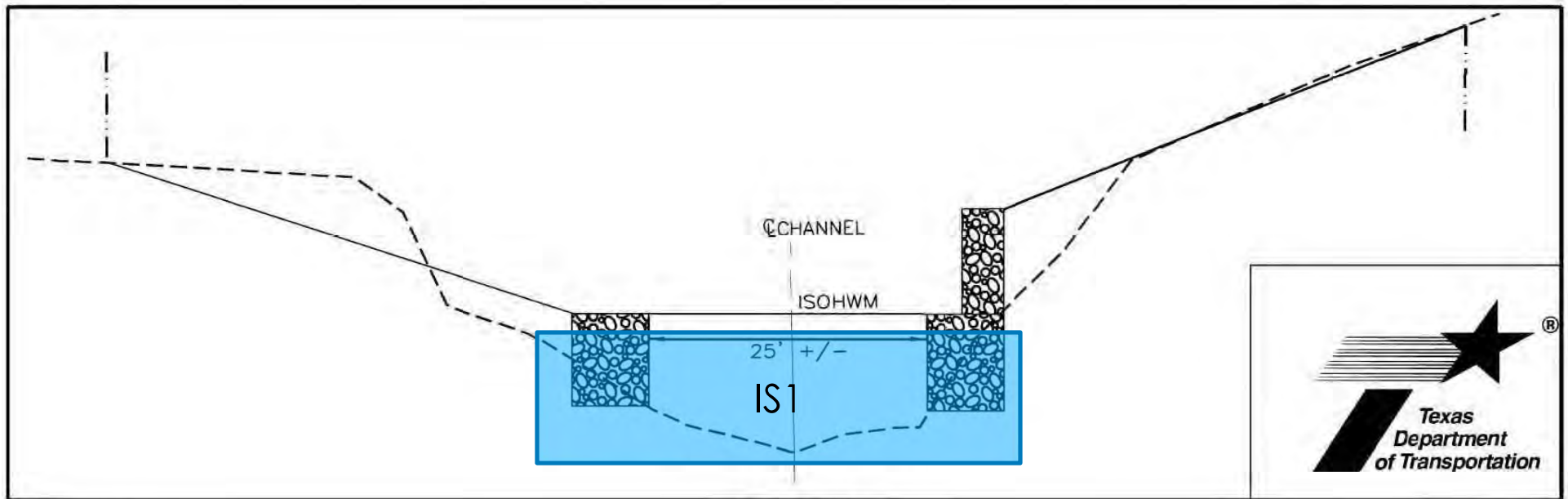


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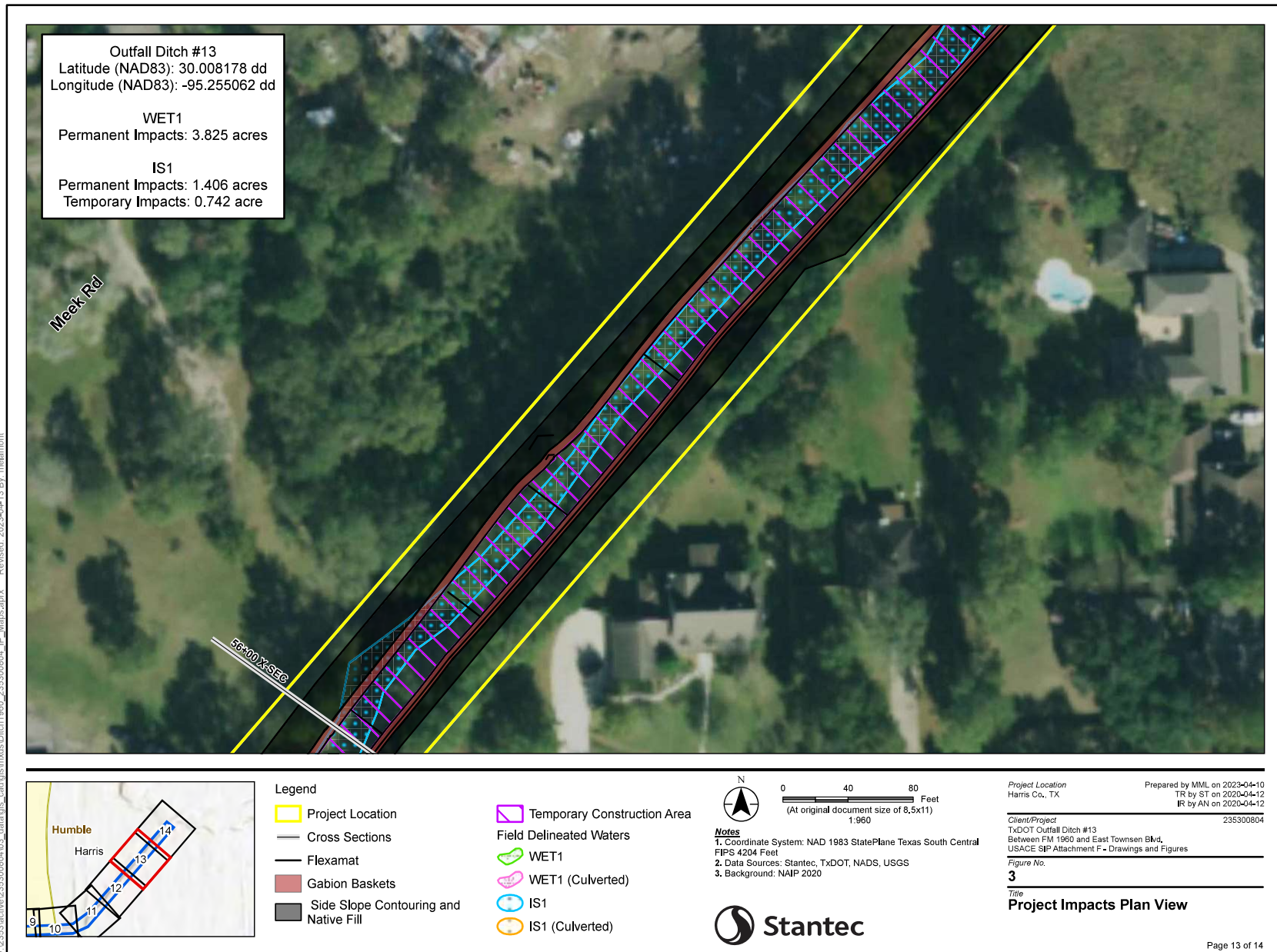


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STA 56+00 X-SEC

IS1- Avg. OHWM- 25 ft in width by 3 ft in depth



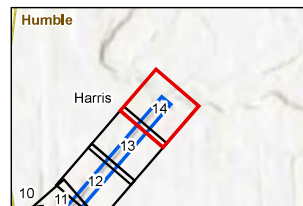
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Outfall Ditch #13
Latitude (NAD83): 30.008178 dd
Longitude (NAD83): -95.255062 dd

WET1
Permanent Impacts: 3.825 acres

IS1
Permanent Impacts: 1.406 acres
Temporary Impacts: 0.742 acre



Legend

Project Location

Cross Sections

Flexamat

Gabion Baskets

Side Slope Contouring and Native Fill

Temporary Construction Area

Field Delineated Waters

WET1

WET1 (Culverted)

IS1

IS1 (Culverted)



0 40 80 Feet
(At original document size of 8.5x11)
1:960

Notes

1. Coordinate System: NAD 1983 StatePlane Texas South Central FIPS 4204 Feet
2. Data Sources: Stantec, TxDOT, NADS, USGS
3. Background: NAIP 2020



Project Location
Harris Co., TX

Prepared by MML on 2023-04-10
TR by ST on 2020-04-12
IR by AN on 2020-04-12

Client/Project 235300804

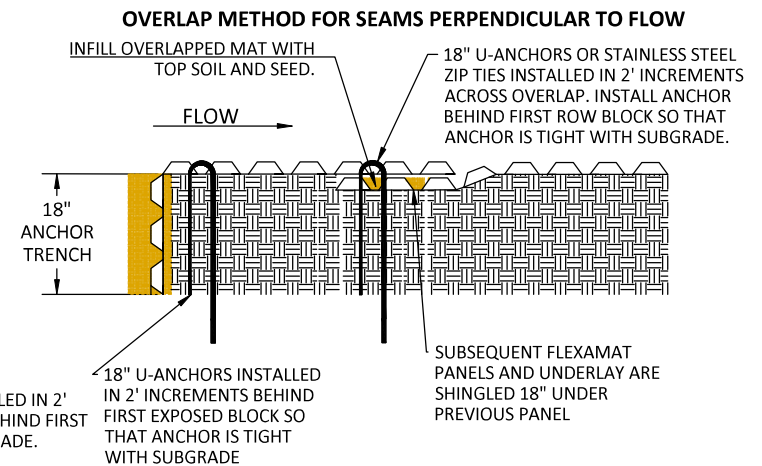
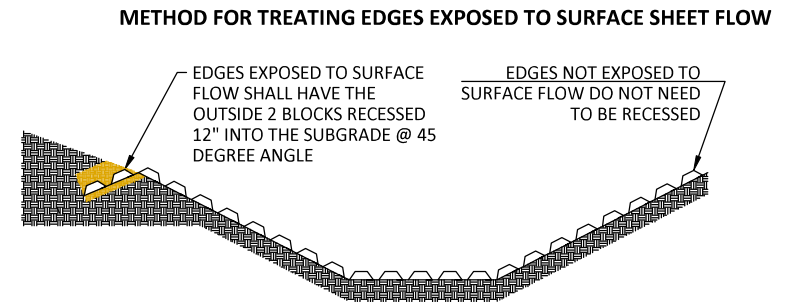
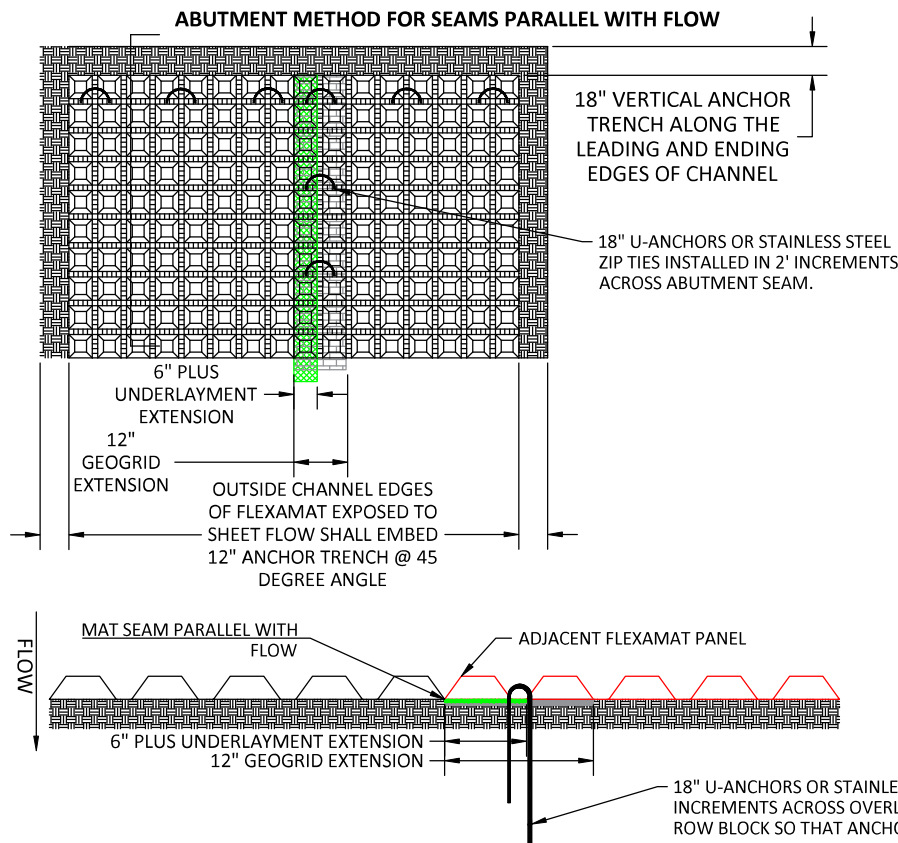
TxDOT Outfall Ditch #13
Between FM 1960 and East Townsen Blvd,
USACE SIP Attachment F - Drawings and Figures

Figure No.

3

Title

Project Impacts Plan View



FLEXAMAT CHANNEL - LAYOUT LONGITUDINAL TO FLOW

CONSTRUCTION NOTES:

1. AN ENGINEER OR MANUFACTURES REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. GRADE CHANNEL SO THAT WATER WILL FLOW DOWN CENTER OF THE CHANNEL AND BE CONTAINED TO THE CHANNEL. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND.
3. SEED AND FERTILIZE THE PREPARED SUBGRADE WITH SITE SPECIFIC SEED MIX AND IN ACCORDANCE WITH THE PROJECT PLANS AND SPECIFICATIONS.
4. INSTALL FLEXAMAT ROLLS, USING THE WIDEST ROLLS POSSIBLE TO AVOID SEAMS.
 - 4.1. FOR CHANNELS THAT ARE WIDER THAN 16', INSTALL FLEXAMAT ROLLS THAT INCLUDE 12" GEOGRID EXTENSIONS WITH A 6" PLUS UNDERLAYMENT EXTENSIONS. THESE SEAMS PARALLEL WITH FLOW WILL HAVE THE ADJACENT MAT INSTALLED OVER THE EXTENSIONS.
 - 4.2. SECURE THE ABUTMENT PARALLEL WITH FLOW BY INSTALLING 18" U-ANCHORS (FOR COHESIVE SOILS) OR 20" STAINLESS STEEL ZIP TIES (FOR NON-COHESIVE SOILS) IN 2' INCREMENTS THROUGH THE EXTENSION ABUTMENT.
5. FOR ADDITIONAL SECTIONS OF MAT, SECURE SEAM PERPENDICULAR WITH FLOW BY OVERLAPPING THE DOWNSTREAM SECTION 18" WITH UPSTREAM SECTION OF MAT. PRIOR TO INSTALLING OVERLAP, FLIP UPSTREAM MAT BACK 24". EXCAVATE 2.25" OF SOIL 18" FROM END OF UPSTREAM MAT. DOWNSTREAM SECTION IS LAID IN THE SHALLOW TRENCH. LIGHTLY SPREAD TOPSOIL AND SEED OVER INITIAL EDGE. FLIP END OF UPSTREAM MAT OVER THE SOIL COVERED INITIAL LEADING EDGE OF DOWNSTREAM MAT.
 - 5.1. SECURE OVERLAPS PERPENDICULAR TO FLOW BY INSTALLING 18" U-ANCHORS (FOR COHESIVE SOILS) OR 20" STAINLESS STEEL ZIP TIES (FOR NON-COHESIVE SOILS) IN 2' INCREMENTS ACROSS THE MAT OVERLAP. INSTALL ANCHORS DIRECTLY BEHIND BLOCKS.
6. AT THE LEADING AND ENDING EDGES OF THE FLEXAMAT ARMORED CHANNEL, EMBED THE MAT 18" IN A TERMINATION TRENCH. FILL AND COMPACT TERMINATION TRENCH WITH COHESIVE SOIL.

**MOTZ
ENTERPRISES, INC.**

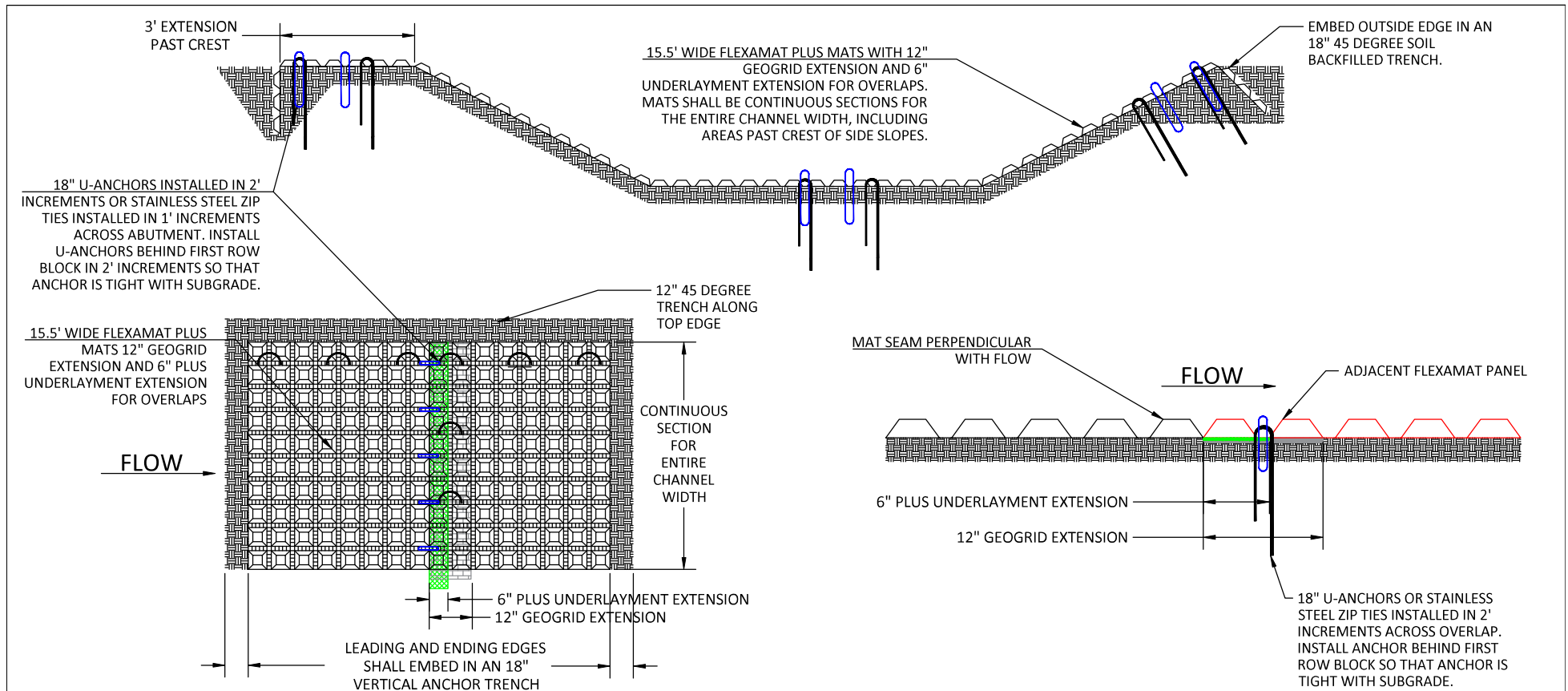
Flexamat

Telephone: (513)772-6689

Email: Info@Flexamat.com

Webstie: Flexamat.com





FLEXAMAT CHANNEL - LAYOUT PERPENDICULAR TO FLOW

CONSTRUCTION NOTES:

1. AN AUTHORIZED MANUFACTURERS REPRESENTATIVE SHALL BE ONSITE FOR THE START OF THE INSTALLATION.
2. GRADE CHANNEL SO THAT WATER WILL FLOW DOWN CENTER OF THE CHANNEL AND BE CONTAINED TO THE CHANNEL. ALL SUBGRADE SURFACES PREPARED FOR PLACEMENT OF MATS SHALL BE SMOOTH AND FREE OF ALL ROCKS, STICKS, ROOTS, OTHER PROTRUSIONS, OR DEBRIS OF ANY KIND.
3. PRIOR TO FLEXAMAT PLUS INSTALLATION, SEED AND FERTILIZE SUBGRADE WITH SITE SPECIFIC SEED MIX.
4. INSTALL FLEXAMAT PLUS ROLLS THAT ARE 15.5' WIDE WITH A 12" GEOGRID EXTENSION AND 6" PLUS UNDERLAYMENT EXTENSION.
 - 4.1. INSTALL MATS SO THAT THE MATTING EXTENDS 3' PAST THE CREST OF EITHER SIDE SLOPE. MATS SHALL BE CONTINUOUS SECTIONS ACROSS THE CHANNEL, INCLUDING AREAS PAST CREST OF SIDE SLOPES.
 - 4.2. OUTSIDE EDGES SHALL BE EMBEDDED IN AN 18" 45 DEGREE ANCHOR TRENCH. INSTALL UPSTREAM MATS OVER THE GEOGRID EXTENSION OF DOWNSTREAM MATS.
5. INSTALL 18" U-ANCHORS (FOR COHESIVE SOILS) IN 2' INCREMENTS ACROSS MAT ABUTMENT SEAMS. INSTALL ANCHORS DIRECTLY BEHIND BLOCKS. U-ANCHORS SHALL ENCOMPASS 2 CORDS OF GEOGRID FROM BOTH MATS. INSTALL 20" STAINLESS STEEL ZIP TIES (FOR NON-COHESIVE SOILS) IN 1' INCREMENTS ACROSS MAT ABUTMENT SEAM. ZIP TIE SHALL ENCOMPASS A MINIMUM OF THREE CORDS OF GRID OF EITHER MAT AT ABUTMENT SEAMS.
6. AT THE LEADING EDGE OF ARMORED CHANNEL, EMBED MAT 18" IN A VERTICAL ANCHOR TRENCH. FILL AND COMPACT ANCHOR TRENCH WITH COHESIVE SOIL. AT ENDING EDGE OF PROTECTION, INSTALL 18" TERMINATION TRENCH AS DETERMINED BY THE EOR.

**MOTZ
ENTERPRISES, INC.**

Flexamat

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Email: Info@Flexamat.com

Webstie: Flexamat.com

