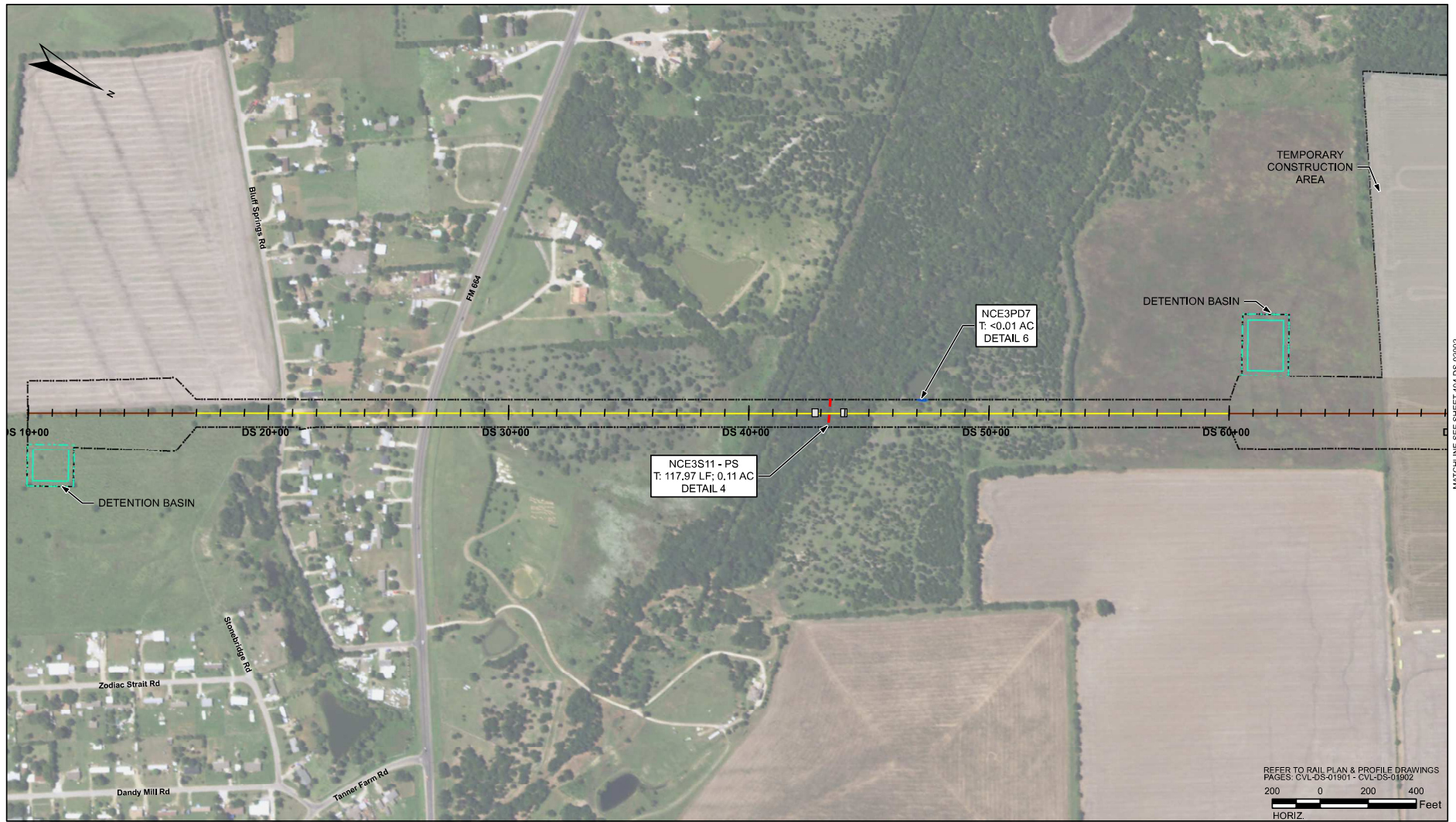




RAIL CONSTRUCTION TYPE
CUT
EMBANKMENT
RETAIN FILL
RETAIN CUT
VIADUCT

PERMANENT IMPACTS
EMERGENT WETLAND
FORESTED WETLAND
POND
SCRUB/SHRUB WETLAND
STREAMS

TEMPORARY IMPACTS
EMERGENT WETLAND
POND
STREAMS
OTHER IMPACTS
CONVERSION WETLAND

OTHER
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
PERMANENT UTILITIES IMPACTS
TEMPORARY UTILITIES IMPACTS
ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

REV	DATE	BY	CHK	APP

FINAL, REVISION 1
FINAL, REVISION 2

DESCRIPTION

DESIGNED BY
H. MYERS
DRAWN BY
M. KINZER
CHECKED BY
R. ALDREDGE
IN CHARGE
R. ZARATE
DATE
NOV. 2019

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.frese-nichols.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
RAIL CONCEPTUAL ENGINEERING



TEXAS CENTRAL

1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title

DALLAS SEGMENT
PLAN VIEW (FRA SEG. 1)
STA DS 10+00 TO DS 69+10

Scale
AS SHOWN

Drawing Status
NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02001	02



H:\ENVIRONMENTAL\Wetland_Delineation\Final_Exhibits\Final_JDI_Final_JDI_Revision2_August2019\SegmentSet\JDS_Planview_MB_11x17.mxd

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCRR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Richmond Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

1.	POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.*	4.	C = CONVERSION	8.	TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
2.	P = PERMANENT IMPACT	5.	ES = EPHEMERAL STREAM	9.	UTILITY, TEMPORARY CONSTRUCTION, AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
3.	T = TEMPORARY IMPACT	6.	IS = INTERMITTENT STREAM		
		7.	PS = PERENNIAL STREAM	*	ONLY APPLIES IN USAGE FORT WORTH DISTRICT



**FREESE
NICHOLS**

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel: (214) 217 2200 Fax: (214) 217 2201
www.freese.com
Texas Registered Engineering Firm: F-2144



1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

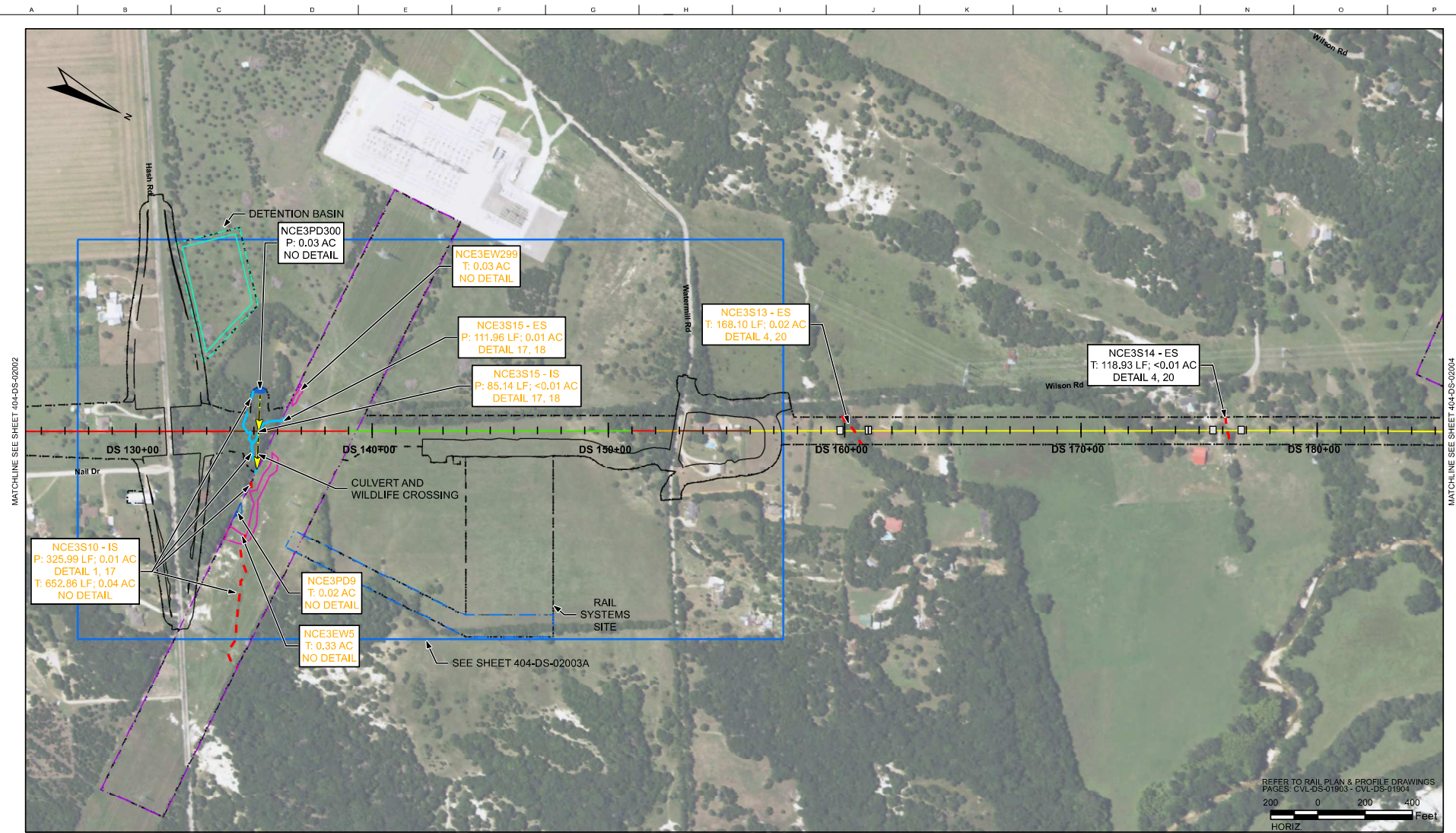
DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 67+30 TO DS 127+30

Scale
AS SHOWN

NOT FOR CONSTRUCTION

Job No	Drawing No	Rev
234180	404 DS 03003	03



RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER	MAP SYMBOLS
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)	CULVERT FLOW - RO
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS	CULVERT FLOW - OPEN BOTTOM
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS	
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)	
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS	

REV	DATE	BY	CHK	APP	DESCRIPTION
					FINAL, REVISION 1
					FINAL, REVISION 2

DESIGNED BY	H. MYERS
DRAWN BY	M. KINZER
CHECKED BY	R. ALDREDGE
IN CHARGE	R. ZARATE
DATE	NOV. 2019

DALLAS TO HOUSTON HIGH-SPEED RAIL APPLICANT: TCR SWF-2011-00483
--

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESE NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesenichols.com
Texas Registered Engineering Firm: F-2144

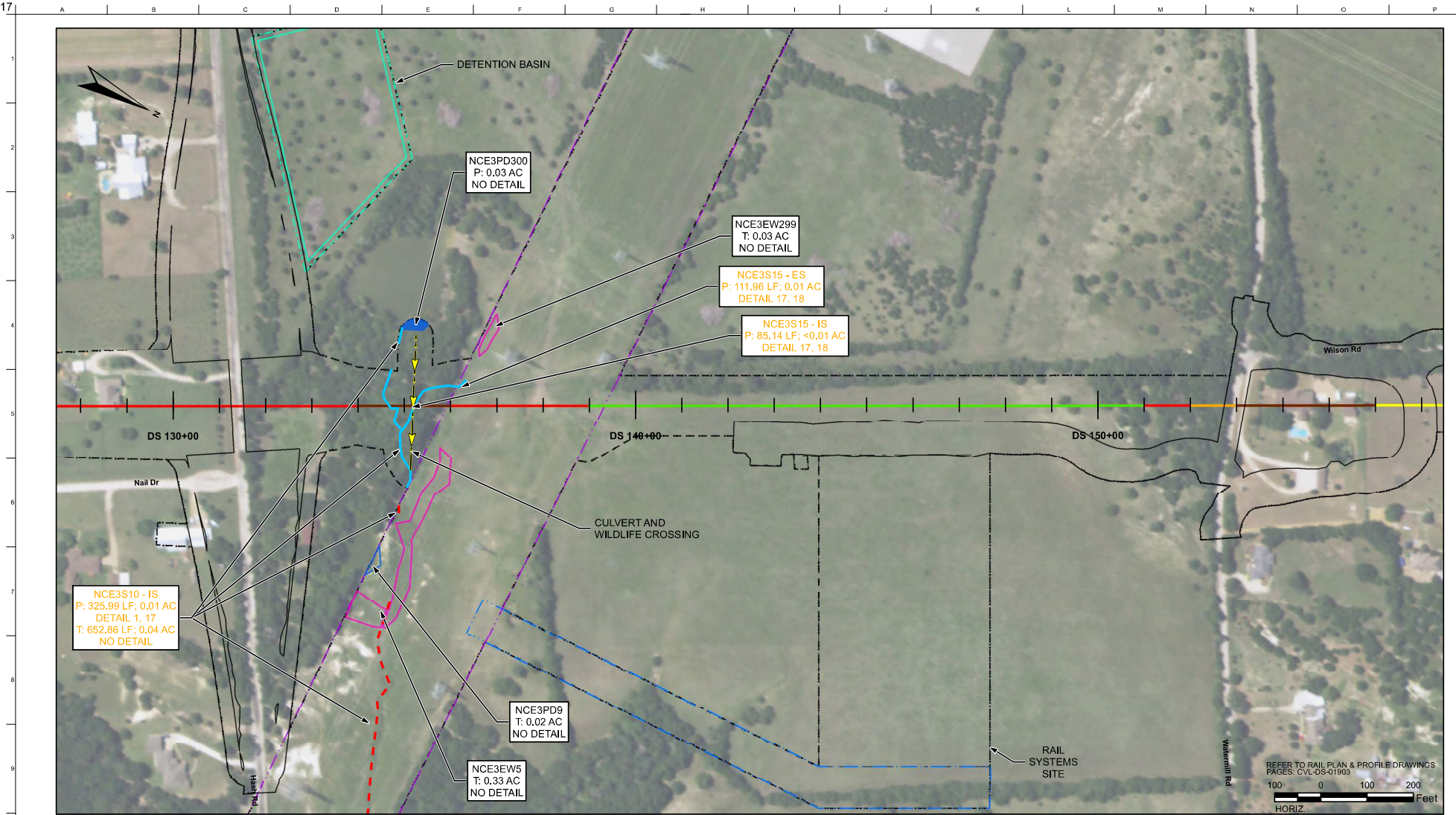
**DALLAS TO HOUSTON HIGH-SPEED RAIL
RAIL CONCEPTUAL ENGINEERING**

1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

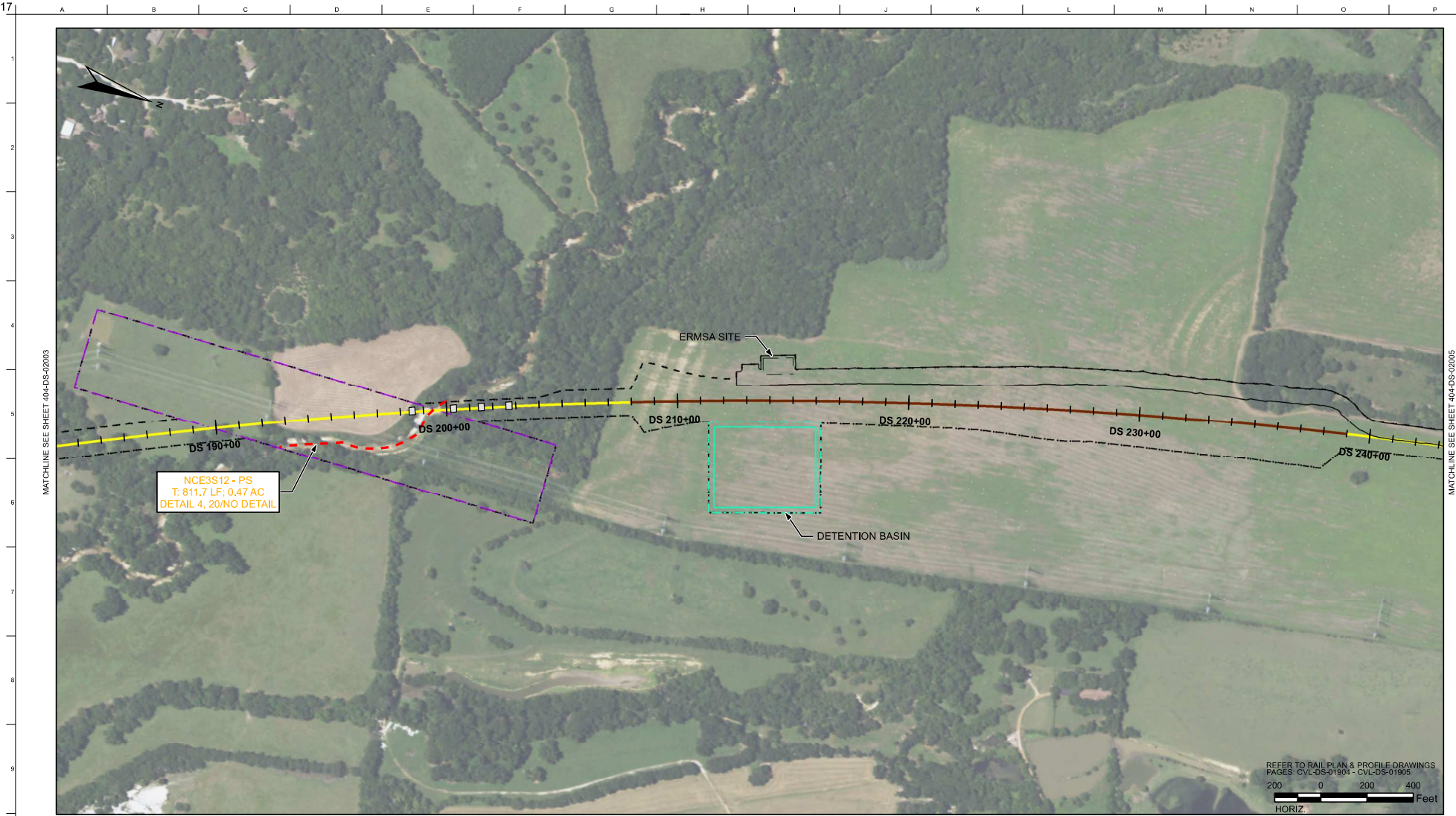
DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 125+330 TO DS 185+33

AS SHOWN
Drawing Status**NOT FOR CONSTRUCTION**
JUN No Drawing No Rev
234180 404-DS-02003 02



10	<table><tr><th>RAIL CONSTRUCTION TYPE</th></tr><tr><td>CUT</td></tr><tr><td>EMBANKMENT</td></tr><tr><td>RETAIN FILL</td></tr><tr><td>RETAIN CUT</td></tr><tr><td>VIADUCT</td></tr></table>	RAIL CONSTRUCTION TYPE	CUT	EMBANKMENT	RETAIN FILL	RETAIN CUT	VIADUCT	<table><tr><th>PERMANENT IMPACTS</th></tr><tr><td>EMERGENT WETLAND</td></tr><tr><td>FORESTED WETLAND</td></tr><tr><td>POND</td></tr><tr><td>SCRUB/SHRUB WETLAND</td></tr><tr><td>STREAMS</td></tr></table>	PERMANENT IMPACTS	EMERGENT WETLAND	FORESTED WETLAND	POND	SCRUB/SHRUB WETLAND	STREAMS	<table><tr><th>TEMPORARY IMPACTS</th></tr><tr><td>EMERGENT WETLAND</td></tr><tr><td>POND</td></tr><tr><td>STREAMS</td></tr><tr><th>OTHER IMPACTS</th></tr><tr><td>CONVERSION WETLAND</td></tr></table>	TEMPORARY IMPACTS	EMERGENT WETLAND	POND	STREAMS	OTHER IMPACTS	CONVERSION WETLAND	<table><tr><th>OTHER</th></tr><tr><td>LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)</td></tr><tr><td>PERMANENT UTILITIES IMPACTS</td></tr><tr><td>TEMPORARY UTILITIES IMPACTS</td></tr><tr><td>ROADWAY IMPACTS/EMERG. RESP. (ERMSA)</td></tr><tr><td>PIER PILE CAP LOCATIONS</td></tr></table>	OTHER	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)	PERMANENT UTILITIES IMPACTS	TEMPORARY UTILITIES IMPACTS	ROADWAY IMPACTS/EMERG. RESP. (ERMSA)	PIER PILE CAP LOCATIONS	<table><tr><th>MAP SYMBOLOLOGY</th></tr><tr><td>CULVERT FLOW - RCB</td></tr><tr><td>CULVERT FLOW - OPEN BOTTOM</td></tr></table>	MAP SYMBOLOLOGY	CULVERT FLOW - RCB	CULVERT FLOW - OPEN BOTTOM	PLAN	NOTES: 1. POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES. 2. P = PERMANENT IMPACT 3. T = TEMPORARY IMPACT 4. C = CONVERSION 5. ES = EPHEMERAL STREAM 6. IS = INTERMITTENT STREAM 7. PS = PERENNIAL STREAM 8. TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE. 9. UTILITY, TEMPORARY CONSTRUCTION, AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL. * ONLY APPLIES IN USACE FORT WORTH DISTRICT.
	RAIL CONSTRUCTION TYPE																																	
	CUT																																	
	EMBANKMENT																																	
	RETAIN FILL																																	
RETAIN CUT																																		
VIADUCT																																		
PERMANENT IMPACTS																																		
EMERGENT WETLAND																																		
FORESTED WETLAND																																		
POND																																		
SCRUB/SHRUB WETLAND																																		
STREAMS																																		
TEMPORARY IMPACTS																																		
EMERGENT WETLAND																																		
POND																																		
STREAMS																																		
OTHER IMPACTS																																		
CONVERSION WETLAND																																		
OTHER																																		
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)																																		
PERMANENT UTILITIES IMPACTS																																		
TEMPORARY UTILITIES IMPACTS																																		
ROADWAY IMPACTS/EMERG. RESP. (ERMSA)																																		
PIER PILE CAP LOCATIONS																																		
MAP SYMBOLOLOGY																																		
CULVERT FLOW - RCB																																		
CULVERT FLOW - OPEN BOTTOM																																		



RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS

FINAL, REVISION 1	DESIGNED BY H. MYERS
FINAL, REVISION 2	DRAWN BY M. KINZER
	CHECKED BY R. ALDREDGE
	IN CHARGE R. ZARATE
	DATE NOV. 2019

REV	DATE	BY	CHK	APP	DESCRIPTION

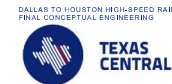
DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Northwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 785 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESE NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.fnco.com
Texas Registered Engineering Firm: F-2144



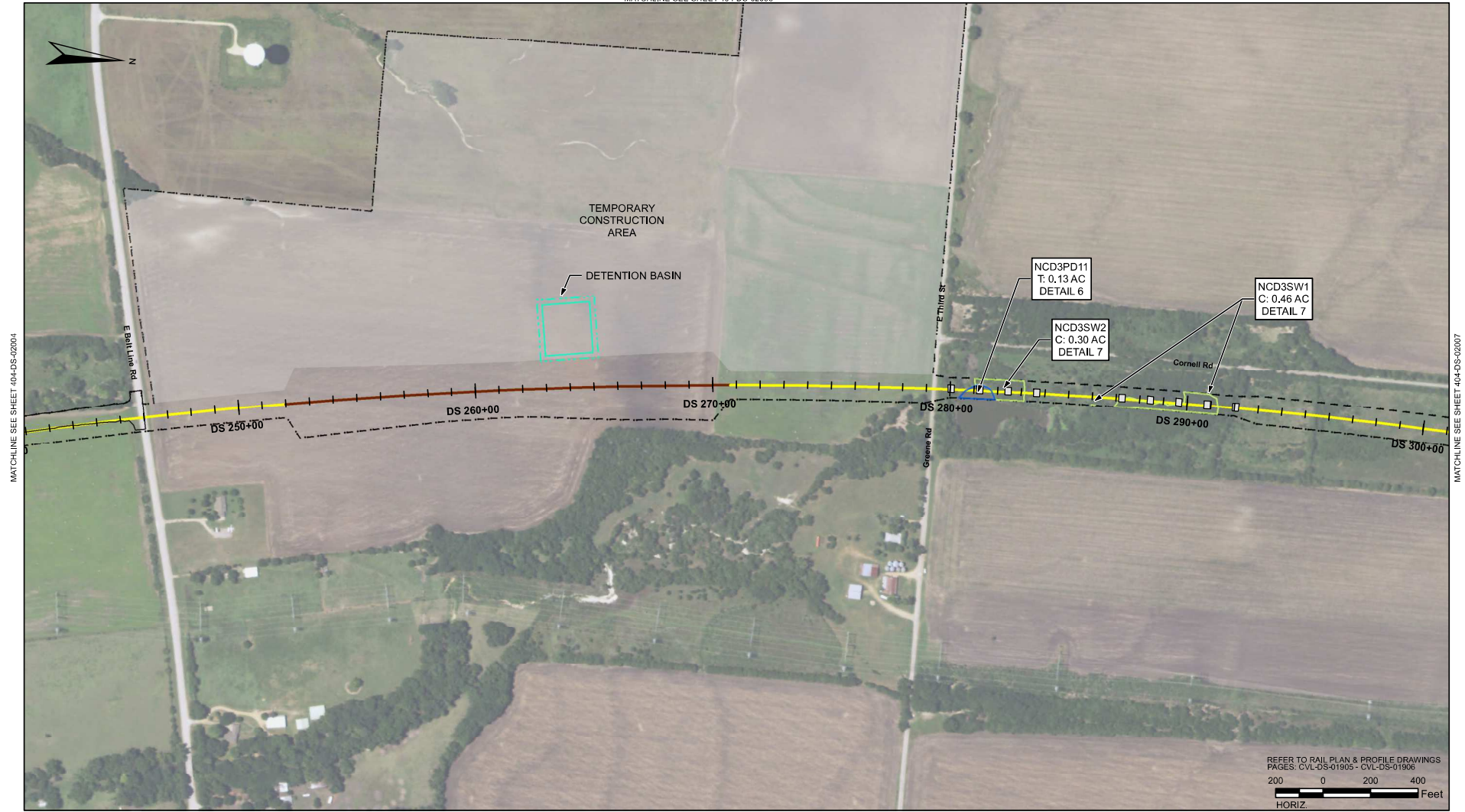
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING
1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT
PLAN VIEW (FRA SEG. 1)
STA DS 183+04 TO DS 243+21

Scale
AS SHOWN
Drawing Status
NOT FOR CONSTRUCTION
JOB No. 234180 Drawing No. 404-DS-02004 Rev. 02

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

PLAN



RAIL CONSTRUCTION TYPE
CUT
EMBANKMENT
RETAIN FILL
RETAIN CUT
VIADUCT

PERMANENT IMPACTS
EMERGENT WETLAND
FORESTED WETLAND
POND
STREAMS
SCRUB/SHRUB WETLAND
STREAMS

TEMPORARY IMPACTS
EMERGENT WETLAND
POND
STREAMS
OTHER IMPACTS
CONVERSION WETLAND

OTHER
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
PERMANENT UTILITIES IMPACTS
TEMPORARY UTILITIES IMPACTS
ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - RO
CULVERT FLOW - OPEN BOTTOM

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - * ONLY APPLIES IN USACE FORT WORTH DISTRICT.

REV	DATE	BY	CHK	APP	DESCRIPTION

FINAL, REVISION 1
FINAL, REVISION 2

DESIGNED BY
H. MYERS
DRAWN BY
M. KINZER
CHECKED BY
R. ALDREDGE
IN CHARGE
R. ZARATE
DATE
NOV. 2019

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 785 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1590

**FREESE
NICHOLS**

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesenichols.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
RAIL CONCEPTUAL ENGINEERING



1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title

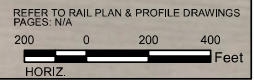
DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 240+92 TO DS 301+09

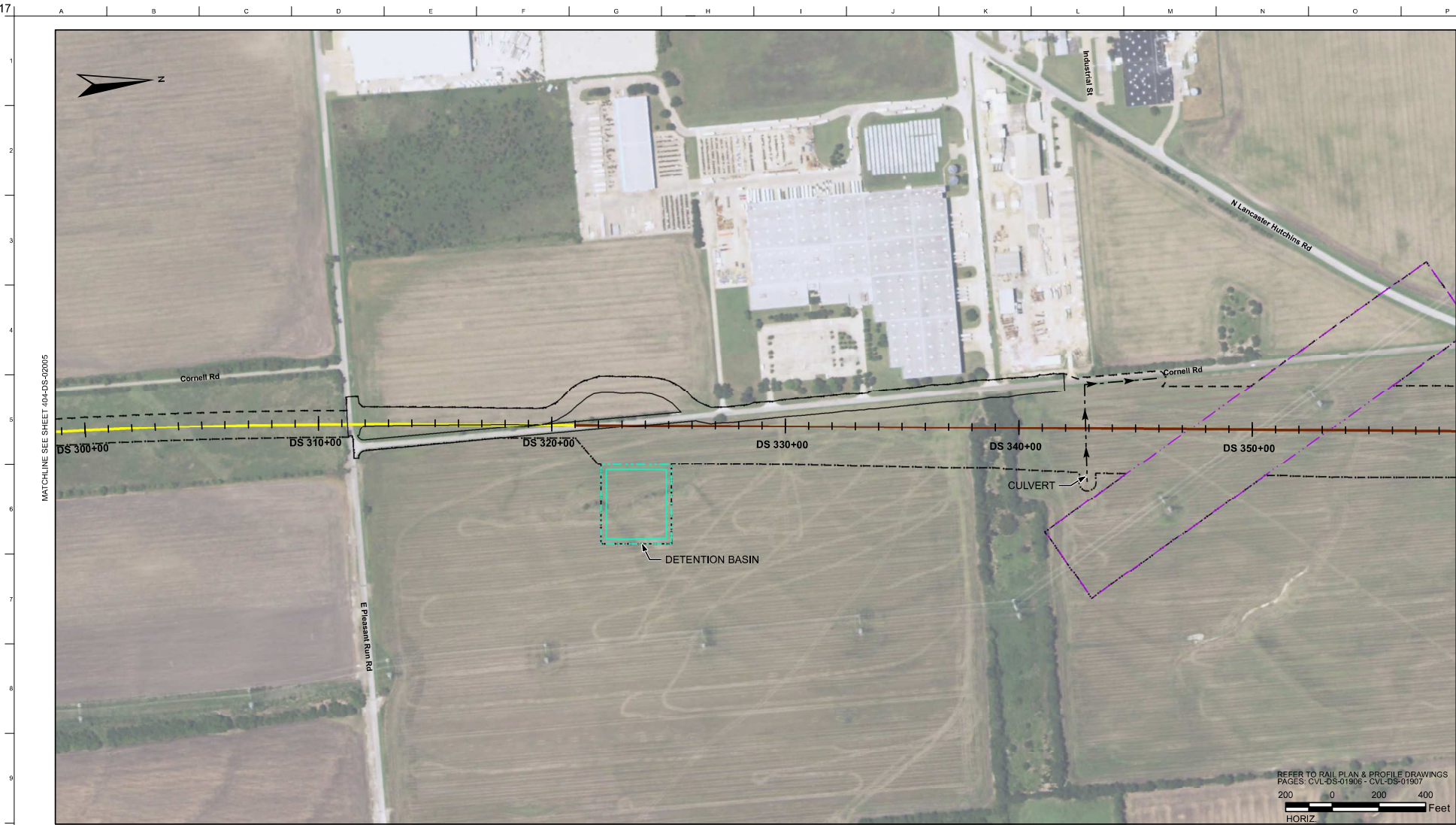
Scale
AS SHOWN

Drawing Status
NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02005	02



 ARUP Arup Texas, Inc. 10370 Richmond Ave., Suite 475 Dallas, Texas 75242 USA Tel (713) 783 2787 Fax (713) 424 1467 www.arup.com Texas Registered Engineering Firm: F-1590	 FREES & NICHOLS 2711 North Haskell Ave., Suite 3300 Dallas, Texas 75204 Tel (214) 217 2200 Fax (214) 217 2201 www.freese.com Texas Registered Engineering Firm: F-2144	 TEXAS CENTRAL 1409 South Lamar Street, Suite 1022, Dallas, Texas 75215	DALLAS TO HOUSTON HIGH-SPEED RAIL FINAL CONCEPTUAL ENGINEERING	Drawing Title DALLAS SEGMENT PLAN VIEW (FRA SEG. 1) MATCHLINE 404-DS-02005	Scale AS SHOWN Drawing Status NOT FOR CONSTRUCTION
			Job No 234180	Drawing No 404-DS-02006	Rev 02



RAIL CONSTRUCTION TYPE
CUT
EMBANKMENT
RETAIN FILL
RETAIN CUT
VIADUCT

PERMANENT IMPACTS
EMERGENT WETLAND
FORESTED WETLAND
POND
SCRUB/SHRUB WETLAND
STREAMS

TEMPORARY IMPACTS
EMERGENT WETLAND
POND
STREAMS
OTHER IMPACTS
CONVERSION WETLAND

OTHER
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
PERMANENT UTILITIES IMPACTS
TEMPORARY UTILITIES IMPACTS
ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

PLAN

NOTES:

- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
- P = PERMANENT IMPACT
- T = TEMPORARY IMPACT
- C = CONVERSION
- ES = EPHEMERAL STREAM
- IS = INTERMITTENT STREAM
- PS = PERENNIAL STREAM
- TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
- UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
- ONLY APPLIES IN USACE FORT WORTH DISTRICT.

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TORR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Katywood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESE NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesenichols.com
Texas Registered Engineering Firm: F-2144



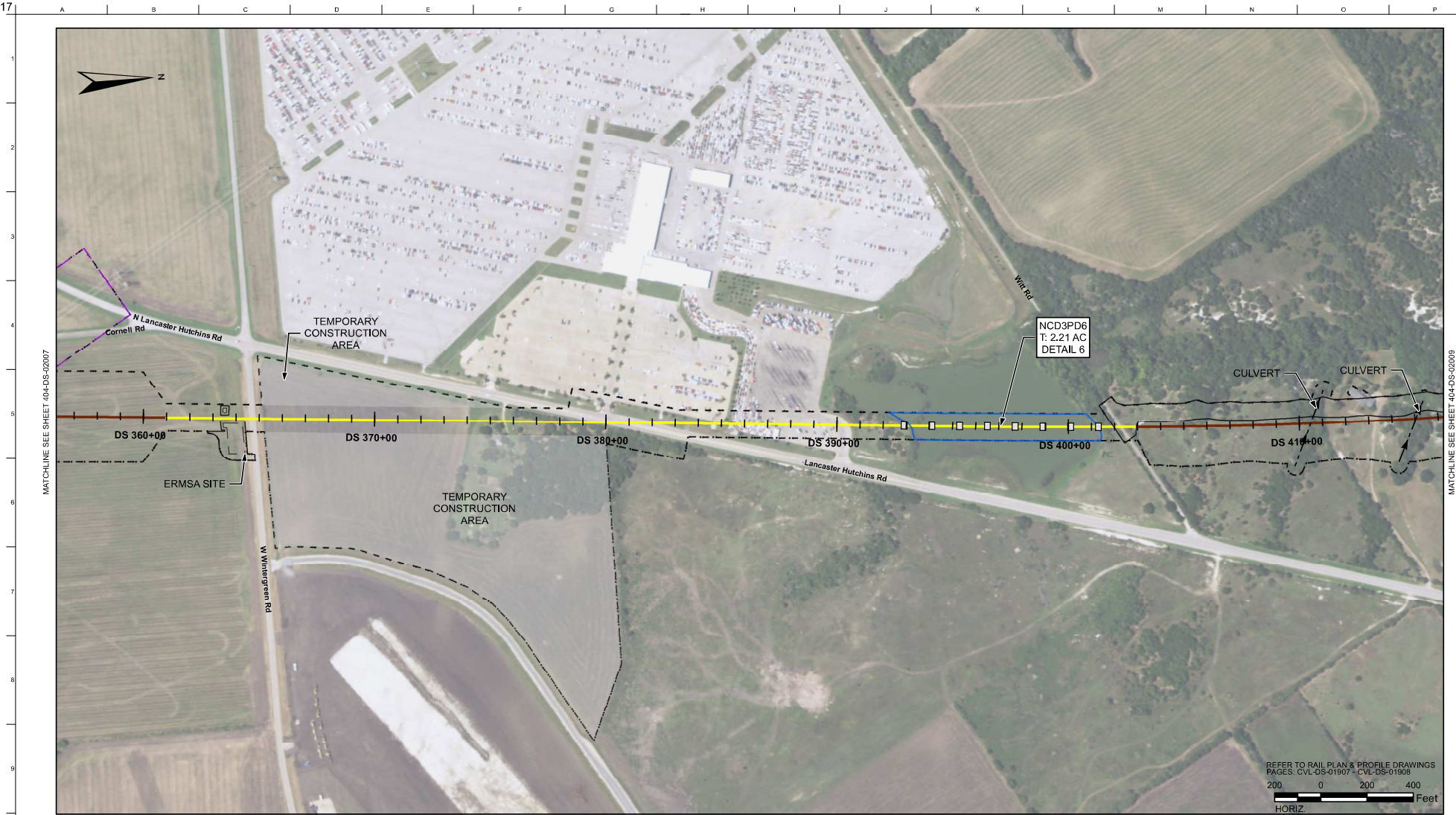
Drawing Title

DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 298+72 TO DS 358+73

Scale
AS SHOWNDrawing Status
NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02007	02



RAIL CONSTRUCTION TYPE
CUT
EMBANKMENT
RETAIN FILL
RETAIN CUT
VIADUCT

PERMANENT IMPACTS
EMERGENT WETLAND
FORESTED WETLAND
POND
SCRUB/SHRUB WETLAND
STREAMS

TEMPORARY IMPACTS
EMERGENT WETLAND
POND
STREAMS
OTHER IMPACTS
CONVERSION WETLAND

OTHER
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
PERMANENT UTILITIES IMPACTS
TEMPORARY UTILITIES IMPACTS
ROADWAY IMPACTS/EMERG. RESR. (ERMISA)
PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

PLAN

NOTES:

- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
- P = PERMANENT IMPACT
- T = TEMPORARY IMPACT
- C = CONVERSION
- ES = EPHEMERAL STREAM
- IS = INTERMITTENT STREAM
- PS = PERENNIAL STREAM
- TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
- UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
- ONLY APPLIES IN USACE FORT WORTH DISTRICT.

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TORR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 785 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1590

FRESE
NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese-nichols.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
RAIL CONCEPTUAL ENGINEERING

TEXAS
CENTRAL

1408 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title

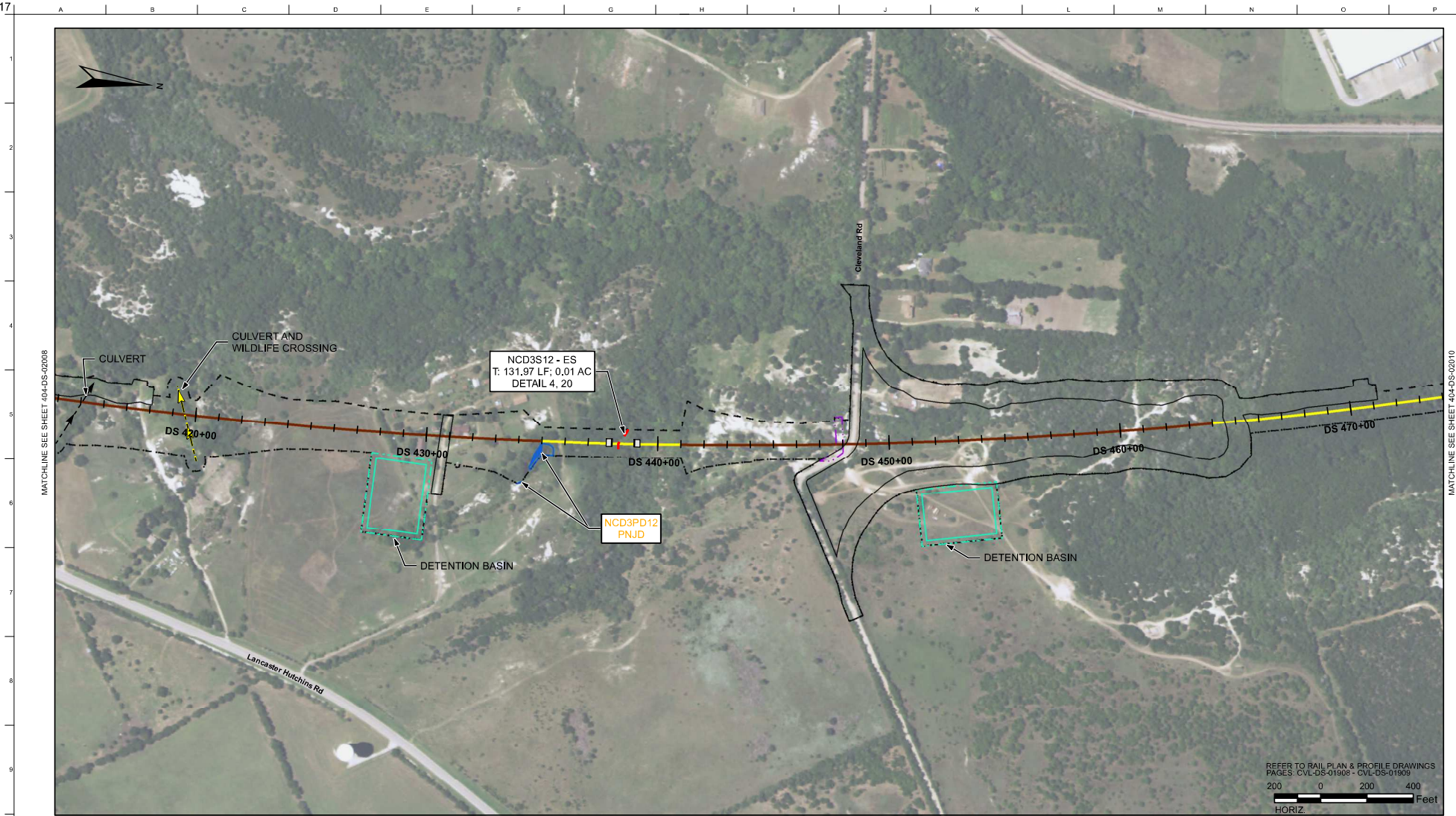
DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 356+23 TO DS 416+24

Scale
AS SHOWN

NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02008	02



RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER	MAP SYMBOLS	NOTES
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)	CULVERT FLOW - RO	1. POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS	CULVERT FLOW - OPEN BOTTOM	2. P = PERMANENT IMPACT
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS		3. T = TEMPORARY IMPACT
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)		4. C = CONVERSION
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS		5. ES = EPHEMERAL STREAM
					6. IS = INTERMITTENT STREAM
					7. PS = PERENNIAL STREAM
					8. TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
					9. UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
					* ONLY APPLIES IN USACE FORT WORTH DISTRICT.

PLAN

ARUP
Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1590

FREESE NICHOLS
2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesenichols.com
Texas Registered Engineering Firm: F-2144

TEXAS CENTRAL
1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

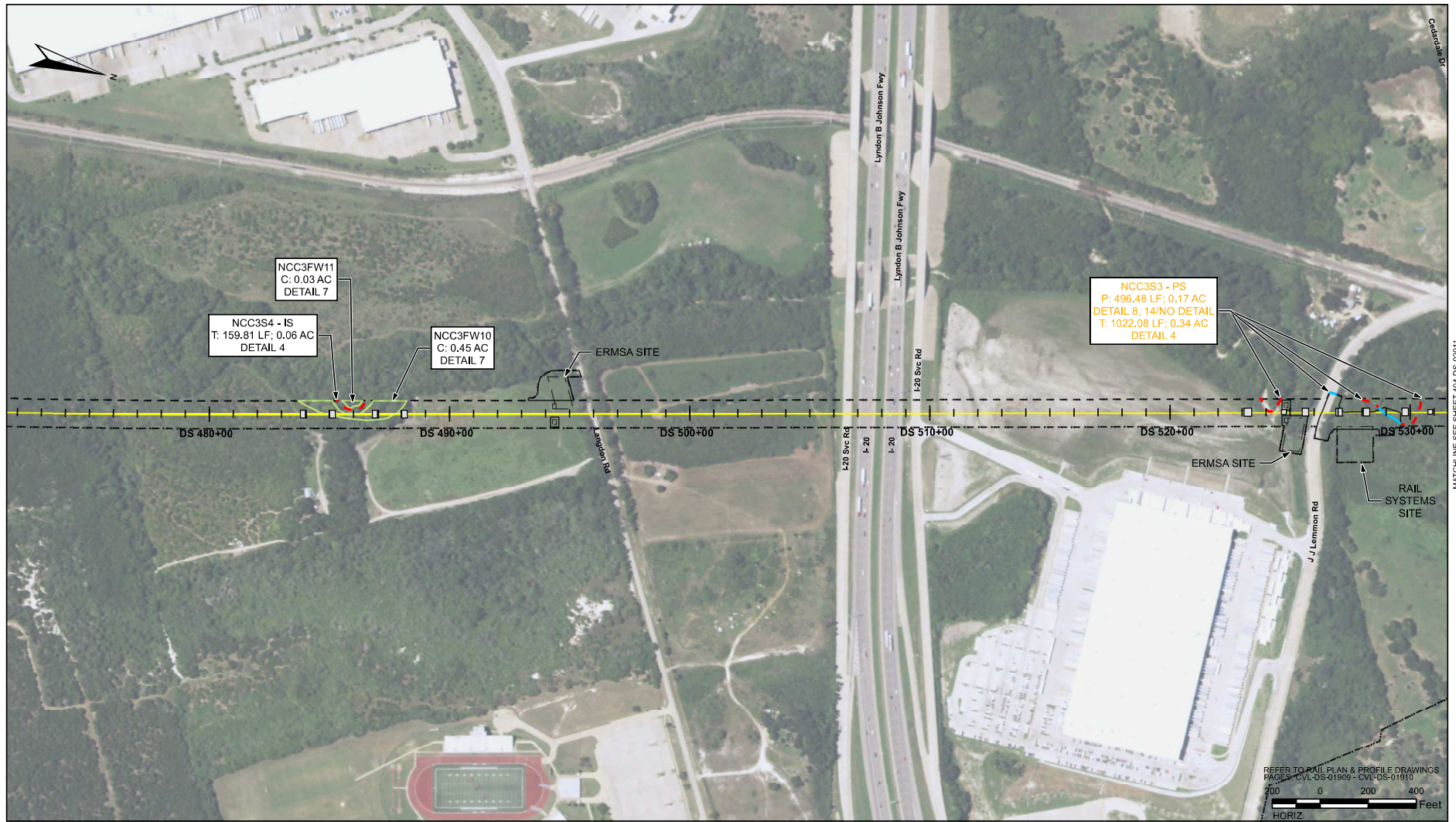
DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

Drawing Title
DALLAS SEGMENT
PLAN VIEW (FRA SEG. 1)
STA DS 413+86 TO DS 474+05

Scale
AS SHOWN
Drawing Status
NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02009	02

MATCHLINE SEE SHEET 404-DS-02009



MATCHLINE SEE SHEET 404-DS-02011

RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER	MAP SYMBOLOLOGY
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)	CULVERT FLOW - ROB
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS	CULVERT FLOW - OPEN BOTTOM
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS	
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)	
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS	

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TORR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 785 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1590

FREESE NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freesenichols.com
Texas Registered Engineering Firm: F-2144

TEXAS CENTRAL

1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

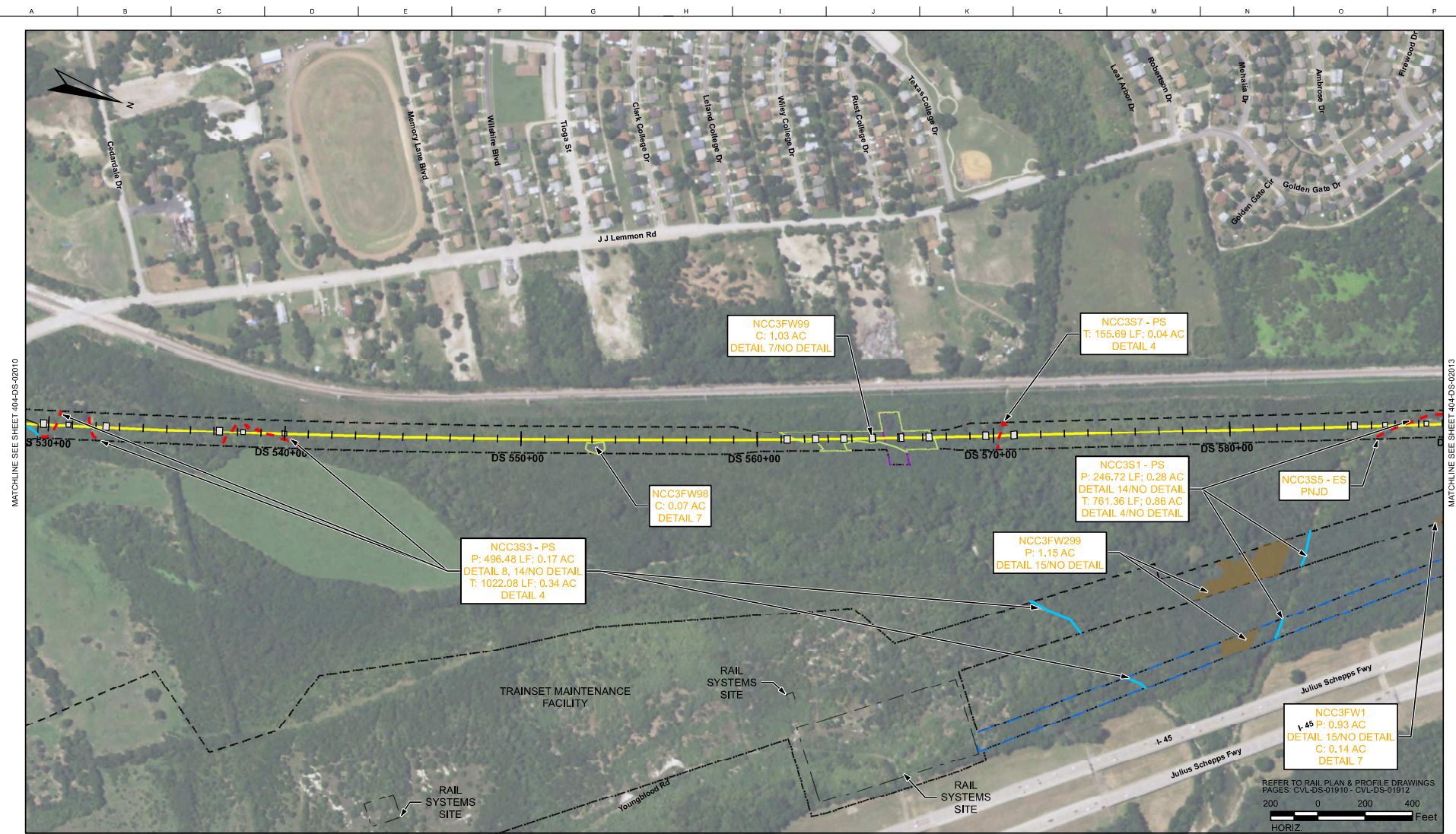
DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 471+55 TO DS 531+55

Scale
AS SHOWN

NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02010	02



RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

MATCHLINE SEE SHEET 404-DS-02012

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

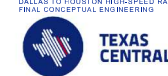
DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1487
www.arup.com
Texas Registered Engineering Firm: F-1590

FRESE
NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese-nichols.com
Texas Registered Engineering Firm: F-2144



1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 517+76 TO DS 577+79

Scale:
AS SHOWN

NOT FOR CONSTRUCTION

JOB No.	Drawing No.	Rev.
234180	404-DS-02011	02

MATCHLINE SEE SHEET 404-DS-02011

REFER TO RAIL PLAN & PROFILE DRAWINGS.
PAGES: N/A
200 0 200 400
Feet
HORIZ

RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER	MAP SYMBOLOLOGY
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)	CULVERT FLOW - ROB
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS	CULVERT FLOW - OPEN BOTTOM
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS	
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)	
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS	

FINAL, REVISION 1	DESIGNED BY H. MYERS
FINAL, REVISION 2	DRAWN BY M. KINZER
	CHECKED BY R. ALDREDGE
	IN CHARGE R. ZARATE
	DATE NOV. 2019

REV	DATE	BY	CHK	APP	DESCRIPTION

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - * ONLY APPLIES IN USACE FORT WORTH DISTRICT.

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TORR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Northwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1590FRESE
NICHOLS2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese-nichols.com
Texas Registered Engineering Firm: F-2144DALLAS TO HOUSTON HIGH-SPEED RAIL
RAIL CONCEPTUAL ENGINEERING
 TEXAS
CENTRAL

1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title

DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)

MATCHLINE 404-DS-02011

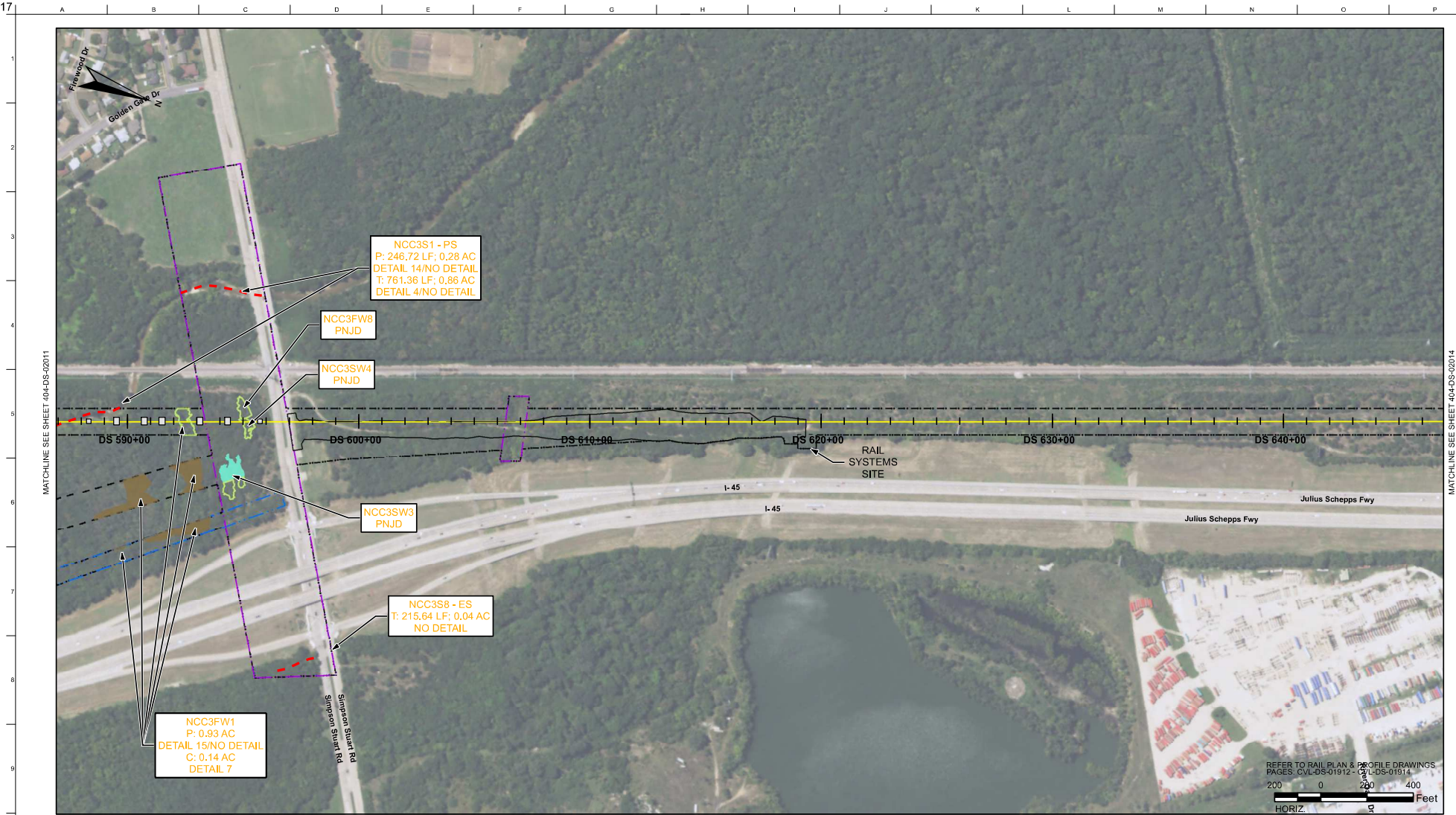
Scale
AS SHOWN

Drawing Status

NOT FOR CONSTRUCTION

JDD No Drawing No Rev

234180 404-DS-02012 02



RAIL CONSTRUCTION TYPE
CUT
EMBANKMENT
RETAIN FILL
RETAIN CUT
VIADUCT

PERMANENT IMPACTS
EMERGENT WETLAND
FORESTED WETLAND
POND
SCRUB/SHRUB WETLAND
STREAMS

TEMPORARY IMPACTS
EMERGENT WETLAND
POND
STREAMS
OTHER IMPACTS
CONVERSION WETLAND

OTHER
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
PERMANENT UTILITIES IMPACTS
TEMPORARY UTILITIES IMPACTS
ROADWAY IMPACTS/EMERG. RESR. (ERMRA)
PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

REV	DATE	BY	CHK	APP	DESCRIPTION

FINAL, REVISION 1	DESIGNED BY H. MYERS
FINAL, REVISION 2	DRAWN BY M. KINZER
	CHECKED BY R. ALDREDGE
	IN CHARGE R. ZARATE
	DATE NOV. 2019

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TORR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESE
NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese-nichols.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
RAIL CONCEPTUAL ENGINEERING

TEXAS
CENTRAL

1400 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title
DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 586+92 TO DS 646+92

Scale
AS SHOWN

NOT FOR CONSTRUCTION

JOB No. 234180 Drawing No. 404-DS-02013 Rev. 02

MATCHLINE SEE SHEET 404-DS-02013

MATCHLINE SEE SHEET 404-DS-02015

RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS

FINAL, REVISION 1	DESIGNED BY H. MYERS
FINAL, REVISION 2	DRAWN BY M. KINZER
	CHECKED BY R. ALDREDGE
	IN CHARGE R. ZARATE
	DATE NOV. 2019

REV	DATE	BY	CHK	APP	DESCRIPTION

H:\ENVIRONMENTAL\Wetland_Delineation\Final_Enhance\Final_DS_Final_DS_Revision2_August2019\SegmentDS02_Renotes_ML11x17.mxd

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990FRESE
NICHOLS2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese-nichols.com
Texas Registered Engineering Firm: F-2144DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERINGTEXAS
CENTRAL

1409 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title

DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 644+89 TO DS 704+89

Scale

AS SHOWN

Drawing Status

NOT FOR CONSTRUCTION

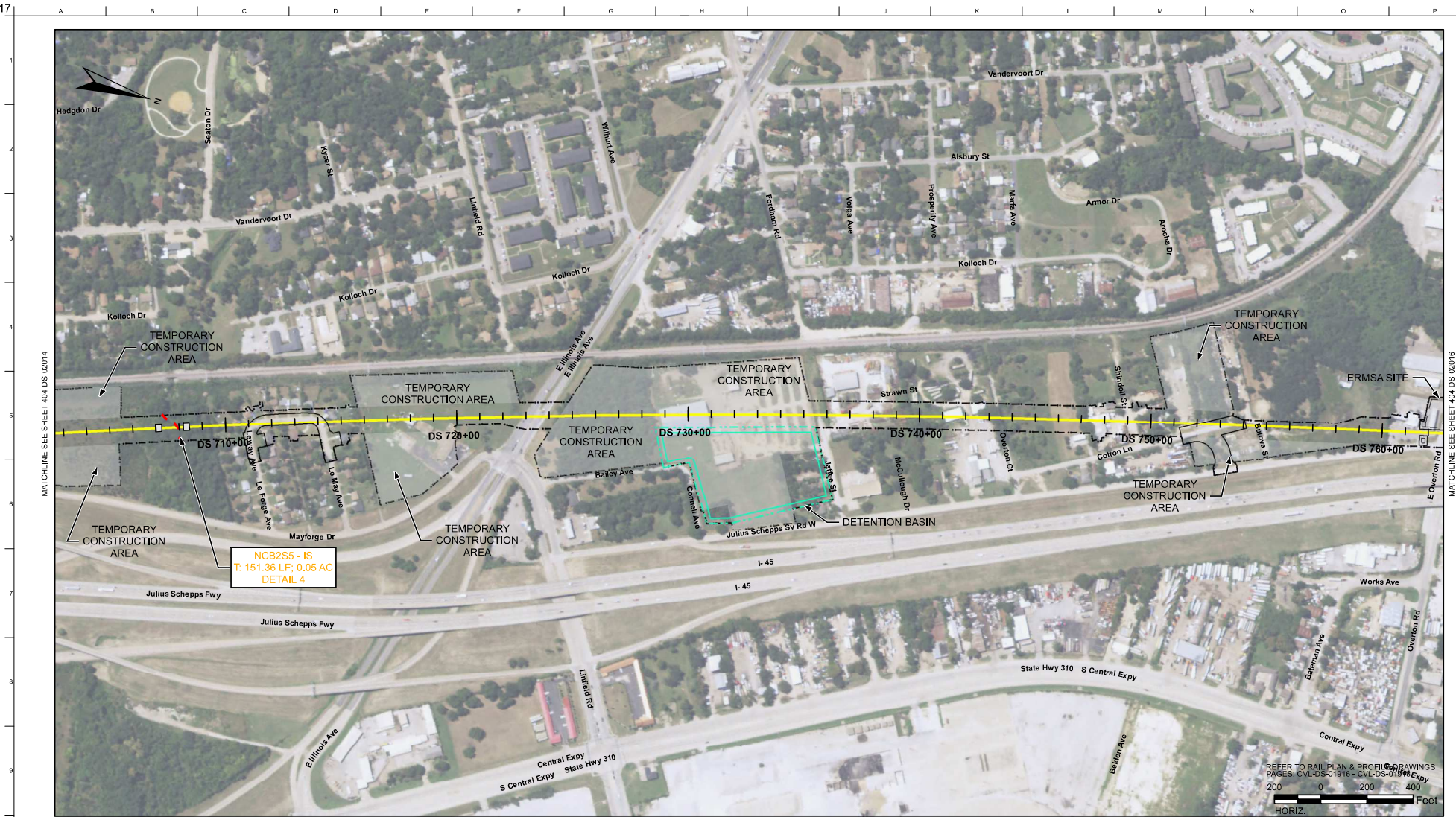
JOB No. 234180 Drawing No. 404-DS-02014 Rev. 02

NOTES:

1. POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
2. P = PERMANENT IMPACT
3. T = TEMPORARY IMPACT
4. C = CONVERSION
5. ES = EPHEMERAL STREAM
6. IS = INTERMITTENT STREAM
7. PS = PERENNIAL STREAM
8. TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
9. UTILITY TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
- * ONLY APPLIES IN USACE FORT WORTH DISTRICT.

PLAN

REFER TO RAIL PLAN & PROFILE DRAWINGS
PAGES: CVL-DS-01914 - CVL-DS-01916
200 0 200 400 Feet
HORIZ



RAIL CONSTRUCTION TYPE	PERMANENT IMPACTS	TEMPORARY IMPACTS	OTHER
CUT	EMERGENT WETLAND	EMERGENT WETLAND	LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
EMBANKMENT	FORESTED WETLAND	POND	PERMANENT UTILITIES IMPACTS
RETAIN FILL	POND	STREAMS	TEMPORARY UTILITIES IMPACTS
RETAIN CUT	SCRUB/SHRUB WETLAND	OTHER IMPACTS	ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
VIADUCT	STREAMS	CONVERSION WETLAND	PIER PILE CAP LOCATIONS

FINAL, REVISION 1	DESIGNED BY	H. MYERS
FINAL, REVISION 2	DRAWN BY	M. KINZER
	CHECKED BY	R. ALDREDGE
	IN CHARGE	R. ZARATE
	DATE	NOV. 2019

REV	DATE	BY	CHK	APP	DESCRIPTION

MAP SYMBOLS
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 785 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FREESE
NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.freese-nichols.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FINAL CONCEPTUAL ENGINEERING

TEXAS
CENTRAL

Drawing Title

DALLAS SEGMENT

PLAN VIEW (FRA SEG. 1)
STA DS 702+62 TO DS 762+65

Scale:

AS SHOWN

Drawing Status

NOT FOR CONSTRUCTION

JOB No. Drawing No. Rev.

234180 404-DS-02015 02



RAIL CONSTRUCTION TYPE
CUT
EMBANKMENT
RETAIN FILL
RETAIN CUT
VIADUCT

PERMANENT IMPACTS
EMERGENT WETLAND
FORESTED WETLAND
POND
SCRUB/SHRUB WETLAND
STREAMS

TEMPORARY IMPACTS
EMERGENT WETLAND
POND
STREAMS
OTHER IMPACTS
CONVERSION WETLAND

OTHER
LIMITS OF DISTURBANCE (CONSTRUCTION FOOTPRINT)
PERMANENT UTILITIES IMPACTS
TEMPORARY UTILITIES IMPACTS
ROADWAY IMPACTS/EMERG. RESR. (ERMSA)
PIER PILE CAP LOCATIONS

MAP SYMBOLOLOGY
CULVERT FLOW - ROB
CULVERT FLOW - OPEN BOTTOM

PLAN

- NOTES:
- POTENTIALLY NON-JURISDICTIONAL WATERBODIES DO NOT INCLUDE IMPACT QUANTITIES.
 - P = PERMANENT IMPACT
 - T = TEMPORARY IMPACT
 - C = CONVERSION
 - ES = EPHEMERAL STREAM
 - IS = INTERMITTENT STREAM
 - PS = PERENNIAL STREAM
 - TEMPORARY, PERMANENT AND CONVERSION IMPACTS ARE SUMMED UP IN ONE CALLOUT BOX FOR EACH FEATURE.
 - UTILITY, TEMPORARY CONSTRUCTION AND CONSTRUCTION ALLOWANCE IMPACTS DO NOT REFERENCE A DETAIL.
 - ONLY APPLIES IN USACE FORT WORTH DISTRICT.

REV	DATE	BY	CHK	APP

FINAL, REVISION 1
FINAL, REVISION 2

DESIGNED BY H. MYERS
DRAWN BY M. KINZER
CHECKED BY R. ALDREDGE
IN CHARGE R. ZARATE
DATE NOV. 2019

DALLAS TO HOUSTON
HIGH-SPEED RAIL
APPLICANT: TCR
SWF-2011-00483

ARUP

Arup Texas, Inc.
10370 Westwood Ave., Suite 475
Houston, Texas 77042 USA
Tel (713) 783 2787 Fax (713) 434 1467
www.arup.com
Texas Registered Engineering Firm: F-1990

FRESE NICHOLS

2711 North Haskell Ave., Suite 3300
Dallas, Texas 75204
Tel (214) 217 2200 Fax (214) 217 2201
www.frese-nichols.com
Texas Registered Engineering Firm: F-2144

DALLAS TO HOUSTON HIGH-SPEED RAIL
FRAIAL CONCEPTUAL ENGINEERING

TEXAS CENTRAL
1409 South Lamar Street, Suite 1002, Dallas, Texas 75215

Drawing Title

DALLAS SEGMENT
PLAN VIEW (FRA SEG. 1)
STA DS 760+62 TO DS 770+78

Scale
AS SHOWN

Drawing Status
NOT FOR CONSTRUCTION

JOB No	Drawing No	Rev
234180	404-DS-02016	02