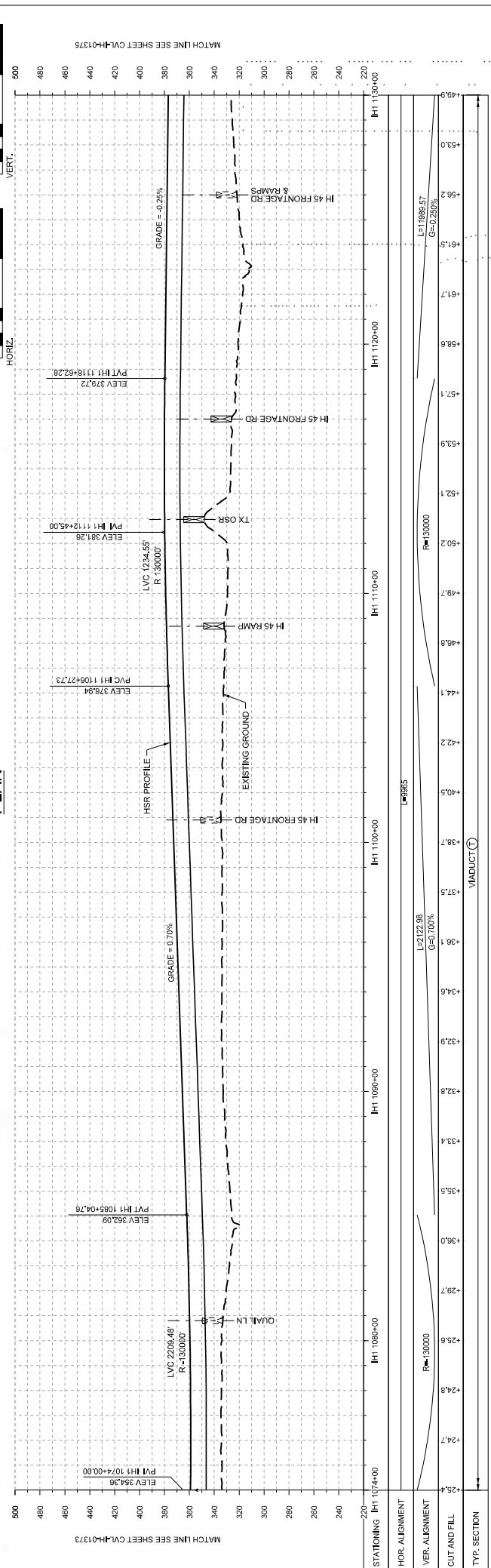


PLAN



PROFILE

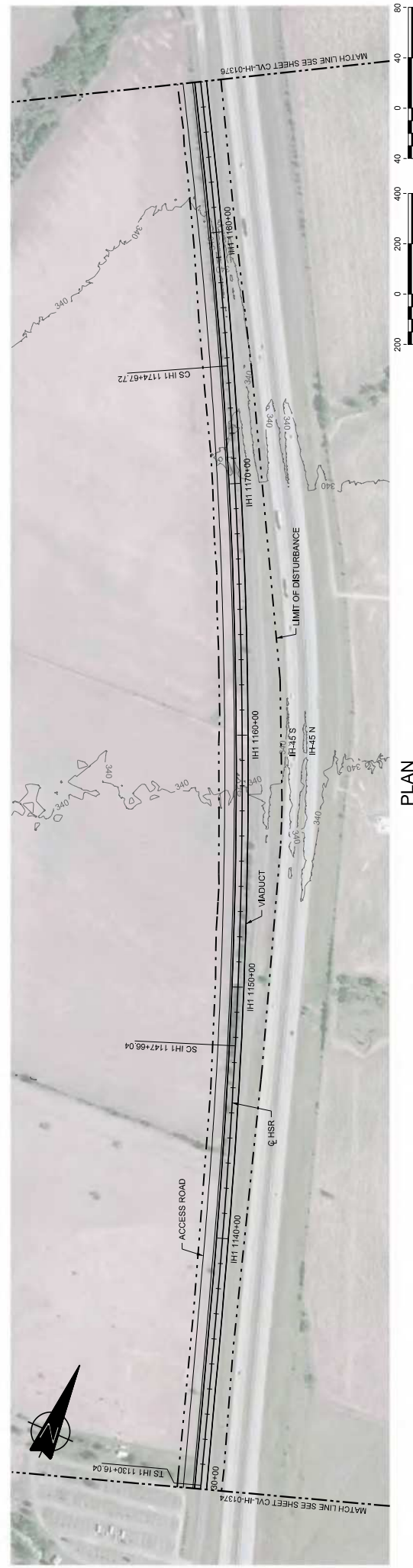
DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
DATE	APP
REV	DISCIP: RKN

ARUP
 1070 RHWIND AVENUE, SUITE 475
 HOUSTON, TEXAS 77062, USA
 TEL: +1 281 445 4400
 WWW.ARUP.COM

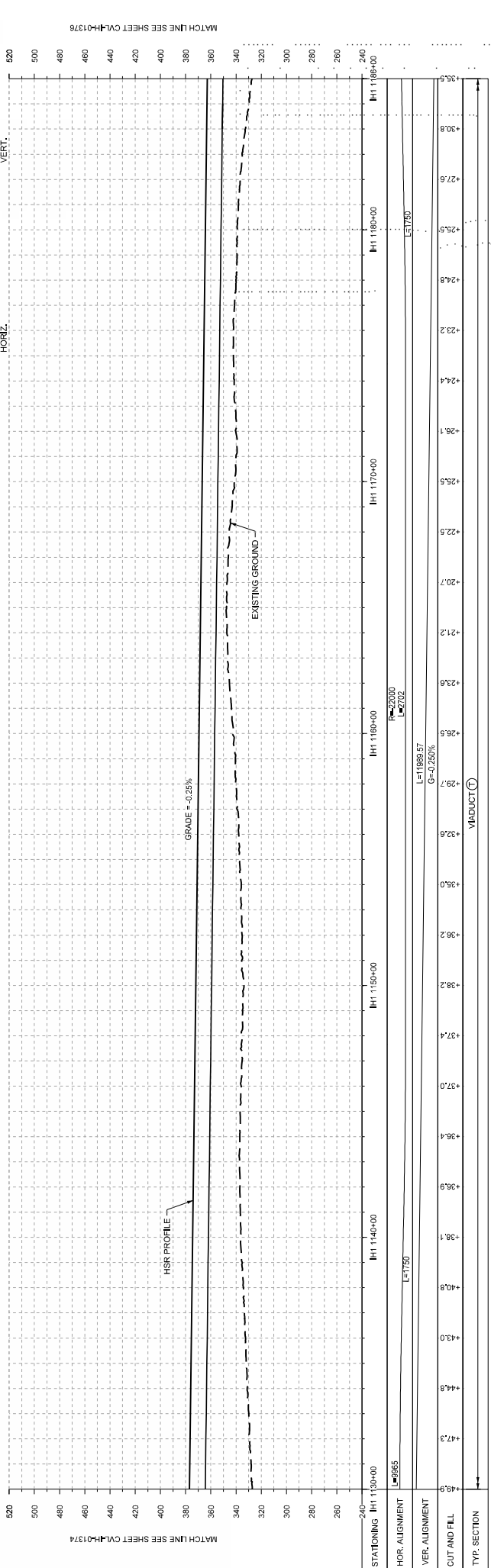
FREESHE NICHOLS
 2711 NORTH HIGHTWAY AVENUE, SUITE 3000
 DALLAS, TEXAS 75206, USA
 TEL: +1 214 371 2001
 WWW.FREESHE-NICHOLS.COM

TEXAS CENTRAL
 1408 SOUTH LAMAR STREET, SUITE 1022, DALLAS, TEXAS 75215

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: **234180**
 Drawing No: **CVL-IH-01374**
 Scale: **AS SHOWN**
 Drawing Status: **FINAL DRAFT**



PLAN



PROFILE

REV	DATE	BY	CHK	APP	DESCRIPTION

DESIGNED BY
F. DAGRIN

CHECKED BY
R. GIBBINS

IN CHARGE
C. TAYLOR

DATE
09/15/2017

ARUP
1070 Riva Road, Suite 475
Houston, Texas 77062, USA
www.arup.com | Tel: +1 281 445 1467
Texas Registered Engineering Firm # 5444

FRESE NICHOLS
2711 North Island Ave., Suite 300
Dallas, Texas 75206
www.fresenichols.com | Tel: 214 312 2001
Texas Registered Engineering Firm # 1980

Client
TEXAS CENTRAL
1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title
IH (45) SEGMENT CIVIL PLAN AND PROFILE
IH1 1130+00 TO IH1 1186+00

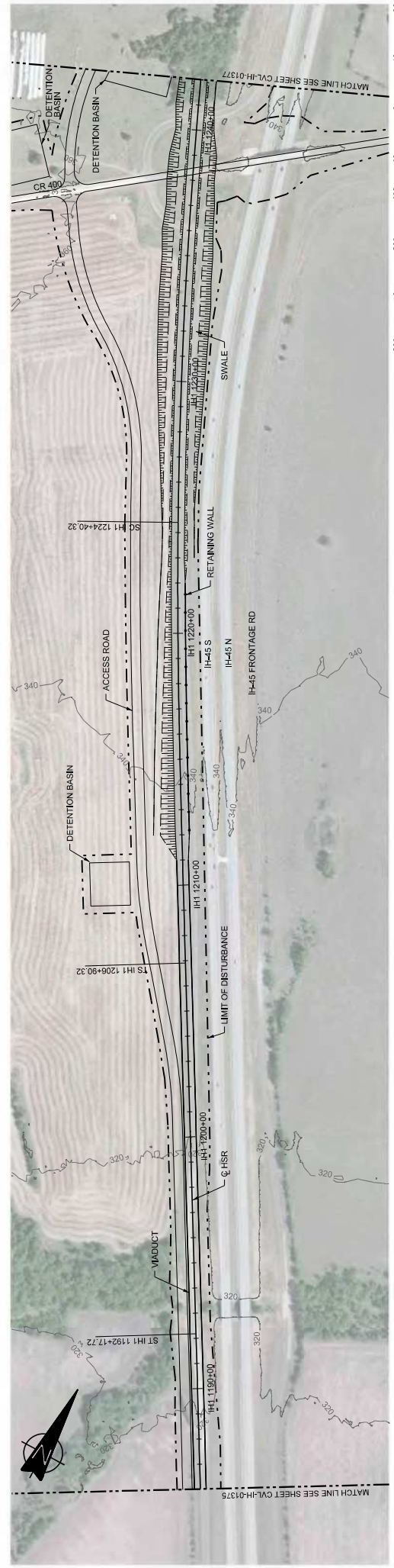
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Drawing Status
FINAL DRAFT

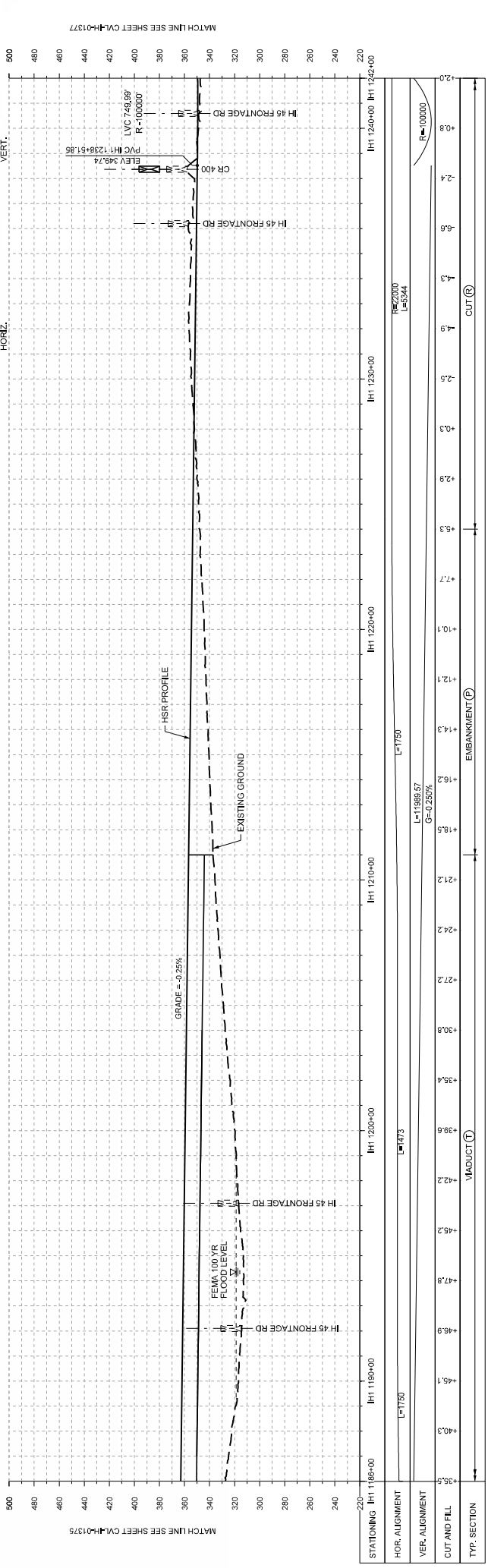
Job No.
234180

Checked by
CVL-IH-01375

Rev
01



PLAN



PROFILE

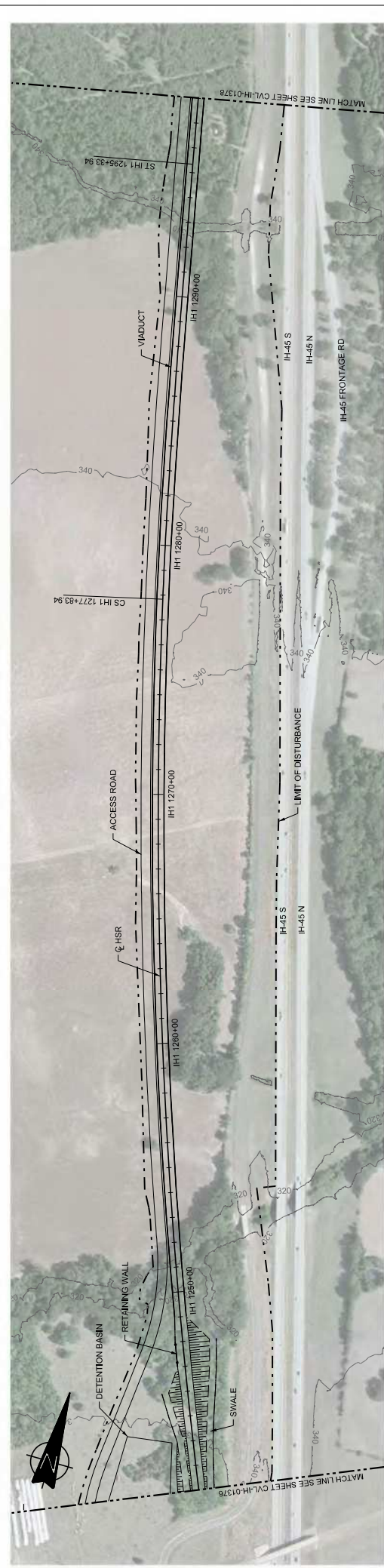
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CHECKED BY R. GIBBINS	BY CHK
CHECKED BY K. SEYMOUR	DATE 09/15/2017
CHECKED BY C. TAYLOR	DATE 09/15/2017
DESCRIPTION DISCRIPTION	APP

ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Highway Ave., Suite 3300
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.arup.com | Tel: (214) 343 1467
 Texas Registered Engineering Firm #1968

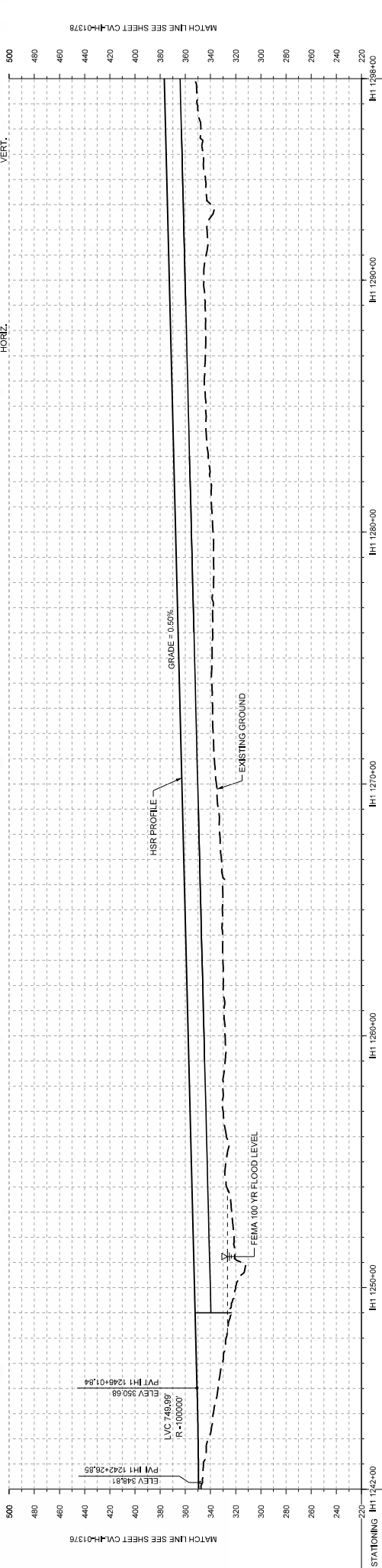
FREESE NICHOLS
 2711 North Highway Ave., Suite 3300
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.freesenichols.com | Tel: (214) 371 2001
 Texas Registered Engineering Firm #2144

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

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Scale: **AS SHOWN**
 Drawing No: **234180**
 Job No: **CVL-IH-01376**
 Date: **01**



PLAN



STATIONING	IH1 1242+00	IH1 1250+00	IH1 1260+00	IH1 1270+00	IH1 1280+00	IH1 1290+00	IH1 1298+00
HOR. ALIGNMENT	P=2.0000 L=6344						
VER. ALIGNMENT	P=1000.00 L=548.17 G=-0.000%						
CUT AND FILL	EM-BANKMENT (E)						
TYP. SECTION	VIADUCT (V)						

PROFILE

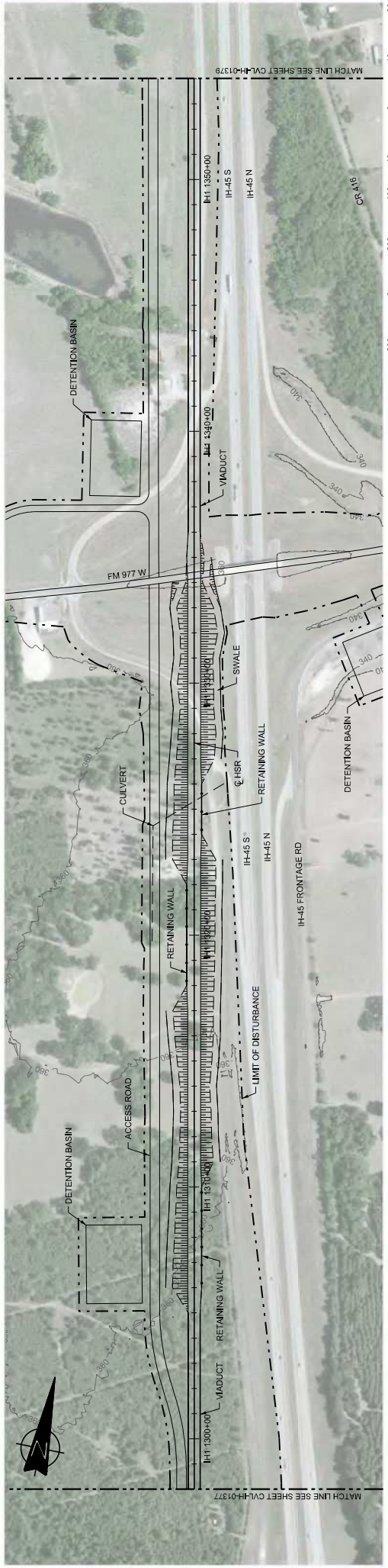
DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	09/15/2017
BY	CHK
DATE	
REV	
DISCIP	PER

ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Haskell Ave., Suite 3000
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.arup.com
 Tel: (214) 312 2001
 Fax: (214) 312 2001
 Texas Registered Engineering Firm F-144

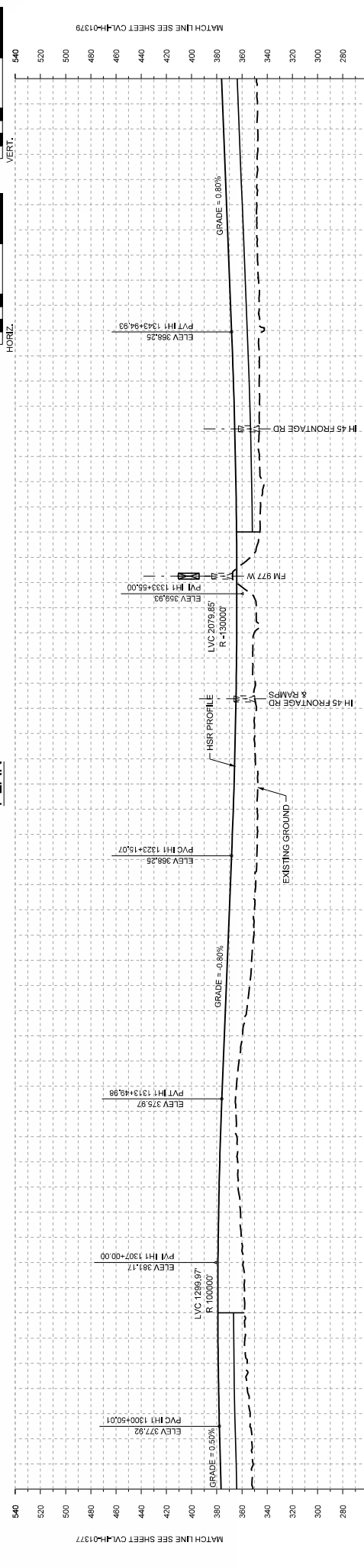
FRESE NICHOLS
 2711 North Haskell Ave., Suite 3000
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.fresenichols.com
 Tel: (214) 312 2001
 Fax: (214) 312 2001
 Texas Registered Engineering Firm F-144

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

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: **234180**
 Drawing No: **CVL-IH-01377**
 Scale: **AS SHOWN**
 Drawing Status: **FINAL DRAFT**



PLAN



STATIONING	IH1 1298+00	IH1 1300+00	IH1 1310+00	IH1 1320+00	IH1 1330+00	IH1 1340+00	IH1 1350+00	IH1 1354+00
HOR. ALIGNMENT	L=548.71 G=-0.50%							
VER. ALIGNMENT	L=962.10 G=-0.80%							
CUT AND FILL	VADUCT (1)							
TYP. SECTION	VADUCT (1)							

PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
DATE	09/15/2017
BY	CHK
DATE	APP
REV	DATE
DISCIPLINE	DISCIPLINE

ARUP
 1070 Riva Road, Suite 475
 Houston, Texas 77062, USA
 Tel: +1 281 443 1467
 www.arup.com
 Texas Registered Engineering Firm F-0980

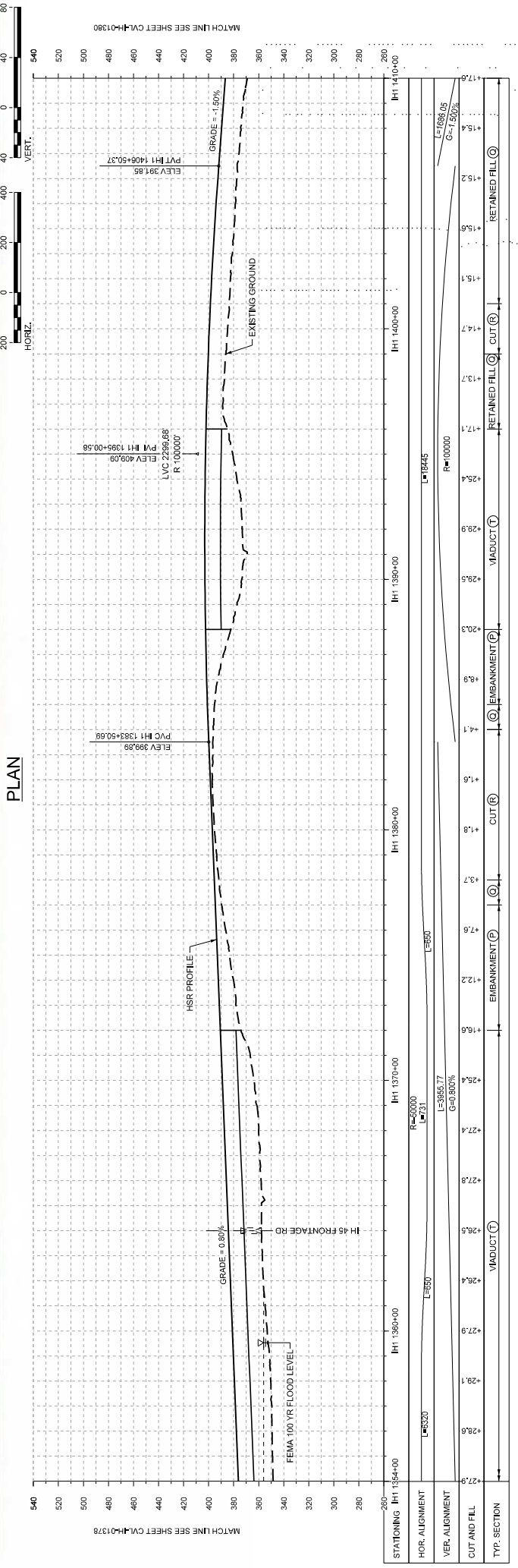
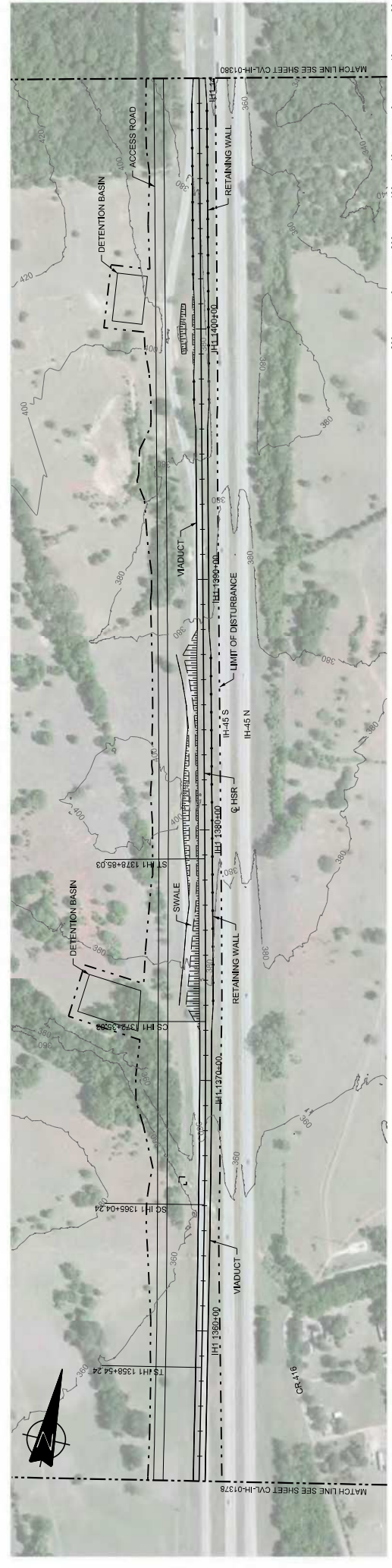
FRESE NICHOLS
 2711 North Island Ave., Suite 300
 Dallas, Texas 75206
 Tel: (214) 371 2001
 www.fresenichols.com
 Texas Registered Engineering Firm F-044

Client: **TEXAS CENTRAL**
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

Contract No: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: **IH1 1298+00 TO IH1 1354+00**

Scale: **AS SHOWN**
 Drawing Date: **FINAL DRAFT**

Drawn By: **CVL-JH-01378**
 Job No: **234180**
 Error: **01**



ARUP
 1070 Riva Road, Suite 475
 Houston, Texas 77062, USA
 www.arup.com | Tel: (713) 443 1467
 Texas Registered Engineering Firm F-1988

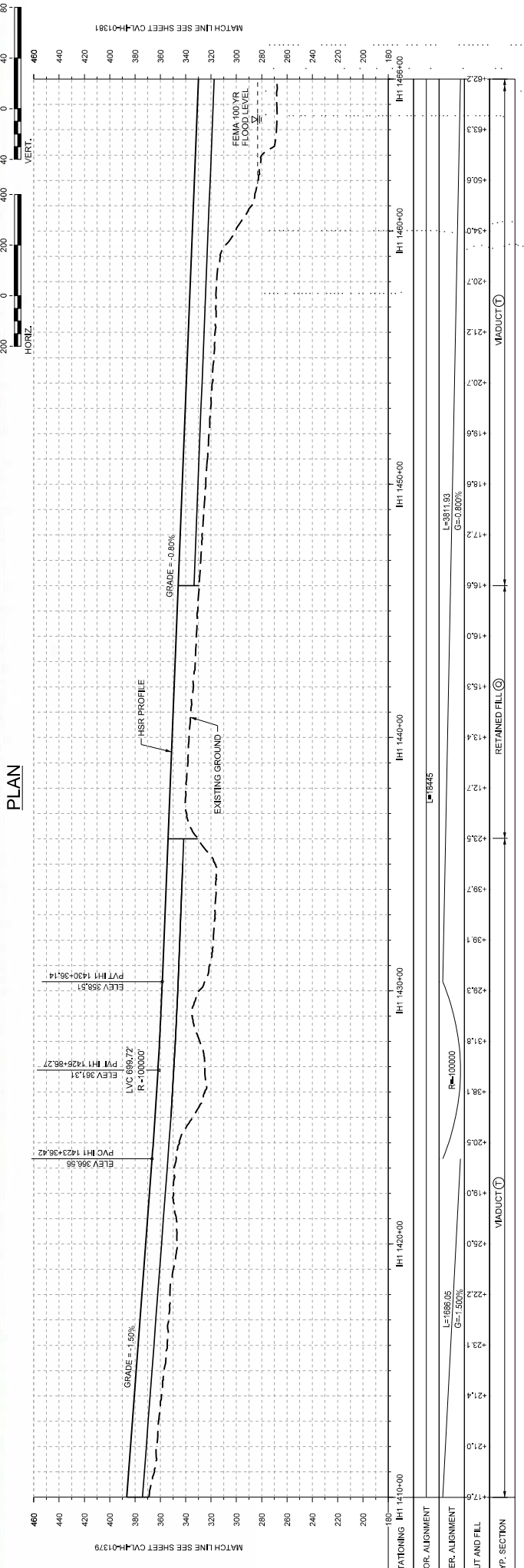
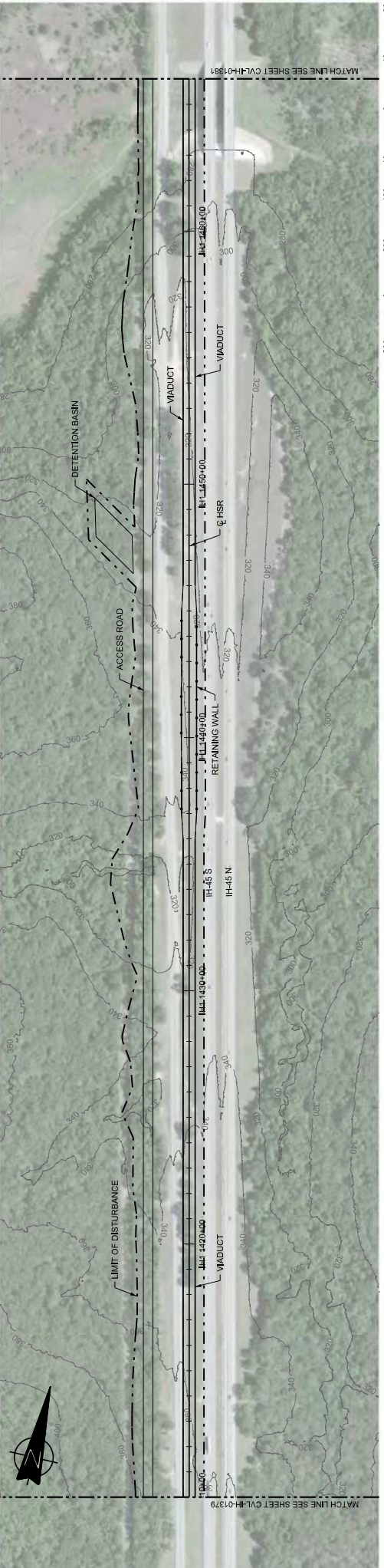
FRESE NI
 2711 North Island Ave., Suite 300
 Dallas, Texas 75238
 www.frese.com | Tel: (214) 372 2001
 Texas Registered Engineering Firm F-144

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

Client: **AS SHOWN**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE IH1 1354+00 TO IH1 1410+00**
 Job No: **234180**
 Drawing No: **CVL-IH-01379**
 Scale: **AS SHOWN**
 Drawing Status: **FINAL DRAFT**

REVISION NO.	DATE	BY	CHK	APP
01	09/15/2017	C. TAYLOR		

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
DRAWN BY	K. SEYMOUR
CHECKED BY	C. TAYLOR
DATE	09/15/2017
BY	
CHK	
APP	



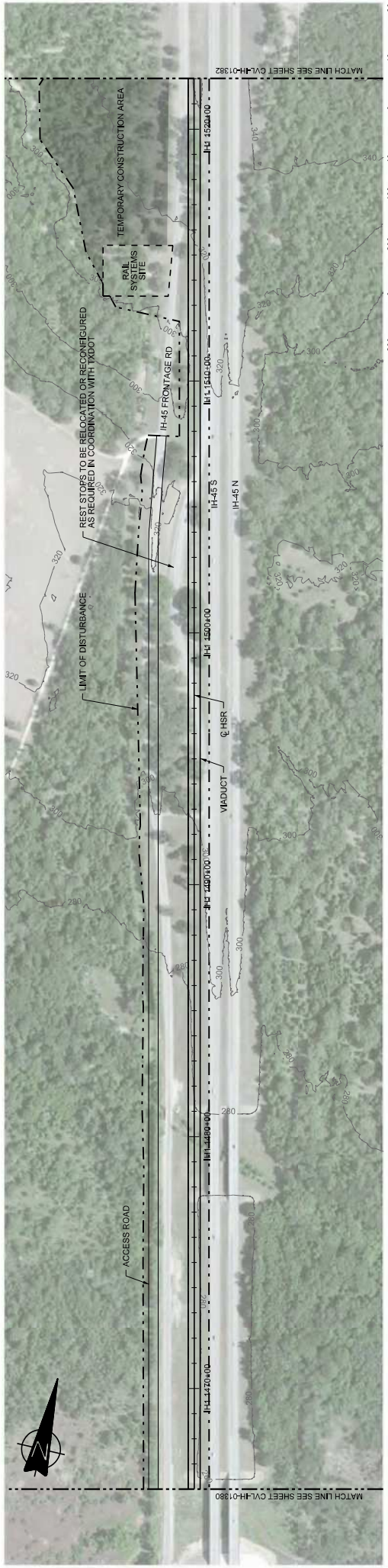
DESIGNED BY F. DAGRIN	DATE 09/15/2017
CHECKED BY R. GIBBINS	BY CHK
CHECKED BY K. SEYMOUR	DATE 09/15/2017
IN CHARGE C. TAYLOR	APP
DISCIPLINE DISCIPLINE	

Client: **ARUP**
 1400 North Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Howard Ave., Suite 3000
 Dallas, Texas 75206
 www.arup.com | Tel: (214) 343 1467
 Texas Registered Engineer #17968

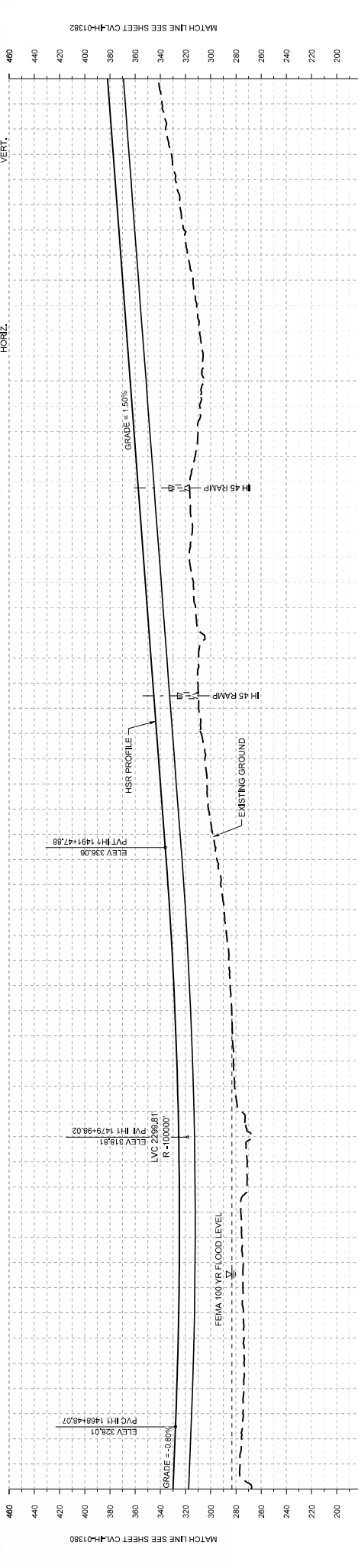
Client: **FRESE NICHOLS**
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Howard Ave., Suite 3000
 Dallas, Texas 75206
 www.fresenichols.com | Tel: (214) 372 2001
 Texas Registered Engineer #17968

Client: **TEXAS CENTRAL**
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

Scale: AS SHOWN
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: 234180
 Drawing No: CVL-IH-01380
 Final Draft: 01



PLAN



STATIONING	IH1 1466+00	IH1 1470+00	IH1 1480+00	IH1 1500+00	IH1 1510+00	IH1 1522+00
HOR. ALIGNMENT	P=100000					
VER. ALIGNMENT	L=624.51 G=1.500%					
CUT AND FILL	VADUCT					
TYP. SECTION	VADUCT					

PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
APP	DISCIP: EN

ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75226
 www.arup.com

FRESE NICHOLS
 2711 North Haskell Ave., Suite 3300
 Dallas, Texas 75226
 www.fresenichols.com

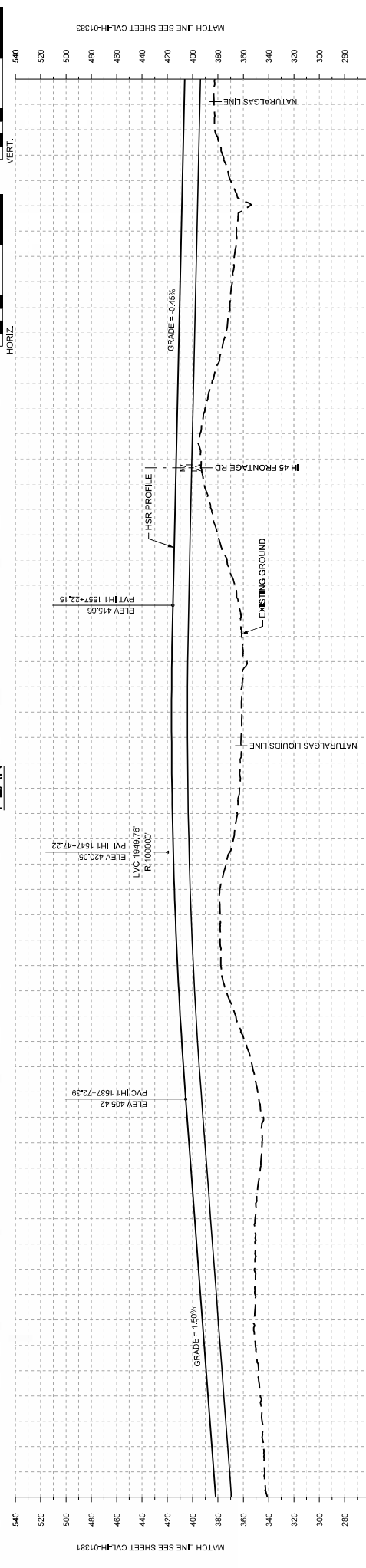
TEXAS CENTRAL
 1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawn by: **IH**
IH (45) SEGMENT CIVIL PLAN AND PROFILE
 IH1 1466+00 TO IH1 1522+00

Scale	AS SHOWN
Drawing Title	FINAL DRAFT
Job No.	234180
Drawing No.	CVL-IH-01381
Rev	01



PLAN



STATIONING	IH1 1522+00	IH1 1530+00	IH1 1540+00	IH1 1550+00	IH1 1560+00	IH1 1570+00	IH1 1578+00
HOR. ALIGNMENT	L=18445						
VER. ALIGNMENT	L=4624.51 G=1.500%						
CUT AND FILL	P=100000						
TYP. SECTION	VIADUCT (1)						

PROFILE

DESIGNED BY F. DAGRIN	DATE 09/15/2017
CHECKED BY R. GIBBINS	BY CHK
DESIGNED BY K. SEYMOUR	DATE
CHECKED BY C. TAYLOR	DATE
DATE	DATE
BY	CHK
APP	APP

DESCRIPTION: DISCIP: EN

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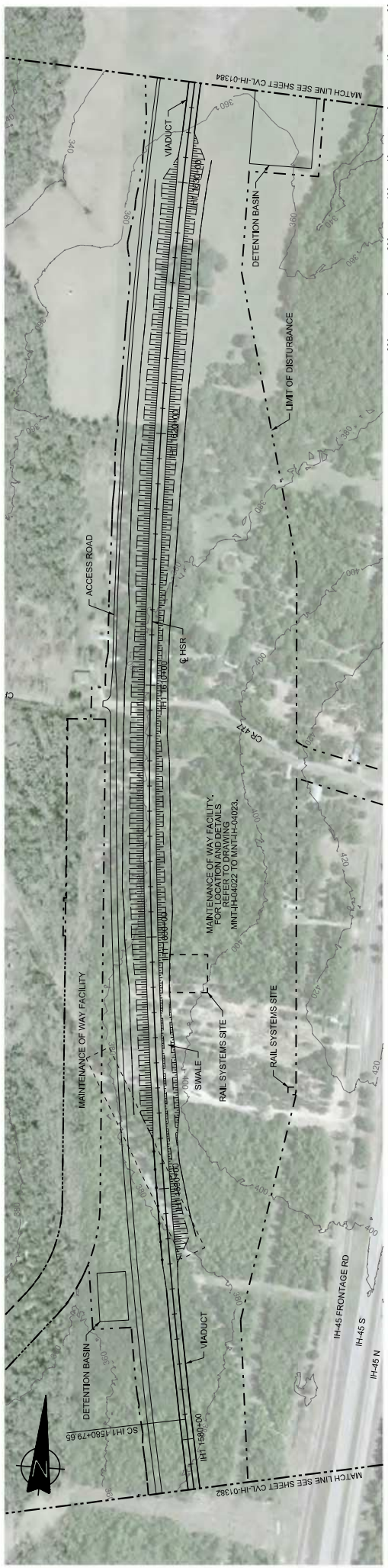
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Job No: 234180
Drawing No: CVL-IH-01382
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Drawn by: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
IH1 1522+00 TO IH1 1578+00

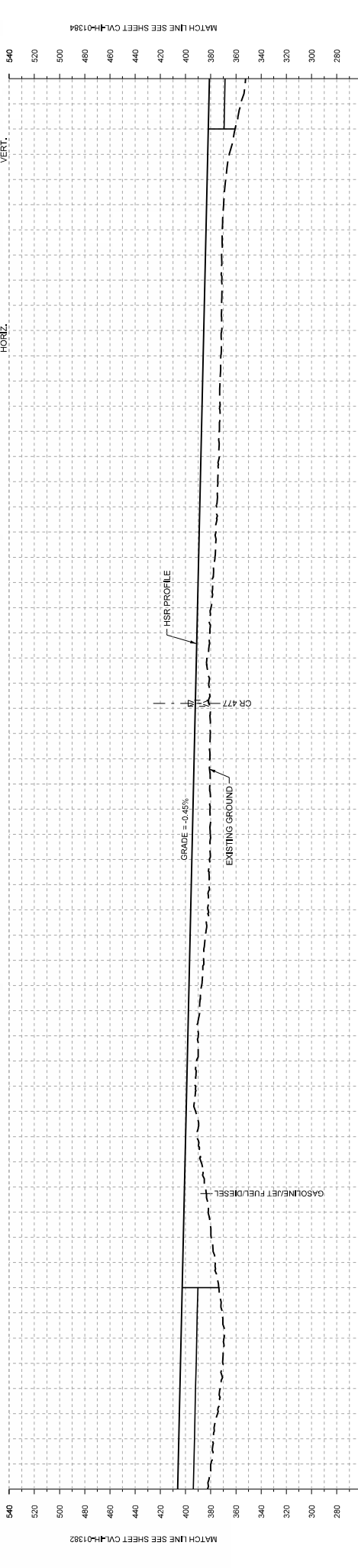
TEXAS CENTRAL
1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

FRESE NICHOLS
2711 North Loop West, Suite 3300
Houston, Texas 77029, USA
www.frese-nichols.com
Tel: (713) 343-1467
Texas Registered Engineering Firm #52144

ARUP
1000 Ruffalo Drive, Suite 475
Houston, Texas 77029, USA
www.arup.com
Tel: (713) 343-1467
Texas Registered Engineering Firm #52144



PLAN



STATIONING	IH1 1578+00	IH1 1580+00	IH1 1600+00	IH1 1610+00	IH1 1620+00	IH1 1630+00	IH1 1634+00
HOR. ALIGNMENT	L=1750						
VER. ALIGNMENT	V=22000 L=8246						
CUT AND FILL	L=10760.26 G=-0.450%						
TYP. SECTION	VADUCT (D) EMBANKMENT (A) VADUCT (E)						

PROFILE

DESIGNED BY	F. DAGRIN			
CHECKED BY	R. GIBBINS			
IN CHARGE	K. SEYMOUR			
DATE	09/15/2017			
REV	DATE	BY	CHK	APP
DISCIP: EN				

ARUP
1070 Rhythmic Ave., Suite 475
Houston, Texas 77042, USA
www.arup.com

FRESE NICHOLS
2711 North Island Ave., Suite 300
Dallas, Texas 75206
www.fresenichols.com

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

Client: **ARUP**

Contracting Firm: **ARUP**

Drawn By: **AS SHOWN**

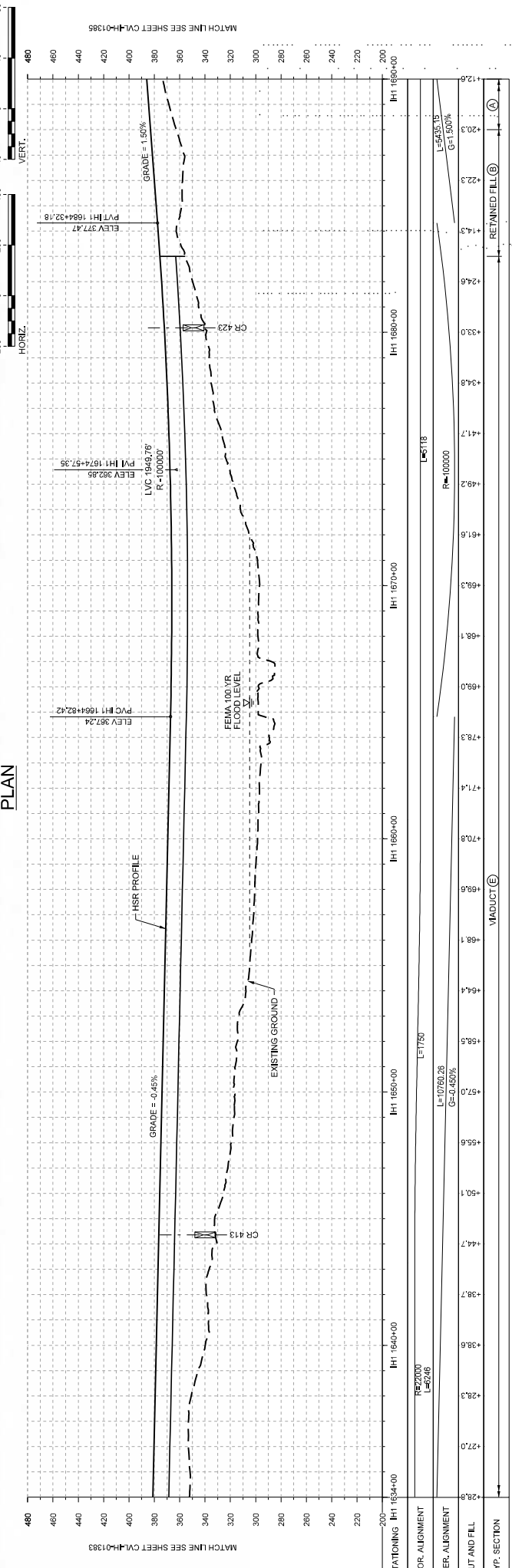
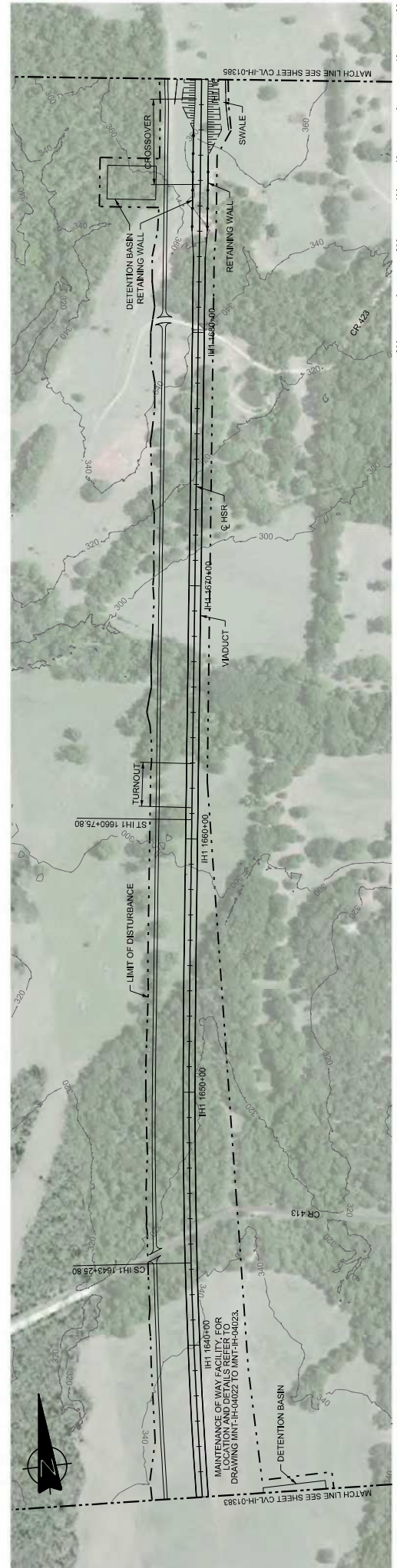
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Job No: **234180**

Drawn Date: **CVL-JH-01383**

Job Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**

Project: **IH1 1578+00 TO IH1 1634+00**



MATCH LINE SEE SHEET CIVL-IH-101383 MATCH LINE SEE SHEET CIVL-IH-101385

DESIGNED BY F. DAGRIN	DATE 09/15/2017	DISCIP RDN
CHECKED BY R. GIBBINS		
DESIGNED BY K. SEYMOUR		
CHECKED BY C. TAYLOR		
DATE	BY	CHK
DATE	BY	APP

ARUP
1070 RHM Road, Suite 475
Houston, Texas 77062, USA
www.arup.com Tel: (713) 843 1467
Texas Registered Engineering Firm #1980

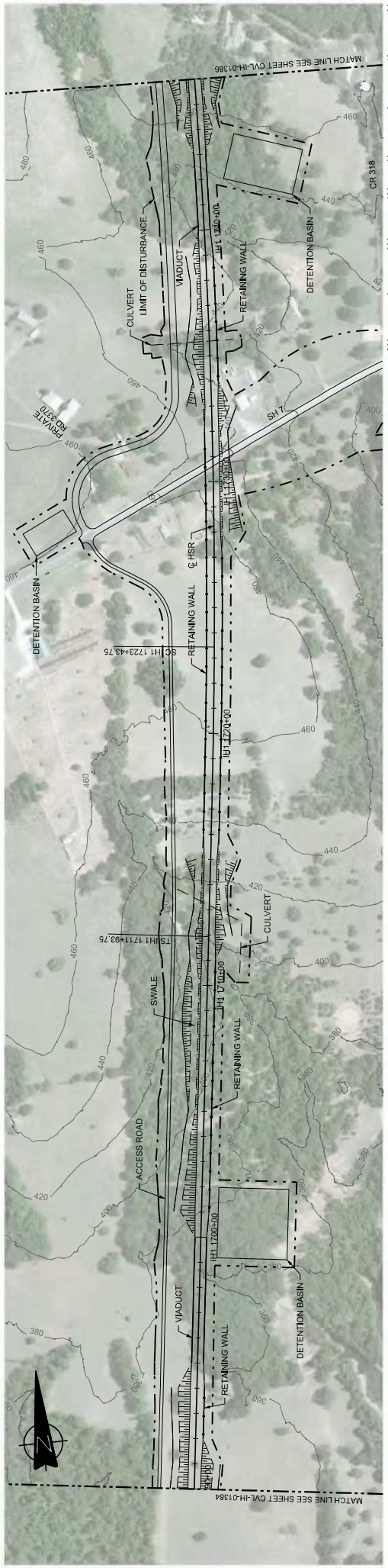
FREESE NICHOLS
2711 North Island Ave., Suite 3000
Dallas, Texas 75238
www.freezenichols.com Tel: (214) 372 2001
Texas Registered Engineering Firm #2144

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

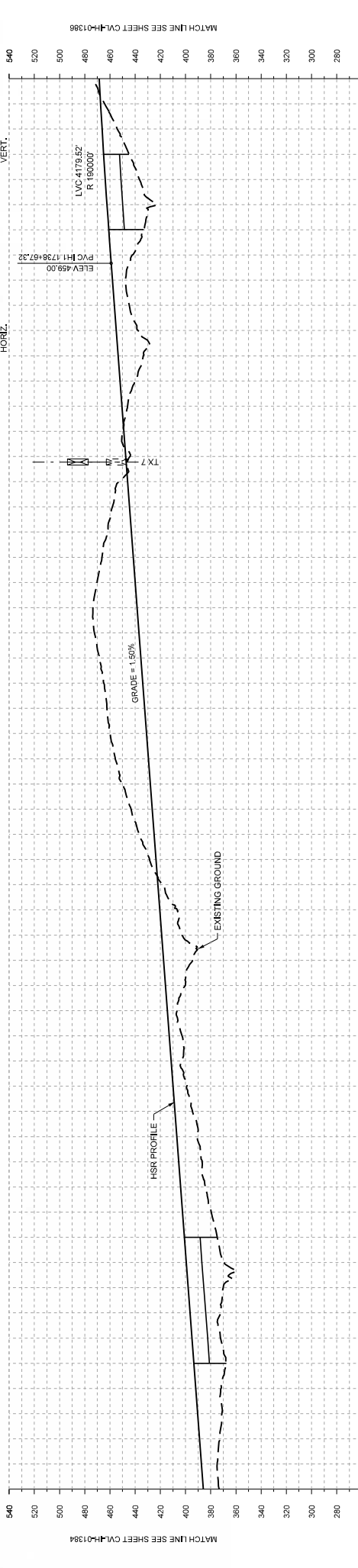
IH (45) SEGMENT
CIVIL
PLAN AND PROFILE
IH1 1634+00 TO IH1 1690+00

Scale: AS SHOWN
Drawing Title: FINAL DRAFT
Job No: 234180
Drawing No: CIVL-IH-01384
Rev: 01

ARUP TEXAS INC.



PLAN



STATIONING	IH1 1890+00	IH1 1700+00	IH1 1710+00	IH1 1720+00	IH1 1730+00	IH1 1740+00	IH1 1746+00
HOR. ALIGNMENT	L=1150						
VER. ALIGNMENT	L=5435.15 G=-1.500%						
CUT AND FILL	EMBANKMENT (A)	EMBANKMENT (A)	CUT (C)	EMBANKMENT (A)	CUT (C)	EMBANKMENT (A)	CUT (C)
TYP. SECTION	EMBANKMENT (A)	EMBANKMENT (A)	CUT (C)	EMBANKMENT (A)	CUT (C)	EMBANKMENT (A)	CUT (C)

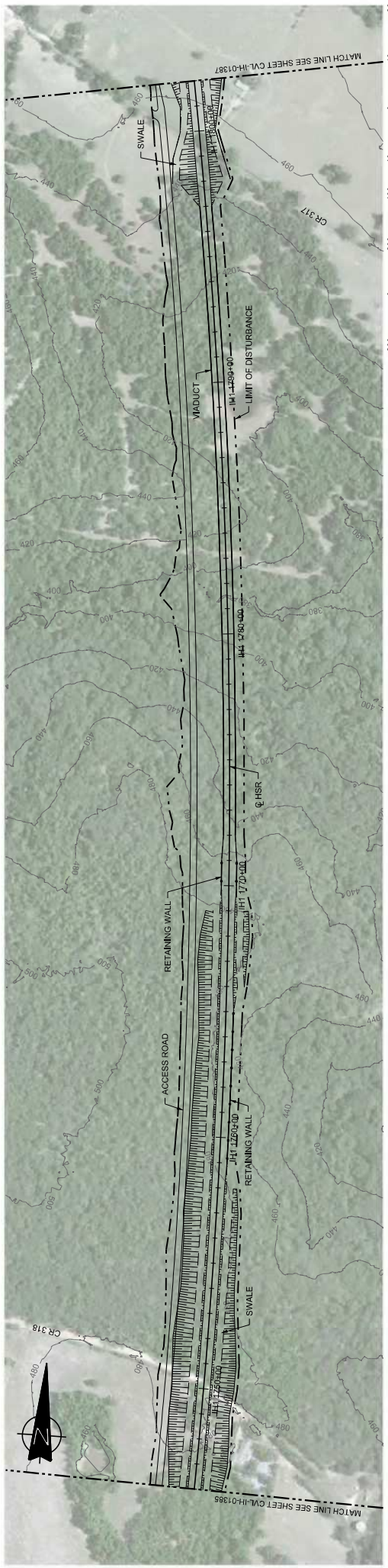
PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
DESIGNED BY	K. SEYMOUR
CHECKED BY	C. TAYLOR
DATE	09/15/2017
BY	CHK
DATE	09/15/2017
APP	

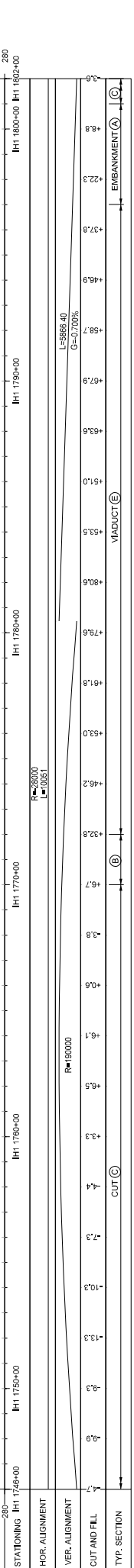
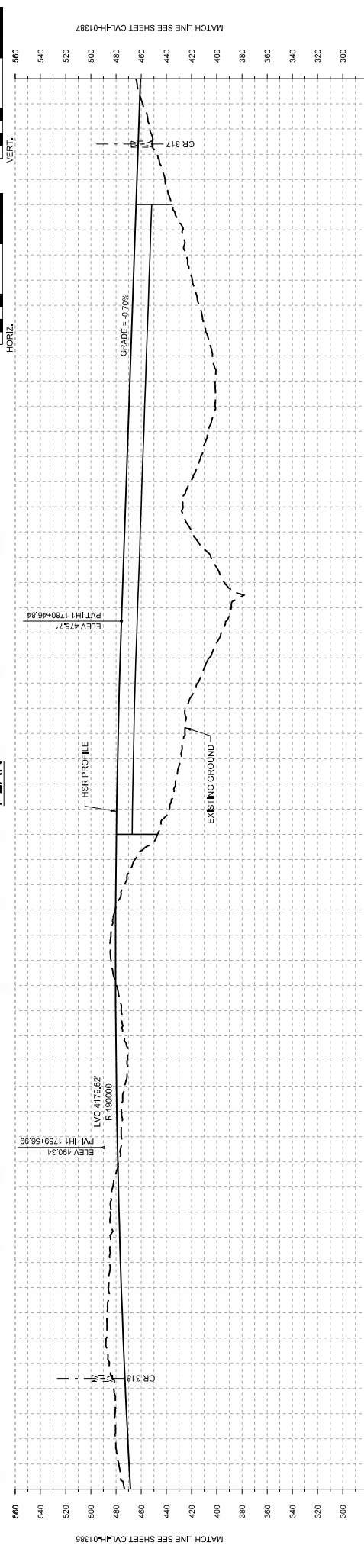
ARUP
 1070 RHWIND AVENUE, SUITE 3300
 HOUSTON, TEXAS 77062, USA
 TEL: +1 281 445 4400
 WWW.ARUP.COM

FRESE NICHOLS
 2711 NORTH HAVEN AVENUE, SUITE 3300
 DALLAS, TEXAS 75206, USA
 TEL: +1 214 312 2001
 WWW.FRESE-NICHOLS.COM

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



PLAN



PROFILE

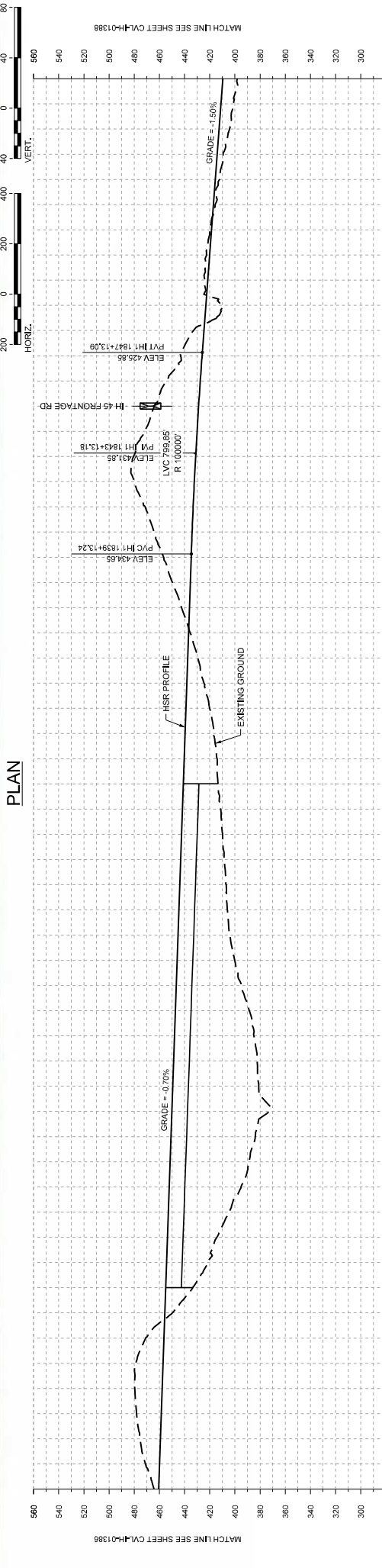
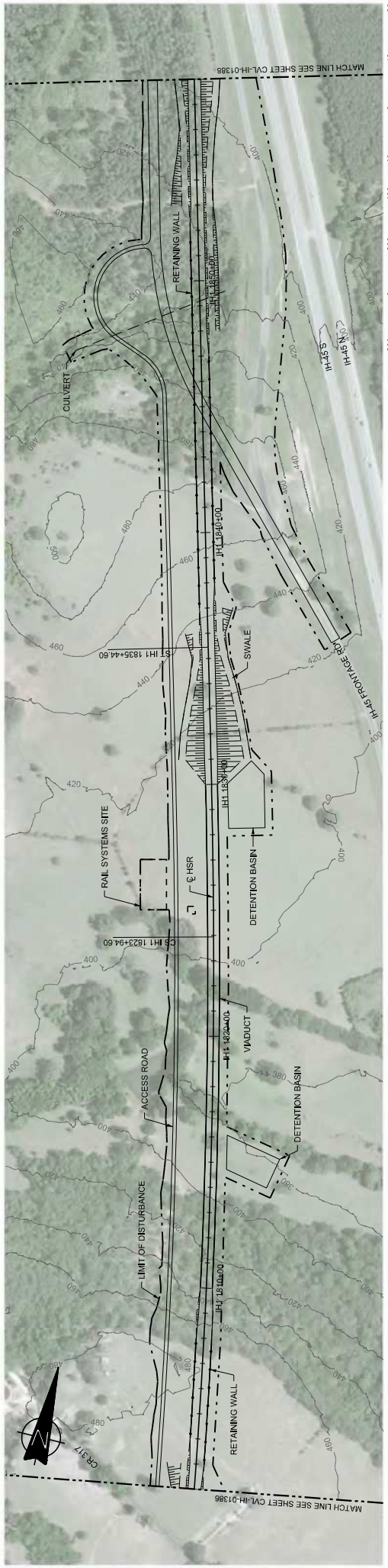
DESIGNED BY	F. DAGRIN			
CHECKED BY	R. GIBBINS			
IN CHARGE	K. SEYMOUR			
DATE	C. TAYLOR			
REV	DATE	BY	CHK	APP
DISCIP: RKN				

ARUP
 1070 RHWood Ave., Suite 475
 Houston, Texas 77062, USA
 Tel: (713) 443 1467
 www.arup.com
 Texas Registered Engineering Firm F-1980

FRESE NICHOLS
 2711 North Island Ave., Suite 300
 Dallas, Texas 75206
 Tel: (214) 312 2001
 Texas Registered Engineering Firm F-5144

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

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE IH1 1746+00 TO IH1 1802+00**
 Scale: **AS SHOWN**
 Drawing Status: **FINAL DRAFT**
 Job No: **234180**
 Drawing No: **CVL-IH-01386**
 Rev: **01**



STATIONING	IH1 1802+00	IH1 1810+00	IH1 1820+00	IH1 1830+00	IH1 1840+00	IH1 1850+00	IH1 1858+00
HOR. ALIGNMENT	L=28000 L=10081						
VER. ALIGNMENT	L=6665.40 G=-0.700%						
CUT AND FILL	RETAINED CUT (C) EMBANKMENT (A) CUT (C) RETAINED CUT (C) EMBANKMENT (A) CUT (C) EMBANKMENT (A)						
TYP. SECTION	RETAINED CUT (C) EMBANKMENT (A) CUT (C) RETAINED CUT (C) EMBANKMENT (A) CUT (C) EMBANKMENT (A)						

ARUP

1400 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Central Expressway, Suite 3000
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.arup.com Tel: (214) 343 1467
 Texas Registered Engineering Firm F-1968

FRESE NI CHOLS

2711 North Central Expressway, Suite 3000
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.fresenichols.com Tel: (214) 312 2001
 Texas Registered Engineering Firm F-1944

Client: **TEXAS CENTRAL**

Designing For: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**

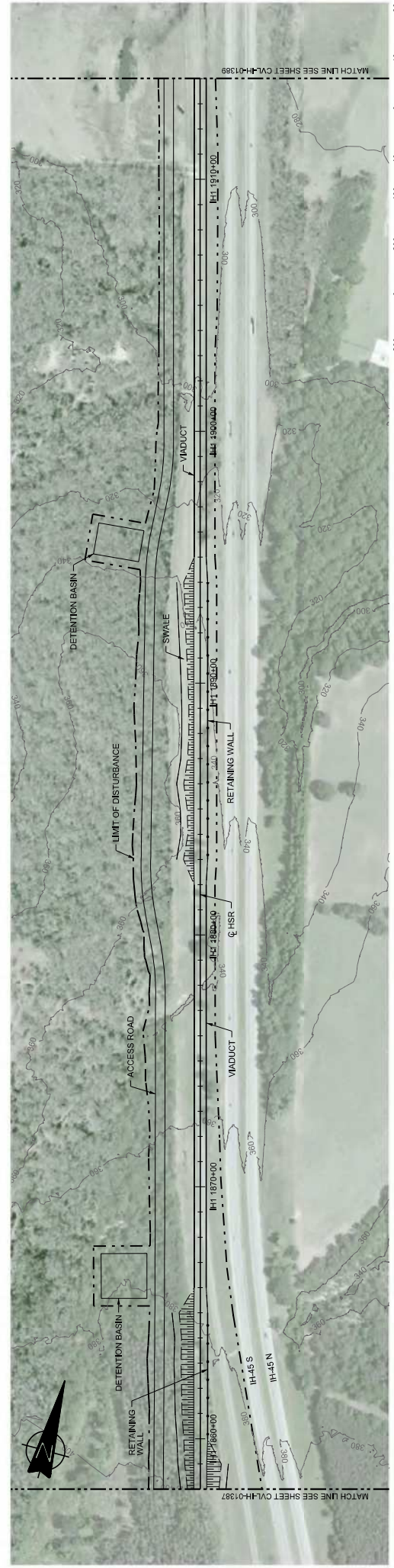
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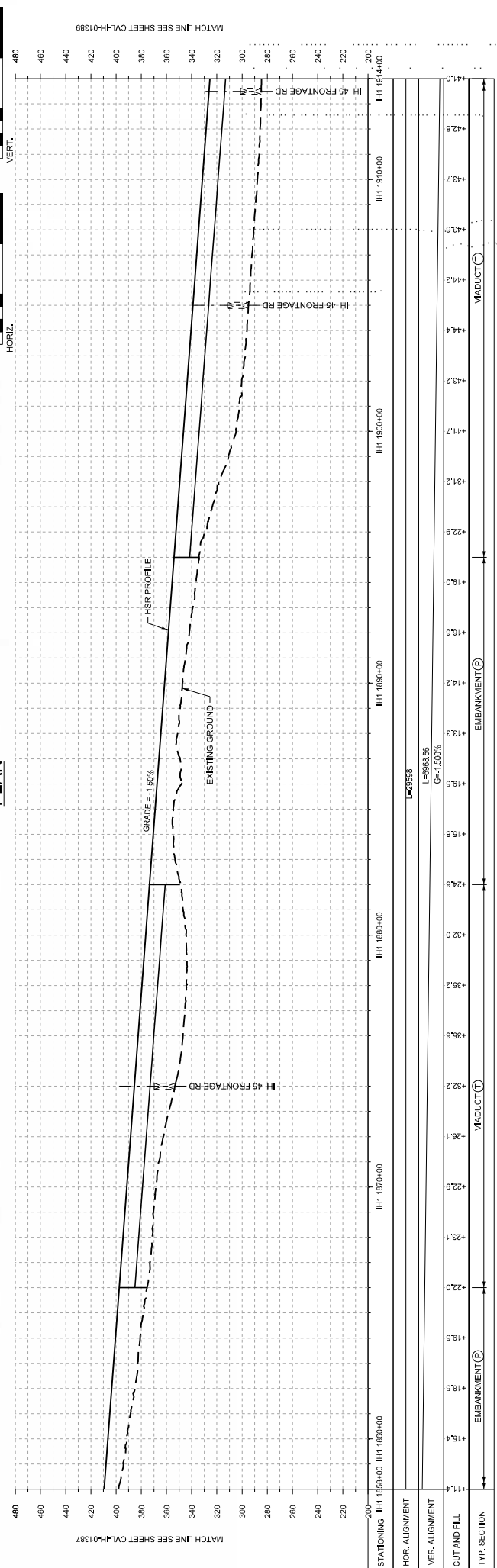
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DESIGNED BY	F. DAGRIN	DATE	09/15/2017
CHECKED BY	R. GIBBINS	DATE	
DESIGNED BY	K. SEYMOUR	DATE	
CHECKED BY	C. TAYLOR	DATE	
DATE		BY	CHK
DATE		BY	APP

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PLAN



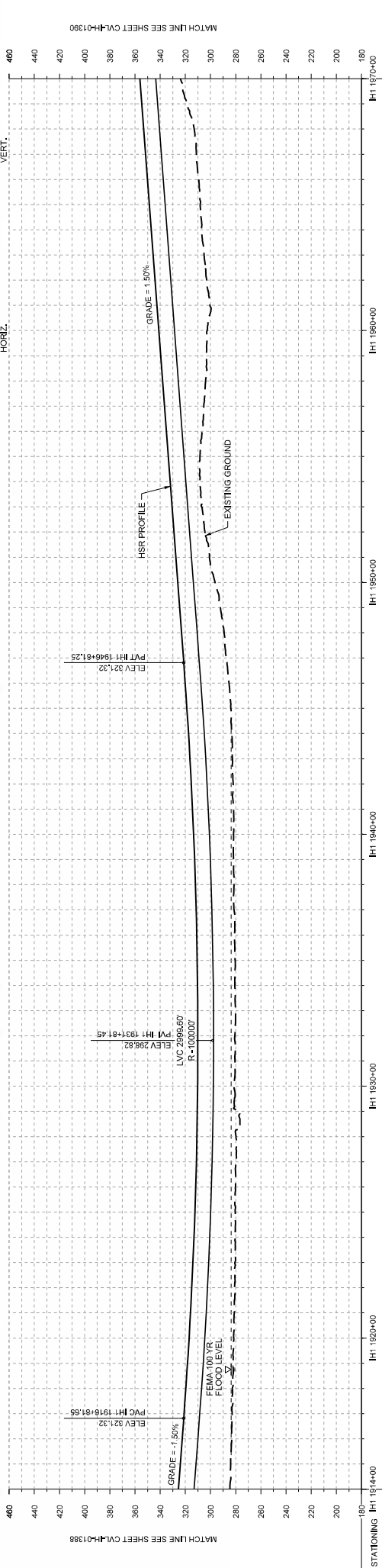
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<p>DESIGNED BY F. DAGRIN</p> <p>CHECKED BY R. GIBBINS</p> <p>IN CHARGE C. TAYLOR</p> <p>DATE 09/15/2017</p>	<p>DISCIPLINE DISCIPLINE</p>	<p>DATE 09/15/2017</p>	<p>BY CHK</p> <p>APP APP</p>	<p>Scale: AS SHOWN</p> <p>Drawing Title: IH (45) SEGMENT CIVIL PLAN AND PROFILE</p> <p>Job No: 234180</p> <p>Drawn By: CVL-IH-01388</p> <p>Final Draft</p>	<p>Sheet: 01</p>
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<p>Client:</p> <p>ARUP</p> <p>100 South Lamar Street, Suite 1022, Dallas, Texas 75215</p>	<p>Client:</p> <p>FRESE NICHOLS</p> <p>2711 North Highland Ave., Suite 3000 Dallas, Texas 75206 www.fresenichols.com</p>	<p>Client:</p> <p>TEXAS CENTRAL</p> <p>1400 South Lamar Street, Suite 1022, Dallas, Texas 75215</p>
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PLAN



PROFILE

STATIONING	IH1 1914+00	IH1 1920+00	IH1 1930+00	IH1 1940+00	IH1 1950+00	IH1 1960+00	IH1 1970+00
HOR. ALIGNMENT	L=26585						
VER. ALIGNMENT	L=100000						
CUT AND FILL	L=507.63 G=1.500%						
TYP. SECTION	VIADUCT (V)						

ARUP

ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Haskell Ave., Suite 3000
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.arup.com
 Tel: +1 214 312 2001
 Fax: +1 214 312 2001
 Texas Registered Engineering Firm #5144

Client
FRESE NICHOLS
 2711 North Haskell Ave., Suite 3000
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.fresenichols.com
 Tel: +1 214 312 2001
 Fax: +1 214 312 2001
 Texas Registered Engineering Firm #5144



Contract Title
IH (45) SEGMENT CIVIL PLAN AND PROFILE
 IH1 1914+00 TO IH1 1970+00

Scale: AS SHOWN
 Drawing Status: FINAL DRAFT
 Job No: 234180
 Drawing No: CVL-IH-01389
 Rev: 01

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
DATE	09/15/2017

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
DATE	09/15/2017

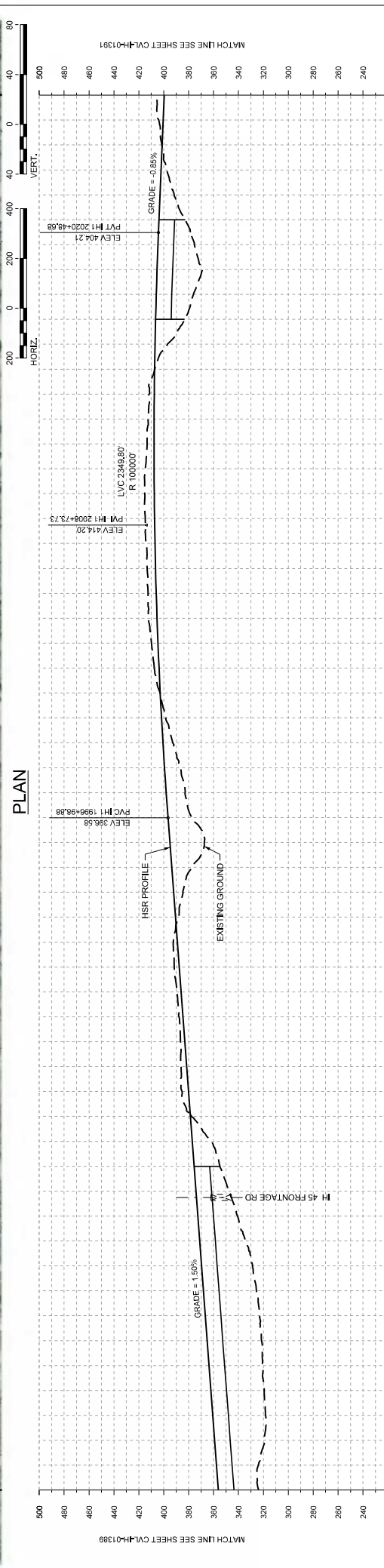
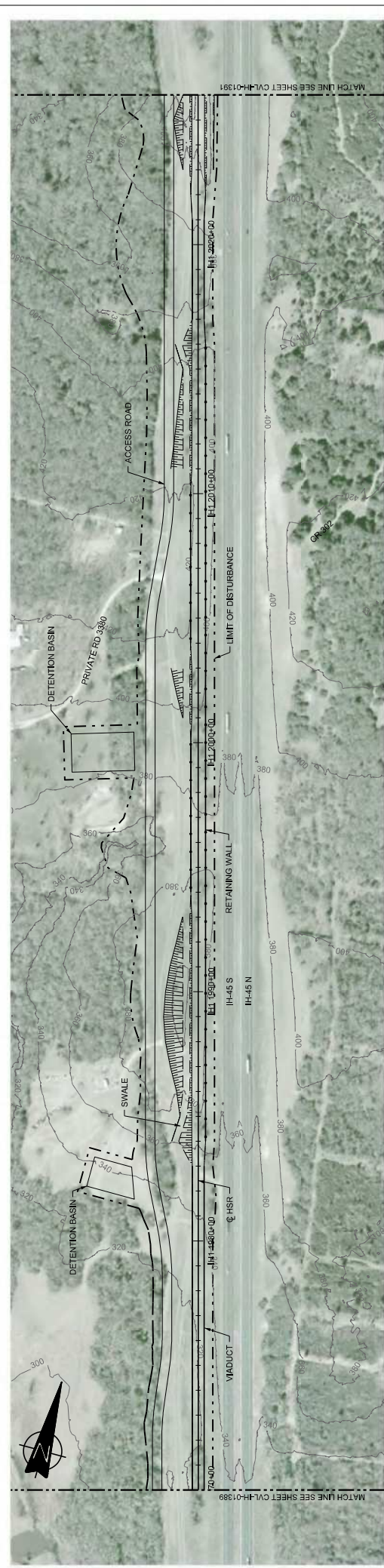
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CHECKED BY	R. GIBBINS
DATE	09/15/2017

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
DATE	09/15/2017

REV	DATE	BY	CHK	APP

REV	DATE	BY	CHK	APP

REV	DATE	BY	CHK	APP



STATIONING	IH1 1970+00	IH1 1980+00	IH1 1990+00	IH1 2000+00	IH1 2010+00	IH1 2020+00	IH1 2026+00
HOR. ALIGNMENT	L=2969.83 G=-0.850%						
VER. ALIGNMENT	L=5017.83 G=1.500%						
CUT AND FILL	RETAINED FILL (⊙) CUT (⊖) VIADUCT (⊙) CUT (⊖)						
TYP. SECTION	RETAINED FILL (⊙) CUT (⊖) VIADUCT (⊙) CUT (⊖)						

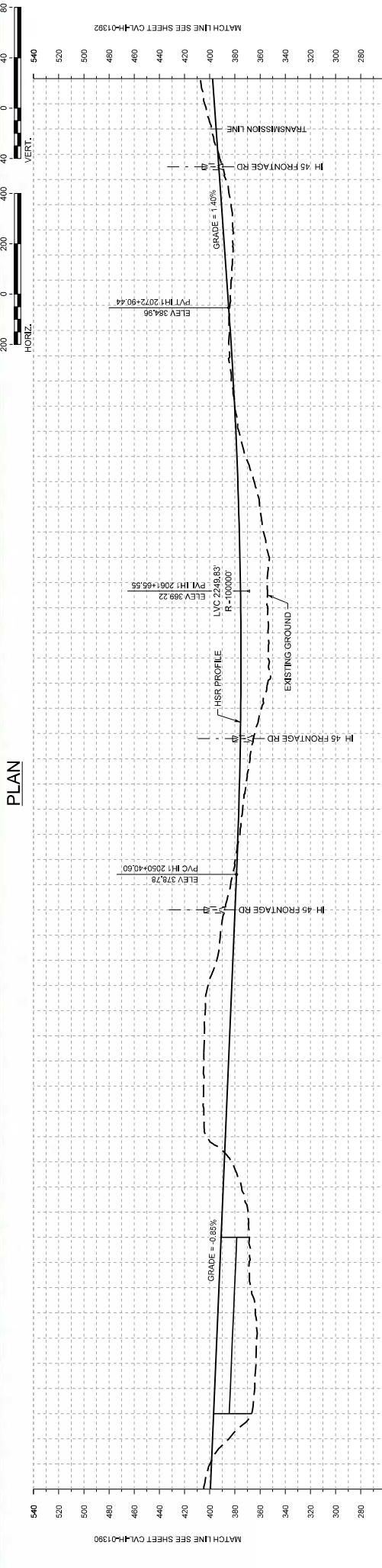
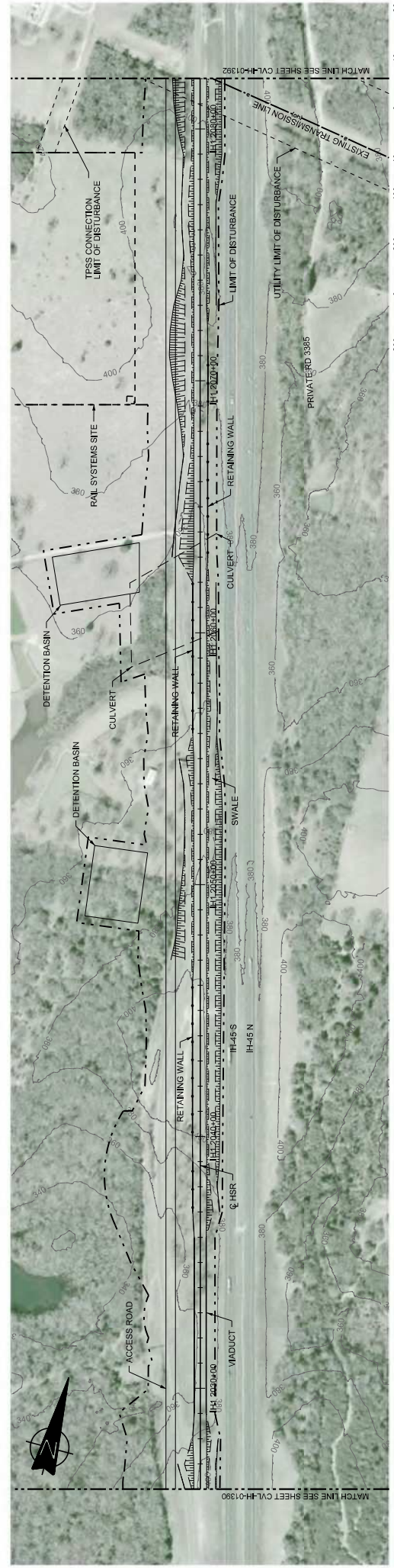
ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Harvard Ave., Suite 3300
 Dallas, Texas 75205
 www.arup.com | Tel: (214) 312 2001
 Texas Registered Engineer #17464

Client: **TEXAS CENTRAL**

Designing For: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**

Job No: 234180
 Drawing No: CVL-IH-01390
 Status: AS SHOWN
 Drawing Status: FINAL DRAFT

DESIGNED BY	F. DAGRIN	DISCIPLINE	DESCRIPTION
CHECKED BY	R. GIBBINS		
DESIGNED BY	K. SEYMOUR		
CHECKED BY	C. TAYLOR		
DATE	09/15/2017	BY	CHK
DATE		BY	APP



STATIONING	IH1 2026+00	IH1 2030+00	IH1 2040+00	IH1 2050+00	IH1 2060+00	IH1 2070+00	IH1 2080+00	IH1 2082+00
HOR. ALIGNMENT	L=2691.93 G=-0.850%							
VER. ALIGNMENT	L=2691.93 G=-0.850%							
CUT AND FILL	CUT (6) VIADUCT (7) EMBANKMENT (8) CUT (9)							
TYP. SECTION	CUT (6) EMBANKMENT (8) CUT (9)							

DESIGNED BY: **F. DAGRIN**

CHECKED BY: **R. GIBBINS**

DRAWN BY: **K. SEYMOUR**

IN CHARGE: **C. TAYLOR**

DATE: **09/15/2017**

DISCIPLINE: **DISCIPLINE**

Scale: **AS SHOWN**

Drawing Status: **FINAL DRAFT**

Job No: **234180**

Drawn By: **CVL-JH-01391**

Plot No: **01**

Client: **ARUP**

ARUP

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

2711 North Howard Ave., Suite 3000
Dallas, Texas 75206
www.arup.com | Tel: (214) 761-4600 | Fax: (214) 761-4607

Texas Registered Engineering Firm # 5414

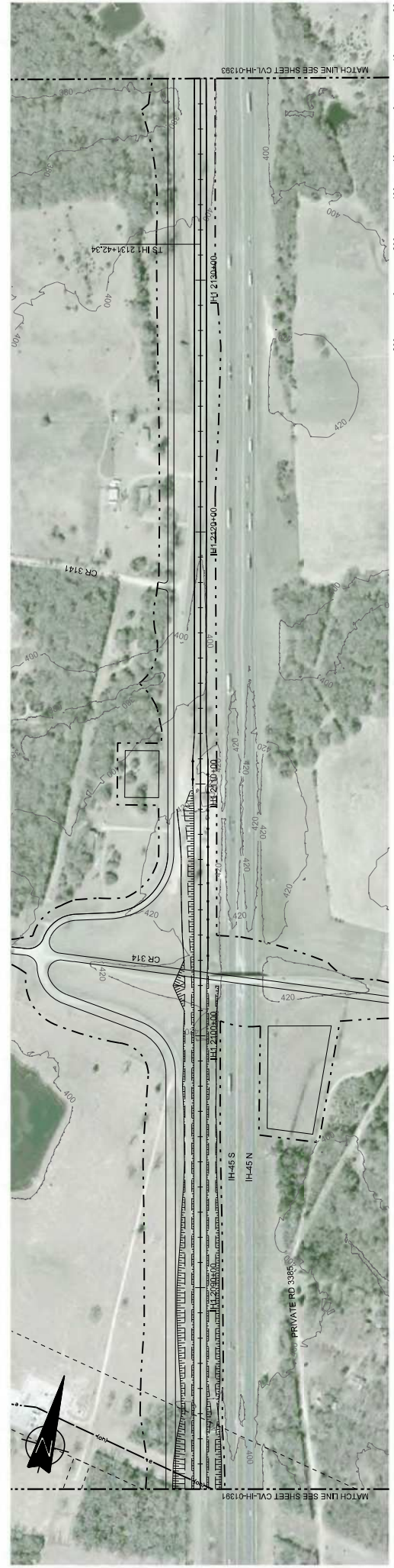
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TEXAS CENTRAL

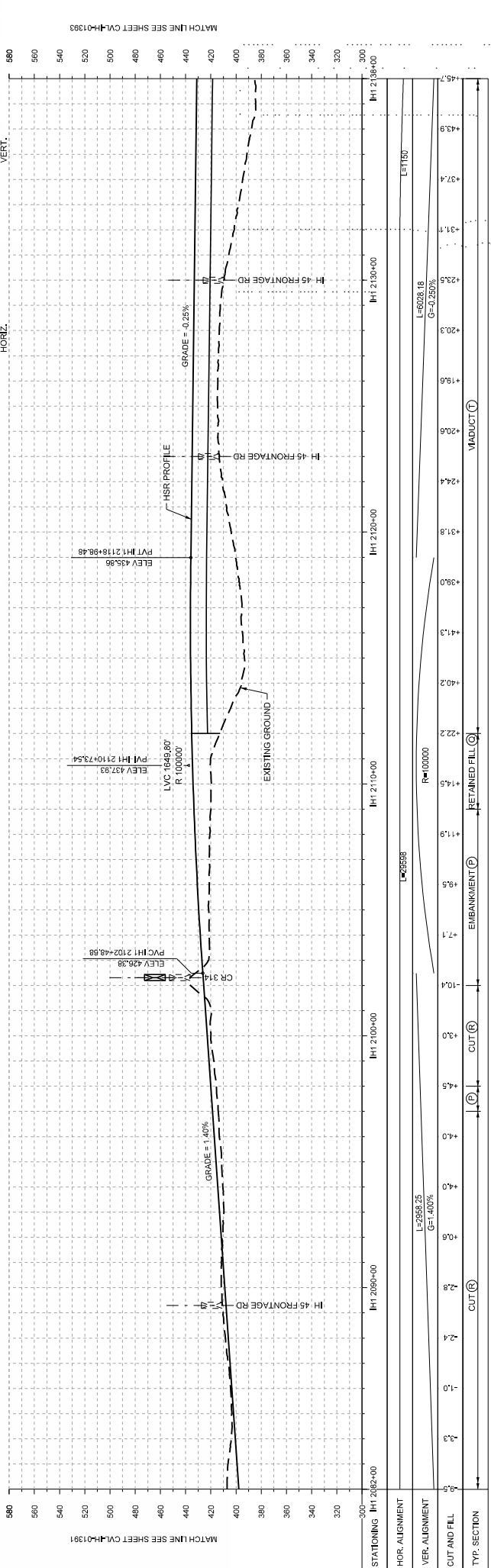
1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

Project: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**

IH1 2026+00 TO IH1 2082+00



PLAN



PROFILE

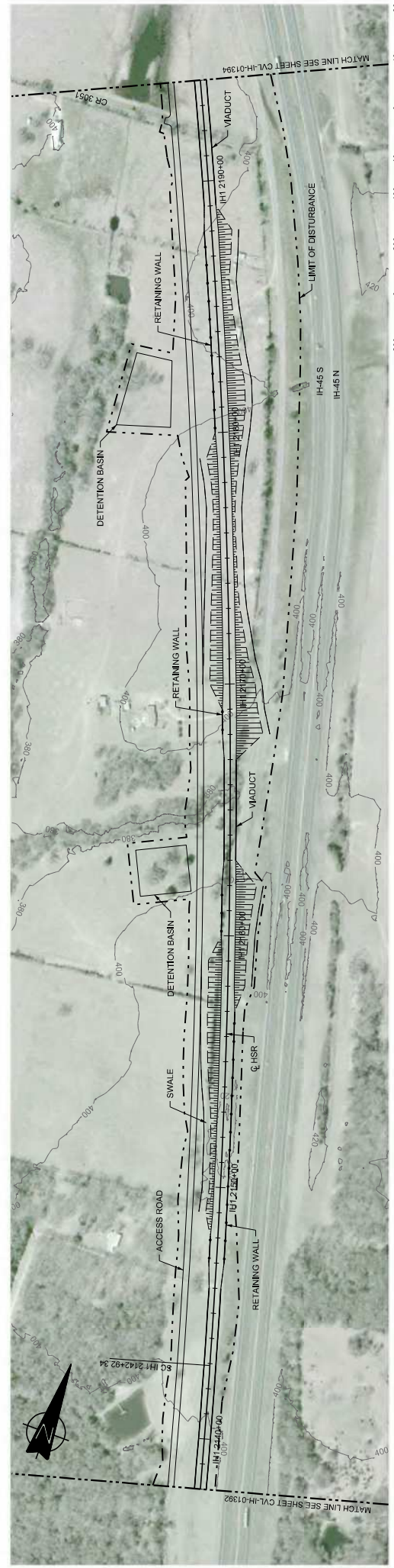
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CHECKED BY K. SEYMOUR	DATE 09/15/2017	
DESIGNED BY C. TAYLOR	DATE 09/15/2017	
CHECKED BY C. TAYLOR	DATE 09/15/2017	
DESIGNED BY C. TAYLOR	DATE 09/15/2017	
CHECKED BY C. TAYLOR	DATE 09/15/2017	

ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Highway Ave., Suite 3300
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.arup.com Tel: (214) 343 1467
 Texas Registered Engineering Firm F-0680

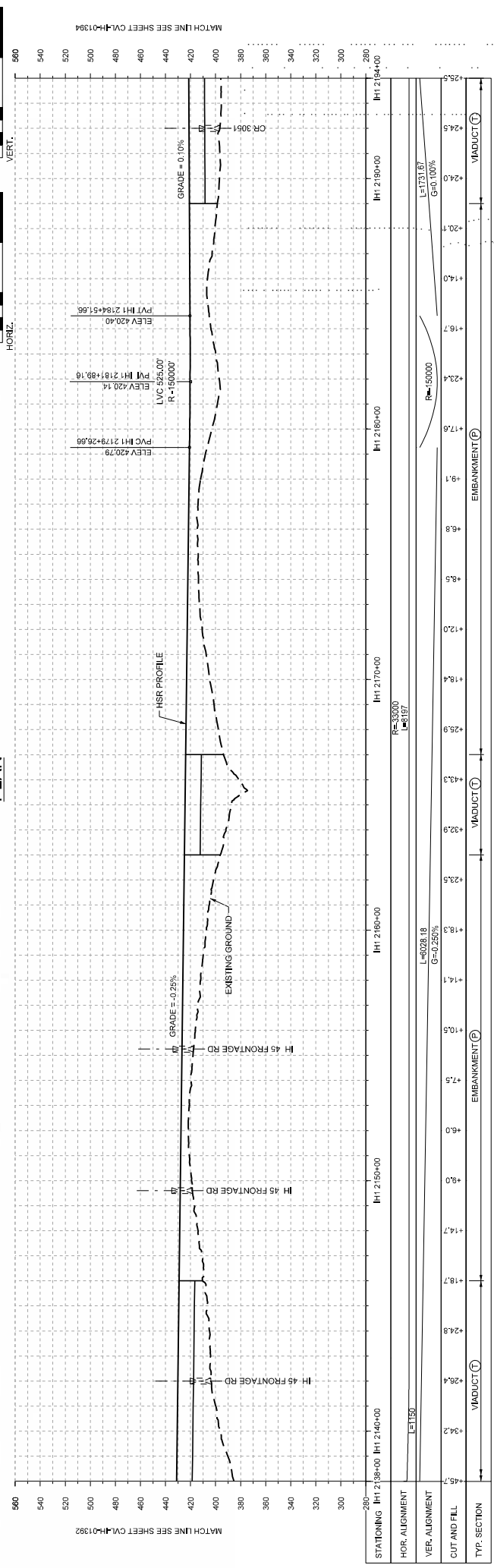
FRESE NICHOLS
 2711 North Highway Ave., Suite 3300
 Dallas, Texas 75206
 Houston, Texas 77062, USA
 www.fresenichols.com Tel: (214) 312 2001
 Texas Registered Engineering Firm F-044

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

Scale: AS SHOWN
 Drawing Title: FINAL DRAFT
 Job No: 234180
 Drawing No: CVL-IH-01392
 Rev: 01



PLAN



PROFILE

DESIGNED BY F. DAGRIN	DATE 09/15/2017
CHECKED BY R. GIBBINS	BY CHK
DRAWN BY K. SEYMOUR	DATE
IN CHARGE C. TAYLOR	APP
DISCIPLINE DISCIPLINE	

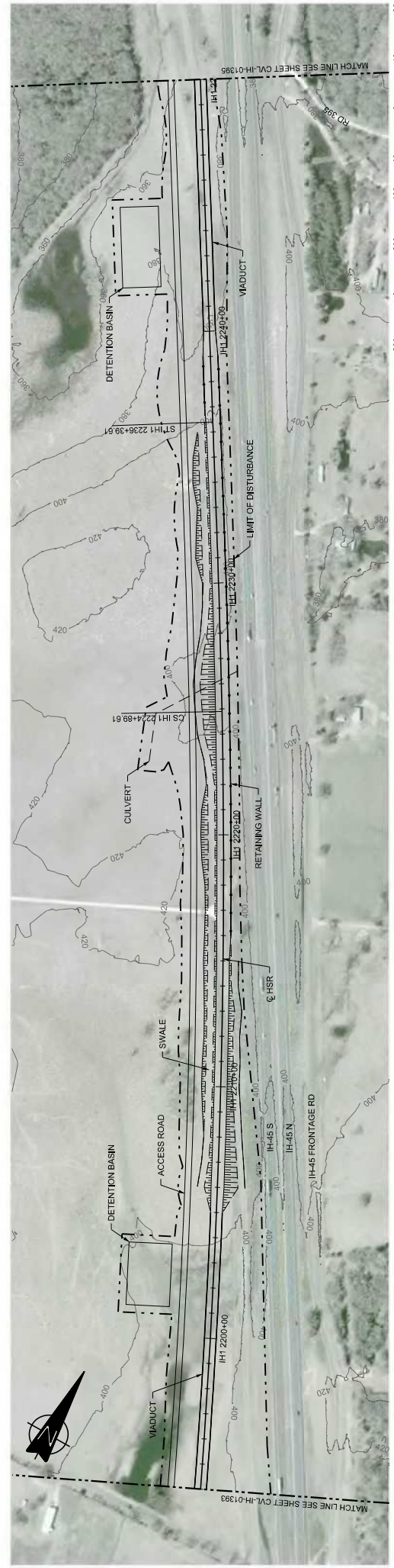
ARUP
1000 North East Street, Suite 1022, Dallas, Texas 75215
7711 North Highland Ave., Suite 3000
Dallas, Texas 75206
www.arup.com Fax: (214) 312 2001
Texas Registered Engineering Firm F-1988

TEXAS CENTRAL
1400 South Lamar Street, Suite 1022, Dallas, Texas 75215
Client: **ARUP**

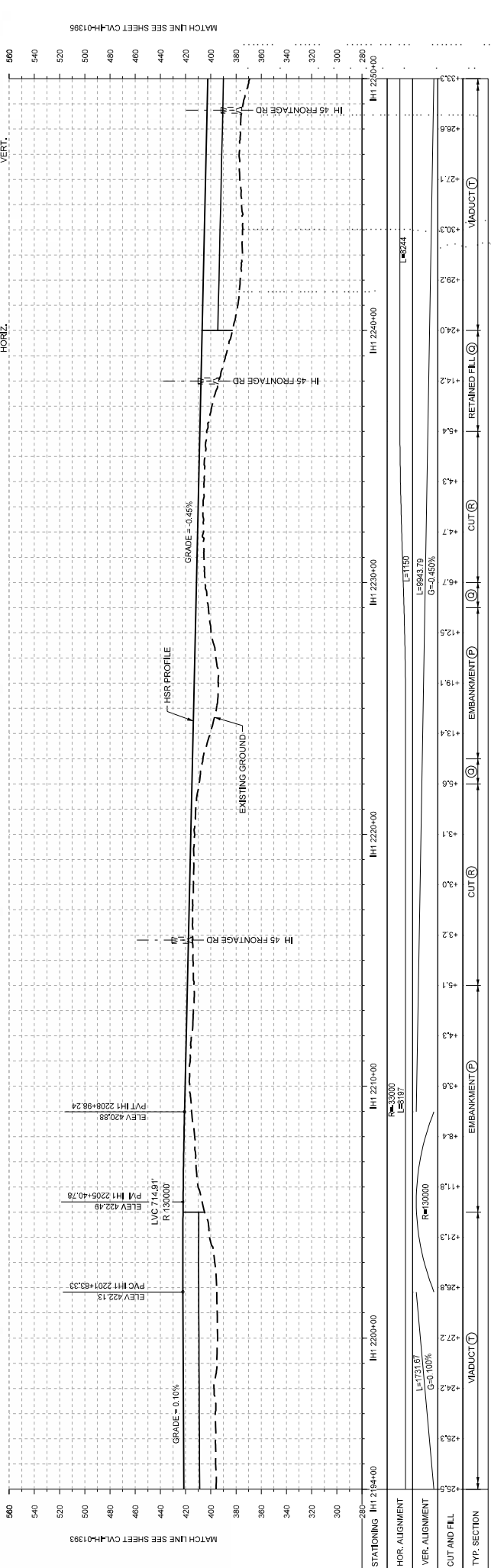
Draining To:
**IH (45) SEGMENT
CIVIL
PLAN AND PROFILE
IH1 2138+00 TO IH1 2194+00**

Scale: **AS SHOWN**
Drawing Status: **FINAL DRAFT**

Job No: **234180**
Drawing No: **CVL-IH-01393**
Rev: **01**



PLAN



PROFILE

DESIGNED BY F. DAGRIN	CHECKED BY R. GIBBINS	IN CHARGE C. TAYLOR	DATE 09/15/2017
DISCIPLINE			
BY	CHK	APP	

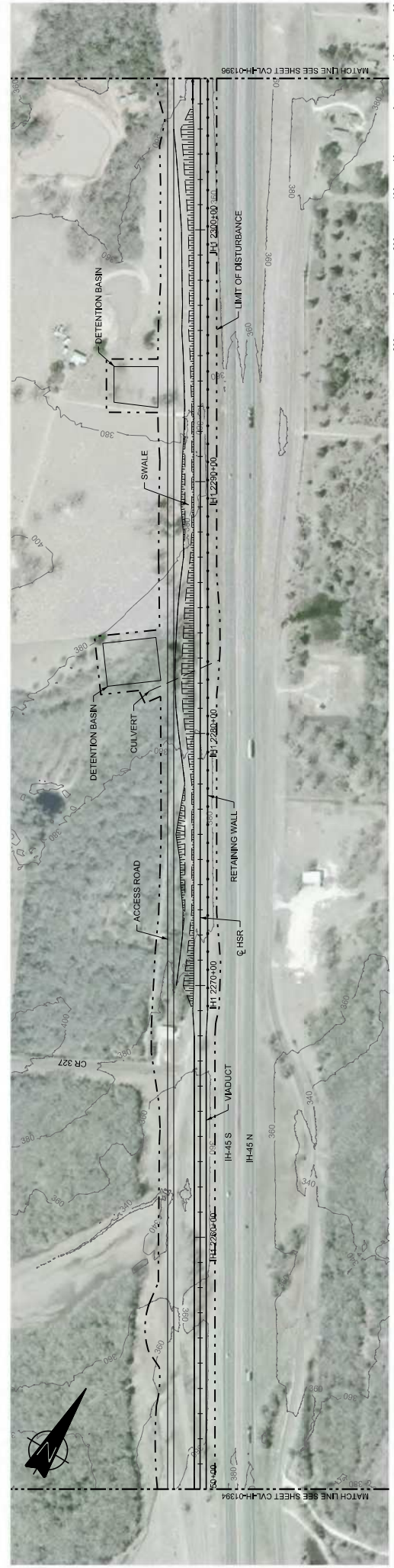
ARUP
 1070 RHWood Ave., Suite 475
 Houston, Texas 77062, USA
 www.arup.com | Tel: (713) 543 1467
 Texas Registered Engineering Firm #1968

FRESE NICHOLS
 2711 North Island Ave., Suite 300
 Dallas, Texas 75206
 www.fresenichols.com | Tel: (214) 271 2001
 Texas Registered Engineering Firm #2144

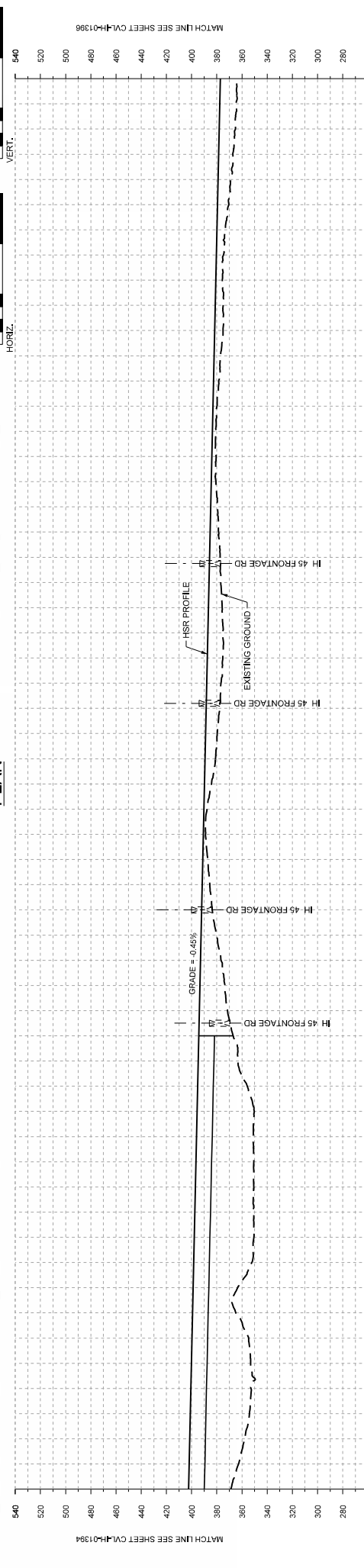
TEXAS CENTRAL
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: **234180**
 Drawing No: **CVL-IH-01394**
 Status: **AS SHOWN**
 Drawing Status: **FINAL DRAFT**

REV	DATE	BY	CHK	APP



PLAN



STATIONING	IH1 2250+00	IH1 2260+00	IH1 2270+00	IH1 2280+00	IH1 2290+00	IH1 2300+00	IH1 2306+00
HOR. ALIGNMENT	L=8234						
VER. ALIGNMENT	L=5043.73 G=-0.450%						
CUT AND FILL	VIADUCT	CUT	EMBANKMENT	CUT	EMBANKMENT	CUT	EMBANKMENT
TYP. SECTION	VIADUCT	CUT	EMBANKMENT	CUT	EMBANKMENT	CUT	EMBANKMENT

MATCH LINE SEE SHEET CVL-IH-01394 MATCH LINE SEE SHEET CVL-IH-01396

PROFILE

DESIGNED BY	F. DAGRIN			
CHECKED BY	R. GIBBINS			
DRAWN BY	K. SEYMOUR			
IN CHARGE	C. TAYLOR			
DATE	09/15/2017			
REV	DATE	BY	CHK	APP

ARUP

 1070 RHWood Ave., Suite 475

 Houston, Texas 77062, USA

 www.arup.com

 Tel: (713) 843 1467

 Texas Registered Engineering Firm F-0980

FRESE NICHOLS

 2711 North Island Ave., Suite 3000

 Dallas, Texas 75238

 www.fresenichols.com

 Tel: (214) 372 2001

 Texas Registered Engineering Firm F-0444

Client:

TEXAS CENTRAL

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

Drawing Title:

IH (45) SEGMENT CIVIL PLAN AND PROFILE

 Job No: 234180

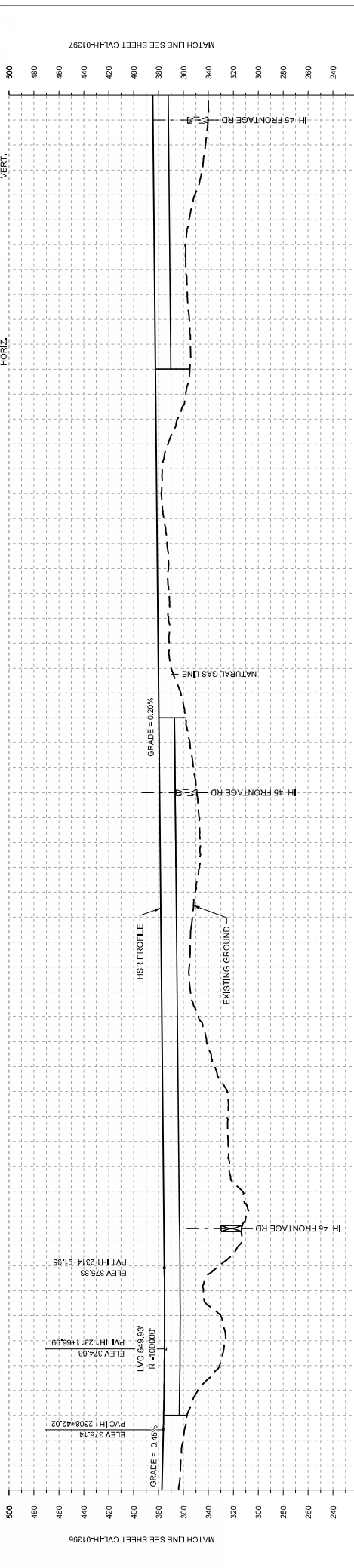
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 Drawing Status: FINAL DRAFT



PLAN



STATIONING	IH1 2308+00	IH1 2310+00	IH1 2330+00	IH1 2340+00	IH1 2350+00	IH1 2360+00	IH1 2362+00
HOR. ALIGNMENT	L=150						
VER. ALIGNMENT	L=24 G=0.45% R=100000						
CUT AND FILL	RETAINED FILL (C)						
TYP. SECTION	EMBANKMENT (E)						

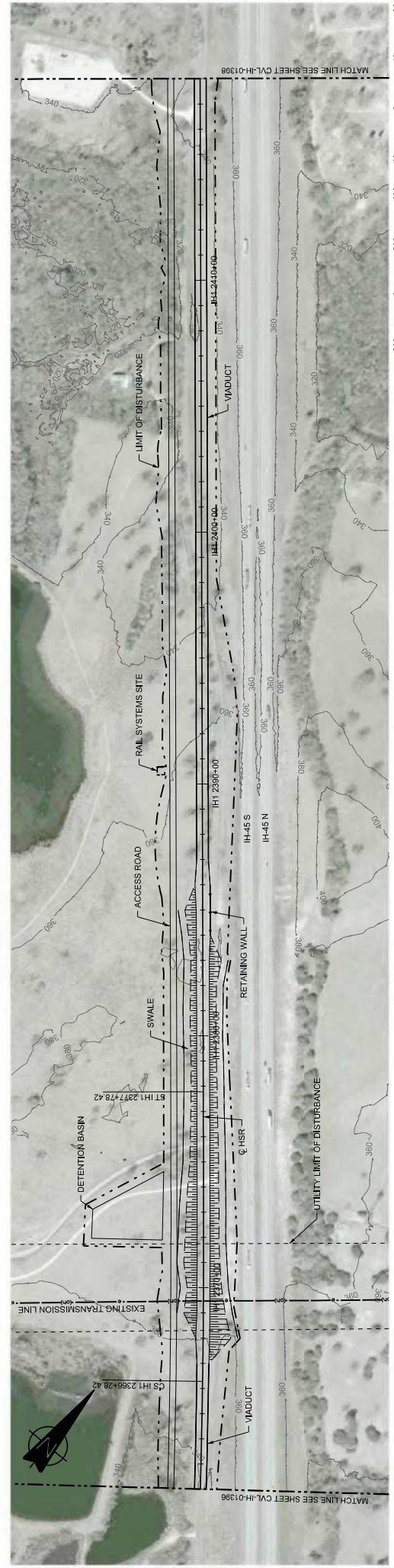
ARUP
 100 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Howard Ave., Suite 3000
 Dallas, Texas 75206
 www.arup.com

FRESE NI
 2711 North Howard Ave., Suite 3000
 Dallas, Texas 75206
 www.frese-ni.com

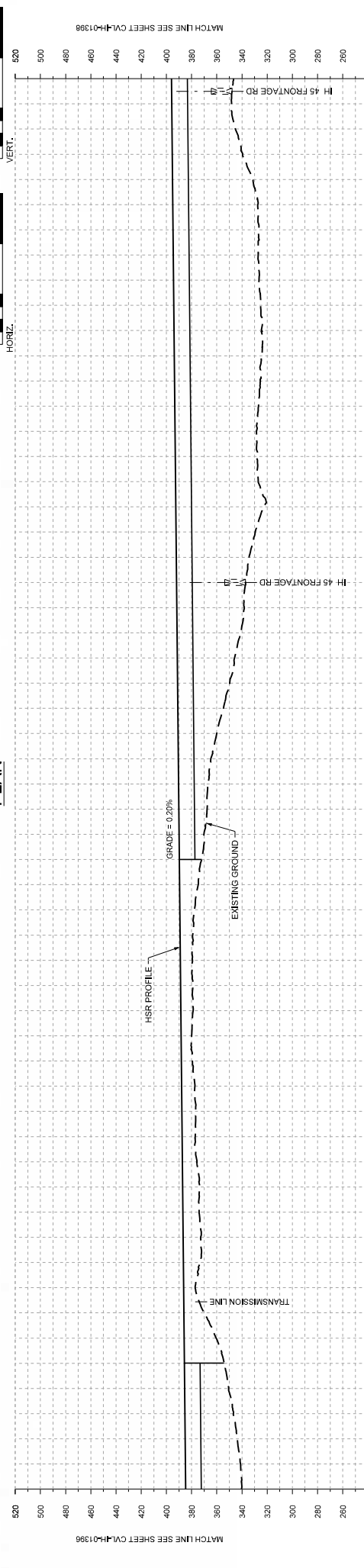
Client: **TEXAS CENTRAL**

Scale: AS SHOWN
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: 234180
 Drawing No: **IH1 2306+00 TO IH1 2362+00**

DESIGNED BY	F. DAGRIN	DATE	09/15/2017
CHECKED BY	R. GIBBINS	DATE	
DESIGNED BY	K. SEYMOUR	DATE	
CHECKED BY	C. TAYLOR	DATE	
REV	DATE	BY	CHK



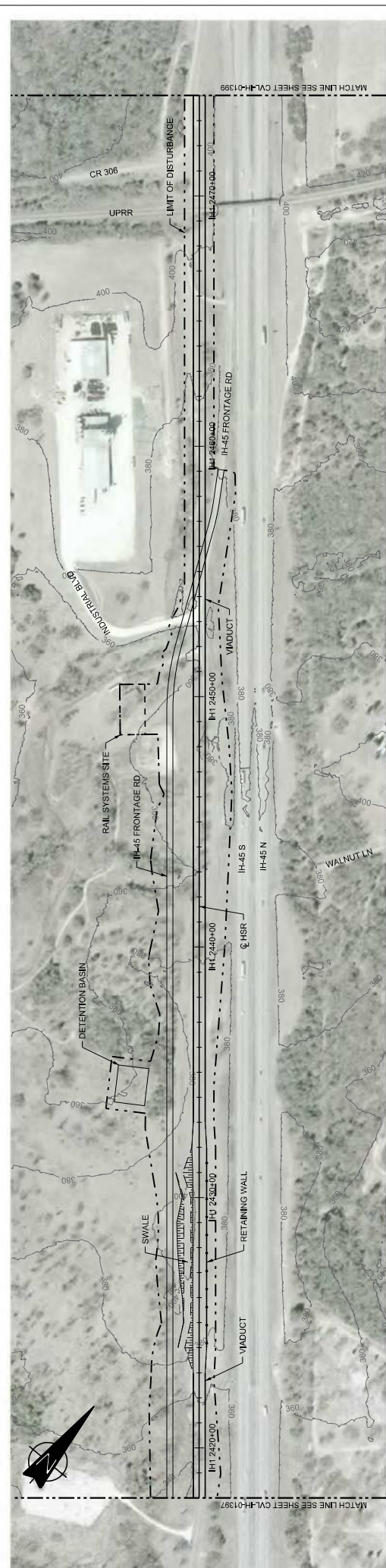
PLAN



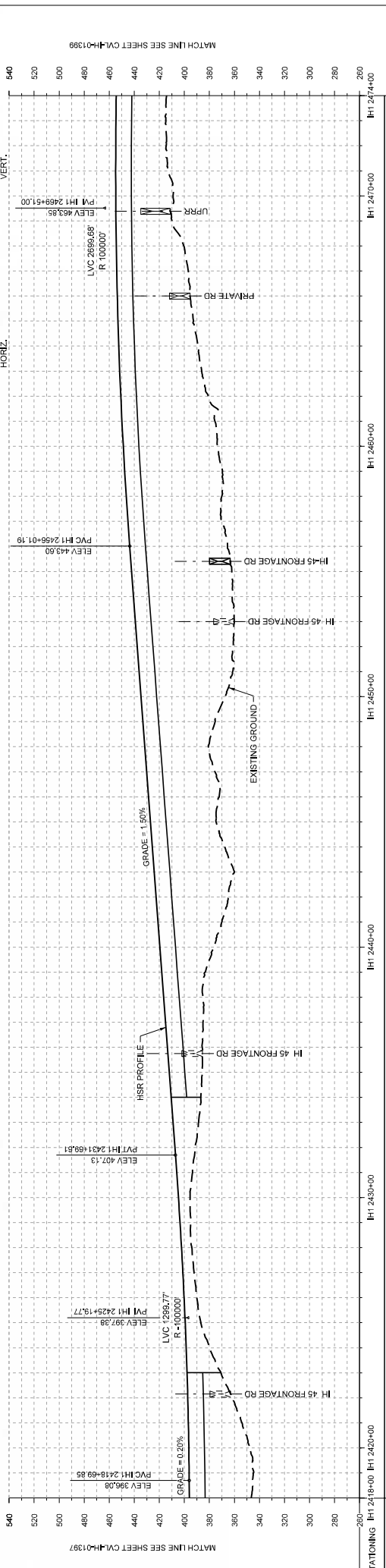
STATIONING	IH1 2362+00	IH1 2370+00	IH1 2380+00	IH1 2390+00	IH1 2400+00	IH1 2410+00	IH1 2418+00
HOR. ALIGNMENT	R=53000 L=2585	L=1150	L=1037.85 G=0.200%	L=3855			
VER. ALIGNMENT							
CUT AND FILL							
TYP. SECTION	VIADUCT (⊖)	EMBANKMENT (⊕)					VIADUCT (⊖)

PROFILE

<p>DESIGNED BY F. DAGRIN</p> <p>CHECKED BY R. GIBBINS</p> <p> </p> <p> </p> <p> </p>	<p> </p> <p> ARUP 100 South Lamar Street, Suite 1022, Dallas, Texas 75215 Houston, Texas 77002, USA Dallas, Texas 75206, USA www.arup.com Tel: (713) 543 1467 Fax: (713) 543 1467 Texas Registered Engineering Firm F-1980 </p>	<p> </p> <p> TEXAS CENTRAL 1408 South Lamar Street, Suite 1022, Dallas, Texas 75215 </p>	<p> Client: ARUP Drawing Title: IH (45) SEGMENT CIVIL PLAN AND PROFILE Job No: 234180 Drawing No: CVL-IH-01397 Scale: AS SHOWN Drawing Status: FINAL DRAFT </p>
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PLAN



PROFILE

STATIONING	IH1 2418+00	IH1 2420+00	IH1 2430+00	IH1 2440+00	IH1 2450+00	IH1 2460+00	IH1 2470+00	IH1 2474+00
HOR. ALIGNMENT	$R=100000$ $L=2431.58$ $G=1.5000\%$							
VER. ALIGNMENT	$R=100000$ $L=2431.58$ $G=1.5000\%$							
CUT AND FILL								
TYP. SECTION								

ARUP

2711 North Howard Ave., Suite 3000
 Houston, Texas 77062, USA
 Tel: (713) 251 3201
 www.arup.com

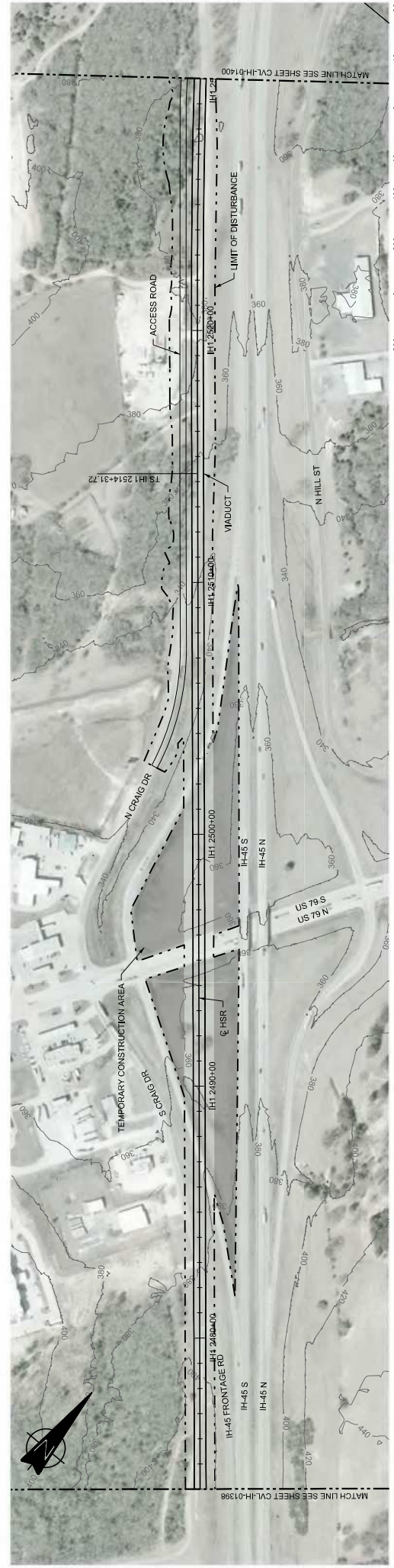
Client
FRESE NICHOLS
 2711 North Howard Ave., Suite 3000
 Houston, Texas 77062, USA
 Tel: (713) 251 3201
 www.fresenichols.com

Contract No.
TEXAS CENTRAL
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

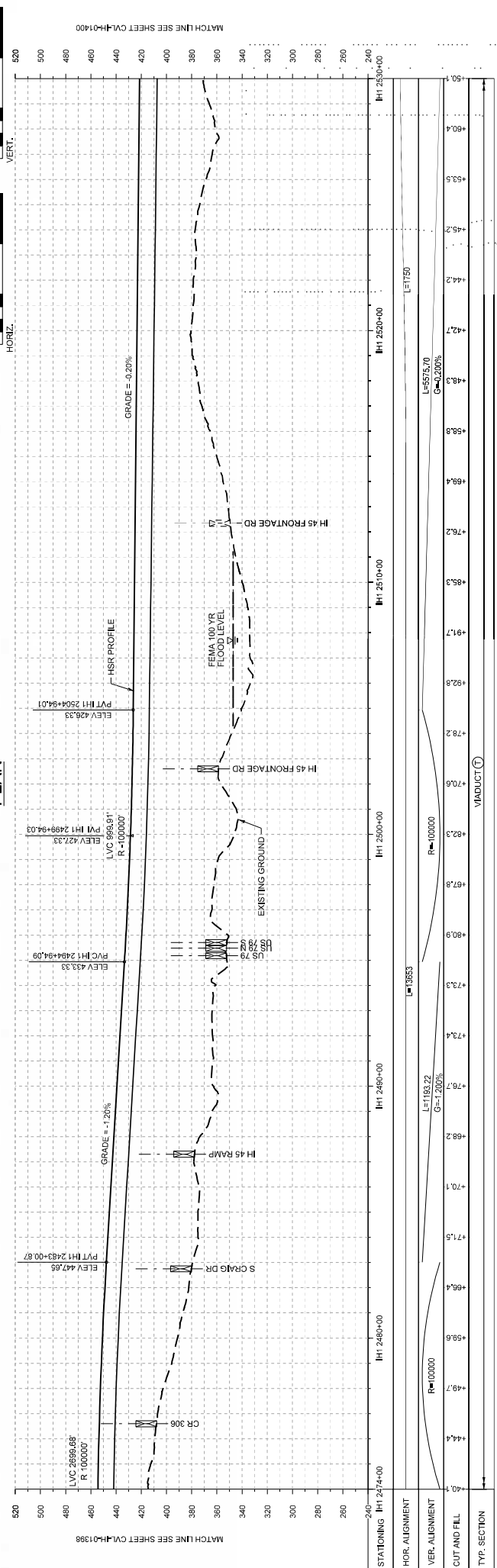
Drawn By
IH (45) SEGMENT CIVIL
 PLAN AND PROFILE
 IH1 2418+00 TO IH1 2474+00

Scale: AS SHOWN
 Drawing Status: FINAL DRAFT
 Job No: 234180
 Drawing No: CVL-IH-01398
 Date: 01

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
DATE	APP
DISCIP	REN



PLAN



PROFILE

REV	DATE	BY	CHK	APP

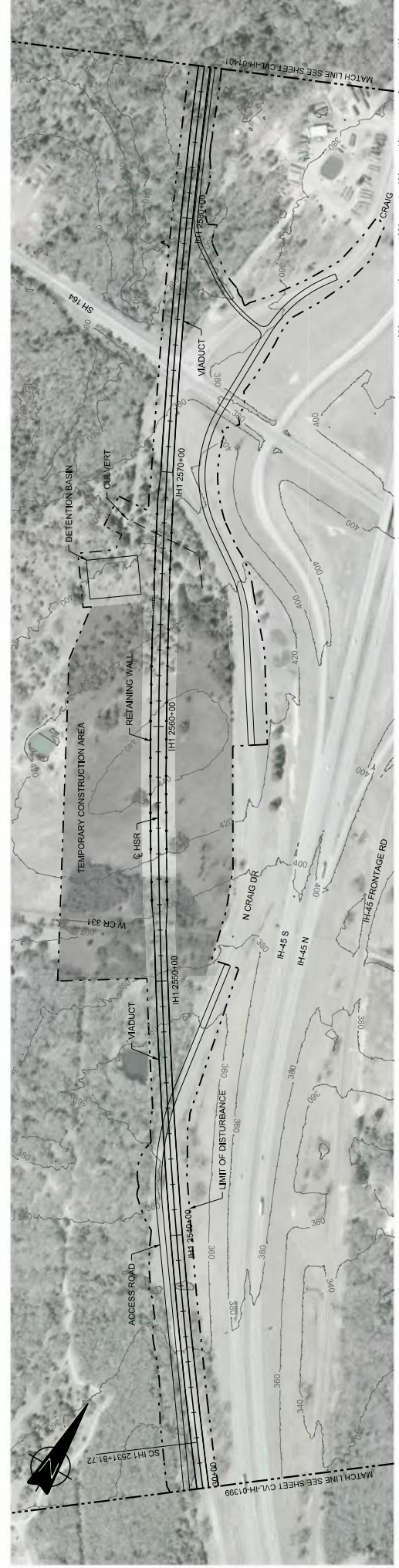
DESIGNED BY
F. DAGRIN
CHECKED BY
R. GIBBINS
K. SEYMOUR
IN CHARGE
C. TAYLOR
09/15/2017

DISCIPLINE
DISCIPLINE

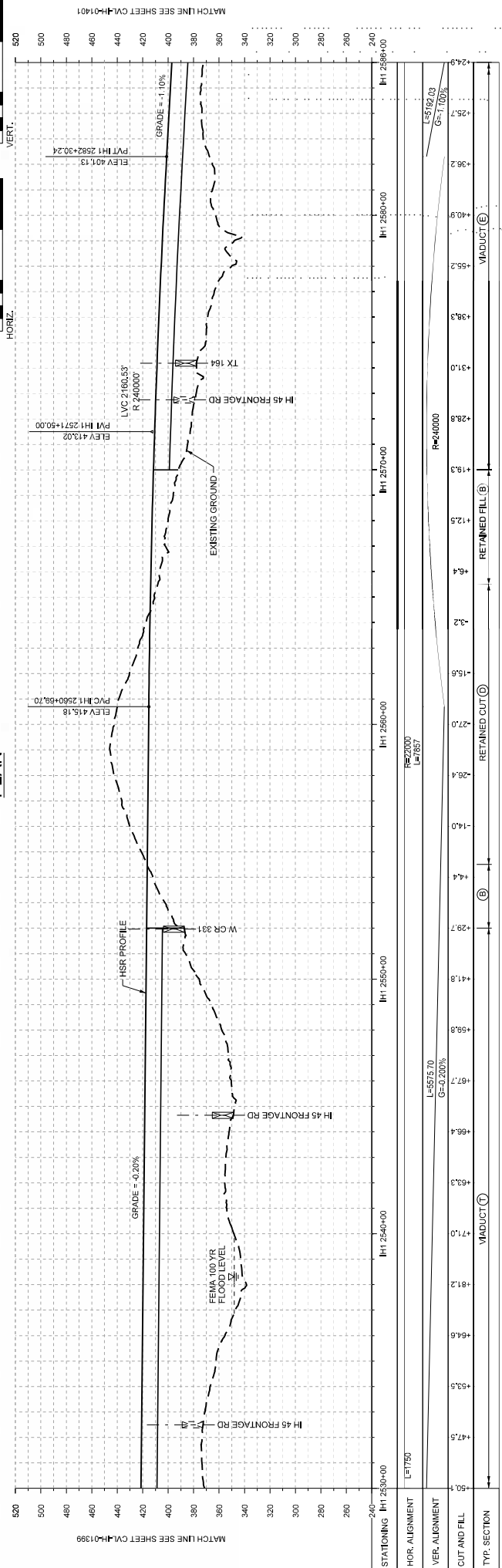
ARUP
2711 North Loop West, Suite 475
Houston, Texas 77002, USA
www.arup.com
Tel: (713) 843 1467
Texas Registered Engineering Firm #15214

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

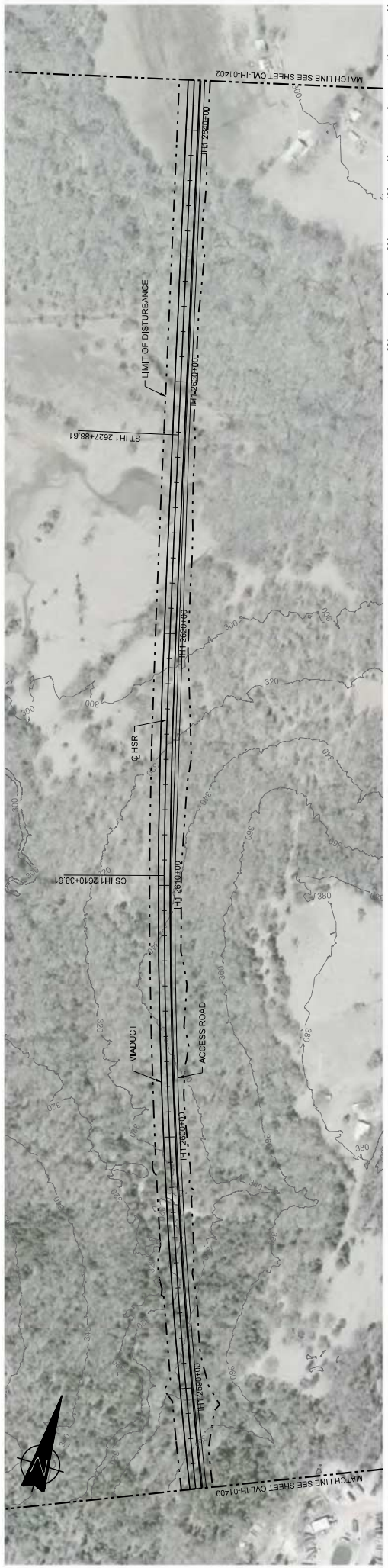
Drawn by: **TH**
IH (45) SEGMENT CIVIL PLAN AND PROFILE
IH1 2474+00 TO IH1 2530+00
Scale: AS SHOWN
Drawing No: 234180
Job No: CVL-IH-01399
01
FINAL DRAFT



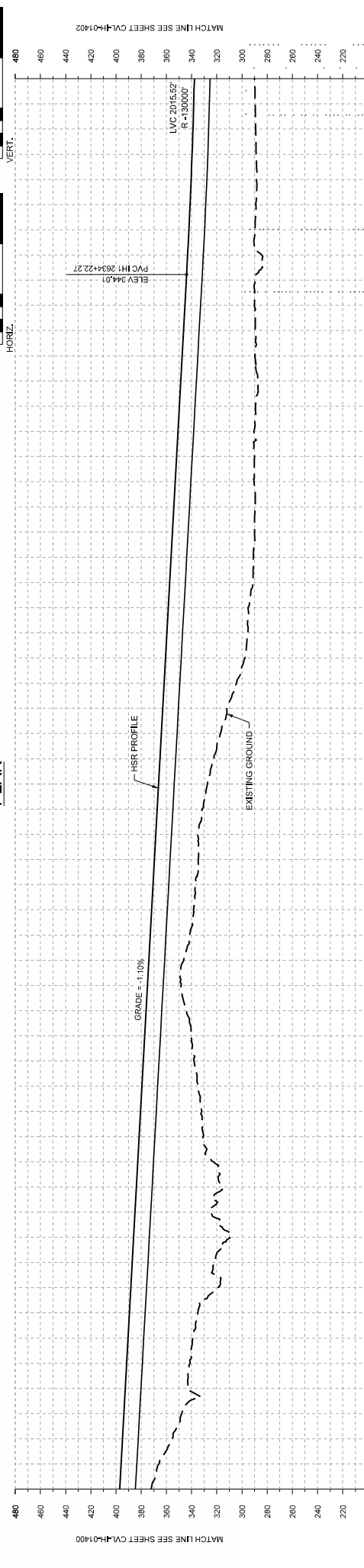
PROFILE



DESIGNED BY F. DAGRIN	CHECKED BY R. GIBBINS	IN CHARGE C. TAYLOR	DATE 09/15/2017	DISCIP: EN
APPROVED BY C. TAYLOR	DATE 09/15/2017	BY CHK	APP APP	
ARUP 1070 RHWIND AVE, SUITE 3300 HOUSTON, TEXAS 77062, USA WWW.ARUP.COM TEL: +1 281 541 4607 TEXAS REGISTERED ENGINEERING FIRM #2414				
FREES NICHOLS 2711 NORTH HAVEN AVE, SUITE 3300 DALLAS, TEXAS 75206, USA WWW.FREESNICHOLS.COM TEL: +1 214 312 2001 TEXAS REGISTERED ENGINEERING FIRM #12114				
TEXAS CENTRAL 1400 SOUTH LAMAR STREET, SUITE 1022, DALLAS, TEXAS 75215				
Created by: TH IH (45) SEGMENT CIVIL PLAN AND PROFILE IH1 2530+00 TO IH1 2586+00				
Scale: AS SHOWN	Drawing No: 234180	Drawn by: CVL-IH-01400	Job No: 234180	Rev: 01
FINAL DRAFT				



PLAN



STATIONING	IH1 2566+00	IH1 2580+00	IH1 2610+00	IH1 2630+00	IH1 2640+00	IH1 2642+00
HOR. ALIGNMENT	RE=20000 L=7857					
VER. ALIGNMENT	L=5192.03 G=-1.00%					
CUT AND FILL	VADUCT (C)					
TYP. SECTION						

PROFILE

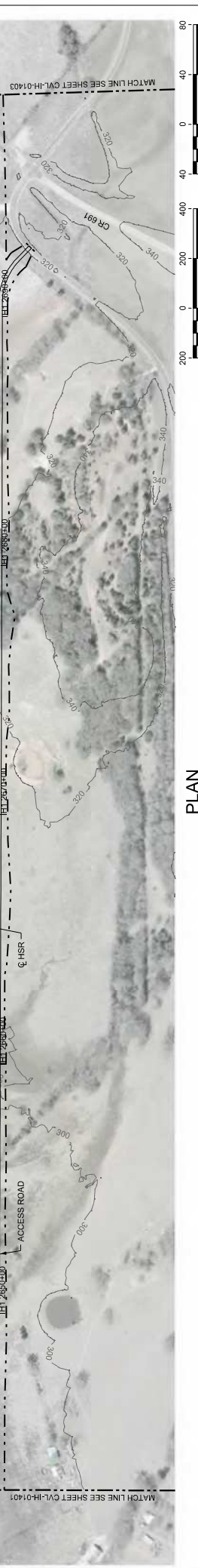
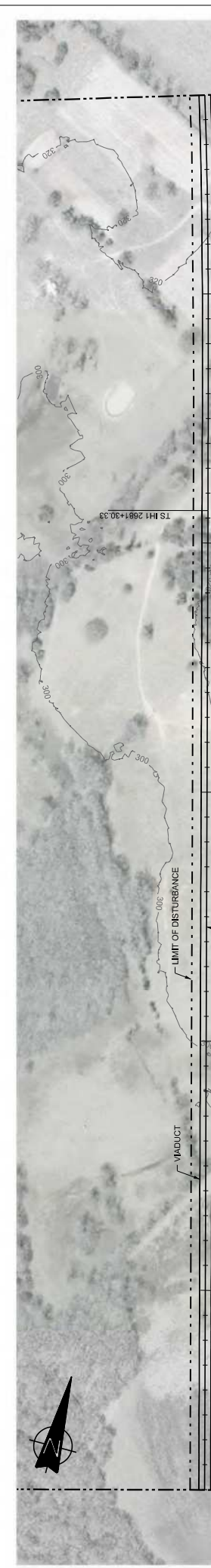
DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
APP	DISCIP: EN

ARUP
 1000 North Lamar Street, Suite 1022, Dallas, Texas 75215
 Dallas, Texas 75202 USA
 Tel: (214) 312 2001
 Fax: (214) 312 2001
 www.arup.com
 Texas Registered Engineering Firm F-0680

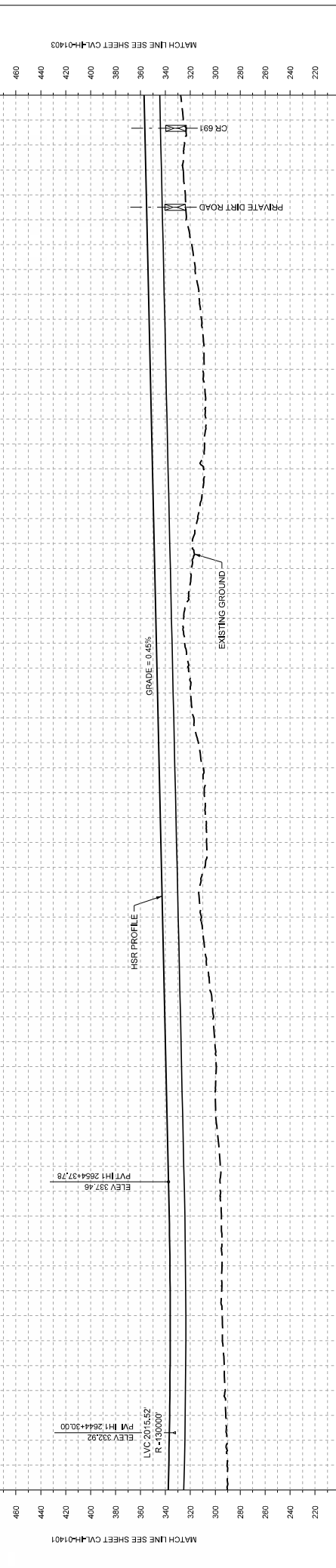
FRESE NICHOLS
 2711 North Highway Ave., Suite 3000
 Dallas, Texas 75206
 Tel: (214) 312 2001
 Fax: (214) 312 2001
 Texas Registered Engineering Firm F-044

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

Scale: AS SHOWN
 Drawing Status: FINAL DRAFT
 Job No: 234180
 Drawing No: CVL-IH-01401
 Rev: 01



PLAN



STATIONING	IH1 2642+00	IH1 2650+00	IH1 2660+00	IH1 2670+00	IH1 2680+00	IH1 2688+00
HOR. ALIGNMENT	L=6342					
VER. ALIGNMENT	L=6350.11 G=0.450%					
CUT AND FILL	R=130000					
TYP. SECTION	VIA DUCT (E)					

PROFILE

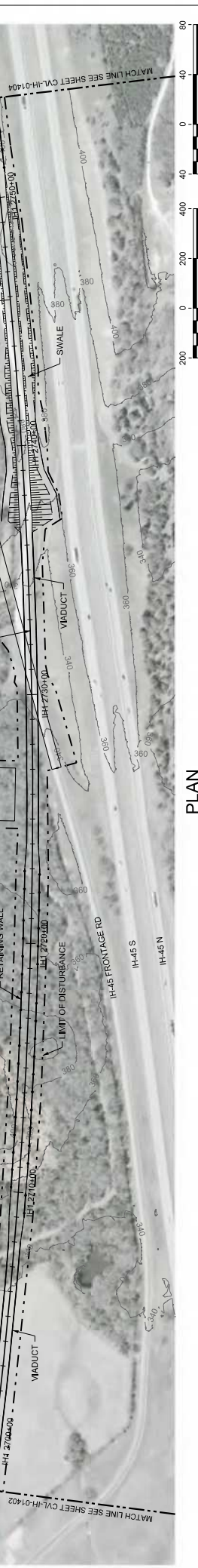
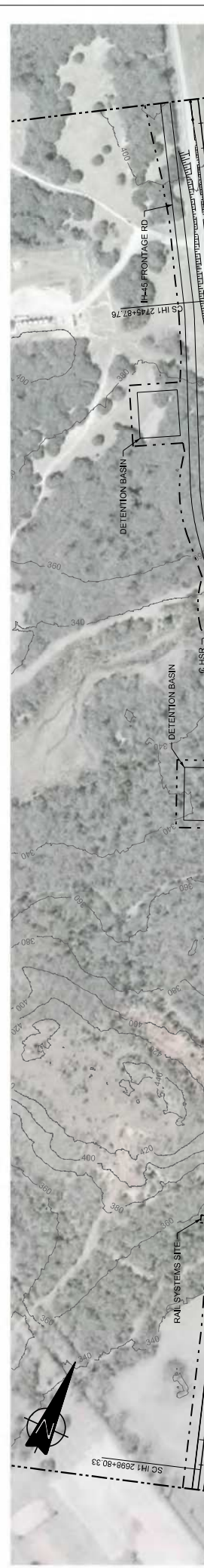
DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
DATE	APP
DISCIP	RKN

ARUP
 1070 RHWIND AVE., SUITE 475
 HOUSTON, TEXAS 77062, USA
 www.arup.com
 Tel: (713) 443 1467
 Texas Registered Engineering Firm F-1980

FRESE NICHOLS
 2711 North Island Ave., Suite 3000
 Dallas, Texas 75206
 www.fresenichols.com
 Tel: (214) 312 2001
 Texas Registered Engineering Firm F-144

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

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Scale: **AS SHOWN**
 Drawing Date: **FINAL DRAFT**
 Job No: **234180**
 Drawing No: **CVL-IH-01402**
 Rev: **01**



MATCH LINE SEE SHEET CVL-IH-01402 MATCH LINE SEE SHEET CVL-IH-01404

STATIONING IH1 2688+00 IH1 2708+00 IH1 2720+00 IH1 2730+00 IH1 2740+00 IH1 2750+00 IH1 2754+00

HOR. ALIGNMENT L=1750 VER. ALIGNMENT L=6350.11 G=0.450% CUT AND FILL TYP. SECTION VIADUCT(E) RETAINED CUT(D) RETAINED FILL(B) VIADUCT(F) EMBARKMENT(G) CUT(H)

HORIZ. VERT.

PROFILE

DESIGNED BY F. DAGRIN	DATE 09/15/2017
CHECKED BY R. GIBBINS	BY CHK
DESIGNED BY K. SEYMOUR	DATE
CHECKED BY C. TAYLOR	DATE
DATE	APP

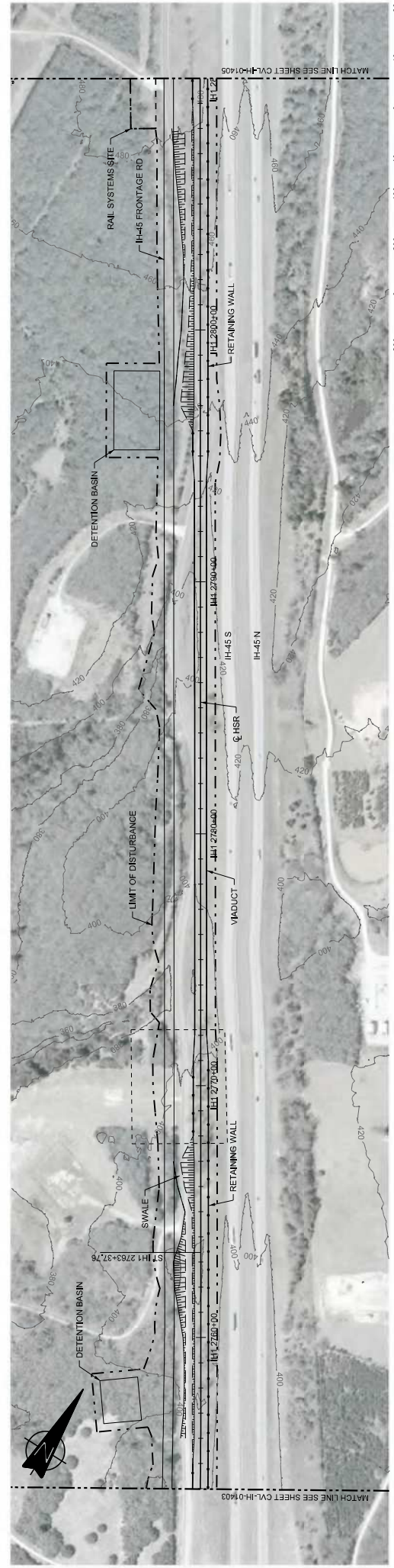
ARUP
1400 South Lamar Street, Suite 1022, Dallas, Texas 75215
7711 North Howard Ave., Suite 3000
Houston, Texas 77062, USA
Tel: (214) 271 2001
www.arup.com
Texas Registered Engineering Firm F-1968

Client
FRESE NICHOLS
2711 North Howard Ave., Suite 3000
Houston, Texas 77062, USA
Tel: (281) 431 1467
www.fresenichols.com
Texas Registered Engineering Firm F-5244

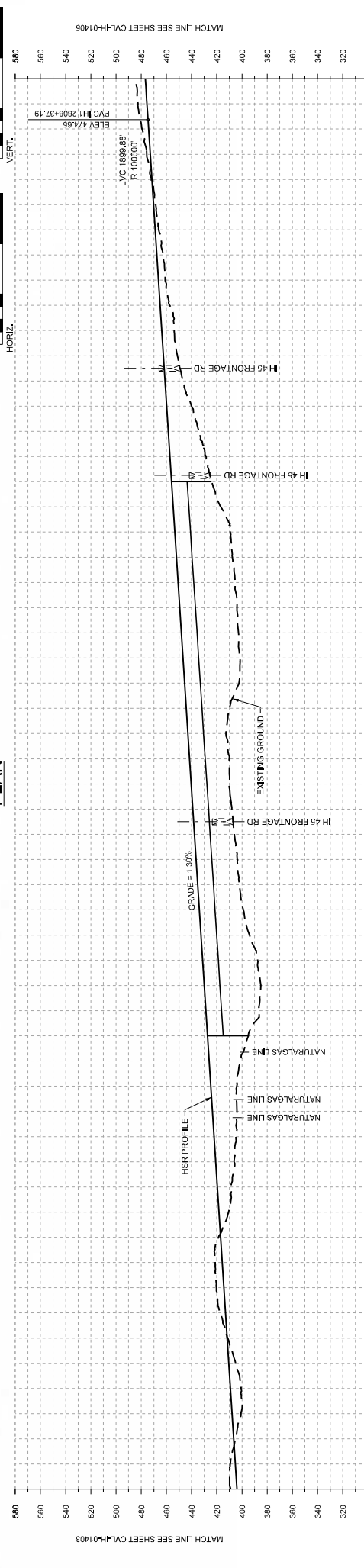
Drawing Title
IH (45) SEGMENT CIVIL PLAN AND PROFILE
IH1 2688+00 TO IH1 2754+00

Scale
AS SHOWN
Drawing Status
FINAL DRAFT

Job No.
234180
Drawing No.
CVL-IH-01403
Rev
01



PLAN



STATIONING	IH1 2754+00	IH1 2760+00	IH1 2770+00	IH1 2780+00	IH1 2790+00	IH1 2800+00	IH1 2810+00
HOR. ALIGNMENT	L=1750						
VER. ALIGNMENT	L=6025.17 G=-3.00%						
CUT AND FILL	<div style="display: flex; justify-content: space-between;"> RETAINED FILL (C) EMBANKMENT (E) CUT (C) </div>						
TYP. SECTION	<div style="display: flex; justify-content: space-between;"> CUT (C) EMBANKMENT (E) CUT (C) </div>						

PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017

ARUP

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

2711 North Highway Ave., Suite 3000
Dallas, Texas 75206
www.arup.com

TEXAS CENTRAL

Client

FRESE NICHOLS

2711 North Highway Ave., Suite 3000
Dallas, Texas 75206
www.fresenichols.com

Contract Title

IH (45) SEGMENT CIVIL PLAN AND PROFILE

IH1 2754+00 TO IH1 2810+00

Scale: AS SHOWN

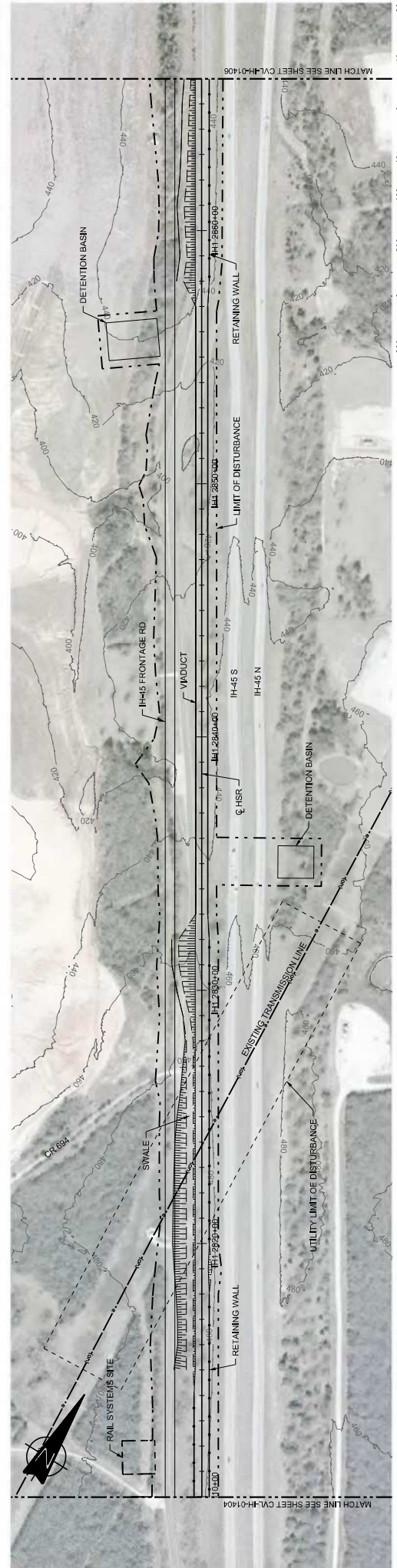
Drawing No: 234180

Final Draft

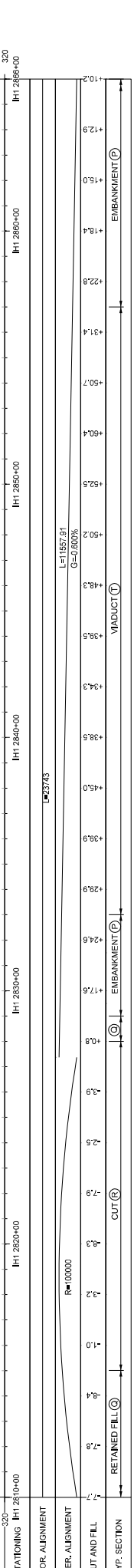
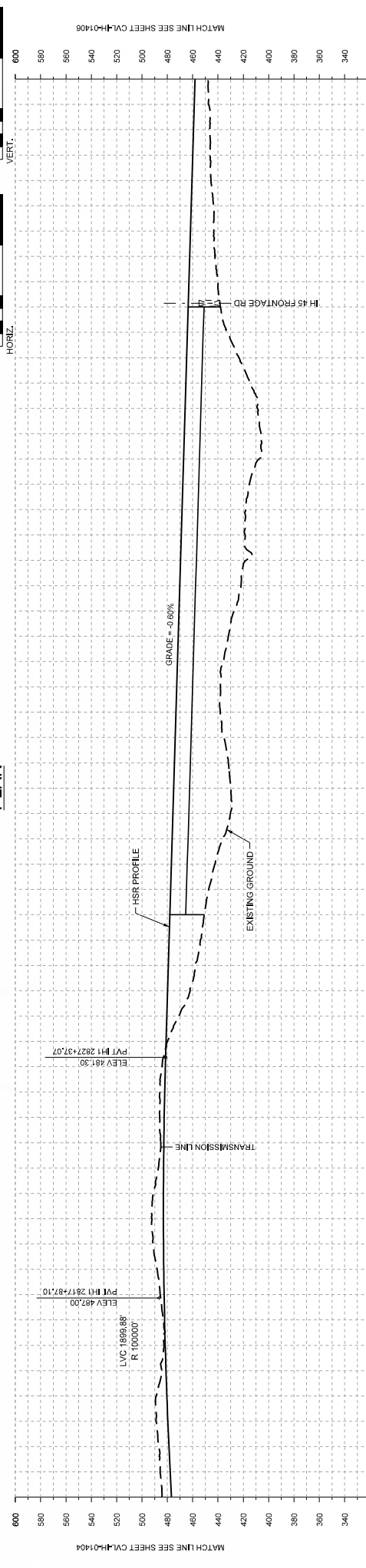
Job No: 234180

Drawn By: CVL-JH-01404

01



PLAN



STATIONING	IH1 2810+00	IH1 2820+00	IH1 2830+00	IH1 2840+00	IH1 2850+00	IH1 2866+00
HOR. ALIGNMENT	Re=100000					
VER. ALIGNMENT	L=1157.91' G=-0.600%					
CUT AND FILL	RETAINED FILL (C) EMBANKMENT (E) VIADUCT (V)					
TYP. SECTION	RETAINED FILL (C) EMBANKMENT (E) VIADUCT (V)					

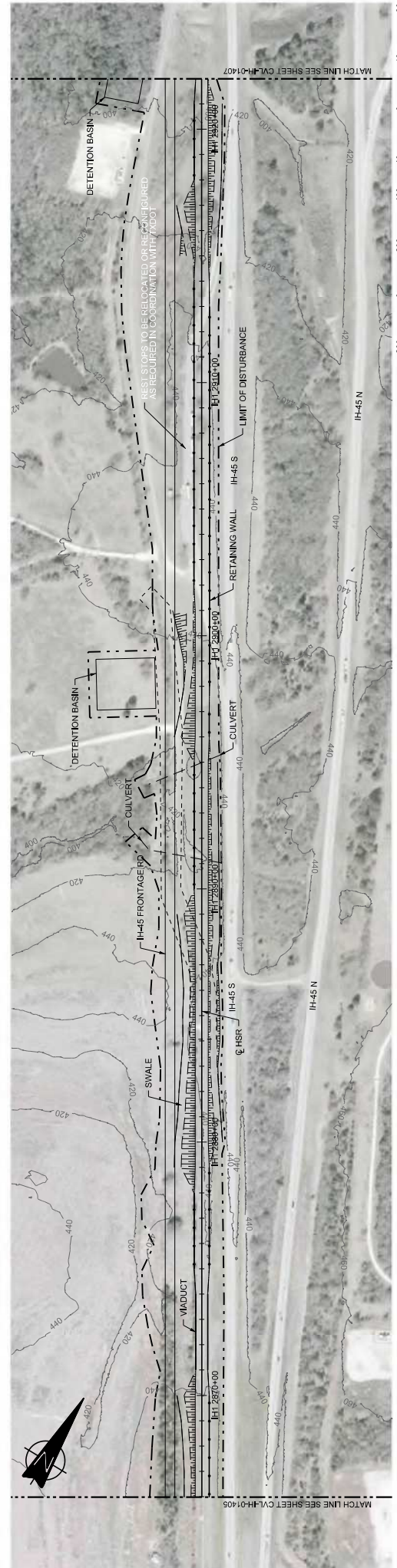
ARUP
 1070 RHWood Ave., Suite 475
 Houston, Texas 77062, USA
 www.arup.com Tel: (713) 843 1467
 Texas Registered Engineering Firm F-1988

FREESE NICHOLS
 2711 North Island Ave., Suite 300
 Dallas, Texas 75238
 www.freese-nichols.com Tel: (214) 372 2901
 Texas Registered Engineering Firm F-144

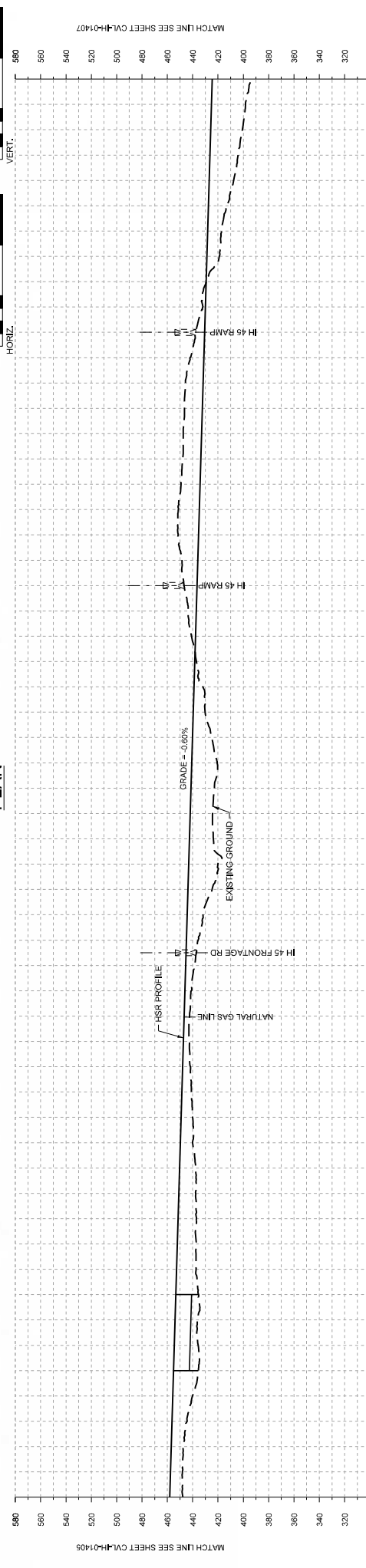
Client: **TEXAS CENTRAL**
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215

DESIGNED BY: **F. DAGRIN**
 CHECKED BY: **R. GIBBINS**
 DRAWN BY: **K. SEYMOUR**
 IN CHARGE: **C. TAYLOR**
 DATE: **09/15/2017**

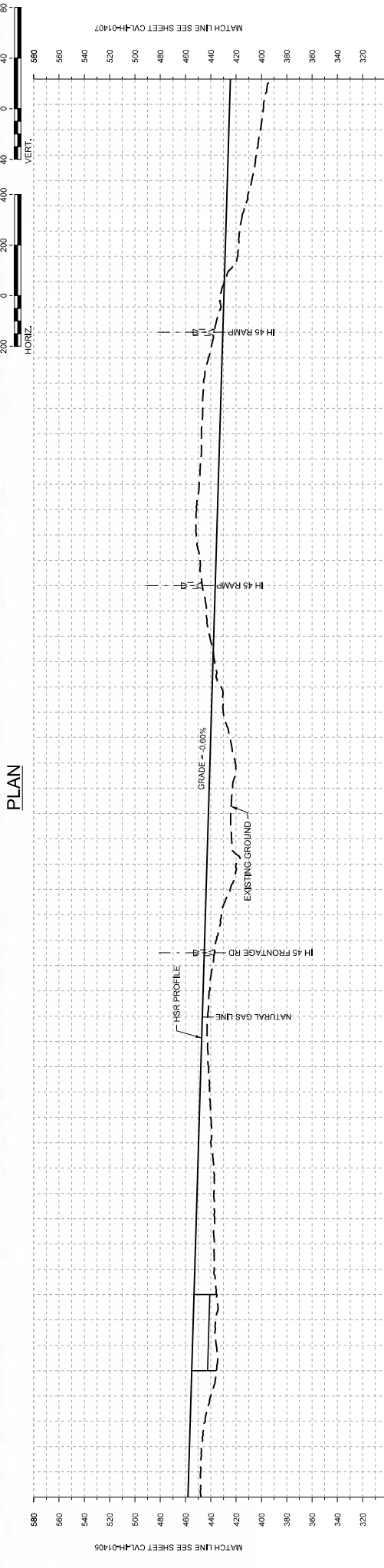
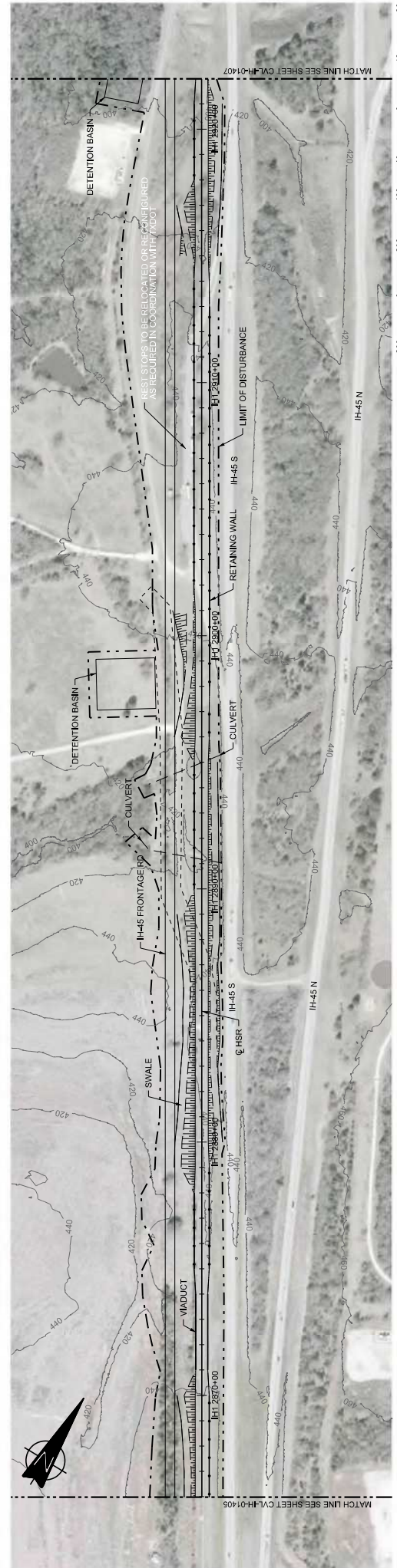
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 Drawing Title: **FINAL DRAFT**
 Job No: **234180**
 Drawing No: **CVL-IH-01405**
 Rev: **01**



PLAN



STATIONING	IH1 2866+00	IH1 2870+00	IH1 2880+00	IH1 2890+00	IH1 2900+00	IH1 2910+00	IH1 2920+00	IH1 2922+00
HOR. ALIGNMENT	L=23743							
VER. ALIGNMENT	L=1155.91 G=-0.007%							
CUT AND FILL	EM BANKMENT (E) RETAINED FILL (F) VIADUCT (V) RETAINED CUT (C) CUT (R)							
TYP. SECTION	EM BANKMENT (E)							

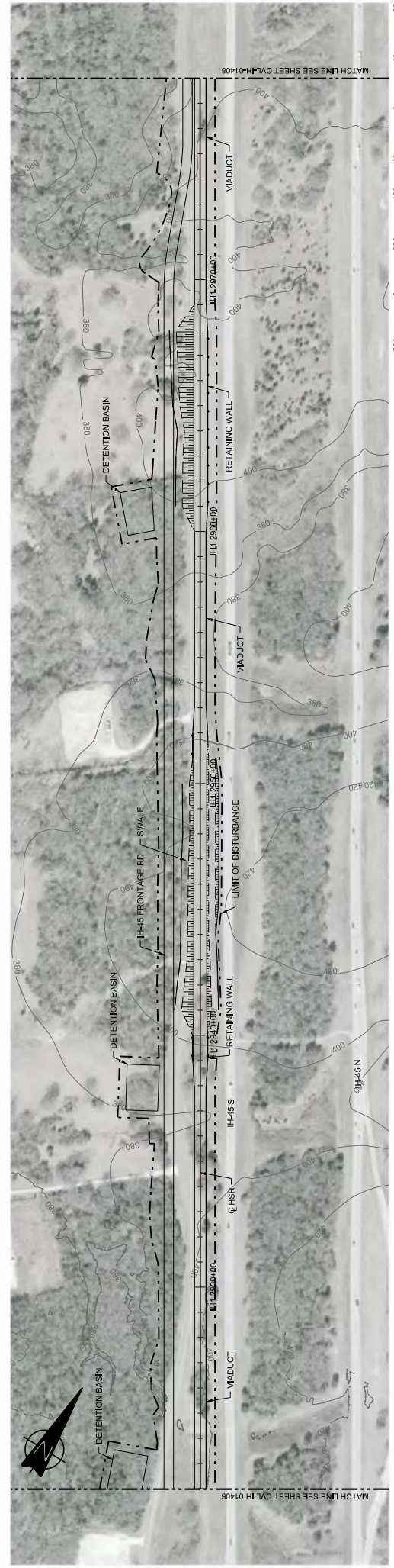


ARUP
100 South Lamar Street, Suite 1022, Dallas, Texas 75215
2711 North Highland Ave., Suite 3000
Dallas, Texas 75205
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Texas Registered Engineering Firm F-1980

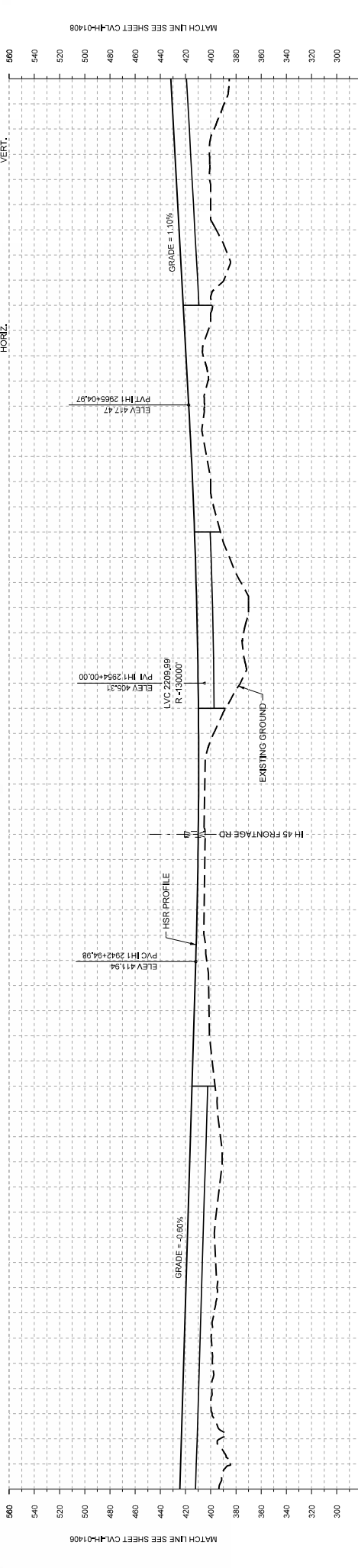
Client: **TEXAS CENTRAL**
1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

DESIGNED BY: **F. DAGRIN**
CHECKED BY: **R. GIBBINS**
PROJECT MANAGER: **K. SEMMOUR**
IN CHARGE: **C. TAYLOR**
DATE: **09/15/2017**

Scale: **AS SHOWN**
Drawing Title: **FINAL DRAFT**
Job No: **234180**
Drawing No: **CVL-IH-01406**
Rev: **01**



PLAN



STATIONING	IH1 2922+00	IH1 2930+00	IH1 2940+00	IH1 2950+00	IH1 2960+00	IH1 2970+00	IH1 2978+00
HOR. ALIGNMENT	L=1157.91 G=-0.600%						
VER. ALIGNMENT	L=91.0544 G=1.100%						
CUT AND FILL	EM BANKMENT (⊖) RETAINED FILL (⊙) VIADUCT (⊕)						
TYP. SECTION	EM BANKMENT (⊖) RETAINED FILL (⊙) VIADUCT (⊕)						

PROFILE

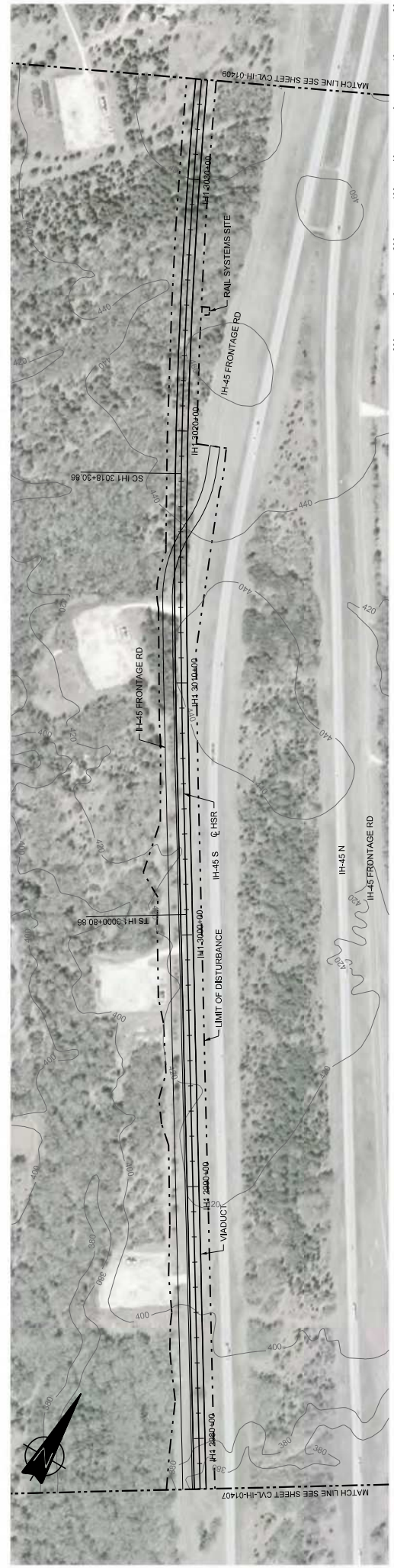
DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
DATE	APP
REV	DISCIP: EN

ARUP
 1070 Riva Road, Suite 475
 Houston, Texas 77002, USA
 www.arup.com
 Tel: +1 281 543 1467
 Texas Registered Engineering Firm #1988

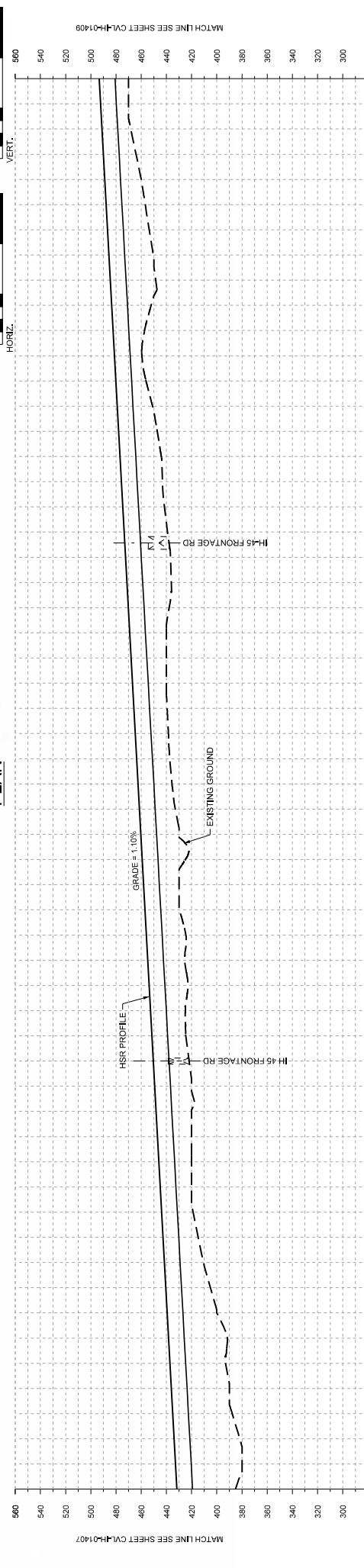
FREESHOE NICHOLS
 2711 North Island Ave., Suite 3000
 Dallas, Texas 75206
 www.freeshoenichols.com
 Tel: (214) 312 2001
 Texas Registered Engineering Firm #2144

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

Client: **ARUP**
 Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Scale: **AS SHOWN**
 Drawing No.: **234180**
 Job No.: **CVL-IH-01407**
 Status: **FINAL DRAFT**
 Date: **01**



PLAN



STATIONING	IH1 2878+00	IH1 2980+00	IH1 3000+00	IH1 3010+00	IH1 3020+00	IH1 3030+00	IH1 3034+00
HOR. ALIGNMENT	L=637.3						
VER. ALIGNMENT	L=9185.44 G=1.00%						
CUT AND FILL	VADUCT (T)						
TYP. SECTION							

PLANT BY: N-FPMCS103 PLANT TIME: 9/22/2017 8:42:10 PM

MATCH LINE SEE SHEET CIV-IH-01407

MATCH LINE SEE SHEET CIV-IH-01409



PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017

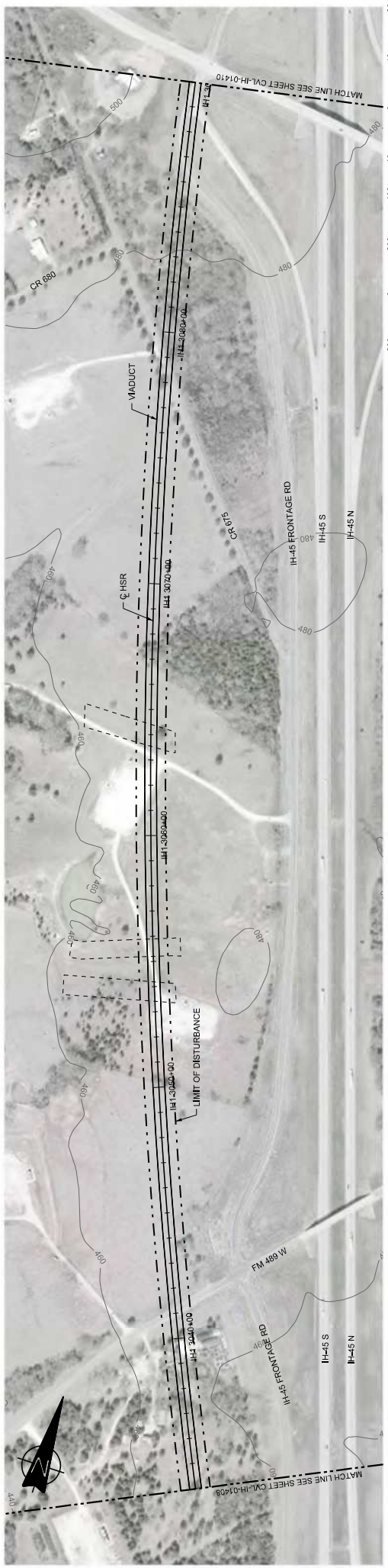
ARUP
 1070 Riva Road, Suite 475
 Houston, Texas 77042, USA
 Tel: (713) 443-1467
 www.arup.com
 Texas Registered Engineering Firm F-0980

FRESE NICHOLS
 2711 North Island Ave., Suite 300
 Dallas, Texas 75238
 Tel: (214) 372-2001
 www.fresenichols.com
 Texas Registered Engineering Firm F-044

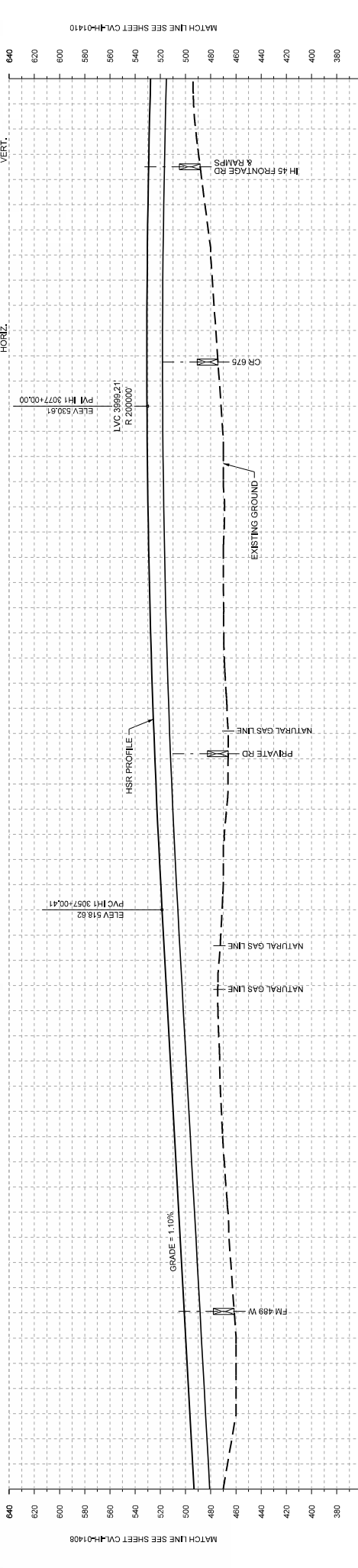
TEXAS CENTRAL
 1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

Client: **IH (45) SEGMENT CIVIL**
PLAN AND PROFILE
 IH1 2978+00 TO IH1 3034+00

Scale: **AS SHOWN**
 Drawing Status: **FINAL DRAFT**
 Job No: **234180**
 Drawing No: **CVL-IH-01408**
 Rev: **01**



PLAN



STATIONING	IH1 3034+00	IH1 3040+00	IH1 3050+00	IH1 3060+00	IH1 3070+00	IH1 3080+00	IH1 3090+00
HOR. ALIGNMENT	P=22000 L=8373						
VER. ALIGNMENT	L=3085.44 G=1.100%						
CUT AND FILL	MADUCT (D)						
TYP. SECTION							

PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
APP	DISCIP/EN

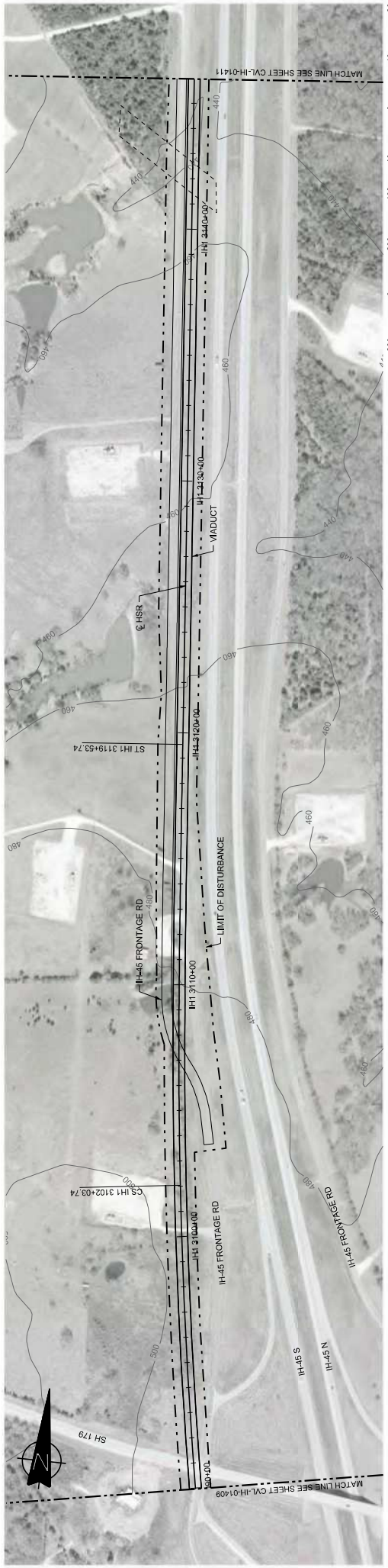
ARUP
 7711 North Highway Ave., Suite 3300
 Houston, Texas 77062, USA
 Tel: +1 281 445 4400
 Fax: +1 281 445 4407
 www.arup.com
 Texas Registered Engineering Firm #1980

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 2711 North Highway Ave., Suite 3300
 Houston, Texas 77062, USA
 Tel: +1 281 372 2001
 Fax: +1 281 372 2001
 www.fresenichols.com
 Texas Registered Engineering Firm #1944

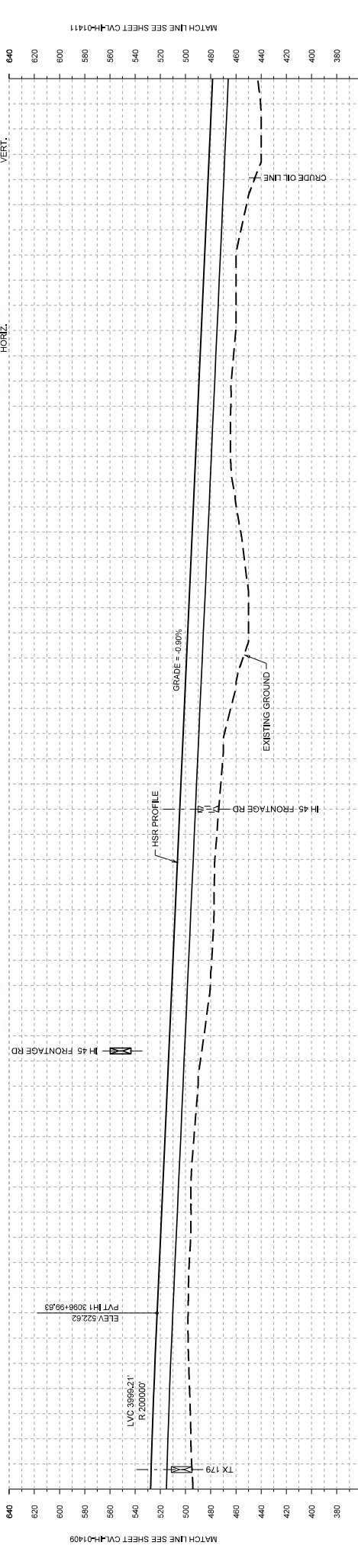
Client: **TEXAS CENTRAL**
 1408 South Lamar Street, Suite 1022, Dallas, Texas 75215

Drawing Title: **IH (45) SEGMENT CIVIL PLAN AND PROFILE**
 Job No: 234180
 Drawing No: CVL-IH-01409

Scale: AS SHOWN
 Drawing Status: **FINAL DRAFT**



PLAN



STATIONING	IH1 3090+00	IH1 3100+00	IH1 3120+00	IH1 3130+00	IH1 3140+00	IH1 3146+00
HOR. ALIGNMENT	L=1750					
VER. ALIGNMENT	L=8883.09 G=-0.800%					
CUT AND FILL	P=200000					
TYP. SECTION	MADUCT (T)					

PROFILE

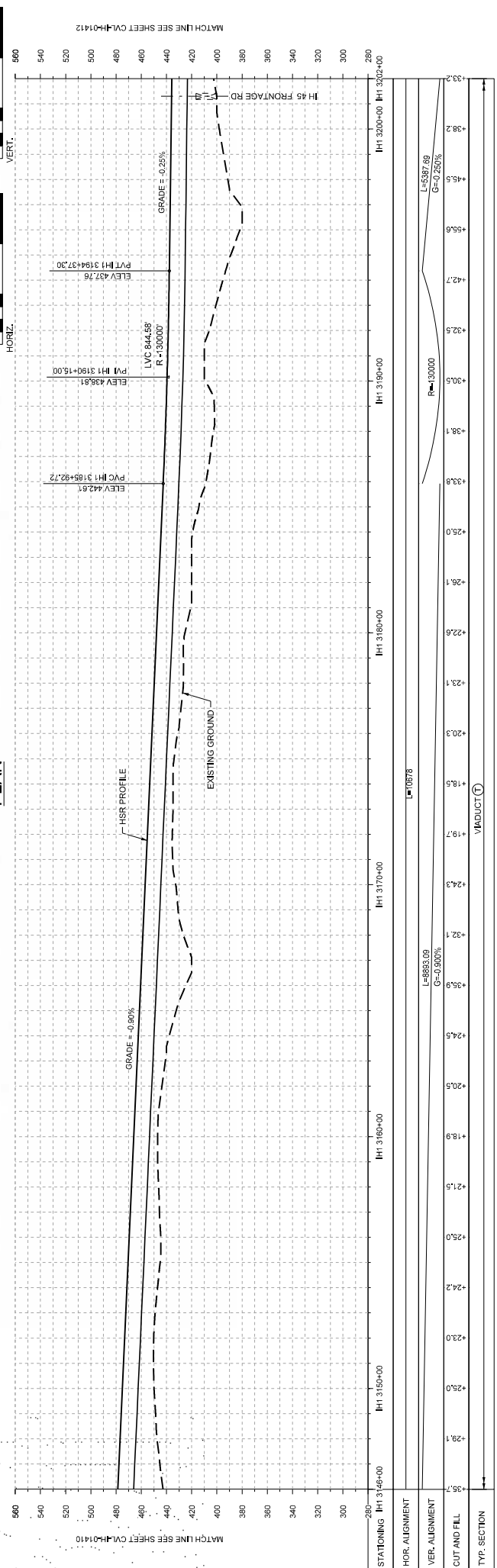
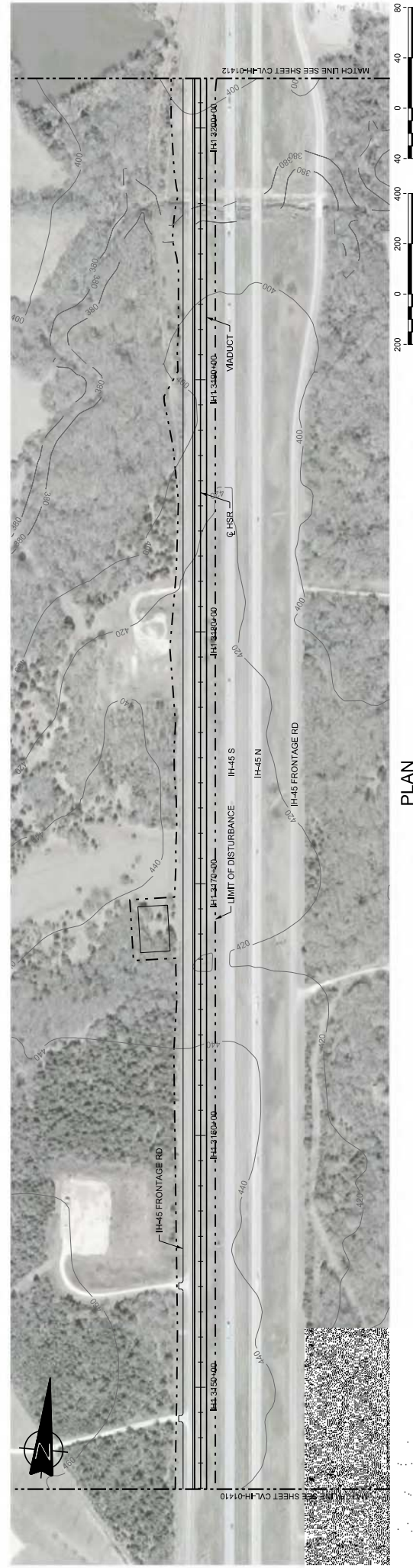
DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017
BY	CHK
DATE	APP
DATE	DISCIP: RKN

ARUP
 1000 North Main Street, Suite 1022, Dallas, Texas 75215
 2711 North Highway Ave., Suite 3300
 Dallas, Texas 75242, USA
 Tel: (214) 312 2001
 Fax: (214) 312 2001
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 Texas Registered Engineer #17962

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 Fax: (214) 312 2001
 www.fresenichols.com
 Texas Registered Engineer #17962

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

Scale: AS SHOWN
 Drawing Title: IH (45) SEGMENT CIVIL PLAN AND PROFILE
 Drawing No: 234180
 Job No: 234180
 Date: 09/15/2017
 Author: CVL-IH-01410
 Checker: 01



DESIGNED BY F. DAGRIN	CHECKED BY R. GIBBINS	DATE 09/15/2017
CHECKED BY K. SEYMOUR	DATE 09/15/2017	BY CHK
DATE 09/15/2017	BY CHK	APP APP
REV	DATE	BY

DISCIPLINE: CIVIL

ARUP
 1070 RHWIND AVE., SUITE 475
 HOUSTON, TEXAS 77062, USA
 TEL: +1 281 312 2001
 WWW.ARUP.COM

FRESE NICHOLS
 2711 NORTH HIGHTWAY AVE., SUITE 3300
 DALLAS, TEXAS 75206, USA
 TEL: +1 214 312 2001
 WWW.FRESE-NICHOLS.COM

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

Client: **ARUP**

Project: **IH (45) SEGMENT CIVIL PLAN AND PROFILE IH1 3146+00 TO IH1 3202+00**

Scale: **AS SHOWN**

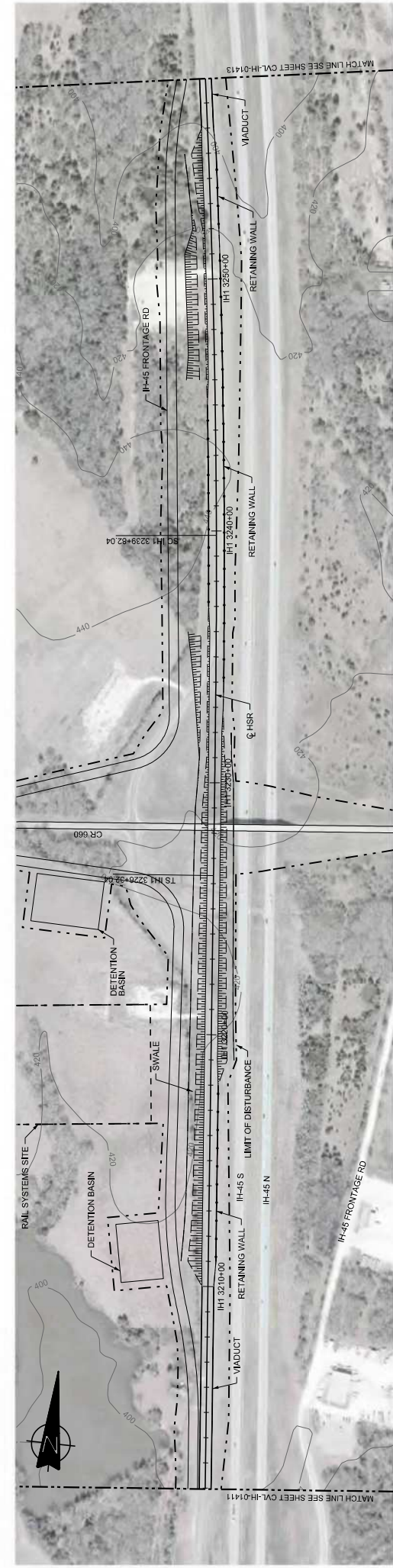
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Job No: **CVL-IH-01411**

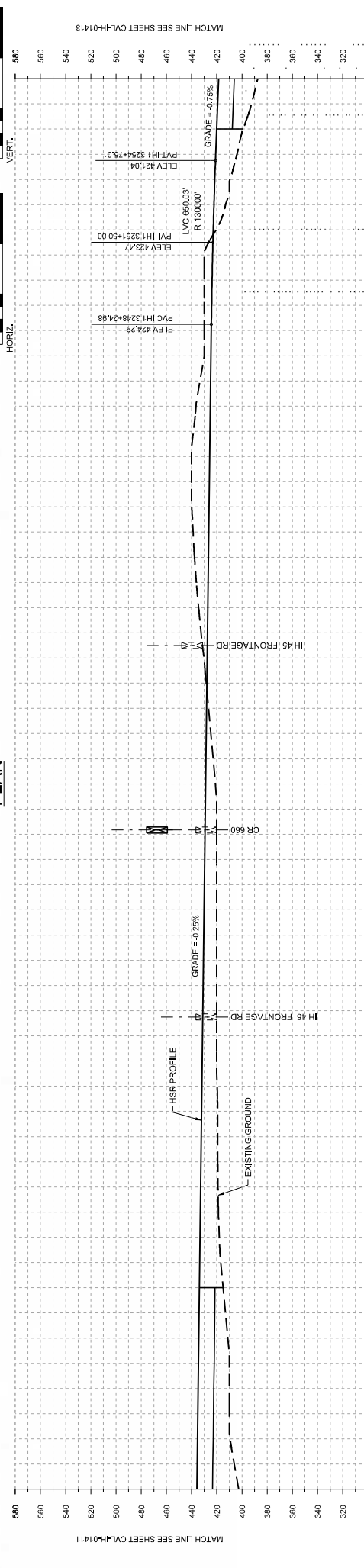
Revision: **01**

Final Draft

Sheet: **AS SHOWN**



PLAN



STATIONING	IH1 3202+00	IH1 3210+00	IH1 3220+00	IH1 3230+00	IH1 3240+00	IH1 3250+00	IH1 3258+00
HOR. ALIGNMENT	L=10678						
VER. ALIGNMENT	L=5387.69 G=-0.250%						
CUT AND FILL	L=2726.63 G=0.750%						
TYP. SECTION	VIADUCT	EMBANKMENT	EMBANKMENT	CUT	RETAINED CUT	CUT	EMBANKMENT

PROFILE

DESIGNED BY	F. DAGRIN
CHECKED BY	R. GIBBINS
IN CHARGE	K. SEYMOUR
DATE	C. TAYLOR
REV	09/15/2017

DATE									
REV									
DATE									
BY									
CHK									
APP									

DESCRIPTION DISCIPLINE

ISSUED FOR THE TEXAS CENTRAL RAIL PROJECT
 ARUP
 1400 South Lamar Street, Suite 1022, Dallas, Texas 75215
 2711 North Harvard Ave., Suite 3000
 Dallas, Texas 75205
 www.arup.com
 Tel: (214) 312 2001
 Fax: (214) 312 2001
 Texas Registered Engineering Firm #5144

Client
FRESE NICHOLS
 2711 North Harvard Ave., Suite 3000
 Dallas, Texas 75205
 www.fresenichols.com
 Tel: (214) 312 2001
 Texas Registered Engineering Firm #5144

Drawing Title
IH (45) SEGMENT CIVIL PLAN AND PROFILE
 IH1 3202+00 TO IH1 3258+00

Scale: AS SHOWN
 Drawing No: 234180
 Job No: CVL-IH-011412
 Date: 01
FINAL DRAFT