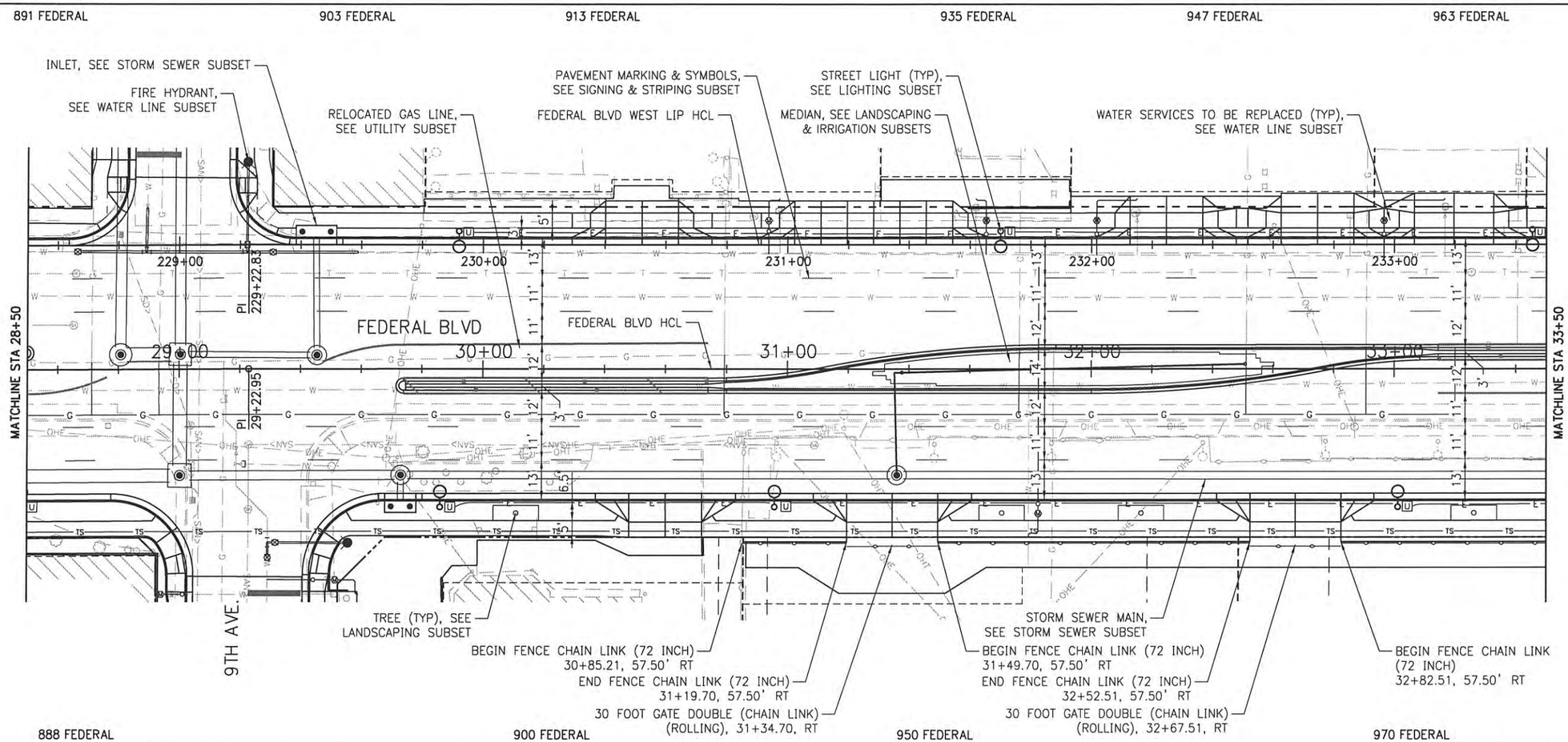
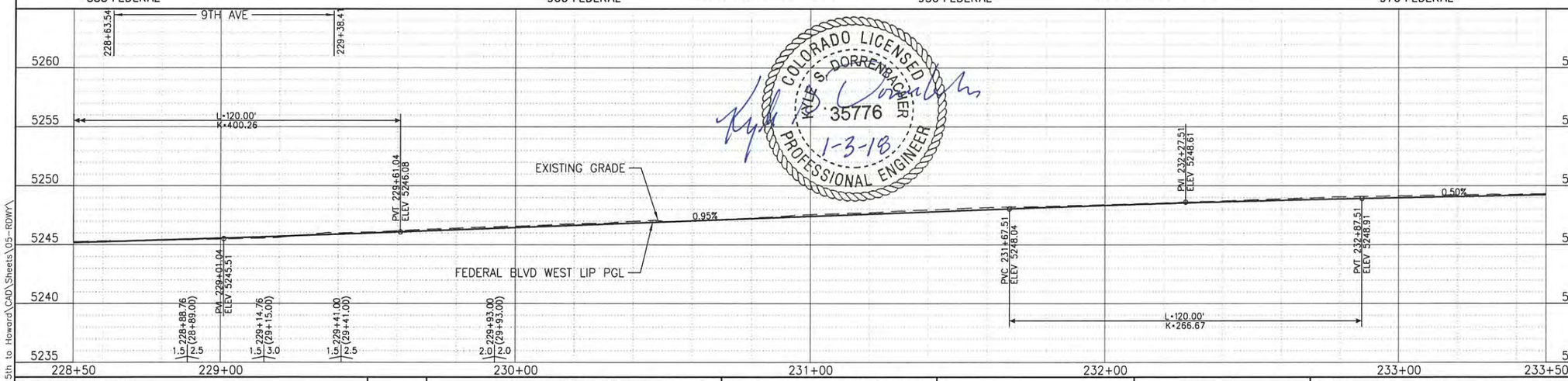
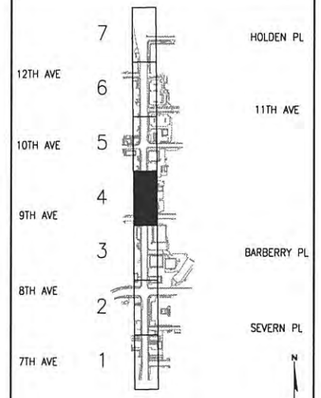




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KYLE S. DORRENBACHER
35776
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1-3-18



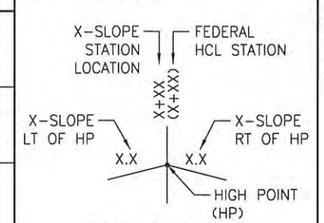
KEY MAP

LEGEND

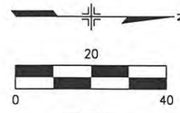
TS TRANSIT STOP

NOTES

1. HCL'S, PGL'S, HIGH POINT LOCATIONS, AND VARIABLE CROSS SLOPES SHOWN ON PROFILES CONTROL FEDERAL CONSTRUCTION.
2. HIGH POINT VERTICAL ELEVATIONS ALONG FEDERAL ARE BASED ON THE FEDERAL WEST LIP PGL AND THE CROSS SLOPE LT DATA.
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5. SEE PAVING PLANS FOR FENCE (TEMPORARY) LOCATIONS



CROSS SLOPE DIAGRAM



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

Last Modification Date:	Init.:		
Drawing File Name: 1102188-02-Federal Plan.dgn			
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Sheet Revisions

Date:	Comments	Init.

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Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed

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Revised:
Void:

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
ROADWAY PLAN & PROFILE
FEDERAL BLVD - 28+50 TO 33+50

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	ROADPLAN	Subset Sheets:	4 of 7

Project No./Code

NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 85

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969-975 FEDERAL | 995 FEDERAL | 1005 FEDERAL | 1015 FEDERAL | 1023 FEDERAL | 1041 FEDERAL

TS S1

TRAFFFIC SIGNAL (TYP), SEE TRAFFIC SIGNAL SUBSET

FIRE HYDRANT, SEE WATER LINE SUBSET

FEDERAL BLVD WEST LIP HCL

MEDIAN, SEE LANDSCAPING & IRRIGATION SUBSETS

WATER SERVICES TO BE REPLACED (TYP), SEE WATER LINE SUBSET

FEDERAL BLVD

FEDERAL BLVD HCL

MATCHLINE STA 33+50

MATCHLINE STA 38+50

234+00 | 235+00 | 236+00 | 237+00 | 238+00

34+00 | 35+00 | 36+00 | 37+00 | 38+00

STREET LIGHT (TYP), SEE LIGHTING SUBSET

STORM SEWER MAIN, SEE STORM SEWER SUBSET

END FENCE CHAIN LINK (72 INCH) 33+57.47, 65.50' RT

10TH AVE

INLET, SEE STORM SEWER SUBSET

TS N2

PAVEMENT MARKING & SYMBOLS, SEE SIGNING & STRIPING SUBSET

990 FEDERAL | 1000 FEDERAL | 1030 FEDERAL

10TH AVE

FEDERAL BLVD WEST LIP PGL

EXISTING GRADE

PVI 235+18.53 ELEV 5250.06

PVI 235+53.33 ELEV 5250.41

PVC 235+16.45 ELEV 5250.10

PVC 236+17.46 ELEV 5250.10

PVT 236+47.46 ELEV 5250.32

PVC 235+20.33 ELEV 5250.08

HI 235+64.33 ELEV 5250.30

PVT 235+86.33 ELEV 5250.26

PVI 236+32.46 ELEV 5250.18

PVC 238+00.00 ELEV 5251.77

L=30.00' K=66.67

L=66.00' K=44.00

L=120.00' K=64.86

0.50% | 1.00% | 0.50% | 0.10% | 0.95%

5260 | 5255 | 5250 | 5245 | 5240 | 5235

233+50 | 234+00 | 235+00 | 236+00 | 237+00 | 238+00 | 238+50

235+09.00 (35+09.00) 2.0 2.0

235+49.00 (35+49.00) 1.5 2.5

235+89.00 (35+89.00) 1.5 3.0

236+50.00 (36+50.00) 1.5 3.0

237+00.00 (37+00.00) 1.5 2.5

237+50.00 (37+50.00) 2.0 2.0

COLORADO LICENSED KYLE S. DORRENBACHER PROFESSIONAL ENGINEER 35776 1-3-18

KEY MAP

12TH AVE | 10TH AVE | 9TH AVE | 8TH AVE | 7TH AVE

1 | 2 | 3 | 4 | 5 | 6 | 7

HOLDEN PL | 11TH AVE | BARBERRY PL | SEVERN PL

LEGEND

TS TRANSIT STOP

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5. SEE PAVING PLANS FOR FENCE (TEMPORARY) LOCATIONS

X-SLOPE STATION LOCATION | FEDERAL HCL STATION

X+XX (X+XX)

X-SLOPE LT OF HP | X-SLOPE RT OF HP

X.X | X.X

HIGH POINT (HP)

CROSS SLOPE DIAGRAM

20 | 0 | 40

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
ROADWAY PLAN & PROFILE
FEDERAL BLVD - 33+50 TO 38+50

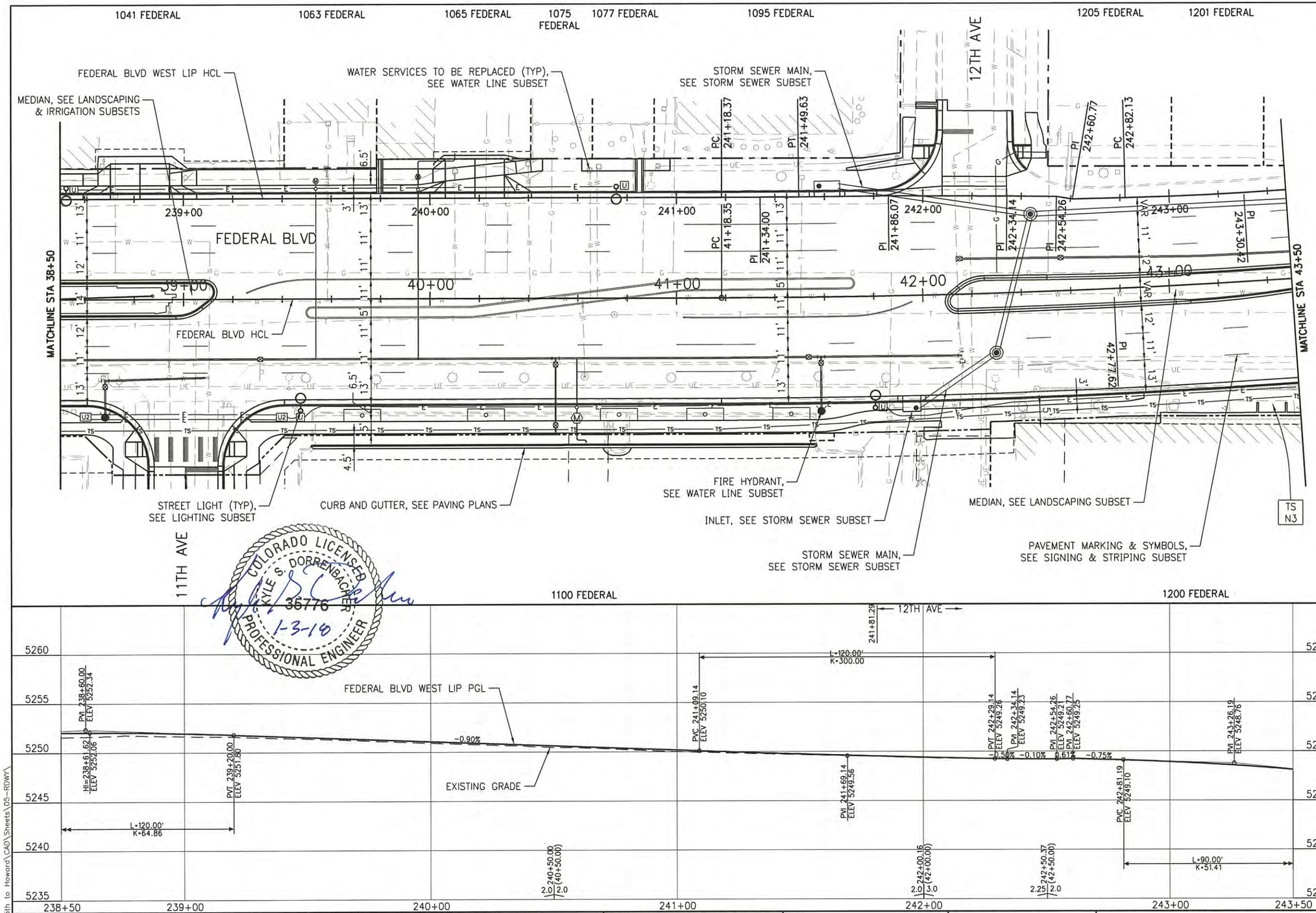
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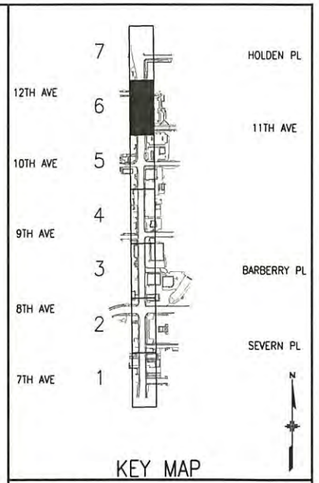
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NHPP 2873-172
SA 19957

2011-PROJMSTR-0000364

Sheet Number 86





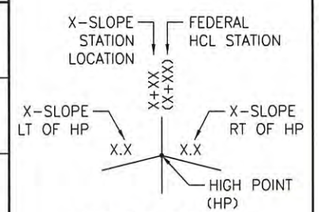
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LEGEND

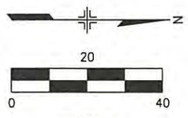
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CROSS SLOPE DIAGRAM



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

COLORADO LICENSED
KYLE S. DORRENBACHER
36776
PROFESSIONAL ENGINEER
1-3-18

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Region 1 JV

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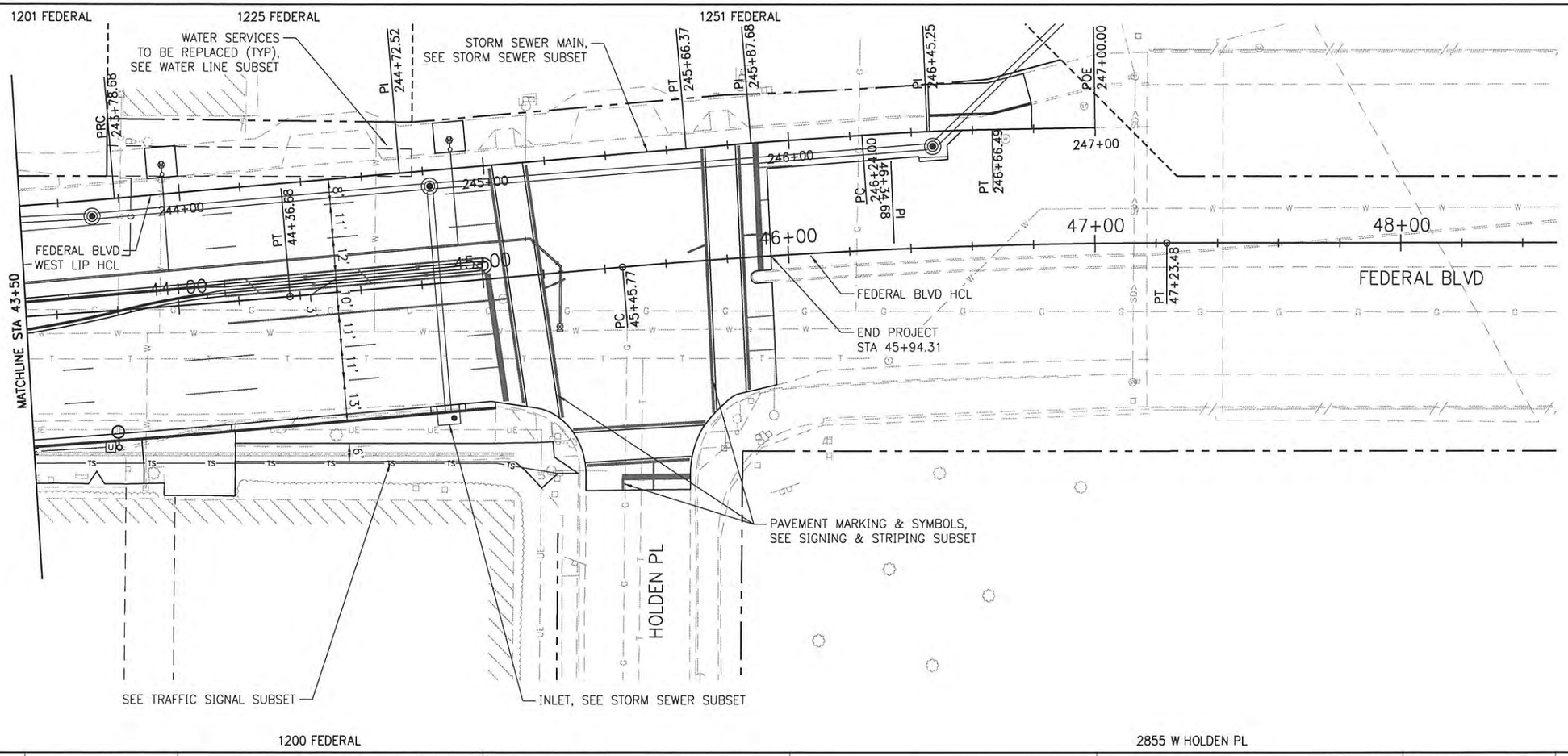
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
ROADWAY PLAN & PROFILE
FEDERAL BLVD – 38+50 TO 43+50

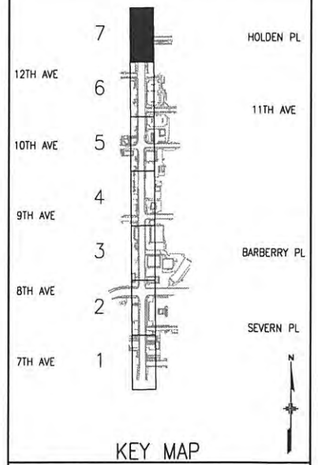
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Detailer:	SRF		
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Project No./Code

NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 87

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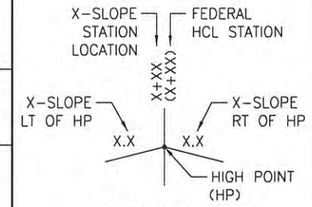
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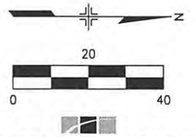
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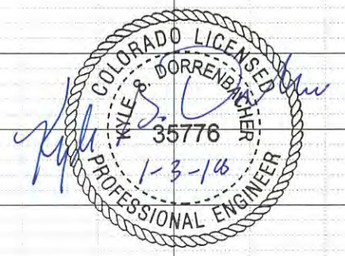
1. HCL'S, PGL'S, HIGH POINT LOCATIONS, AND VARIABLE CROSS SLOPES SHOWN ON PROFILES CONTROL FEDERAL CONSTRUCTION.
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CROSS SLOPE DIAGRAM



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS



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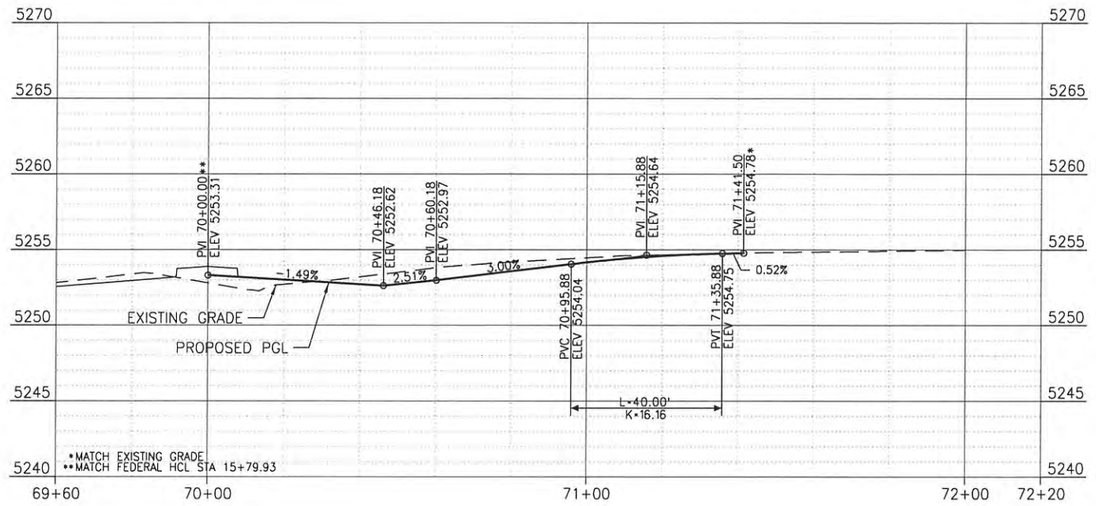
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Drawing File Name: 1102188-02-Federal Plan.dgn					
Horizontal Scale: 1:40 Vert. Scale: As Noted					

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
ROADWAY PLAN & PROFILE
FEDERAL BLVD - 43+50 TO 48+50

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	ROADPLAN	Subset Sheets:	7 of 7

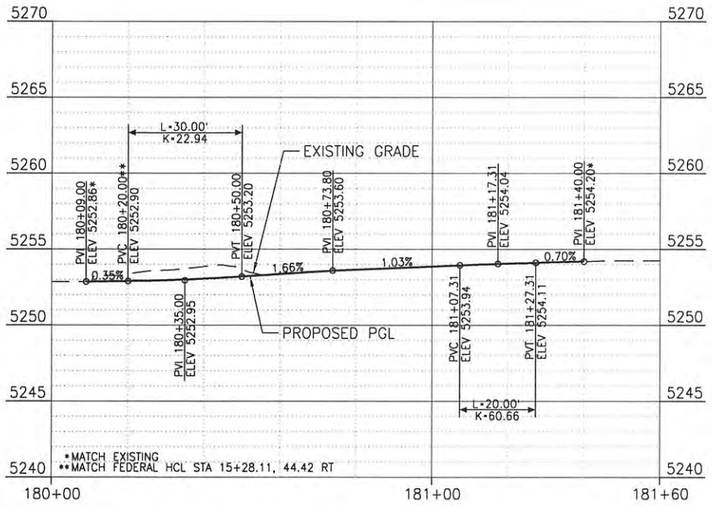
Project No./Code: NHPP 2873-172, SA 19957
2011-PROJMSTR-0000364
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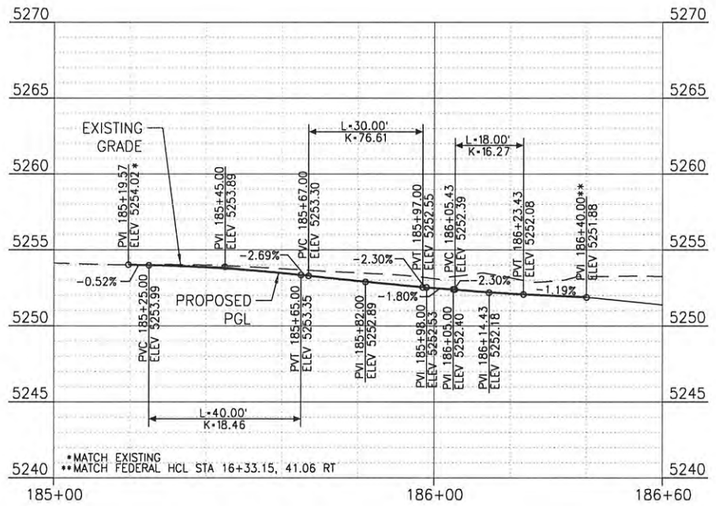
7TH AVE CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



7TH AVE SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



7TH AVE NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2 2018

Last Modification Date:	Init.:		
Drawing File Name: 1102188-03-Side Street Profiles.dgn			
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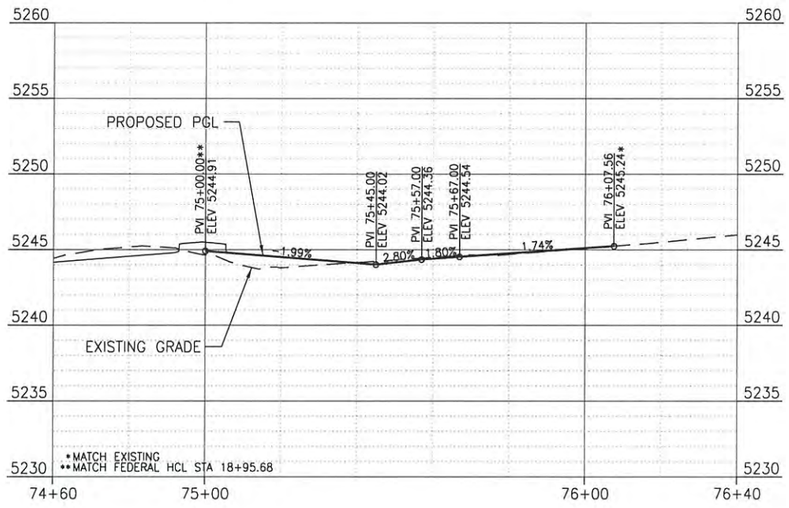
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
7TH AVE

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	1 of 11

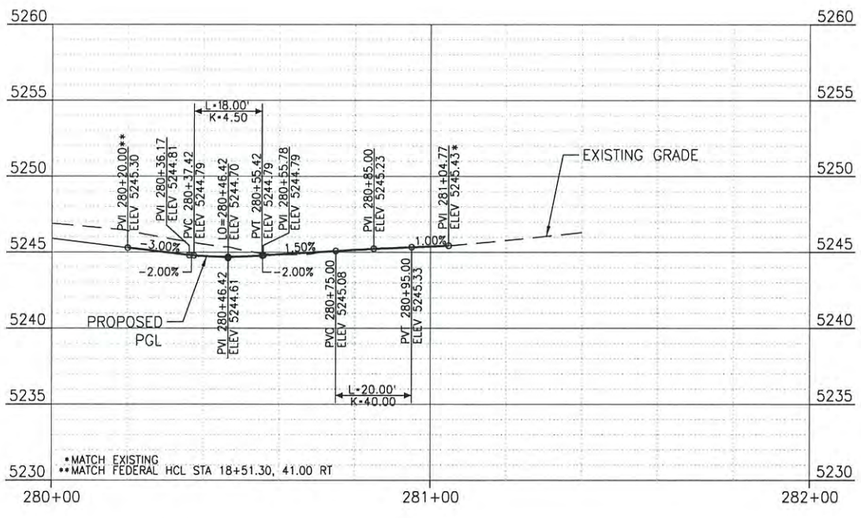
Project No./Code
NHPP 2873-172
SA 19957
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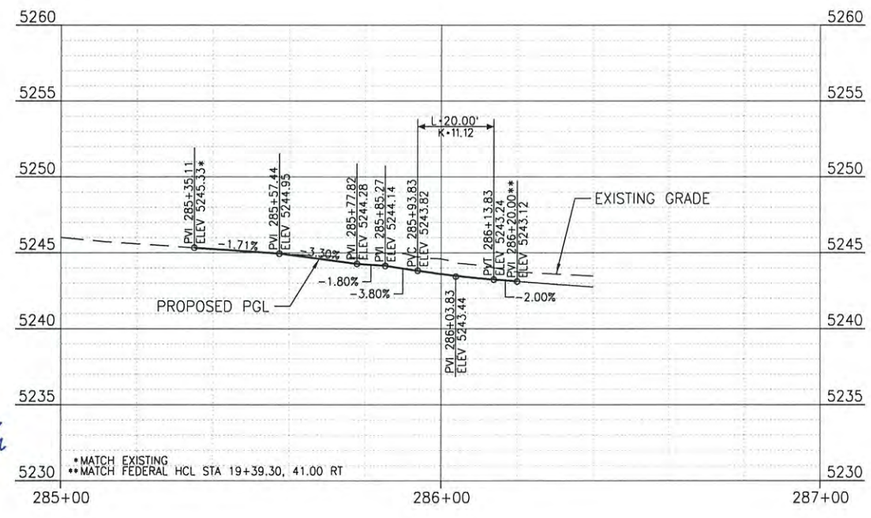
SEVERN PL CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



SEVERN PL SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



SEVERN PL NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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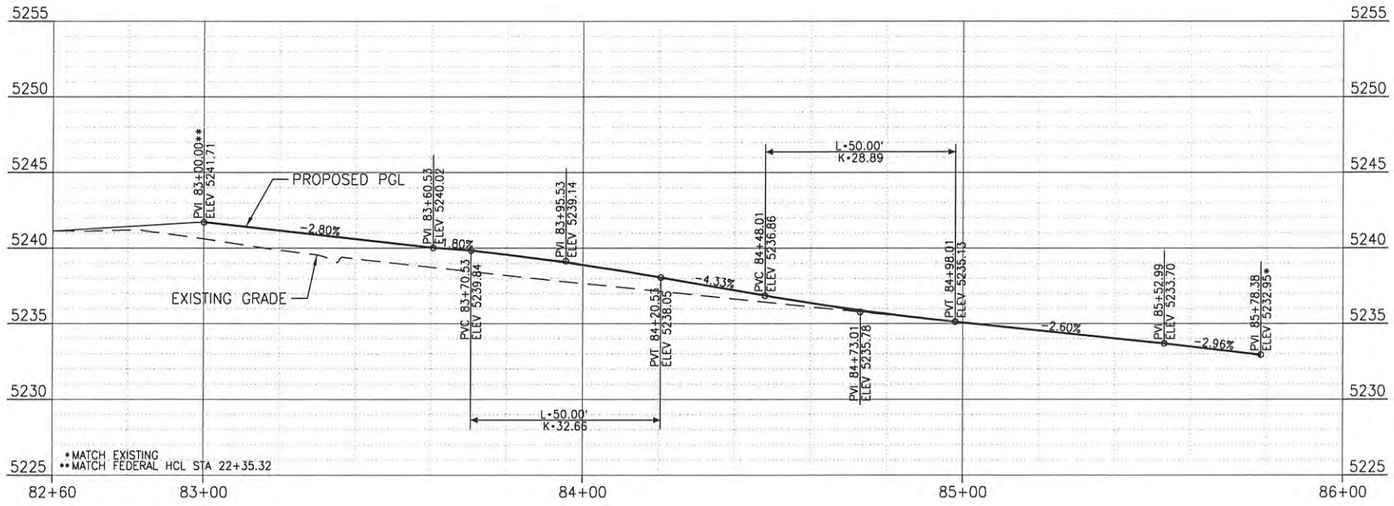
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
SEVERN PL

Designer:	KSD	Structure Numbers	
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Project No./Code	
NHPP 2873-172 SA 19957	
2011-PROJMSTR-0000364	
Sheet Number	90

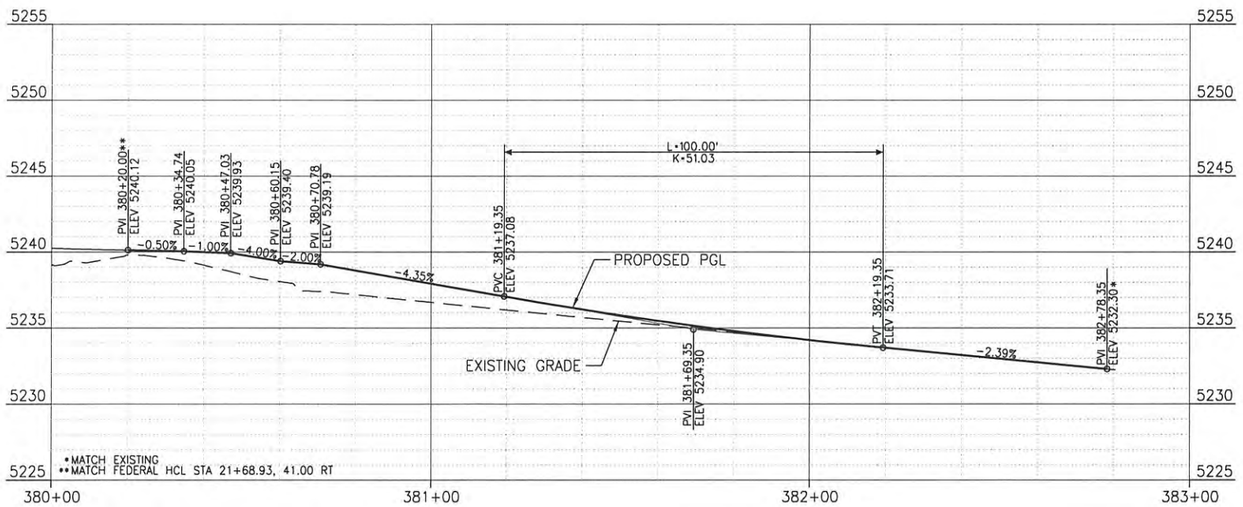
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8TH AVE EAST CENTERLINE PROFILE

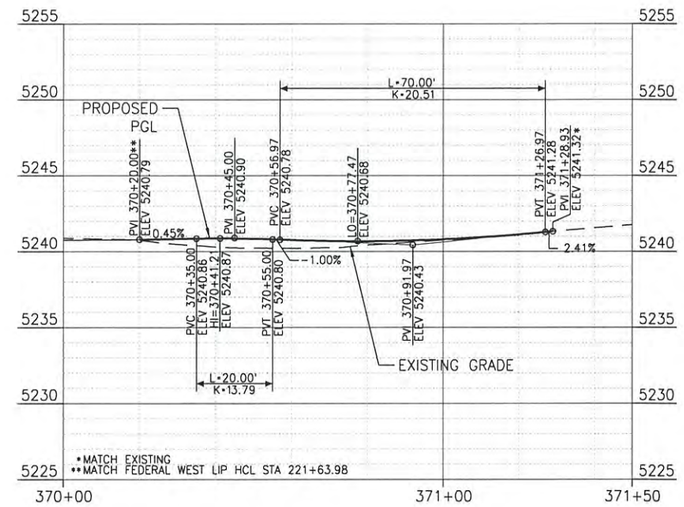
ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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35776
PROFESSIONAL ENGINEER
1-3-19



8TH AVE SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



8TH AVE SW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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CONSULTING ENGINEERS

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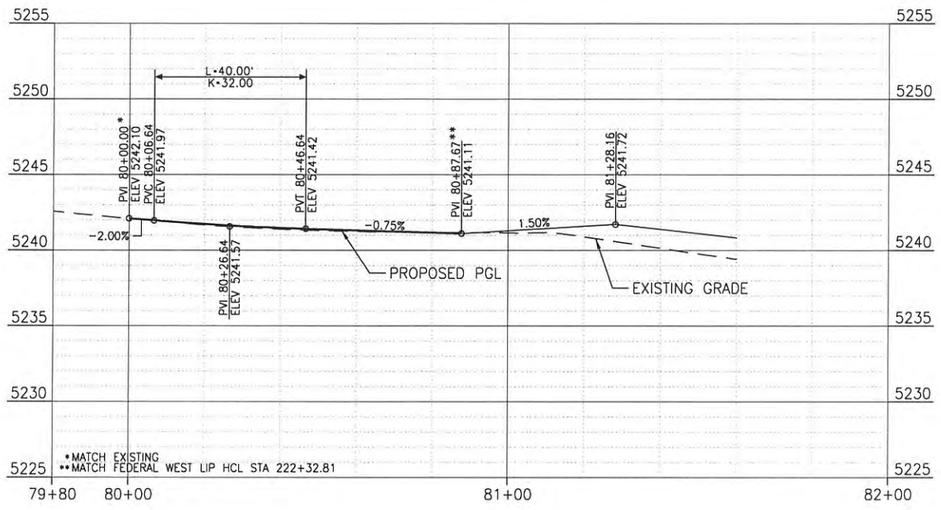
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
8TH AVE - EAST CENTER, SE & SW

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	3 of 11

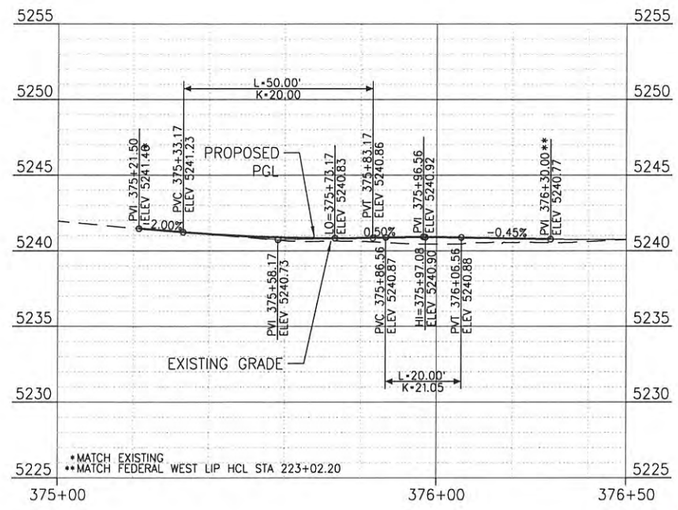
Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 91

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8TH AVE WEST CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

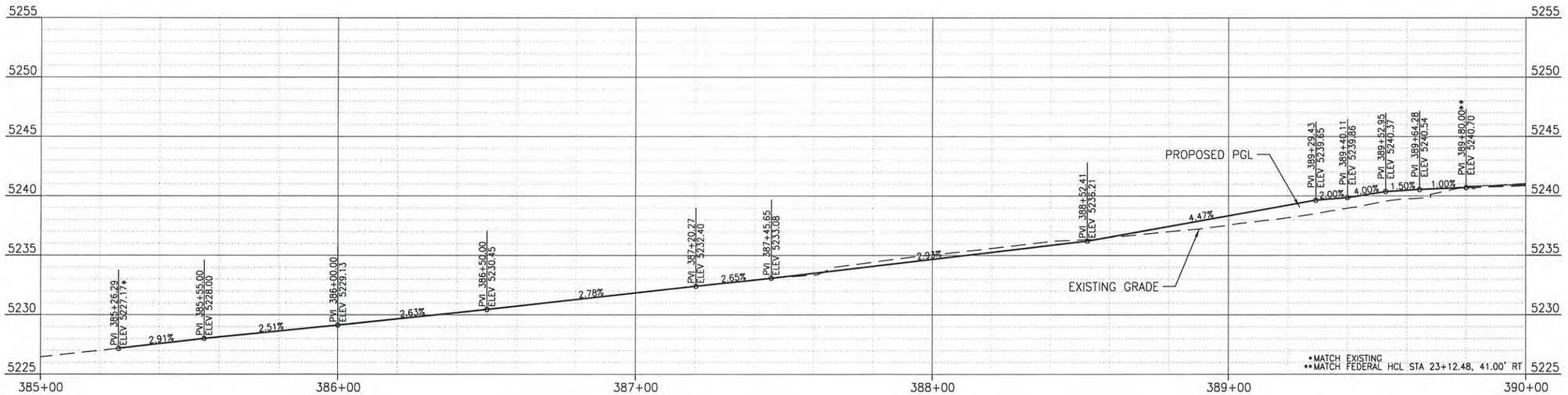


8TH AVE NW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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8TH AVE NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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CONSULTING ENGINEERS

Last Modification Date:	Init.:		
Drawing File Name: 1102188-03-Side Street Profiles.dgn			
Horizontal Scale: 1:40	Vert. Scale: As Noted		

Sheet Revisions

Date:	Comments	Init.

City and County of Denver
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201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

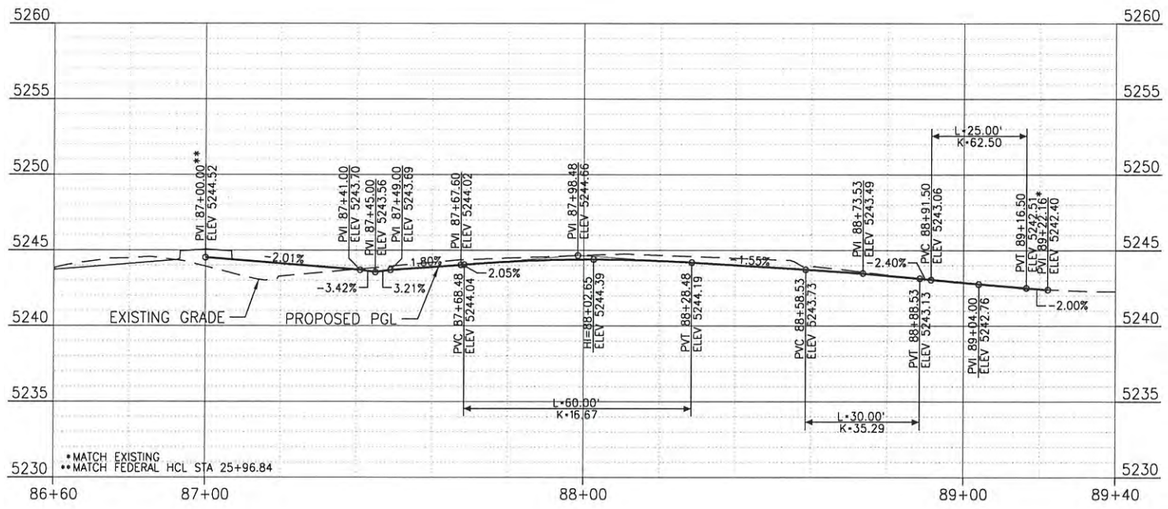
As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
8TH AVE - WEST CENTER, NE & NW

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	4 of 11

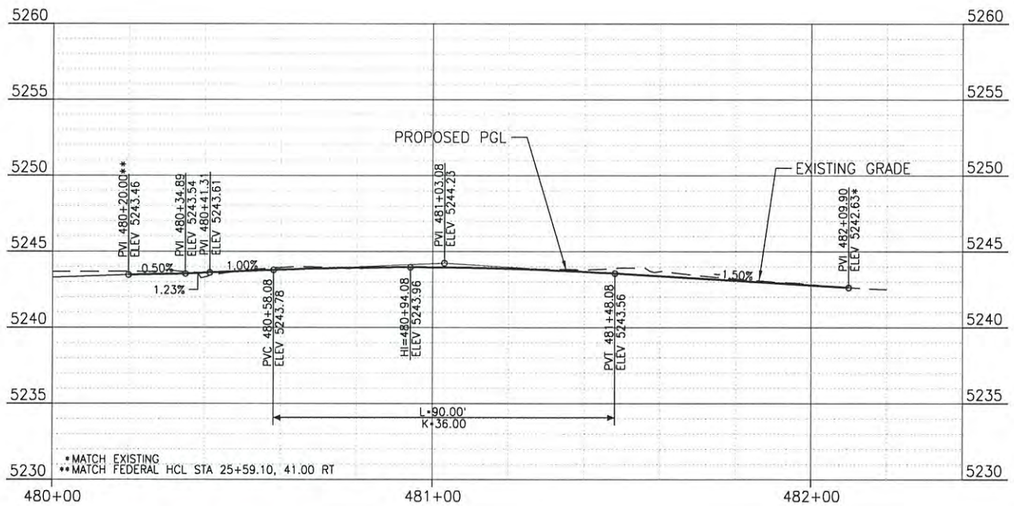
Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 92

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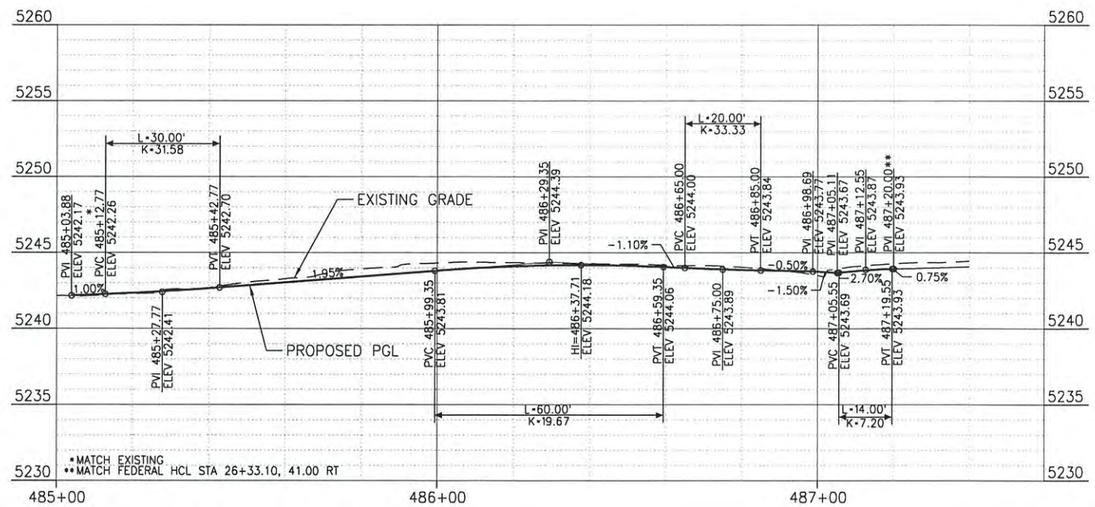
BARBERRY PL CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



BARBERRY PL SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



BARBERRY PL NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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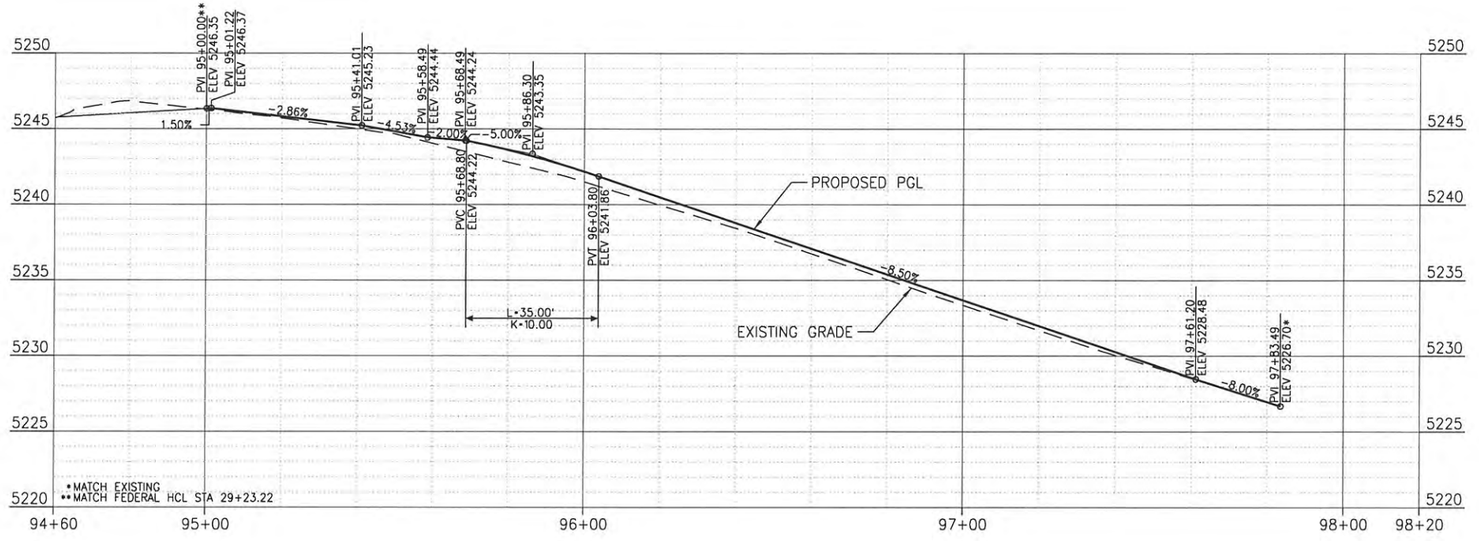
TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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Last Modification Date: Init.:	Sheet Revisions			City and County of Denver Department of Public Works Engineering Division 201 W. Colfax, Dept 506 Denver, CO. 80202	As Constructed
Drawing File Name: 1102188-03-Side Street Profiles.dgn	Date:	Comments	Init.		No Revisions:
Horizontal Scale: 1:40 Vert. Scale: As Noted				Colorado Department of Transportation 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 Region 1 JV	Revised:
					Void:

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE SIDE STREET PROFILES BARBERRY PL			Project No./Code NHPP 2873-172 SA 19957 2011-PROJMSTR-0000364
Designer: KSD	Structure Numbers		
Detailer: SRF			
Sheet Subset: SIDEPRO	Subset Sheets: 5 of 11		Sheet Number 93

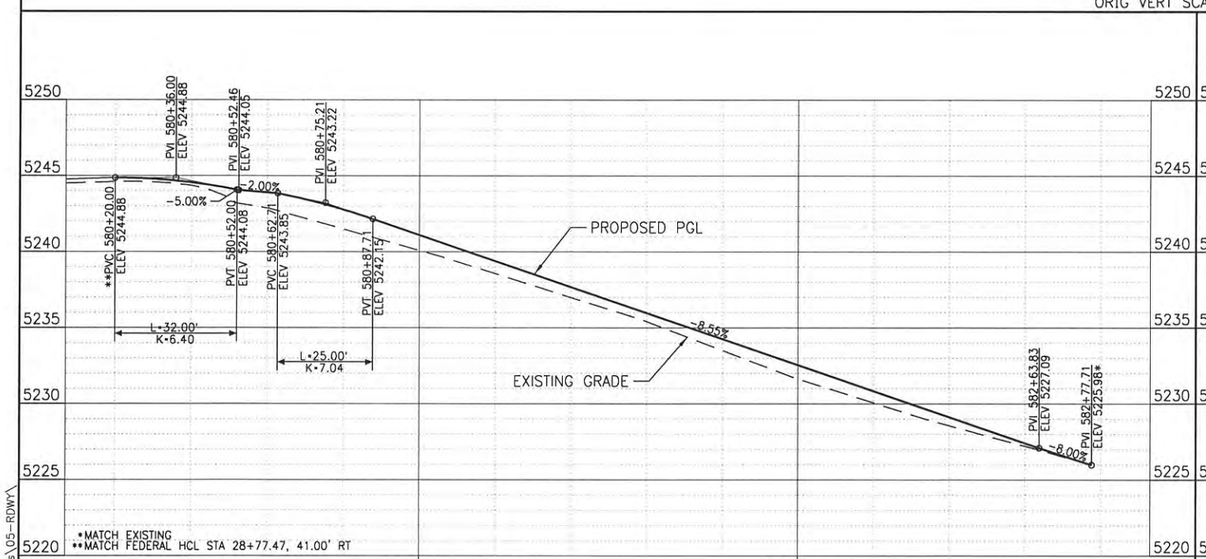
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9TH AVE EAST CENTERLINE PROFILE

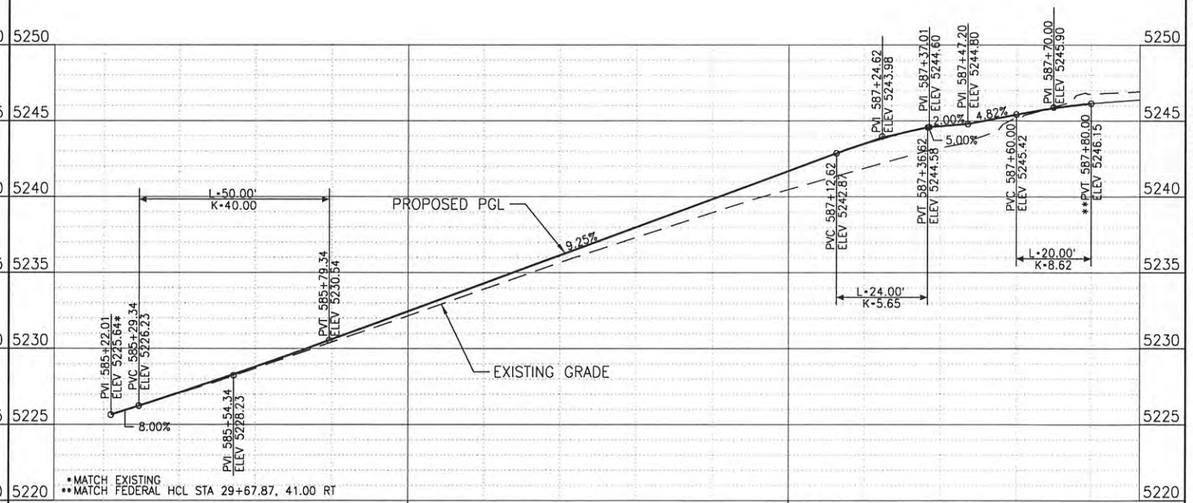
ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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9TH AVE SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



9TH AVE NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-03-Side Street Profiles.dgn			
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Sheet Revisions

Date:	Comments	Init.

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Denver, CO. 80202

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Region 1 JV

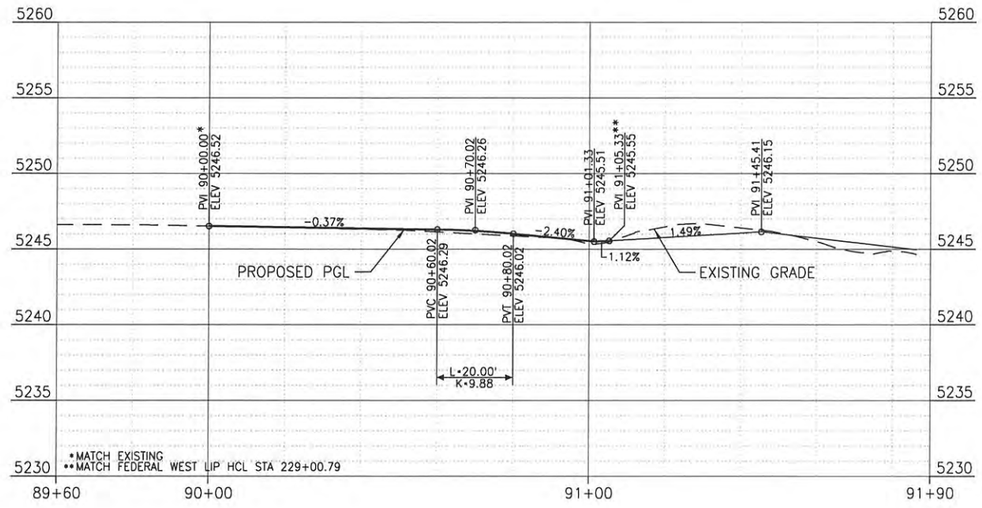
As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
9TH AVE EAST

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	6 of 11

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 94

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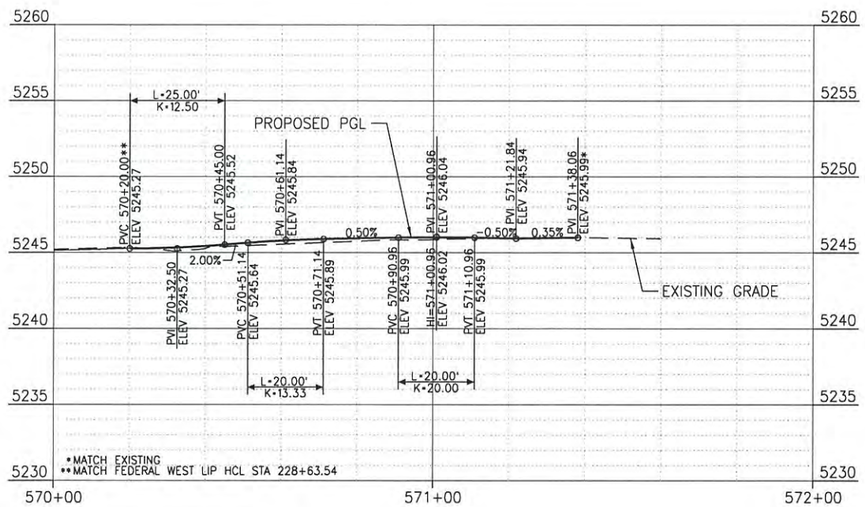


9TH AVE WEST CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

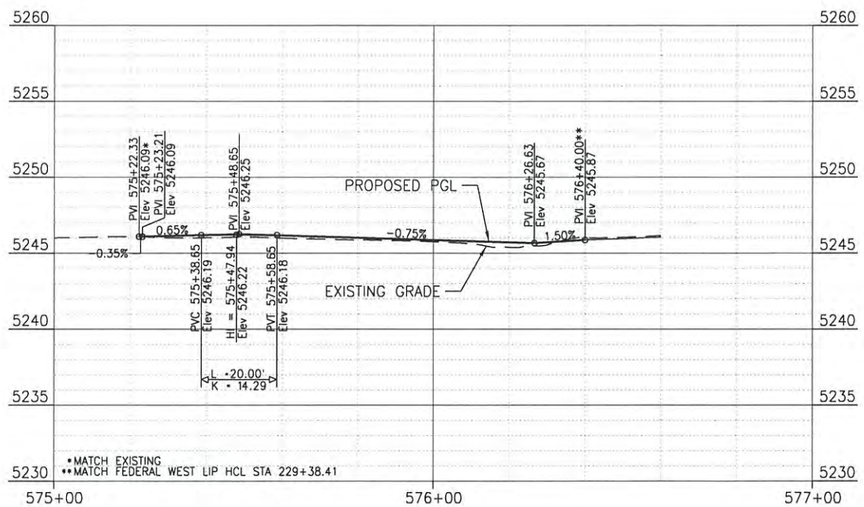
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35776
PROFESSIONAL ENGINEER
1-3-18

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9TH AVE SW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



9TH AVE NW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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Last Modification Date:	Init.:	
Drawing File Name: 1102188-03-Side Street Profiles.dgn		
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Sheet Revisions

Date:	Comments	Init.

City and County of Denver
Department of Public Works
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Denver, CO. 80202

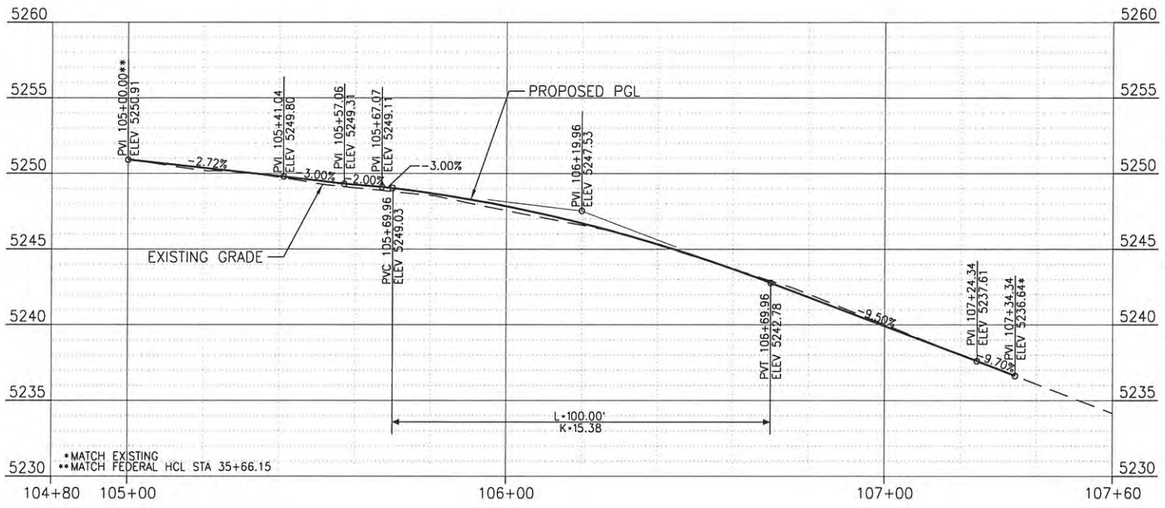
Colorado Department of Transportation
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Denver, CO 80222
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Region 1 JV

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No Revisions:
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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
9TH AVE WEST

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	7 of 11

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 95



10TH AVE EAST CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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10TH AVE SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

10TH AVE NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-03-Side Street Profiles.dgn			
Horizontal Scale: 1:40	Vert. Scale: As Noted		

Sheet Revisions

Date:	Comments	Init.

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Denver, CO. 80202

Colorado Department of Transportation
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2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
JV

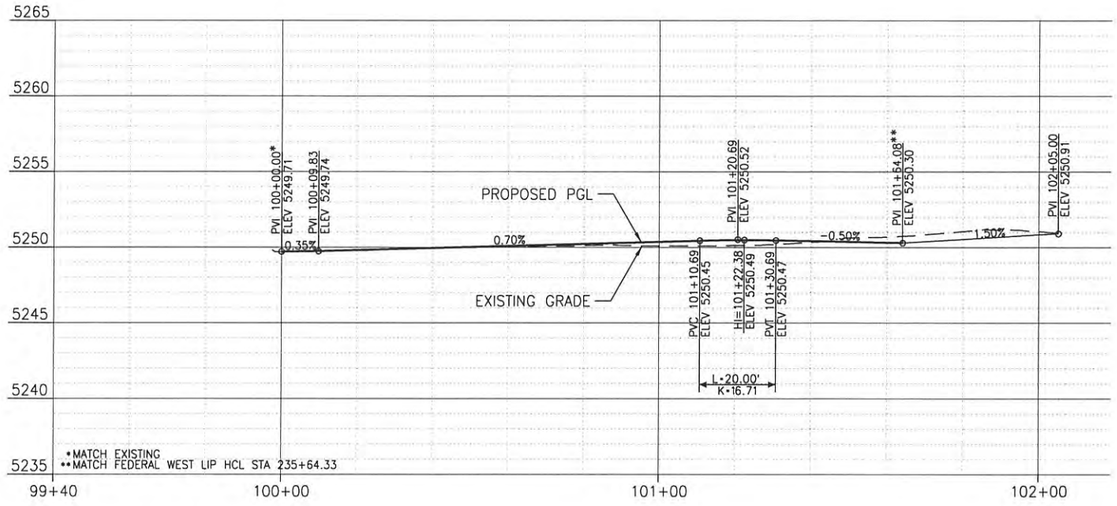
As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
10TH AVE EAST

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	8 of 11

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 96

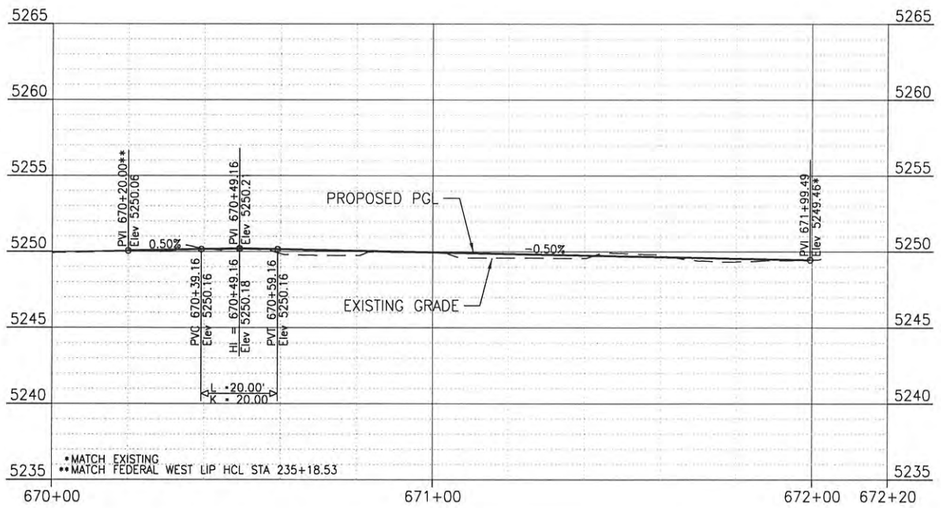
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10TH AVE WEST CENTERLINE PROFILE

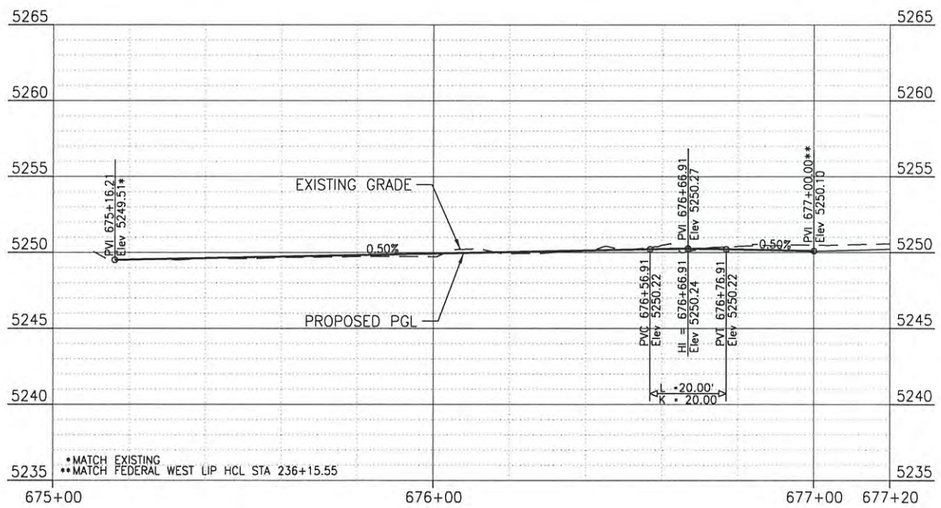
ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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PROFESSIONAL ENGINEER



10TH AVE SW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



10TH AVE NW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-03-Side Street Profiles.dgn			
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Sheet Revisions

Date:	Comments	Init.

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Denver, CO. 80202

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Region 1
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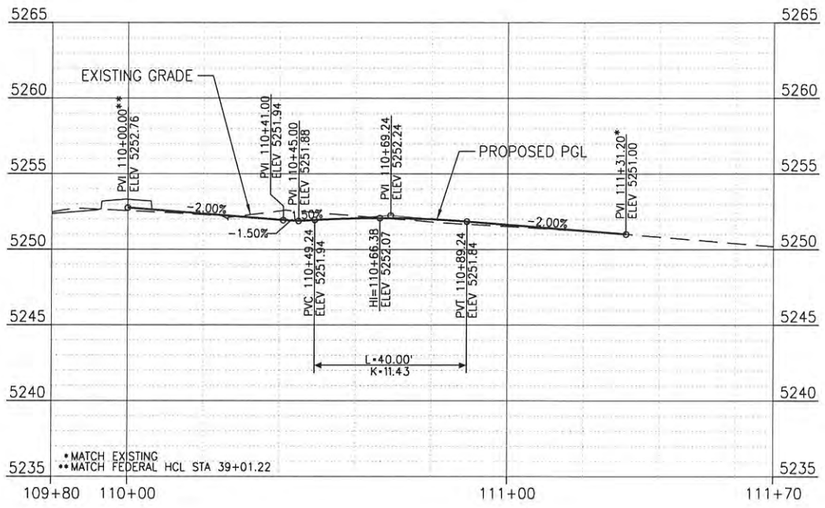
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No Revisions:
Revised:
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
10TH AVE WEST

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	9 of 11

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 97

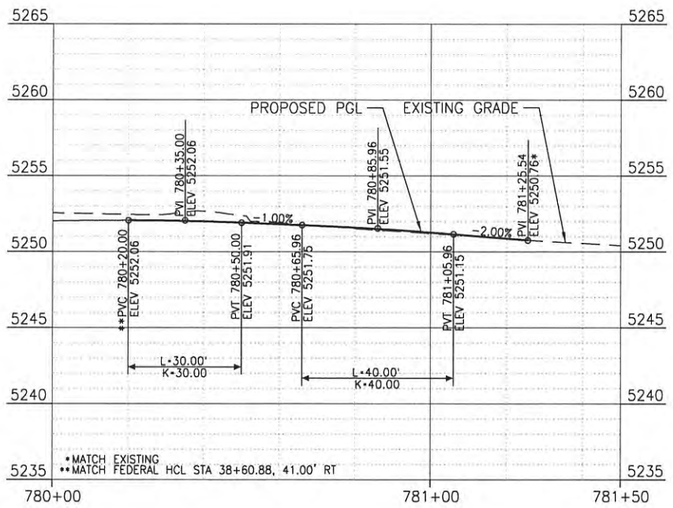
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11TH AVE CENTERLINE PROFILE

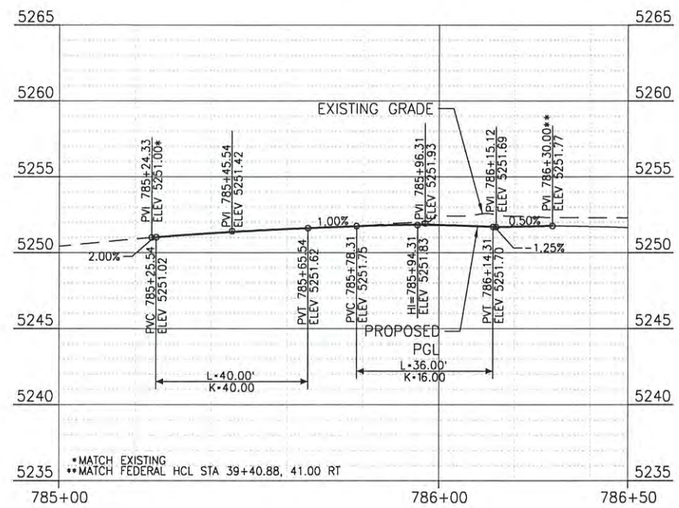
ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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35776
PROFESSIONAL ENGINEER
1-3-18



11TH AVE SE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



11TH AVE NE CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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CONSULTING ENGINEERS

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-03-Side Street Profiles.dgn			
Horizontal Scale: 1:40	Vert. Scale: As Noted		

Sheet Revisions

Date:	Comments	Init.

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Region 1 JV

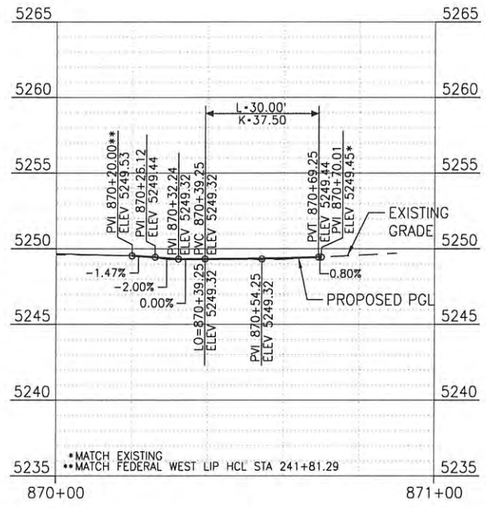
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No Revisions:
Revised:
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
11TH AVE

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	10 of 11

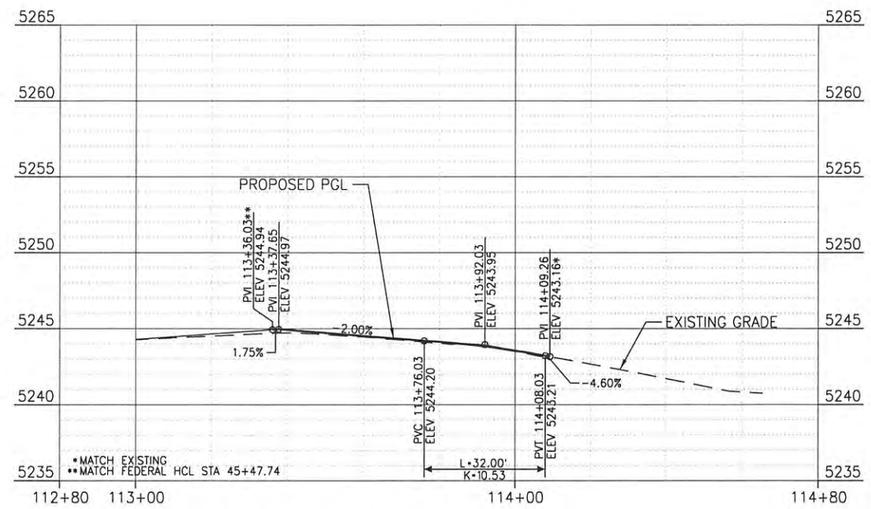
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SA 19957
2011-PROJMSTR-0000364
Sheet Number 98

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12TH AVE SW CURB RETURN PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'



HOLDEN PL CENTERLINE PROFILE

ORIG HORIZ SCALE: 1" = 20'
ORIG VERT SCALE: 1" = 5'

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Drawing File Name: 1102188-03-Side Street Profiles.dgn		Date:	Comments / Init.
Horizontal Scale: 1:40	Vert. Scale: As Noted		

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Region 1 JV

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No Revisions:
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SIDE STREET PROFILES
12TH AVE & HOLDEN PL

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	SIDEPRO	Subset Sheets:	11 of 11

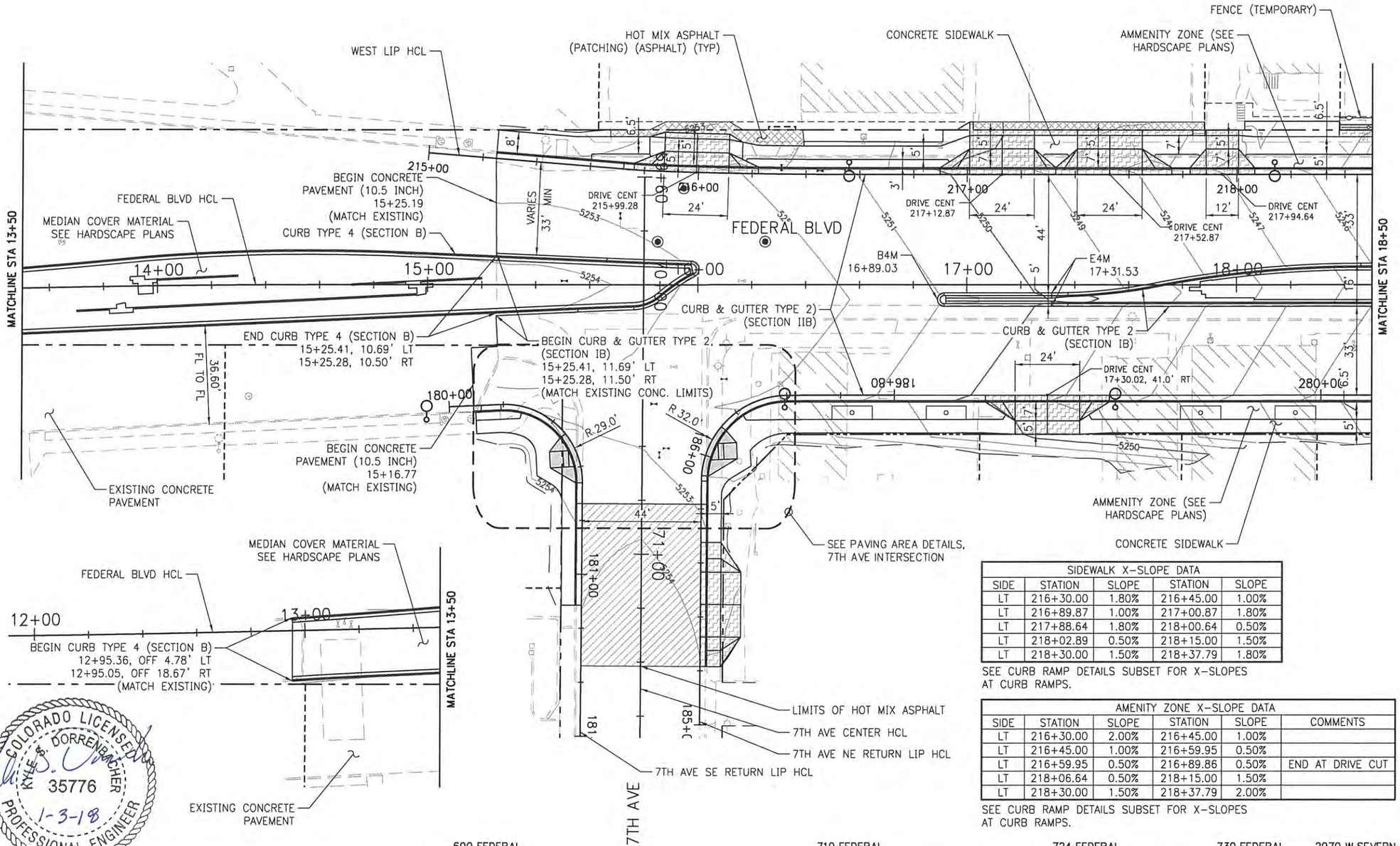
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SA 19957
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Sheet Number 99

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HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL	STATION	15+50.00	15+75.00	16+00.00	16+25.00	16+50.00	16+75.00	17+00.00	17+25.00	17+50.00	17+75.00	18+00.00	18+25.00	18+50.00
MEDIAN LIP HCL (WEST SIDE)	STATION	1102+56.21	1102+81.24	1103+06.76				1200+08.48	1200+33.48	1200+58.50	1200+83.81	1201+09.08	1201+34.17	1201+59.18
	ELEVATION	53.36	53.21	52.96				50.71	50.00	49.26	48.44	47.59	46.77	45.99
HIGH POINT HCL	STATION	3+11.48	3+36.48	3+62.33	3+89.14	4+14.62	4+39.62	4+64.62	4+89.62	5+14.63	5+39.67	5+64.71	5+89.75	6+14.76
	ELEVATION	54.02	53.81	52.97	52.67	52.13	51.43	51.05	50.29	49.79	48.99	48.17	47.38	46.64
MEDIAN LIP HCL (EAST SIDE)	STATION	1103+64.13	1103+39.11	1103+10.03				1209+67.61	1209+42.61	1209+17.61	1208+92.61	1208+67.61	1208+42.61	1208+17.61
	ELEVATION	53.41	53.26	52.95				50.71	50.01	49.25	48.45	47.62	46.78	45.99

601 FEDERAL 707 FEDERAL 745 FEDERAL 749 FEDERAL



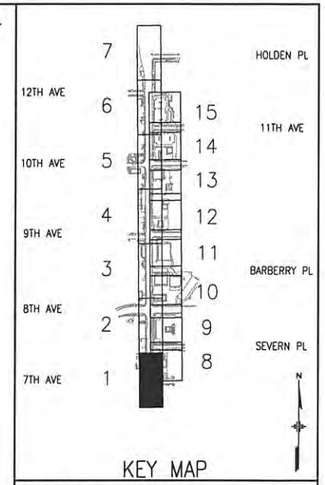
SIDEWALK X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
LT	216+30.00	1.80%	216+45.00	1.00%
LT	216+89.87	1.00%	217+00.87	1.80%
LT	217+88.64	1.80%	218+00.64	0.50%
LT	218+02.89	0.50%	218+15.00	1.50%
LT	218+30.00	1.50%	218+37.79	1.80%

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

AMENITY ZONE X-SLOPE DATA					
SIDE	STATION	SLOPE	STATION	SLOPE	COMMENTS
LT	216+30.00	2.00%	216+45.00	1.00%	
LT	216+45.00	1.00%	216+59.95	0.50%	
LT	216+59.95	0.50%	216+89.86	0.50%	END AT DRIVE CUT
LT	218+06.64	0.50%	218+15.00	1.50%	
LT	218+30.00	1.50%	218+37.79	2.00%	

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

690 FEDERAL 710 FEDERAL 724 FEDERAL 730 FEDERAL 2970 W SEVERN PL

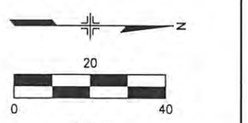


NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- B4M = BEGIN 4 INCH MOUNTABLE CURB (OUTFALL)
- E4M = END 4 INCH MOUNTABLE CURB (OUTFALL)



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

Last Modification Date:	Init.:	Sheet Revisions	
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Horizontal Scale: 1:40	Vert. Scale: As Noted		

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
PAVING PLAN
FEDERAL BLVD - 13+50 TO 18+50

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	1 of 15

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 100

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HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL	STATION	18+75.00	19+00.00	19+25.00	19+50.00	19+75.00	20+00.00	20+25.00	20+50.00	20+75.00	21+00.00	21+25.00	21+50.00	21+64.00	21+75.00	22+00.00	22+14.00	22+25.00	22+50.00	22+75.00	22+82.00	23+00.00	23+25.00	23+32.00	23+50.00
MEDIAN LIP HCL (WEST SIDE)	STATION	1201+84.18	1202+09.18	1202+34.18	1202+59.18	1202+84.18	1203+09.18	1203+34.18	1203+59.18	1203+84.18	1204+09.18	1204+34.18	1204+59.18	1204+73.18	1204+84.18										
	ELEVATION	45.31	44.71	44.19	43.75	43.35	42.95	42.55	42.15	41.82	41.59	41.46	41.36	41.34	41.34									
HIGH POINT HCL	STATION	6+39.76	6+64.80	6+89.84	7+14.88	7+39.91	7+64.91	7+88.95	8+14.91	8+39.91	8+64.91	8+89.91	9+14.91	9+28.91	9+39.91	9+65.00	9+79.06	9+90.10	10+15.20	10+40.30	10+47.33	10+65.42	10+90.39	10+97.39	11+15.39
	ELEVATION	45.98	45.38	44.88	44.45	43.77	43.36	42.60	42.57	42.24	42.01	41.88	41.77	41.74	41.33	41.55	41.65	41.70	41.71	41.58	41.55	41.56	41.64	41.68	41.73
MEDIAN LIP HCL (EAST SIDE)	STATION	1207+92.61	1207+67.55	1207+42.33	1207+16.97	1206+91.91	1206+66.91	1206+41.91	1206+16.91	1205+91.91	1205+66.91	1205+41.91	1205+16.91	1205+02.91	1204+91.91										
	ELEVATION	45.31	44.69	44.17	43.76	43.35	42.95	42.55	42.15	41.82	41.59	41.45	41.34	41.31	41.31										

749 FEDERAL | 753–759 FEDERAL | 765 FEDERAL | 775 FEDERAL | 815 FEDERAL

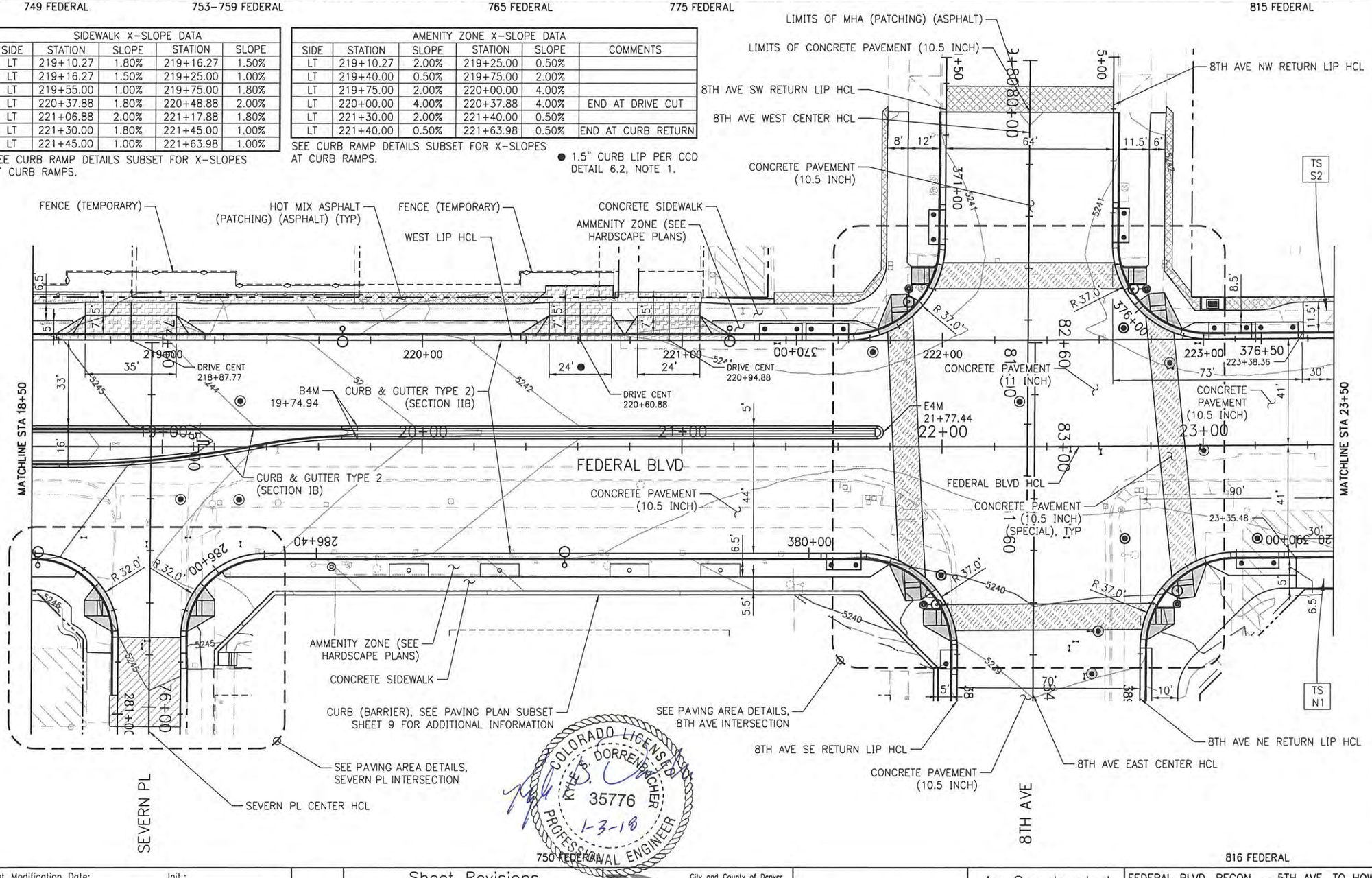
SIDEWALK X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
LT	219+10.27	1.80%	219+16.27	1.50%
LT	219+16.27	1.50%	219+25.00	1.00%
LT	219+55.00	1.00%	219+75.00	1.80%
LT	220+37.88	1.80%	220+48.88	2.00%
LT	221+06.88	2.00%	221+17.88	1.80%
LT	221+30.00	1.80%	221+45.00	1.00%
LT	221+45.00	1.00%	221+63.98	1.00%

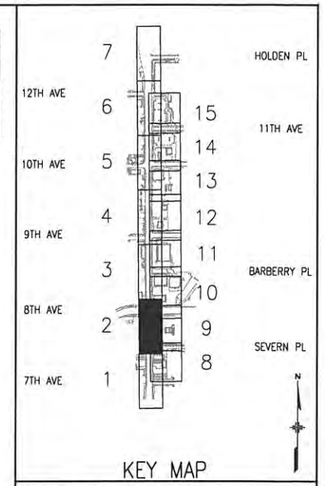
SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

AMENITY ZONE X-SLOPE DATA					
SIDE	STATION	SLOPE	STATION	SLOPE	COMMENTS
LT	219+10.27	2.00%	219+25.00	0.50%	
LT	219+40.00	0.50%	219+75.00	2.00%	
LT	219+75.00	2.00%	220+00.00	4.00%	
LT	220+00.00	4.00%	220+37.88	4.00%	END AT DRIVE CUT
LT	221+30.00	2.00%	221+40.00	0.50%	
LT	221+40.00	0.50%	221+63.98	0.50%	END AT CURB RETURN

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

● 1.5" CURB LIP PER CCD DETAIL 6.2, NOTE 1.





KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
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3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- ■ CURB TO BE INCLUDED IN THE COST OF THE RAMP
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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

COLORADO LICENSED KYLE P. DORRENBACHER 35776 PROFESSIONAL ENGINEER 1-3-18

AD SUBMITTAL - JANUARY 2, 2018

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN
FEDERAL BLVD – 18+50 TO 23+50

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	2 of 15

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 101

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HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL	STATION	23+75.00	24+00.00	24+25.00	24+50.00	24+75.00	25+00.00	25+25.00	25+50.00	25+75.00	26+00.00	26+25.00	26+50.00	26+75.00	27+00.00	27+25.00	27+50.00	27+75.00	28+00.00	28+25.00	28+44.00	28+50.00
MEDIAN LIP HCL (WEST SIDE)	STATION	1300+19.42	1300+44.42	1300+69.42	1300+94.42	1301+19.42	1301+44.42	1301+69.53	1301+94.90	1302+20.08	1302+45.13	1302+70.13	1302+95.13	1303+20.13	1303+45.13	1303+70.13	1303+95.13	1304+20.13	1304+45.13	1304+70.13	1304+89.13	1304+95.12
	ELEVATION	41.83	42.09	42.43	42.81	43.18	43.55	43.83	44.03	44.21	44.38	44.54	44.72	44.93	45.14	45.35	45.48	45.60	45.68	45.73	45.77	45.80
HIGH POINT HCL	STATION	11+40.42	11+65.42	11+90.42	12+15.42	12+40.42	12+65.42	12+90.45	13+15.49	13+40.53	13+65.57	13+90.57	14+15.57	14+40.61	14+65.65	14+90.68	15+51.71	15+40.71	15+65.71	15+90.71	16+09.71	16+15.71
	ELEVATION	42.25	42.50	42.85	42.22	43.60	44.22	44.46	44.64	44.79	44.92	45.08	45.24	45.38	45.55	45.72	45.60	45.76	45.92	46.09	46.21	45.81
MEDIAN LIP HCL (EAST SIDE)	STATION	1309+78.03	1309+53.03	1309+28.03	1309+03.03	1308+78.03	1308+53.03	1308+28.03	1308+03.03	1307+78.03	1307+53.03	1307+28.03	1307+03.03	1306+77.97	1306+52.75	1306+27.39	1306+02.33	1305+77.33	1305+52.33	1305+27.33	1305+08.33	1305+02.33
	ELEVATION	41.83	42.08	42.43	42.81	43.18	43.55	43.82	44.05	44.23	44.38	44.54	44.71	44.90	45.12	45.37	45.48	45.60	45.68	45.72	45.76	45.71

815 FEDERAL | 823 FEDERAL | 859 FEDERAL | 869 FEDERAL | 877 FEDERAL

SIDEWALK X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
LT	226+68.97	1.80%	226+74.97	2.00%
RT	26+75.00	1.80%	27+25.00	1.50%
LT	227+19.97	2.00%	227+25.97	1.80%
RT	27+25.00	1.50%	28+77.00	1.50%

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

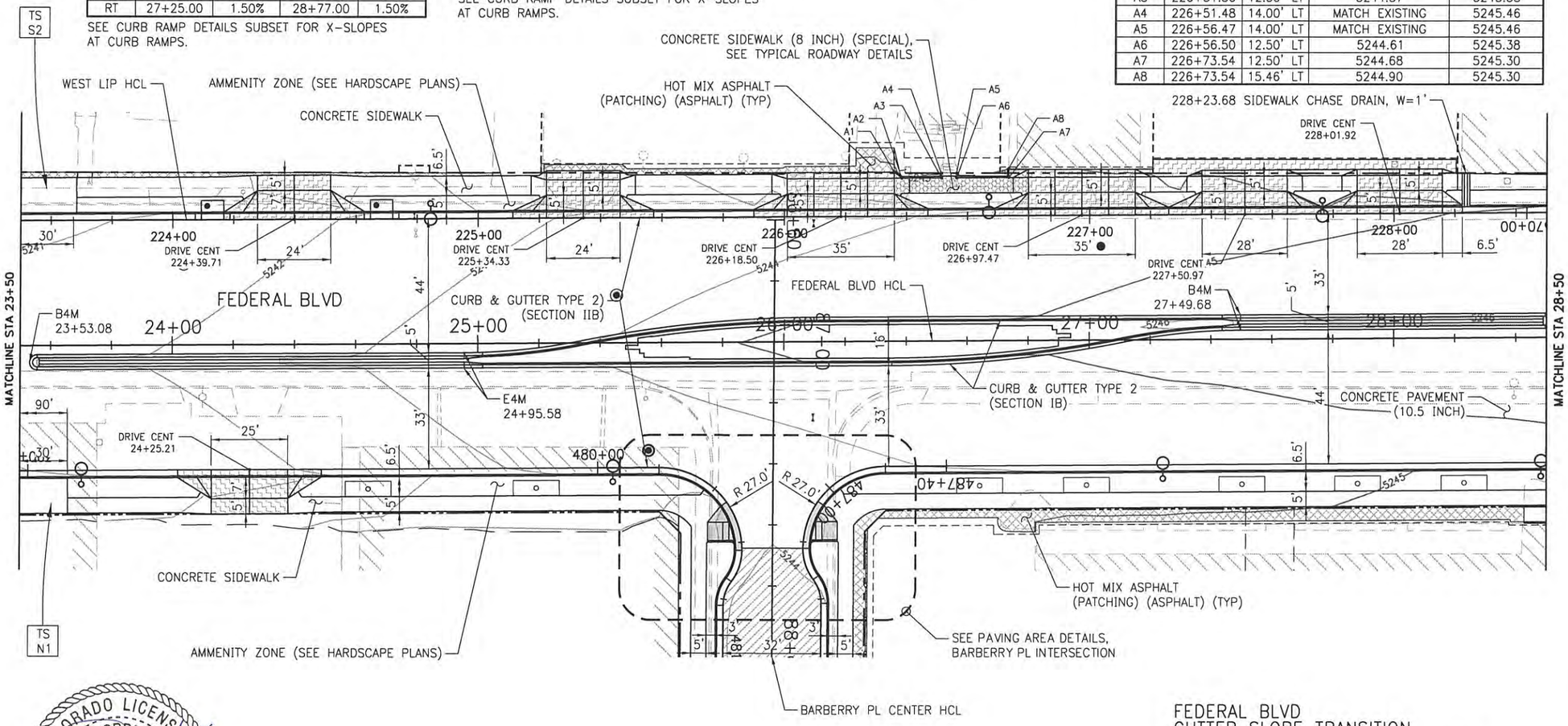
AMENITY ZONE X-SLOPE DATA					
SIDE	STATION	SLOPE	STATION	SLOPE	COMMENTS
RT	26+75.00	2.00%	27+25.00	1.00%	
RT	27+25.00	1.00%	28+77.00	1.00%	END AT CURB RETURN

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

● 1.5" CURB LIP PER CCD DETAIL 6.2, NOTE 1.

WALK/WALL ELEVATION TABLE (AT FACE OF CURB)

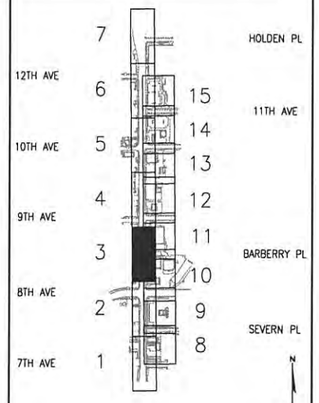
ID	STATION	OFFSET	ELEVATION BACK EDGE OF WALK	ELEVATION TOP OF CURB
A1	226+36.00	14.50' LT	5244.65	5244.81
A2	226+38.50	12.50' LT	5244.35	5245.30
A3	226+51.50	12.50' LT	5244.57	5245.38
A4	226+51.48	14.00' LT	MATCH EXISTING	5245.46
A5	226+56.47	14.00' LT	MATCH EXISTING	5245.46
A6	226+56.50	12.50' LT	5244.61	5245.38
A7	226+73.54	12.50' LT	5244.68	5245.30
A8	226+73.54	15.46' LT	5244.90	5245.30



FEDERAL BLVD GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
27+85.00	-0.083	28+31.00	0
28+31.00	0	28+77.00	-0.083

816 FEDERAL | 830 FEDERAL | 888 FEDERAL



NOTES

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- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
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- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
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- CONCRETE SIDEWALK (8 INCH) (SPECIAL)

B4M = BEGIN 4 INCH MOUNTABLE CURB (OUTFALL)

E4M = END 4 INCH MOUNTABLE CURB (OUTFALL)

N

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

COLORADO LICENSED
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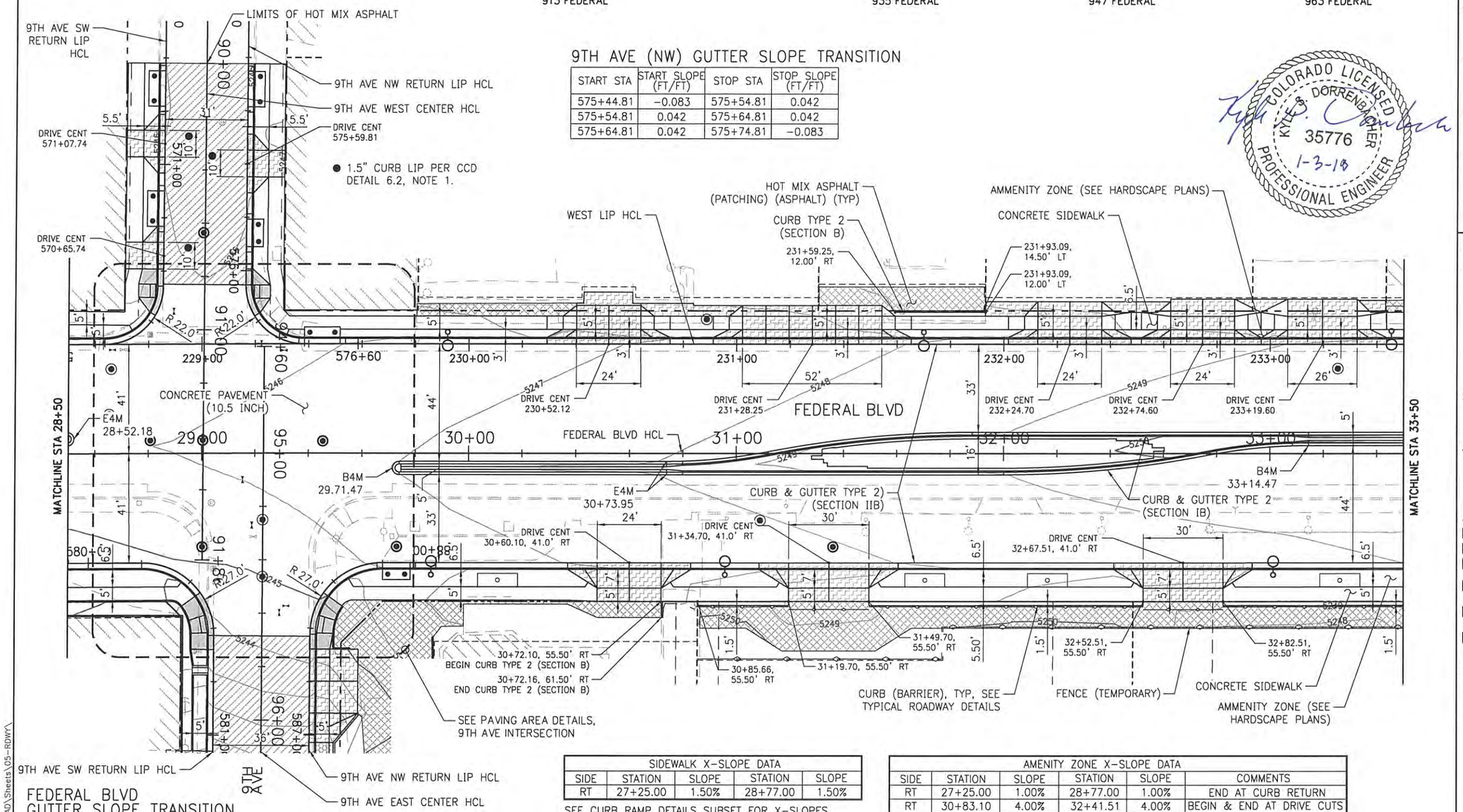
Last Modification Date:	Init.:	Sheet Revisions			City and County of Denver Department of Public Works Engineering Division 201 W. Colfax, Dept 506 Denver, CO. 80202	As Constructed	FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE PAVING PLAN FEDERAL BLVD – 23+50 TO 28+50	Project No./Code
Drawing File Name: 1102188-06-Paving Plan.dgn		Date:	Comments	Init.		No Revisions:		NHPP 2873-172 SA 19957
Horizontal Scale: 1:40	Vert. Scale: As Noted				Colorado Department of Transportation 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 Region 1 JV	Revised:	Designer: KSD Detailer: SRF Sheet Subset: PAVEPLAN	2011-PROJMSTR-0000364
						Void:	Structure Numbers	Sheet Number 102
							Subset Sheets: 3 of 15	

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HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL	STATION	28+75.00	28+94.00	29+00.00	29+25.00	29+37.00	29+50.00	29+75.00	29+87.00	30+00.00	30+25.00	30+50.00	30+75.00	31+00.00	31+25.00	31+50.00	31+75.00	32+00.00	32+25.00	32+50.00	32+75.00	33+00.00	33+25.00	33+50.00
MEDIAN LIP HCL (WEST SIDE)	STATION							1400+01.06	1400+13.06	1400+26.06	1400+51.06	1400+76.06	1401+01.06	1401+26.13	1401+51.49	1401+76.70	1402+01.76	1402+26.76	1402+51.76	1402+76.76	1403+01.76	1403+26.76	1403+51.76	1403+76.76
	ELEVATION							47.01	47.18	47.33	47.56	47.80	48.04	48.24	48.40	48.57	48.77	48.99	49.18	49.35	49.50	49.63	49.76	49.88
HIGH POINT HCL	STATION	16+40.81	16+59.90	16+65.93	16+91.03	17+03.09	17+16.13	17+41.21	17+53.21	17+66.21	17+91.21	18+16.21	18+41.21	18+66.24	18+91.28	19+16.32	19+41.36	19+66.36	19+91.37	20+15.46	20+41.45	20+66.49	20+91.50	21+16.50
	ELEVATION	45.99	46.09	46.14	46.39	46.51	46.70	47.45	47.62	47.74	47.50	48.22	48.75	48.93	48.10	49.28	49.49	49.70	49.88	49.74	50.21	50.33	50.17	50.30
MEDIAN LIP HCL (EAST SIDE)	STATION							1410+91.24	1410+79.24	1410+66.24	1410+41.24	1410+16.24	1409+91.24	1409+66.24	1409+41.24	1409+16.24	1408+91.24	1408+66.24	1408+41.22	1408+16.11	1407+90.80	1407+65.55	1407+40.54	1407+15.54
	ELEVATION							47.01	47.18	47.33	47.56	47.80	48.04	48.23	48.41	48.59	48.78	48.99	49.17	49.33	49.50	49.64	49.76	49.88

913 FEDERAL 935 FEDERAL 947 FEDERAL 963 FEDERAL



9TH AVE (NW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
575+44.81	−0.083	575+54.81	0.042
575+54.81	0.042	575+64.81	0.042
575+64.81	0.042	575+74.81	−0.083

FEDERAL BLVD GUTTER SLOPE TRANSITION

START STA	SIDE	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
27+85.00	RT	−0.083	28+31.00	0
28+31.00	RT	0	28+77.00	−0.083

SIDEWALK X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
RT	27+25.00	1.50%	28+77.00	1.50%

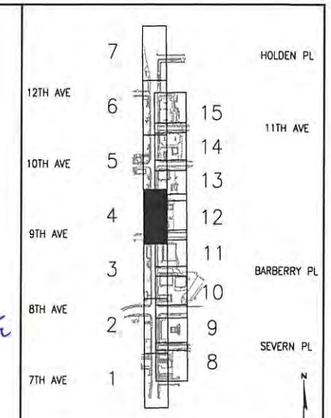
SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

AMENITY ZONE X-SLOPE DATA					
SIDE	STATION	SLOPE	STATION	SLOPE	COMMENTS
RT	27+25.00	1.00%	28+77.00	1.00%	END AT CURB RETURN
RT	30+83.10	4.00%	32+41.51	4.00%	BEGIN & END AT DRIVE CUTS

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

900 FEDERAL 950 FEDERAL 970 FEDERAL

COLORADO LICENSED KYLE S. DORRENBACHER 35776 1-3-18 PROFESSIONAL ENGINEER



KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
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- CONCRETE SIDEWALK (SPECIAL)
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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

Last Modification Date:	Init.:	Sheet Revisions			City and County of Denver, Department of Public Works, Engineering Division, 201 W. Colfax, Dept 506, Denver, CO. 80202
Drawing File Name: 1102188-06-Paving Plan.dgn		Date:	Comments	Init.	Colorado Department of Transportation, Region 1, 2000 South Holly Street, Denver, CO 80222, Phone: 303-757-9511 FAX: 303-757-9907, JV
Horizontal Scale: 1:40	Vert. Scale: As Noted				As Constructed: No Revisions: / Revised: / Void:

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN
FEDERAL BLVD – 28+50 TO 33+50

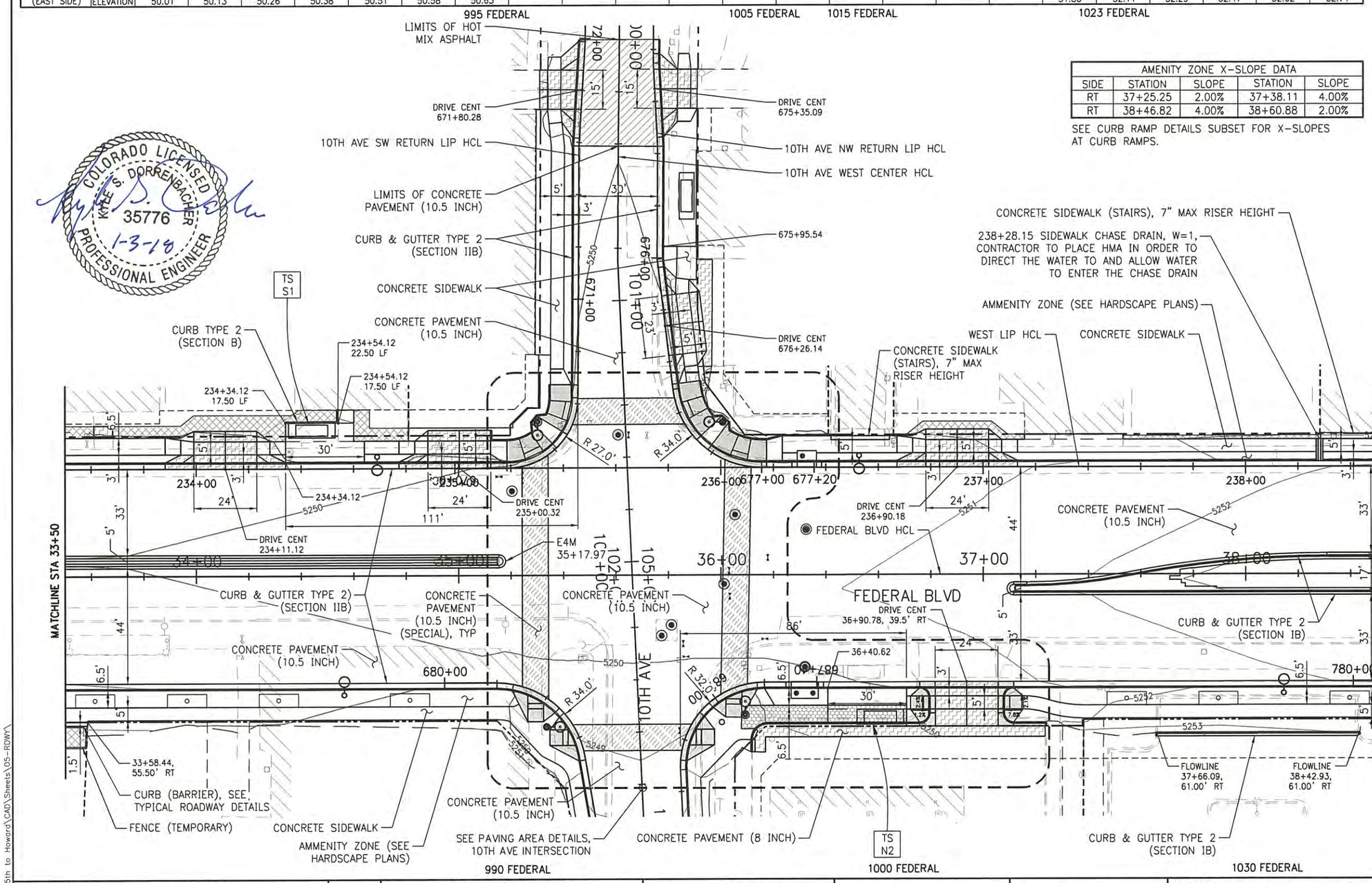
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Sheet Subset:	PAVEPLAN	Subset Sheets:	4 of 15

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2011-PROJMSTR-0000364
Sheet Number 103

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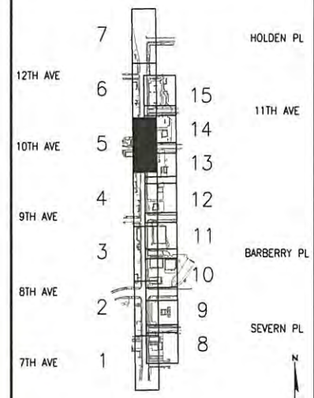
HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL		33+75.00	34+00.00	34+25.00	34+50.00	34+75.00	34+89.00	35+00.00	35+25.00	35+39.00	35+50.00	35+75.00	35+89.00	36+00.00	36+25.00	36+50.00	36+75.00	37+00.00	37+25.00	37+50.00	37+75.00	38+00.00	38+25.00	38+50.00
MEDIAN LIP HCL (WEST SIDE)	STATION	1404+01.76	1404+26.76	1404+51.76	1404+76.76	1405+01.76	1405+15.76	1405+26.76											1500+13.40	1500+38.56	1500+63.92	1500+89.07	1501+14.10	1501+39.11
	ELEVATION	50.01	50.13	50.26	50.38	50.51	50.58	50.59											51.82	52.12	52.27	52.45	52.62	52.71
HIGH POINT HCL	STATION	21+41.50	21+66.50	21+91.50	22+16.50	22+41.50	22+55.50	22+66.50	22+91.55	23+05.63	23+16.70	23+41.86	23+55.94	23+67.01	23+92.12	24+17.12	24+42.12	24+67.12	24+92.12	25+17.16	25+42.20	25+67.24	25+92.26	26+17.27
	ELEVATION	50.42	50.55	50.67	50.80	50.92	50.99	51.01	50.72	50.80	50.86	50.92	50.88	50.85	50.84	51.04	51.28	51.51	52.52	52.82	52.98	53.16	53.33	53.42
MEDIAN LIP HCL (EAST SIDE)	STATION	1406+90.54	1406+65.54	1406+40.54	1406+15.54	1405+90.54	1405+76.54	1405+65.54											1503+98.84	1503+73.84	1503+48.84	1503+23.84	1502+98.84	1502+73.84
	ELEVATION	50.01	50.13	50.26	50.38	50.51	50.58	50.63											51.80	52.11	52.29	52.47	52.62	52.71



AMENITY ZONE X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
RT	37+25.25	2.00%	37+38.11	4.00%
RT	38+46.82	4.00%	38+60.88	2.00%

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.



KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- CONCRETE SIDEWALK (8 INCH) (SPECIAL)
- B4M = BEGIN 4 INCH MOUNTABLE CURB (OUTFALL)
- E4M = END 4 INCH MOUNTABLE CURB (OUTFALL)

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
1-3-18
PROFESSIONAL ENGINEER

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Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed
No Revisions:
Revised:
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
PAVING PLAN
FEDERAL BLVD - 33+50 TO 38+50

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	5 of 15

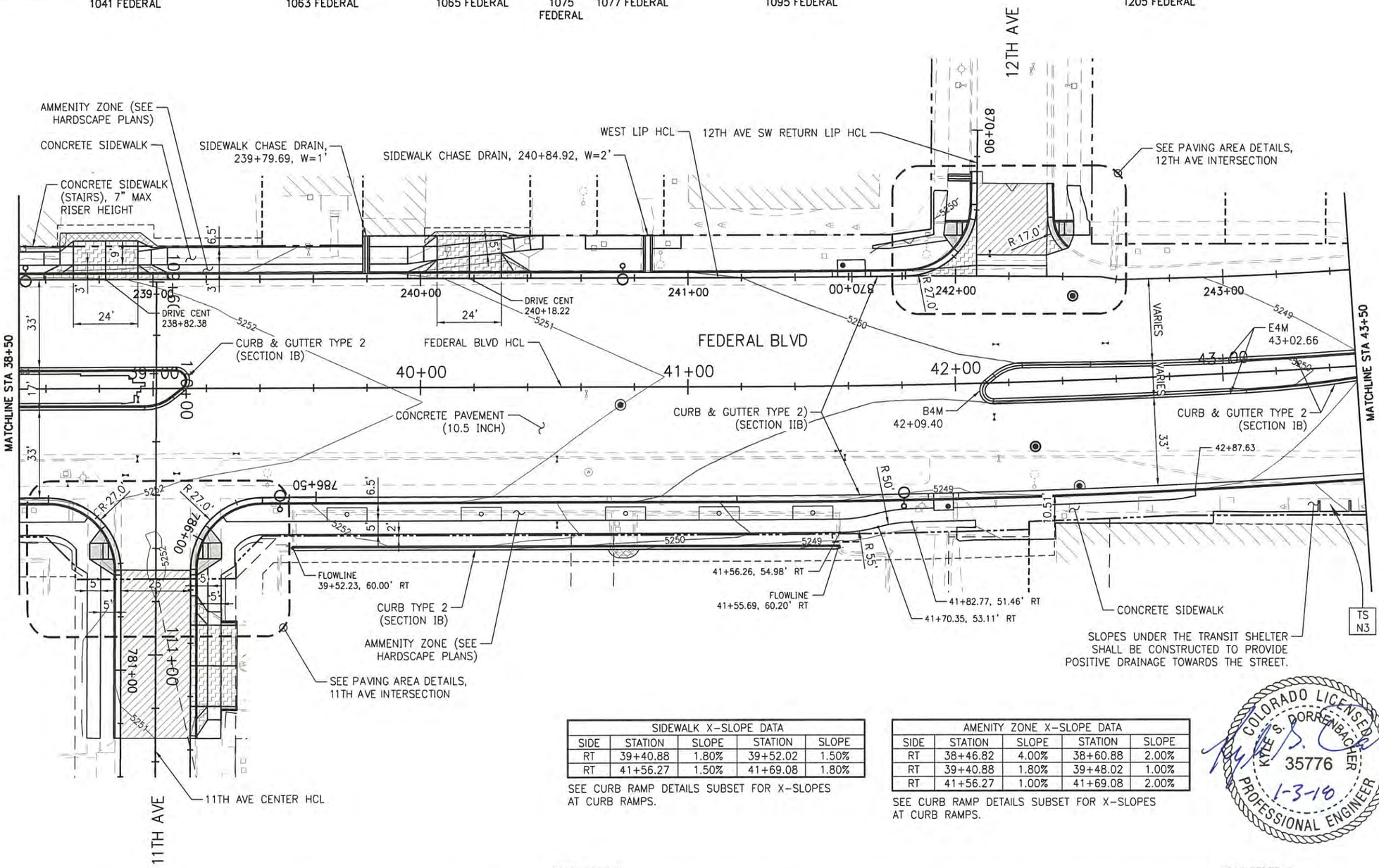
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NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 104

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HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL	STATION	38+75.00	39+00.00	39+25.00	39+50.00	39+75.00	40+00.00	40+25.00	40+50.00	40+75.00	41+00.00	41+25.00	41+50.00	41+75.00	42+00.00	42+25.00	42+50.00	42+75.00	43+00.00	43+25.00	43+50.00
MEDIAN LIP HCL (WEST SIDE)	STATION	1501+64.11	1501+89.11													1605+98.46	1600+24.79	1600+49.76	1600+74.72	1600+99.68	1601+24.64
	ELEVATION	52.71	52.61													49.97	49.94	49.89	49.71	49.41	49.00
HIGH POINT HCL	STATION	26+42.26	26+67.26	26+92.38	27+17.62	27+42.64	27+67.64	27+92.71	28+17.90	28+43.10	28+68.29	28+93.30	29+18.26	29+43.27	29+68.50	29+93.61	30+18.61	30+43.62	30+68.63	30+93.64	31+18.69
	ELEVATION	53.42	53.32	52.61	52.45	52.23	52.01	51.76	51.47	51.19	50.90	50.67	50.47	50.30	50.21	50.67	50.66	50.61	50.44	50.14	49.69
MEDIAN LIP HCL (EAST SIDE)	STATION	1502+48.84	1502+23.87													1605+59.41	1605+34.36	1605+09.30	1604+84.25	1604+59.19	1604+34.08
	ELEVATION	52.71	52.61													49.93	49.96	49.92	49.74	49.44	49.00

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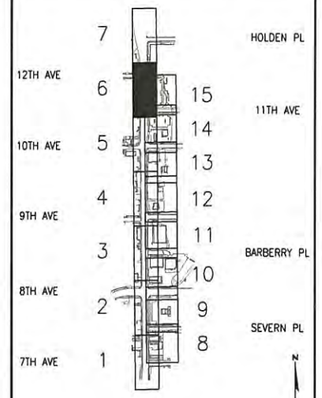
1100 FEDERAL 1200 FEDERAL

SIDEWALK X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
RT	39+40.88	1.80%	39+52.02	1.50%
RT	41+56.27	1.50%	41+69.08	1.80%

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.

AMENITY ZONE X-SLOPE DATA				
SIDE	STATION	SLOPE	STATION	SLOPE
RT	38+46.82	4.00%	38+60.88	2.00%
RT	39+40.88	1.80%	39+48.02	1.00%
RT	41+56.27	1.00%	41+69.08	2.00%

SEE CURB RAMP DETAILS SUBSET FOR X-SLOPES AT CURB RAMPS.



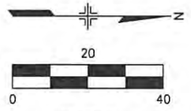
KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- B4M = BEGIN 4 INCH MOUNTABLE CURB (OUTFALL)
- E4M = END 4 INCH MOUNTABLE CURB (OUTFALL)



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2 2018

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Last Modification Date:	Init.:
Drawing File Name: 1102188-06-Paving Plan.dgn	
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Sheet Revisions		
Date:	Comments	Init.

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Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
PAVING PLAN
FEDERAL BLVD - 38+50 TO 43+50

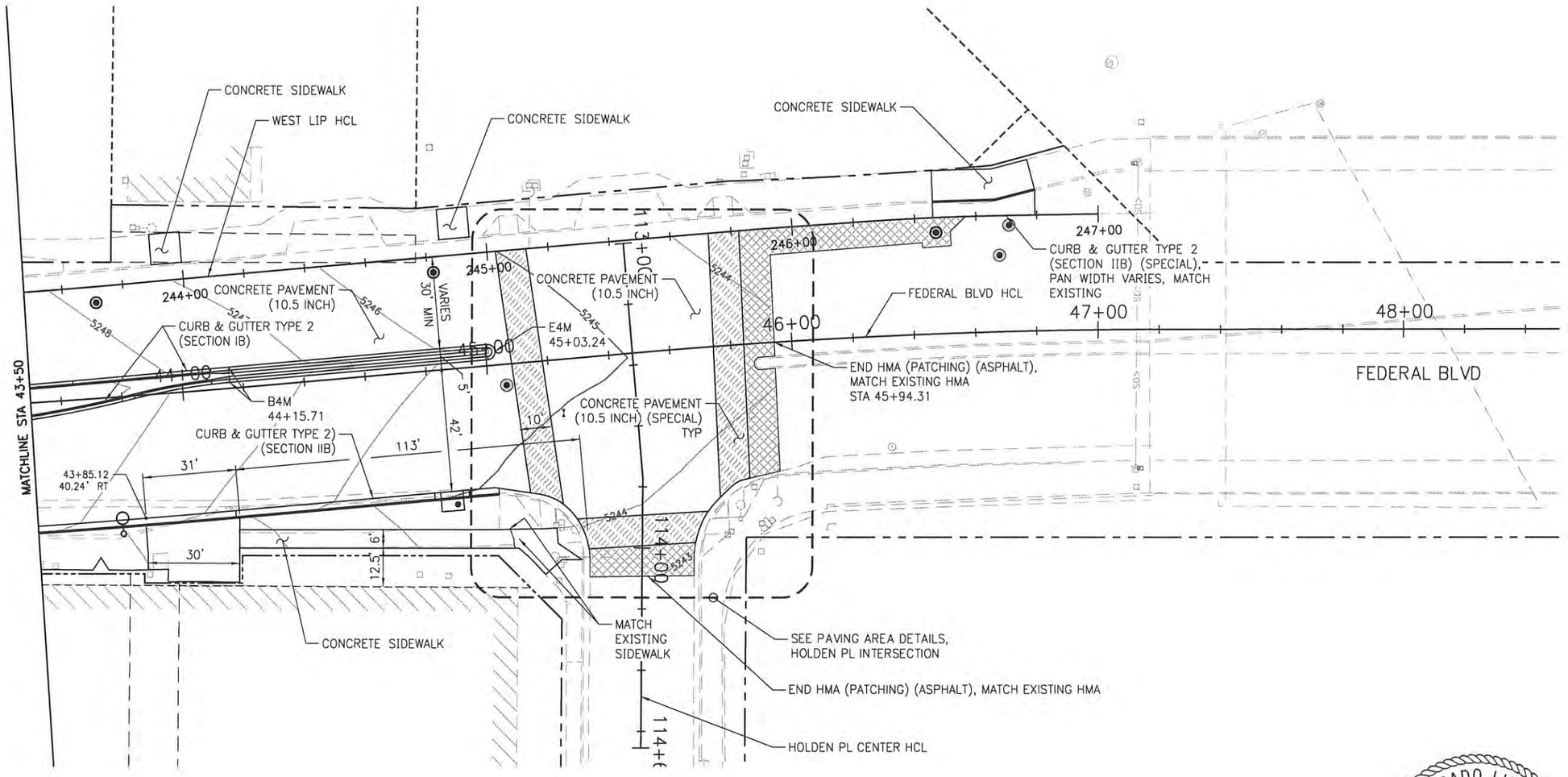
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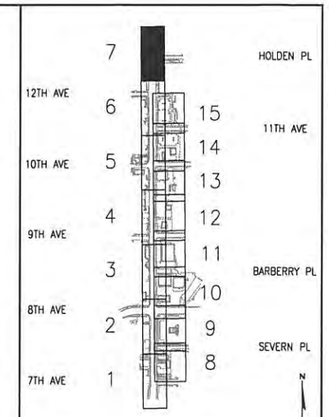
Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 105

HIGH POINT HCL & MEDIAN LIP HCL ELEVATIONS

FEDERAL HCL	STATION	43+75.00	44+00.00	44+25.00	44+50.00	44+75.00	45+00.00
MEDIAN LIP HCL (WEST SIDE)	STATION	1601+49.60	1601+74.55	1601+99.51	1602+24.48	1602+49.48	1602+74.48
	ELEVATION	48.46	47.88	47.37	46.73	46.16	45.74
HIGH POINT HCL	STATION	31+43.72	31+68.74	31+93.72	32+18.71	32+43.71	32+68.71
	ELEVATION	49.16	48.60	47.80	47.15	46.58	46.16
MEDIAN LIP HCL (EAST SIDE)	STATION	1604+08.86	1603+83.59	1603+58.58	1603+33.59	1603+08.59	1602+83.59
	ELEVATION	48.48	47.92	47.39	46.74	46.17	45.74

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NOTES

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LEGEND

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- HMA
- HMA (PATCHING) (ASPHALT)
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COLORADO LICENSED KYLE S. DORRENBACHER 35776 PROFESSIONAL ENGINEER 1-3-18

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CONSULTING ENGINEERS

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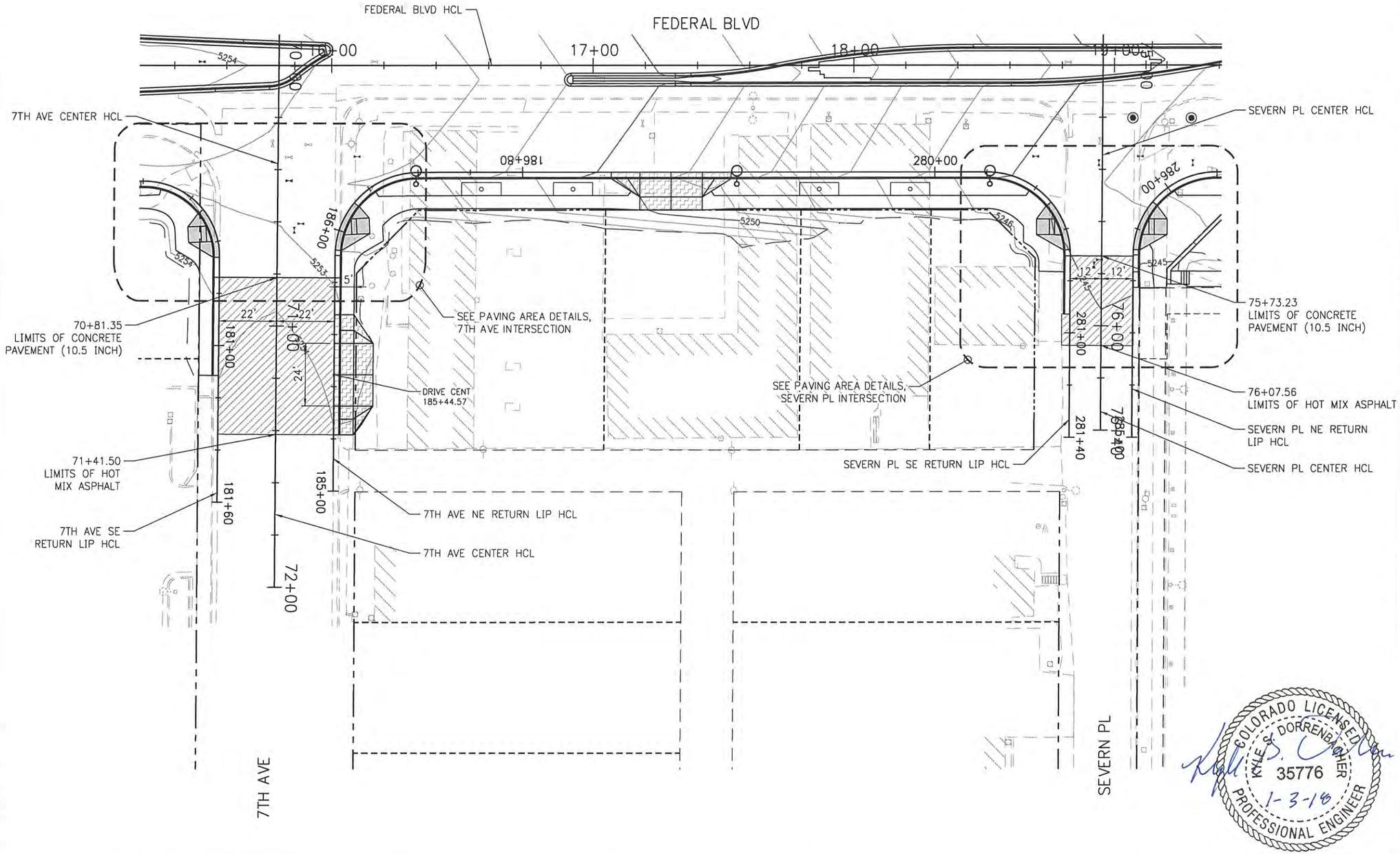
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Horizontal Scale: 1:40 Vert. Scale: As Noted					Colorado Department of Transportation, 2000 South Holly Street, Denver, CO 80222, Phone: 303-757-9511 FAX: 303-757-9907, Region 1, JV
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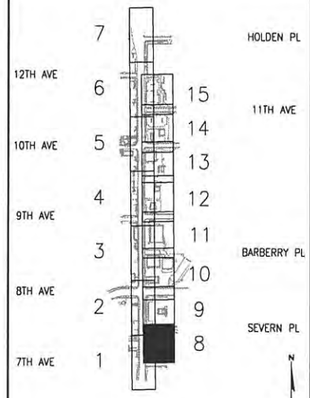
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN
FEDERAL BLVD – 43+50 TO 48+50

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	7 of 15

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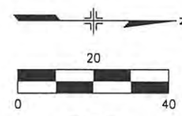
KEY MAP

NOTES

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LEGEND

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- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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Colorado Department of Transportation
Region 1
2000 South Holly Street
Denver, CO 80222
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JV

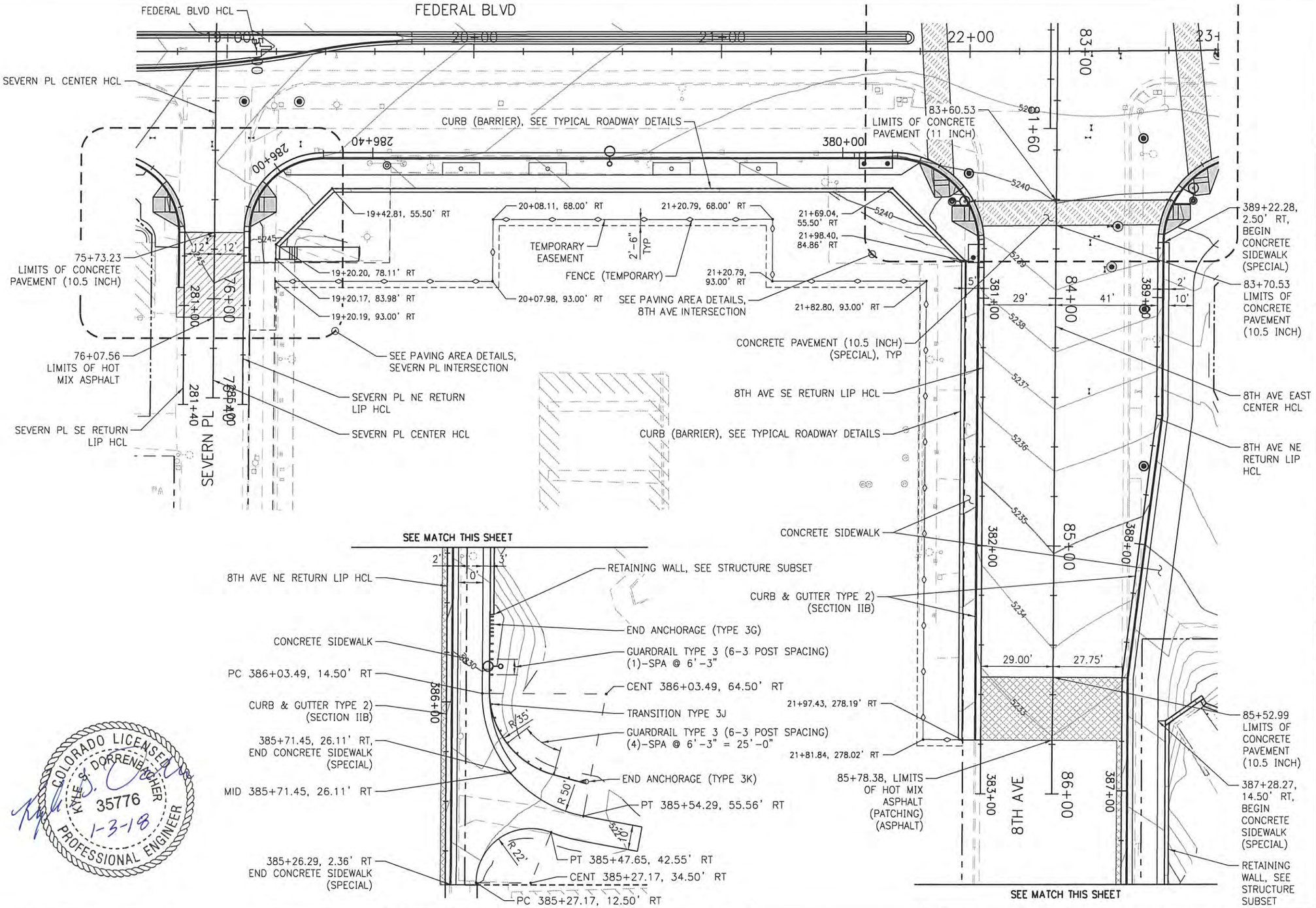
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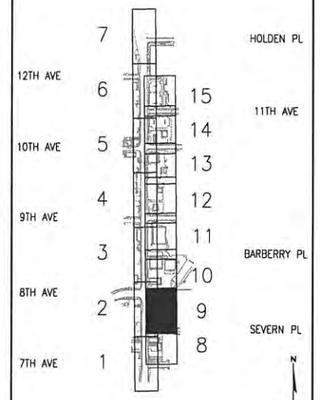
FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
PAVING PLAN
AREA PLAN - 7TH AVE TO SEVERN PL

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	8 of 15

Project No./Code
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SA 19957
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Sheet Number 107

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NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

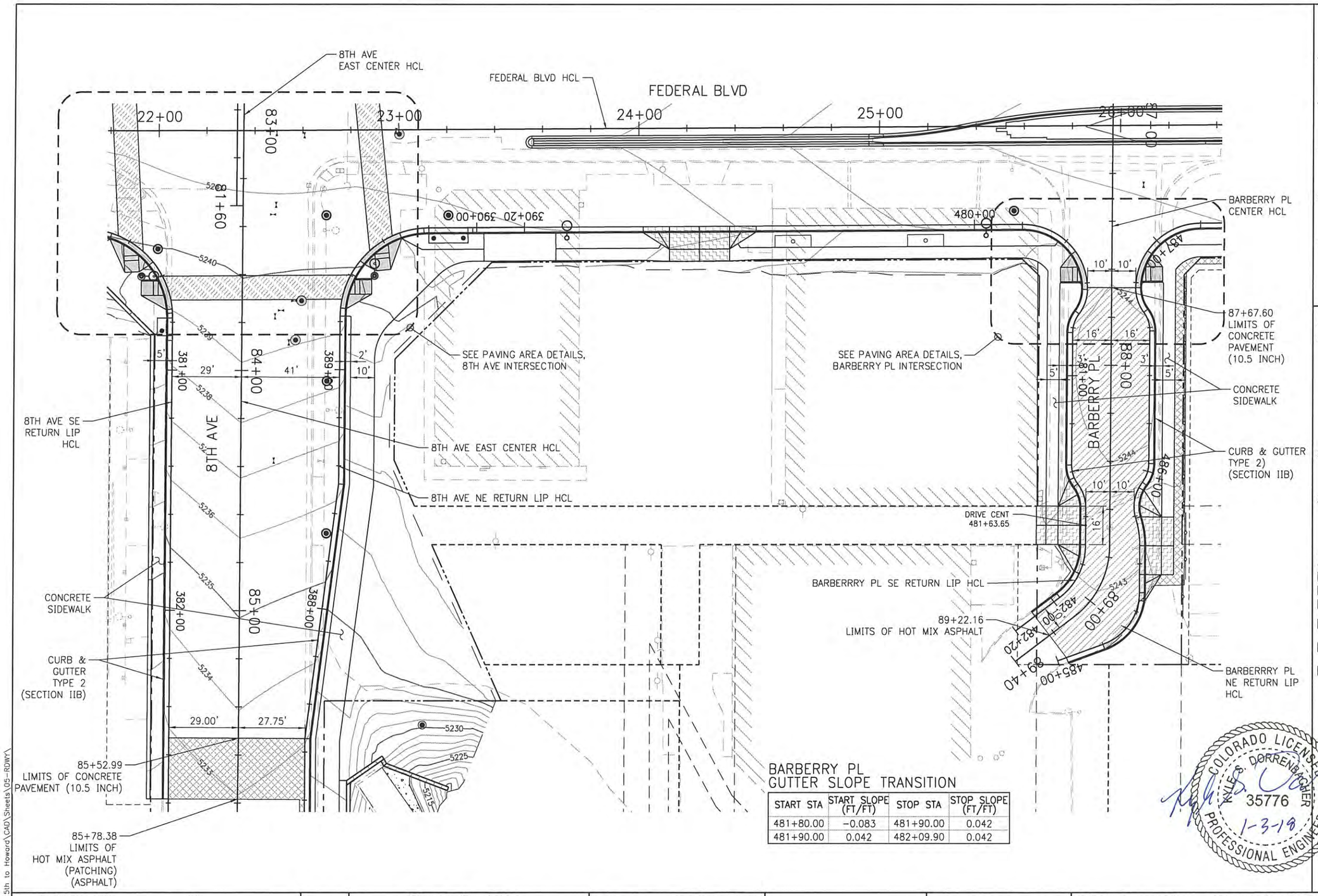
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KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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Horizontal Scale: 1:40 Vert. Scale: As Noted				Revised:	Detailer: SRF	2011-PROJMSTR-0000364
				Void:	Sheet Subset: PAVEPLAN Subset Sheets: 9 of 15	Sheet Number 108

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

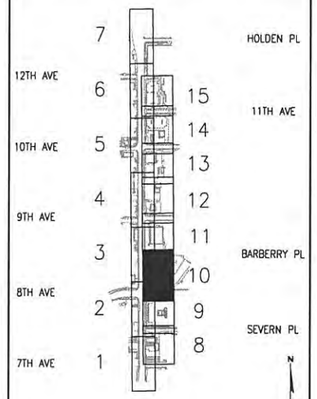
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Region 1
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Denver, CO 80222
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BARBERRY PL GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
481+80.00	−0.083	481+90.00	0.042
481+90.00	0.042	482+09.90	0.042



KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
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- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

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Denver, CO. 80202

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Region 1 JV

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No Revisions:
Revised:
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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN
AREA PLAN – 8TH AVE TO BARBERRY PL

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	10 of 15

Project No./Code
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FEDERAL BLVD HCL

FEDERAL BLVD

26+00 27+00 28+00 29+00 95+00

BARBERRY PL CENTER HCL

480+00 487+40 580+00 91+86 90+

9TH AVE EAST CENTER HCL

87+67.60 LIMITS OF CONCRETE PAVEMENT (10.5 INCH)

CONCRETE SIDEWALK

CURB & GUTTER (TYPE 2) (SECTION IIB)

SEE PAVING AREA DETAILS, BARBERRY PL INTERSECTION

BARBERRY PL 88+00 486+00

DRIVE CENT 485+67.50

BARBERRRY PL SE RETURN LIP HCL

89+22.16 LIMITS OF HOT MIX ASPHALT

89+00 482+20 89+40 485+00

BARBERRRY PL NE RETURN LIP HCL

28+42.51, 60.41' RT BEGIN CURB & GUTTER (TYPE 2) (SECTION B)

SEE PAVING AREA DETAILS, 9TH AVE INTERSECTION

580+67.95, 8.50' RT BEGIN CURB & GUTTER (TYPE 2) (SECTION B)

580+73.99, 7.50' RT END CURB & GUTTER (TYPE 2) (SECTION B)

580+77.49, 7.50' RT BEGIN CURB & GUTTER (TYPE 2) (SECTION B)

CONCRETE SIDEWALK

581+05.99, 13.94' RT HOT MIX ASPHALT (PATCHING) (ASPHALT), ANGLE PT

581+05.86, 7.50' RT END CURB & GUTTER (TYPE 2) (SECTION B)

581+13.90, 13.90' RT END CURB & GUTTER (TYPE 2) (SECTION B)

HOT MIX ASPHALT (PATCHING) (ASPHALT), ANGLE PT

581+16.57, 12.43' RT HOT MIX ASPHALT (PATCHING) (ASPHALT), ANGLE PT

9TH AVE SE RETURN LIP HCL

582+20.87 END CURB & GUTTER TYPE 2 (SECTION IIM), BEGIN CURB & GUTTER (TYPE 2) (SECTION IIB)

582+30.09, 12.40' RT HOT MIX ASPHALT (PATCHING) (ASPHALT)

582+38.31, 18.00' RT HOT MIX ASPHALT (PATCHING) (ASPHALT)

DRIVE CENT 582+51.23

582+64.16, 18.00' RT HOT MIX ASPHALT (PATCHING) (ASPHALT)

582+74.23, 11.13' RT HOT MIX ASPHALT (PATCHING) (ASPHALT)

582+74.23 END CONCRETE PAVEMENT (8 INCH)

95+68.49 LIMITS OF CONCRETE PAVEMENT (10.5 INCH)

580+75.74 SIDEWALK CHASE DRAIN W=2'

581+06.03 END CURB & GUTTER (TYPE 2) (SECTION IIB), BEGIN CURB & GUTTER TYPE 2 (SECTION IIM)

581+05.86, 7.50' RT BEGIN CONCRETE PAVEMENT (8 INCH)

581+13.88, 11.40' RT ANGLE PT. CURB & GUTTER (TYPE 2) (SECTION B)

CONCRETE SIDEWALK

CURB & GUTTER TYPE 2) (SECTION IIB)

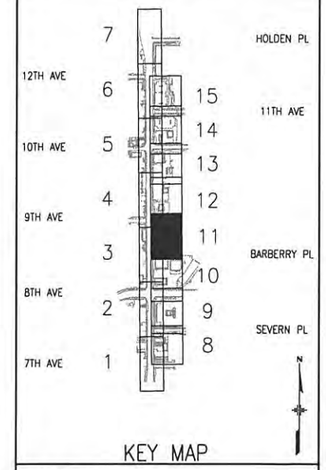
9TH AVE NE RETURN LIP HCL

97+83.49 LIMITS OF HOT MIX ASPHALT

581+00 582+00 96+00 97+00 582+00 583+00

9TH AVE

COLORADO LICENSED KYLE S. DORRENBACHER 35776 PROFESSIONAL ENGINEER 1-3-18



KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- CONCRETE SIDEWALK (8 INCH) (SPECIAL)

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

Last Modification Date:	Init.:	
Drawing File Name: 1102188-06-Paving Plan.dgn		
Horizontal Scale: 1:40	Vert. Scale: As Noted	

Sheet Revisions

Date:	Comments	Init.

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed

No Revisions:

Revised:

Void:

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN
AREA PLAN – BARBERRY PL TO 9TH AVE

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	11 of 15

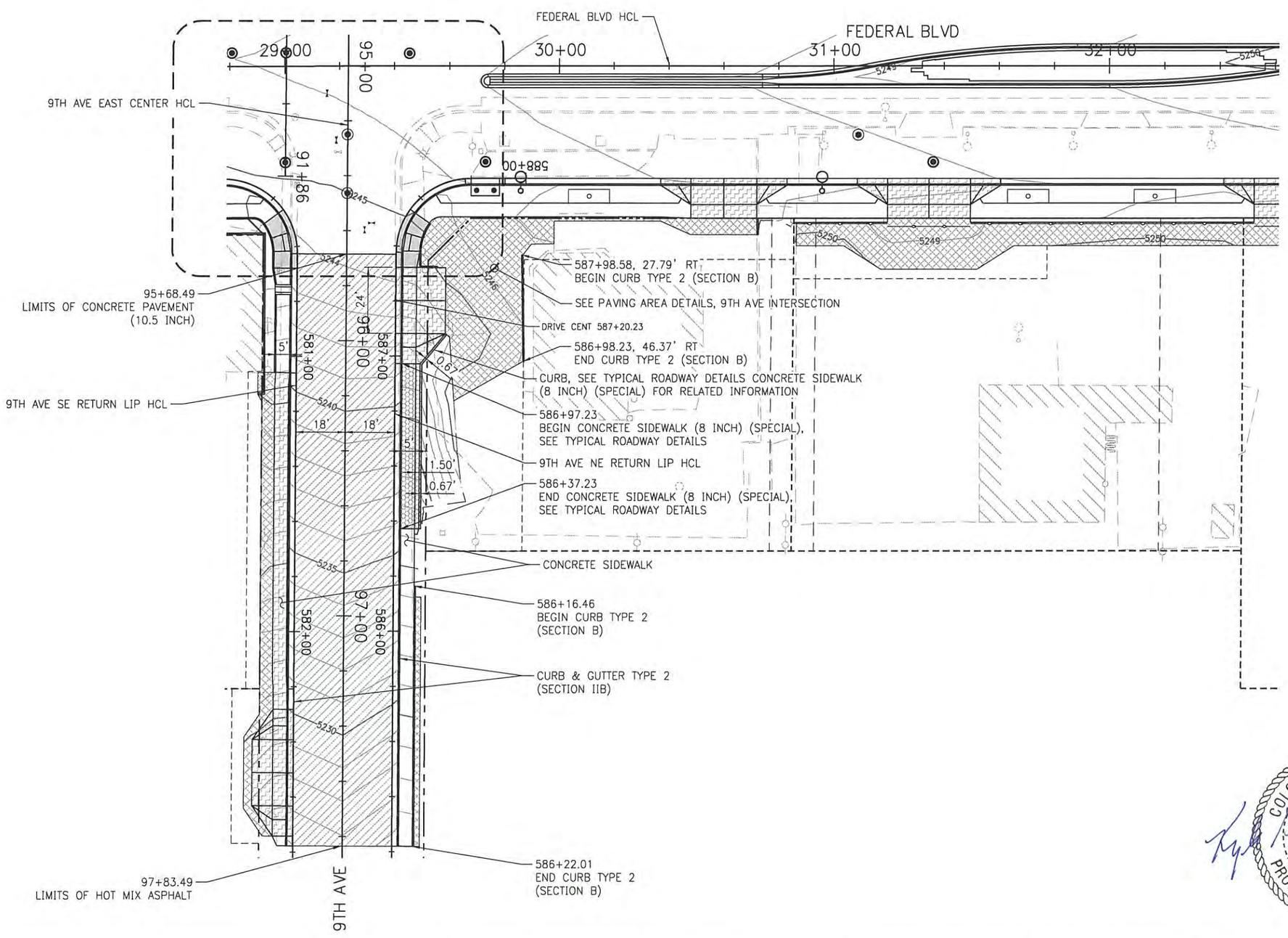
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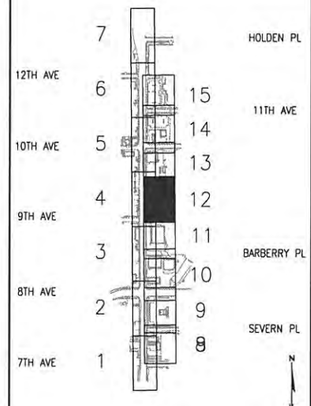
NHPP 2873-172
SA 19957

2011-PROJMSTR-0000364

Sheet Number 110

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KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
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LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- CONCRETE SIDEWALK (8 INCH) (SPECIAL)



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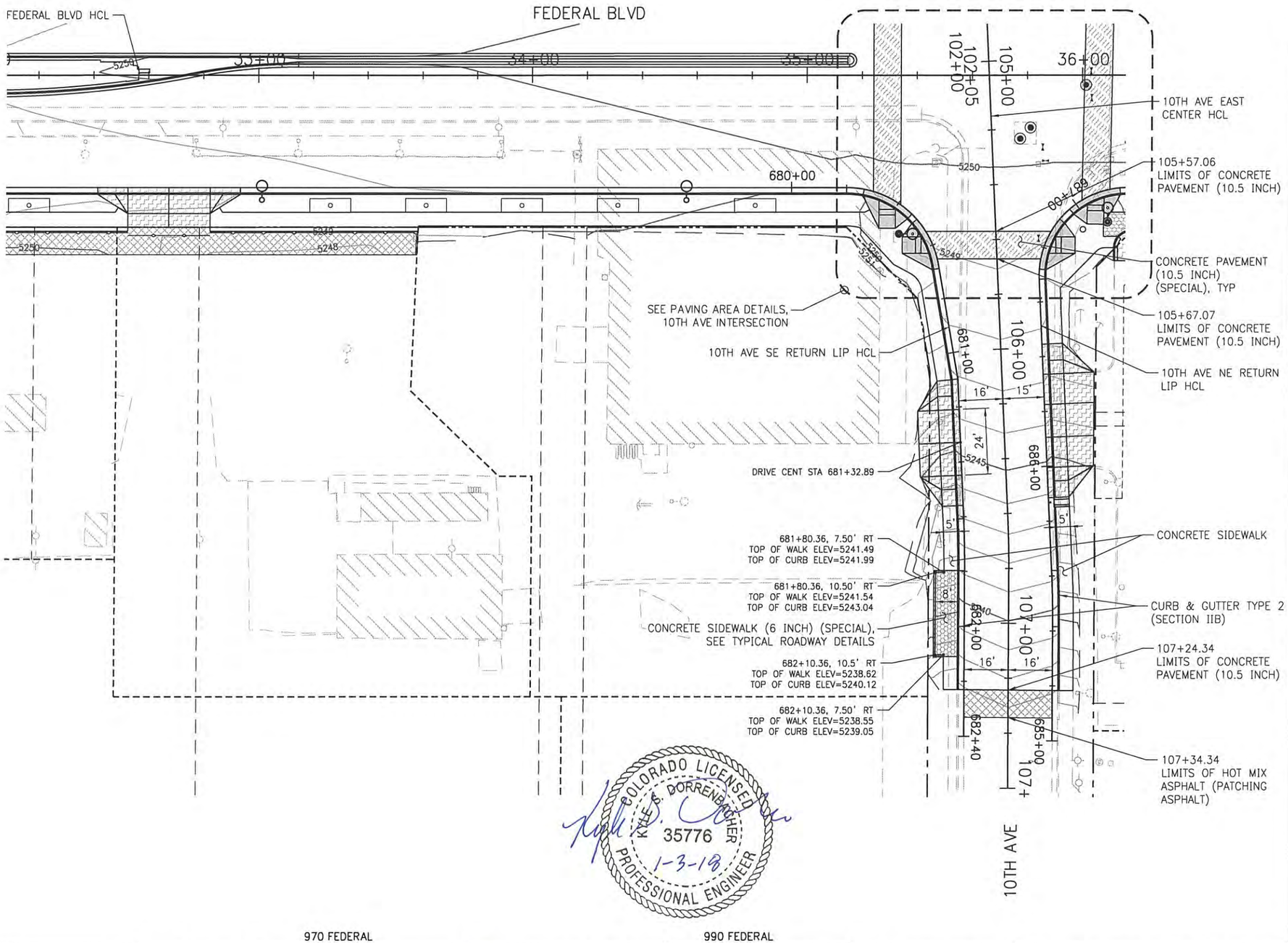
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CONSULTING ENGINEERS

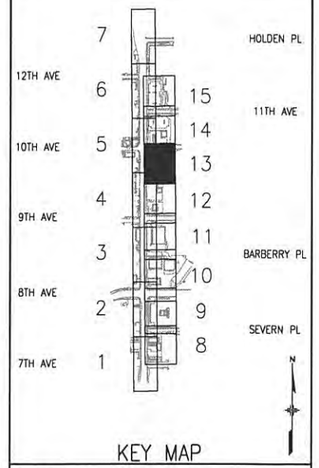
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Last Modification Date: Init.:	0000	Sheet Revisions			City and County of Denver	Colorado Department of Transportation	As Constructed
Drawing File Name: 1102188-06-Paving Plan.dgn		Date:	Comments	Init.	Department of Public Works	2000 South Holly Street, Denver, CO 80222, Phone: 303-757-9511 FAX: 303-757-9907	No Revisions:
Horizontal Scale: 1:40 Vert. Scale: As Noted					Engineering Division	Region 1 JV	Revised:
					201 W. Colfax, Dept 506		Void:
					Denver, CO. 80202		

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE		Project No./Code	
PAVING PLAN		NHPP 2873-172	
AREA PLAN – 9TH AVE TO MID-BLOCK		SA 19957	
Designer: KSD	Structure Numbers	2011-PROJMSTR-0000364	
Detailer: SRF		Sheet Number	111
Sheet Subset: PAVEPLAN	Subset Sheets: 12 of 15		

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KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
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LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- CONCRETE SIDEWALK (8 INCH) (SPECIAL)



TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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Last Modification Date:	Init.:
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Horizontal Scale: 1:40	Vert. Scale: As Noted

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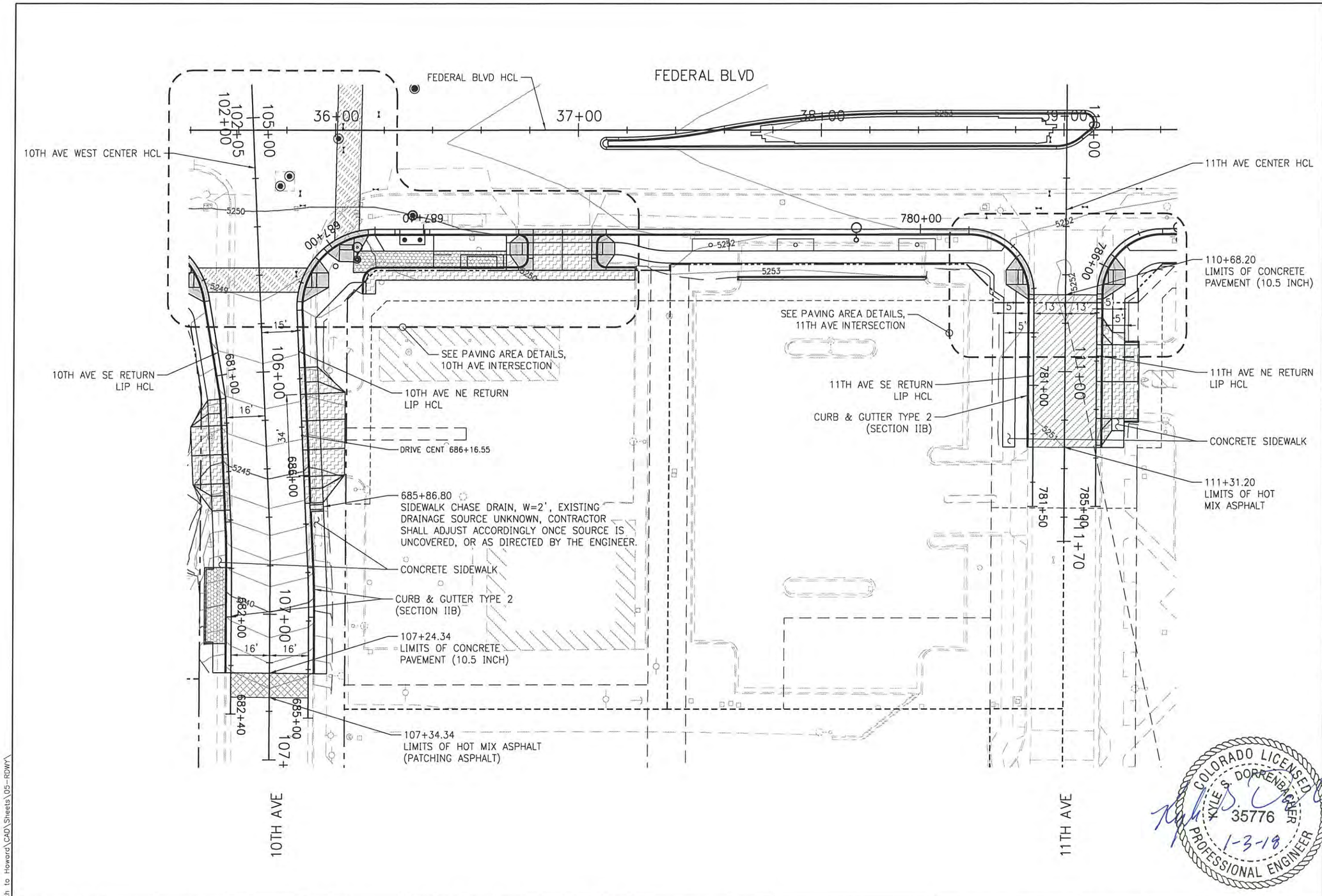
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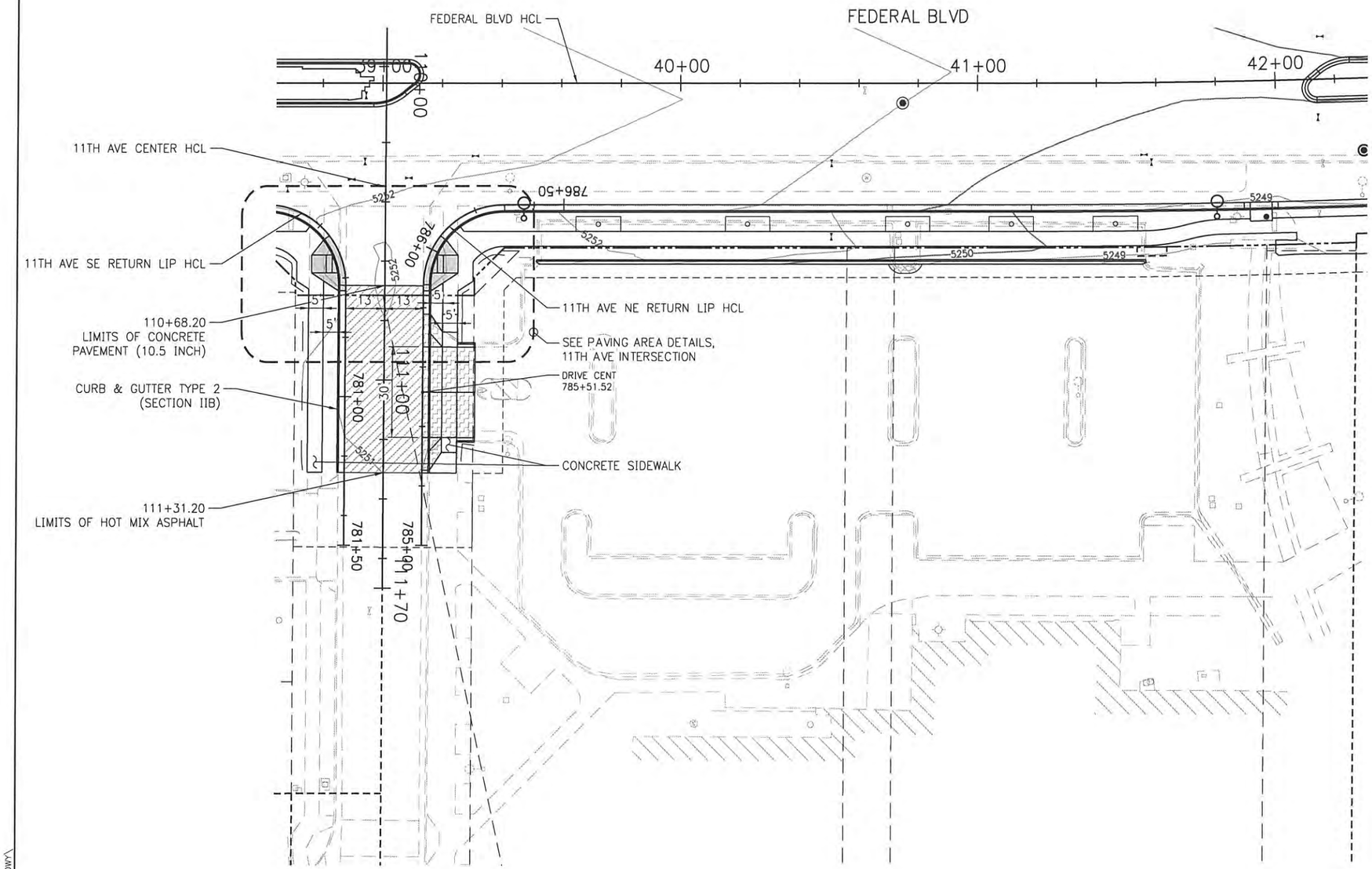
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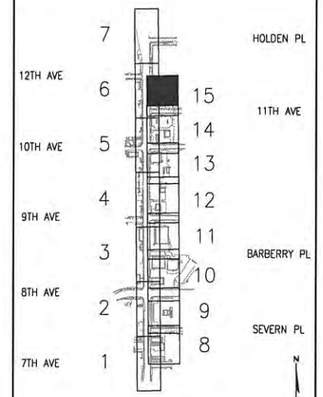
FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
PAVING PLAN
AREA PLAN - MID-BLOCK TO 10 AVE

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLAN	Subset Sheets:	13 of 15

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 112


FEDERAL BLVD
FEDERAL BLVD HCL
10TH AVE WEST CENTER HCL
11TH AVE CENTER HCL
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KEY MAP

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2 2018

Last Modification Date: Init.:		Sheet Revisions			City and County of Denver	As Constructed	FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE PAVING PLAN AREA PLAN – 11TH AVE TO 12TH AVE	Project No./Code
Drawing File Name: 1102188-06-Paving Plan.dgn		Date:	Comments	Init.	Department of Public Works	No Revisions:		NHPP 2873-172 SA 19957
Horizontal Scale: 1:40	Vert. Scale: As Noted				Engineering Division	Revised:	Designer: KSD Structure Numbers	2011-PROJMSTR-0000364
					201 W. Colfax, Dept 506	Void:	Detailer: SRF	Sheet Number 114
					Denver, CO. 80202		Sheet Subset: PAVEPLAN Subset Sheets: 15 of 15	

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

amy.harr
11/22/2017
11:09:06 AM
P:\1102188D - Federal 5th to Howard\CAD\Sheets\05-RDWY\

7TH AVE (7)

POINT ID	STATION	OFFSET (FT)
7A	180+52.57	10.07' RT
7B	180+56.86	0.00' RT
7C	180+31.34	18.50' RT
7D	180+31.34	10.50' RT
7E	180+45.42	13.39' RT
7F	180+73.58	15.50' RT
7G	180+66.68	11.45' RT

POINT ID	STATION	OFFSET (FT)
7M	186+07.69	9.94' RT
7N	186+01.32	0.00' RT
7O	186+12.39	14.00' RT
7P	186+03.01	17.29' RT
7Q	185+84.85	15.50' RT
7R	185+92.32	11.18' RT

7TH AVE (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
180+46.41	−0.083	180+52.62	−0.045
180+52.62	−0.045	180+59.59	−0.045
180+59.59	−0.045	180+66.13	−0.083

7TH AVE (NE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
185+92.37	−0.083	185+98.77	−0.045
185+98.77	−0.045	186+06.15	−0.045
186+06.15	−0.045	186+12.23	−0.083

SEVERN PL (S)

POINT ID	STATION	OFFSET (FT)
S1	280+53.50	10.02' RT
S2	280+59.04	0.00' RT
S4	280+48.61	14.00' RT
S5	280+59.11	17.07' RT
S6	280+73.33	19.97' RT
S7	280+62.44	15.53' RT
S8	280+73.31	11.97' RT

POINT ID	STATION	OFFSET (FT)
S21	285+86.50	10.02' RT
S22	285+80.96	0.00' RT

SEVERN PL (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
280+30.00	−0.083	280+46.00	0.042
280+46.00	0.042	280+54.73	0.042
280+54.73	0.042	280+61.63	0.030
280+61.63	0.030	280+68.03	0.042
280+68.03	0.042	280+92.77	0.042

SEVERN PL (NE) GUTTER SLOPE TRANSITION

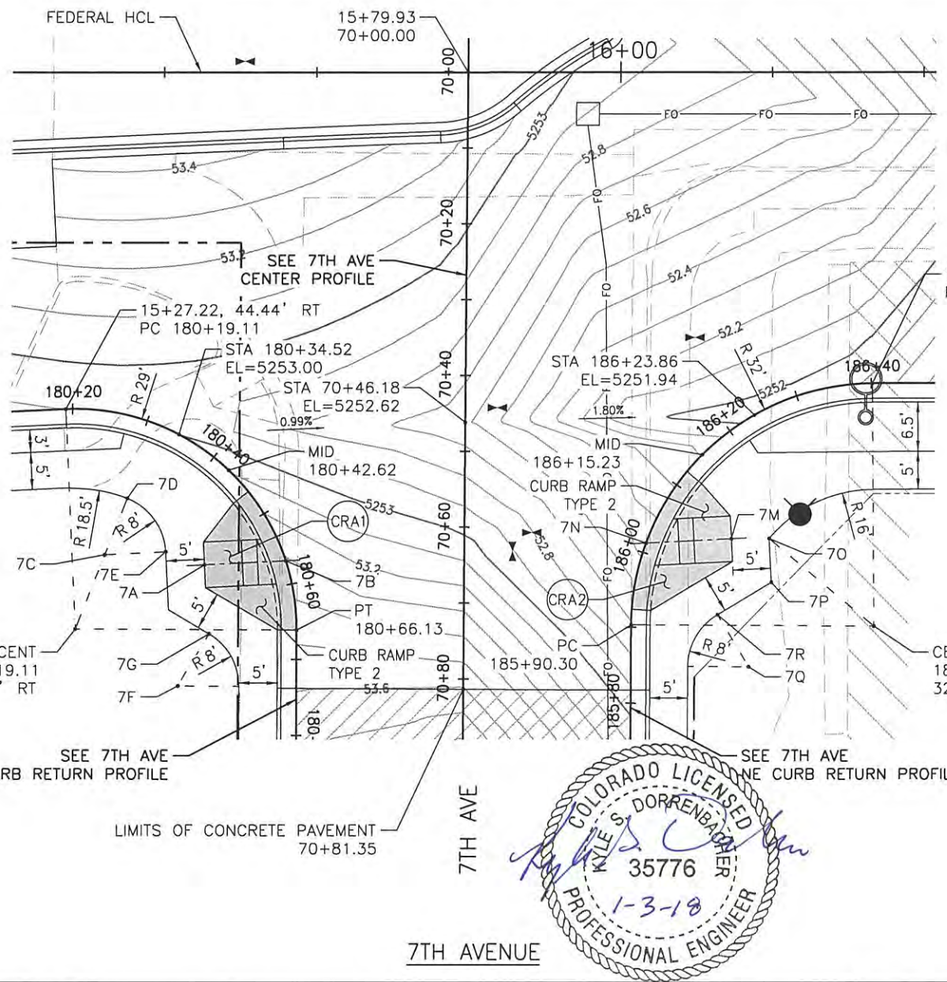
START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
285+71.97	−0.083	285+78.37	−0.050
285+78.37	−0.050	285+85.27	−0.045
285+85.27	−0.045	285+91.96	−0.083

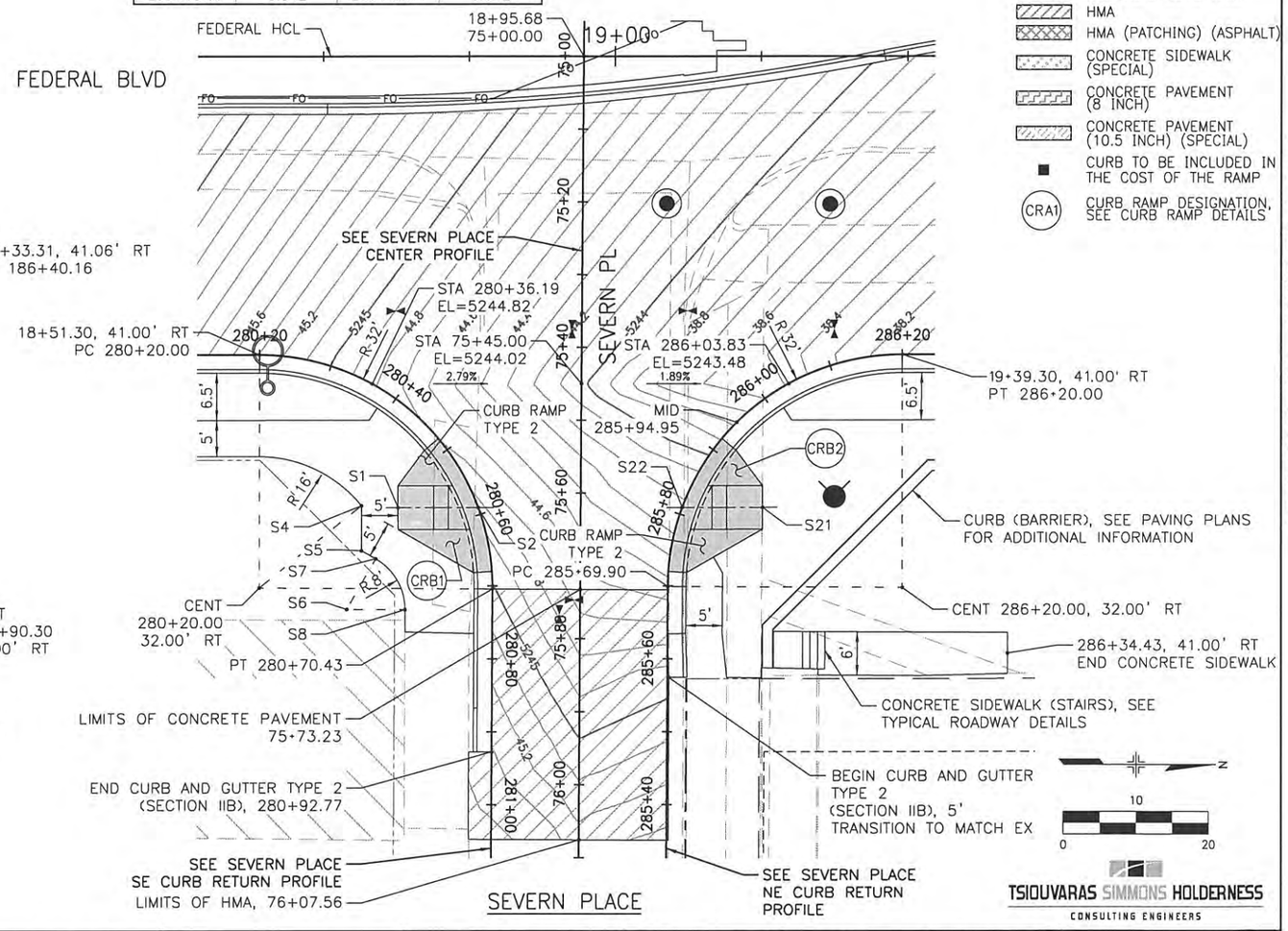
NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- (CRA1) CURB RAMP DESIGNATION, SEE CURB RAMP DETAILS





COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-08-Paving Plan Areas.dgn			
Horizontal Scale: 1:20	Vert. Scale: As Noted		

Sheet Revisions

Date:	Comments	Init.

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

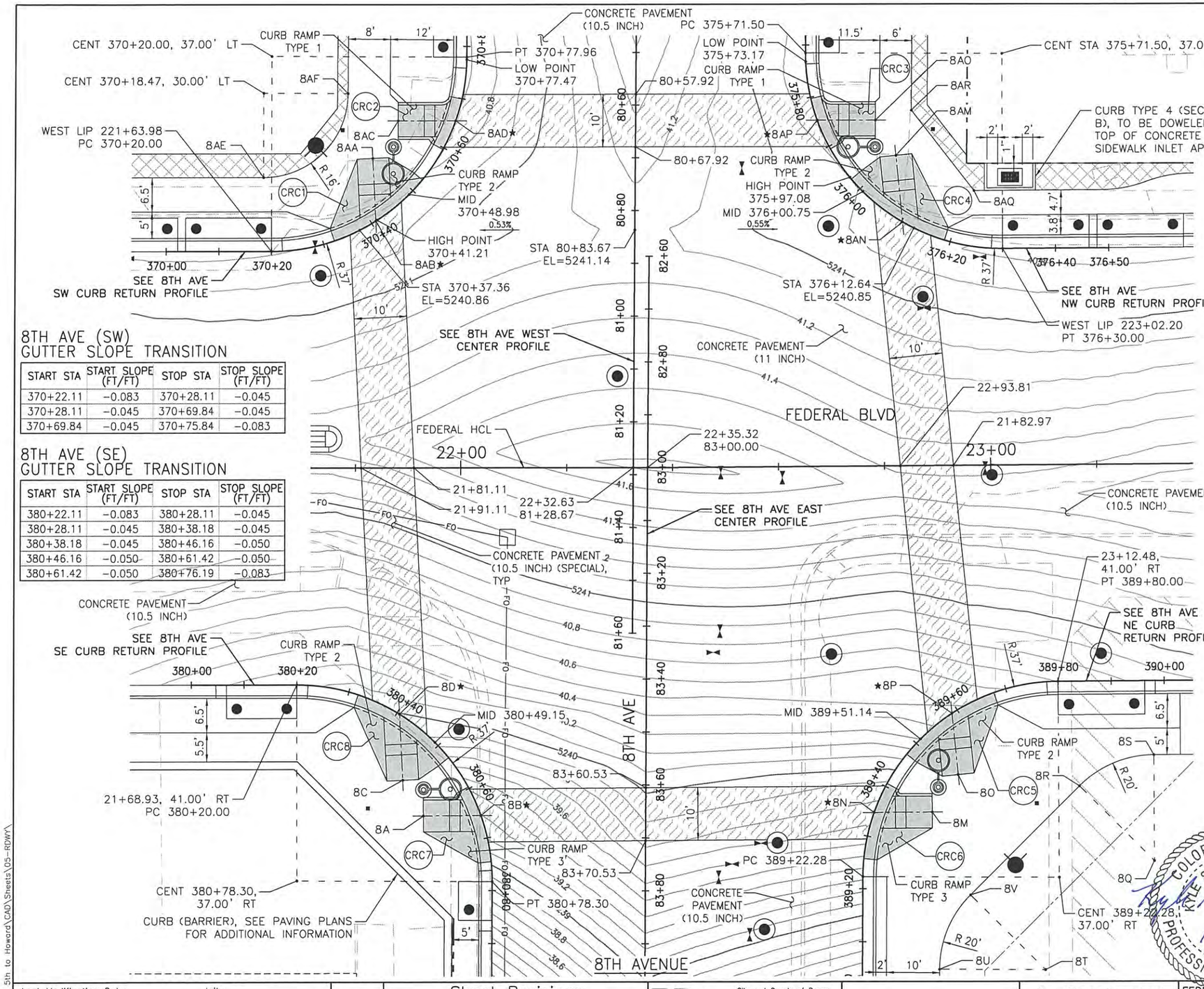
Colorado Department of Transportation
Region 1
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
JV

As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN AREA DETAILS
7TH AVENUE & SEVERN PLACE

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLANAREA	Subset Sheets:	1 of 6

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 115



8TH AVE (SW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
370+22.11	-0.083	370+28.11	-0.045
370+28.11	-0.045	370+69.84	-0.045
370+69.84	-0.045	370+75.84	-0.083

8TH AVE (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
380+22.11	-0.083	380+28.11	-0.045
380+28.11	-0.045	380+38.18	-0.045
380+38.18	-0.045	380+46.16	-0.050
380+46.16	-0.050	380+61.42	-0.050
380+61.42	-0.050	380+76.19	-0.083

8TH AVE (8)

POINT ID	STATION	OFFSET (FT)
8AA	370+48.90	9.70' LT
8AB	370+40.91	0.00' LT
8AC	370+60.66	10.05' LT
8AD	370+65.63	0.00' LT
8AE	370+18.47	14.00' LT
8AF	370+61.30	20.90' LT

POINT ID	STATION	OFFSET (FT)
8A	380+60.70	10.06' RT
8B	380+65.60	0.00' RT
8C	380+50.14	9.35' RT
8D	380+40.53	0.00' RT

POINT ID	STATION	OFFSET (FT)
8AM	376+00.14	9.24' LT
8AN	376+10.22	0.00' LT
8AO	375+89.68	10.04' LT
8AP	375+84.53	0.00' LT
8AQ	376+22.50	10.46' LT
8AR	375+92.46	16.85' LT

POINT ID	STATION	OFFSET (FT)
8M	389+39.72	10.05' RT
8N	389+34.63	0.00' RT
8O	389+51.53	9.81' RT
8P	389+58.84	0.00' RT
8Q	389+97.96	34.00' RT
8R	389+83.90	19.78' RT
8S	389+97.96	14.00' RT
8T	389+04.82	34.50' RT
8U	389+04.82	14.50' RT
8V	289+18.89	20.28' RT

8TH AVE (NW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
375+73.61	-0.083	375+79.61	-0.045
375+79.61	-0.045	376+21.89	-0.045
376+21.89	-0.045	376+27.89	-0.083

8TH AVE (NE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
389+25.71	-0.083	389+31.71	-0.045
389+31.71	-0.045	389+38.86	-0.050
389+38.86	-0.050	389+47.29	-0.045
389+47.29	-0.045	389+71.89	-0.045
389+71.89	-0.045	389+77.89	-0.083

NOTES

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2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- ■ CURB TO BE INCLUDED IN THE COST OF THE RAMP
- (CRA1) CURB RAMP DESIGNATION, SEE CURB RAMP DETAILS
- ★ CENTER OF X-WALK TO ALIGN WITH CENTER OF RAMP

AD SUBMITTAL - JANUARY 2, 2018

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

Last Modification Date:	Init.:	Sheet Revisions			City and County of Denver	As Constructed	FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE PAVING PLAN AREA DETAILS 8TH AVENUE	Project No./Code
Drawing File Name: 1102188-08-Paving Plan Areas.dgn		Date:	Comments	Init.	Department of Public Works	No Revisions:		NHPP 2873-172 SA 19957
Horizontal Scale: 1:20	Vert. Scale: As Noted				Engineering Division	Revised:	Designer: KSD / Detailer: SRF / Sheet Subset: PAVEPLANAREA / Structure Numbers / Subset Sheets: 2 of 6	2011-PROJMSTR-0000364
					201 W. Colfax, Dept 506	Void:		Sheet Number 116
					Denver, CO. 80202	Colorado Department of Transportation Region 1, 2000 South Holly Street, Denver, CO 80222, Phone: 303-757-9511 FAX: 303-757-9907 JV		

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BARBERRY PL (B)

POINT ID	STATION	OFFSET (FT)
B1	480+52.63	10.08' RT
B2	480+56.36	0.00' RT
B3	480+20.00	14.00' RT
B4	480+45.68	14.00' RT
B5	480+73.64	17.00' RT
B6	480+62.71	0.00' RT
B7	480+73.64	0.00' RT
B8	480+82.01	13.00' LT

POINT ID	STATION	OFFSET (FT)
B21	486+87.37	10.08' RT
B22	486+83.64	0.00' RT
B23	486+94.91	14.00' RT
B24	486+66.94	17.00' RT
B25	486+77.88	0.00' RT
B26	486+66.94	0.00' RT
B27	486+58.58	13.00' LT

BARBERRY (NE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
486+37.71	−0.083	486+58.58	−0.045
486+58.58	−0.045	486+87.53	−0.045
486+87.53	−0.045	486+98.66	0.042
486+98.66	0.042	487+05.12	0.00
487+05.12	0.00	487+15.12	−0.083

BARBERRY (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
480+30.87	−0.083	480+45.78	−0.045
480+45.87	−0.045	480+82.01	−0.045
480+82.01	−0.045	480+94.08	−0.083

9TH AVE (9)

POINT ID	STATION	OFFSET (FT)
9AA	570+51.29	9.19' LT
9AB	570+52.57	0.00' LT

POINT ID	STATION	OFFSET (FT)
9AM	576+09.55	8.90' LT
9AN	576+07.84	0.00' LT

POINT ID	STATION	OFFSET (FT)
9A	580+57.94	8.50' RT
9B	580+57.94	0.00' RT
9C	580+45.29	13.50' RT
9D	580+45.29	8.50' RT
9E	580+38.81	10.05' RT
9F	580+67.95	8.50' RT

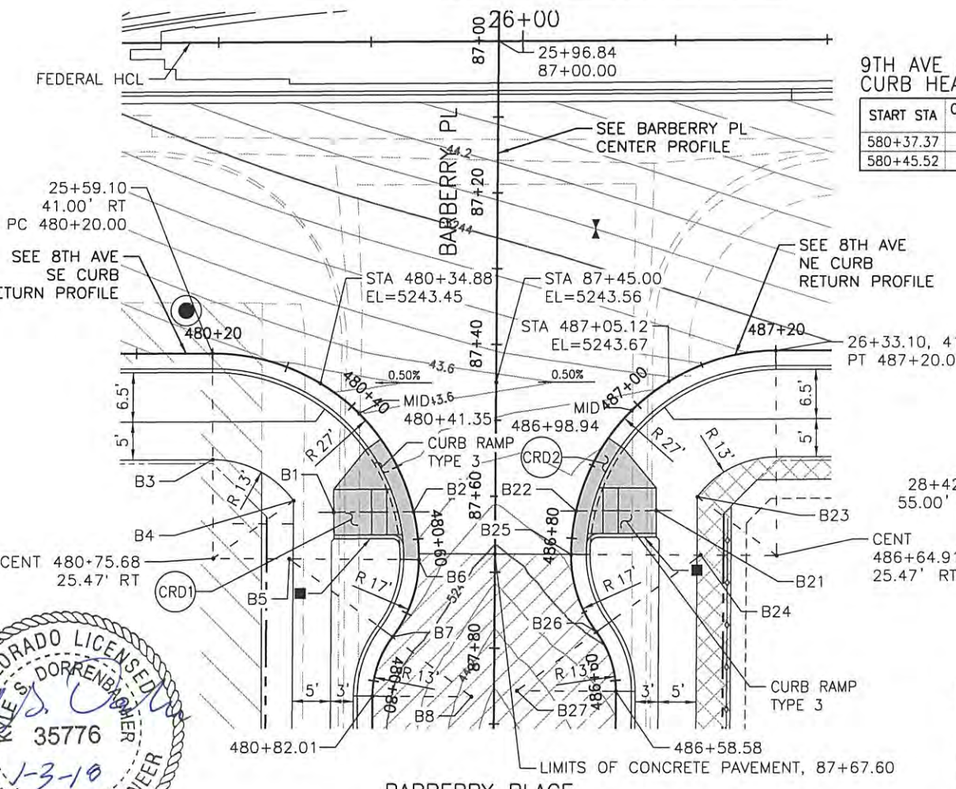
POINT ID	STATION	OFFSET (FT)
9M	587+41.93	8.50' RT
9N	587+41.93	0.00' RT
9O	587+54.71	13.50' RT
9P	587+54.71	8.50' RT
9Q	587+61.19	10.05' RT
9R	587+32.23	8.50' RT
9S	587+32.23	15.00' RT

9TH AVE (SW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
570+42.87	−0.083	570+49.60	−0.045
570+49.60	−0.045	570+55.06	−0.045
570+55.06	−0.045	570+60.74	0.042
570+60.74	0.042	570+70.74	0.042
570+70.74	0.042	570+74.74	−0.083

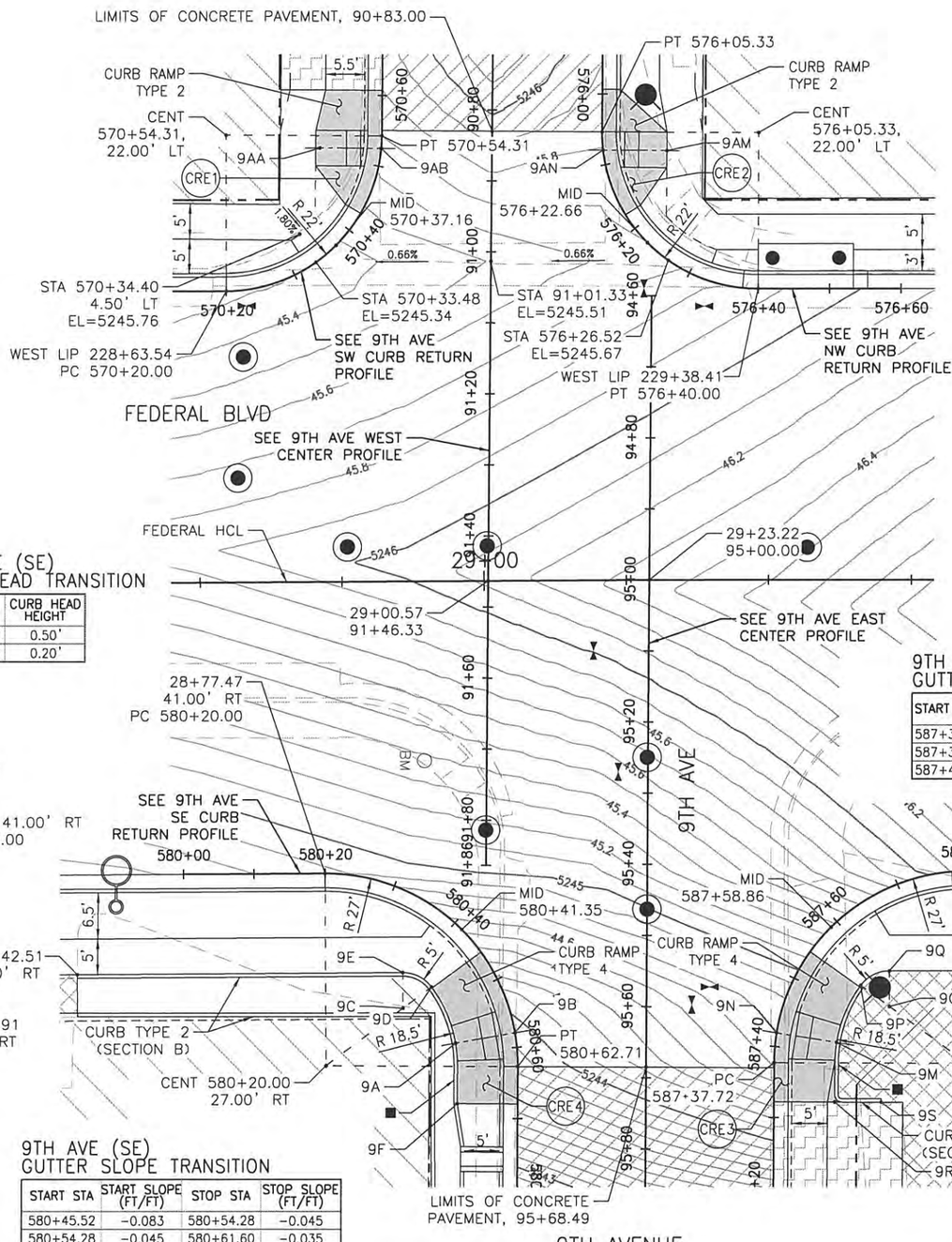
9TH AVE (NW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
575+92.98	−0.083	576+05.33	−0.030
576+05.33	−0.030	576+10.88	0.000
576+10.88	0.000	576+26.52	0.042
576+26.52	0.042	576+37.80	−0.083



9TH AVE (SE) CURB HEAD TRANSITION

START STA	CURB HEAD HEIGHT
580+37.37	0.50'
580+45.52	0.20'



9TH AVE (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
580+45.52	−0.083	580+54.28	−0.045
580+54.28	−0.045	580+61.60	−0.035
580+61.60	−0.035	580+67.95	−0.083

9TH AVE (NE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
587+32.23	−0.083	587+38.27	−0.025
587+38.27	−0.025	587+45.59	−0.045
587+45.59	−0.045	587+54.34	−0.083

9TH AVE (NE) CURB HEAD TRANSITION

START STA	CURB HEAD HEIGHT
580+54.34	0.20'
580+65.33	0.50'

NOTES

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LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- (CRA1) CURB RAMP DESIGNATION, SEE CURB RAMP DETAILS

AD SUBMITTAL - JANUARY 2, 2018

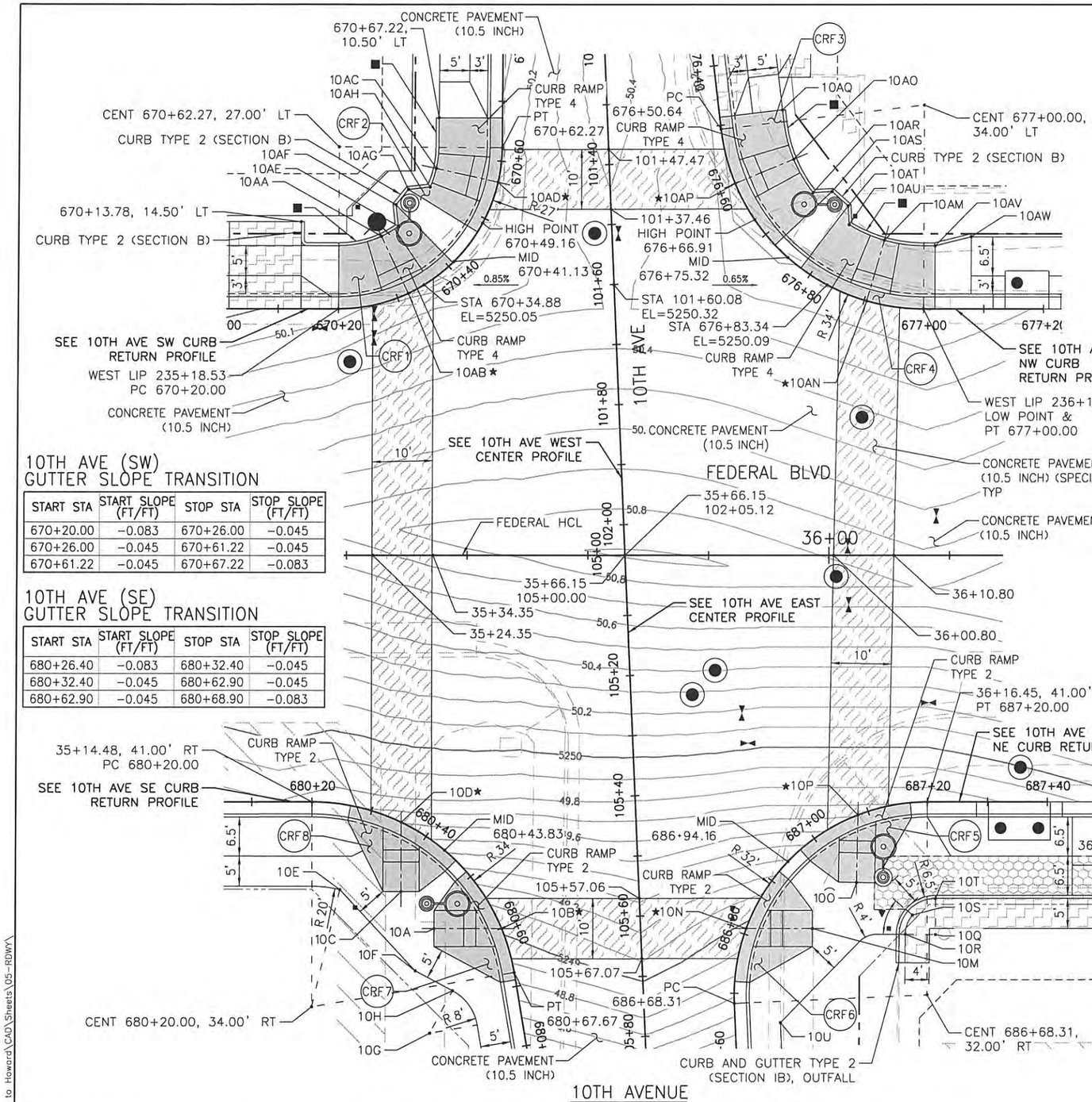
COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

Last Modification Date:	Init.:	Sheet Revisions			City and County of Denver	As Constructed	FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE PAVING PLAN AREA DETAILS BARBERRY PLACE & 9TH AVENUE	Project No./Code
Drawing File Name: 1102188-08-Paving Plan Areas.dgn		Date:	Comments	Init.	Department of Public Works	No Revisions:		NHPP 2873-172 SA 19957
Horizontal Scale: 1:20	Vert. Scale: As Noted				Engineering Division	Revised:	Designer: KSD / Detailer: SRF / Structure Numbers	2011-PROJMSTR-0000364
					201 W. Colfax, Dept 506	Void:	Sheet Subset: PAVEPLANAREA / Subset Sheets: 3 of 6	Sheet Number 117
					Denver, CO. 80202			

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Region 1
2000 South Holly Street
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10TH AVENUE

10TH AVE (SW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
670+20.00	−0.083	670+26.00	−0.045
670+26.00	−0.045	670+61.22	−0.045
670+61.22	−0.045	670+67.22	−0.083

10TH AVE (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
680+26.40	−0.083	680+32.40	−0.045
680+32.40	−0.045	680+62.90	−0.045
680+62.90	−0.045	680+68.90	−0.083

10TH AVE (10)

POINT ID	STATION	OFFSET (FT)
10A	680+53.97	9.97' RT
10B	680+60.07	0.00' RT
10C	680+42.32	9.85' RT
10D	680+35.25	0.00' LT
10E	680+27.92	14.00' RT
10F	680+61.96	15.87' RT
10G	680+75.26	15.50' RT
10H	680+68.94	10.59' RT

POINT ID	STATION	OFFSET (FT)
10M	686+86.50	10.02' RT
10N	686+80.96	0.00' RT
10O	687+02.04	9.96' RT
10P	687+08.22	0.00' RT
10Q	687+21.37	22.00' RT
10R	687+08.89	21.34' RT
10S	687+14.18	18.54' RT
10T	687+21.37	16.00' RT
10U	686+64.78	7.50' RT

POINT ID	STATION	OFFSET (FT)
10AA	670+31.92	10.50' LT
10AB	670+31.92	0.00' LT
10AC	670+56.46	10.50' LT
10AD	670+56.46	0.00' RT
10AE	670+37.26	10.50' LT
10AF	670+40.92	13.50' LT
10AG	670+47.46	13.50' LT
10AH	670+51.12	10.50' LT

POINT ID	STATION	OFFSET (FT)
10AM	676+90.43	10.50' LT
10AN	676+90.43	0.00' RT
10AO	676+60.05	10.50' LT
10AP	676+60.05	0.00' RT
10AQ	676+48.64	10.50' LT
10AR	676+69.40	10.50' LT
10AS	676+72.34	13.00' LT
10AT	676+78.13	13.00' LT
10AU	676+81.08	10.350' LT
10AV	677+01.88	10.50' LT
10AW	677+01.88	10.50' LT

10TH AVE (NW)-GUTTER TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
676+48.64	−0.083	676+54.64	−0.045
676+54.64	−0.045	677+00.00	−0.045
677+00.00	−0.045	677+09.55	−0.083
677+09.55	−0.083	677+13.55	−0.167

10TH AVE (NE)-GUTTER TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
686+71.97	−0.083	686+77.97	−0.045
686+77.97	−0.045	687+11.17	−0.045
687+11.17	−0.045	687+17.17	−0.083

NOTES

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LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- ■ CURB TO BE INCLUDED IN THE COST OF THE RAMP
- (CRA1) CURB RAMP DESIGNATION, SEE CURB RAMP DETAILS
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- ★ CENTER OF X-WALK TO ALIGN WITH CENTER OF RAMP

COLORADO LICENSED KYLE S. DORRENBACHER 35776 1-3-18 PROFESSIONAL ENGINEER

NOTES:
1. SEE TYPICAL ROADWAY DETAILS FOR CONCRETE SIDEWALK (8 INCH) (SPECIAL) SECTION.
2. SEE HARDSCAPE SUBSET FOR ADDITIONAL INFORMATION.

▼CURB AND GUTTER TYPE 2 (SECTION IB), OUTFALL. 5' TRANSITION FROM 6" CURB HEAD TO 9" CURB HEAD AT CONCRETE SIDEWALK (8 INCH) (SPECIAL).

TSIOUVARAS SIMMONS HOLDERNESS CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

Last Modification Date:	Init.:	Sheet Revisions			City and County of Denver Department of Public Works Engineering Division 201 W. Colfax, Dept 506 Denver, CO. 80202	As Constructed	FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE PAVING PLAN AREA DETAILS 10TH AVENUE	Project No./Code
Drawing File Name: 1102188-08-Paving Plan Areas.dgn		Date:	Comments	Init.	Colorado Department of Transportation Region 1 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 JV	No Revisions:	Designer: KSD	NHPP 2873-172 SA 19957
Horizontal Scale: 1:20	Vert. Scale: As Noted					Revised:	Detailer: SRF	2011-PROJMSTR-0000364
						Void:	Sheet Subset: PAVEPLANAREA	Subset Sheets: 4 of 6
								Sheet Number 118

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11TH AVE (11)

POINT ID	STATION	OFFSET (FT)
11A	780+80.90	10.07' RT
11B	780+55.33	0.00' RT
11C	780+45.08	14.00' RT
11D	780+59.04	16.50' LT
11E	780+63.85	12.50' RT

POINT ID	STATION	OFFSET (FT)
11M	785+99.10	10.07' RT
11N	785+94.67	0.00' RT
11O	785+85.60	11.50' RT
11P	785+90.95	16.50' RT
11Q	786+04.92	14.00' RT

11TH AVE (SE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
780+44.58	−0.083	780+50.58	−0.045
780+50.58	−0.045	780+58.40	−0.045
780+58.40	−0.045	780+64.40	−0.083

11TH AVE (NE) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
785+85.62	−0.083	785+91.93	−0.050
785+91.93	−0.050	785+98.70	−0.030
785+98.70	−0.030	786+05.42	−0.083

12TH AVE (12)

POINT ID	STATION	OFFSET (FT)
12A	870+47.57	9.16' LT
12B	870+52.80	0.00' RT

POINT ID	STATION	OFFSET (FT)
12M	870+58.27	36.72' RT
12N	870+57.62	27.71' RT

12TH AVE (SW) GUTTER SLOPE TRANSITION

START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
870+20.00	−0.083	870+32.24	0.000
870+32.24	0.000	870+42.27	0.020
870+42.27	0.020	870+49.04	0.000
870+49.04	0.000	870+54.86	−0.005
870+54.86	−0.005	870+62.01	−0.020
870+62.01	−0.020	870+70.01	MATCH

12TH AVE (NW) GUTTER SLOPE TRANSITION

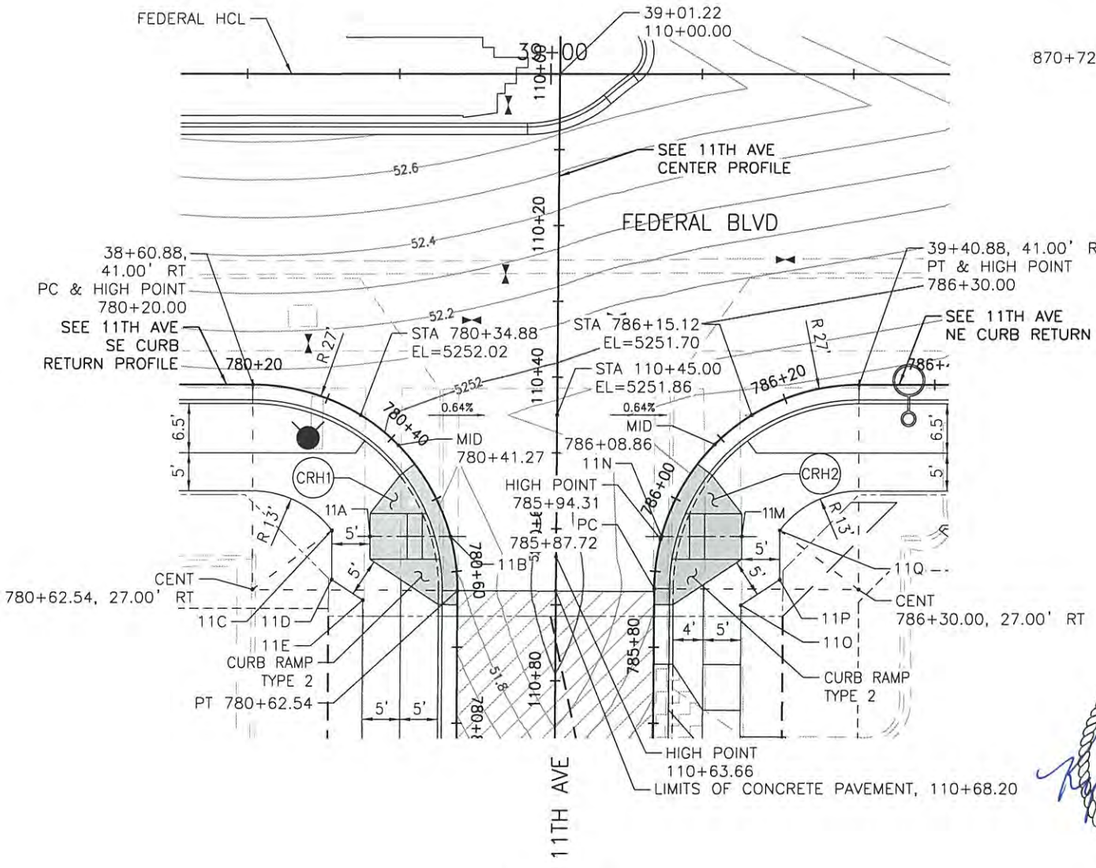
START STA	START SLOPE (FT/FT)	STOP STA	STOP SLOPE (FT/FT)
A★	−0.083	A☆	−0.045
A☆	−0.045	B★	−0.045
B★	−0.045	B☆	−0.083

NOTES

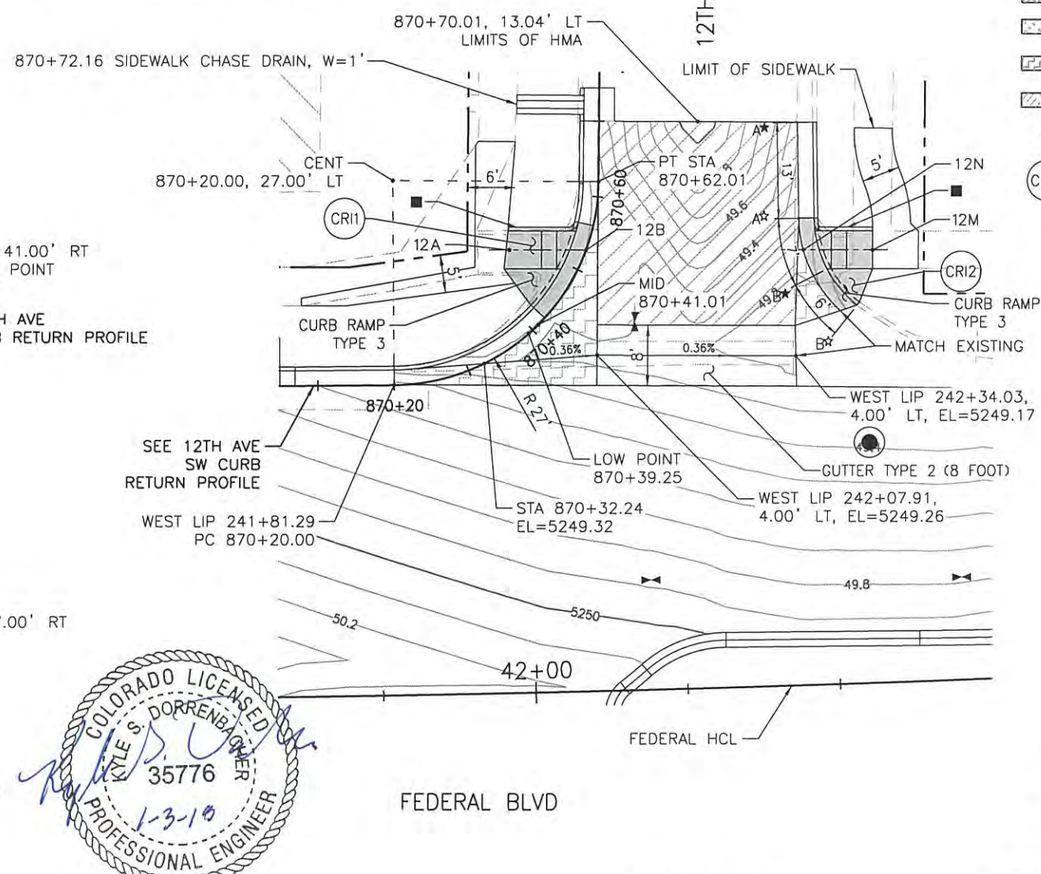
1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- CURB TO BE INCLUDED IN THE COST OF THE RAMP
- (CRA1) CURB RAMP DESIGNATION, SEE CURB RAMP DETAILS



11TH AVENUE



12TH AVENUE

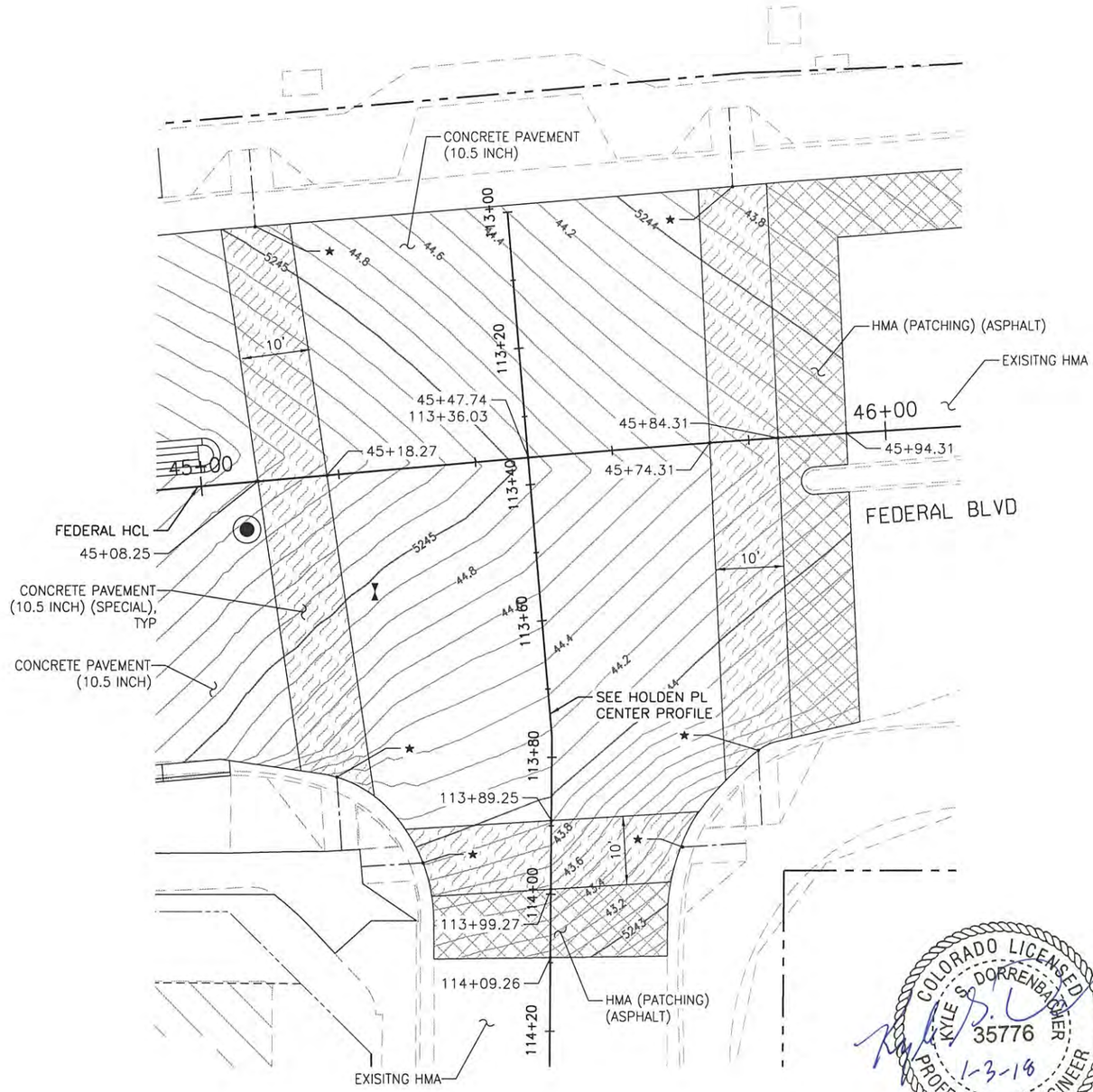
COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2 2018

Last Modification Date:	Init.:	Sheet Revisions			City and County of Denver	As Constructed	FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE PAVING PLAN AREA DETAILS 11TH AVENUE & 12TH AVENUE	Project No./Code
Drawing File Name: 1102188-08-Paving Plan Areas.dgn		Date:	Comments	Init.	Department of Public Works	No Revisions:		NHPP 2873-172 SA 19957
Horizontal Scale: 1:20	Vert. Scale: As Noted				Engineering Division	Revised:	Designer: KSD / Structure Numbers	2011-PROJMSTR-0000364
					201 W. Colfax, Dept 506	Void:	Detailer: SRF	Sheet Number 119
					Denver, CO. 80202	Colorado Department of Transportation 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 Region 1 JV	Sheet Subset: PAVEPLANAREA	Subset Sheets: 5 of 6

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HOLDEN PL

NOTES

1. CURB FLOWLINES SHALL TRANSITION OVER 6 LF FROM THE STANDARD 2" SUMP TO 5% MAXIMUM SLOPE AT THE CURB RAMP. THE CONTRACTOR SHALL VERIFY THAT GRADES PROVIDED WILL PROVIDE PROPER DRAINAGE AT THE CURB RETURNS PRIOR TO CONSTRUCTION.
2. SEE MEDIAN AND SIDE STREET CENTER & RETURN HCL DESCRIPTIONS FOR SIDE STREET LAYOUT DESIGNATIONS.
3. SEE HARDSCAPE PLANS FOR DETAILS OF 3FT AMENITY ZONE AND AREAS BEHIND MEDIAN CURB AND GUTTER.

LEGEND

- CONCRETE CURB RAMP
- HMA
- HMA (PATCHING) (ASPHALT)
- CONCRETE SIDEWALK (SPECIAL)
- CONCRETE PAVEMENT (8 INCH)
- CONCRETE PAVEMENT (10.5 INCH) (SPECIAL)
- ■ CURB TO BE INCLUDED IN THE COST OF THE RAMP
- (CRA1) CURB RAMP DESIGNATION, SEE CURB RAMP DETAILS
- ★ CENTER OF X-WALK TO ALIGN WITH CENTER OF RAMP

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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Last Modification Date:	Init.:
Drawing File Name: 1102188-08-Paving Plan Areas.dgn	
Horizontal Scale: 1:20	Vert. Scale: As Noted

Sheet Revisions		
Date:	Comments	Init.

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

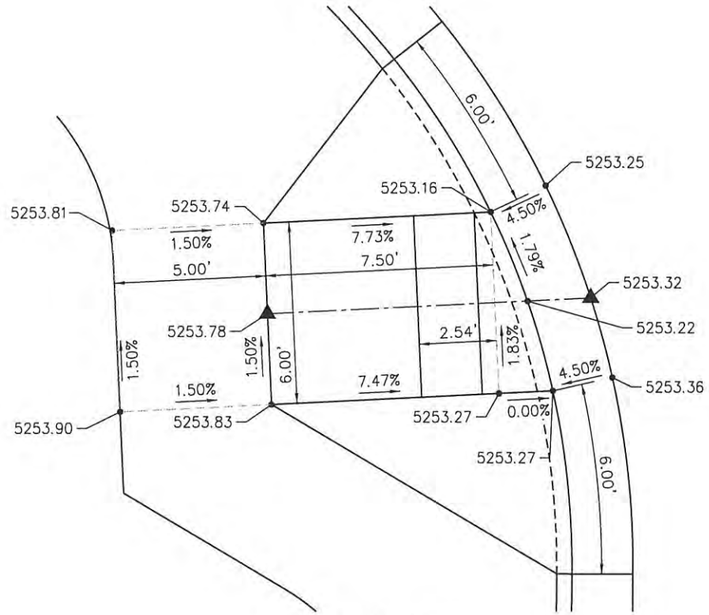
Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed
No Revisions:
Revised:
Void:

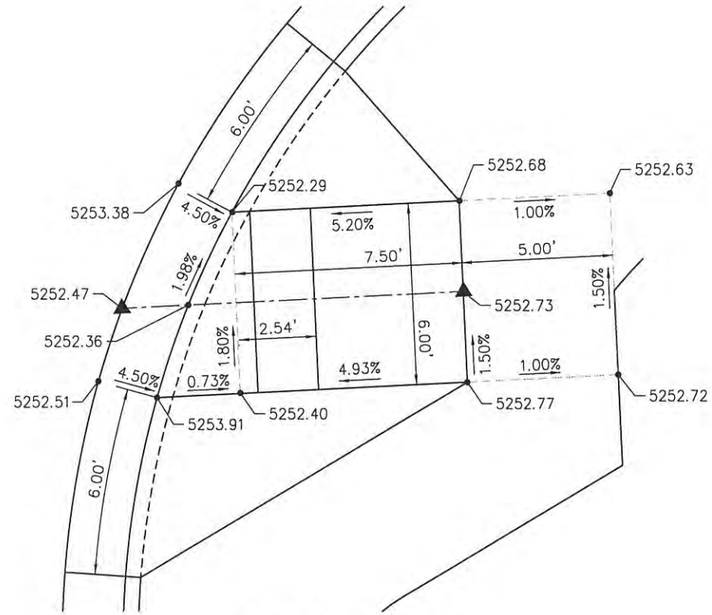
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
PAVING PLAN AREA DETAILS
HOLDEN PL

Designer:	KSD	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	PAVEPLANAREA	Subset Sheets:	6 of 6

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 120

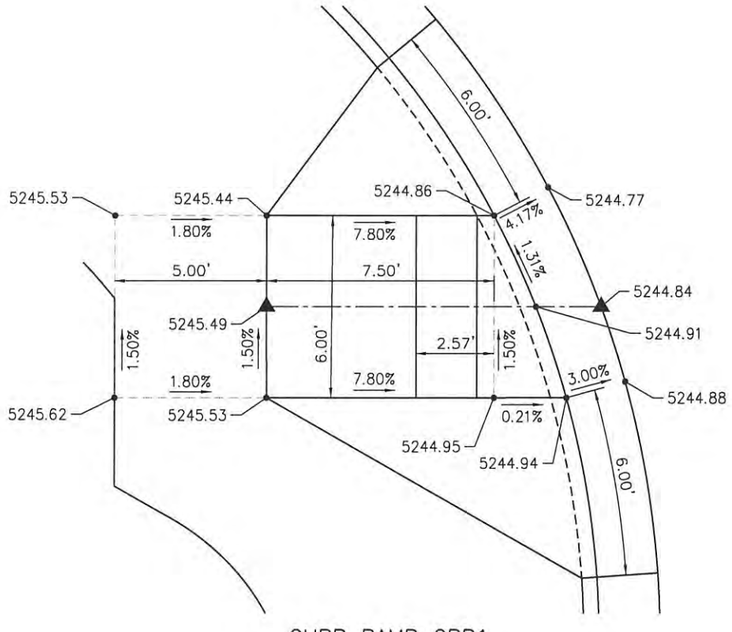


CURB RAMP CRA1



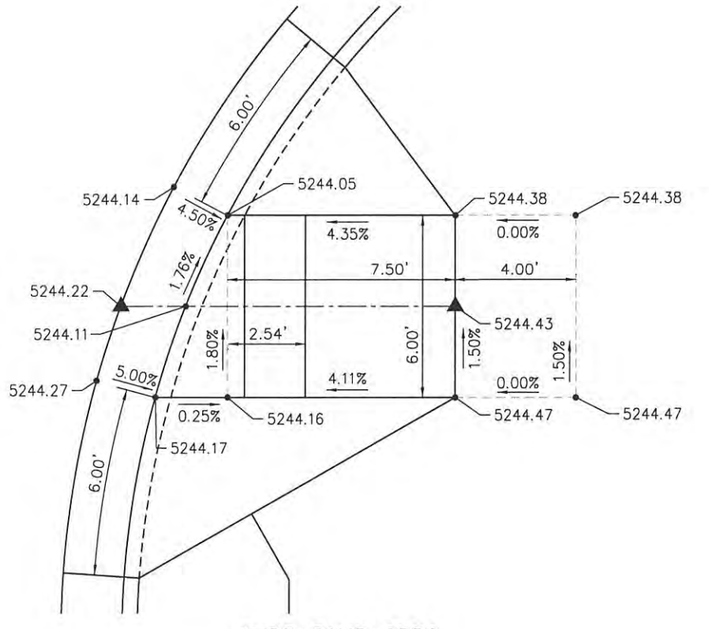
CURB RAMP CRA2

7TH AVE



CURB RAMP CRB1

SEVERN PL



CURB RAMP CRB2

NOTES

1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

- ▲ DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
- ■ DESIGN POINT – MATCH EXISTING ELEVATION
- TOC TOP OF CURB
- BOC BOTTOM OF CURB (FLOWLINE)

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-19

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-09-Curb Ramp Details.dgn			
Horizontal Scale: 1:5	Vert. Scale: As Noted		

Sheet Revisions		
Date:	Comments	Init.

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
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Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
CURB RAMP DETAILS
CRA1, CRA2, CRB1, CRB2

Designer:	KSD	Structure Numbers	
Detailer:	ADH		
Sheet Subset:	RAMPDET	Subset Sheets:	1 of 9

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 121

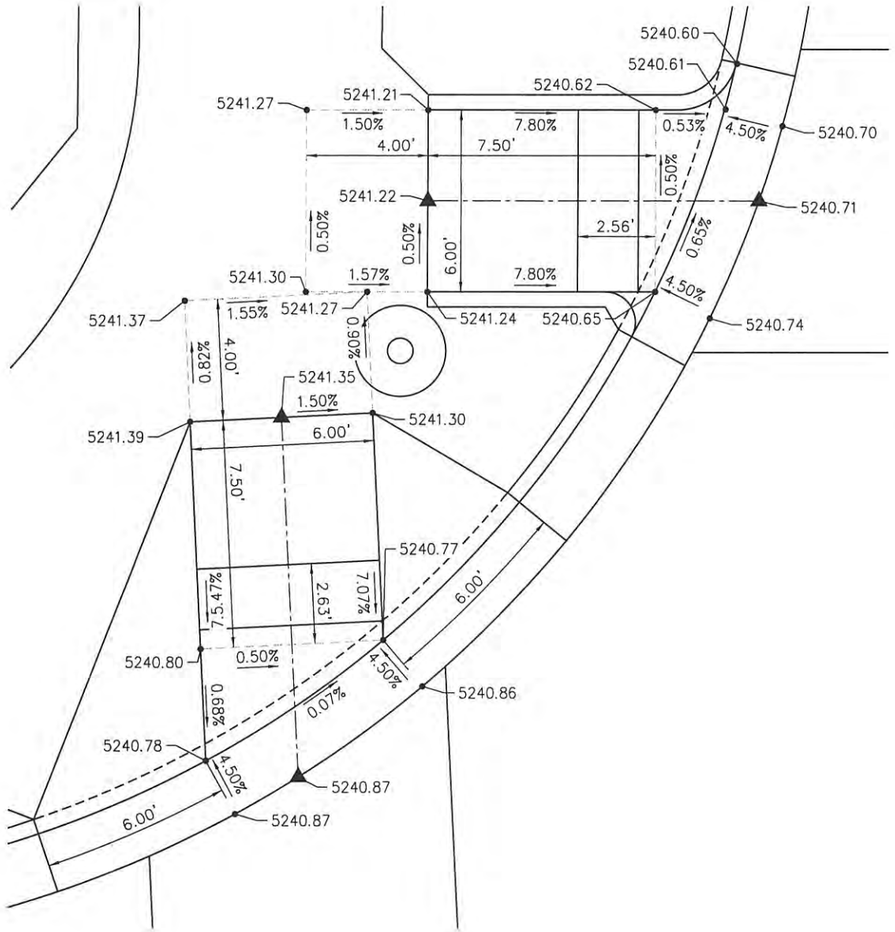
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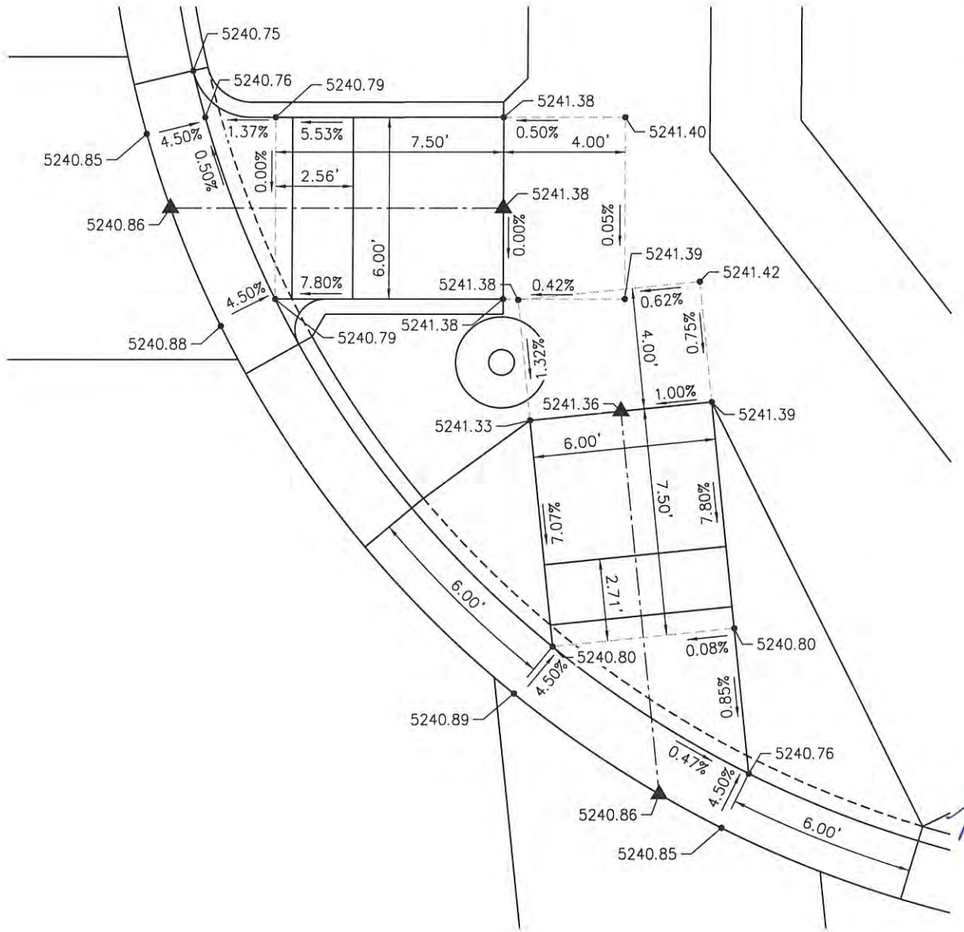
1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

- ▲ DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
- ■ DESIGN POINT – MATCH EXISTING ELEVATION
- TOC TOP OF CURB
- BOC BOTTOM OF CURB (FLOWLINE)



8TH AVE



CURB RAMP CRC1 AND CRC2

CURB RAMP CRC3 AND CRC4

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35776
PROFESSIONAL ENGINEER
1-3-18

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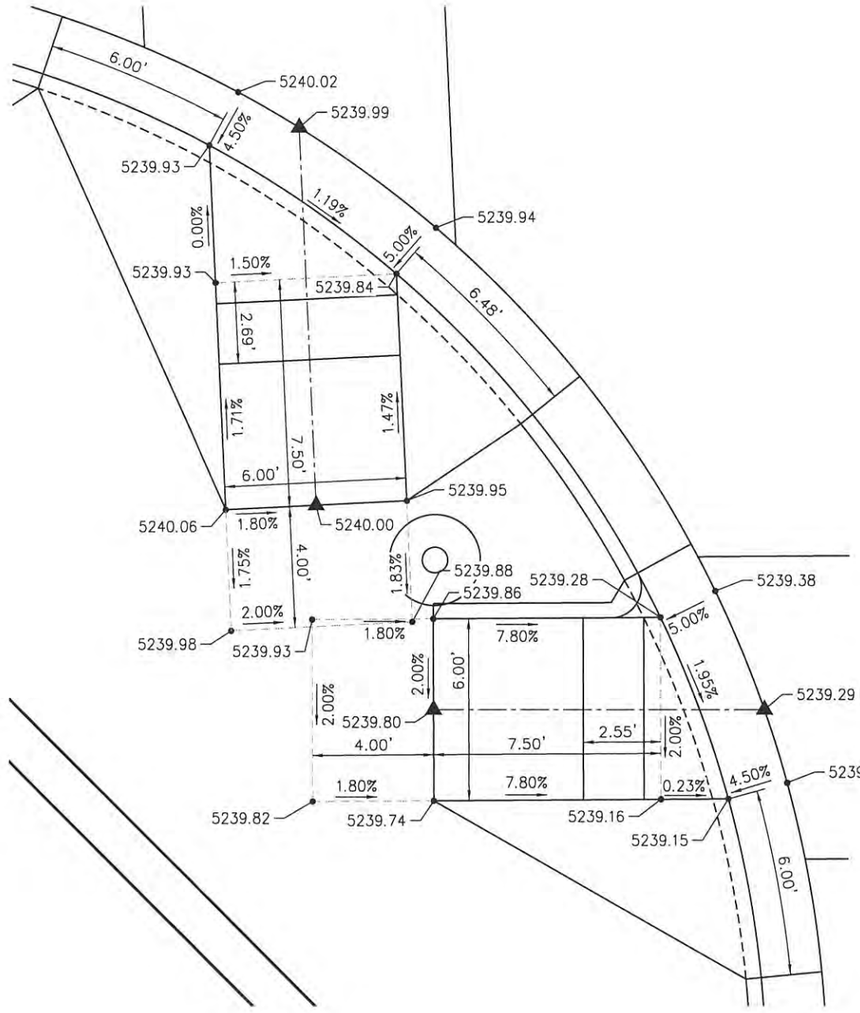
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CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

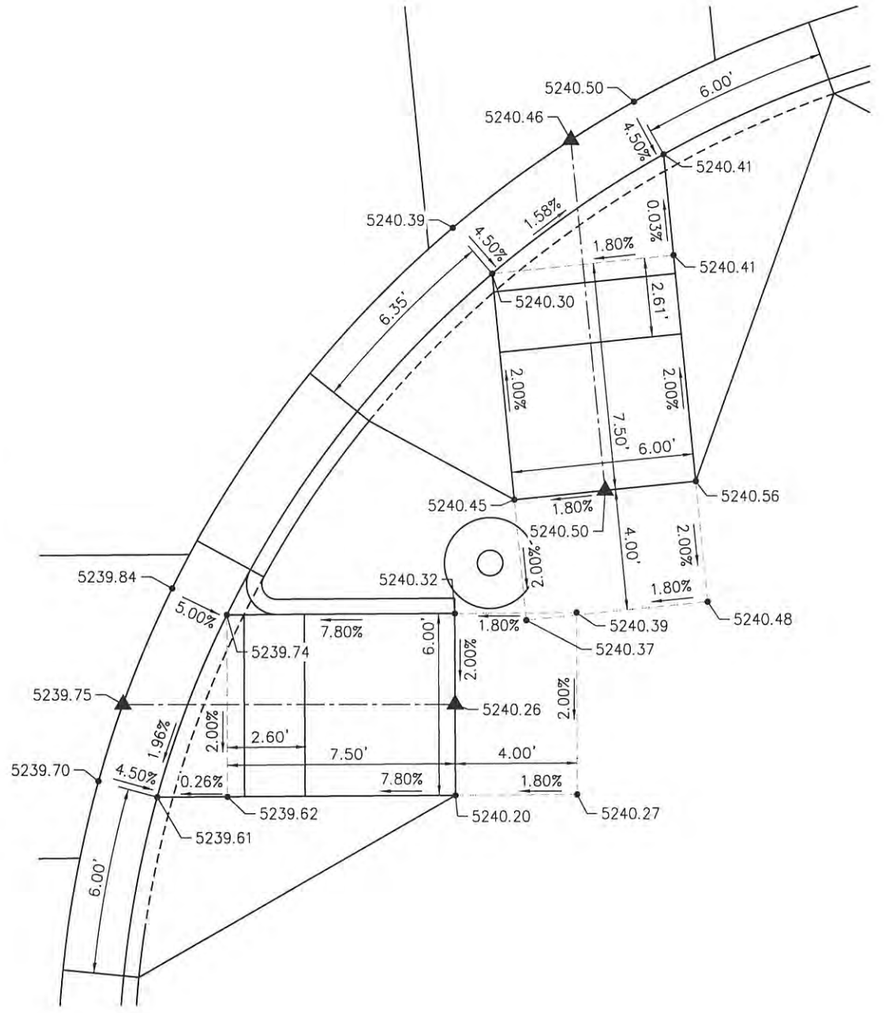
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Drawing File Name: 1102188-09-Curb Ramp Details.dgn		Date:	Comments	Init.	Department of Public Works	No Revisions:	CURB RAMP DETAILS
Horizontal Scale: 1:5 Vert. Scale: As Noted					Engineering Division	Revised:	CRC1, CRC2, CRC3, CRC4
					201 W. Colfax, Dept 506	Void:	Designer: KSD Structure Numbers
					Denver, CO. 80202		Detailer: ADH
					Colorado Department of Transportation Region 1 2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 JV		Sheet Subset: RAMPDET Subset Sheets: 2 of 9

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 122

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8TH AVE



NOTES

1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

▲	DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
■	DESIGN POINT – MATCH EXISTING ELEVATION
TOC	TOP OF CURB
BOC	BOTTOM OF CURB (FLOWLINE)

CURB RAMP CRC7 AND CRC8

CURB RAMP CRC5 AND CRC6

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KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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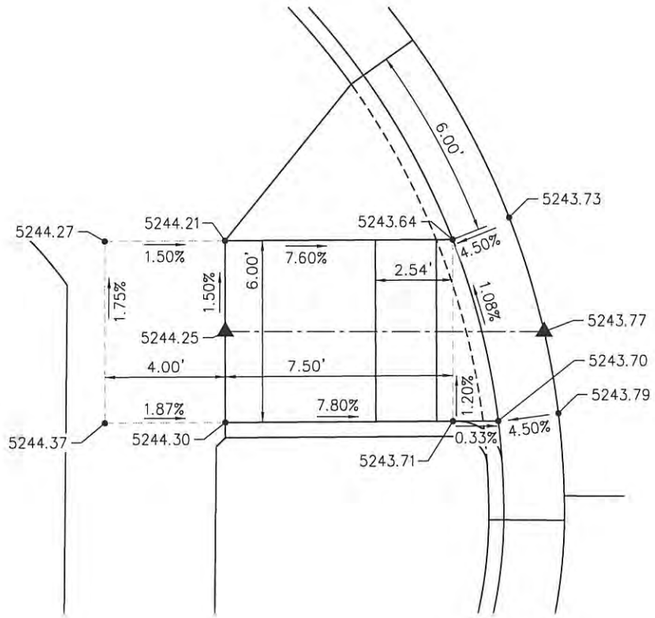
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AD SUBMITTAL - JANUARY 2, 2018

Last Modification Date: Init.:		Sheet Revisions			City and County of Denver	Colorado Department of Transportation	As Constructed
Drawing File Name: 1102188-09-Curb Ramp Details.dgn		Date:	Comments	Init.	Department of Public Works	2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907	No Revisions:
Horizontal Scale: 1:5 Vert. Scale: As Noted					Engineering Division	Region 1 JV	Revised:
					201 W. Colfax, Dept 506		Void:
					Denver, CO. 80202		

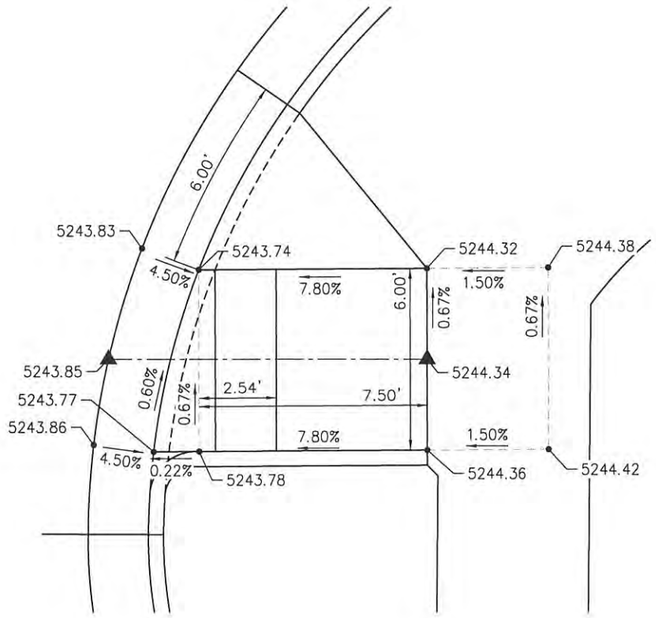
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE CURB RAMP DETAILS CRC5, CRC6, CRC7, CRC8			Project No./Code
Designer: KSD	Structure Numbers		NHPP 2873-172 SA 19957
Detailer: ADH			2011-PROJMSTR-0000364
Sheet Subset: RAMPDET	Subset Sheets: 3 of 9		Sheet Number 123

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CURB RAMP CRD1

BARBERRY PL



CURB RAMP CRD2

NOTES

1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

- ▲ DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
- ■ DESIGN POINT – MATCH EXISTING ELEVATION
- TOC TOP OF CURB
- BOC BOTTOM OF CURB (FLOWLINE)

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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TSIOUVARAS SIMMONS HOLDERNESS
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AD SUBMITTAL - JANUARY 2. 2018

Last Modification Date:	Init.:	
Drawing File Name: 1102188-09-Curb Ramp Details.dgn		
Horizontal Scale: 1:5	Vert. Scale: As Noted	

Sheet Revisions

Date:	Comments	Init.

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Denver, CO. 80202

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2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed

No Revisions:	
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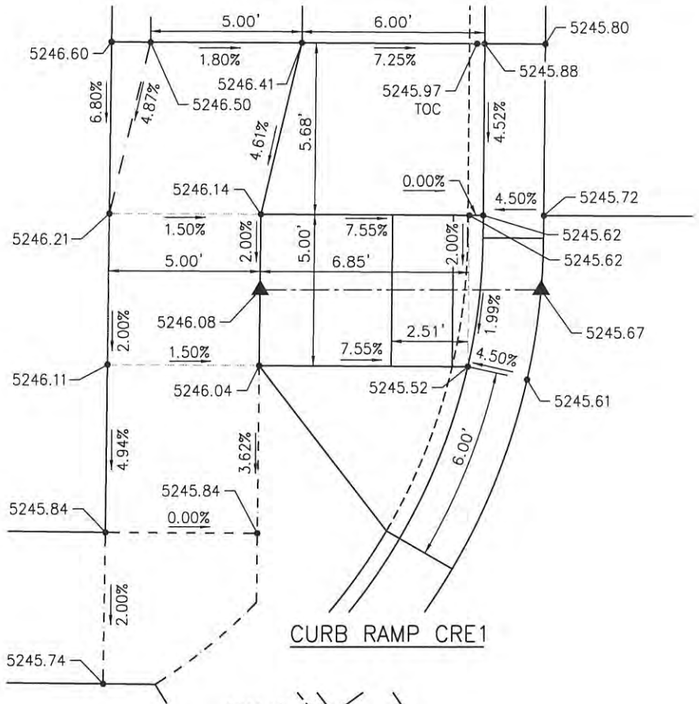
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
CURB RAMP DETAILS
CRDI, CRD2

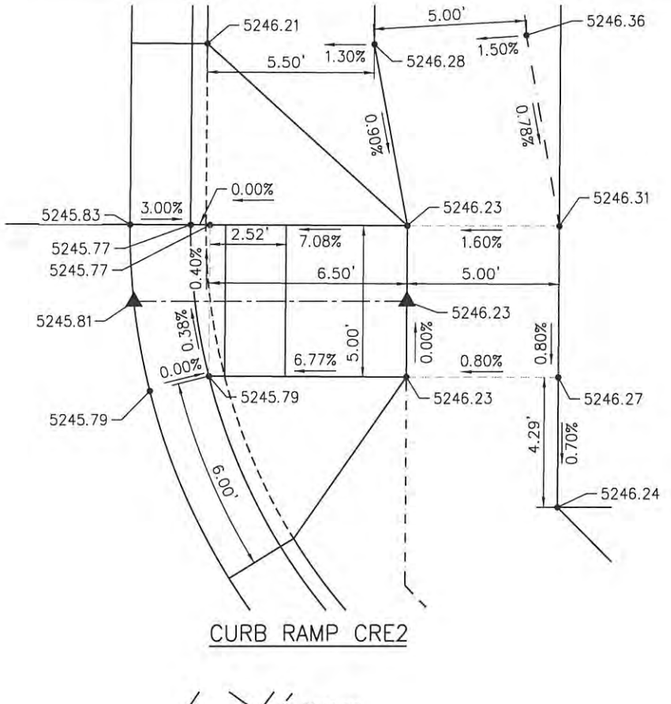
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Detailer:	ADH		
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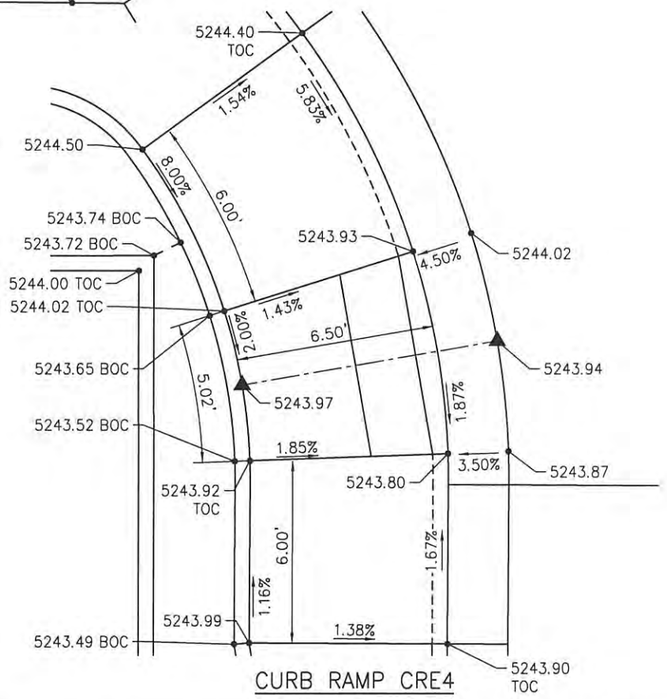
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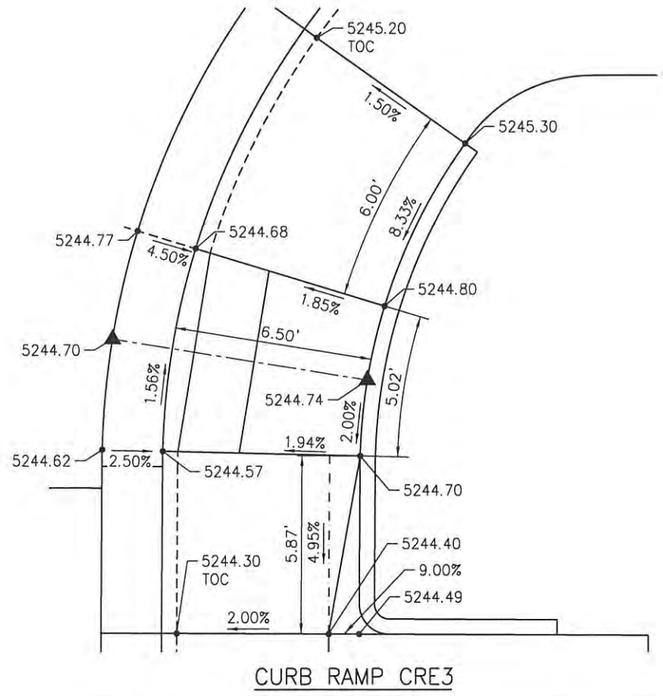
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SA 19957
2011-PROJMSTR-0000364
Sheet Number 124

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NOTES

1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

- ▲ DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
- ■ DESIGN POINT – MATCH EXISTING ELEVATION
- TOC TOP OF CURB
- BOC BOTTOM OF CURB (FLOWLINE)

9TH AVE

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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Last Modification Date:	Init.:		
Drawing File Name: 1102188-09-Curb Ramp Details.dgn			
Horizontal Scale: 1:5	Vert. Scale: As Noted		

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Date:	Comments	Init.

City and County of Denver
Department of Public Works
Engineering Division
201 W. Colfax, Dept 506
Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

As Constructed
No Revisions:
Revised:
Void:

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
CURB RAMP DETAILS
CRE1, CRE2, CRE3, CRE4

Designer:	KSD	Structure Numbers	
Detailer:	ADH		
Sheet Subset:	RAMPDET	Subset Sheets:	5 of 9

Project No./Code
NHPP 2873-172
SA 19957
2011-PROJMSTR-0000364
Sheet Number 125

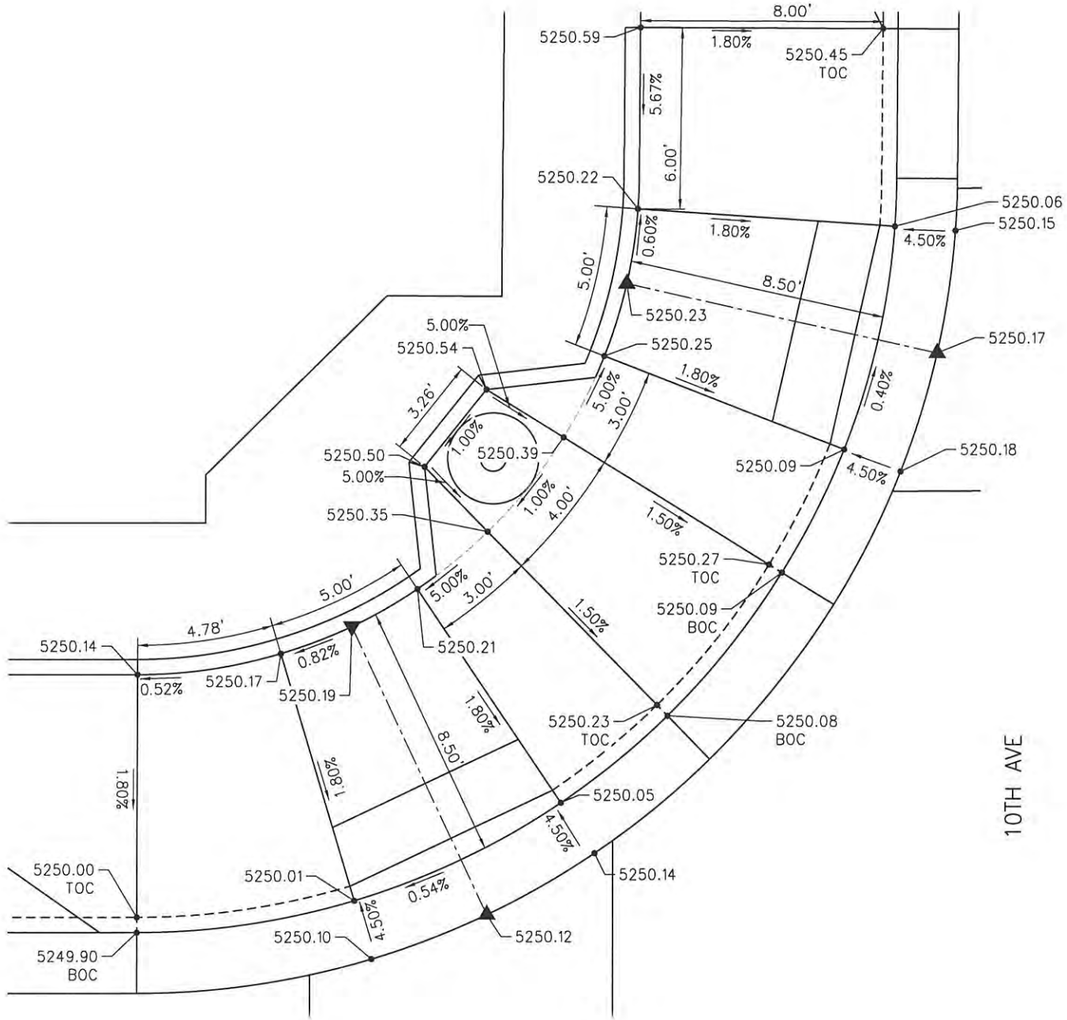
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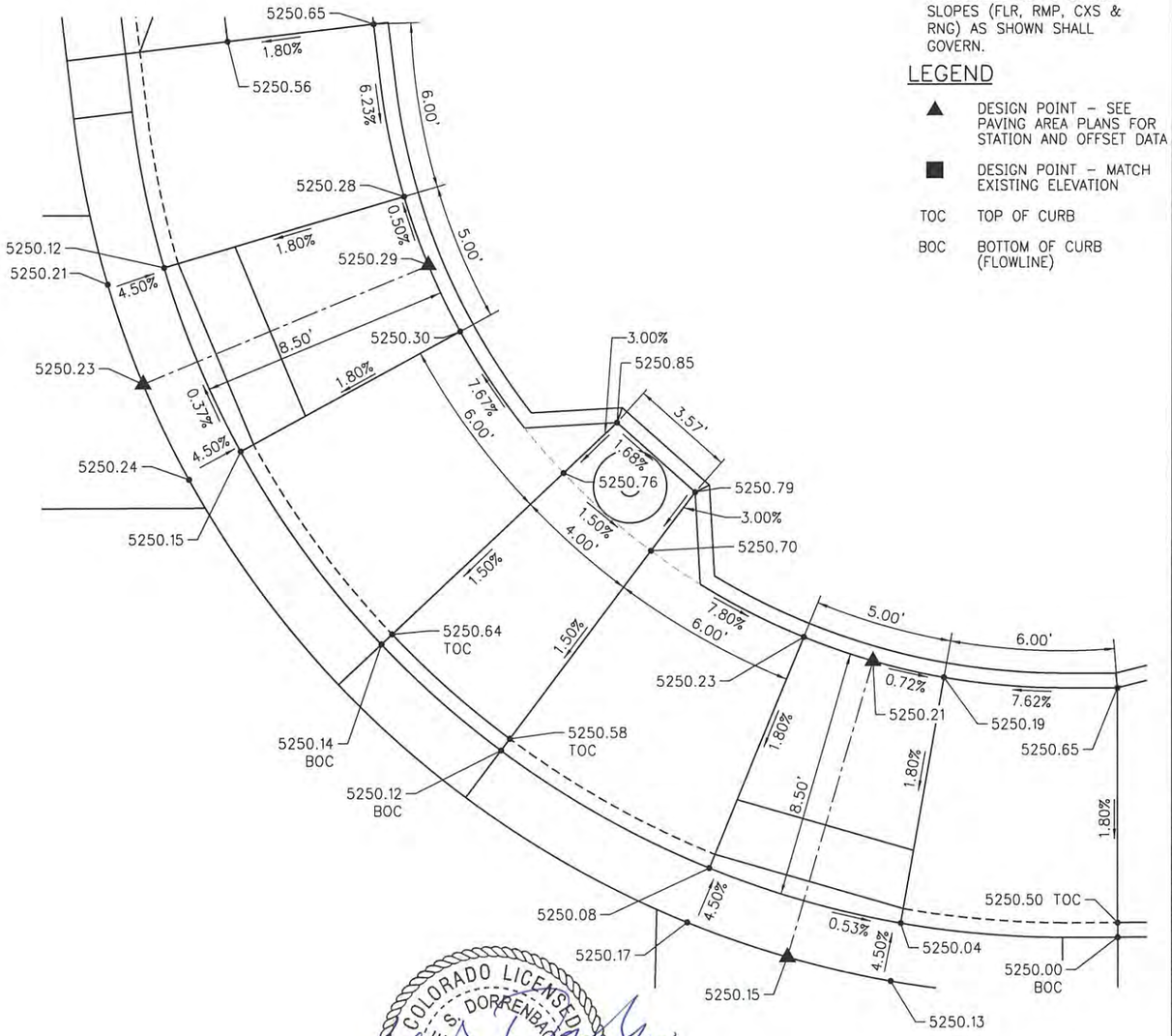
1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

▲	DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
■	DESIGN POINT – MATCH EXISTING ELEVATION
TOC	TOP OF CURB
BOC	BOTTOM OF CURB (FLOWLINE)



10TH AVE



COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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CURB RAMPS CRF1 AND CRF2

CURB RAMPS CRF3 AND CRF4

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

Last Modification Date: Init.:		Sheet Revisions			City and County of Denver	As Constructed	FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE	Project No./Code
Drawing File Name: 1102188-09-Curb Ramp Details.dgn		Date:	Comments	Init.	Department of Public Works	No Revisions:	CURB RAMP DETAILS	NHPP 2873-172
Horizontal Scale: 1:5 Vert. Scale: As Noted					Engineering Division	Revised:	CRF1, CRF2, CRF3, CRF4	SA 19957
					201 W. Colfax, Dept 506	Void:	Designer: KSD Structure Numbers	2011-PROJMSTR-0000364
					Denver, CO. 80202		Detailer: ADH	
					Colorado Department of Transportation		Sheet Subset: RAMPDET Subset Sheets: 6 of 9	Sheet Number 126
					2000 South Holly Street Denver, CO 80222 Phone: 303-757-9511 FAX: 303-757-9907 Region 1 JV			

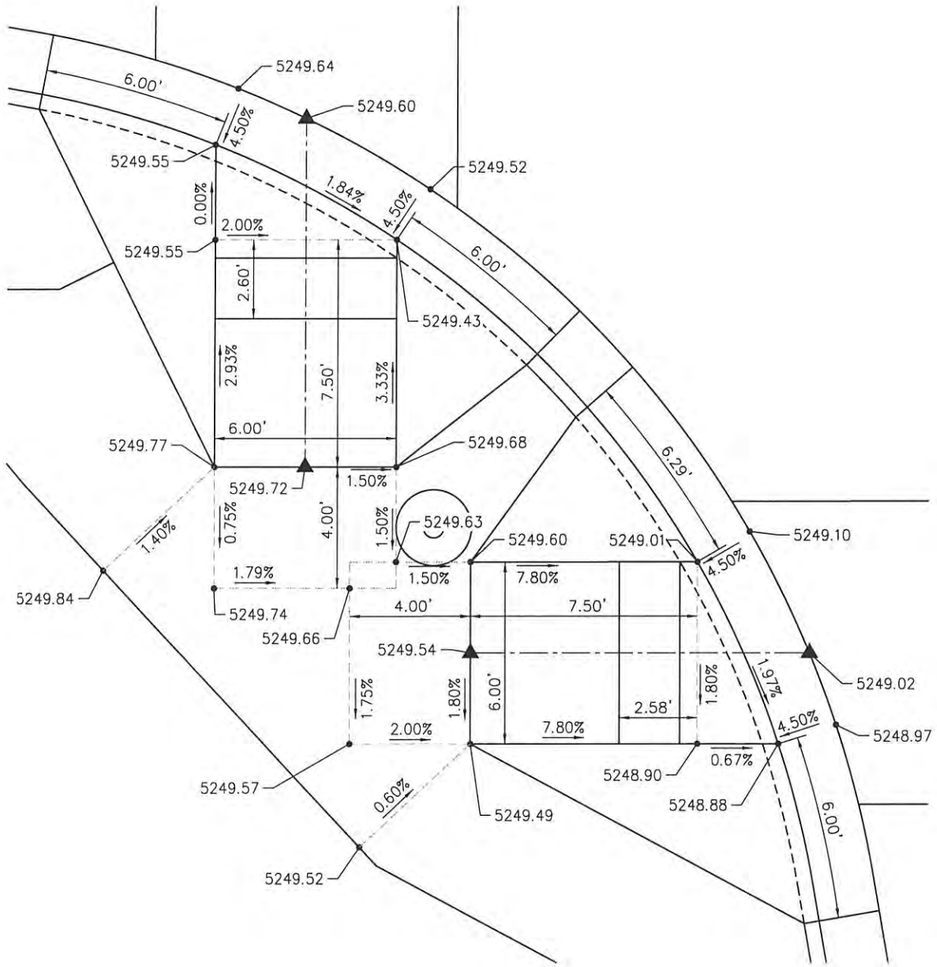
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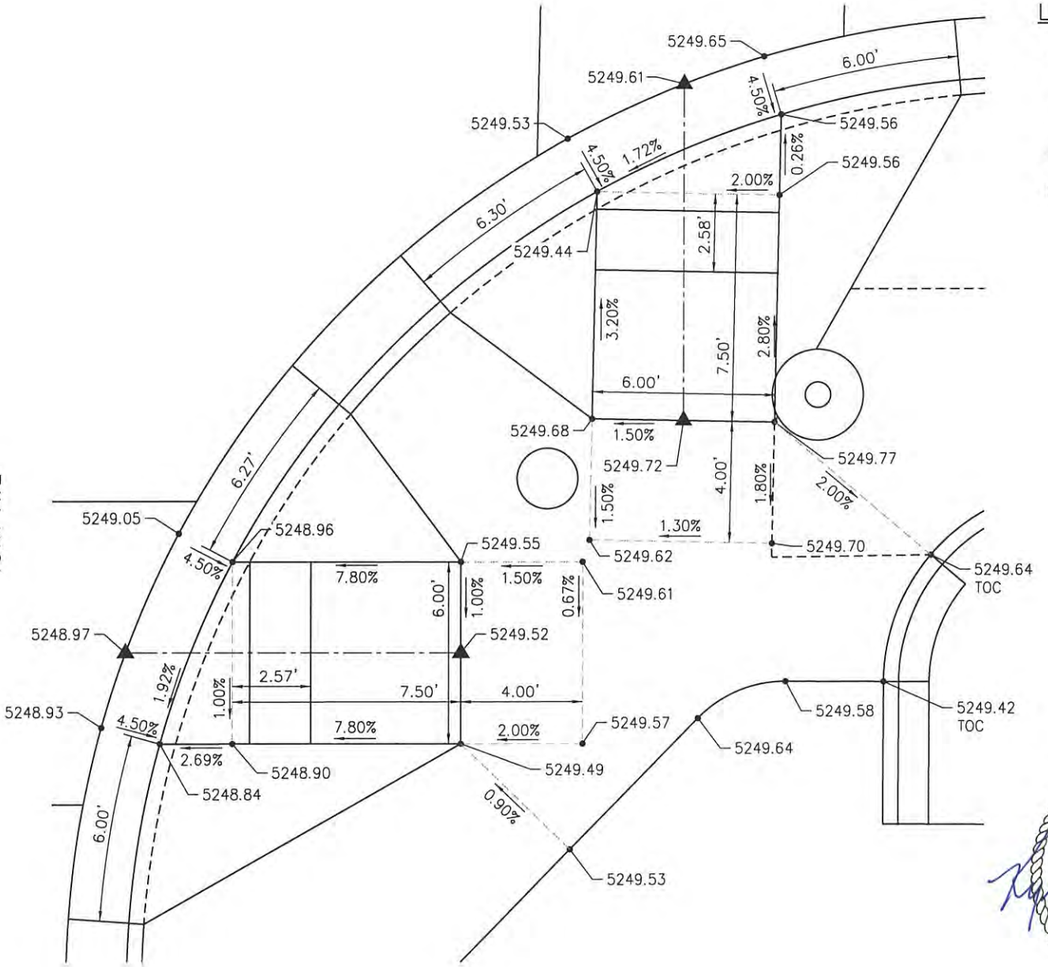
1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

- ▲ DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
- ■ DESIGN POINT – MATCH EXISTING ELEVATION
- TOC TOP OF CURB
- BOC BOTTOM OF CURB (FLOWLINE)



10TH AVE



CURB RAMP CRF7

CURB RAMP CRF6





TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
Denver, CO 80222
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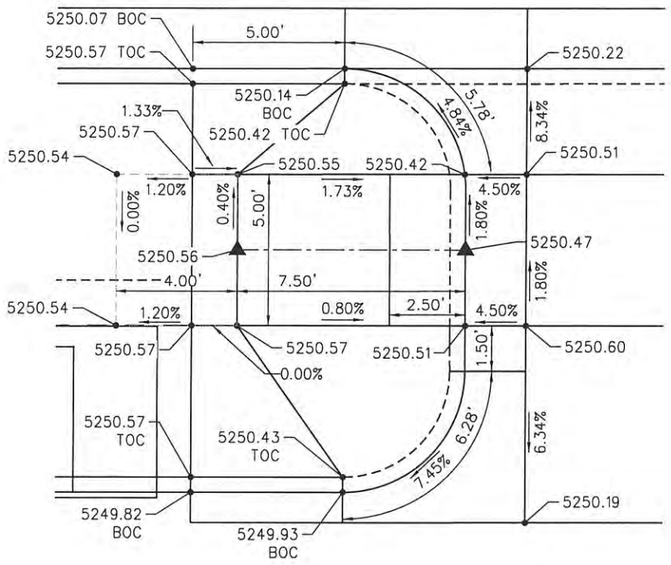
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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
CURB RAMP DETAILS
CRF5, CRF6, CRF7, CRF8

Designer:	KSD	Structure Numbers	
Detailer:	ADH		
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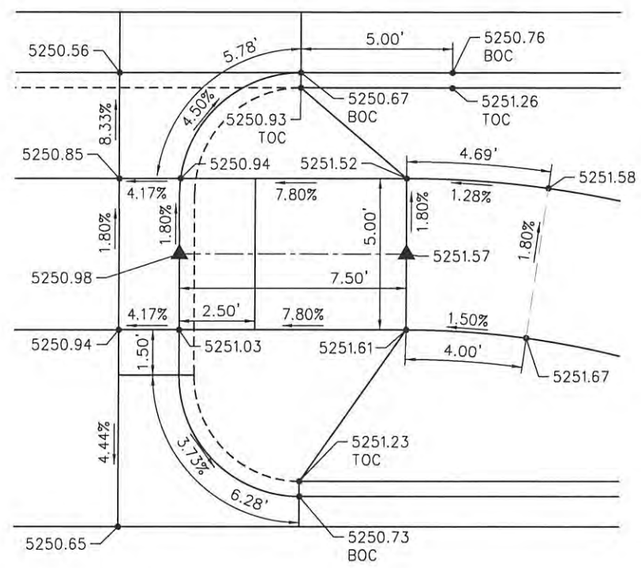
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CURB RAMP CRG1

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CURB RAMP CRG2

NOTES

1. ELEVATIONS SHOWN ROUNDED TO THE NEAREST HUNDREDTHS. PEDESTRIAN ACCESSIBLE ROUTE DESIGN SLOPES (FLR, RMP, CXS & RNG) AS SHOWN SHALL GOVERN.

LEGEND

▲	DESIGN POINT – SEE PAVING AREA PLANS FOR STATION AND OFFSET DATA
■	DESIGN POINT – MATCH EXISTING ELEVATION
TOC	TOP OF CURB
BOC	BOTTOM OF CURB (FLOWLINE)

AD SUBMITTAL - JANUARY 2, 2018

KYLE S. DORRENBACHER
COLORADO LICENSED
35776
PROFESSIONAL ENGINEER
1-3-18

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
CURB RAMP DETAILS
CRG1, CRG2

Designer:	KSD	Structure Numbers	
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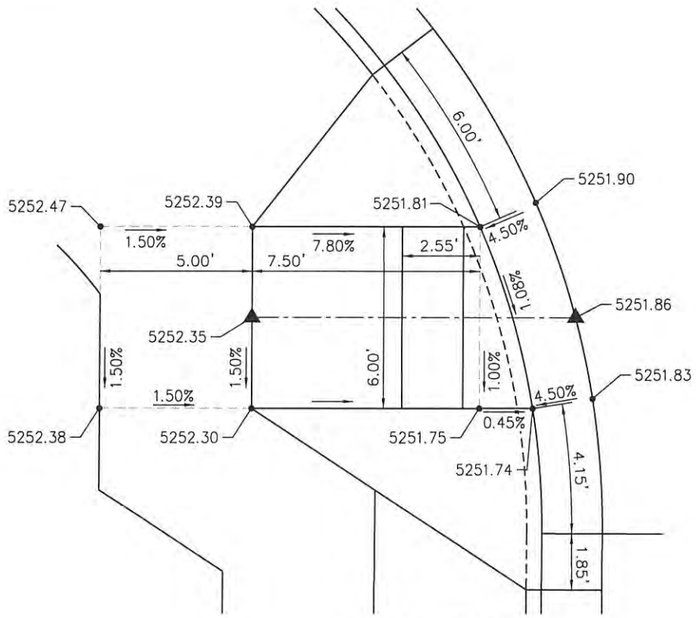
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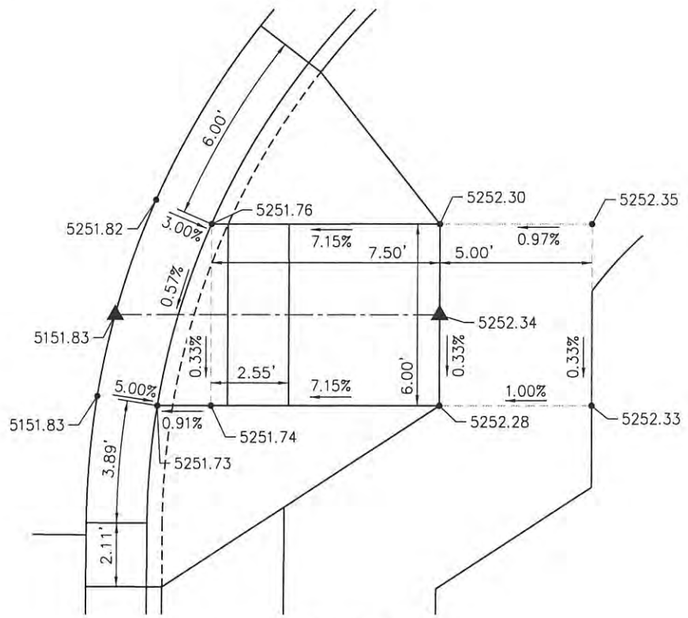
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- ■ DESIGN POINT – MATCH EXISTING ELEVATION
- TOC TOP OF CURB
- BOC BOTTOM OF CURB (FLOWLINE)

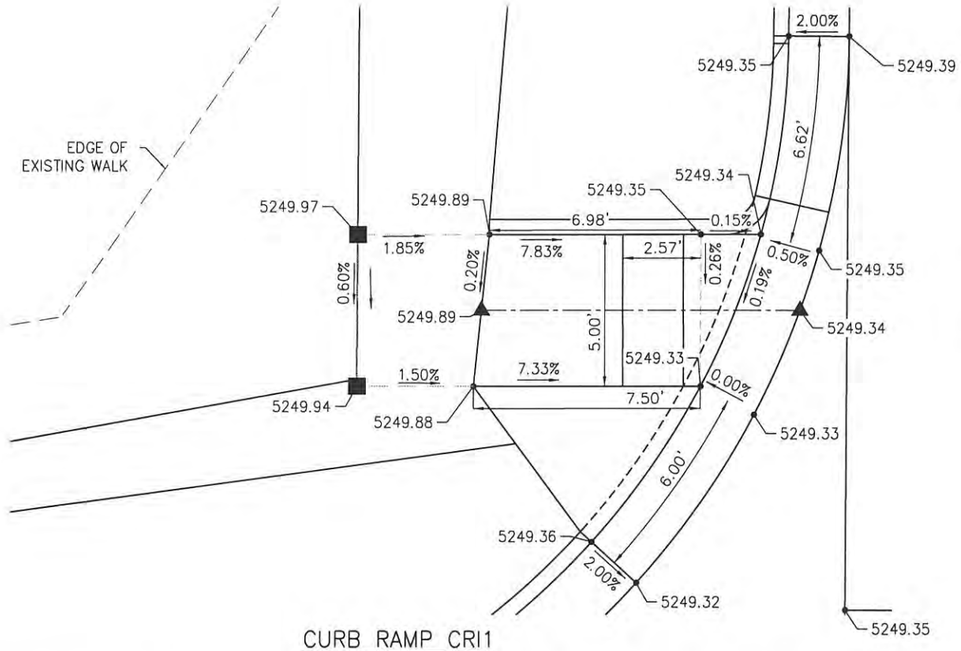


CURB RAMP CRH1

11TH AVE

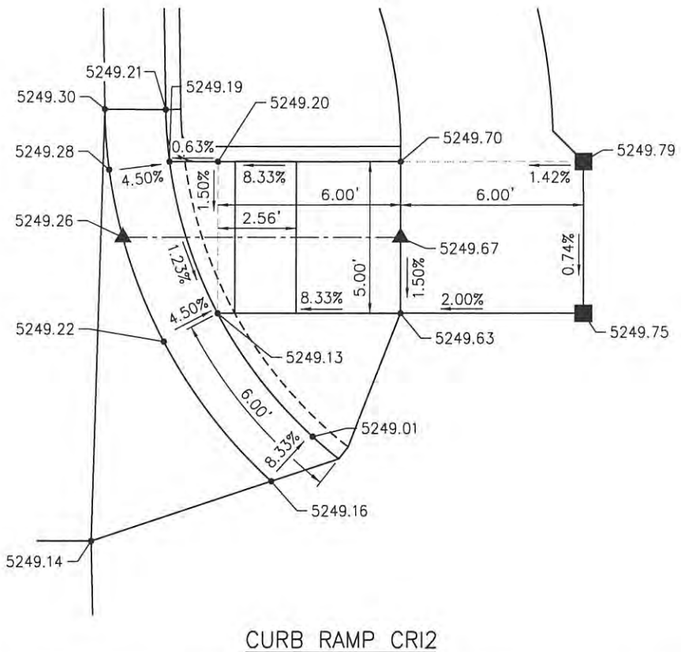


CURB RAMP CRH2



CURB RAMP CRI1

12TH AVE



CURB RAMP CRI2

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KYLE S. DORRENBACHER
35776
1-3-18
PROFESSIONAL ENGINEER

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
CURB RAMP DETAILS
CRH1, CRH2, CRI1, CRI2

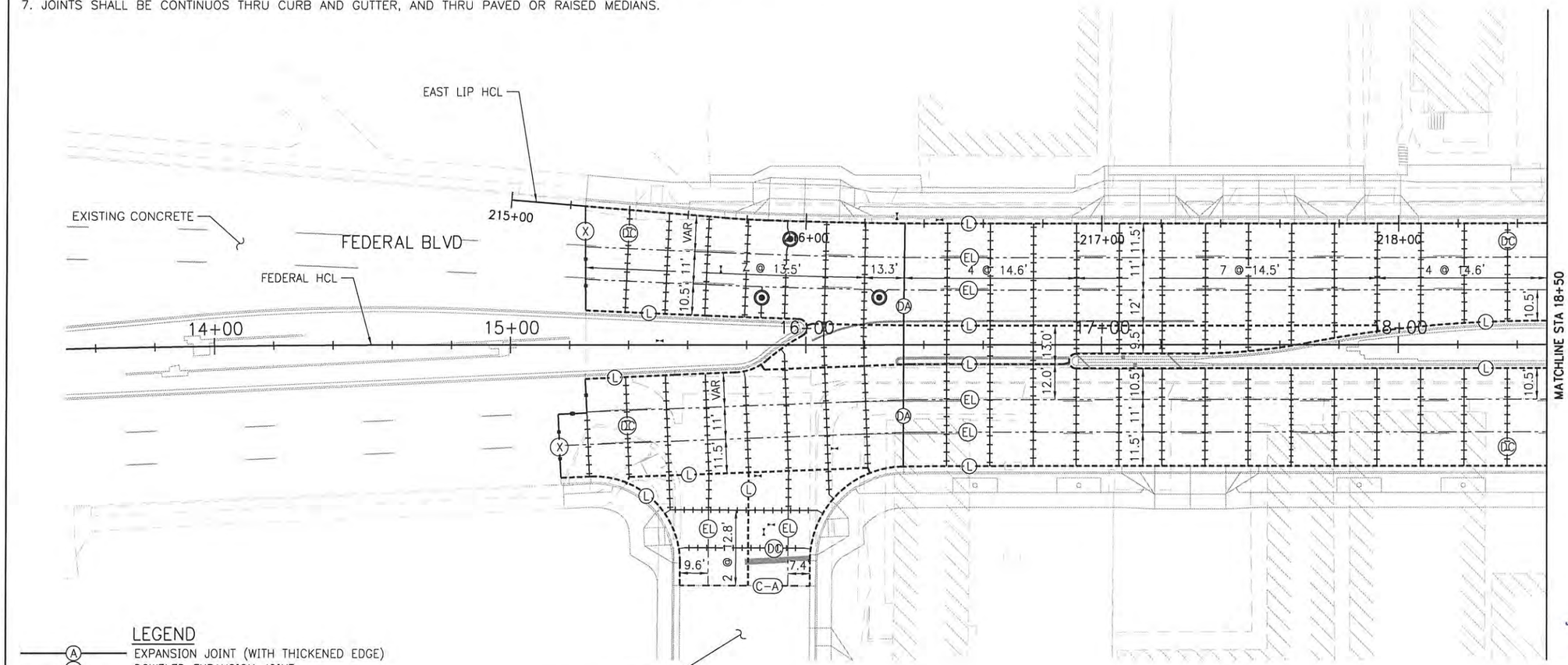
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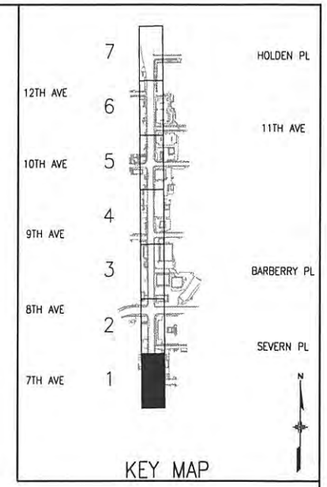
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LEGEND

- A — EXPANSION JOINT (WITH THICKENED EDGE)
- DA — DOWELED EXPANSION JOINT
- C-A — CONCRETE PAVEMENT TO ASPHALT PAVEMENT TRANSITION
- DC — DOWELED TRANSVERSE CONTRACTION JOINT
- E — LONGITUDINAL CONTRACTION JOINT
- L — LONGITUDINAL CONSTRUCTION JOINT
- EL — LONGITUDINAL CONTRACTION JOINT OR LONGITUDINAL CONSTRUCTION JOINT
- TE — CONCRETE ROADWAY TO EXISTING CURB AND GUTTER TRANSITION
- X — MID PANEL TRANSVERSE CONSTRUCTION JOINT
- MANHOLE
- WATER VALVE
- ROADWAY STRIPING



KEY MAP

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
PROFESSIONAL ENGINEER
1-3-18

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

AD SUBMITTAL - JANUARY 2, 2018

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SUGGESTED CONCRETE PAVEMENT JOINTING PLAN
FEDERAL BLVD - 13+50 TO 18+50

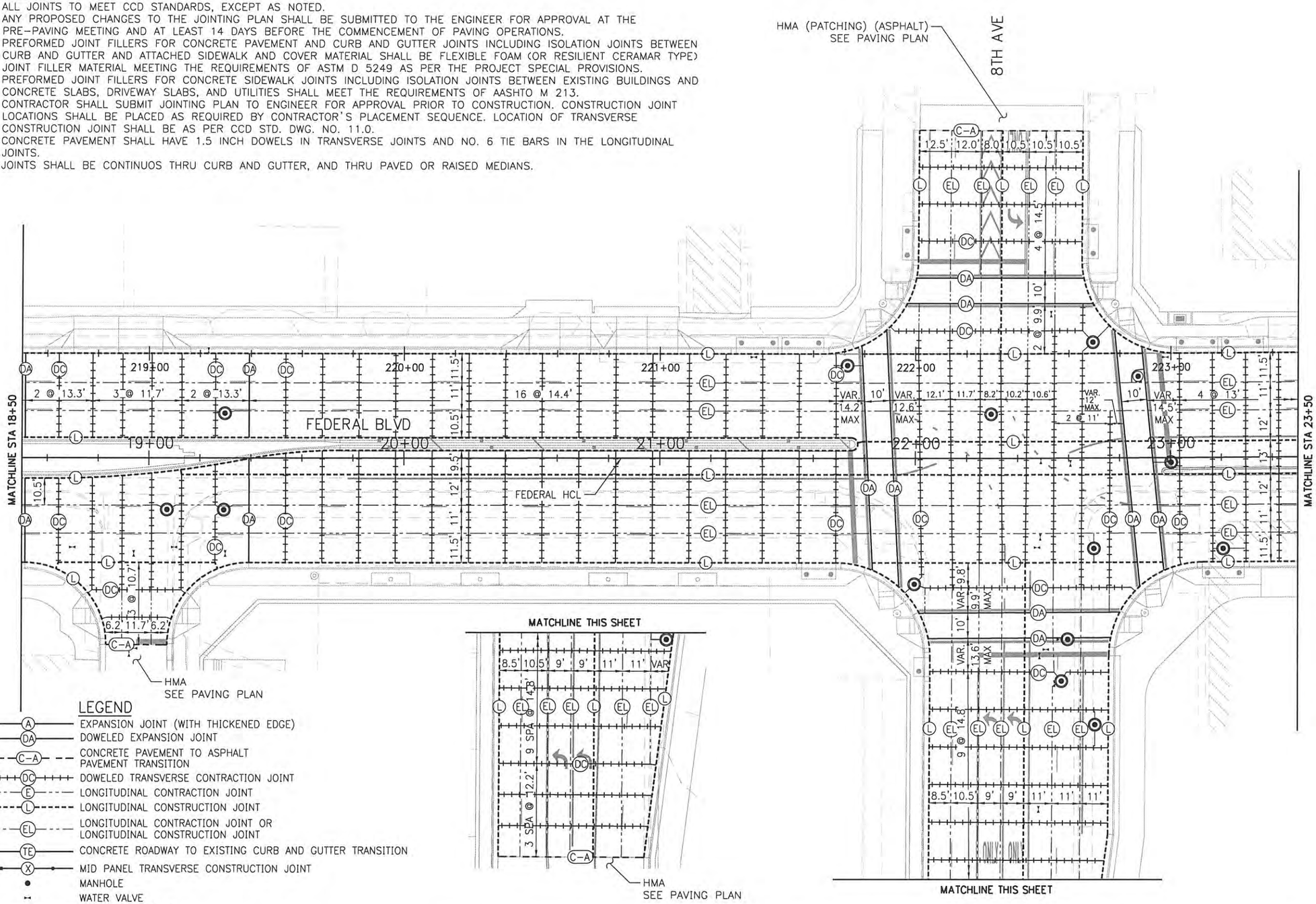
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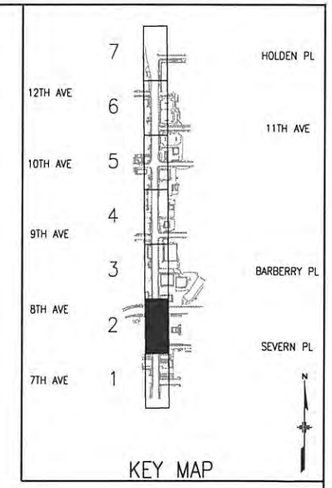
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- (X) MID PANEL TRANSVERSE CONSTRUCTION JOINT
- MANHOLE
- WATER VALVE
- ROADWAY STRIPING

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
1-3-18
PROFESSIONAL ENGINEER

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SUGGESTED CONCRETE PAVEMENT JOINTING PLAN
FEDERAL BLVD - 18+50 TO 23+50

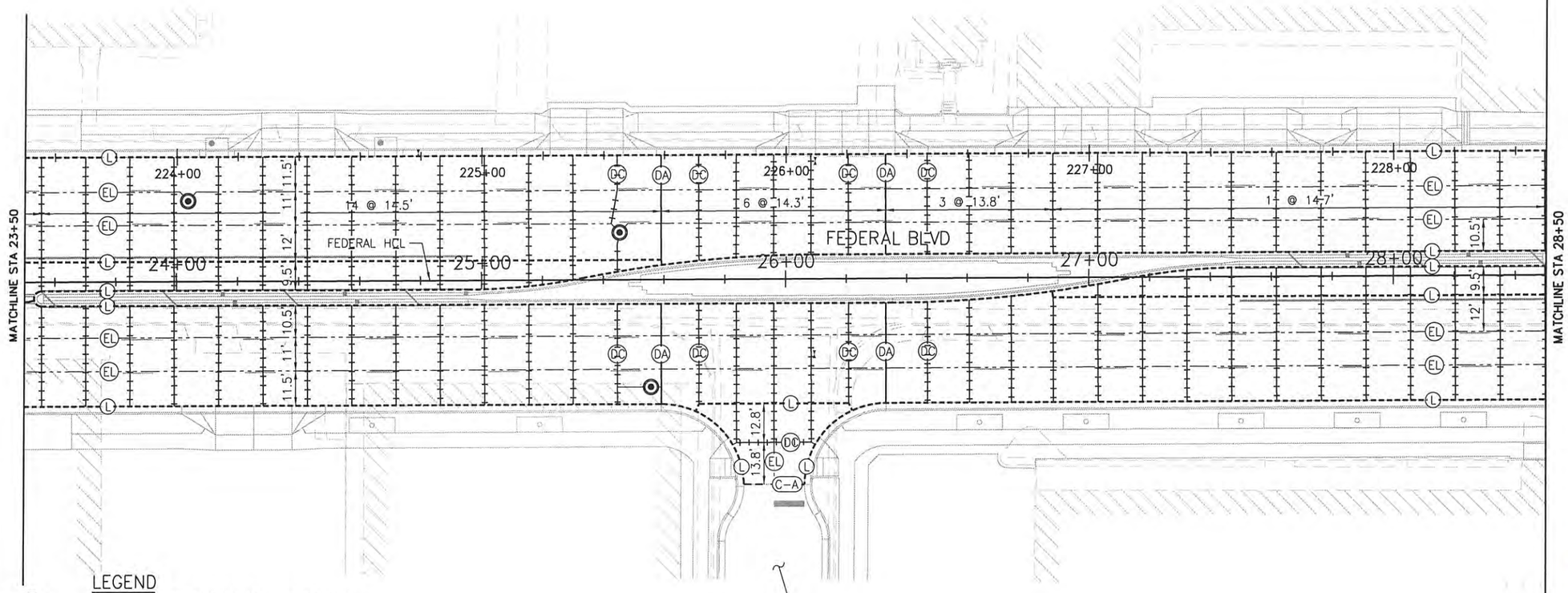
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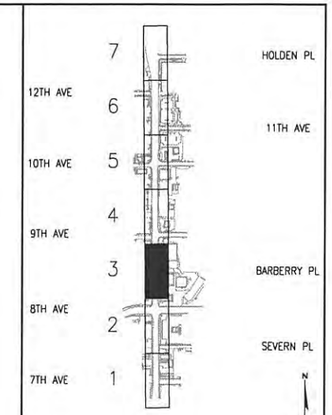
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KEY MAP

LEGEND

- (A) EXPANSION JOINT (WITH THICKENED EDGE)
- (DA) DOWELED EXPANSION JOINT
- (C-A) CONCRETE PAVEMENT TO ASPHALT PAVEMENT TRANSITION
- (DC) DOWELED TRANSVERSE CONTRACTION JOINT
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- (X) MID PANEL TRANSVERSE CONSTRUCTION JOINT
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- WATER VALVE
- ROADWAY STRIPING

COLORADO LICENSED
KYLE S. DORRENBACHER
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1-3-18

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CONSULTING ENGINEERS

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SUGGESTED CONCRETE PAVEMENT JOINTING PLAN
FEDERAL BLVD - 23+50 TO 28+50

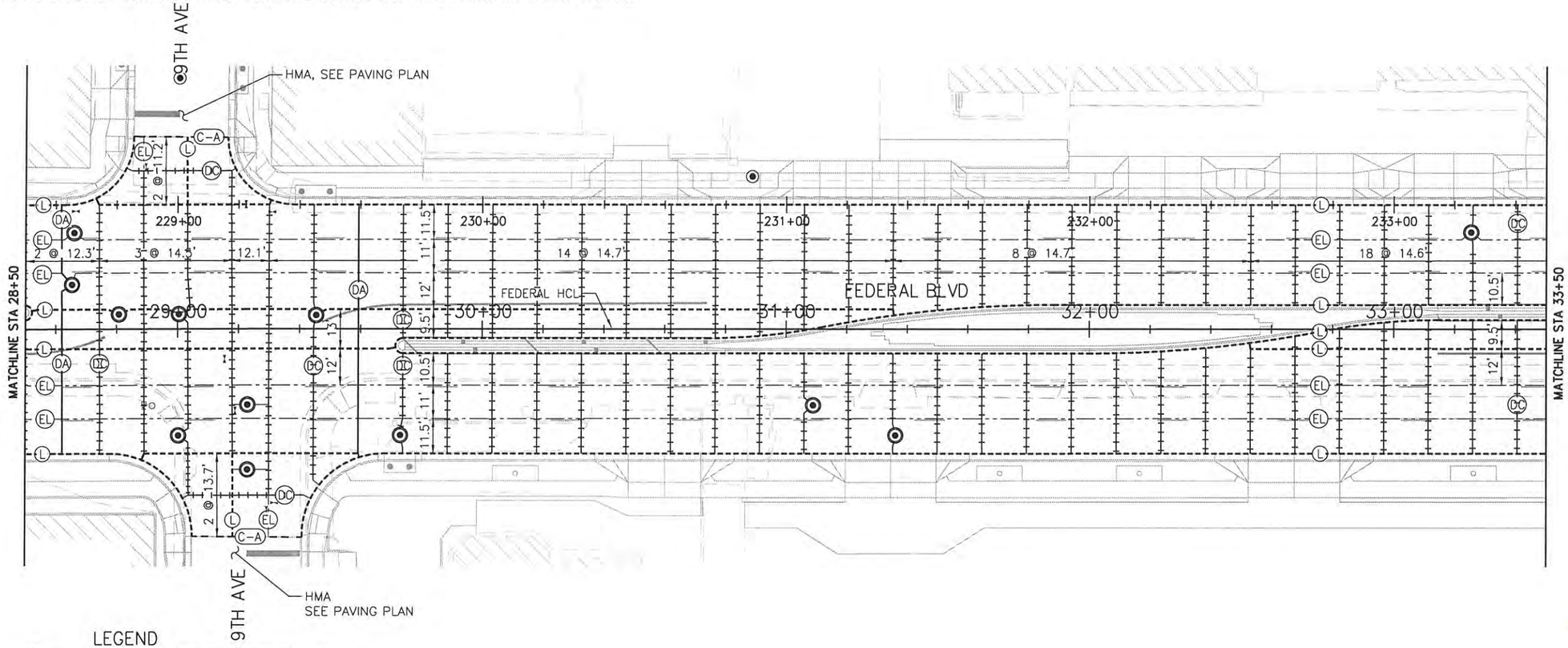
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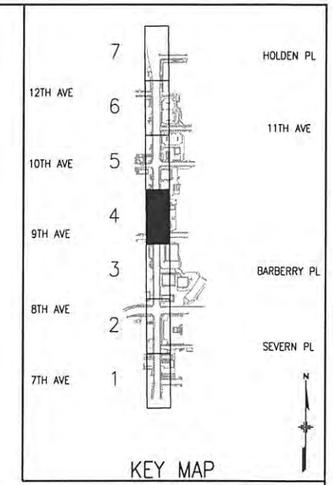
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FEDERAL BLVD - 28+50 TO 33+50

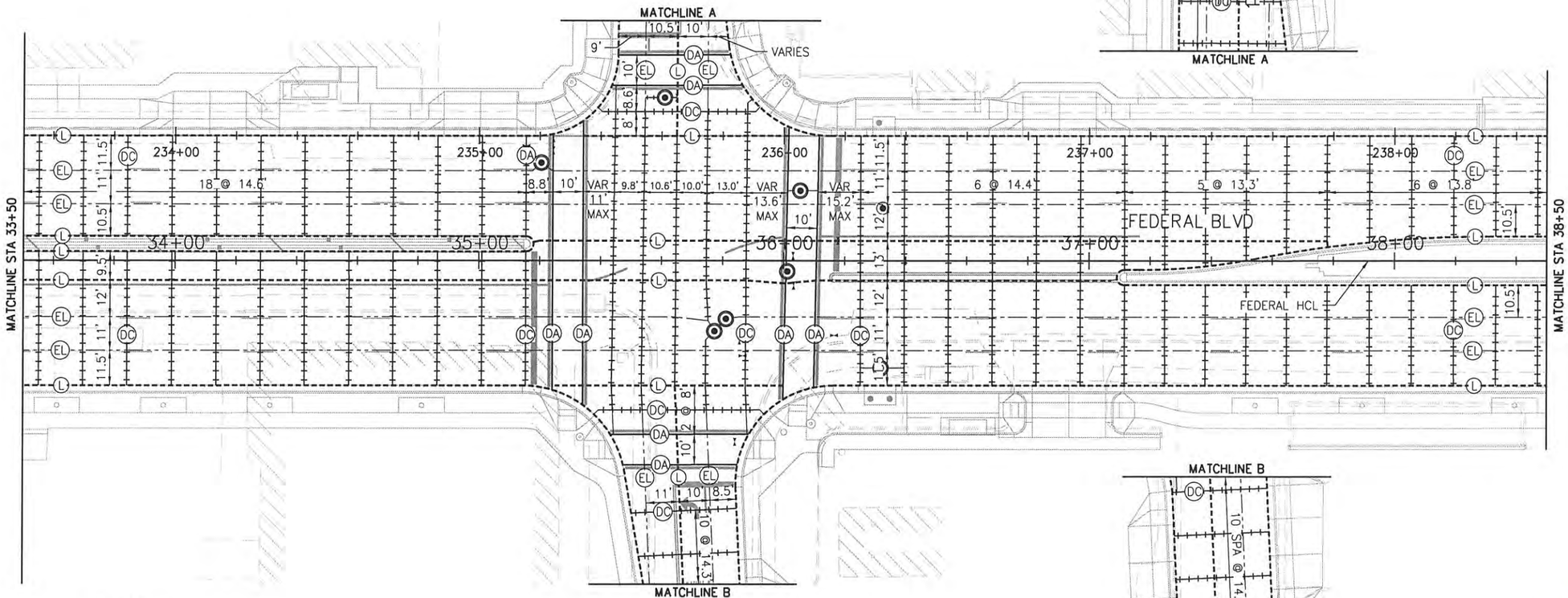
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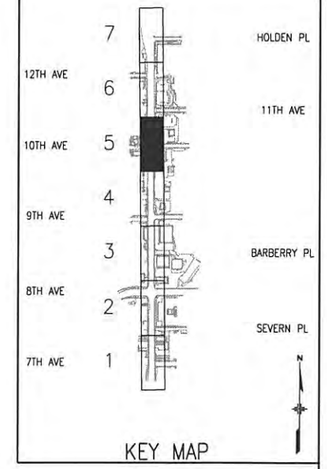
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4. PREFORMED JOINT FILLERS FOR CONCRETE SIDEWALK JOINTS INCLUDING ISOLATION JOINTS BETWEEN EXISTING BUILDINGS AND CONCRETE SLABS, DRIVEWAY SLABS, AND UTILITIES SHALL MEET THE REQUIREMENTS OF AASHTO M 213.
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6. CONCRETE PAVEMENT SHALL HAVE 1.5 INCH DOWELS IN TRANSVERSE JOINTS AND NO. 6 TIE BARS IN THE LONGITUDINAL JOINTS.
7. JOINTS SHALL BE CONTINUOS THRU CURB AND GUTTER, AND THRU PAVED OR RAISED MEDIANS.





LEGEND

- EXPANSION JOINT (WITH THICKENED EDGE)
- DOWELED EXPANSION JOINT
- CONCRETE PAVEMENT TO ASPHALT PAVEMENT TRANSITION
- DOWELED TRANSVERSE CONTRACTION JOINT
- LONGITUDINAL CONTRACTION JOINT
- LONGITUDINAL CONSTRUCTION JOINT
- LONGITUDINAL CONTRACTION JOINT OR LONGITUDINAL CONSTRUCTION JOINT
- CONCRETE ROADWAY TO EXISTING CURB AND GUTTER TRANSITION
- MID PANEL TRANSVERSE CONSTRUCTION JOINT
- MANHOLE
- WATER VALVE
- ROADWAY STRIPING

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
1-3-18
PROFESSIONAL ENGINEER

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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Last Modification Date:	Init.:	
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Denver, CO. 80202

Colorado Department of Transportation
2000 South Holly Street
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Phone: 303-757-9511 FAX: 303-757-9907
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SUGGESTED CONCRETE PAVEMENT JOINTING PLAN
FEDERAL BLVD - 33+50 TO 38+50

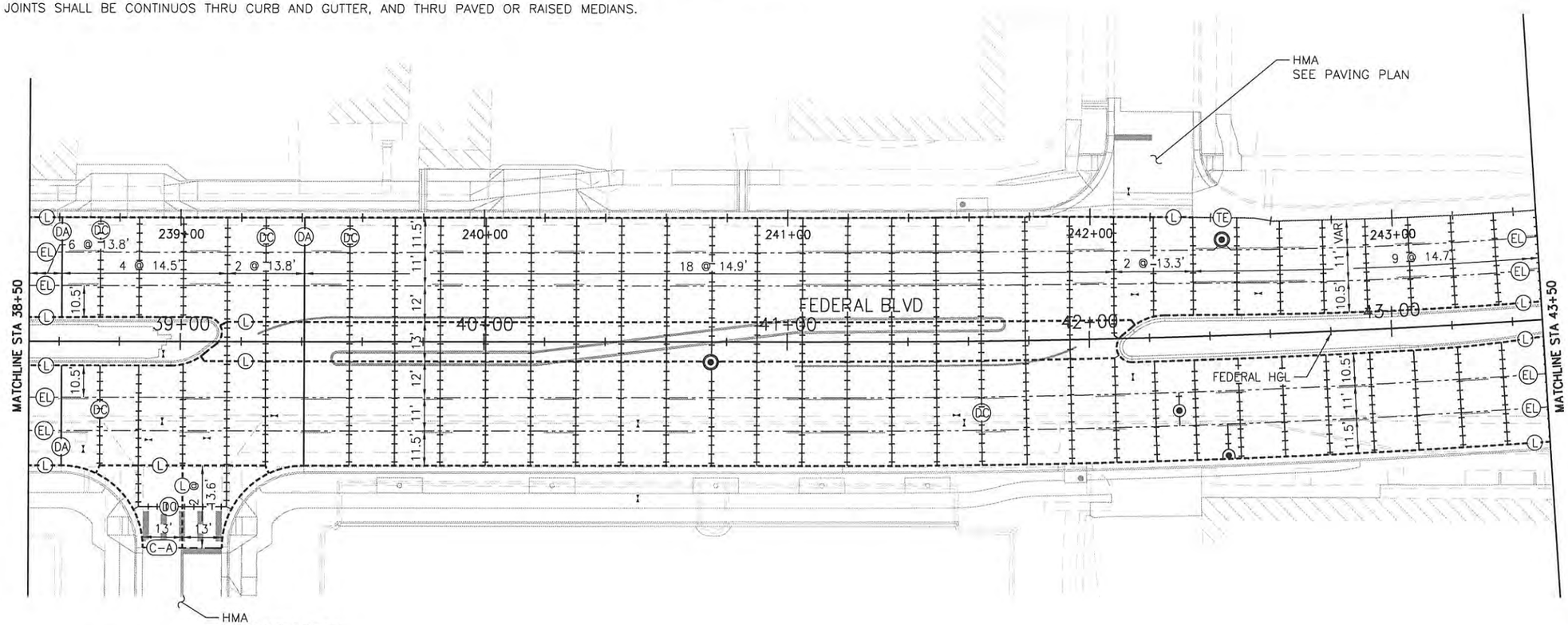
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Detailer:	SRF		
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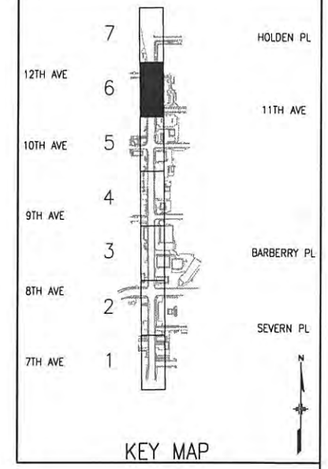
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NOTES

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- (DC) DOWELED TRANSVERSE CONTRACTION JOINT
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- (L) LONGITUDINAL CONSTRUCTION JOINT
- (EL) LONGITUDINAL CONTRACTION JOINT OR LONGITUDINAL CONSTRUCTION JOINT
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- MANHOLE
- WATER VALVE
- ROADWAY STRIPING

COLORADO LICENSED
KYLE S. DORRENBACHER
35776
1-3-18
PROFESSIONAL ENGINEER

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SUGGESTED CONCRETE PAVEMENT JOINTING PLAN
FEDERAL BLVD - 38+50 TO 43+50

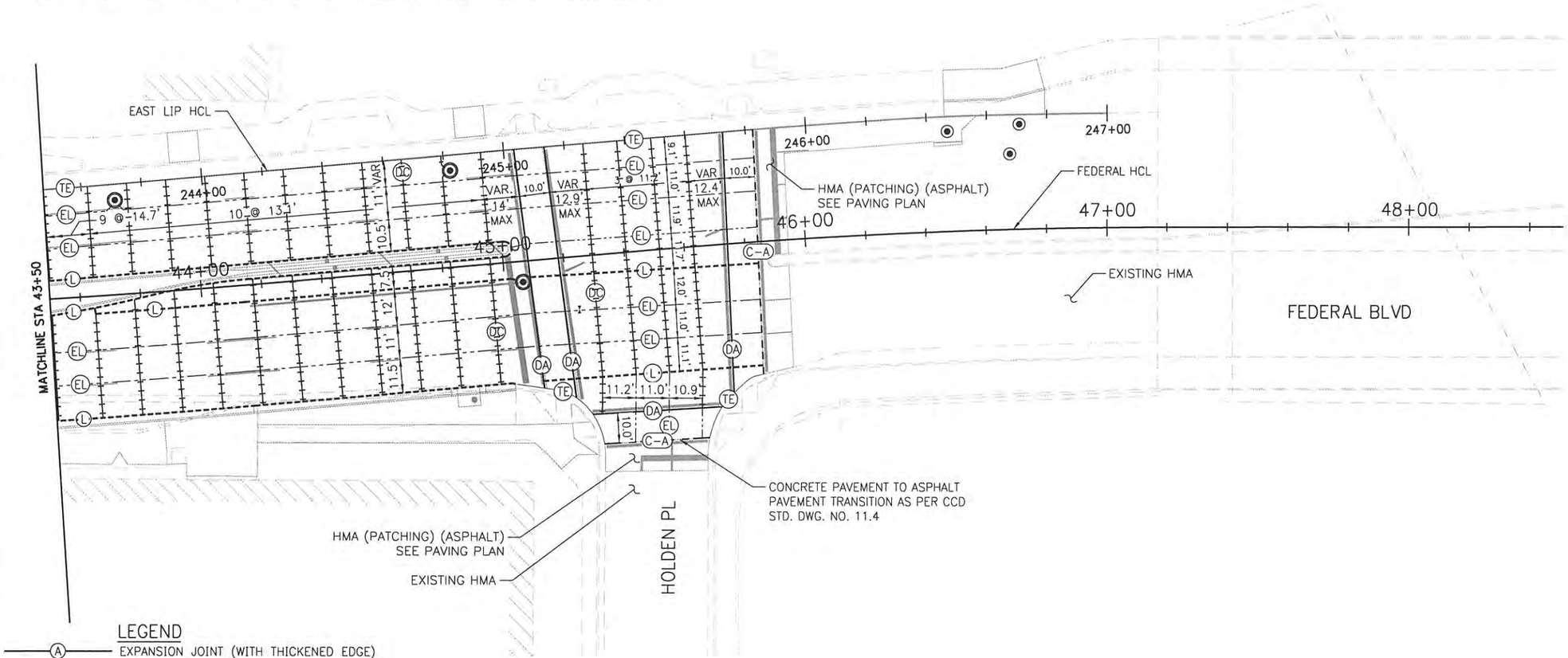
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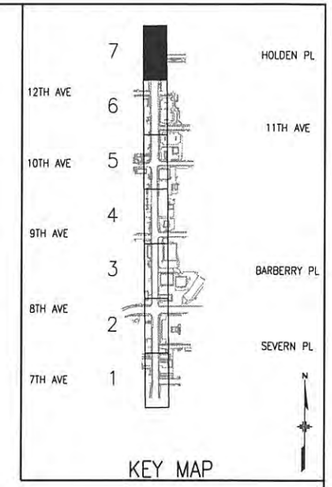
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35776
1-3-18
PROFESSIONAL ENGINEER

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
SUGGESTED CONCRETE PAVEMENT JOINTING PLAN
FEDERAL BLVD - 43+50 TO 48+50

Designer:	KSD	Structure Numbers	
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Sheet Subset:	JOINTPLAN	Subset Sheets:	7 of 7

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NOTES:

1. THE EXISTING UTILITIES SHOWN ON THESE PLANS WERE DEVELOPED FROM SURVEY AND AS-BUILT PLANS PROVIDED BY UTILITY OWNERS. IN AREAS OF POTENTIAL CONFLICT, POTHOLE INFORMATION WAS COLLECTED AND IS SHOWN IN POTHOLE DATA TABLES.
2. IT IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE AND/OR POTHOLE UTILITIES WITHIN ANY GIVEN WORK AREA BEFORE WORK PROCEEDS IN THOSE AREAS. NO ADDITIONAL CONTRACT TIME OR MONIES WILL BE ALLOWED FOR FAILURE OF THE CONTRACTOR TO ADEQUATELY COORDINATE WITH THE VARIOUS UTILITY COMPANIES.
3. FOR ROADWAY LIGHTING, SEE LIGHTING SUBSET AND SPECIFICATIONS.
4. FOR STORM SEWER DESIGN, SEE STORM SEWER SUBSET AND SPECIFICATIONS.
5. FOR TRAFFIC SIGNAL DESIGN, SEE TRAFFIC SIGNAL SUBSET AND SPECIFICATIONS.
6. CENTURYLINK – INCLUDES QWEST FACILITIES
7. ALL TRANSFORMERS, POWER POLES, ETC. BELONGING TO XCEL SHALL BE REMOVED BY XCEL FORCES, UNLESS OTHERWISE NOTED ON PLANS.
8. AN ELECTRICAL PERMIT MUST BE OBTAINED BY THE ELECTRICAL CONTRACTOR FOR ALL PHASES OF ELETRICAL INSTALLATIONS. ALL ELECTRICAL WORK SHALL BE PERFORMED BY STATE LICENSED PERSONNEL.
9. IT IS SUGGESTED THAT THE CONTRACTOR INITIATE A REQUEST TO XCEL ENERGY FOR ANY CONSTRUCTION RELATED TEMPORARY ELECTRIC POWER SOURCES AS SOON AS POSSIBLE. THE REQUEST IS TO BE PROCESSED THROUGH XCEL ENERGY BUILDER'S CALL LINE 1-800-628-2121. THE CONTRACTOR MAY UTILIZE ONSITE GENERATORS AS POWER SOURCES. ALL PROVIDED GENERATORS SHALL MEET APPLICABLE LAWS AND ORDINANCES. ADJUSTMENTS OR DELAYS TO CONTRACT TIME MAY NOT BE BASED ON FAILURE TO OBTAIN POWER SOURCES.

UTILITY	CONTACT/EMAIL	PHONE/FAX
Xcel Energy Application for electric/gas services	Builders Call Line BCLCO@xcelenergy.com	P 1-800-628-2121 F 1-800-628-2521
Xcel Energy – Electric Distribution 1123 West 3rd Ave Denver, CO 80223	Marisa Montoya Marisa.I.Montoya@xcelenergy.com Armando Villegas Armando.Villegas@xcelenergy.com Travis Deweese Travis.M.DeWeese@xcelenergy.com	P 303-571-3720 P 303-592-2753 P 303-592-2740
Xcel Energy –Lighting 1123 West 3rd Ave Denver, CO 80223	Branda Sloan Branda.L.Sloan@xcelenergy.com Nick Dunham Nicholas.L.Dunham@xcelenergy.com	P 303-628-2276 P 303-592-2775
Xcel Energy –Gas Operations 1123 West 3rd Ave Denver, CO 80223	Branda Sloan Branda.L.Sloan@xcelenergy.com	P 303-628-2276
CenturyLink 5325 Zuni St., Suite 728 Denver, CO 80221	Maureen Klick maureen.click@centurylink.com	P 720-578-3720 C 720-333-1235
Comcast 8000 E Illiff Ave. Denver, CO 80231	Kip West Kip_west@cable.comcast.com	P 303-603-2832 P 720-347-9992
Denver Water 1600 W. 12th Ave. Denver, CO 80204	Ray Batts Ray.batts@denverwater.org	P 303-628-6682 C 720-345-1069
Denver Wastewater Management Waste Water 2000 West 3rd Ave. Denver, CO 80202	Ted Christianson ted.christianson@ci.denver.co.us	P 303-446-3722
Denver Wastewater Management Storm Water 2000 West 3rd Ave. Denver, CO 80202	Raul Rodriguez raul.rodriguez@denvergov.org	P 303-446-3471 F 303-446-3647
Metro Wastewater Reclamation District 6450 York Street Denver, CO 80229	Craig Simmonds	P 303-286-3248
Denver Traffic Operations 5440 Roslyn Street, Building E Denver, CO 80216	George Holt george.holt@ci.denver.co.us	P 720-865-4012
Zayo Group 400 Centennial Pkwy, Suite 200 Louisville, CO 80023	Leon Glawe leon.glawe@zayo.com	P 303-514-4826

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COLORADO LICENSED
RANDAL LARSLEY
28785
1/2/18
PROFESSIONAL ENGINEER

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
NOTES

Designer:	RDL	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	UTILPLAN	Subset Sheets:	1 of 13

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NHPP 2873-172
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Sheet Number 137

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CALL 811
(or 1-800-922-1987)
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CENTER OF COLORADO (UNCC)
www.uncc.org

601 FEDERAL | 707 FEDERAL | 745 FEDERAL | 749 FEDERAL

ADJUST MANHOLE, RIM EL (-0.50'), 15+85 LT
ADJUST MANHOLE (BY CENTURYLINK)
ADJUST MANHOLE, RIM EL (-0.37'), 16+25 LT
EX LIGHT POLE TO BE REMOVED (BY XCEL)
SEE WATER LINE SUBSET (TYP)
SEE TRAFFIC SIGNAL PLANS - ITS LAYOUT
SEE LIGHTING SUBSET (TYP)

FEDERAL BLVD

14+00 | 15+00 | 16+00 | 17+00 | 18+00

MATCHLINE STA 18+50

7TH AVE

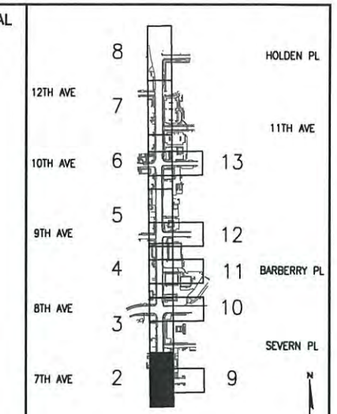
SEE NOTE 7
EX UTILITY POLE TO BE REMOVED (BY XCEL)
SANITARY SEWER CLEANOUTS TO BE REMOVED
REMOVAL OF INLET, 16+24 RT
BUILDING TO BE REMOVED (BY THE CITY PRIOR TO CONSTRUCTION)
SEE NOTE 4
PROPOSED TREE (TYP)
SEE NOTE 4
SEE NOTE 4
EX LIGHT POLE TO BE REMOVED (BY XCEL) ADDITIONAL FIXTURE TO BE GIVEN TO OWNER
SEE LIGHTING SUBSET (TYP)
BUILDING TO BE PARTIALLY REMOVED (BY OWNER PRIOR TO CONSTRUCTION)
BUILDING TO BE REMOVED (BY THE CITY PRIOR TO CONSTRUCTION)
SEE NOTE 4

690 FEDERAL | 710 FEDERAL | 724 FEDERAL | 730 FEDERAL | 2970 W SEVERN PL

COLORADO LICENSED
RACHEL LAPSLEY
28785
11/2/18
PROFESSIONAL ENGINEER

LEGEND

- SD — EX STORM SEWER
- SAN — EX SAN SEWER
- UE — EX ELEC
- OHE — EX OH ELEC TRANS/DIST LINE
- G — EX GAS
- CATV — EX CABLE TV
- FO — EX FO
- T — EX TELECOM
- W — EX WATER
- EX WATER VALVE
- EX IRRIGATION CONTROL VALVE
- EX FIRE HYDRANT
- EX WATER METER
- EX WATER RISER
- EX MONITORING WELL
- EX LIGHT STANDARD
- EX TRAFFIC SIGNAL & ELEC PULL BOX
- EX TRAFFIC SIGNAL
- EX UTILITY POLE
- PROPOSED LIGHT STANDARD
- EX SAN SEWER MANHOLE
- EX MISC MANHOLE
- EX STORM SEWER MANHOLE
- EX TELECOMM MH
- EX TELE UTILITY BOX
- EX GAS METER
- PROPOSED GAS METER (LOCATION APPROX)
- EX GAS VALVE
- EX OH ELEC TRANS LINE TO BE REMOVED BY XCEL
- EX UTIL TO BE REMOVED/ABANDONED
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- PROPOSED WATER LINE
- PROPOSED WATER SERVICE, CURB STOP & METER
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED TAPPING SLEEVE & TAPPING VALVE
- PROPOSED WATER JOINTS
- PROPOSED ELECTRIC
- PROPOSED TRAFFIC SIGNAL
- PROPOSED ELEC FACILITY
- PROPOSED TELECOM FACILITY



KEY MAP

NOTES

1. SEE WATER LINE PLANS FOR WATER LINE REMOVALS, ABANDONMENTS, PROPOSED FEATURES AND WATER LINE RELATED INFORMATION.
2. EXISTING IRRIGATION TO BE REMOVED/RELOCATED/ADJUSTED SHALL BE INCLUDED IN ITEM 212 – LANDSCAPE RESTORATION.
3. ALL OVERHEAD ELECTRICAL TO BE BURIED SHALL BE COMPLETED DURING CONSTRUCTION EXCEPT AS NOTED.
4. GAS, SANITARY, ELECTRIC, AND TELEPHONE ABANDONMENT TO BE APPROVED BY THE OWNER.
5. UNLESS NOTED OTHERWISE, REMOVAL OF ALL ELECTRICAL PULL BOXES SHALL BE INCLUDED IN ITEM 201–CLEARING AND GRUBBING SEE WATER LINE, IRRIGATION, LIGHTING, AND TRAFFIC SIGNAL PLANS FOR ADDITIONAL INFORMATION.
6. FACILITIES TO BE REMOVED, ADJUSTED, OR INSTALLED DURING CONSTRUCTION BY THEIR OWNERS SHALL BE COORDINATED BY THE CONTRACTOR.
7. PROPOSED DPS FIBER TO BE CONSTRUCTED BY OTHERS, LOCATION APPROXIMATE, CCD UTILITY PROJECT # 2017–UTIL–0000605.

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TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
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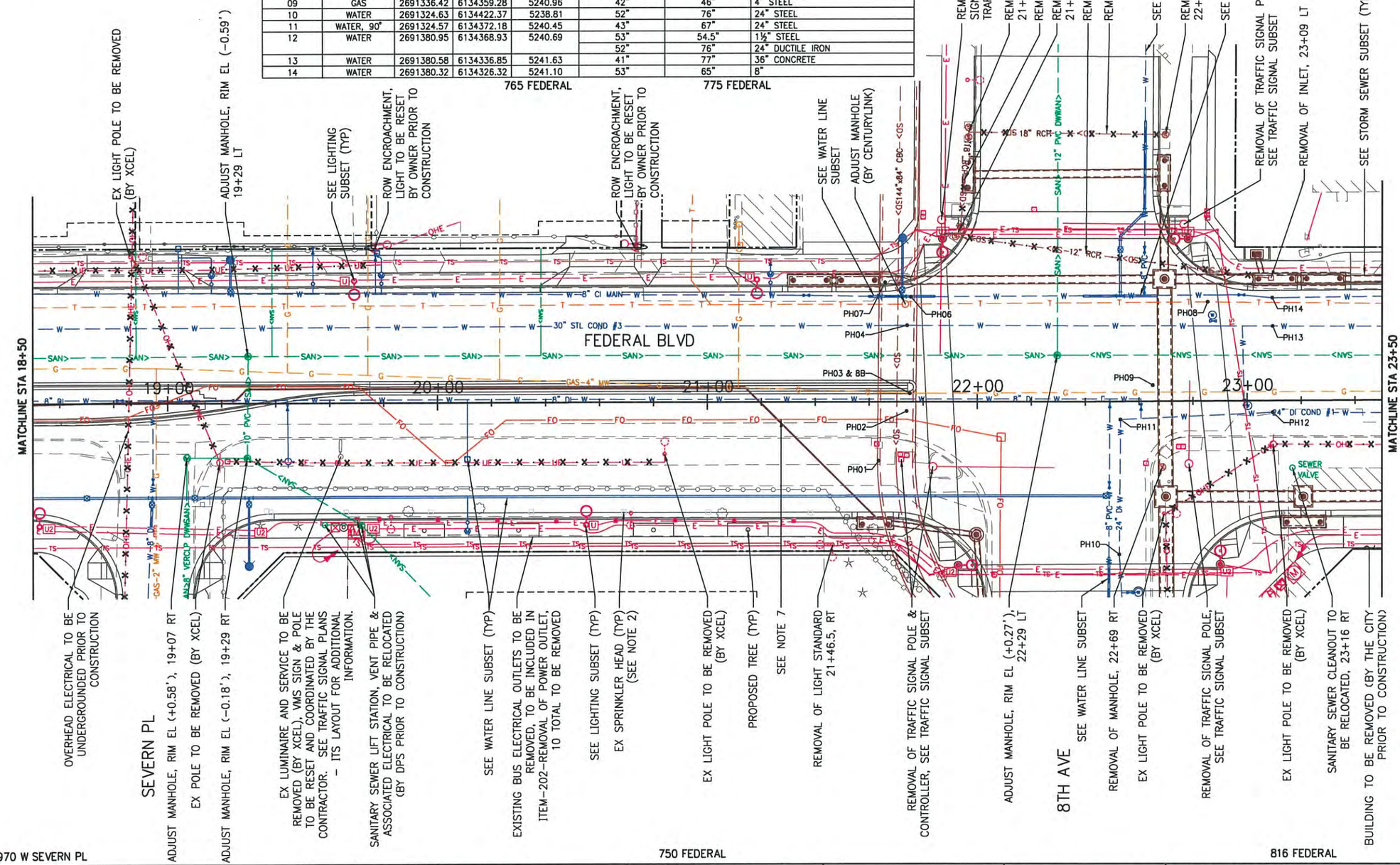
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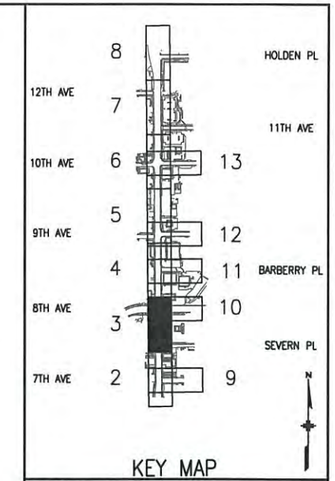
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POTHOLE DATA TABLE

POTHOLE LOCATION	TYPE	NORTHING	EASTING	EX GRADE ELEVATION	TOP OF UTILITY BELOW EX GRADE	BOTTOM OF UTILITY BELOW EX GRADE	DESCRIPTION
01	STORM	2691235.17	6134388.30	5240.36	13'7"	20'7"	84" BOX CULVERT
02	–	2691245.34	6134369.73	5240.57	–	–	10' DEEP, 18" EA SIDE, NO UTIL
03 & 8B	GAS	2691246.44	6134363.09	5240.99	94"	98"	4" STEEL
04	WATER	2691245.20	6134337.83	5241.21	64"	100"	36" STEEL
06	WATER	2691246.42	6134327.20	5240.69	46"	58"	8"
07	–	2691236.85	6134321.85	5240.45	126"	134"	(3) 4" PVC PIPES
08	TELE	2691356.44	6134328.08	5241.12	37"	–	CONCRETE CAP
09	GAS	2691336.42	6134359.28	5240.96	42"	46"	4" STEEL
10	WATER	2691324.63	6134422.37	5238.81	52"	76"	24" STEEL
11	WATER, 90°	2691324.57	6134372.18	5240.45	43"	67"	24" STEEL
12	WATER	2691380.95	6134368.93	5240.69	53"	54.5"	1½" STEEL
					52"	76"	24" DUCTILE IRON
13	WATER	2691380.58	6134336.85	5241.63	41"	77"	36" CONCRETE
14	WATER	2691380.32	6134326.32	5241.10	53"	65"	8"

749 FEDERAL
753–759 FEDERAL
765 FEDERAL
775 FEDERAL
815 FEDERAL
750 FEDERAL
816 FEDERAL
2970 W SEVERN PL





KEY MAP

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7. PROPOSED DPS FIBER TO BE CONSTRUCTED BY OTHERS, LOCATION APPROXIMATE, CCD UTILITY PROJECT # 2017–UTIL–0000605.

COLORADO LICENSED
RANDAL LARSLEY
28785
1/2/18
PROFESSIONAL ENGINEER

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
FEDERAL BLVD – 18+50 TO 23+50

Designer:	RDL	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	UTILPLAN	Subset Sheets:	3 of 13

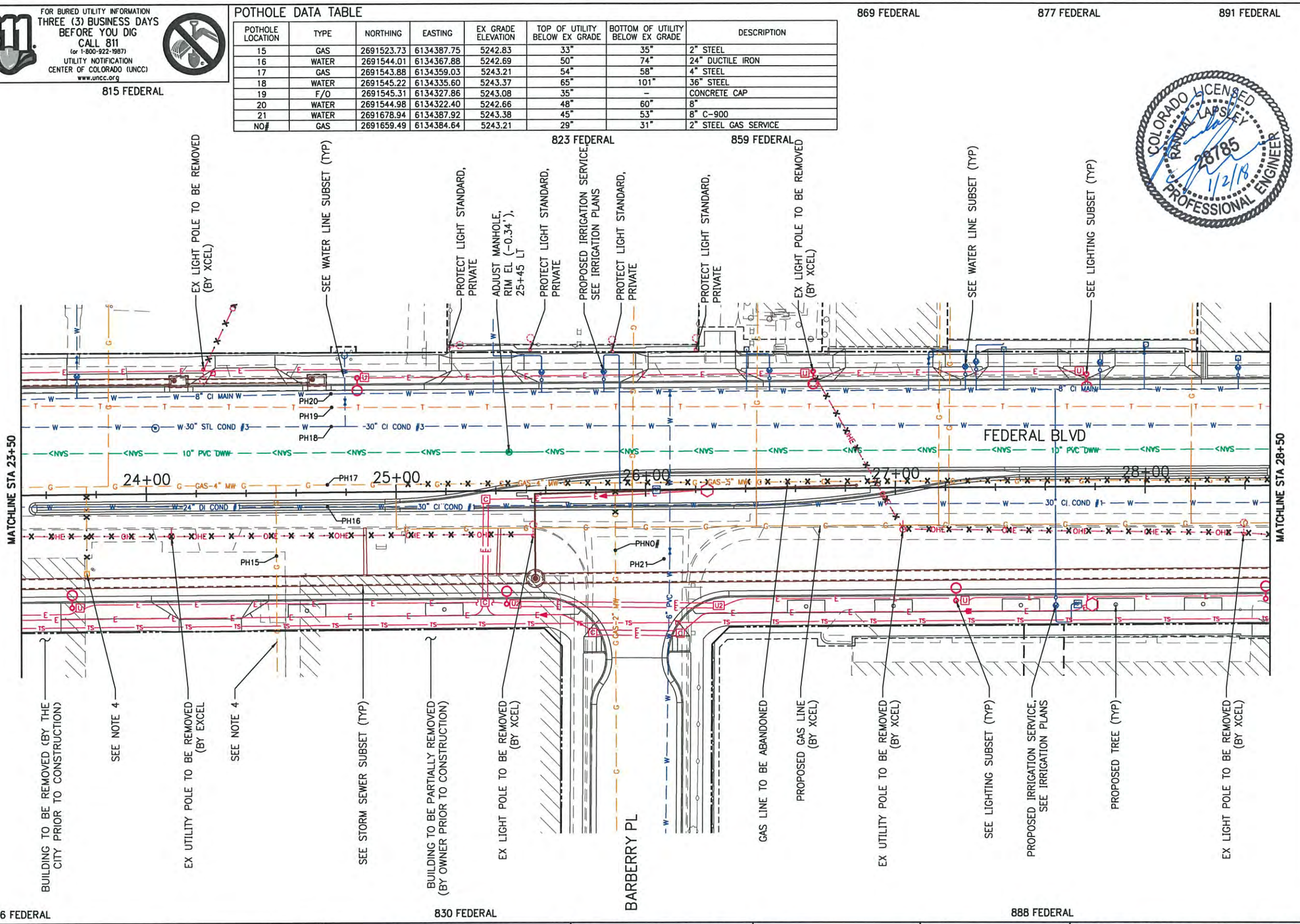
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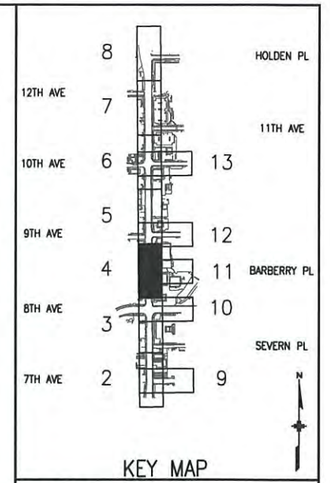
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POTHOLE DATA TABLE

POTHOLE LOCATION	TYPE	NORTHING	EASTING	EX GRADE ELEVATION	TOP OF UTILITY BELOW EX GRADE	BOTTOM OF UTILITY BELOW EX GRADE	DESCRIPTION
15	GAS	2691523.73	6134387.75	5242.83	33"	35"	2" STEEL
16	WATER	2691544.01	6134367.88	5242.69	50"	74"	24" DUCTILE IRON
17	GAS	2691543.88	6134359.03	5243.21	54"	58"	4" STEEL
18	WATER	2691545.22	6134335.60	5243.37	65"	101"	36" STEEL
19	F/O	2691545.31	6134327.86	5243.08	35"	–	CONCRETE CAP
20	WATER	2691544.98	6134322.40	5242.66	48"	60"	8"
21	WATER	2691678.94	6134387.92	5243.38	45"	53"	8" C-900
NO#	GAS	2691659.49	6134384.64	5243.21	29"	31"	2" STEEL GAS SERVICE



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KEY MAP

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
FEDERAL BLVD – 23+50 TO 28+50

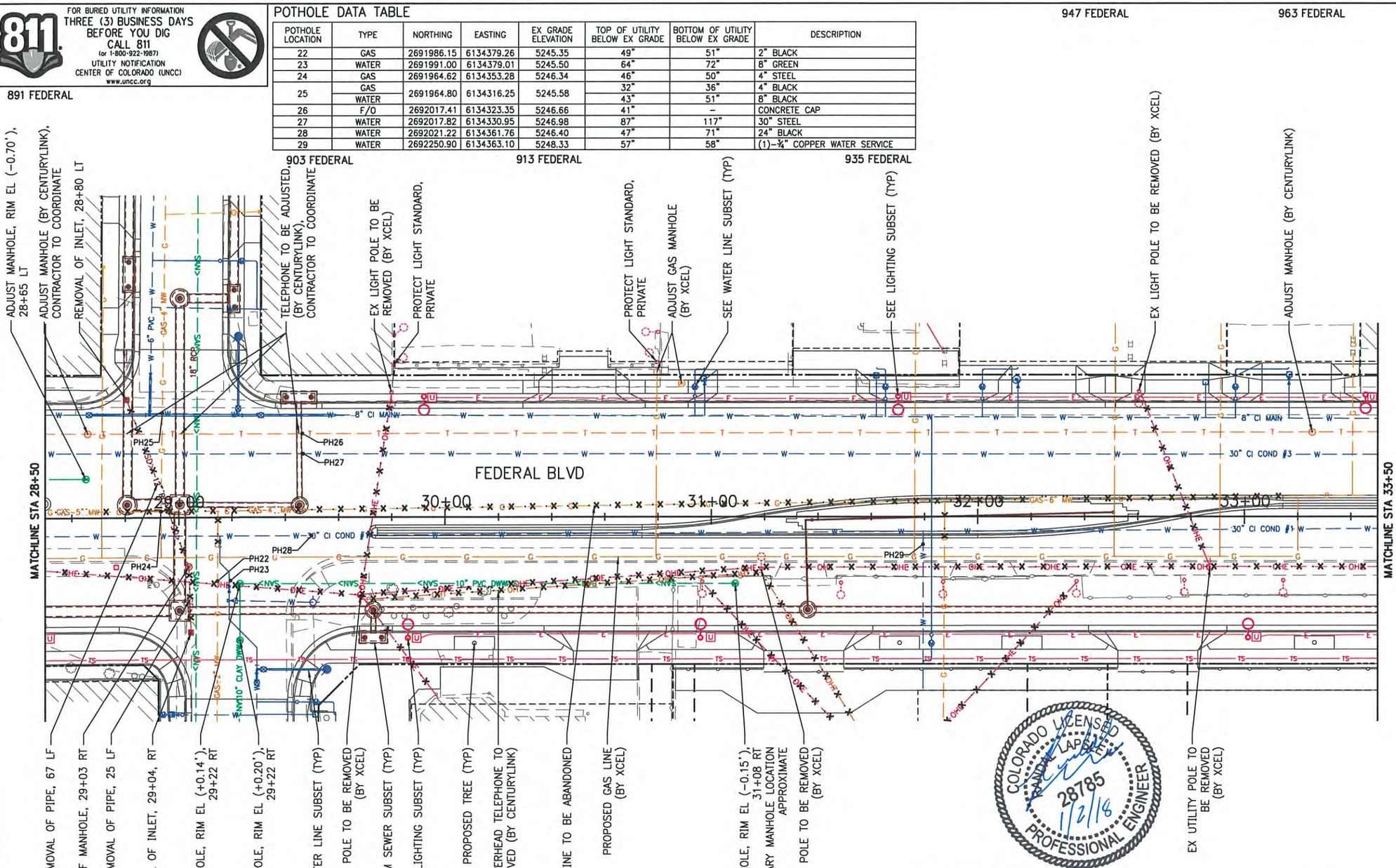
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Detailer:	SRF		
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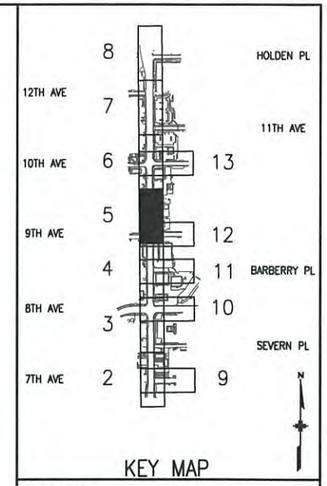
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POTHOLE DATA TABLE

POTHOLE LOCATION	TYPE	NORTHING	EASTING	EX GRADE ELEVATION	TOP OF UTILITY BELOW EX GRADE	BOTTOM OF UTILITY BELOW EX GRADE	DESCRIPTION
22	GAS	2691986.15	6134379.26	5245.35	49"	51"	2" BLACK
23	WATER	2691991.00	6134379.01	5245.50	64"	72"	8" GREEN
24	GAS	2691964.62	6134353.28	5246.34	46"	50"	4" STEEL
25	GAS	2691964.80	6134316.25	5245.58	32"	36"	4" BLACK
	WATER				43"	51"	8" BLACK
26	F/O	2692017.41	6134323.35	5246.66	41"	–	CONCRETE CAP
27	WATER	2692017.82	6134330.95	5246.98	87"	117"	30" STEEL
28	WATER	2692021.22	6134361.76	5246.40	47"	71"	24" BLACK
29	WATER	2692250.90	6134363.10	5248.33	57"	58"	(1)–¾" COPPER WATER SERVICE





KEY MAP

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COLORADO LICENSED
RANDAL LAPELE
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1/2/18
PROFESSIONAL ENGINEER

NOTE TO CONTRACTOR:
950 & 970 FEDERAL, OWNER SHALL HAVE THE RIGHT TO SALVAGE ANY MATERIALS AND IMPROVEMENTS THAT WILL BE REMOVED BY THE CITY TO ACCOMMODATE THE EXPANDED RIGHT OF WAY, INCLUDING ADVERTISING SIGN, SECURITY LIGHTS AND CAMERA, CHAIN LINK FENCING AND GATES CURRENTLY WITHIN PARCELS RW–25 AND RW–28. OWNER SHALL HAVE 30 DAYS FROM THE DATE NOTICE IS GIVEN BY THE CITY OR ITS AGENT WITHIN WHICH TO REMOVE SUCH MATERIALS AND IMPROVEMENTS. IF NOT REMOVED BY SUCH DEADLINE THE CITY AND ITS CONTRACTOR SHALL DISPOSE OF SUCH PROPERTY.

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
FEDERAL BLVD – 28+50 TO 33+50

Designer:	RDL	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	UTILPLAN	Subset Sheets:	5 of 13

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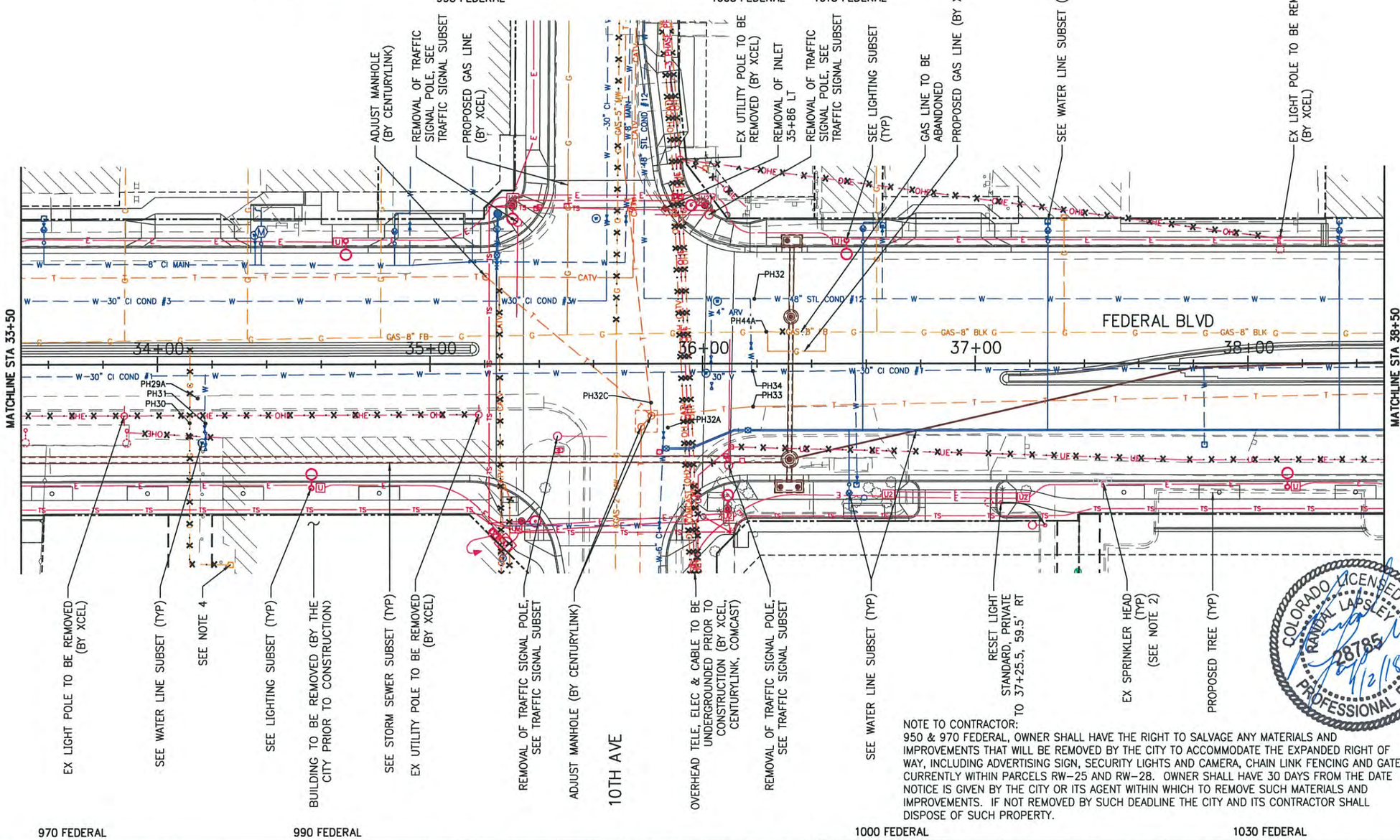
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POTHOLE DATA TABLE

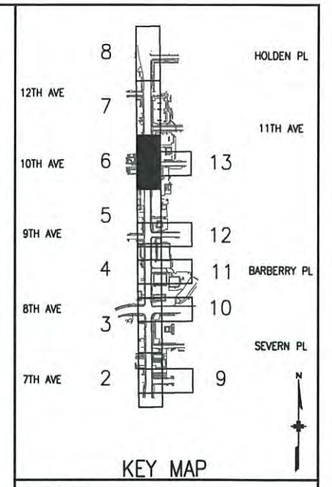
POTHOLE LOCATION	TYPE	NORTHING	EASTING	EX GRADE ELEVATION	TOP OF UTILITY BELOW EX GRADE	BOTTOM OF UTILITY BELOW EX GRADE	DESCRIPTION
29A	GAS	2692486.17	6134362.92	5249.65	31"	33"	2" GAS SERVICE
30	GAS	2692483.32	6134372.10	5249.06	31"	33"	(1)-1½" STEEL GAS SERVICE
31	WATER	2692489.08	6134372.18	5249.06	61"	63"	(1)-2" COPPER WATER SERVICE
32	WATER	2692690.06	6134324.61	5251.19	49"	79"	30" STEEL
32A	–	2692658.75	6134372.32	5249.94	–	–	–
32C	–	2692652.48	6134363.20	5250.37	27"	29"	2" PVC
33	F/O	2692690.02	6134364.32	5249.91	23"	25"	(1)-2" PVC, UNKNOWN CLAY PIPE T=27"
34	WATER	2692689.80	6134351.24	5250.80	66"	96"	30" CONCRETE
44A	GAS	2692694.57	6134336.69	5251.32	32"	40"	8" STEEL

995 FEDERAL 1005 FEDERAL 1015 FEDERAL 1023 FEDERAL 1041 FEDERAL



970 FEDERAL 990 FEDERAL 1000 FEDERAL 1030 FEDERAL

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
FEDERAL BLVD – 33+50 TO 38+50

Designer: RDL
Detailer: SRF
Sheet Subset: UTILPLAN
Structure Numbers:
Subset Sheets: 6 of 13

Project No./Code
NHPP 2873-172
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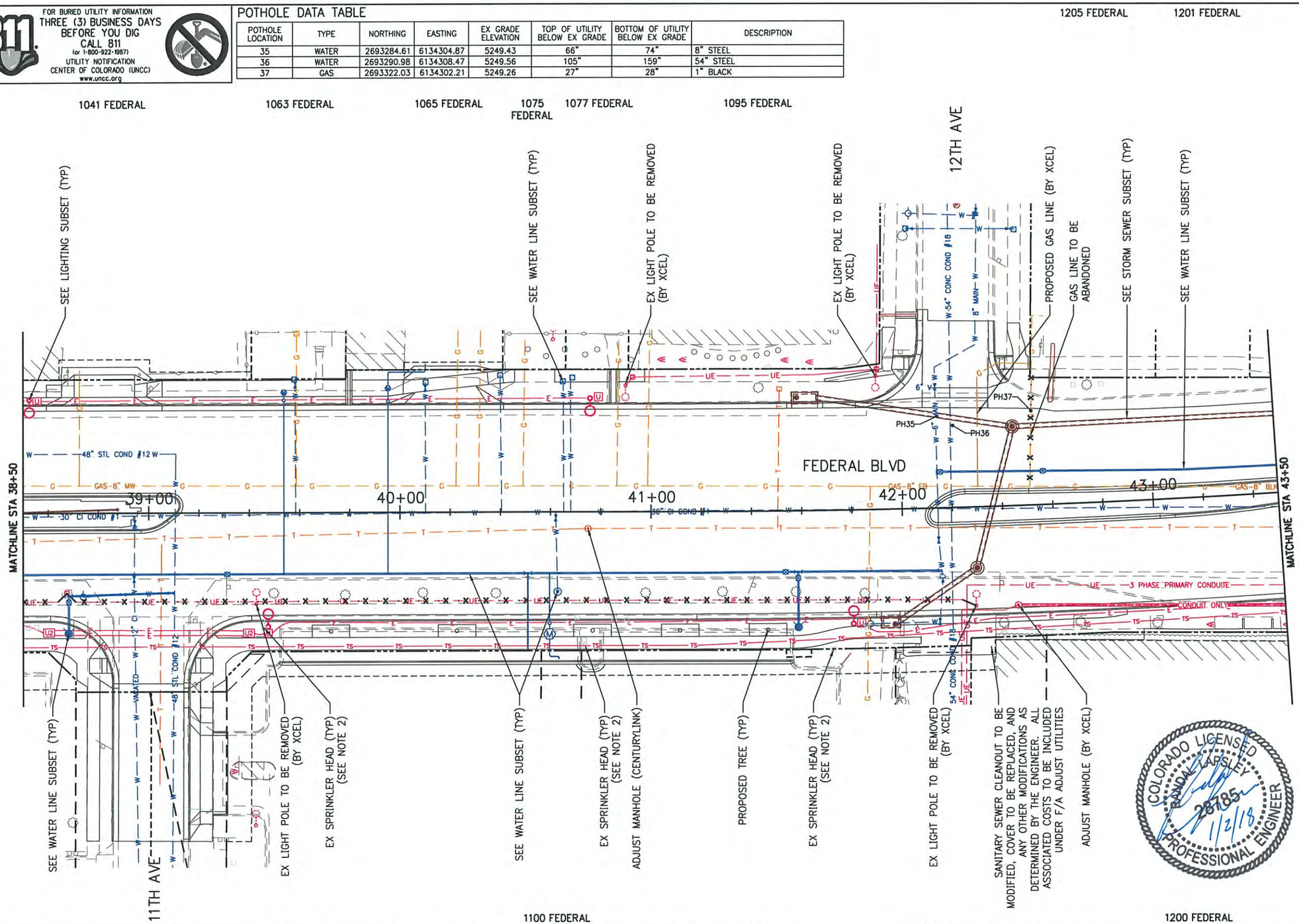
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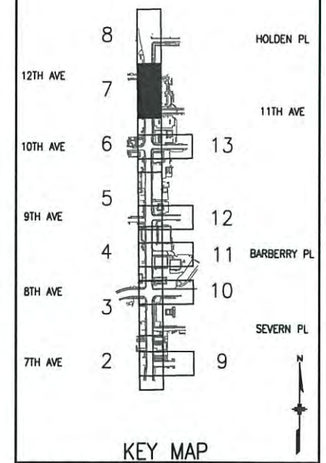
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POTHOLE DATA TABLE

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35	WATER	2693284.61	6134304.87	5249.43	66"	74"	8" STEEL
36	WATER	2693290.98	6134308.47	5249.56	105"	159"	54" STEEL
37	GAS	2693322.03	6134302.21	5249.26	27"	28"	1" BLACK



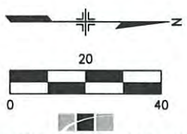


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FEDERAL BLVD – 38+50 TO 43+50

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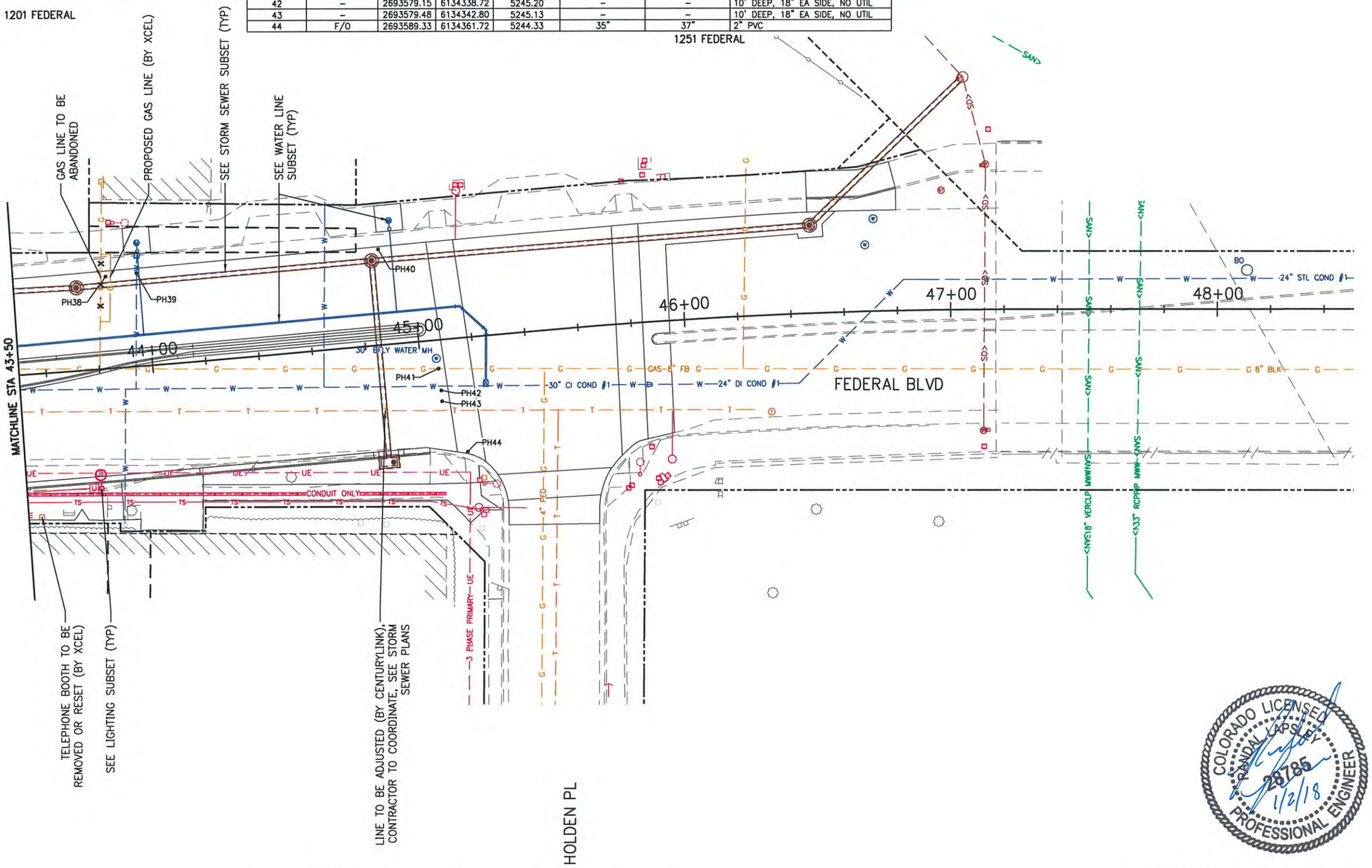
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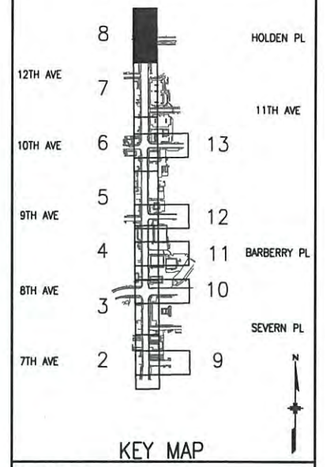
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38	–	2693452.85	6134296.67	5247.41	–	–	10' DEEP, 18" EA SIDE, NO UTIL
39	WATER	2693464.48	6134295.32	5247.13	30"	32"	2" STEEL WATER SERVICE
40	–	2693554.90	6134285.72	5245.26	–	–	10.5' DEEP, 18" EA SIDE, NO UTIL
41	GAS	2693578.02	6134330.50	5245.36	39"	47"	8" STEEL
42	–	2693579.15	6134338.72	5245.20	–	–	10' DEEP, 18" EA SIDE, NO UTIL
43	–	2693579.48	6134342.80	5245.13	–	–	10' DEEP, 18" EA SIDE, NO UTIL
44	F/O	2693589.33	6134361.72	5244.33	35"	37"	2" PVC





KEY MAP

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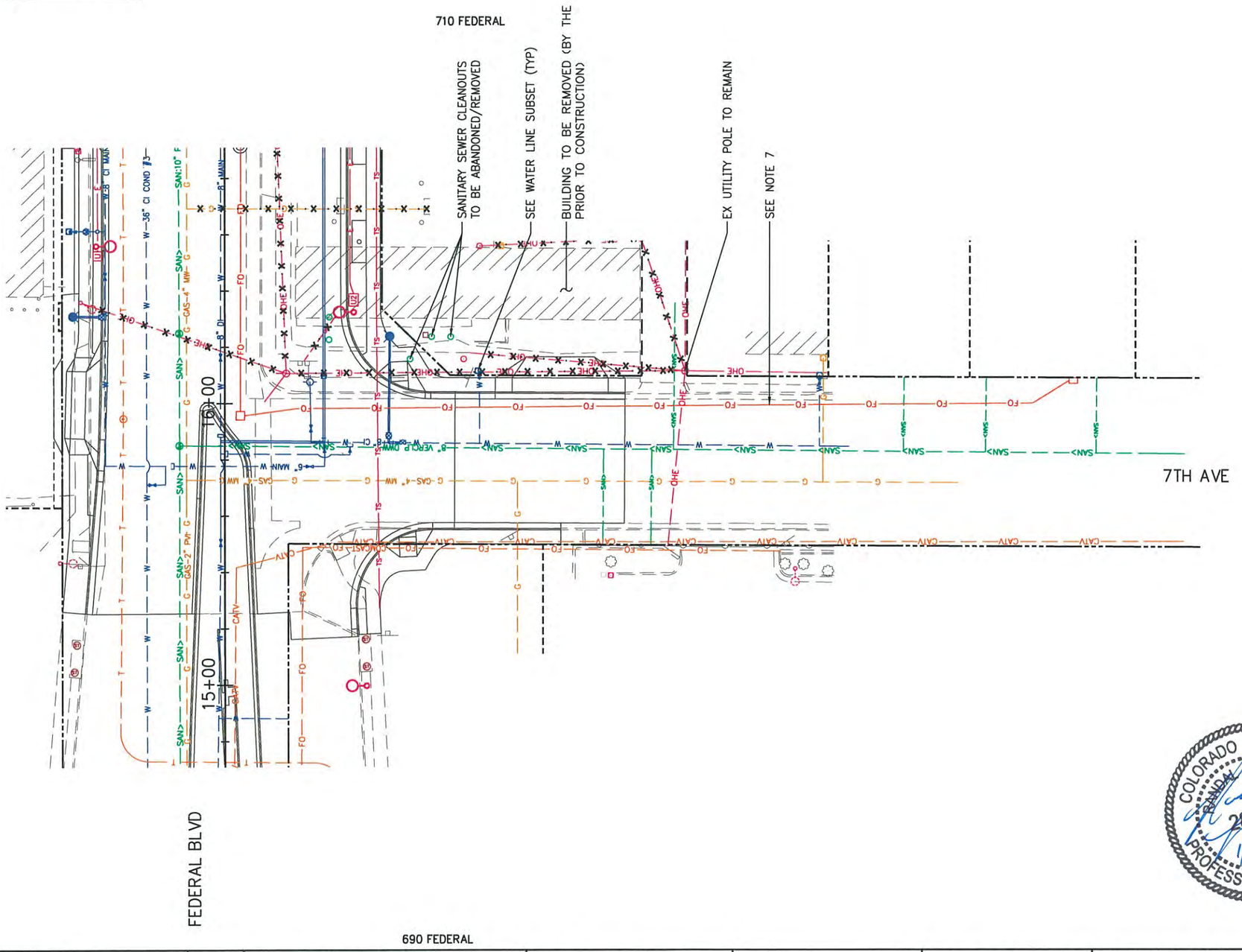
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FEDERAL BLVD – 43+50 TO 48+50

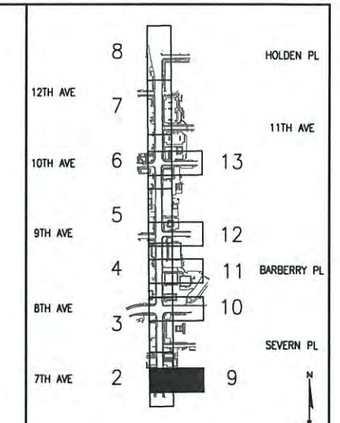
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Detailer:	SRF		
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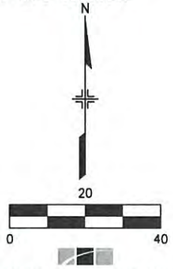




KEY MAP

NOTES

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7. PROPOSED DPS FIBER TO BE CONSTRUCTED BY OTHERS, LOCATION APPROXIMATE, CCD UTILITY PROJECT # 2017–UTIL–0000605.



COLORADO LICENSED
SANDRA LAWSLEY
28785
1/2/19
PROFESSIONAL ENGINEER

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

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Colorado Department of Transportation
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Denver, CO 80222
Phone: 303-757-9511 FAX: 303-757-9907
Region 1 JV

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
7TH AVE

Designer:	RDL	Structure Numbers	
Detailer:	SRF		
Sheet Subset:	UTILPLAN	Subset Sheets:	9 of 13

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BUILDING TO BE REMOVED (BY THE CITY PRIOR TO CONSTRUCTION)

22+77.6, 45.3' RT FIRE HYDRANT LINE 3.8' BELOW PROPOSED GROUND, AT MOST SHALLOW POINT

SEE WATER LINE SUBSET (TYP)

EX LIGHT POLE TO BE REMOVED (BY XCEL)

OVERHEAD UTILITY TO BE UNDERGROUNDED (BY XCEL)

EX POLE TO BE REMOVED (BY XCEL)

SEE MATCH THIS SHEET

23+00

22+00

8TH AVE

FEDERAL BLVD

SEE NOTE 7

EX LIGHT POLE TO REMAIN

OVERHEAD UTILITY TO BE UNDERGROUNDED (BY XCEL)

SEE NOTE 7

GUY TO BE ADDED AND BEGIN UNDERGROUNDING OF UTILITY (BY XCEL)

SEE MATCH THIS SHEET

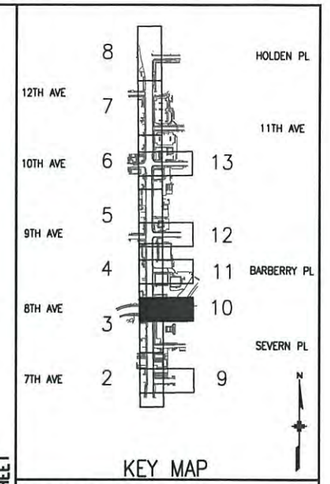
NOTE: SURVEY AND UTILITIES IN THIS ARE ARE APPROXIMATE AND NOT ALL UTILTIES ARE SHOWN.

8TH AVE

750 FEDERAL

COLORADO LICENSED
RANDAL JAPSLEY
28785
1/2/18
PROFESSIONAL ENGINEER

KEY MAP



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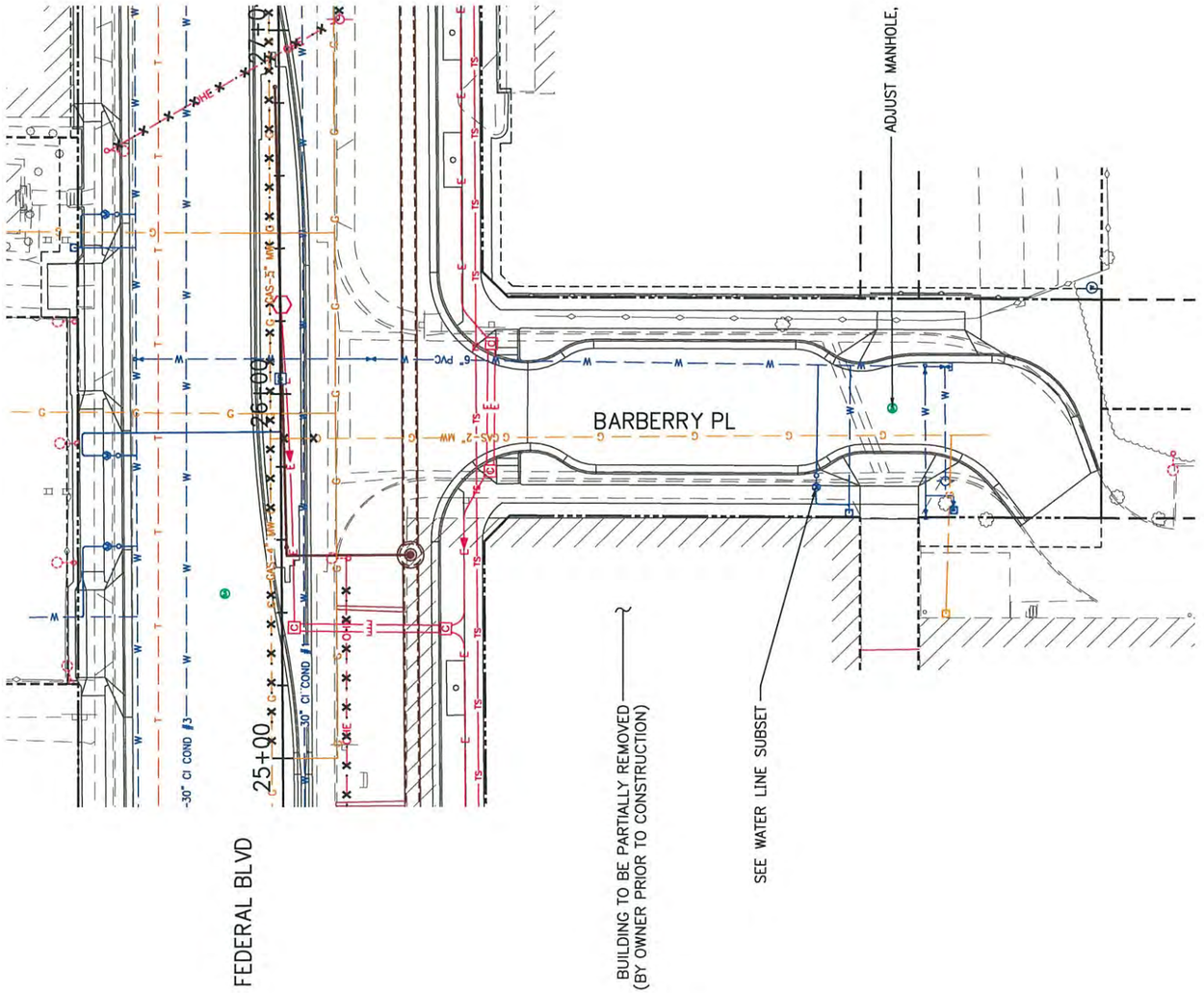
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
8TH AVE

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Detailer:	SRF		
Sheet Subset:	UTILPLAN	Subset Sheets:	10 of 13

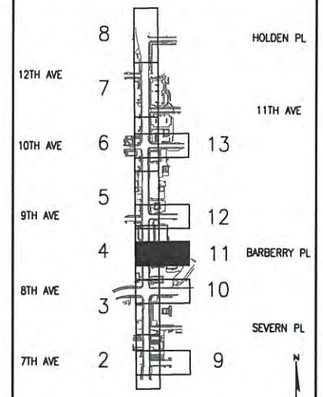
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830 FEDERAL



KEY MAP

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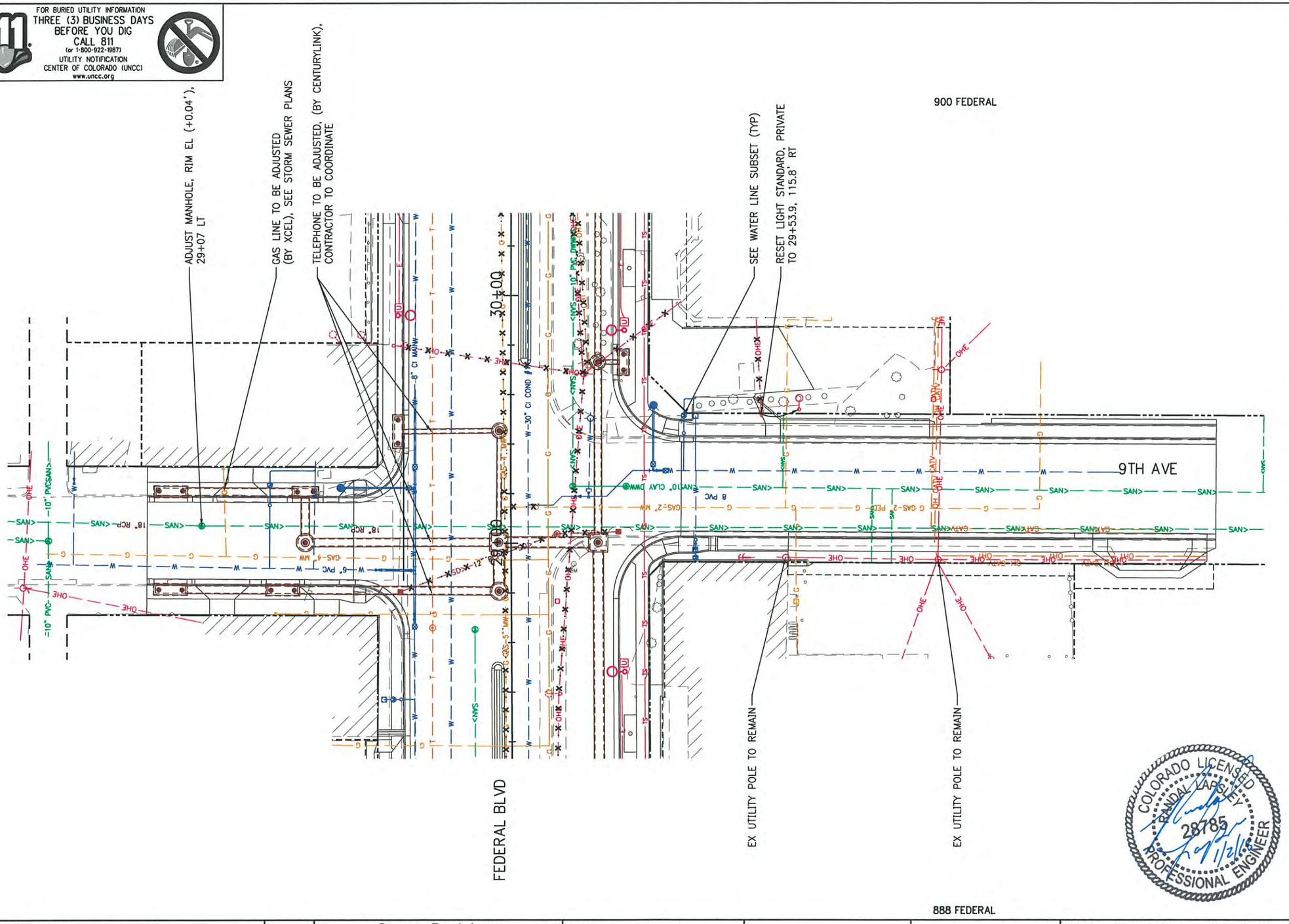
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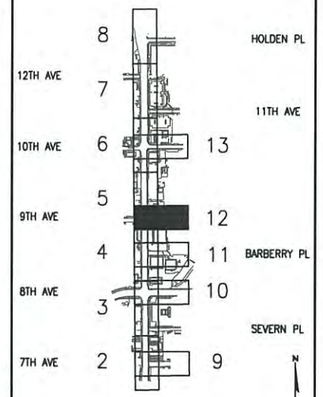
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
BARBERRY PL

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Detailer:	SRF		
Sheet Subset:	UTILPLAN	Subset Sheets:	11 of 13

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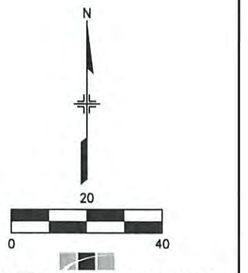




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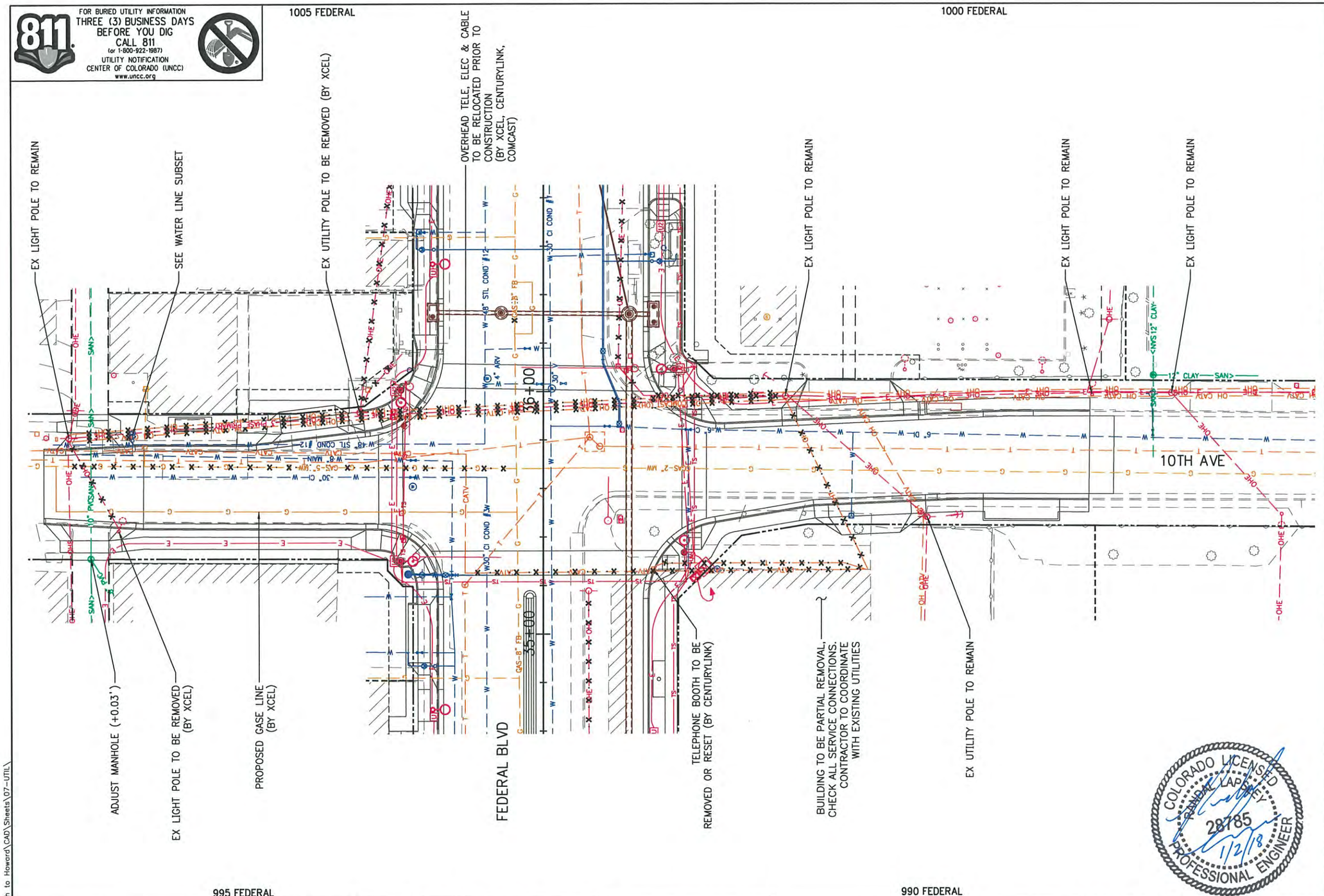
FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
9TH AVE

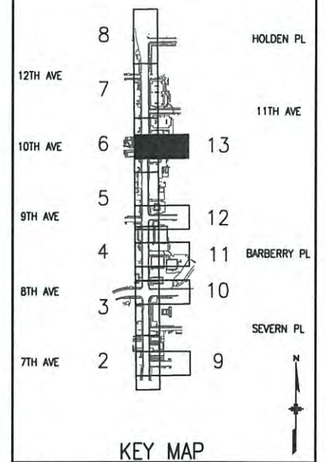
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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
UTILITY PLAN
10TH AVE

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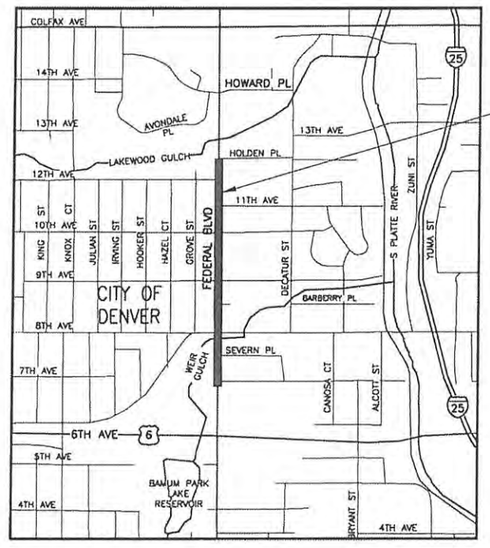
FEDERAL BOULEVARD RECONSTRUCTION
5TH AVENUE TO HOWARD PLACE

SITUATED IN THE NORTHWEST, SOUTHWEST, NORTHEAST & SOUTHEAST ¼ OF SECTION 5,
TOWNSHIP 4 SOUTH, RANGE 68 WEST OF THE 6TH P.M.
CITY AND COUNTY
OF DENVER, STATE OF COLORADO.

WATER PLANS

ABBREVIATIONS

AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS	JT	JOINT
		KB	KICKBLOCK
		LT	LEFT
ABN	ABANDONED	LB	POUND
&	AND	LF	LINEAR FOOT *FEET*
ACP	ASBESTOS CEMENT PIPE	MAX	MAXIMUM
AL	ALUMINUM	MECH	MECHANICAL
ALIGN	ALIGNMENT	MH	MANHOLE
APPROX	APPROXIMATE or APPROXIMATELY	MIN	MINIMUM
		MON WELL	MONITORING WELL
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	MWRD	METRO WATER RECLAMATION DISTRICT
ASPH	ASPHALT	N	NORTH
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	NO. or #	NUMBER
		NTS	NOT TO SCALE
AVE	AVENUE	OD	OUTSIDE DIAMETER
BLDG	BUILDING	OH	OVERHEAD
BLVD	BOULEVARD	PROP	PROPERTY
BNSF	BNSF RAILWAY COMPANY	P	PROPERTY LINE
BO	BLOW-OFF	R	RADIUS
BF	BLIND FLANGE	RD	ROAD
BSTC	BOLTED SLEEVE TYPE COUPLING	REINF	REINFORCE, REINFORCED
		REQ'D	REQUIRED or REQUIRE
CBC	CONCRETE BOX CULVERT	RTD	REGIONAL TRANSPORTATION DISTRICT
CI	CAST IRON		
CONC	CONCRETE		
COND	CONDUIT	ROW	RIGHT-OF-WAY
or CL	CENTERLINE	S	SOUTH
CLR	CLEARANCE or CLEAR	STMH	STORM DRAIN MANHOLE
DET	DETAIL	SHT	SHEET
DI	DUCTILE IRON	SMH	SANITARY MANHOLE
DIA	DIAMETER	ST	STREET
DWD	DENVER WATER DEPARTMENT	STA	STATION
DWG	DRAWING	STD	STANDARD
EL or ELEV	ELEVATION	STL	STEEL
EQ	EQUAL or EQUATION	SLV	SLEEVE
EXIST or EX	EXISTING		
EXT	EXTEND		
F or FL	FLOWLINE		
FLG	FLANGE		
FT	FOOT or FEET		
GM	GAS METER		
GV	GAS VALVE		
ID	INSIDE DIAMETER		
INV	INVERT		
IP	IRON PIPE		



PROJECT LOCATION

VICINITY MAP

APPROX: 1" = 2000'
SECTION 5
TOWNSHIP 4 SOUTH
RANGE 68 WEST

SHEET NUMBER AND INDEX OF SHEETS

SHEET NO	TITLE
1	TITLE SHEET
2 – 3	GENERAL & WATER SYSTEM NOTES (2 SHEETS)
4 – 7	TABULATION OF WATER LINE ITEMS (4 SHEETS)
8 – 17	WATER LINE PLANS (10 SHEETS)
18 – 24	WATER LINE PROFILES (7 SHEETS)
25 – 28	WATER LINE ONLY PLANS (4 SHEETS)

ALL FIRE HYDRANTS SHALL BE INSTALLED ACCORDING TO WATER DEPARTMENT STANDARDS. THE NUMBER AND LOCATIONS OF FIRE HYDRANTS AND FREE FLOW AS SHOWN ON THIS WATER MAIN INSTALLATION IS CORRECT AS SPECIFIED BY THE DENVER FIRE DEPARTMENT.

REQUIRED FLOW = 2250 GPM
FIRE HYDRANT REQUIRED FLOW = 1500 GPM @ 20 PSI RESIDUAL PRESSURE

SIGNATURE OF FIRE CHIEF OR DESIGNATED REPRESENTATIVE

5/9/17
DATE SIGNED

COLORADO LICENSED
RANDAL LAPSLEY
28785
11/2/18
PROFESSIONAL ENGINEER

LEGEND

- EX 3" OR LESS WATER
- EX 6" WATER
- EX 8" WATER
- EX 12" WATER
- EX 16" WATER
- EX WATER CONDUIT
- EX HYDRANT OR FIRE LINE
- EX GATE VALVE
- EX CLOSED GATE VALVE
- EX BUTTERFLY VALVE IN MANHOLE
- EX FIRE HYDRANT
- EX WATER METER
- EX CURB STOP
- EX AIR VALVE ASSEMBLY W/ ACCESS MANHOLE
- EX IRRIGATION CONTROL VALVE
- EX WATER RISER
- EX MONITORING WELL
- EX LIGHT STANDARD
- EX TRAFFIC SIGNAL BOX
- EX TRAFFIC SIGNAL
- EX UTILITY POLE
- PROPOSED LIGHT STANDARD
- UE — EX ELEC
- OHE — EX OH ELEC TRANS/DIST LINE
- OHE — EX OH ELEC TRANS LINE TO BE REMOVED BY XCEL
- SAN — EX SAN SEWER
- (S) EX SAN SEWER MANHOLE
- MH EX MISC MANHOLE
- SD — EX STORM SEWER
- (D) EX STORM SEWER MANHOLE
- FO — EX FO
- T — EX TELECOM
- EX TELECOMM MH
- T EX TELE UTILITY BOX
- EX GAS METER
- PROPOSED GAS METER (LOCATION APPROX)
- EX GAS VALVE
- G — EX GAS
- CATV — EX CABLE TV
- EX WATER LINE TO BE REMOVED/ABANDONED
- PROPOSED STORM SEWER
- PROPOSED SANITARY SEWER
- E — PROPOSED ELECTRIC
- TS — PROPOSED TRAFFIC SIGNAL
- PROPOSED ELEC FACILITY
- PROPOSED TELECOM FACILITY
- PROPOSED DOMESTIC LINE
- PROPOSED 3" OR LESS WATER
- PROPOSED 6" WATER
- PROPOSED 8" WATER
- PROPOSED HYDRANT OR FIRE LINE
- PROPOSED WATER METER IN MANHOLE
- PROPOSED CURB STOP
- PROPOSED FIRE HYDRANT
- PROPOSED WATER VALVE
- PROPOSED TAPPING SLEEVE & TAPPING VALVE
- PROPOSED 45 DEGREE BEND
- PROPOSED 22½ DEGREE BEND
- PROPOSED 11¼ DEGREE BEND
- PROPOSED TEE
- PROPOSED CROSS
- PROPOSED REDUCER
- PROPOSED PLUG OR CAP

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

DENVER
THE MILE HIGH CITY

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CAPITAL PROJECT MANAGEMENT
2000 W. 3RD AVE. DENVER, CO 80223
TEL.: (303) 446-3617 FAX: (303) 446-3647

FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE

COVER SHEET

ISSUE DATE:

DATE	REVISION COMMENTS

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JAN. 2, 2018

SHEET NO.
201
1 OF 28

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5/8/2017
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GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR.

   A. NOTIFYING ALL CUSTOMERS POSSIBLY AFFECTED BY OUTAGE OF WATER DURING CONSTRUCTION.
   B. THE CONTRACTOR SHALL OBTAIN, AT HIS EXPENSE, ALL APPLICABLE LICENSES, PERMITS, BONDS, ETC. REQUIRED FOR THE MAIN INSTALLATION/SYSTEM MODIFICATION.
   C. CONTACTING DENVER WATER'S CONSTRUCTION ENGINEERING FOR PRE-CONSTRUCTION MEETING AND INSPECTION, 303-628-6627, AT LEAST 48 HOURS PRIOR TO COMMENCING CONSTRUCTION.
   D. IN CASE OF AN EMERGENCY AFTER WORKING HOURS, CALL DENVER WATER'S WESTSIDE DISPATCHER AT 303-628-6390,

   NOTE: BE ADVISED THAT OCCASIONALLY VALVES IN OUR SYSTEM MAY BE INOPERABLE. ON SUCH OCCASIONS IT MAY BECOME NECESSARY TO BACK UP AN ADDITIONAL BLOCK FOR THE SHUT OUT. IT WILL THEN BE NECESSARY TO MAKE THE ADDITIONAL NOTIFICATIONS TO GIVE THE AFFECTED CUSTOMERS THE MANDATORY 24 HOURS ADVANCE NOTICE. ALSO BE ADVISED THAT WHEN VALVE MAINTENANCE IS REQUIRED, A DELAY OF SEVERAL DAYS SHOULD BE EXPECTED.

WATER SYSTEM NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL BE IN CONFORMANCE WITH THE DENVER WATER ENGINEERING STANDARDS, MATERIALS SPECIFICATIONS AND DRAWINGS. ALL MAIN INSTALLATIONS/SYSTEM MODIFICATIONS SHALL BE APPROVED AND INSPECTED BY DENVER WATER.

2. ALL WATER MAINS INSTALLED SHALL CONFORM TO DENVER WATER MATERIALS SPECIFICATIONS:

   DUCTILE IRON:
   ES 6.03 4" & 20" CLASS 51/WITH POLY WRAP
   MS-1 6" THROUGH 16" CLASS 50/WITH POLY WRAP

   POLYVINYL CHLORIDE (PVC):
   ES 6.03 4" CLASS 200
   MS-2 6" THROUGH 12" CLASS 150

   NOTE: ALL FIRE HYDRANT LATERALS AND FIRE LINES SHALL BE DUCTILE IRON PIPE.

3. MECHANICAL JOINT RESTRAINT DEVICES SHALL BE:

   FOR DUCTILE IRON PIPE:
   MEGALUG 1100 SERIES
   ROMAL ROM GRIP
   UNI-FLANGE 1400 SERIES
   STAR GRIP 3000 SERIES
   SIGMA-ONE LOCK

   FOR PVC PIPE:
   MEGALUG 2000 PVC SERIES
   SIGMA-ONE LOCK
   STAR

4. PIPE JOINT RESTRAINT DEVICES SHALL BE:

   FOR DUCTILE IRON PIPE:
   MEGALUG 1700 SERIES
   US PIPE FIELD LOK GASKET

   FOR PVC PIPE:
   MEGALUG 1500 PVC SERIES

5. TRACER WIRE, GAUGE 12, SHALL BE INSTALLED ON ALL NON-METALLIC WATER MAINS.

6. ALL FITTINGS SHALL BE MADE FROM GRAY-IRON OR DUCTILE IRON AND FURNISHED WITH MECHANICAL JOINT ENDS. ALL FITTINGS SHALL HAVE A PRESSURE RATING OF 250 PSI (MS-3) AND SHALL BE WRAPPED WITH AN 8-MIL MINIMUM THICKNESS POLYETHYLENE MATERIAL (MS-14).

7. CROSS CONNECTION CONTROL REQUIREMENTS:

PROVIDE THE LOCATIONS OF EXISTING AND PROPOSED DOMESTIC, IRRIGATION, AND FIRELINES WITH A DIMENSION IN RELATIONSHIP TO AN EXISTING VALVE OR FIRE HYDRANT ON THE WATER PLAN.

PROVIDE EXISTING AND PROPOSED BACKFLOW PREVENTION ASSEMBLY (BFPA) INSTALLATIONS OF DOMESTIC, IRRIGATION, AND FIRELINES WITH A DIMENSION IN RELATIONSHIP TO THE METER, BUILDINGS AND/OR SERVICE LINES. INCLUDE BFPA'S SIZE AND TYPE (RP OR DC). INCLUDE BFPA INSTALLATION TYPE (E.G., INSTALLED ABOVE GROUND IN AN ENCLOSURE, IN A MANHOLE PIT/VAULT BELOW GROUND, OR IN A BUILDING) ON THE WATER PLAN.

IRRIGATION SERVICE LINES REQUIRE AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) REDUCED PRESSURE PRINCIPLE (RP) BACKFLOW PREVENTION ASSEMBLY (CONTAINMENT) TO BE INSTALLED 5-FEET DOWNSTREAM FROM THE METER PIT AS AN ABOVE GROUND INSTALLATION BEFORE ANY CONNECTIONS. REFER TO THE ASSEMBLY'S MANUFACTURER INSTALLATION INSTRUCTIONS FOR HEIGHT AND ORIENTATION REQUIREMENTS. FOR ADDITIONAL INFORMATION, PLEASE REFERENCE DENVER WATER'S ENGINEERING STANDARDS 5.05 OR CONTACT CROSS-CONNECTION CONTROL AT 303-628-5940.

IF RECYCLE OR RAW WATER (DITCH WATER, POND, WELL, ETC.) IS USED FOR IRRIGATION ON THE PREMISE, AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) BACKFLOW PREVENTION ASSEMBLY (CONTAINMENT) SHALL BE INSTALLED 5-FEET DOWNSTREAM FROM THE METER PIT ON THE DOMESTIC SERVICE LINE. THE BACKFLOW ASSEMBLY TYPE IS DETERMINED BY THE DEGREE OF HAZARD DOWNSTREAM FROM THE METER (RP-HIGH HAZARD INSTALLED ABOVE GROUND OR DC-LOW HAZARD INSTALLED BELOW GROUND IN A 60-INCH DIAMETER MANHOLE). FOR ADDITIONAL INFORMATION, PLEASE REFERENCE DENVER WATER'S ENGINEERING STANDARDS 5.05 OR CONTACT CROSS-CONNECTION CONTROL AT 303-628-5940.

NO DOMESTIC TAPS (DRINKING FOUNTAINS, PLAY FEATURES, SWIMMING POOLS, BATHROOMS, SINKS, ETC.) ARE ALLOWED ON IRRIGATION SERVICE LINES.

BETWEEN THE IRRIGATION TAP AND THE METER
BETWEEN THE METER AND THE BACKFLOW PREVENTION ASSEMBLY
DOWNSTREAM FROM THE BACKFLOW PREVENTION ASSEMBLY

8. FOR ALL PIPE INSTALLATIONS THE DEPTH OF COVER OVER THE PIPE MEASURED FROM OFFICIAL STREET GRADE TO THE TOP OF THE PIPE SHALL BE A MINIMUM OF 4-1/2 FEET AND SHALL BE KNOWN AS THE COVER OVER THE PIPE. IF DIFFICULTIES ARISE WHEN CROSSING INTERFACES AND WHERE SPECIFICALLY APPROVED BY DENVER WATER, DEVIATIONS FROM 4-1/2 FEET OF COVER WILL BE PERMITTED. COVER OVER THE PIPE SHALL BE A MINIMUM OF 3 FEET AND A MAXIMUM OF 10 FEET.

ANY CHANGES IN ALIGNMENT AND GRADE SHALL BE AUTHORIZED BY DENVER WATER AND SHALL BE ACCOMPLISHED BY THE INSTALLATION OF ADDITIONAL FITTINGS. BREAKING OF JOINTS IS PERMITTED ONLY WHEN INSTALLING PIPE ON HORIZONTAL OR VERTICAL CURVES.

9. FIRE HYDRANTS SHALL CONFORM TO DENVER WATER MS-13 MATERIALS SPECIFICATIONS. FIRE HYDRANT ASSEMBLIES SHALL INCLUDE ALL PIPE, FITTINGS, VALVES AND MATERIALS NECESSARY TO INSTALL THE HYDRANT.

10. THE FOLLOWING FIRE HYDRANTS AND VALVE BOXES SHALL BE ACCEPTED FOR CONSTRUCTION BY DENVER WATER.

FIRE HYDRANTS
A. AMERICAL AVK MODEL 2700 MODERN

THE FOLLOWING MAY BE UTILIZED IN DISTRIBUTOR CONTRACT AREAS.
A. CLOW F-2545
B. KENNEDY K-81D
C. CENTURION 423

VALVE BOXES
A. BINGHAM & TAYLOR MODEL CC05 SERIES, CUL5 SERIES AND GRE5 SERIES
B. EJ MODEL 8560 SERIES AND 6800 SERIES DROP LID
C. SIGMA CORPORATION MODEL VB630 SERIES
D. STAR PIPE PRODUCTS MODEL VB-0006 SERIES

ALL VALVE BOXES AND FIRE HYDRANTS WILL BE ADJUSTED TO THE FINAL FINISHED GRADE BY THE CONTRACTOR.

11. ALL BENDS, TEES, FIRE HYDRANTS, BLOW-OFFS, AND PLUGS AT DEAD-END MAINS SHALL BE PROTECTED FROM THRUST BY USING CONCRETE THRUST BLOCKS PER DENVER WATER ENGINEERING STANDARDS, DRAWING 26.

12. CHLORINATION AND FLUSHING: ALL WATER MAINS SHALL BE INSTALLED AND CHLORINATED PER SECTION 8.24 OF DENVER WATER'S ENGINEERING STANDARDS. THE LINES SHALL BE CHLORINATED IN ACCORDANCE WITH AWWA C-651, "DISINFECTION WATER MAINS." THE PREFERRED METHOD IS TO USE SUFFICIENT CHLORINE TABLETS TO PRODUCE A 25 MG/L SOLUTION. THESE TABLETS SHOULD BE ADHERED TO THE TOP OF THE PIPE WITH PERMATEX CLEAR R.T.V. CHLORINATION OF 16 INCH AND LARGER PIPE REQUIRES A CHLORINE SLURRY. THE CHLORINATION OF ANY FINISHED PIPELINE SHALL BE COMPLETED PRIOR TO HYDROSTATIC TESTING.

13. HYDROSTATIC TESTING: ALL WATER MAINS SHALL BE TESTED PER THE REQUIREMENTS OF SECTION 8.25 OF DENVER WATER'S ENGINEERING STANDARDS. ALL PIPE SHALL BE FIELD PRESSURE TESTED TO A MINIMUM OF 150 PSI. ALL TESTING SHALL BE DONE IN THE PRESENCE OF A DENVER WATER INSPECTOR. ALLOWABLE LEAKAGE FOR EACH SECTION OF PIPE BETWEEN LINE VALVES SHALL NOT EXCEED THE LEAKAGE RATE SET FORTH BELOW.

PIPE SIZE (INSIDE DIAMETER)	ALLOWABLE LEAKAGE PER 1,000 FEET GALLONS PER HOUR	
	DI	PVC
4-INCH	0.37	0.33
6-INCH	0.55	0.50
8-INCH	0.74	0.66
12-INCH	1.10	1.00
16-INCH	1.47	
20-INCH	1.84	

COLORADO LICENSED RANDAL PAPSLEY 28785 1/2/18 PROFESSIONAL ENGINEER

14. ALL VALVES ARE TO BE LOCATED ON PROPERTY LINE EXTENSIONS EXCEPT FOR TAPPING TEES WHERE AN ADDITIONAL VALVE SHALL BE PLACED ON THE TAPPING TEE. OTHER VALVE LOCATIONS MAY BE REQUIRED AS SHOWN ON THE PLANS.

15. WHEN IT IS NECESSARY TO LOWER OR RAISE WATER LINES AT STORM DRAINS AND OTHER UTILITY CROSSINGS, A MINIMUM CLEARANCE OF ONE (1) FOOT SHALL BE MAINTAINED BETWEEN THE OUTSIDE OF PIPES.

16. THE CONTRACTOR SHALL HAVE IN HIS POSSESSION AT ALL TIMES ONE (1) SIGNED COPY OF THE APPROVED WATER PLANS.

17. COMPACTION OF ALL TRENCHES MUST BE ATTAINED BY THE CONTRACTOR AND THE COMPACTION TEST RESULTS SUBMITTED TO DENVER WATER CONSTRUCTION INSPECTION DIVISION.

18. ONLY ONE POINT OF CONNECTION WILL BE ALLOWED UNTIL ALL TESTING OF NEW INSTALLATIONS IS COMPLETED.

19. PRIOR TO INSTALLATION OF WATER MAINS, ROAD CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE "SUB-GRADE" STATE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN SEVEN (7) INCHES BELOW THE FINISHED STREET GRADE.

20. BEFORE ANY TAPS ARE MADE FROM MAINS, APPLICATION(S) FOR THE TAPS MUST BE RECEIVED AND APPROVED BY THE DISTRIBUTOR AND DENVER WATER.

21. DENVER WATER IS TO MAKE ALL TAPS 2 INCHES AND SMALLER.

22. INDIVIDUAL SERVICE LINE PRVs ARE REQUIRED. (USE THIS NOTE ONLY WHEN AREA PRESSURE EXCEEDS 80 PSI.)

23. ALL METER AND AMR LOCATIONS SHALL BE APPROVED BY DENVER WATER, EXCEPT IN MASTER METER DISTRICTS. CONTACT METER INSPECTION AT 303-628-6706 BEFORE CONSTRUCTION TO VERIFY ACCEPTABLE METER LOCATIONS.

A. AN ON SITE PRE-CONSTRUCTION MEETING WITH METER INSPECTION IS REQUIRED FOR ALL METERS 1-1/2 INCH AND LARGER. CALL METER INSPECTION TO SCHEDULE AN APPOINTMENT.
B. SERVICE LINE AND METER SETTINGS MUST MEET ALL APPLICABLE ENGINEERING STANDARDS IN EFFECT AT THE TIME OF THE METER SET OR INSPECTION. RELOCATION OF TAP MAY BE REQUIRED TO AVOID DRIVEWAYS, SIDEWALKS AND OTHER OBSTRUCTIONS CONSTRUCTED AFTER THE TAP HAS BEEN INSTALLED.
C. ALL METERS FOR INSIDE DENVER, TOTAL SERVICE, AND READ AND BILL DISTRICTS MUST BE FURNISHED WITH AUTOMATIC METER READING DEVICES AS SPECIFIED BY DENVER WATER. AMR DEVICES WILL BE INSTALLED BY DENVER WATER AT THE TIME OF THE METER INSTALLATION OR INSPECTION.
D. METER PIT AND VAULT LIDS SHALL HAVE A 7-INCH DIAMETER BY 3/4-INCH DEEP RECESS WITH A 2-INCH DIAMETER HOLE TO ACCOMMODATE THE PIT-MOUNTED AMR DEVICE. WHEN REMOTE AMR DEVICES ARE REQUIRED, A LID WITHOUT RECESSES SHALL BE USED; CONTRACTOR SHALL PROVIDE APPROVED SIGNAL CABLE IN CONDUIT FROM THE METER LOCATION TO THE AMR DEVICE LOCATION, AND DOUBLE-GANG ELECTRICAL JUNCTION BOX MOUNTED AS DIRECTED FOR AMR DEVICE MOUNTING.

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CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

DENVER
THE MILE HIGH CITY

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
CAPITAL PROJECT MANAGEMENT
2000 W. 3RD AVE. DENVER, CO 80223
TEL.: (303) 446-3617 FAX: (303) 446-3647

FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE

GENERAL NOTES & WATER SYSTEM NOTES

ISSUE DATE:

DATE	REVISION COMMENTS

AD SUBMITTAL
JAN. 2, 2018

SHEET NO.
202
2 OF 28

WATER SYSTEM NOTES (CONT.)

E. FOR INDOOR METER INSTALLATIONS: SUBMIT TO METER INSPECTION (FAX: 303-628-6895) A SKETCH OF THE ROOM WHERE THE METER WILL BE INSTALLED SHOWING ALL DOMESTIC AND FIRE LINE PIPING PRIOR TO CONSTRUCTION

F. INSIDE DENVER, ALL MULTI-FAMILY DWELLINGS THAT HAVE ONE TAP, SERVICE LINE, AND METER ARE REQUIRED TO SUB-METER EACH INDIVIDUAL UNIT (CITY COUNCIL ORDINANCE NUMBER 576). CALL THE CITY AND COUNTY OF DENVER'S CHIEF PLUMBING INSPECTOR AT 720-865-2625 FOR INFORMATION.

24. A BACKFLOW PREVENTION DEVICE APPROVED BY DENVER WATER IS REQUIRED ON TREATED WATER SERVICE LINE FOR:

ALL COMMERCIAL AND MULTI-FAMILY DOMESTIC TAPS.

A. COMMERCIAL DOMESTIC TAPS REQUIRE AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) REDUCED PRESSURE PRINCIPLE (RP) OR DOUBLE-CHECK VALVE (DC) BACKFLOW PREVENTION ASSEMBLY (CONTAINMENT) TO BE INSTALLED DOWNSTREAM FROM THE METER PIT IN A HEATED ENCLOSURE OR IMMEDIATE ENTRY INTO A HEATED PART OF THE BUILDING BEFORE ANY CONNECTIONS.

B. IF A MULTI-FAMILY DOMESTIC TAP FALLS UNDER THE FOLLOWING CRITERIA (I.E., PROPERTY OVER THREE STORIES, BOILER FEEDING ALL UNITS, FIRE PROTECTION SYSTEM, PREMISES SERVED BY AUXILIARY WATER, SWIMMING POOL AND IRRIGATION SYSTEMS WITH CHEMICAL INJECTION) THE SAME BACKFLOW ASSEMBLY REQUIREMENTS SHALL APPLY. THE BACKFLOW ASSEMBLY TYPE FOR COMMERCIAL AND MULTI-FAMILY IS DETERMINED BY THE DEGREE OF HAZARD DOWNSTREAM FROM THE METER (RP-HIGH HAZARD OR DC-LOW HAZARD).

C. REFER TO THE ASSEMBLY'S MANUFACTURER INSTALLATION INSTRUCTIONS FOR HEIGHT AND ORIENTATION REQUIREMENTS. FOR ADDITIONAL INFORMATION, PLEASE REFERENCE DENVER WATER'S ENGINEERING STANDARDS 5.05 OR CONTACT CROSS-CONNECTION CONTROL AT 303-628-5940.

TAPS WHERE THERE IS A DUAL WATER SUPPLY ON THE PREMISES. (IF THERE IS A DUAL SUPPLY, A DUAL WATER SUPPLY AGREEMENT MUST BE SIGNED AND PROVIDED TO DENVER WATER.)

FIRE LINES.

25. ALL COMBINATION FIRE LINE AND DOMESTIC TAPS MUST BE INSPECTED AND APPROVED BY DENVER WATER PRIOR TO THE RELEASE OF THE WATER MAINS.

26. DENVER WATER PERSONNEL ARE NOT RESPONSIBLE FOR WORK SITE SAFETY OR COMPLIANCE/ENFORCEMENT OF SAFETY REGULATIONS AND STANDARDS ESTABLISHED BY OTHER AGENCIES. ALL SAFETY COMPLIANCE/ENFORCEMENT AT THE WORK SITE SHALL BE THE CONTRACTOR'S RESPONSIBILITY.

27. THE WATER QUALITY CONTROL DIVISION OF THE COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT (CDPHE) REQUIRES ALL WATER LINE CONTRACTORS TO POSSESS A CURRENT DISCHARGE PERMIT FOR DISCHARGES OF CHLORINATED AND PROCESS WATERS ASSOCIATED WITH THE INSTALLATION OF NEW MAINS OR CONDUITS. CONTACT CDPHE WATER QUALITY CONTROL DIVISION AT 303-692-3539 FOR INFORMATION ON OBTAINING THE REQUIRED PERMIT.

28. IRRIGATION OF MEDIANS AND OTHER PUBLIC LANDSCAPED AREAS LESS THAN 25 FEET IN WIDTH MUST BE DONE IN ACCORDANCE WITH DENVER WATER OPERATING RULE 14.02.3 (CALL DW CONSERVATION SECTION AT 303-628-6343 FOR INFORMATION REGARDING IRRIGATION SYSTEMS)

A. FOR STRIPS OF LAND LESS THAN 6 FEET IN WIDTH - SPRAY IRRIGATION SHALL BE PROHIBITED. LOW-FLOW IRRIGATION SYSTEMS ARE REQUIRED.

B. FOR STRIPS OF LAND BETWEEN 6 FEET AND 15 FEET IN WIDTH - ONLY LOW-FLOW IRRIGATION, OR SPRAY IRRIGATION USING LOW-ANGLE SPRAY NOZZLES DESIGNED FOR THE SPECIFIC WIDTH TO BE IRRIGATED SHALL BE PERMITTED. ALL SPRAY HEADS MUST BE PRESSURE REDUCING AND DESIGNED TO PREVENT LOW HEAD DRAINAGE.

C. FOR STRIPS OF LAND MORE THAN 15 FEET IN WIDTH - ONLY GEAR-DRIVEN ROTORS WITH LOW ANGLE NOZZLES MAY BE USED TO IRRIGATE TURF AREAS. PLANTING BEDS MAY BE IRRIGATED WITH LOW-FLOW OR SPRAY IRRIGATION. ALL SPRAY HEADS MUST BE PRESSURE REDUCING AND DESIGNED TO PREVENT LOW HEAD DRAINAGE.

29. IRRIGATION SERVICE LINES REQUIRE AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) REDUCED PRESSURE PRINCIPLE (RP) BACKFLOW PREVENTION ASSEMBLY (CONTAINMENT) TO BE INSTALLED 5-FEET DOWNSTREAM FROM THE METER PIT AS AN ABOVE GROUND INSTALLATION BEFORE ANY CONNECTIONS. REFER TO THE ASSEMBLY'S MANUFACTURER INSTALLATION INSTRUCTIONS FOR HEIGHT AND ORIENTATION REQUIREMENTS.

30. IF RECYCLE OR RAW WATER (DITCH WATER, POND, WELL, ETC.) IS USED FOR IRRIGATION ON THE PREMISE, AN APPROVED UNIVERSITY OF SOUTHERN CALIFORNIA (USC) BACKFLOW PREVENTION ASSEMBLY (CONTAINMENT) SHALL BE INSTALLED 5-FEET DOWNSTREAM FROM THE METER PIT ON THE DOMESTIC SERVICE LINE. THE BACKFLOW ASSEMBLY TYPE IS DETERMINED BY THE DEGREE OF HAZARD DOWNSTREAM FROM THE METER (RP-HIGH HAZARD INSTALLED ABOVE GROUND OR DC-LOW HAZARD INSTALLED BELOW GROUND - 6.0-INCH DIAMETER MANHOLE). FOR ADDITIONAL INFORMATION, PLEASE REFERENCE DENVER WATER'S ENGINEERING STANDARDS 5.05 OR CONTACT CROSS-CONNECTION CONTROL AT 303-628-5940.

31. BEGINNING AUGUST 1, 2008, SOIL AMENDMENT WILL BE REQUIRED ON EVERY PROPERTY REQUIRING NEW WATER SERVICE. METERS WILL NOT BE SET WITHOUT A SOIL INSPECTION BY DENVER WATER OR DESIGNATED PERSONNEL.

32. THE COLORADO DEPARTMENT OF PUBLIC HEALTH & ENVIRONMENT (CDPHE) REGULATES ASBESTOS ACTIVITIES THROUGH THE AIR POLLUTION CONTROL DIVISION (APCD) THROUGH THE SOLID WASTE AND MATERIALS MANAGEMENT DIVISION (SWMMD) WHEN SOIL CONTAMINATION IS INVOLVED. DENVER WATER WILL REQUIRE CONTRACTORS AND DEVELOPERS TO FOLLOW THE PROCEDURES BELOW WHEN CEMENT ASBESTOS PIPE IS ENCOUNTERED:

A. THE PIPE MUST BE REMOVED FROM THE EXCAVATION FOR PROPER DISPOSAL.

B. CONTRACTOR/DEVELOPER WILL MANAGE THE PIPE IN ACCORDANCE WITH THE FOLLOWING REGULATIONS:
COLORADO AIR REGULATIONS NO 8 - CONTROL OF HAZARDOUS AIR POLLUTANTS
OSHA 29 CFR 1910.1001 - GENERAL INDUSTRY STANDARDS - ASBESTOS
OSHA 29 CFR 1926.1101 - CONSTRUCTION STANDARDS - ASBESTOS

C. IF A LARGE AMOUNT OF CEMENT ASBESTOS PIPE ARE ANTICIPATED TO BE REMOVED THE MATERIAL MUST BE MANAGED BY AN APPROPRIATE ASBESTOS ABATEMENT CONTRACTOR (160 SQUARE FT OR 260 LINEAR WILL REQUIRE A PERMIT.)

CEMENT ASBESTOS PIPE IS CONSIDERED A NON-FRIABLE ASBESTOS MATERIAL WHICH IS DEFINED AS CONTAINING MORE THAN 1% ASBESTOS BY WEIGHT AND CANNOT BE CRUMBLED, PULVERIZED OR REDUCED TO POWDER BY HAND PRESSURE. THEREFORE, A RELEASE OF ASBESTOS FIBERS IS NOT LIKELY DURING NORMAL USE AND HANDLING OF THIS MATERIAL.

DISCLAIMER: DENVER WATER STANDARD OPERATING PROCEDURES REPRESENT RECOMMENDED PRACTICES THAT SHOULD BE APPLICABLE TO MOST SITUATIONS EMPLOYEES WILL ENCOUNTER. THESE PROCEDURES SHOULD BE FOLLOWED TO THE EXTENT APPLICABLE, BUT THEY BY NO MEANS REPRESENT THE ONLY METHOD TO PERFORM THE TASKS THEY DESCRIBE. IT IS UNDERSTOOD THAT FIELD CONDITIONS, EMERGENCIES, AND OTHER CIRCUMSTANCES MAY REQUIRE DEVIATION FROM STANDARD OPERATING PROCEDURES.

33. WHEN WATER SERVICE LINES ARE WITHIN 5 FEET OF A MANHOLE OR VAULT, WRAP SERVICE LINE WITH DENVER WATER APPROVED INSULATION.

34. ANY EXISTING SERVICE LINES THAT ARE LEAD OR GALVANIZED STEEL SHALL BE REPLACED BY THE CONTRACTOR WITH AN EQUAL SIZE COPPER LINE FROM THE NEW TAP (TO BE INSTALLED BY DENVER WATER) TO THE OUTSIDE METER. DENVER WATER FORCES SHALL REPLACE THE SERVICE LINE FROM THE NEW METER TO THE FIRST NON LEAD FITTING WITHIN EACH STRUCTURE (PER DENVER WATER OPERATING RULE 9.04). THE CONTRACTOR SHALL PROTECT EXISTING SERVICE LINES WHEN EXCAVATING FOR THE REMOVAL FROM THE EXISTING MAIN. THE CONTRACTOR SHALL CUT EXISTING SERVICE LINES FROM THE EXISTING MAIN PRIOR TO REMOVAL. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO NOT DAMAGE THE EXISTING SERVICE LINES AND METER PITS DURING REMOVAL FROM THE MAIN, ANY DAMAGE TO THE MAIN LINE, EXISTING SERVICE LINES AND METER PITS SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE PROJECT.

35. DENVER WATER WILL BE RESPONSIBLE FOR OUTREACH, NOTICES, AND PROVIDING FILTERS TO ALL AFFECTED PARTIES THAT HAVE LEAD SERVICES.

36. DENVER WATER WILL BE RESPONSIBLE FOR PERFORMING WATER QUALITY TESTS WHEN LEAD SERVICE LINES ARE REPLACED.

37. DENVER WATER WILL BEAR THE COST OF CREATING AND DISTRIBUTING EDUCATIONAL MATERIALS, WATER QUALITY TESTS, AND WATER FILTERS.

DENVER WATER TAP AND METER SERVICES TABLE
(TAP DATES 1950 OR OLDER ARE ANTICIPATED TO BE LEAD)

BILLING ADDRESS	TAP #	TAP DATE	LEAD	IDENTIFIED ON PLANS	METER #	METER DATE	COMMENTS
690 FEDERAL BLVD	X15458	4/27/1956		X	347361	8/25/2004	TAP-COM
695 FEDERAL BLVD	32530	10/15/1973					TAP-RES
707 FEDERAL BLVD	X18716	1/19/1964		X	362036	10/14/2002	TAP-COM
707 FEDERAL BLVD	230905	7/15/1974					TAP-RES
707 FEDERAL BLVD	X22990	7/15/1974					TAP-FIRE (NON-METERED)
710 FEDERAL BLVD	X24599	10/20/1980		X	347025	2/5/2003	TAP-COM
710 FEDERAL BLVD	68079	10/17/1980					TAP-RES
717 FEDERAL BLVD	57741	1/1/1924	X				TAP-RES
724 FEDERAL BLVD	51207	7/10/1922	X	X	400944	8/11/2003	TAP-COM
725 FEDERAL BLVD	57740	1/1/1924	X				TAP-RES
730 FEDERAL BLVD	134454	1/24/1955		X	320127	5/23/2002	TAP-COM
745-747 FEDERAL BLVD	54602	1/1/1923	X	X	360765*	10/17/2002	TAP-RES, EX INTERIOR METER
2970 W. SEVERN PL	58904	1925	X	X	262975		
749 FEDERAL BLVD	53705	5/18/1923	X	X	259466	10/5/1992	TAP-RES
753 FEDERAL BLVD	49422	3/1/1905	X	X	356898	10/14/2002	TAP-RES
759 FEDERAL BLVD	130060	7/12/1954		X	340013*	10/16/2002	TAP-COM, EX INTERIOR METER
765 FEDERAL BLVD	114508	2/29/1952		X	296858	2/15/1996	TAP-COM
775 FEDERAL BLVD	29962	8/17/1962		X	388268*	1/22/2005	TAP-COM, EX INTERIOR METER
792 FEDERAL BLVD	74797	4/19/1976					TAP-RES
815 FEDERAL BLVD	70170	5/31/1934	X	X	347216*	9/24/2002	TAP-COM, EX INTERIOR METER
816 FEDERAL BLVD	196022	6/6/1969		X	284265	8/23/2003	TAP-COM
823 FEDERAL BLVD	99157	1/1/1949	X	X	266586	2/9/1993	TAP-COM
830 FEDERAL BLVD	192556	10/7/1968		X	314438	11/21/2001	TAP-COM
	X33036			X			TAP-COM
859 FEDERAL BLVD	66886	1/1/1928	X	X	353631	10/14/2002	TAP-COM
869 FEDERAL BLVD	116562	6/12/1952		X	296506	12/27/1995	TAP-COM
877 FEDERAL BLVD	62396	1/19/1924	X	X	262954	11/16/1993	TAP-COM
880 FEDERAL BLVD	X24868	10/9/1981		X	288451	6/10/1998	TAP-COM
880 FEDERAL BLVD	61061	1/1/1912	X				TAP-RES
881 FEDERAL BLVD	52625	1/10/1923	X	X	285156	9/23/1998	TAP-COM
892 FEDERAL BLVD	70114	1/1/1934	X	X	322391	10/11/2001	TAP-COM
895 FEDERAL BLVD	53106	3/24/1923	X	X	265668	8/27/1992	TAP-COM
900 FEDERAL BLVD	X24482	6/18/1980		X	398075	8/12/2003	TAP-COM
900 FEDERAL BLVD	141768						TAP-RES
903 FEDERAL BLVD	87434	1/1/1947	X	X	354102*	7/30/2003	TAP-COM, EX INTERIOR METER
913 FEDERAL BLVD	16257	1/1/1898	X		122250	10/14/1982	TAP-RES
921 FEDERAL BLVD	63424	1/1/1926	X				TAP-RES
925 FEDERAL BLVD	70209	1/1/1934	X	X	364190	12/12/2002	TAP-COM
935 FEDERAL BLVD	59466	3/26/1925	X	X	356899	10/14/2002	TAP-COM
947 FEDERAL BLVD	298650	5/31/1922	X	X	279683	12/9/1997	TAP-COM
947 FEDERAL BLVD	50799	10/17/1975		X			TAP-RES
950 FEDERAL BLVD	194401	1/17/1969		X	273137	6/14/1995	TAP-COM
955 FEDERAL BLVD	97378						TAP-RES
963 FEDERAL BLVD	63843	1/1/1926	X	X	310250	6/8/1999	TAP-COM
969 FEDERAL BLVD	172661	10/5/1964		X	362104	10/14/2002	TAP-COM
975 FEDERAL BLVD	163969	11/2/1962		X	305897	6/29/1998	TAP-COM
990 FEDERAL BLVD	21123	1/1/1899	X	X	305270	6/26/1998	TAP-COM
990 FEDERAL BLVD	197795	9/11/1969		X	272076	2/1/1995	TAP-COM
990 FEDERAL BLVD	X29448	2/21/1997		X			TAP-FIRE (NON-METERED)
995 FEDERAL BLVD	53053	3/15/1923	X	X	354091*	12/22/2003	TAP-COM, EX INTERIOR METER
1000 FEDERAL BLVD	53641	5/10/1923	X	X	398077	8/12/2003	TAP-COM
1005 FEDERAL BLVD	296109	12/21/1984		X	357792	10/14/2002	TAP-COM
1015 FEDERAL BLVD	93123	1/1/1948	X	X	320342	2/11/2003	TAP-COM
1023-1025 FEDERAL BLVD	136206	4/1/1955		X	345636	3/27/2002	TAP-COM
1030 FEDERAL BLVD	60935	7/30/1925	X	X	114531	5/12/1954	TAP-RES
1036 FEDERAL BLVD	60494	6/8/1925	X		191566	4/11/1990	TAP-RES
1041 FEDERAL BLVD	X3359	1/1/1906	X	X	272077	2/1/1995	TAP-COM
1049 FEDERAL BLVD	14863	1/1/1895	X				TAP-RES
1063 FEDERAL BLVD	37386	1/1/1909	X	X	345635	3/27/2002	TAP-RES
1065 FEDERAL BLVD	X19553	2/10/1964		X	362085	10/14/2002	TAP-COM
1069 FEDERAL BLVD	3462	9/14/1887	X	X	251932	6/3/1992	TAP-RES
1075 FEDERAL BLVD	3497	1/1/1887	X	X	356902	10/14/2002	TAP-RES
1077 FEDERAL BLVD	1760	1/1/1884	X	X	357797	10/14/2002	TAP-RES
1095 FEDERAL BLVD	X34320	12/7/2004		X	430656	1/12/2005	TAP-COM
1095 FEDERAL BLVD	943	1/1/1882	X				TAP-RES
1120 FEDERAL BLVD	X10093						TAP-RES
1120 FEDERAL BLVD	X25668	2/27/1984					TAP-FIRE (NON-METERED)
1120 FEDERAL BLVD	X31985	6/3/2000		X	319274	6/12/2000	TAP-COM
1120 FEDERAL BLVD	X31986	6/3/2000		X			TAP-FIRE (NON-METERED)
1120 FEDERAL BLVD	10093	1/1/1941	X				TAP-RES
1200 FEDERAL BLVD	329081	8/1/1998			306184	11/6/1998	TAP-COM
1200 FEDERAL BLVD	X30339	12/10/1998					TAP-FIRE (NON-METERED)
1205 FEDERAL BLVD	188059	9/7/1967		X	313874	12/12/2000	TAP-COM
1225 FEDERAL BLVD	232660	3/20/1975		X	265088	9/7/1994	TAP-COM
1240 FEDERAL BLVD	X10094	1/1/1941	X	X			TAP-RES
1251 FEDERAL BLVD	100188	1/1/1949	X	X	408136	3/3/2003	TAP-COM

* METER INSIDE BUILDING

SERVICES NOT DESIGNATED AS ON THE PLANS ARE IN CLOSE PROXIMITY TO THE PROJECT LIMITS, NO LONGER IN SERVICE, OR NOT LOCATED, ALL SERVICES SHALL BE COORDINATED WITH DENVER WATER.

COLORADO LICENSED
RANDAL LAPSHEE
28785
12/12/16
PROFESSIONAL ENGINEER

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

DENVER
THE MILE HIGH CITY

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION
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2000 W. 3RD AVE. DENVER, CO 80223
TEL.: (303) 446-3617 FAX: (303) 446-3647

FEDERAL BLVD. RECON. - 6TH AVE. TO HOWARD PLACE

GENERAL NOTES & WATER SYSTEM NOTES

ISSUE DATE:

DATE	REVISION COMMENTS

AD SUBMITTAL
JAN. 2, 2018

SHEET NO.
203
3 OF 28

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TABULATION OF WATER LINE MAIN ITEMS (1 of 4)

ITEM NO.		202				210			619												
		REMOVAL OF PIPE	REMOVAL OF FIRE HYDRANT	PLUG PIPE	CLEAN VALVE BOX	RESET FIRE HYDRANT	ADJUST MANHOLE	ADJUST VALVE BOX	3 INCH DUCTILE IRON PIPE	6 INCH DUCTILE IRON PIPE	8 INCH DUCTILE IRON PIPE	6 INCH PLASTIC PIPE (C900)	8 INCH PLASTIC PIPE (C900)	3 INCH GATE VALVE & VALVE BOX	6 INCH GATE VALVE & VALVE BOX	8 INCH GATE VALVE & VALVE BOX	6 INCH TAPPING VALVE & VALVE BOX	8 INCH TAPPING VALVE & VALVE BOX	6 INCH SWIVEL TEE (ALL BRANCH SIZES)	8 INCH SWIVEL TEE (ALL BRANCH SIZES)	6 INCH TEE (ALL BRANCH SIZES)	8 INCH TEE (ALL BRANCH SIZES)
LOCATION	SIDE	LF	EACH	EACH	EACH	EACH	EACH	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
PROJECT																						
7TH AVE																						
15+50.0	LT				1			1														
15+71.2	LT				1			1														
15+77.8	LT			1																		
15+82.2	LT			1																		
15+83.9	RT			1																		
15+86.0	RT										5					1						1
15+86.0 TO 16+23.8	RT									38					1	1				1		
15+86.2 TO 15+89.6	LT/RT			1							37											
16+07	RT					1																
16+09.9	RT												24			1						
16+30.9	LT																					
16+45.0	LT				1			1														
18+70.0	RT												261			1						
18+94.3	RT												26			1						1
SEVERN PL																						
PROFILE 18+94 EW	RT	50											13			1						
19+10.0	RT												16			1						
19+23.3	LT																					
19+30.0	RT												21							1		
19+44.0	RT		1																			
18+92.5	RT				1			1														
18+92.4	RT				1			1														
21+36.0	LT				1			1														
PROFILE 21+59-22+66	LT	25											27							1		
22+48.7	RT												320					1				
PROFILE 21+59-22+66	LT	66											31									1
8TH AVE																						
22+46.4	LT			1																		
PROFILE 22+48 EW	RT												39			1				1		
22+49	RT				2			2														
22+54	RT				1			1														
PROFILE 22+53.2 EW	LT												71			1						
22+56	RT				1			1														
22+57	RT						1															
22+59	RT						1															
22+60	RT				1			1														
22+87	LT				1		1	1														
22+98	LT				1			1														
22+98	LT				1			1														
23+00	RT						1															
24+03	LT						1															
24+79.8	LT				1			1														
24+79.3	LT																					
BARBERRY PL																						
26+06	RT				2			2														
26+09	LT				1			1														
26+09	RT				1			1														
PROFILE 28+89	LT	15			1			1				16										
29+15	RT				1			1														
29+18	RT				1			1														
29+19	RT			1																		
9TH AVE																						
PROFILE 28+66-29+58	LT	94									96					2				1		1
29+29.3 TO 29+55.7	RT									37					1					1		
29+29.3	RT												5			1						
29+50.0	RT					1																
35+24.8	LT		1																			
35+60	LT						1															
35+64	LT				1			1														
35+72	LT				1			1														
10TH AVE																						

COLORADO LICENSED
RANDAL LAPSLEY
28785
11/2/18
PROFESSIONAL ENGINEER

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DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

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CONSULTING ENGINEERS

DENVER
THE MILE HIGH CITY

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE

TABULATION OF WATER LINE ITEMS

ISSUE DATE:
DATE | REVISION COMMENTS

AD SUBMITTAL
JAN. 2, 2018

SHEET NO.
204
4 OF 28

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TABULATION OF WATER LINE MAIN ITEMS (2 of 4)

ITEM NO.		619									REMARKS
		6 INCH HORIZONTAL BEND (ALL ANGLES)	8 INCH HORIZONTAL BEND (ALL ANGLES)	6 INCH VERTICAL BEND (ALL ANGLES)	8 INCH VERTICAL BEND (ALL ANGLES)	6 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	8 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	30 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	FIRE HYDRANT ASSEMBLY	FIRE HYDRANT ASSEMBLY (EXTRA DEPTH)	
LOCATION	SIDE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
PROJECT											
7TH AVE											
15+50.0	LT										
15+71.2	LT										
15+77.8	LT										
15+82.2	LT										
15+83.9	RT										
15+86.0	RT										
15+86.0 TO 16+23.8	RT										FH #5185
15+86.2 TO 15+89.6	LT/RT										
16+07	RT										EX FH #5185
16+09.9	RT										
16+30.9	LT								1		NEW FH #16414
16+45.0	LT										
18+70.0	RT										
18+94.3	RT				2						
SEVERN PL											
PROFILE 18+94 EW	RT				2						
19+10.0	RT										
19+23.3	LT								1		NEW FH #16415
19+30.0	RT				2				1		FH #5033
19+44.0	RT										EX FH #5033
18+92.5	RT										
18+92.4	RT										
21+36.0	LT										
PROFILE 21+59-22+66	LT				4					1	NEW FH#16416
22+48.7	RT				4		1				
PROFILE 21+59-22+66	LT				4						
8TH AVE											
22+46.4	LT										
PROFILE 22+48 EW	RT				4					1	NEW FH#16417
22+49	RT										
22+54	RT										
PROFILE 22+53.2 EW	LT		2		2						
22+56	RT										
22+57	RT										
22+59	RT										
22+60	RT										
22+87	LT										
22+98	LT										
22+98	LT										
23+00	RT										
24+03	LT										
24+79.8	LT										EX FH #4530
24+79.3	LT								1		FH #4530
BARBERRY PL											
26+06	RT										
26+09	LT										
26+09	RT										
PROFILE 28+89	LT			2							
29+15	RT										
29+18	RT										
29+19	RT										
9TH AVE											
PROFILE 28+66-29+58	LT				4					1	NEW FH #16418
29+29.3 TO 29+55.7	RT										FH #3665
29+29.3	RT										
29+50.0	RT										EX FH #3665
35+24.8	LT								1		FH #3397
35+60	LT										
35+64	LT										
35+72	LT										
10TH AVE											

COLORADO LICENSED DANIEL LAPSLEY 28785 1/2/18 PROFESSIONAL ENGINEER

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE

TABULATION OF WATER LINE ITEMS

ISSUE DATE:

DATE	REVISION COMMENTS

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JAN. 2, 2018

SHEET NO.
205
5 OF 28

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TABULATION OF WATER LINE MAIN ITEMS (3 of 4)

ITEM NO.		202				210			619												
		REMOVAL OF PIPE	REMOVAL OF FIRE HYDRANT	PLUG PIPE	CLEAN VALVE BOX	RESET FIRE HYDRANT	ADJUST MANHOLE	ADJUST VALVE BOX	3 INCH DUCTILE IRON PIPE	6 INCH DUCTILE IRON PIPE	8 INCH DUCTILE IRON PIPE	6 INCH PLASTIC PIPE (C900)	8 INCH PLASTIC PIPE (C900)	3 INCH GATE VALVE & VALVE BOX	6 INCH GATE VALVE & VALVE BOX	8 INCH GATE VALVE & VALVE BOX	6 INCH TAPPING VALVE & VALVE BOX	8 INCH TAPPING VALVE & VALVE BOX	6 INCH SWIVEL TEE (ALL BRANCH SIZES)	8 INCH SWIVEL TEE (ALL BRANCH SIZES)	6 INCH TEE (ALL BRANCH SIZES)	8 INCH TEE (ALL BRANCH SIZES)
LOCATION	SIDE	LF	EACH	EACH	EACH	EACH	EACH	EACH	LF	LF	LF	LF	LF	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH
10TH AVE																						
35+84	RT				1			1														
35+85	RT				1			1													1	
35+85.4	RT																1					
35+95.4	RT											10										
36+01	RT						1															
36+03	LT				1			1														
36+03	RT				1			1														
36+05	LT						1															
36+11.6	RT											18										
36+16.6	RT											5			1							
36+17	LT				1			1														
38+68.1	RT									56					1					1		
38+73	RT					1																
38+94	RT				2			2														
11TH AVE																						
39+10	RT				1			1														
39+31.1	RT											316			1							
40+50.9	RT	58							31			120		2							1	
41+53.4	RT											102			1							
41+58.4	RT											5								1		
41+86	RT		1																			
12TH AVE																						
42+14	LT				1			1														
42+14	RT				1			1														
42+15.2	RT			1								58									1	
42+15.2	LT																1					
42+56.5	LT											43			1							
45+06	RT						1															
45+16.5	LT											260										
45+23.7	RT											22					1					
45+25.7	LT											14										
	TOTAL	308	3	7	34	3	9	34	31	131	138	989	854	2	7	12	3	1	2	6	3	4

TABULATION OF WATER LINE MAIN ITEMS (4 of 4)

ITEM NO.		619									REMARKS
		6 INCH HORIZONTAL BEND (ALL ANGLES)	8 INCH HORIZONTAL BEND (ALL ANGLES)	6 INCH VERTICAL BEND (ALL ANGLES)	8 INCH VERTICAL BEND (ALL ANGLES)	6 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	8 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	30 INCH TAPPING SLEEVE (ALL BRANCH SIZES)	FIRE HYDRANT ASSEMBLY	FIRE HYDRANT ASSEMBLY (EXTRA DEPTH)	
LOCATION	SIDE	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
10TH AVE											
35+84	RT										
35+85	RT										
35+85.4	RT					1					
35+95.4	RT	1									
36+01	RT										
36+03	LT										
36+03	RT										
36+05	LT										
36+11.6	RT	1									
36+16.6	RT										
36+17	LT										
38+68.1	RT										FH #3866
38+73	RT										EX FH #3866
38+94	RT										
11TH AVE											
39+10	RT										
39+31.1	RT			2							
40+50.9	RT										T:X31986 M:NON
41+53.4	RT								1		FH #2697
41+58.4	RT								1		FH #2697
41+86	RT										EX FH #2697
12TH AVE											
42+14	LT										
42+14	RT										
42+15.2	RT										
42+15.2	LT					1					
42+56.5	LT										
45+06	RT										
45+16.5	LT	1		4							
45+23.7	RT			2				1			
45+25.7	LT	1									
	TOTAL	4	2	10	28	2	1	1	7	3	

COLORADO LICENSED
RANDAL D. LASLEY
28785
PROFESSIONAL ENGINEER
1/2/18

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE

TABULATION OF WATER LINE ITEMS

ISSUE DATE:

DATE	REVISION COMMENTS

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JAN. 2, 2018

SHEET NO.
206
6 OF 28

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TABULATION OF WATER SERVICES

ITEM NO.			202				619										REMARKS
			▲REMOVAL OF WATER SERVICE LINE	●REMOVAL OF WATER METER	○REMOVAL OF WATER METER (INTERIOR)	■ABANDON WATER SERVICE	WATER METER	METER PIT (24 INCH)	METER VAULT	CURB STOP AND BOX	3/4 INCH COPPER PIPE	1 INCH COPPER PIPE	1-1/2 INCH COPPER PIPE	3/4 INCH COPPER PIPE CONNECTIONS	1 INCH COPPER PIPE CONNECTIONS	1-1/2 INCH COPPER PIPE CONNECTIONS	
LOCATION	TAP *	METER *	EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	LF	LF	LF	EACH	EACH	EACH	
7TH AVE																	
16+11.0	X24599	347025				1											
16+61.3	X18716	362036		1			1	1		1		4			1		
17+06.0	51207	400944		1			1	1		1	13			1			
17+90.0	134454	320127				1											
18+08.9	54602	360765	1		1		1	1		1	7			1			
18+43.3	58904	262975		1			1	1		1	13			1			
18+47.0	53705	259466				1											
SEVERN PL																	
19+16.3	49422	356898	1	1			1	1		1	7			1			
19+53.8	130060	340013								1	4			1			
19+79.2	114508	296858	1	1			1	1		1	8			1			
20+11.1	70114	322391		1			1	1		1	13			1			
21+23.3	29962	388268	1		1		1	1		1	8			1			
8TH AVE																	
23+18.5	196022	284265				1											
23+72.6	70170	347216	1		1		1	1		1	9			1			
25+58.6	99157	266586	1	1			1	1		1	9			1			
25+66.9	X33036																
25+73.4	192556	314438	1	1			1	1		1	34			1			
25+83.5							1	1		1		90			1		PROPOSED IRRIGATION
BARBERRY PL																	
26+49.8	66886	353631	1	1			1	1		1	9			1			
27+28.1	116562	296506	1	1			1	1		1	10			1			
27+32.5	62396	262954	1	1			1	1		1	12			1			
27+64.1							1	1		1		109			1		PROPOSED IRRIGATION
27+82.2	52625	285156	1	1			1	1		1	11			1			
28+37.4	53106	265668	1	1			1	1		1	9			1			
29+18.8	X24868	288451		1			1	1		1		8			1		
9TH AVE																	
29+23.8	87434	354102	1		1		1	1		1	34			1			
29+51.5	X24482	398075	1				1	1		1	23			1			
30+93.7	70209	364190	1	1			1	1		1	11			1			
31+65.3	59466	356899	1	1			1	1		1	12			1			
31+81.4	194401	273137	1				1	1		1	86			1			
32+01.7	298650	279683	1	1			1	1		1	12			1			
32+85.3	50799					1											
32+96.6	63843	310250	1	1			1	1		1	12			1			
33+58.4	172661	362104		1			1	1		1		5			1		
34+17.6	21123	305270				1											
34+38.0	163969	305897	1	1			1		1	1			13			1	
34+86.9	53053	354091	1		1		1	1		1	13			1			
35+26.7	X29448					1											
35+46.4	197795	272076				1											
10TH AVE																	
35+80.3	296109	357792	1	1			1	1		1	4			1			
36+53.7	53641	398077	1	1			1	1		1	24			1			
36+58.7	93123	320342	1	1			1	1		1	75			1			
37+26.5	136206	345636	1				1	1		1	74			1			
37+84.0	60935	114531				1											
38+33.6	X3359	272077	1	1			1	1		1	74			1			
11TH AVE																	
39+53.7	37386	345635	1	1			1	1		1	73			1			
39+95.2	X19553	362085	1	1			1	1		1		75			1		
40+44.0	3462	251932				1											
40+59.6	X31985	319274	1				1		1	1			25			1	
40+64.6	3497	356902				1											
40+69.6	1760	357797				1											
12TH AVE																	
43+85.0	X10094					1											
43+97.5	232660	265088	1	1			1	1		1	71			1			
44+92.8	100188	408136	1	1			1	1		1	35			1			
		TOTAL	31	28	5	13	39	37	2	40	809	291	38	32	6	2	

▲REMOVAL OF WATER SERVICE LINE INCLUDES CUTTING THE TAP AT THE MAIN PER DENVER WATER STANDARD 3.17
●REMOVAL OF WATER METER INCLUDES REMOVAL OF METER PIT OR VAULT, AND CURB STOP PER DENVER WATER STANDARD 3.17
■ABANDON WATER SERVICE SHALL BE ABANDONED PER DENVER WATER STANDARD 3.17
○FOR INFORMATION ONLY, TO BE COMPLETED BY DENVER WATER

COLORADO LICENSED PANEAL LAPSLEY 28785 1/2/18 PROFESSIONAL ENGINEER

CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

TSIOUVARAS SIMMONS HOLDERNESS
CONSULTING ENGINEERS

DENVER THE MILE HIGH CITY
CITY AND COUNTY OF DENVER
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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE

TABULATION OF WATER LINE ITEMS

ISSUE DATE:

DATE	REVISION COMMENTS

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JAN. 2, 2018

SHEET NO.
207
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P:\1102188D – Federal 5th to Howard\CAD\Sheets\08-WATER\1102188-003-Quantities & Tabulations .dgn

601 FEDERAL | 707 FEDERAL | 745–747 FEDERAL | 749 FEDERAL

STA 15+71.2, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX
STA 15+77.8, LT, PLUG PIPE (EX TEE EAST)
STA 15+82.2, LT, PLUG PIPE (EX TEE EAST)
STA 15+89.6, LT, BEGIN WATER LINE, INSTALL 8" TEE, PLUG PIPE (TEE NORTH)
NEW FH #16414 LOCATION, T:STA 16+30.9, 42.3' LT, FIRE HYDRANT ASSEMBLY (8"x6" TAPPING SLEEVE W/ TB, 6" TAPPING VALVE & VALVE BOX, & 11.4 LF 6" DIP) FH: STA 16+31.0, 53.6' LT
STA 16+45, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX
T:X18716 M:362036 A:707 FEDERAL T:16+61.3, 42.2' LT, M:16+61.3, 49.0' LT CSB: 16+61.3, 45.0' LT REMWM, CSB WATER METER, METER PIT (24 INCH), 1" CP 4 LF, 1" CPC
T(L):54602 M(I):360765 A:745–747 FEDERAL T:18+08.9, 41.4' LT, M:18+08.9, 47.7' LT CSB: 18+08.9, 44.5' LT REMWM(I), CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 7 LF, 3/4" CPC
T(L):53705 M:259466 A:749 FEDERAL STA 18+47.0, 55' LT, ABANDON WATER SERVICE

COLORADO LICENSED RANDAL L. RASLEY 28785 1/2/18 PROFESSIONAL ENGINEER

MATCHLINE STA 13+50

36" CI COND #3 | 30" STL COND #3

FEDERAL BLVD

8" CI MAIN | 8" DI | 18" MAIN | 10" PVC DWW | 6" MAIN | 8" VERSA-LOK WALL

14+00 | 15+00 | 16+00 | 17+00 | 18+00

1+00 | 1+20 | 1+40 | 1+60 | 1+80 | 2+00 | 2+20 | 2+40 | 2+60 | 2+80 | 3+00 | 3+20 | 3+40 | 3+60 | 3+8

MATCHLINE STA 18+50

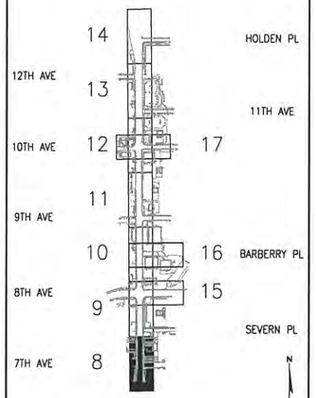
642 FEDERAL | 620 FEDERAL | 690 FEDERAL | 710 FEDERAL | 724 FEDERAL | 730 FEDERAL

13+00

T:X19096 M:293480 OUTSIDE PROJECT LIMITS

T:X15458 M:347361 A:690 FEDERAL OUTSIDE PROJECT LIMITS

STA 15+50.0, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX
8" DIP, 36.5 LF
STA 15+86.2, 35.0' RT, BEGIN WATER LINE (NORTH), REMOVE EX TEE & GV, INSTALL 8" TEE, END WATER LINE (WEST)
STA 15+83.9, RT, REMOVE EXISTING VALVE & PLUG PIPE (EX TEE SOUTH)
8" DIP, 5.0 LF
STA 15+86.0, 63.0' RT
INSTALL 8" GV & VALVE BOX
7TH AVE
8" PVC, 23.7 LF
T:X24599 M:347025 A:710 FEDERAL STA 16+11, 90' RT, ABANDON WATER SERVICE
STA 16+09.9, 35.0' RT
INSTALL 8" GV & VALVE BOX
BUILDING TO BE DEMOLISHED
EX FH #5185, STA 16+07, RT RESET FIRE HYDRANT
T:STA 15+86.0, 58.0' RT, 8"x6" SWIVEL TEE W/ TB, 6" GV & VALVE BOX, 37.8 LF 6" DIP FH: STA 16+23.8, 58.3' RT
8" PVC, 260.2 LF
T(L):51207 M:400944 A:724 FEDERAL T:17+06.0, 35.0' RT, M:17+06.0, 47.5' RT CSB: 17+06.0, 44.5' RT REMWM, CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 13 LF, 3/4" CPC
T:134454 M:320127 A:730 FEDERAL STA 17+90.0, 20' RT, ABANDON WATER SERVICE
BUILDING TO BE DEMOLISHED
T(L):58904 M:262975 A:2970 W. SEVERN PL T:18+43.3, 35.0' RT, M:18+43.3, 47.5' RT CSB: 18+43.3, 44.5' RT REMWM, CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 13 LF, 3/4" CPC



KEY MAP

GENERAL PLAN NOTES:

1. THE CONTRACTOR WILL PROVIDE SERVICE AND FIRE TAPS ONLY AT LOCATIONS WHERE EXISTING MAIN IS BEING REPLACED. NEW TAPS FROM THE EXISTING MAIN TO REMAIN IN PLACE WILL BE HANDLED BY DENVER WATER.
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20 0 20 40
ORIGINAL PLAN SCALE: 1"=20'

DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
WATER LINE PLAN
FEDERAL BLVD – 13+50 TO 18+50

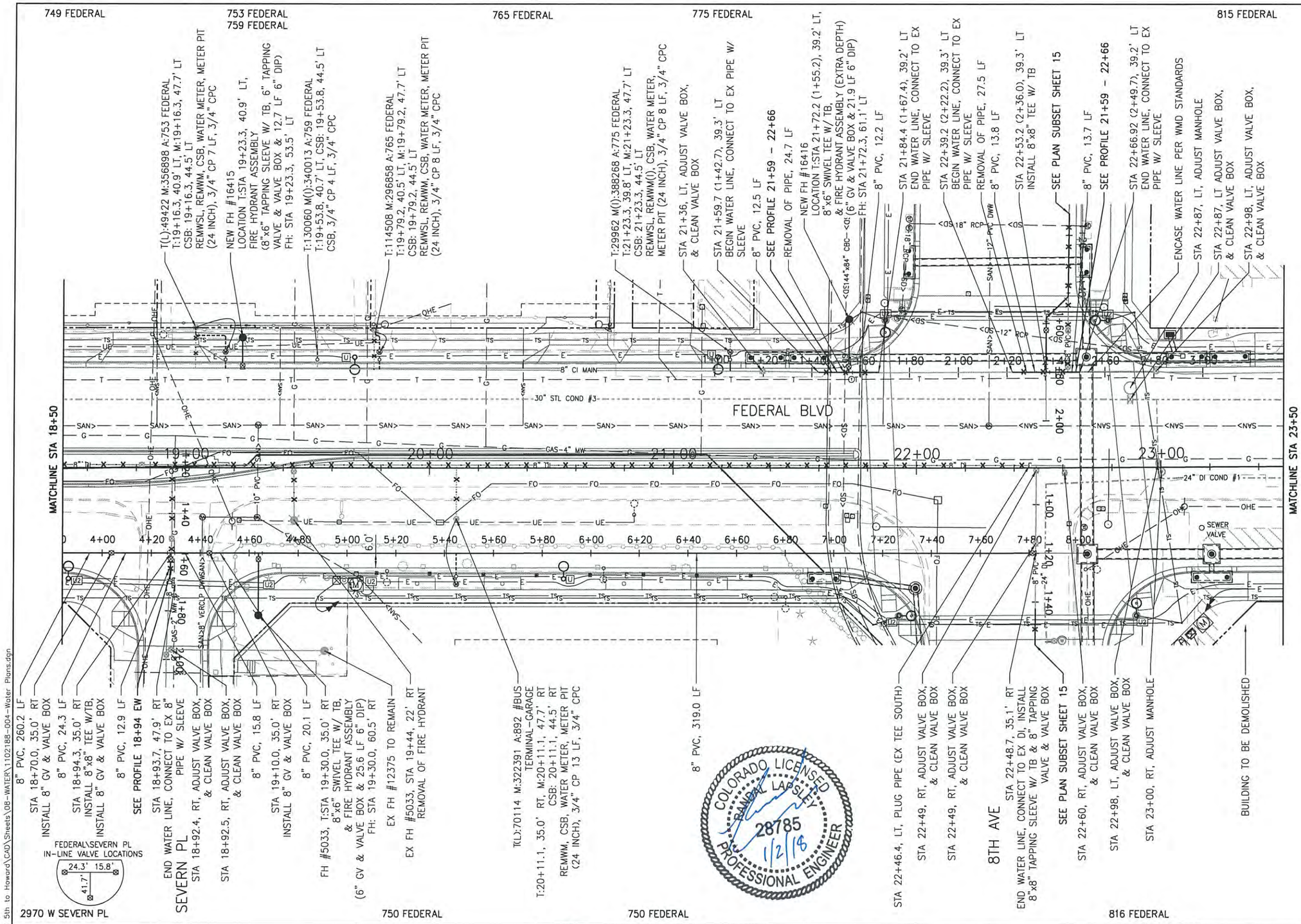
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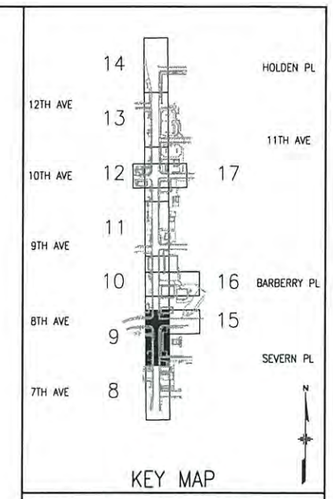
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE

WATER LINE PLAN

FEDERAL BLVD - 18+50 TO 23+50

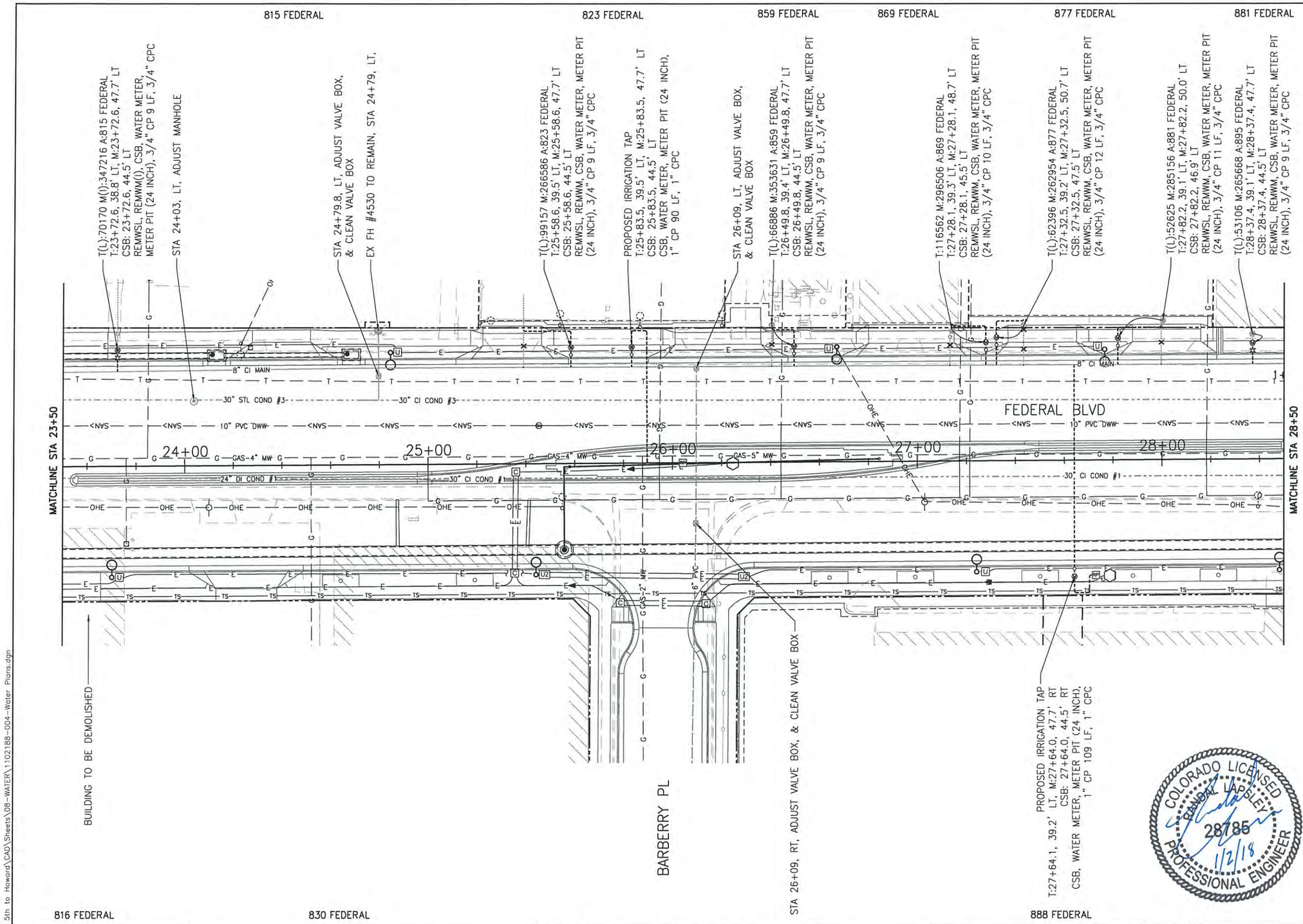
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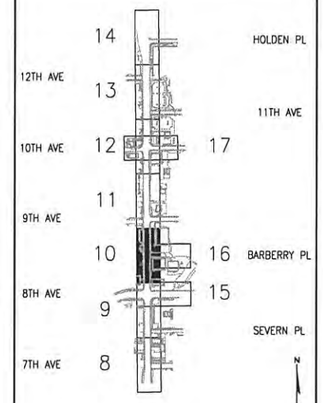
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WATER LINE PLAN
FEDERAL BLVD – 23+50 TO 28+50

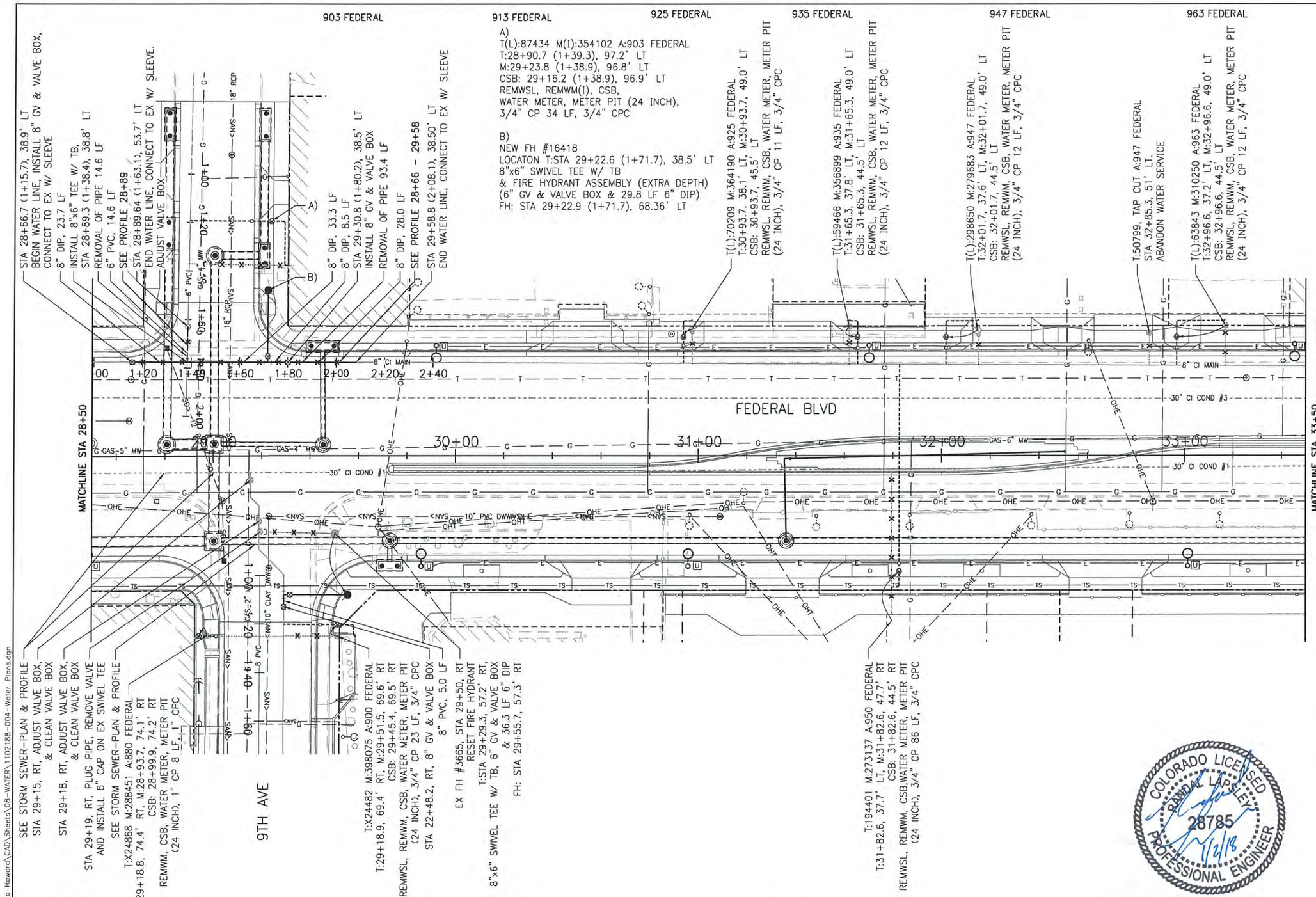
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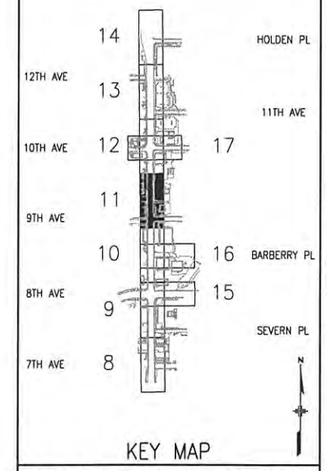
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE

WATER LINE PLAN

FEDERAL BLVD - 28+50 TO 33+50

ISSUE DATE:

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11 OF 28

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969 FEDERAL
975 FEDERAL
995 FEDERAL
1005 FEDERAL
1015 FEDERAL
1023–1025 FEDERAL
1041 FEDERAL

T:172661 M:362104 A:969 FEDERAL
T:33+58.4, 37.0' LT, M:33+58.4, 49.8' LT
CSB: 33+58.4, 45.0' LT
REMWM, CSB, WATER METER, METER PIT (24 INCH), 1" CP 5 LF, 1" CPC

T:163969 M:305897 A:975 FEDERAL
T:34+38.0, 36.6' LT, M:34+38.0, 48.9' LT
CSB: 34+38.0, 44.5' LT
REMWSL, REMWM, CSB, WATER METER, METER VAULT, 1–1/2" CP 13 LF, 1–1/2" CPC

T(L):53053 M(I):354091 A:995 FEDERAL
T:34+86.9, 36.4' LT, M:34+86.9, 49.0' LT
CSB: 34+86.9, 44.5' LT
REMWSL, REMWM(I), CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 13 LF, 3/4" CPC

EX FH #3397, STA 35+24.8, LT
REMOVAL OF FIRE HYDRANT

FH #3397, T:STA 35+24.8, 36.3' LT,
FIRE HYDRANT ASSEMBLY (REMOVE AND REPLACE 6" GAVE VALVE & VALVE BOX) & 19.3 LF 6" DIP)
FH: STA 35+24.8, 55.5' LT

STA 35+60, LT, ADJUST MANHOLE
STA 35+64, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX
STA 35+72, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX

STA 36+05, LT, ADJUST MANHOLE
STA 36+03, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX
STA 36+17, LT, ADJUST VALVE BOX, & CLEAN VALVE BOX

T(L):93123 M:320342 A:1015 FEDERAL
T:36+58.7, 24.5' RT, M:36+58.7, 49.8' LT
CSB: 36+58.7, 45.0' LT
REMWSL, REMWM, CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 75 LF, 3/4" CPC

T:136206 M:345636 A:1023–1025 FEDERAL
T:37+26.5, 24.5' RT, M:37+26.5, 49.0' LT
CSB: 37+26.5, 45.0' LT
REMWSL, REMWM, CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 74 LF, 3/4" CPC

T(L):X3359 M:272077 A:1041 FEDERAL
T:38+33.6, 24.5' RT, M:38+33.6, 49.0' LT
CSB: 38+33.6, 45.0' LT
REMWSL, REMWM, CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 74 LF, 3/4" CPC

MATCHLINE STA 33+50

8" CI MAIN
30" CI COND #3
30" CI COND #1
CATV
GAS-8" FB
48" STL COND #12
4" ARV
FEDERAL BLVD
GAS-8" BLK G
30" CI COND #
OHE
UE
TS
34+00
35+00
36+00
37+00
38+00
1+00
1+20
1+40
1+60
1+80
2+00
2+20
2+40
2+60
2+80
3+00
3+20
3+40
3+60
3+80

MATCHLINE STA 38+50

T(L):21123 M:305270 A:990 FEDERAL #01
34+17.6, 47.7' RT ABANDON WATER SERVICE

BUILDING TO BE DEMOLISHED

T:X29448
EXISTING 4" FIRELINE TO BE ABANDONED, CAP TEE AT MAIN

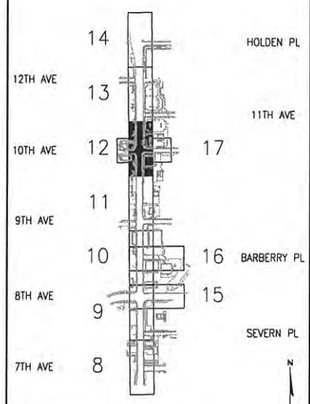
SEE PROFILE 35+85 – 42+15
STA 35+85.4, 31.2' RT
BEGIN WATER LINE, CONNECT TO EX CI. INSTALL 6"x6" TAPPING SLEEVE W/ TB & 6" TAPPING VALVE & VALVE BOX

10TH AVE

STA 35+84, RT, ADJUST VALVE BOX, & CLEAN VALVE BOX
STA 35+85, RT, ADJUST VALVE BOX, & CLEAN VALVE BOX
6" PVC, 10.0 LF
STA 35+95.4, 31.2' RT, INSTALL 6" 22.5° BEND
6" PVC, 17.6 LF
STA 36+01, RT, ADJUST MANHOLE
STA 36+03, RT, ADJUST VALVE BOX, & CLEAN VALVE BOX
STA 36+11.6, 24.5' RT, INSTALL 6" 22.5° BEND
6" PVC, 5 LF
STA 36+16.6, 24.5' RT
INSTALL 6" GV & VALVE BOX
T(L):53641 M:398077 A:1000 FEDERAL
T:36+53.7, 24.5' RT, M:36+53.7, 47.7' RT
CSB: 36+53.7, 44.5' RT
REMWSL, REMWM, CSB, WATER METER, METER PIT (24 INCH), 3/4" CP 24 LF, 3/4" CPC
6" PVC, 314.5 LF

T(L):609935 M:114531 A:1030 FEDERAL
STA 37+84, 30' RT, ABANDON WATER SERVICE

990 FEDERAL
1000 FEDERAL
1030 FEDERAL



KEY MAP

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1/2/18
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ORIGINAL PLAN SCALE: 1"=20'

DESIGNED BY: SRF
CHECKED BY: RDL
JOB NUMBER: 1102188

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FEDERAL BLVD. RECON. – 5TH AVE. TO HOWARD PLACE
WATER LINE PLAN
FEDERAL BLVD – 33+50 TO 38+50

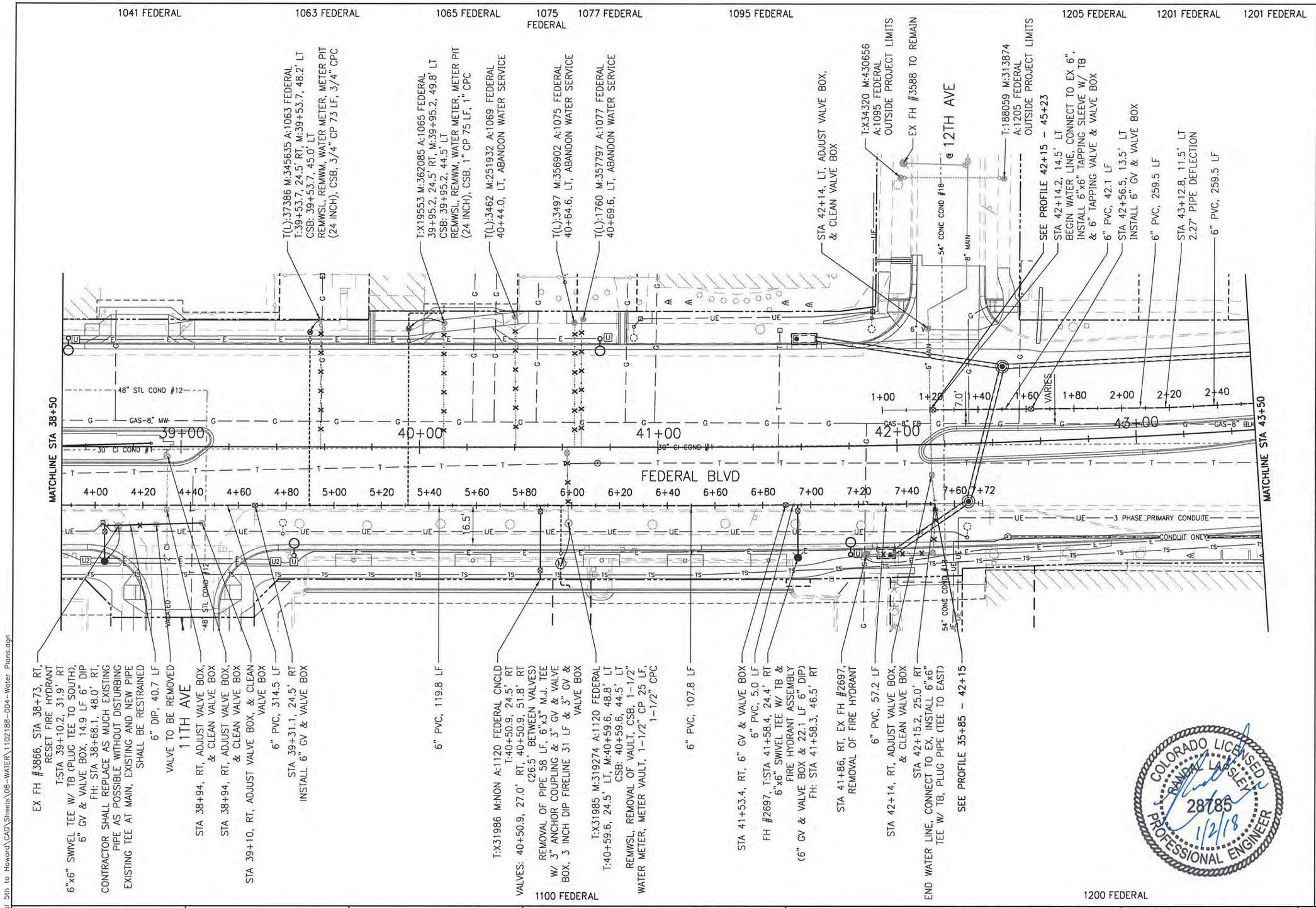
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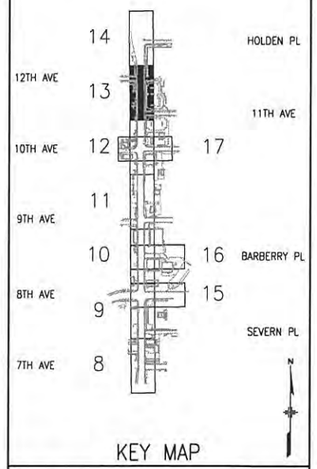
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FEDERAL BLVD. RECON. - 5TH AVE. TO HOWARD PLACE

WATER LINE PLAN

FEDERAL BLVD - 38+50 TO 43+50

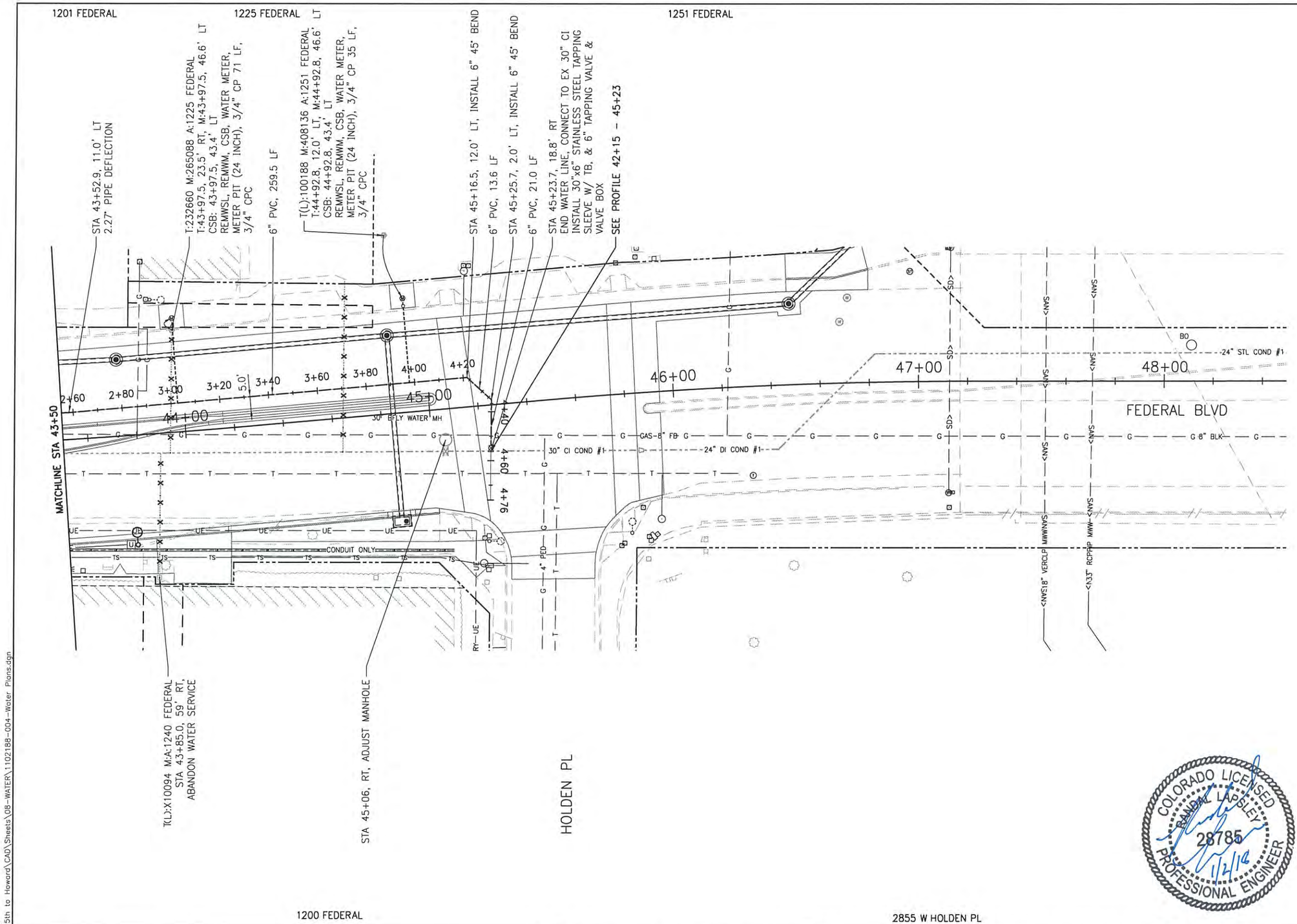
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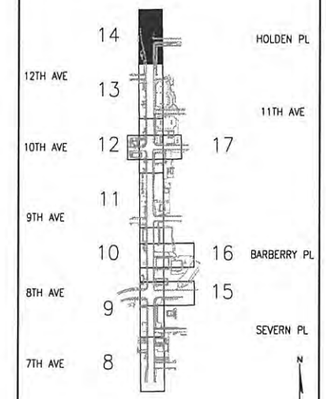
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FEDERAL BLVD - 43+50 TO 48+50

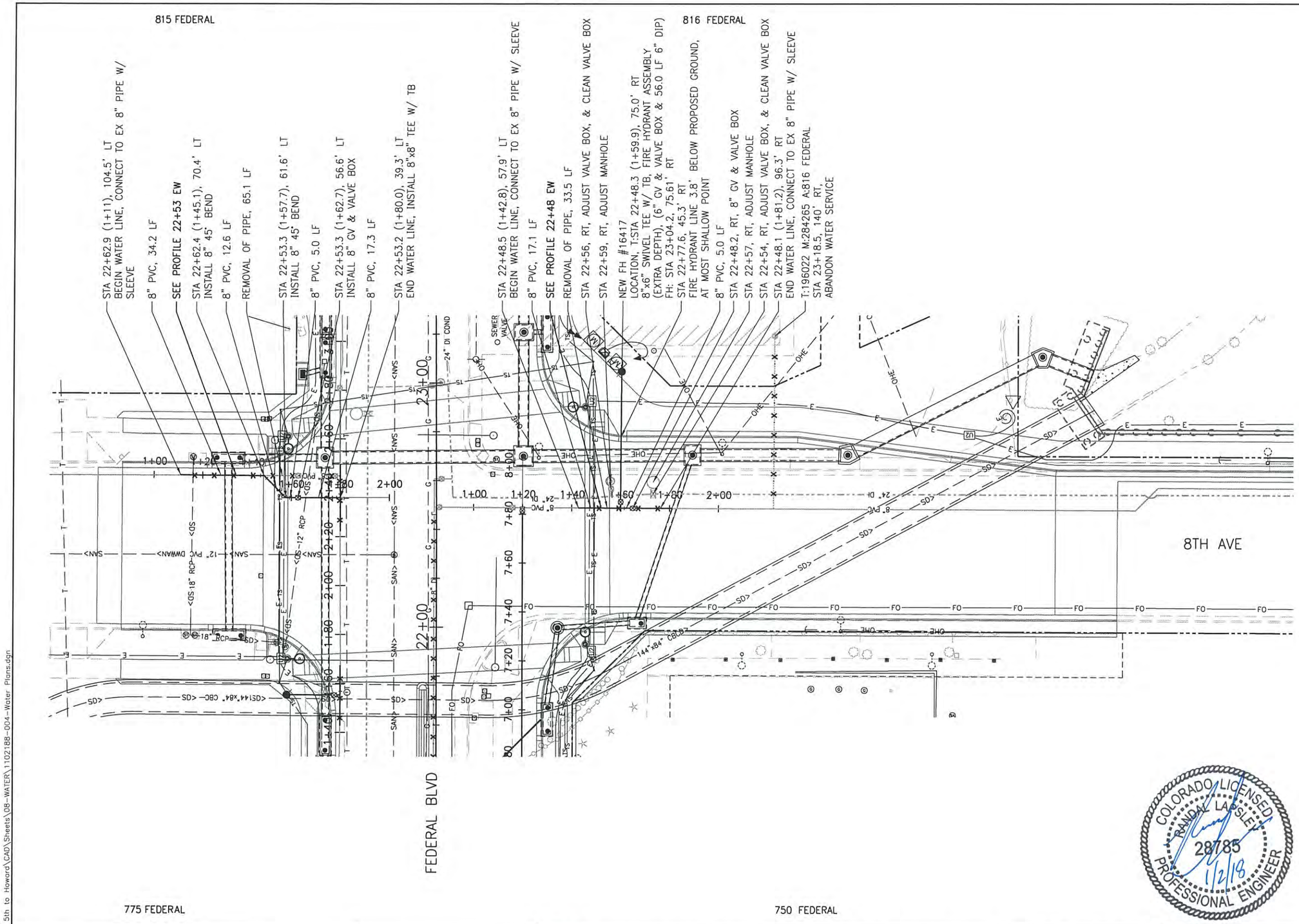
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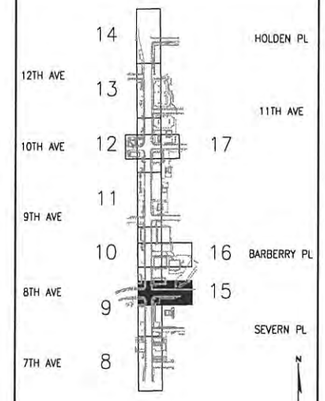
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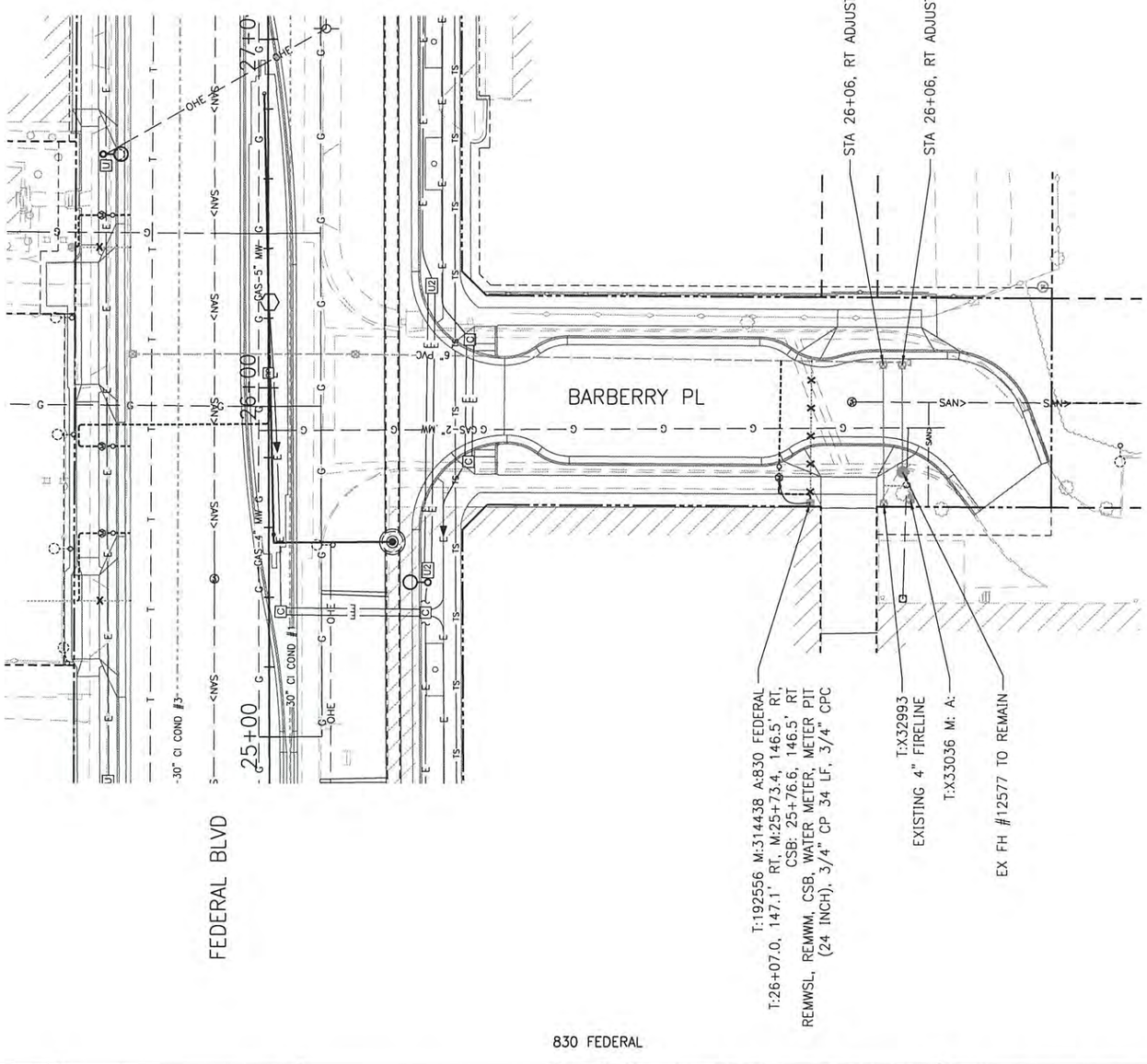
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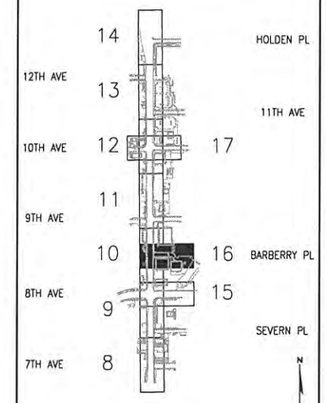
888 FEDERAL

2880 W 9TH AVE



830 FEDERAL

2970 W BARBERRY PL



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