

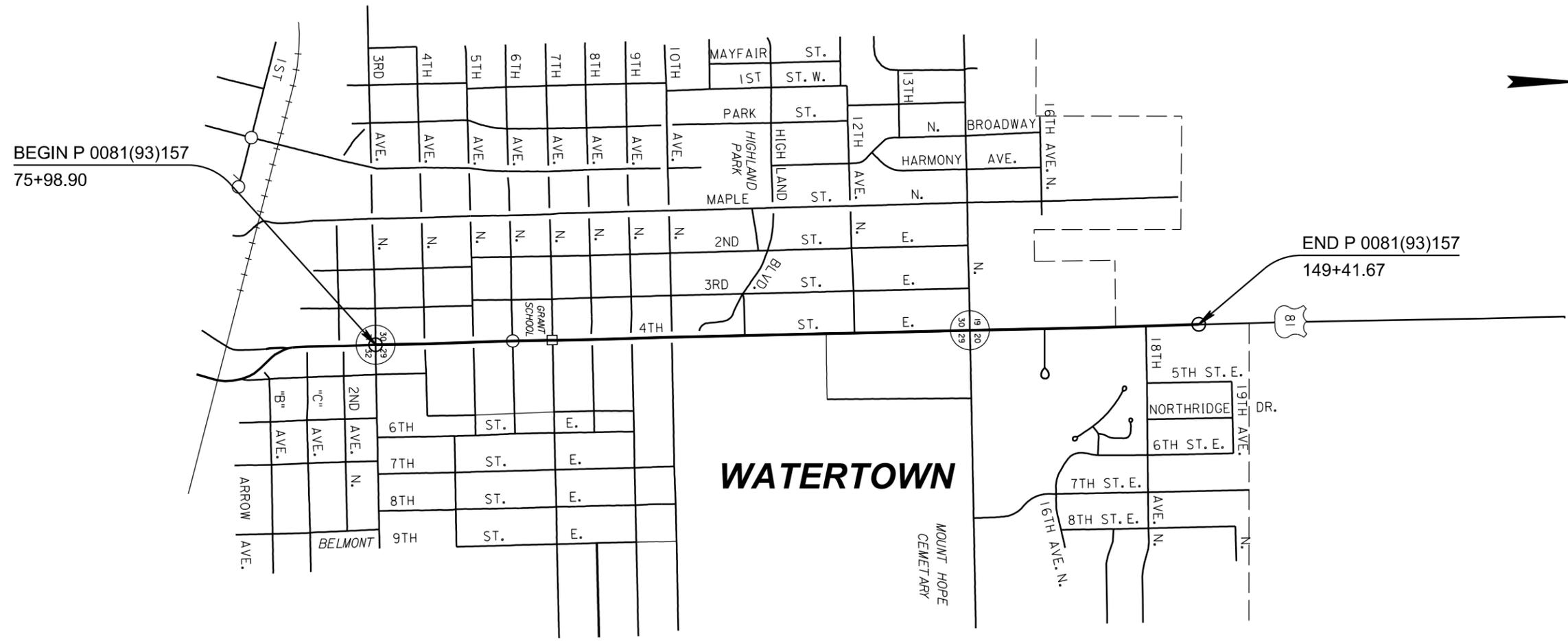
STATE OF SOUTH DAKOTA	PROJECT P 0081(93)157	SHEET F1	TOTAL SHEETS F21
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Plotting Date: 10/06/2015

SECTION F: SURFACING PLANS

INDEX OF SHEETS

- F1 General Layout W/Index
- F2-F3 Estimate With General Notes & Tables
- F4-F6 Typical Sections
- F7-F13 PCC Pavement Joint Layout
- F14-F15 Special Details
- F16-F21 Standard Plates



PLOT SCALE - 1:200

PLOTTED FROM - TRP15123

PLOT NAME - 1

FILE - U:\MS\PR\CODN026\TITLE F.DGN

SECTION F ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
120E6200	Water for Granular Material	188.2	MGal
260E2010	Gravel Cushion	14,509.2	Ton
260E2030	Gravel Cushion, Salvaged	1,191.0	Ton
320E1200	Asphalt Concrete Composite	2,054.2	Ton
380E0060	8.5" Nonreinforced PCC Pavement	43,301.8	SqYd
380E3020	6" PCC Driveway Pavement	269.5	SqYd
380E6000	Dowel Bar	25,913	Each
380E6110	Insert Steel Bar in PCC Pavement	59	Each

SURFACING THICKNESS DIMENSIONS

Plans quantity will be applied though the thickness may vary from that shown on the plans.

At those locations where material must be placed to achieve a required elevation, plans quantity may be varied to achieve the required elevation.

8.5" NONREINFORCED CONCRETE PAVEMENT

The fine aggregate may require screening as determined by the Engineer.

The concrete mix shall conform to the special provision for Contractor Furnished Mix Design for PCC Pavement.

In lieu of an automatic subgrader operating from a preset line, a motor grader or other suitable equipment may be used to trim the gravel cushion to final grade prior to placement of concrete. There will be no direct payment for trimming of the gravel cushion for PCC pavement. The trimming will be considered incidental to the related items required for PCC Pavement.

A minimum of 3 pavement blockouts may be required at various locations on this project to facilitate traffic during the paving activity, see Section C.

The surface of the mainline paving shall be a carpet drag finish.

A construction joint will be sawed whenever new concrete pavement is placed adjacent to existing concrete pavement.

The transverse contraction joints shall be perpendicular to the centerline as detailed in the standard plates 380.01 and 380.08. In multilane areas the transverse contraction joints shall be perpendicular to the centerline and be in a straight line across the width of the pavement. In special situations the Engineer may pre-approve transverse contraction joints that do not meet these requirements. All nonconforming transverse contraction joints that are not pre-approved shall be removed at the Contractor's expense. Any method of placement that cannot produce these requirements shall not be allowed to continue.

TABLE OF 8.5" NONREINFORCED PCC PAVEMENT

Placement Locations	8.5" Nonreinforced PCC Pavment (SqYd)
Mainline	
Sta. 75+98.9 to 76+66.89	445.1
Sta. 76+66.89 to 77+66.89	633.3
Sta. 77+66.89 to 78+84.51	718.8
Sta. 78+84.51 to 79+67.02	453.8
Sta. 79+67.02 to 96+09.13	8,028.1
Sta. 96+09.13 to 96+91.63	453.8
Sta. 96+91.63 to 145+47.36	29,673.9
Intersecting Streets	
Sta. 76+17.28 Lt. – Third Ave	197.9
Sta. 76+17.28 Rt. – Thrid Ave	191.9
Sta. 80+51 Lt. – Fourth Ave	67.0
Sta. 80+53 Rt. – Fourth Ave	69.6
Sta. 84+84 Lt. – Fifth Ave	102.1
Sta. 84+85 Rt. – Fifth Ave	67.0
Sta. 88+40 Rt. – Sixth Ave	95.0
Sta. 88+42 Lt. – Sixth Ave	68.4
Sta. 91+94 Rt. – Seventh Ave	68.0
Sta. 91+95 Lt. – Seventh Ave	68.8
Sta. 95+45 Rt. – Eighth Ave	68.0
Sta. 95+50 Lt. – Eighth Ave	62.4
Sta. 98+99 Rt. – Ninth Ave	60.5
Sta. 99+04 Lt. – Ninth Ave	70.6
Sta. 102+56 Lt. – Tenth Ave	227.7
Sta. 102+57 Rt. – Tenth Ave	251.0
Sta. 104+95 Lt. – Highland Blvd	111.9
Sta. 109+04 Lt. – Eleventh Ave	69.9
Sta. 118+76 Lt. – Twelfth Ave	67.0
Sta. 129+15 Lt. – Fourteenth Ave	320.2
Sta. 129+15 Rt. – Fourteenth Ave	264.2
Sta. 135+75 Rt. – Sixteenth Ave	64.2
Sta. 135+78 Lt. – Sixteenth Ave	64.7
Sta. 140+25 Lt. – Seventeenth Ave	68.0
Sta. 144+76 Lt. – Eighteenth Ave	64.2
Sta. 144+76 Rt. – Eighteenth Ave	64.8
TOTAL	43,301.8

ALKALI SILICA REACTIVITY

Fine aggregate shall conform to Section 800.2 D Alkali Silica Reactivity (ASR) Requirements of the Specifications.

The Department will use the running average of the last three known expansion test results or less for determining acceptability of source and the required Type of cement. These expansion results are reported in the preceding table. Additional testing, when requested by the Contractor, will be performed by the Department at the Contractor's expense.

The values listed in the table are intended for use in bidding. If a previously tested pit by SDDOT with acceptable test values (less than 0.250) is discovered after letting to require Type V cement (greater than 0.250) the Department will accept financial responsibility for the change from Type II to Type V cement.

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Revised: 18 Sep 15, LLR

Type II or Type V cement will not change the requirement for the fly ash. The cost for either type of cement shall be subsidiary to the contract item.

Below is a list of known fine aggregate sources and the average corresponding 14 day expansion values:

TABLE OF KNOWN FINE AGGREGATE SOURCES

Source	Location	Expansion Value
Bachman	Winner, SD	0.335*
Bitterman	Delmont, SD	0.316*
Concrete Materials	Corson, SD	0.170
Croell	Hot Springs, SD	0.089
Croell	Wasta, SD	0.212
Emme Sand & Gravel	Oneil, NE	0.217
Fisher S&G – Mickelson Pit	E. of Nisland, SD	0.129
Fisher S&G - Vallery Pit	Nisland, SD	0.110
Fisher S&G	Rapid City, SD	0.092
Fisher S&G	Spearfish, SD	0.053
Fisher S&G	Wasta, SD	0.159
Fuchs	Pickstown, SD	0.275*
Higman	Akron, IA	0.203
Higman	Hudson, SD	0.187
Hilde	Madison, SD	0.116
Jensen	Herried, SD	0.276*
L.G. Everist	Brookings, SD	0.186
L.G. Everist	Hawarden, IA	0.166
L.G. Everist	Summit, SD	0.178
Morris	Blunt, SD	0.192
Morris - Richards Pit	Onida, SD	0.188
Myrl & Roys – Ode Pit	E Sioux Falls, SD	0.214
Myrl & Roys - Nelson Pit	NE Sioux Falls, SD	0.156
Northern Concrete Agg.	Rauville, SD	0.113
Northern Concrete Agg.	Luverne, MN	0.133
Opperman - Gunvordahl Pit	Burke, SD	0.362*
Opperman - Cahoy Pit	Herrick, SD	0.307*
Opperman - Jones Pit	Burke, SD	0.321*
Opperman - Randall Pit	Pickstown, SD	0.239
Pete Lien & Sons	Creston, SD	0.158
Pete Lien & Sons	Oral, SD	0.129
Pete Lien & Sons	Wasta, SD	0.192
Thorpe Pit	Britton, SD	0.098
Wagner Building Supplies	Pickstown (Wagner), SD	0.241
Winter Brothers- Whitehead Pit	Brookings, SD	0.197

* These sources will require Type V cement in the concrete mix design and Class F (Modified) fly ash as specified.

PAVEMENT SMOOTHNESS

The mainline pavement station 75+98.9 to station 145+47.36 driving lanes shall be tested for smoothness with a Contractor furnished and operated 25 foot California style profilograph in accordance with the Special Provision for PI PCC Pavement Smoothness with 0.2 Blanking Band. This testing is not to be done on the center turn lane.

TABLE OF 6" DRIVEWAY PAVEMENT

Placement Locations	6" Driveway Pavement (SqYd)
Sta. 79+01 Lt.	17.1
Sta. 86+03 Lt.	39.2
Sta. 86+97 Rt.	8.1
Sta. 93+68 Lt.	5.4
Sta. 93+68 Rt.	4.5
Sta. 100+44 Rt.	11.6
Sta. 100+52 Lt.	25.4
Sta. 101+37 Rt.	4.0
Sta. 101+51 Lt.	28.5
Sta. 102+56 Lt. – 71' Lt. & Ah.	111.5
Sta. 106+28 Lt.	6.6
Sta. 110+51 Lt.	7.6
TOTAL	269.5

LOCATION OF CONCRETE PAVEMENT JOINTS

The location of joints, as shown on the "PCC Pavement Layout" sheets, are only approximate locations to be used as a guide in the final location of joints and to afford bidders a basis for estimating the construction costs of the joints. The final locations of the joints are to be designated by the Engineer during construction.

STEEL BAR INSERTION

The Contractor shall insert the Steel Bars (1 1/4 inch x 18 inch epoxy coated plain round dowel bars) into drilled holes in the existing concrete pavement.

The steel bars shall be cut to the specified length by sawing or shearing and shall be free from burring or other deformations.

Epoxy coated plain round steel bars shall be inserted on 12 inch centers in the transverse joint. The first steel bar shall be placed a minimum of 3 inches and a maximum of 9 inches from the outside edge of the slab.

TABLE OF STEEL BAR INSERTION

LOCATION	1 1/4" x 18" Plain Round Dowel Bars Each
Sta. 75+98.9	59
Total	59

TABLE OF DOWEL BARS

Location	1 1/4" Dowel Bars (Each)
Sta. 75+98.9 to 149+41.67 Mainline	24,950
Intersecting Streets	963
Total Dowel Bars	25,913

GRAVEL CUSHION OR GRAVEL CUSHION, SALVAGED

Included in the Estimate of Quantities are 750 tons of Gravel Cushion or Gravel Cushion, Salvaged for widening at 14th Ave. N. and for maintaining traffic to businesses, residences and other locations designated by the Engineer (See Section C).

ASPHALT CONCRETE COMPOSITE

Included in the Estimate of Quantities are 400 tons of Asphalt Concrete Composite for maintaining traffic to businesses, for repair of the detours and filling gaps due to necessary blockouts for maintaining traffic on US 81 (See Section C).

RATES OF MATERIALS

The Estimate of Surfacing Quantities is based on the following quantities of materials per station.

US 81

Sta. 79+67.02 to 96+09.13

GRAVEL CUSHION or GRAVEL CUSHION, SALVAGED

Crushed Aggregate 161.41 Tons.

Water for Granular Material at the rate of 1.94 M. Gallons.

US 81

Sta. 96+91.63 to 145+47.36

GRAVEL CUSHION or GRAVEL CUSHION, SALVAGED

Crushed Aggregate 193.49 Tons.

Water for Granular Material at the rate of 2.32 M. Gallons.

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TABLE OF ADDITIONAL QUANTITIES

Location – Description	Water for Granular Material	Gravel Cushion or Gravel Cushion, Salvaged	Asphalt Concrete Composite
	Mgal	Ton	Ton
Mainline			
Sta. 75+98.9 to 79+67.02	8.1	668.9	
Sta. 96+09.13 to 96+91.63	1.8	146.4	
Sta. 145+47.36 to 149+41.67	6.7	563.1	324.5 / 302.2 / 236.7
Intersecting Streets			
Sta. 76+17.28 Lt. – Third Ave	0.8	69.0	30.5
Sta. 76+17.28 Rt. – Third Ave	0.8	67.4	30.5
Sta. 80+51 Lt. – Fourth Ave	0.4	30.8	18.8
Sta. 80+53 Rt. – Fourth Ave	0.5	42.5	43.6
Sta. 84+84 Lt. – Fifth Ave	0.5	39.0	13.7
Sta. 84+85 Rt. – Fifth Ave	0.3	25.3	11.2
Sta. 88+40 Rt. – Sixth Ave	0.6	49.0	30.1
Sta. 88+42 Lt. – Sixth Ave	0.4	29.5	16.8
Sta. 91+94 Rt. – Seventh Ave	0.7	62.4	61.6
Sta. 91+95 Lt. – Seventh Ave	0.7	58.8	65.5
Sta. 95+45 Rt. – Eighth Ave	0.3	25.4	11.0
Sta. 95+50 Lt. – Eighth Ave	0.6	54.1	48.6
Sta. 98+99 Rt. – Ninth Ave	0.3	28.3	16.5
Sta. 99+04 Lt. – Ninth Ave	0.4	35.9	25.1
Sta. 102+56 Lt. – Tenth Ave	1.1	90.9	28.5
Sta. 102+57 Rt. – Tenth Ave	1.1	88.3	29.4
Sta. 104+95 Lt. – Highland Blvd	0.7	54.5	27.1
Sta. 109+04 Lt. – Eleventh Ave	0.3	27.7	14.7
Sta. 118+76 Lt. – Twelfth Ave	0.4	36.2	26.1
Sta. 129+15 Lt. – Fourteenth Ave	1.4	120.8	33.1
Sta. 129+15 Rt. – Fourteenth Ave	1.4	120.2	64.8
Sta. 135+75 Rt. – Sixteenth Ave	0.4	37.3	27.9
Sta. 135+78 Lt. – Sixteenth Ave	0.5	42.2	34.1
Sta. 140+25 Lt. – Seventeenth Ave	0.2	20.0	3.7
Sta. 144+76 Lt. – Eighteenth Ave	0.5	42.7	
Sta. 144+76 Rt. – Eighteenth Ave	0.5	44.3	
Gravel Drives – 10			
	0.3	28.6	
Asphalt Drives – 15			
	1.2	98.2	77.9
Concrete Drives – 12			
	0.7	56.6	
Traffic Control (See Section C)			
	9.0	750.0	400.0
TOTAL	43.6	3,654.3	2,054.2

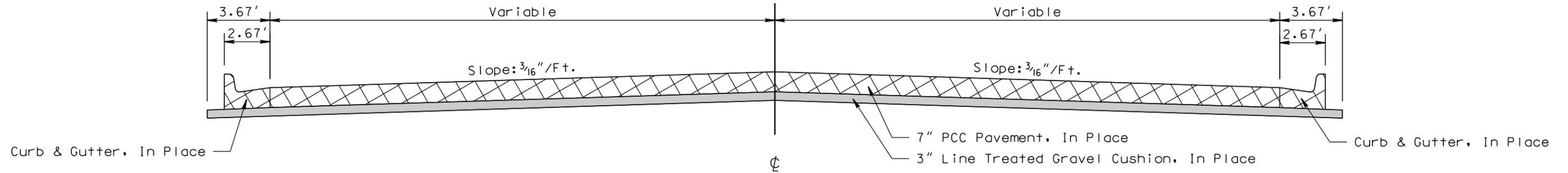
INPLACE TYPICAL SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F4	F21

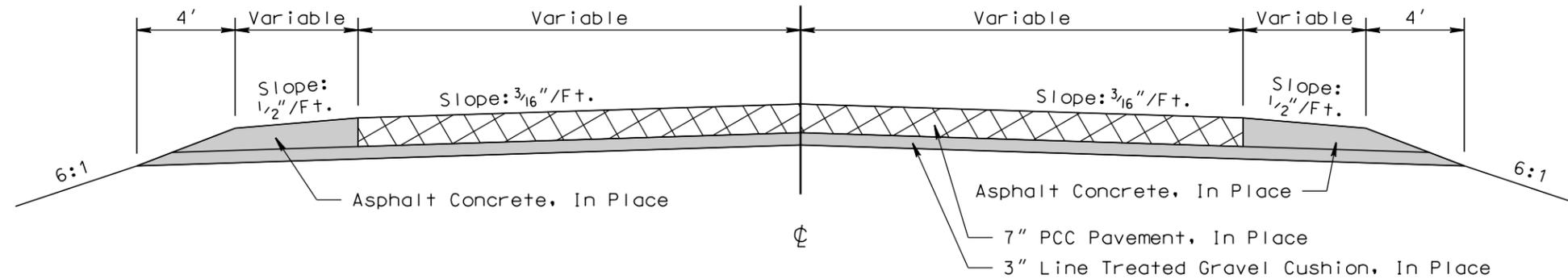
Plotting Date: 10/06/2015

-  PCC Pavement Removal
-  Salvage and stockpile Asphalt Mix and Granular Base Material
-  Unclassified Excavation (Waste Material)

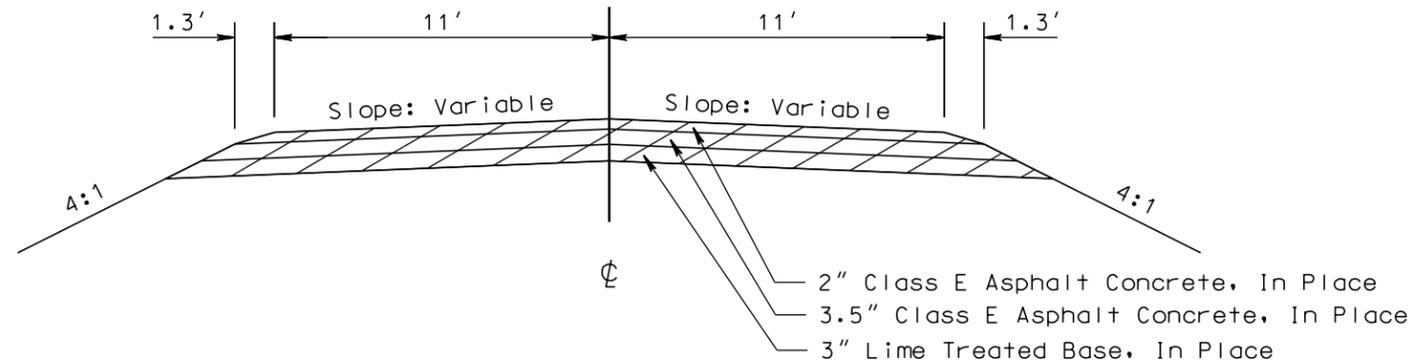
Sta. 75+98.90 to Sta. 136+09



Sta. 136+09 to Sta. 140+00



Sta. 140+00 to Sta. 149+41.67



PLOT SCALE - 1:6.00001

PLOTTED FROM - ITRP15123

PLOT NAME - 2

FILE - ... \CODN026\TYPICAL SECTION.DGN

TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F5	F21

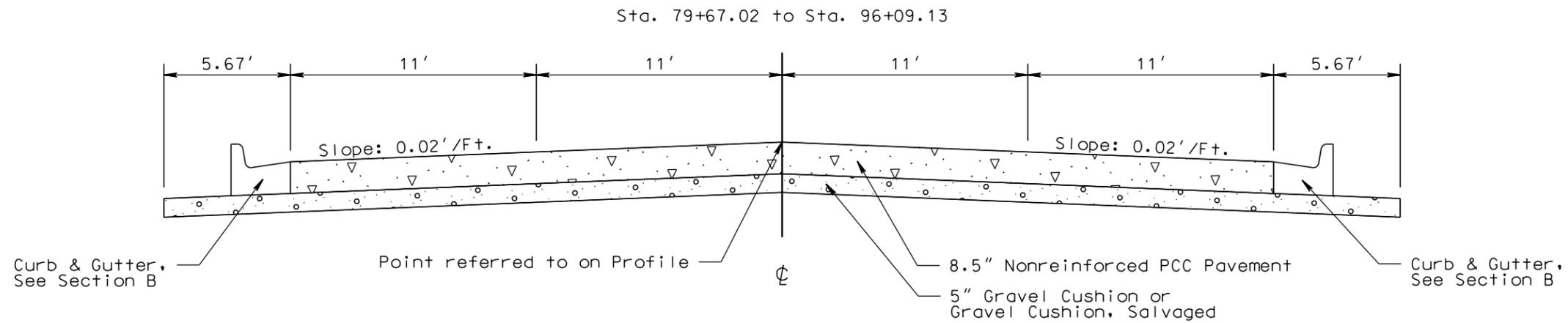
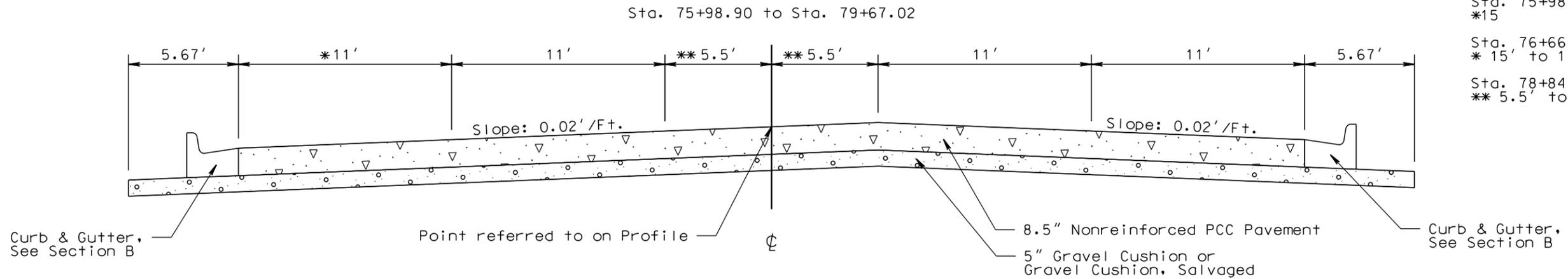
Plotting Date: 10/06/2015

Transitions:

Sta. 75+98.90 to 76+66.89
*15'

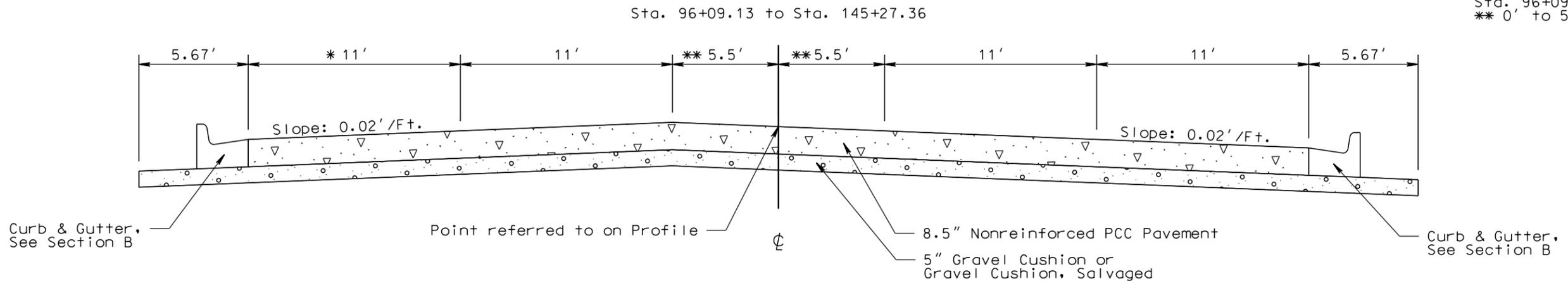
Sta. 76+66.89 to 77+66.89
* 15' to 11'

Sta. 78+84.51 to Sta. 79+67.02
** 5.5' to 0'



Transitions:

Sta. 96+09.13 to Sta. 96+91.63
** 0' to 5.5'



PLOT SCALE - 1:6

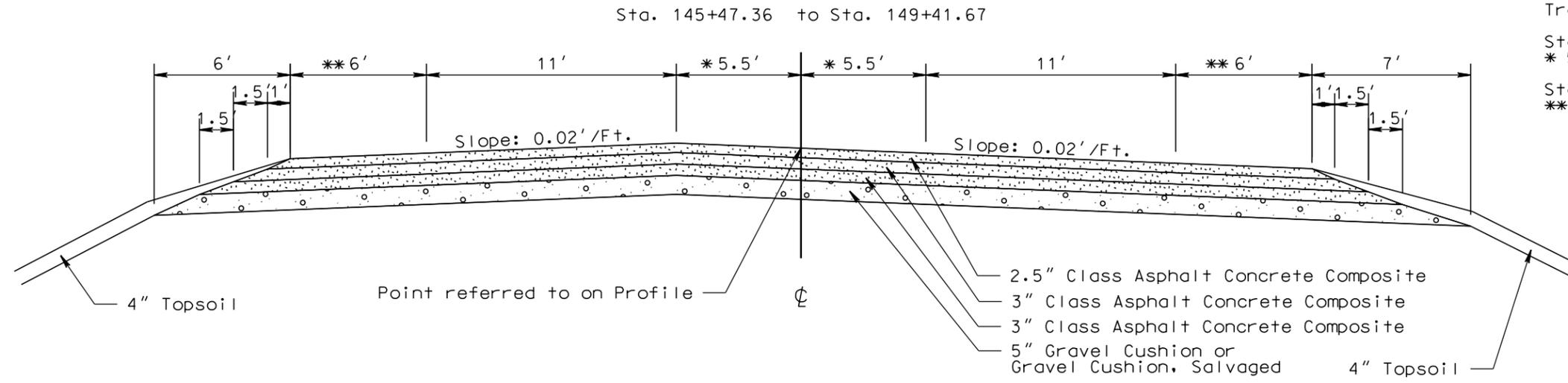
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PLOT NAME - 3

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TYPICAL SURFACING SECTIONS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F6	F21
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Transition:
 Sta. 147+95.00 to Sta. 149+41.67
 * 5.5' to 0'
 Sta. 147+95.00 to Sta. 149+41.67
 ** 6' to 1'

PLOT SCALE - 1:6

PLOTTED FROM - ITRP15123

PLOT NAME - 4

FILE - ... \CODN026\TYPICAL SECTION.DGN

PCC PAVEMENT LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F7	F21

Plotting Date: 10/06/2015

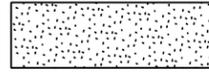
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Sheet 1 of 7 Sheets



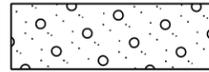
6" Driveway Pavement



8.5" Asphalt Concrete Composite (2 - 3" Lifts, 1 - 2.5" Lift)



3" Asphalt Concrete Composite



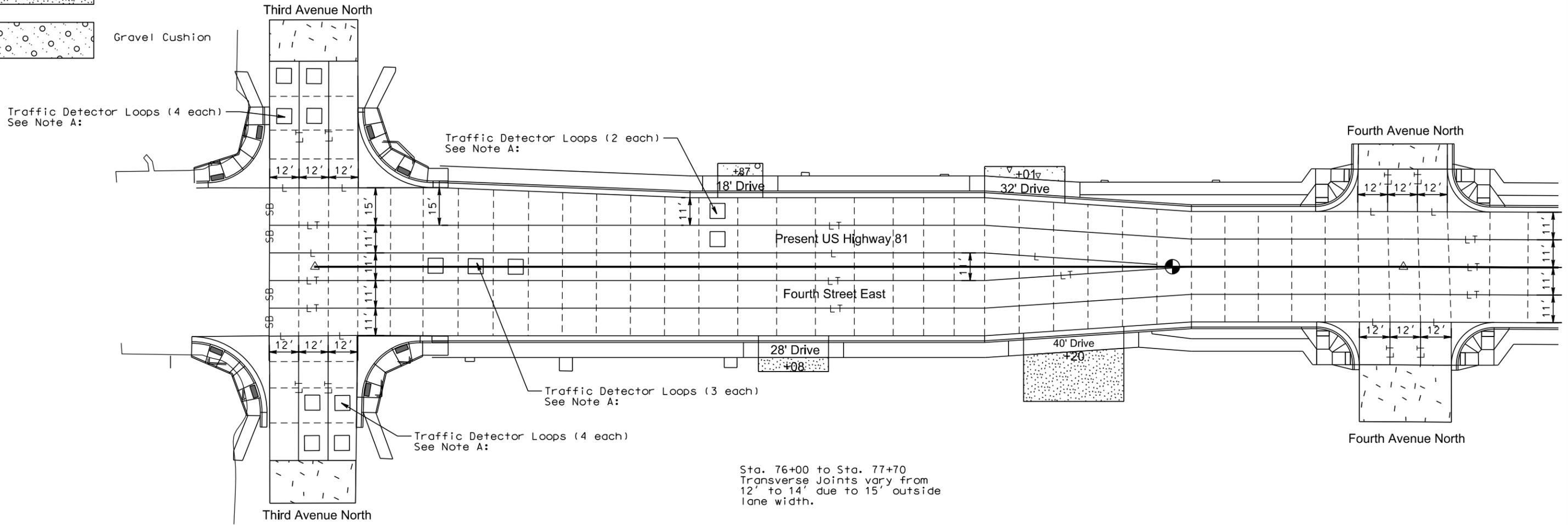
Gravel Cushion



PLOT SCALE - 1:40

PLOT NAME - 5

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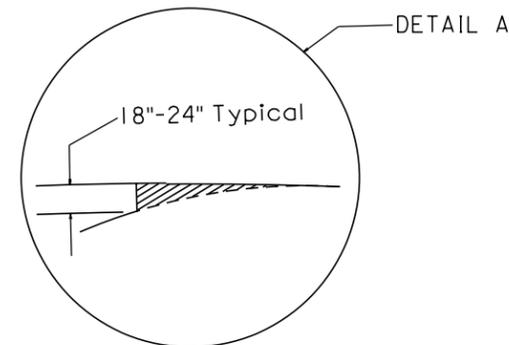


Sta. 76+00 to Sta. 77+70
Transverse Joints vary from
12' to 14' due to 15' outside
lane width.

Note A:
The Contractor will ensure Transverse and
Longitudinal Joints do not intersect
Traffic Detector Loops.

LEGEND:

- Longitudinal Joint Without Tie Bars (Construction or Sawed) ——— L ——— L ———
- Longitudinal Joint With Tie Bars (Construction or Sawed) ——— LT ——— LT ———
- Transverse Contraction Joint ——— - - - - -
- Steel Bar Installation in Longitudinal or Transverse Joint ——— SB ——— SB ———
- Areas to be poured monolithically with adjacent slab (See Detail A) ●



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PCC PAVEMENT LAYOUT

STATE OF SOUTH DAKOTA	PROJECT P 0081(93)157	SHEET F8	TOTAL SHEETS F21
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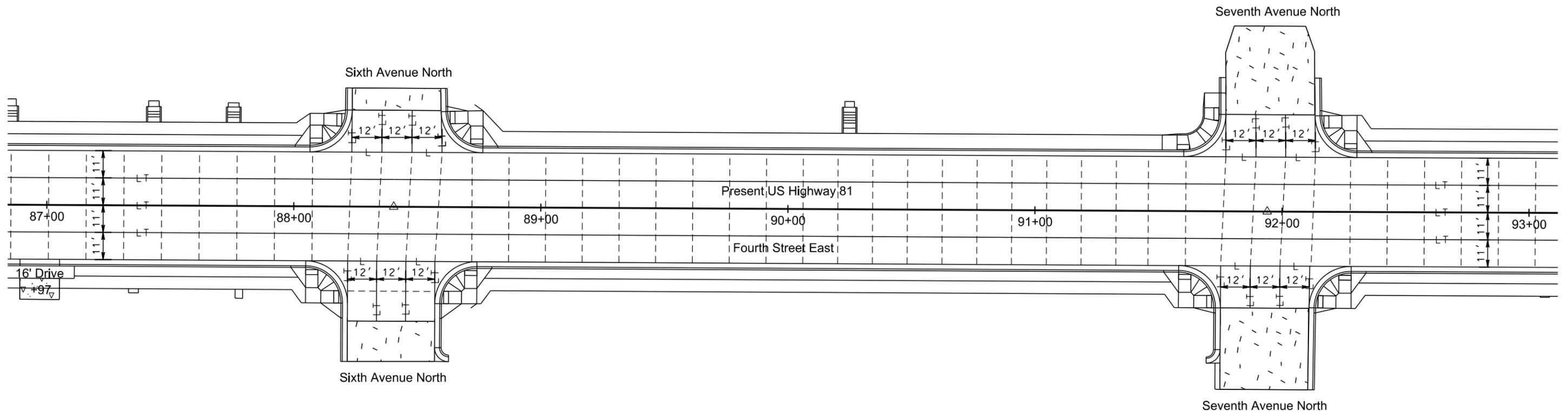
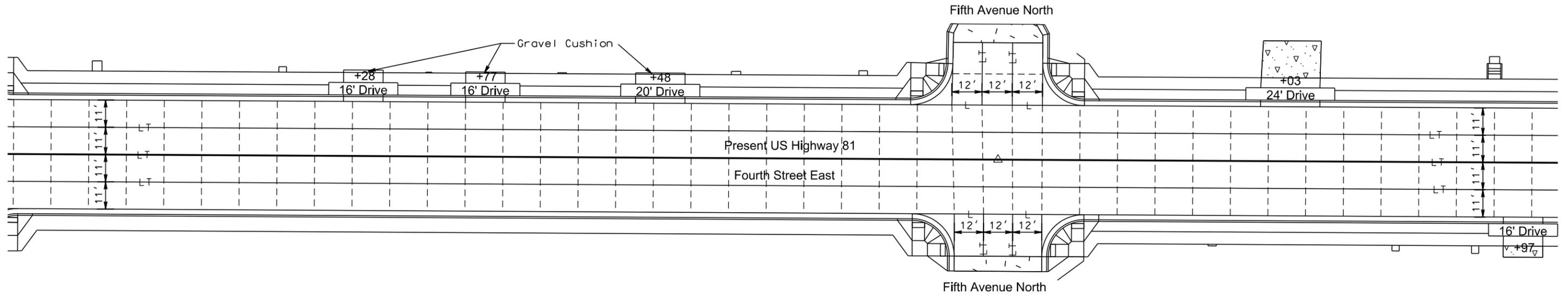
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Scale 1 Inch = 40 Feet
Sheet 2 of 7 Sheets



PLOT SCALE - 1:40

PLOT NAME - 6



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FILE - ... \LAYOUT 27AUG15.DGN

PCC PAVEMENT LAYOUT

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F9	F21

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Scale 1 Inch = 40 Feet
Sheet 3 of 7 Sheets

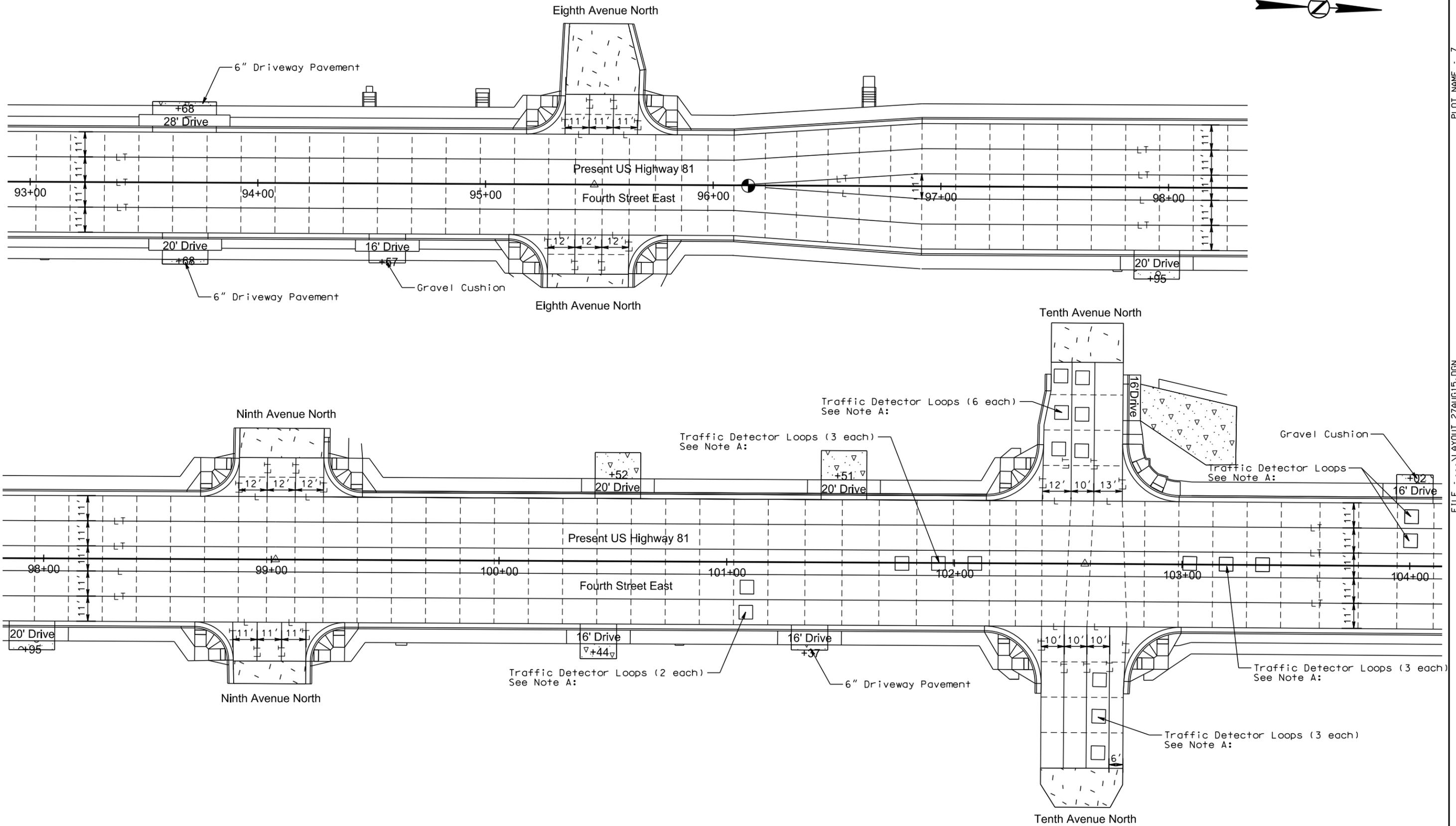


PLOT SCALE - 1:40

PLOT NAME - 7

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PCC PAVEMENT LAYOUT

STATE OF SOUTH DAKOTA	PROJECT P 0081(93)157	SHEET F10	TOTAL SHEETS F21
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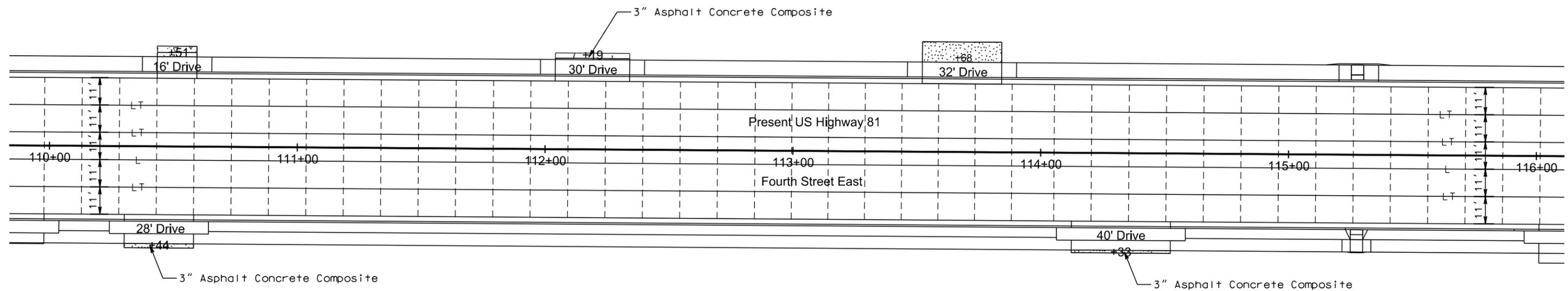
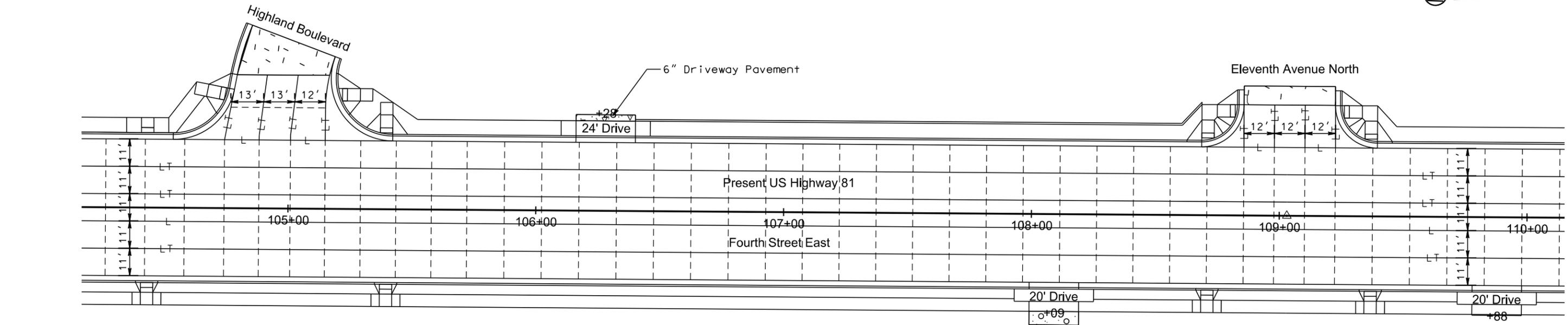
Plotting Date: 10/06/2015

Scale 1 Inch = 40 Feet
Sheet 4 of 7 Sheets



PLOT SCALE - 1:40

PLOT NAME - 8



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FILE - ... \LAYOUT 27AUG15.DGN

PCC PAVEMENT LAYOUT

STATE OF SOUTH DAKOTA	PROJECT P 0081(93)157	SHEET F11	TOTAL SHEETS F21
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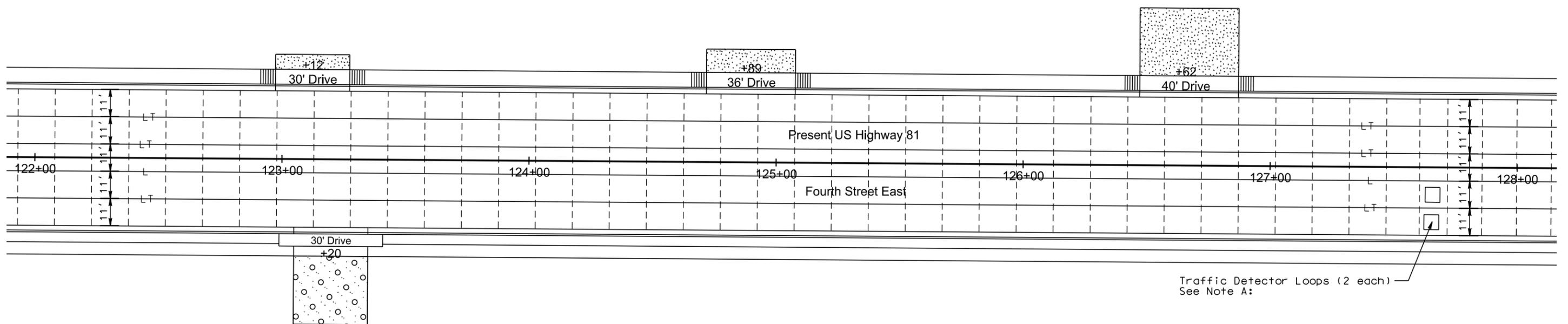
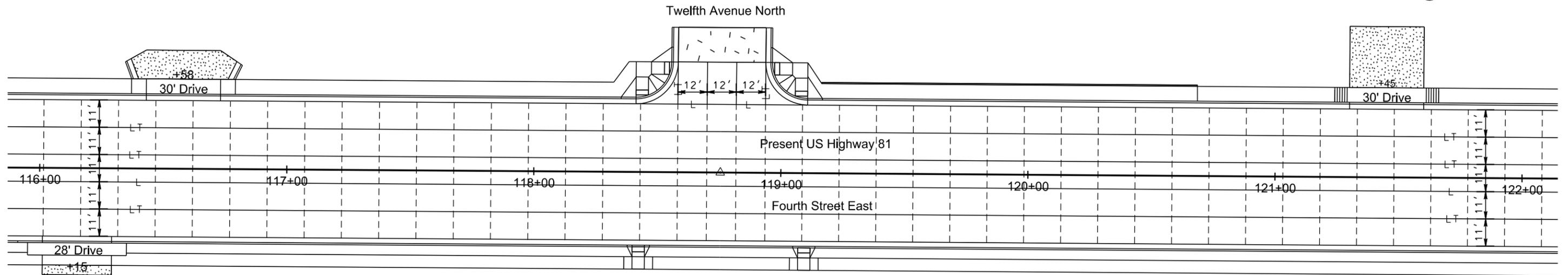
Plotting Date: 10/06/2015

Scale 1 Inch = 40 Feet
Sheet 5 of 7 Sheets



PLOT SCALE - 1:40

PLOT NAME - 9



Traffic Detector Loops (2 each)
See Note A:

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FILE - ... \LAYOUT 27AUG15.DGN

PCC PAVEMENT LAYOUT

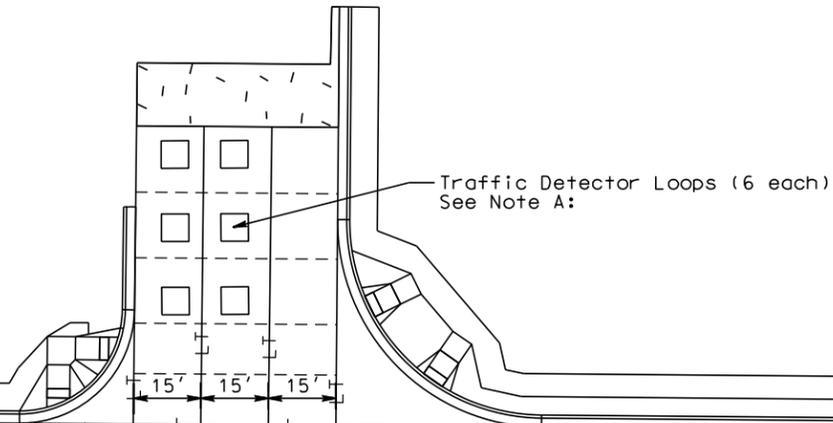
STATE OF SOUTH DAKOTA	PROJECT P 0081(93)157	SHEET F12	TOTAL SHEETS F21
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Plotting Date: 10/06/2015

Scale 1 Inch = 40 Feet
Sheet 6 of 7 Sheets

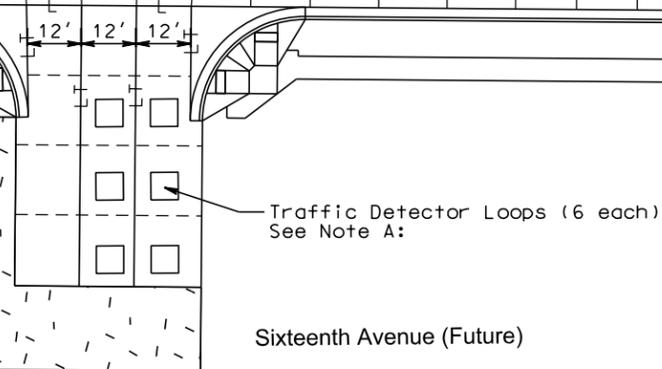
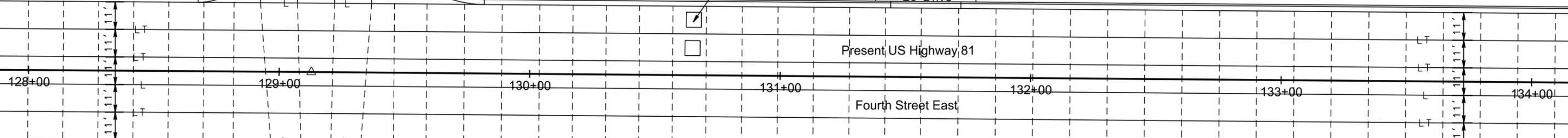


Fourteenth Avenue North



Traffic Detector Loops (2 each)
See Note A:

+58
28' Drive

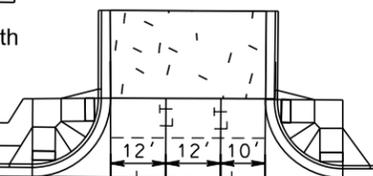


Traffic Detector Loops (6 each)
See Note A:

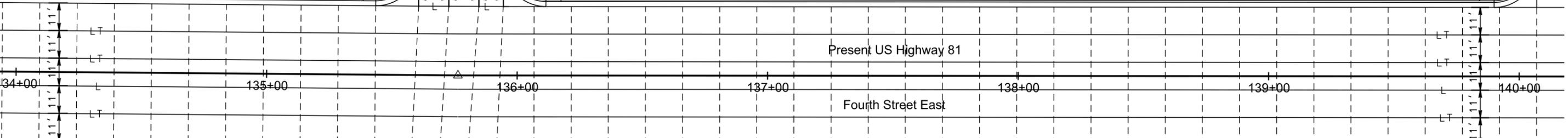
Sixteenth Avenue (Future)

36' Drive
+13

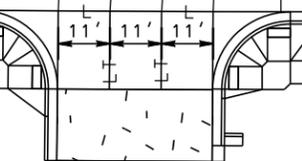
Fourteenth Avenue North



Traffic Detector Loops (6 each)
See Note A:



36' Drive
+26



Sixteenth Avenue Circle

PLOT SCALE - 1:40

PLOT NAME - 10

FILE - ... \LAYOUT 27AUG15.DGN

PLOTTED FROM - TRPR15123

PCC PAVEMENT LAYOUT

Scale 1 Inch = 40 Feet
Sheet 7 of 7 Sheets

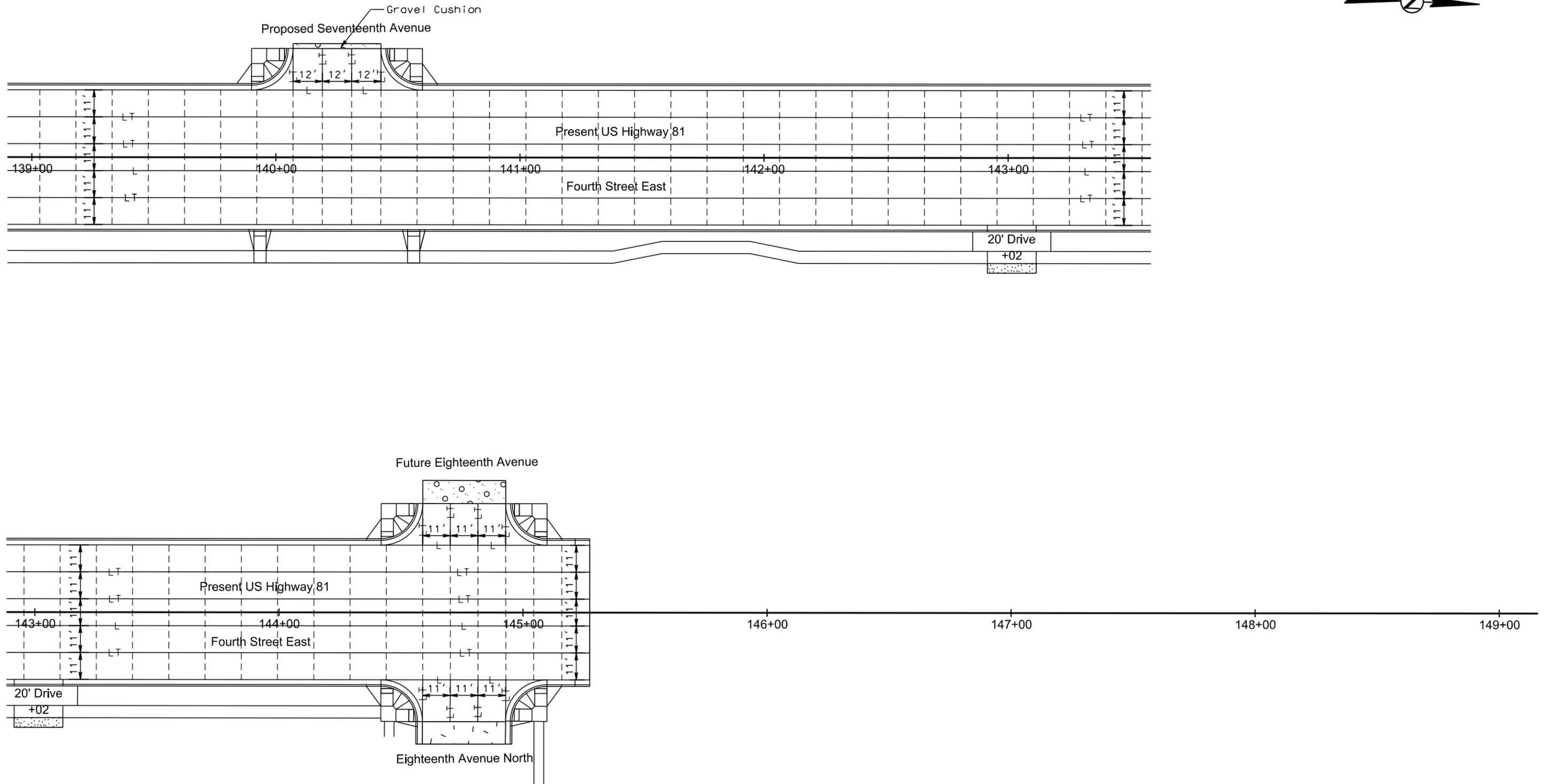
STATE OF SOUTH DAKOTA	PROJECT P 0081(93)157	SHEET F13	TOTAL SHEETS F21
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Plotting Date: 10/06/2015



PLOT SCALE - 1:40

PLOT NAME - 11



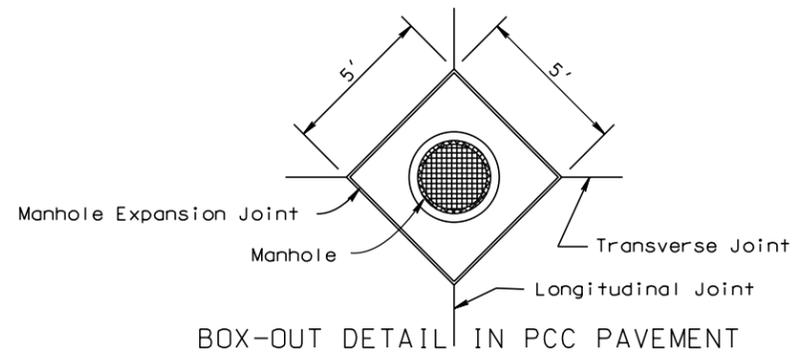
PLOTTED FROM - TRPR15123

FILE - ... \LAYOUT 27AUG15.DGN

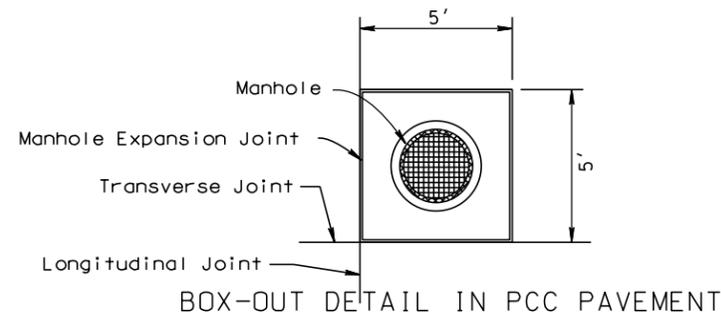
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F14	F21

Plotting Date: 10/06/2015

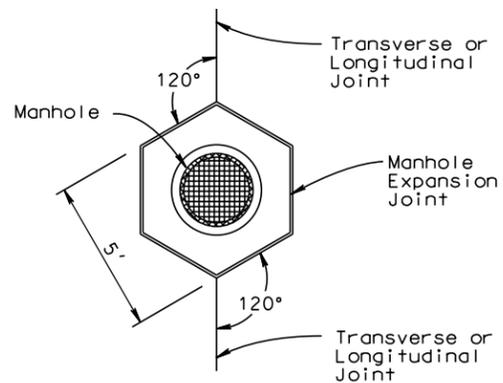
MANHOLE BOX - OUT DETAILS



Where the utility access is intersected by the longitudinal and transverse joints

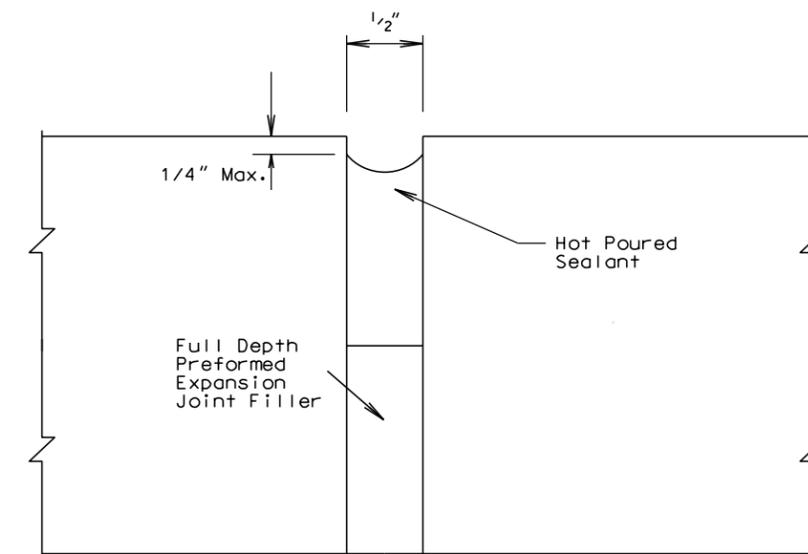


Where the utility access is offset from the longitudinal and transverse joints



Where no Longitudinal or Transverse joints are present or at Longitudinal or Transverse joint.

MANHOLE EXPANSION JOINT DETAIL

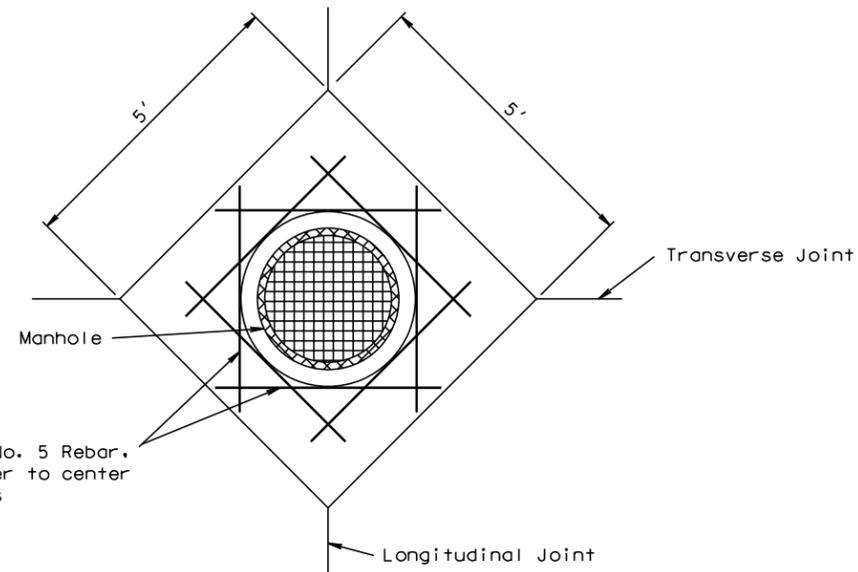


STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	P 0081(93)157	F15	F21

Plotting Date: 10/06/2015

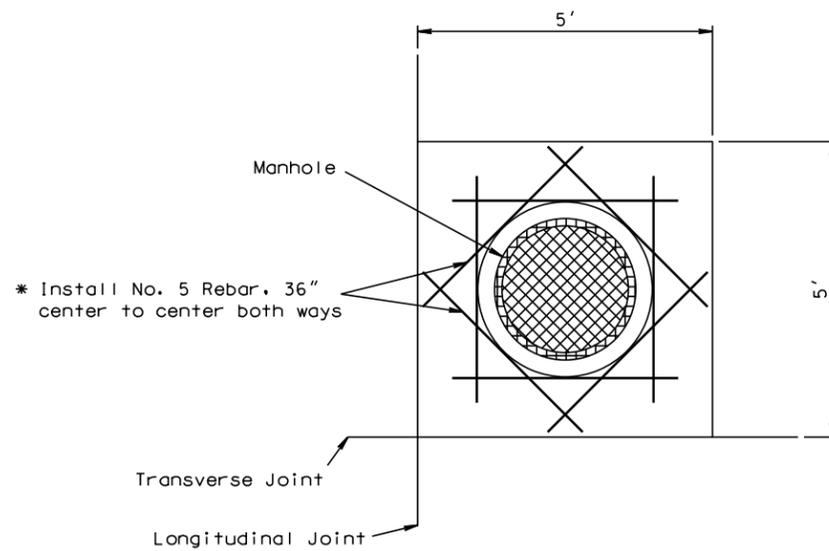
MANHOLE BOX - OUT DETAILS

REBAR LAYOUTS IN PCC PAVEMENT WITH BOX-OUTS



* Install No. 5 Rebar, 36" center to center both ways

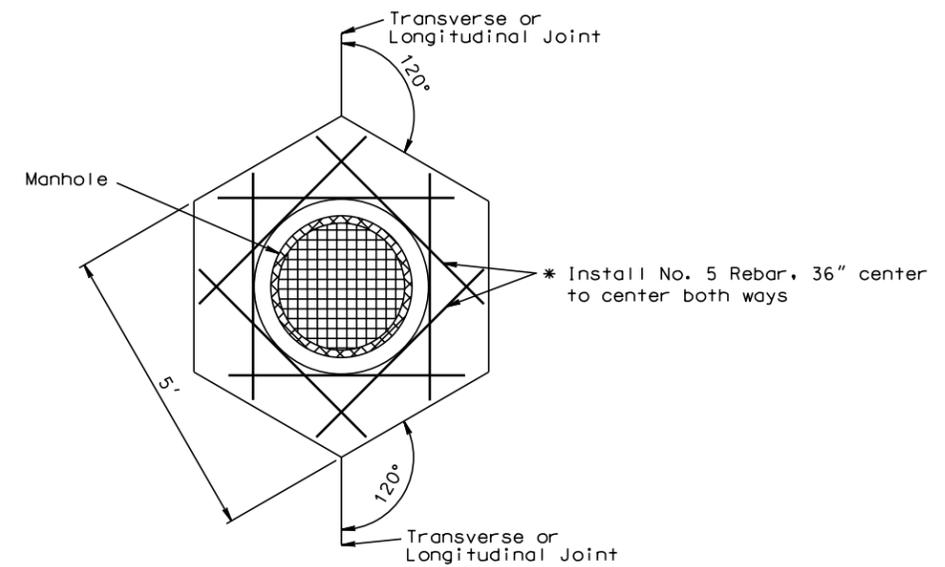
Where the utility access is intersected by the longitudinal and transverse joints



* Install No. 5 Rebar, 36" center to center both ways

Where the utility access is offset from the longitudinal and transverse joints

REBAR LAYOUT IN PCC PAVEMENT WITH BOX-OUTS

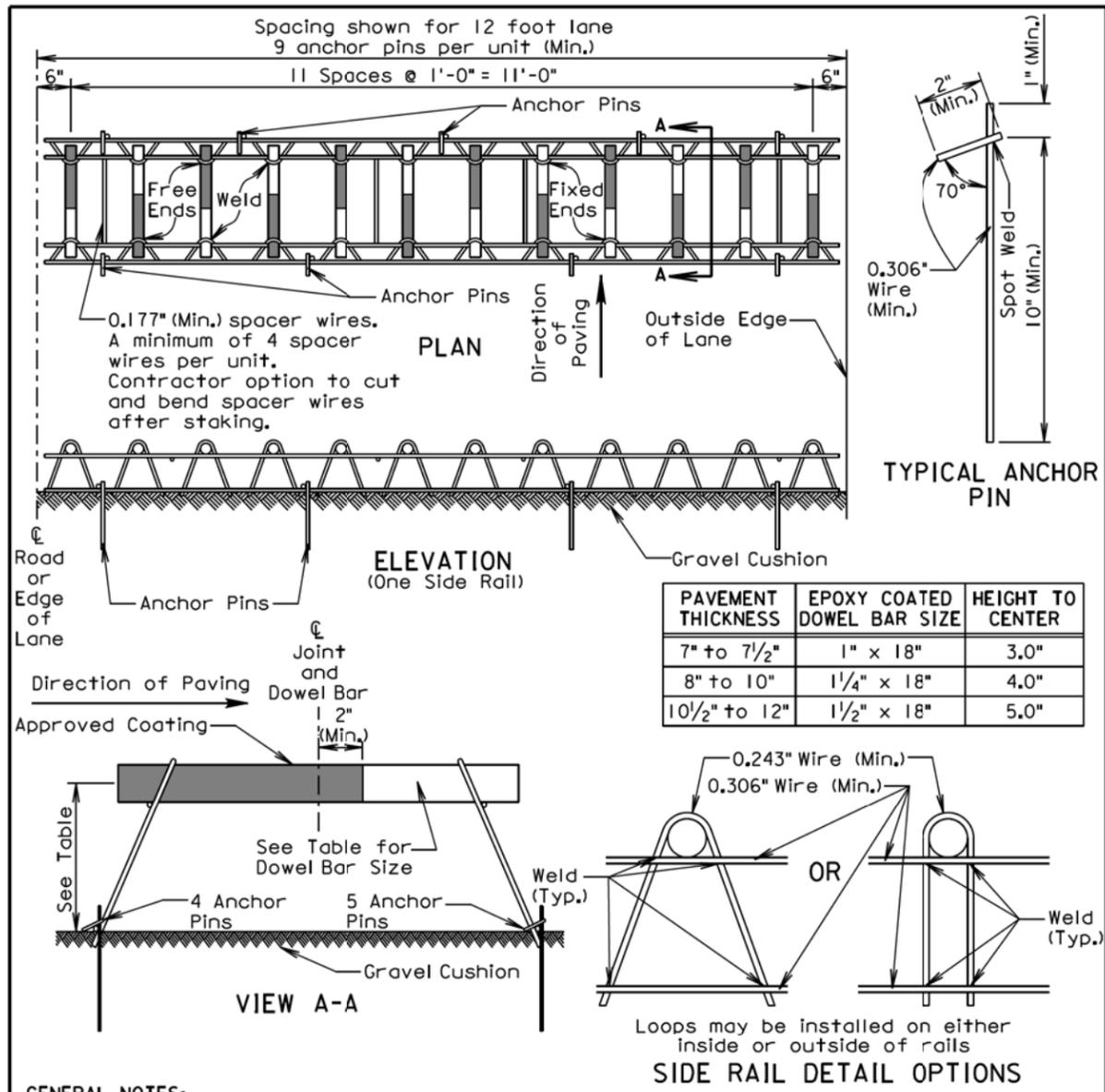


* Install No. 5 Rebar, 36" center to center both ways

Where no Longitudinal or Transverse joints are present or at Longitudinal or Transverse joint.

* All rebar will be placed at the midpoint depth of the PCC Pavement. All cost associated with the installation of the rebar will be incidental to the contract unit price per square yard for the Nonreinforced PCC Pavement. When Box-Outs are used, the cost to construct them shall be incidental to the contract unit price per square yard for the Nonreinforced PCC Pavement

Plotting Date: 10/06/2015



GENERAL NOTES:

Longitudinal joint tie bars shall be placed a minimum of 15 inches from the transverse contraction joint.

Centerline of individual dowel bars shall be parallel to top of subgrade $\pm 1/8$ inch in 18 inches and to all other dowel bars in the assembly $\pm 1/16$ inch in 18 inches.

Centerline of individual dowel bars shall be parallel to the centerline of the roadway $\pm 1/2$ inch in 18 inches.

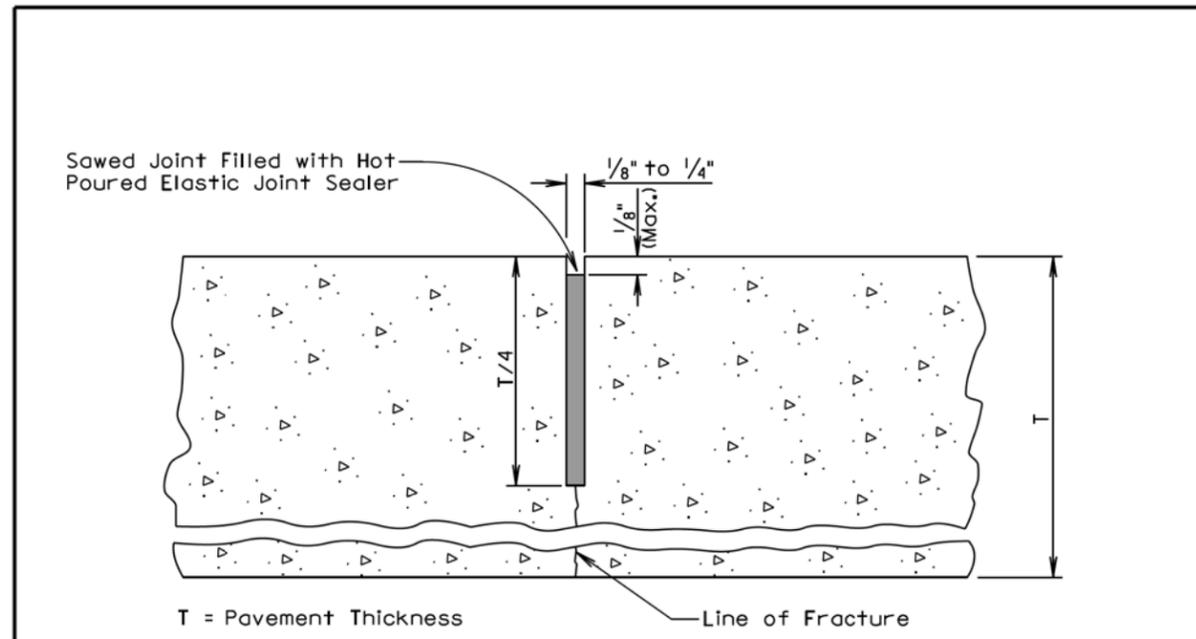
The transverse contraction joints shall be sawed perpendicular to the centerline of the roadway and the dowel bars shall be centered on the sawed joint ± 1 inch.

Supporting devices as shown on this sheet, or equivalent as approved by the Engineer, shall be used to maintain proper horizontal and vertical alignment of the dowel bars.

August 30, 2013

S D D O T	PCC PAVEMENT DOWEL BAR ASSEMBLY FOR TRANSVERSE CONTRACTION JOINTS	PLATE NUMBER 380.01
	12 Bar Assembly on Granular Base Material	Sheet 1 of 1

Published Date: 3rd Qtr. 2015



GENERAL NOTES:

If an early entrance sawcut does not develop the full transverse crack, then the saw cut to control cracking shall be a minimum of $1/4$ the thickness of the pavement.

All hot poured elastic joint sealer material spilled on the surface of the concrete pavement shall be removed as soon as the material has cooled. The extent of removal of material shall be to the satisfaction of the Engineer. All costs for removal of the spilled joint sealer material shall be borne by the Contractor.

June 26, 2015

S D D O T	PCC PAVEMENT TRANSVERSE CONTRACTION JOINT WITH OR WITHOUT DOWEL BAR ASSEMBLY	PLATE NUMBER 380.05
	Joint with or without Dowel Bar Assembly	Sheet 1 of 1

Published Date: 3rd Qtr. 2015

PLOT SCALE - 1:200

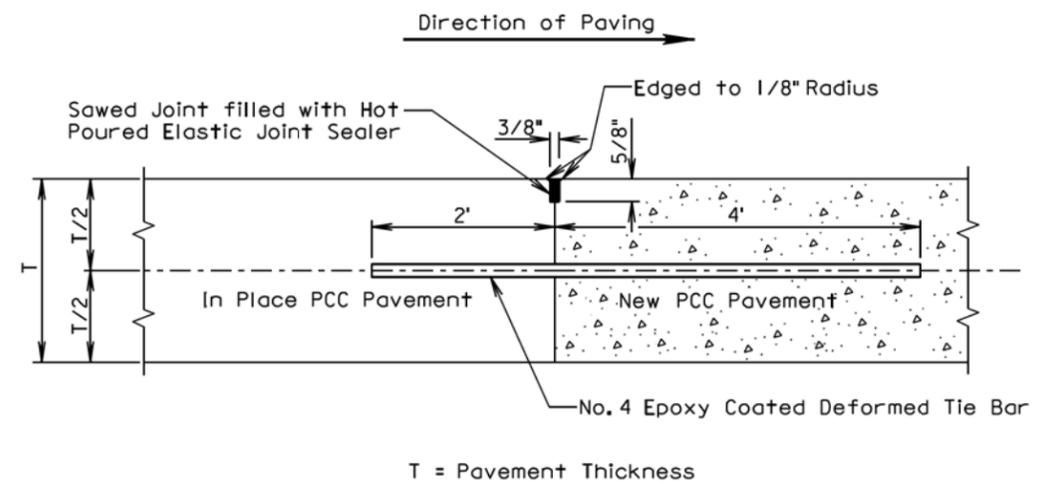
PLOTTED FROM - TRPR15123

PLOT NAME - 14

FILE - ... \380.01 380.05.DGN

PLOT SCALE - 1:200

PLOT NAME - 15



GENERAL NOTES:

No. 4 epoxy coated deformed tie bars shall be spaced 12 inches center to center and shall be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

The minimum distance between a transverse construction joint with tie bars and an adjacent transverse contraction joint shall be 5 feet.

When a transverse construction joint is made, paving will not be allowed in this area for 12 hours.

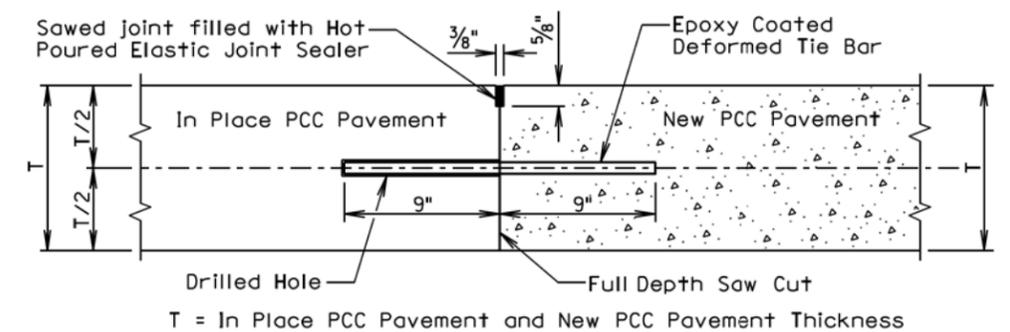
A transverse construction joint may be placed in lieu of the transverse contraction joint when shown in the plans.

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on the current project.

June 26, 2013

S D D O T	PCC PAVEMENT MID PANEL TRANSVERSE CONSTRUCTION JOINT	PLATE NUMBER 380.07
	<i>Published Date: 3rd Qtr. 2015</i>	Sheet 1 of 1

**DETAIL A
TRANSVERSE CONSTRUCTION JOINT WITH TIE BARS**



GENERAL NOTES:

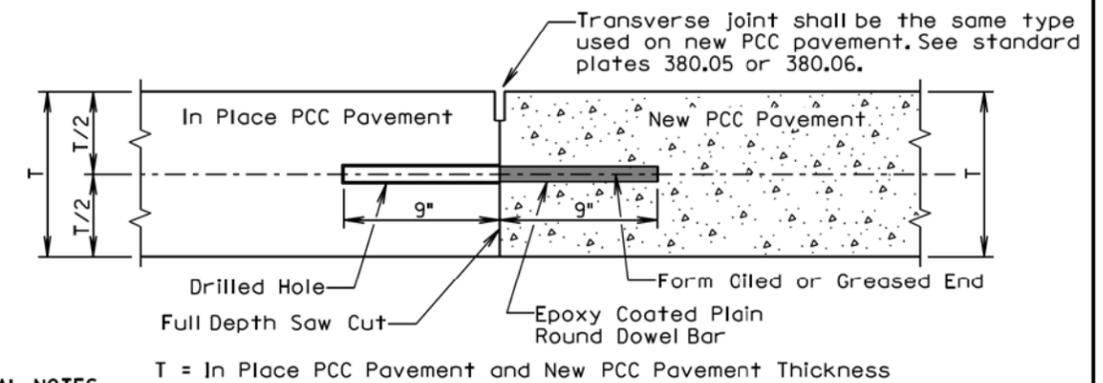
The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project.

See sheet 2 of 2 of this standard plate to determine if Detail A shall be used.

The tie bars shall be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive.

No. 9 epoxy coated deformed tie bars shall be used in 10 inch thickness and less PCC Pavement and No. 11 epoxy coated deformed tie bars shall be used in 10.5 inch thickness and greater PCC Pavement. The tie bar spacing shall be 18 inches center to center and shall be a minimum of 3 inches and a maximum of 9 inches from the pavement edges.

**DETAIL B
TRANSVERSE CONSTRUCTION JOINT WITH DOWEL BARS**



GENERAL NOTES:

The term "In Place PCC Pavement" in the above drawing indicates that the in place PCC pavement was placed on a previous project or current project.

See sheet 2 of 2 of this standard plate to determine if Detail B shall be used.

The plain round dowel bars shall be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive.

The epoxy coated plain round dowel bar size, number, and spacing shall be the same as detailed on the corresponding dowel bar assembly standard plate (380.01, 380.02, 380.03, or 380.04). The epoxy coated plain round dowel bars shall be a minimum of 3 inches and a maximum of 6 inches from the pavement edges.

September 6, 2013

S D D O T	PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS	PLATE NUMBER 380.08
	<i>Published Date: 3rd Qtr. 2015</i>	Sheet 1 of 2

-PLOTTED FROM - TRPR15123

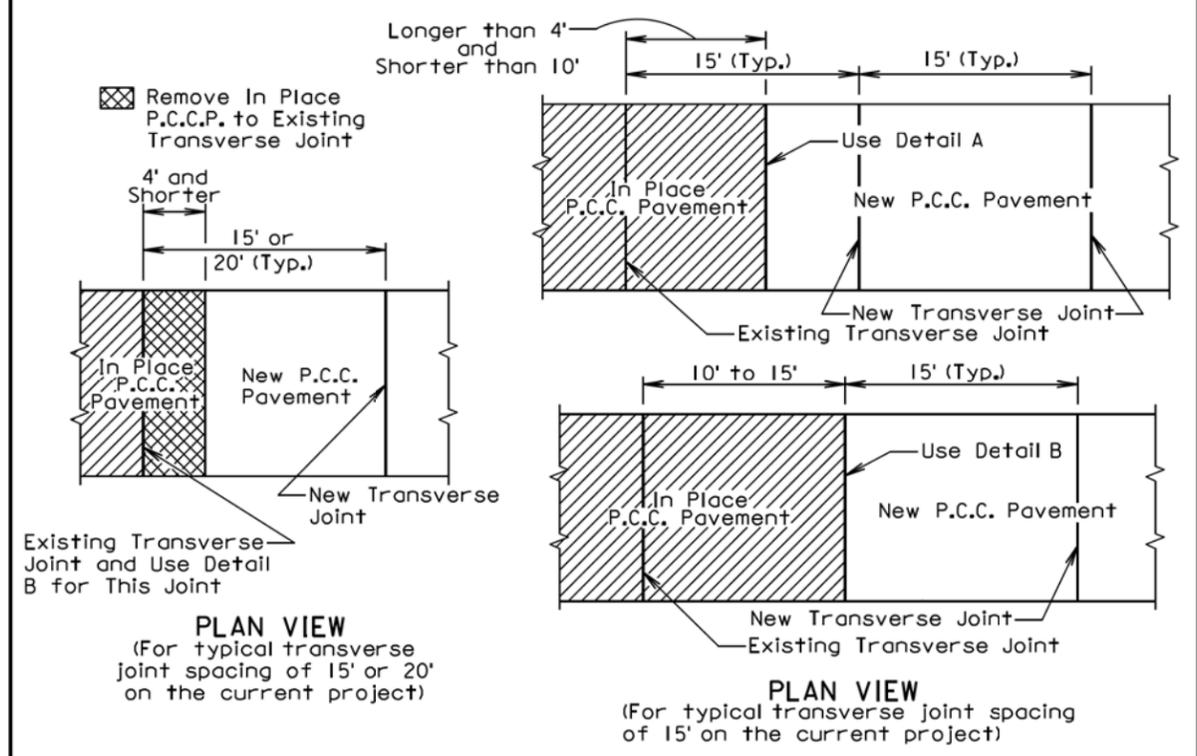
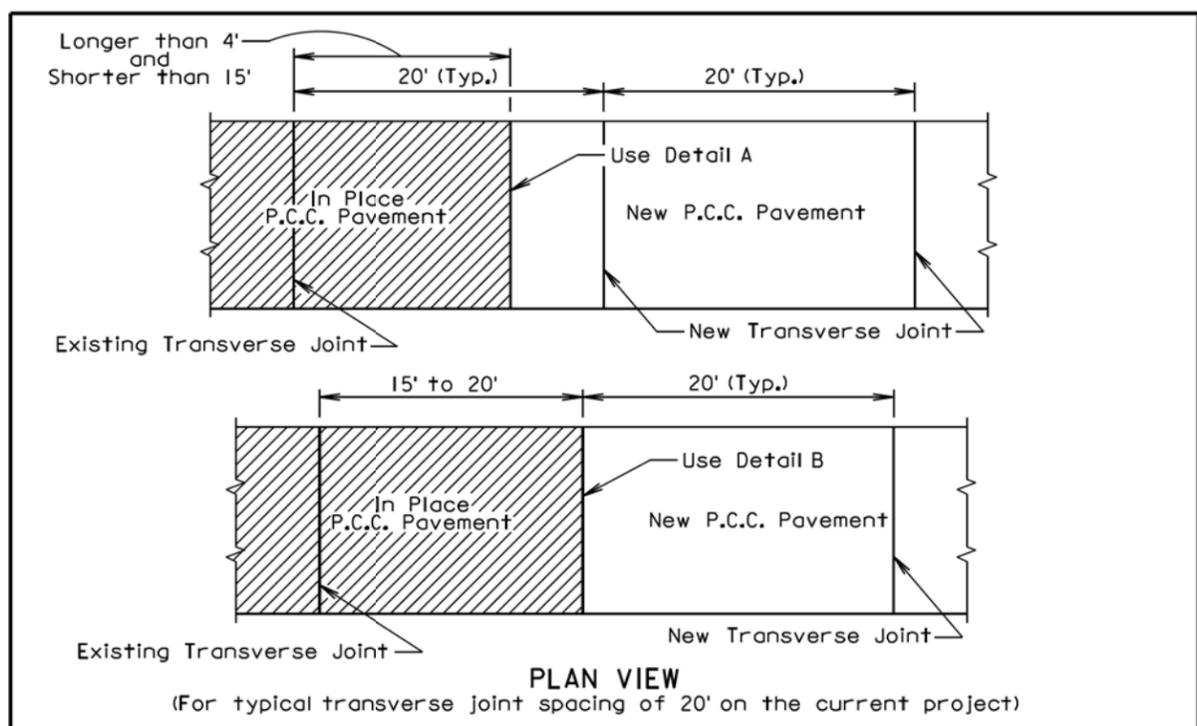
FILE - ... \380.07 380.08.1.DGN

Plotting Date: 10/06/2015

PLOT SCALE - 1:200

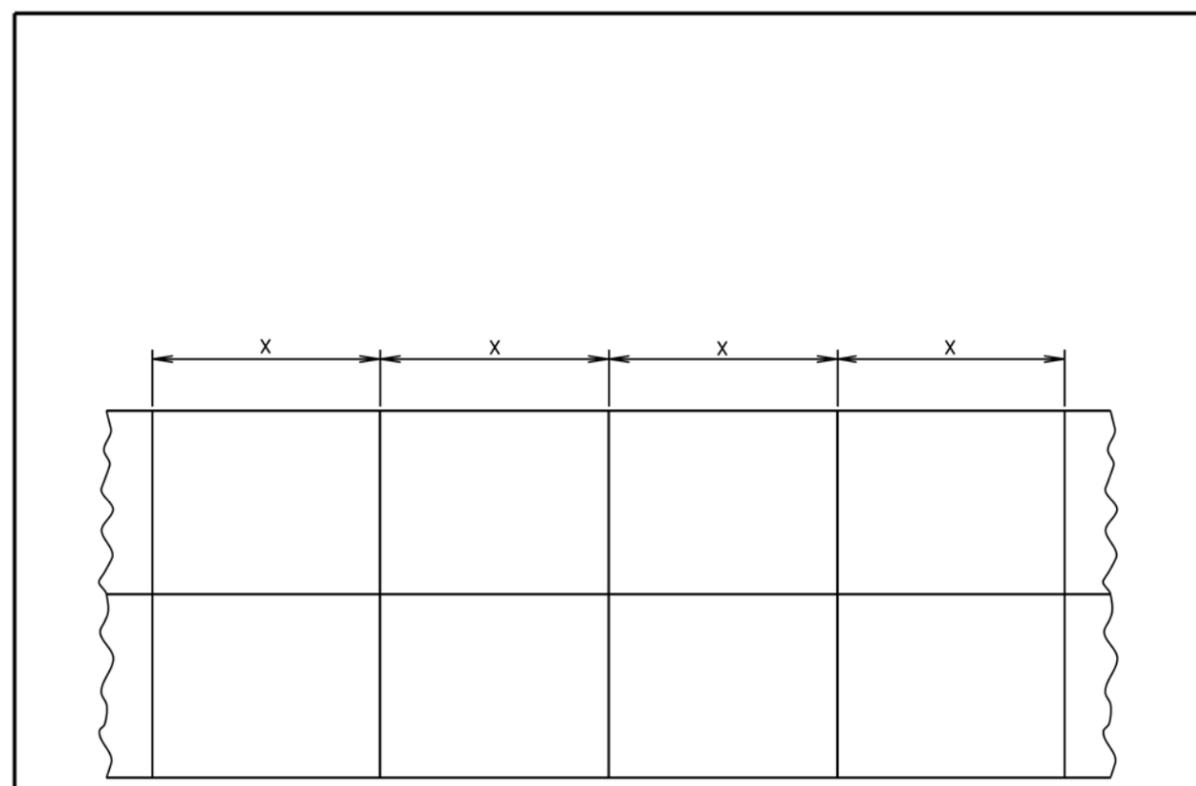
PLOT NAME - 16

FILE - ... \380_08.2 380_09.DGN



September 6, 2013

Published Date: 3rd Qtr. 2015	S D D O T	PCC PAVEMENT TRANSVERSE CONSTRUCTION JOINTS WITH TIE BARS OR DOWEL BARS	PLATE NUMBER 380.08
			Sheet 2 of 2



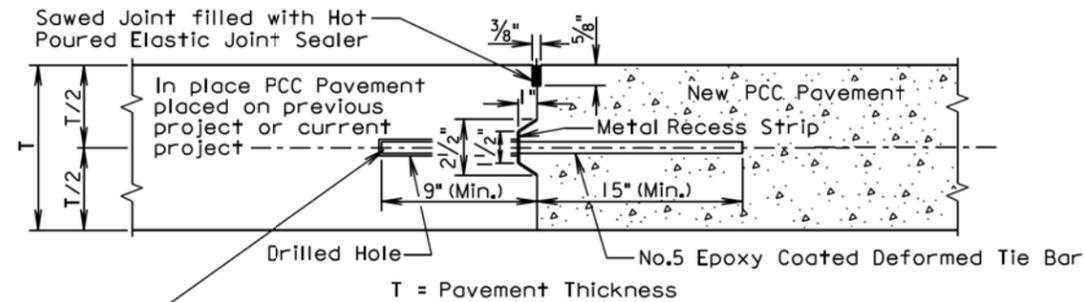
PCCP Thickness	Transverse Contraction Joint Spacing (X)
8" to 9.5"	15'
10" and Thicker	20'

August 31, 2013

Published Date: 3rd Qtr. 2015	S D D O T	PCC PAVEMENT TYPICAL CONTRACTION JOINT SPACING	PLATE NUMBER 380.09
			Sheet 1 of 1

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

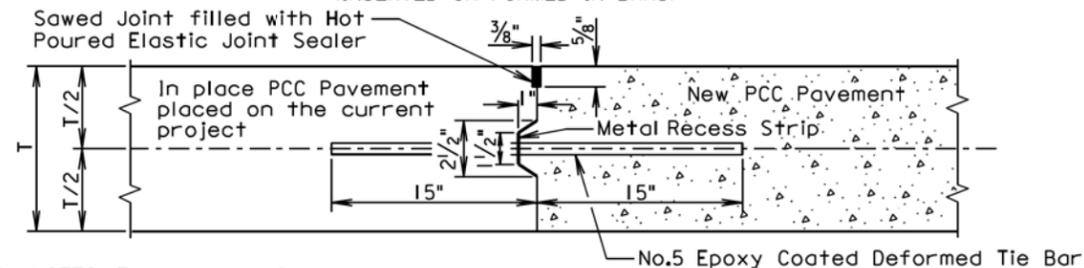
(DRILLED IN BARS)



T = Pavement Thickness
The tie bars shall be embedded a minimum depth of 9 inches into the in place PCC pavement and anchored with an epoxy resin adhesive.

LONGITUDINAL CONSTRUCTION JOINT WITH TIE BARS

(INSERTED OR FORMED IN BARS)



GENERAL NOTES (For the details above):

The epoxy coated deformed tie bars shall be spaced in accordance with the following tables:

Tie Bar Spacing 48" Maximum	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

Tie Bar Spacing 30" Maximum	
Transverse Contraction Joint Spacing	Number of Tie Bars
5' to 7'	2
7.5' to 9.5'	3
10' to 12'	4
12.5' to 14.5'	5
15' to 17'	6
17.5' to 19.5'	7
20' to 22'	8

The tie bars shall be placed a minimum of 15 inches from transverse contraction joints.

The required number of tie bars as shown in the table shall be uniformly spaced within each panel. The uniformly spaced tie bars shall be spaced a maximum of 48 inches center to center for a female keyway and shall be spaced a maximum of 30 inches center to center for a vertical face and male keyway. The maximum tie bar spacing shall apply to tie bars within each panel.

The keyway illustrated in the above details depict a female keyway.

The keyway is optional and is not required. When concrete pavement is formed and a keyway is provided, a metal recess strip shall be used. When concrete pavement is slip formed, a metal recess strip is not required.

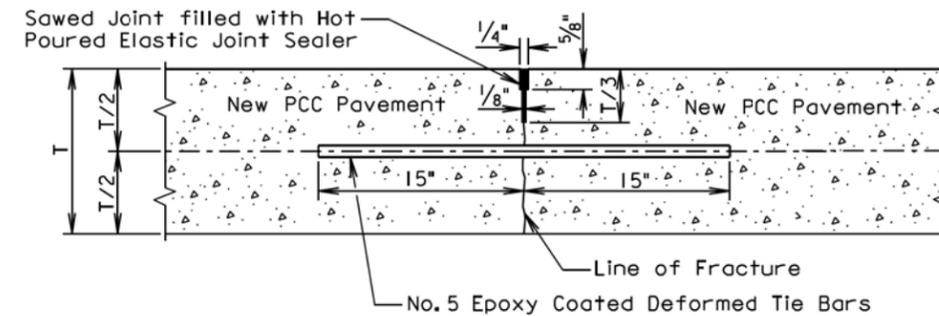
August 31, 2013

S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.10
		Sheet 1 of 2

Published Date: 3rd Qtr. 2015

SAWED LONGITUDINAL JOINT WITH TIE BARS

(POURED MONOLITHICALLY)



T = Pavement Thickness

GENERAL NOTES (For the detail above):

The epoxy coated deformed tie bars shall be spaced in accordance with the following table:

Tie Bar Spacing 48" Maximum	
Transverse Contraction Joint Spacing	Number of Tie Bars
6.5' to 10'	2
10.5' to 14'	3
14.5' to 18'	4
18.5' to 22'	5

The tie bars shall be placed a minimum of 15 inches from the transverse contraction joints.

The required number of tie bars as shown in the table shall be uniformly spaced within each panel with a maximum space of 48 inches center to center. The maximum tie bar spacing shall apply to tie bars within each panel.

The first saw cut to control cracking shall be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer is necessary.

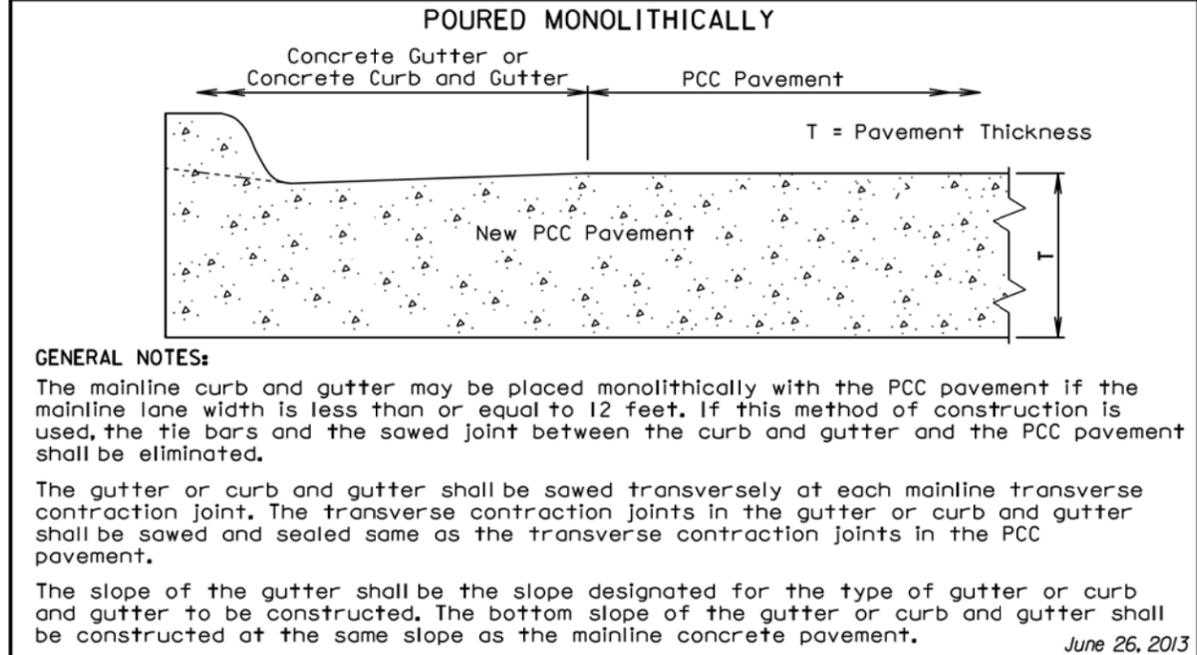
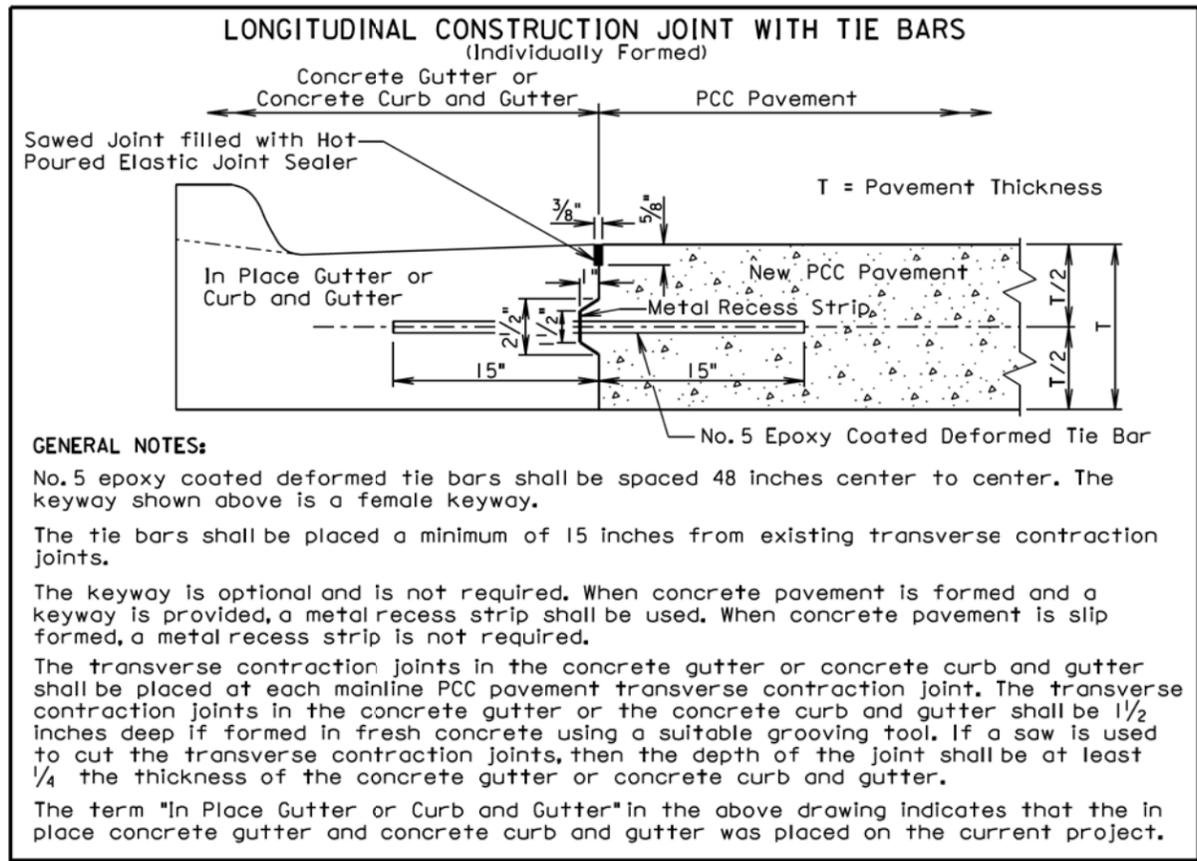
August 31, 2013

S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITH TIE BARS	PLATE NUMBER 380.10
		Sheet 2 of 2

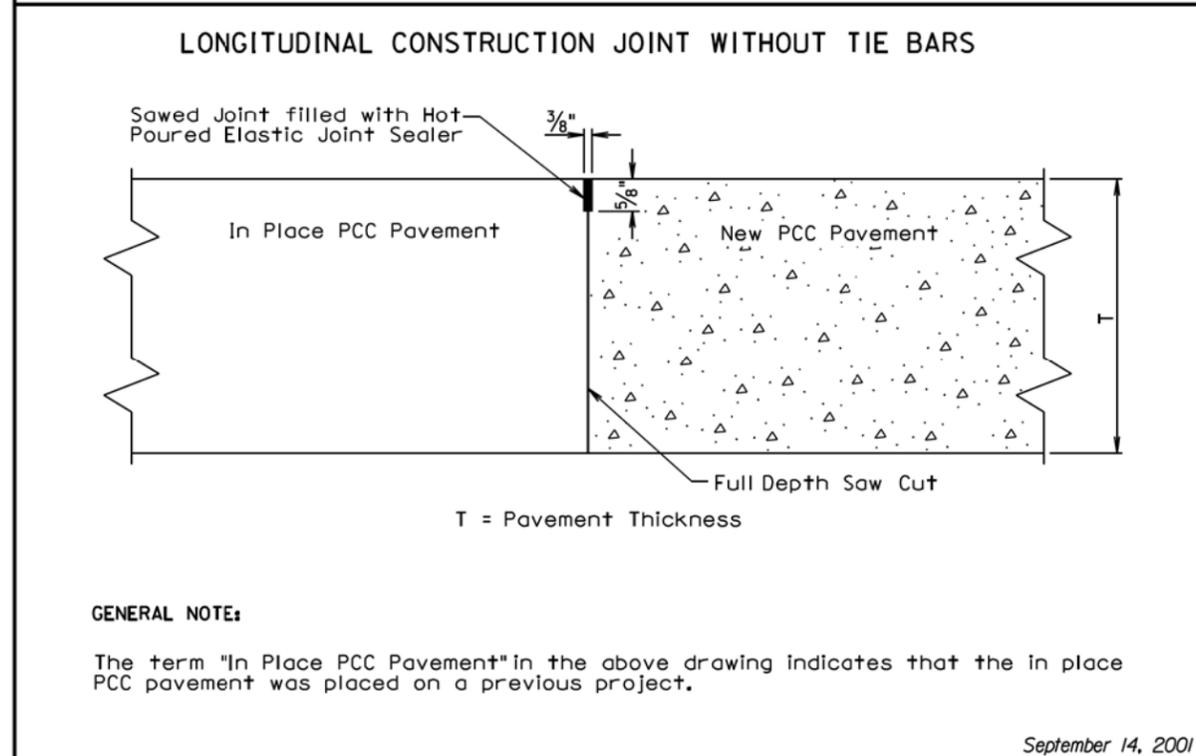
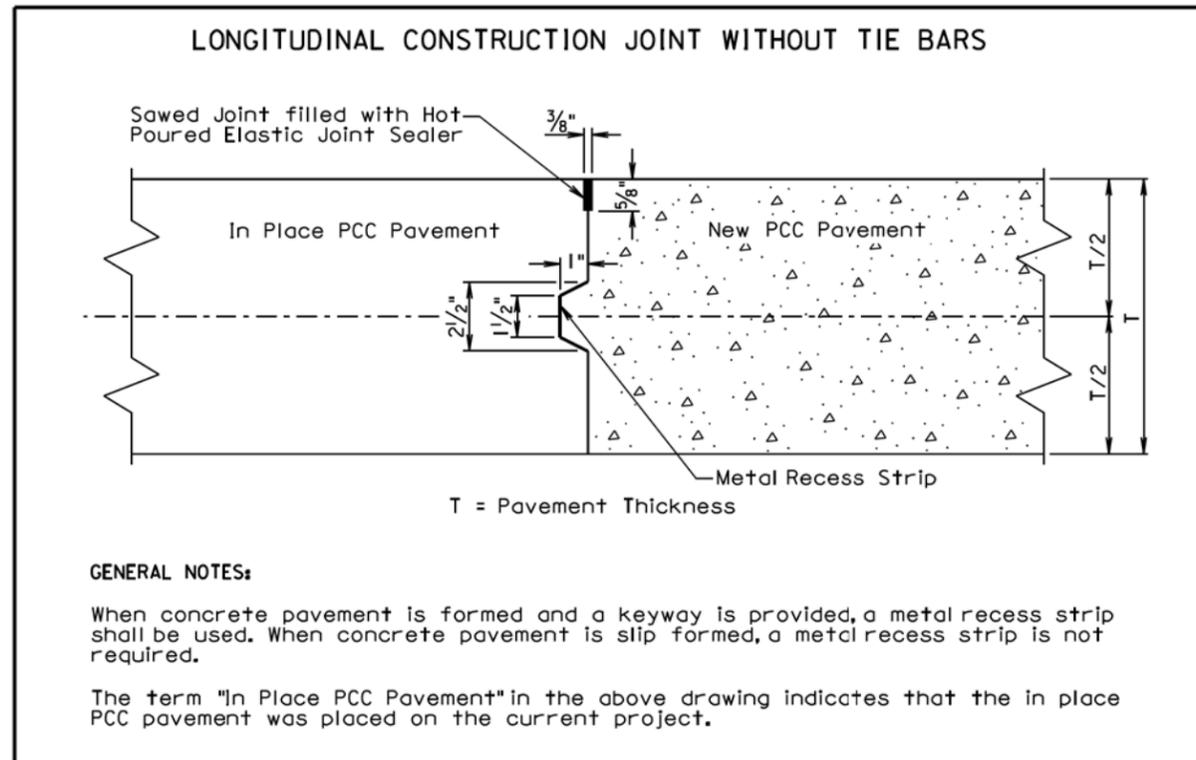
Published Date: 3rd Qtr. 2015

PLOT SCALE - 1:200

PLOT NAME - 18



S D D O T	PCC PAVEMENT LONGITUDINAL CONSTRUCTION JOINTS WITH CONCRETE GUTTER OR CONCRETE CURB AND GUTTER	PLATE NUMBER 380.11
	Published Date: 3rd Qtr. 2015	Sheet 1 of 1

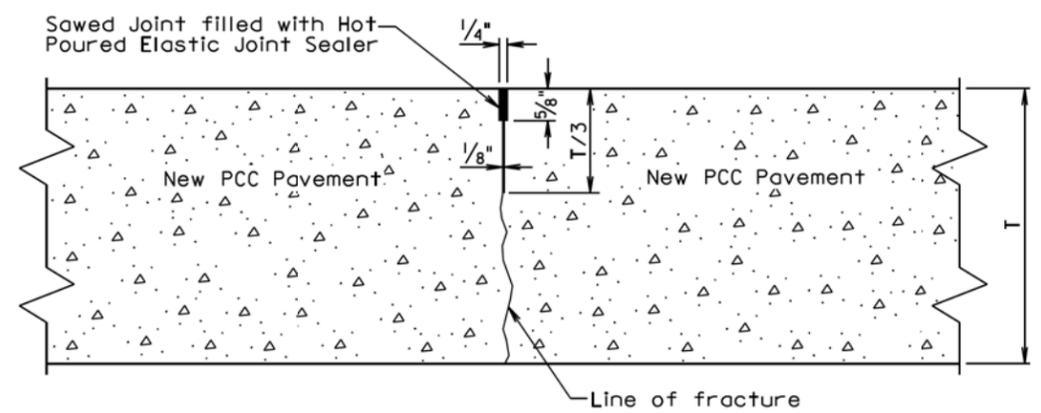


S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.12
	Published Date: 3rd Qtr. 2015	Sheet 1 of 2

PLOTTED FROM - TRPR15123

FILE - ... \380-11 380-12-1.DGN

SAWED LONGITUDINAL JOINT WITHOUT TIE BARS



T = Pavement Thickness

GENERAL NOTE:

The first saw cut to control cracking shall be a minimum of 1/3 the thickness of the pavement. Additional sawing for widening the saw cut to provide the width for the installation of the hot poured elastic joint sealer will be necessary.

September 14, 2001

S D D O T	PCC PAVEMENT LONGITUDINAL JOINTS WITHOUT TIE BARS	PLATE NUMBER 380.12
		Sheet 2 of 2

Published Date: 3rd Qtr. 2015

PLOT SCALE - 1:200

-PLOTTED FROM - TRPR15123

PLOT NAME - 19

FILE - ... \STANDARD PLATES\380.12.2.DGN