

# **Design and Tabulation Forms**

**Estimate of Quantities**

NO.	DATE	TITLE
100-0A	10-28-97	Estimated Roadway Quantities (1 Division Project)
100-1A	07-15-97	Estimated Project Quantities (1 Division Project)
100-1C	04-17-12	Estimated Project Quantities (Up to a 5 Division Project)
100-1D	10-18-05	Project Description
100-4A	10-29-02	Estimate Reference Information
100-5	10-17-23	Curb and Gutter
100-7	10-16-12	Fencing
100-8	04-17-18	Removal of Fence
100-9	04-17-18	Transition Mat
100-10	10-21-14	Floating Silt Curtains
100-11	04-18-17	Erosion Control for Intake or Manhole Well
100-12A	08-01-08	Estimated Erosion Control Project Quantities P.S. & E. Only
100-13	10-15-13	Silt Ditches
100-14	10-17-17	Silt Basins
100-15	10-15-13	Silt Dikes
100-16	10-19-10	Tabulation of Intercepting Ditches
100-17	04-20-10	Tabulation of Silt Fences
100-18	10-16-18	Silt Fences for Ditch Checks
100-19	10-19-21	Perimeter and Slope Sediment Control Device
100-20	08-01-08	Planting Quantities Listing
100-21	04-21-20	Fill For Culverts Used in Bridge Replacements
100-22	04-21-15	Rolled Erosion Control
100-23	04-17-18	Rock Erosion Control
100-24	10-17-23	PCC Pavement
100-25	10-17-23	HMA Pavement
100-26	10-15-13	Incidental Items
100-27	04-17-18	Proposed Posted Speed Limit
100-28	10-19-10	Longitudinal Grooving
100-32	10-16-18	Rock Check Dam
100-33	10-16-18	Temporary Sediment Control Basin

**Estimate of Quantities**

NO.	DATE	TITLE
100-34	10-17-17	Stormwater Drainage Basin and Storage
100-36	10-16-18	Open-Throat Curb Intake Sediment Filter
100-37	04-18-17	Grate Intake Sediment Filter Bag

<div>ESTIMATED ROADWAY QUANTITIES (1 DIVISION PROJECT)</div>						100-0A 10-28-97
Item No.	Item Code	Item	Unit	Total	As Built Qty.	

<div>ESTIMATED PROJECT QUANTITIES (1 DIVISION PROJECT)</div>						100-1A 07-15-97
Item No.	Item Code	Item	Unit	Total	As Built Qty.	

100-1C  
04-17-12

### ESTIMATED PROJECT QUANTITIES (UP TO A 5 DIVISION PROJECT)

Division 1:  
Division 2:  
Division 3:  
Division 4:  
Division 5:

[illegible]

<div data-bbox="1625 750 1774 795"><div>100-1D</div><div>10-18-05</div></div> <div data-bbox="747 795 1352 836">PROJECT DESCRIPTION</div>

<div>100-4A 10-29-02</div> <div>ESTIMATE REFERENCE INFORMATION</div>		
Item No.	Item Code	Description



FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER
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## FENCING

\* Bid Item

Refer to MI-101, MI-102, MI-103, MI-104, 510-3, and 510-5

[illegible]

						100-08 04-17-18
REMOVAL OF FENCE						
Removal of Field Fence is incidental to Clearing and Grubbing.						
Location				Type	Length	Remarks
From		To				
Station	Offset	Station	Offset		LF	

<div>100-09 04-17-18</div> <div>TRANSITION MAT</div> <div>Refer to EC-105</div>					
Location Station	Side	Length	Width	Area	Remarks
		LF	LF	SF	


<div>100-10 10-21-14</div> <div>FLOATING SILT CURTAINS</div> <div>Refer to EC-202</div>					
Station	Hanging	Containment	Clean-out (Containment)	Maintenance of Floating Silt Curtain	Remarks
	LF	LF	LF	LF	

<div>100-11 04-18-17</div> <div>EROSION CONTROL FOR INTAKE OR MANHOLE WELL</div> <div>Possible Detail: 570-5</div>					
Location Station	Side	Cover Assembly			Remarks
		Installation EACH	Maintenance EACH	Removal EACH	

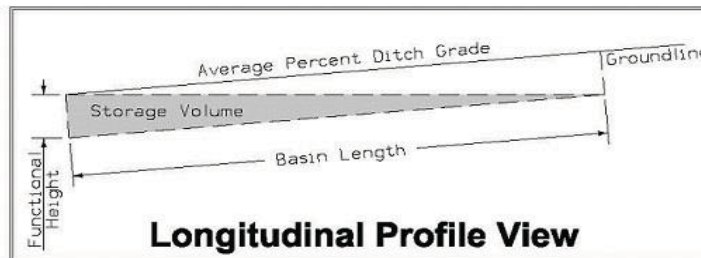
				100-12A 08-01-08
ESTIMATED EROSION CONTROL PROJECT QUANTITIES P.S. & E. ONLY				
No.	Item	Unit	Division	Total

<div>100-13 10-15-13</div> <div>SILT DITCHES</div> <div>Refer to EW-403</div>			
Station to Station	Side	LF	Remarks





The diagram shows a cross-section of a trapezoidal basin. The top horizontal line is labeled 'Functional Height' with a vertical arrow. The bottom horizontal line is labeled 'Basin Width' with a horizontal double-headed arrow. The left sloped side is labeled 'FS:1' and the right sloped side is labeled 'BS:1'. The central rectangular area is labeled 'Storage Volume'.



\* Volume equation:  $(0.5 * \text{Length} * (\text{Width} * \text{Height} + \text{Width} * (\text{Height} - \text{Length} * \text{Avg\%Slope})))$

[illegible]

<div>100-15 10-15-13</div> <div>SILT DIKES</div> <div>Refer to EW-403</div>			
Location		Length	Remarks
Station to Station	Side	LF	

100-16  
10-19-10

# TABULATION OF INTERCEPTING DITCHES

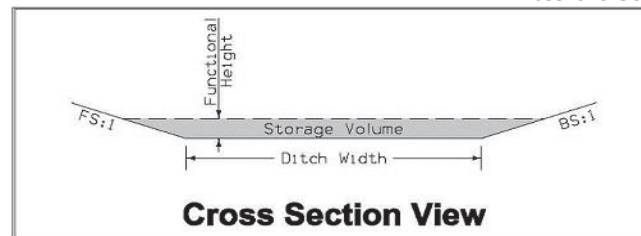
Location		Length LF	Remarks
Station to Station	Side		

<div>100-17 04-20-10</div> <div>TABULATION OF SILT FENCES</div> <div>Refer to EC-201</div>				
Location			Length	Remarks
Begin Station	End Station	Side	LF	

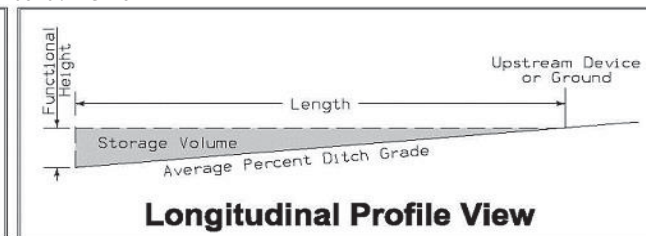
100-18  
10-16-18

## SILT FENCES FOR DITCH CHECKS

Possible Standard: EC-201



**Cross Section View**



**Longitudinal Profile View**

\* The functional height used in the volume equation is 85% of effective height. Effective height is 1.58 feet as shown on EC-201.  
\* Volume equation:  $[0.5 \times \text{Spacing} \times (0.5 \times H^2 \times FS + DW \times H + 0.5 \times H^2 \times BS)]$

Basin No.	Type	Location		Bid Items			Stormwater Storage Volume Summary					Remarks
		Station	Side	Installation	Maintenance	Removal	Foreslope	Backslope	Ditch Width	Avg.% Slope Ditch Grade	Volume*	
				LF	LF	LF	FS:1	BS:1	FT		CF	

<div>PERIMETER, SLOPE AND DITCH CHECK SEDIMENT CONTROL DEVICES</div> <div>Possible Standards: EC-204</div>								<div>100-19</div> <div>10-19-21</div>
Location		Side	Perimeter and Slope			Ditch Check		Remarks
Begin Station	End Station		Length of Installation			Length of Installation		
			9 inch Dia	12 inch Dia	20 inch Dia	12 inch Dia	20 inch Dia	
			LF	LF	LF	LF	LF	

							100-20 08-01-08
PLANTING QUANTITIES LISTING							
No.	Code	Botanical Names	Common Name	Size	Unit	Total	As Built Quan.

\* Not a bid item

100-21  
04-21-20

## FILL FOR CULVERTS USED IN BRIDGE REPLACEMENTS

Possible Details: 4317 and 4318

[illegible]



100-21  
04-21-20

Possible Details: 4317 and 4318

[illegible]

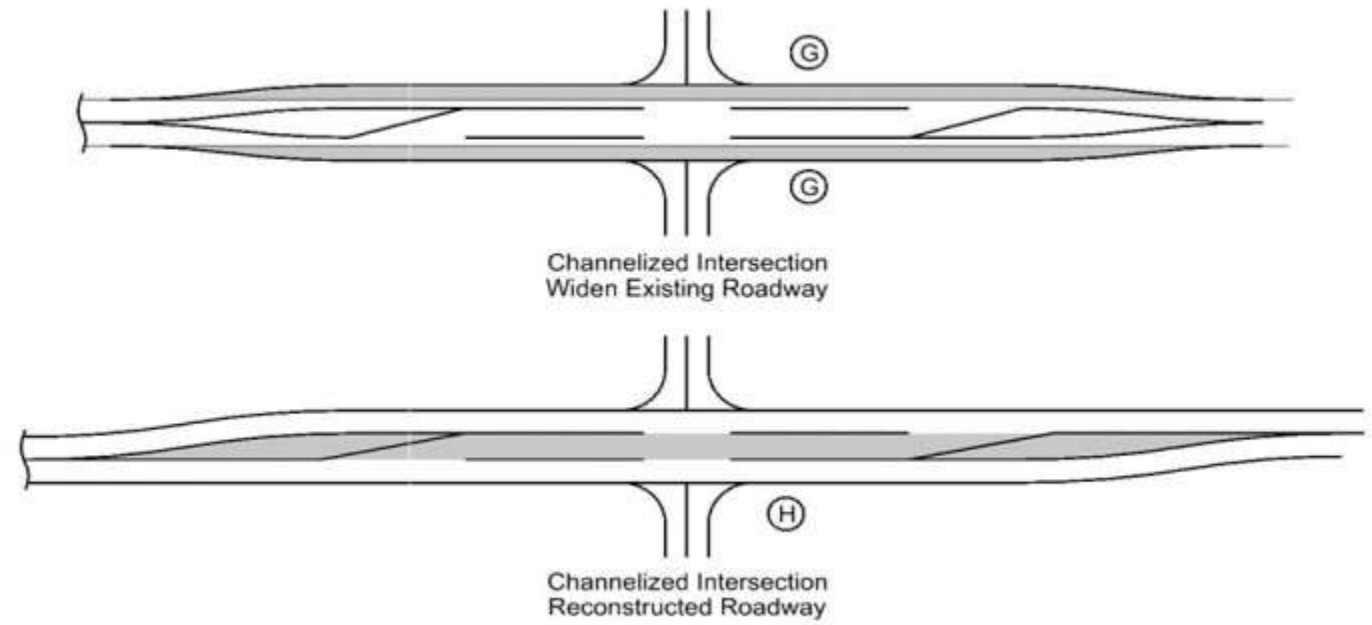


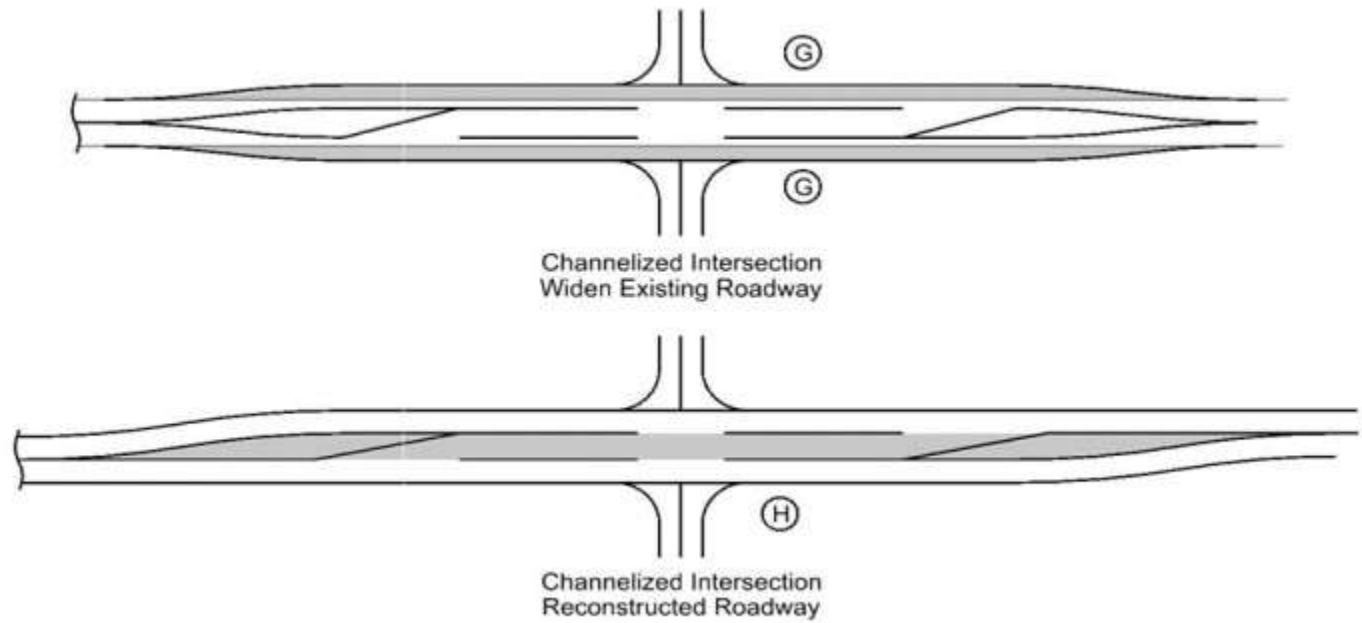
100-23  
04-17-18

## ROCK EROSION CONTROL

Refer to EC-301 and Detail 570-8

[illegible]

[illegible]

[illegible]

100-26

10-15-13

INCIDENTAL ITEMS

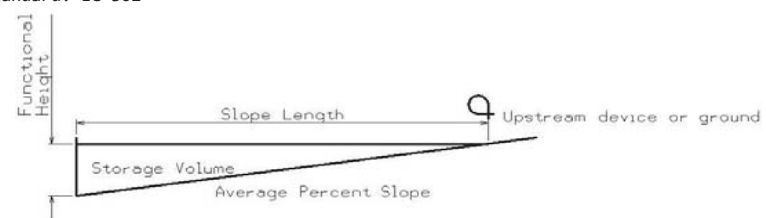
Special or unique items where method of measurement / basis of payment is not indicated in the specifications or other contract documents.

No.	Incidental Item	Unit	Quantity	Incidental To		Remarks
				Item Code	Item	

<div>100-27 04-17-18</div> <div>PROPOSED POSTED SPEED LIMIT</div>						
Road Identification	Begin Station	End Station	Proposed Posted Speed Limit			Remarks
			35 or less	40 - 45	over 45	

<div>100-28</div> <div>10-19-10</div> <div>LONGITUDINAL GROOVING</div>		
Location	Total	Remarks
	SY	

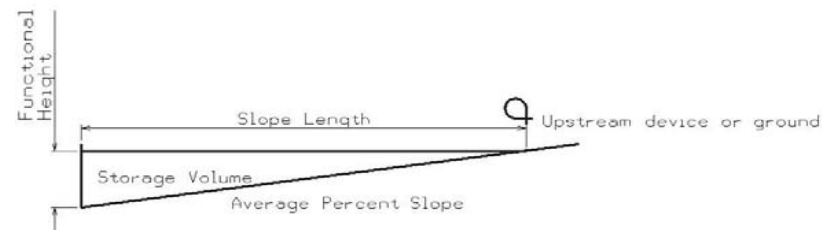




\* Volume equation:  $[0.5 * \text{Spacing} * (0.5 * H^2 * FS + DW * H + 0.5 * H^2 * BS)]$

[illegible]

A diagram of a ditch cross-section. A horizontal line represents the ground surface. Below it, a trapezoidal shape represents the ditch. The top horizontal edge of the ditch is labeled "Functional Height" with a vertical double-headed arrow. The bottom horizontal edge is labeled "Ditch Width" with a horizontal double-headed arrow. The left sloped side of the ditch is labeled "FS:1" and the right sloped side is labeled "BS:1".



\* Volume equation:  $\left[ \left( \frac{1}{4} (FS * H^2) \right) + (DW * H) + \left( \frac{1}{4} (BS * H^2) \right) \right] * (H / Avg \% Slope)$

[illegible]

## STORMWATER DRAINAGE BASIN AND STORAGE

Refer to EC Standards and 570s Details.

[illegible]

<div>100-36 10-16-18</div> <div>OPEN-THROAT CURB INTAKE SEDIMENT FILTER</div> <div>Possible Standard: EC-602</div>					
Location Station	Side	Installation	Maintenance	Removal	Remarks
		LF	EACH	EACH	

<div>100-37 04-18-17</div> <div>GRATE INTAKE SEDIMENT FILTER BAG</div> <div>Possible Detail: 570-7</div>					
Location Station	Side	Installation	Maintenance	Removal	Remarks
		EACH	EACH	EACH	

**Design Information**

NO.	DATE	TITLE
101-4	04-30-02	Rural Design Designation
101-5	04-30-02	Urban Design Designation
101-6	04-30-02	Rural Urban (Combination) Design Designation
101-7	04-30-02	Interstate Design Designation
101-8	10-21-14	Wedge Course for Superelevated Curves
101-10	04-21-15	Painted Islands
101-16	10-20-09	Alignment Coordinates
101-17	04-19-11	Spiral/Circular Curve Data
101-18	04-19-22	Superelevation Data

04-30-02		101-4	
<b>DESIGN DATA RURAL</b>			
20	AADT	_____	V.P.D.
20	AADT	_____	V.P.D.
20	DHV	_____	V.P.H.
TRUCKS		_____	%
Total			
Design ESALs		_____	

04-30-02		101-5	
<b>DESIGN DATA URBAN</b>			
20	AADT	_____	V.P.D.
20	AADT	_____	V.P.D.
20	DHV	_____	V.P.H.
TRUCKS		_____	%
Total			
Design ESALs		_____	



04-30-02		101-6	
DESIGN DATA			
RURAL		URBAN	
20	AADT _____ V.P.D.	20	AADT _____ V.P.D.
20	AADT _____ V.P.D.	20	AADT _____ V.P.D.
20	DHV _____ V.P.H.	20	DHV _____ V.P.H.
TRUCKS	_____ %	TRUCKS	_____ %
Total		Total	
Design ESALs	_____	Design ESALs	_____

04-30-02		101-7	
<b>DESIGN DATA</b>			
<b>HIGHWAY</b>			
20	AADT	_____	V.P.D.
20	AADT	_____	V.P.D.
20	DHV	_____	V.P.H.
TRUCKS		_____	%
Total		_____	
Design ESALs		_____	

## WEDGE COURSE FOR SUPERELEVATED CURVES

Refer to Detail 560-4.

\* Bid Item  
Calculations assume a base course unit weight (lbs/cf) of 0 and an intermediate course unit weight (lbs/cf) of 0.

[illegible]

101-10

04-21-15

PAINTED ISLANDS

Refer to PM-110, 560-5, and 108-22.

Offsets are located from mainline.

Road Identification	Point A		Point B		Point C		Remarks
	Station	Offset	Station	Offset	Station	Offset	
		FT		FT		FT	

101-16  
10-20-09

[illegible]

101-17
04-19-11

[illegible]

### SUPERELEVATION DATA

See PV-300 Series

[illegible]

**Access and Maintenance Data**

NO.	DATE	TITLE
102-3	10-16-18	Access Points and Safety Ramps
102-4	10-18-11	Locations of Road Closure Barricades
102-5	04-18-17	Existing Pavement
102-5A	10-20-15	Existing HMA Pavement for Recycling
102-6C	04-18-17	Full Depth Patches
102-10	10-16-18	Partial Depth PCC Finish Patches
102-11	04-18-17	Partial Depth HMA Finish Patches
102-12	04-18-17	Partial Depth Irregular HMA Finish Patches
102-14	04-18-17	Partial Depth HMA or PCC Repair Patches
102-16	10-21-14	Notches and Runouts for Resurfacing



## ACCESS POINTS AND SAFETY RAMPS

Refer to Cross-Sections

Length of Unclassified Pipe calculated is based on using Corrugated Metal Pipe.

① Refer to MI-210

② Refer to EW-501.

3) Refer to EW-501 or EW-502.

\*Predetermined for access point not constructed with this project.

[illegible]

102-4  
10-18-11

LOCATIONS OF ROAD CLOSURE

BARRICADES

Refer to SI-181 and SI-182.

Location		<div>W</div>	SI-181	SI-182	Remarks
No.	Station	LF	LF	No.	

### EXISTING PAVEMENT

[illegible]

102-5A  
10-20-15

## EXISTING HMA PAVEMENT FOR RECYCLING

For informational purposes only. When designed RAP is specified, process the RAP to control the uniformity of the final mixture.

[illegible]

## FULL-DEPTH PATCHES

Possible Standards: PR-101, PR-102, PR-103, PR-104, PR-105 and PR-140.

[illegible]

102-10  
10-16-18

## PARTIAL DEPTH PCC FINISH PATCHES

Possible Standard: PR-107

[illegible]

PARTIAL DEPTH REGULAR HMA FINISH PATCHES											102-11 04-18-17
Location				Dimension Of Patch		Estimated Quantities		Remarks			
No.	Station	Reference Location Sign	Lane	Length x Width		SY	TON				
				FT							

<div>102-12 04-18-17</div> <div>PARTIAL DEPTH IRREGULAR HMA FINISH PATCHES</div>								
Location					Estimated Quantities			Remarks
Begin Station	End Station	Begin Reference Location Sign	End Reference Location Sign	Lane	Number of Patches	SY	TON	



PARTIAL DEPTH HMA OR PCC REPAIR PATCHES		102-14 04-18-17
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Location	Time	Dimension	Est. Quantities	
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[illegible]

102-16

10-21-14

NOTCHES AND RUNOUTS FOR RESURFACING

Refer to PR-201 and PR-202.

① Bid item. Applies only to Types 'N1' and 'N3' on PR-202. Refer to 100-25 for remaining values.

Location Station	Type of Notch or Runout	S	I	DI	L	M	Pavement ① Scarification	Remarks
		IN	IN	IN	FT	IN	SY	

**Soils Data**

NO.	DATE	TITLE
103-1	10-17-17	Embankment with Moisture and Density Control
103-3	10-16-12	Proposed Subgrade Treatment
103-5	10-15-13	Settlement Plates
103-6	10-17-17	Embankment with Moisture Control
103-7	08-01-08	Shrinkage Data
103-10	04-18-17	Topsoil Stripping and Placement
103-11	10-17-17	Select Treatment
103-12	10-20-20	Slide Repair

**Drainage Structure Data**

NO.	DATE	TITLE
104-3	10-17-17	Drainage Structure By Road Contractor
104-4	10-17-17	Roadway Items for Drainage Structures Installed by Culvert Contractor
104-5A	10-15-13	Intakes and Utility Accesses
104-5B	10-20-15	Storm Sewer
104-5C	10-17-17	List of Subdrain Work
104-6	04-19-22	Wick Drain or Sand Drain Fields
104-8	04-19-22	Bridge End Drains
104-8A	04-19-22	Scour Protection or Rock Flume for Bridge End Drain
104-8B	04-19-22	Bridge End Drains (with Letdown)
104-9	10-17-17	Longitudinal Subdrain Shoulder and Backslope
104-10	08-01-08	Adjustment of Fixtures
104-11	08-01-08	Rebuilding of Intakes and Utility Accesses
104-12	10-17-17	Subdrain and Grading at Side Piers
104-13	04-18-17	Foreslope Flattening and Drainage Structures by Road Contractor (Mainline Pipes)
104-14	10-15-19	Linear Trench Drain

103-1 10-17-17				
EMBANKMENT WITH MOISTURE AND DENSITY CONTROL				
Location	Lane	Depth	Compact	Remarks
Station to Station		FT	CY	

### PROPOSED SUBGRADE TREATMENT

(For Additional Details see Soils Survey Sheet No. \_\_\_\_\_ to \_\_\_\_\_.)

[illegible]

<div>103-5 10-15-13</div> <div>SETTLEMENT PLATES</div> <div>Refer to Standard Road Plan EW-212</div>			
No.	Location		Remarks
	Station	Offset	

103-6  
10-17-17

### EMBANKMENT WITH MOISTURE CONTROL

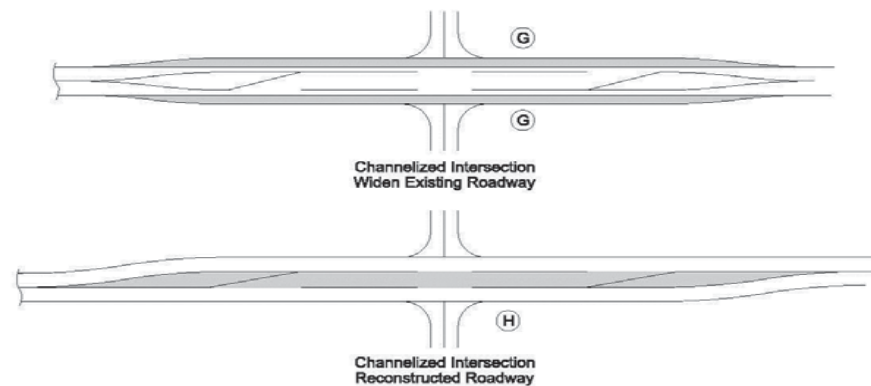
Moisture Control is required for all Class 10 fill placed in all locations and depths. Stability berms placed outside the normal foreslope template and topsoil will not require Moisture Control.

<div>103-7</div> <div>08-01-08</div> <div>SHRINKAGE DATA</div>		
Material	%	Remarks



<div>103-10 04-18-17</div> <div>TOPSOIL STRIPPING AND PLACEMENT</div>						
Location				Topsoil Stripping Thickness	Topsoil Placement Thickness	Remarks
Road Identification	Dir. of Traffic	Begin Station	End Station			
				IN	IN	

The diagram illustrates six types of traffic intersection tapering, labeled A through F. The top section shows a 'Typical Intersection' with a central shaded area labeled E. Four shaded regions labeled A, B, C, and D are positioned around the intersection, representing different tapering methods. The bottom section shows a 'Ramp or Loop Taper' with a shaded region labeled F, representing a tapering method for a ramp or loop.



Moisture control is required for select soils treatment and is incidental to placement of the material.

Location			Mainline							Section Area										Total Area (Mainline + Section)	Select Treatment Thickness  (Y1)	Contractor Furnished Select Treatment	Remarks	
Road Identification	Direction of Travel	Station to Station	Length	Width	Shoulder Width				Pavement & Subgrade Thickness  (X)	Area	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	Area					
					Median Side		Outside																	
					(GM)	(PM)	(PO)	(GO)																
			FT	FT	FT	FT	FT	FT	IN	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	SF	IN	CY	

103-12  
10-20-20

## SLIDE REPAIR

[illegible]



[illegible]

						104-5A 10-15-13
INTAKES AND UTILITY ACCESSES						
* Bid Item						
** For SW-545						
No.	Location Station	Type or Standard Road Plan*	Form Grade	Bottom Well	Extension Length**	Notes
			Elev.	Elev.	FT	

10-20-15

\*\* For SW-545

## STORM SEWER

[illegible]

Possible Standards: DR-121, DR-201, DR-203, DR-301, DR-302, DR-303, DR-305 and DR-306. Possible Detail: 500-10.

[illegible]



## WICK DRAIN OR SAND DRAIN FIELDS

Possible Standards: DR-301 and DR-305, Detail 500-10, and Tabulation 104-5C.

\* Not a bid item.

[illegible]

104-8  
04-19-22

**BRIDGE END DRAINS**

① Refer to Standard Road Plan SW-538

104-8  
04-19-22

**BRIDGE END DRAINS**

① Refer to Standard Road Plan SW-538

104-8  
04-19-22

**BRIDGE END DRAINS**

① Refer to Standard Road Plan SW-538

[illegible]

[illegible]

104-8B  
04-19-22

## BRIDGE END DRAINS (WITH LETDOWN)

① Refer to Standard Road Plan SW-539

[illegible]

### LONGITUDINAL SUBDRAIN SHOULDER AND BACKSLOPE

Refer to Soils Sheets

\* Not a bid item. Bridge berm quantities assume a trench depth of 24 inches.

[illegible]

104-10 08-01-08			
ADJUSTMENT OF FIXTURES			
No.	Location Station	Type of Fixture	Adjustment

REBUILDING OF INTAKES AND UTILITY ACCESSES				104-11 08-01-08
No.	Location Station	Type	Adjustment	

[illegible]

## SUBDRAIN AND GRADING AT SIDE PIERS

Refer to DR-306 and EW-211

① Lane(s) to which the pier is adjacent

② Not a Bid Item. Quantities assume a trench depth of 24 inches.

[illegible]



### FORESLOPE FLATTENING AND DRAINAGE STRUCTURES BY ROAD CONTRACTOR (MAINLINE PIPES)

Refer to Standard Road Plans DR-121, DR-122, and DR-213.

* Not a bid item
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[illegible]

104-14  
10-15-19

## LINEAR TRENCH DRAIN

Possible Standard: SW-521

- ① Bid Item  
② Not a bid item. Assumes a 6" wide by 8" deep trench.

[illegible]

SECTION

**105****Title Sheet Data**

NO.	DATE	TITLE
105-1	09-27-94	Mileage Summary
105-3	10-18-05	Index of Sheets
105-4	10-18-11	Standard Road Plans

SECTION

**106****Widening and Resurfacing (Stage Improvement)**

NO.	DATE	TITLE
106-1	04-18-17	Strengthening Courses
106-2	04-18-17	Leveling Courses
106-4	04-16-13	Shoulders for Widening & Resurfacing
106-5	10-21-14	Areas For Pavement or Base Widening
106-7	08-01-08	Fabric Reinforcement for Control of Reflective Cracking
106-8	04-19-11	Longitudinal Joint Repair

MILEAGE SUMMARY				105-1
				09-27-94
Div.	Location	Lin. Ft.	Miles	

INDEX OF SHEETS	
No.	Description

105-3
10-18-05

<div>105-4 10-18-11</div> <div>STANDARD ROAD PLANS</div> <div>The following Standard Road Plans apply to construction work on this project.</div> <table><tr><th>Number</th><th>Date</th><th>Title</th></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td></tr></table>			Number	Date	Title												
Number	Date	Title															

<div>106-1 04-18-17</div> <div>STRENGTHENING COURSES</div>						
Location				Runouts		Hot Mix Asphalt Pavement
Being Ref. Location Sign	End Ref. Location Sign	Begin Station	End Station	(Lin. Ft.)		Thickness
				Back	Ahead	Inches

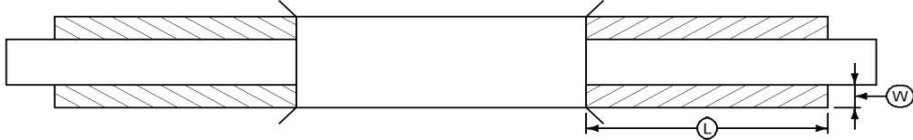
106-2 04-18-17						
LEVELING COURSES						
Location				Hot Mix Asphalt Pavement		Remarks
Begin Ref. Location Sign	End Ref. Location Sign	Begin Station	End Station	Average Thickness	Tons	
				Inches		



106-4 04-16-13						
SHOULDERS FOR WIDENING & RESURFACING						
*Not a Bid Item						
Begin Station	End Station	Side	Length of Shoulder Type in Stations			
			A	B	C	D*

## AREAS FOR PAVEMENT OR BASE WIDENING

Refer to Standard Road Plans PV-105 or PV-203



- ② Estimated for two applications to achieve lifts and one application of 0.10 Gal/SY adjacent to existing pavement. Priming of subgrade or finished base is not required. Calculations assume a HMA unit weight (lbs/cf) of 145, a Special Backfill unit weight (lbs/cf) of 140, and a Tack Coat unit weight (gal/sy) of 0.05.

[illegible]

<div> <div>106-7</div> <div>08-01-08</div> </div> <div>TABULATION OF FABRIC REINFORCEMENT FOR CONTROL OF REFLECTIVE CRACKING</div>				
Begin Station	End Station	Side	Width	Area
			Lin. Ft.	Sq. Yds.

						106-8 04-19-11
LONGITUDINAL JOINT REPAIR						
Begin Station	End Station	Length	Side	Width	Pay Length	Remarks
		FT		IN	LF	

**Earthwork and Excavation Data**

NO.	DATE	TITLE
107-7	08-01-08	Shoulder Material Availability
107-22	04-16-13	Wing Dikes
107-23	10-18-11	Grading for Guardrail Installations
107-24	10-19-21	Grading for High Tension Cable Guardrail Installations
107-25	08-01-08	Rock Splitting
107-28	04-21-15	Tabulation of Template Quantities and Adjustments
107-29	04-15-14	Tabulation of Template Quantities and Adjustments
107-30	04-15-14	Tabulation of Template Quantities and Adjustments
107-31	04-19-11	Plowing and Shaping

107-7 08-01-08			
SHOULDER MATERIAL AVAILABILITY			
Begin Station	End Station	Side	Estimated Quantity Availability
			CY

<div>107-22 04-16-13</div> <div>WING DIKES</div> <div>Refer to Standard Road Plan EW-210.</div>				
Location Station	Top Elevation	Length	Bridge Skew	Earthwork
		FT		CY

## GRADING FOR GUARDRAIL INSTALLATIONS

① Lane(s) to which the installation is adjacent.

Refer to EW-301

[illegible]



[illegible]

107-25 08-01-08			
TABULATION OF ROCK SPLITTING			
Location			Remarks
No.	Station to Station	Side	

Refer to Standard Road Plans EW-101 and EW-102.

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

107-28

04-21-15

[illegible]

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

[illegible]

## TABULATION OF TEMPLATE QUANTITIES AND ADJUSTMENTS

Refer to Standard Road Plans EW-101 and EW-102.

[illegible]

<div>107-31 04-19-11</div> <div>PLOWING AND SHAPING</div> <div>Refer to Standard Road Plan EW-101</div>		
Station to Station	D	Remarks
	FT	

## Lighting-Signing-Guardrail

NO.	DATE	TITLE
108-1	10-21-14	Lighting Installations
108-2	08-01-08	Electrical Ducts
108-2A	08-01-08	Listing of Lighting and Signal Work
108-8A	10-16-18	Steel Beam Guardrail at Concrete Barrier or Bridge Rail End Section
108-8B	04-19-16	Steel Beam Guardrail for Side Obstacle (Two-Way Protection)
108-8C	04-19-16	Steel Beam Guardrail for Side Obstacle (One-Way Protection)
108-8D	10-19-21	Steel Beam Guardrail at Railroad Signals
108-9A	04-20-10	High Tension Cable Guardrail
108-11A	08-01-08	Highway Lighting Data
108-12	10-21-14	Wire, Cable, and Connectors
108-13A	10-18-22	Safety Closures
108-15	08-01-08	Concrete Steps and Combined Concrete Steps and Retaining Wall Construction
108-16	10-19-10	Combined Sidewalk and Retaining Wall Construction
108-18	10-21-14	Concrete Barrier at Median Locations
108-18B	10-17-23	Concrete Barrier at Side Locations
108-20	04-15-14	Concrete Barrier with MSE Wall
108-22	04-16-13	Pavement Marking Line Types
108-23A	08-01-08	Traffic Control Plan
108-23B	10-17-17	Traffic Control Closure Table(s)
108-24	04-21-15	Safety Grate Treatment
108-25	10-21-14	511 Travel Restrictions
108-26A	08-01-08	Staging Notes
108-27	10-17-17	Temporary Floodlighting Luminaries
108-28	08-01-08	Temporary Traffic Signals
108-29	04-21-15	Pavement Marking Symbols and Legends
108-30	04-16-13	Crash Cushions
108-33	10-15-19	Temporary Barrier Rail
108-34	10-19-10	Chevrons
108-35	04-17-12	Temporary Lane Separator System

108-1 10-21-14						
LIGHTING INSTALLATIONS						
Location		LI-101			LI-201	Remarks
No.	Station	Type	A	E FT	Type	



<div>108-2</div> <div>08-01-08</div> <div>ELECTRICAL DUCTS</div>				
Location	Conduit	Dia.	Length	Remarks
	Type	IN	FT	

[illegible]

- ① Lane(s) to which the obstacle is adjacent.
- ② Not a bid item. Incidental to guardrail installation.

[illegible]

[illegible]

### STEEL BEAM GUARDRAIL FOR SIDE OBSTACLE (ONE-WAY PROTECTION)

Possible Standards: BA-200, BA-203, BA-205, BA-206, BA-210, BA-211, BA-252, LS-625, LS 626, LS-632, SI-172, SI-173, and SI-211.

① Lane(s) to which the obstacle is adjacent.

[illegible]

[illegible]

Location			<div><div></div><div>D<sub>0</sub></div></div>	Layout Lengths		Delineators and Object Markers					Bid Items		Remarks
No.	Direction of Traffic	Station		<div><div></div><div>VT</div></div>	<div><div></div><div>ET</div></div>	SI-211	Delineator	Object Marker			Thrie-Beam End Anchor	End Terminal Standard	
							SI-172	SI-173					
							Type 1	Type 2	Type 3				
							White	OM2-2	OM-3L	OM-3R			
				FT	LF	LF	TYPE	EACH	EACH	EACH	EACH	EACH	

① Lane(s) to which the installation is adjacent.

108-9A  
04-20-10

Refer to BA-351.

①

Direction of Traffic

Station

Side

Offset  
D<sub>0</sub>

FT

Approach  
C<sub>A</sub>

FT

Obstacle  
C<sub>0</sub>

FT

Trailing  
C<sub>T</sub>

FT

Protection Length  
(C<sub>A</sub>+C<sub>0</sub>+C<sub>T</sub>)

FT

End Anchor

No.

Remarks

① Lane(s) to which the installation is adjacent.

108-9A  
04-20-10

Refer to BA-351.

①

Direction of Traffic

Station

Side

Offset  
D<sub>0</sub>

FT

Approach  
C<sub>A</sub>

FT

Obstacle  
C<sub>0</sub>

FT

Trailing  
C<sub>T</sub>

FT

Protection Length  
(C<sub>A</sub>+C<sub>0</sub>+C<sub>T</sub>)

FT

End Anchor

No.

Remarks

HIGHWAY LIGHTING DATA		108-11A 08-01-08



## WIRE, CABLE AND CONNECTORS

[illegible]

			108-13A 10-18-22
<b>SAFETY CLOSURES</b>			
Refer to Section 2528 of the Standard Specifications			
Station	Closure Type		Remarks
	Road Qty.	Hazard Qty.	

[illegible]

[illegible]

108-18  
10-21-14

## CONCRETE BARRIER AT MEDIAN LOCATIONS

See BA-100, BA-101, and BA-102.

[illegible]

Refer to BA-102, BA-103, BA-104, BA-105, BA-106, BA-107, BA-108 and BA-150.

- \* Bid Item

FILE NO.	ENGLISH	DESIGN TEAM	COUNTY	PROJECT NUMBER	SHEET NUMBER	<b>C</b>
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<div>108-20 04-15-14</div> <div>CONCRETE BARRIER WITH MSE WALL</div> <div>Refer to Road Design Detail 8208</div>			
Station to Station	Side	<div>W</div>	Remarks
		IN	

## PAVEMENT MARKING LINE TYPES

See PM-110

\*BCY4 - Place on the same side of the roadway to match existing markings near the project.  
\*\*NPY4 - For estimating purposes only. No Passing Zone Lines will be located in the field.

\*\*\*MNY4 - Factor of 1.00 as value includes number of 4-inch passes to cover median nose area.

BCY4: Broken Centerline (Yellow) @ 0.25  
ELY4: Edge Line Left (Yellow) @ 1.00

DCY4: Double Centerline (Yellow) @ 2.00

NPY4: No Passing Zone Line (Yellow) @ 1.25

BLW4: Broken Lane Line (White) @ 0.25

ELW4: Edge Line Right (White) @ 1.00

[illegible]



<div data-bbox="869 799 1228 833">TRAFFIC CONTROL PLAN</div>	108-23A 08-01-08

108-23B  
10-17-17

\* This is to only be used in conjunction with Tabulation 108-23A  
Shaded area indicates times that lane closures are not allowed

### TRAFFIC CONTROL CLOSURE TABLE(S)

[illegible]

## SAFETY GRATE TREATMENT

① Lane(s) to which the installation is adjacent.

[illegible]

## 511 TRAVEL RESTRICTIONS

[illegible]

<div data-bbox="936 800 1161 833">STAGING NOTES</div>	108-26A 08-01-08

<div>108-27 10-17-17</div> <div>TEMPORARY FLOODLIGHTING LUMINAIRES</div> <div>Possible Standard: LI-130</div>				
No.	Location Station	Offset	Number Lumin.	Remarks

108-28 08-01-08					
TEMPORARY TRAFFIC SIGNALS					
No.	Location Station	Type			Remarks
		One Lane Traffic	Haul Road	Intersection	

## PAVEMENT MARKING SYMBOLS AND LEGENDS

Refer to PM-111

[illegible]



[illegible]

108-33  
10-15-19

## TEMPORARY BARRIER RAIL

Possible Standard: BA-401 Possible Detail: 560-7

\* Not a bid item. Anchorage requirements are based on TBR locations shown in the plans. TBR alignments that vary from what is shown in the plans may result in additional TBR sections requiring anchorage.

No.	Station to Station	Length	(Select One)		Anchored*	Modular Glare Screen System	Remarks
			Concrete	Steel			
		LF	BA-401	560-7	(Y/N)	(Y/N)	

<div>108-34 10-19-10</div> <div>CHEVRONS</div> <div>Refer to Standard Road Plan SI-175</div>			
Station to Station	Guidance Marker - Chevron	<div>S</div>	Remarks
	EACH	FT	

<div>108-35 04-17-12</div> <div>TEMPORARY LANE SEPARATOR SYSTEM</div> <div>See TC-61</div>		
Station to Station	Length	Remarks
	LF	

**Removal and Disposition**

NO.	DATE	TITLE
110-1	04-16-13	Removal of Pavement
110-2	04-16-13	Removal of Existing Structures
110-3	08-01-08	Flume Removal
110-4	08-01-08	Curb Removal
110-5	10-20-15	Sidewalk Removal
110-6	08-01-08	Breaking Up Pavement
110-7A	04-17-12	Removal of Steel Beam Guardrail
110-7B	10-19-10	Removal of Cable Guardrail
110-8	04-17-18	Removal of Concrete Drives
110-9	10-18-11	Culvert Abandonment
110-10	08-01-08	Salvage and Removal of Buildings
110-11	08-01-08	Asbestos Removal in Buildings
110-12	10-20-20	Pollution Prevention Plan
110-12L	10-20-20	Pollution Prevention Plan
110-13	04-20-10	Delivery and Stockpiling
110-14	04-16-13	Sanitary or Storm Sewer Abandonment or Removal
110-15	04-16-13	Removal of Intakes and Utility Accesses
110-16	04-16-13	Removal of Light Poles and Concrete Footings
110-17	04-18-17	Clearing and Grubbing
110-18	04-18-23	Removal of Existing Longitudinal Subdrains
110-19	04-18-23	Removal of Existing Longitudinal Subdrains when Existing Pavement is Removed

<div>110-1 04-16-13</div> <div>REMOVAL OF PAVEMENT</div> <div>Refer to Tabulation 102-5</div> <div>* Not a Bid Item</div>						Remarks
Begin Station	End Station	Side	Pavement Type	Area	Saw Cut*	
				SY	LF	

110-2 04-16-13		
REMOVAL OF EXISTING STRUCTURES		
Location	Description	Remarks

110-3 08-01-08					
FLUME REMOVAL					
Location		Remove Slope Drain			
No.	Station	Lin.Ft. Conc.		Lin.Ft. Metal	
		Left	Rt.	Left	Rt.



CURB REMOVAL				
110-4 08-01-08				
Begin Station	End Station	Side	Length	Remarks
			STA	

<div>110-5 10-20-15</div> <div>SIDEWALK REMOVAL</div> <div>* Not a bid item</div>				
Begin Station	End Station	Area	Saw Cut*	Remarks
		SY	LF	

<div>110-6 08-01-08</div> <div>BREAKING UP PAVEMENT</div>			
Station to Station	Width	Area	Remarks
		SY	

110-7A  
04-17-12

REMOVAL OF STEEL BEAM GUARDRAIL

① Lane(s) to which the installation is adjacent.

② Includes length of End Terminals and End Anchors.

Location				
No.	Direction of Traffic ①	Station to Station	Side	Removal of Guardrail ②
				LF

[illegible]

<div>110-08 04-17-18</div> <div>REMOVAL OF CONCRETE DRIVES</div> <div>* Not a Bid Item</div>				
Location		Area	Saw Cut*	Remarks
Station	Side	SY	LF	

110-9  
10-18-11

# CULVERT ABANDONMENT

Refer to Details 4315 and 4316

\* Not a bid item

Location Station	Description	Fill Material		4"	Remarks
		Flowable Mortar	Granular Backfill*	Perforated Subdrain*	
		CY	TON	LF	

<div>110-10 08-01-08</div> <div>SALVAGE AND REMOVAL OF BUILDINGS</div>								
Item No.	Parcel No.	Address	Item	Foundation	Former Owner	Use of Building Previous/Present	Age Of Bldg.	Asbestos Content In Bldgs.



## ASBESTOS REMOVAL IN BUILDINGS

[illegible]

**POLLUTION PREVENTION PLAN**

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors shall conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

**I. ROLES AND RESPONSIBILITIES****A. Designer:**

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

**B. Contractor:**

1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

**C. Subcontractors:**

1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
  2. Implement good housekeeping practices according to Paragraph III, C, 2.
- D. RCE/Project Engineer:**
1. Is Project Storm Water Manager.
  2. On projects where DOT is the Contracting Authority, is current with erosion control training or certification.
  3. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
  4. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
  5. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
  6. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
  7. Is familiar with the Project PPP and storm water site map.
  8. On projects where DOT is Contracting Authority, is responsible for periodically monitoring inspection reports to determine whether deficiencies identified in inspection reports were adequately and timely addressed, and if not, has the authority and responsibility to direct immediate actions to correct the deficiencies.
  9. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
  10. Is signature authority on Notice of Discontinuation.
  11. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
  12. Makes information to determine permit compliance available to the DNR upon their request.

**E. Inspector:**

1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

**II. PROJECT SITE DESCRIPTION**

- A. This Pollution Prevention Plan (PPP) is for the construction of a \*Describe Type of Facility\*.
- B. This PPP covers approximately \*Provide # Of Acres\* acres with an estimated \*Provide # of Acres\* acres being disturbed. The portion of the PPP covered by this contract has \*Provide # of Acres\* acres disturbed.
- C. The PPP is located in an area of \*Provide # of Types Of Soil Association\* soil association (\*Provide Soil Association Type or \*Types\*). The estimated weighted average runoff coefficient number for this PPP after completion will be \*Provide runoff coefficient Number\*.
- D. Storm Water Site Map is located in the R sheets. Proposed slopes are shown in cross sections, details, or standard road plans. Supplemental information is located in the Tabulations in the C or CE sheets.
- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been

**POLLUTION PREVENTION PLAN**

installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.

F. Runoff from this work will flow into \*List Outlets for Runoff\*.

**III. CONTROLS**

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph B of the Standard Specifications.

**1. EROSION AND SEDIMENT CONTROLS****a. Stabilization Practices**

- 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
- 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
  - a) Permanently ceased on any portion of the site, or
  - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
- 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
- 4) Permanent and Temporary Stabilization practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C or R sheets.
- 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
- 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets. Additional information may be found in the Tabulations in the C or T Tabulation sheets, or is referenced in Section 2105 of the Standard Specifications.

**b. Structural Practices**

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
  - 2) Structural practices to be used for this project are located in the storm water site map, Estimated Project Quantities (100-0A, 100-1A, or 100-1C), and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found on the B or R sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C or R sheets.
- c. Storm Water Management**
- Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the storm water site map and Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C or R sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation. The installation of these devices may be subject to Section 404 of the Clean Water Act.

**2. OTHER CONTROLS**

- Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.
- a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
  - b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
  - c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
  - d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
  - e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
  - f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
  - g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
  - h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
  - i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
  - j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

**3. APPROVED STATE OR LOCAL PLANS**

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

## POLLUTION PREVENTION PLAN

### IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

### V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the Amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

### VI. NON-STORM WATER DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains) and slope drains. The velocity of the discharge from these features may be controlled by the use of headwalls or blocks, Class A stone, erosion stone or other appropriate materials. This also includes uncontaminated groundwater from dewatering operations, which will be controlled as discussed in Section III of the PPP.

### VII. POTENTIAL SOURCES OF OFF RIGHT-OF-WAY (ROW) POLLUTION

Silts, sediment, and other forms of pollution may be transported onto highway right-of-way (ROW) as a result of a storm event. Potential sources of pollution located outside highway ROW are beyond the control of this PPP. Pollution within highway ROW will be conveyed and controlled per this PPP.

### VIII. DEFINITIONS

- A. Base PPP - Initial Pollution Prevention Plan.
- B. Amended PPP - Base PPP amended during construction. May include Plan Revisions or Contract Modifications for new items, storm water site inspection reports, fieldbook entries made by the inspector, amended PPP site map by the Contractor, ECIP, NOI, co-permittee certifications, and Subcontractor Request Forms. Items amending the PPP are stored electronically and are readily available upon request.
- C. Fieldbook Entries - This contains the inspector's daily diary and bid item postings.
- D. Controls - Methods, practices, or measures to minimize or prevent erosion, control sedimentation, control storm water, or minimize contaminants from other types of waste or materials. Also called Best Management Practices (BMPs).
- E. Signature Authority - Representative authorized to sign various storm water documents.

### CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Printed or Typed Name

\_\_\_\_\_  
Signature

## POLLUTION PREVENTION PLAN

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10-20-20

This project is regulated by the requirements of the Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) General Permit No. 2 OR an Iowa Department of Natural Resources (DNR) National Pollutant Discharge Elimination System (NPDES) individual storm water permit. The Contractor shall carry out the terms and conditions of this permit and the Pollution Prevention Plan (PPP).

This Base PPP includes information on Roles and Responsibilities, Project Site Description, Controls, Maintenance Procedures, Inspection Requirements, Non-Storm Water Controls, Potential Sources of Off Right-of-Way Pollution, and Definitions. This plan references other documents rather than repeating the information contained in the documents. A copy of this Base Pollution Prevention Plan, amended as needed during construction, will be readily available for review.

All contractors must conduct their operations in a manner that controls pollutants, minimizes erosion, and prevents sediments from entering waters of the state and leaving the highway right-of-way. The Contractor shall be responsible for compliance and implementation of the PPP for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

### I. ROLES AND RESPONSIBILITIES

#### A. Designer:

1. Prepares Base PPP included in the project plan.
2. Prepares Notice of Intent (NOI) submitted to Iowa DNR.
3. Is signature authority on the Base PPP. If consultant designed, signature from Contracting Authority is also required.

#### B. Contractor:

1. Signs a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP. All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Designates a Water Pollution Control Manager (WPCM), who has the duties and responsibilities as defined in Section 2602 of the Standard Specifications.
3. Submits an Erosion Control Implementation Plan (ECIP) and ECIP updates according to Section 2602 of the Standard Specifications.
4. Installs and maintains appropriate controls. This work may be subcontracted as documented through Subcontractor Request Forms (Form 830231).
5. Supervises and implements good housekeeping practices according to Paragraph III, C, 2.
6. Conducts joint required inspections of the site with inspection staff. When Contractor is not mobilized on site, Contractor may delegate this responsibility to a trained or certified subcontractor. Contracting Authority also may waive joint inspection requirement during winter shutdown. In both circumstances, WPCM (or trained or certified delegate from the Contractor) is still responsible to review and sign inspection reports.
7. Complies with training and certification requirements of Section 2602 of the Standard Specifications.
8. Submits amended PPP site map according to Section 2602 of the Standard Specifications.

#### C. Subcontractors:

1. Sign a co-permittee certification statement adhering to the requirements of the NPDES permit and this PPP if: responsible for sediment or erosion controls; involved in land disturbing activities; or performing work that is a source of potential pollution as defined in this PPP. Subcontracted work items are identified in Subcontractor Request Forms (Form 830231). All co-permittees are legally required under the Clean Water Act and the Iowa Administrative Code to ensure compliance with the terms and conditions of this PPP.
2. Implement good housekeeping practices according to Paragraph III, C, 2.

#### D. RCE/Project Engineer:

1. Is Project Storm Water Manager.
2. Takes actions necessary to ensure compliance with storm water requirements including, where appropriate, issuing stop work orders, and directing additional inspections at construction project sites that are experiencing problems with achieving permit compliance.
3. Orders the taking of measures to cease, correct, prevent, or minimize the consequences of non-compliance with the storm water requirements of the Applicable Permit.
4. Supervises all work necessary to meet storm water requirements at the Project, including work performed by contractors and subcontractors.
5. Requires employees, contractors, and subcontractors to take appropriate responsive action to comply with storm water requirements, including requiring any such person to cease or correct a violation of storm water requirements, and to order or recommend such other actions as necessary to meet storm water requirements.
6. Is familiar with the Project PPP and storm water site map.
7. Is the point of contact for the Project for regulatory officials, Inspector, contractors, and subcontractors regarding storm water requirements.
8. Is signature authority on Notice of Discontinuation.
9. Maintains an up-to-date record of contractors, subcontractors, and subcontracted work items through Subcontractor Request Forms (Form 830231).
10. Makes information to determine permit compliance available to the DNR upon their request.

#### E. Inspector:

1. Updates PPP through fieldbook entries and storm water site inspection reports if there is a change in design, construction, operation, or maintenance which has a significant effect on the discharge of pollutants from the project.
2. Makes information to determine permit compliance available to the DNR upon their request.
3. Conducts joint required inspections of the site with the contractor/subcontractor.
4. Completes an inspection report after each inspection.
5. Is signature authority on storm water inspection reports.

### II. PROJECT SITE DESCRIPTION

#### A. This Pollution Prevention Plan (PPP) is for the construction of a \*Describe Type of Facility\*.

- B. This PPP covers approximately \*Provide # Of Acres\* acres with an estimated \*Provide # of Acres\* acres being disturbed. The portion of the PPP covered by this contract has \*Provide # of Acres\* acres disturbed.
- C. The PPP is located in an area of \*Provide # of Types Of Soil Association\* soil association (\*Provide Soil Association Type or \*Types\*). The estimated weighted average runoff coefficient number for this PPP after completion will be \*Provide runoff coefficient Number\*.

#### D. Storm Water Site Map - Multiple sources of information comprise the base storm water site map including:

1. Drainage Patterns - Plan and Profile sheets and Situation plans.
2. Proposed Slopes - Cross Sections.
3. Areas of Soil Disturbance - Construction limits shown on Plan and Profile sheets.
4. Location of Structural Controls - Tabulations in C sheets.
5. Locations of Non-structural Controls - Tabulations in C sheets.
6. Locations of Stabilization Practices - Generally within construction limits shown on Plan and Profile sheets.
7. Surface Waters (including wetlands) - Project Location Map and Plan and Profile sheets.
8. Locations where Storm Water is Discharged - Plan and Profile sheets.

## POLLUTION PREVENTION PLAN

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10-20-20

- E. The base storm water site map is amended by contract modifications and progress payments (fieldbook entries) of completed erosion control work. Also, due to project phasing, erosion and sediment controls shown on project plans may not be installed until needed, based on site conditions. For example, silt fence ditch checks will typically not be installed until the ditch has been installed. Installed locations may also be modified from tabulation locations by field staff. Installed locations will be documented by fieldbook entries and amended PPP site map.
- F. Runoff from this work will flow into \*List Outlets for Runoff\*.

### III. CONTROLS

- A. The Contractor's ECIP specified in Article 2602.03 of the Standard Specifications for accomplishment of storm water controls should clearly describe the intended sequence of major activities, and for each activity define the control measure and the timing during the construction process that the measure will be implemented.
- B. Preserve vegetation in areas not needed for construction.
- C. Sections 2601 and 2602 of the Standard Specifications define requirements to implement erosion and sediment control measures. Actual quantities used and installed locations may vary from the Base PPP and amendment of the plan will be documented via fieldbook entries, amended PPP site map, or by contract modification. Additional erosion and sediment control items may be required as determined by the inspector and/or contractor during storm water site inspections. If the work involved is not applicable to any contract items, the work will be paid for according to Article 1109.03 paragraph 8 of the Standard Specifications.

#### 1. EROSION AND SEDIMENT CONTROLS

##### a. Stabilization Practices

- 1) Site plans will ensure that existing vegetation or natural buffers are preserved where attainable and disturbed portions of the site will be stabilized.
- 2) Initialize stabilization of disturbed areas immediately after clearing, grading, excavating, or other earth disturbing activities have:
  - a) Permanently ceased on any portion of the site, or
  - b) Temporarily ceased on any portion of the site and will not resume for a period exceeding 14 calendar days.
- 3) Staged permanent and/or temporary stabilizing seeding and mulching shall be completed as the disturbed areas are completed. Incomplete areas shall be stabilized according to paragraph III, C, 1, a, 2, b above.
- 4) Permanent and Temporary Stabilization practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets.
- 5) Preservation of existing vegetation within right-of-way or easements will act as vegetative buffer strips.
- 6) Preservation of topsoil: Bid items to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets. Additional information may be found in Tabulations in the C or T sheets or is referenced in Section 2105 of Standard Specifications.

##### b. Structural Practices

- 1) Structural practices will be implemented to divert flows from exposed soils and detain or otherwise limit runoff and the discharge of pollutants from exposed areas of the site. Additionally, structural practices may include: silt basins that provide 3600 cubic feet of storage per acre drained or equivalent sediment controls, outlet structures that withdraw water from surface when discharging basins, and controls to direct storm water to vegetated areas.
- 2) Structural practices to be used for this project are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the devices to be used on this project can be found in the B sheets or are referenced in the Standard Road Plans Tabulation (105-4) located in the C sheets.

##### c. Storm Water Management

- Measures shall be installed during the construction process to control pollutants in storm water discharges that will occur after construction operations have been completed. This may include velocity dissipation devices at discharge locations and along length of outfall channel as necessary to provide a non-erosion velocity flow from structure to water course. If included with this project, these items are located in the Estimated Project Quantities (100-0A, 100-1A, or 100-1C) and Estimate Reference Information (100-4A) located in the C sheets, as well as all other item specific Tabulations. Typical drawings detailing construction of the practices to be used on this project are referenced in the Standard Road Plans Tabulation (105-4) in the C sheets. The installation of these devices may be subject to Section 404 of the Clean Water Act.

#### 2. OTHER CONTROLS

- Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive applicable laws, rules or regulations shall apply.
- a. Vehicle Entrances and Exits - Construct and maintain entrances and exits to prevent tracking of sediments onto roadways.
  - b. Material Delivery, Storage and Use - Implement practices to prevent discharge of construction materials during delivery, storage, and use.
  - c. Stockpile Management - Install controls to reduce or eliminate pollution of storm water from stockpiles of soil and paving.
  - d. Waste Disposal - Do not discharge any materials, including building materials, into waters of the state, except as authorized by a Section 404 permit.
  - e. Spill Prevention and Control - Implement chemical spill and leak prevention and response procedures to contain and clean up spills and prevent material discharges to the storm drain system and waters of the state.
  - f. Concrete Residuals and Washout Wastes - Waste shall not be discharged to a surface water and is not allowed to adversely affect a water of the state. Designate temporary concrete washout facilities for rinsing out concrete trucks. Provide directions to truck drivers where designated washout facilities are located. Designated washout areas should be located at least 50 feet away from storm drains, streams or other water bodies. Care should be taken to ensure these facilities do not overflow during storm events.
  - g. Concrete Grooving/Grinding Slurry - Do not discharge slurry to a waterbody or storm drain. Slurry may be applied on foreslopes or removed from the project.
  - h. Vehicle and Equipment Storage and Maintenance Areas - Perform on site fueling and maintenance in accordance with all environment laws such as proper storage of onsite fuels and proper disposal of used engine oil or other fluids on site. Employ washing practices that prevent contamination of surface and ground water from wash water. Wash waters must be treated in a sediment basin or alternative control that provides equivalent or better treatment prior to discharge.
  - i. Litter Management - Ensure employees properly dispose of litter. Minimize exposure of trash if exposure to precipitation or storm water would result in a discharge of pollutants.
  - j. Dewatering - Properly treat water to remove suspended sediment before it re-enters a waterbody or discharges off-site. Measures are also to be taken to prevent scour erosion at dewatering discharge point.

#### 3. APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

## POLLUTION PREVENTION PLAN

### IV. MAINTENANCE PROCEDURES

The Contractor is required to maintain all temporary erosion and sediment control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. This shall begin when the features have lost 50% of their capacity.

### V. INSPECTION REQUIREMENTS

- A. Inspections shall be made jointly by the Contractor and the Contracting Authority's inspector at least once every seven calendar days. Storm water site inspections will include:
1. Date of the inspection.
  2. Summary of the scope of the inspection.
  3. Name and qualifications of the personnel making the inspection.
  5. Review of erosion and sediment control measures within disturbed areas for the effectiveness in preventing impacts to receiving waters.
  6. Major observations related to the implementation of the PPP.
  7. Identification of corrective actions required to maintain or modify erosion and sediment control measures.
- B. Include storm water site inspection reports in the amended PPP. Incorporate any additional erosion and sediment control measures determined as a result of the inspection. Immediately begin corrective actions on all deficiencies found within 3 calendar days of the inspection and complete within 7 calendar days following the inspection. If it is determined that making the corrections less than 72 hours after the inspection is impracticable, it should be documented why it is impracticable and indicate an estimated date by which the corrections will be made.

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Signature \_\_\_\_\_

Printed or Typed Name \_\_\_\_\_

Signature \_\_\_\_\_

Printed or Typed Name \_\_\_\_\_

					110-13 04-20-10
DELIVERY AND STOCKPILING					
Item Description	Quantity	Units	Delivery Location	Contact Name & Number	Remarks

SANITARY OR STORM SEWER ABANDONMENT OR REMOVAL

\* Not a bid item

Location/Description	Sanitary or Storm Sewer	Abandonment, Plug Only or Abandonment, Plug and Fill or Removal	Length of Pipe		Fill Material*	Remarks
			≤ 36 inch diameter	> 36 inch diameter	Flowable Mortar or CLSM	
			LF	LF	CY	

110-15 04-16-13			
REMOVAL OF INTAKES AND UTILITY ACCESSES			
No.	Location/Description	Type	Remarks



110-16 04-16-13						
REMOVAL OF LIGHT POLES AND CONCRETE FOOTINGS						
Location				Removal of Light Pole	Removal of Concrete Footing for Light Pole	Remarks
No.	Station	Offset				
		Left	Right			

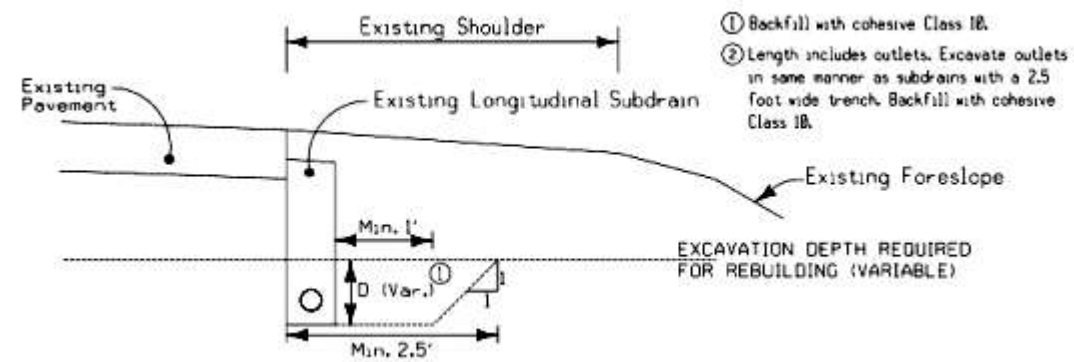
110-17  
04-18-17

## CLEARING AND GRUBBING

[illegible]

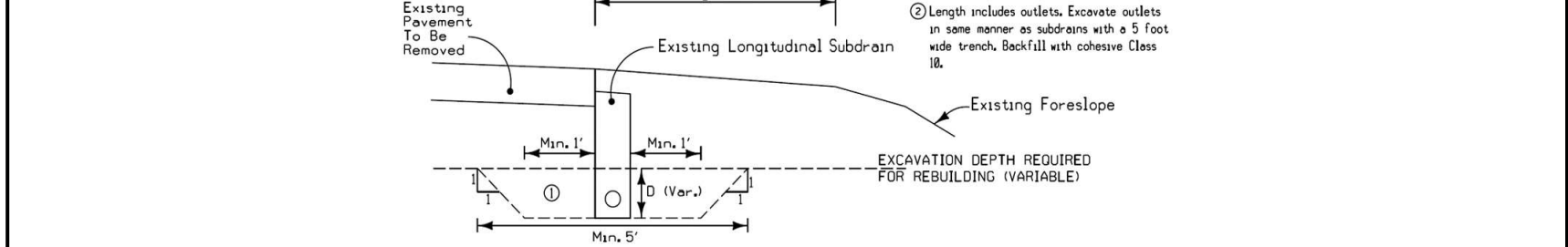
110\_18  
4/18/23

See Tab 104-9 for tabulation of longitudinal subdrains

[illegible]

See Tab 104-9 for tabulation of longitudinal subdrains

Existing Shoulder      ① Backfill with cohesive Class 10.

[illegible]

SECTION

**111****Miscellaneous Construction Forms**

NO.	DATE	TITLE
111-1	04-17-12	Coordinated Operations
111-2	02-28-89	Revisions
111-23	10-17-17	Listing of Project Revisions
111-25	10-18-11	Index of Tabulations

SECTION

**112****Pavement Construction Forms**

NO.	DATE	TITLE
112-3	04-16-13	Railroad Approach Sections
112-4	10-21-14	Curbs and Raised Islands
112-5	10-20-15	Concrete Medians
112-6	04-18-17	Bridge Approach Section
112-7	10-19-10	Rumble Strip Panels
112-8	04-15-14	Median Crossovers
112-9	10-20-20	Shoulders
112-10	10-20-20	Milled Rumble Strips

10-20-20

111-01  
04-17-12

**COORDINATED OPERATIONS**

Other work in progress during the same period of time will include the construction of the projects listed. Coordinate operations with those of other contractors working within the same area.

Project	Type of Work

TABULATION OF REVISIONS		III-2
		02-28-89
TO: _____	DATE _____	
FROM: Office of Design _____	COUNTY _____	
LETTING DATE: _____	PROJECT NO. _____	
	WORK CLASS _____	
Under separate cover we are forwarding to you prints of the following revised sheets with revisions as shown		
Sheet No.	Revision Description	

<div>111-23 10-17-17</div> <div>LISTING OF PROJECT REVISIONS</div>		
Date	Sheet No.	Description of Revisions



<div> <div>111-25</div> <div>10-18-11</div> </div> <div>INDEX OF TABULATIONS</div>		
Tabulation	Tabulation Title	Sheet No.

112-3 04-16-13				
RAILROAD APPROACH SECTIONS				
Crossing		Pavement Type		Remarks
Location Station	Angle	HMA	PCC	
		SY	SY	

112-4

10-21-14

CURBS AND RAISED ISLANDS

Refer to PV-20, PV-102, and 6000s Detail Series.

① Bid Item

Point No.	Station	Offset	Island Interior	Curb and Gutter			Remarks
			Area ①	Curb Type	Gutter Width	Length ①	
			SY			FT	LF

CONCRETE MEDIANS						112-5 10-20-15
* Bid item						
Begin Station	End Station	Type	Area*	Modified Subbase	Special Backfill	Remarks
			SY	CY	CY	

### BRIDGE APPROACH SECTION

Refer to the BR Series

\* Not a bid item

[illegible]

					112-7 10-19-10
<b>RUMBLE STRIP PANELS</b>					
Refer to Standard Road Plan PV-10.					
Location			Pavement		Remarks
Road Ident.	Station	Side	New	Existing	

## MEDIAN CROSSOVERS

Refer to PV-500 Series.

\* Not a bid item

[illegible]

112-9  
10-20-20

- Calculations assume a HMA unit weight (lbs/cf) of 140, a Special Backfill unit weight (lbs/cf) of 140, and a Granular Shoulder unit weight (lbs/cf) of 140.

[illegible]



112-10  
10-20-20

## MILLED RUMBLE STRIPS

See PV-12 and PV-13

\* Calculated at 18" width for Shoulder.

[illegible]

**Sidewalks**

NO.	DATE	TITLE
113-1	04-16-19	Sidewalks
113-1A	04-16-19	Sidewalks
113-2	04-16-13	Pedestrian Path Closures
113-3	10-18-11	Pedestrian Channelizers
113-10	04-18-17	Sidewalk Compliance
113-10	04-21-20	Sidewalk Compliance

[illegible]

Diagram illustrating the placement of a storm drain (S) relative to the curb and sidewalk. The distance from the curb to the drain is labeled 'A', and the distance from the drain to the sidewalk is labeled 'B'. The sidewalk is labeled 'Face of Sidewalk'.

Remarks

113-2  
04-16-13

PEDESTRIAN PATH CLOSURES

Refer to TC-601.

\*Assumes 6 foot wide barricade.  
Closures may need to be removed and re-established.

Location	Side	Type III Barricades*	Remarks
		No.	

113-3 10-18-11		
PEDESTRIAN CHANNELIZERS		
Station to Station	Length	Remarks
	LF	

\* Does not include curb  
 (1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.  
 (2) Refer to tabulation 113-01 for bid quantities.

[illegible]

113-10A  
04-21-20

04-21-20

\* Does not include curb  
 (1) Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.  
 (2) Refer to tabulation 113-01 for bid quantities.



\* Does not include curb  
 ① Staking required by Contracting Authority per Article 2511.03 of the Standard Specifications.  
 ② Refer to tabulation 113-01 for bid quantities.

[illegible]

**Signing**

NO.	DATE	TITLE
190-01	10-15-13	Sign Support Structures
190-10	10-15-13	Overhead Bridge Mounted Sign Bracket Assemblies
190-11	10-15-13	Signing Materials for At-Grade Crossovers
190-25	10-21-14	Reference Location Signs and Delineators
190-50	10-15-13	Materials for Type 'B' Signs
190-51	10-15-13	Materials for Type 'A' Signs
190-52	04-18-17	Materials for Overhead Sign Support Structures
190-54	04-18-17	Signing Materials for Expressway At-Grade Intersections
190-61	10-15-13	Existing Signs to be Reinstalled
190-62	10-15-13	Existing Signs to be Removed
190-65	10-15-13	Special Sign Mounting Brackets
190-66	10-21-14	Summary of Type 'A' Signs
190-67	10-16-18	Catwalks and Lighting to be Removed

**Dynamic Message Signing**

NO.	DATE	TITLE
192-01	04-18-17	Materials for Steel Roadside DMS Sign Support

			190-01 10-15-13
SIGN SUPPORT STRUCTURES			
The following Bridge Standards apply to construction work on this project.			
Number	Date	Title	

<div>190-10 10-15-13</div> <div>OVERHEAD BRIDGE MOUNTED SIGN BRACKET ASSEMBLIES</div>					
SIGN NUMBER	FOR TRAFFIC	BRIDGE LOCATION	2 BRACKET	3 BRACKET	4 BRACKET
			EACH	EACH	EACH

SIGNING MATERIALS FOR AT-GRADE CROSSOVERS						190-11 10-15-13
STATION LOCATION	TYPICAL SIGNING DETAIL	TYPE 'A' SIGN AREA	WOOD POSTS		TYPE II DELINEATOR - YELLOW	REMARKS
			4" x 4"	4" x 6"		
		SF	LF	LF	EACH	

190-25  
10-21-14

Refer to SI-171, SI-172 and SI-173.

[illegible]

[illegible]

## MATERIALS FOR TYPE 'A' SIGNS

[illegible]



## MATERIALS FOR OVERHEAD SIGN SUPPORT STRUCTURES

[illegible]

## SIGNING MATERIALS FOR EXPRESSWAY AT-GRADE INTERSECTIONS

[illegible]

[illegible]

[illegible][illegible][illegible]

<div>190-65 10-15-13</div> <div>SPECIAL SIGN MOUNTING BRACKETS</div>	
BRACKET TYPE	QUANTITY
	EACH

<div>190-66 10-21-14</div> <div>SUMMARY OF TYPE 'A' SIGNS</div>			
Sign Number	Quantity	Size	Total Sign Area
	EACH	IN	SF

190-67  
10-16-18

CATWALKS AND LIGHTING TO BE REMOVED								
STRUCTURE NO.	LOCATION						REMOVAL OF CATWALK AND LIGHTING	REMARKS
	ROUTE	COUNTY	STATION	REFERENCE LOCATION SIGN	DIRECTION OF TRAVEL	ROAD ID		
							EACH	

## MATERIALS FOR STEEL ROADSIDE DMS SIGN SUPPORT

[illegible]