



# Department of Transportation

## Office of Project Development

700 E Broadway Avenue

Pierre, South Dakota 57501-2586 605/773-3268

FAX: 605/773-2614

February 12, 2015

### ADDENDUM NO. 1

**RE: Item #8, February 18, 2015 Letting - P 0073(68)0, P 0073(65)9, PCN 04E1, 03AA, Bennett County - Epoxy Chip Seal, Cold Milling Asphalt Concrete, Asphalt Concrete Resurfacing, & Pipe Repair**

#### TO WHOM IT MAY CONCERN:

The following addenda to the plans shall be inserted and made a part of your proposal for the referenced project.

**SPECIAL PROVISIONS:** None

**BID ITEM FILE:** The addendum bid item file will be available Tuesday, February 17, 2015.

*Bidders must log in to retrieve the addendum bid item file that must be loaded into the SDEBS to incorporate the revisions listed here.*

**Bid Items were added:**

P 0073(68)0 – PCN 04E1 – Alternate A

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1002 “Class Q2 Hot Mixed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

P 0073(68)0 – PCN 04E1 – Alternate B

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1002 “Class Q2 Hot Mixed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

018-392 – PCN i3MJ – Alternate A

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1410 “Contractor Furnished and Placed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”

018-392 – PCN i3MJ – Alternate B

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1410 “Contractor Furnished and Placed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”

**Quantities for Bid Items were changed:**

Bid Item 633E1300 “Pavement Marking Paint, White” changed from 418.0 to 516.0 Gal

Bid Item 633E1305 "Pavement Marking Paint, Yellow" changed from 148.5 to 183.5 Gal  
Bid Item 634E0010 "Flagging" changed from 400 to 440 Hour  
Bid Item 634E0100 "Traffic Control" changed from 1,542 to 1,816 Unit  
Bid Item 634E0630 "Temporary Pavement Marking" changed from 24.6 to 27.5 Mile

**Bid Items were deleted:**

Bid Item 320E0007 "PG 64-28 Asphalt Binder"  
Bid Item 320E1002 "Class Q2 Hot Mixed Asphalt Concrete"  
Bid Item 320E4000 "Hydrated Lime"

**PLANS:** Please destroy sheets 1, A1, C2, C4, F2-F6, F9, and F9-F12 and replace with the enclosed sheets, dated 2/3/15, 2/5/15, and 2/13/15. Please insert sheets 1A, A1A, C4A, and F8A dated 2/3/15, 2/5/15, and 2/13/15.

**Sheet 1:** Revised to include Project 018-392, PCN i3MJ.

**Sheet 1A:** Added layout map for Project 018-392, PCN i3MJ.

**Sheet A1:** **Bid Items were added:**

Section C – Traffic Control  
018-392 – PCN i3MJ  
Bid Item 633E1300 "Pavement Marking Paint, White"  
Bid Item 633E1305 "Pavement Marking Paint, Yellow"  
Bid Item 634E0010 "Flagging"  
Bid Item 634E0100 "Traffic Control"  
Bid Item 634E0100 "Traffic Control, Miscellaneous"  
Bid Item 634E0630 "Temporary Pavement Marking"

**Bid Items were deleted:**

Section F – Surfacing  
P 0073(68)0 – PCN 04E1  
Bid Item 320E0007 "PG 64-28 Asphalt Binder"  
Bid Item 320E1002 "Class Q2 Hot Mixed Asphalt Concrete"  
Bid Item 320E4000 "Hydrated Lime"

**Sheet A1A:** **Bid Items were added:**

P 0073(68)0 – PCN 04E1 – Alternate A  
Bid Item 320E0007 "PG 64-28 Asphalt Binder"  
Bid Item 320E1002 "Class Q2 Hot Mixed Asphalt Concrete"  
Bid Item 320E4000 "Hydrated Lime"

P 0073(68)0 – PCN 04E1 – Alternate B

Bid Item 320E0007 "PG 64-28 Asphalt Binder"  
Bid Item 320E1002 "Class Q2 Hot Mixed Asphalt Concrete"  
Bid Item 320E4000 "Hydrated Lime"

018-392 – PCN i3MJ – Alternate A

Bid Item 320E0007 "PG 64-28 Asphalt Binder"  
Bid Item 320E1410 "Contractor Furnished and Placed Asphalt Concrete"  
Bid Item 320E4000 "Hydrated Lime"  
Bid Item 330E0100 "SS-1h or CSS-1h Asphalt for Tack"

018-392 – PCN i3MJ – Alternate B

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1410 “Contractor Furnished and Placed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”

**Sheet C2:** **Bid Items were added:**

Project 018-392 – PCN i3MJ

Bid Item 633E1300 “Pavement Marking Paint, White”

Bid Item 633E1305 “Pavement Marking Paint, Yellow”

Bid Item 634E0010 “Flagging”

Bid Item 634E0100 “Traffic Control”

Bid Item 634E0100 “Traffic Control, Miscellaneous”

Bid Item 634E0630 “Temporary Pavement Marking”

**Sheet C4:** FURNISHING AND APPLYING PAVEMENT MARKING PAINT details for 018-392 – PCN i3MJ were added.

**Sheet C4A:** SIGN TABULATION P 0073(68)0 PCN 04E1 table moved from sheet C4.

SIGN TABULATION 018-392 PCN i3MJ table was added.

**Sheet F2:** **Bid Items were deleted:**

P 0073(68)0 – PCN 04E1

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1002 “Class Q2 Hot Mixed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

**Bid Items were added:**

P 0073(68)0 – PCN 04E1 – Alternate A

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1002 “Class Q2 Hot Mixed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

P 0073(68)0 – PCN 04E1 – Alternate B

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1002 “Class Q2 Hot Mixed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

018-392 – PCN i3MJ – Alternate A

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1410 “Contractor Furnished and Placed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”

018-392 – PCN i3MJ – Alternate B

Bid Item 320E0007 “PG 64-28 Asphalt Binder”

Bid Item 320E1410 “Contractor Furnished and Placed Asphalt Concrete”

Bid Item 320E4000 “Hydrated Lime”

Bid Item 330E0100 “SS-1h or CSS-1h Asphalt for Tack”

**Sheet F3:** REMOVE BEAM GUARDRAIL note moved from sheet F2.

GUARDRAIL DELINEATORS note moved from sheet F2.

**Sheet F4:** HIGH FLOW SILT FENCE note moved from sheet F3.

TABLE OF HIGH FLOW SILT FENCE table moved from sheet F3.

**Sheet F5** ADDITIONAL QUANTITIES note was revised.

CLASS Q2 HOT MIXED ASPHALT CONCRETE note was revised.

**Sheet F6:** REMOVAL AND INSTALLATION OF CONCRETE CURB AND GUTTER note was moved from sheet F5.

CONTRACTOR FURNISHED AND PLACED ASPHALT CONCRETE note was added.

**Sheet F8A:** TYPICAL SECTION for Contractor Furnished and Placed Asphalt Concrete was added.

**Sheet F9:** RATES OF MATERIALS were revised.

**Sheet F10:** MATERIAL QUANTITIES table was revised.

**Sheet F11:** TABLE OF ADDITIONAL QUANTITIES table was revised.

**Sheet F12:** SUMMARY OF ASPHALT CONCRETE table was revised.

Sincerely,

Sam Weisgram  
Engineering Supervisor

SW/cj

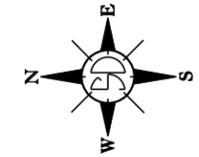
CC: John Forman, Pierre Region Engineer  
Doug Sherman, Winner Area Engineer

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

Revised by JJR on 2/03/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9, & 018-392	1	71

PLANS FOR PROPOSED  
**PROJECTS P 0073(68)0, P 0073(65)9, & 018-392**  
**SD HIGHWAY 73 & US HIGHWAY 18**  
**BENNETT COUNTY**

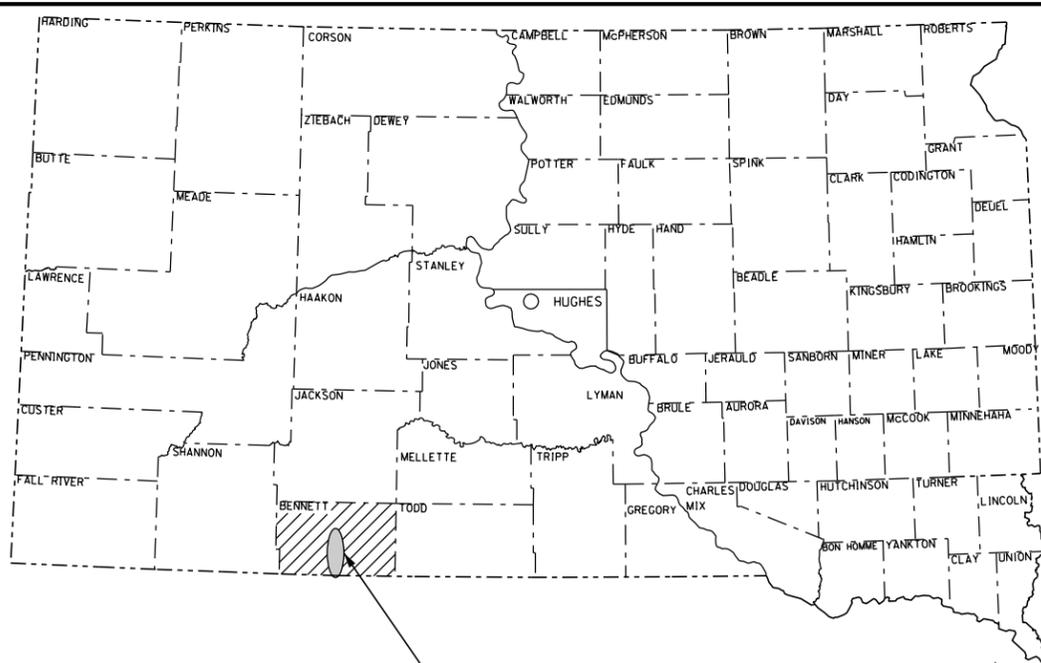


INDEX OF SECTIONS

- Section A Title Sheet, Estimate of Quantities, & Environmental Commitments
- Section C Traffic Control Plans
- Section E Structure Plans
- Section F Surfacing Plans

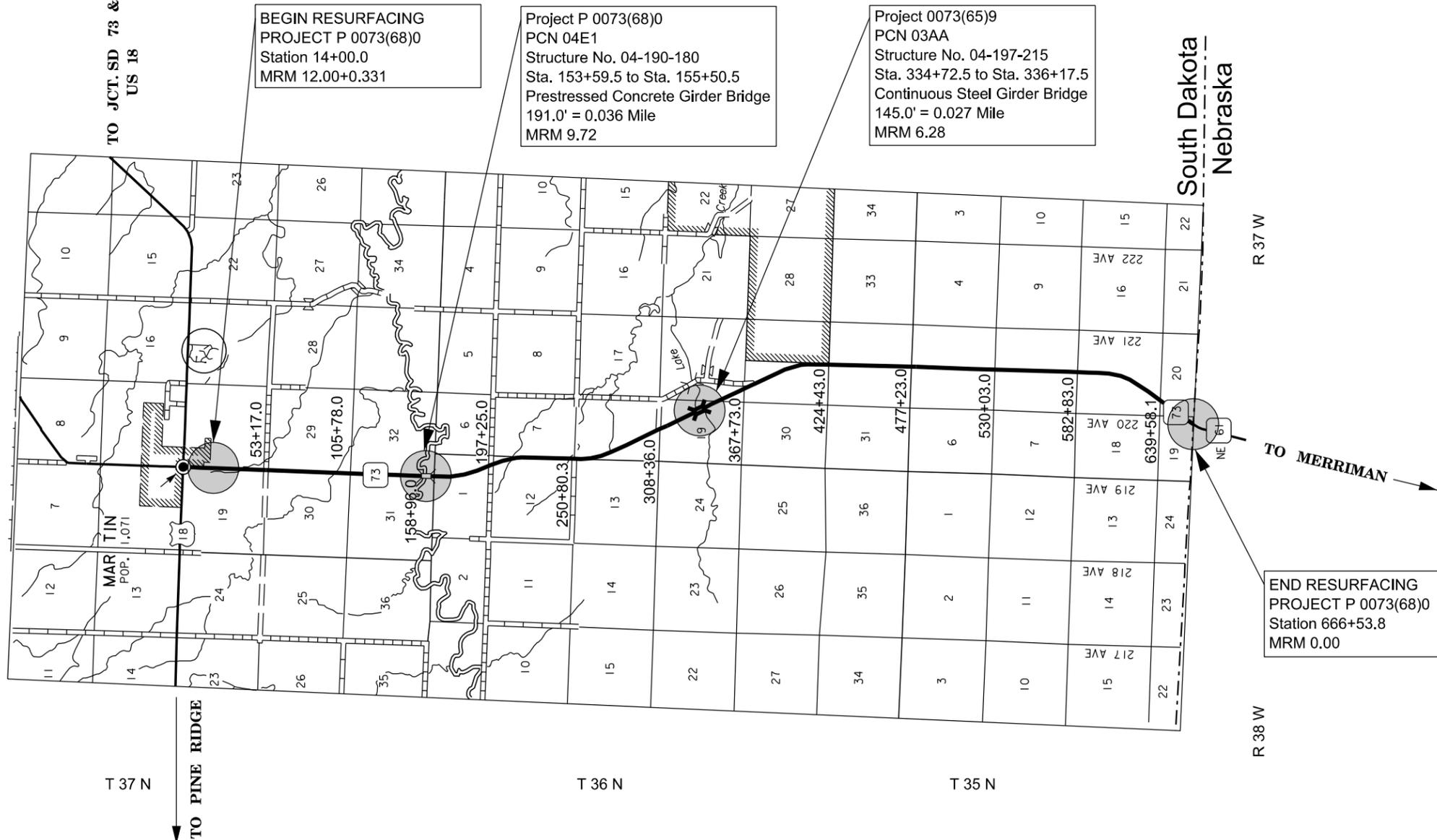
COLD MILLING ASPHALT CONCRETE TRANSITIONS,  
ASPHALT CONCRETE RESURFACING,  
EPOXY CHIP SEAL, GUARDRAIL REPLACEMENT, RUMBLE STRIPES, &  
CONTRACTOR FURNISHED AND PLACED ASPHALT CONCRETE

PCNS: 04E1, 03AA, & i3MJ



PROJECTS

TO JCT. SD 73 &  
US 18



**DESIGN DESIGNATION**

(SD HIGHWAY 73)

ADT (2013)	377
ADT (2033)	427
DHV	51.7
D	51%
T DHV	14.8%
T ADT	32.6%
V	65 MPH

**STORM WATER PERMIT**  
NONE REQUIRED

**SD HIGHWAY 73**

RESURFACING LENGTH	64,917.80 FEET	12.295 MILES
LENGTH OF BRIDGE WORK	336.00 FEET	0.064 MILES
GROSS PROJECT LENGTH	65,253.80 FEET	12.359 MILES

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

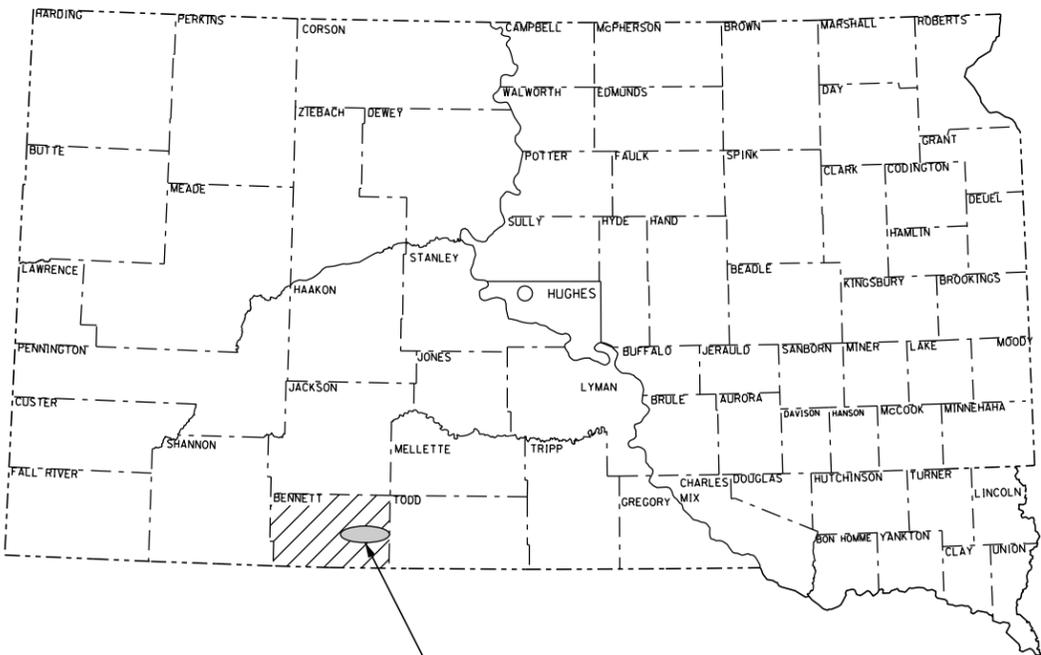
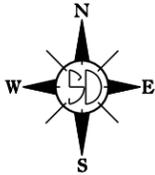
Revised by JJR on 2/03/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9, & 018-392	1A	71

PLANS FOR PROPOSED  
**PROJECT 018-392**  
**US HIGHWAY 18**  
**BENNETT COUNTY**

CONTRACTOR FURNISHED AND PLACED ASPHALT CONCRETE

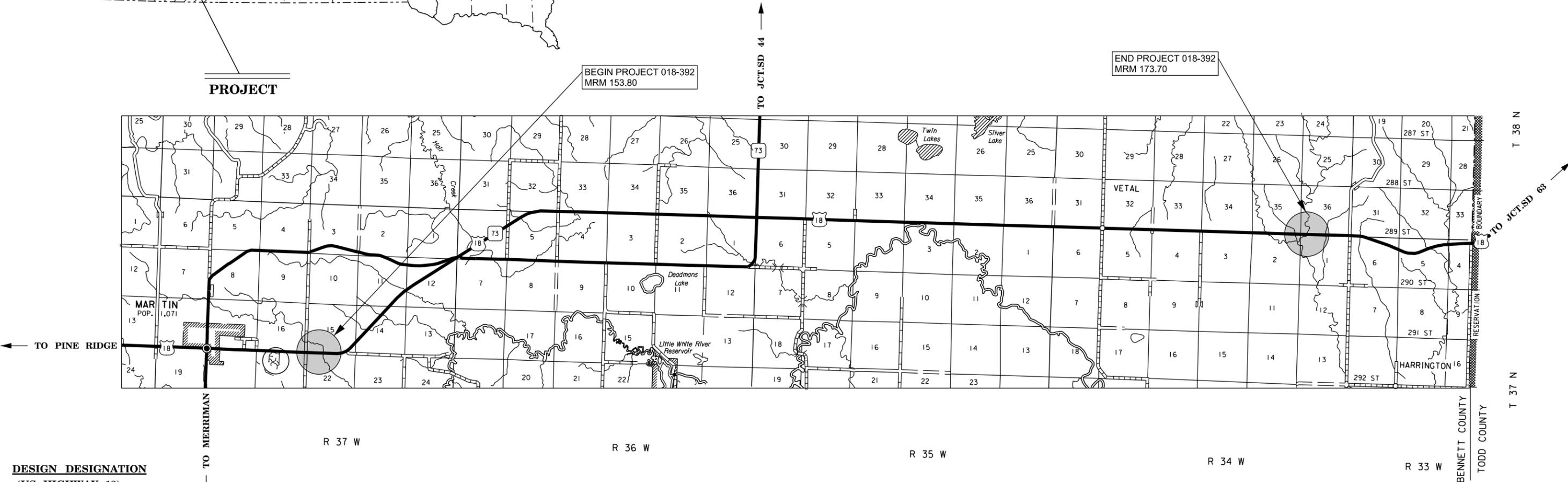
PCN i3MJ



**PROJECT**

BEGIN PROJECT 018-392  
MRM 153.80

END PROJECT 018-392  
MRM 173.70



**DESIGN DESIGNATION**

(US HIGHWAY 18)

ADT (2014)	677
ADT (2034)	767
DHV	92.8
D	51%
T DHV	8.5%
T ADT	18.7%
V	65 MPH

**STORM WATER PERMIT**

NONE REQUIRED

**US HIGHWAY 18**

GROSS PROJECT LENGTH	105,072.00 FEET	19.900 MILES
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# ESTIMATE OF QUANTITIES

Revised by JJR on 12/09/14  
 Revised by JJR on 12/17/14  
 Revised by JJR on 1/15/15  
 Revised by JJR on 1/23/15  
 Revised by JJR on 2/05/15  
 Revised by JJR on 2/13/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	A1	A3

## SECTION C – TRAFFIC CONTROL

### P 0073(68)0 – PCN 04E1

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	418.0	Gal
633E1305	Pavement Marking Paint, Yellow	148.5	Gal
634E0010	Flagging	400	Hour
634E0020	Pilot Car	200	Hour
634E0100	Traffic Control	1,542	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0610	4" Temporary Pavement Marking Tape Type 2	8,928	Ft
634E0630	Temporary Pavement Marking	24.6	Mile

### 018-392 – PCN i3MJ

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	98.0	Gal
633E1305	Pavement Marking Paint, Yellow	35.0	Gal
634E0010	Flagging	40	Hour
634E0100	Traffic Control	274	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	2.9	Mile

## SECTION E – STRUCTURES

### P 0073(65)9 – PCN 03AA: Structure No. 04-197-215

Bid Item Number	Item	Quantity	Unit
110E0022	Remove Thrie Beam Bridge Rail for Reset	382.0	Ft
460E0172	Concrete Patching Material, Bridge Deck	26.5	CuFt
470E0460	Reset Thrie Beam Bridge Rail	382.0	Ft
491E0015	Two Coat Bridge Deck Epoxy Chip Seal	636.6	SqYd
491E0110	Abrasive Blasting of Bridge Deck	636.6	SqYd
491E0120	Bridge Deck Grinding	636.6	SqYd
491E0130	Concrete Removal, Class A	4.5	SqYd
491E0140	Concrete Removal, Class B	4.5	SqYd

### P 0073(68)0 – PCN 04E1: Structure No. 04-190-180

Bid Item Number	Item	Quantity	Unit
110E0022	Remove Thrie Beam Bridge Rail for Reset	290.0	Ft
462E0200	Controlled Density Fill	8.7	CuYd
470E0460	Reset Thrie Beam Bridge Rail	290.0	Ft

## SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2004 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

## SECTION F – SURFACING

### P 0073(65)9 – PCN 03AA

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS

### P 0073(68)0 – PCN 04E1

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	24.592	Mile
009E3300	Three Man Survey Crew	40.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	176	Ft
110E0730	Remove Beam Guardrail	856.0	Ft
110E1690	Remove Sediment	0.5	CuYd
110E1693	Remove Erosion Control Wattle	50	Ft
110E1700	Remove Silt Fence	120	Ft
110E7700	Remove Drop Inlet Frame and Grate Assembly for Reset	8	Each
120E0010	Unclassified Excavation	349	CuYd
120E0100	Unclassified Excavation, Digouts	618	CuYd
120E0600	Contractor Furnished Borrow	741	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	2,439.9	Ton
260E1030	Base Course, Salvaged	1,114.9	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	856.2	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	24.6	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	63.3	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	55.5	Ton
330E2000	Sand for Flush Seal	639.4	Ton
332E0010	Cold Milling Asphalt Concrete	5,467	SqYd
460E0380	Install Dowel in Concrete	24	Each
480E0200	Epoxy Coated Reinforcing Steel	596	Lb
600E0300	Type III Field Laboratory	1	Each
630E0110	Straight Double Class A Thrie Beam Guardrail with Wood Posts	100.0	Ft
630E1140	Straight Double Class A W Beam Guardrail with Wood Posts	850.0	Ft
630E2000	W Beam to Thrie Beam Guardrail Transition	8	Each
630E2015	W Beam Guardrail Flared End Terminal	8	Each
632E2220	Guardrail Delineator	24	Each
650E2100	Special Concrete Curb and Gutter	176	Ft
670E7000	Reset Drop Inlet Frame and Grate Assembly	8	Each
734E0010	Erosion Control	Lump Sum	LS
734E0154	12" Diameter Erosion Control Wattle	200	Ft
734E0165	Remove and Reset Erosion Control Wattle	50	Ft
734E0604	High Flow Silt Fence	480	Ft
734E0610	Mucking Silt Fence	33	CuYd
734E0620	Repair Silt Fence	120	Ft
831E0300	MSE Geotextile Fabric	1,998	SqYd
900E0010	Refurbish Single Mailbox	10	Each
900E0012	Refurbish Double Mailbox	3	Each
900E1980	Storage Unit	1	Each

# ESTIMATE OF QUANTITIES

Revised by JJR on 2/05/15  
Revised by JJR on 2/13/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	A1A	A3

**SECTION F – SURFACING (Continued)**

**P 0073(68)0 – PCN 04E1 – Alternate A**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	1,786.4	Ton
320E1002	Class Q2 Hot Mixed Asphalt Concrete	31,699.8	Ton
320E4000	Hydrated Lime	316.2	Ton

**P 0073(68)0 – PCN 04E1 – Alternate B**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	1,607.8	Ton
320E1002	Class Q2 Hot Mixed Asphalt Concrete	32,436.9	Ton
320E4000	Hydrated Lime	316.8	Ton

**\*018-392 – PCN i3MJ – Alternate A**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	114.2	Ton
320E1410	Contractor Furnished and Placed Asphalt Concrete	2,003.6	Ton
320E4000	Hydrated Lime	20.0	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	8.3	Ton

\*Non-Participating

**\*018-392 – PCN i3MJ – Alternate B**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	99.2	Ton
320E1410	Contractor Furnished and Placed Asphalt Concrete	2,003.6	Ton
320E4000	Hydrated Lime	19.8	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	8.3	Ton

\*Non-Participating

Revised by JJR on 12/09/14  
Revised by JJR on 2/05/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	C2	C10

**ESTIMATE OF QUANTITIES**

**Project P 0073(68)0 PCN 04E1**

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	418.0	Gal
633E1305	Pavement Marking Paint, Yellow	148.5	Gal
634E0010	Flagging	400	Hour
634E0020	Pilot Car	200	Hour
634E0100	Traffic Control	1,542	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0610	4" Temporary Pavement Marking Tape Type 2	8,928	Ft
634E0630	Temporary Pavement Marking	24.6	Mile

**Project 018-392 PCN i3MJ**

Bid Item Number	Item	Quantity	Unit
633E1300	Pavement Marking Paint, White	98.0	Gal
633E1305	Pavement Marking Paint, Yellow	35.0	Gal
634E0010	Flagging	40	Hour
634E0100	Traffic Control	274	Unit
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0630	Temporary Pavement Marking	2.9	Mile

**SEQUENCE OF OPERATIONS**

Traffic shall be maintained through the project at ALL times.

The Contractor shall submit a proposed sequence of operations for the Engineer's review and approval at least two weeks prior to the preconstruction meeting.

The Contractor shall be aware of the Scope of Work notes in Sections E and F along with the Sequence of Operations notes in Section E and coordinate work accordingly.

Multiple asphalt lift laydown operations will not be allowed on the same location on the same day, unless approved by the Engineer.

The Contractor shall coordinate the removal of thrie beam guardrail in conjunction with the cold milling operation. The Contractor will only be allowed to remove the guardrail on the same side as the cold milling operation.

The Contractor shall place drums or Type II Barricades at 25-foot intervals for a distance of 175 feet beyond the exposed bridge end for each direction of traffic in accordance with Section 630 of the Specification. These drums or barricades shall remain in place until the new guardrail has been installed.

Reconstruction and cold milling of the bridge approaches shall begin no more than 15 days prior to mainline paving.

Once work that inconveniences traffic has commenced on a structure site, it shall be pursued in a near continuous, expeditious manner to its completion. Any work that restricts the motorist from driving the posted speed limit, reduces existing roadway width, or causes a potentially unsafe condition due to Contractor operations such as frequent movement of equipment or materials on or through the project, is considered to be an inconvenience to traffic.

Three separate stop condition setups will be required to complete the work on the two structure sites within this Contract. One at Structure No. 04-197-215 and two set ups at Structure 04-190-180. All costs associated to complete the work within this Contract shall be incidental to the contract unit price per unit for "Traffic Control".

The Contractor shall maintain access on and off the highway for local residences and county roads.

**PROJECT WORK HOURS**

The Contractor may perform work on the roadway during daylight hours only, unless additional hours are approved by the Engineer.

**TRAFFIC CONTROL FOR ASPHALT CORING**

Coring operations shall be completed during daylight hours only. Traffic control for coring operations shall be executed by following the "Special Detail for Mobile Operations for Asphalt Coring" sheet.

**GENERAL MAINTENANCE OF TRAFFIC**

All traffic control sign locations shall be set in the field by the Contractor and verified by the Engineer prior to installation.

Certified flaggers properly attired and preceded by FLAGGER symbol signs, will be required where work activity and/or equipment present a hazard to the workers, a hazard to through traffic, or encroaches into a driving lane.

Removing, relocating, covering, salvaging and resetting of existing traffic control devices, including delineation, shall be the responsibility of the Contractor. Cost for this work shall be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost shall be replaced by the Contractor at no cost to the State.

Storage of vehicles and equipment shall be outside the clear zone (30') and as near as possible to the right-of-way line. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work site in a minimum number of vehicles necessary to perform the work.

Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State, and to the satisfaction of the Engineer.

Traffic approaching the project from intersecting roadways and approaches must be adequately accommodated. Major intersections or large commercial entrances may require additional signing, flaggers, and channelizing devices on a temporary basis until work activities pass these areas.

All non-fixed location signs may be mounted on portable supports. The portable supports shall be constructed to yield upon impact to minimize hazards to motorists, and shall be of proper height. The bottom of signs on portable or temporary supports shall not be less than seven feet above the pavement in urban areas and one foot above the pavement in rural areas. Portable sign supports may be used as long as the duration is less than 3

days. If the duration is more than 3 days the signs shall meet the minimum mounting heights of 5 foot for rural areas and 7 foot for urban areas.

The Contractor shall provide documentation that all breakaway sign supports comply with FHWA NCHRP Report 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the preconstruction meeting for all breakaway sign support assemblies.

Erect only those signs that are applicable to the work in progress. When the Contractor is working at specific work spaces within the project, only those traffic control devices applicable to that operation should be displayed. Non-applicable signs and/or devices shall be removed from view by the Contractor and stored a minimum of 30 feet from the driving lanes during periods of inactivity. All costs to do this work shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

A shadow vehicle, equipped with flashing amber light and a ROAD MACHINERY AHEAD sign prominently displayed, shall be used in advance of landscaping, clean up, and other mobile work activities. Highway equipment working within traffic or adjacent to traffic shall, at all times, display a flashing or revolving amber light to warn the traveling public. The Contractor shall maintain the driving surface on the project to eliminate hazards to the traveling public. The driving surface is defined as both driving lanes along with both outside shoulders on the project.

The cost for additional signs shall be paid for at the contract unit price per unit for "Traffic Control". Additional Flagger hours shall be paid for at the contract unit price per hour for "Flagging". The cost of additional channeling devices shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".

Traffic Control units, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

**TRAFFIC CONTROL**

The Contractor shall designate an employee who will be available 24 hours/day, 7 days/week to be responsible for the maintenance of traffic during periods of repair work. The person so designated must have training and experience in the field of construction traffic control and be knowledgeable about the Manual on Uniform Traffic Control Devices (MUTCD). The cost of the traffic control person shall be incidental to the contract lump sum price for "Traffic Control, Miscellaneous". The Engineer must approve the employee selected. The name and phone number of the person(s) shall be provided to the SD Department of Transportation (605-842-0810), SD Highway Patrol State Radio (email to Jason.Husby@state.sd.us), and the Bennett County Sheriff Department (605-685-6516).

Channelizing devices in a series shall be of the same type. Channelizing drums shall be of a two part construction with breakaway bases.

All traffic control devices shall be in "like new" condition.

Type III Barricades 8' wide shall mark both ends of the construction work zone at structure sites. In addition, Type III Barricades 8' wide shall be placed in the lanes that are closed to traffic on structures at the discretion of the Engineer.

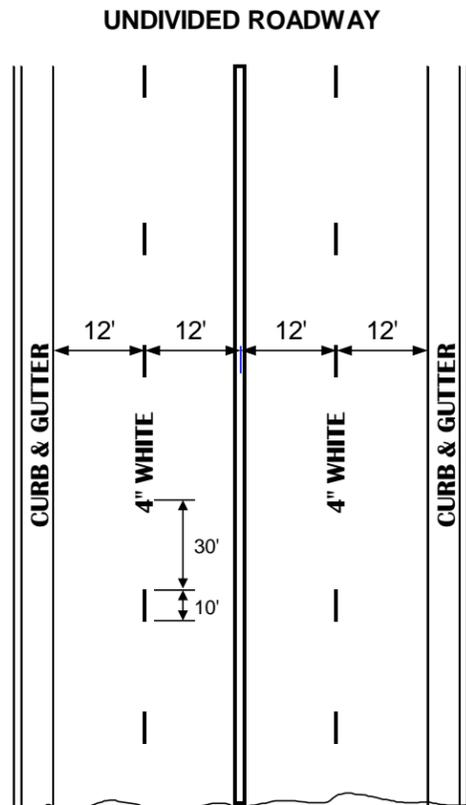
# PROJECT PAINT TABULATION

Revised by JJR on 12/09/14  
Revised by JJR on 2/05/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	C4	C10

## FURNISHING AND APPLYING PAVEMENT MARKING PAINT

## FURNISHING AND APPLYING PAVEMENT MARKING PAINT



1. Pavement marking paint and glass beads will be furnished and applied by the Contractor. Material shall meet the requirements of Section 980 and 981 of the Specifications. The bead application rate shall be 8 pounds/gallon of paint.
2. Construction requirements, methods of measurement and basis of payment shall conform to the requirements of Section 633 of the Specifications.

3. Approximate paint application rates shall be as follows:

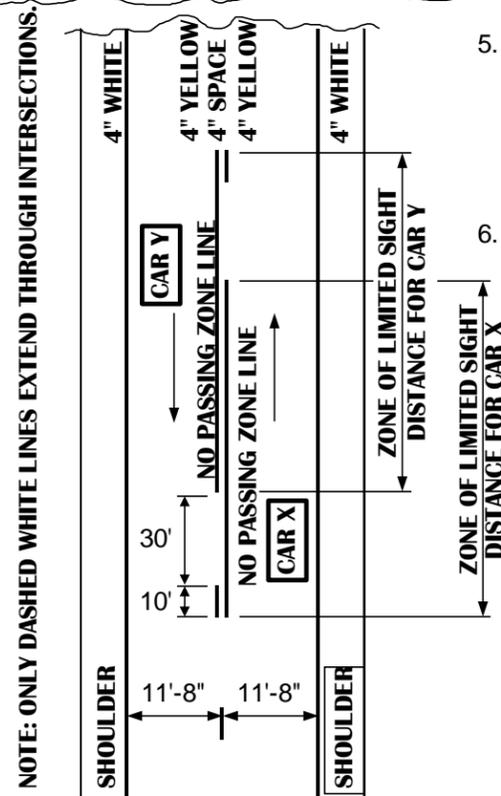
Four Lane Roadway (Rates for one line)	Two Lane Roadway
Solid Yellow Centerline Rate = 16.90 Gals./Pass-Mile	Yellow Centerline (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
Dashed White Laneline Rate = 4.60 Gals./Pass-Mile	Solid White Edgeline (Rate for one line) Rate = 16.90 Gals./Pass-Mile
Solid White Edgeline (Not applicable in curb & gutter section) Rate = 16.90 Gals./Pass-Mile	

4. Typical pavement marking as shown on this sheet shall be applied throughout the entire length of undivided roadway.

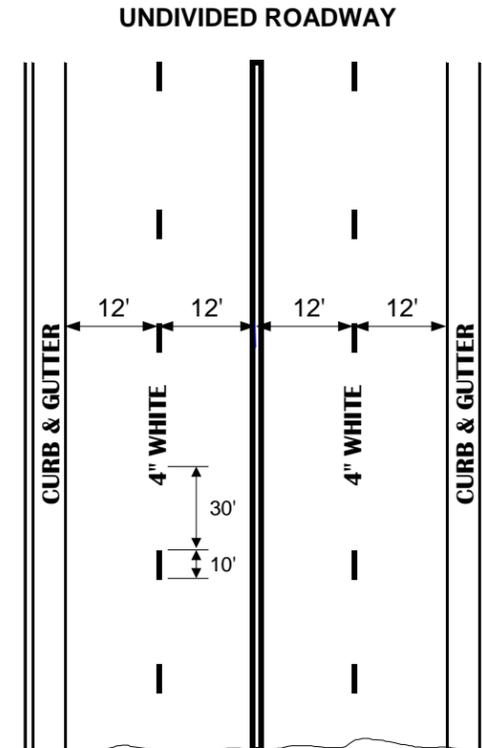
5. Exact location of NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending of NO PASSING ZONE lines.

6. Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

ESTIMATED QUANTITIES	
PAVEMENT MARKING PAINT	QUANTITY
WHITE	418.0 GALLONS
YELLOW	148.5 GALLONS
<b>TOTAL</b>	<b>566.5 GALLONS</b>



NOTE: ONLY DASHED WHITE LINES EXTEND THROUGH INTERSECTIONS.



1. Pavement marking paint and glass beads will be furnished and applied by the Contractor. Material shall meet the requirements of Section 980 and 981 of the Specifications. The bead application rate shall be 8 pounds/gallon of paint.
2. Construction requirements, methods of measurement and basis of payment shall conform to the requirements of Section 633 of the Specifications.

3. Approximate paint application rates shall be as follows:

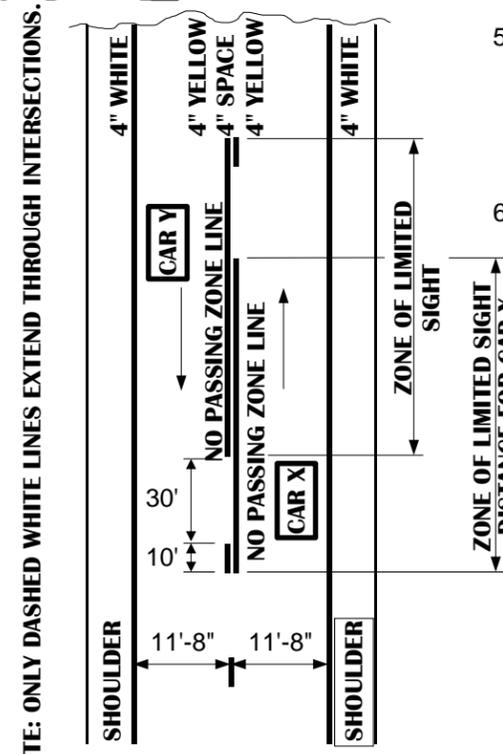
Four Lane Roadway (Rates for one line)	Two Lane Roadway
Solid Yellow Centerline Rate = 16.90 Gals./Pass-Mile	Yellow Centerline (Includes No Passing Zones) Rate = 12± Gals./Pass-Mile
Dashed White Laneline Rate = 4.60 Gals./Pass-Mile	Solid White Edgeline (Rate for one line) Rate = 16.90 Gals./Pass-Mile
Solid White Edgeline (Not applicable in curb & gutter section) Rate = 16.90 Gals./Pass-Mile	

4. Typical pavement marking as shown on this sheet shall be applied throughout the entire length of undivided roadway.

5. Exact location of NO PASSING ZONE lines will be determined in the field by the Engineer. A dash of white paint will mark the beginning and end of all no passing zones. NO PASSING ZONE signs and the ending post in fence lines, if present, shall not be used as the beginning and ending of NO PASSING ZONE lines.

6. Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

ESTIMATED QUANTITIES	
PAVEMENT MARKING PAINT	QUANTITY
WHITE	98.0 GALLONS
YELLOW	35.0 GALLONS
<b>TOTAL</b>	<b>133.0 GALLONS</b>



NOTE: ONLY DASHED WHITE LINES EXTEND THROUGH INTERSECTIONS.

# PROJECT SIGN TABULATION

Revised by JJR on 2/05/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	C4A	C10

## SIGN TABULATION P0073(68)0 PCN 04E1

SIGN CODE	DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	UNITS PER SIGN	UNITS
R1-1	STOP	4	30" x 30"	21	84
W1-3	REVERSE TURN (L or R)	2	48" x 48"	34	68
W3-1	STOP AHEAD (symbol)	4	48" x 48"	34	136
W8-11	UNEVEN LANES	6	48" x 48"	34	204
W13-1P	ADVISORY SPEED (plaque)	4	30" x 30"	21	84
W16-2P	___ FEET (supplemental distance plaque)	2	30" x 24"	18	36
W20-1	ROAD WORK AHEAD	8	48" x 48"	34	272
W20-4	ONE LANE ROAD AHEAD	6	48" x 48"	34	204
W20-7	FLAGGER (symbol)	2	48" x 48"	34	68
W21-5	SHOULDER WORK	4	48" x 48"	34	136
G20-1	ROAD WORK NEXT ___ MILES	2	36" x 18"	17	34
G20-2	END ROAD WORK	8	36" x 18"	17	136
-	TYPE 3 BARRICADE - 8' single sided	2		40	80
<b>TOTAL UNITS</b>					<b>1542</b>

## SIGN TABULATION 018-392 PCN i3MJ

### ITEMIZED LIST FOR TRAFFIC CONTROL

SIGN CODE	DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	UNITS PER SIGN	UNITS
W16-2P	___ FEET (supplemental distance plaque)	2	30" x 24"	18	36
W20-1	ROAD WORK AHEAD	2	48" x 48"	34	68
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	34	68
W20-7	FLAGGER (symbol)	2	48" x 48"	34	68
G20-2	END ROAD WORK	2	36" x 18"	17	34
<b>TOTAL UNITS</b>					<b>274</b>

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	F2	F34

Revised by JJR on 1/15/14  
 Revised by JJR on 1/23/15  
 Revised by JJR on 2/05/15  
 Revised by JJR on 2/13/15

**SECTION F ESTIMATE OF QUANTITIES**

**P 0073(65)9 – PCN 03AA**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS

**P 0073(68)0 – PCN 04E1**

Bid Item Number	Item	Quantity	Unit
009E0010	Mobilization	Lump Sum	LS
009E3210	Construction Staking	24.592	Mile
009E3300	Three Man Survey Crew	40.0	Hour
009E4200	Construction Schedule, Category II	Lump Sum	LS
110E0300	Remove Concrete Curb and Gutter	176	Ft
110E0730	Remove Beam Guardrail	856.0	Ft
110E1690	Remove Sediment	0.5	CuYd
110E1693	Remove Erosion Control Wattle	50	Ft
110E1700	Remove Silt Fence	120	Ft
110E7700	Remove Drop Inlet Frame and Grate Assembly for Reset	8	Each
120E0010	Unclassified Excavation	349	CuYd
120E0100	Unclassified Excavation, Digouts	618	CuYd
120E0600	Contractor Furnished Borrow	741	CuYd
230E0100	Remove and Replace Topsoil	Lump Sum	LS
260E1010	Base Course	2,439.9	Ton
260E1030	Base Course, Salvaged	1,114.9	Ton
270E0040	Salvage and Stockpile Asphalt Mix and Granular Base Material	856.2	Ton
320E7012	Grind 12" Rumble Strip or Stripe in Asphalt Concrete	24.6	Mile
330E0100	SS-1h or CSS-1h Asphalt for Tack	63.3	Ton
330E0210	SS-1h or CSS-1h Asphalt for Flush Seal	55.5	Ton
330E2000	Sand for Flush Seal	639.4	Ton
332E0010	Cold Milling Asphalt Concrete	5,467	SqYd
460E0380	Install Dowel in Concrete	24	Each
480E0200	Epoxy Coated Reinforcing Steel	596	Lb
600E0300	Type III Field Laboratory	1	Each
630E0110	Straight Double Class A Thrie Beam Guardrail with Wood Posts	100.0	Ft
630E1140	Straight Double Class A W Beam Guardrail with Wood Posts	850.0	Ft
630E2000	W Beam to Thrie Beam Guardrail Transition	8	Each
630E2015	W Beam Guardrail Flared End Terminal	8	Each
632E2220	Guardrail Delineator	24	Each
650E2100	Special Concrete Curb and Gutter	176	Ft
670E7000	Reset Drop Inlet Frame and Grate Assembly	8	Each
734E0010	Erosion Control	Lump Sum	LS
734E0154	12" Diameter Erosion Control Wattle	200	Ft
734E0165	Remove and Reset Erosion Control Wattle	50	Ft
734E0604	High Flow Silt Fence	480	Ft
734E0610	Mucking Silt Fence	33	CuYd
734E0620	Repair Silt Fence	120	Ft
831E0300	MSE Geotextile Fabric	1,998	SqYd
900E0010	Refurbish Single Mailbox	10	Each
900E0012	Refurbish Double Mailbox	3	Each
900E1980	Storage Unit	1	Each

**P 0073(68)0 – PCN 04E1 – Alternate A**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	1,786.4	Ton
320E1002	Class Q2 Hot Mixed Asphalt Concrete	31,699.8	Ton
320E4000	Hydrated Lime	316.2	Ton

**P 0073(68)0 – PCN 04E1 – Alternate B**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	1,607.8	Ton
320E1002	Class Q2 Hot Mixed Asphalt Concrete	32,436.9	Ton
320E4000	Hydrated Lime	316.8	Ton

**\*018-392 – PCN i3MJ – Alternate A**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	114.2	Ton
320E1410	Contractor Furnished and Placed Asphalt Concrete	2,003.6	Ton
320E4000	Hydrated Lime	20.0	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	8.3	Ton

\*Non-Participating

**\*018-392 – PCN i3MJ – Alternate B**

Bid Item Number	Item	Quantity	Unit
320E0007	PG 64-28 Asphalt Binder	99.2	Ton
320E1410	Contractor Furnished and Placed Asphalt Concrete	2,003.6	Ton
320E4000	Hydrated Lime	19.8	Ton
330E0100	SS-1h or CSS-1h Asphalt for Tack	8.3	Ton

\*Non-Participating

**SCOPE OF WORK**

The work required within this project includes, but is not limited to, the following items, not listed in order of execution.

1. Cold Milling Asphalt Concrete Transitions
2. Remove & Replace Topsoil
3. Remove Existing Guardrail
4. Remove Curb & Gutter
5. Bridge Approach Pavement Removal & Reconstruction
6. Construct Guardrail Embankment
7. Install New Guardrail
8. Place Class Q2 Hot Mixed Asphalt Concrete
9. Install Special Concrete Curb & Gutter
10. Refurbish Mailboxes
11. Contractor Furnished and Placed Asphalt Concrete
12. Rumble Stripe Installation
13. Apply Permanent Pavement Markings
14. Seed Disturbed Areas

The Contractor is encouraged to inspect the project site prior to bidding to evaluate the extent of work that will be required for construction.

**SHOULDER PREPARATION**

Prior to mainline and shoulder paving, the shoulders shall be broomed of all vegetation and loose/accumulated material to the satisfaction of the Engineer. Shoulder preparation shall not be measured for payment, and no separate payment will be made for this work. All costs associated with shoulder preparation shall be incidental to the various contract items.

The Contractor shall notify the Winner Area (605) 842-0810 at least two weeks prior to beginning work on project so SDDOT personnel can mow or spray along

the shoulder inslopes. The Department will not be responsible for the effectiveness of the mowing or spraying.

**UTILITIES**

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area through the SD Once Call Process as required by South Dakota Codified Law 49-7A and Administrative Rule Article 20:25, the Contractor shall contact the Engineer to determine modifications that will be necessary to avoid utility impacts.

**EXCAVATION OF UNSTABLE MATERIAL**

The locations and extent of digout areas will be determined in the field by the Engineer. The backfilling material for the digouts shall be Base Course.

Included in the Estimate of Quantities are 618 cubic yards of Unclassified Excavation – Digouts for the removal of unstable material throughout the project.

A copy of the surfacing/subgrade profile is available for review at the Pierre Region and Winner Area offices.

**UNCLASSIFIED EXCAVATION**

Unclassified Excavation will occur throughout the Approach Roadway Reconstruction Limits as detailed in the plans. The Contractor shall incorporate the bottom 2 inches of the Base Course layer into the unclassified excavation removal limits.

Unclassified Excavation material shall become the property of the Contractor for their disposal.

**CONTRACTOR FURNISHED BORROW**

The Contractor shall provide a suitable site for Contractor Furnished Borrow material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. Borrow material shall be utilized to construct the new guardrail embankment. The plans quantity for "Contractor Furnished Borrow" as shown in the Estimate of Quantities will be the basis of payment for this item.

Water for Embankment is estimated at the rate of 10.0 gallons of water per cubic yard of Embankment. For informational purposes only, an estimated 7.4 MGal is required to complete the work. Payment for Water for Embankment shall be incidental to bid item "Contractor Furnished Borrow".

Restoration of the Contractor furnished borrow site shall be the responsibility of the Contractor.

**GUARDRAIL EMBANKMENT**

Once the reconstruction of the guardrail embankment has begun, the Contractor shall maintain a 4:1 inslope from the edge of asphalt to the clear zone (30'). Beyond the clear zone, the Contractor shall maintain a 3:1 inslope until the new inslope ties into the existing inslope.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	F3	F34

**REMOVE BEAM GUARDRAIL**

The Contractor shall remove all guardrail posts, end terminals, footings, concrete anchor assemblies, and rail as shown on the plans.

All removed material (posts, blocks, railing, bolts, etc.) shall become the property of the Contractor and be removed from the project. Salvaged materials shall not be used in the construction of the new Steel Beam Guardrail.

**GUARDRAIL DELINEATORS**

The Contractor shall place guardrail delineators on all portions of guardrail. Furnishing and placing these reflectors shall be per standard plate 632.40. All costs for furnishing and installing guardrail delineation shall be incidental to the contract unit price per each for "Guardrail Delineator".

**SALVAGE & STOCKPILE ASPHALT MIX AND GRANULAR BASE MATERIAL**

Asphalt mix and granular base material shall be salvaged and stockpiled from the roadway as shown on the "Approach Pavement Removal/Reconstruction" sheets and/or as directed by the Engineer.

The material shall be used as Base Course, Salvaged without further testing or modifications.

All salvaged material generated within this Contract shall be hauled and stockpiled at a location determined by the Engineer.

It may be necessary to use special methods and equipment to remove the material as close as practical to the structure abutment/wing wall. Extreme care shall be taken during the removal process. Any damage to the existing appurtenances at the structures or the epoxy chip seal caused by this work shall be repaired to the satisfaction of the Engineer at no cost to the Department.

Proper drainage shall be maintained so water will not pond on the mainline subbase and/or subgrade embankment. Proper drainage will be to the satisfaction of the Engineer.

The bottom limit of removal shall not fall below the bottom two inches of the base layer above the subgrade. All material removed below this limit, if necessary, shall be removed as "Unclassified Excavation".

The quantity of salvage asphalt mix and granular base material may vary from the plans. No adjustment will be made to the contract unit price for variations of the quantity of "Salvage & Stockpile Asphalt Mix and Granular Base Material".

The estimated quantities (for informational purposes only) are shown on the "Table of Additional Quantities" sheet. All of the Salvaged Asphalt and Granular Base Material shall be exhausted on approaches.

**REMOVING, STOCKPILING, AND REPLACING TOPSOIL**

The Contractor will be required to remove and salvage 4 inches of the existing topsoil down a portion of the inslope throughout the entire length of the guardrail installation areas and at areas where the Engineer determines to be necessary based on the amount of disturbance to the existing topsoil due to the Contractor's operation.

The Contractor shall stockpile the material at a site approved by the Engineer, and/or windrow the material near the disturbed areas to control potential sediment runoff as determined by the Engineer.

The replacement of topsoil shall be spread evenly throughout all disturbed areas upon completion of the work. Any clumps larger than 3 inches shall be broken up prior to seeding the areas.

All topsoil removal, stockpiling, salvaging, windrowing, and replacement shall be done as according to the plans and/or as directed by the Engineer. All cost associated with removing, salvaging, stockpiling, windrowing, and replacing topsoil shall be incidental to the contract lump sum price for "Remove and Replace Topsoil".

Measurement of topsoil quantities will not be made; however for informational purposes only, the table below shows the estimated topsoil removal and replacement throughout the projects within this Contract.

**TABLE OF ESTIMATED TOPSOIL REMOVAL AND REPLACEMENT**

Location	Topsoil Removal & Replacement (CuYd)
Structure # 04-190-180 MRM 9.72	266
Structure # 04-197-215 MRM 6.28	183
Total:	449

**EROSION CONTROL**

The areas disturbed as a result of work on this project shall be restored and/or reshaped to the satisfaction of the Engineer. All disturbed areas shall be seeded and mulched. Disturbed areas anticipated on the project include embankment build-up areas throughout the guardrail installation limits and all other areas disturbed as a result of the Contractor's operations.

All permanent seed shall be planted in the topsoil at a depth of 1/4" to 1/2". Hand seeding devices approved by the Engineer will be allowed. All seed broadcast must be raked or dragged in (incorporated) within the top 1/4" to 1/2" of topsoil when possible. This requirement may be waived by the Engineer during construction when raking or dragging is deemed not feasible by conventional methods.

The varieties listed for the seed mixture are preferred varieties. Native harvest seed will be allowed.

Type F Permanent Seed Mixture shall consist of the following:

Grass Species	Variety	Pure Live Seed (PLS) (Pounds/Acre)
Western Wheatgrass	Flintlock, Rodan, Rosana	7
Green Needlegrass	Lodorm	4
Sideoats Grama	Butte, Killdeer, Pierre, Trailway	3
Little Bluestem or Buffalograss or Blue Grama	Badlands, Itasca, Bowie, Cody, Tatanka, Bad River, Willis	2
Regreen or QuickGuard: all year; Oats or Spring Wheat: April through May; Winter Wheat: August through November		10
Total:		26

It is estimated that 0.83 acres of disturbed area will require seeding and mulching. Limits of the work shall be determined by the Engineer at the time of Construction.

Bales with noxious weed contamination will be rejected and the Contractor will be required to remove the contaminated bales from the project.

Mulch shall be applied at a rate of 2 ton/acre.

Application of fertilizer will not be required on this project.

All costs associated with furnishing/placing the seed, mulch, and inoculum, along with all labor, equipment and incidental to the contract lump sum price for "Erosion Control".

**MYCORRHIZAL INOCULUM**

Mycorrhizal inoculum shall consist of mycorrhizal fungi spores and mycorrhizal fungi-infected root fragments in a solid carrier. The carrier may include organic materials, calcinated clay, or other materials consistent with application and good plant growth. The supplier shall provide certification of the fungal species claimed and the live propagule count. The inoculum shall include the following fungal species:

Glomus intraradices	25%
Glomus aggregatu	25%
Glomus mosseae	25%
Glomus etunicatum	25%

All seed shall be inoculated by the seed supplier with a minimum of 100,000 live propagules of mycorrhizal fungi per acre. All costs of inoculating the seed shall be incidental to the contract lump sum price for Erosion Control.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	F4	F34

**HIGH FLOW SILT FENCE**

The high flow silt fence fabric provided shall be from the approved product list. The approved product list for high flow silt fence may be viewed at the following internet site:

<http://sddot.com/business/certification/products/Default.aspx>

High flow silt fence shall be placed at the locations noted in the table and at locations that will minimize siltation of adjacent streams, lakes, dams, or drainage areas as determined by the Engineer during construction. Refer to Standard Plate 734.05 for details.

**TABLE OF HIGH FLOW SILT FENCE**

Station	Structure	Location (Creek/River)	Quantity (Ft)
150+55.50 to 158+59.50	04-190-180	Little White River	200
331+68.50 to 339+21.50	04-197-215	Lake Creek	200
		Additional Quantity:	80
		Total:	480

**MUCKING SILT FENCE**

Mucking silt fence shall consist of removing muck trapped by the silt fence and spreading the material evenly over the adjacent area to conform to the existing grade.

**REMOVE SILT FENCE**

Silt fence shall be removed when vegetation is established. Some or all of the silt fence may be left on the project until vegetation is established.

**REFURBISH MAILBOXES**

The Contractor shall reset the existing mailboxes on new posts with the necessary support hardware for single or double mailbox assemblies. The local Postmaster will determine the recommended mounting height of the mailboxes throughout the project. The Contractor shall coordinate with the Engineer on the proper postal representative to contact.

If large mailboxes are located at double mailbox installations, a single post may need to be used for the large mailbox.

All costs for removing existing mailboxes, providing temporary mailboxes, and resetting mailboxes with new posts and necessary support hardware shall be incidental to the contract unit price per each for "Refurbish Single Mailbox" or "Refurbish Double Mailbox".

**TABLE OF REFURBISH MAILBOX**

Station	L/R	Single (Each)	Double (Each)
26+74	R	1	-
27+53	R	1	-
38+08	R	1	-
79+83	R	1	-
109+16	R	1	-
169+19	R	1	-
196+35	R	1	2
250+34	R	1	1
345+41	L	1	-
375+27	L	1	-
Totals:		10	3

**MSE GEOTEXTILE FABRIC**

Seams in the geotextile shall be overlapped a minimum of 2 feet and shingled to prevent granular material being forced under the fabric. No equipment will be allowed on the geotextile until the granular material has been placed. Granular material shall be dumped, pushed into place, and compacted to specified density.

**Geotextile Specification:**

The geotextile will conform to the specification for Geotextiles and Impermeable Plastic Membrane, MSE Geotextile Fabric (Section 831.1 of the Specifications). The geotextile will be on the Approved Products List for this material or will be certified by the supplier to meet this specification prior to installation.

Geotextile will be paid for at the contract unit price per square yard for MSE Geotextile Fabric. Payment quantities will be based on area covered plus 15%. Overlaps are accounted for by the additional 15%. Payment will be full compensation for furnishing and installing the geotextile only.

**SAWING OF EXISTING ASPHALT CONCRETE**

Where new asphalt concrete is placed adjacent to existing asphalt concrete, the existing asphalt shall be sawed full depth to a true line with a vertical face. There will not be a separate payment made for sawing. All costs associated with sawing existing asphalt concrete shall be incidental to the various contract items.

**WATER FOR GRANULAR MATERIAL**

The moisture content for compaction of the Base Course and Base Course, Salvaged shall be approximately optimum moisture for the material or as directed by the Engineer. The quantity for Water for Granular Material is based on 4% of the quantity of the aforementioned material. All costs for furnishing and placing the water shall be incidental to the contract unit price per ton for the corresponding granular material.

**BASE COURSE**

Base Course will be furnished by the Contractor.

Base Course shall be needed for backfilling, digouts, approaches, and for constructing the Approach Roadway Reconstruction Limits throughout the project as detailed in the plans.

After removal of material throughout the Approach Roadway Reconstruction Limits, an inspection of the remaining subgrade shall be made. Areas of excess moisture shall be dried, loose material shall be removed, and disturbed areas shall be leveled and compacted to the satisfaction of the Engineer prior to placing Base Course.

Compaction shall be according to Section 260.3 A of the Specifications for constructing the aforementioned areas.

2,439.9 tons of base course material has been included for use as backfill for the Approach Roadway Reconstruction Limits, approaches, and digouts. All costs associated with the aforementioned work shall be incidental to the contract unit price per ton for "Base Course".

**BASE COURSE, SALVAGED**

Material obtained from Salvage and Stockpile Asphalt Mix and Granular Base Material and Cold Milling Transition operations shall be used as Base Course, Salvaged. Base Course, Salvaged material shall be placed on approaches and farm and field entrances. All the material shall be exhausted on approaches.

The Contractor will be allowed to blend the Cold Millings and Salvaged Asphalt Mix and Granular Base Material using a front end loader.

All costs associated with this work shall be incidental to the contract unit price per ton for "Base Course, Salvaged".

**COLD MILLING ASPHALT CONCRETE**

The Contractor shall remove a portion of the existing asphalt concrete surface as shown on the "Approach Pavement Removal/Reconstruction" sheets and/or as directed by the Engineer.

The Contractor shall utilize some of the generated cold milled material to construct a 20:1 temporary on/off transition from the finished grade of base course throughout each end of the Approach Roadway Reconstruction section prior to switching construction phases to allow a safe traveled way for the traveling public. This material shall be removed once paving commences. The material shall become the property of the Contractor once it is determined by the Engineer that it is no longer needed on the project. All costs associated constructing and removing the transitions shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

All cold milled material generated within this Contract, except for the material utilized for constructing the aforementioned transitions, shall be used as Base Course, Salvaged.

All vertical cuts from cold milling operations left and right of centerline shall be daylighted to the outside edge of the road as directed by the Engineer to allow surface water to be drained off the roadway.

After completion of the milling operation, the Contractor shall clean up and dispose of any remaining debris to the satisfaction of the Engineer.

All costs associated with cold milling asphalt concrete shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".

All cold milled material, except that utilized for the construction of the on/off transitions, shall be stockpiled with the Asphalt Mix and Granular Base Material.

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0, P 0073(65)9. & 018-392	F5	F34

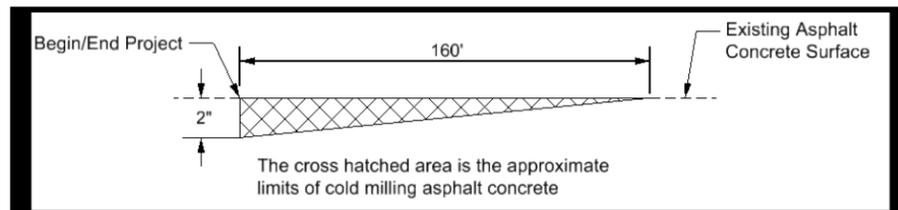
### COLD MILLING ASPHALT CONCRETE TRANSITIONS

In order to construct the new surfacing flush with the existing Asphalt Concrete Pavement at begin/end project and approach roadway reconstruction limits. It will be necessary to transition the depth of cold milling to the limits as shown in the layout below. The transition for the approach pavements can be seen "Approach Pavement Removal/Reconstruction" sheets.

The surface shall be cold milled full roadway width.

It is estimated that 258.7 tons of Cold Milling shall be stockpiled with Salvaged Asphalt Mix and Granular Base Material.

All costs associated with this work shall be incidental to the contract unit price per square yard for "Cold Milling Asphalt Concrete".



### ADDITIONAL QUANTITIES

Included in the Table of Additional Quantities for Alternate A is 300 tons of Class Q2 Hot Mixed Asphalt Concrete, 17.1 tons of PG 64-28 Asphalt Binder, and 3.0 ton of Hydrated Lime per mile and for Alternate B is 300 tons of Class Q2 Hot Mixed Asphalt Concrete, 15.0 tons of PG 64-28 Asphalt Binder, and 3.0 tons of Hydrated Lime per mile for spot leveling, strengthening and repair of the existing surface and shoulders throughout the project. Also included in the Table of Additional Quantities are 8.0 tons of SS-1h or CSS-1h Emulsified Asphalt for Tack for repair and leveling areas throughout the project. The Contractor shall be aware that approximately half this material shall be used in filling in wheel ruts. The aforementioned materials shall be placed as directed by the Engineer.

### SURFACING THICKNESS DIMENSIONS

Material will be placed evenly, at the rates shown in the plans, even though the thickness may vary from that shown on the typical section. At those locations where material must be placed to achieve a required elevation, quantities may be varied to achieve the required elevations, as approved by the Engineer.

### TYPE III FIELD LABORATORY

The lab shall be equipped with an internet connection such as DSL, cable modem, or other approved service. The internet connection shall be provided with a multi-port wireless router. The internet connection shall be a minimum speed of 512 Kb unless limited by job location and approved by the DOT. Prior to installing the wireless router the Contractor shall submit the wireless router's technical data to the Area Office to check for compatibility with the state's computer equipment. The internet connection is intended for state personnel usage only. The Contractor's personnel are prohibited from using the internet connection unless pre-approved by the Project Engineer.

The Contractor shall submit a copy of each monthly bill for calls charged to this phone at the end of each month. The Project Engineer will then audit the bills to ensure all calls are legitimate and then initiate a Construction Change Order

(CCO) to reimburse the Contractor for the actual phone calls made, including local and long distance calls. Reimbursement will not be made for fees associated with the purchase, installation, disconnection, monthly line charges, and incidentals involved in the installation, maintenance, and disconnection of the phone (including attachments). These items shall be incidental to the contract unit price per each for "Type III Field Laboratory".

### STORAGE UNIT

The Contractor shall provide a storage unit such as a portable storage container or a semi-trailer meeting the minimum size requirements from the table below:

Project Total Asphalt Concrete Tonnage	Minimum Internal Size (Cu Ft)	Minimum External Size (L x W x H)
Less than 50,000 ton	1,166	20' x 8' x 8.6' std
More than 50,000 ton	2,360	40' x 8' x 8.6' std
<b>All Gyratory Controlled QC/QA Projects</b>	<b>2,360</b>	<b>40' x 8' x 8.6' std</b>

The storage unit is intended for use only by the Engineer for the duration of the project. The QC lab personnel or the Contractor will not be allowed to use the storage container while it is on the project, without permission of the Engineer.

The storage unit shall be on site and operational prior to asphalt concrete production. Upon completion of asphalt concrete production, the Engineer will notify the Contractor when the storage unit can be removed from the project. The storage unit use will not exceed 30 calendar days from the completion of asphalt concrete production. The storage unit will remain the property of the Contractor.

The storage unit shall be weather proof and shall be set in a level position. The storage unit shall be able to be locked with a padlock.

The storage unit shall be placed adjacent to the QA lab, as approved by the Engineer.

The following shall apply when the storage unit provided on the project is a portable storage container:

1. The portable storage container shall be constructed of steel.
2. The portable storage container shall be set such that it is raised above the surrounding ground level to keep water from ponding under or around the storage container.

The following shall apply when the storage unit provided on the project is a semi-trailer:

1. A set of steps and hand railings shall be provided at the exterior door.
2. If the floor of the semi-trailer is 18 inches or more above the ground, a landing shall be constructed at the exterior door. The minimum dimensions for the landing shall be 4 feet by 5 feet. The top of the landing shall be level with the threshold or opening of the doorway.
3. The semi-trailer may be connected to the QA lab by a stable elevated walkway. The walkway shall be a minimum of 48 inches wide and contain handrails installed at 32 inches above the deck of the walkway. The walkway shall be constructed such that it is stable and the deck

does not deform during use and allows for proper door operation. Walkway construction shall be approved by the Engineer.

All cost for furnishing, maintaining, and removing the storage unit including labor, equipment, and materials including any necessary walkways, landings, stairways, and handrails shall be included in the contract unit price per each for "Storage Unit".

### CLASS Q2 HOT MIXED ASPHALT CONCRETE

Mineral Aggregate for Class Q2 Hot Mixed Asphalt Concrete - Alternate A shall conform to the requirements of the Special Provision for Gyratory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement.

Mineral Aggregate for Class Q2 Hot Mixed Asphalt Concrete - Alternate B shall consist of a minimum of 80 percent crushed limestone ledgerrock and shall conform to the requirements of the Special Provision for Gyratory Controlled Quality Control/Quality Assurance Hot Mixed Asphalt Concrete Pavement except for the following:

Voids in Mineral Aggregate (VMA):

	Minimum VMA (%):
Class Q2	13.0

All remaining requirements of the Special Provision shall apply.

The asphalt concrete on the shoulders will not be compacted to a specified density. The shoulders shall be compacted using the same rolling pattern used on the adjacent mainline asphalt concrete or as directed by the Engineer.

### FLUSH SEAL

Application of Flush Seal shall be completed within 10 working days following completion of the asphalt concrete surfacing.

### SAND FOR FLUSH SEAL

Sand for Flush Seal shall be furnished by the Contractor.

Sand for Flush Seal shall conform to the Specifications Section 879.1 B.

The spreading device placing the sand shall leave a gap of 6 inches each side of centerline, applicable lane lines and the edge-line to ensure a better bond between the pavement and the permanent pavement marking.

### RUMBLE STRIPES

The Contractor shall install rumble stripes as per standard plate shown in the plans. The rumble stripes must be grooved into the asphalt concrete surfacing. Following installation, the rumble stripes shall be flush sealed with SS-1h or CSS-1h Asphalt for Flush Seal.

If the flush seal is eliminated from the contract, the rumble stripes still shall be flush sealed.

All costs for installing the rumble stripes shall be paid for at the contract unit price per mile for "Grind 12" Rumble Strip or Stripe in Asphalt Concrete".

**REMOVAL AND INSTALLATION OF CONCRETE CURB AND GUTTER**

Additional Curb and Gutter Removal and Installation are shown where there is a drop inlet adjacent to a bridge end. The existing curb and gutter in some of these places has settled at a different rate than the drop inlet. Remove Concrete Curb and Gutter, Remove Drop Inlet Frame and Grate Assembly for Reset, Reset Drop Inlet Frame and Grate Assembly, Special Concrete Curb and Gutter, and dowel bar items are included for these locations to correct the problem. The locations for these items and actual length of curb and gutter removal and installation for this purpose shall be determined by the Engineer.

**INSTALLING DOWELS IN CONCRETE**

Holes drilled in the existing concrete shall be true and normal or as shown in the plans. Drilling holes using a core drill shall not be allowed. Care shall be taken not to damage the existing reinforcing steel. It is likely that some of the existing reinforcing steel may have been placed out of position during original construction. Therefore, prior to the start of drilling any holes in the concrete, an effort will be made by Department forces to mark on the concrete surface where practical any locations of the in-place reinforcing steel. In spite of this precaution, the Contractor can still expect to encounter and have to drill through reinforcing steel or shift the dowel spacing as approved by the Engineer to miss the existing reinforcing steel. If the Contractor shifts the dowel spacing, the unused drill holes shall be completely filled with the epoxy resin.

The epoxy resin mixture shall be of a type for bonding steel to hardened concrete and shall conform to AASHTO M235 Type IV, Grade 3 (Equivalent to ASTM C881, Type IV, Grade 3). Grade 1, 2 or 3 may be used for vertical dowels and Grade 3 epoxy shall be used for all horizontal dowels.

The diameter of the drilled holes shall not be less than 1/8 inch greater or more than 3/8 inch greater than the diameter of the dowel or as per the Manufacturer's recommendations. The drilled holes shall be blown out with compressed air using a device that will reach the back of the hole to ensure that all debris or loose material has been removed prior to epoxy injection.

Mix epoxy resin as recommended by the Manufacturer and apply by an injection method as approved by the Engineer. Beginning at the back of the drilled holes, fill the holes 1/3 to 1/2 full of epoxy, or as recommended by the Manufacturer, prior to insertion of the steel bar. Care shall be taken to prevent epoxy form running out of the horizontal holes prior to steel bar insertion. Rotate the steel bar during installation to eliminate voids to ensure complete bonding of the bar. Insertion of the bars by the dipping or painting method will not be allowed.

No loads shall be applied to the epoxy grouted dowel bars until the epoxy resin has had sufficient time to cure as specified by the epoxy resin manufacturer.

Dowel bars shall be deformed bars conforming to ASTM A615 Grade 60.

The cost of epoxy resin, dowels, installation and other incidental items shall be incidental to the contract unit price per each for "Install Dowel in Concrete".

**TABLE OF CONSTRUCTION STAKING**

(See Special Provision for Contractor Staking)

Roadway and Description	Begin Station	End Station	Number of Lanes	Length (Ft)	Construction Staking			
					Length (Mile)	Lane Factor	*Sets of Stakes	**Construction Staking Quantity (Mile)
SD 73 (2 Lanes Asphalt Concrete)	14+00.0	150+55.50	2	13,655.50	2.586	1	2	5.172
SD 73 (2 Lanes Asphalt Concrete)	150+55.50	153+59.50	2	304.00	0.058	1	2	.116
Structure 04-190-180	153+59.50	155+50.50	2	191.00	0.036	1	2	-
SD 73 (2 Lanes Asphalt Concrete)	155+50.50	158+54.50	2	304.00	0.058	1	2	.116
SD 73 (2 Lanes Asphalt Concrete)	158+54.50	331+68.50	2	17,314.00	3.279	1	2	6.558
SD 73 (2 Lanes Asphalt Concrete)	331+68.50	334+72.50	2	304.00	0.058	1	2	.116
Structure 04-197-215	334+72.50	336+17.50	2	145.00	0.027	1	2	-
SD 73 (2 Lanes Asphalt Concrete)	336+17.50	339+21.50	2	304.00	0.058	1	2	.116
SD 73 (2 Lanes Asphalt Concrete)	339+21.50	666+53.80	2	32,732.30	6.199	1	2	12.398
Totals:								24.592

\* Asphalt Concrete Pavement

\*\* Construction Staking Quantity = (Length) x (Lane Factor) x (Sets of Stakes)

**CONTRACTOR FURNISHED AND PLACED ASPHALT CONCRETE**

The Contractor Furnished Asphalt Concrete will be produced in accordance with the same specifications and job mix requirements as the Asphalt Concrete Class Q2 Hot Mixed Asphalt Concrete used on the SD 73 project. Exact locations shall be determined in the field by the Engineer.

All costs involved in producing and placing the asphalt concrete will be measured and paid for at the contract unit price per ton for "Contractor Furnished and Placed Asphalt Concrete".

**Alternate A:**

An estimated 2003.6 tons of Asphalt Concrete shall be produced and placed by the Contractor. Exact locations will be determined in the field by the Engineer.

An estimated 114.2 tons of PG 64-28 Asphalt Binder, to be used in the production of Contractor Furnished and Placed Asphalt Concrete, will be measured and paid for at the contract unit price per ton for "PG 64-28 Asphalt Binder".

An estimated 20.0 tons of Hydrated Lime for Asphalt Concrete, to be used in the production of Contractor Furnished and Placed Asphalt Concrete, will be measured and paid for at the contract unit price per ton for "Hydrated Lime".

An estimated 8.3 tons of Asphalt for Tack SS-1h or CSS-1h, for placement of Contractor Furnished and Placed Asphalt Concrete, will be measured and paid for at the contract unit price per ton for "SS-1h or CSS-1h Asphalt for Tack".

**Alternate B:**

An estimated 2003.6 tons of Asphalt Concrete shall be produced and placed by the Contractor. Exact locations will be determined in the field by the Engineer.

An estimated 99.2 tons of PG 64-28 Asphalt Binder, to be used in the production of Contractor Furnished and Placed Asphalt Concrete, will be measured and paid for at the contract unit price per ton for "PG 64-28 Asphalt Binder".

An estimated 19.8 tons of Hydrated Lime for Asphalt Concrete, to be used in the production of Contractor Furnished and Placed Asphalt Concrete, will be measured and paid for at the contract unit price per ton for "Hydrated Lime".

An estimated 8.3 tons of Asphalt for Tack SS-1h or CSS-1h, for placement of Contractor Furnished and Placed Asphalt Concrete, will be measured and paid for at the contract unit price per ton for "SS-1h or CSS-1h Asphalt for Tack".

Start MRM	Finish MRM	Length	Width	Tons
153.8	153.9	400.0	24	59.2
155.5	155.6	400.0	24	59.2
156.2	156.5	1650.0	24	244.2
162.2	163.9	8100.0	24	1198.8
169.1	169.3	1425.0	24	210.9
169.5	169.7	725.0	12	53.7
172.7	172.5	1400.0	12	103.6
173.5	173.7	1000.0	12	74.0

**FLEXIBLE PAVEMENT SMOOTHNESS SPECIAL PROVISION**

The following informational smoothness data for this project was collected on December 4<sup>th</sup>, 2014:

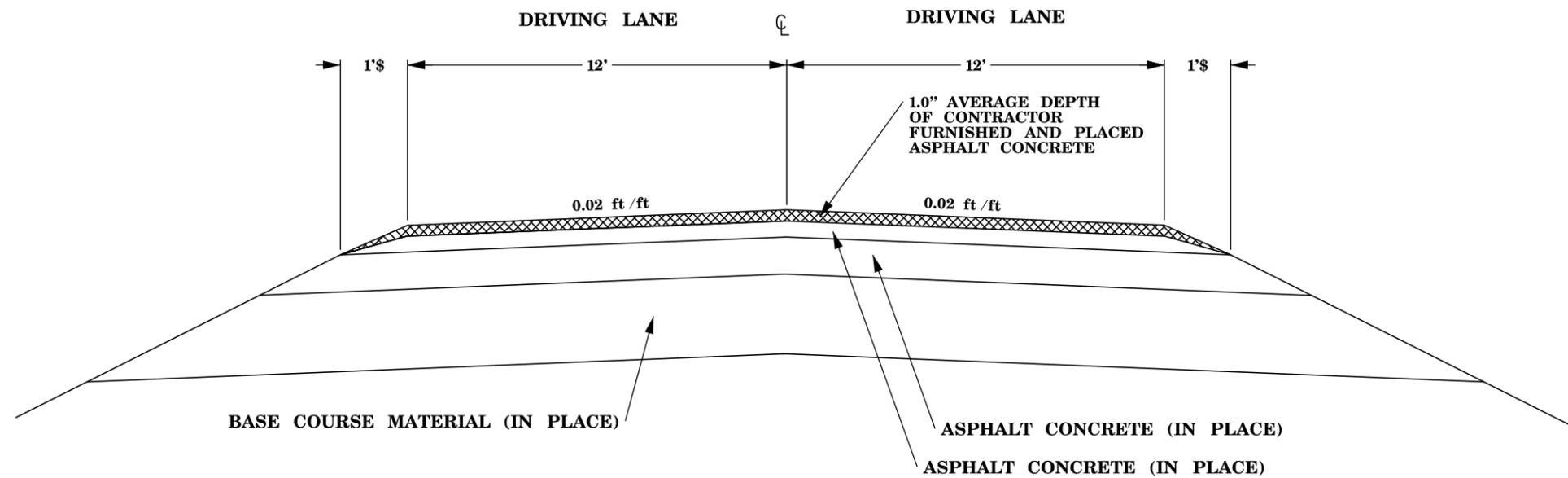
Lane Location:	Southbound Lane	Northbound Lane
<b>Max. 1/10 mile IRI (in/mi):</b>	179	153
<b>Min. 1/10 mile IRI (in/mi):</b>	76	65
<b>Average IRI (in/mi):</b>	99	97
<b>Standard Deviation (in/mi):</b>	17	16

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(65)9, & 018-392	F8A	F34

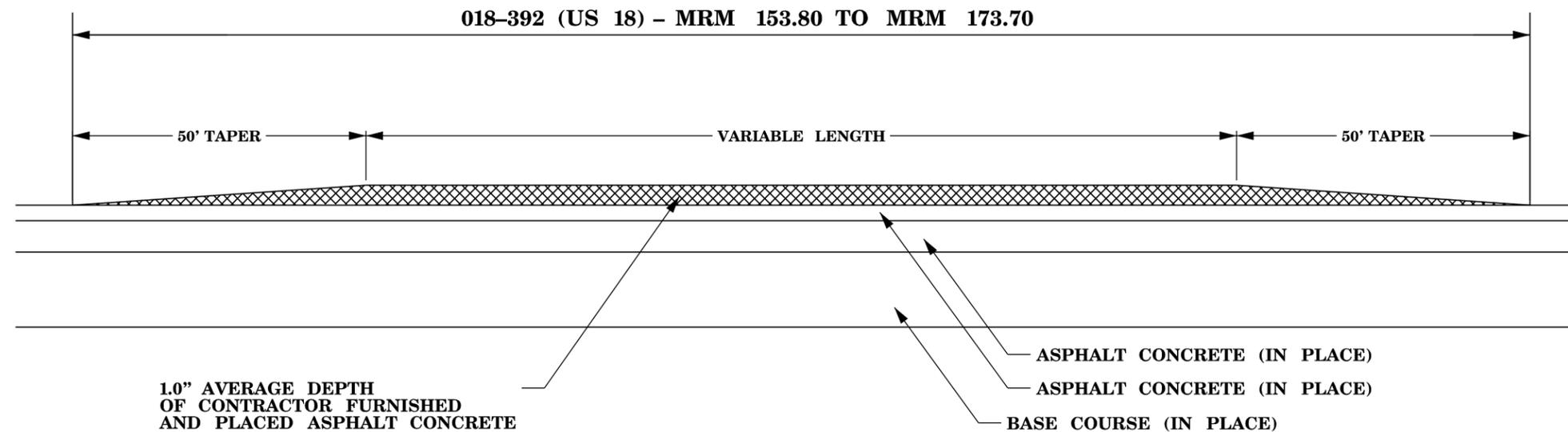
# TYPICAL SECTION

018-382 (US 18)

CONTRACTOR FURNISHED AND PLACED ASPHALT CONCRETE



**Note:**  
\$ symbol denotes a minimum of a 1 foot shoulder



SIDE VIEW

# RATES OF MATERIALS

Revised by JJR on 2/13/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0 & P 0073(65)9	F9	F34

**Note:** The Estimate of Quantities is based on the following quantities of material per mile for Section 1

## Section 1

**Station 14+00.00 to Station 150+55.50**  
**Station 158+54.50 to Station 331+68.50**  
**Station 339+21.50 to Station 666+53.80**

### Alternate A

#### Class Q2 Hot Mixed Asphalt Concrete (2" Lift)

Aggregate (100% Contractor Furnished)	2,058 Tons
PG 64-28 Asphalt Binder	124 Tons
<b>TOTAL MIX</b>	<b>2,182Tons</b>
Hydrated Lime	22 Tons
<b>TOTAL MIX WITH HYDRATED LIME</b>	<b>2,204 Tons</b>

The exact proportions of these materials will be determined on construction.

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 4.5 tons applied 36 feet wide for Section 1 (Rate = 0.05 gallon per square yard), prior to application of 2" Class Q2 Hot Mixed Asphalt Concrete.

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 4.0 ton applied 32 feet wide for Section 1 (Rate = 0.05 gallon per square yard).

Provide Sand for Flush Seal at the rate of 52 ton applied 22 feet wide for Section 1 (Rate = 8 pounds per square yard).

### Alternate B

#### Class Q2 Hot Mixed Asphalt Concrete (2" Lift)

Aggregate (100% Contractor Furnished)	2,128 Tons
PG 64-28 Asphalt Binder	112 Tons
<b>TOTAL MIX</b>	<b>2,240Tons</b>
Hydrated Lime	22 Tons
<b>TOTAL MIX WITH HYDRATED LIME</b>	<b>2,262 Tons</b>

The exact proportions of these materials will be determined on construction.

Provide SS-1h or CSS-1h Asphalt for Tack at the rate of 4.5 tons applied 36 feet wide for Section 1 (Rate = 0.05 gallon per square yard), prior to application of 2" Class Q2 Hot Mixed Asphalt Concrete.

### Flush Seal

Provide SS-1h or CSS-1h Asphalt for Flush Seal at the rate of 4.0 ton applied 32 feet wide for Section 1 (Rate = 0.05 gallon per square yard).

Provide Sand for Flush Seal at the rate of 52 ton applied 22 feet wide for Section 1 (Rate = 8 pounds per square yard).

# TABLE OF PROJECT STATIONING AND MATERIAL QUANTITIES

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0 & P 0073(65)9	F10	F34

## PROJECT STATIONING

Revised by JJR on 2/13/15

SECTION	STATION	TO	STATION	DESCRIPTION	RESURFACING LENGTHS	STRUCUTRE LENGTHS	GROSS PROJECT LENGTHS
1	<b>Begin Project</b>		14+00.00	to	150+55.50		
Approach Pavement			150+55.50	to	153+59.50		
Structure			153+59.50	to	155+50.50		
Approach Pavement			155+50.50	to	158+54.50		
1			158+54.50	to	331+68.50		
Approach Pavement			331+68.50	to	334+72.50		
Structure			334+72.50	to	336+17.50		
Approach Pavement			336+17.50	to	339+21.50		
1			339+21.50	to	666+53.80		<b>End Project</b>
<b>TOTALS =</b>					64917.80'	336.00'	65253.80'
					<b>12.295 Miles</b>	<b>0.064 Miles</b>	<b>12.359 Miles</b>

## MATERIAL QUANTITIES

Description	(For Info Only) Water For Granular Material (MGal)	Cold Milling Asphalt Concrete (SqYd)	Unclassified Excavation (CuYd)	Contractor Furnished Borrow (CuYd)	Salvage & Stockpile Asphalt Mix & Granular Base Material (Ton)	Base Course, Salvaged (Ton)	Base Course (Ton)	MSE Geotextile Fabric (SqYd)	ALT A	ALT B	ALT A	ALT B	ALT A	ALT B	SS-1h or CSS-1h Asphalt For Tack (Ton)	SS-1h or CSS-1h Asphalt For Flush Seal (Ton)	Sand For Flush Seal (Ton)
									Class Q2 Hot Mixed Asphalt Concrete (Ton)	Class Q2 Hot Mixed Asphalt Concrete (Ton)	PG 64-28 Asphalt Binder (Ton)	PG 64-28 Asphalt Binder (Ton)	Hydrated Lime (Ton)	Hydrated Lime (Ton)			
Section 1	-	0	-	-	-	-	-	-	26,591.3	27,291.0	1,496.1	1,351.3	265.4	265.4	54.3	54.3	627.4
Table of Additional Quantities Totals =	22.8	5,467	349	741	856.2	1,114.9	2,439.9	1,998	5,108.5	5,145.9	290.3	256.5	50.8	51.4	9.0	1.2	12.0
<b>TOTALS =</b>	<b>22.8</b>	<b>5,467</b>	<b>349</b>	<b>741</b>	<b>856.2</b>	<b>1,114.9</b>	<b>2,439.9</b>	<b>1,998</b>	<b>31,699.8</b>	<b>32,436.9</b>	<b>1,786.4</b>	<b>1,607.8</b>	<b>316.2</b>	<b>316.8</b>	<b>63.3</b>	<b>55.5</b>	<b>639.4</b>

# TABLE OF ADDITIONAL QUANTITIES

Revised by JJR on 2/13/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0 & P 0073(65)9	F11	F34

Description	(For Info Only) Water For Granular Material (MGal)	Cold Milling Asphalt Concrete (SqYd)	Unclassified Excavation, Digouts (CuYd)	Unclassified Excavation (CuYd)	Contractor Finished Borrow (CuYd)	Salvage & Stockpile Asphalt Mix & Granular Base Material (Ton)	Base Course, Salvaged (Ton)	Base Course (Ton)	MSE Geotextile Fabric (SqYd)	ALTA Class Q2 Hot Mixed Asphalt Concrete (Ton)	ALT B Class Q2 Hot Mixed Asphalt Concrete (Ton)	ALTA PG 64-28 Asphalt Binder (Ton)	ALT B PG 64-28 Asphalt Binder (Ton)	ALTA Hydrated Lime (Ton)	ALT B Hydrated Lime (Ton)	SS-1h or CSS-1h Asphalt For Tack (Ton)	SS-1h or CSS-1h Asphalt For Flush Seal (Ton)	Sand For Flush Seal (Ton)
<b>Asphalt to End of ROW</b>																		
4 Intersecting Road Entrances Sta. 52+54 Lt, Sta. 196+37 Lt & Rt, Sta. 374+67 Lt	0.1	-	-	-	-	-	-	-	-	75.1	77.2	4.2	3.8	0.7	0.8	0.1	-	-
9 Driveways Sta. 14+00 Lt, Sta. 26+14 Lt, Sta 33+00 Lt, Sta. 41+98 Lt, 55+18 Lt, Sta. 84+80 Lt, Sta. 108+19 Rt, Sta. 147+26 Rt, Sta. 236+86 Lt	0.1	-	-	-	-	-	-	-	-	169.1	173.6	9.5	8.6	1.7	1.7	0.1	-	-
<b>Asphalt to End of Radius/Base Course, Salvaged Asphalt Mix to ROW</b>																		
7 Driveways Sta. 37+76 Rt, Sta. 75+40 Lt, Sta. 76+99 Lt, Sta. 105+44 Lt, Sta. 169+12 Lt, Sta. 249+85.76 Lt, Sta. 378+58 Lt	0.3	-	-	-	-	-	32.7	-	-	84.1	85.4	4.7	4.2	0.8	0.9	0.2	-	-
<b>Farm &amp; Field Entrances</b>																		
76 Farm & Field Entrances	10.4	-	-	-	-	-	1082.2	57.8	-	-	-	-	-	-	-	-	-	-
<b>Reconstruct Approach at Structure 04-190-180</b>																		
Begin Bridge - Sta. 150+55.5 to Sta. 153+59.5	-	1041	-	81	597	208.0	-	278.4	488	273.9	281.3	15.5	13.9	2.7	2.8	0.1	0.3	3.0
End Bridge - Sta. 155+50.5 to Sta. 158+54.50	-	1052	-	95	49	198.1	-	294.2	504	245.8	252.4	13.9	12.5	2.4	2.5	0.1	0.3	3.0
<b>Reconstruct Approach at Structure 04-197-215</b>																		
Begin Bridge - Sta. 331+68.50 to Sta. 334+72.50	-	1008	-	77	14	219.3	-	271.2	504	287.0	294.8	16.2	14.6	2.8	2.9	0.1	0.3	3.0
End Bridge - Sta. 336+17.50 to Sta. 339+21.50	-	1050	-	96	81	230.8	-	302.4	503	285.0	292.7	16.1	14.5	2.8	2.9	0.1	0.3	3.0
<b>Spot Leveling, Strengthening, &amp; Repair</b>	-	-	-	-	-	-	-	-	-	3688.5	3688.5	210.2	184.4	36.9	36.9	8.0	-	-
<b>Cold Milling Transitions at Begin/End Project</b>	-	1316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Backfill for Digouts</b>	11.9	-	618	-	-	-	-	1235.9	-	-	-	-	-	-	-	-	-	-
<b>TOTALS =</b>	<b>22.8</b>	<b>5,467</b>	<b>618</b>	<b>349</b>	<b>741</b>	<b>856.2</b>	<b>1,114.9</b>	<b>2,439.9</b>	<b>1998</b>	<b>5,108.5</b>	<b>5,145.9</b>	<b>290.3</b>	<b>256.5</b>	<b>50.8</b>	<b>51.4</b>	<b>9.0</b>	<b>1.2</b>	<b>12.0</b>

\* Note ~ All Class Q2 Hot Mixed Asphalt Concrete shall be with "Specified Density Compaction".  
 Quantities for Base Course, Salvage and Base Course to be placed on farm & field entrances that are to only have asphalt pads were calculated using 15 tons per entrance.  
 All Base Course, Salvaged Material shall be exhausted on the project.  
 Tonnage shown in the tables above for Class Q2 Hot Mixed Asphalt Concrete is based on a compacted depth as detailed in the plans.

# SUMMARY OF ASPHALT CONCRETE

Revised by JJR on 2/13/15

STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS
S.D.	P 0073(68)0 & P 0073(65)9	F12	F34

Location	<u>ALT A</u> Class Q2 Hot Mixed Asphalt Concrete With Specified Density Compaction (Ton)	<u>ALT A</u> Class Q2 Hot Mixed Asphalt Concrete Without Specified Density Compaction (Ton)	<u>ALT B</u> Class Q2 Hot Mixed Asphalt Concrete With Specified Density Compaction (Ton)	<u>ALT B</u> Class Q2 Hot Mixed Asphalt Concrete Without Specified Density Compaction (Ton)
<b>Section 1</b>				
24' Finished Roadway Width	19,044.3	-	19,559.0	-
4' Finished Shoulder w/ 1.5' Bevel	-	7,547.0	-	7,732.0
<b>Section 1 Totals =</b>	19,044.3	7,547.0	19,559.0	7,732.0
<b>Table of Additional Quantities Totals =</b>	360.0	4,748.5	360.0	4,785.9
<b>TOTALS =</b>	<b>19,404.3</b>	<b>12,295.5</b>	<b>19,919.0</b>	<b>12,517.9</b>