Job No.: JST0047
Route: I-49 OR, K, U, T
County: Barton, Jasper, Lawrence

JOB SPECIAL PROVISIONS TABLE OF CONTENTS

(Job Special Provisions shall prevail over General Provisions whenever in conflict therewith.)

Job No.: JST0047
Route: I-49 OR, K, U, T
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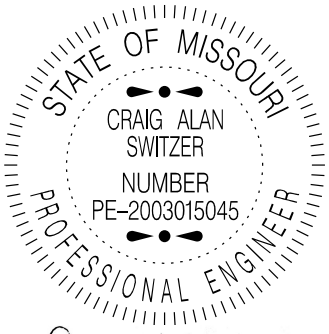


09/07/2023 2:07:01 PM
CRAIG ALAN SWITZER - CIVIL
MO-PE-2003015045

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION
105 W. CAPITOL AVE.
JEFFERSON CITY, MO 65102
Phone 1-888-275-6636

If a seal is present on this sheet, JSP's have been electronically sealed and dated.

JOB NUMBER: JST0047
BARTON, JASPER, LAWRENCE COUNTY, MO
DATE PREPARED: 7/31/2023

ADDENDUM DATE:

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: ALL

Job No.: JST0047
Route: I-49 OR, K, U, T
County: Barton, Jasper, Lawrence

JOB
SPECIAL PROVISION

A. General – State JSP-09-02J

1.0 Description. The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

1.1 This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT", "Contractor Resources". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

1.2 The following documents are available on the Missouri Department of Transportation web page at www.modot.org under "Doing Business with MoDOT"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to July 2023 Missouri Standard Plans
For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

B. Contract Liquidated Damages

1.0 Description. Liquidated Damages for failure or delay in completing the work on time for this contract shall be in accordance with Sec 108.8. The liquidated damages include separate amounts for road user costs and contract administrative costs incurred by the Commission.

2.0 Period of Performance. Prosecution of work is expected to begin on the date specified below in accordance with Sec 108.2. Regardless of when the work is begun on this contract, all work on all projects (job numbers) shall be completed on or before the Contract Completion date specified below. Completion by this date shall be in accordance with the requirements of Sec 108.7.1.

Notice to Proceed Date: December 4, 2023
Contract Completion Date: November 1, 2024

2.1 Calendar Days. The count of calendar days will begin on the date the contractor starts any construction operations on the project.

Job Number	Calendar Days	Daily Road User Cost
JST0047	N/A	N/A

3.0 Liquidated Damages for Contract Administrative Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged contract administrative liquidated damages in accordance with Sec 108.8 in the amount of **$1,500** per calendar day for each calendar day, or partial day thereof, that the work is not fully completed. For projects in combination, these damages will be charged in full for failure to complete one or more projects within the above specified contract completion date or calendar days.

4.0 Liquidated Damages for Road User Costs. Should the contractor fail to complete the work on or before the contract completion date specified in Section 2.0, or within the number of calendar days specified in Section 2.1, whichever occurs first, the contractor will be charged road user costs in accordance with Sec 108.8 in the amount specified in Section 2.1 for each calendar day, or partial day thereof, that the work is not fully completed. These damages are in addition to the contract administrative damages and any other damages as specified elsewhere in this contract.

C. Work Zone Traffic Management

1.0 Description. Work zone traffic management shall be in accordance with applicable portions of Division 100 and Division 600 of the Standard Specifications, and specifically as follows.

1.1 Maintaining Work Zones and Work Zone Reviews. The Work Zone Specialist (WZS) shall maintain work zones in accordance with Sec 616.3.3 and as further stated herein. The WZS shall coordinate and implement any changes approved by the engineer. The WZS shall ensure all traffic control devices are maintained in accordance with Sec 616, the work zone is operated within the hours specified by the engineer, and will not deviate from the specified hours without prior approval of the engineer. The WZS is responsible to manage work zone delay in accordance with these project provisions. When requested by the engineer, the WZS shall submit a weekly report that includes a review of work zone operations for the week. The report shall identify any problems encountered and corrective actions taken. Work zones are subject to unannounced inspections by the engineer and other departmental staff to corroborate the validity of the WZS's review and may require immediate corrective measures and/or additional work zone monitoring.

1.2 Work Zone Deficiencies. Failure to make corrections on time may result in the engineer suspending work. The suspension will be non-excusable and non-compensable regardless of if road user costs are being charged for closures.

2.0 Traffic Management Schedule.

2.1 Traffic management schedules shall be submitted to the engineer for review prior to the start of work and prior to any revisions to the traffic management schedule. The traffic management schedule shall include the proposed traffic control measures, the hours traffic control will be in place, and work hours.

2.2 The traffic management schedule shall conform to the limitations specified in Sec 616 regarding lane closures, traffic shifts, road closures and other width, height and weight restrictions.

2.3 The engineer shall be notified as soon as practical of any postponement due to weather, material or other circumstances.

2.4 In order to ensure minimal traffic interference, the contractor shall schedule lane closures for the absolute minimum amount of time required to complete the work. Lanes shall not be closed until material is available for continuous construction and the contractor is prepared to diligently pursue the work until the closed lane is opened to traffic.

2.5 Traffic Congestion. The contractor shall, upon approval of the engineer, take proactive measures to reduce traffic congestion in the work zone. The contractor shall immediately implement appropriate mitigation strategies whenever traffic congestion reaches an excess of 10 minutes to prevent congestion from escalating to 15 minute or above threshold. If disruption of the traffic flow occurs and traffic is backed up in queues of 15 minute delays or longer, then the contractor shall immediately review the construction operations which contributed directly to disruption of the traffic flow and make adjustments to the operations to prevent the queues from reoccurring. Traffic delays may be monitored by physical presence on site or by utilizing real-time travel data through the work zone that generate text and/or email notifications where available. The engineer monitoring the work zone may also notify the contractor of delays that require prompt mitigation. The contractor may work with the engineer to determine what other alternative solutions or time periods would be acceptable.

2.5.1 Traffic Safety.

2.5.1.1 Recurring Congestion. Where traffic queues routinely extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway, the contractor shall extend the advance warning area, as approved by the engineer.

2.5.1.2 Non-Recurring Congestion. When traffic queues extend to within 1000 feet of the ROAD WORK AHEAD, or similar, sign on a divided highway or to within 500 feet of the ROAD WORK AHEAD, or similar, sign on an undivided highway infrequently, the contractor shall deploy a means of providing advance warning of the traffic congestion, as approved by the engineer. The warning location shall be no less than 1000 feet and no more than 0.5 mile in advance of the end of the traffic queue on divided highways and no less than 500 feet and no more than 0.5 mile in advance of the end of the traffic queue on undivided highways.

3.0 Work Hour Restrictions.

3.1 Except for emergency work, as determined by the engineer, and long term lane closures required by project phasing, all lanes shall be scheduled to be open to traffic during the five major holiday periods

shown below, from 12:00 noon on the last working day preceding the holiday until 6:00 a.m. on the first working day subsequent to the holiday unless otherwise approved by the engineer.

Memorial Day
Labor Day
Thanksgiving
Christmas
New Year's Day

3.1.1 Independence Day. The lane restrictions specified in Section 3.1 shall also apply to Independence Day, except that the restricted periods shall be as follows:

When Independence Day falls on:	The Holiday is Observed on:	Halt Lane Closures beginning at:	Allow Lane Closures to resume at:
Sunday	Monday	Noon on Friday	6:00 a.m. on Tuesday
Monday	Monday	Noon on Friday	6:00 a.m. on Tuesday
Tuesday	Tuesday	Noon on Monday	6:00 a.m. on Wednesday
Wednesday	Wednesday	Noon on Tuesday	6:00 a.m. on Thursday
Thursday	Thursday	Noon on Wednesday	6:00 a.m. on Friday
Friday	Friday	Noon on Thursday	6:00 a.m. on Monday
Saturday	Friday	Noon on Thursday	6:00 a.m. on Monday

3.2 The contractor shall not perform any construction operation on the roadway, roadbed or active lanes, including the hauling of material within the project limits, during restricted periods, holiday periods or other special events specified in the contract documents.

4.0 Detours and Lane Closures.

4.1 When a changeable message sign (CMS) is provided, the contractor shall use the CMS to notify motorists of future traffic disruption and possible traffic delays one week before traffic is shifted to a detour or prior to lane closures. The CMS shall be installed at a location as approved or directed by the engineer. If a CMS with Communication Interface is required, then the CMS shall be capable of communication prior to installation on right of way. All messages planned for use in the work zone shall be approved and authorized by the engineer or its designee prior to deployment. When permanent dynamic message signs (DMS) owned and operated by MoDOT are located near the project, they may also be used to provide warning and information for the work zone. Permanent DMS shall be operated by the TMC, and any messages planned for use on DMS shall be approved and authorized by the TMC at least 72 hours in advance of the work.

4.2 At least one lane of traffic in each direction shall be maintained at all times except for brief intervals of time required when the movement of the contractor's equipment will seriously hinder the safe movement of traffic. Periods during which the contractor will be allowed to interrupt traffic will be designated by the engineer.

5.0 Basis of Payment. No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract document. All authorized changes in the traffic control plan shall be provided for as specified in Sec 616.

D. Emergency Provisions and Incident Management – SW

1.0 The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The resident engineer's office shall also be notified when the contractor requests emergency assistance.

2.0 In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

Missouri Highway Patrol – Troop D: 417-895-6868	
MoDOT Customer Service: 417-895-7600	
Barton County Sheriff (417) 682-5541	Barton County Office of Emergency Management (417) 682-2201
Jasper County Sheriff (417) 358-8177	Jasper County Office of Emergency Management (417) 624-0820
Lawrence County Sheriff (417) 466-2131	Lawrence County Office of Emergency Management (417) 461-1077

Emergency Only Numbers
911 *55 cell phone – Missouri Highway Patrol 417-864-1160 – MoDOT Incident Management Coordinator

2.1 This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.

2.2 The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.

3.0 No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

E. Project Contact for Contractor/Bidder Questions

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below.

Craig Switzer, Project Contact
Southwest District
2915 Doughboy Drive
Joplin, MO 64804

Telephone Number: 417-621-6331
Email: Craig.Switzer@modot.mo.gov

All questions concerning the bid document preparation can be directed to the Central Office – Design at (573) 751-2876.

F. Add Alternate Sections

1.0 Description. This project requires bidders to bid on additional contract work that will be considered for award. The award of this project does not guarantee work for the add alternate sections.

Routes	Proposal Section Description
Outer Road I-49	Base
Route K	Add Alternate A
Route U (LM 0.000 to LM 4.128)	Add Alternate B
Route U (LM 4.835 to LM 10.474)	Add Alternate C
Route T	Add Alternate D

Note: See plans for a breakdown of all quantities for each add alternate section.

2.0 Consideration of Bids. The contractor shall submit a bid for each add alternate section. The Commission reserves the right to award, to the lowest responsible bidder, the combination of add alternate sections that will allow the most work to be completed within the Commission's budget.

1. Base + Add Alt A + Add Alt B + Add Alt C + Add Alt D
2. Base + Add Alt A + Add Alt B + Add Alt C
3. Base + Add Alt A + Add Alt B
4. Base + Add Alt A
5. Base

2.1 Budget. The Commission will award the necessary add alternate sections of projects in order to meet its budget of $17,071,000.00 committed for the following contracts:

Contract Number	Job Number
230818-G02	**JST0044**
230915-G08	**JST0045**
230915-G09	**JST0046**
231020-G06	**JST0047**

2.2 The Commission reserves the right to award the combination of highest priority add alternate sections over the Commission's budget as long as the low bidder does not change and the award of the combination of highest priority alternate sections does not exceed more than ten percent or $250,000 of the Commission's budget, whichever is less.

2.3 The Commission's budget is the basis for award of add alternates but not the basis for award of the base section. The base section of the contract will be awarded or rejected in accordance with Sec 100.

2.4 The awarded bidder will be notified, on MoDOT's website, of the Commission's selection of the combination of add alternate sections to be awarded the day of the Commission meeting.

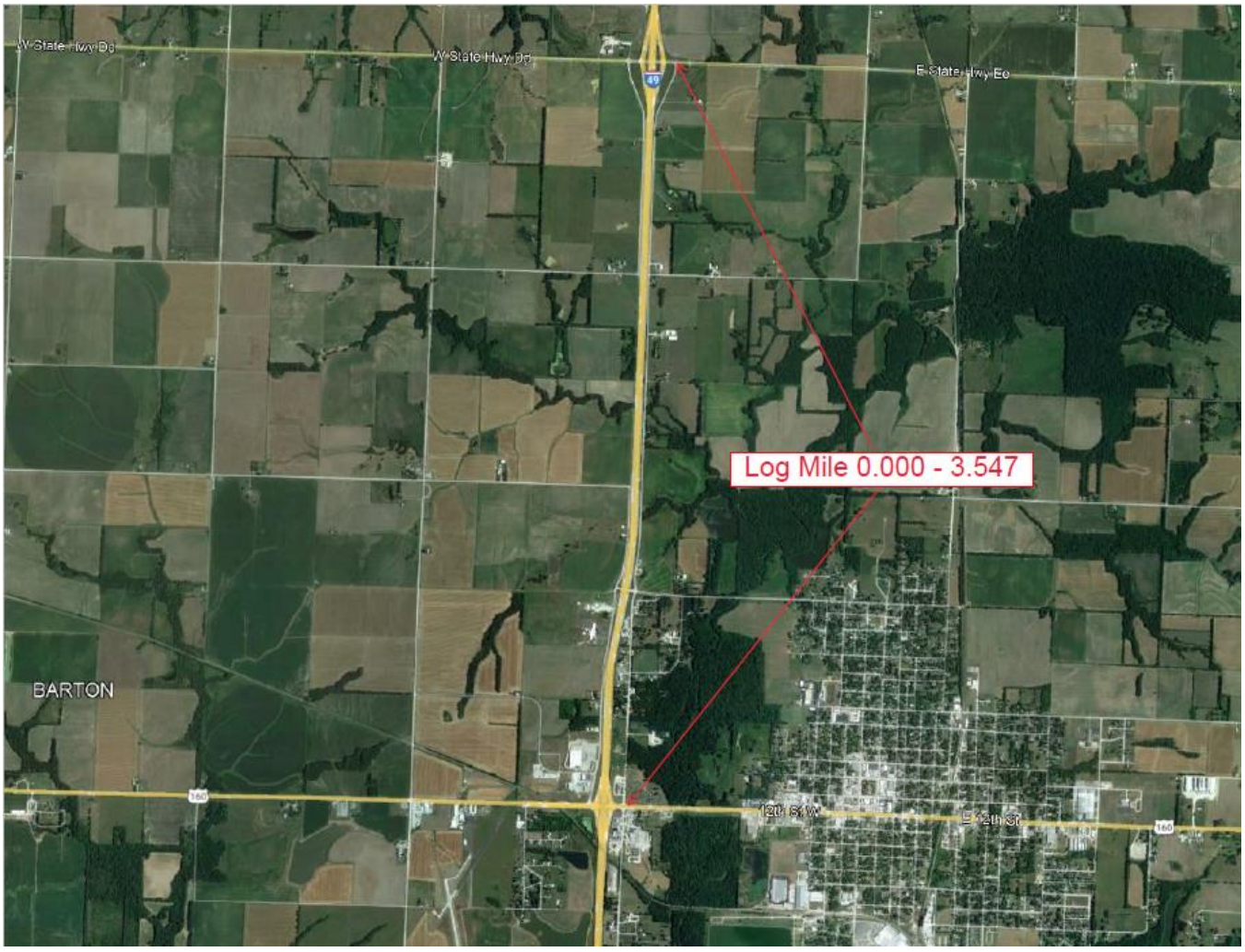
3.0 Bid Bond Requirements. The contractor shall be required to obtain a bid bond for 5% of the total bid amount for the base bid and all add alternates. This bid bond will be considered applicable to the proposed work for any option.

4.0 Basis of Payment. The accepted quantities of the chosen combination of base plus add alternate sections will be paid for by the contract unit bid price for item numbers found within the schedule of items for each section.

G. Project Details and Quantities – Barton County Outer Road 49 (Base)

1.0 Description. This project consists of 1.5” coldmilling and placing 1.5" Bituminous Pavement Mixture PG64-22 BP-2 as described here in. The project limits are from Log Mile 0.000 to Log Mile 3.547. The total length of pavement limits are 3.547 miles with a total average width of 22 feet. Lane width noted is typical lane width. Adjust paving widths to existing field conditions. Pavement will not be placed at the following exception locations listed below:

NONE

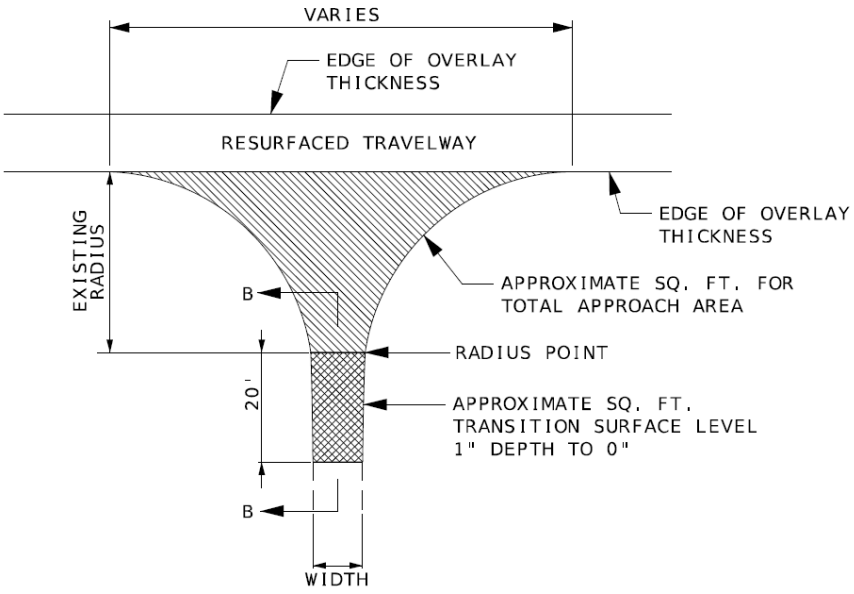


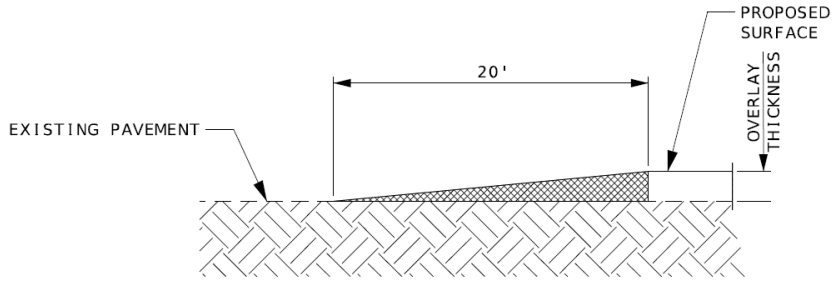
2.0 Mix and Pavement Transitions.

2.1 1.5” coldmilling shall be performed and 1.5" Bituminous Pavement Mixture PG64-22 BP-2 pavement shall be placed the entire width of the lanes, one pass per lane with no superelevation correction. Tack coat shall be applied at the rate of 0.1 gal/yd^2 across the entire width of the traveled way for the length of the coldmilling and pavement limits.

2.2 Modified coldmilling depth transitions will not be required, as the entire length of the project will be a 1.5” mill and fill.

2.3 Coldmilling and pavement tapers at intersecting state routes will vary. See quantities for the approximate paved approach and coldmilling areas (see transition area details below).

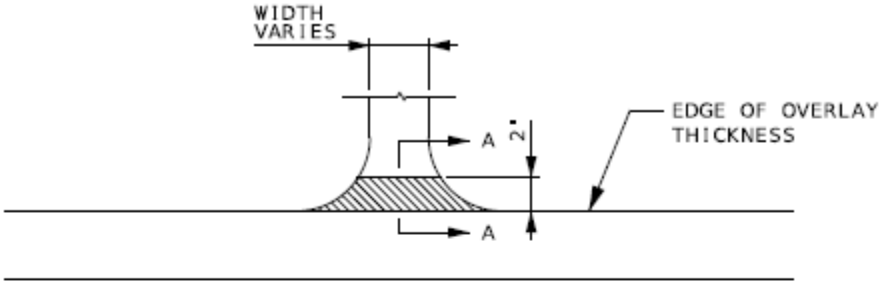


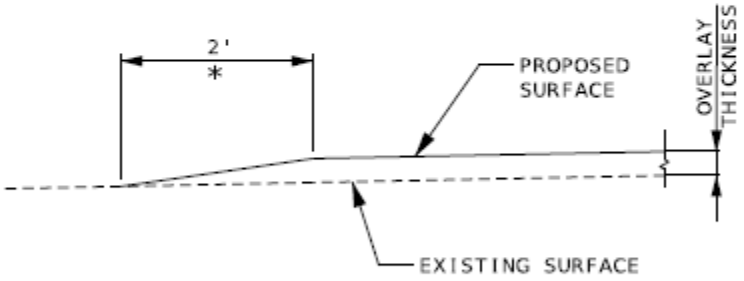


SECTION B-B

TYPICAL STATE ROUTE JUNCTION
(COLD MIX ROUTE TRANSITION)

2.4 The bituminous pavement shall be tapered at entrances and non-state routes (see pavement taper details below).





SECTION A-A

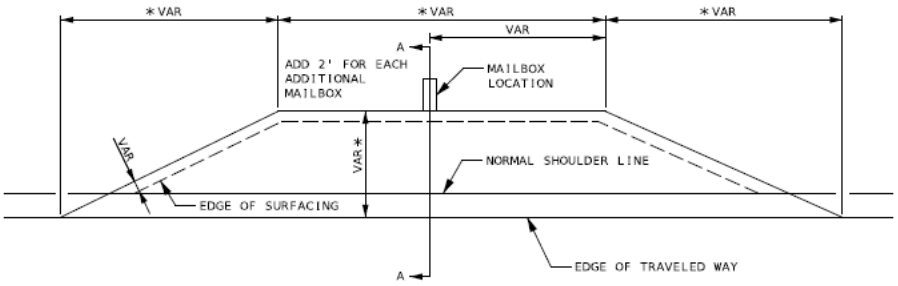
TYPICAL ENTRANCE - NO SHOULDER
(FIELD, PRIVATE OR COUNTY ROAD)
*TAPER AT 1:1 FOR FIELD ENTRANCE

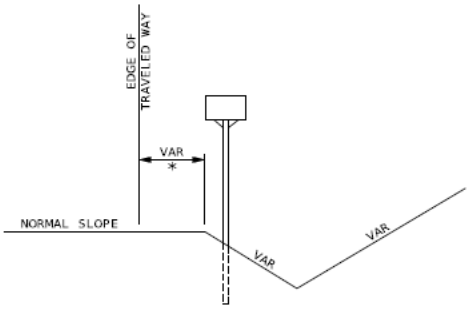
2.5 Bituminous pavement shall be placed at mailbox turnouts (see typical details below).

NOTE: MAILBOX TURNOUT QUANTITIES BASED ON 2' WIDTH AND 15' LENGTH. ADD 2' IN LENGTH PER ADDITIONAL MAILBOX AT SAME LOCATION, AS APPROVED BY THE ENGINEER.

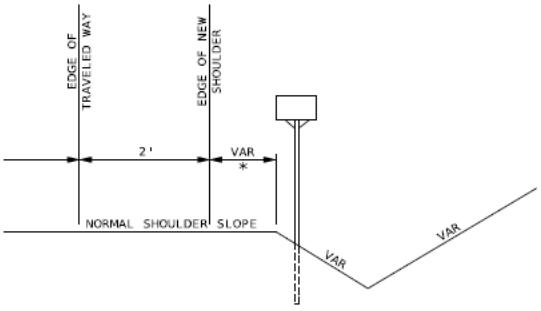
TYPICAL MAILBOX TURNOUT

*AS APPROVED BY THE ENGINEER





SECTION A-A
NO SHOULDER



SECTION A-A
SHOULDER

3.0 Pavement and Coldmilling Quantities.

3.1 Pavement quantities are as follows:

1.5" BITUMINOUS PAVEMENT MIXTURE PG64-22 BP-2							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	1.970 TON/CY QUANTITY	0.1 GAL/SY TACK COAT	
FROM	T0	ROUTE	(MI)	(FT)	(TONS)	(GAL)	REMARKS
0.000	3.547	OR 49	3.547	22	3832.93	4578.0	
					354.70		100 TONS/MILE IRREGULARITIES
					6.98	17.3	MAILBOX/ENTRANCES
				TOTALS	4,194.61	4595.3	ASSUMES 30' ENTRANCE WIDTHS.
				USE	4,194.6	4595	

3.2 Coldmilling quantities are as follows:

COLDMILLING (3 IN. THICK OR LESS)						
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	QUANTITY	
FROM	T0	ROUTE	(FT)	(FT)	(SY)	REMARKS
0.019	3.528	OR 49	18528	22	45289.5	MILL ENTIRE PROJECT
				TOTALS	45,289.5	
				USE	45,289	

3.3 Repair of damaged pavement quantities are as follows:

REPAIR OF DAMAGED PAVEMENT					
APPROX. LOG MILE			REMOVAL OF DAMAGED PAVEMENT	REPLACEMENT OF DAMAGED PAVEMENT	
FROM	TO	ROUTE	(SY)	(TON)	REMARKS
0.019	3.528	OR 49	3520.0	577.9	AS DIRECTED BY THE ENGINEER
		TOTALS	3,520.0	577.9	
		USE	3,520	577.9	

4.0 Temporary Traffic Control Plans. See Standard Plans 616.20 for standard temporary traffic control requirements.

4.1 Construction signs and channelizers are as follows:

CONSTRUCTION SIGNING AND CHANNELIZERS						
SIGN NO.	SIGN	SIZE (in.)	AREA (FT.2)	QTY.	TOTAL AREA ($FT.^2$)	DESCRIPTION
1*	GO20-1	60 X 24	10	2	20	ROAD WORK NEXT XX MILES & XX MILES
2**	WO20-1	48 X 48	16	14	224	ROAD WORK AHEAD
7	WO20-4	48 X 48	16	4	64	ONE LANE ROAD AHEAD
8	WO20-7a	48 X 48	16	12	192	FLAGGER (SYMBOL) WITH FLAGS
11	WO3-4	48 X 48	16	8	128	BE PREPARED TO STOP
26	GO20-2	48 X 24	8	2	16	END ROAD WORK
35	WO8-12	48 X 48	16	12	192	NO CENTER LINE
36	WO8-11	48 X 48	16	18	288	UNEVEN LANES
53	GO20-4	36 X 18	4.5	2	9	PILOT CAR FOLLOW ME
56	CONST-7	48 X 24	8	2	16	RATE OUR WORK ZONE
58	GO20-4a	42 X 30	8.75	2	17.5	PILOT CAR IN USE WAIT & FOLLOW
58	GO20-4a	18 X 12	1.5	6	9	PILOT CAR IN USE WAIT & FOLLOW
59	CONST-8	48 X 36	12	2	24	WORK ZONE NO PHONE ZONE
	GO22-1	21 X 15	2.19	2	4.38	WET PAINT (ARROW PIVOTS)
					1203.88	CONSTRUCTION SIGNS SUBTOTAL
				ITEM NO. 616-10.05	1204	USE
				ITEM NO. 616-10.25	10	CHANNELIZERS (TRIM-LINE)
* - IF LESS THAN TWO (2) MILES, DELETE SIGN NO. 1.						
** - ADDITIONAL SIGN NO. 2 USED AS SHOWN ON TRAFFIC CONTROL SHEET 3 OF 5 AND AS DIRECTED BY THE ENGINEER.						

4.2 Other Traffic Control Devices Mobilization, and Contractor Furnished Surveying and Staking are as follows (not included in lump sum traffic control):

ITEM NO.	QTY.	DESCRIPTION
612-30.00A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
618-10.00	LUMP SUM	MOBILIZATION
627-40.00	LUMP SUM	CONTRACTOR FURNISHED SURVEYING AND STAKING

5.0 Pavement Marking. Pavement marking quantities are as follows:

STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS							
APPROX. LOG MILE			LENGTH	4" INT. YELLOW	4" SOLID YELLOW	4" SOLID WHITE	
FROM	T0	ROUTE	(FT)	(FT)	(FT)	(FT)	REMARKS
0.000	3.547	OR 49	18728.16		37456.32		
1.668	1.673	OR 49	26.4		52.8	52.8	
			TOTALS	0	37,509	53	ADJUST PAINT TO EXISTING
			USE	0	37,509	53	FIELD CONDITIONS.
NOTE: TEMPORARY AND PERMANENT PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH 620.10.							

6.0 Permanent Aggregate Edge Treatment. Permanent aggregate edge treatment quantities are as follows:

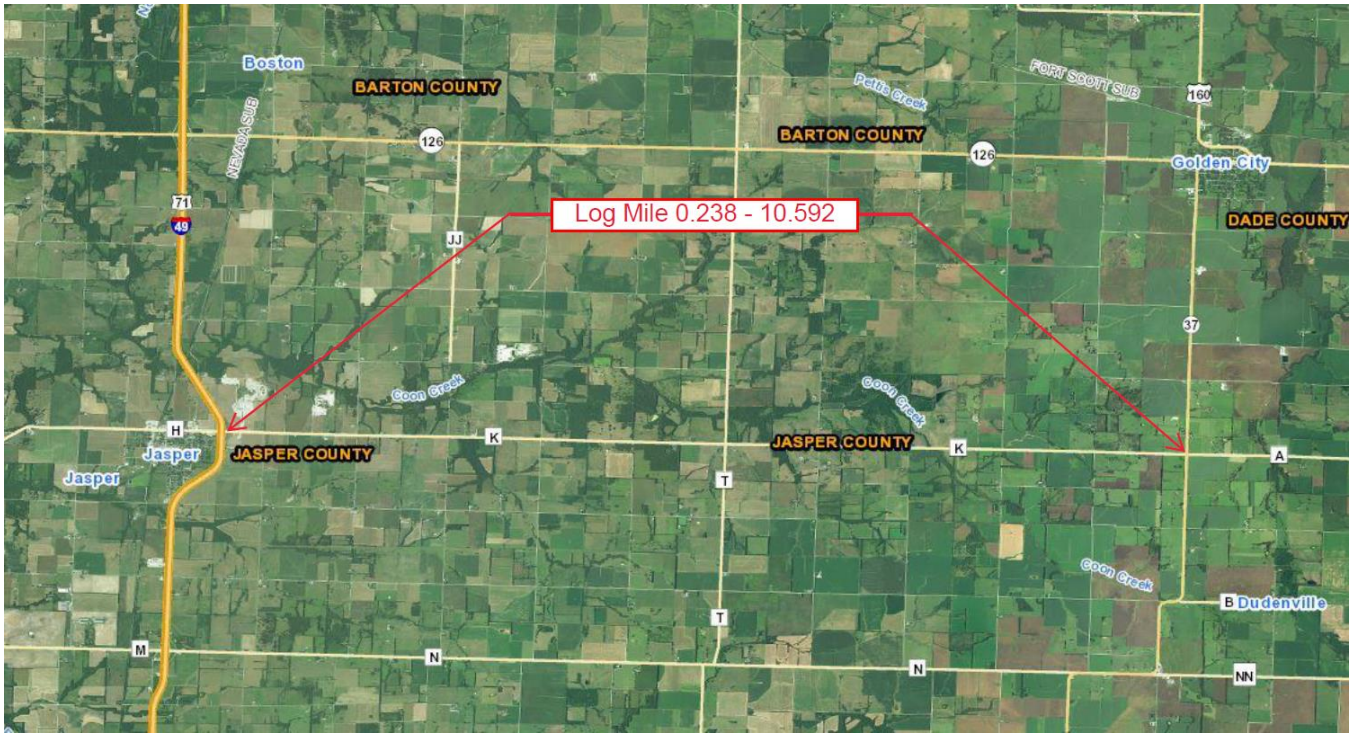
PERMANENT AGGREGATE EDGE TREATMENT						
APPROX. LOG MILE			LENGTH	AGGR 200 TON/MI	PRIME MC800 590 GAL/MI	
FROM	T0	ROUTE	(MI)	(TON)	(GAL)	REMARKS
0.000	3.547	OR 49	3.547	709.4	2092.7	
			TOTALS	709.4	2092.7	
			USE	709.4	2,093	

7.0 Gravel (A) or Crushed Stone (B). Gravel (A) or Crushed Stone (B) quantities are as follows:

ITEM NO.	# OF AGGR ENTRANCES (4 TONS EACH)	# OF AGGR COUNTY ROADS (6 TONS EACH)	TOTAL QTY. (TONS)	DESCRIPTION
310-50.02	38	1	158	GRAVEL (A) OR CRUSHED STONE (B)

H. Project Details and Quantities – Jasper County Route K (Add Alternate A)

1.0 Description. This project consists of applying a plant mix bituminous pavement (surface leveling) as described here in. The project limits are from log mile 0.238 to log mile 10.592. The total length of pavement limits are 10.354 miles with a total average width of 20 feet. Lane width noted is typical lane width. Adjust paving widths to existing field conditions. Pavement will not be placed at the following exception locations listed below:



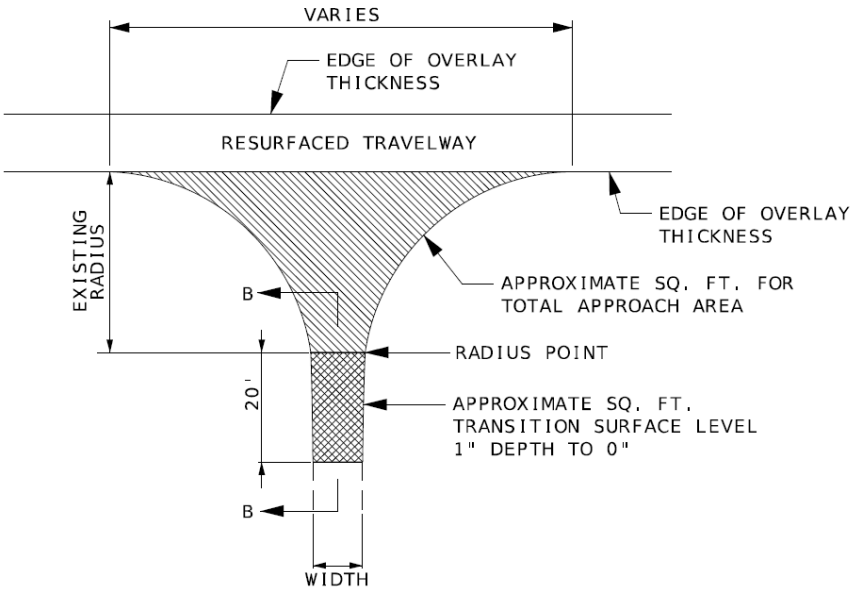
EXCEPTIONS			
APPROX. LOG MILE		Length	
FROM	TO	(FT)	COMMENTS/BRIDGE NUMBERS
7.767	7.784	89.76	BRIDGE A4452
	TOTAL	89.76	

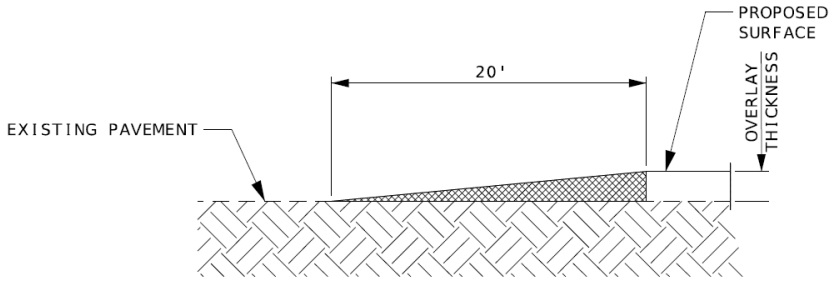
2.0 Mix and Pavement Transitions.

2.1 1" Plant Mix Bituminous Surface PG 64-22 pavement shall be placed the entire width of the lanes, one pass per lane with no superelevation correction. Tack coat shall be applied at the rate of 0.08 gal/yd^2 across the entire width of the traveled way for the length of the pavement limits, except apply tack coat at a rate of 0.1 gal/yd^2 in coldmilled areas.

2.2 Depth transitions when beginning and ending at a state route shall be coldmilled at the rate of 1" in 100'. When beginning or ending mid-route, including exceptions, depth transitions shall be coldmilled at the rate of 1" in 100'.

2.3 Coldmilling and pavement tapers at intersecting state routes will vary. See quantities for the approximate paved approach and coldmilling areas (see transition area details below).

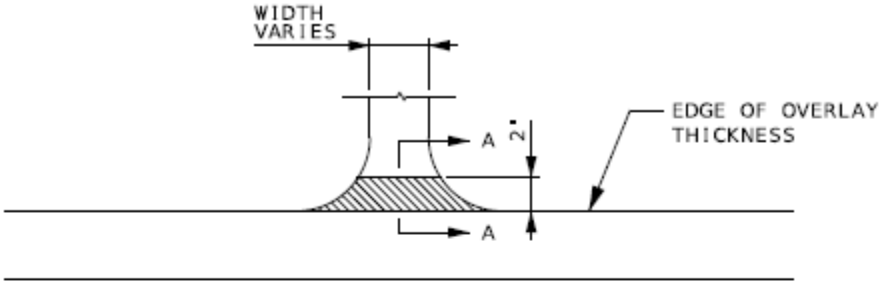


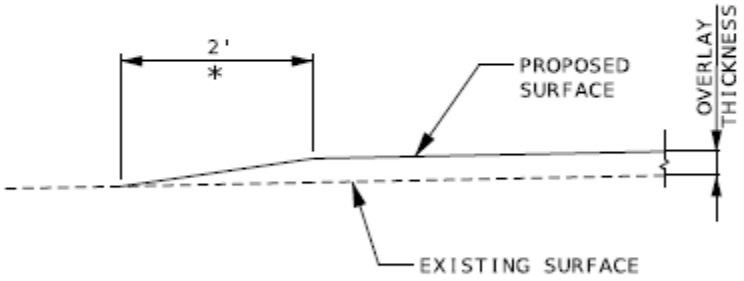


SECTION B-B

TYPICAL STATE ROUTE JUNCTION
(COLD MIX ROUTE TRANSITION)

2.4 The bituminous pavement shall be tapered at entrances and non-state routes (see pavement taper details below).





SECTION A-A

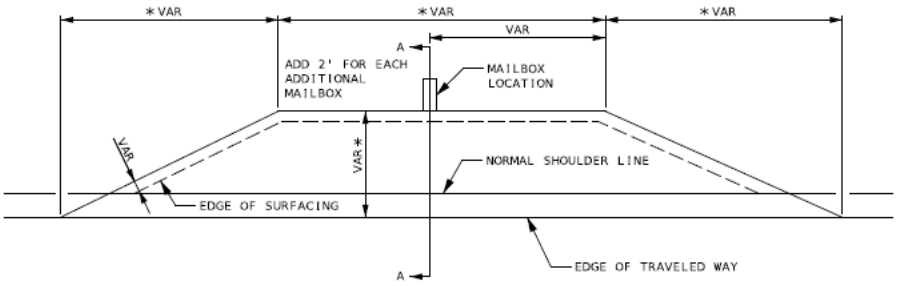
TYPICAL ENTRANCE - NO SHOULDER
(FIELD, PRIVATE OR COUNTY ROAD)
*TAPER AT 1:1 FOR FIELD ENTRANCE

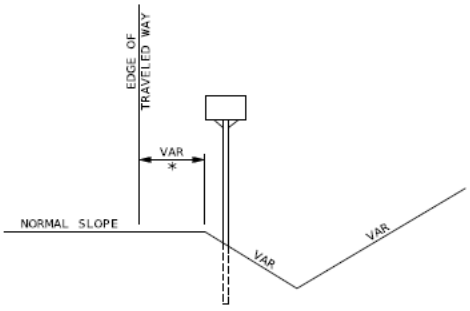
2.5 Bituminous pavement shall be placed at mailbox turnouts (see typical details below).

NOTE: MAILBOX TURNOUT QUANTITIES BASED ON 2' WIDTH AND 15' LENGTH. ADD 2' IN LENGTH PER ADDITIONAL MAILBOX AT SAME LOCATION, AS APPROVED BY THE ENGINEER.

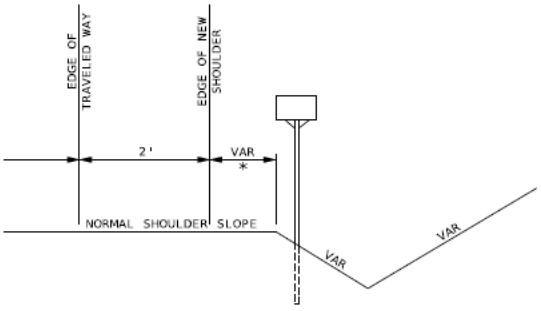
TYPICAL MAILBOX TURNOUT

*AS APPROVED BY THE ENGINEER





SECTION A-A
NO SHOULDER



SECTION A-A
SHOULDER

3.0 Pavement and Coldmilling Quantities.

3.1 Pavement quantities are as follows:

1" BITUMINOUS PAVEMENT MIXTURE PG64-22 SURFACE LEVELING							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	1.970 TON/CY QUANTITY	.08 GAL/SY TACK COAT	
FROM	T0	ROUTE	(MI)	(FT)	(TONS)	(GAL)	REMARKS
0.238	7.767	K	7.529	20	4834.18	7067.2	
7.784	10.592	K	2.808	20	1802.94	2635.8	
						-89.0	SUBTRACTION OF COLDMILLING TACK
					1033.70		100 TONS/MILE IRREGULARITIES
					3.78	10.6	MAILBOX/ENTRANCES
				TOTALS	7,674.60	9624.6	ASSUMES 30' ENTRANCE WIDTHS.
				USE	7,674.6	9625	

3.2 Coldmilling quantities are as follows:

MODIFIED COLDMILLING (DEPTH TRANSITIONS)							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	QUANTITY	.10 GAL/SY TACK COAT	
FROM	T0	ROUTE	(FT)	(FT)	(SY)	(GAL)	REMARKS
0.238	0.257	K	100	20	222.2	22.2	BEGINNING OF PROJECT
7.748	7.767	K	100	20	222.2	22.2	BRIDGE A4452
7.784	7.803	K	100	20	222.2	22.2	BRIDGE A4452
10.573	10.592	K	100	20	222.2	22.2	END OF PROJECT
				TOTALS	888.8	88.8	
				USE	889	89	

4.0 Temporary Traffic Control Plans. See Standard Plans 616.20 for standard temporary traffic control requirements.

4.1 Construction signs and channelizers are as follows:

CONSTRUCTION SIGNING AND CHANNELIZERS						
SIGN NO.	SIGN	SIZE (in.)	AREA (FT.2)	QTY.	TOTAL AREA ($FT.^2$)	DESCRIPTION
1*	GO20-1	60 X 24	10	2	20	ROAD WORK NEXT XX MILES & XX MILES
2**	WO20-1	48 X 48	16	14	224	ROAD WORK AHEAD
7	WO20-4	48 X 48	16	4	64	ONE LANE ROAD AHEAD
8	WO20-7a	48 X 48	16	12	192	FLAGGER (SYMBOL) WITH FLAGS
11	WO3-4	48 X 48	16	8	128	BE PREPARED TO STOP
26	GO20-2	48 X 24	8	2	16	END ROAD WORK
35	WO8-12	48 X 48	16	12	192	NO CENTER LINE
36	WO8-11	48 X 48	16	18	288	UNEVEN LANES
53	GO20-4	36 X 18	4.5	2	9	PILOT CAR FOLLOW ME
56	CONST-7	48 X 24	8	2	16	RATE OUR WORK ZONE
58	GO20-4a	42 X 30	8.75	2	17.5	PILOT CAR IN USE WAIT & FOLLOW
58	GO20-4a	18 X 12	1.5	6	9	PILOT CAR IN USE WAIT & FOLLOW
59	CONST-8	48 X 36	12	2	24	WORK ZONE NO PHONE ZONE
	GO22-1	21 X 15	2.19	2	4.38	WET PAINT (ARROW PIVOTS)
					1203.88	CONSTRUCTION SIGNS SUBTOTAL
				ITEM NO. 616-10.05	1204	USE
				ITEM NO. 616-10.25	40	CHANNELIZERS (TRIM-LINE)
* - IF LESS THAN TWO (2) MILES, DELETE SIGN NO. 1.						
** - ADDITIONAL SIGN NO. 2 USED AS SHOWN ON TRAFFIC CONTROL SHEET 3 OF 5 AND AS DIRECTED BY THE ENGINEER.						

4.2 Other Traffic Control Devices, Mobilization and Contractor Furnished Surveying and Staking are as follows (not included in lump sum traffic control):

ITEM NO.	QTY.	DESCRIPTION
612-30.00A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
618-10.00	LUMP SUM	MOBILIZATION
627-40.00	LUMP SUM	CONTRACTOR FURNISHED SURVEYING AND STAKING

5.0 Pavement Marking. Pavement marking quantities are as follows:

STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS							
APPROX. LOG MILE			LENGTH	4" INT. YELLOW	4" SOLID YELLOW	4" SOLID WHITE	
FROM	T0	ROUTE	(FT)	(FT)	(FT)	(FT)	REMARKS
0.238	10.592	K	54669		109338	109338	
			TOTALS	0	109,338	109,338	ADJUST PAINT TO EXISTING
			USE	0	109,338	109,338	FIELD CONDITIONS.
NOTE: TEMPORARY AND PERMANENT PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH 620.10.							

6.0 Permanent Aggregate Edge Treatment. Permanent aggregate edge treatment quantities are as follows:

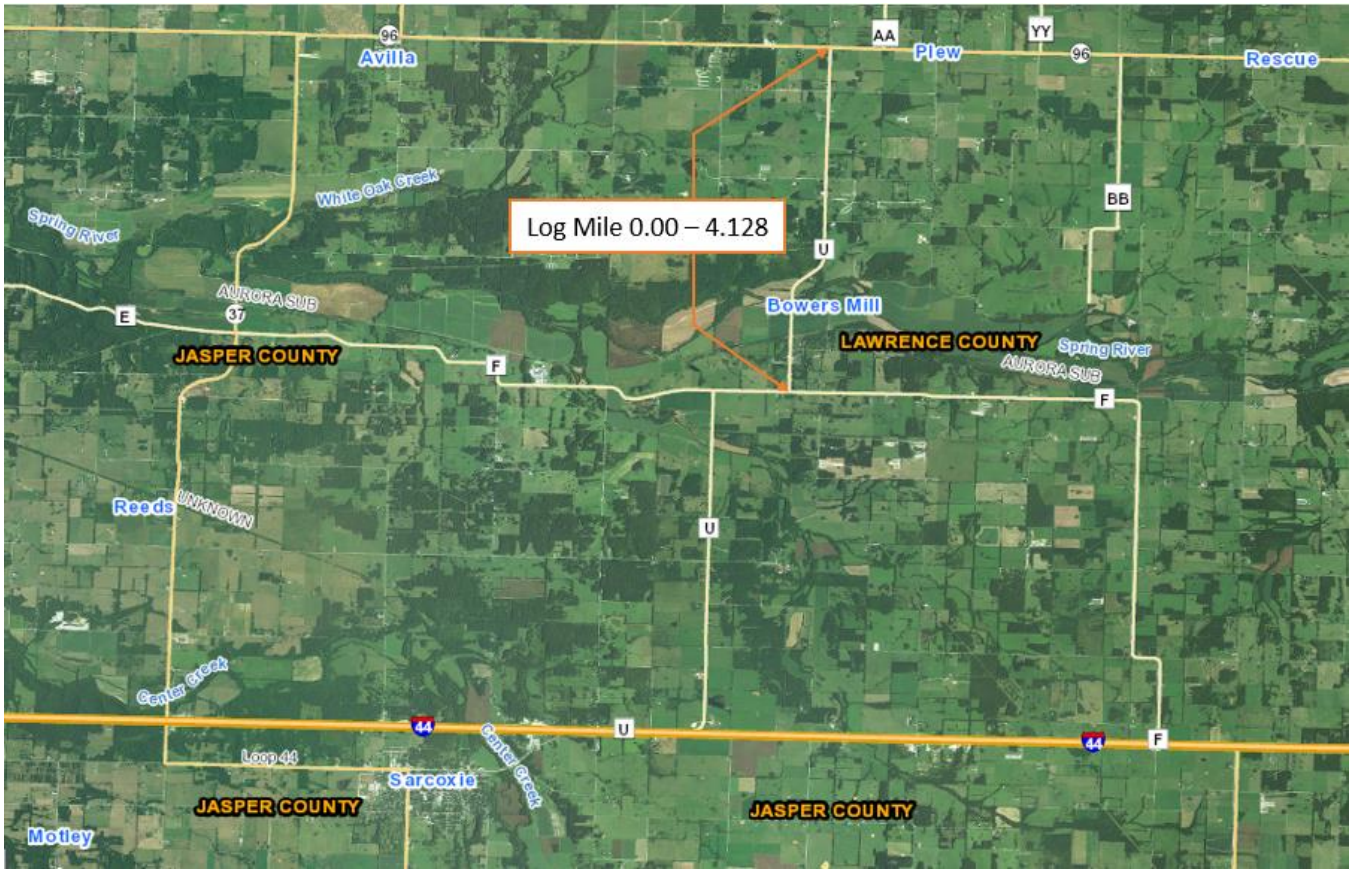
PERMANENT AGGREGATE EDGE TREATMENT						
APPROX. LOG MILE			LENGTH	AGGR 200 TON/MI	PRIME MC800 590 GAL/MI	
FROM	T0	ROUTE	(MI)	(TON)	(GAL)	REMARKS
0.238	10.592	K	10.354	2070.8	6108.9	
			TOTALS	2,070.8	6108.9	
			USE	2,070.8	6,109	

7.0 Gravel (A) or Crushed Stone (B). Gravel (A) or Crushed Stone (B) quantities are as follows:

ITEM NO.	# OF AGGR ENTRANCES (4 TONS EACH)	# OF AGGR COUNTY ROADS (6 TONS EACH)	TOTAL QTY. (TONS)	DESCRIPTION
310-50.02	36	10	204	GRAVEL (A) OR CRUSHED STONE (B)

I. Project Details and Quantities – Jasper / Lawrence County Route U (Add Alternate B)

1.0 Description. This project consists of applying a plant mix bituminous pavement (surface leveling) as described here in. The project limits are from Log Mile 0.000 to Log Mile 4.128. The total length of pavement limits are 4.128 miles with a total average width of 20 feet. Lane width noted is typical lane width. Adjust paving widths to existing field conditions. Pavement will not be placed at the following exception locations listed below:



EXCEPTIONS			
APPROX. LOG MILE		Length	
FROM	TO	(FT)	COMMENTS/BRIDGE NUMBERS
3.044	3.126	432.96	BRIDGE A1963
3.467	3.470	15.84	MISSOURI & NORTHERN ARKANSAS RAILROAD
	TOTAL	448.8	

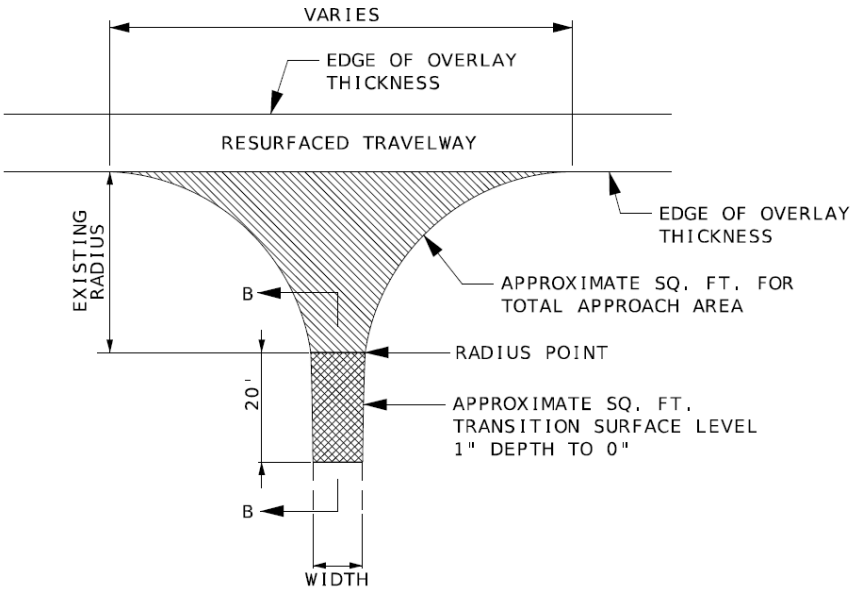
NOTE: Log miles for MNA Railroad exception are approximate. Stop construction 7 feet either side of the centerline of tracks.

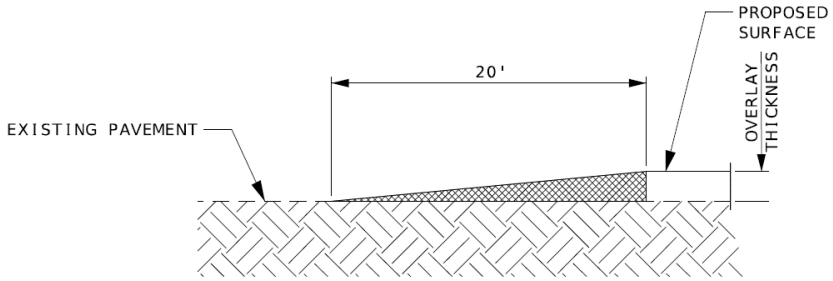
2.0 Mix and Pavement Transitions.

2.1 1" Plant Mix Bituminous Surface PG 64-22 pavement shall be placed the entire width of the lanes, one pass per lane with no superelevation correction. Tack coat shall be applied at the rate of 0.08 gal/yd^2 across the entire width of the traveled way for the length of the pavement limits, except apply tack coat at a rate of 0.1 gal/yd^2 in coldmilled areas.

2.2 Depth transitions when beginning and ending at a state route shall be coldmilled at the rate of 1" in 100'. When beginning or ending mid-route, including exceptions, depth transitions shall be coldmilled at the rate of 1" in 100'.

2.3 Coldmilling and pavement tapers at intersecting state routes will vary. See quantities for the approximate paved approach and coldmilling areas (see transition area details below).

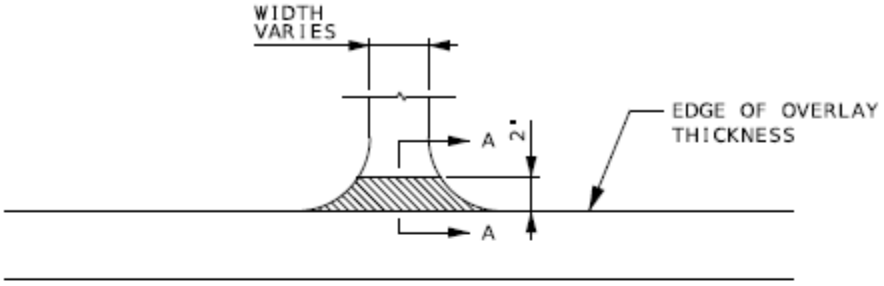


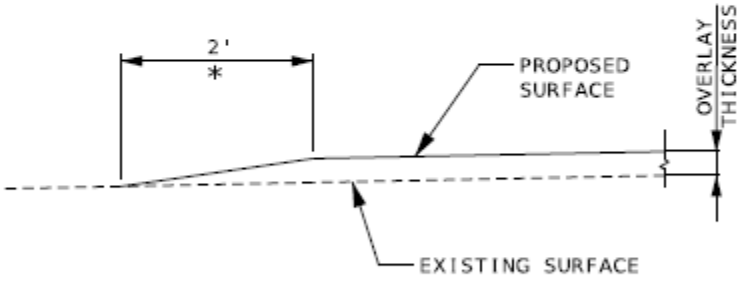


SECTION B-B

TYPICAL STATE ROUTE JUNCTION
(COLD MIX ROUTE TRANSITION)

2.4 The bituminous pavement shall be tapered at entrances and non-state routes (see pavement taper details below).





SECTION A-A

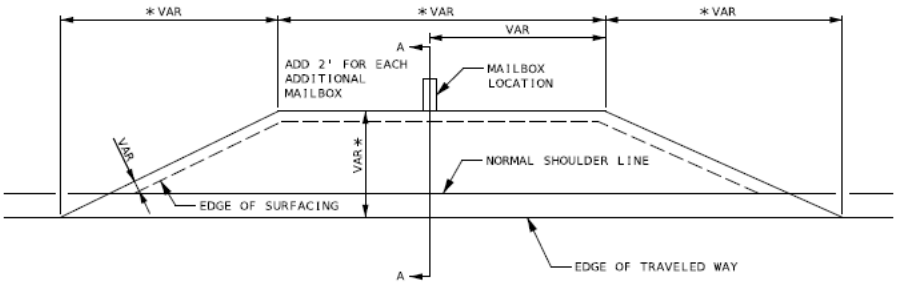
TYPICAL ENTRANCE - NO SHOULDER
(FIELD, PRIVATE OR COUNTY ROAD)
*TAPER AT 1:1 FOR FIELD ENTRANCE

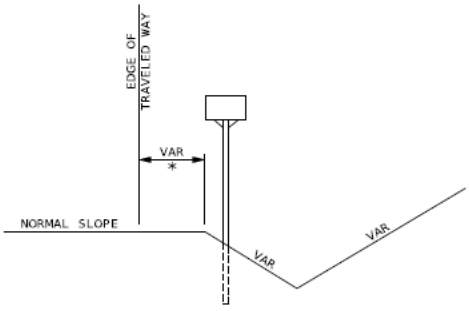
2.5 Bituminous pavement shall be placed at mailbox turnouts (see typical details below).

NOTE: MAILBOX TURNOUT QUANTITIES BASED ON 2' WIDTH AND 15' LENGTH. ADD 2' IN LENGTH PER ADDITIONAL MAILBOX AT SAME LOCATION, AS APPROVED BY THE ENGINEER.

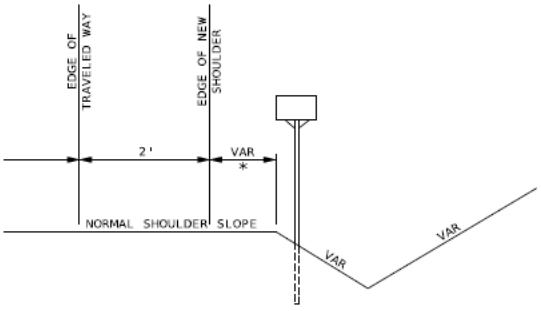
TYPICAL MAILBOX TURNOUT

*AS APPROVED BY THE ENGINEER





SECTION A-A
NO SHOULDER



SECTION A-A
SHOULDER

3.0 Pavement and Coldmilling Quantities.

3.1 Pavement quantities are as follows:

1" BITUMINOUS PAVEMENT MIXTURE PG64-22 SURFACE LEVELING							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	1.970 TON/CY QUANTITY	.08 GAL/SY TACK COAT	
FROM	T0	ROUTE	(MI)	(FT)	(TONS)	(GAL)	REMARKS
0.000	3.044	U	3.044	20	1954.47	2857.3	
3.044	3.126	U	0.082				BRIDGE A1963 EXCEPTION
3.126	3.467	U	0.341	20	218.95	320.1	
3.467	3.470	U	0.003				MNA RAILROAD EXCEPTION
3.470	4.128	U	0.658	20	422.48	617.6	
						-133.0	SUBTRACTION OF COLDMILLED TACK
					412.80		100 TONS/MILE IRREGULARITIES
					3.55	10.0	MAILBOX/ENTRANCES
				TOTALS	3,012.25	3672.0	ASSUMES 30' ENTRANCE WIDTHS.
				USE	3,012.3	3672	

3.2 Coldmilling quantities are as follows

MODIFIED COLDMILLING (DEPTH TRANSITIONS)							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	QUANTITY	.10 GAL/SY TACK COAT	
FROM	T0	ROUTE	(FT)	(FT)	(SY)	(GAL)	REMARKS
0.000	0.019	U	100	20	222.2	22.2	BEGINNING OF PROJECT
3.025	3.044	U	100	20	222.2	22.2	BRIDGE A1963
3.126	3.145	U	100	20	222.2	22.2	BRIDGE A1963
3.448	3.467	U	100	20	222.2	22.2	MNA RAILROAD
3.470	3.489	U	100	20	222.2	22.2	MNA RAILROAD
4.109	4.128	U	100	20	222.2	22.2	END OF PROJECT
				TOTALS	1,333.2	133.2	
				USE	1,333	133	

4.0 Temporary Traffic Control Plans. See Standard Plans 616.20 for standard temporary traffic control requirements.

4.1 Construction signs and channelizers are as follows:

CONSTRUCTION SIGNING AND CHANNELIZERS						
SIGN NO.	SIGN	SIZE (in.)	AREA (FT.2)	QTY.	TOTAL AREA ($FT.^2$)	DESCRIPTION
1*	GO20-1	60 X 24	10	2	20	ROAD WORK NEXT XX MILES & XX MILES
2**	WO20-1	48 X 48	16	14	224	ROAD WORK AHEAD
7	WO20-4	48 X 48	16	4	64	ONE LANE ROAD AHEAD
8	WO20-7a	48 X 48	16	12	192	FLAGGER (SYMBOL) WITH FLAGS
11	WO3-4	48 X 48	16	8	128	BE PREPARED TO STOP
26	GO20-2	48 X 24	8	2	16	END ROAD WORK
35	WO8-12	48 X 48	16	12	192	NO CENTER LINE
36	WO8-11	48 X 48	16	18	288	UNEVEN LANES
53	GO20-4	36 X 18	4.5	2	9	PILOT CAR FOLLOW ME
56	CONST-7	48 X 24	8	2	16	RATE OUR WORK ZONE
58	GO20-4a	42 X 30	8.75	2	17.5	PILOT CAR IN USE WAIT & FOLLOW
58	GO20-4a	18 X 12	1.5	6	9	PILOT CAR IN USE WAIT & FOLLOW
59	CONST-8	48 X 36	12	2	24	WORK ZONE NO PHONE ZONE
	GO22-1	21 X 15	2.19	2	4.38	WET PAINT (ARROW PIVOTS)
					1203.88	CONSTRUCTION SIGNS SUBTOTAL
				ITEM NO. 616-10.05	1204	USE
				ITEM NO. 616-10.25	10	CHANNELIZERS (TRIM-LINE)
* - IF LESS THAN TWO (2) MILES, DELETE SIGN NO. 1.						
** - ADDITIONAL SIGN NO. 2 USED AS SHOWN ON TRAFFIC CONTROL SHEET 3 OF 5 AND AS DIRECTED BY THE ENGINEER.						

4.2 Other Traffic Control Devices, Mobilization and Contractor Furnished Surveying and Staking are as follows (not included in lump sum traffic control):

ITEM NO.	QTY.	DESCRIPTION
612-30.00A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
618-10.00	LUMP SUM	MOBILIZATION
627-40.00	LUMP SUM	CONTRACTOR FURNISHED SURVEYING AND STAKING

5.0 Pavement Marking. Pavement marking quantities are as follows:

STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS AND THERMOPLASTIC PAVEMENT MARKING								
APPROX. LOG MILE			LENGTH	4" SOLID WHITE	4" SOLID YELLOW	PREFORMED R/R CROSSING	PREFORMED 24" WHITE	
FROM	T0	ROUTE	(FT)	(FT)	(FT)	(EA)	(FT)	REMARKS
0.000	3.044	U	16072.32	32144.64	32144.64			
3.044	3.126	U	432.96	865.92	865.92			
3.126	3.467	U	1800.48	3600.96	3600.96			
3.467	3.47	U	15.84	31.68	31.68	2	20	
3.47	4.128	U	3474.24	6948.48	6948.48			ADJUST PAINT
								TO EXISTING
			TOTALS	43,592	43,592	2	20	FIELD CONDITIONS
			USE	43,592	43,592	2	20	

6.0 Permanent Aggregate Edge Treatment. Permanent aggregate edge treatment quantities are as follows:

PERMANENT AGGREGATE EDGE TREATMENT						
APPROX. LOG MILE			LENGTH	AGGR 200 TON/MI	PRIME MC800 590 GAL/MI	
FROM	T0	ROUTE	(MI)	(TON)	(GAL)	REMARKS
0.000	4.128	U	4.128	825.6	2435.5	
			TOTALS	825.6	2435.5	
			USE	825.6	2,436	

7.0 Gravel (A) or Crushed Stone (B). Gravel (A) or Crushed Stone (B) quantities are as follows:

ITEM NO.	# OF AGGR ENTRANCES (4 TONS EACH)	# OF AGGR COUNTY ROADS (6 TONS EACH)	TOTAL QTY. (TONS)	DESCRIPTION
310-50.02	23	2	104	GRAVEL (A) OR CRUSHED STONE (B)

J. Project Details and Quantities – Jasper County Route U (Add Alternate C)

1.0 Description. This project consists of applying a plant mix bituminous pavement (surface leveling) as described here in. The project limits are from Log Mile 4.835 to Log Mile 10.403. The total length of pavement limits are 5.639 miles with a total average width of 20 feet. Lane width noted is typical lane width. Adjust paving widths to existing field conditions. Pavement will not be placed at the following exception locations listed below:

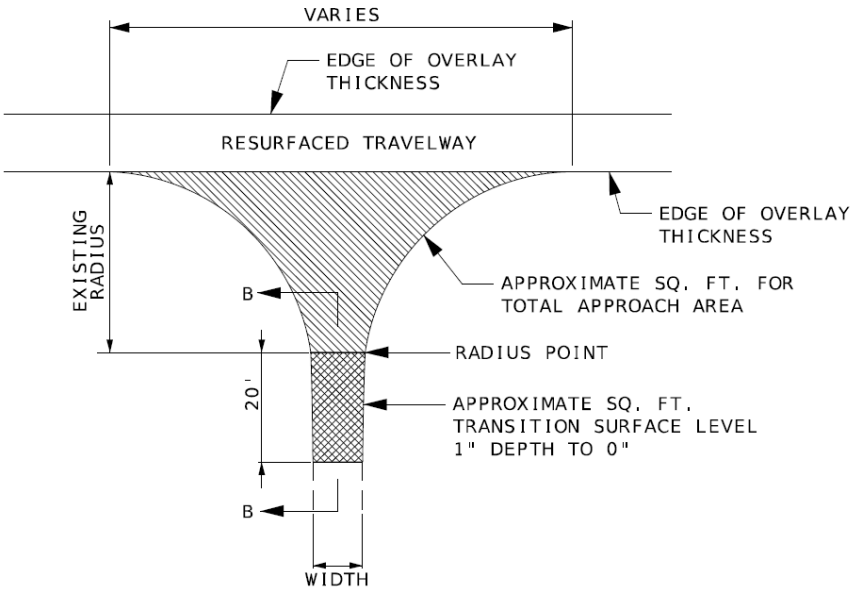
EXCEPTIONS			
APPROX. LOG MILE		Length	
FROM	TO	(FT)	COMMENTS/BRIDGE NUMBERS
5.480	5.514	179.52	BRIDGE N0758
	TOTAL	179.52	

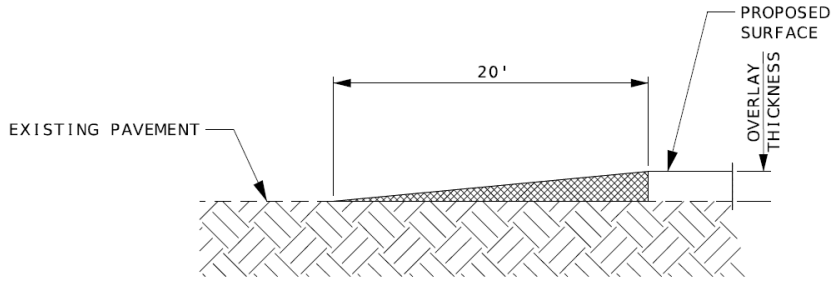
2.0 Mix and Pavement Transitions.

2.1 1" Plant Mix Bituminous Surface PG 64-22 pavement shall be placed the entire width of the lanes, one pass per lane with no superelevation correction. Tack coat shall be applied at the rate of 0.08 gal/yd^2 across the entire width of the traveled way for the length of the pavement limits, except apply tack coat at a rate of 0.1 gal/yd^2 in coldmilled areas.

2.2 Depth transitions when beginning and ending at a state route shall be coldmilled at the rate of 1" in 100'. When beginning or ending mid-route, including exceptions, depth transitions shall be coldmilled at the rate of 1" in 100'.

2.3 Coldmilling and pavement tapers at intersecting state routes will vary. See quantities for the approximate paved approach and coldmilling areas (see transition area details below).

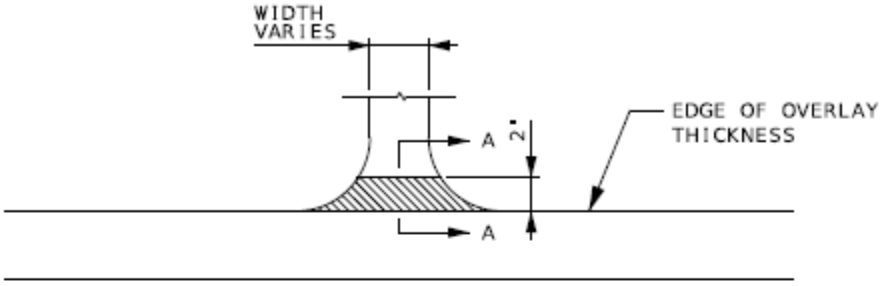


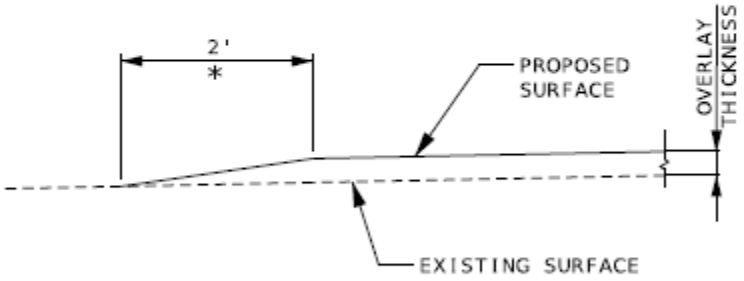


SECTION B-B

TYPICAL STATE ROUTE JUNCTION
(COLD MIX ROUTE TRANSITION)

2.4 The bituminous pavement shall be tapered at entrances and non-state routes (see pavement taper details below).





SECTION A-A

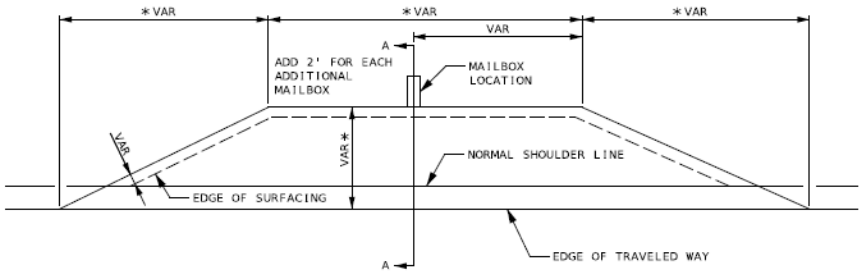
TYPICAL ENTRANCE - NO SHOULDER
(FIELD, PRIVATE OR COUNTY ROAD)
*TAPER AT 1:1 FOR FIELD ENTRANCE

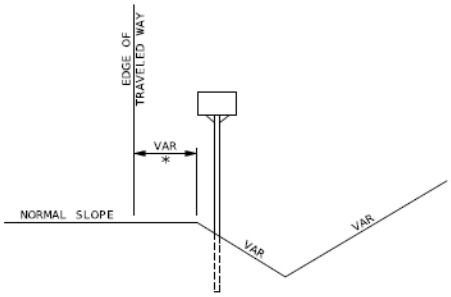
2.5 Bituminous pavement shall be placed at mailbox turnouts (see typical details below).

NOTE: MAILBOX TURNOUT QUANTITIES BASED ON 2' WIDTH AND 15' LENGTH. ADD 2' IN LENGTH PER ADDITIONAL MAILBOX AT SAME LOCATION, AS APPROVED BY THE ENGINEER.

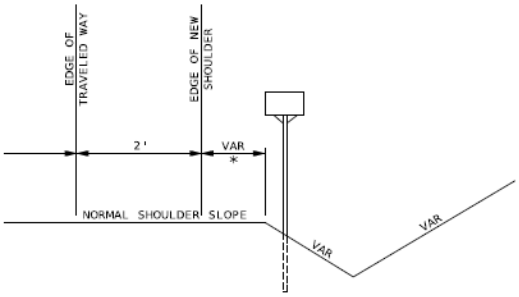
TYPICAL MAILBOX TURNOUT

*AS APPROVED BY THE ENGINEER





SECTION A-A
NO SHOULDER



SECTION A-A
SHOULDER

3.0 Pavement and Coldmilling Quantities.

3.1 Pavement quantities are as follows:

1" BITUMINOUS PAVEMENT MIXTURE PG64-22 SURFACE LEVELING							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	1.970 TON/CY QUANTITY	.08 GAL/SY TACK COAT	
FROM	T0	ROUTE	(MI)	(FT)	(TONS)	(GAL)	REMARKS
4.835	5.480	U	0.645	20	414.14	605.4	
5.480	5.514	U	0.034	20			BRIDGE N0758 EXCEPTION
5.514	10.336	U	4.822	20	3096.08	4526.3	
5.480	10.403	U	4.923	20	84.38	4621.1	ROUTE U INTERCHANGE
						-221.0	SUBTRACTION OF COLDMILL TACK
					1042.40		100 TONS/MILE IRREGULARITIES
					5.02	14.2	MAILBOX/ENTRANCES
				TOTALS	4,642.02	9546.0	ASSUMES 30' ENTRANCE WIDTHS.
				USE	4,642.0	9546	

3.2 Coldmilling quantities are as follows:

MODIFIED COLDMILLING (DEPTH TRANSITIONS)							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	QUANTITY	.10 GAL/SY TACK COAT	
FROM	T0	ROUTE	(FT)	(FT)	(SY)	(GAL)	REMARKS
5.461	5.480	U	100	20	222.2	22.2	TO BRIDGE N0758
5.514	5.533	U	100	20	222.2	22.2	AFTER BRIDGE N0758
10.317	10.336	U	100	20	222.2	22.2	BEGINNING OF PROJECT
				TOTALS	666.6	66.6	
				USE	667	67	

COLDMILLING (3 IN OR LESS)							
APPROX. LOG MILE		ROUTE	LENGTH (FT)	AVERAGE WIDTH (FT)	QUANTITY (SY)	.10 GAL/SY TACK COAT (GAL)	REMARKS
FROM	T0						
10.336	10.403	U	354	VAR.	1542.0	154.2	BETWEEN BRIDGE A0863 & END OF PROJECT
				TOTALS	1,542.0	154.2	
				USE	1,542	154	

4.0 Temporary Traffic Control Plans. See Standard Plans 616.20 for standard temporary traffic control requirements.

4.1 Construction signs and channelizers are as follows:

CONSTRUCTION SIGNING AND CHANNELIZERS						
SIGN NO.	SIGN	SIZE (in.)	AREA (FT.2)	QTY.	TOTAL AREA ($FT.^2$)	DESCRIPTION
1*	GO20-1	60 X 24	10	2	20	ROAD WORK NEXT XX MILES & XX MILES
2**	WO20-1	48 X 48	16		0	ROAD WORK AHEAD
7	WO20-4	48 X 48	16		0	ONE LANE ROAD AHEAD
8	WO20-7a	48 X 48	16		0	FLAGGER (SYMBOL) WITH FLAGS
11	WO3-4	48 X 48	16		0	BE PREPARED TO STOP
26	GO20-2	48 X 24	8	2	16	END ROAD WORK
35	WO8-12	48 X 48	16		0	NO CENTER LINE
36	WO8-11	48 X 48	16		0	UNEVEN LANES
53	GO20-4	36 X 18	4.5		0	PILOT CAR FOLLOW ME
56	CONST-7	48 X 24	8	2	16	RATE OUR WORK ZONE
58	GO20-4a	42 X 30	8.75		0	PILOT CAR IN USE WAIT & FOLLOW
58	GO20-4a	18 X 12	1.5		0	PILOT CAR IN USE WAIT & FOLLOW
59	CONST-8	48 X 36	12	2	24	WORK ZONE NO PHONE ZONE
	GO22-1	21 X 15	2.19	2	4.38	WET PAINT (ARROW PIVOTS)
					80.38	CONSTRUCTION SIGNS SUBTOTAL
				ITEM NO. 616-10.05	81	USE
				ITEM NO. 616-10.25	10	CHANNELIZERS (TRIM-LINE)
* - IF LESS THAN TWO (2) MILES, DELETE SIGN NO. 1.						
** - ADDITIONAL SIGN NO. 2 USED AS SHOWN ON TRAFFIC CONTROL SHEET 3 OF 5 AND AS DIRECTED BY THE ENGINEER.						

4.2 Other Traffic Control Devices, Mobilization and Contractor Furnished Surveying and Staking are as follows (not included in lump sum traffic control):

ITEM NO.	QTY.	DESCRIPTION
612-30.00A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
618-10.00	LUMP SUM	MOBILIZATION
627-40.00	LUMP SUM	CONTRACTOR FURNISHED SURVEYING AND STAKING

5.0 Pavement Marking. Pavement marking quantities are as follows:

APPROX. LOG MILE			LENGTH	4" INT. YELLOW	4" SOLID YELLOW	4" SOLID	
FROM	T0	ROUTE	(FT)	(FT)	(FT)	WHITE (FT)	REMARKS
4.835	10.403	U	29399.04		58798.08		
			TOTALS	58,798		0	ADJUST PAINT TO EXISTING
			USE	58,798		0	FIELD CONDITIONS.
NOTE: TEMPORARY AND PERMANENT PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH 620.10.							

6.0 Permanent Aggregate Edge Treatment. Permanent aggregate edge treatment quantities are as follows:

PERMANENT AGGREGATE EDGE TREATMENT						
APPROX. LOG MILE			LENGTH	AGGR 200 TON/MI	PRIME MC800 590 GAL/MI	
FROM	T0	ROUTE	(MI)	(TON)	(GAL)	REMARKS
4.835	10.403	U	5.568	1113.6	3285.1	
			TOTALS	1,113.6	3285.1	
			USE	1,113.6	3,286	

7.0 Gravel (A) or Crushed Stone (B). Gravel (A) or Crushed Stone (B) quantities are as follows:

ITEM NO.	# OF AGGR ENTRANCES (4 TONS EACH)	# OF AGGR COUNTY ROADS (6 TONS EACH)	TOTAL QTY. (TONS)	DESCRIPTION
310-50.02	33	1	138	GRAVEL (A) OR CRUSHED STONE (B)

K. Project Details and Quantities – Barton / Jasper County Route T (Add Alternate D)

1.0 Description. This project consists of applying a plant mix bituminous pavement (surface leveling) as described here in. The project limits are from Log Mile 6.960 to Log Mile 14.021. The total length of pavement limits are 7.061 miles with a total average width of 20 feet. Lane width noted is typical lane width. Adjust paving widths to existing field conditions. Pavement will not be placed at the following exception locations listed below:

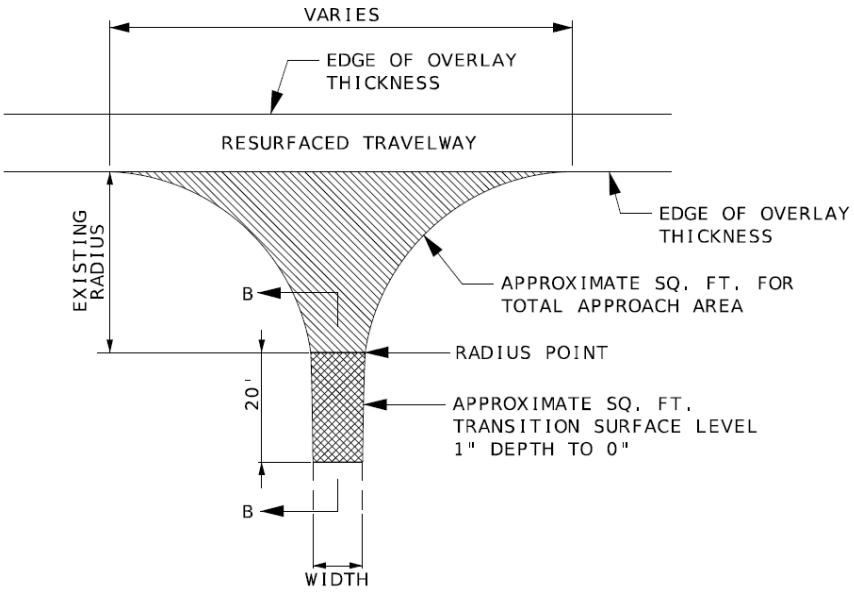
EXCEPTIONS			
APPROX. LOG MILE		Length	
FROM	TO	(FT)	COMMENTS/BRIDGE NUMBERS
8.232	8.251	100.32	BRIDGE A6402
10.61	10.625	79.2	BRIDGE A4623
10.998	11.002	20	ROUTE K INTERSECTION
	TOTAL	199.52	

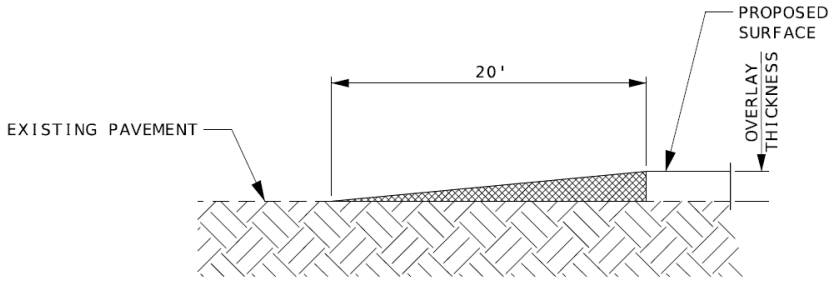
2.0 Mix and Pavement Transitions.

2.1 1" Plant Mix Bituminous Surface PG 64-22 pavement shall be placed the entire width of the lanes, one pass per lane with no superelevation correction. Tack coat shall be applied at the rate of 0.08 gal/yd^2 across the entire width of the traveled way for the length of the pavement limits, except apply tack coat at a rate of 0.1 gal/yd^2 in coldmilled areas.

2.2 Depth transitions when beginning and ending at a state route shall be coldmilled at the rate of 1" in 100'. When beginning or ending mid-route, including exceptions, depth transitions shall be coldmilled at the rate of 1" in 100'.

2.3 Coldmilling and pavement tapers at intersecting state routes will vary. See quantities for the approximate paved approach and coldmilling areas (see transition area details below).

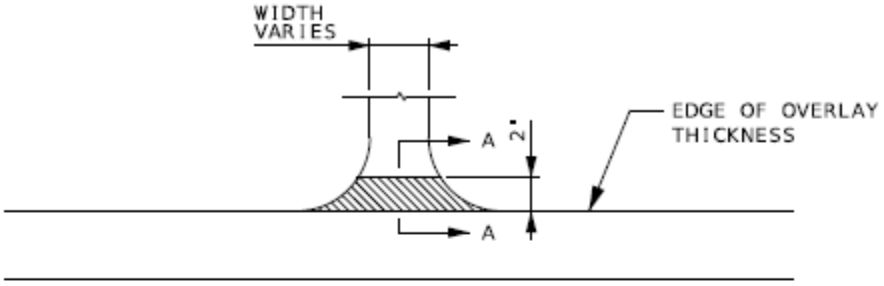


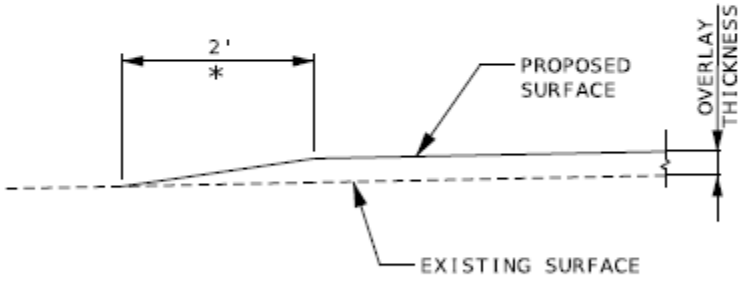


SECTION B-B

TYPICAL STATE ROUTE JUNCTION
(COLD MIX ROUTE TRANSITION)

2.4 The bituminous pavement shall be tapered at entrances and non-state routes (see pavement taper details below).





SECTION A-A

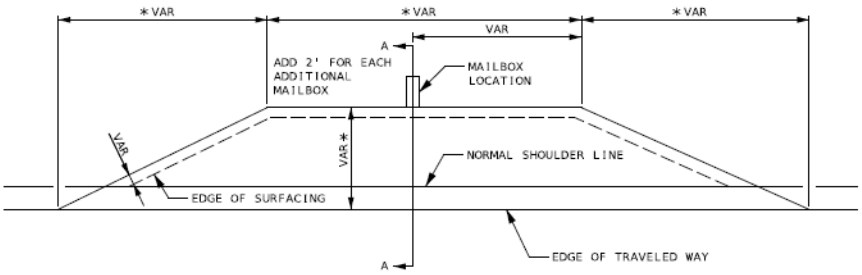
TYPICAL ENTRANCE - NO SHOULDER
(FIELD, PRIVATE OR COUNTY ROAD)
*TAPER AT 1:1 FOR FIELD ENTRANCE

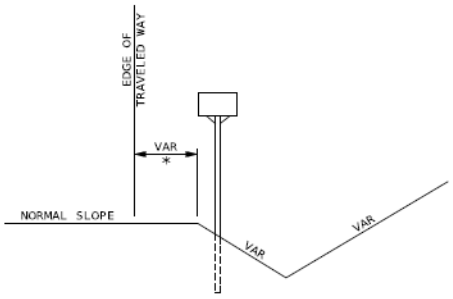
2.5 Bituminous pavement shall be placed at mailbox turnouts (see typical details below).

NOTE: MAILBOX TURNOUT QUANTITIES BASED ON 2' WIDTH AND 15' LENGTH. ADD 2' IN LENGTH PER ADDITIONAL MAILBOX AT SAME LOCATION, AS APPROVED BY THE ENGINEER.

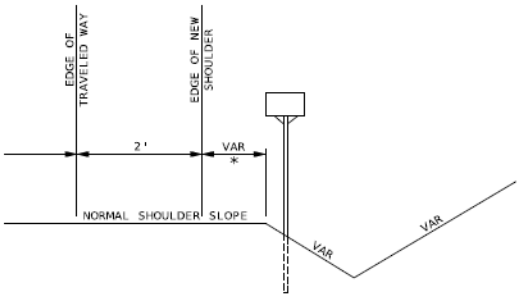
TYPICAL MAILBOX TURNOUT

*AS APPROVED BY THE ENGINEER





SECTION A-A
NO SHOULDER



SECTION A-A
SHOULDER

3.0 Pavement and Coldmilling Quantities.

3.1 Pavement quantities are as follows:

1" BITUMINOUS PAVEMENT MIXTURE PG64-22 SURFACE LEVELING							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	1.970 TON/CY QUANTITY	.08 GAL/SY TACK COAT	
FROM	T0	ROUTE	(MI)	(FT)	(TONS)	(GAL)	REMARKS
6.960	8.232	T	1.272	20	816.72	1194.0	
8.232	8.251	T	0.019				BRIDGE A6402 EXCEPTION
8.251	10.610	T	2.359	20	1514.65	2214.3	
10.610	10.625	T	0.015				BRIDGE A4623 EXCEPTION
10.625	10.998	T	0.373	20	239.49	350.1	
10.998	11.002	T	0.004				ROUTE K EXCEPTION
11.002	14.021	T	3.019	20	1938.42	2833.8	
						-178.0	SUBTRACTION OF COLDMILL TACK
					706.10		100 TONS/MILE IRREGULARITIES
					3.92	11.0	MAILBOX/ENTRANCES
				TOTALS	5,219.30	6425.2	ASSUMES 30' ENTRANCE WIDTHS.
				USE	5,219.3	6425	

3.2 Coldmilling quantities are as follows:

MODIFIED COLDMILLING (DEPTH TRANSITIONS)							
APPROX. LOG MILE			LENGTH	AVERAGE WIDTH	QUANTITY	.10 GAL/SY TACK COAT	
FROM	T0	ROUTE	(FT)	(FT)	(SY)	(GAL)	REMARKS
6.960	6.979	T	100	20	222.2	22.2	BEGINNING OF PROJECT
8.213	8.232	T	100	20	222.2	22.2	BRIDGE A6402
8.251	8.270	T	100	20	222.2	22.2	BRIDGE A6402
10.591	10.610	T	100	20	222.2	22.2	BRIDGE A4623
10.625	10.644	T	100	20	222.2	22.2	BRIDGE A4623
10.979	10.998	T	100	20	222.2	22.2	ROUTE K INTERSECTION
11.002	11.021	T	100	20	222.2	22.2	ROUTE K INTERSECTION
14.002	14.021	T	100	20	222.2	22.2	END OF PROJECT
				TOTALS	1,777.6	177.6	
				USE	1,778	178	

4.0 Temporary Traffic Control Plans. See Standard Plans 616.20 for standard temporary traffic control requirements.

4.1 Construction signs and channelizers are as follows:

CONSTRUCTION SIGNING AND CHANNELIZERS						
SIGN NO.	SIGN	SIZE (in.)	AREA (FT.2)	QTY.	TOTAL AREA ($FT.^2$)	DESCRIPTION
1*	GO20-1	60 X 24	10	2	20	ROAD WORK NEXT XX MILES & XX MILES
2**	WO20-1	48 X 48	16	14	224	ROAD WORK AHEAD
7	WO20-4	48 X 48	16	4	64	ONE LANE ROAD AHEAD
8	WO20-7a	48 X 48	16	12	192	FLAGGER (SYMBOL) WITH FLAGS
11	WO3-4	48 X 48	16	8	128	BE PREPARED TO STOP
26	GO20-2	48 X 24	8	2	16	END ROAD WORK
35	WO8-12	48 X 48	16	12	192	NO CENTER LINE
36	WO8-11	48 X 48	16	18	288	UNEVEN LANES
53	GO20-4	36 X 18	4.5	2	9	PILOT CAR FOLLOW ME
56	CONST-7	48 X 24	8	2	16	RATE OUR WORK ZONE
58	GO20-4a	42 X 30	8.75	2	17.5	PILOT CAR IN USE WAIT & FOLLOW
58	GO20-4a	18 X 12	1.5	6	9	PILOT CAR IN USE WAIT & FOLLOW
59	CONST-8	48 X 36	12	2	24	WORK ZONE NO PHONE ZONE
	GO22-1	21 X 15	2.19	2	4.38	WET PAINT (ARROW PIVOTS)
					1203.88	CONSTRUCTION SIGNS SUBTOTAL
				ITEM NO. 616-10.05	1204	USE
				ITEM NO. 616-10.25	40	CHANNELIZERS (TRIM-LINE)
* - IF LESS THAN TWO (2) MILES, DELETE SIGN NO. 1.						
** - ADDITIONAL SIGN NO. 2 USED AS SHOWN ON TRAFFIC CONTROL SHEET 3 OF 5 AND AS DIRECTED BY THE ENGINEER.						

4.2 Other Traffic Control Devices, Mobilization and Contractor Furnished Surveying and Staking are as follows (not included in lump sum traffic control):

ITEM NO.	QTY.	DESCRIPTION
612-30.00A	2	TRUCK OR TRAILER MOUNTED ATTENUATOR (TMA)
618-10.00	LUMP SUM	MOBILIZATION
627-40.00	LUMP SUM	CONTRACTOR FURNISHED SURVEYING AND STAKING

5.0 Pavement Marking. Pavement marking quantities are as follows:

STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS							
APPROX. LOG MILE			LENGTH	4" INT. YELLOW	4" SOLID YELLOW	4" SOLID WHITE	
FROM	T0	ROUTE	(FT)	(FT)	(FT)	(FT)	REMARKS
6.960	14.021	T	37282.08		74564.16		
			TOTALS	0	74,564	0	ADJUST PAINT TO EXISTING
			USE	0	74,564	0	FIELD CONDITIONS.
NOTE: TEMPORARY AND PERMANENT PAVEMENT MARKING SHALL BE IN ACCORDANCE WITH 620.10.							

6.0 Permanent Aggregate Edge Treatment. Permanent aggregate edge treatment quantities are as follows:

PERMANENT AGGREGATE EDGE TREATMENT						
APPROX. LOG MILE			LENGTH	AGGR 200 TON/MI	PRIME MC800 590 GAL/MI	
FROM	T0	ROUTE	(MI)	(TON)	(GAL)	REMARKS
6.960	14.021	T	7.061	1412.2	4166.0	
			TOTALS	1,412.2	4166.0	
			USE	1,412.2	4,166	

7.0 Gravel (A) or Crushed Stone (B). Gravel (A) or Crushed Stone (B) quantities are as follows:

ITEM NO.	# OF AGGR ENTRANCES (4 TONS EACH)	# OF AGGR COUNTY ROADS (6 TONS EACH)	TOTAL QTY. (TONS)	DESCRIPTION
310-50.02	22	5	118	GRAVEL (A) OR CRUSHED STONE (B)

L. Supplemental Revisions JSP-18-01Z

Compliance with 2 CFR 200.216 – Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment.

The Missouri Highways and Transportation Commission shall not enter into a contract (or extend or renew a contract) using federal funds to procure or obtain equipment, services, or systems that uses covered telecommunications equipment or services as substantial or as critical technology as part of any system where the video surveillance and telecommunications equipment was produced by Huawei Technologies Company, ZTE Corporation, Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).

Stormwater Compliance Requirements

1.0 Description. This provision requires the contractor to provide a Water Pollution Control Manager (WPCM) for any project that includes land disturbance on the project site and the total area of land disturbance, both on the project site, and all Off-site support areas, is one (1) acre or more. Regardless of the area of Off-site disturbance, if no land disturbance occurs on the project site, these provisions do not apply. When a WPCM is required, all sections within this provision shall be applicable, including assessment of specified Liquidated Damages for failure to correct Stormwater Deficiencies, as specified herein. This provision is in addition to any other stormwater, environmental, and land disturbance requirements specified elsewhere in the contract.

1.1 Definitions. The project site is defined as all areas designated on the plans, including temporary and permanent easements. The project site is equivalent to the "permitted site", as defined in MoDOT's State Operating Permit. An Off-site area is defined as any location off the project site the contractor utilizes for a dedicated project support function, such as, but not limited to, staging area, plant site, borrow area, or waste area.

1.2 Reporting of Off-Site Land Disturbance. If the project includes any planned land disturbance on the project site, prior to the start of work, the contractor shall submit a written report to the engineer that discloses all Off-site support areas where land disturbance is planned, the total acreage of anticipated land disturbance on those sites, and the land disturbance permit number(s). Upon request by the engineer, the contractor shall submit a copy of its land disturbance permit(s) for Off-site locations. Based on the total acreage of land disturbance, both on and Off-site, the engineer shall determine if these Stormwater Compliance Requirements shall apply. The Contractor shall immediately report any changes to the planned area of Off-site land disturbance. The Contractor is responsible for obtaining its own separate land disturbance permit for Off-site areas.

2.0 Water Pollution Control Manager (WPCM). The Contractor shall designate a competent person to serve as the Water Pollution Control Manager (WPCM) for projects meeting the description in Section 1.0. The Contractor shall ensure the WPCM completes all duties listed in Section 2.1.

2.1 Duties of the WPCM:

(a) Be familiar with the stormwater requirements including the current MoDOT State Operating Permit for construction stormwater discharges/land disturbance activities; MoDOT's statewide Stormwater Pollution Prevention Plan (SWPPP); the Corps of Engineers Section 404 Permit, when applicable;

the project specific SWPPP, the Project's Erosion & Sediment Control Plan; all applicable special provisions, specifications, and standard drawings; and this provision;

(b) Successfully complete the MoDOT Stormwater Training Course within the last 4 years. The MoDOT Stormwater Training is a free online course available at MoDOT.org;

(c) Attend the Pre-Activity Meeting for Grading and Land Disturbance and all subsequent Weekly Meetings in which grading activities are discussed;

(d) Oversee and ensure all work is performed in accordance with the Project-specific SWPPP and all updates thereto, or as designated by the Engineer;

(e) Review the project site for compliance with the Project SWPPP, as needed, from the start of any grading operations until final stabilization is achieved, and take necessary actions to correct any known deficiencies to prevent pollution of the waters of the state or adjacent property owners prior to the engineer's weekly inspections;

(f) Review and acknowledge receipt of each MoDOT Inspection Report (Land Disturbance Inspection Record) for the Project within forty eight (48) hours of receiving the report and ensure that all Stormwater Deficiencies noted on the report are corrected as soon as possible, but no later than stated in Section 5.0.

3.0 Pre-Activity Meeting for Grading/Land Disturbance and Required Hold Point. A Pre-Activity meeting for grading/land disturbance shall be held prior to the start of any land disturbance operations. No land disturbance operations shall commence prior to the Pre-Activity meeting except work necessary to install perimeter controls and entrances. Discussion items at the pre-activity meeting shall include a review of the Project SWPPP, the planned order of grading operations, proposed areas of initial disturbance, identification of all necessary BMPs that shall be installed prior to commencement of grading operations, and any issues relating to compliance with the Stormwater requirements that could arise in the course of construction activity at the project.

3.1 Hold Point. Following the pre-activity meeting for grading/land disturbance and subsequent installation of the initial BMPs identified at the pre-activity meeting, a Hold Point shall occur prior to the start of any land disturbance operations to allow the engineer and WPCM the time needed to perform an on-site review of the installation of the BMPs to ensure compliance with the SWPPP is met. Land disturbance operations shall not begin until authorization is given by the engineer.

4.0 Inspection Reports. Weekly and post run-off inspections will be performed by the engineer and each Inspection Report (Land Disturbance Inspection Record) will be entered into a web-based Stormwater Compliance database. The WPCM will be granted access to this database and shall promptly review all reports, including any noted deficiencies, and shall acknowledge receipt of the report as required in Section 2.1 (f.).

5.0 Stormwater Deficiency Corrections. All stormwater deficiencies identified in the Inspection Report shall be corrected by the contractor within 7 days of the inspection date or any extended period granted by the engineer when weather or field conditions prohibit the corrective work. If the contractor does not initiate corrective measures within 5 calendar days of the inspection date or any extended period granted by the engineer, all work shall cease on the project except for work to correct these deficiencies, unless otherwise allowed by the engineer. All impact costs related to this halting of work, including, but not limited

to stand-by time for equipment, shall be borne by the Contractor. Work shall not resume until the engineer approves the corrective work.

5.1 Liquidated Damages. If the Contractor fails to complete the correction of all Stormwater Deficiencies listed on the MoDOT Inspection Report within the specified time limit, the Commission will be damaged in various ways, including but not limited to, potential liability, required mitigation, environmental clean-up, fines and penalties. These damages are not reasonably capable of being computed or quantified. Therefore, the contractor will be charged with liquidated damages specified in the amount of $2,000 per day for failure to correct one or more of the Stormwater Deficiencies listed on the Inspection Report within the specified time limit. In addition to the stipulated damages, the stoppage of work shall remain in effect until all corrections are complete.

6.0 Basis of Payment. No direct payment will be made for compliance with this provision.

Anti-Discrimination Against Israel Certification

By signing this contract, the Company certifies it is not currently engaged in and shall not, for the duration of the contract, engage in a boycott of goods or services from the State of Israel, companies doing business in or with Israel or authorized by, licensed by, or organized under the laws of the State of Israel, or persons or entities doing business in the State of Israel as defined by Section 34.600 RSMo. This certification shall not apply to contracts with a total potential value of less than One Hundred Thousand Dollars ($100,000) or to contractors with fewer than ten (10) employees.

Ground Tire Rubber (GTR) Dry Process Modification of Bituminous Pavement Material

1.0 Description. This work shall consist of the dry process of adding ground tire rubber (GTR) to modify bituminous material to be used in highway construction. Existing GTR requirements in Section 1015 pertain to the wet process method of GTR modification that blends GTR with the asphalt binder (terminal blending or blending at HMA plant). The following requirements shall govern for dry process GTR modification. The dry process method adds GTR as a fine aggregate or mineral filler during mix production. All GTR modified asphalt mixtures shall be in accordance with Secs 401, 402, or 403 as specified in the contract; except as revised by this specification.

2.0 Materials. The contractor shall furnish a manufacturer's certification to the engineer for each shipment of GTR furnished stating the name of the manufacturer, the chemical composition, workability additives, and certifying that the GTR supplied is in accordance with this specification.

2.1 Product Approval. The GTR product shall contain a Trans-Polyoctenamer (TOR) added at 4.5 % of the weight of the crumb rubber or an engineered crumb rubber (ECR) workability additive that has proven performance in Missouri. Other GTR additives shall be demonstrated and proven prior to use such as a five-year field performance history in other states or performance on a federal or state-sanctioned accelerated loading facility.

2.2 General. GTR shall be produced from processing automobile or truck tires by ambient or cryogenic grinding methods. Heavy equipment tires, uncured or de-vulcanized rubber will not be permitted. GTR shall also meet the following material requirements:

Table 1 – GTR Material Properties		
Property	**Test Method**	**Criteria**
Specific Gravity	ASTM D1817	1.02 to 1.20
Metal Contaminates	ASTM D5603	≤ 0.01%
Fiber Content	ASTM D5603	≤ 0.5%
Moisture Content	ASTM D1509	≤ 1.0%*
Mineral Filler	AASHTO M17	≤ 4.0%

*Moisture content of the GTR shall not cause foaming when combined with asphalt binder and aggregate during mix production

2.3 Gradation. The GTR material prior to TOR or ECR workability additives shall meet the following gradation and shall be tested in accordance with ASTM D5603 and ASTM D5644.

Table 2 – GTR Gradation	
Sieve	**Percent Passing by Weight**
No. 20	100
No. 30	98-100
No. 40	50-70
No. 100	5-15

3.0 Delivery, Storage, and Handling. The GTR shall be supplied in moisture-proof packaging or other appropriate bulk containers. GTR shall be stored in a dry location protected from rain before use. Each bag or container shall be properly labeled with the manufacturer's designation for the GTR and specific type, mesh size, weight and manufacturer's batch or Lot designation.

4.0 Feeder System. Dry Process GTR shall be controlled with a feeder system using a proportioning device that is accurate to within ± 3 percent of the amount required. The system shall automatically adjust the feed rate to always maintain the material within this tolerance and shall have a convenient and accurate means of calibration. The system shall provide in-process monitoring, consisting of either a digital display of output or a printout of feed rate, in pounds per minute, to verify feed rate. The supply system shall report the feed in 1-pound increments using load cells that will enable the user to monitor the depletion of the GTR. Monitoring the system volumetrically will not be allowed. The feeder shall interlock with the aggregate weight system and asphalt binder pump to maintain correct mixture proportions at all production rates.

Flow indicators or sensing devices for the system shall be interlocked with the plant controls to interrupt mixture production if GTR introduction rate is not within ± 3 percent. This interlock will immediately notify the operator if GTR introduction rate exceeds introduction tolerances. All plant production will cease if the introduction rate is not brought back within tolerance after 30 seconds. When the interlock system interrupts production and the plant has to be restarted, upon restarting operations; the modifier system shall run until a uniform feed can be observed on the output display. All mix produced prior to obtaining a uniform feed shall be rejected.

4.1 Batch Plants. GTR shall be added to aggregate in the weigh hopper. Mixing times shall be increased per GTR manufacturer recommendations.

4.2 Drum Plants. The feeder system shall add GTR to aggregate and liquid binder during mixing and provide sufficient mixing time to produce a uniform mixture. The feeder system shall ensure GTR does not become entrained in the exhaust system of the drier or plant and is not exposed to the drier flame at any point after introduction.

5.0 Testing During Mixture Production. Testing of asphalt mixes containing GTR shall not begin until at least 30 minutes after production or per additive supplier's recommendation.

6.0 Construction Requirements. Mixes containing GTR shall have a target mixing temperature of 325 F or as directed by the GTR additive supplier. The additive supplier's recommendations shall be followed to allow for GTR binder absorption/reaction. This may include holding mix in the silo to allow time for binder to absorb into the GTR. Rolling operations may need to be modified.

7.0 Mix Design Test Method Modification. A formal mixing procedure from the additive supplier shall be provided to the contractor and engineer that details the proper sample preparation, including blending GTR with the binder or other additives. Samples shall be prepared and fabricated in accordance with this procedure by the engineer and contractor throughout the duration of the project.

8.0 Mix design Volumetrics. Mix design volumetric equations shall be modified as follows:

8.1 Additional virgin binder added to offset GTR absorption of binder shall be counted as part of the mix virgin binder

8.2 GTR shall be included as part of the aggregate when calculating VMA of the mix.

8.2.1 GTR SPG shall be 1.15

8.3 Mix G_{sb} used to determine VMA shall be calculated as follows:

$$G_{sb\ (JMF)} = \frac{(100 - P_{bmv})}{\left(\frac{P_s}{G_{sb}} + \frac{P_{GTR}}{G_{GTR}}\right)}$$

$where$:

$G_{sb\ (JMF)} = bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ including\ GTR$

$P_{bmv} = percent\ virgin\ binder\ by\ total\ mixture\ weight$

$P_s = percent\ aggregate\ by\ total\ mixture\ weight\ (not\ including\ GTR)$

$P_{GTR} = percent\ GTR\ by\ total\ mixture\ weight$

$G_{sb} = bulk\ specific\ gravity\ of\ the\ combined\ aggregate\ (not\ including\ GTR)$

$G_{GTR} = GTR\ specific\ gravity$

8.4 G_{se} shall be calculated as follows:

$$G_{se} = \frac{(100 - P_b - P_{GTR})}{\left(\frac{100}{G_{mm}} - \frac{P_b}{G_b} - \frac{P_{GTR}}{G_{GTR}}\right)}$$

8.5 P_{be} shall be calculated as follows:

$$P_{be} = P_b - \frac{P_{ba}}{100} * (P_s + P_{GTR})$$

9.0 Minimum GTR Amount. The minimum dosage rate for GTR shall be 5 % by weight of total binder for an acceptable one bump grade or 10 % by weight of total binder for an acceptable two bump grade as detailed in the following table. Varying percentage blends of GTR and approved additives may be used as approved by the engineer with proven performance and meeting the specified requirements of the contract grade.

Contract Binder Grade	Percent Effective Virgin Binder Replacement Limits	Required Virgin Binder Grade	Minimum GTR Dosage Rate
PG 76-22	0 - 20	PG 70-22	5 %
		PG 64-22	10 %

PG 70-22	0 - 30	PG 64-22	5 %
		PG 58-28	10 %
PG 64-22	0 – 40*	PG 58-28	5 %
		PG 52-34	10 %
PG 58-28	0 – 40*	PG 52-34	5 %
		PG 46-34	10 %

* Reclaimed Asphalt Shingles (RAS) may be used when the contract grade is PG 64-22 or PG 58-28. RAS replacement shall follow the 2 x RAS criteria when calculating percent effective binder replacement in accordance Sec 401.

Buy America

In addition to Section 106.9 of the Missouri Standard Specifications for Highway Construction, the following requirements will also be in effect for this project.

1.0 Description. The Bipartisan Infrastructure Law (BIL) was enacted on November 15, 2021. The BIL includes Build America, Buy America Act Publication L. No. 117-58. This provision expands the Buy America requirements beyond what is currently only required for steel and iron products. The steel and iron provisions have not changed with the new bill. Cement and cementitious materials; aggregates such as stone, sand, or gravel; or aggregate binding agents or additives are excluded from this requirement. All other materials and manufactured products permanently incorporated into the project will be subject to Buy America requirements. There are three categories requiring Buy America Certification:

a) Iron and steel – no changes to the current specification requirements.

b) Manufactured products – these are currently exempted under the 1983 waiver from FHWA.

c) Construction materials consisting primarily of:
- Non-ferrous metals;
- Plastic and polymer-based products (including polyvinylchloride, composite build materials, and polymers used in fiber optic cables);
- Glass (including optic glass);
- Lumber; or
- Drywall

1.1 All products and or materials will only be classified under one of these categories and not under multiple categories. It is the prime contractor's responsibility to assure all submittals required for Buy America are submitted to the Engineer prior to the products and or materials being incorporated in the job. The implementation of this policy will be in effect for all projects awarded after November 10, 2022.

1.2 New items designated as construction materials under this requirement will require the prime contractor to submit a material of origin form certification prior to incorporation into the project. The Certificate of Material origin form (link to certificate form) from the supplier and/or fabricator must show all steps of the manufacturing being completed in the United States. The Certificate of Material form shall be filed with the contract documents.

1.3 Any minor miscellaneous construction material items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically The certification shall read "I certify all materials permanently incorporated in this project covered under this provision have been to the best of my knowledge procured and all manufactured domestically." The certification shall be signed by an authorized representative of the prime contractor.

1.4 The National Transportation Product Evaluation Program (NTPEP) compliance program verifies that some non-iron and steel products fabrication processes conform to 23 CFR 635.410 Buy America Requirements and an acceptable standard per 23 CFR 635.410(d). NTPEP compliant suppliers will not be required to submit step certification documentation with the shipment for some selected non-iron and steel materials. The NTPEP compliant supplier shall maintain the step certification documentation on file and shall provide this documentation to the engineer upon request.

2.0 Basis of Payment. Any costs incurred by the contractor by reason of compliance with the above requirements shall be considered as included in and completely covered by the unit price bid for the various items of work included in the contract.

Delete Sec 403.19.2 and substitute the following:

403.19.2 Lots. The lot size shall be designated in the contractor's QC Plan. Each lot shall contain no less than four sublots and the maximum sublot size shall be 1,000 tons. The maximum lot size shall be 4,000 tons for determination of pay factors. Sublots from incomplete lots shall be combined with the previous complete lot for determination of pay factors. When no previous lot exists, the mixture shall be treated in accordance with Sec 403.23.7.4.1. A new lot shall begin when the asphalt content of a mixture is adjusted in accordance with Sec 403.11.

M. Contractor Quality Control NJSP-15-42

1.0 The contractor shall perform Quality Control (QC) testing in accordance with the specifications and as specified herein. The contractor shall submit a Quality Control Plan (QC Plan) to the engineer for approval that includes all items listed in Section 2.0, prior to beginning work.

2.0 Quality Control Plan.

(a) The name and contact information of the person in responsible charge of the QC testing.
(b) A list of the QC technicians who will perform testing on the project, including the fields in which they are certified to perform testing.
(c) A proposed independent third party testing firm for dispute resolution, including all contact information.
(d) A list of Hold Points, when specified by the engineer.

(e) The MoDOT Standard Inspection and Testing Plan (ITP). This shall be the version that is posted at the time of bid on the MoDOT website (www.modot.org/quality).

3.0 Quality Control Testing and Reporting. Testing shall be performed per the test method and frequency specified in the ITP. All personnel who perform sampling or testing shall be certified in the MoDOT Technician Certification Program for each test that they perform.

3.1 Reporting of Test Results. All QC test reports shall be submitted as soon as practical, but no later than the day following the test. Test data shall be immediately provided to the engineer upon request at any time, including prior to the submission of the test report. No payment will be made for the work performed until acceptable QC test results have been received by the engineer and confirmed by QA test results.

3.1.1 Test results shall be reported on electronic forms provided by MoDOT. Forms and Contractor Reporting Excel2Oracle Reports (CRE2O) can be found on the MoDOT website. All required forms, reports and material certifications shall be uploaded to a Microsoft SharePoint® site provided by MoDOT, and organized in the file structure established by MoDOT.

3.2 Non-Conformance Reporting. A Non-Conformance Report (NCR) shall be submitted by the contractor when the contractor proposes to incorporate material into the work that does not meet the testing requirements or for any work that does not comply with the contract terms or specifications.

3.2.1 Non-Conformance Reporting shall be submitted electronically on the Non-Conformance Report form provided on the MoDOT Website. The NCR shall be uploaded to the MoDOT SharePoint® site and an email notification sent to the engineer.

3.2.2 The contractor shall propose a resolution to the non-conforming material or work. Acceptance of a resolution by the engineer is required before closure of the non-conformance report.

4.0 Work Planning and Scheduling.

4.1 Two-week Schedule. Each week, the contractor shall submit to the engineer a schedule that outlines the planned project activities for the following two-week period. The two-week schedule shall detail all work and traffic control events planned for that period and any Hold Points specified by the engineer.

4.2 Weekly Meeting. When work is active, the contractor shall hold a weekly project meeting with the engineer to review the planned activities for the following week and to resolve any outstanding issues. Attendees shall include the engineer, the contractor superintendent or project manager and any foreman leading major activities. This meeting may be waived when, in the opinion of the engineer, a meeting is not necessary. Attendees may join the meeting in person, by phone or video conference.

4.3 Pre-Activity Meeting. A pre-activity meeting is required in advance of the start of each new activity, except when waived by the engineer. The purpose of this meeting is to review construction details of the new activity. At a minimum, the discussion topics shall include: safety precautions, QC testing, traffic impacts, and any required Hold Points. Attendees shall include the engineer, the contractor superintendent and the foreman who will be leading the new activity. Pre-activity meetings may be held in conjunction with the weekly project meeting.

4.4 Hold Points. Hold Points are events that require approval by the engineer prior to continuation of work. Hold Points occur at definable stages of work when, in the opinion of the engineer, a review of the preceding work is necessary before continuation to the next stage.

4.4.1 A list of typical Hold Point events is available on the MoDOT website. Use of the Hold Point process will only be required for the project-specific list of Hold Points, if any, that the engineer submits to the contractor in advance of the work. The engineer may make changes to the Hold Point list at any time.

4.4.2 Prior to all Hold Point inspections, the contractor shall verify the work has been completed in accordance with the contract and specifications. If the engineer identifies any corrective actions needed during a Hold Point inspection, the corrections shall be completed prior to continuing work. The engineer may require a new Hold Point to be scheduled if the corrections require a follow-up inspection. Re-scheduling of Hold Points require a minimum 24-hour advance notification from the contractor unless otherwise allowed by the engineer.

5.0 Quality Assurance Testing and Inspection. MoDOT will perform quality assurance testing and inspection of the work, except as specified herein. The contractor shall utilize the inspection checklists provided in the ITP as a guide to minimize findings by MoDOT inspection staff. Submittal of completed checklists is not required, except as specified in 5.1.

5.1 Inspection and testing required in the production of concrete for the project shall be the responsibility of the contractor. Submittal of the 501 Concrete Plant Checklist is required.

6.0 Basis of Payment. No direct payment will be made for compliance with this provision.

N. Contractor Quality Control for Plant Mix Bituminous Surface Leveling NJSP-15-21A

1.0 Description. The contractor shall provide Quality Control (QC) testing and shall perform verification procedures associated with the production and placement of Plant Mix Bituminous Surface Leveling Mixture in accordance with this provision.

2.0 Asphalt Plant Requirements. The contractor shall perform quality control testing in the production of the Surface Leveling Mixture and report the results electronically on MoDOT-provided forms. All reports shall include the Contract ID, Project Number, Route, County, and Job Mix number.

2.1 Calibration of the asphalt plant shall be in accordance with Sec 403.17.2.2. Record retention for verification of test reports shall be in accordance with Sec 403.17.3.2.

2.2 At a minimum, the contractor shall perform one QC sieve analysis test for each day of production of Surface Level mixture in excess of 100 tons to verify the aggregate is within the required gradation range. Results of the QC sieve analysis test shall be reported to the engineer daily. A split of each sample shall be clearly labeled and stored by the contractor in a manner that prevents contamination. The engineer will collect a minimum of one random QC split sample, and one full sample from plant production, for testing per each 10,000 tons of production. Uncollected QC split samples shall be retained by the contractor until the engineer authorizes disposal or until the Final Inspection, whichever occurs earlier.

2.3 The contractor shall monitor the quantity of asphalt binder used in the production of the mix, including any commercial mix, and report that quantity to the engineer. Original asphalt binder delivery tickets shall

accompany the report submitted to the engineer. The engineer will perform a minimum of one asphalt binder content test per each 10,000 tons of production for any project that exceeds a total of 5,000 tons of production.

2.4 The contractor shall take a daily QC sample of the asphalt binder per instructions in Section 460.3.13 of the EPG. The engineer will collect the QC samples and ship to the MoDOT Central lab for random testing. In addition, the engineer will take a minimum of one random Quality Assurance sample per project from the binder line. The engineer sample will be shipped to the Central Lab along with the daily samples and will be designated for testing.

2.5 The contractor shall perform one moisture content test for each day of production of Surface Level mixture in excess of 100 tons. The frequency of the moisture test may be reduced if approved by the engineer.

3.0 Roadway Requirements. The contractor shall perform quality control verification of the Surface Leveling Mixture on the roadway and shall monitor the asphalt tonnage placed in relation to plan quantity.

3.1 Irregularities. Additional tons of Surface Leveling mix will be provided for irregularities in the existing roadway surface. The tonnage specified for irregularities is an estimated quantity and shall only be placed at locations where it is necessary to fill ruts and other low points. Prior to placing the mix, the contractor and engineer shall evaluate the entire route and develop a plan that best utilizes the tonnage needed for irregularities. Any excess quantity of irregularities shall not be placed.

3.2 Tack. On the first day of production, the contractor shall demonstrate proper application of tack coat in the presence of the engineer. Thereafter, when the engineer is not present to witness the application of the tack coat, the contractor shall document the tack application by taking a minimum of two high-resolution date/time stamped photographs of the tacked surface per one-mile segment. Pictures should be taken just in front of the paver in order to account for loss of tack from truck tires. The contractor shall also monitor and document the application rate. The contractor shall take distributor readings at the beginning and ending of each shift and document the quantity used.

3.3 Spreading and Rolling. On the first day of production, the contractor shall demonstrate successful spreading and compaction of the mixture, including proper rolling patterns, in the presence of the engineer. Thereafter, the contractor shall monitor all roadway production procedures and document daily. Use of approved Intelligent Compaction technology is an allowable substitute for daily documentation.

3.4 Monitoring of Quantity. The contractor shall monitor the quantity of Surface Level mix placed and report that information to the engineer and production staff as specified herein.

3.4.1 The contractor shall verify that the quantity of Surface Leveling mix in the contract for each route is sufficient to cover the roadway as shown on the typical sections, including any surface irregularities. Any discrepancies shall be brought to the engineer's attention in writing prior to the pre-construction conference. Plan quantity shall be defined as the total tons computed to cover the surface area according to the typical section, plus any amount pre-approved by the engineer for pavement irregularities.

3.4.2 The contractor shall provide temporary log mile reference points at no less than ½ mile intervals along each route to monitor the tons of Surface Leveling mix laid in relation to plan quantity. Entrances, shoulders, or other irregular areas will be monitored as directed by the engineer.

3.4.3 During production, the contractor shall document the total tons placed in each one-mile segment, along with the plan quantity and the percent over/under for that segment. The cumulative quantity and percent over/under for the route should also be documented. After each one-mile segment, the contractor shall provide a status report to the production manager and the engineer. When the engineer is not present on the project, the contractor shall send an electronic status report to the engineer.

3.4.4 The goal is to keep the placed quantity within 2% of plan quantity for the project. The engineer will monitor the status reports and will advise the contractor on how to proceed when there is an excessive variance from plan quantity. The engineer may decrease the frequency of the electronic status reports when the variances are consistently low.

3.4.5 The contractor shall collect asphalt tickets from the delivery trucks and group them per each one-mile segment. The contractor shall submit to the engineer a daily summary report that includes all of the information specified in Section 3.4.3. The contractor shall sign the summary report confirming that the information is accurate and that the attached tickets represent the asphalt material placed.

3.4.6 The contractor shall be equipped with a contractor-furnished cellular device capable of providing and maintaining a reliable means of immediate communication with the engineer when the engineer is not present on the project.

4.0 Excessive Quantity. If the contractor places Surface Level mix on any one-mile segment, or any other isolated areas, in excess of plan quantity by 5% or more, without prior approval from the engineer, further investigation may be required to determine if the excess was warranted. If directed by the engineer, the contractor shall core the pavement at locations established by the engineer to determine the amount that was excessive, if any. No payment will be made for the cost to core the pavement or for the tons of Surface Level mix that the engineer determines to be excessive. If the amount of Surface Level mix is determined to be justified, payment will be made for the mix, and for the cost of coring at the fixed price established in Sec 109. Placement of asphalt in excess of plan quantity for two consecutive segments without prior approval from the engineer may result in issuance of an Order Record to stop work.

5.0 Basis of Payment. No direct payment will be made for compliance with this provision. All costs shall be considered completely covered under the pay items provided in the contract.

O. Bridge End Transitions – SW

1.0 At all bridge exceptions, the engineer will determine in the field the ending point of the transition. This point will not necessarily be at the bridge end, but will be located at a point which provides a smooth transition and approach to the bridge. The limits of all bridge end transitions shall be approved by the engineer before any milling proceeds on these transitions. Where bridges are to be resurfaced, the surfacing shall be from curb to curb.

P. Pavement Marking Log – SW

1.0 Description. This work shall consist of the Contractor documenting the location of all existing pavement markings prior to coldmilling or resurfacing and installing new pavement markings to match the scheme that was in place prior to the project.

2.0 Construction Requirements. Prior to the start of resurfacing work, the Contractor shall document the color, type, and location of the existing pavement markings, including any change in pavement marking (e.g., solid yellow to intermittent yellow on the centerline) and no passing zones. The Contractor shall submit the method of documentation to the Engineer for approval prior to recording the existing pavement marking information.

2.1 The existing pavement marking documentation provided by the Contractor shall include the location of existing pavement markings by either station or log mile. The Engineer shall reserve the right to make adjustments to the final pavement marking locations. The Engineer will provide the Contractor with any adjusted locations. Under no circumstances shall the Contractor make adjustments to the location of permanent pavement markings without the Engineer's approval.

2.2 All permanent pavement markings shall be installed in accordance with Sec 620.

3.0. Temporary Pavement Marking. The Contractor shall provide temporary pavement marking in accordance with Sec 620 and Standard Plan 620.10. No compensation will be made to the Contractor for temporary pavement marking.

4.0 Method of Measurement. Measurement will be made in accordance with Sec 620.

5.0 Basis of Payment. No direct compensation will be made to the Contractor for compliance with this provision. All costs associated with the equipment, labor, materials, and time necessary to fulfill the requirements of this provision shall be considered completely covered by the pavement marking (Sec 620) line items in the contract.

Q. Permanent Pavement Marking – SW

1.0 Description. This work shall consist of furnishing and placing permanent centerline, edge line, lane line markings, and preformed thermoplastic pavement marking, as specified, at locations shown on the plans or as approved by the engineer. The preformed thermoplastic pavement marking includes, but not limited to, 24" White (Stop Bars) and 24" Yellow (Hash Mark), 6" White for Crosswalks, Turn Arrows, Railroad Crossings, Yield Markings, and the word "ONLY". This work shall be in accordance with Section 620 and specifically as follows.

2.0 Construction Requirements. On roadways open to traffic, permanent centerline, edge line, and lane line markings shall be in place no later than five days after the final paving operations. This requirement applies per individual route if multiple routes are included in a contract or if a 15 mile section of an individual route is open to traffic within a contract. This requirement also applies to divided highways, once a directional segment of 15 mile, or the entire directional segment if less than 15 miles, is paved and open to traffic within a contract. To fulfill this requirement, the contractor may have to mobilize more than once for the installation of permanent centerline, edge line, and lane line markings. The contractor will also need to coordinate the permanent pavement marking with the installation of rumble strips. The contractor shall place the preformed thermoplastic pavement marking after the permanent centerline, edge line, and lane line marking is installed by the contractor or by others. The contractor will have 5 five days after the permanent centerline, edge line, and lane line markings are placed to start the preformed thermoplastic pavement marking installation and shall be placed in accordance with manufacturer's recommendations or as approved by the engineer.

3.0 Basis of Payment. The accepted quantity of permanent pavement marking paint will be paid for at the contract unit price for each of the pay items include in the contract. Payment will be considered full compensation for all labor, equipment, material or time necessary to complete the described work including any other incidental items.

R. Permanent Aggregate Edge Treatment – SW

1.0 Description. This work shall consist of furnishing and placing an aggregate material on the shoulders of the resurfaced route in areas indicated in the plans or as directed by the engineer. This work and material shall be in accordance with Section 310 except as follows. The edge treatment shall be at least 2' wide.

2.0 Material

2.1 Aggregate Material utilized for permanent aggregate edge treatment shall be either commercial base or coldmillings. Any material shall be approved by the engineer prior to use.

2.1.1 Coldmilling material shall be an asphaltic material created by the equipment and operations as defined in Standard Specification 622.10.

2.1.2 Aggregate material shall be a 1" commercial base.

3.0 Construction Requirements. The contractor shall furnish, haul and spread aggregate material or coldmillings to bring the shoulders up to match the overlaid pavement elevation as shown in the typical sections.

3.1 Aggregate or coldmillings shall be simultaneously deposited and spread on the sub-grade and shall not be deposited on the pavement or shoulder and bladed into place without prior approval from the engineer. Aggregate material or coldmillings shall be shaped according to the typical section and compacted until there is no visible evidence of further consolidation.

3.2 Density shall be obtained from reasonable compactive efforts consisting of no less than three passes with a roller until no further visible compaction can be achieved, or by other methods approved by the engineer.

3.3 After all placing, shaping, and compactive effort operations are completed, the permanent aggregate edge treatment shall match the overlaid pavement elevation as shown in the typical sections.

3.4 A prime coat (MC-800) in accordance with Section 408, shall be placed on top of all permanent aggregate edge treatment, regardless of material used, at a target rate of 0.25Gal/SY.

4.0 Method of Measurement. Measurement of material furnished for shoulder aggregate shall be dependent upon the material the contractor chooses to use for this work. If the contractor chooses to use a 1" commercial base, measurement will be made per ton and in accordance with Section 310.5.3. If the contractor chooses to use coldmillings, measurement will be made per linear foot. In regard to utilizing coldmillings, the Contractor is hereby being informed that it shall be their responsibility to review the existing slopes on the project and ensure there is sufficient material to install new slopes in accordance

with the specifications and plans. Measurement for all prime (MC-800) will be in accordance with Section 408.5

5.0 Basis of Payment.

5.1 The bid item for the shoulder material is for the 1" commercial base option. The accepted quantities of permanent aggregate edge treatment will be paid for at the contract unit price for PERMANENT AGGREGATE EDGE TREATMENT, pay item 304-99.10, including all labor, equipment, and material costs required to fulfill the requirements of the special provision

5.1.1 Should the contractor choose to construct the permanent aggregate edge treatment with coldmillings, notification must be given to the engineer in advance of the work so that a change order can be issued to facilitate payment of the permanent aggregate edge treatment with a contingent item as specified herein.

5.1.2 For the coldmilling option, a zero-cost change order will be issued to zero out the tonnage of permanent aggregate edge treatment so that it can be converted to a linear foot quantity pay item. A contingent item for the permanent aggregate edge treatment paid by the linear foot will be added to the change order. The linear footage added to the contract shall be double the centerline miles of the project. A unit price for the permanent aggregate edge treatment, coldmilling option, will be determined by multiplying the original permanent aggregate edge treatment unit bid price and the tonnage included in the contract, then dividing by double the centerline miles of the project.

5.2 The prime coat (MC-800) shall be paid for at the contract unit price for PRIME (MC-800), pay item 408-10.18, regardless of the material used to construct the edge treatment.

S. Culvert Location – SW

1.0 Description. This work shall consist of the Contractor documenting the location of all existing crossroad culverts prior to conducting grading operations or placement of permanent aggregate edge treatment.

2.0 Construction Requirements. Prior to the start of grading or edge treatment work, the Contractor shall document the location of the existing crossroad culverts. The Contractor shall submit the method of documentation to the Engineer for approval prior to recording the existing culvert location.

2.1 The documentation provided by the Contractor shall include the location of existing crossroad culverts by either station or log mile. Under no circumstances shall the Contractor begin grading or edge treatment work without the Engineer's approval.

2.2 The location of each crossroad culvert shall be indicated with a lathe or other identifier that can be seen during contractor operations.

2.3 The contractor shall exercise reasonable care in the locations of the crossroad culverts and all driveway culverts to ensure that grading or edge treatment operations do not result in the blockage of the culvert.

2.4 The contractor as directed by the engineer shall remove any material from all culverts that was placed by grading or edge treatment operations.

3.0 Basis of Payment. No direct compensation will be made to the Contractor for compliance with this provision. All costs associated with the equipment, labor, materials, and time necessary to fulfill the requirements of this provision shall be considered completely covered by line items in the contract.

T. Gravel A or Crushed Stone B – SW

1.0 Description. This work shall consist of furnishing and placing gravel or crushed stone surfacing for transitions at aggregate side roads and entrances upon completion of overlay and shoulder work. This work and material shall be in accordance with Section 310 except as follows.

2.0 Construction Requirements. The contractor shall furnish, haul and spread gravel or crushed stone surfacing to smooth up the transitions and eliminate any edge drop offs created at aggregate side roads and entrances created from the construction of shoulders as approved by the engineer.

3.0 Method of Measurement. Measurement of material furnished for gravel or crushed stone will be made in accordance with Section 310.5.3, excluding any deductions for moisture.

4.0 Basis of Payment. The accepted quantities of gravel or crushed stone will be paid for at the contract unit price, including all labor, equipment, and material costs required to fulfill the requirements of the special provision.

U. Contractor Furnished Surveying and Staking – SW

In addition to the requirements of Section 627 of the Missouri Standard Specifications for Highway Construction, the following shall apply:

1.0 Description. The contractor shall be responsible for all layout required on the project. This responsibility shall include, but not be limited to the following: Construction signing, transition milling, pavement marking, loop detectors, etc.

1.1 The above list is not all inclusive. The contractor shall have the primary responsibility for these operations. The contractor shall provide the Resident Engineer (RE) with a staking plan layout for approval prior to the installation of signs. The RE will also provide assistance during this layout provided a request is submitted to the RE or Construction Project Manager 48 hours in advance. This will ensure that all permanently mounted traffic control devices remain consistent with District policy and avoid re-staking. If the contractor installs any signs without engineer approval, all costs associated with re-staking and/or relocation will be at the contractor's expense.

1.2 The intent of this provision is to increase the quality of our work zones and minimize negative impacts to the contractor's schedule that can result from delays in staking.

1.3 Any adjustments to the plan quantities or line numbers established in the contract shall be approved by the Engineer.

2.0 Basis of Payment. No direct payment will be made to cover the costs associated with these additional requirements. All costs will be considered completely covered by the unit bid price submitted for Contractor Furnished Surveying and Staking.

V. Damage to Existing Pavement, Shoulders, Side Roads, and Entrances – SW

1.0 Description. This work shall consist of repairing any damage to existing pavement, shoulders, side roads and entrances caused by contractor operations. This shall include, but is not limited to, damage caused by the traffic during contractor operations within the project limits including the work zone signing.

2.0 Construction Requirements. Any cracking gouging, or other damage to the existing pavement, shoulders, side roads, or entrances from general construction shall be repaired within twenty-four (24) hours of the time of damage at the contractor's expense. Repair of the damaged pavement, shoulders, side roads, or entrances shall be as determined by the engineer.

3.0 Method of Measurement. No measurement of damaged pavement or shoulder areas or damaged side roads or entrances as described above shall be made.

4.0 Basis of Payment. No payment will be made for repairs to existing pavement, shoulders, side roads or entrances damaged by contractor expenses.

W. Sensitive Streams or Waterbodies Near Project Area

1.0 Description. The project crosses, or is in the vicinity of, a sensitive stream or watershed. Waterbodies within and near the project area may serve as habitat for federal and state listed sensitive species. To avoid any negative impacts to these species and their habitats, water quality shall be protected from construction impacts.

1.1 The contractor shall prevent any debris and materials from construction activities from entering streams and other waterbodies. If debris or materials do enter waterbodies, and if deemed necessary by the engineer or MoDOT's environmental personnel, it shall be removed as directed by the engineer at the contractor's expense.

2.0 Basis of Payment. No direct payment will be made for any expense incurred by the contractor by reason of compliance with the specific requirements of the provision, including any delay, inconvenience, or extra work except for those items for which payment is included in the contract.

X. Missouri & Northern Arkansas Railroad Requirements

1.0 Introduction.

1.1 These Railroad Requirements set forth terms and conditions agreed between the Missouri & Northern Arkansas Railroad Company, Inc**.** (Railroad) and the Missouri Highways and Transportation Commission (Commission), under which Railroad will allow the Commission's contractors to enter in and upon Railroad's real property, right of way, tracks and other facilities (Railroad's Property) to perform the contractor's work relating to this project.

1.2 To report an emergency on the Railroad, call: 866-527-3499

1.3 The project is located on the MNA Aurora Subdivision, at Mile Post 513.07, DOT# 435186U in La Russell, MO.

1.4 Definitions of terms set forth in the current edition of the Missouri Standard Specifications for Highway Construction shall be applicable to those terms as used in these Railroad Requirements.

1.5 Contractor may not access, at any time, any property of the Railroad outside the State's permanent and temporary easements without Railroad's prior, written approval.

2.0 Authority of Railroad Representative and Engineer.

2.1 The authorized representative of the Railroad, herein called "Railroad Representative", shall have final authority in all matters affecting the safe maintenance and operation of railroad traffic including the adequacy of the foundations and structures supporting the railroad tracks.

2.1.1 The Railroad designates the following individual as the Railroad Representative for this project. Except as otherwise provided in these Railroad Requirements, the contractor shall address all notices concerning this project to the Railroad Representative, as follows:

Mr. Greg Feyerabend
General Manager
Missouri & Northern Arkansas Railroad Company, Inc.
514 North Orner
Carthage, MO 64836
Email: Greg.Feyerabend@gwrr.com
TEL: (918) 289-4861 [mobile]

2.1.2 The Railroad, or the individual identified above, may designate a different individual to act as the Railroad Representative for this project, and may change the address information stated above, by giving written notice of the changes to the contractor and to the Engineer, as provided in these Railroad Requirements.

2.2 The authorized representative of the Commission (Engineer) shall have authority over all other matters as prescribed herein and in the project specifications.

3.0 Contractor's Indemnity Obligations to the Railroad. The contractor agrees to indemnify, defend and hold harmless the Railroad from and against any injury or death of persons whomsoever, or from any loss or damage to the Railroad's Property, caused by acts or omissions of the contractor in performing work on this project, whether on, over, under or in the vicinity of the Railroad's Property as more specifically detailed in the Right of Entry Agreement referenced in Section 4.5 below. In the event the contractor shall fail to restore the Railroad's Property immediately to a condition acceptable to the Railroad when any such loss or damage to the Railroad's Property is called to the contractor's attention by the Railroad, then the Railroad may perform such corrective work at the cost of the contractor. In addition to such remedies of the Railroad, the Commission will withhold from final payment due to the contractor the amount reasonably necessary to reimburse the Railroad for such loss or damage or for performing such work. The term "loss or damage" as used herein shall include, but not be limited to, the erosion and silting of, water damage to, and the accidental or intentional placing or dropping of objects on the Railroad's Property.

4.0 Notice of Starting Work. The contractor shall not commence any work on the Railroad's right of way until contractor has complied with the following conditions:

4.1. At least thirty (30) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor has given written notice of the contractor's proposed start date and time to the Railroad Representative, and Railroad's Manager of Track Maintenance (see paragraph 12.2.3 below), with a copy to the Engineer.

4.2 The Commission has obtained written approval from the Railroad's Representative for the contractor's insurance coverage as required by Section 17 of these Railroad Requirements, and authorization for the contractor to begin work on the Railroad's Property.

4.3 The contractor has determined whether fiber optic cable systems are buried on the Railroad's Property. If fiber optic cable systems are buried on the Railroad's Property, then the contractor has contacted the Railroad at the 24 hour number, 800-336-9193, has contacted the telecommunications company involved, has arranged for a cable locator, and has made arrangements for relocation or other protection of the fiber optic cable system on the Railroad's Property.

4.4 The contractor's employees, representatives or agents who are regularly assigned to perform work on the Railroad's Property have been certified as having completed the Internet Safety Orientation available at https://railpros.com/training/ where contractor needs to complete the course. This certification shall be renewed annually. In addition the contractor shall require that every employee, representative or agent who is not regularly assigned to perform work on the Railroad's Property has received appropriate safety training before performing any work on the Railroad's property. The cost of the Internet Safety Orientation, which is subject to change, is currently $75 per person per year.

4.5 Right of Entry. At least forty five (45) days in advance of the date the contractor proposes to begin work on the Railroad's Property, the contractor shall enter into a Right of Entry Agreement with Railroad prior to working on Railroad property. The application for Right of Entry Agreement can be found at the following address:

http://www.gwrr.com/real-estate/accessing-property/

4.5.1 The applicant must submit the completed application to the Real Estate Department including a check or money order, to cover the non-refundable fee of $1,750 made payable to the Railroad. The application must include railroad milepost, railroad subdivision, and scope of work.

4.5.2 Upon approval of the application, the Real Estate Department will draft an agreement and forward to the applicant for signature. **Application does not guarantee approval**. The applicant must then return the signed document to the Real Estate Department along with the pertinent certificate of insurance outlined in the agreement. Once in receipt of these documents, the agreement will then be executed on behalf of the Railroad.

5.0 Interference with Railroad's Operations.

5.1 The Railroad's right of way is located within the limits of this project. The contractor shall take care to insure that it will not drop any debris or material on the Railroad's Property.

5.2 The contractor shall arrange and conduct all of the contractor's work so that it causes no interference with the Railroad's operations, including train, signal, telephone, telegraphic services, damage to the Railroad's Property, poles, wires and other facilities of tenants on the Railroad's Property. Whenever the contractor's work may directly affect the operations or safety of trains, the contractor shall submit a written description of the method of doing such work to the Railroad Representative for approval, but such approval shall not relieve the contractor from liability resulting from the contractor's work. Any work to be performed by the contractor that requires flagging service shall be deferred by the contractor until the flagging services are available at the job site.

5.3 Whenever the contractor's work upon the Railroad's Property will unavoidably cause an impediment to the Railroad's operations, such as requiring the use of runaround tracks or reduced train speed, the contractor should schedule and conduct these operations so that this impediment is reduced to the absolute minimum.

5.4 If conditions arising from, or in connection with the work require immediate and unusual provisions to protect the Railroad's operations and property, the contractor shall make such provisions. If in the judgment of the Railroad Representative, or the Engineer if the Railroad Representative is absent, such provision is insufficient, then the Railroad Representative or Engineer may require or provide such provisions as he/she deems necessary. In any event, the contractor shall make such provisions at the contractor's expense, and without cost to the Railroad or the Commission.

6.0 Track Clearances. During construction, the contractor shall maintain not less than the minimum track clearances as shown on the project plans. However, before undertaking any work within the Railroad's Property and before placing any obstruction over any track, the contractor shall:

6.1 Notify the Railroad Representative at least ten (10) days in advance of the proposed work.

6.2 Receive assurance from the Railroad Representative that arrangements have been made for flagging service as may be necessary.

6.3. Receive permission from the Railroad Representative to proceed with the work, as provided in section 4.0.

6.4. Confirm that the Engineer has received copies of the contractor's notice to the Railroad, and of the Railroad's response.

7.0 Construction Procedures.

7.1. General. The contractor's work on the Railroad's property shall be performed in accordance with these Railroad Requirements and shall be subject to the Railroad's inspection and review. The contractor shall submit plans that shall be signed, sealed, and stamped in accordance with the laws relating to Architects and Professional Engineers, Chapter 327, RSMo, for the demolition of any structure over Railroad right of way, and for temporary shoring and falsework that may affect the Railroad's facilities or traffic.

7.2 Excavation. The contractor shall maintain the subgrade of an operated track with the beam edge at least 12 feet from centerline of track and not more than 26 inches below top of rail, unless the existing section fails to meet this specification, in which case the contractor shall maintain the existing section.

8.0 Maintenance of Railroad Facilities. Within the project limits, the contractor shall maintain Railroad's Property, including all ditches and drainage structures, free of silt or other obstructions that may result from contractor's operations. The contractor shall promptly repair eroded areas within the Railroad's Property and repair any other damage to the Railroad's Property or the Railroad's tenants. The contractor shall perform all such maintenance and repair of damages due to the contractor's operations at the contractor's expense.

9.0 Storage of Materials and Equipment.

9.1 The contractor shall obtain permission from the Railroad Representative before storing any materials or equipment anywhere on Railroad's Property. The Railroad will not ordinarily permit storage within twenty-five feet (25') from the centerline of any track, or within three hundred feet (300') from any grade crossing. The Railroad will not be liable for damage to such material and equipment from any cause, and the Railroad Representative may move such material and equipment or require the contractor to move it, at the contractor's expense.

9.2 The contractor shall not leave unattended any grading or construction machinery parked upon Railroad's Property, unless it is effectively immobilized so that unauthorized persons cannot move such machinery.

10.0 Cleanup. Upon completion of the work, the contractor shall remove from within the limits of the Railroad's Property all machinery, equipment, surplus materials, falsework, rubbish or temporary buildings of the contractor's and shall leave Railroad's Property in a neat condition satisfactory to the Railroad Representative.

11.0 Damages. The Railroad shall not assume liability for any damages to the contractor, contractor's work, employees, servants, equipment and materials caused by the Railroad's traffic. However, the preceding sentence shall not exempt the Railroad from liability for any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The contractor shall directly reimburse the Railroad for any cost the Railroad reasonably incurs for repairing damages to the Railroad's Property or to property of the Railroad's tenants, caused by or resulting from the operations of the contractor relating to this project.

12.0 Flagging Services.

12.1 When Flagging is Required. The Railroad has sole authority to determine the need for flagging to protect the Railroad's operations. Whenever the Railroad requires flagging services with reference to any of the contractor's work on this project, the contractor shall not perform any such work until all required flaggers are present at the job site.

12.1.1 In general, the Railroad may require flagging services whenever the contractor's personnel or equipment are, or are likely to be, working on the Railroad's Property, or across, over, adjacent to, or under a track, or when such work has disturbed or is likely to disturb a railroad structure or the railroad roadbed or surface and alignment of any track to such extent that the movement of trains must be controlled by flagging, to prevent unreasonable risks of accidental hazard to the Railroad's operations or personnel.

12.1.2 Normally the Railroad will assign one flagger to a project; but in some cases, more than one may be necessary, such as yard limits where the Railroad may assign up to three flaggers. However, if the contractor works within the distances that violate instructions given by the Railroad Representative, or

performs work upon or adjacent to Railroad's Property that has not been scheduled with the Railroad Representative, the Railroad may require flagging services full time until the project is completed.

12.2 Scheduling and Notification of Flagging Services.

12.2.1 The contractor shall arrange with the Railroad all flagging services required by the Railroad to accomplish the contractor's work on this project.

12.2.2 Before the contractor begins work on the Railroad's Property, the contractor shall furnish to the Railroad Representative and the Engineer a schedule for all work required to complete the contractor's portion of the project within the Railroad's Property, and shall arrange for a job site meeting between the contractor, the Engineer, and the Railroad Representative. Until the contractor has provided its work schedule and met on-site with the Railroad Representative and the Engineer, the Railroad may withhold all flagging services from the contractor's proposed job site. Before the flagger(s) begin each day's work, the flagger(s) and the contractor shall meet to conduct a job briefing.

12.2.3 Before the contractor first begins any work upon or adjacent to the Railroad's Property, the contractor shall give not less than thirty (30) days' advance notice to the Railroad, and to the Engineer, of its intent to begin such work. The contractor shall address all notices relating to flagging to the Railroad as follows:

Mr. Greg Feyerabend
General Manager
Missouri & Northern Arkansas Railroad Company, Inc.
514 North Orner
Carthage, MO 64836
Email: Greg.Feyerabend@gwrr.com
TEL: (918) 289-4861 [mobile]

12.2.4 The Railroad usually assigns one flagger to work at the job site on a continuous basis until the contractor no longer needs flagging services. The contractor shall not call for flagging services on a spot basis. The Railroad's assigned flagger shall notify the Engineer when flagging services have begun and ended. The flagger shall give these notices immediately upon arrival at the job site on the first day, and before departing from the job site on the last day of each separate period when the Railroad provides flagging services, or as soon as possible thereafter. The Engineer shall document these notifications in the project records.

12.2.5 After the contractor has begun work that requires flagging services, the contractor shall give not less than five (5) day's advance written notice to the Railroad before discontinuing flagging services and terminating the obligation to pay for flagging services. The contractor shall simultaneously provide a copy of this notice to the Engineer. If the contractor's work on or adjacent to the Railroad's Property is suspended at any time, or for any reason, then before the contractor resumes any work on or adjacent to the Railroad's Property, the contractor shall give advance, written notice to the Railroad and to the Engineer of its intent to resume such work. This notice shall provide sufficient details of the contractor's proposed work to enable the Railroad Representative to determine whether flagging services will be required before the contractor resumes its work on or adjacent to the Railroad's Property. The contractor shall give this required notice at least three (3) working days' before it intends to resume such work; however, the Railroad may take up to thirty (30) days after the contractor has given this notice before resuming flagging services at the job site. The requirements of this paragraph 12.2.5 shall not apply if the suspension and

resumption of the contractor's work were previously scheduled with the Railroad pursuant to paragraph 12.2.2 of these Railroad Requirements, or the suspension was caused by an emergency as provided in paragraph 12.2.6 of these Railroad Requirements.

12.2.6 If, after the Railroad has assigned a flagger to the project site in accordance with section 12.0, any emergency requires the flagger's presence elsewhere, then the contractor shall suspend work on the Railroad's Property until the flagger is again available. Any additional costs to the contractor resulting from such delay shall be borne by the contractor and not by the Railroad.

12.3 Payment for Flagging Services.

12.3.1 The Commission will pay the Railroad directly for the cost of flagging services associated with this project by deducting the amount from the Commission's payments to the contractor.

12.3.2 The estimated cost of flagging services is approximately $1,200 per day, based on an 8-hour work day and a 40-hour work week. The Railroad shall charge not more than its actual cost of providing these flagging services, which includes the base pay for the flagger or flaggers who actually performed the required flagging services, the Railroad's reasonable overhead costs, and the reasonable costs actually incurred for the flagger's travel expenses, meals and lodging if required. The Railroad may charge a maximum of one-hour travel time each way per day per flagger, for travel to and from the job site. A flagger's work in excess of 8 hours per day or 40 hours per week, but not more than 12 hours per day, will result in a pay rate of $225 per hour after 8 hours. If a flagger performs required flagging services on a holiday, then the pay rate shall be $225 per hour for all hours worked on the holiday. The Commission also shall reimburse the Railroad for its actual expenses reasonably incurred in preparing and handling invoices to the Commission for the cost of these flagging services. The Railroad's charges to the Commission shall be in accordance with applicable provisions of the Federal Aid Policy Guide issued by the Federal Highway Administration, including all current amendments.

12.3.3 The Railroad shall submit progress invoices to the Engineer during the time the Railroad requires flagging services. The Railroad shall submit its final invoice for flagging services to the Engineer within one hundred eighty (180) days after the contractor has notified the Railroad and the Commission that all its work over the Railroad's Property is complete, in accordance with section 18.0 below. If the Commission does not receive the Railroad's final flagging invoice within this time period, then the Railroad shall obtain payment directly from the contractor.

12.3.4 If a dispute arises between the Railroad, the Commission and the contractor concerning the amount charged for flagging service, then the Commission may deduct the full amount of the Railroad's invoice from the contractor's payment, until the dispute is resolved.

12.4 Flagging Complaints. The contractor and the Railroad shall attempt to resolve any complaints concerning flagging services in a timely manner. If the contractor disputes the need for a flagger, the contractor shall notify the Railroad Engineer and the Engineer. The contractor shall confirm any verbal complaints in writing within five (5) working days, by sending a copy to the Railroad Representative and to the Engineer.

13.0 Temporary Construction Grade Crossing.

13.1 When the contractor has no reasonable alternate method of transporting construction materials and personnel across the Railroad's track, the contractor shall make all necessary arrangements with the

Railroad for the installation, maintenance and removal of one temporary grade crossing for a construction haul road including, without limitation, entering into Railroad's then current form of Temporary Private Grade Crossing Agreement. The contractor shall bear all costs incidental to such crossings, including flagging, whether services are performed by contractor's own forces or by the Railroad's personnel. The contractor shall execute the Railroad's standard Road Crossing Agreement covering terms and conditions for the temporary crossing.

13.2 Neither the contractor nor the Railroad shall construct any crossing for use by the contractor for transporting materials or equipment across the tracks of the Railroad until the Railroad Representative specifically authorizes the installation, maintenance, necessary watching and flagging thereof and removal, which shall be done at the contractor's expense.

14.0 Work for the Benefit of the Contractors. The project plans show all temporary or permanent changes in wire lines or other facilities that are necessary to complete the project, or these changes will be covered by appropriate plan revisions approved by the Commission and the Railroad. If the contractor desires any further changes, the contractor shall make separate arrangements with the Railroad for those changes, at the contractor's expense.

15.0 Cooperation and Delays. The contractor shall arrange a schedule with the Railroad for accomplishing staged construction involving work by the Railroad or tenants of the Railroad. In arranging a schedule, the contractor shall request information from the Railroad, and the Railroad shall promptly provide information, concerning the minimum lead-time required for assembling crews and materials. The contractor shall schedule adequate time for those activities. The contractor shall not make any claim against the Railroad for hindrance or delay on account of railway traffic for:

15.1 Any work the Railroad performs.

15.2 Other delay incident to or necessary for the safe maintenance of railway traffic.

15.3 Any delays due to compliance with these Railroad Requirements.

16.0 Trainman's Walkways. The contractor shall maintain along the outer side of each exterior track of multiple operated tracks, and on each side of single operated track, an unobstructed continuous space suitable for trainman's use in walking along trains, extending to a line not less than 12 feet from the centerline of the track. Before the close of each workday, the contractor shall remove all temporary impediments to walkways and track drainage encroachments or obstructions that were allowed during work hours when flagging services were available. Whenever the contractor excavates or maintains any excavation near the walkway, the contractor shall install a handrail with 12 feet minimum clearance from the centerline of the track.

17.0 Insurance.

17.1 General Insurance Provisions. The contractor shall, at its sole cost and expense, procure and continuously maintain in force during this project, the insurance coverage required under this section 17 until the contractor has completed all project work on the Railroad's Property, has removed all equipment and materials from the Railroad's Property, and has cleaned and restored the Railroad's Property to the satisfaction of the Engineer and the Railroad Representative. The amount of work to be performed upon, over or under the Railroad's Property is estimated to be one percent (1%) of the contractor's total bid for the project.

17.2 Commercial General Liability Insurance. The contractor shall maintain commercial general liability ("CGL") insurance with a limit of not less than $2,000,000 for each occurrence and an aggregate limit of not less than $6,000,000. CGL insurance must be written on ISO occurrence form CG 00 01 12 04 (or a substitute form providing equivalent coverage). The policy must contain the following endorsement, which must be stated on the certificate of insurance: **"**Contractual Liability Railroads" ISO form CG 24 17 10 01 (or a substitute form providing equivalent coverage) showing "**Missouri & Northern Arkansas Railroad Company** Property" as the Designated Job Site.

17.3 Business Automobile Coverage Insurance. The contractor shall maintain business auto coverage written on ISO form CA 00 01 (or a substitute form providing equivalent liability coverage) with a combined single limit of not less than $5,000,000 for each accident. The policy must contain the following endorsements, which must be stated on the certificate of insurance: "Coverage For Certain Operations In Connection With Railroads" ISO form CA 20 70 10 01 (or a substitute form providing equivalent coverage) showing "Missouri & Northern Arkansas Railroad Company Property" as the Designated Job Site; and Motor Carrier Act Endorsement - Hazardous Materials Clean Up (MCS-90) if required by law.

17.4 Workers' Compensation and Employers' Liability Insurance. The contractor shall maintain workers' compensation insurance coverage, with not less than the minimum statutory liability required under the workers' compensation laws of the State of Missouri. The contractor shall maintain Employers' Liability (Part B) insurance coverage with limits of at least $500,000 for each accident, a $500,000 disease policy limit, and $500,000 for each employee. If the contractor is self-insured, then the contractor shall provide evidence of state approval and excess workers' compensation coverage, which must include coverage for liability arising out of the U. S. Longshoremen's and Harbor Workers' Act, the Jones Act, and the Outer Continental Shelf Land Act, if applicable. The policy must contain the following endorsement, which must be stated on the certificate of insurance: "Alternate Employer Endorsement" ISO form WC 00 03 01 A (or a substitute form providing equivalent coverage) showing the Railroad in the schedule as the alternate employer (or a substitute form providing equivalent coverage).

17.6 Railroad Protective Liability Insurance. The contractor must maintain Railroad Protective Liability insurance written on ISO occurrence form CG 00 35 12 04 (or a substitute form providing equivalent coverage) on behalf of the Railroad as named insured, with a limit of not less than $2,000,000 per occurrence and an aggregate limit of $6,000,000. Before commencing any work on the Railroad's Property, the contractor shall submit the original insurance policy to the Railroad, or may submit a binder stating that the required Railroad Protective Liability policy is in place until the contractor delivers the original policy to the Railroad. The contractor shall cause the Railroad Protective Liability Insurance policy to include a description of the named insured, the work, and the job site, as follows:

17.6.1 Named Insured. The Named Insured on the Railroad Protective Liability Insurance policy shall be Missouri & Northern Arkansas Railroad Company, Inc.

17.6.2 Description and Designation. The description of the work and designation of the job site to be shown on the Railroad Protective Liability Insurance policy are as follows:

Resurfacing (mill/fill) up to both sides of crossing.
Job No. JST0047 Jasper County, Route U
DOT# 435186U MNA Aurora Sub, Mile Post 513.07 in La Russell, MO.

17.7 Umbrella or Excess Insurance. If the contractor utilizes umbrella or excess insurance policies, these policies must "follow form" and afford no less coverage than the primary policy.

17.8 Pollution Liability Insurance. The contractor shall maintain pollution liability insurance coverage, which must be written on ISO form Pollution Liability Coverage Form Designated Sites CG 00 39 12 04 (or a substitute form providing equivalent liability coverage), with limits of at least $5,000,000 per occurrence and an aggregate limit of $10,000,000. If the scope of work as defined in this Project includes the disposal of any hazardous or non-hazardous materials from the job site, the contractor must furnish to the Railroad evidence of pollution legal liability insurance maintained by the disposal site operator for losses arising from the insured facility accepting the materials, with coverage in minimum amounts of $1,000,000 per loss, and an annual aggregate of $2,000,000.

17.9 Other Insurance Requirements.

17.9.1. Each policy required above (except workers' compensation and employers' liability) must include the Railroad and its affiliated companies, including but not limited to Genesee & Wyoming, Inc. as "Additional Insured" using ISO Additional Insured Endorsements CG 20 26, and CA 20 48 (or substitute forms providing equivalent coverage). The coverage provided to the Railroad as an additional insured shall, to the extent provided under ISO Additional Insured Endorsement CG 20 26 and CA 20 48, provide coverage for the Railroad's negligence whether sole or partial, active or passive.

17.9.2 Where allowable by law, the punitive damage exclusion shall be deleted, and the deletion shall be indicated on the certificate of insurance.

17.9.3 The contractor waives all rights of recovery, and its insurers also waive all rights of subrogation of damages against the Railroad and its agents, officers, directors and employees, except that these waivers shall not apply to punitive damages, nor to any loss, damage or injury proximately caused by the Railroad's intentional misconduct or sole or gross negligence. The certificate of insurance shall acknowledge these waivers.

17.9.4 Prior to commencing any work on the Railroad's Property, the contractor shall furnish the Railroad with one or more certificates of insurance, executed by a duly authorized representative of each insurer, showing compliance with the insurance requirements set forth in this Section 17.

17.9.5 The contractor shall only obtain insurance policies written by a reputable insurance company acceptable to the Railroad, or which currently has a Best's Insurance Guide Rating of "A–" and Class VII or better, and which is authorized to do business in the State of Missouri.

17.9.6 The fact that insurance is obtained by the contractor or by the Railroad on behalf of the contractor will not be deemed to release or diminish the liability of the contractor, including, without limitation, liability under the indemnity provisions contained in Section 3.0 of these Railroad Requirements. Damages recoverable by the Railroad from the contractor or any third party will not be limited by the amount of the required insurance coverage, except to the extent of any payments the Railroad has received pursuant to insurance coverage obtained and paid for by the contractor.

17.10 Evidence of Insurance. The contractor shall provide evidence of insurance as required above to the addresses shown below, for review by the Commission and approval by the Railroad.

Railroad
Mr. Michael R. Morningstar
Director of Risk Management and Claims
Genesee & Wyoming Railroad Services, Inc.
13901 Sutton Park Drive South
Suite 150
Jacksonville, FL 32224
Phone: (904) 900-6258
Fax: (904)223-4618

Commission
Ms. Brandi Baldwin
State Construction & Materials Engineer
MoDOT

P.O. Box 270
Jefferson City, MO 65102

17.11 Except as otherwise specifically provided in these Railroad Requirements, the Railroad will not accept binders as evidence of insurance, and the contractor shall provide the Railroad with the original insurance policy.

17.12 Insurance Required of Subcontractors. If any part of the work is sublet, the contractor shall maintain and provide evidence of similar insurance, in the same amounts as required of the prime contractor, to cover the subcontractor's operations. The Railroad will accept endorsements to the prime contractor's policies specifically naming subcontractors and describing the subcontractor's operations, for this purpose.

17.13 Cancellation of Insurance. The contractor and its insurers shall not cancel any of the required insurance coverage, except by permission of the Commission and the Railroad, or after thirty (30) days' written notice to the Commission and the Railroad at the addresses shown in subsection 17.10.

18.0 Completion of Work on Railroad's Property. The contractor shall notify Engineer and Railroad's Representative when the contractor has completed its work on Railroad's Property.

19.0 Failure to Comply. If the contractor violates or fails to comply with any of these Railroad Requirements, then the Railroad Engineer may require that the contractor vacate the Railroad's property and the Engineer may withhold all monies due to the contractor until the contractor has remedied the situation to the satisfaction of the Railroad Engineer and the Engineer.

20.0 Payment for Cost of Compliance. The contractor is not entitled to any separate payment for any extra cost it may incur on account of compliance with these Railroad Requirements. The contractor shall include all such costs in the contract unit price for items properly authorized in the contract.

Y. Airport Requirements

1.0 Description. The project is located near a public use airport or heliport or is more than 200 feet above existing ground level, which requires adherence to Federal Aviation Regulation Part 77 (FAA Reg Part 77). "Near" to a public use airport or heliport is defined as follows:

20,000 feet (4 miles) from an airport with a runway length of at least 3,200 feet
10,000 feet (2 miles) from an airport with runway length less than 3,200 feet
5,000 feet (1 mile) from a public use heliport

2.0 The maximum height of the improvement and the equipment operating while performing the improvements was assumed to be approximately 40 to 70 feet above the current travelway during the process of evaluating the project for compliance with FAA Reg Part 77.

2.1 If the contractor's height of equipment or if the improvement itself is beyond the assumed height as indicated in Sec 2.0, the contractor will work with the resident engineer to fill out the Form 7460-1, or revise the original Form 7460-1 based upon the proposed height and resubmit, if necessary, for a determination by FAA on compliance with FAA Reg Part 77. Further information can be found in MoDOT's Engineering Policy Guide 235.8 Airports. If the Form 7460-1 must be filed, the associated work shall not be performed prior to the FAA determination, which could take up to 45 days.

2.2 If the contractor's height of equipment and the improvement itself is below the assumed height as indicated in Sec 2.0, no further action is necessary to fulfill the requirements set forth in FAA Reg Part 77.

3.0 Basis of Payment. There will be no direct payment for any work associated with this provision. Contract time extension will be given for the time necessary to obtain or revise the FAA permit. Any delays or costs incurred in obtaining the revised permit will be noncompensable.

Z. Patching Cold Mix Routes

1.0 Description. This project will resurface routes primarily composed of cold mix material. Due to increased truck traffic during construction, it is anticipated sections of these routes may experience severe distress and loss of surface integrity, to the point of becoming impassable to passenger vehicles.

1.1 It shall be the contractor's responsibility to repair all damaged pavement areas from the time paving begins to final acceptance of each route. Locations to be repaired shall be determined by the engineer.

1.2 Quantities included in the contract are estimated and may be completely underrun or overrun.

2.0 Construction Requirements. Removal of damaged pavement shall be by cold milling, skid steer or other means approved by the engineer. All loose material shall be removed from damaged areas prior to placement of new material.

3.0 Material. The contractor may use a BP-2 mix, surface leveling mix, or other material as approved by the engineer to repair the damaged pavement areas.

4.0 Method of Measurement. Measurement of Misc. Removal of Damaged Pavement will be computed to the nearest 1.0 square yard. Measurement of Misc. Replacement of Damaged Pavement will be computed to the nearest 0.1 ton.

5.0 Basis of Payment. All costs including labor, equipment and materials required to comply with this provision will be completely covered under pay item 622-99.05 Misc. Removal of Damaged Pavement, per Square Yard, and pay item 402-99.10 Misc. Replacement of Damaged Pavement, per Ton. No direct payment will be made for loading, hauling, stockpiling or disposing of damaged pavement material.

AA. Lump Sum Temporary Traffic Control JSP-22-01

1.0 Delete Sec 616.11 and insert the following:

616.11 Method of Measurement. Measurement for relocation of post-mounted signs will be made to the nearest square foot of sign area only for the signs designated for payment on the plans. All other sign relocations shall be incidental. Measurement for construction signs will be made to the nearest square foot of sign area. Measurement will be made per each for each of the temporary traffic control items provided in the contract.

616.11.1 Lump Sum Temporary Traffic Control. No measurement will be made for temporary traffic control items grouped and designated to be paid per lump sum. The list of lump sum items provided in the plans or contract is considered an approximation and may be subject to change based on field conditions. This is not a complete list and may exclude quantities for duplicate work zone packages used in simultaneous operations. The contractor shall provide all traffic control devices required to execute the provided traffic control plans for each applicable operation, stage, or phase. No measurement will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer.

2.0 Delete Sec 616.12 and insert the following:

616.12 Basis of Payment. All temporary traffic control devices authorized for installation by the engineer will be paid for at the contract unit price for each of the pay items included in the contract. Whether the devices are paid individually, or per lump sum, no direct payment will be made for the following:

(a) Incidental items necessary to complete the work, unless specifically provided as a pay item in the contract.

(b) Installing, operating, maintaining, cleaning, repairing, removing, or replacing traffic control devices.

(c) Covering and uncovering existing signs and other traffic control devices.

(d) Relocating temporary traffic control devices, including permanent traffic control devices temporarily relocated, unless specifically included as a pay item in the contract.

(e) Worker apparel.

(f) Flaggers, AFADs, PFDs, pilot vehicles, and appurtenances at flagging stations.

(g) Furnishing, installing, operating, maintaining, and removing construction-related vehicle and equipment lighting.

(h) Construction and removal of temporary equipment crossovers, including restoring pre-existing crossovers.

(i) Provide and maintaining work zone lighting and work area lighting.

616.12.1 Lump Sum Temporary Traffic Control. Traffic control items grouped together in the contract or plans for lump sum payment shall be paid incrementally per Sec 616.12.1.1. Alternately, upon request

from the contractor, the engineer will consider a modified payment schedule that more accurately reflects completion of traffic control work. No payment will be made for any additional signs or devices needed except for changes in the traffic control plan directed by the engineer. Additional items directed by the engineer will be paid for in accordance with Sec 109.4. No adjustment to the price will be made for overruns or underruns of other work or for added work that is completed within existing work zones.

616.12.1.1 Partial payments. For purposes of determining partial payments, the original contract amount will be the total dollar value of all original contract line items less the price for Lump Sum Temporary Traffic Control (LSTTC). If the contract includes multiple projects, this determination will be made for each project. Partial payments will be made as follows:

(a) The first payment will be made when five percent of the original contract amount is earned. The payment will be 50 percent of the price for LSTTC, or five percent of the original contract amount, whichever is less.

(b) The second payment will be made when 50 percent of the original contract amount is earned. The payment will be 25 percent of the price for LSTTC, or 2.5 percent of the original contract amount, whichever is less.

(c) The third payment will be made when 75 percent of the original contract amount is earned. The payment will be 20 percent of the price for LSTTC, or two percent of the original contract amount, whichever is less.

(d) Payment for the remaining balance due for LSTTC will be made when the contract has been accepted for maintenance or earlier as approved by the engineer.

616.12.1.2 Temporary traffic control will be paid for at the contract lump sum price for Item:

Item No.	Unit	Description
616-99.01	Lump Sum	Misc. Lump Sum Temporary Traffic Control

List of items included in lump sum traffic control:
616-10.05 – Construction Signs
616-10.25 – Channelizer (Trim Line)