



Montana Department of Transportation

PO Box 201001
Helena, MT 59620-1001

VISION ZERO

zero deaths
zero serious injuries

Memorandum

To: e-distribution
see listing below

From: James A. Combs, P.E.
Highways Engineer

Date: June 26, 2019

Subject: New Plant Mix Items for Miscellaneous Paving

In recognition of the reduced production rates and increased labor associated with miscellaneous paving operations, MDT will start measuring and paying for these plant mix quantities separate from mainline paving for most non-interstate projects. For projects that have paid quantities of both mainline roadway plant mix and miscellaneous paving of the same material, use the following bid items for the miscellaneous plant mix:

401 020 046	Plant Mix Bit Surf Gr S - Misc	Ton
401 020 064	Commercial Plant Mix – Misc	Ton

The determination for using either the commercial or the volumetric plant mix bid item will remain unchanged and is determined by the total tonnage of plant mix on the project (See 11/16/2017 Pavement Design Manual design memo). All other associated paving quantities (Tack, Asphalt Cement, Hydrated Lime, etc.) are not affected by this change, and will continue to be measured and paid under existing bid items.

These new items are not covered by a material specification. They need to be used coincidentally with other paving bid items that include gradation and AC specifications. In general, these items are intended for pavements that are completed with a separate operation from the roadway paving, represented in the Additional Surfacing summary frame, and not represented in the project Typical Sections. Paving items that may be measured with these bid items include:

- approaches,
- separated paths (same gradation as roadway),
- Type B scale sites,
- historic markers or other turnouts,
- and other spot paving areas measured by the ton.

Meeting the criteria listed above does not guarantee these bid items are appropriate for use for all miscellaneous paving. Nor does not meeting the criteria necessarily exclude their use in some cases. Exceptions to this general guidance may be necessary based

on the amount or proportion of misc. paving on the project, required or anticipated sequencing, or other factors that make tracking the quantities in the field problematic, as determined by Construction. In General, items not included in the miscellaneous paving quantities are:

- interchange ramps and crossroads,
- auxiliary/turn lanes,
- minor widening done with roadway paving (i.e. 3 ft. strips on appr.),
- intersecting roadways with typical sections in the plans,
- approach paving longer than 300 feet,
- paving with different plant mix gradation than mainline,
- rest areas and Type A scale sites,
- any pavement included in other items or not measured by the ton,
- and projects without or very limited roadway paving.

The following plans, specifications, and estimate changes are required for inclusion of either misc. PMS item on a project:

- Include Misc./Approach Paving Special Provision from binder.
- No change is required for Basis of Plan Quantities
- Edit the column header for PMS in the Additional Surfacing summary to match the appropriate bid item, or add an additional column if other items are included in mainline PMS quantities
- Add a column for the misc. PMS in the Surfacing summary frame to include the Add. Surf. quantity total.
- Add the item and quantity to the project estimate.

This change is effective for all applicable projects beginning with the November 14, 2019 bid letting. Below are the draft binder special provision and an example of summary frame revisions. Refer to the current binder copy for any updates to the standard special provision. Contact Damian Krings with any questions to this guidance.

1. MISCELLANEOUS/APPROACH PAVING [401] (NEW)

Description. This provision provides for separate payment of approaches and miscellaneous paving from mainline quantities that is not placed in conjunction with production paving.

Materials. Furnish the same plant mix surfacing and asphalt binder as specified in the contract. Produce plant mix in accordance with Section 401.

Construction. Vacant

Measurement. Miscellaneous/Approach paving is measured in accordance with Subsection 401.04. Miscellaneous/Approach paving quantities will be paid by the separate bid item and will not be included in QA totals.

Basis of Payment. Plant Mix Surf GR S-Miscellaneous is paid by the ton. Commercial Plant Mix Surfacing-Miscellaneous is paid by the ton.

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APPROACHES

PROVIDE THE FOLLOWING SURFACING:
0.2' PLANT MIX BITUMINOUS SURF.

PLACE 3.0 FOOT WIDE PLANT MIX PAVED STRIP ADJACENT AND PARALLEL
TO THE ROADWAY FOR ALL GRAVEL APPROACHES AND PAVED PRIVATE APPROACHES

QUANTITIES FOR ONE APPROACH:

PLANT MIX BITUMINOUS SURF. = 2.3 tons
ASPHALT CEMENT = 0.13 tons
EMULSIFIED ASPHALT - TACK = 1.0 gallons

PLACE 3.0 FOOT WIDE PLANT MIX PAVED STRIP ADJACENT AND PARALLEL
TO THE ROADWAY FOR ALL NON-STANDARD GRAVEL APPROACHES

QUANTITIES FOR ONE NON-STANDARD GRAVEL APPROACH:

PLANT MIX BITUMINOUS SURF. = 32.5 tons
ASPHALT CEMENT = 1.88 tons
EMULSIFIED ASPHALT - TACK = 4.9 gallons

PLACE 12.0 FOOT WIDE PLANT MIX PAVED STRIP ADJACENT AND PARALLEL
TO THE ROADWAY FOR ALL PAVED PUBLIC APPROACHES

QUANTITIES FOR ONE PAVED PUBLIC APPROACH:

PLANT MIX BITUMINOUS SURF. = 8.1 tons
ASPHALT CEMENT = 0.47 tons
EMULSIFIED ASPHALT - TACK = 2.9 gallons

BASIS OF PLAN QUANTITIES

(QUANTITIES FOR ESTIMATING PURPOSES ONLY)

COMP. AGGREGATE WEIGHT	= 3700 LBS. PER CUBIC YARD
COMP. WEIGHT OF PL. MIX BIT. SURF.	= 3855 LBS. PER CUBIC YARD
ASPHALT CEMENT - GRADE S - 1/2" AGG.	= 5.8% OF PL.MIX BIT.SURF.
HYDRATED LIME	= 1.4% OF PL.MIX BIT.SURF.
BITUMINOUS MATERIAL	= 8.5 LBS. PER GAL.
EMULSIFIED ASPHALT - TACK (ALL OTHER SURFACES)	= 0.05 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - TACK (CONCRETE SURFACES)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - FOG SEAL (S & C)	= 0.075 GAL. PER SQ.YARD (UNDILUTED)
EMULSIFIED ASPHALT - FOG SEAL (RUMBLE STRIPS)	= 0.10 GAL. PER SQ.YARD (UNDILUTED)
SEAL	= 0.42 GAL. PER SQ.YARD
COVER	= 25 LBS. PER SQ.YARD

STATION		linear feet				FOR	tons	AGGREGATE			BITUMINOUS MATERIAL					REMARKS
		GROSS	NET	+	-		HYDRATED LIME	sq. yards	tons		tons		gallons			
FROM	TO							COVER TYPE 1	PLANT MIX BIT. SURF. GR. S - 1/2"	PLANT MIX BIT SURF GR S - MISC	ASPHALT CEMENT PG 64-28	SEAL CRS-2P	SEAL CHFRS-2P	EMULSIFIED ASPHALT TACK	EMULSIFIED ASPHALT FOG SEAL	
2032+88.20	2033+60.20							72.00	72.00				416	41		
2033+60.20	2034+80.20	120.00	120.00				960	93		5.4	1.7		98	72	TYP. SECT. NO. 2	
2034+80.20	2035+52.20	72.00	72.00				416	41		2.4	0.7		43	31	TRANS. TYP. SECT. NO. 2 TO TYP. SECT. NO. 1	
2035+52.20	2264+52.20	22,900.00	22,900.00				81,524	8,038		467.2	146.6		8,702	6,183	TYP. SECT. NO. 1	
2264+52.20	2496+52.20	23,200.00	23,200.00				82,592	8,143		473.3	148.5		8,816		TYP. SECT. NO. 3	
2496+52.20	2852+89.00	35,636.80	35,636.80				126,867	12,509		727.0		228.1	13,542		TYP. SECT. NO. 3	
2852+89.00	2858+91.00	602.00	602.00				2,944	289		16.7		5.2	307		TYP. SECT. NO. 4	
2858+91.00	2860+35.00	144.00	144.00				608	60		3.5		1.1	64		TRANS. TYP. SECT. NO. 4 TO TYP. SECT. NO. 3	
2860+35.00	2959+33.60	9,898.60	9,898.60				35,239	3,474		201.9		63.4	3,761		TYP. SECT. NO. 3	
							1,424	304	41	19.9	1.3	1.3	230	54	ADDITIONAL SURFACING	
TOTAL		92,645.40	92,645.40				462	332,990	32,992	41	1,919.7	299.5	299.1	35,606	6,371	

STATION		linear feet				FOR	tons	AGGREGATE			BITUMINOUS MATERIAL					REMARKS
		GROSS	NET	+	-		HYDRATED LIME	sq. yards	tons		tons		gallons			
FROM	TO							COVER TYPE 1	PLANT MIX BIT. SURF. GR. S - 1/2"	PLANT MIX BIT SURF GR S - MISC	ASPHALT CEMENT PG 64-28	SEAL CRS-2P	SEAL CHFRS-2P	EMULSIFIED ASPHALT TACK	EMULSIFIED ASPHALT FOG SEAL	
2030+88.20	2032+88.20							200.00	200.00				712	70		
2959+33.60	2961+33.60	200.00	200.00				712	70		4.1		1.3	76		TYP. SECT. NO. 3	
SUBTOTAL		~	~	~	~		~	1,424	304	41	19.9	1.3	1.3	230	54	