



VISION ZERO

zero deaths
zero serious injuries

Montana Department of Transportation

PO Box 201001
Helena, MT 59620-1001

Memorandum

To: e-Distribution
See Below

From: James Combs, P.E.
Highways Engineer

Date: August 16, 2019

Subject: Storm Drain Bid Item Changes

There are currently over 80 storm drain structure bid items. The number of current storm drain structure bid items is excessive and creates confusion related to the naming convention of the combination manholes. Storm drain structures will now be measured and paid for differently with new bid items. The new method of measuring storm drain structures is like the bidding method used by Montana Public Works. This will further standardize bidding practices for storm drain structures that contractors are familiar bidding. This method of bidding storm drain structures should improve the bid history reliability since depth of the structure is accounted for using this method. The changes will not affect the plan sheets other than changes to the summary frames.

Structure Base- Each storm drain structure (i.e. manhole, inlet, etc.) will be bid each for the first 5 vertical feet of the structure, or the entire structure if it is less than 5 vertical feet in total from the invert of the structure, or the lowest point in the structure if it has a sump, to the top rim elevation. The top iron, regardless of the type, will be incidental to the structure base and will not be measured and paid as a separate bid item. Each diameter size will have a different bid item such as 48", 54", 60", etc.

Additional Barrel- Additional vertical feet of barrel in excess of the 5 vertical feet included in the structure base will be included in the Additional Barrel bid item. There will be a bid item for each size of barrel to match the structure base bid items. For example, if a 48" manhole is a total of 8 feet from invert to lid elevation, there will be 3 vertical feet of additional barrel.

Concrete Apron- This item has in the past been incidental to the structure and bid separately in other cases. Concrete aprons are not always necessary for a structure and add a considerable cost to the structure. The concrete apron should be bid under the dedicated bid item for concrete apron.

Granular Bedding Material- The granular bedding material for the new optional storm drainpipe items will become incidental to the pipe bid items themselves. The amount of

bedding changes based on the pipe material used for optional pipe, which nullifies any quantity MDT could provide and would likely result in change orders.

Storm Drain Pipe - Currently granular bedding material is measured and paid separately for the Storm Drain Pipe bid items for optional pipe materials. This creates complications as the bedding quantities between pipe materials is different, which will lead to issues with plan quantities of granular bedding. Moving forward, granular bedding material will be incidental to the storm drainpipe. A reference to the detailed drawing has been added to the quantity frame directing the contractor to use the detailed drawing to calculate necessary bedding quantities.

The following are the existing bid items being replaced with this memo.

604010030	MANHOLE-36 IN TYPE 3
604010035	MANHOLE-48 IN (1220 MM) TYPE 1
604010045	MANHOLE-48 IN (1220 MM) TYPE 3
604010055	MANHOLE-54 IN (1370 MM) TYPE 3
604010061	MANHOLE-60 IN (1524 MM) TYPE 1
604010065	MANHOLE-60 IN (1524 MM) TYPE 3
604010070	MANHOLE-66 IN (1676 MM) TYPE 3
604010071	MANHOLE-72 IN (1830 MM) TYPE 1
604010075	MANHOLE-72 IN (1830 MM) TYPE 3
604010085	MANHOLE-84 IN (2100 MM) TYPE 3
604010090	MANHOLE-90 IN (2290 MM) TYPE 3
604010096	MANHOLE-96 IN (2440 MM) TYPE 3
604010097	EXTRA DEPTH MANHOLE 72 IN
604010100	MANHOLE -102 IN (2590 MM) TYPE 3
604010101	EXTRA DEPTH MANHOLE 48 IN
604010102	EXTRA DEPTH MANHOLE 60 IN
604010103	COMB 72 IN (1800 MM) T3 MH-T1 DR INLET
604010105	MANHOLE-108 IN (2745 MM) TYPE 3
604010106	COMB 66 IN (1676 MM) T3 MH-T4 DR INLET
604010107	MANHOLE-96 IN (2440 MM) TYPE 1
604010108	MANHOLE-120 IN (3050 MM) TYPE 3
604010210	INLET DROP-TYPE 3
604010212	INLET DROP-TYPE 4
604010213	INLET DROP-TYPE 5
604010214	INLET DROP-TYPE 6
604010221	INLET DROP-TYPE 1
604010222	INLET DROP-TYPE 2
604010230	INLET CURB-TYPE 1
604010240	INLET CURB-TYPE 2
604010245	INLET CURB-TYPE 3
604010247	INLET CURB-TYPE 4

604010253	INLET CURB-TYPE A
604010255	INLET CURB-TYPE B
604010270	INLET MEDIAN-TYPE 1
604010273	INLET MEDIAN-TYPE 2
604010274	INLET MEDIAN-TYPE 3
604010509	COMB MANHOLE AND CURB INLET
604010510	COMB MANHOLE AND DROP INLET
604010512	COMB 48 (1220) T5 MH-48 (1220) RISER
604010514	COMB 48 IN T3 MH-T4 COVER
604010516	COMB 48 IN T3 MH-T5 COVER
604010518	COMB 48 IN T3 MH-TA CURB INLET (1220MM)
604010521	COMB 48 (1220) T1 MH-48 (1220) RISER
604010522	COMB 48 (1220) T4 MH-48 (1220) RISER
604010523	COMB 72 IN (1830) T3 MH-T4 CURB INL
604010524	COMB 66 IN (1680 MM) T3 MH-TB CURB INLET
604010525	COMB 60 IN T3 MH-TA CURB INLET
604010526	COMB 60 IN (1524 MM) T3 MH-TB CURB INLET
604010527	COMB 66 IN (1680 MM) T3 MH-T2 CURB INLET
604010528	COMB 60 IN (1524 MM) T3 MH-TA CURB INLET
604010529	COMB 84 IN T3 MH-TA CURB INLET
604010530	COMB 54 IN (1350 MM) T 3 MH-T 1 DROP INL
604010532	COMB 48 IN (1220 MM) T3 MH-T2 CURB INL
604010533	COMB 48 IN (1220 MM) T3 MH-T1 DROP INL
604010534	COMB 48 IN (1220 MM) T3 MH-T4 DROP INL
604010535	COMB 48 IN (1200 MM) T3 MH-T3 MED INL
604010537	COMB 72 IN (1830 MM) T 3 MH-T 4 DROP INL
604010538	COMB 72 IN (1830 MM) T3 MH-T 5 DROP INL
604010539	COMB 60 IN (1524 MM) T 3 MH-T 4 DROP INL
604010540	COMB 84 IN (2100 MM) T 3 MH-T 4 DROP INL
604010541	COMB 60 IN (1524 MM) T3 MH-T1 DR INLET
604010543	COMB 84 IN (2100 MM) T3 MH-T1 DR INLET
604010545	COMB 96 IN (2440 MM) T3 MH-T4 DR INLET
604010547	COMB 54 IN (1350 MM) T3 MH-T4 DROP INLET
604010548	COMB 96 IN (2440 MM) T3 MH-T1 DR INLET
604010549	COMB 48 IN (1220 MM) T3 MH-TB CURB INLET
604010550	COMB 96 IN T3 MH-TB CURB INLET (2440MM)
604010551	COMB 78 IN (1980 MM) T3 MH-T4 DROP INL
604010552	COMB 48 IN (1220 MM) T3 MH-T5 DROP INL
604010553	COMB 60 IN (1524MM) T3 MH-T5 DROP INLET
604010554	COMB 106 IN (2690 MM) T 3 MH-T 1 DR INL
604010555	RISER INLET

604010556	COMB 90 IN (2290 MM) T 3 MH-T 1 DROP INL
604010557	COMB 72 IN (1830 MM) T3 MH-TB INLET
604010559	COMB 90 IN (2290 MM) T 3 MH-T 4 DROP INL
604010561	COMB 120 IN (3050MM) T3 MH-T1 DROP INLET
604010570	COMB 54 IN TB MH-48 IN RISER
604010575	COMB 60 IN T1 MH-48 IN RISER
604010580	COMB 60 IN TA MH-48 IN RISER
604010581	COMB 60 IN T5 MH-48 IN RISER
604010582	COMB 66 IN TA MH-48 IN RISER
604010584	COMB 66 IN TB MH-48 IN RISER
604010586	COMB 66 IN T1 MH-48 IN RISER
604010590	COMB 72 IN TA MH-48 IN RISER

The following are the new bid items.

604010300	STRUCTURE BASE 30"
604010301	STRUCTURE BASE 32"
604010302	STRUCTURE BASE 48"
604010304	STRUCTURE BASE 60"
604010306	STRUCTURE BASE 72"
604010308	STRUCTURE BASE 84"
604010310	STRUCTURE BASE 96"
604010312	STRUCTURE BASE 108"
604010314	STRUCTURE BASE 120"
604010350	ADDITIONAL BARREL 30"
604010351	ADDITIONAL BARREL 32"
604010352	ADDITIONAL BARREL 48"
604010354	ADDITIONAL BARREL 60"
604010356	ADDITIONAL BARREL 72"
604010358	ADDITIONAL BARREL 84"
604010360	ADDITIONAL BARREL 96"
604010362	ADDITIONAL BARREL 108"
604010364	ADDITIONAL BARREL 120"

Attached to this memo are examples of the summary frames for examples of how the structures will be quantified for bidding purposes.

These changes will be effective for projects let after January 1st, 2020 using the new 2020 Standard Specifications Manual.

If you have any questions please contact Chad Richards at 444-6944.

copies:

Dustin Rouse, Preconstruction Engineer
Jake Goettle, Construction Engineer
Damian Krings, Highways Design Engineer (Acting)
James Combs, Highways Engineer
Bill Squires, Road Design Engineer
Roy Peterson, Traffic & Safety Engineer
Stephanie Brandenberger, Bridge Engineer
Jeff Jackson, Materials Engineer
Ryan Dahlke, Consultant Design Engineer
Bryan Miller, Consultant Plans Engineer
Matthew Wagner, Contract Administration Section
Paul Jagoda, Construction Engineering Services Engineer
Jim Frank, Glendive District Preconstruction Engineer
Mike Taylor, Billings District Preconstruction Engineer
Duane Liebel, Butte District Preconstruction Engineer
Donny Pfeifer, Missoula District Preconstruction Engineer
Steve Prinzing, Great Falls District Preconstruction Engineer
John Cornell, Road Plans Checker
Jerry Sabol, Road Plans Checker
Bill Durbin, Consultant Plans Checker
Robert Padmos, Consultant Plans Checker
Will Tangen, Consultant Plans Checker
Tom Gocksch, Environmental Engineering Section Supervisor
Walt Ludlow, Field Services Engineer

STORM DRAIN PIPE

PIPE SECTION			linear feet							REMARKS
			RCP IRRIGATION CLASS 3##				STORM DRAIN PIPE##			
FROM	TO	NAME	12"	18"	24"	30"	12"	18"	24"	
DI-44	DI-43	SL-1(3)		24.8						
DI-43	DI-42	SL-1(2)			41.1					
DI-42	MH-7	SL-1(1)				27.5				
MH-7	DI-41	SL-2(1)				29.8				
DI-41	MH-6	SL-2(2)					40.0			
MH-6	DI-40	SL-2(3)	12.0							
TOTAL			12.0	24.8	41.1	57.3	40.0	0.0	0.0	

FUNDING -

GRANULAR BEDDING MATERIAL INCIDENTAL TO STORM DRAIN PIPE, SEE DETAILED DRAWINGS FOR BEDDING QUANTITIES AND DETAILS.

Storm Drain Structure Schedule #

		each														VERT. FT					REMARKS
		REMOVE DROP INLET	RESET DROP INLET	STORM DRAIN STRUCTURE					TOP IRON ##						CONCRETE APRON	ADDITIONAL BARREL					
				Square	ROUND											32"	30"	48"	60"	72"	
NAME	STATION			32"	30"	48"	60"	72"	MH LID	TYPE 1/3	TYPE 5/6	TYPE A	TYPE B	TYPE 2	TYPE 4						
DI-44	579+40			1							1					1					
DI-43	579+13						1			1						1					
DI-42	578+72							1		1						1					
MH-7	578+72							1	1											0.6	
DI-41	578+42							1		1						1				0.7	
MH-6	578+42																				
DI-40	578+42			1							1					1					

FUNDING -
FOR INFORMATION ONLY, INCIDENTAL TO STORM DRAIN STRUCTURE.