REVISION DATE 052918

16-OCT-2019

Sample Plan

ESTIMATED QUANTITIES -------- NARRATIVE

References:

Design Scene: Chapter 2 - Quantities
Chapter 12 - Drainage

Technical Memorandum No. 17-05-B-08
Use of Plastic Pipe for Storm Sewer and Culverts on Trunk Highways

Miscellaneous:

"Salvage Materials" from MnDOT's Maintenance Superintendents, most recent date.

Policy and Procedures for Cooperative Construction Projects with Local Government effective April, 2004. This policy can be found at:
http: //lhub/projectdelivery/cooperative/index.html

http: //lhub/metro/design/technicalguidance.html Cost Splits

General Information:

The tab letter and the number of the sheet where the tab can be found should be included on the Statement of Estimated Quantities. To prevent paying for items twice, in cases where quantities are totaled on a summary tab, only list the summary tab.

The basis of quantities for items such as turf establishment, aggregates, bituminous should be shown whenever possible.
The following example could be shown on the estimated quantity sheet.
Basis for Estimated Quantities (only if deviates from Spec Book)
Seed mixture 25-121 - 50 lbs/acre
Fertilizer Type 3 - 400 lbs/acre
Aggregate Base - 140 lbs/cf
Type SP 12.5 Non wearing Course Mixture (SPNWB530B) - 113 lbs/sy/in

Incidental items should not be used unless absolutely necessary. Incidental items need to be identified clearly and not hidden within the plans but not quantified in the Plan.

Topsoil stripping should still be included within excavation-common. Excavation-common should remain a plan quantity. Topsoil should not be tabulated as a separate item.

Designers should use the Spec. Book and the TRNS*PORT list for regular pay items and the TRNS*PORT list for special pay items (the Spec. Book items are all good items but some TRNS*PORT list items are no longer used). Use the item and description from TRNS*PORT list (exactly as shown). Other sections may not check list. Ex. Traffic, Lighting, Landscape, etc. when they develop the item list for their plan sheets...we'd better check.

Incorporate other necessary pay items as recommended by other functional groups.

Review Estimated Quantities and methods of measure with Construction.

Consider miscellaneous pay items such as water for dust control.

Consider using subnotes whenever special work is included in a standard pay item such as the following:
a) Elbows and bends for sewer, culverts and water mains.
b) Reference to casting summary.
c) Need for double nested plate beam guardrail.
d) Special post spacing on plate beam guardrail.
e) Any radius sections on plate beam guardrail.

Note any items the designer knows are to be paid by State Funds because they are not eligible for Federal participation on Federally funded projects. Example: Haul Salvaged Material needs to be noted with a letter.

If there is cost participation by Cities, Counties, or other Agencies, or more than one funding source, those items shall be split out in separate columns on the estimated quantities sheet. Use only one column for "Total Estimated Quantities". The Municipal Agreements Unit can offer assistance. If there are only a few pay items requiring cost splits, consult with Project Design Services Engineer to consider footnote to minimize the number of columns.

On large projects, include both tree and acre pay items for Clear and Grub quantities.

Whenever the Pay Item 2101.501 Clearing and Grubbing by the Lump Sum is used in the Plan, do NOT note in the Plan the actual quantities (acre, sq ft, sq yd, tree). However, the actual tabulated quantities of the clear/grub (acres) projected for the project must be provided in the EstimateRestricted folder.

Show all plan quantity items with a (P) after the item. Discuss these items with Construction prior to Plan submittal.

If new pay items need to be added, contact the Project Design Services Engineer.

Consider consulting the Construction Project Engineer before specifying the basis of volume measure (i.e. LV, or CV) for the following items:
Borrow items under Spec. 2105 or 2106
Embankment items under Spec. 2106
Aggregate material items under Spec. 2211
Granular material items under Spec. 2451

When project has small quantities of turf establishment items (2.5 acres or less), consider using Item 2575.501, Turf Establishment, Lump Sum. Do not quantify Lump Sum quantities in the Plan.

A tabulation of Lump Sum and Incidental items will be tabbed and placed into the "EstimateRestricted" project folder in ProjectWise.

(General Information continued on next page:)

ESTIMATED QUANTITIES NARRATIVE

(General Information, continued from previous page:)

Show side culvert and storm sewer alternatives by footnoting the appropriate RC Pipe sizes stating "Plastic Pipe may be used as an option for ....lin.ft. See tabulations for locations." If all RC pipe of a specific size can have alternatives, then the note should state "Plastic Pipe may be used as an option".

The pay item quantities should be the same as the tabulated quantities. Generally, round quantities to whole numbers.

Proprietary items (use generic if possible) require a distributed public interest finding document or need at least two alternates. Contact the Special Provisions Engineer for information on P.I.F.'s.

For lump sum pay items, use a "1" in the total estimated quantities column, except for tied projects where you leave the total estimated quantities blank.

Salvageable items: Check Memo from MnDOT's Maintenance Superintendents (most recent date) to see if they can use the items and, if so, note in plan and Special Provisions. If MnDOT takes ownership of material, note in the plan MnDOT forces will pick it up or include the pay item Haul Salvaged Material.

Reference special items (items ending with .6--) to their detail sheets. Special Provisions shall be provided for these items.

Grouping - list approximately 5 or 6 items together, while leaving blanks between the groups for improved readability.

When removing concrete pavement, subnote whether it's reinforced or not, and it's approximate thickness. (You may reference an inplace detail.)

When removing bituminous pavement, subnote the pavement thickness.

Keep notes as concise as possible.

Check with Construction for any special items that they may need for the project (type of field office, lab, etc.)

Consider providing extra reconstruct pay items on projects with older drainage or utility structures where information on their condition is not available.

Each side of Concrete Median Barrier Design 8308 Type AA, 8309 Type AA or Single Slope Type AA is measured separately.

For projects requiring no excavation and, therefore, no Utility Tabulation will be provided in the plan, place the following note on the Estimated Quantities Sheet:
"This project has no excavation. No utilities will be affected by this project."

The Designer should note whether or not apron removal will be paid for under pipe culvert removal by the lineal foot. The note shall say "length includes apron".

The Designer should note which project mixture will be used for bituminous patching.

The Designer should use the CSP pay item, not the CMP pay item for new metal pipe.

The Designer should use the GS apron pay item, not the CS apron pay item for metal aprons.

The Designer should note that the removal of twisted end anchor blocks is incidental.

The full spec numbers (2104.501) should be shown on the estimate only, elsewhere in the plan only the first four digits should be shown (2104).

The Pay Item 2357 Bituminous Material for Tack Coat will be incidental and the quantity will not be included the Estimated Quantities. The quantity will need to be computed, however and provided in the EstimateRestricted folder.

The pay item 2051.501 "Maintenance and Restoration of Haul Roads" Lump Sum should be used on all projects that require raw materials to be hauled to or from the job site. Projects that include, but are not limited to, Borrow items, Bituminous materials, Concrete materials are examples. Stand-alone projects such as crack repairs, landscaping, and Striping may not require this pay item.

When choosing a pay item for items that have one or more designs, the Designer should pick the generic pay item first, then use the 1,2,3, etc. or A,B,C, etc. pay item designation. An example would be to always use CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL first, then if you have additional designs the next DRAINAGE STRUCTURE DESIGN SPECIAL 1 and so on.

The sheet number reference column in the Statement of Estimated Quantities can be used for either referencing the sheet number the tab is on and/or the sheet the detail is on if the item is special or modified. Standard Plan sheets should NOT be referenced.

When there are federal funds or unique funds they should be noted in the SEQ. If the funding designations (80% Federal, 20% State Funds) do not fit in the SEQ column headings, then they should be shown as a note. The note should be a lettered note (e.g. A, B, C, etc.) not a numbered note. It should be set apart from the numbered notes so that it stands out and is noticed. Do not use numbered notes for any funding items. Even the "100% STATE FUNDS" should be a lettered note.

Sample Plan

ESTIMATED QUANTITIES SHEET ------- CHECKLIST

_____ 1. Item Numbers Against TRNS*PORT List

_____ 2. Notes for Applicability

_____ 3. Pay Item Quantities Against Tabulations

_____ 4. Pay Item Quantities Against Typicals and Plan Sheets

_____ 5. Cross reference

_____ 6. Items with options footnoted, if necessary, with applicable notes

_____ 7. Plan Quantity Items (P)

_____ 8. Cost splits - appropriate column set-up or footnotes

_____ 9. Tabulation Letters and Sheet Numbers

_____ 10. Avoid duplicating subnotes on the Statement of Estimated Quantities and the individual tabulations

_____ 11. Cross references to other sheets (as applicable)

_____ 12. Drawn by: and Checked by: Initials and Engineer's Signature

REVISION DATE 052918

16-OCT-2019

REVISION DATE 02/07/17
PLOTTED/REVISED: 16-OCT-2019

DISTRICT *: Metro
IPLOT NAME: estquant
FILENAME: Projects\DM_ROS\Non_Project\Design\SamplePlan\English\eastquant.dgn

STATEMENT OF ESTIMATED QUANTITIES

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED QUANTITIES	FEDERAL PARTICIPATING		FEDERAL NON-PARTICIPATING	
						S.P. 0000-00 S.P. 000-000-01 S.P. 000-000-00 INTERCHANGE QUANTITIES	S.P. 000-000-01 S.P. 000-000-00 QUANTITIES	S.P. 0000-00 100% STATE QUANTITIES	LOCAL 100% LOCAL QUANTITIES
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 48-4020	LIN FT	165	160		5	
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 54-4020	LIN FT	141	141			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 60-4020	LIN FT	62	62			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 66-4020	LIN FT	85	76	9		
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 72-4020	LIN FT	36	36			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 78-4020	LIN FT	16	16			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 84-4020	LIN FT	48	48			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 90-4020	LIN FT	20	20			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 96-4020	LIN FT	9	9			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 102-4020	LIN FT	24	7	17		
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 108-4020	LIN FT	5	5			
EE	410-411	2506.501	CONSTRUCT DRAINAGE STRUCTURE DESIGN 120-4020	LIN FT	44	21	23		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 2 (5)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 3 (5)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 4 (5)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 5 (4)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 6 (6)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 7 (7)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 8 (4)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 9 (8)	EACH	1		1		
		2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 10 (5)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 11 (3)	EACH	1		1		
EE	410-411	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 12 (4)	EACH	1		1		
U1	U2	2506.502	CONSTRUCT DRAINAGE STRUCTURE DESIGN SPECIAL 13 (1)	EACH	8		8		
U1	U2	2506.503	RECONSTRUCT DRAINAGE STRUCTURE (1)	LIN FT	87		60		27
EE	410-411	2506.516	CASTING ASSEMBLY (9)	EACH	294	263	16	15	
U1,W	U2,41-46	2506.522	ADJUST FRAME & RING CASTING (2)	EACH	10	8	2		
U1,U2	U2	2506.602	CASTING ASSEMBLY SPECIAL (1)	EACH	26		21		5
U1,U2	U2	2506.602	ADJUST FRAME & RING CASTING EXCESS DEPTH (1)	EACH	8		7		1
DD,FF	408-409,412	2506.602	CONNECT INTO EXISTING DRAINAGE STRUCTURE	EACH	8	6		2	
DD	408-409	2511.501	RANDOM RIPRAP CLASS II	CU YD	6	6			
DD	408-409	2511.501	RANDOM RIPRAP CLASS IV	CU YD	32		32		
DD	408-409	2511.515	GEOTEXTILE FILTER TYPE II	SQ YD	19	19			
DD	408-409	2511.515	GEOTEXTILE FILTER TYPE IV	SQ YD	48		48		
N	31,32	2521.501	4" CONCRETE WALK	SQ FT	85327	74676	10651		
L,N	30-32	2521.501	6" CONCRETE WALK	SQ FT	3323	1818	1278	227	
N	31,32	2521.511	3" BITUMINOUS WALK	SQ FT	11277	1297	9980		
N	31,32	2531.501	CONCRETE CURB & GUTTER DESIGN B424	LIN FT	11617	11617			
N	31,32	2531.501	CONCRETE CURB & GUTTER DESIGN B612	LIN FT	494	334	160		
N,X	31,32,92	2531.501	CONCRETE CURB & GUTTER DESIGN B618	LIN FT	17368	15441	1927		
N	31,32	2531.501	CONCRETE CURB & GUTTER DESIGN B624	LIN FT	979	979			
N	31,32	2531.501	CONCRETE CURB & GUTTER DESIGN D424	LIN FT	6756	5964		792	
X	92	2531.502	CONCRETE CURB DESIGN B6	LIN FT	310	310			

(1) SANITARY MANHOLES.
(2) INCLUDES 2 SANITARY SEWER MANHOLES.
(3) FOR DETAILS, SEE SHEET NO. 414.
(4) FOR DETAILS, SEE SHEET NO. 418.
(5) FOR DETAILS, SEE SHEET NO. 417.
(6) FOR DETAILS, SEE SHEET NO. 415.
(7) FOR DETAILS, SEE SHEET NO. 416.
(8) FOR DETAILS, SEE SHEET NO. 413.
(9) FOR SUMMARY, SEE SHEET NO. 411.

SAMPLE PLAN
WITH COST SPLITS

DISCLAIMER:
PAY ITEMS SHOWN MAY NOT BE THE MOST CURRENT.
CHECK SPEC. BOOK AND TRNS*PORT LIST.

S.P. 000-000-000 S.P. 000-000-001

STATEMENT OF ESTIMATED QUANTITIES

DRAWN BY: CT | CHECKED BY: HS | CERTIFIED BY Will D. Zine LICENSED PROFESSIONAL ENGINEER LIC. NO. 00000 DATE 10/31/17 | STATE PROJ. NO. 0000-000 (T.H. 00) SHEET NO. 4 OF 84 SHEETS

REVISION DATE 052918
PLOTTED/REVISED: 16-OCT-2019

STATEMENT OF ESTIMATED QUANTITIES Ⓑ

TAB.	SHEET NO.	ITEM NO.	DESCRIPTION	UNITS	TOTAL ESTIMATED Ⓐ QUANTITIES
A,F	7,10	2106.607	EXCAVATION - COMMON (P)	CU YD	4156
A	7	2106.607	EXCAVATION - SUBGRADE (P)	CU YD	2914
A	7	2106.607	COMMON EMBANKMENT (CV) (P)	CU YD	5606
A	7	2106.607	SELECT GRANULAR EMBANKMENT (CV) (P)	CU YD	2312
A	7	2106.607	SELECT GRANULAR EMBANKMENT MOD 10% (CV) (2) (P)	CU YD	624
		2130.501	WATER (3)	M GALLON	50
B,F	7,10	2211.503	AGGREGATE BASE (CV) CLASS 5 (P)	CU YD	1217
B	7	2221.503	SHOULDER BASE AGGREGATE (CV) CLASS 3 (P)	CU YD	112
		2231.501	BITUMINOUS PATCHING MIXTURE (4)(8)	TON	5
D	9	2232.501	MILL BITUMINOUS SURFACE (1.5")	SQ YD	979
F	10	2232.603	MILL & PATCH BITUMINOUS PAVEMENT	LIN FT	45
H	11	2331.603	JOINT ADHESIVE	LIN FT	4921
D	9	2360.501	TYPE SP 12.5 WEARING COURSE MIX (3,C) (8)	TON	2026
I	11	2406.531	EXPANSION JOINTS, DESIGN E8H	LIN FT	120
I	11	2406.553	BRIDGE APPROACH PANELS	SQ YD	270
Q	75	2451.513	FINE FILTER AGGREGATE (CV) (P)	CU YD	100
N	71	2501.515	12" RC PIPE APRON	EACH	3
N	71	2501.515	18" RC PIPE APRON	EACH	1
N	71	2501.515	24" RC PIPE APRON	EACH	1
P	72	2501.561	18" RC PIPE CULVERT DES 3006	LIN FT	16
P	72	2501.561	24" RC PIPE CULVERT DES 3006	LIN FT	16
N	71	2501.569	12" RC SAFETY APRON (5)	EACH	1
P	72	2501.569	18" RC SAFETY APRON (5)	EACH	2
P	72	2501.569	24" RC SAFETY APRON (5)	EACH	2
N	71	2502.521	8" PE PIPE DRAIN	LIN FT	32
N	71	2502.541	8" PERF PE PIPE DRAIN	LIN FT	260
N	71	2503.541	12" RC PIPE SEWER DES 3006 (9)	LIN FT	1085
N	71	2503.541	15" RC PIPE SEWER DES 3006	LIN FT	23
N	71	2503.541	18" RC PIPE SEWER DES 3006 (10)	LIN FT	411
N	71	2503.541	24" RC PIPE SEWER DES 3006	LIN FT	52
O	71	2506.501	CONST DRAINAGE STRUCTURE DESIGN G	LIN FT	14
O	71	2506.501	CONST DRAINAGE STRUCTURE DESIGN SD-48	LIN FT	46
O	71	2506.501	CONST DRAINAGE STRUCTURE DES 48-4020	LIN FT	34
O	71	2506.501	CONST DRAINAGE STRUCTURE DES 60-4020	LIN FT	20
O	71	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPECIAL (6)	EACH	1
O	71	2506.502	CONST DRAINAGE STRUCTURE DESIGN SPEC 1 (6)	EACH	1
O	71	2506.516	CASTING ASSEMBLY	EACH	24
M	13-14	2506.522	ADJUST FRAME & RING CASTING (1)	EACH	2
Q	75	2511.501	RANDOM RIPRAP CLASS II (7)	CU YD	25
Q	75	2511.515	GEOTEXTILE FILTER TYPE III (7)	SQ YD	34

Ⓐ **80% FEDERAL FUNDS / 20% STATE FUNDS**

Ⓑ **SEE LUMP SUM AGREEMENT NO. 06589**

(1) INCLUDES 1 INPLACE SANITARY SEWER MANHOLE.
FOR DETAILS, SEE SHEET NO. 15.

(2) SEE NOTE NO. 2 ON SHEET NO. 33.

(3) PROVIDED FOR DUST CONTROL AS DIRECTED BY THE ENGINEER.

(4) SHALL MEET THE REQUIREMENTS OF TYPE SP 12.5 WEARING COURSE MIXTURE (SPWEB340C) (PMB).

(5) SEE STANDARD PLATE NO. 3022 (1:6 SLOPE).

(6) FOR DETAILS, SEE SHEET NO. 74.

(7) SEE NOTE NUMBER 3 ON SHEET NO. 73.

(8) PLANT MIXED ASPHALT PAVEMENT-POLYMER MODIFIED BINDER (PMB) WILL NEED TO MEET THE PERCENT RECOVERY REQUIREMENTS INDICATED IN TABLE 3151.2A OF THE SPECIAL PROVISIONS.

(9) PLASTIC PIPE MAY BE USED AS AN OPTION FOR 218 LIN FT. SEE TABULATIONS FOR LOCATIONS.

(10) PLASTIC PIPE MAY BE USED AS AN OPTION FOR 127 LIN FT. SEE TABULATIONS FOR LOCATIONS.

DISTRICT *: Metro
IPLOT NAME: estquant
FILENAME: Projects\DM_ROS\Non_Project\Design\SamplePlan\English\estquant.dgn

STATEMENT OF ESTIMATED QUANTITIES

DRAWN BY: CT | CHECKED BY: HS | CERTIFIED BY Will D. Zine LICENSED PROFESSIONAL ENGINEER LIC. NO. 00000 DATE 10/31/17 | STATE PROJ. NO. 0000-000 (T.H. 00) SHEET NO. 5 OF 84 SHEETS