

Sample Plan

EARTHWORK TABULATION AND SUMMARY ----- NARRATIVE

References:

Design Scene: Chapter 4 - Earthwork

General Information:

Prepare earthwork quantity tabulations (by alignment).

Tabulate all earthwork excavation and embankment quantities into an earthwork summary.

The designer should consult with Construction to determine appropriate excavation and embankment pay items (2105 or 2106).

- 2105 Pay Items = Excavation and Borrow
- 2106 Pay Items = Excavation and Embankment

If using 2105 Items:

- An earthwork summary is sufficient. It is optional to provide an earthwork balance.
- Show all earthwork notes on the summary.
- Include in the summary notes any material not used on project is to be hauled away, such as rubble.

Tabulations should include a breakdown of granular materials.

Compute earthwork by stages, if applicable.

The designer should consult with construction to determine whether to compute earthwork splits for structural items or staged construction.

Add a footnote to the common excavation column to say how much topsoil excavation, rubble, or other material is included in the common excavation quantity. (For 2105 pay items only.)

The designer should consider additional earthwork quantities needed at guardrail installations along rural shoulders and around end terminals.

When using 2106 Earthwork pay items, you cannot show any topsoil quantities. However, these quantities still need to be supplied to the Central Office Estimating Unit. Also, if this item includes a note that the 6" of bituminous pavement removal is paid for as excavation-common, it cannot include any quantities. However, this quantity also needs to be supplied to the Central Office Estimating Unit.

The designer has the option to combine subgrade with common excavation. If the designer chooses to do this, all subgrade and common will be paid for as excavation-common. This must be noted as either a Soils and Construction note, a note on the Statement of Estimated Quantities or as a note on the Earthwork Tabulations and Summary sheet(s).

Sample Plan

EARTHWORK TABULATION AND SUMMARY ----- CHECKLIST

- ___ 1. Check quantities from Tabulation to Summary
- ___ 2. Earthwork summary mathematically balances
- ___ 3. Notes for applicability
- ___ 4. Cross references to other sheets (as applicable)
- ___ 5. Drawn By: and Checked By: Initials and Engineer's Signature

REVISION DATE 10/22/15
 PLOTTED/REVISED: 26-JAN-2017 08:07

DISTRICT #: METRO
 IPLOT NAME: spewsumtab2
 FILENAME: Projects\DM_R0S\Non_Project\Design\SamplePlan\Eng\Ish\ewsumtab.dgn

EARTHWORK SUMMARY

SHEET NO.	ALIGNMENT	STATION TO STATION	REMARKS	EXCAVATION			EMBANKMENT						
				COMMON	SUBGRADE	MUCK	GRANULAR	SELECT GRANULAR	SELECT GRADING	TOPSOIL	POND LINER (12)	SEL. GRAN. MOD. 10%	
				CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	
7	T.H. 10 E.B.	625 + 00 TO 676 + 00		42760	5367		53030	23396	230813	11786	115		
7	T.H. 10 E.B.	676 + 00 TO 725 + 00		39903	8506		15518	18179	43461	9801	493		
8	T.H. 65 N.B.	363 + 00 TO 383 + 00		10739	2575		1743	4129	14938	2353			
8	S.E. RAMP	631 + 00 TO 642 + 50		59364			10061	2721	47496	4101	2505		
8	N.E. RAMP	627 + 50 TO 639 + 50		21808	198		10622	2993	67224	2709	1853		
8	AIRPORT RD. N.B.	10 + 50 TO 39 + 00		34585	737		23461	7312	149639	7243			
9	GROVELAND CONN.	11 + 00 TO 14 + 50		2501	78		497	677		384			
9	CO. RD. J W.B.	100 + 50 TO 137 + 50		24598	5086	8695	34784	11622	117935	7286			
9	CO. RD. J W.B.	137 + 50 TO 144 + 50		2014	922	5142	5126	2055	6462	849			
9	RAMP C	11 + 00 TO 28 + 00		55710	481		12172	3628	90950	7139			
9	RAMP D	10 + 50 TO 22 + 00		15876			7521	1811	37219	3841			
9	RAMP E	11 + 00 TO 18 + 50		34983	21		5624	1655	18926	3708			
7	S.W. LOOP	9 + 50 TO 18 + 50		36312	213		5838	2029	36686	1759	2033		
7	N.E. LOOP	16 + 00 TO 20 + 50		12804			3998	1081	14117	1606			
10	T.H. 65 S.B.	365 + 50 TO 371 + 00	TEMP. DOUBLE LT. TURN LANE				570	756					
10	T.H. 10 E.B.	641 + 00 TO 656 + 00	BYPASS A	256	1106		1223	1850	20				
10	CO. RD. J W.B.	132 + 00 TO 144 + 50	WIDENING STAGE 1	191	272	2444	865	1854	241				
10	AIRPORT RD. N.B.	35 + 50 TO 40 + 00	WIDENING STAGE 1		216			216					
10	BYPASS B	627 + 70 TO 628 + 20			59			59					
10	TEMPORARY CONNECTIONS A & B				56			56					
6	(10)						1826		5158				
197	DITCH BLOCKS		(13)						27				
6	BRIDGE APPROACH TREATMENT		(11)				2052				12556		
12	(14)								6776				
60	INPLACE STOCKPILE		(15)		19000								
12	T.H. 10 E.B.	724 + 00 TO 726 + 00	MEDIAN GUARDRAIL LOOP						172	70			
TOTALS				413404	25893	16281	196531	88079	888260	64635	6999	12556	

⑩ MISC. EMBANKMENT

STATION TO STATION	LOCATION	GRANULAR MATERIAL	SELECT GRADING MATERIAL
		CU YD	CU YD
S.W. LOOP			
9+50 TO 14+27	LT.	60	
S.E. RAMP			
634+13 TO 639+25	RT.	81	
RAMP C			
10+56 TO 13+71	RT.	244	
RAMP E			
12+63 TO 15+75	RT.	49	
N.E. LOOP			
13+05 TO 19+35	LT.	70	
AIRPORT ROAD			
8+55 TO 9+34	LT.	10	
10+40 TO 15+00	LT.	173	
16+00 TO 22+85	LT.	96	
24+00 TO 34+42	LT.	422	
CO. ROAD J W.B.			
100+50 TO 105+25	RT.		176
100+50 TO 113+45	LT.		1200
106+00 TO 113+15	RT.		265
106+29 TO 113+45	RT.	333	
114+00 TO 124+54	RT.		898
114+35 TO 119+41	RT.	288	
114+60 TO 123+60	LT.		833
130+22 TO 144+70	LT.		1286
131+22 TO 144+70	RT.		500
TOTALS:		1826	5158

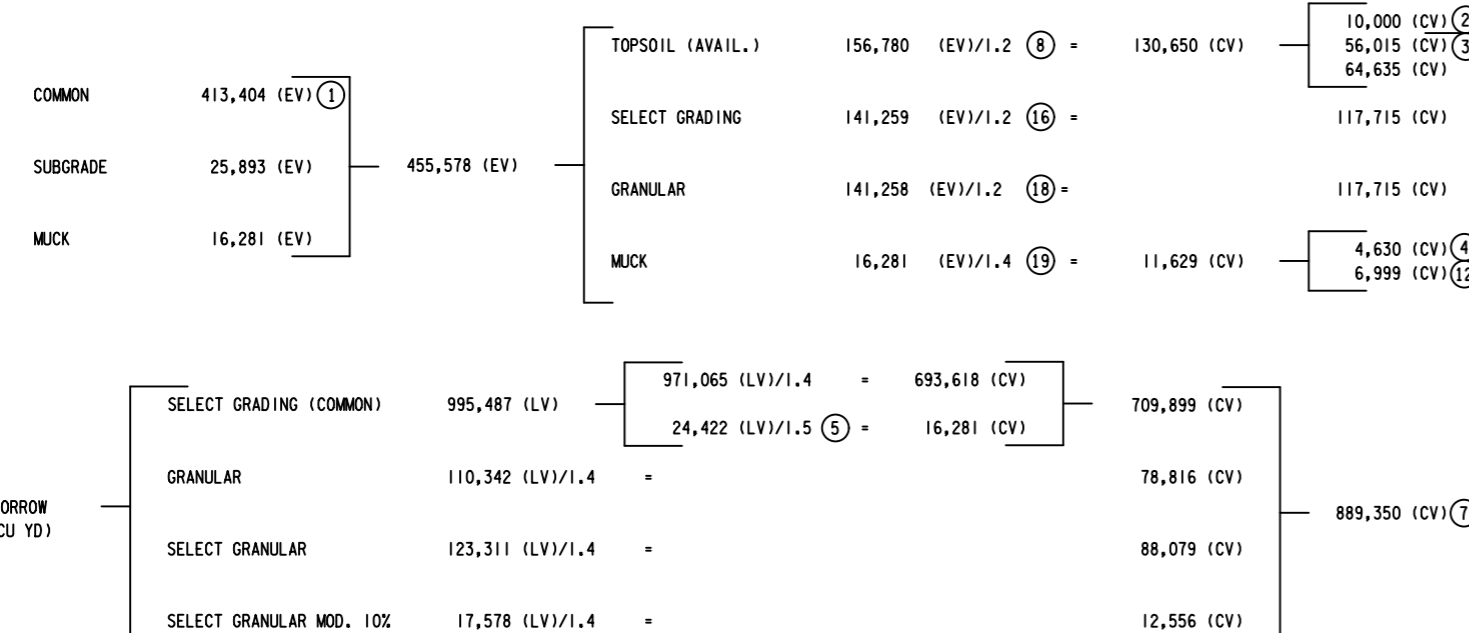
⑰ APPROACH TREATMENT

BRIDGE NO.	ABUTMENT LOCATION	BEG. OR END OF APPROACH TREATMENT	GRANULAR MATERIAL	SEL. GRAN. MOD. 10%
		PROFILE/STATION	CU YD	CU YD
02045	WEST	T.H. 10 W.B. 627+15	120	1715
02045	EAST	T.H. 10 W.B. 630+29	120	1966
02046	WEST	T.H. 10 E.B. 627+46	197	2157
02046	EAST	T.H. 10 E.B. 630+60	197	2147
02047	SOUTH	AIR. RD. N.B. 17+81	234	1588
02047	NORTH	AIR. RD. N.B. 21+43	163	1516
02048	WEST	CO. RD. W.B. 124+20	547	804
02048	EAST	CO. RD. W.B. 130+60	474	663
TOTALS			2052	12556

- ① INCLUDES 19,000 CU. YD. OF TOPSOIL STOCKPILED ON PROJECT.
- ② TOPSOIL THAT SHALL BE STOCKPILED ON PROJECT IN MNDOT RIGHT OF WAY WESTERLY OF T.H. 65 AT A SITE DIRECTED BY THE ENGINEER. MATERIAL TO BE USED BY MNDOT MAINTENANCE.
- ③ TOPSOIL SHALL BE USED THROUGHOUT PROJECT AS DIRECTED BY THE ENGINEER AND DETAILED ON SHEET NO. 48.
- ④ EXCESS MUCK MATERIAL WHICH SHALL BE USED ON FILL SLOPES THROUGHOUT PROJECT AS DIRECTED BY THE ENGINEER AND DETAILED ON SHEET 48.
- ⑤ BACKFILL FOR MUCK EXCAVATION AS SHOWN ON SHEET NO. 48.
- ⑥ TOTAL EMBANKMENT (CV) REQUIRED FOR PROJECT.
- ⑦ TOTAL BORROW (CV) REQUIRED FOR PROJECT.
- ⑧ CONSISTS OF 19,000 CU. YD. (EV) STOCKPILED ON PROJECT AND 137,780 CU. YD. (EV) AVAILABLE THROUGHOUT PROJECT.
- ⑨ INCLUDES 4630 CU. YD. (CV) MUCK MATERIAL AND 52,682 CU. YD. (CV) TOPSOIL FROM EXCAVATION TO BE USED AS EMBANKMENT. (SEE NOTES 3 AND 4 ABOVE).
- ⑩ CONSISTS OF EMBANKMENT PLACED ABOVE THE GRADING GRADE. SEE TYPICAL SECTIONS. FOR LOCATIONS, SEE TABULATION THIS SHEET.
- ⑪ FOR LOCATIONS, SEE TABULATION THIS SHEET.
- ⑫ MUCK EXCAVATION MATERIAL TO BE USED AS A POND LINER. FOR DETAILS SEE SHEET NO. 49.
- ⑬ FOR TABULATION AND DETAIL, SEE SHEET NO. 197.
- ⑭ PROVIDED FOR BACKFILL OF BITUMINOUS PAVEMENT REMOVAL AREAS. QUANTITY IS NOT INCLUDED WITH CROSS SECTION EARTHWORK TABULATIONS.
- ⑮ INPLACE TOPSOIL STOCKPILE. FOR LOCATION SEE SHEET NO. 60.
- ⑯ ESTIMATED AMOUNT OF SELECT GRADING MATERIAL AVAILABLE ON PROJECT.
- ⑰ FOR DETAILS SEE SHEET NO. 61.
- ⑱ ESTIMATED AMOUNT OF GRANULAR MATERIAL AVAILABLE ON PROJECT.
- ⑲ CONSISTS OF 16,281 CU. YD. (EV) AT CO. RD. J AND 3369 CU. YD. (EV) RT. T.H. 10 E.B. AT SNAIL POND.

A EARTHWORK BALANCE

EXCAVATION (CU YD)



SAMPLE PLAN

TYPICAL WITH 2105 PAY ITEMS

EARTHWORK TABULATION AND SUMMARY

EARTHWORK SUMMARY

A

ALIGNMENT	EXCAVATION					EMBANKMENT				TOTAL EXCAVATION	TOTAL EMBANKMENT
	COMMON	SUBGRADE	STRUCTURE CL U	MUCK	SPECIAL	COMMON (CV)	GRANULAR (CV)	SELECT GRANULAR (CV)	SELECT GRANULAR MOD 10% (CV)		
	① CU YD	CU YD	CU YD	CU YD	② CU YD	CU YD	CU YD	CU YD	CU YD		
P694WB1 STA 613+00 TO 673+50	363311	57178	16143		17681	43488	47415	23295	4188	454313	118386
P694WB1 STA 676+00 TO 684+20.79	2548	58	1494			71977	7986	3494	1020	4100	84477
P694WB1 STA 685+35.29 TO 709+04	43135	26447				13217	19625	9053		69582	41895
PNBSNHAM STA 10+00 TO 29+50	7867	6020				123341	18771	8983	2776	13887	153871
PNBSNHAM STA 32+50 TO 36+00	2473					39294	2817	1875		2473	43986
PNBSNHAM STA 38+00 TO 48+64	1962	4480				6795	5649	4054		6442	16498
NBR STA 579+50 TO 584+00	1959					357				1959	357
NBR STA 585+00 TO 588+05	348					217				348	217
PNB10 14+50 TO 75+20	121852	35681				41581	33576	23304		157533	98461
PEBCD1 STA 15+50 TO 33+00	16913	4634		1080		20323	7712	4410		22627	32445
PEBCD1 STA 49+50 TO 56+50	612	782	1373			5529	2351	1091	1272	2767	10243
PSB10 STA 657+00 TO 684+03	35516	18135	7655			16593	11628	7901	2479	61306	38601
PNLOOP STA 13+75 TO 21+50	37313	2766				1994	1817	1340		40079	5151
PSLOOP STA 13+20 TO 21+50	19218	1279				25622	3044	1921		20497	30587
PCORDF STA 13+15 TO 15+00	4344	1322				553	737	597		5666	1887
LEXNWR STA 5+41 TO 15+00	4065	1487				3113	2917	1928		5552	7958
LEXSWR STA 18+35 TO 20+50	796	752				129	389	352		1548	870
OLD10 STA 21+00 TO 24+60	1231	1506				471	787	719		2737	1977
BRIDGE APPROACH TREATMENT						23688			15179		38867
POND P0	③ 378									378	
POND P1	③ 1200									1200	
POND P2	③ 1346									1346	
POND P4	③ 950									950	
POND P5	③ 962									962	
POND P6	③ 291									291	
NBR STA 579+56 TO 583+29	⑤ 972									972	
GRADING SITE "A"	⑥ 608					107				608	107
ISLAND LAKE MITIGATION SITE	① 104									104	
BYPASS1	④ 2011					1499				2011	1499
BYPASS2	④ 3308					2375				3308	2375
BYPASS3	④ 6114					4887				6114	4887
BYPASS4	④ 3818					3485				3818	3485
BYPASS5	④ 780					584				780	584
BYPASS6	④ 418					314				418	314
BYPASS7	④ 2815					2442				2815	2442
BYPASS8	④ 5496					4582				5496	4582
BYPASS9	④ 46126					45224				46126	45224
BYPASS10	④ 1165					870				1165	870
BYPASS11	④ 110					55				110	55
BYPASS12	④ 475					285				475	285
BYPASS13	④ 549					392				549	392
⑧	5						7			5	7
PROJECT TOTALS	745464	162527	26665	1080	17681	505383	167228	94317	26914	953417	793842

BRIDGE APPROACH TREATMENT

BRIDGE NO.	ALIGNMENT	ABUTMENT LOCATION	SELECT GRANULAR EMBANKMENT MOD 10% (CV)	COMMON EMBANKMENT (CV)
			⑨	⑦
			CU YD	CU YD
62716	P694WB1	WEST	630	1092
62716	P694WB1	EAST	670	1168
62717	P694EB1	WEST	707	1207
62717	P694EB1	EAST	753	1294
62719	P694WB1	WEST	1096	1027
62719	P694WB1	EAST	1451	1267
62720	P694EB1	WEST	690	1578
62720	P694EB1	EAST	834	1999
62051	PNBSNHAM	SOUTH	1385	4132
62051	PNBSNHAM	NORTH	1367	4582
62052	PNBSNHAM	SOUTH	2709	2163
62052	PNBSNHAM	NORTH	2887	2179
TOTALS			15179	23688

- ① FOR LOCATION, SEE SHEET NO. 218.
- ② INCLUDES BUT NOT LIMITED TO: AUTOMOBILE PARTS, FURNITURE, CONCRETE PAVEMENT, CONCRETE BLOCKS, BITUMINOUS BLOCKS, BITUMINOUS MILLINGS, TOPSOIL, CLAY, WOOD CHIPS, STUMPS, DEAD TREES AND ROAD KILL. FOR LOCATION AND DETAILS, SEE SHEET NO. 229.
- ③ FOR POND DETAILS, SEE SHEET NO. 412 TO 417.
- ④ EXCAVATION QUANTITY INCLUDES REMOVAL OF TOPSOIL TO CONSTRUCT THE BYPASS.
- ⑤ EXCAVATION QUANTITY FOR INFILTRATION DITCH. FOR DETAILS, SEE SHEET NO. 407.
- ⑥ FOR DETAILS, SEE SHEET NO. 227.
- ⑦ SEE ROUGH GRADING SECTION AT ABUTMENT DETAIL ON SHEET NO. 105.
- ⑧ QUANTITIES FROM PEDESTRIAN CURB RAMP TABULATIONS ON SHEET NO. 221 AND 222.
- ⑨ SEE FINISHED GRADING SECTION AT ABUTMENT DETAIL ON SHEET NO. 105.

SAMPLE PLAN

TYPICAL WITH 2106 PAY ITEMS

EARTHWORK SUMMARY

DISTRICT #: METRO
PLOT NAME: spewsumtab4
FILENAME: Projects\DM_FOS\Non_Project\Design\SamplePlan\Eng\sh\ewsumtab.dgn
REVISION DATE 10/22/15
PLOTTED/REVISED: 26-JAN-2017 08:08