



# EARTHWORK

Project Design Services Unit

June 2018 (Updated October 2022)

# EARTHWORK

- Check that all areas are included in the quantities. Muck is the area which tends to have the most errors.
- Check a few end areas by hand to confirm that the computer calculations are correct.
- Check that the areas in Geopak are labeled correctly.
- Don't mix 2105 (excavation & borrow) with 2106 (excavation and embankment) pay items.

# EARTHWORK

- It is recommended to use the note...*ALL MATERIAL NOT UTILIZED ON THIS PROJECT SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND DISPOSED OF OFF THE R/W IN ACCORDANCE WITH SPEC 2104....do NOT use the word excess but rather use ALL MATERIAL.*
- The 6" or less of bituminous removal can NO LONGER be included in the excavation pay item.
- 2105 pay items = Excavation & Borrow  
2106 pay items = Excavation & Embankment

# EARTHWORK - 2105

- An earthwork summary and balance is required

<b>EARTHWORK SUMMARY</b>							
STATION TO STATION	EXCAVATION			EMBANKMENT			
	COMMON	TOPSOIL (1)	SUBGRADE	SUITABLE GRADING (CV)	SELECT GRANULAR BORROW (CV)	TOPSOIL	
						TOPSOIL (CV)	TOPSOIL BORROW SPECIAL 1 (CV)
CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
SP 1111-11							
828+56 TO 831+05	762	293	262	586	301	130	98
81+51 TO 82+38	2286	879	786	1759	902	390	293
<b>SP 1111-11 Sub-Total</b>	3048	1172	1048	2345	1203	520	391
SP 2222-22							
93+12 TO 93+88	3048	1172	1048	2345	1203	520	391
100+06 TO 101+72	762	293	262	586	300	130	97
<b>SP 2222-22 Sub-Total</b>	3810	1465	1310	2931	1503	650	488
<b>TABULATION TOTAL</b>	<b>6858</b>	<b>2637</b>	<b>2358</b>	<b>5276</b>	<b>2706</b>	<b>1170</b>	<b>879</b>
	<b>9495</b>						
<i>(1) PAID FOR AS COMMON EXCAVATION.</i>							

# EARTHWORK - 2105

- It should show SP/Funding splits as well as an overall total.

<b>EARTHWORK SUMMARY</b>							
STATION TO STATION	EXCAVATION			EMBANKMENT			
	COMMON	TOPSOIL (1)	SUBGRADE	SUITABLE GRADING (CV)	SELECT GRANULAR BORROW (CV)	TOPSOIL	
						TOPSOIL (CV)	TOPSOIL BORROW SPECIAL 1 (CV)
CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
SP 1111-11							
828+56 TO 831+05	762	293	262	586	301	130	98
81+51 TO 82+38	2286	879	786	1759	902	390	293
<b>SP 1111-11 Sub-Total</b>	<b>3048</b>	<b>1172</b>	<b>1048</b>	<b>2345</b>	<b>1203</b>	<b>520</b>	<b>391</b>
SP 2222-22							
93+12 TO 93+88	3048	1172	1048	2345	1203	520	391
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<b>SP 2222-22 Sub-Total</b>	<b>3810</b>	<b>1465</b>	<b>1310</b>	<b>2931</b>	<b>1503</b>	<b>650</b>	<b>488</b>
<b>TABULATION TOTAL</b>	<b>6858</b>	<b>2637</b>	<b>2358</b>	<b>5276</b>	<b>2706</b>	<b>1170</b>	<b>879</b>
	<b>9495</b>						
<i>(1) PAID FOR AS COMMON EXCAVATION.</i>							

# EARTHWORK - 2105

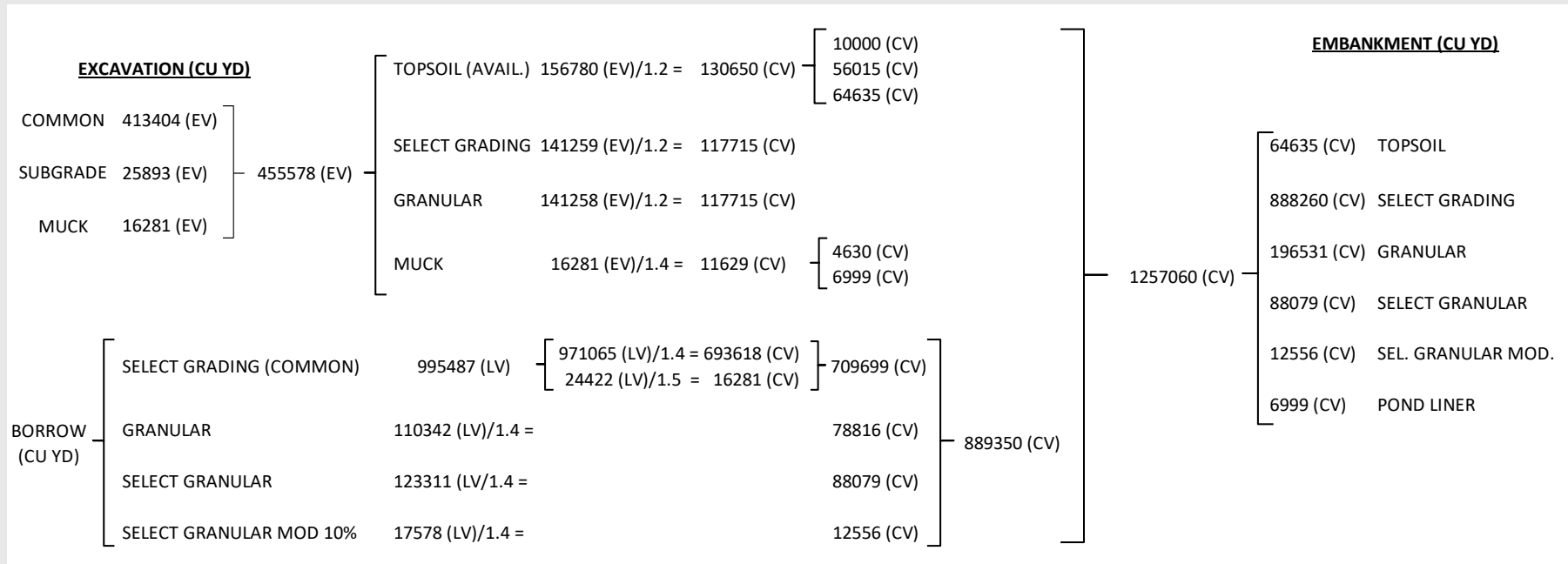
➤ Show all earthwork notes.

EARTHWORK SUMMARY							
STATION TO STATION	EXCAVATION			EMBANKMENT			
	COMMON	TOPSOIL (1)	SUBGRADE	SUITABLE GRADING (CV)	SELECT GRANULAR BORROW (CV)	TOPSOIL	
		CU YD				CU YD	TOPSOIL (CV)
CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD	CU YD
SP 1111-11							
828+56 TO 831+05	762	293	262	586	301	130	98
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<b>SP 1111-11 Sub-Total</b>	<b>3048</b>	<b>1172</b>	<b>1048</b>	<b>2345</b>	<b>1203</b>	<b>520</b>	<b>391</b>
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<b>TABULATION TOTAL</b>	<b>6858</b>	<b>2637</b>	<b>2358</b>	<b>5276</b>	<b>2706</b>	<b>1170</b>	<b>879</b>
	<b>9495</b>						
<i>(1) PAID FOR AS COMMON EXCAVATION.</i>							

# EARTHWORK – 2105

## BALANCE

➤ An earthwork balance is required.



# EARTHWORK – 2106

- Do NOT show topsoil quantities, either in the tabulation or as a note.
- The Contractor is responsible for determining if borrow materials are needed.
- No earthwork balance in the plan.

EARTHWORK SUMMARY				
STATION TO STATION	ECAVATION		EMBANKMENT	
	COMMON (1)	SUBGRADE	COMMON (CV) (1)	SELECT GRANULAR (CV)
	CU YD	CU YD	CU YD	CU YD
SP 1111-11				
828+56 TO 831+05	762	262	586	301
81+51 TO 82+38	2286	786	1759	902
<b>SP 1111-11 SUBTOTAL</b>	<b>3048</b>	<b>1048</b>	<b>2345</b>	<b>1203</b>
SP 2222-22				
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<b>SP 2222-22 SUBTOTAL</b>	<b>3810</b>	<b>1310</b>	<b>2931</b>	<b>1503</b>
<b>TABULATION TOTAL</b>	<b>6858</b>	<b>2358</b>	<b>5276</b>	<b>2706</b>
(1) INCLUDES TOPSOIL				



# EARTHWORK – 2106

EARTHWORK SUMMARY				
STATION TO STATION	ECAVATION		EMBANKMENT	
	COMMON (1)	SUBGRADE	COMMON (CV) (1)	SELECT GRANULAR (CV)
	CU YD	CU YD	CU YD	CU YD
SP 1111-11				
828+56 TO 831+05	762	262	586	301
81+51 TO 82+38	2286	786	1759	902
<b>SP 1111-11 SUBTOTAL</b>	<b>3048</b>	<b>1048</b>	<b>2345</b>	<b>1203</b>
SP 2222-22				
93+12 TO 93+88	3048	1048	2345	1203
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<b>SP 2222-22 SUBTOTAL</b>	<b>3810</b>	<b>1310</b>	<b>2931</b>	<b>1503</b>
<b>TABULATION TOTAL</b>	<b>6858</b>	<b>2358</b>	<b>5276</b>	<b>2706</b>
(1) INCLUDES TOPSOIL				

➤ Only show and pay for TOPSOIL BORROW if it is a special and/or a type of topsoil that is not available on site.

➤ It CANNOT be a common topsoil borrow as that would be paid for as part of the common embankment.

# QUESTIONS?

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