

EARTHWORK NOTES:

- THIS PROJECT HAS A LARGE NET EXCESS OF EXCAVATED MATERIALS. THE CONTRACTOR SHALL BE PAID FOR THE HANDLING OF EARTHWORK ONLY ONCE, REGARDLESS OF STAGING OPERATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS EARTHWORK OPERATIONS INCLUDING EXCAVATING AND STOCKPILING OF EXCAVATED MATERIALS FOR RE-HANDLING AT A LATER DATE (IF NECESSARY). THIS APPLIES TO ALL EXCAVATED MATERIALS TO BE USED ON SITE OR SURPLUS MATERIAL REMOVED FROM THE SITE.
- A 15% SHRINKAGE FACTOR HAS BEEN APPLIED FOR EARTH EXCAVATION AND TOPSOIL EXCAVATION AND PLACEMENT.
- AN ENVIRONMENTAL INVESTIGATION HAS BEEN CONDUCTED TO TEST FOR CLEAN CONSTRUCTION AND DEMOLITION DEBRIS (CCDD) COMPATIBILITY. THE INVESTIGATION CONCLUDED THAT ALL SOILS WITHIN THE PROJECT LIKELY MEETS THE PH REQUIREMENTS AS ENFORCED BY THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCIES AND CCDD RECEIVING FACILITIES.
- THE EARTHWORK CALCULATIONS INCLUDE AREA MEASUREMENTS PER CROSS SECTION. EACH MEASUREMENT IS CATEGORIZED BY AN ABBREVIATION IN PARENTHESIS STARTING WITH "C" FOR A CUT MEASUREMENT AND "F" FOR A FILL MEASUREMENT. EACH IS DESCRIBED BELOW:

SUITABLE MATERIAL EXCAVATION VOLUME (C1)	ALL EXCAVATION SUITABLE FOR USE AS ROADWAY EMBANKMENT. A GEOTECHNICAL STUDY INDICATES THAT ALL SOILS THAT ARE NEITHER TOPSOIL, NOR WITHIN UNDERCUT LIMITS ARE SUITABLE.
UNSUITABLE MATERIAL EXCAVATION VOLUME (C2)	EXCAVATION WITHIN UNDERCUT LIMITS. FOR INFORMATION ON THE FILL WITHIN UNDERCUT LIMITS, REFER TO NOTE 5.
TOPSOIL REMOVAL VOLUME (C3)	REMOVAL OF TOPSOIL, WHICH VARIES IN DEPTH THROUGHOUT THE PROJECT BASED ON GEOTECHNICAL BORINGS AND AS REFLECTED ON THE CROSS SECTIONS.
ROADWAY EMBANKMENT VOLUME (F1)	EMBANKMENT SUITABLE FOR SUPPORTING THE ROADWAY AND MULTI-USE PATH.
ROADSIDE EMBANKMENT VOLUME (F2)	EMBANKMENT LIMITED TO AREAS NOT APPLICABLE TO ROADWAY EMBANKMENT. ROADSIDE EMBANKMENT MUST NOT BE USED FOR SUPPORTING THE ROADWAY OR MULTI-USE PATH.
TOPSOIL PLACEMENT VOLUME (F3)	PLACEMENT OF PROPOSED TOPSOIL TO REACH THE FINISHED GRADE.

- EARTHWORK PAY ITEM QUANTITIES ARE DERIVED FROM THE MEASUREMENTS DESCRIBED IN NOTE 4 AND SHOWN IN THE SCHEDULE OF EARTHWORK.

EARTH EXCAVATION	INCLUDES ALL MATERIAL THAT IS EXCAVATED FROM ONSITE AND USED ONSITE AS ROADWAY EMBANKMENT OR ROADSIDE EMBANKMENT. EARTH EXCAVATION SHALL BE IN ACCORDANCE WITH SECTION 202 OF THE I.D.O.T. STANDARD SPECIFICATIONS.
FURNISHED EXCAVATION	NOT REQUIRED FOR THIS CONTRACT AS SUFFICIENT QUANTITY OF FILL CAN BE FOUND ONSITE.
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL	INCLUDES ALL SURPLUS MATERIAL THAT IS EXCAVATED FROM ONSITE AND IS NOT USED AS ONSITE FILL. THIS MATERIAL SHALL BE REMOVED AND DISPOSED OF OFF-SITE IN ACCORDANCE WITH SECTION 202 OF THE I.D.O.T. STANDARD SPECIFICATIONS. THE PLAN QUANTITY IS CALCULATED UNDER THE ASSUMPTION THAT SURPLUS EXCAVATED MATERIAL SHALL BE HANDLED ONE TIME BY THE CONTRACTOR.
AGGREGATE SUBGRADE IMPROVEMENT	APPLICABLE TO UNDERCUT LOCATIONS, EITHER AS SHOWN ON THE CROSS SECTIONS OR AS IDENTIFIED IN THE FIELD. UNDERCUT REPRESENTS LOCATIONS WHERE THE SOILS BELOW THE PROPOSED ROADWAY ARE UNSUITABLE TO SUPPORT THE ROADWAY. UNSUITABLE MATERIALS SHALL BE REMOVED UNTIL SUITABLE MATERIALS ARE ENCOUNTERED. EARTH EXCAVATION (ROADWAY EMBANKMENT) MAY BE SUBSTITUTED AS FILL WITHIN UNDERCUT AREAS WHERE APPROVED BY THE ENGINEER. THE RESIDENT ENGINEER SHALL APPROVE THE UNDERCUT AREAS AND DEPTH TO REMEDY THE UNSUITABLE MATERIALS.
TOPSOIL EXCAVATION AND PLACEMENT	INCLUDES THE REMOVAL AND PLACEMENT OF TOPSOIL, EITHER IN THE SAME STAGE OR IN FUTURE STAGES, IN ACCORDANCE WITH SECTION 211 OF THE I.D.O.T. STANDARD SPECIFICATIONS.
TOPSOIL FURNISH AND PLACE 6"	NOT REQUIRED FOR THIS PROJECT AS ALL PROPOSED TOPSOIL WILL BE EXCAVATED FROM ON SITE.

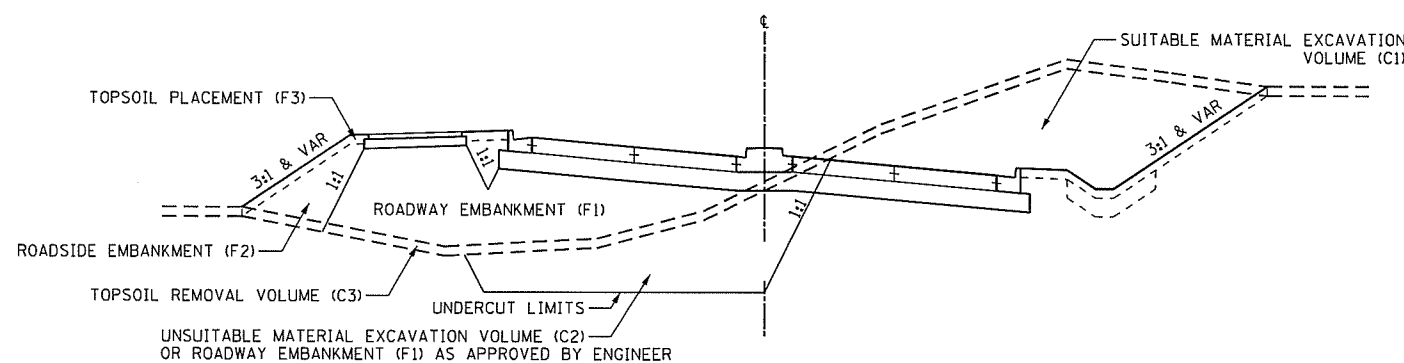
SCHEDULE OF EARTHWORK (MEASURED VOLUMES)

FROM STATION	TO STATION	(C1)	(C2)	(C3)	(F1)	(F2)	(F3)
		SUITABLE MATERIAL EXCAVATION VOLUME (CU YD)	UNSUITABLE MATERIAL EXCAVATION VOLUME (CU YD)	TOPSOIL REMOVAL VOLUME (CU YD)	ROADWAY EMBANKMENT (CU YD)	ROADSIDE EMBANKMENT (CU YD)	TOPSOIL PLACEMENT (CU YD)
LONGMEADOW PARKWAY							
2268+00.00	2269+00.00	50.28	0.0	61.67	10.74	29.07	35.88
2269+00.00	2270+00.00	127.92	915.83	365.51	878.19	95.56	159.4
2270+00.00	2271+00.00	320.51	451.94	276.99	309.35	78.74	32.87
2271+00.00	2272+00.00	2,510.19	0.0	560.19	0.0	0.0	76.9
2272+00.00	2273+00.00	5,766.62	0.0	622.22	0.79	5.37	149.35
2273+00.00	2274+00.00	5,843.33	0.0	626.9	4.22	22.41	152.36
2274+00.00	2275+00.00	6,346.48	0.0	624.4	3.43	23.65	170.42
2275+00.00	2276+00.00	6,773.61	0.0	645.88	2.82	23.28	237.73
2276+00.00	2277+00.00	5,830.23	0.0	634.4	5.42	5.56	266.99
2277+00.00	2278+00.00	4,661.76	0.0	592.22	0.0	0.0	258.47
2278+00.00	2279+00.00	3,118.38	0.0	487.22	0.0	0.0	205.83
2279+00.00	2280+00.00	1,647.08	0.0	371.76	0.0	0.0	148.75
2280+00.00	2281+00.00	563.7	0.0	327.69	68.38	27.41	139.12
2281+00.00	2282+00.00	178.56	0.0	316.53	358.61	241.53	179.95
2282+00.00	2283+00.00	0.0	0.0	352.55	1,218.56	1,085.51	222.82
ILLINOIS ROUTE 25							
602+00.00	603+00.00	2.04	0.0	9.58	0.0	0.0	8.29
603+00.00	604+00.00	26.45	0.0	1.97	2.64	0.0	1.5
604+00.00	605+00.00	26.02	0.0	29.54	12.59	0.51	22.73
605+00.00	606+00.00	146.46	0.0	56.6	17.04	36.16	66.07
606+00.00	607+00.00	97.54	0.0	68.89	16.94	72.45	75.09
607+00.00	608+00.00	31.25	0.0	64.49	66.67	71.25	61.16
608+00.00	609+00.00	62.64	0.0	52.1	147.47	43.71	42.24
609+00.00	610+00.00	21.79	0.0	106.74	269.34	59.26	56.33
610+00.00	611+00.00	37.75	0.0	109.47	211.16	42.13	55.73
611+00.00	611+89.80	37.75	0.0	80.87	111.19	32.13	24.58
613+52.66	614+00.00	120.89	0.0	105.2	11.92	38.13	36.34
614+00.00	615+00.00	219.12	0.0	193.33	17.18	40.93	76.67
615+00.00	616+00.00	255.74	0.0	323.82	5.28	63.15	85.32
616+00.00	617+00.00	206.03	0.0	114.89	47.31	29.43	68.93
617+00.00	618+00.00	118.56	0.0	110.83	33.98	32.31	87.08
618+00.00	619+00.00	12.41	0.0	75.14	22.22	14.17	62.73
619+00.00	620+00.00	7.45	0.0	78.94	38.56	8.56	45.83
620+00.00	621+00.00	31.2	0.0	113.84	26.53	8.7	43.47
621+00.00	622+00.00	11.44	0.0	105.23	34.17	16.71	39.17
622+00.00	623+00.00	4.07	0.0	83.61	27.41	1.85	41.53
623+00.00	623+25.06	0.0	0.0	12.27	4.8	0.0	4.99
TOTAL		45,215.7	1,367.8	8,655.5	3,984.9	2,249.9	3,442.7

- A QUANTITY OF 350 CU YD. WILL BE HANDLED TWICE DUE TO THE CONSTRUCTION OF EMBANKMENT TO CARRY TEMPORARY PAVEMENT WIDENING DURING STAGES 1, 2A, & 2C. THE DOUBLE HANDLING OF THIS MATERIAL IS ONLY COUNTED ONCE IN THESE QUANTITY COMPUTATIONS TO ENSURE PROPER SITE BALANCE. CONTRACTOR SHALL CONSIDER THIS DOUBLE HANDLING WHEN PREPARING HIS UNIT COST FOR THE ASSOCIATED PAY ITEMS.

SCHEDULE OF EARTHWORK (DERIVED QUANTITIES)

EARTH EXCAVATION (20200100) <ul style="list-style-type: none"> EARTH EXCAVATION = (F1 + F2) / 0.85 EARTH EXCAVATION = (3,984.9 + 2,249.9) / 0.85 EARTH EXCAVATION = 7,335 CU YD SUITABLE EX ON SITE AVAILABILITY CHECK: $F1 < C1 \cdot 0.85$ $3,984.9 < 45,215.7 \cdot 0.85$ $3,984.9 < 38,433.3$ -----CRITERIA MET----- 	TOPSOIL EXCAVATION AND PLACEMENT (21101505) <ul style="list-style-type: none"> TOPSOIL NEEDS = F3 / 0.85 TOPSOIL NEEDS = 3,442.7 / 0.85 TOPSOIL NEEDS = 4,050 CU YD TOPSOIL ONSITE AVAILABILITY CHECK: $TOPSOIL NEEDS < C3 \cdot 0.85$ $4,050 < 8,655.5 \cdot 0.85$ $4,050 < 7,357$ -----CRITERIA MET----- TOPSOIL EXCAVATION AND PLACEMENT = 4,050 CU YD 	NON-SPECIAL WASTE DISPOSAL (66900200) SOIL DISPOSAL ANALYSIS (66900450) SPECIAL WASTE PLANS AND REPORTS (66900530) BASED ON PRELIMINARY SITE INVESTIGATION THE FOLLOWING PLAN QUANTITIES RELATED TO NON-SPECIAL WASTE ARE PROVIDED: NON-SPECIAL WASTE DISPOSAL = 5,500 CU YD SOIL DISPOSAL ANALYSIS = 8 EACH SPECIAL WASTE PLANS AND REPORTS = 1 L SUM
REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL (20201200) <ul style="list-style-type: none"> TOTAL EXCAVATED MATERIAL = C1 + C2 + C3 TOTAL EXCAVATED MATERIAL = 45,215.7 + 1,367.8 + 8,655.5 TOTAL EXCAVATED MATERIAL = 55,239 CU YD TOTAL EXC. MAT. USED ON SITE = PI 20200100 + PI 21101505 TOTAL EXC. MAT. USED ON SITE = 7,335 + 4,050 TOTAL EXC. MAT. USED ON SITE = 11,385 CU YD SURPLUS = 55,239 - 11,385 SURPLUS = 43,854 CU YD REMOVAL AND DISPOSAL OF UNSUITABLE MATERIAL = 43,854 CU YD 	GEOTECHNICAL FABRIC FOR GROUND STABILIZATION (21001000) AGGREGATE SUBGRADE IMPROVEMENT (30300001) <ul style="list-style-type: none"> FOR ESTIMATING PURPOSES, IT IS ASSUMED 10% OF THE PROPOSED ROADWAY SUBGRADE WILL REQUIRE AN UNDERCUT OF 12". THESE AREAS SHALL REQUIRE THE INSTALLATION OF GEOTECHNICAL FABRIC FOR GROUND STABILIZATION AND AGGREGATE SUBGRADE IMPROVEMENT (CU YD). ROADWAY SUBGRADE AREA = 21,378 SQ YD 10% OF ROADWAY SUBGRADE AREA = 2,138 SQ YD GEOTECHNICAL FABRIC FOR GROUND STABILIZATION = 2,138 SQ YD VOLUME OF ASSUMED UNDERCUTS = 2,138 SQ YD • (1 FOOT • (1 FOOT/3 YARD)) VOLUME OF ASSUMED UNDERCUTS = 713 CU YD AGGREGATE SUBGRADE IMPROVEMENT = 713 CU YD 	



EXAMPLE TYPICAL SECTION FOR EARTHWORK DEFINITIONS

FILE NAME: p:\1\entengr\pawben\1\project\documents\projects\kenned\13276-02-00-00-03\Roadway\LR00_Shaeta\Sheet\c-ekt-ear-the-nots.cml.dgn



USER NAME = Mike Moes
 PLOT SCALE = 2,0000' / 1" =
 PLOT DATE = 10/19/2018

DESIGNED - PFR
 DRAWN - PFR
 CHECKED - KDF
 DATE - 9/6/2018

REVISED - 10/22/18
 REVISED -
 REVISED -
 REVISED -

**STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION**

EARTHWORK GENERAL NOTES

SCALE: NTS SHEET 1 OF 1 SHEETS STA. TO STA.

F.A.U. RTEL	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
2298	18-00215-22-CH	KANE	195	11
CONTRACT NO. 61F04			ILLINOIS FED. AID PROJECT	