

# GENERAL NOTES

# CALCULATIONS

**LAKE COUNTY  
SH 520 SEC  
WILLOWICK (PT)**

**TRAFFIC:** Traffic shall be maintained at all times. The length of one way traffic zones shall be kept to a minimum consistent with the requirements of Section T-35.23. In addition to the requirements of Sec. G-8.07, Barricades, Danger and Warning Signs, the Contractor shall display one "PLEASE - MEN WORKING ON ROAD" sign furnished by the State at each end of each one way zone and in such a position as to be visible to traffic approaching the one way zone. The Contractor shall be responsible for the preservation of these signs, shall advance the signs as work progresses and shall return the signs to the State at the completion of the work. The item of "Maintaining Traffic" shall include furnishing Lights, Signs, (other than those mentioned above) Barricades and Watchmen, plus the displaying and advancing of the "PLEASE - MEN WORKING ON ROAD" signs to secure the flow of traffic twenty-four (24) hours daily.

**PROFILE:** The profile of the proposed surface course shall be approximately 2 1/2 inches above that of the existing pavement. Between Sta. 48+50 and Sta. 53+25 See Super elevation table Sheet # 2 for Pavement Elevations.

**COMPACTION OF SUBGRADE:** Loosening and Watering of subgrade in cuts according to Section E-1.08 will not be required if density requirements can be met by additional rolling. However, if at any time the subgrade contains an excess of moisture as indicated by distortion under the roller, the subgrade shall be aerated by discing or other suitable means until the moisture content has been reduced sufficiently to permit recompaction to the density required by the specifications. Water of subgrade compaction does not apply between Sta. 48+50 and Sta. 53+25.

**TACK COAT INCLUDING SAND COVER:** Where shown on the plans, Bituminous Tack Coat, Sec. M-5.5, MS-1 shall be applied by distributor or by brooms at the rate of 0.10 gal. per Sq. Yd. After the bituminous material has been applied, all material not required to give a uniform coating to the surface shall be swept into all cracks and open joints before the sand cover is placed. Sand cover shall be uniformly spread at a rate of from 2 to 5 pounds per Sq. Yd. The sand shall be spread at such time and shall be in such condition that it will adhere to the bituminous material. Payment for sand cover is included in the price bid per gallon for bituminous material.

**FILLING MAJOR DEPRESSIONS:** Major depressions in existing pavement shall be filled and compacted with bituminous concrete leveling material in advance of placing the regular leveling course. These depressions shall be filled in layers not to exceed three (3) inches in depth when compacted.

**RESETTING CASTINGS:** This item shall be performed after completion of the leveling course and prior to placing the surface course. Compaction of the material around castings inaccessible to rollers shall be in accordance with the requirements of Sec. T-30.21.

**SEALING EXISTING EDGES:** Vertical faces of existing work, such as castings, curbs, etc., against which the new bituminous concrete is to be placed, shall be painted or sealed with bituminous material in accordance with Section T-35.18. The cost of such operations and material shall be included in the price bid for bituminous concrete.

**TREATMENT OF FEATHERED AREA:** Where directed the new surface course shall be feathered. The area upon which less than one (1) inch of surface course is to be placed shall be considered as the area to be feathered. A paint coat of the same bituminous material used in the mix shall be applied to this area, before placing the bituminous concrete surface course. The cost of such operation and material shall be included in the unit price bid for bituminous concrete.

**GUTTER SEAL:** After placing and compacting the bituminous concrete surface course, the gutter surface shall be sealed with the same bituminous material contained in the mixture. Only enough material shall be applied to coat the surface for a distance of 12 inches from the curb or 24 inches wide for a "V" gutter. The material shall be applied by an approved method at a temperature of from 300° F. to 350° F. The cost of such operation and material shall be included in the price bid for bituminous concrete.

**5" GRANULATED SLAG BASE COURSE:** The granulated slag base shall be sprinkled sufficiently to lubricate the particles, then rolled to a compacted course with a roller meeting the requirements of G-70.1. Should the subgrade become soft and mixed thru the course, the contractor shall without additional compensation, remove the material, reshape and compact the subgrade and replace the materials removed with clean aggregate which shall be rolled until compacted satisfactorily and uniformly with the surrounding surface. The finished surface shall conform to the requirements set forth in the last sentence of Sec. B-20.06. The yardage to be paid for shall be the number of square yards of granulated slag base as specified, in place, compacted, completed and accepted.

**EARTHWORK:** Watering embankments, benching, density requirements and removal of sod from the shoulder will not be required. However, Item E-1 and Item E-4 shall include the thorough compaction of embankment in layers not exceeding eight inches compacted thickness and shall include dry operations of grading necessary to finish the shoulders and slopes substantially to the lines indicated on the typical sections.

No provisions of the specifications will be waived for embankment which supports any portion of the new pavement or forms.

## SUMMARY OF QUANTITIES

SHEET No	Extra Area	Feathering	Center	Removal & Disposal	Removal & Disposal	12" Pipe for	12" Pipe for	Spec C1	Spec C1	C B	Reset	Reset Storm	Reset Sanitary	Reset Water	Reset Water	Reset Water	Monument	Guard Rail	Seeding	Fertilizer	Agricultural	Sealing	
	T35-B35	0' to 2 1/2'	Strip	of Existing Wearing Course	of Existing Pavt	Storm Sewer	Storm Sewer Under Pavt	#3	#3 Salvage Casting	Abandon	C B Castings	M.H. Castings	Sanitary M.H. Castings	Water Meter	Water Manholes	Water Manholes	Reset	Removed & Rebuilt	Sq. Yd	10-6-4	Limestone	Existing Edges (E-8)	
	Sq Yd	Sq Yd	Sq Yd	Sq Yd	Sq. Yd	Lin Ft	Lin Ft	Each	Each	Each	Each	Each	Each	Each	Each	Each	Ea.	Ea.	Lin. Ft.	Sq. Yd	Lbs	Lbs	Lin. Ft.
5		513	2650.82	61								10	6	8	1								2675.10
6		250	3102.92									6	7	9									3048.20
7			3186.11									3	4	8				1					3100.00
8		170	1999.09		1953	165	169	3	1	1	1	1	7	10			1	1	612.5	1953	352	879	1974.20
9	357	93	2650.16									1	5	6	1	1							2593.10
Total	357	1026	13589.10	61	1953	165	169	3	1	1	1	21	29	41	2	2	2	612.5	1953	352	879		13390.60

\* or .18 Tons  
• or .44 Tons

**T35 Asphaltic Concrete Surface Course Type C**  
Length of 54'-6" Pavement Sta 0+00 to Sta 76+13 = 7613 Lin. Ft.  
7613 x 54.5 ÷ 9 = 46100.94 Sq. Yd.  
Extra Area  $\frac{357.00 \times 1.00 \div 36}{46457.94} = 1290.50$  Cu. Yds  
Feathered  $1026 \text{ Sq Yds} \times 1.25 \div 36 = 35.63$  Cu Yds  
Total Net Quantity Asphaltic Concrete Surface Course  $46457.94 + 1290.50 + 35.63 = 47784.07$  Cu Yds

**B35 Asphaltic Concrete Leveling Course**  
Sta 48+50 to Sta 53+25 = 475 Lin. Ft.  
 $475 \times 54.5 \div 9 = 2876.39$  Sq Yd  $\times 1.5 \div 36 = 119.85$   
Sta 0+00 to Sta 48+50 = 4850 Lin. Ft.  
Sta 53+25 to Sta 76+13 = 2288 " "  
7138 Lin. Ft.  
 $7138 \times 52 \div 9 = 41241.78$  Sq Yds  
Extra Area  $\frac{357.00}{41598.78} = 1733.28$  Cu Yds  
Extra Per Mile  $(7613 \div 5280) \times 240 = 346.05$   
2199.18 Cu Yds

**B35 Asphaltic Concrete Base Course**  
Sta 48+50 to Sta 53+25 = 2876.39 Sq. Yd  
Center Strip  $\frac{13589.10 \text{ Sq Yd}}{16465.49 \text{ Sq Yd} \times 3 \div 36} = 1372$  Cu Yds  
Total  $2876.39 + 13589.10 = 16465.49$  Sq Yds

**SPECIAL - 5" Granulated Slag Base Course**  
Sta 48+50 to Sta 53+25 = 2876.39 Sq. Yds  
Center Strip  $\frac{13589.10}{16465.49 \text{ Sq. Yds}} = 16465$  Sq Yds

**T30 Bituminous Tack Coat**  
7613 x 54.5 ÷ 9 = 46100.94 Sq. Yds  
Deduct Brick Surface Sta 0+00 to Sta 41+07 = 8214.00  
4107 x 18 ÷ 9 = 8214 Sq Yds  
Deduct New Pavement Sta 48+50 to Sta 53+25 = 2876.39  
475 x 54.5 ÷ 9 = 2876.39  
Deduct Center Strip  $13589.10 - 24679.49 = 21421.45$   
Extra Area  $21421.45 \div 36 = 595.04$  Cu Yds  
21778.45 Sq Yds

**T30 Roadway Excavation**  
Center Strip  $13589.10 \times 8 \div 36 = 3019.80$  Cu Yds  
Sta 48+50 to Sta 53+25 See Sheet # 12 = 801.00  
3820.80 Cu Yds  
3821 Cu. Yds.

**Concrete Curb 6"x18" Type 6A**  
Sta 48+50 to Sta 53+25 = 475 Lin. Ft.  $\times 2 = 950$  Lin. Ft.  
Deduct for Catch Basin  $5 \times \frac{31.5}{12} = 13.12$  Lin. Ft.  
936.88 Lin. Ft.  
937 Lin. Ft.

**ROADWAY EXCAVATION:** Roadway excavation shall be disposed of by the Contractor outside the limits of the right-of-way unless otherwise directed by the Engineer.

## GENERAL SUMMARY

ITEM	QUANTITIES	UNIT	PAYMENT
T30	2178	Gal	Bituminous Tack Coat Including Sand Cover Sec M.5.5 MS-1
B35	2199	Cu. Yds	Asphaltic Concrete Leveling Course
B35	1372	" "	Asphaltic Concrete Base Course
T35	1326	Cu Yds	Asphaltic Concrete Surface Course Type "C"
Special	16465	Sq. Yds	5" Granulated Slag Base Course. (Grade "B" Water Granulated)
			Blast Furnace Slag 93M - 102.12)
I12	937	Lin Ft	6"x18" Concrete Curb Type 6 Modified

## ROADWAY

E1	3821	Cu Yds	Roadway Excavation - Unclassified
E8	61	Sq. Yds	Removal & Disposal of Existing Bituminous Wearing Course
E8	1353	Sq. Yds	" " " " " " Pavement
I2	165	Lin. Ft.	12" Pipe for Storm Sewers
I2	169	Lin. Ft.	12" Pipe for Storm Sewers (Under Pavement)
I8	21	Each	Resetting Manholes (Storm)
I8	29	Each	Resetting Manholes (Sanitary)
I8	2	Each	Resetting Manholes (Water Meter)
I8	41	Each	Resetting Water Valve Boxes
I8	2	Each	Resetting Monument Boxes
I8	2	Each	Monument Boxes as per plan
I8	3	Each	Special Inlets #3 (as per plan)
I8	1	Each	Special Inlets #3 (as per plan) with salvaged castings
I8	1	Each	Resetting Catch Basins
I15	613	Lin. Ft.	Guard Rail Removed & Rebuilt
S122	1	Each	Abandon Catch Basins
E-8	13,391	Lin. Ft.	Sealing (only) of existing pavement edge
E-11	5	M. Gal	Water for compacting subgrade
E305	1953	Sq. Yds	Seeding and protecting roadway areas
L9	318	Tons	Commercial Fertilizer 10-6-4
L9	44	Tons	Agricultural Ground Limestone