OHIO DEPARTMENT OF TRANSPORTATION

PLAN NO.

metric units



PART	COUNTY	ROUTE	SECTIONS	PROJECT LIMITS		NET LENGTH	CITY	VILLAGE
				BEGIN	END	km		
1	UNI	36	(21.485-22.225)	21.485	30.401	8.916	MARYSVILLE	
2	DEL	36	(0.000-12.360)	0.000	12.698	12.682		
TOTAL						21.598		

PART	PROJECT CENTROID	
	LATITUDE	LONGITUDE
1	40°15'02"	83°17'49"
2	40°17'04"	83°10'47"

NOTE:
EQUATION FOR PART 2:
8.401 BACK=
8.417 AHEAD
DEDUCT 0.016 km

PROJECT DECRIPTION:
UPGRADING 21.598 km OF US-36 BY RESURFACING

INDEX OF SHEETS	
TITLE SHEET	1
ROADWAY AND SHOULDER	2-3
EXTRA AREA	4-7
PAVEMENT MARKING	8-9
RAISED PAVEMENT MARKERS	10
GENERAL NOTES	11
BRIDGE NOTES	12
DROP OFF IN WORK ZONES	13
GENERAL SUMMARY	14

1997 SPECIFICATIONS
The standard specifications of the State of Ohio, Department of Transportation, including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that the making of this improvement will not require the closing to traffic of the highway and that provisions for the maintenance and safety will be as set forth on plans and estimates.

UNI-36-21.485-22.225
980185
14PGS

03-31-98

DIST. 06

UNDERGROUND UTILITIES
TWO WORKING DAYS
BEFORE YOU DIG
CALL 1-800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON-MEMBERS
MUST BE CALLED DIRECTLY

PLAN PREPARED BY:

O.D.O.T.
DISTRICT SIX
IN-HOUSE DESIGN

STANDARD DRAWINGS	
BP-3.1M	10-28-94
RM-1.1M	04-08-97
MT-97.10M	04-25-94
MT-97.11M	01-30-95
MT-99.20M	01-30-95
MT-105.10M	04-25-94
MT-105.11M	04-25-94
TC-65.10M	11-01-95
TC-65.12M	11-01-95
TC-71.10M	09-01-93

SUPPLEMENTAL SPECIFICATIONS	

PLANS CERTIFIED BY:
NAME: D L Moore DATE: 12-8-97
DISTRICT 6
OHIO DEPT. OF TRANSPORTATION

Approved Jack R. Marchbanks
Date 12-8-97 District Deputy Director of Transportation

Approved
Date 12-23-97 Director, Department of Transportation

FEDERAL PROJECT NO. NON-FEDERAL

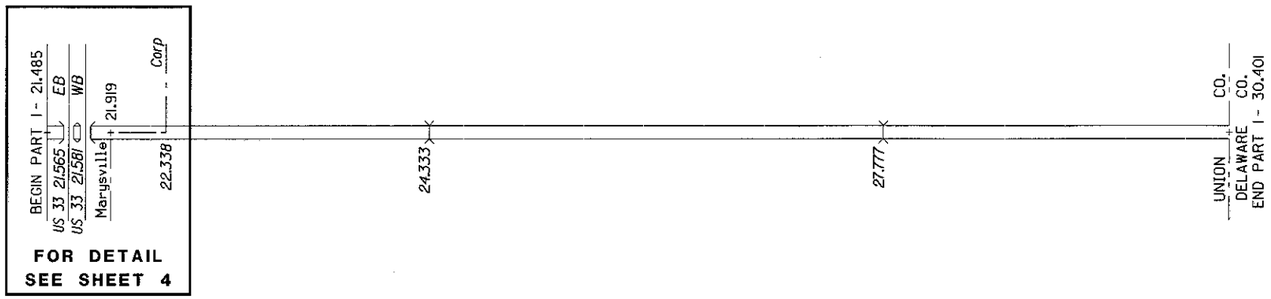
PID NO. 16868

CONSTRUCTION PROJECT NO. UNI-36-21.485

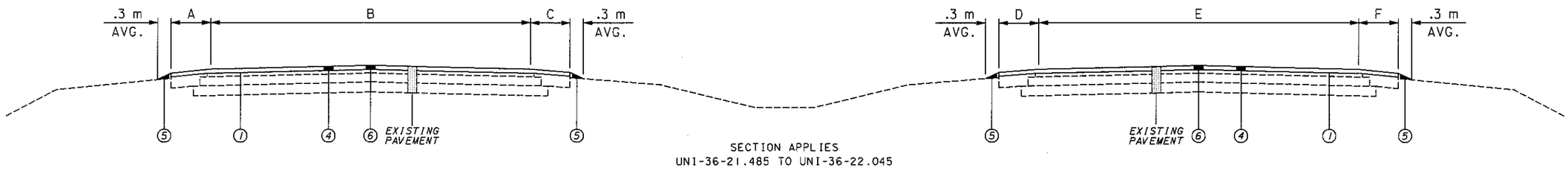
RAILROAD INVOLVEMENT NONE

1/14

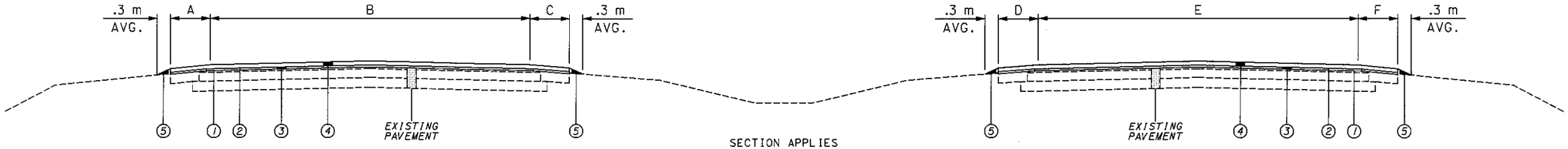
J8-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\title.dgn



* ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, (SPOT LEVELING):
THIS MATERIAL IS TO BE USED, AS DIRECTED BY THE ENGINEER, TO FILL RUTS AND IMPERFECTIONS; AND TO LEVEL AND RE-ESTABLISH THE ORIGINAL ALIGNMENT AND PROFILE OF THE PAVEMENT, PRIOR TO PLACEMENT OF THE SURFACE COURSE. THIS MAY RESULT IN A PORTION OF THE ORIGINAL SURFACE BEING EXPOSED BEFORE THE OVERLAY IS PLACED.
THE QUANTITY SHOWN IN THE TABLE IS FOR CALCULATION PURPOSES ONLY.



SECTION APPLIES
UNI-36-21.485 TO UNI-36-22.045

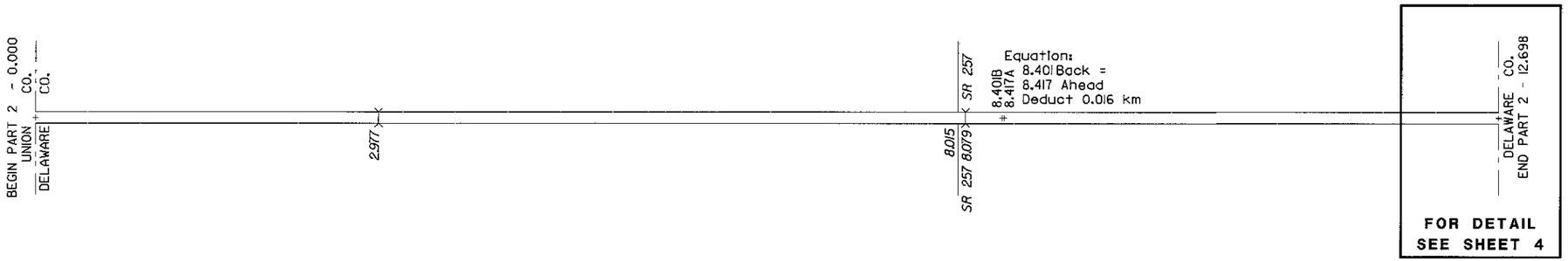


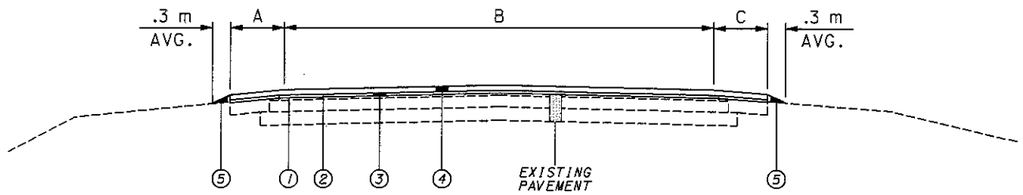
SECTION APPLIES
UNI-36-22.045 TO UNI-36-22.238
UNI-36-22.238 TO UNI-36-30.401 (LEFT SIDE ONLY)

PAVEMENT DATA

													(1)	(2)	(3)		(4)		(5)	(6)			
						AVERAGE WIDTH OF PAVEMENT							407	407	448		448		617	254		614	614
PART	COUNTY	ROUTE	FROM	TO	LENGTH							AREA	TACK COAT AT 0.35 liter/sq. m	TACK COAT FOR INTERMEDIATE COURSE AT 0.25 liter/sq. m	* AVG. THICK	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG64-22	AVG. THICK	ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG64-22	COMPACTED AGGREGATE TYPE A 75 mm AVERAGE THICKNESS	PAVEMENT PLANING BITUMINOUS DEPTH		TEMP. CENTER LINE x2 APPS.	TEMP. LANE LINE x2 APPS.
						A	B	C	D	E	F												
			SLD	SLD	m	m	m	m	m	m	m	sq m	liter	liter	mm	cu m	mm	cu m	cu m	mm	sq m	km	km
1	UNI	36	21.485	21.672	187	1.0	7.2			7.2	1.0	3067	1073				32	98	17	32	3067		0.75
1	UNI	36	21.672	21.800	128	2.6	7.2	0.9		7.2	0.9	2406	842				32	77	12	32	2406		0.51
1	UNI	36	21.800	21.999	199	0.9	7.2			7.2	0.9	3224	1128				32	103	9	32	3224		0.80
1	UNI	36	21.999	22.022	23	0.9	10.8			5.8	0.9	423	148				32	14	2	32	423		0.05
1	UNI	36	22.022	22.045	23	0.9	10.8			5.8	0.9	423	148				32	14	2	32 to 0	423	0.05	
1	UNI	36	22.045	22.238	193	0.9	7.2			3.6	0.9	2432	851	608	13	32	32	78	9			0.39	
1	UNI	36	22.238	30.401	8163	0.5	7.2	0.5				66937	23428	16734	13	870	32	2142	367			16.33	
TOTALS													27618	17342		902		2526	418		9543	16.77	2.11

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\448as.dgn





SECTION APPLIES
DEL-36-0.000 TO DEL-36-12.698

* ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, (SPOT LEVELING):
THIS MATERIAL IS TO BE USED, AS DIRECTED BY THE ENGINEER, TO FILL RUTS AND IMPERFECTIONS; AND TO LEVEL AND RE-ESTABLISH THE ORIGINAL ALIGNMENT AND PROFILE OF THE PAVEMENT, PRIOR TO PLACEMENT OF THE SURFACE COURSE. THIS MAY RESULT IN A PORTION OF THE ORIGINAL SURFACE BEING EXPOSED BEFORE THE OVERLAY IS PLACED.
THE QUANTITY SHOWN IN THE TABLE IS FOR CALCULATION PURPOSES ONLY.

PAVEMENT DATA

													(1)	(2)	(3)		(4)		(5)	(6)		
						AVERAGE WIDTH OF PAVEMENT							407	407	448		448		617	254		614
PART	COUNTY	ROUTE	FROM	TO	LENGTH	A	B	C	D	E	F	PAVEMENT AREA	TACK COAT AT 0.35 liter/sq. m	TACK COAT FOR INTERMEDIATE COURSE AT 0.25 liter/sq. m	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG64-22 * AVG. THICK		ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG64-22 AVG. THICK		COMPACTED AGGREGATE TYPE A 75 mm AVERAGE THICKNESS	PAVEMENT PLANING BITUMINOUS DEPTH		TEMP. CENTER LINE x2 APPS.
			SLD	SLD	m	m	m	m	m	m	m	sq m	liter	liter	mm	cu m	mm	cu m	cu m	mm	sq m	km
2	DEL	36	0.000	2.120	2120	0.5	7.2	0.5				17384	6084	4346	13	226	32	556	95			4.24
2	DEL	36	2.120	4.488	2368	2.2	7.2	2.2				27469	9614	6867	13	357	32	879	107			4.74
2	DEL	36	4.488	11.969	7481	0.5	7.2	0.5				61344	21470	15336	13	797	32	1963	337			14.96
2	DEL	36	11.969	12.506	537	2.5	7.2	2.5				6551	2293	1638	13	85	32	210	24			1.07
2	DEL	36	12.506	12.642	136	2.5	9.0	2.5				1904	666	476	13	25	32	61	6			0.27
2	DEL	36	12.642	12.675	33	2.5	10.8	2.5				521	182	130	13	7	32	17	1			0.07
2	DEL	36	12.675	12.698	23	2.5	10.8	2.5				363	127	91	13	5	32	12	1	0 to 32	363	0.05
TOTALS													40436	28884		1502		3698	571		363	25.40

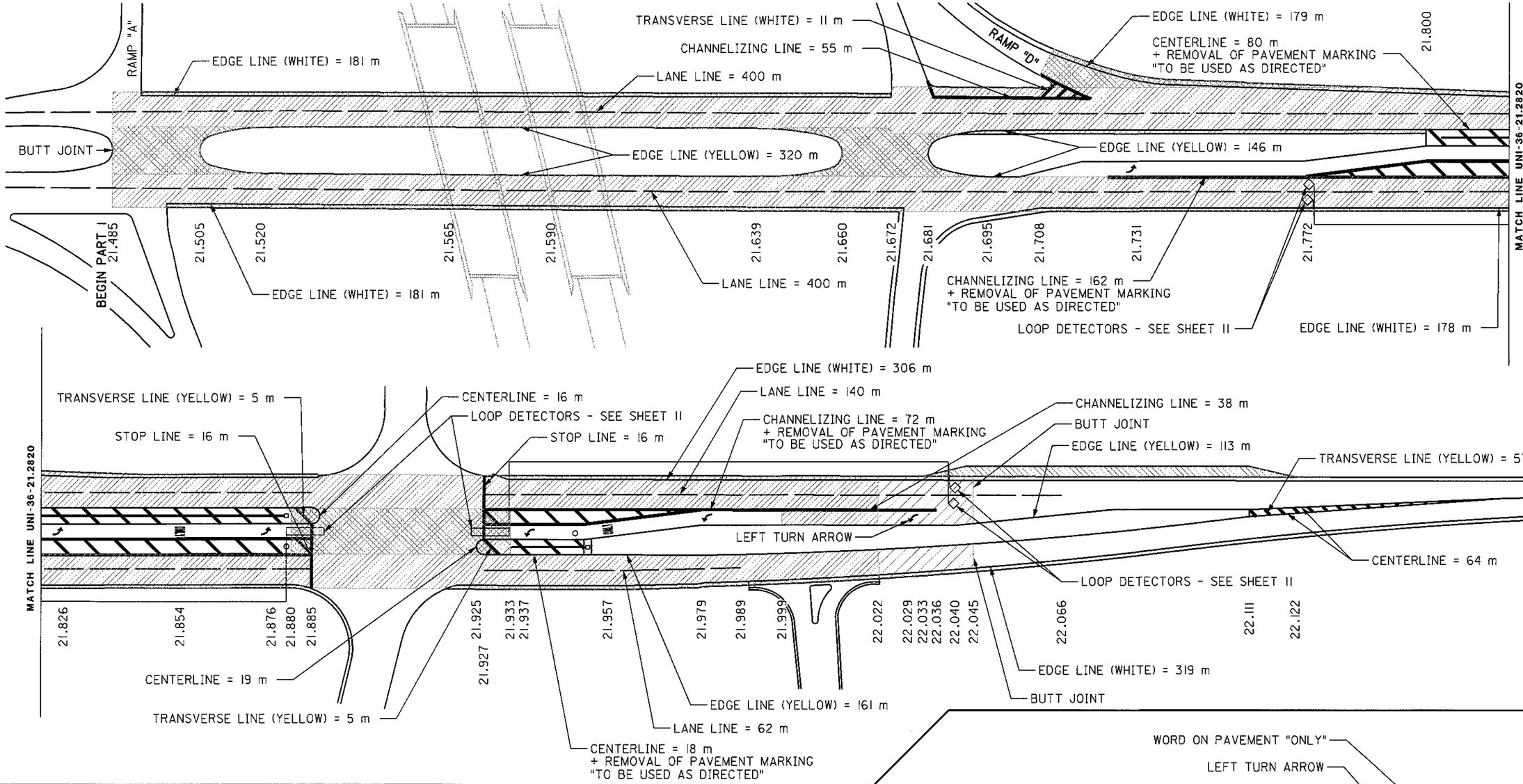
08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\448as2.dgn

CALCULATED | CHECKED

PLAN NO.

ROADWAY AND SHOULDER

UNI-36-21.485



PAVEMENT MARKING DATA

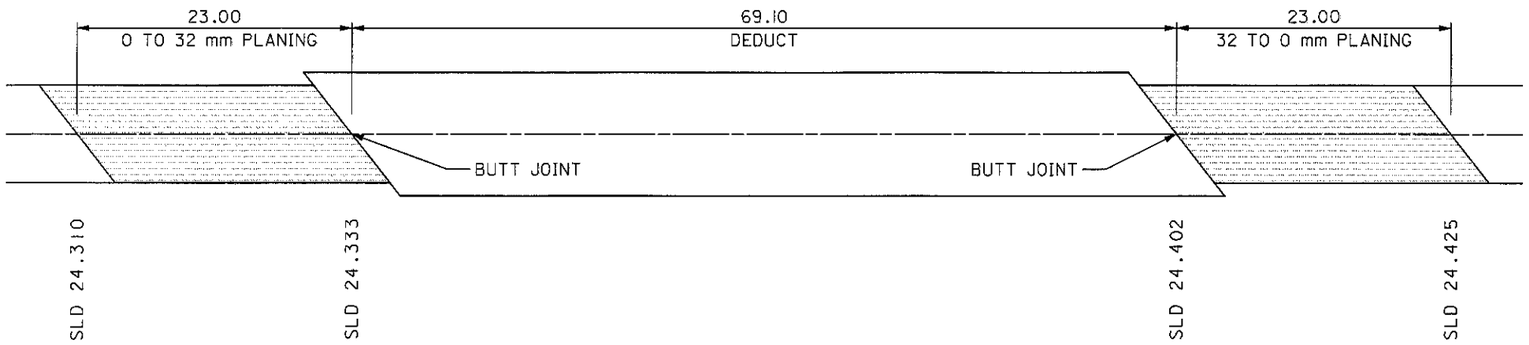
642			644								
EDGE LINE		LANE LINE	STOP LINE	CHANNELIZING LINE		CENTERLINE		TRANSVERSE LINE		LEFT TURN ARROW	WORD ON PAVEMENT "ONLY"
WHITE	YELLOW				REMOVAL OF PAVEMENT MARKING		REMOVAL OF PAVEMENT MARKING	WHITE	YELLOW		
km	km	km	m	m	m	km	m	m	m	m	m
0.181	0.320	0.400	16	55		0.019		11	5	2	1
0.181	0.146	0.400	16	38		0.016			5		
0.179	0.161	0.062		28		0.064			57		
0.178	0.113	0.140		162	162	0.290					
0.306				72	72	0.155					
0.319						0.080	80				
						0.018	18				
1.344	0.740	1.002	32	355	234	0.642	98	11	67	2	1

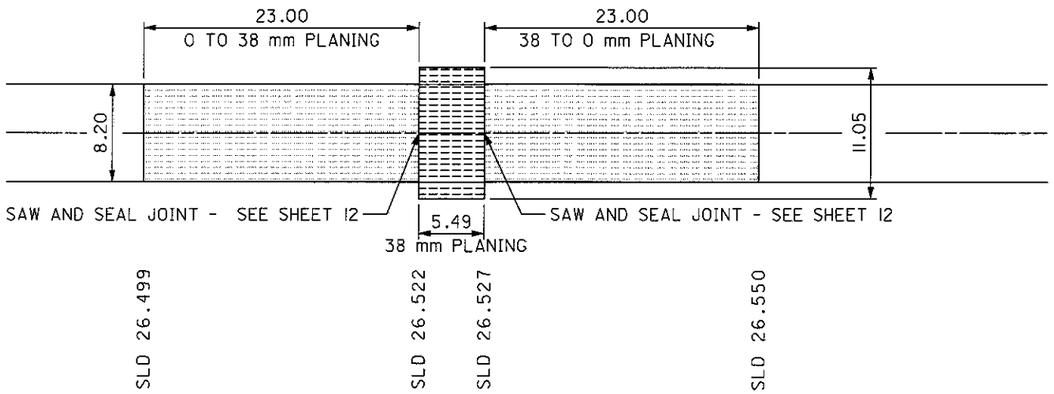
PLAN NO.

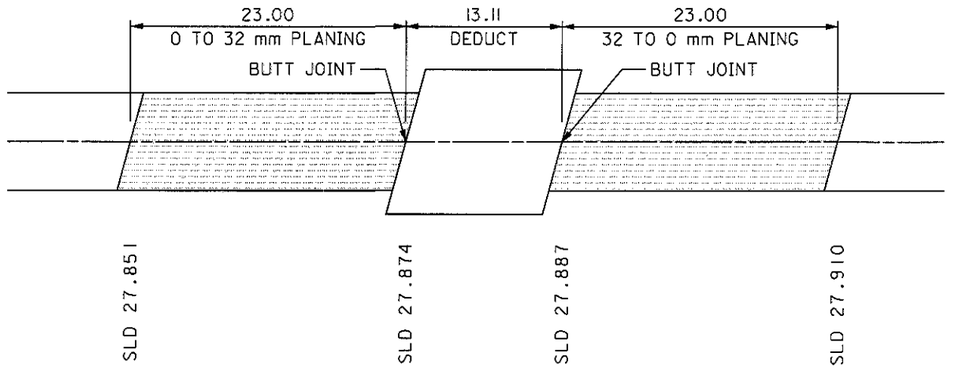
EXTRA AREAS AND DEDUCTIONS

UNI-36-21.485

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\detail.dgn







* ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, (SPOT LEVELING):
THIS MATERIAL IS TO BE USED, AS DIRECTED BY THE ENGINEER, TO FILL RUTS AND IMPERFECTIONS; AND TO LEVEL AND RE-ESTABLISH THE ORIGINAL ALIGNMENT AND PROFILE OF THE PAVEMENT, PRIOR TO PLACEMENT OF THE SURFACE COURSE. THIS MAY RESULT IN A PORTION OF THE ORIGINAL SURFACE BEING EXPOSED BEFORE THE OVERLAY IS PLACED.
THE QUANTITY SHOWN IN THE TABLE IS FOR CALCULATION PURPOSES ONLY.

PAVEMENT DATA

											(1)	(2)	(3)		(4)		(5)	(6)	(7)		
							LENGTH		AVERAGE WIDTH OF PAVEMENT	PAVEMENT AREA	407 TACK COAT AT 0.35 liter/sq. m	407 TACK COAT FOR INTERMEDIATE COURSE AT 0.25 liter/sq. m	448 ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG64-22		448 ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG64-22		617 COMPACTED AGGREGATE TYPE A 75 mm AVERAGE THICKNESS	203 LINEAR GRADING AT 150 mm AVG. DEPTH	301 BITUMINUS AGGREGATE BASE 150 mm THICK	254 PAVEMENT PLANING BITUMINOUS	
PART	COUNTY	ROUTE	FROM	TO	SIDE	DESCRIPTION							* AVG. THICK		AVG. THICK					DEPTH	
			SLD	SLD			km	m	m	sq m	liter	liter	mm	cu m	mm	cu m	cu m	km	cu m		sq m
1	UNI	36	VARIOUS			INTERSECTION - BITUMINOUS				1100	385	275	13	14	32	35					
1	UNI	36	VARIOUS			DRIVES - BITUMINOUS				500	175	125	13	7	32	16					
1	UNI	36	VARIOUS			DRIVES - AGGREGATE				1500							113				
1	UNI	36	21.485	21.520		CROSSOVER - SEE SHEET 4				270	95				32	9				32	270
1	UNI	36	21.639	21.695		CROSSOVER - SEE SHEET 4				293	103				32	9				32	293
1	UNI	36	21.708	21.800	L	RAMP "D" - SEE SHEET 4				202	71				32	6				32	202
1	UNI	36	21.880	21.933		CROSSOVER - SEE SHEET 4				586	205				32	19				32	586
1	UNI	36	22.033	22.122	L	EXTRA WIDTH - SEE SHEET 4	0.089	89.00	2.40	213.6	75	53	13	3	32	7					
1	UNI	36	24.310	24.333		STRUCTURE APPROACH - PLANING		23.00	8.20	189										0 TO 32	189
1	UNI	36	24.333	24.402		STRUCTURE - DEDUCT		-69.10	8.20	-567	-198	-142	13	-7	32	-18					
1	UNI	36	24.402	24.425		STRUCTURE DEPART - PLANING		23.00	8.20	189										32 TO 0	189
1	UNI	36	26.499	26.522		STRUCTURE APPROACH - PLANING		23.00	8.20	189										0 TO 38	189
1	UNI	36	26.522	26.527		STRUCTURE - PLANING		5.49	11.05	61										38	61
1	UNI	36	26.522	26.527	L/R	STRUCTURE - EXTRA WIDTH		5.49	2.85	16	6	4			38	1					
1	UNI	36	26.527	26.550		STRUCTURE DEPART - PLANING		23.00	8.20	189										38 TO 0	189
1	UNI	36	27.851	27.874		STRUCTURE APPROACH - PLANING		23.00	8.20	189										0 TO 32	189
1	UNI	36	27.874	27.887		STRUCTURE - DEDUCT		-13.11	8.20	-108	-38	-27	13	-1	32	-3					
1	UNI	36	27.887	27.910		STRUCTURE DEPART - PLANING		23.00	8.20	189										32 TO 0	189
1	UNI	36				TO BE USED AS DIRECTED				250	88	63	13	3	32	8				32	250
TOTALS											967	351		19		89	113				2796

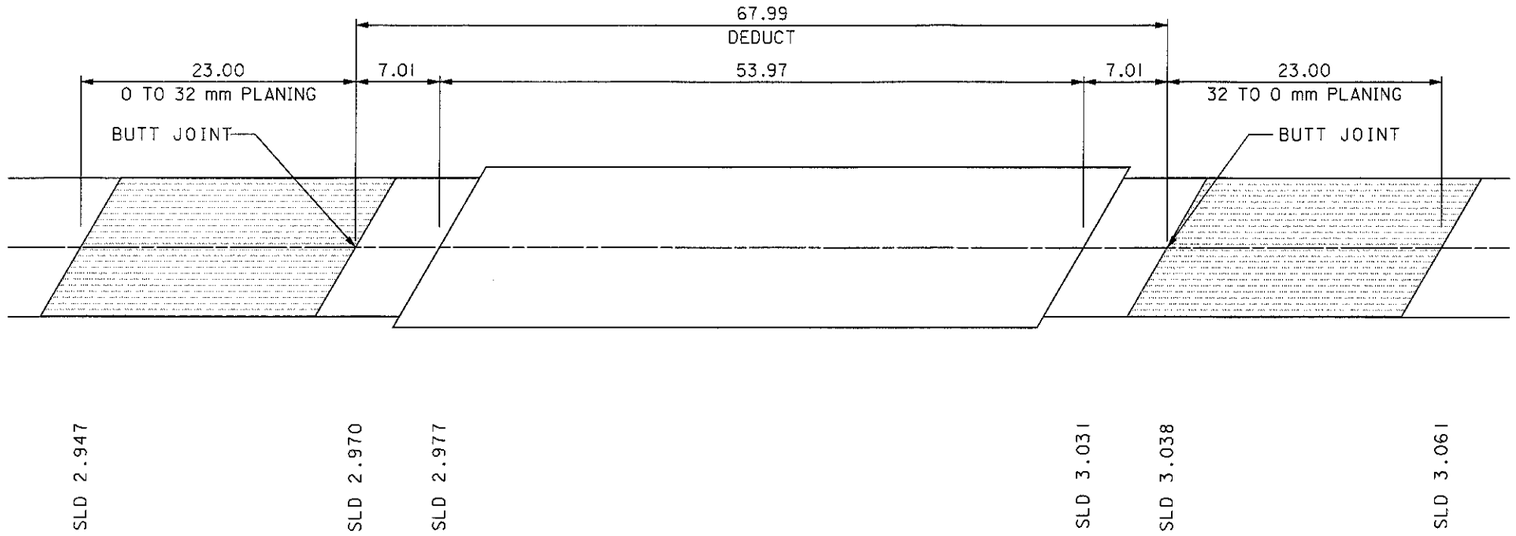
CALCULATED | CHECKED

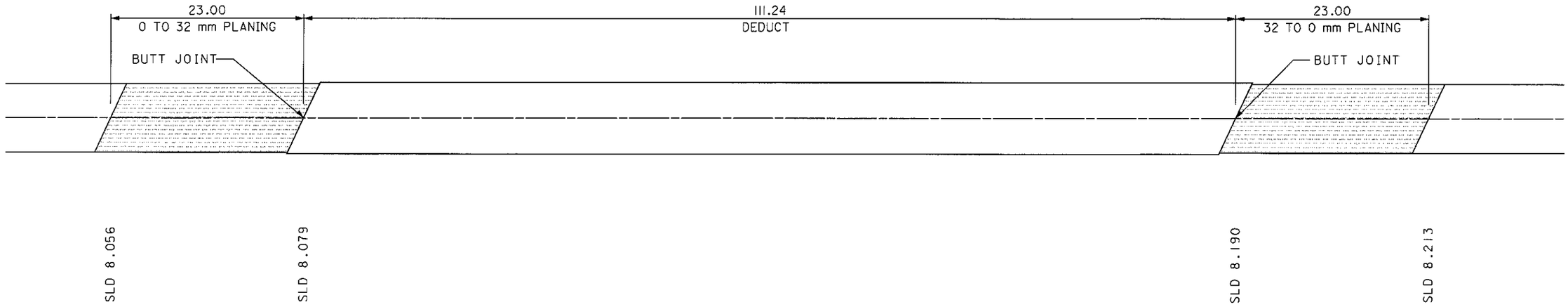
PLAN NO.

EXTRA AREAS AND DEDUCTIONS

UNI-36-21.485

08-DEC-1997
T:\2LANE_FY98\UNI\36\2\485.998\ex_area.dgn





* ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG64-22, (SPOT LEVELING):
THIS MATERIAL IS TO BE USED, AS DIRECTED BY THE ENGINEER, TO FILL RUTS AND IMPERFECTIONS; AND TO LEVEL AND RE-ESTABLISH THE ORIGINAL ALIGNMENT AND PROFILE OF THE PAVEMENT, PRIOR TO PLACEMENT OF THE SURFACE COURSE. THIS MAY RESULT IN A PORTION OF THE ORIGINAL SURFACE BEING EXPOSED BEFORE THE OVERLAY IS PLACED.
THE QUANTITY SHOWN IN THE TABLE IS FOR CALCULATION PURPOSES ONLY

PAVEMENT DATA

											(1)	(2)	(3)		(4)		(5)	(6)	(7)	
							LENGTH		AVERAGE WIDTH OF PAVEMENT	PAVEMENT AREA	407	407	448		448		617	203	301	254
											TACK COAT AT 0.35 liter/sq. m	TACK COAT FOR INTERMEDIATE COURSE AT 0.25 liter/sq. m	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG64-22		ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG64-22		COMPACTED AGGREGATE TYPE A	LINEAR GRADING AT 150 mm AVG. DEPTH	BITUMINUS AGGREGATE BASE	PAVEMENT PLANING BITUMINOUS	
PART	COUNTY	ROUTE	FROM	TO	SIDE	DESCRIPTION							* AVG. THICK		AVG. THICK		75 mm AVERAGE THICKNESS		150 mm THICK	DEPTH	
			SLD	SLD			km	m	m	sq m	liter	liter	mm	cu m	mm	cu m	cu m	km	cu m		sq m
2	DEL	36	VARIOUS			INTERSECTION - BITUMINOUS				1500	525	375	13	20	32	48					
2	DEL	36	VARIOUS			DRIVES - BITUMINOUS				480	168	120	13	6	32	15					
2	DEL	36	VARIOUS			DRIVES - AGGREGATE				1680							126				
2	DEL	36	2.947	2.970		STRUCTURE APPROACH - PLANING		23.00	11.60	267										0 TO 32	267
2	DEL	36	2.970	3.038		STRUCTURE - DEDUCT		-67.99	11.60	-789	-276	-197	13	-10	32	-25					
2	DEL	36	3.038	3.061		STRUCTURE DEPART - PLANING		23.00	11.60	267										32 TO 0	267
2	DEL	36	8.056	8.079		STRUCTURE APPROACH - PLANING		23.00	8.20	189										0 TO 32	189
2	DEL	36	8.079	8.190		STRUCTURE - DEDUCT		-111.24	8.20	-912	-319	-228	13	-12	32	-29					
2	DEL	36	8.190	8.213		STRUCTURE DEPART - PLANING		23.00	8.20	189										32 TO 0	189
TOTALS											98	70		4		9	126				912

EXTRA AREAS AND DEDUCTIONS

PLAN NO.

UNI-36-21.485

CALCULATED

CHECKED

6
14

08-DEC-1997
T:\2LANE_FY98\UNI36\21485.998\ex_area2.dgn

NOTES:

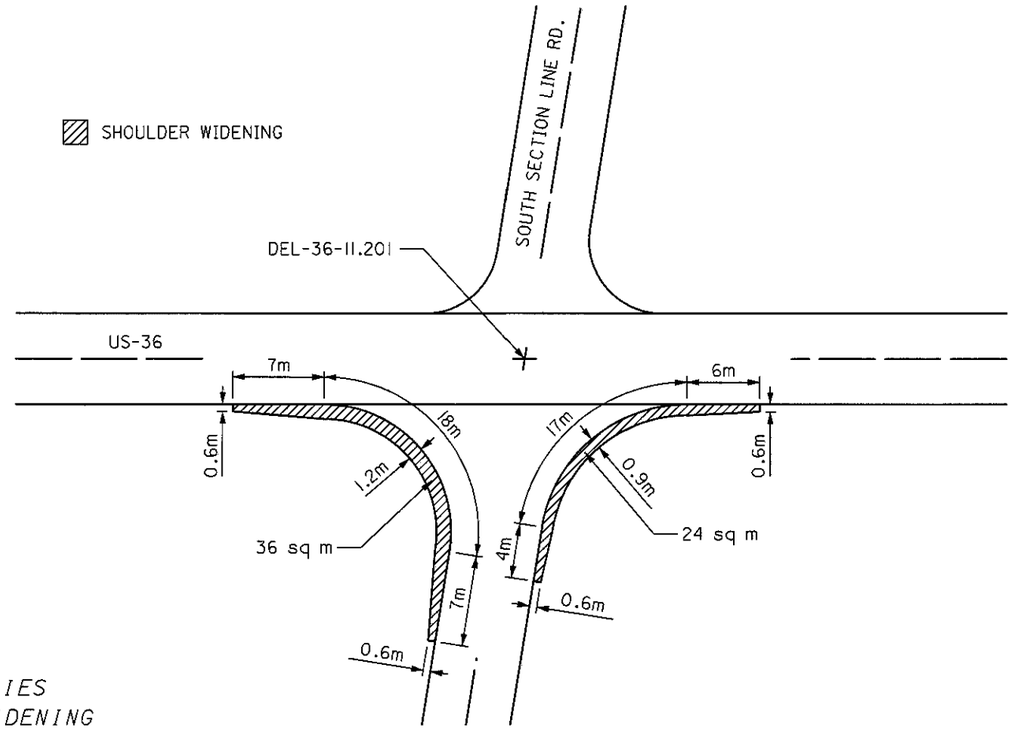
ITEM 203 - LINEAR GRADING:

THIS WORK SHALL CONSIST OF PREPARING FOR THE SUBGRADE FOR THE SHOULDER PAVING BY EXCAVATING THE EXISTING SHOULDER MATERIAL TO A DEPTH OF 200 mm, OR AS DIRECTED BY THE ENGINEER TO REMOVE ANY UNSTABLE MATERIAL AND BY SHAPING AND COMPACTING THE SUBGRADE. THE LINEAR GRADING SHALL BE PERFORMED BY A GRINDER IN WHICH THE EXCAVATED MATERIALS IS HAULED DIRECTLY AWAY. THE UNSOUND OR BROKEN EDGE OF BITUMINOUS PAVEMENTS SHALL BE TRIMMED TO A LINE ESTABLISHED BY THE ENGINEER. THE EXISTING SHOULDER SHALL BE EXCAVATED AND THE SUBGRADE SHAPED AND COMPACTED. COMPACTION SHALL BE CARRIED OUT TO THE SATISFACTION OF THE ENGINEER BY MEANS OF A TRENCH ROLLER, 401.11. AREAS GRADED IN EXCESS OF DEPTHS SPECIFIED OR DIRECTED BY THE ENGINEER SHALL BE BACKFILLED TO DESIRED GRADE USING 617 COMPACTED AGGREGATE AT THE CONTRACTOR'S EXPENSE. EXCAVATED MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR AT HIS OWN RESPONSIBILITY AND EXPENSE OUTSIDE THE LIMITS OF THE RIGHT OF WAY.

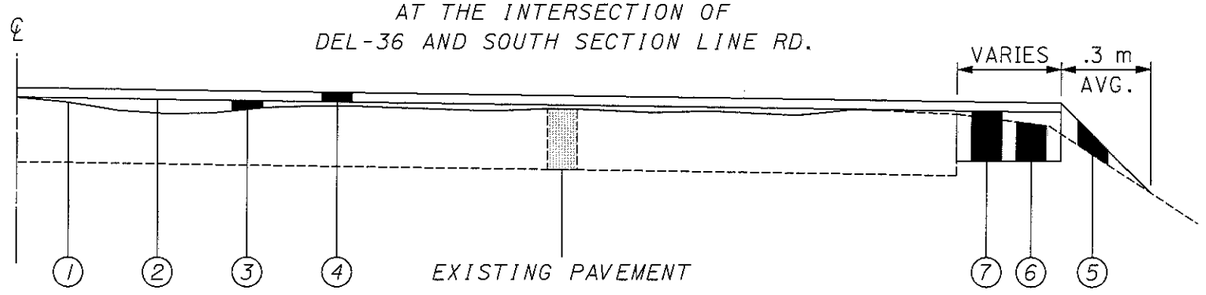
NO MORE LINEAR GRADING SHALL BE PERFORMED THAN CAN BE FILLED WITH ITEM 301 THE SAME DAY.

ITEM 301 - BITUMINOUS AGGREGATE BASE:

PRIOR TO PLACING A BITUMINOUS MIXTURE FOR SHOULDER PAVING, THE EDGE OF THE EXISTING PAVEMENT, FOR THE FULL DEPTH OF THE TRENCH, SHALL BE COATED WITH BITUMINOUS MATERIAL IN ACCORDANCE WITH 401.12.



TYPICAL APPLIES TO SHOULDER WIDENING AT THE INTERSECTION OF DEL-36 AND SOUTH SECTION LINE RD.



* ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, (SPOT LEVELING):
THIS MATERIAL IS TO BE USED, AS DIRECTED BY THE ENGINEER, TO FILL RUTS AND IMPERFECTIONS; AND TO LEVEL AND RE-ESTABLISH THE ORIGINAL ALIGNMENT AND PROFILE OF THE PAVEMENT, PRIOR TO PLACEMENT OF THE SURFACE COURSE. THIS MAY RESULT IN A PORTION OF THE ORIGINAL SURFACE BEING EXPOSED BEFORE THE OVERLAY IS PLACED.
THE QUANTITY SHOWN IN THE TABLE IS FOR CALCULATION PURPOSES ONLY

PAVEMENT DATA

											(1)	(2)	(3)		(4)		(5)	(6)	(7)	
											407	407	448		448		617	203	301	254
PART	COUNTY	ROUTE	FROM	TO	SIDE	DESCRIPTION	LENGTH		AVERAGE WIDTH OF PAVEMENT	PAVEMENT AREA	TACK COAT AT 0.35 liter/sq. m	TACK COAT FOR INTERMEDIATE COURSE AT 0.25 liter/sq. m	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG64-22 * AVG. THICK		ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG64-22 AVG. THICK		COMPACTED AGGREGATE TYPE A 75 mm AVERAGE THICKNESS	LINEAR GRADING AT 200 mm AVG. DEPTH	BITUMINUS AGGREGATE BASE 200 mm THICK	PAVEMENT PLANING BITUMINOUS DEPTH	
			SLD	SLD			km	m	m	sq m	liter	liter	mm	cu m	mm	cu m	cu m	m	cu m		sq m
2	DEL	36	11.201		RT	SHOULDER WIDENING @ S. SECTION LINE				60	21	15	13	1	32	2	1	59	9		
2	DEL	36	12.278	12.469	LT	EXTRA WIDTH @ GRAND CIRCUIT BLVD.	0.191	191.00	1.00	191	67	48	13	2	32	6					
TOTALS											88	63		3		8	1	59	9		

08-DEC-1997
T:\2LANE_FY98\UNI\36\2\485.998\ex_area3.dgn

CALCULATED | CHECKED

PLAN NO.

EXTRA AREAS AND DEDUCTIONS

UNI-36-21.485

ITEM 642 - CENTER LINE QUANTITIES

PART	COUNTY	ROUTE	FROM	TO	DASHED	SOLID	TOTAL	REMARKS
			SLD	SLD	km	km	km	
1	UNI	36	22.238	30.401	6.433	6.037	8.163	FOR QUANTITIES FROM 21.485 TO 22.238 SEE SHEET 4
2	DEL	36	0.000	12.472	10.404	8.359	12.472	FOR QUANTITIES FROM 12.472 TO 12.698 SEE SHEET 4
TOTALS							20.635	

ITEM 642 - EDGE LINE QUANTITIES

PART	COUNTY	ROUTE	FROM	TO	WHITE			YELLOW			PAINTED LANE WIDTH	REMARKS
					HIGHWAY	RAMP	TOTAL	DASHED	SOLID	TOTAL		
			SLD	SLD	km	km	km	km	km	km	m	
1	UNI	36	22.238	30.401	(x2) 8.163		16.326				3.6	FOR QUANTITIES FROM 21.485 TO 22.238 SEE SHEET 4
2	DEL	36	0.000	12.698	(x2) 12.698		25.396				3.6	
TOTALS							41.722					

ITEM 644 - AUXILIARY MARKING QUANTITIES

PART	COUNTY	ROUTE	FROM	TO	CHANNELIZING LINES	600 mm TRANSVERSE LINES		STOP LINES	CROSSWALK LINES	WORD ON PAVEMENT ONLY		SCHOOL SYMBOL MARKING		LANE ARROWS				RAILROAD SYMBOL MARKING	REMARKS
														TURN		THRU.	COMB.		
					200 mm	WHITE	YELLOW	600 mm	300 mm WHITE	1800 mm	2500 mm	1800 mm	2500 mm	LEFT	RIGHT				
			SLD	SLD	m	m	m	m	m	each	each	each	each	each	each	each	each	each	
1	UNI	36	21.485	22.238															SEE SHEET 4
2	DEL	36	12.635	12.651															SEE SHEET 4
TOTALS																			

CALCULATED

CHECKED

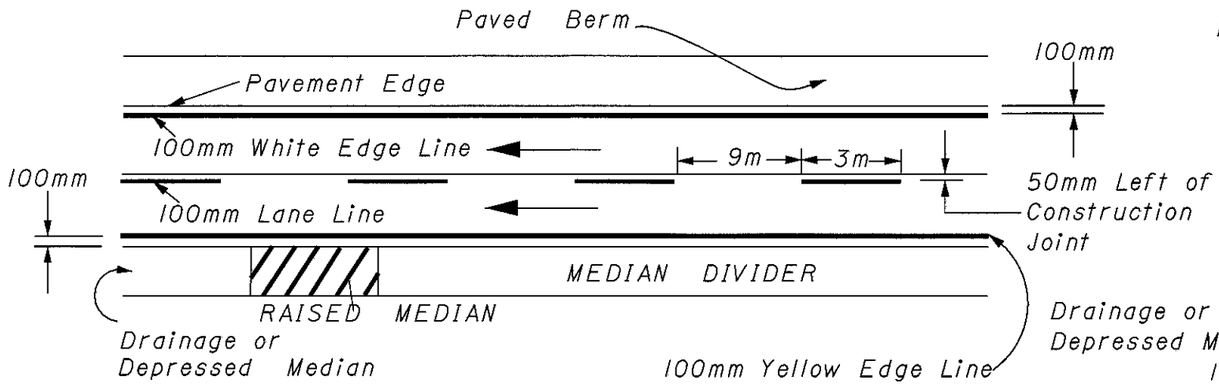
PLAN NO.

PAVEMENT MARKING

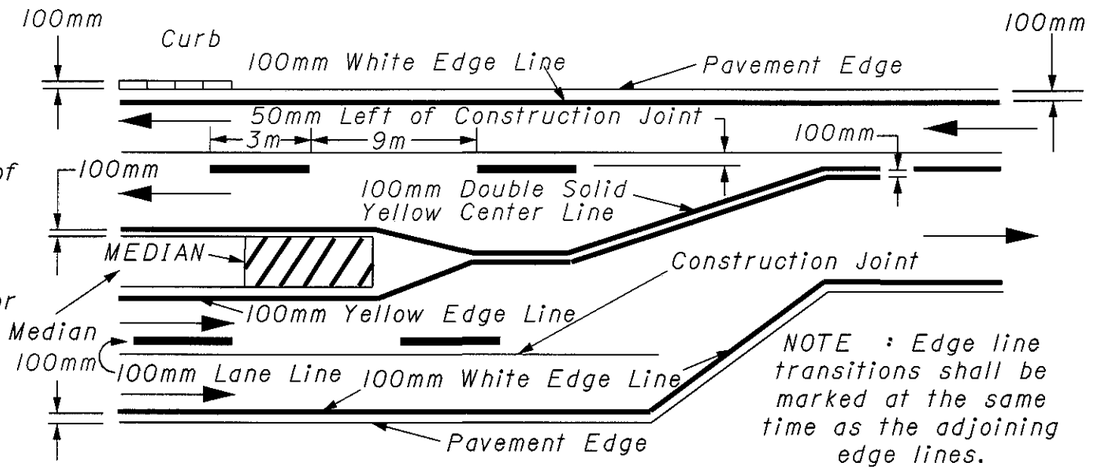
UNI-36-21.485

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\pavemrkl.dgn

FREEWAY & EXPRESSWAY MAINLINE MARKINGS

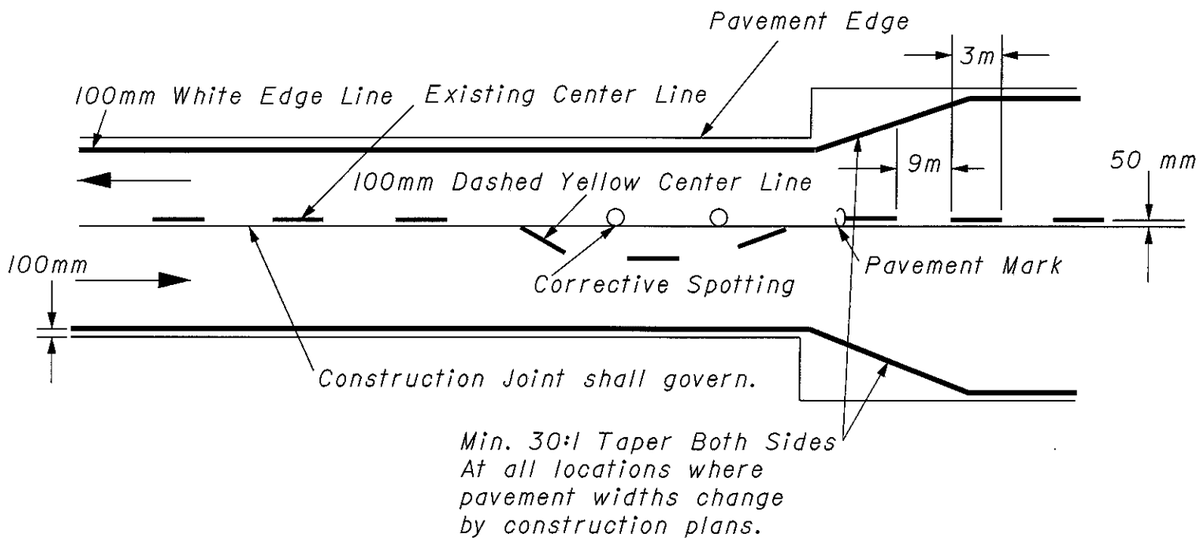


MULTILANE DIVIDED & UNDIVIDED HIGHWAY MARKINGS



NOTE : Edge line transitions shall be marked at the same time as the adjoining edge lines.

TWO LANE MARKINGS



NOTES :

1. The distance from the pavement edge to the nearside edge of the edgeline may be increased with the approval of the engineer in order to maintain uniform lane width.
2. See TC-72.20M for entrance and exit ramp markings.
3. The cycle length for dashed lines shall be 12 meters plus or minus 150mm. The minimum length of dash shall be sufficiently long to maintain a 3:1 ratio between length of gap and length of dash.

CALCULATED | CHECKED

PLAN NO.

PAVEMENT MARKING TYPICAL DETAILS

UNI-36-21.485

9
14

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\pavmrkty.dgn

MATERIALS SUPPLIED BY THE DEPARTMENT:
ALL MATERIALS ARE TO BE CONTRACTOR FURNISHED, EXCEPT THAT THE DEPARTMENT SHALL SUPPLY RPM MATERIALS IN THE QUANTITIES SHOWN HEREIN TO THE CONTRACTOR. PAY ITEMS FOR THE DEPARTMENT SUPPLIED MATERIALS SHALL BE INDICATED AS "INSTALLATION ONLY". THE QUANTITY AND TYPE OF DEPARTMENT SUPPLIED MATERIALS ARE SHOWN ON THIS SHEET.

THE CONTRACTOR SHALL PICK UP THE DEPARTMENT SUPPLIED RPM MATERIALS AT THE OPI WAREHOUSE, 315 PHILLIPI ROAD, COLUMBUS, OHIO 43228. FOR SOME PROJECTS HAVING QUANTITIES OF LESS THAN 20 RPMS, THE CONTRACTOR MAY PICK UP RPM MATERIALS AT THE DISTRICT OFFICES. QUANTITIES OVER 20 RPMS WILL BE PICKED UP AT THE RECYCLER'S WAREHOUSE OR AS ARRANGED WITH THE DISTRICT. THE CONTRACTOR SHALL PICK UP DEPARTMENT SUPPLIED RPM MATERIALS AT THE SPECIFIED LOCATION(S) FOR TRANSPORT TO THE WORK SITE OR TO THE CONTRACTOR'S STORAGE FACILITY. THE RECYCLED RAISED PAVEMENT MARKER (RPM) AUTHORIZATION FORM IS TO BE SIGNED BY THE DISTRICT CONSTRUCTION ENGINEER PRIOR TO PICK UP OF THE RPMS. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND/OR THE PARTIES LISTED ON THE AUTHORIZATION FORM IN WRITING AT LEAST FIVE (5) CALENDAR DAYS PRIOR TO PICK UP OF THE DEPARTMENT SUPPLIED MATERIALS. THE CONTRACTOR SHALL STORE THE RPMS WITHOUT DAMAGE OR CONTAMINATION WITH FOREIGN MATTER. A DEDUCTION IN THE AMOUNT OF THE ACTUAL COST TO THE DEPARTMENT SHALL BE MADE FOR MATERIALS DAMAGED BY THE CONTRACTOR OR FOR CASTINGS RECEIVED BY THE CONTRACTOR WHICH WERE NOT INSTALLED AND WERE NOT RETURNED TO THE DEPARTMENT.

RETURN OF NON-PERFORMED RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT:
RAISED PAVEMENT MARKER MATERIALS SUPPLIED BY THE DEPARTMENT, THAT ARE NON-PERFORMED SHALL BE CAREFULLY REPACKED OR PACKED IN THE BOXES IN THE SAME STYLE AND QUANTITY AS ORIGINALLY RECEIVED FROM THE DEPARTMENT. CASTING STYLES SHALL NOT BE MIXED WITHIN ANY ONE CONTAINER. THE CONTRACTOR SHALL CLEARLY MARK ON THE OUTSIDE OF EACH CONTAINER, THE COLOR OF THE PRISMATIC RETRO-REFLECTOR, THE STYLE OF CASTING. BOXES SHALL BE PLACED ON SKIDS OR PALLETS IN THE SAME STYLE (LOW PROFILE OR CONVENTIONAL, REFLECTORISED OR NON REFLECTORISED) AND NO MORE THAN 420 RPMS (OR 21 BOXES) ON ONE SKID.

ONLY USE THE BOXES SUPPLIED BY THE RAISED PAVEMENT MARKER RECYCLER. BOXES MUST BE MARKED WITH THE RECYCLER'S PART OR CATALOG NUMBER AND THE PROJECT NUMBER. THE RECYCLER'S CATALOG OR PART NUMBERS MAY BE OBTAINED FROM THE OFFICE OF TRAFFIC ENGINEERING IN COLUMBUS, OHIO OR FROM THE RECYCLER. BOXES NOT MARKED WITH THE PROPER RECYCLER'S CATALOG OR PART NUMBERS, AND THE DEPARTMENT'S PROJECT NUMBER WILL NOT BE ACCEPTED AT THE RECYCLER'S WAREHOUSE.

NON PERFORMED MATERIALS WILL BE RETURNED TO THE LOCATION AS SPECIFIED BY THE DISTRICT CONSTRUCTION ENGINEER WITHIN 30 DAYS OF THE COMPLETION OF THE PROJECT.

THE ABOVE WORK INCLUDING ALL LABOR, EQUIPMENT AND MATERIAL NEEDED TO PERFORM THE WORK, SHALL BE CONSIDERED INCIDENTAL TO THE RESPECTIVE PAY ITEM.

IF THE DEPARTMENT HAS TO REPACKAGE THE RPMS CORRECTLY, THE CONTRACTOR WILL BE ASSESSED THE ACTUAL COST FOR REPACKAGING THE MATERIALS BY THE DEPARTMENT'S FORCES.

LOADING OF MATERIALS SUPPLIED BY THE DEPARTMENT AT THE RECYCLER'S WAREHOUSE:

TRUCKS SHALL HAVE A LOADING HEIGHT OF 48 INCHES AND BE ABLE TO BACK UP FLUSH TO THE LOADING DOCK.
TRUCKS SHALL NOT HAVE ANY OBSTRUCTIONS OR PROTRUSIONS THAT PREVENT THE LOADING BY A STANDARD FORKLIFT OR LIFT TRUCK.

SEMI TRUCKS OR 20 FOOT COMMERCIAL TRUCKS ARE THE MOST APPROPRIATE TRUCKS FOR LOADS IN EXCESS OF 4 PALLETS (ONE PALLET = 21 BOXES = 2100 LBS).

STAKE BODY TRUCKS ARE APPROPRIATE TO LOAD LESS THAN 4 PALLETS, PROVIDED THE TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT BY CHAINING OR STRAPPING DOWN AS NEEDED.

PICKUP TRUCKS ARE APPROPRIATE FOR LOADS OF APPROXIMATELY ONE PALLET, PROVIDED THE PICKUP TRUCK IS RATED FOR THE LOAD AND THE LOAD CAN BE SAFELY SECURED FOR TRANSPORT.

THE RECYCLERS WAREHOUSE WILL NOT LOAD DUMP TRUCKS, TILT BED TRUCKS, AND NON COMMERCIAL MOVING VANS.
THE WAREHOUSE SUPERVISOR WILL REFUSE TO LOAD ANY TRUCK THAT IS UNSAFE TO LOAD OR UNSUITABLE FOR THE LOAD BEING PLACED ON THE TRUCK.

DETAIL		DETAIL		DETAIL		DETAIL	
1	MAINLINE UNDIVIDED	5	MULTILANE DIVIDED/EXPRESSWAY	10	4 LANE DIVIDED TO 2 LANE TRANSITION	15	HORIZONTAL CURVE
1	TYPICAL SPACING	6	STOP APPROACH	11	4 LANE UNIDIVIDED TO 2 LANE TRANS.	16	HORIZONTAL CURVE (RADIUS OF 380 m OR LESS)
2	TAPERED ACCELERATION LANE	7	APPROACH W/ LT. TURN LANE	12	TWO LANE NARROW BRIDGE	17	HORIZONTAL CURVE (RADIUS OF 250 m OR LESS)
3	DECELERATION LANE	8	THRU APPROACH	13	TWO WAY LEFT TURN LANE	GAP	CENTERLINE AT 24 m TYP.
4	PARALLEL ACCELERATION LANE	9	2 LANE APPROACH W/ LT. TURN LANE	14	ONE LANE BRIDGE		

PART	COUNTY	ROUTE	FROM	TO	DETAIL	PRISMATIC RETRO-REFLECTOR COLORS					202	621	621	REMARKS
						ONE-WAY		TWO-WAY						
						WHITE	YELLOW	WHITE/ WHITE	YELLOW/ YELLOW	WHITE/ RED	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	RAISED PAVEMENT MARKER INSTALL ONLY	PRISMATIC RETRO REFLECTOR	
			SLD	SLD		EACH	EACH	EACH	EACH	EACH	EACH	EACH	EACH	
1	UNI	36	21.919	25.525	GAP				151			151		FROM MARYSVILLE CORP. LIMIT
1	UNI	36	25.525	25.877	15				35			35		PC=25.669 , PT=25.733
1	UNI	36	25.877	26.039	GAP				7			7		
1	UNI	36	26.039	26.136	16				9			9		PC=26.039 , PT=26.136
1	UNI	36	26.136	30.401	GAP				178			178		
1	UNI	36	21.919	30.401							417			
2	DEL	36	0.000	2.253	GAP				94			94		
2	DEL	36	2.253	2.334	16				7			7		PC=2.253 , PT=2.334
2	DEL	36	2.334	7.162	GAP				202			202		
2	DEL	36	7.162	7.500	17				36			36		PC=7.306 , PT=7.387 , NOTE: OVERLAP WITH NEXT CURVE
2	DEL	36	7.500	7.756	17				31			31		PC=7.5 , PT=7.612
2	DEL	36	7.756	7.887	GAP				6			6		
2	DEL	36	7.887	8.175	17				29			29		PC=8.031 , PT=8.079 , NOTE: OVERLAP WITH NEXT CURVE
2	DEL	36	8.175	8.240	16				6			6		PC=8.175 , PT=8.24
2	DEL	36	8.240	9.173	GAP				39			39		
2	DEL	36	9.173	9.286	15				5			5		PC=9.173 , PT=9.286
2	DEL	36	9.286	9.753	GAP				20			20		
2	DEL	36	9.753	10.106	17				35			35		PC=9.897 , PT=9.962
2	DEL	36	10.106	12.472	GAP				99			99		
2	DEL	36	12.472	12.664	7				17	3		20	6	LEFT TURN LANE AT HOUK RD.
2	DEL	36	0.000	12.664							601			
TOTALS											1018	1009	6	

CALCULATED / CHECKED

PLAN NO.

RAISED PAVEMENT MARKERS

UNI-36-21.485

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\rpmdgn

GENERAL:
THE CONTRACTOR SHALL SUBMIT IN WRITING A SCHEDULE OF OPERATIONS TO THE ENGINEER (SEE 101.18) AND RECEIVE APPROVAL IN WRITING BEFORE WORK IS STARTED ON THIS PROJECT. ALL TRAFFIC CONTROL DEVICES SHALL BE FURNISHED, ERECTED, MAINTAINED, AND REMOVED BY THE CONTRACTOR IN ACCORDANCE WITH THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. THE CONTRACTOR SHALL NOT ORDER MATERIALS OR PERFORM WORK LISTED IN THE GENERAL SUMMARY FOR ITEMS DESIGNATED BY PLAN NOTE TO BE USED "AS DIRECTED BY THE ENGINEER" UNLESS AUTHORIZED BY THE ENGINEER.

CONSTRUCTION INITIATION:
THE CONTRACTOR SHALL ADVISE THE DISTRICT OFFICE OF COMMUNICATIONS AT 1 (614) 363-1251, EXTENSION 469 OR BY FAX AT 1 (614) 369-7437 FOURTEEN DAYS PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR WILL IMMEDIATELY INFORM THE DISTRICT OFFICE OF COMMUNICATIONS AND THE DISTRICT MAINTENANCE OF TRAFFIC ENGINEER (EXTENSION 323) OF ANY AND ALL DELAYS AND/OR CHANGES REGARDING THE CONSTRUCTION PROJECT. THE PROJECT ENGINEER WILL PROVIDE CLARIFICATION FOR ANY QUESTIONS ABOUT THIS NOTIFICATION REQUIREMENT.

TRAFFIC:
TRAFFIC SHALL BE MAINTAINED AT ALL TIMES. THE LENGTH OF RESTRICTED TRAFFIC ZONES SHALL BE KEPT TO A MINIMUM CONSISTENT WITH THE SPECIFICATION REQUIREMENTS FOR PROTECTION OF COMPLETED COURSES.

ALIGNMENT AND PROFILE:
THE WORK PROPOSED BY THIS PROJECT IS FOR THE RESURFACING OF THE EXISTING PAVEMENT. THE ALIGNMENT OF THE EXISTING PAVEMENT WILL NOT BE CHANGED, AND THE PROFILE OF THE PROPOSED SURFACE WILL BE SIMILAR TO THAT OF THE EXISTING PAVEMENT EXCEPT THAT IT MAY BE RAISED AN AMOUNT EQUAL TO THE THICKNESS OF THE RESURFACING COURSE OR COURSES SPECIFIED IN THESE PLANS.

TACK COAT:
THE TACK COAT OPERATION SHALL BE AS DETERMINED AT A PRE CONSTRUCTION CONFERENCE AS PER 407.05 AND APPLICATION RATES SHALL NOT EXCEED 0.35 LITER PER SQ. METER.

THERMOPLASTIC PAVEMENT MARKING APPLICATION:
DURING THE PLACEMENT OF THERMOPLASTIC PAVEMENT MARKINGS, THE LANE SHALL BE CLOSED AS PER APPLICABLE STANDARD DRAWING. THE COST OF THESE CLOSURES SHALL BE INCLUDED IN THE COST OF ITEM 614 - MAINTAINING TRAFFIC

ITEM 251 PARTIAL DEPTH PAVEMENT REPAIR:
THIS ITEM SHALL BE USED WHERE DIRECTED. THE DEPTH OF REPAIRS SHALL BE APPROXIMATELY 75 mm.
THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED:

PART 1		5 CUBIC METERS
PART 2		5 CUBIC METERS
TOTAL TO GENERAL SUMMARY	=	10 CUBIC METERS

ITEM 253 PAVEMENT REPAIR:
THIS ITEM SHALL BE USED WHERE DIRECTED. THE EDGE OF THE PAVEMENT REMOVAL SHALL BE SAWED FULL DEPTH WITH A DIAMOND SAW PRIOR TO REMOVAL. THE ITEM 301 SHALL BE PLACED IN TWO EQUAL LIFTS.
THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED:

PART 1		5 CUBIC METERS
PART 2		5 CUBIC METERS
TOTAL TO GENERAL SUMMARY	=	10 CUBIC METERS

ITEM 254 PAVEMENT PLANING, BITUMINOUS:
THE EXISTING WEARING COURSE SHALL BE REMOVED TO A DEPTH EQUAL TO THE DEPTH OF THE PROPOSED NEW PAVEMENT. THE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR ANY AND ALL DAMAGE THAT MAY RESULT FROM THE PLANING OPERATION, INCLUDING CASTINGS. THE DEPTH OF PLANING CLOSE TO THE CASTINGS SHALL BE AS DIRECTED, TO ACHIEVE A SMOOTH RIDING FINISHED PAVEMENT. THE PLANED AREA SHALL NOT BE EXPOSED TO TRAFFIC FOR MORE THAN FIVE DAYS PRIOR TO RESURFACING. FAILURE TO COMPLY WITH THE FIVE-DAY LIMIT SHALL SUBJECT THE CONTRACTOR TO LIQUIDATED DAMAGES AS PER SECTION 108.07 OF THE CMS.

ITEM 604 MONUMENT ASSEMBLY:
THIS WORK SHALL CONSIST OF FURNISHING AND PLACING ADJUSTABLE CENTERLINE MONUMENTS AT THE FOLLOWING INTERSECTIONS:
PART 1:
1.) S.R. 36 AND CO. RD. 119 (MACKAN RD.)
2.) S.R. 36 AND CO. RD. 108 (MYERS RD.)
3.) S.R. 36 AND CO. RD. 113 (WHITE STONE RD.)
4.) S.R. 36 AND CO. RD. 107 (SPRINGDALE RD.)
PART 2:
1.) S.R. 36 AND THE COUNTY LINE BETWEEN UNION-DELAWARE COUNTY
2.) S.R. 36 AND CO. RD. 163 (OSTRANDER RD.)
3.) S.R. 36 AND S.R. 257
4.) S.R. 36 AND CO. RD. 5 (SECTION LINE RD.)
A REGISTERED SURVEYOR FROM DISTRICT SIX SURVEY DEPARTMENT SHALL BE RESPONSIBLE FOR REFERENCING AND VERIFYING THE LOCATIONS OF THE CENTERLINE MONUMENTS. THE CONTRACTOR SHALL NOTIFY THE SURVEY DEPARTMENT (614-363-1251) 48 HOURS PRIOR TO START OF MONUMENT WORK. PAYMENT FOR THIS ITEM SHALL INCLUDE ALL NECESSARY LABOR, MISCELLANEOUS HARDWARE, AND EQUIPMENT REQUIRED FOR PLACEMENT. PAYMENT WILL BE AT CONTRACT BID PRICE PER EACH.
TOTAL TO GENERAL SUMMARY = 8 EACH

ITEM 614 - WORK ZONE MARKING SIGNS:
THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED AS PER 614.04 OF THE CMS.
PART 1:

R-33-30	"DO NOT PASS"	=	15
R-34-30	"PASS WITH CARE"	=	15
OW-167-36	"NO EDGE LINES"	=	9

PART 2:

R-33-30	"DO NOT PASS"	=	19
R-34-30	"PASS WITH CARE"	=	17
OW-167-36	"NO EDGE LINES"	=	14

TOTAL CARRIED TO GENERAL SUMMARY = 89

ITEM 619, FIELD OFFICE TYPE A, AS PER PLAN:
UNDER THIS ITEM, THE CONTRACTOR SHALL PROVIDE A FIELD OFFICE MEETING ALL REQUIREMENTS OF ITEM 619, FIELD OFFICE, TYPE A WITH THE FOLLOWING MODIFICATION. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWO SEPARATE PHONE LINES FOR THE FIELD OFFICE ON THIS PROJECT.
TOTAL CARRIED TO GENERAL SUMMARY:
ITEM 619 FIELD OFFICE, TYPE A, AS PER PLAN = **3 MONTH**

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN:
THIS ITEM SHALL CONSIST OF STATIONING USING 1 m LATH STAKES. THE STAKES SHALL BE SPACED AT 50 m INTERVALS AND SHALL EXTEND THROUGHOUT THE LENGTH OF THE PROJECT AND THROUGHOUT THE LENGTH OF ALL RAMPS. PLACEMENT OF THE STAKES SHALL BE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING ANY DAMAGED OR MISSING STAKES. CONSTRUCTION LAYOUT STAKES, AS PER PLAN WILL BE PAID FOR AT THE CONTRACT LUMP SUM BID, WHICH PRICE SHALL BE FULL COMPENSATION FOR ALL SERVICES, MATERIALS, LABOR, EQUIPMENT, TOOLS, AND INCIDENTALS, INCLUDING THE REMOVAL, NECESSARY TO COMPLETE THIS ITEM.

ITEM 632 - DETECTOR LOOP AND LOOP DETECTOR TIE IN:
THE FOLLOWING QUANTITIES HAVE BEEN PROVIDED, TO BE USED AS DIRECTED BY THE ENGINEER, TO REPLACE THE LOOP DETECTORS THAT MAY BE DAMAGED DURING THE PLANING OF UNI-36.

PART 1:	UNI-36-21.772	2 EACH
PART 1:	UNI-36-21.880	1 EACH
PART 1:	UNI-36-21.925	1 EACH
PART 1:	UNI-36-22.040	2 EACH

TOTALS CARRIED TO GENERAL SUMMARY

DETECTOR LOOP	= 6 EACH
LOOP DETECTOR TIE IN	= 6 EACH

SEVEN WORKING DAYS PRIOR TO PLANING OVER LOOP DETECTORS NOTIFY:
JOEL ALLEN
MARYSVILLE CITY ENGINEER
125 E. SIXTH ST.
MARYSVILLE OHIO 43040
PHONE: 937-642-6035

CALCULATED | CHECKED

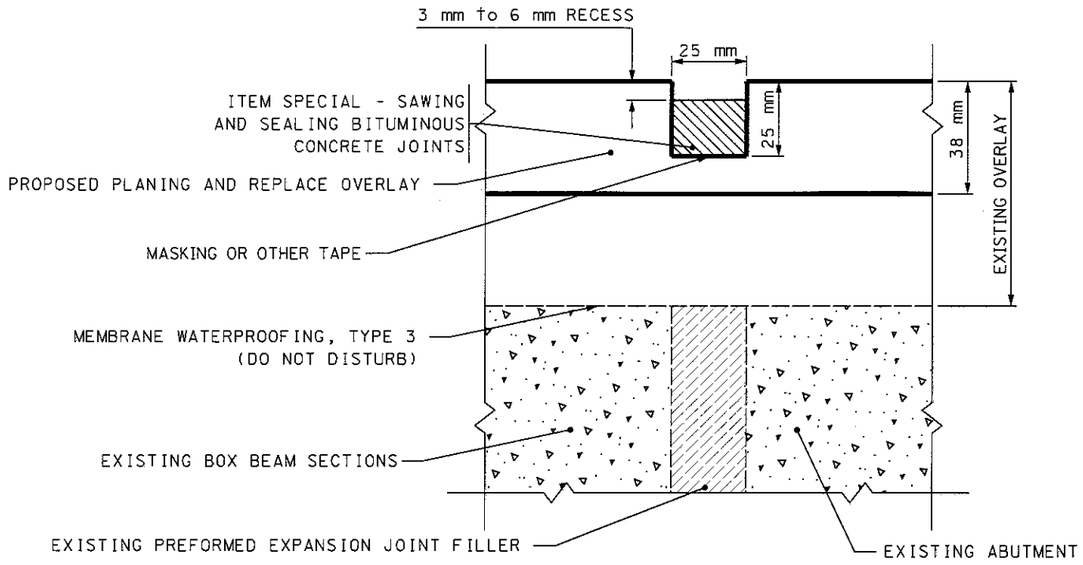
PLAN NO.

GENERAL NOTES

UNI-36-21.485

11
14

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\notel.dgn



1) Description:

This work shall consist of cutting and sealing transverse joints on the new bituminous concrete overlay of bridges. Bituminous concrete joints shall be constructed directly over, and in line with, the existing underlying transverse abutment joint of the bridge.

2) Materials:

The joint sealant shall meet the requirements of ASTM Specification D3405, Joint sealants, Hot-poured, for Concrete and Asphalt Pavements. Acceptable alternate materials are:

Roof-Flex 176, polyurethane, as produced by the Carboline Company, 350 Hanley Industrial Court, St. Louis, Missouri 63144 (Roger Zubal, 614-877-3406); a silicone sealant meeting Federal Specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants), such as those manufactured by General Electric, Silicone Products Division, 6155 Rockside Rd., Rockside Square I, Independence, Ohio 44131 (John Fromholtz, 216-447-1750) or Dow Corning, 3737 Park East, Beachwood, Ohio 44122 (Robert Ruppel, 216-464-2330); or Sof-Seal, a cold-applied, low-modulus, two-component polymeric compound horizontal sealant as manufactured by W. R. Meadows, Inc., P.O. Box 543, Elgin, Illinois 60121 (Robert Cameron, 312-683-4500). Sealant will be accepted on the basis of the manufacturer's certification that it conforms to the requirements of these specifications.

3) Construction Details:

A) General: The contractor shall conduct his operation so that the cutting, cleaning and sealing of transverse joints is a continuous operation that will be performed as soon as practical after the paving, but no later than four (4) days after placement of the asphalt concrete surface course. Traffic shall not be allowed to knead together or damage the joint cut prior to sealing.

B) Cutting of Transverse Joints: The contractor shall saw or rout transverse joints to the dimensions shown in the details on this sheet. The cut joints shall lie directly above each existing abutment joint. The joint location shall be marked on the new asphalt surface with a chalk line, or by some other acceptable method, before cutting. Details of the method for locating and accurately marking the proposed cuts shall be subject to the approval of the Engineer prior to starting any cutting or paving operations.

The blade or blades shall be of such size that the full width and depth of the cut can be made with one pass. Dry or wet cutting will be allowed. Joints shall extend the full width of the bridge.

C) Cleaning Joints: Dry sawed joints shall be thoroughly cleaned with a sufficient amount of compressed air to remove any dirt, dust, or deleterious matter. Wet sawed joints shall be washed clean of all cuttings by flushing with a jet of water and with other tools as necessary. After flushing, the joint shall be blown out with compressed air. When the surfaces are thoroughly clean and dry, and just prior to placing the joint sealer, compressed air having a pressure of at least 621 kPa shall be used to blow out the joint and remove all traces of dust.

In the event freshly cut joints become contaminated before they are sealed, they shall be recleaned of all foreign material by high-pressure water jet.

D) Sealing Joints: The joint shall be thoroughly dried before the sealant is placed. After cleaning and drying, a bond-breaker (tape) shall be applied to the bottom of the groove.

Hot-poured joint sealant material shall be heated in a kettle or melter constructed as a double boiler, with the space between the inner and outer shells filled with oil or other heat transfer medium. Positive temperature control and mechanical agitation shall be provided. Heating must be in strict accordance with the manufacturer's recommendation. Joint sealer material shall never be kept heated at the pouring temperature for more than four (4) hours and shall never be reheated. Sealer left in the applicator at the end of a day's work shall be removed and discarded.

Hot-poured sealant shall be applied immediately through a nozzle, which must project into the sawed joint, filling from the bottom up. The seal shall completely fill the joint in such a manner that, after cooling, the level of the sealer will not be higher than 3 mm below the pavement surface. Any depression in the cooled seal greater than 5 mm shall be brought up to the specified limit for further addition of hot-poured sealant. Care shall be taken in the sealing of the joints so that the final appearance will present a neat fine line.

The cold applied sealant materials (polyurethane, silicone, and polymeric compounds) shall be installed as per manufacturers' recommendations, or as directed by the Engineer. The sealant shall be installed when the ambient temperature is 4 degrees C or higher. Traffic shall not be allowed on the joint for one hour after application of the sealant.

4) Method of Measurement:

The quantity to be paid for under this item will be the number of meters of joints sawed and sealed as per the above requirements.

5) Basis of Payment:

The unit price per meter for Item Special - "Sawing and sealing bituminous concrete joints" shall include the cost of all labor, materials, and equipment necessary to complete the work, including the furnishing and placing of the joint sealer material.

ITEM SPECIAL 516M31200 SAWING AND SEALING BITUMINOUS CONCRETE JOINTS:
The following quantities have been provided for:
Part 1
Bridge No. UNI-36-26522:
8.23 m (joint length) x 2 (joints) = 16.46 m
Total carried to General Summary = 17 m

CALCULATED | CHECKED

PLAN NO.

SAW AND SEAL BRIDGE JOINT

UNI-36-21.485

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\sawseal.dgn

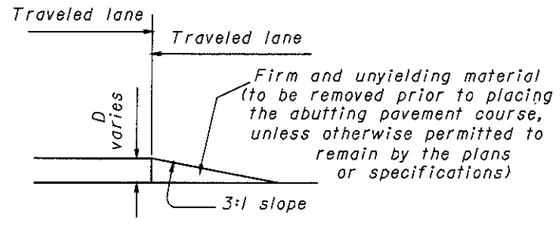
GENERAL NOTES

1. It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic.
2. While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
3. In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
4. The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
5. Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2M and Item 622.
6. When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
7. When OW-151 (Low Shoulder) signs or OW-171 (Uneven Lanes) and OWP-171 signs are required, they shall be placed 230 meters in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than 800 meters, additional signs should be erected at intervals of 1.6 kilometer or less.
8. For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
9. Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 3.0 m, drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 127 mm and approval is granted by the Project Engineer.
10. Pavement Repairs (or similar work):
    a. Lengths greater than 20 meters - utilize appropriate treatment from Condition I.
    b. Lengths of 20 meters or less - repairs shall be effected in accordance with Item 255.08. Drums may be used as a seperator adjacent to the traveled lane.

OPTIONAL WEDGE TREATMENT

(MILLING OR RESURFACING)

1. This treatment may be used when permitted for Condition I only.
2. OW-171 and OWP-171 signs required.



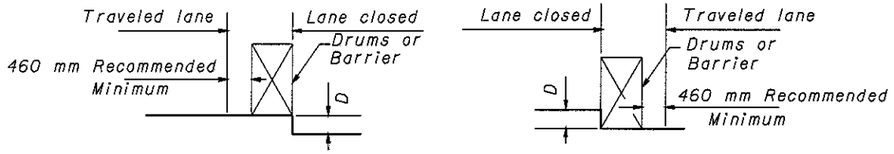
CONDITION I

DROPOFFS BETWEEN TRAVELED LANES

1. These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (mm.)	Treatment
≤38	Erect OW-171 and OWP-171 signs.
>38-76	1) Lane closure utilizing drums* as shown below OR 2) Optional Wedge Treatment
>76-127	Lane closure utilizing drums as shown below.
>127	Lane closure utilizing portable concrete barrier as shown below.

*Cones may be used for daytime only conditions.



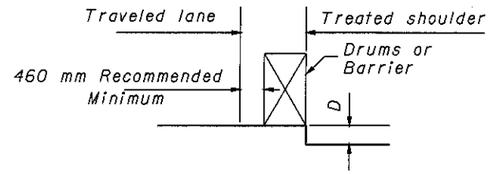
CONDITION II

DROPOFFS WITHIN GRADED SHOULDER AREA

1. The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
2. The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be 3.6 meters.

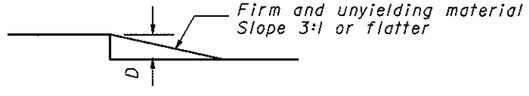
D (mm	Treatment
≤38	1) If edgelines are present, no treatment necessary OR 2) Erect OW-171 and OWP-171 signs.
>38-127	1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
>76-305 Daylight only	If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below.
>76-610	1) If min. lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums.
>610	Lane closure utilizing portable concrete barrier as shown below.

* Minimum lane widths shall be 3.0 meters unless otherwise specified in the plans.



OPTIONAL SHOULDER TREATMENT

1. This treatment may not be used within a bituminous shoulder where a hot longitudnal joint per Item 401.15 is required.
2. OW-151 signs required.



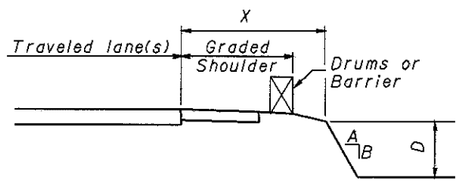
CONDITION III

DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

1. See Note 2 under Condition II.
2. Use Chart A or B below, as applicable.

CHART A

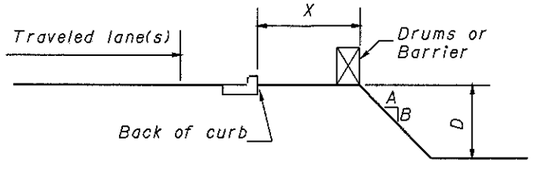
USE FOR: 1. Uncurbed Facilities.
2. Curbed Facilities, where:
   a. Curbs are less than 150 mm in height.
   b. Curbs are 150 mm or greater in height and the legal speed is 70 km/h or greater.



X (m)	D (mm)	A/B	Treatment Required	
			Day	Night
0-1.2	Any	Any	(a)	(a)
1.2-9.1	Any	3:1 or Flatter	None	None
1.2-3.6	≤76	Steeper than 3:1	None	None
1.2-3.6	>76-≤305	Steeper than 3:1	Drums	Drums
1.2-3.6	>305	Steeper than 3:1	Drums	Barrier
>3.6-6.1	≤305	Steeper than 3:1	None	None
>3.6-6.1	>305-≤610	Steeper than 3:1	Drums	Drums
>3.6-6.1	>610	Steeper than 3:1	Drums	Barrier
>6.1-9.1	<610	Steeper than 3:1	None	Drums
>6.1-9.1	≥610	Steeper than 3:1	Drums	Barrier
>9.1	Any	Any	None	None
(a) Use treatment specified under Condition II.				

CHART B

USE FOR: Curbed facilities, where the curb is 150 mm or greater in height and the legal speed less than 70 km/h.



X (m)	D (mm)	A/B	Treatment Required	
			Day	Night
0-3.0	<305	Any	None	Drums
0-3.0	>305	Any	Drums	Drums
>3.0	Any	Any	None	None

METRIC

CALCULATED | CHECKED

PLAN NO.

DROPOFFS IN WORK ZONES

UNI-36-21.485

13
14

08-DEC-1997
T:\2LANE_FY98\UNI\36\2\485.998\dropoff.dgn

SHEET NUMBER											ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
2	3	4	5	6	7	8	10	11	12							
							1018				202	54100	1018	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	
					59						203	60100	59	METER	LINEAR GRADING	
								10			251	01002	10	CU METER	PARTIAL DEPTH PAVEMENT REPAIR	
								10			253	02000	10	CU METER	PAVEMENT REPAIR	
9543	363		2796	912							254	01000	13614	SQ METER	PAVEMENT PLANING, BITUMINOUS	
					9						301	46000	9	CU METER	BITUMINOUS AGGREGATE BASE, PG64-22	
27618	40436		967	98	88						407	10000	69207	LITER	TACK COAT	
17342	28884		351	70	63						407	14000	46710	LITER	TACK COAT FOR INTERMEDIATE COURSE	
902	1502		19	4	3						448	46020	2430	CU METER	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE I, PG64-22	
2526	3698		89	9	8						448	47020	6330	CU METER	ASPHALT CONCRETE SURFACE COURSE, TYPE I, PG64-22	
								8			604	38500	8	EACH	MONUMENT ASSEMBLY	
								89			614	12460	89	EACH	WORK ZONE MARKING SIGN	
2.11											614	20400	2.11	KILOMETER	TEMPORARY LANE LINE, CLASS II	
16.77	25.40										614	21400	42.17	KILOMETER	TEMPORARY CENTER LINE, CLASS II	
418	571		113	126	1						617	10100	1229	CU METER	COMPACTED AGGREGATE, TYPE A	
											617	25000	50	CU METER	WATER	
							1009				621	00200	1009	EACH	RAISED PAVEMENT MARKER, INSTALLATION ONLY	
							6				621	00300	6	EACH	PRISMATIC RETROREFLECTOR	
								6			632	26500	6	EACH	DETECTOR LOOP	
								6			632	27200	6	EACH	LOOP DETECTOR TIE IN	
		2.084				41.722					642	00102	43.806	KILOMETER	EDGE LINE, TYPE 2	
		1.002									642	00202	1.002	KILOMETER	LANE LINE, TYPE 2	
						20.635					642	00302	20.635	KILOMETER	CENTER LINE, TYPE 2	
		0.642									644	00300	0.642	KILOMETER	CENTER LINE	
		355									644	00400	355	METER	CHANNELIZING LINE	
		32									644	00500	32	METER	STOP LINE	
		78									644	00700	78	METER	TRANSVERSE LINE	
		2									644	01300	2	EACH	LANE ARROW	
		1									644	01400	1	EACH	WORD ON PAVEMENT, 1800 MM	
		332									644	30000	332	METER	REMOVAL OF PAVEMENT MARKING	
									17		SPECIAL	51631200	17	METER	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS	12
											614	11000	LUMP		MAINTAINING TRAFFIC	
								3			619	16001	3	MONTH	FIELD OFFICE, TYPE A, AS PER PLAN	11
											SPECIAL	61926000	3	MONTH	COMPUTER EQUIPMENT	
								LUMP			623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	11
											624	10000	LUMP		MOBILIZATION	

CALCULATED

CHECKED

PLAN NO.

GENERAL SUMMARY

UNI-36-21.485

14
14

08-DEC-1997
T:\2LANE_FY98\UNI\36\21485.998\gensum.dgn