

INDIANA DEPARTMENT OF TRANSPORTATION



INTER-DEPARTMENT COMMUNICATION
Standards Section C Room N642



Writer's Direct Line
232-6775

May 21, 2001

DESIGN MEMORANDUM No. 01-03 TECHNICAL ADVISORY

TO: All Design, Operations, District Personnel, and Consultants

FROM: /s/ Anthony L. Uremovich
Anthony L. Uremovich
Acting Design Policy Engineer
Contracts and Construction Division

SUBJECT: Use of English Units in Plan Development

EFFECTIVE: October 16, 2001, Letting

On March 5, 2001, the Commissioner issued a memorandum to the Executive Staff, Division Chiefs, and District Directors, regarding the use of english units. The memorandum stated that the Department will use english units as the primary measurement system, and metric units as the secondary measurement system, for all policies and contract documents.

Until we incorporate english units into the Design Manual, the attached information should be used as a guide for developing plans with english units.

New surveys will be taken in english units beginning immediately. The plans developed from such surveys will, of course, be in english units. The plans developed from newly received metric surveys will still be in metric units. Project plan development which has been started in metric units will be completed in metric units. If a consultant wishes to convert newly developed metric plans to english units, it may, but at no increase in cost to the Department. The consultant should first discuss the conversion with the chief of the Design Division.

alu
Attachment

[F:\Des\Signed\0103-ta]

LANE WIDTH		SHOULDER WIDTH		MEDIAN WIDTH	
Meters	Feet	Meters	Feet	Meters	Feet
4.8	16'-0"	2.4	8'-0"	25.0	80'-0"
4.2	14'-0"	2.3	7'-6"	18.0	60'-0"
3.9	13'-0"	2.1	7'-0"	8.0	26'-3"
3.6	12'-0"	1.8	6'-0"	7.9	26'-0"
3.3	11'-0"	1.2	4'-0"	4.8	16'-0"
3.0	10'-0"	0.9	3'-0"	1.8	6'-0"
2.7	9'-0"	0.8	2'-6"	1.2	4'-0"
		0.6	2'-0"	0.6	2'-0"

DESIGN SPEED		CROWN CROSS SLOPE		BRIDGE CLEAR ROADWAY	
km/h	mph	Metric	English	Meters	Feet
110	70	1%	1/8 in./ft	8.4	28'-0"
100	60	2%	1/4 in./ft	7.2	24'-0"
90	55	4%	1/2 in./ft	6.6	22'-0"
80	50	6%	3/4 in./ft	6.0	20'-0"
70	45				
60	40				
50	30				
40	25				
30	20				

HORIZONTAL CURVE

$$D = \frac{100}{L} \left(\frac{L}{R} \right) = \frac{200}{L} \arctan \left(\frac{T}{R} \right)$$

D and $\left(\frac{L}{R} \right)$ in degrees
T, R, and L in feet

VERTICAL CLEARANCE	STATIONING	HMA PAVEMENT
Meters	Metric: 1000 m / sta	60 kg/m ² per 25 mm of thickness
Feet	shown as 1+000.000	= 110 lb/sft per 1 in. of thickness
7.00	English: 100 ft / sta	The millimetric designation in
5.35	shown as 1+00.00	HMA pay item names should
5.20		not be anglicized as it is part
5.05		of the pay item identification.
4.90		
4.45		
4.30		

PRESSURE, STRESS: 7 kPa = 1 psi. 7 MPa = 1 ksi.

For pipe diameter, PCCP thickness, and compacted aggregate depth: 25 mm = 1 in.
 Edge of paved shoulder to shoulder break: 0.3 m or 300 mm = 1'-0".
 Edge of required shoulder to front face of guardrail: 0.6 m or 600 mm = 2'-0".
 Curb gutter width: 610 mm = 2'-0".