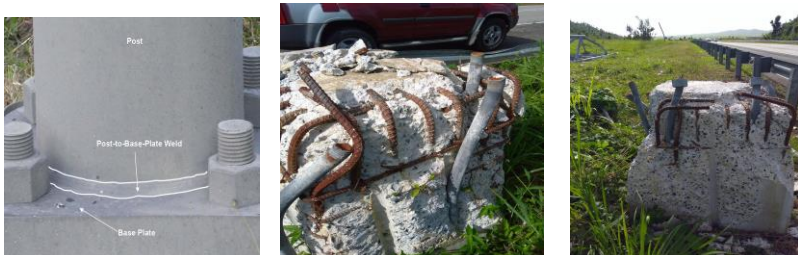


## Final Project: Cantilevered Overhead Sign Support with Post

Tutor Professor: Dr. Manuel Coll B

Student: Jorge E. Mercado Garces

### Research



### Method

**Table 3.8.4—Mean Recurrence Interval**

Traffic Volume	Risk Category		
	Typical	High	Low
ADT < 100	300	1700	300
100 < ADT < 1000	700	1700	300
1000 < ADT < 10000	700	1700	300
ADT > 10000	1700	1700	300

Typical: Failure could cross travelway  
High: Support failure could stop a lifetime travelway  
Low: Support failure could not cross travelway  
Roadside sign supports use 300 years

**Table 3.4.1—Load Combinations and Load Factors**

Load Combination	Description	Reference Article	Dead		Live	Wind	Truck/Gear	Crane	Tall		Tall		Galvanizing	Galvanizing
			Max	Min					Wind on	Wind on	High	High		
Strength I	Gravity	1.3, 1.4, and 1.5	1.2	1.6										
Strength II	Wind	5.5, 10.3, 10.4, 10.5, and 10.6		1.0	1.0									
Service I	Dead	10.4	1.0	1.0										
Service II	Check control for dead		1.0	1.0										
Service III	Crane	11.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Fatigue	Reference 10.4	11.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Damage	Evaluation	17.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0

a. Use Figures 10.1, 10.2, or 10.3 (the appropriate return period).  
b. Use wind speed 10.3.1.1 (return).

**Table 3.5.1—Directionality Factors,  $K_d$**

Support Type	Directionality Factor
High-mast and Pole	
Round	0.95
Square	0.9
Octagonal	0.95
Dodecagonal	0.95
Hexdecagonal	0.95
Traffic Signal	0.85
Dynamic Message Sign	0.85
Overhead Frame/Truss	0.85
Support with horizontal areas of members supporting sign and/or signals	0.85

**Figure 3.5.1—Anchor Bolt and Base Plate Details**

Notes:  
1. SEE NOTES TO CHAPTER 10 FOR GENERAL REQUIREMENTS.  
2. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.  
3. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.  
4. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.  
5. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.  
6. ALL DIMENSIONS ARE IN MILLIMETERS (INCHES) UNLESS OTHERWISE SPECIFIED.

Maryland Department of Transportation  
STATE HIGHWAY ADMINISTRATION  
CONCRETE SIGN STRUCTURES  
ANCHOR BOLT DETAILS  
STANDARD NO. MD 803.05-06

### Books References

**Sign Structures Manual**  
Illinois Department of Transportation  
Bureau of Bridges and Structures

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