

PURPOSE

The 25% highway design review is intended to provide MassHighway the opportunity to evaluate the proposed design relative to current design standards, right of way impacts, environmental impacts and other potential community concerns associated with the proposed design.

GENERAL

This checklist represents the minimum amount of issues that should be considered when reviewing a 25% highway submittal. The information below is not intended to address all aspects of plan preparation. To the extent practical, any comments relative to plan preparation made at the 25% stage will certainly improve the quality of the 75% submittal.

Any question listed below with a No (N) or Not Applicable (NA) answer will require a written comment.

PLANS

- | | Y | N | NA | |
|------|--------------------------|--------------------------|--------------------------|---|
| | | | | 1.00 Title Sheet |
| 1.01 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is the Title Sheet prepared consistent with Exhibit 18-14?
Comment: _____ |
| 1.02 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is the DESIGN DESIGNATION table completed?
Comment: _____ |
| 1.03 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Does the Design Speed correlate with Exhibit 3-7, or the design speed identified in the Design Exception Report, if applicable?
Comment: _____ |
| 1.04 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are the stations and coordinates for the beginning and end of project shown on the locus map?
Comment: _____ |
| 1.05 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are bridge numbers shown on the locus map?
Comment: _____ |

- | | Y | N | NA | |
|------|--------------------------|--------------------------|--------------------------|---|
| | | | | 2.00 Typical Sections |
| 2.01 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Do the proposed lane and shoulder widths shown on the typical sections properly account for the offset dimension?
Comment: _____ |
| 2.02 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Are the proposed lane and shoulder widths consistent with Section 5.3.3, or the Design Exception Report, if applicable?
Comment: _____ |
| 2.03 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is the method of banking adequately represented on the Typical Sections in manner consistent with Section 4.2.5?
Comment: _____ |
| 2.04 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | Is the location of the PGL the most appropriate location for the proposed project?
Comment: _____ |

Y N NA 4.00 Profiles (Cont.)

4.07 Is the minimum grade consistent with Section 4.3.1? If a closed drainage system is proposed it is recommended that a minimum grade of 0.6% be used.
 Comment: _____

Y N NA 5.00 Traffic Signal Plans

5.01 Are signal heads located in the vision cone specified by the MUTCD?
 Comment: _____

5.02 Are pavement markings clearly displayed and labeled?
 Comment: _____

5.03 Does the Phasing Diagram adequately address pedestrian volumes? (pedestrian phases concurrent or actuated)
 Comment: _____

5.04 If appropriate does the Phasing Diagram address emergency preemption?
 Comment: _____

Y N NA 6.00 Traffic Management Plans (may be 8-1/2 x 11 for simple projects)

6.01 Does the TMP provide sufficient information to determine that the proposed project can be constructed without undue inconvenience to the public?
 Comment: _____

6.02 For projects with a detour, is the proposed detour reasonable considering available traffic data?
 Comment: _____

6.03 Does the proposed TMP adequately address bicycle and pedestrian accommodation?
 Comment: _____

7.00 Cross Sections (Although only top line sections in critical areas are required according to the Highway Design Manual, the latest engineering software makes providing all cross sections a simple matter. The top line information is intended to depict the relationship between the proposed roadway and the existing features only. However to the extent that additional information is provided, it is worthwhile to comment relative to consistency with Section 18.2.2.5.)

Y N NA

7.01 Is the existing cross-section information plotted consistent with Section 18.2.1.4 and Exhibit 18-5? Are walls, hydrants, poles, trees over 8 inches, sills, wells, septic systems, cross culverts, ledge, layout lines, etc. plotted on the cross-sections?
 Comment: _____

7.02 Does the proposed cross-section provide sufficient area to install guardrail where necessary?
 Comment: _____

Y N NA 7.00 Cross Sections (Cont.)

7.03 Have the proposed side and back slopes been appropriately chosen to balance impacts with safety and slope stability?
 Comment: _____

SPECIAL CONSIDERATIONS

Y N NA 8.00 Projects that include bridge(s)

8.01 Is the project subject to MassHighway's Non-NHS Bridge R&R Policy? (According to Engineering Directive P-92-010 in order for these guidelines to apply the roadway must be classified as either a Minor Arterial, Urban Extension of a Minor Arterial, Collector or Local roadway)
 Comment: _____

8.02 If the project is subject to P-92-010 is the proposed bridge width and approach geometry consistent with the Engineering Directive?
 Comment: _____

8.03 For bridge projects that are not subject to P-92-010 are the proposed bridge dimensions and vertical clearance consistent with Section 4.3.4 and Exhibit 4-28?
 Comment: _____

8.04 Do the construction drawings adequately depict the existing bridge structure including subsurface features?
 Comment: _____

8.05 Do the construction drawings adequately depict the relationship between the existing and the proposed bridge structure?
 Comment: _____

8.06 Does the TMP provide adequate dimensions such that the relationship between the lane configurations and the beam spacing of both the existing and the proposed structure can be evaluated?
 Comment: _____

8.07 Do the plans and cross-sections indicate that sufficient space is available to install approach guardrail?
 Comment: _____

9.00 Freeways

The review of Freeway designs, particularly those involving grade separated interchanges does not lend itself well to a checklist type review. The design of a grade separated interchange must be evaluated based on the entire contents of Chapter 6. Listed below are some of the key items that should be reviewed.

Y N NA

9.01 Is the proposed cross-section consistent with Section 5.3.4.1?
 Comment: _____

9.02 Is the median barrier provided consistent Exhibit 5-33?
 Comment: _____

PROJECT DESCRIPTION: _____

25% HIGHWAY DESIGN REVIEW CHECKLIST

Submission Date _____

Y N NA 9.00 Freeways (Cont.)

9.03 Is the ramp spacing consistent with Exhibit 7-12?

Comment: _____

9.04 Are the deceleration and acceleration lengths consistent with Exhibits 7-13 & 7-14?

Comment: _____

9.05 Are the selected ramp design speeds consistent with Exhibit 7-15?

Comment: _____

9.06 Does the minimum radius meet the criteria in Exhibit 7-24?

Comment: _____

9.07 Are the ramp cross sections consistent with Section 7.7.1.2 and Exhibits 7-22 & 7-23?

Comment: _____

9.08 Is the ramp geometry consistent with the guidelines provided in Exhibit 7-30 (a-k)?

Comment: _____

Y N NA 10.00 ESTIMATE

10.01 Is sufficient back up information provided to determine if the preliminary estimate is reasonable?

Comment: _____

10.02 Does the estimate anticipate inflation as result of the project's proposed advertising date?

Comment: _____

10.03 Does the estimate include increase for contingency, contract administration, traffic police, etc.?

Comment: _____

11.00 FUNCTIONAL DESIGN REPORT

Refer to guidance from MassHighway's Traffic Section.

12.00 DESIGN EXCEPTION REPORT

Refer to Chapter 2 of the Highway Design Manual and the Design Exception Report Checklist.

Y N NA 13.00 CONCLUSIONS

13.01 Is the scope of work consistent with the scope approved by PRC?

Comment: _____

13.02 Is the estimated total construction cost consistent with the STIP?

Comment: _____

HIGHWAY SUBMITTALS

	25%							75%						100%					
	PLANS	X-SECTIONS	ESTIMATE	DER	FDR	PREL. ROW		PLANS	X-SECTIONS	SPECIAL PROVISIONS	ESTIMATE	LAYOUT PLANS & INST		PLANS	X-SECTIONS	SPECIAL PROVISIONS	ESTIMATE	DETAIL SHEETS	FINAL ROW PLANS
DISTRICT	2	2	2	1	1			2	2	2	2			2	2	2	2	2	
TRAFFIC ENGINEERING	1				1			1		1	1			1		1	1	1	
REGULATIONS UNIT (NOTE 1)								1		1	1			1		1	1	1	
ENVIRONMENTAL (note 2)	1							2		2	2			2		2	2		
RIGHT OF WAY	1					2		1				2		1					2
AAB COORDINATOR	1							1		1	1			1		1	1		
BICYCLE AND PED COORD (Note 3)	1							1		1	1			1		1	1		
LANDSCAPE SECTION	1							1		1	1			1		1	1		
FHWA (Note 4) (half size)	1	1	1	1	1			1	1	1	1			1	1	1	1	1	
CITY/TOWN	1							1						1					
UTILITIES (Note 5)																			
PROJECT MANAGER	1	1	1	1	1	1		1	1	1	1	1		1	1	1	1	1	1
CONSTRUCTABILITY REVIEW (Note 6)	1	1	1					1	1	1	1			By REQUEST ONLY					

1 FEDERAL AID PROJECTS ONLY

2 REFER TO ENGINEERING DIRECTIVE E-02-005 REGARDING REQUIREMENTS FOR EARLY ENVIRONMENTAL COORDINATION

3 75% AND 100% SUBMITTALS TO BICYCLE AND PED. COORD. NOT NECESSARY IF APPROVED AT 25% (UNLESS DESIGN HAS CHANGED)

4 REFER TO FEDERAL OVERSIGHT AGREEMENT DATED 3-8-99

5 See UTILITY TAB Below

6 Consult with Project Manager before including plans for Constructability Review.

UTILITY SUBMITTALS

UTILITY TYPE	25%						75%					100%					
	PLANS	X-SECTIONS	ESTIMATE	DER	FDR	PREL. ROW	PLANS	X-SECTIONS	SPECIAL PROVISIONS	ESTIMATE	LAYOUT PLANS & INST	PLANS	X-SECTIONS	SPECIAL PROVISIONS	ESTIMATE	DETAIL SHEETS	FINAL ROW PLANS
Electric	2						2					2					
Telephone	2						2					2					
Gas	2						2					2					
Cable TV	1						1					1					
Fire Alarm	1						1					1					
Sewer*	1						1					1					
Water*	1						1					1					
DPW/City Highway Dept. *	1						1					1					
RCN, AT&T, MCI, Sprint, Qwest or other long distance utility	1						1					1					

* Some Municipalities may have the same office review these plans. Therefore, each department may not have to receive an individual set. The consultant should determine if each department's review and subsequent plans submittal is applicable.

All utility plan submissions should have a list of the names of the actual utility companies to which these plans are to be forwarded. Utility contact information for many municipalities may be found on MassHighway's webpage - "Doing Business with MassHighway".