SIGNING PLAN ASSEMBLY STEPS

References:

"Minnesota Manual on Uniform Traffic Control Devices" (MnMUTCD)
Mn/DOT "Traffic Engineering Manual" (TEM)
Mn/DOT "Standard Signs Manual"
Mn/DOT "Standard Signs Summary"
Mn/DOT "Sample Signing Plan"
Mn/DOT "Traffic Guide Sign Design Manual"

The Sample Signing Plan has been organized to follow an established format. As a designer progresses through the following numbered sequential steps in assembling a complete signing plan, refer to the appropriate sheets in the Sample Signing Plan for clarification. The Sample Signing Plan may be downloaded from the Mn/DOT Traffic Engineering and ITS – Signing Section website in whole or in parts (e.g. the entire plan is saved in Adobe Reader Format .pdf and portions of the plan are available in Microstation Design File Format .dgn, such that these sheets may be included directing into a new sign plan).

1. Eliminate levels of detail (buildings, lot lines, etc) on roadway plan sheets.

REASON: So placement of signs on roadway sheets are not cluttered by underlying details

2. Organize roadway plan sheets: all mainline roadway comes first with stationing generally increasing from left to right (include roadway through interchanges for depicting mainline signing through interchange; next are interchange/intersection layouts for indicating signing on cross streets and at ramp terminals.

REASON: Consistency in design

3. Place signs on roadway plan sheets for each direction of travel, as the signs would appear to a motorist (placement and spacing of signs are detailed in the MnMUTCD and the TEM, Chapter 6).

NOTE: *For signing plans involving replacement of existing signs, a complete field review is required to document sign legends, sign sizes and existing sign structures.*

4. Label each type of sign (Types A, C, D, EO and EA) with the following numbering system:

NOTE: *Refer to the TEM Chapter 6 section 6-4.04 for general definitions of the various sign design types and see note 4.D below for handling OH sign numbering.*

A. All signs are assigned a label, whether they are new, existing being removed, or existing being salvaged. All "New Signs" are labeled with their Type and a number sequentially starting at "1", "Existing Signs to be Removed " start numbering with "101" and "Existing Signs to be Salvaged" start numbering with "201" (e.g. the first new Type A sign would be A-1, the first new Type D sign would be D-1, the first existing Type EA sign to be removed would be EA-101, and so forth for all types of signs).

B. Begin numbering on the left edge of the first roadway sheet and progressing through the last roadway sheet. Start with the number “1" and increase numbering to the end of the roadway sheets.

C. All completely identical Type C, D, and E (EA & EO) signs receive the same label through out the plan. However, the signs must be identical in every aspect except location. The factors that are considered unique include the installation and mounting requirements, size, and legend.

NOTE: *Different labels are required if the signs have any differences in mounting, legend, size, etc. For example: a Type D sign being installed in earth needs a different label than a Type D sign installed in concrete; a Type D sign installed at a mounting height of 6 feet needs a different label than a Type D sign installed at a mounting height of 7 feet; and a Type C sign that has two different sizes needs a separate label for each sign size (a 30" x 30" STOP sign needs a different label than a 36" x 36").*

REASON: The uniqueness of each sign is bid differently by signing contractors

D. Type OH signs -each of these signs has a unique number assigned – contact the OTE/ITS Signing Unit to obtain OH sign numbers (Rick Sunstrom at 651-634-5438 or Karen Christensen at 651-634-5433).

5. Place exit ramp/exit loop delineation note behind the exit nose of each exit ramp/exit loop [this note refers to a “standard” sheet (which depicts the appropriate markers and delineation) included elsewhere in the complete signing plan].

REASON: Delineation and markers for freeway ramps and loops is “standardized” and only the reference to the “standard” is needed on each appropriate roadway sheet

6. Show appropriate delineation and markers (refer to Mn/DOT “Traffic Engineering Manual, Chapter 7” for the various types, and application, of delineators and markers; detailed drawings are contained in the Mn/DOT Standard Signs Manual).

7. Utilities: Compile a list of the utility companies within the project limits for inclusion in the plan. If signing plan includes ANY signs with concrete or H-Pile (Type A signs have H-pile footings) footings, then ALL utilities need to be shown and labeled on each roadway sheet within close proximity of each concrete or H-Pile footing.

8. Design all guide sign panels (using the latest version of SignCAD). Refer to the Mn/DOT “Traffic Guide Sign Design Manual” for standards, policies and procedures. Guide sign design questions on two-lane, two-way roadways and expressways with at-grade intersections, contact John Benson at 651-634-5422. Guide sign design questions for freeways, contact Rick Sunstrom at 651-634-5438.

REASON: consistency in design of sign panels in conformance with Federal and State sign design standards

After completion of the first 8 steps above, assemble all plan sheets and guide sign design details and forward to the Mn/DOT OTE/ITS Signing Unit for preliminary review (includes review of sign spacing). Once review has been completed, plan sheets will either be returned to the designer OR a meeting will be arranged to go over comments.

9. Select and verify, or coordinate, locations (engineering stations) of all Type A and/or Type OH signs with Mn/DOT OTE/ITS Signing Unit (Micheal Weiss at 651-634-5442 or Rick Sunstrom at 651-634-5438).

REASON: Signs need to be spaced properly and installed at proper locations for motorists' safety and guidance

10. Obtain a cross section (from design if new roadway design OR from survey crew if in place roadway) for each new Type A and Type OH sign. Plot all cross sections in Microstation and add the Type A or Type OH sign structure and sign panel(s) in accordance with the format of the cross sections in the back of the Sample Signing Plan.

REASON: consistency in design for bidding purposes for contractors

***NOTE:** For each Type OH sign with sign lighting, contact OTE/ITS Lighting Unit (651-634-5482) to obtain Feed Point Identification number for each sign. The Feed point ID number needs to be specified below the sign panel(s) for each Type OH sign on each roadway sheet*

REASON: The Feed point ID number identifies where the source of power is for each Type OH sign

11. List all appropriate notes that apply on each roadway sheet for all of the various types of work listed below each sign. Refer to the master list of notes in the Sample Signing Plan.

12. Create the appropriate data boxes (using Excel) for each sign type and type of work being done on the sign (i.e. "Salvage Signs Type C" are tabulated in one data box, "Remove Signs Type C" are tabulated in another data box, etc.). The type of work for each type of sign is already broken down on the notes on each roadway sheet. Refer to the Sample Signing Plan to determine which data boxes need to be created for each type of sign. Then FILL IN the data boxes with the appropriate data.

REASON: The listing of estimated pay quantities are derived from the totals of each of the data boxes

13. Prepare list of standard plates applicable to project.

14. Prepare list of estimated quantities using the total quantity from each of the data boxes.

15. Assemble all necessary structural and detail sheets.

16. Complete the title sheet (if signing project is NOT tied to a construction project).

17. Assemble ALL of the plan sheets in the proper order (in accordance with the Sample Signing Plan).

18. Number the roadway sheets sequentially beginning with the Title Sheet as Sheet 1.

19. Fill in, and check, all sheet cross referencing throughout the plan.