

# Interim Update

## VOLUME 3

## MICHIGAN DESIGN MANUAL ROAD DESIGN

### 1.02.09

#### Removal Sheets

Separate removal sheets should be considered depending on the type, location, and complexity of the project. Removal sheets are almost always needed for projects in congested urban areas.

An early determination should be made whether or not to include removal items on the construction plan sheets. If this would cause the plans to become cluttered and difficult to read, then separate removal sheets should be used.

The removal sheets should show all existing topography within the project limits. All items for removal will be indicated on these sheets. Once it has been determined that an item is to be removed and it has been indicated on the removal sheet, the item should no longer appear on the construction plan sheet. Slope stake lines should be shown to determine removal limits. The edges of proposed pavement or back of curb may also be beneficial in determining removals.

### 1.02.10 (revised 7-10-2006)

#### Construction Plan and Profile Sheets

##### A. General

Construction plan and profile sheets are the "meat" of a set of plans. Plan sheets are "overhead" maps or pictorial representations of the project to be constructed. Plan sheets indicate what items need to be removed, replaced, relocated, reconstructed, constructed, or adjusted. Plan sheets must be clear, complete, correct, and uniform to convey to the contractor how to construct the project and what materials will be needed.

If the scope of work involves a significant amount of drainage and utility renovation or removal, separate plan sheets may be required for each phase of construction (removal, utility and drainage, and construction).

### 1.02.10A (continued)

Profile sheets show existing elevations and proposed elevations of the finished construction project. They also show drainage details including existing and proposed ditch elevation, top of curbs, drainage structures, sewers, and other utility information. Profile sheets should also show grading information, such as front and back slopes, peat location and treatment, and excavation and embankment quantities.

Profile sheets may not be required on all projects, such as when the grade is not changing, or it is changing at a uniform rate.

#### B. Guidelines

##### 1. Plan and Profile Scale

###### Rural Projects

Plan 1" = 100' (100 Scale)

Profile 1" = 100' horizontal  
1" = 10' vertical

###### Urban Projects

	Preferred	Acceptable
Plan	1" = 40' (40 Scale)	1" = 50' (50 Scale)
Profile	1" = 40' horizontal 1" = 4' vertical	1" = 50' horizontal 1" = 5' vertical

A scale of 1"=20' can be used for congested areas and for detailed grades. Smaller scales, 1"=100' or more, can be used for staging plans, pavement markings, vicinity or drainage maps and interchange drawings so that the entire project or interchange can be shown on one plan sheet.

##### 2. Sheet Breaks

Preferred sheet breaks are as follows:

- 100 Scale: 2500' per sheet (25 stations)
- 50 Scale: 1200' per sheet (12 stations)
- 40 Scale: 1000' per sheet (10 stations)
- 20 Scale: 500' per sheet (5 stations)