

1. *Guide Rail*

Do not install any guide rail of the old type. Use one of the new types. No more heavy posts are to be used. *All ends* are to be brought down near ground level. Make sure approach end is properly located. Do *not* use short sections of guide rail (2 or 3 lengths).

2. *Signs*

No heavy gore signs are to be placed. Use Breakaway type—wood or metal—see new Standards. Also see new standards for other ground mounted breakaway signs. Heavy signs less than 30' from pavement that cannot be changed are to be protected by guide rail. Sign foundations are to be substantially flush with the ground.

3. *Light Standards*

Use frangible base and light weight poles. Foundations are to be substantially flush with the ground.

4. *Utility Poles*

Utility poles should be 30' from the pavement on 50 M.P.H. roads. When re-locating these utilities on contracts get them back.

5. *Medians*

Install median barrier where median is less than 36' wide.

Slopes to the barrier should be generally 1 on 6 with 1 on 5 as steepest. You will have to watch your drainage—maybe even underdrain if needed.

Barrier can be cable or W Beam as well as box beam where there is room for deflection.

Where you have a narrow raised median (up to 12') with curbs, reduce median width to 3' curbed and use box beam median barrier *or* eliminate raised median and use flush area plus box beam barrier.

6. *Interchanges*

Separate opposing ramps by box beam or double W as per Standard Sheets. Install "Wrong Way" signs on "off" ramps. There is a standard for this.

If you have unusual problems at ramp ends, send in your suggested method for review and approval.

Control access at crossroads for 300± in accordance with instructions.

7. *Piers, abutments, walls, rock cuts, etc.*

For fixed objects of this kind less than 30' from pavement on 50+ MPH highways protect with guide rail. For speed zoned areas (under 50 MPH) use your best judgment.

8. *Trees*

Trees over about 3" in diameter should be 30' or more away from the edge of the pavement on 50+ MPH highways. This is a very critical, emotional, hysterical and illogical problem. Do the best you can. And when you do remove a tree—remove it *fast* and haul it away *fast*.

Where you can anticipate tree removal and can get the OK from property owners, if needed, why not set up a landscape project to plant trees several years ahead of the removal of the old trees?

When you plant trees, do *not* plant a tree that will mature at over 3" in diameter closer to the pavement than 30'.

9. *Bridges*

Replace such bridge rails as are selected for replacement and approved by the Bridge Subdivision.

Remove pylons from bridge ends.

Connect bridge rail to approach guide rail with positive and adequate connection.

Flare safety walk or brush curb ends back and away to a point under and beyond the guide rail where there is no approach curb.

10. *Exit Ramp*

The area beyond the gore area shall be so graded that if a vehicle goes through the gore, it will be able to be controlled and brought to a stop. This means elimination of the sharp "ravine" and replacement with negotiable slopes. Drainage must be adjusted accordingly.