



Caltrans® User Guide to Standard Plans Section A76B – CONCRETE BARRIER TYPES 60PM, 60PR, AND 60AP

Standard Plan Numbers:

- A76BA
- A76BB
- A76BC

Implementation:

This user guide applies to the latest versions of Plan Numbers above.

Description of Component:

Use for small single sheet aluminum sign panel within a length of

- new type 60PM barrier on top of soil or standard fill
- existing type 60PR barrier on top of soil or standard fill
- existing type 60AP barrier on existing reinforced slab on grade.

Use inside or outside of Special Wind Regions. Use inside or outside of Ice Regions.

Standard Plan Features:

Use A76BA where new type 60PM barrier is being installed along with new type 60M barrier on soil or standard fill.

Use A76BB where new type 60PR barrier is replacing a section of existing type 60 barrier on soil or standard fill.

Use A76BC where new type 60AP barrier is replacing a section of existing type 60A barrier on existing reinforced slab on grade.

Project Development Procedures:

- Check for latest applicable version of [Standard Plan\(s\) and Standard Specifications](#)
- Get the applicable version of this [User Guide](#)
- Verify that the project conforms to Standard Plans, this User Guide, and the specifications and determine which sheets are needed.
 - For questions on interpretation of the Standard Plans or the User Guide, contact the [Senior Technical Specialist for Signs and Overhead Structures](#).
 - For questions on the interpretation of the specifications contact the [Traffic Signs Branch in Traffic Operations](#).
 - For detailed assistance in verification related to the Standard Plans, contact the [Office of Design and Technical Services](#).



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- For detailed assistance in verification related to the SSP, contact the [Traffic Signs Branch in Traffic Operations](#).

If elements of the project do not conform, then contact the [Office of Design and Technical Services](#). In some cases, special design is only needed for a certain portion, in which case the Standard Plans might still apply for the other portion.

Design/ General Notes

Single sheet aluminum sign panels up to 4 feet wide are supported structurally, but such wide widths might not always be acceptable geometrically. Sign panel(s) to be centered horizontally on post. Sign panels allowed on both sides of post.

Structural Design Notes:

- AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 5th Edition.
- $V = 100 \text{ mph}$, $K_z = 0.87$, no topographic effects, $G = 1.14$, $I_r = 1.0$ ("Design Life" = 50 year), $C_v = 1.0$, sign panel $C_d = 1.19$, post $C_d = 1.1$, barrier $C_d = 1.3$.
- Ice Load included.
- Fatigue design not required.
- Post $F_y = 35 \text{ ksi}$ minimum
- Rebar $F_y = 40 \text{ ksi}$ minimum

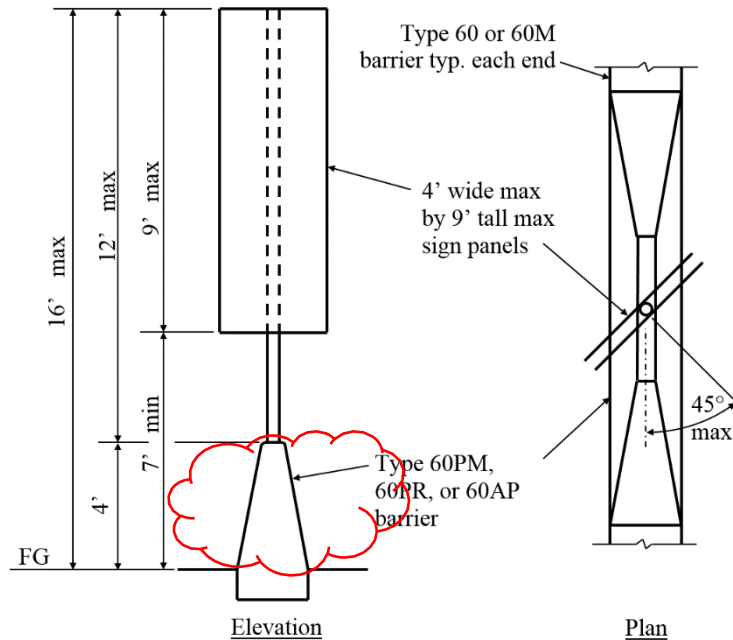
Additional Drawings Needed to complete PS&E:

Special designs are needed for:

- Locations where finish grade at barrier is more than 33 feet above surrounding terrain
- Barriers other than noted above
- Skews greater than 45 degrees
- Dimensions outside of limitations shown below (60PM shown, 60AP, and 60PR have the same restrictions).



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Special Considerations:

For these Standard Plans (using 4NPS XS post), the 56 inch minimum barrier height often required at bridge columns, overhead sign posts, etc., does not apply and 48 inch is required instead. Special designs that use stronger posts, larger signs, or have other significant deviations from these Standard Plans might be required to have increased barrier height and/or increased lateral clearance from the top edge of barrier to the sign post.

Item Codes:

These items are typically paid by the linear foot under Section 83.

- 839690- CONCRETE BARRIER (TYPE 60AP)
- 839695- CONCRETE BARRIER (TYPE 60PR)

An item code of Type 60PM has not been assigned yet.