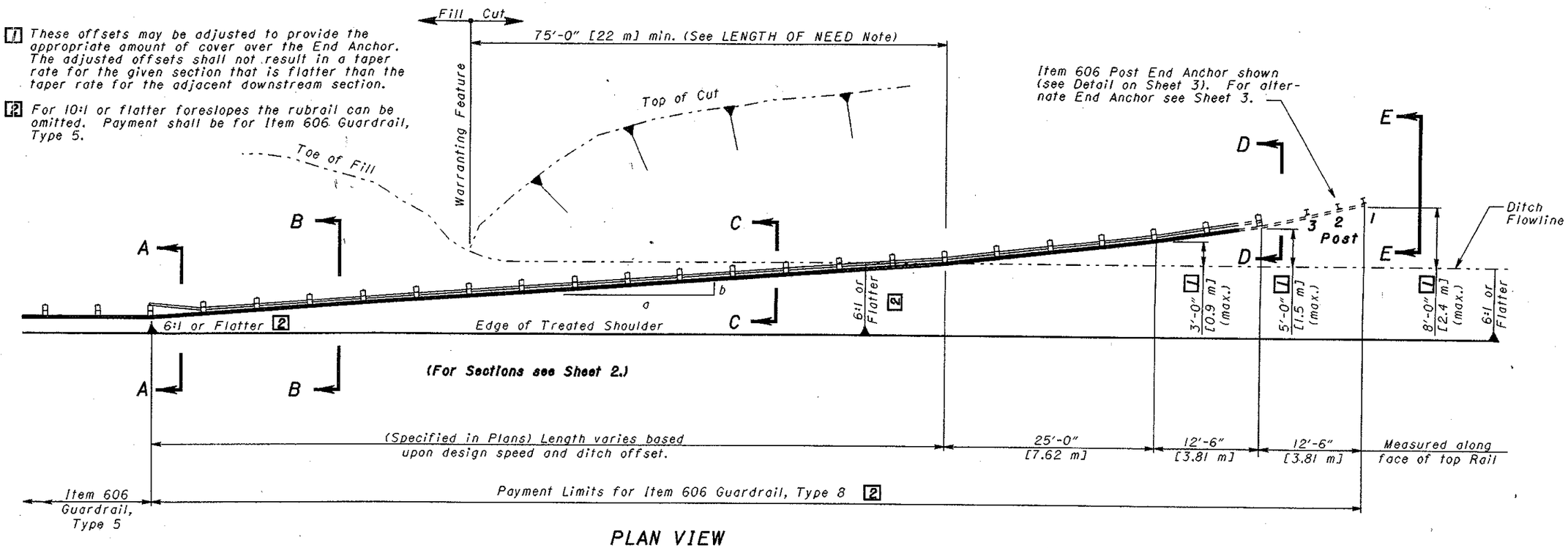
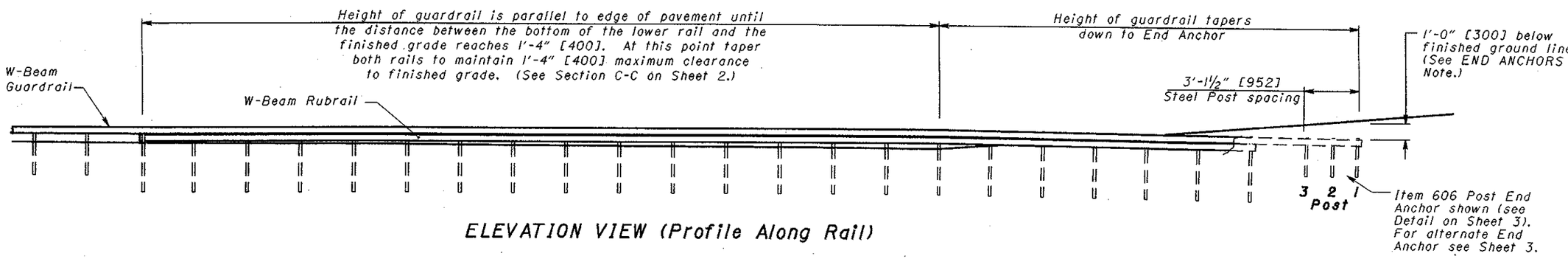
[1] These offsets may be adjusted to provide the appropriate amount of cover over the End Anchor. The adjusted offsets shall not result in a taper rate for the given section that is flatter than the taper rate for the adjacent downstream section.

[2] For 10:1 or flatter foreslopes the rubrail can be omitted. Payment shall be for Item 606 Guardrail, Type 5.



PLAN VIEW



ELEVATION VIEW (Profile Along Rail)

NOTES

POSTS & BLOCKOUTS: Shall comply with Guardrail Type 5 (See **SCD GR-2.1**) except posts shall be 8'-0" [2440] long unless otherwise specified.

LENGTH OF NEED: Where backslopes along the length of the terminal to the warranting feature are 2:1 or flatter, at least 75'-0" [22 m] of guardrail must be provided upstream from the warranting feature before the guardrail crosses the ditch line. (The warranting feature is often the intersection of the Fill/Cut slopes as shown, but may be at some other point.) Where Backslopes are steeper than 2:1, this minimum distance is not applicable.

PAYMENT: Item 606 Guardrail, Type 8, shall be in Linear Feet [Meters] for the length specified in the plans and shall include rails, 8'-0" [2440] posts, grading, excavation, embankment and all other hardware, materials and labor required to construct the guardrail as shown except for the End Anchor. Payment for **Item 606 - Post End Anchor (or Concrete Block End Anchor), Each,** shall include the extra cost of concrete blocks or steel posts and all other hardware, materials and labor required to construct the End Anchor.

END ANCHORS: A Post End Anchor is the preferred end treatment. A Concrete Block End Anchor may be installed in any location that does not permit the installation of posts. Concrete Blocks may be either pre-cast or cast-in-place and shall meet the requirements of CMS 606.02. The guardrail panel in the end anchors shall be pre-drilled and then galvanized per CMS 606.02. The finished ground line over the end anchor should be smooth and consistent with the surrounding topography, i.e. embankment shall not be mounded over the end anchor to achieve the proper amount of cover.

MISCELLANEOUS: For details not shown see **SCD GR-2.1.**

DESIGN SPEED	a:b
60 mph [100 km/h]	13:1*
55 mph [90 km/h]	12:1
50 mph [80 km/h]	11:1
45 mph [70 km/h]	10:1
35-40 mph [60 km/h]	9:1

* All installations on the National Highway System shall be installed with this maximum flare rate regardless of design speed.

THIS DRAWING REPLACES GR-4.5 DATED 4-29-99.

OHIO DEPARTMENT OF TRANSPORTATION
ROADWAY DESIGN ENGINEER
4-18-03
DATE

STDS. ENGR.
D. Focke

All metric dimensions (in brackets [ ]) are in millimeters unless otherwise noted.

ROADWAY ENGINEERING SERVICES

STANDARD ROADWAY CONSTRUCTION DRAWING
GUARDRAIL TYPE 8 BURIED IN BACKSLOPE

NUMBER **GR-4.5**