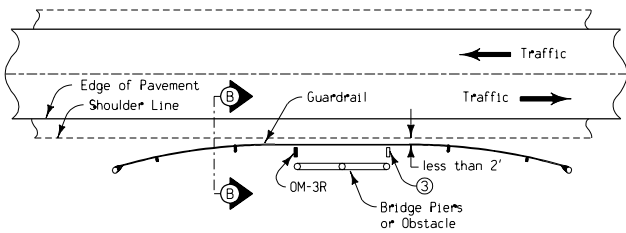


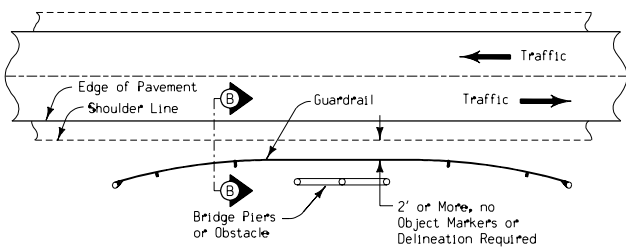
TYPE 5

DETAILS FOR MARKING SIDE OBSTACLES
(GUARDRAIL ON THE SHOULDER)



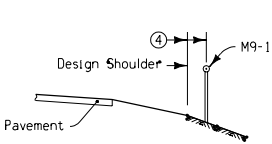
TYPE 6

DETAILS FOR MARKING SIDE OBSTACLES
(GUARDRAIL LESS THAN 2' FROM THE SHOULDER LINE)

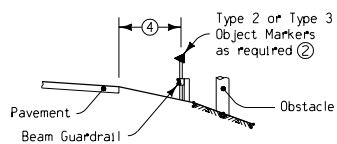


TYPE 7

DETAILS FOR MARKING SIDE OBSTACLES
(GUARDRAIL 2' OR MORE FROM THE SHOULDER LINE)

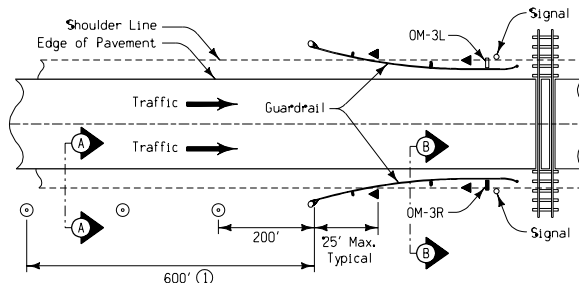


SECTION A-A



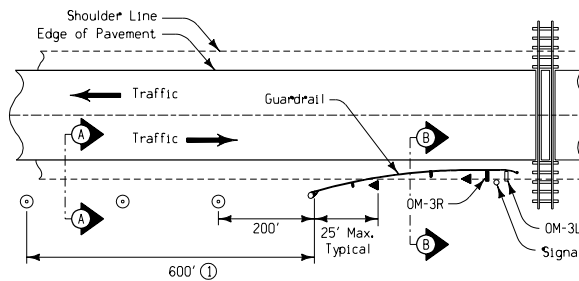
SECTION B-B

LEGEND ④	
□	Type 3 Object Marker, Left (OM-3L)
■	Type 3 Object Marker, Right (OM-3R)
◀	Type 2 Object Marker (OM2-3YV)
○	Single White Delineator, (D-1W)



TYPE 8

DETAILS OF RAILROAD CROSSING SIGNALS
(ONE-WAY TRAFFIC)



TYPE 9

DETAILS OF RAILROAD CROSSING SIGNALS
(TWO-WAY TRAFFIC)

- ① Not required on projects where Delineators are proposed or installed throughout the length of the project.
- ② All Delineator and Object Marker placement shall be behind face of guardrail. The edge of object marker (OM-3L or OM-3R) shall be aligned with the face of guardrail.
- ③ OM-3L Object Marker at trailing end of obstacle not required when one-way traffic exists.
- ④ Refer to Standard Road Plans RE-7 and RE-47.

GENERAL NOTES:

Details shown herein cover the placement of Markers and Delineators at side obstacles and railroad crossing signals in conjunction with the installation of guardrail. If a guardrail installation is warranted, delineation is required as determined by the following types of situations.

INSTALLATION AT SIDE OBSTACLES:

The location of the guardrail protecting the obstacle determines the delineation required.

TYPE 5: When guardrail encroaches onto the shoulder, Object Markers and Delineation are required. Install a Type 3 Object Marker at the approach (OM-3R) and trailing end (OM-3L) of obstacle when two-way traffic exists. Install a Type 3 Object Marker (OM-3R) at the approach end of obstacle only when one-way traffic exists. Beginning 25' from the approach end of guardrail, install Type 2 Object Markers (OM2-3YV) at 25' intervals behind the guardrail. Beginning 200 ft. in front of approach end of the guardrail, install 3 Single White Delineators (D-1W) at 200 ft. spacing.

TYPE 6: When guardrail is less than 2 feet off the shoulder line, Object Marker (OM-3L or OM-3R) is required.

TYPE 7: When guardrail is 2 feet or more off the shoulder line, no Object Markers or Delineators are required.

INSTALLATION AT RAILROAD CROSSINGS:

TYPE 8: One-Way Traffic. Install a Type 3 Object Marker (OM-3R or OM-3L) on the approach side of the signal. Beginning 25' from the approach end of guardrail, install Type 2 Object Markers (OM2-3YV) at 25' intervals behind the guardrail. Beginning 200 ft. in front of approach end of the outside guardrail, install 3 Single White Delineators (D-1W) at 200 ft. spacing.

TYPE 9: Two-Way Traffic. When guardrail encroaches onto the shoulder, Object Markers and Delineation are required. Install a Type 3 Object Marker (OM-3R or OM-3L) at signal. Beginning 25' from the approach end of guardrail, install Type 2 Object Markers (OM2-3YV) at 25' intervals behind the guardrail. Beginning 200 ft. in front of approach end of the right guardrail, install 3 Single White Delineators (D-1W) at 200 ft. spacing.

When object markers or delineator are required with guardrail installations, the object markers or delineator will be included in the price bid for installation of guardrail. When object markers or delineators are required and no guardrail work is done the object markers and delineators will be bid.

Price bid for contract items shall be considered full compensation for furnishing, fabricating, and erecting the delineators and object markers including posts, necessary hardware, and labor to complete the work.

Contract bid items are:

- Single White Delineators
- Type 2 Object Markers
- Type 3 Object Markers

Iowa Department of Transportation
Highway Division

STANDARD ROAD PLAN RE-48B

REVISION: Added paragraph to General Notes, defines what is included in price bid for installations of guardrail.	REVISION NO. 7
Mitchell J. Sullivan 12-05-00	REVISION DATE
APPROVED BY DESIGN METHODS ENGINEER	04-03-01

DETAILS OF MARKER
AND DELINEATOR PLACEMENT
(AT SIDE OBSTACLES)