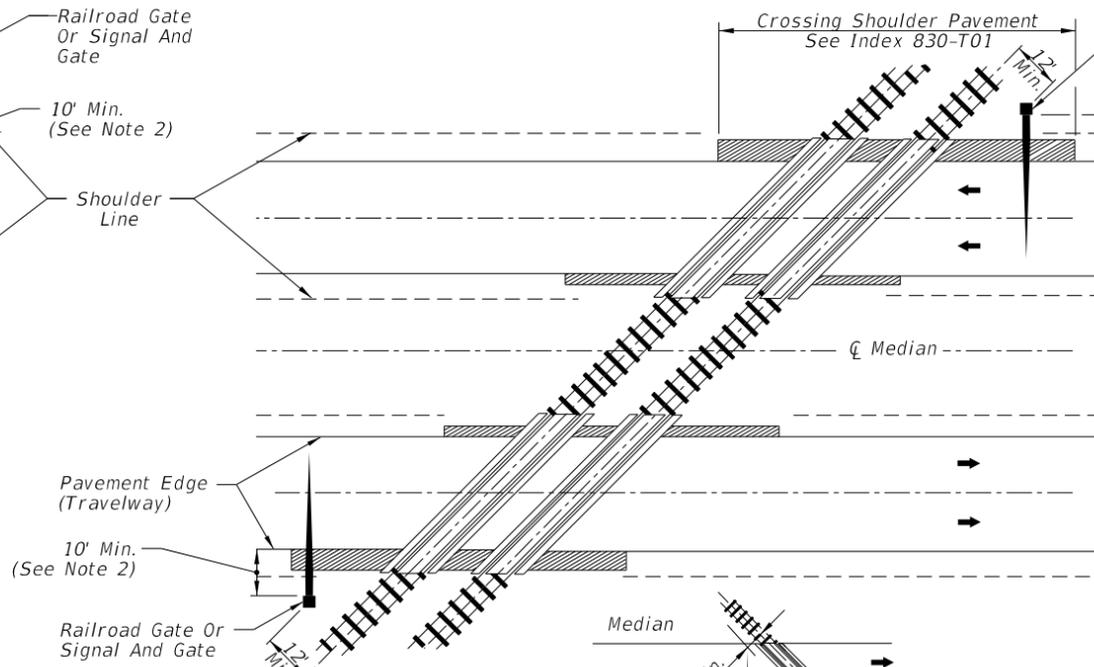


**SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 - LANE DESIGN)**



**SIGNAL PLACEMENT AT RAILROAD CROSSING
(4 - LANE DESIGN)**

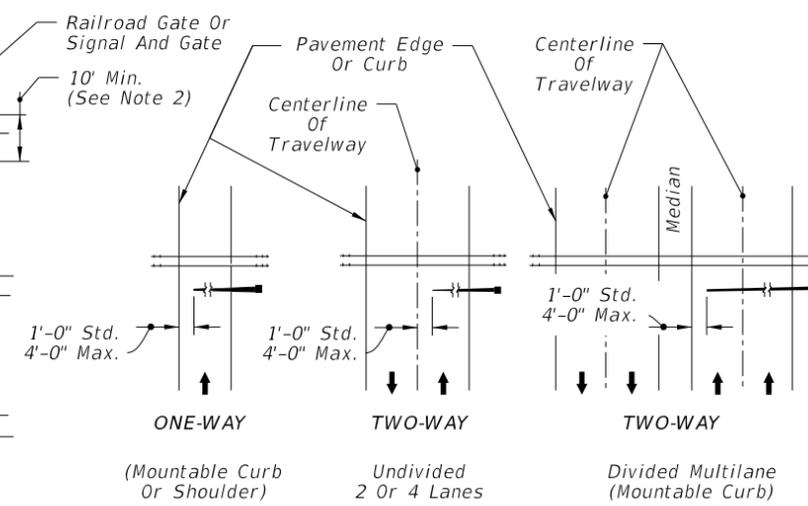
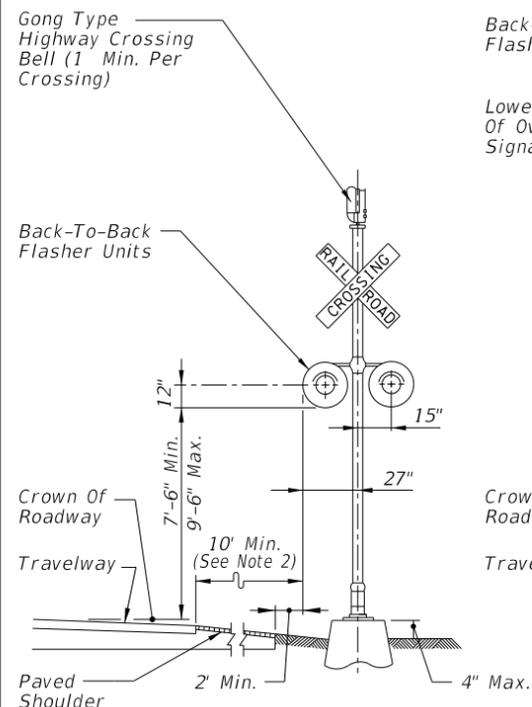


FIGURE 1

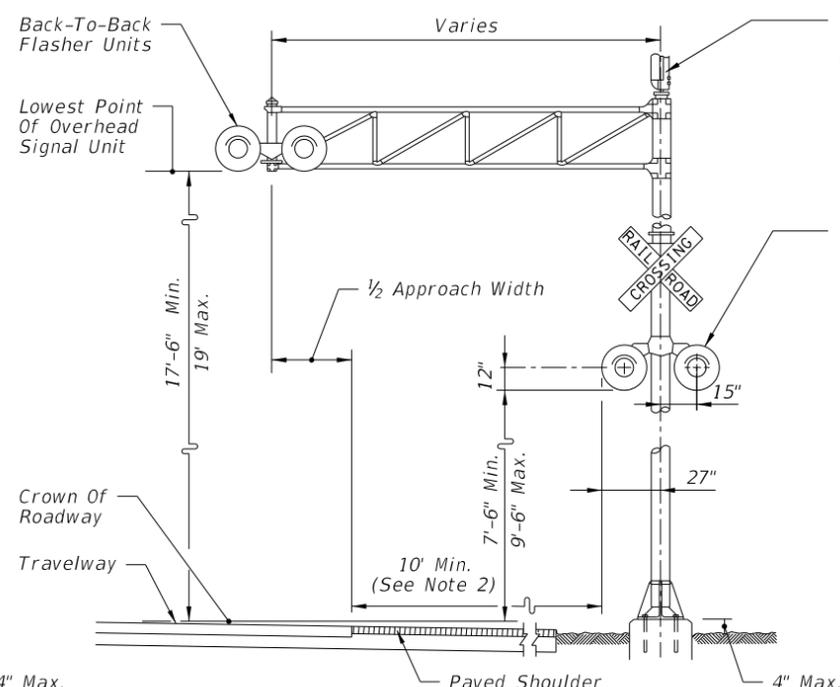
NOTE:
 1. Two separate foundations may be required (one for signals, one for gate), depending on type of equipment used.
 2. When 10' is deemed impractical the control device can be located as close as 2' from the edge of a paved shoulder but not less than 6' from the edge of the near traffic lane.

GENERAL NOTES:

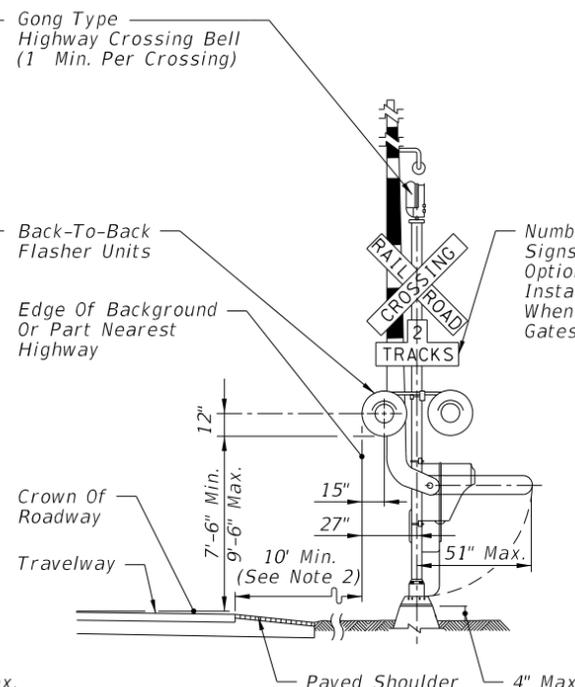
1. No guardrail is proposed for signals; however, some form of impact attenuation device may be specified for certain locations.
2. Advance flasher to be installed when and if called for in Plans or Specifications.
3. Top of foundation shall be no higher than 4" above finished shoulder grade.
4. Type of traffic control device
 - I Flashing warning devices
 - II Flashing warning devices with cantilever
 - III Flashing warning devices with gate
 - IV Flashing warning devices with cantilever and gate
 - V Gate
5. Class of traffic control devices (Not Shown)
 - I 2 Quadrant flashing warning devices-one track
 - II 2 Quadrant flashing warning devices-multiple tracks
 - III 2 Quadrant flashing warning devices and gates-one track
 - IV 2 Quadrant flashing warning devices and gates-multiple tracks
 - V 3-4 Quadrant flashing warning devices and gates-one track
 - VI 2-4 Quadrant flashing warning devices and gates-multiple tracks



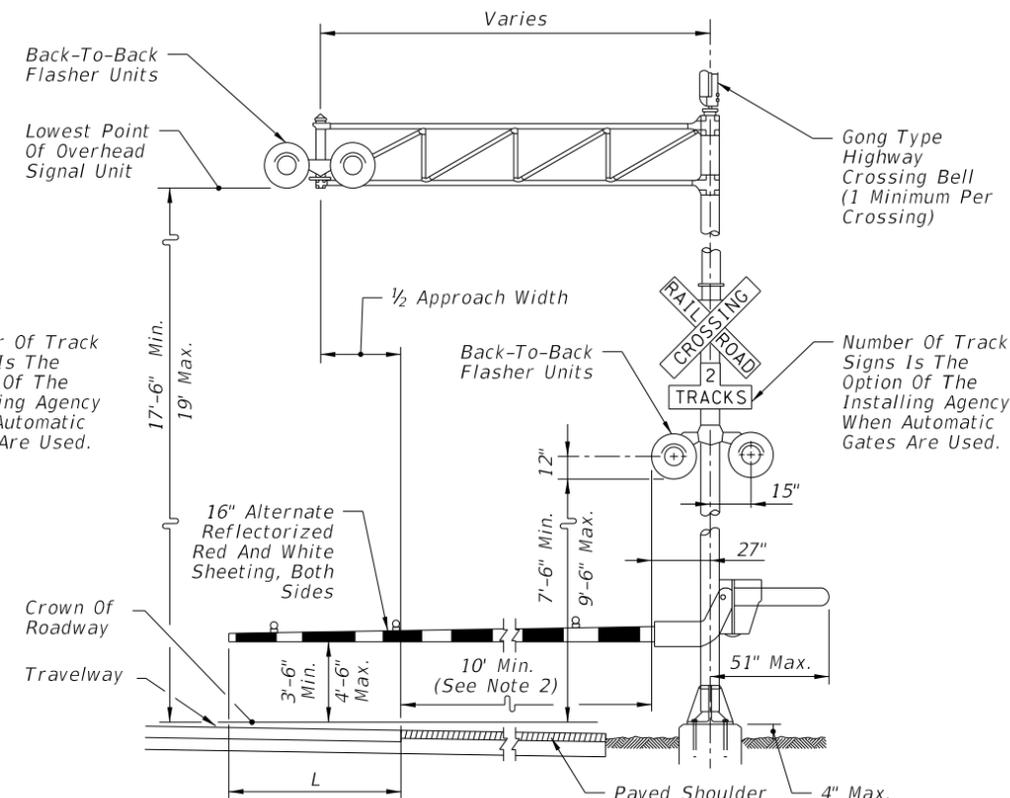
TYPE I



TYPE II



TYPE III AND TYPE V

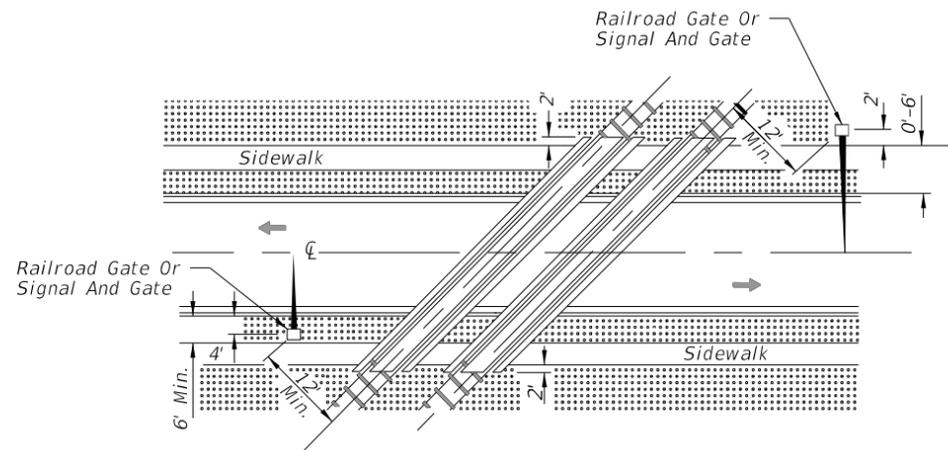


TYPE IV AND TYPE VI

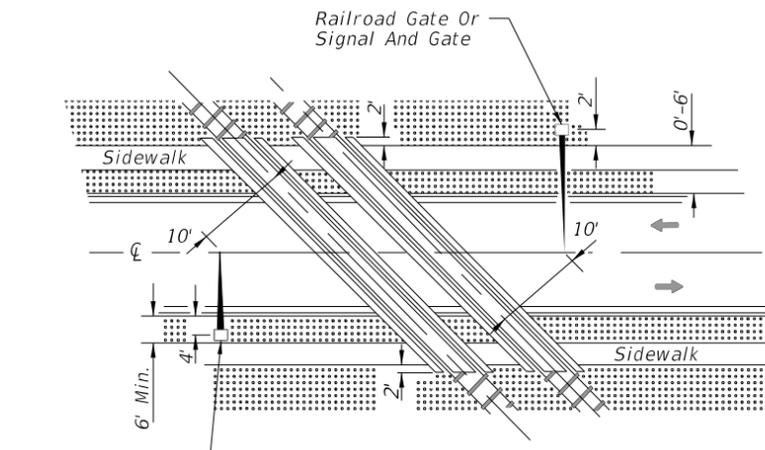
TRAFFIC CONTROL DEVICES FOR FLUSH SHOULDER ROADWAY

11/13/2019 8:34:03 AM

| | | | | | |
|---------------------------|--------------|----------------------------------|--|------------------|-----------------|
| LAST REVISION 11/01/17 | DESCRIPTION: | FY 2020-21 STANDARD PLANS | RAILROAD GRADE CROSSING TRAFFIC CONTROL DEVICES | INDEX 509-070 | SHEET 1 of 4 |
|---------------------------|--------------|----------------------------------|--|------------------|-----------------|



ACUTE ANGLE (AND RIGHT ANGLE)



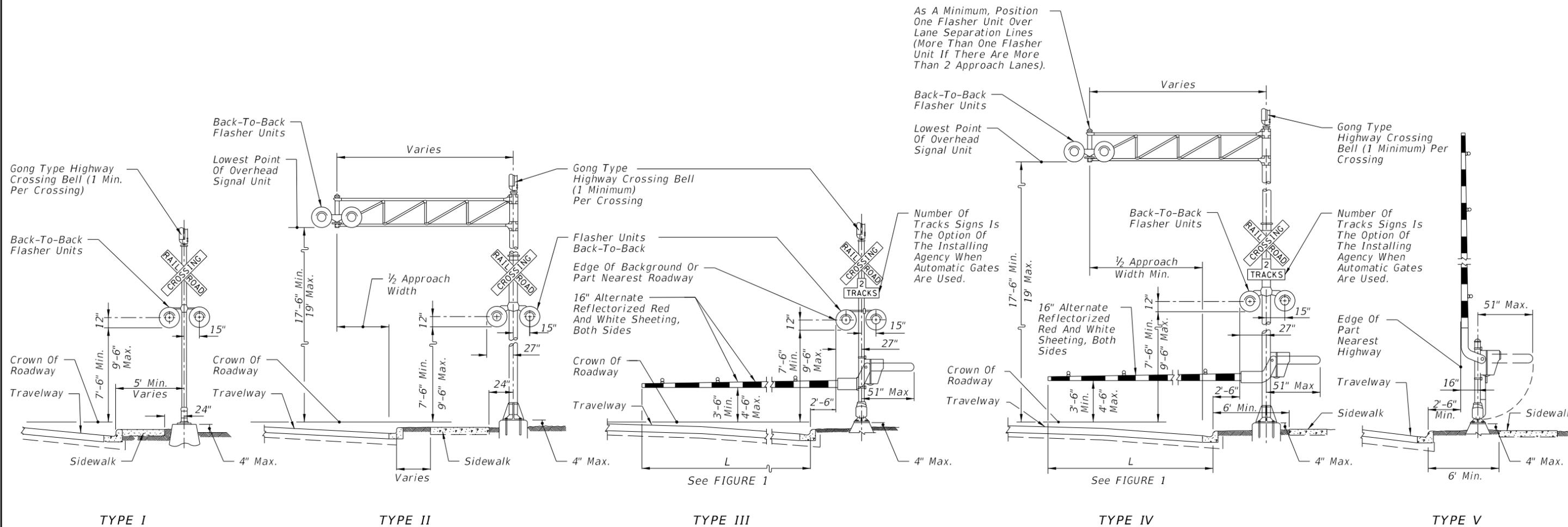
OBTUSE ANGLE

SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 LANES, CURB & GUTTER)

SIGNAL PLACEMENT AT RAILROAD CROSSING
(2 LANES, CURB & GUTTER)

NOTES:

1. The location of flashing warning devices and stop lines shall be established based on future (or present) installation of gate with appropriate track clearances.
2. Where plans call for railroad traffic control devices to be installed in curbed medians, the minimum median width shall be 12'-6".
3. Location of railroad traffic control device is based on the distance available between face of curb & sidewalk. 0' to 6' - Locate device outside sidewalk. Over 6' - Locate device between face of curb and sidewalk.
4. Stop line to be perpendicular to edge of roadway, approx. 15' from nearest rail; or 8' from and parallel to gate when present.
5. When a cantilevered-arm flashing warning device is used, the minimum vertical clearance shall be 17'-6" from above the Crown of Roadway to the Lowest Point of the Overhead Signal Unit.



TYPE I

TYPE II

TYPE III

TYPE IV

TYPE V

TRAFFIC CONTROL DEVICES FOR CURBED ROADWAY

10/14/2019 11:00:49 AM

| | |
|---------------------------|--------------|
| LAST REVISION 11/01/17 | DESCRIPTION: |
|---------------------------|--------------|


 FY 2020-21
STANDARD PLANS

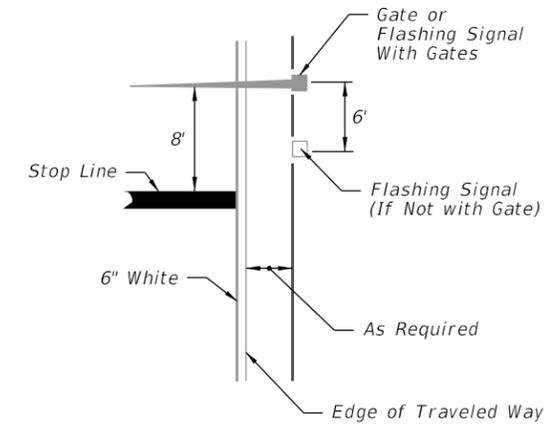
RAILROAD GRADE CROSSING
TRAFFIC CONTROL DEVICES

| | |
|------------------|-----------------|
| INDEX 509-070 | SHEET 2 of 4 |
|------------------|-----------------|

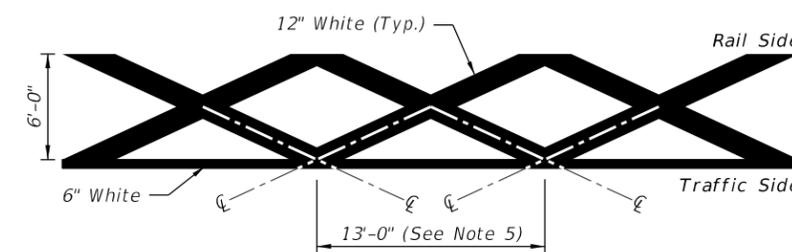
NOTES:

1. Place an additional W10-1 sign where intersections occur between the R/R pavement message and the tracks.
2. Place FTP-61-06 or FTP-62-06 sign 100' in advance of crossing for urban conditions and 300' in advance of crossing for rural conditions. See Index 700-102 for sign details.
3. Install Railroad Dynamic Envelope Pavement Markings only when called for in the Plans.
4. Do not install pavement markings when the distance between tracks is less than 14'.
5. The transverse dimension for the RDE "X" may be reduced to the lane width for two-lane roadways without shoulders or when shown in the Plans.
6. Do not install pavement markings in the Foul areas.

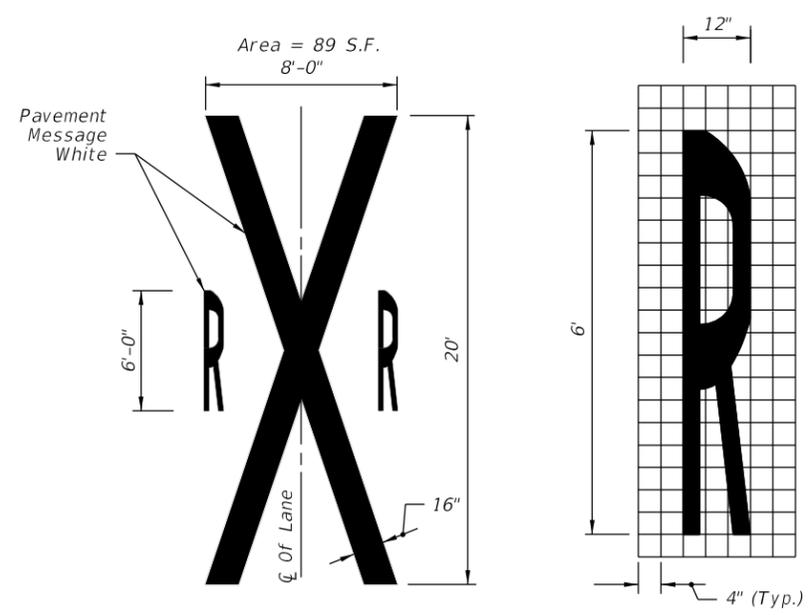
| Design Speed (mph) | Distance "A" (ft) |
|--------------------|-------------------|
| 60 | 400 |
| 55 | 325 |
| 50 | 250 |
| 45 | 175 |
| 40 | 125 |
| 35 | 100 |
| URBAN | 85 Min. |



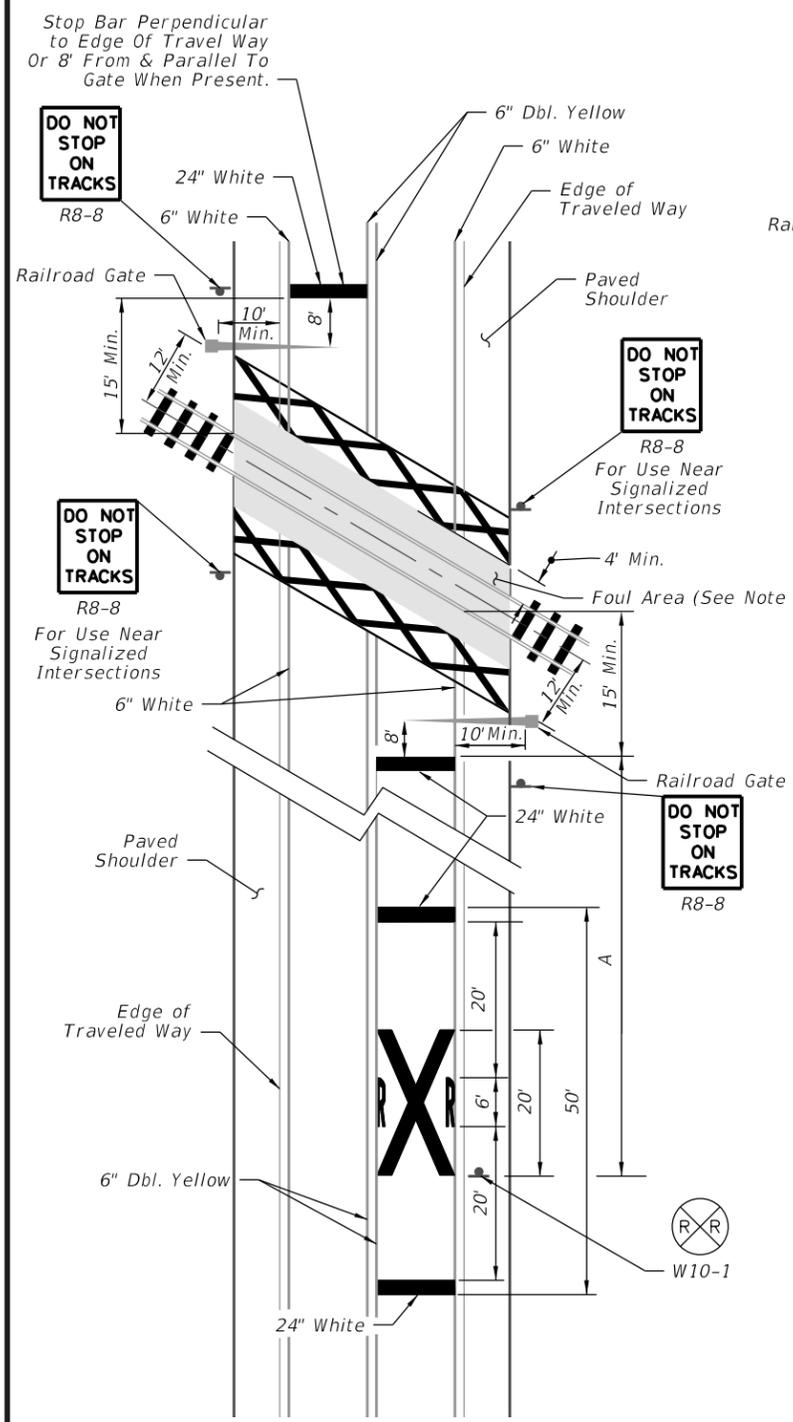
RELATIVE LOCATION OF CROSSING TRAFFIC CONTROL DEVICES



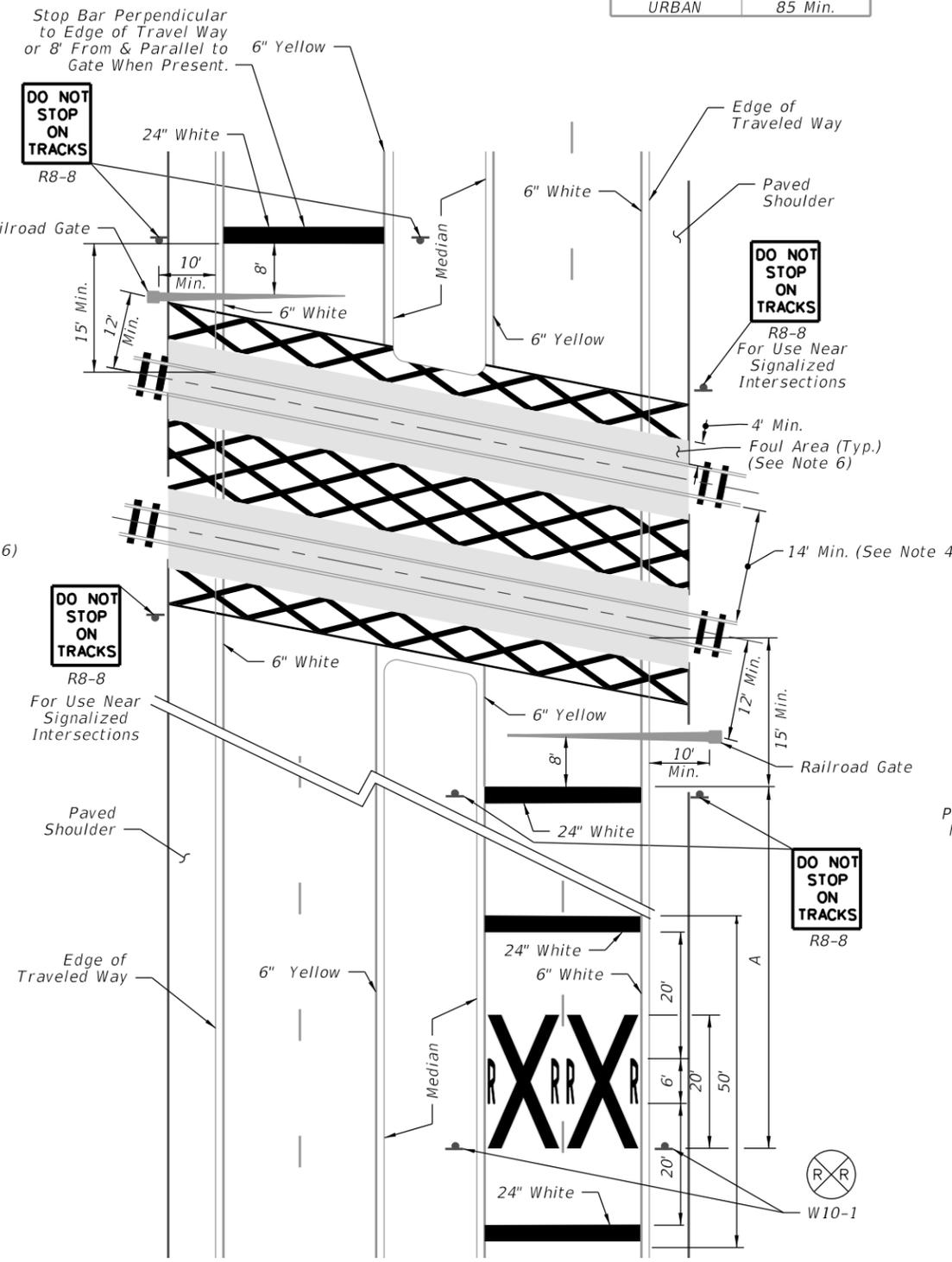
RAILROAD DYNAMIC ENVELOPE (RDE) PAVEMENT MARKING DETAIL



RAILROAD CROSSING PAVEMENT MESSAGE

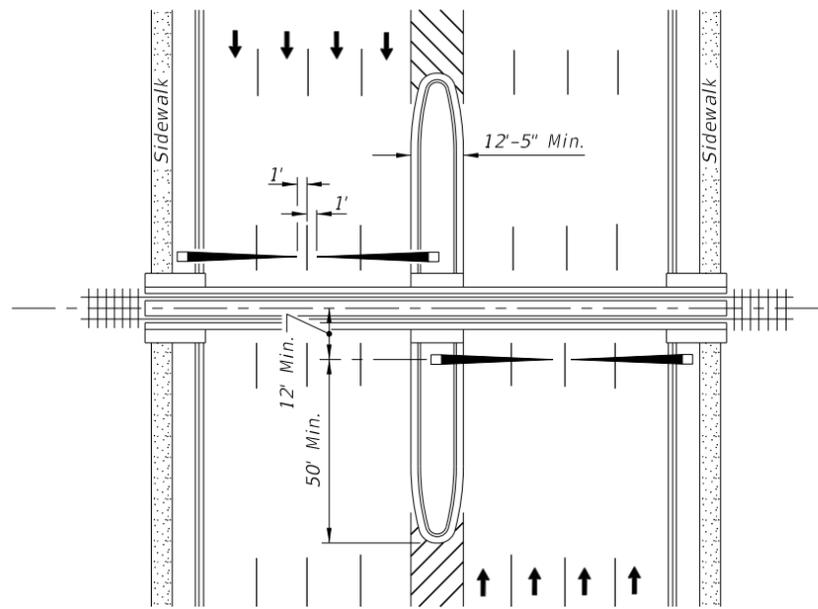
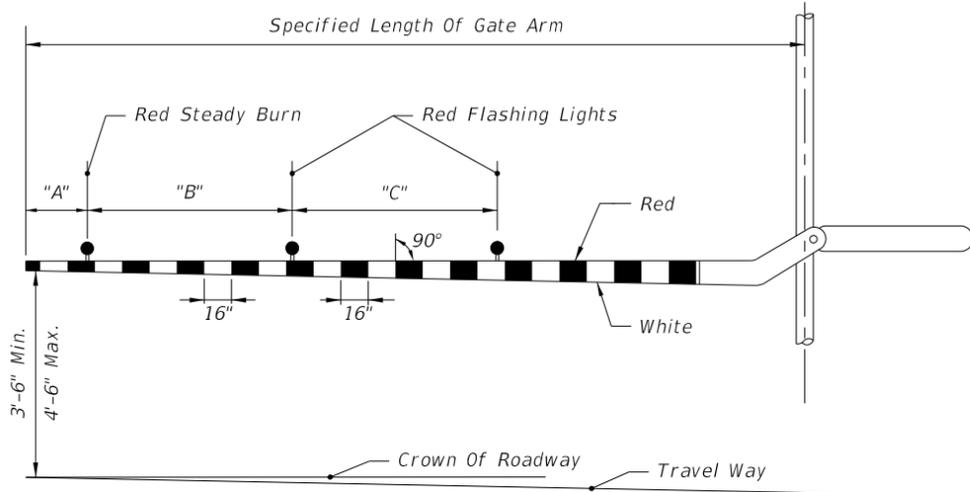


RAILROAD CROSSING AT TWO-LANE ROADWAY

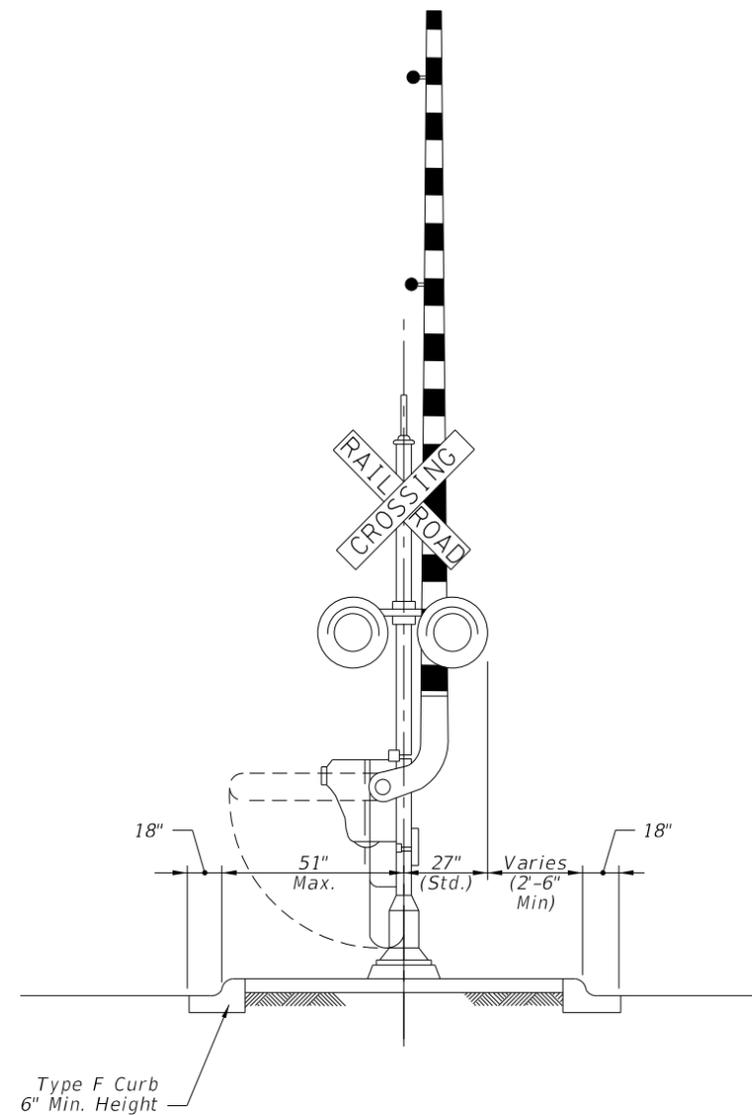


RAILROAD CROSSING AT MULTILANE ROADWAY

SDATES



PLAN



MEDIAN SECTION AT SIGNAL GATES

RAILROAD GATE ARM LIGHT SPACING

| Specified Length Of Gate Arm | Dimension "A" | Dimension "B" | Dimension "C" |
|------------------------------|---------------|---------------|---------------|
| 14 Ft. | 6" | 36" | 5' |
| 15 Ft. | 18" | 36" | 5' |
| 16-17 Ft. | 24" | 36" | 5' |
| 18-19 Ft. | 28" | 41" | 5' |
| 20-23 Ft. | 28" | 4' | 5' |
| 24-28 Ft. | 28" | 5' | 5' |
| 29-31 Ft. | 36" | 6' | 6' |
| 32-34 Ft. | 36" | 7' | 7' |
| 35-37 Ft. | 36" | 9' | 9' |
| 38 And Over | 36" | 10' | 10' |

NOTE:
For additional information see the "Manual On Uniform Traffic Control Devices", Part 8; The "Traffic Control Handbook", Part VIII; and AASHTO "A Policy On Geometric Design Of Streets And Highways".

MEDIAN SIGNAL GATES FOR
MULTILANE UNDIVIDED URBAN SECTIONS
(THREE OR MORE DRIVING LANES IN ONE DIRECTION, 45 MPH OR LESS)

10/14/2019 11:00:50 AM

| | |
|---------------------------|--------------|
| LAST REVISION 11/01/17 | DESCRIPTION: |
|---------------------------|--------------|



FY 2020-21
STANDARD PLANS

RAILROAD GRADE CROSSING
TRAFFIC CONTROL DEVICES

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509-070

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