

VILLAGE OF MINOOKA

Construction Standards and Specifications For Transportation and Signs

General Provisions

Roads shall be constructed in accordance with the requirements of Federal and State statutes or regulations; Standard Specifications for Road and Bridge construction in Illinois, latest edition; Subdivision Regulations for the Village of Minooka; in addition, the following specifications shall apply:

Bituminous Concrete

<u>Residential</u>	<u>Commercial</u>
Binder course shall be Superpave, IL-19.0, N50.	Binder course shall be Superpave, IL-19.0, N70.
Surface course shall be Superpave, Mix C, N50.	Surface course shall be Superpave, Mix D, N70.
Up to 25% rap will be allowed in binder.	Up to 15% rap will be allowed in binder.
Up to 15% rap will be allowed in surface.	Up to 10% rap will be allowed in surface.

Pavement Observation Procedures

- Notify Engineering Inspector forty-eight (48) hours prior to test.
- Proofroll Subgrade. (Acceptable proofroll vehicles are loaded tandem vehicles - 14 ton load semi vehicles 21 ton load.)
 - a. Before curb and gutter is installed.
 - b. One-half inch (1/2") rut and one-half inch (1/2") roll maximum.
 - c. Repair subgrade until an acceptable proofroll is obtained.
- Stringline Subgrade.
 - a. Plus one-half inch (+1/2") maximum.
- Proofroll Subbase (if applicable)
 - a. No movement - rutting or rolling - allowed.
 - b. Repair subbase and other underlying layers if necessary until an acceptable proofroll is obtained.
- Stringline Subbase (if applicable).
 - a. Plus one-fourth inch (+1/4") maximum.

- Proofroll Aggregate Base course (if applicable).
 - a. No movement - rutting or rolling - allowed.
 - b. Repair aggregate base course and other underlying layers if necessary until an acceptable proofroll is obtained.

- Stringline Aggregate Base Course (if applicable).
 - a. Plus one-fourth inch (+1/4") maximum.

- Proofroll Bituminous Base Course (if applicable).
 - a. No movement - rutting or rolling - allowed.
 - b. Repair bituminous base course and other underlying layer if necessary until an acceptable proofroll is obtained.

- Density Test Bituminous Base Course (if applicable).
 - a. Cores and lab density testing performed by an independent testing firm acceptable to the Village is preferred.
 - b. On-site density testing is allowable if performed by an independent testing firm acceptable to the Village and cores are taken to check thickness.
 - c. Repair bituminous base course by removal and replacement for failed areas or a method acceptable to the Village.

- Stringline Bituminous Base Course (if applicable).
 - a. Plus one-fourth inch (+1/4") maximum.

- Check Condition of Pavement prior to Binder Course.
 - a. Bituminous material (prime coat) must be cured prior to replacement of binder.
 - b. Priming immediately in front of the paver is not allowed.

- Density Test Binder Course.
 - a. Cores and lab density testing performed by an independent testing firm acceptable to the Village is preferred.
 - b. On-site density testing is allowable if performed by an independent testing firm acceptable to the Village and cores are taken to check thickness.
 - c. Repair bituminous binder course by removal and replacement for failed areas or a method acceptable to the Village.

- Check Condition of Pavement Binder Course Prior to Surface Course.
 - a. Only after one winter season and seventy-five percent (75%) of occupancy permits issued.
 - b. Only after sanitary sewer is televised.
 - c. Proofroll bituminous binder course. No movement - rutting or rolling - allowed.
Repair bituminous binder course by removal and replacement.
 - d. If cracks are greater than one-half inch (1/2") wide and occur over twenty-five percent (25%) of the pavement, then repair bituminous binder course and other underlying layers until an acceptable proofroll is obtained.

- e. If cracks are less than one-half inch (½") wide and occur over twenty-five percent (25%) of the pavement, then repair bituminous binder course by heater, scarify, overlay method; mixture for cracks, joints or flangeways; or a method acceptable to the Village.
 - f. Remove and replace damaged curb and gutter. Epoxy repair is acceptable only if repair method and materials are approved by the Village.
 - g. Remove cold patch and replace with hot mix.
 - h. Place level binder in binder irregularities, trench settlement, etc.
 - i. Clean pavement.
 - j. Bituminous material (tack coat) will be placed only if the Village accepts the conditions of the pavement.
 - k. Bituminous surface course placed on pavement not accepted by the Village will be removed and replaced.
 - l. Bituminous material (tack coat) must be cured prior to placement of surface.
 - m. Priming immediately in front of the paver is not allowed.
- Density Test Bituminous Surface Course (if applicable).
 - a. Cores and lab density testing performed by an independent testing firm acceptable to the Village if preferred.
 - b. On-site density testing is allowable if performed by an independent testing firm acceptable to the Village and cores are taken to check thickness.
 - c. Repair bituminous surface course by removal and replacement for failed areas or a method acceptable to the Village.

Regulatory And Name Signs

General

- The Developer in accordance with the Manual on Uniform Traffic Control Devices (MUTCD) shall install all signs.
- If appropriate all signs shall be mounted on street light poles.
- All signs shall utilize a minimum of 3M Scotchlite Engineer Grade sheeting.

Regulatory Signs

- Typical mounting height for all regulatory signs shall be a seven feet (7') measured from the bottom of sign to parkway-finished grade within a residential subdivision.
- Distance from the front of curb to the street side edge of sign shall be not less than two feet (2').

- All STOP signs shall be a minimum of thirty inches (30”) by thirty inches (30”) within all residential subdivisions unless otherwise noted.
- All SPEED LIMIT signs shall be a minimum of twenty-four inches (24”) by thirty inches (30”) within all residential subdivisions unless otherwise noted.

Restrictive Parking Signs

- Typical mounting height for all PARKING signs shall be a seven feet (7’) measured from the bottom of sign to parkway-finished grade within a residential subdivision.
- Distance from the front of curb to the street side edge of sign shall be not less than two feet (2’).
- All PARKING signs shall be a minimum of eighteen inches (18”) by twenty-four inches (24”) within all residential subdivisions unless otherwise noted.

Street Name Signs

- Extruded aluminum nine (9”) blade.
- Double sided.
- Color shall be 3M Scotchlite, High Intensity green background with white letters.
- Letter sizes shall be six inch (6”) uppercase with suffix and prefix letters to be three inch (3”) lowercase.
- Typical mounting height shall be a minimum of eleven feet (11’) measured from the bottom of sign to parkway finished grade within a residential subdivision unless otherwise noted.
- The blades shall extend no closer than two feet (2’) measured from the front of curb (this may require signs to be mounted on the backside of the light poles in order to protect them from traffic damage).

Mounting Post and Hardware for Regulatory Signs

- All regulatory and restrictive parking signs mounted on freestanding post shall utilize a twelve (12) gauge square tube galvanized post with pre-drilled (7/16”) holes.
- Base tube size shall be three feet (3’) in length and a tube size of two inches (2”) by two inches (2”).

- The upper post shall be a minimum of ten feet (10') in length and a tube size of one and three quarter inches (1 ¾") by one and three quarter inches (1 ¾"), enabling the post to telescope within the base section.
- Drive rivets are to be used along with a nylon washer to anchor signs to galvanized tubular post.
- Corner bolts shall be used to anchor the upper post to the base post.

Mounting Post and Hardware for Street Name Signs (Free Standing Assembly)

- In the event a light post cannot be used, street signs mounted on freestanding post shall be twelve foot (12') long, two and three eights inch (2 3/8") diameter, fourteen (14) gauge round galvanized post.
- A posthole of twelve inches (12") in diameter and thirty inches (30") deep shall be used to anchor the post.
- Round post sign mounts are two and three eights inch (2 3/8") diameter
- Set screws five sixteenths of an inch (5/16") in diameter by three eights of an inch (3/8") shall be used with five thirty seconds of an inch (5/32") socket for locking signs in bracket.

Mounting Hardware for Street Name Signs (Street Light Post Assembly)

- Use a Metro Wing Bracket that is twenty-four inches (24") long able to accept the extruded nine-inch (9") street name blade.
- Stainless Steel strapping three quarters of an inch (3/4") in width shall be used to secure the bracket to the street light post.
- Stainless Steel clips three quarters of an inch (3/4") in width shall be used to secure the banding to the post and Metro Wing Bracket.

Village of Minooka

Construction Standards for Concrete Sidewalks

The sidewalks shall be constructed in accordance with the requirements of the Standard Specifications for Road and Bridge Construction in Illinois, latest edition; all Federal and State statutes or regulations; Village of Minooka Subdivision Regulations; in addition, the following specifications shall apply. In case of discrepancy, the Village of Minooka Subdivision Regulations shall govern.

Concrete Sidewalk Specifications

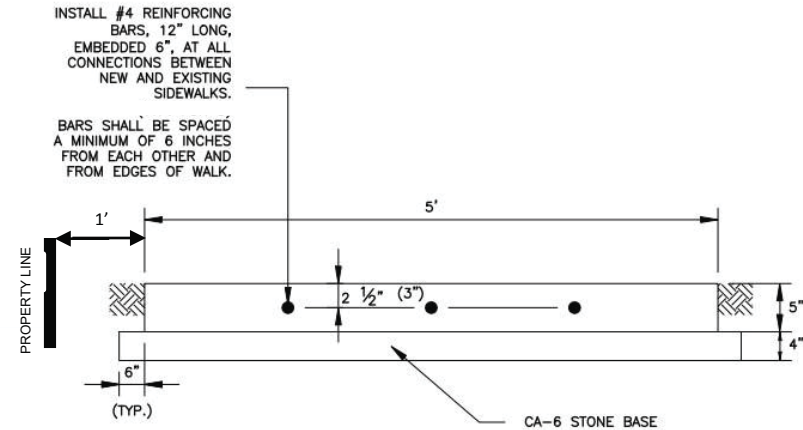
- Sidewalk shall be constructed in accordance with Section 424 of the Standard Specifications.
- Shall be four feet (4') or five feet (5') in width in residential zones as directed by the Village.
- Shall be a minimum of five inches (5") thick.
- If a public sidewalk crosses a driveway the minimum thickness shall be six inches (6") thick.
- Concrete shall be class SI.
- The base course shall be a minimum of four inches (4") thick of compacted CA-6 and shall be included in the price bid for concrete sidewalk.
- Form boards are required to be a minimum dimension of 2" x 6".
- The sidewalk shall be struck off, finished to a true and even surface with floats and trowels, leaving a smooth even surface.
- The surface shall be given a final finish by a brush drawn across the sidewalk at right angles to the edge of the walk, producing a uniform slightly roughened surface with parallel brush marks.
- The surface shall be divided by grooves constructed every five feet (5'), at right angles to the edge of the walk. These grooves shall extend to one quarter (1/4) the depth of the sidewalk and shall be no less than one eighth inch (1/8") nor more than one quarter inch (1/4") in width.
- The sidewalk shall be edged with an edging tool having a one-quarter inch (1/4") in width.
- One half-inch (1/2") full depth expansion joints consisting of preformed joint filler shall be placed between the sidewalk and adjoining sidewalks, driveways, ramps.
- Two number four 1/2" smooth tie bars 12" long, embedded 8" at all connections between new and existing sidewalks and ramps and curbs for 4-foot-wide sidewalks. Three number four 1/2" smooth tie bars will be required for sidewalks 5-foot-wide and greater. Bars shall be spaced a minimum of 6" from each other and 12" off each edge. A 1/2" plastic cap shall be placed on each end of the tie bar adjacent to the expansion joint.
- An IDOT APPROVED 1600-WHITE membrane curing compound shall be used to protect the sidewalk during curing.
- Handicap sidewalk ramps shall be constructed in accordance with section 424 of the Standard Specifications. The ramp shall be Type B and shall be required where ever sidewalks or bike paths meet curb and gutter Etc., railroad crossing etc.
- Cold weather protection shall be required if the ambient air temperatures drop below 32- degrees Fahrenheit and left on until an acceptable length time to allow for curing.

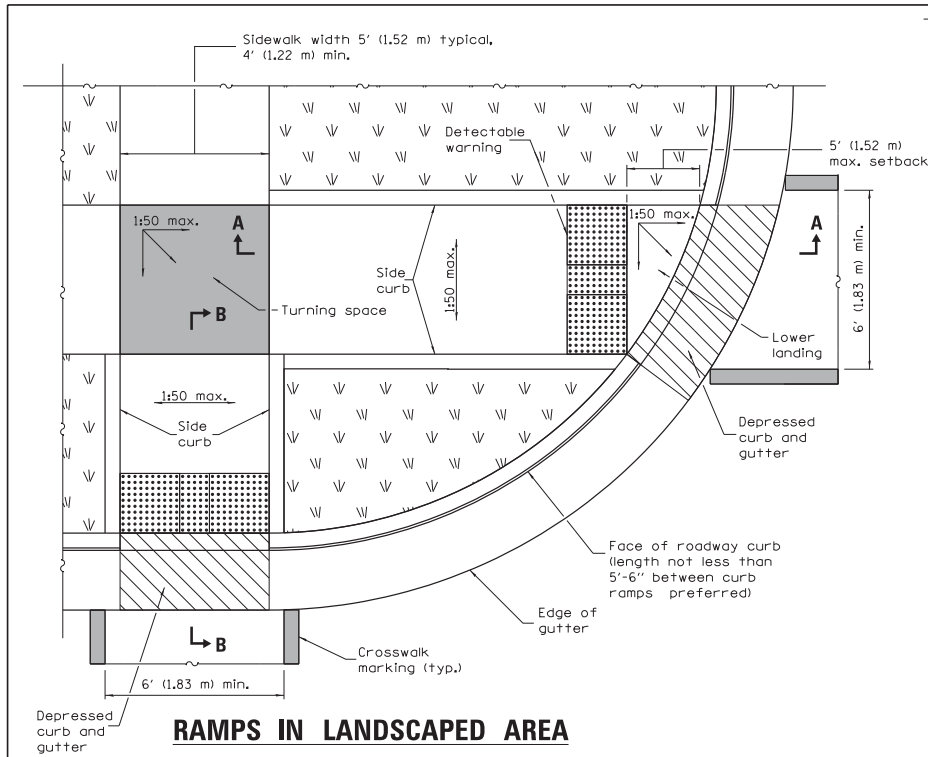
SIDEWALK

SIDEWALK CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT EDITION OF THE ILLINOIS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, THE CURRENT VILLAGE CODE AND THE FOLLOWING SPECIFICATIONS.

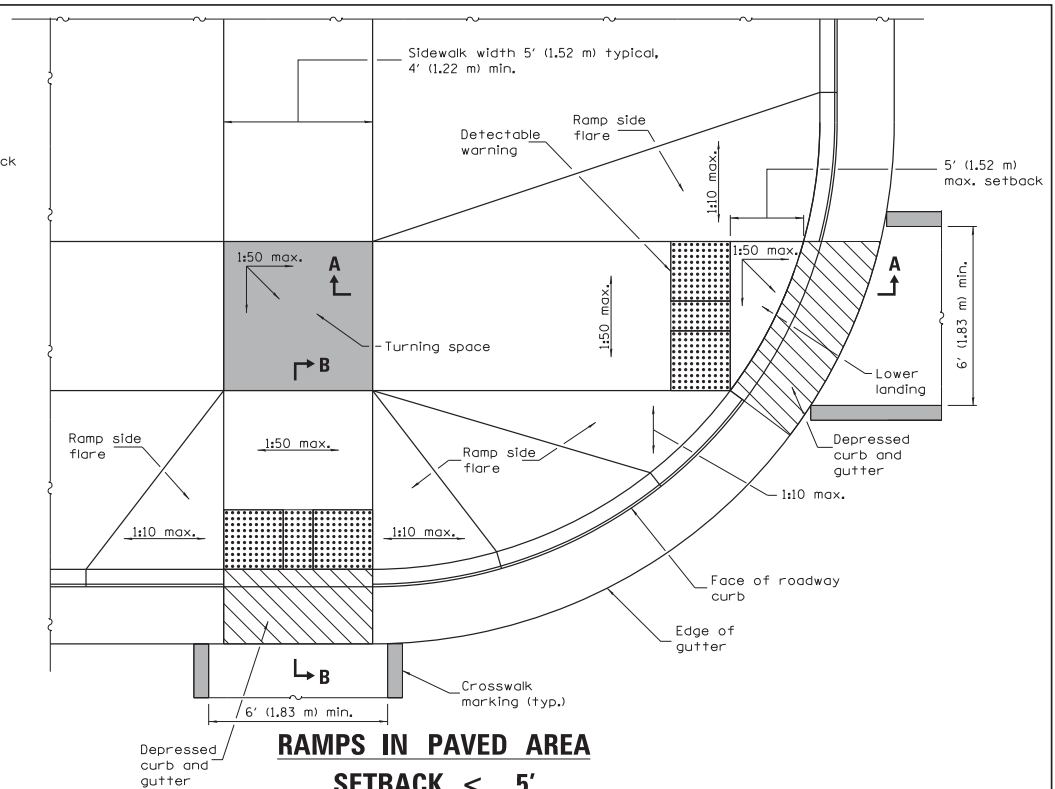
1. DIMENSION WIDTH SHALL BE 5 FEET IN RESIDENTIAL SUBDIVISIONS AND SHALL HAVE MINIMUM WIDTH OF 6 FEET IN COMMERCIAL SUBDIVISIONS
2. MINIMUM SIDEWALK THICKNESS IS 5 INCHES AND ACROSS DRIVEWAYS IS 6 INCHES
3. 4 INCH AGGREGATE BASE COURSE SHALL BE COMPACTED CA-6
4. ½ INCH PREMOULDED EXPANSION JOINTS SHALL BE PROVIDED:
 - A. | AT PROPERTY LINES
 - B. | AT SIDEWALK INTERSECTIONS
 - C. | AGAINST DRIVEWAYS, CURB AND GUTTERS, AND BUILDINGS.
 - D. | OR INTERVALS EVERY 100 LINEAR FEET
5. TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT 5 FOOT INTERVALS.
6. W 6 x 6 WELDED WIRE FABRIC SHALL BE USED THRU DRIVEWAY
7. TWO #4 REBAR 15 FEET LONG SHALL BE PROVIDED AT ALL UTILITY TRENCHES AND ANY LOCATION WITHIN 8 FEET OF A TREE CENTERED ON THE ROOT BALL
8. CONCRETE SHALL BE CLASS SI
9. FORMBOARD REQUIREMENTS: MINIMUM 2 INCHES X 6 INCHES
10. FIBER MESH CONCRETE WILL BE ALLOWED IN LIEU OF WELDED WIRE FABRIC IF APPROVED PRIOR TO POUR
11. MAXIMUM CROSS SLOPE IS 2% AND MINIMUM IS 0.5%
12. SIDEWALK TIE BARS SHALL CONSIST OF THREE 12 INCH x ½ INCH SMOOTH BARS WITH ½ INCH PLASTIC DOWEL CAPS ADJACENT TO THE EXPANSION JOINT THAT ARE 100MM LONG
12. AN IDOT APPROVED EQUAL 1600-WHITE MEMBRANE CURING COMPOUND SHALL BE USED TO PROTECT THE SIDEWALK DURING CURING
13. THE MAXIMUM LONGITUDINAL SLOPE ON A PUBLIC SIDEWALK SHALL BE 5.0%. WHERE 5.0% OR LESS LONGITUDINAL SLOPES CANNOT BE ACHIEVED, RAMPS MUST BE DESIGNED TO CONFORM TO THE STATE OF ILLINOIS ACCESSIBILITY CODE, THE ILLINOIS ENVIRONMENTAL BARRIERS ACT, AND ADA.
14. SIDEWALKS SHALL BE CONSTRUCTED IN A MANNER TO FACILITATE PROPER DRAINAGE, IN NO CASE SHALL SIDEWALK OBSTRUCT THE NECESSARY DRAINAGE OF THE SURROUNDING AREA
15. COLD WHEATER PROTECTION SHALL BE REQUIRED IF THE AMBIENT AIR TEMPERATURES DROP BELOW 32-DEGREES F AND LEFT ON UNTIL CURED

TIE BAR DETAIL

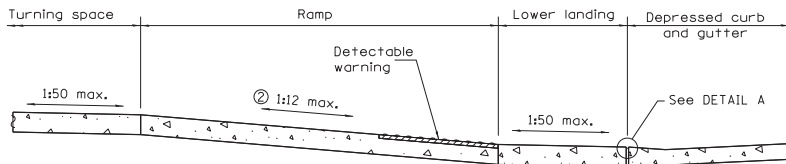




RAMPS IN LANDSCAPED AREA
SETBACK ≤ 5'

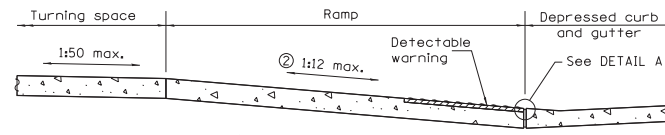


RAMPS IN PAVED AREA
SETBACK ≤ 5'



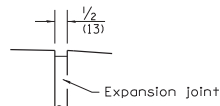
SECTION A-A

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

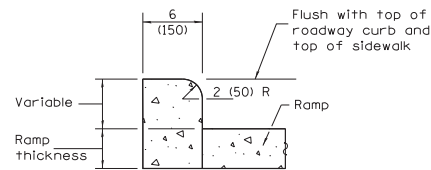


SECTION B-B

② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).



DETAIL A



SIDE CURB DETAIL

See Sheet 2 for GENERAL NOTES.

Illinois Department of Transportation

PASSED January 1, 2017

ENGINEER OF POLICY AND PROCEDURES

APPROVED January 1, 2017

ENGINEER OF DESIGN AND ENVIRONMENT

152852

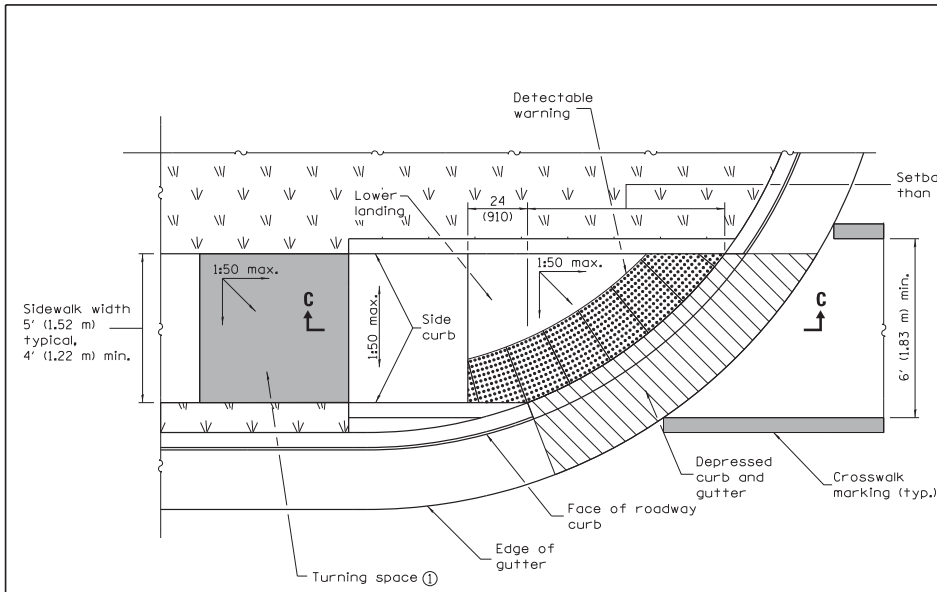
481-1-17

DATE	REVISIONS
1-1-17	Added 2' dimension to det. warnings for setbacks greater than 5'.
1-1-15	① not appl. to int. sidewalks. Rev. gen. notes. Ch'd Upper landing to Turning space.

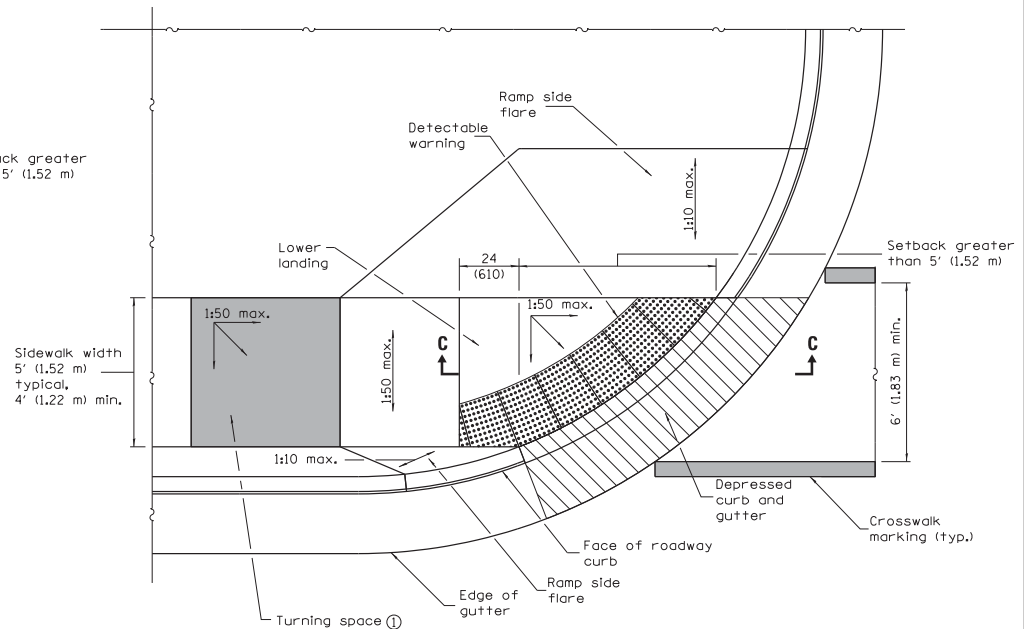
PERPENDICULAR CURB RAMPS FOR SIDEWALKS

(Sheet 1 of 2)

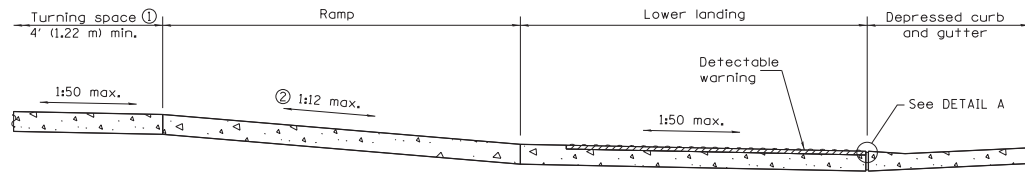
STANDARD 424001-09



**RAMP IN LANDSCAPED AREA
SETBACK > 5'**



**RAMP IN PAVED AREA
SETBACK > 5'**



SECTION C-C

- ① Turning space not required for ramp slopes flatter than 1:20.
- ② The running slope of the curb ramp shall not require the ramp length to exceed 15' (4.5 m).

GENERAL NOTES

All slope ratios are expressed as units of vertical displacement to units of horizontal displacement (V:H).

Where the turning space is constrained on a side opposite a ramp, the minimum length of the turning space in the direction of the ramp-run shall be 5' (1.52 m).

Where 1:50 maximum slope is shown, 1:64 is preferred.

See Standard 606001 for details of depressed curb adjacent to curb ramp.

All dimensions are in inches (millimeters) unless otherwise shown.

**PERPENDICULAR CURB RAMPS
FOR SIDEWALKS**

(Sheet 2 of 2)

STANDARD 424001-09

PASSED <u>January 1, 2017</u> <i>Michael Beard</i> ENGINEER OF POLICY AND PROCEDURES	1515150 48-1-1-17
APPROVED <u>January 1, 2017</u> <i>Marcus M. Bels</i> ENGINEER OF DESIGN AND ENVIRONMENT	

Village of Minooka

Construction Standards for Curb and Gutter

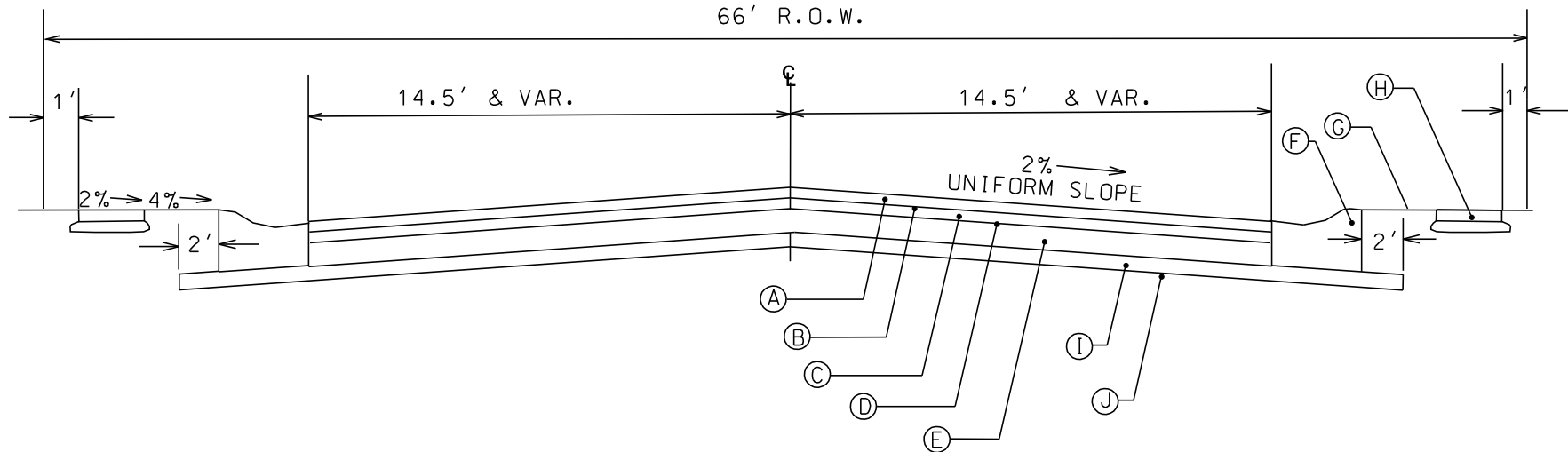
The curb shall be constructed in accordance with the requirements of the Standard Specifications for Road and Bridge Construction in Illinois, latest edition; all Federal and State statutes or regulations; Village of Minooka Subdivision Regulations; in addition, the following specifications shall apply. In case of discrepancy, the Village of Minooka Subdivision Regulations shall govern.

Concrete Curb Specifications

- Concrete Curb and Gutter shall be constructed in accordance with Section 606 of the Standard Specifications.
- Barrier curb & gutter Concrete Curb shall be Type B-6.12. Mountable curb & gutter shall be M-3.12.
- Concrete shall be class Sl.
- The base course shall be a minimum of eight inches (4") thick of compacted CA-6. The aggregate base shall be compacted in no more than four inch (4") lifts and shall be included in the price bid for concrete curb.
- Form boards are required to be a minimum dimension of 2" x 10" front boards and 2" x 12" back boards
- Two number four (#4) re-bar shall be laid continuous throughout the curb, lapping fifteen inches (15") over the other bar and wire tied together.
- Two number six ¾" x 18" long dowel bars with caps between all new and existing connections.
- The surface shall be given a final finish by a brush drawn across the curb at right angles to the edge of the curb, producing a uniform slightly roughened surface with parallel brush marks.
- A control joint shall be saw cut every fifteen feet (15'), at right angles to the front and rear edge of the curb. These cuts shall extend to one quarter (1/4) the depth of the curb and shall be no less than one eighth inch (1/8") nor more than one quarter inch (1/4") in width.
- After the control joints are cut a rubberized caulk shall be applied to each control joint.
- One three-quarter-inch (3/4") full depth expansions joints consisting of preformed joint filler shall be placed between all connections between new and existing curb and gutter.
- One half-inch (1/2") full depth expansion joints consisting of preformed joint filler shall be placed between all connections between curb and ramps.
- An IDOT APPROVED 1600-WHITE membrane curing compound shall be used to protect the curb during curing.
- Handicap sidewalk ramps shall be constructed in accordance with section 424 of the Standard Specifications. The ramp shall be Type B and shall be required where ever sidewalks or bike paths meet curb and gutter Etc., railroad crossing etc.
- Cold weather protection shall be required if the ambient air temperatures drop below 32-degrees Fahrenheit and left on until an acceptable length time to allow for curing.

TYPICAL SECTION LOCAL STREET

UP TO 1000 ADT



- (A) BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50, 1 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50, 3"
- (D) BITUMINOUS MATERIALS (PRIME COAT)
- (E) AGGREGATE BASE COURSE, TYPE B, 10"
- (F) MOUNTABLE CURB AND GUTTER, M.4-12
- (G) PARKWAY RESTORATION - SEE PARKWAY DETAIL
- (H) PCC SIDEWALK, 5", SEE DETAIL
- (I) AGGREGATE SUBBASE, TYPE B, 4"
- (J) LIME STABILIZED SUB GRADE

IN PLACE OF (A) - (E)
PORTLAND CEMENT CONCRETE PAVEMENT, 6" AND
AGGREGATE BASE COURSE, TYPE B, 4"

NOTES:

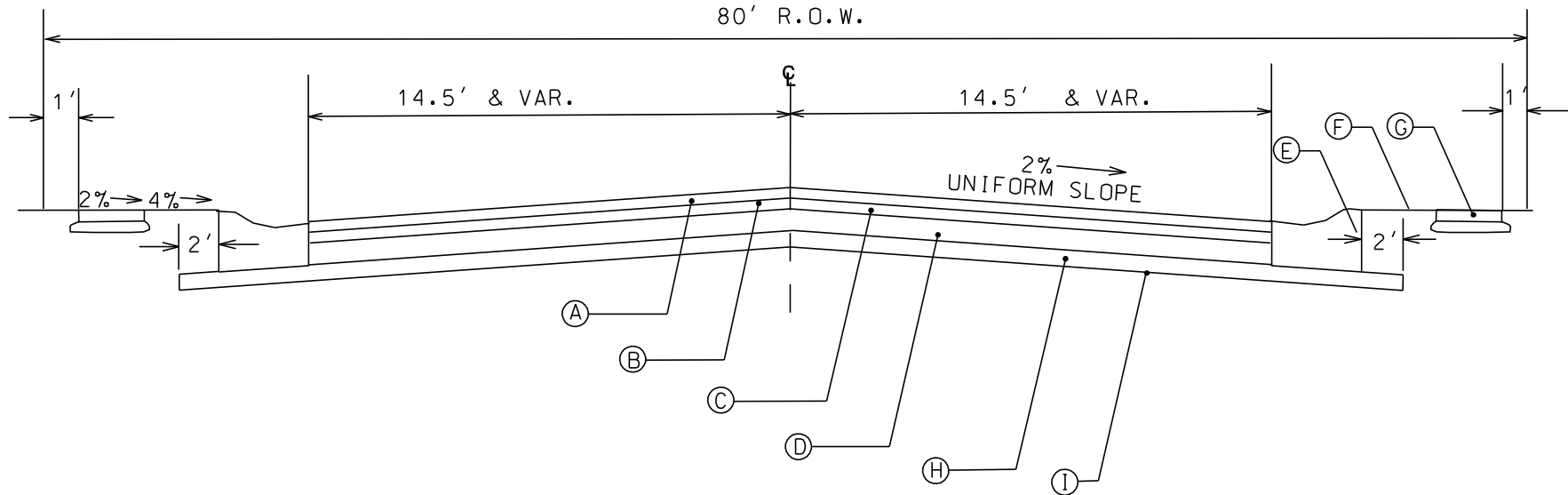
- MINIMUM D+ = 3.1
- MINIMUM SUPERPAVE N30

MINOOKA STANDARD

VERSION 1.0

TYPICAL SECTION NEIGHBORHOOD CONNECTOR

UP TO 2500 ADT



- (A) BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50, 1 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50, 3"
- (D) BITUMINOUS BASE COURSE, TYPE B, 5"
- (E) MOUNTABLE CURB AND GUTTER, M.4-12
- (F) PARKWAY RESTORATION - SEE PARKWAY DETAIL
- (G) PCC SIDEWALK, 5", SEE DETAIL
- (H) AGGREGATE SUBBASE, TYPE B, 4"
- (I) LIME STABILIZED SUB GRADE

IN PLACE OF (A) - (E)
PORTLAND CEMENT CONCRETE PAVEMENT, 6" AND
AGGREGATE BASE COURSE, TYPE B, 4"

NOTES:

- MINIMUM D+ = 3.45
- MINIMUM SUPERPAVE N50

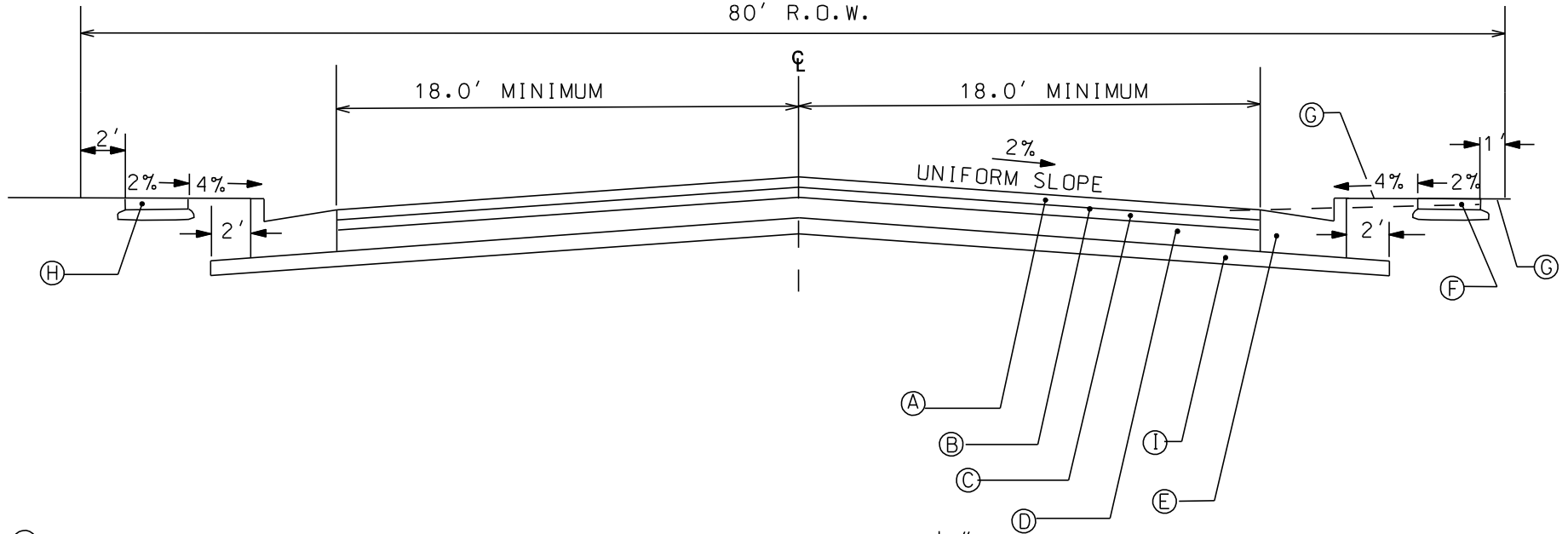
MINOOKA STANDARD

VERSION 1.0

TYPICAL SECTION MINOR COLLECTOR

5000 TO 15,000 ADT

80' R.O.W.



- (A) BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50, 1 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50, 3"
- (D) BITUMINOUS BASE COURSE, 6"
- (E) MOUNTABLE CURB AND GUTTER, B.6-12
- (F) PCC SIDEWALK, 5", SEE DETAIL
- (G) PARKWAY RESTORATION - SEE PARKWAY RESTORATION DETAIL
- (H) BITUMINOUS BIKEPATH 2", SEE DETAIL
- (I) AGGREGATE SUBBASE, TYPE B, 4"
- (J) LIME STABILIZED SUBGRADE

IN PLACE OF (A) TO (D)
PORTLAND CEMENT CONCRETE PAVEMENT, 8"
AGGREGATE BASE COURSE, TYPE B, 4"

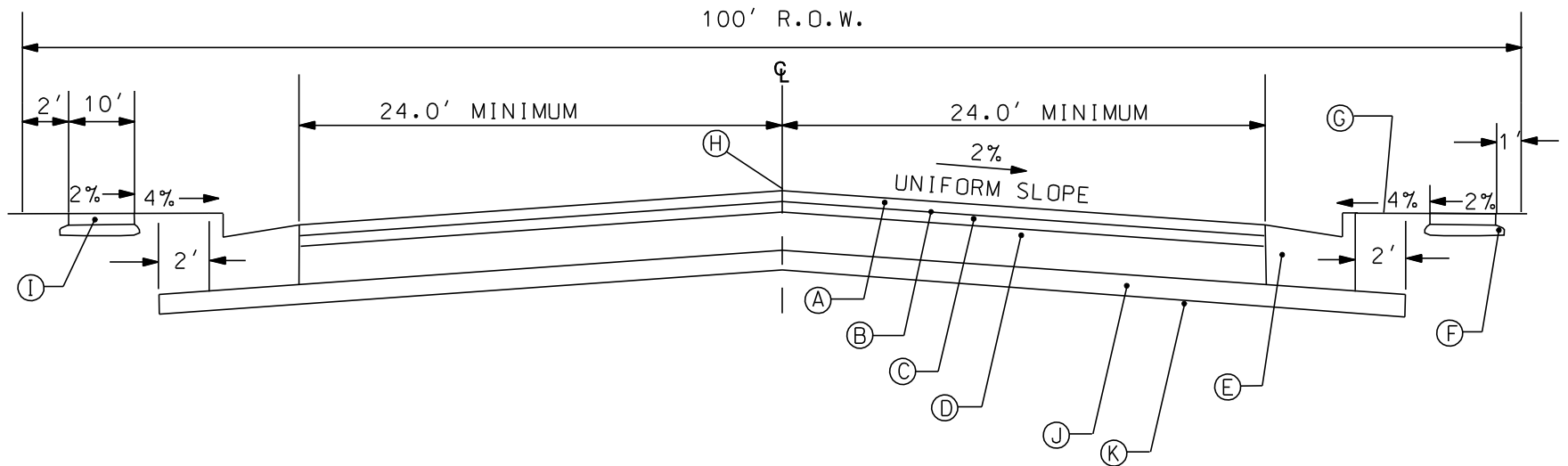
NOTES:
-MINIMUM D+ = 3.75
-MINIMUM SUPERPAVE N50

MINOOKA STANDARD

VERSION 1.0

TYPICAL SECTION MAJOR COLLECTOR

15000 - 30000 ADT



- Ⓐ BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50, 1½"
- Ⓑ BITUMINOUS MATERIALS (PRIME COAT)
- Ⓒ BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50, 3"
- Ⓓ BITUMINOUS BASE COURSE, 8"
- Ⓔ BARRIER CURB AND GUTTER, B.6-12
- Ⓕ PCC SIDEWALK, 5", SEE DETAIL
- Ⓝ PARKWAY RESTORATION
- Ⓢ STRIPING AND RAISED REFLECTIVE PAVEMENT MARKERS
- Ⓣ BITUMINOUS BIKEPATH, 2", SEE DETAIL
- Ⓝ AGGREGATE SUBBASE, TYPE B, 3½"
- Ⓞ LIME STABILIZED SUBGRADE

IN PLACE OF Ⓐ TO Ⓓ
PORTLAND CEMENT
CONCRETE PAVEMENT, 10"
AGGREGATE BASE COURSE,
TYPE B, 4"

NOTES:

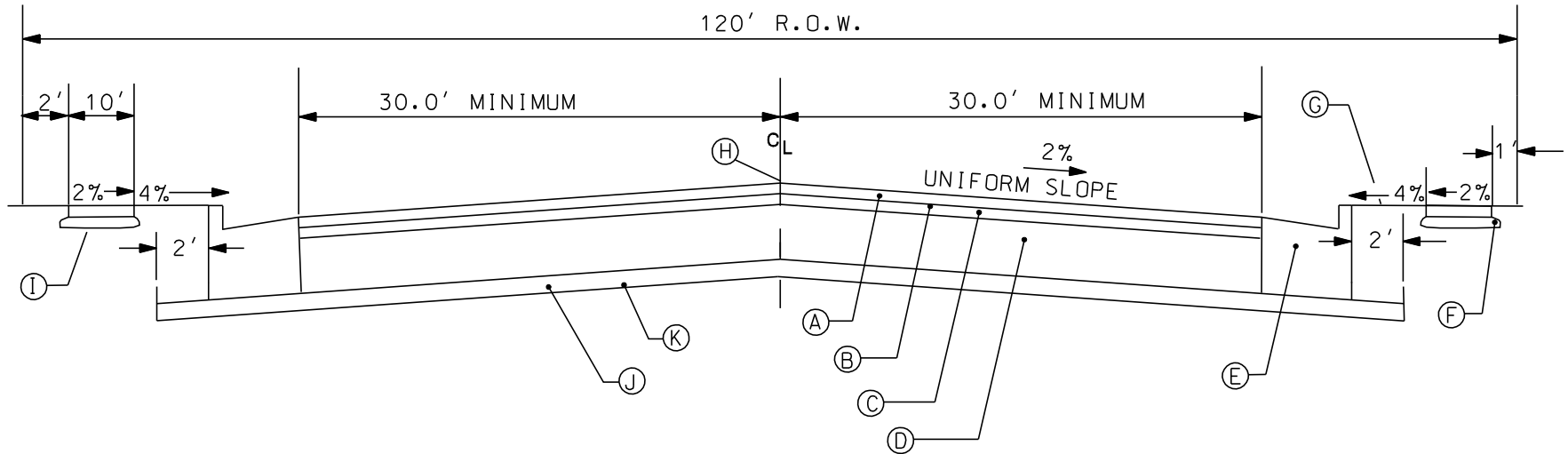
- MINIMUM D+ = 4.50
- MINIMUM SUPERPAVE N70

MINOOKA STANDARD

VERSION 1.0

TYPICAL SECTION MINOR ARTERIAL

15000 - 30000 ADT



- (A) BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX C, N50, 1 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N50, 3"
- (D) BITUMINOUS BASE COURSE, 9"
- (E) BARRIER CURB AND GUTTER, B.6-12
- (F) PCC SIDEWALK, 5", SEE DETAIL
- (G) PARKWAY RESTORATION
- (H) STRIPING AND RAISED REFLECTIVE PAVEMENT MARKERS
- (I) BIKEPATH, 2", SEE DETAIL
- (J) AGGREGATE SUBBASE, TYPE B, 5 1/2"
- (K) LIME STABILIZED SUB GRADE

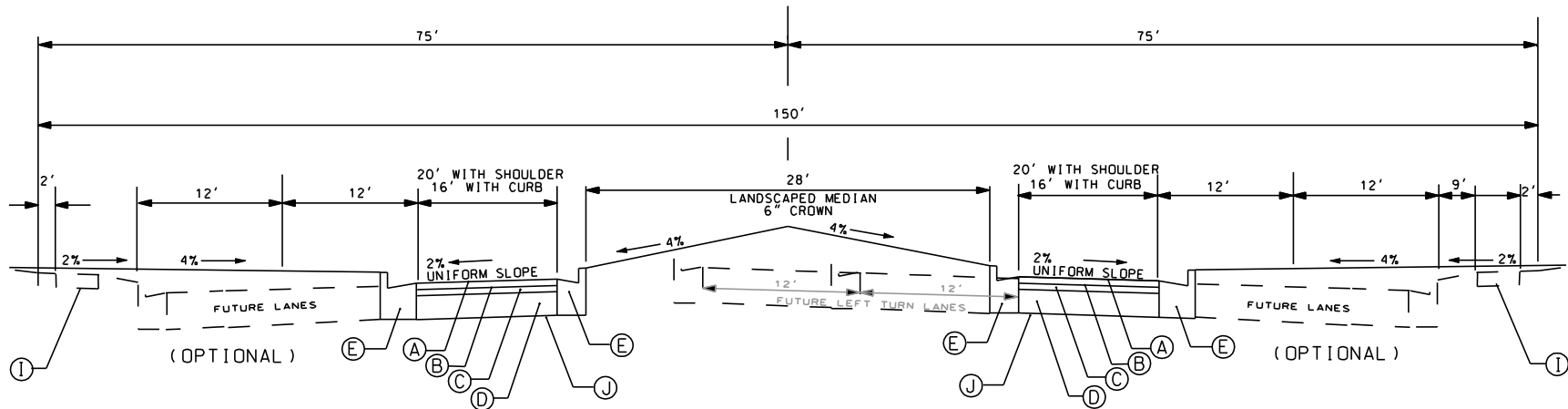
IN PLACE OF (A) TO (D)
PORTLAND CEMENT
CONCRETE PAVEMENT, 12"
AGGREGATE BASE COURSE,
TYPE B, 12"

NOTES:
-MINIMUM D+ = 4.75
-MINIMUM SUPERPAVE N70

MINOOKA STANDARD

VERSION 1.0

TYPICAL SECTION MAJOR ARTERIAL 15,000 TO 30,000 ADT



- (A) BITUMINOUS CONCRETE SURFACE COURSE, 1 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, 3"
- (D) BITUMINOUS BASE COURSE, 10"
- (E) BARRIER CURB AND GUTTER
- (F) SIDEWALK
- (G) PARKWAY RESTORATION
- (H) STRIPING
- (I) BIKEPATH
- (J) LIME STABILIZED SUB BASE

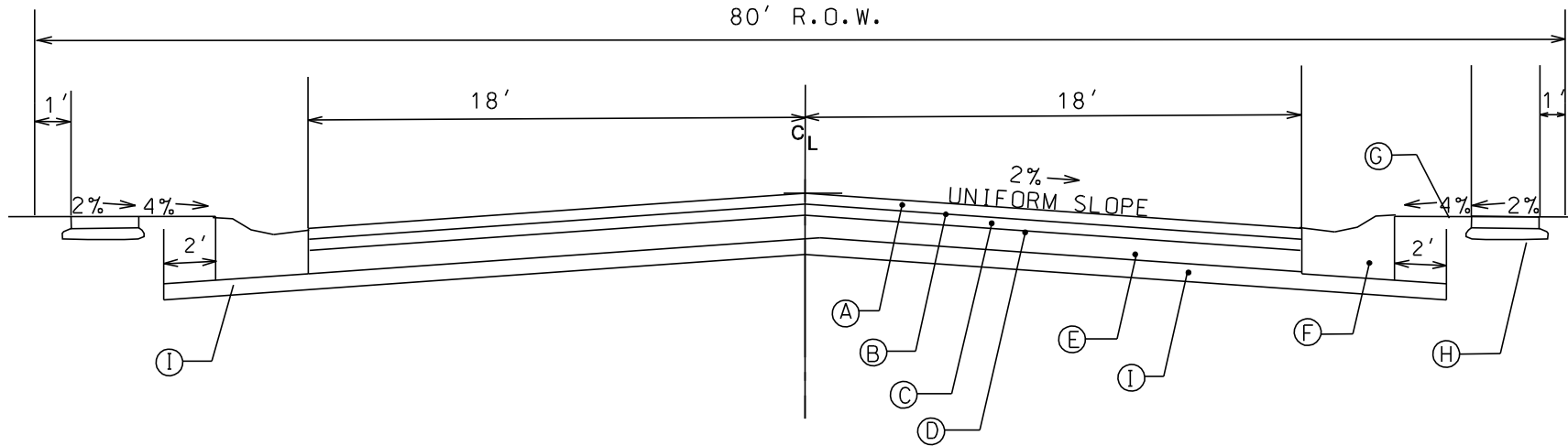
-OR-

IN PLACE OF A.) TO D.)
PORTLAND CEMENT
CONCRETE PAVEMENT 12"
AGGREGATE BASE COURSE,
TYPE B 12"

NOTES:

- MINIMUM D+ = 5.1
- MINIMUM SUPERPAVE N70

TYPICAL SECTION MULTI-FAMILY DEVELOPMENTS R-5 AND R-6 ZONING



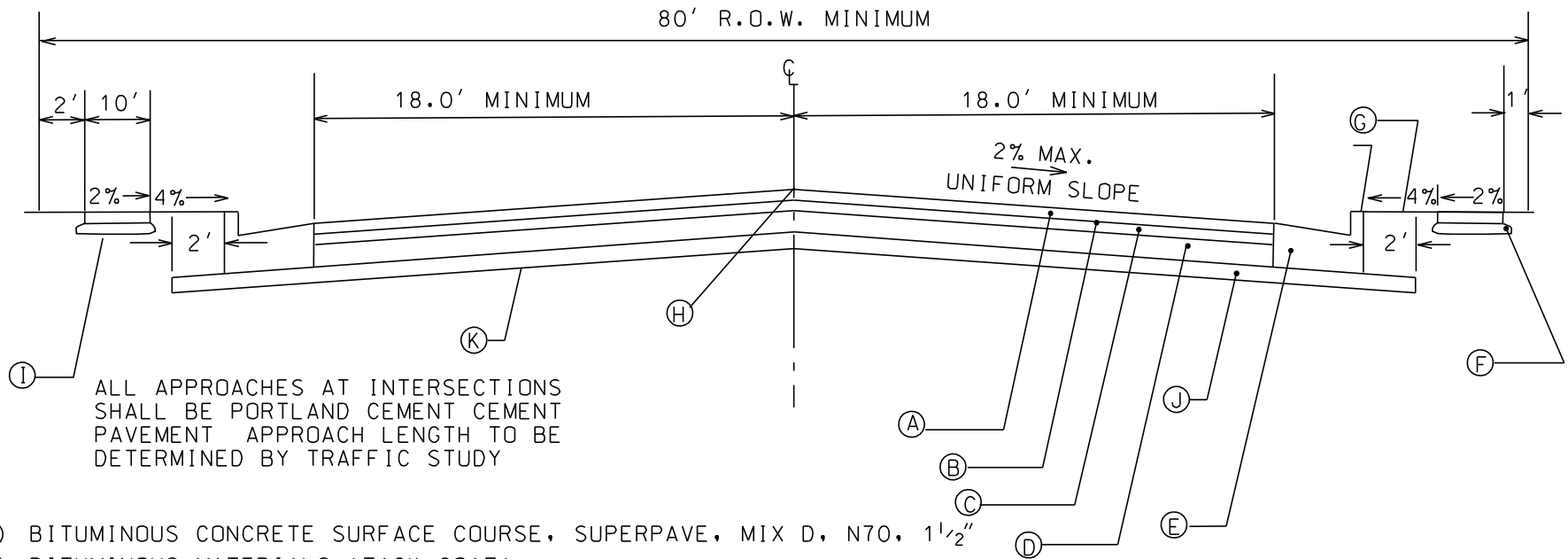
- (A) BITUMINOUS CONCRETE SURFACE COURSE, 2 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, 3 "
- (D) BITUMINOUS MATERIALS (PRIME COAT)
- (E) AGGREGATE BASE COURSE, TYPE B, 10"
- (F) MOUNTABLE CURB AND GUTTER
- (G) PARKWAY RESTORATION
- (H) SIDEWALK
- (I) AGGREGATE SUBBASE, TYPE B, 4 1/2"
- (J) LIME STABLEIZED SUBGRADE

IN PLACE OF (A) TO (E)
PORTLAND CEMENT
CONCRETE PAVEMENT, 6"
AGGREGATE BASE COURSE,
TYPE B, 4"

NOTES:

- MINIMUM D+ = 3.1
- MINIMUM SUPERPAVE N=30

TYPICAL SECTION BUSINESS, MANUFACTURING, OFFICE



ALL APPROACHES AT INTERSECTIONS SHALL BE PORTLAND CEMENT CEMENT PAVEMENT APPROACH LENGTH TO BE DETERMINED BY TRAFFIC STUDY

- (A) BITUMINOUS CONCRETE SURFACE COURSE, SUPERPAVE, MIX D, N70, 1 1/2"
- (B) BITUMINOUS MATERIALS (TACK COAT)
- (C) BITUMINOUS CONCRETE BINDER COURSE, SUPERPAVE, IL-19.0, N70, 3"
- (D) BITUMINOUS BASE COURSE, 8"
- (E) BARRIER CURB AND GUTTER, B.6-12
- (F) PCC SIDEWALK, 5", SEE DETAIL
- (G) PARKWAY RESTORATION
- (H) STRIPING
- (I) BITUMINOUS BIKEPATH, 2", SEE DETAIL
- (J) 4" AGGREGATE SUBGRADE
- (K) LIME STABILIZED SUB BASE

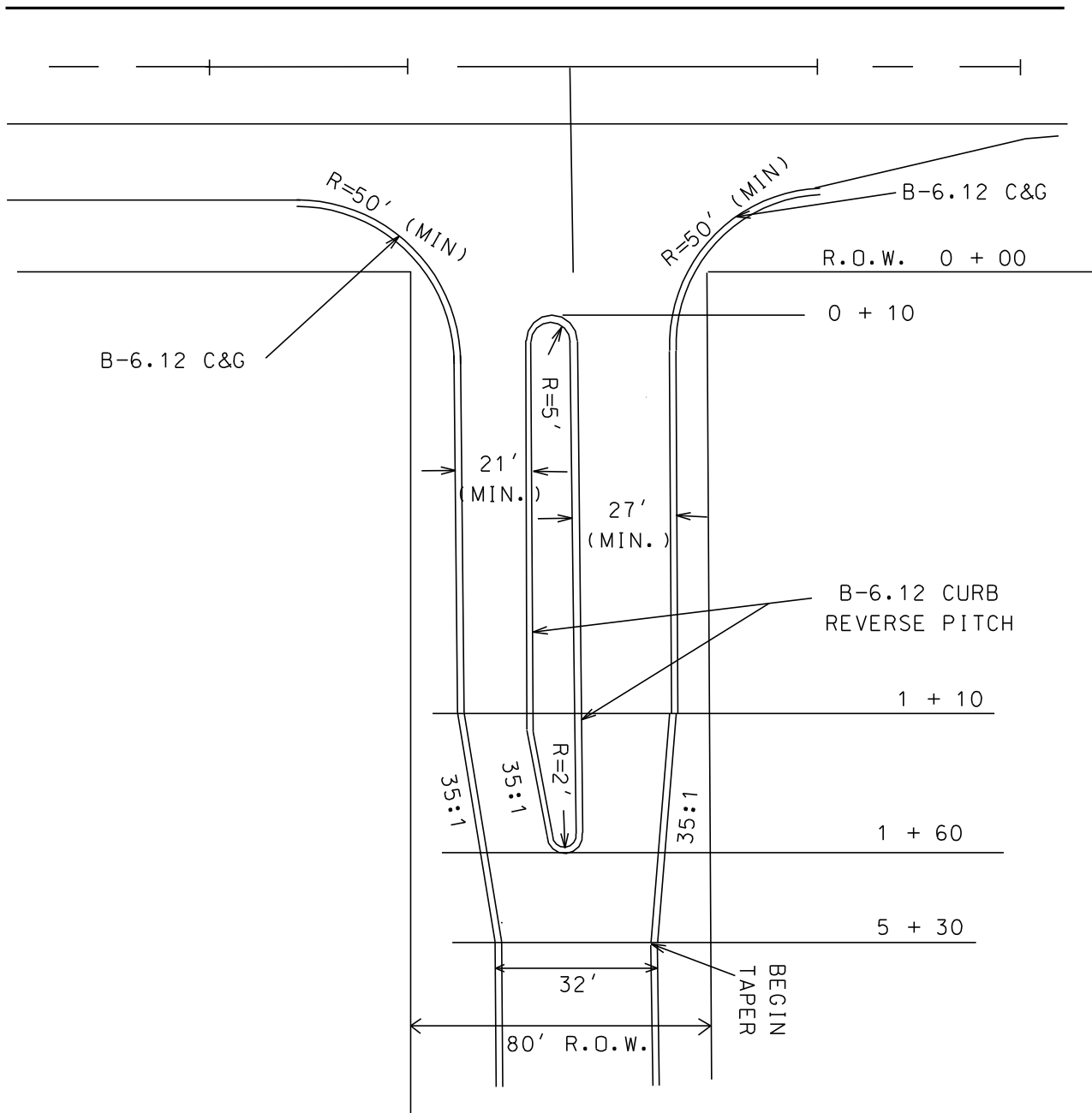
IN PLACE OF A.) TO D.)
PORTLAND CEMENT
CONCRETE PAVEMENT, 10"
AGGREGATE BASE COURSE,
TYPE B, 12"

NOTES:
-MINIMUM D+ = 4.5
-MINIMUM SUPERPAVE N=70

MINOOKA STANDARD

VERSION 1.0

BOULEVARD ENTRANCE NEIGHBORHOOD CONNECTOR

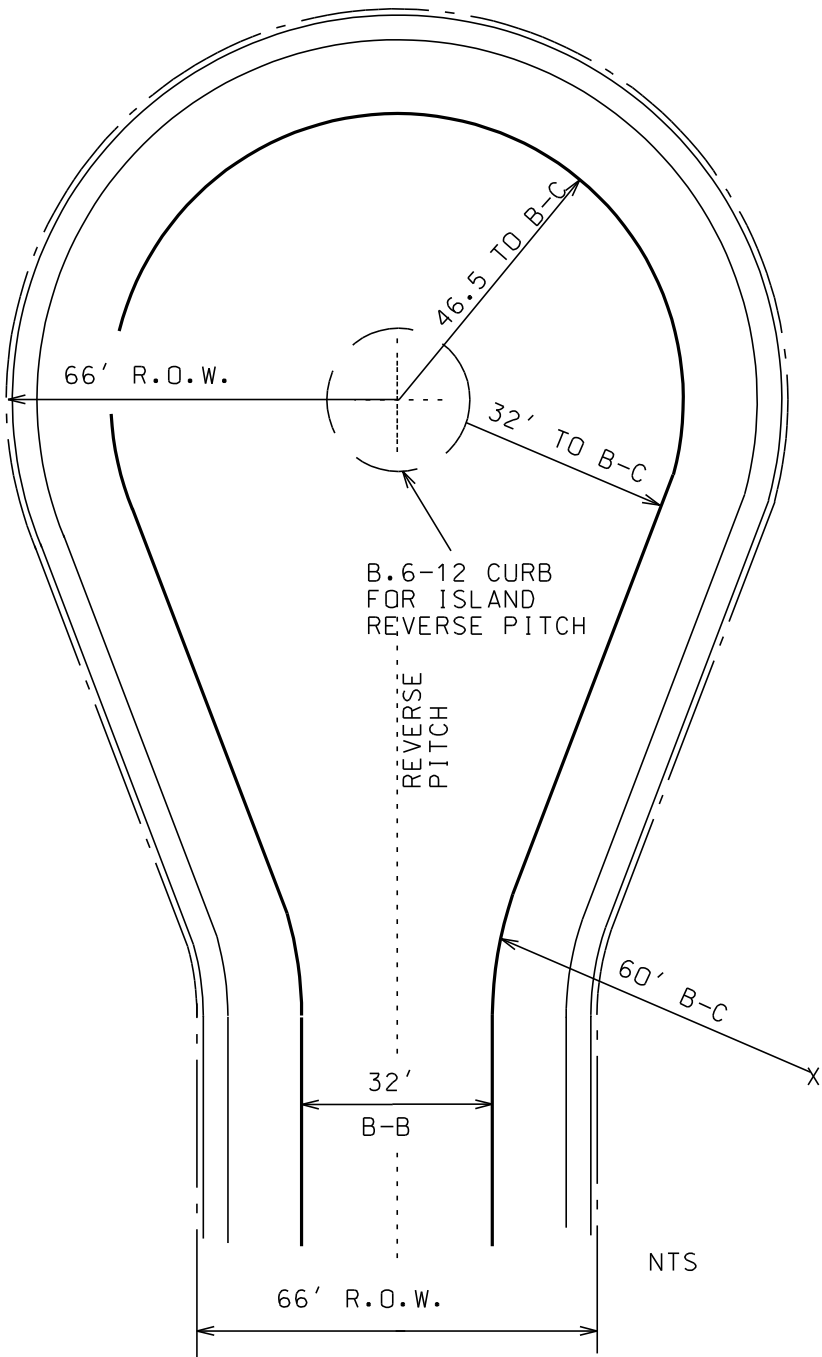


NOTE:
HORIZONTAL CURVES ARE NOT ALLOWED FROM STA 0+00 TO STA 5+30.

CUL-DE-SAC

NOTES:

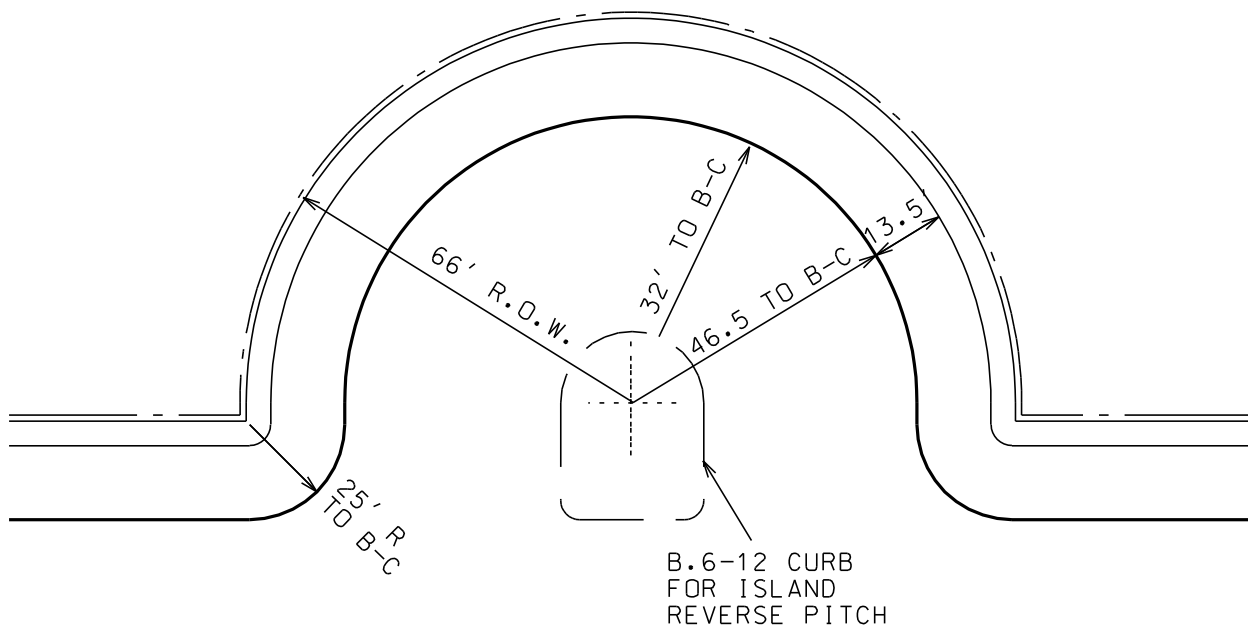
- 1.) MINIMUM PAVEMENT SLOPE 1/4" PER FT.
- 2.) MINIMUM 1.0% SLOPE ON CURB
- 3.) MAXIMUM 6.0% SLOPE ON CURB



KNUCKLE

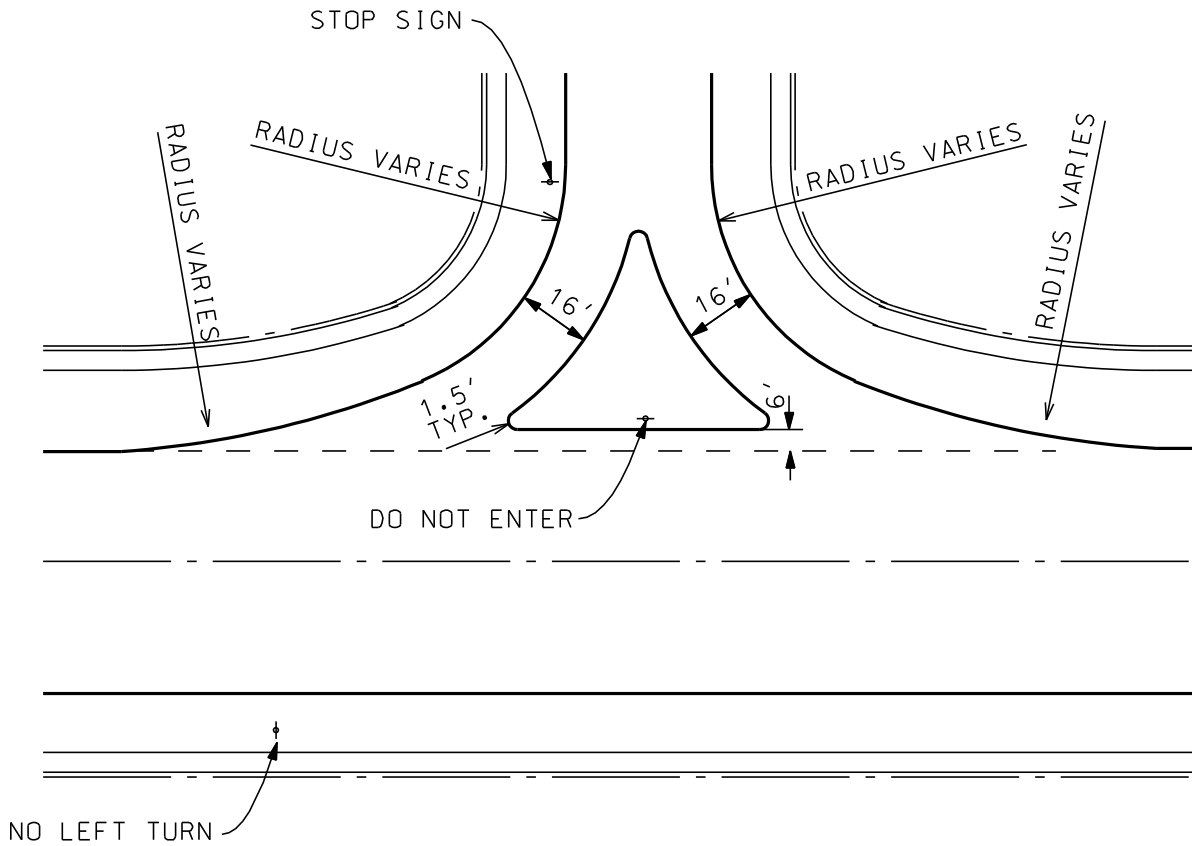
NOTES:

- 1.) MINIMUM PAVEMENT SLOPE $\frac{1}{4}$ " PER FT.
- 2.) MINIMUM 1.0% SLOPE ON CURB
- 3.) MAXIMUM 6.0% SLOPE ON CURB



NTS

RIGHT IN / RIGHT OUT

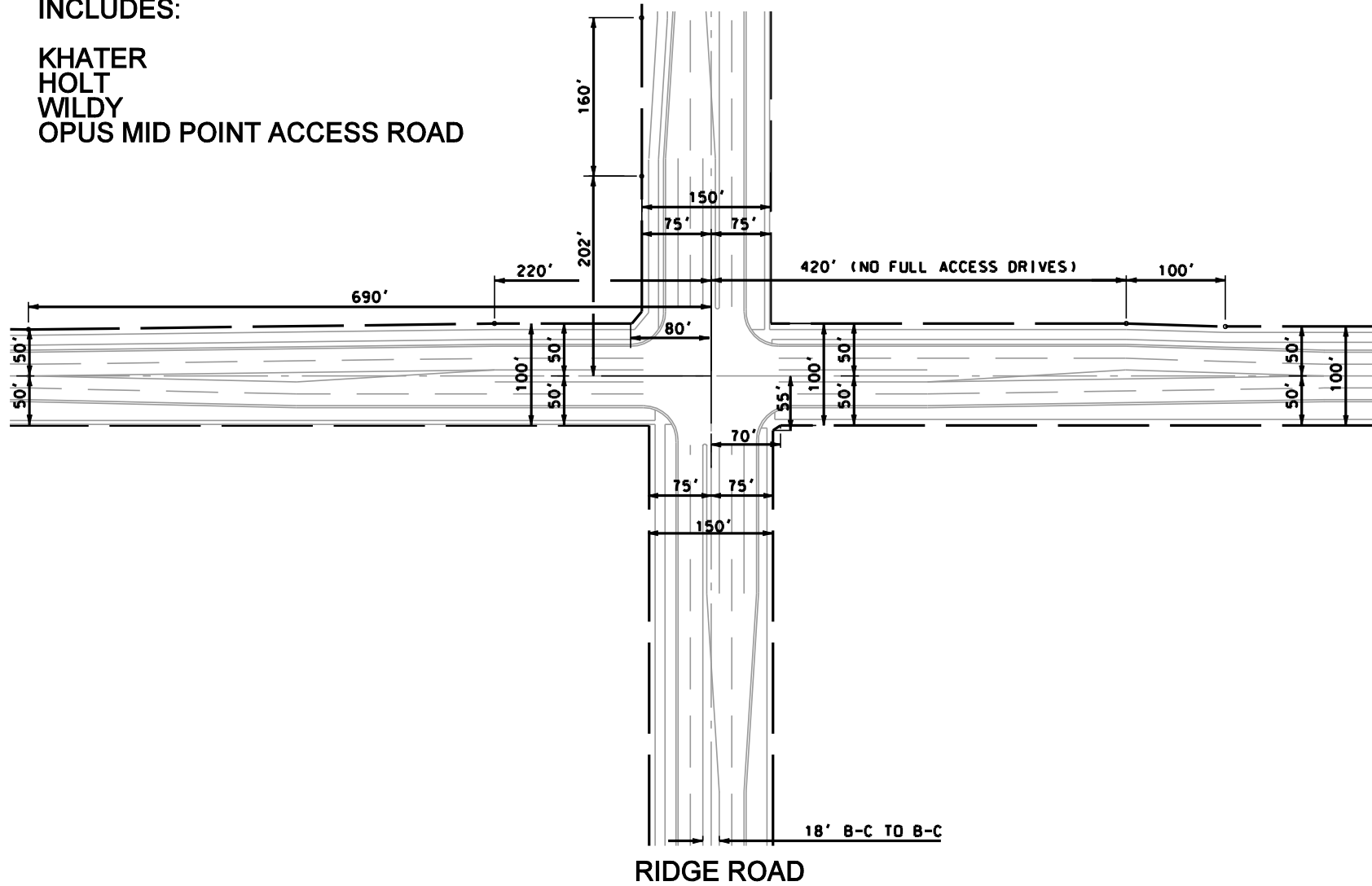


NTS

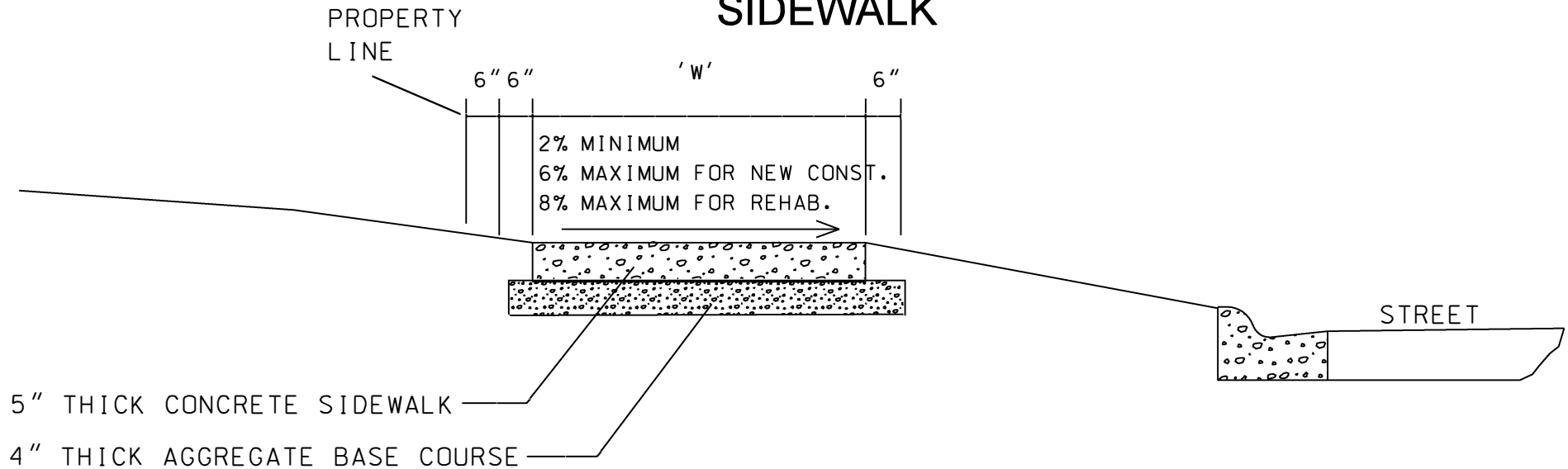
RIDGE ROAD CORRIDOR ROW REQUIREMENTS (WIKADUKE)

INCLUDES:

KHATER
HOLT
WILDY
OPUS MID POINT ACCESS ROAD



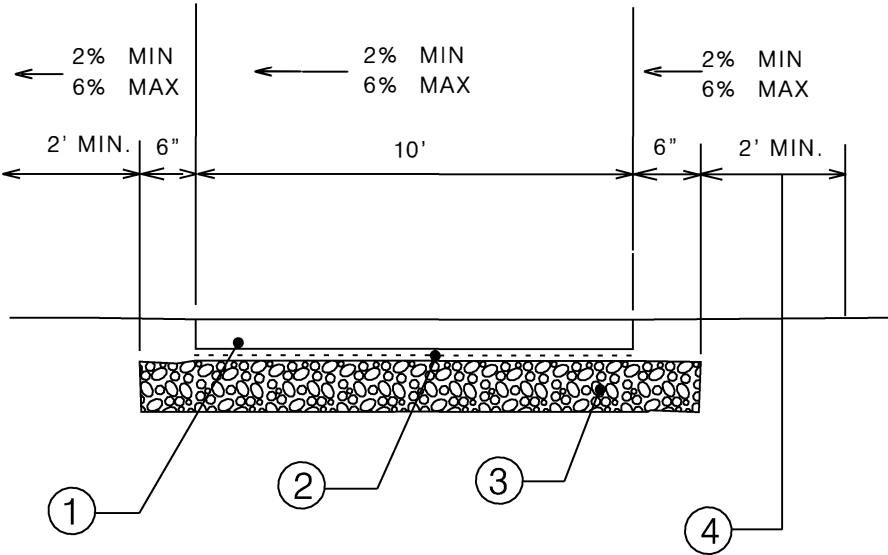
SIDEWALK



NOTES:

1. DIMENSION 'W' SHALL BE 5' IN RESIDENTIAL ZONING AND 6' IN BUSINESS ZONING.
2. MINIMUM SIDEWALK THICKNESS IS 5 INCHES AND ACROSS DRIVEWAYS IS 6 INCHES
3. AGGREGATE BASE COURSE SHALL BE CA-6.
4. PREMOULDED EXPANSION JOINTS SHALL BE PROVIDED:
 - A.) AT PROPERTY LINES
 - B.) AT SIDEWALK INTERSECTIONS;
 - C.) AGAINST DRIVEWAYS, CURB AND GUTTERS, AND BUILDINGS.
5. TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT 5' INTERVALS.
6. WELDED WIRE FABRIC SHALL BE USED THRU DRIVEWAY.
7. TWO #4 REBAR 15' LONG SHALL BE PROVIDED AT ALL UTILITY TRENCHES AND AREAS WITHIN 8 FEET OF A TREE.
8. CONCRETE SHALL BE CLASS SI.
9. FORMBOARD REQUIREMENTS: MINIMUM 2" X 6".
10. FIBER MESH CONCRETE WILL BE ALLOWED IN LIEU OF WELDED WIRE FABRIC IF APPROVED PRIOR TO POUR.

BIKEPATH



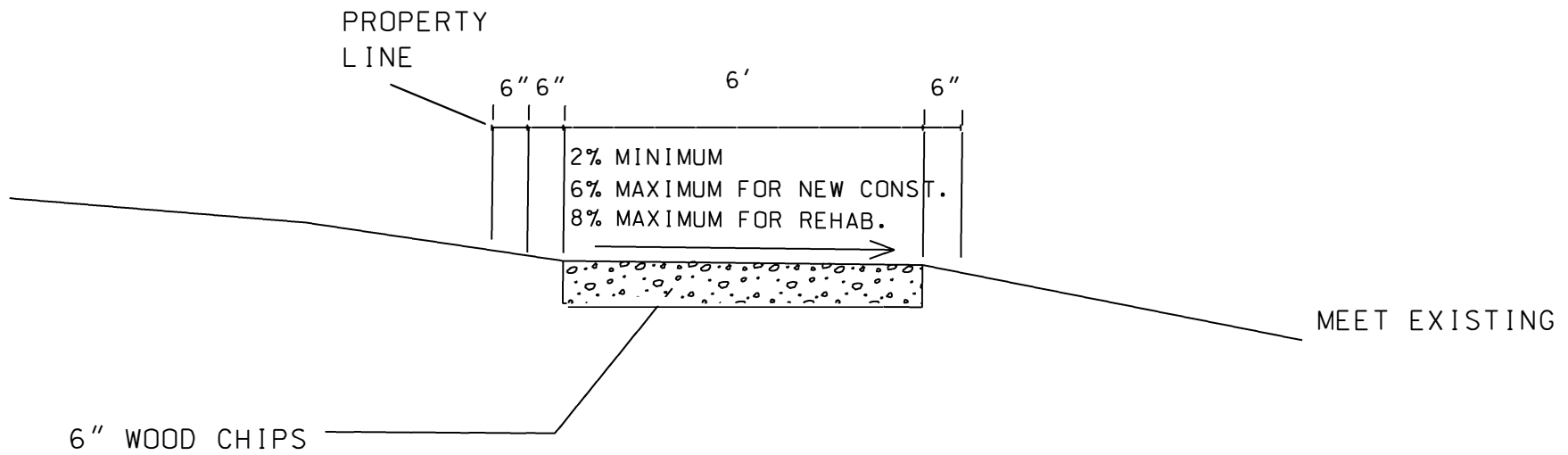
- ① BITUMINOUS CONCRETE SURFACE COURSE, 3"
- ② BITUMINOUS MATERIALS (PRIME COAT)
- ③ AGGREGATE BASE COURSE, TYPE B, 8" (CM-6)
- ④ CLEAR ZONE FREE FROM OBSTRUCTIONS

* PORTLAND CEMENT
CONCRETE SIDEWALK, 5"
AND
AGGREGATE BASE
COURSE, TYPE B, 4"

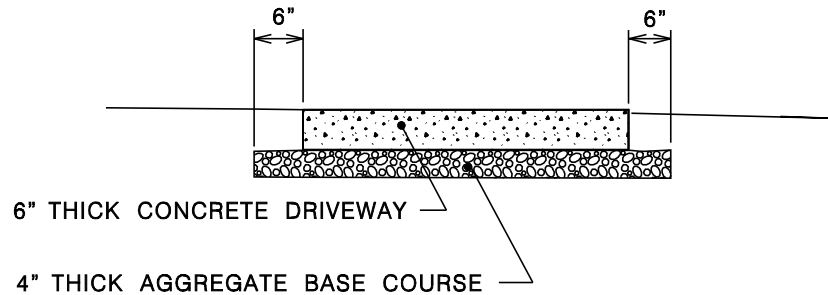
* FIBERMESH CONCRETE MAY BE
ALLOWED IF APPROVED BEFORE POUR.

MINOOKA STANDARD

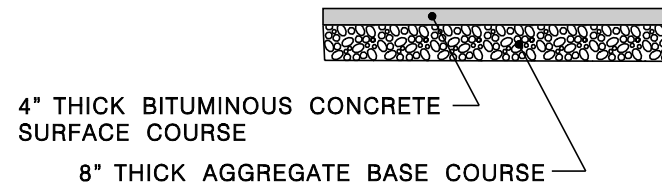
WALK PATH



DRIVEWAY

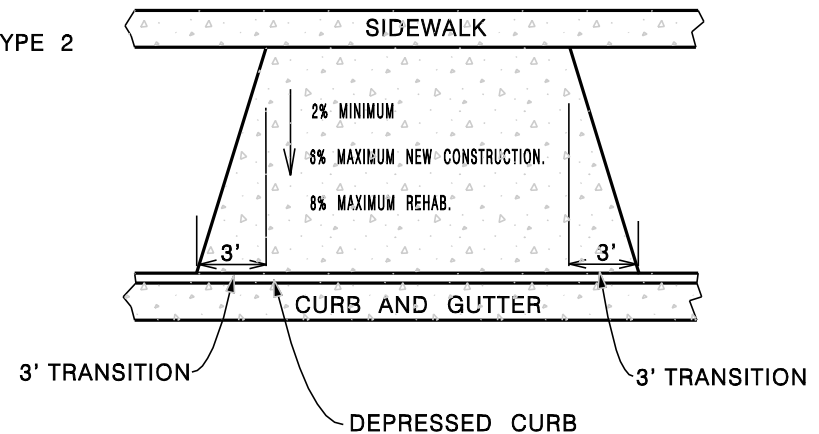


- OR -

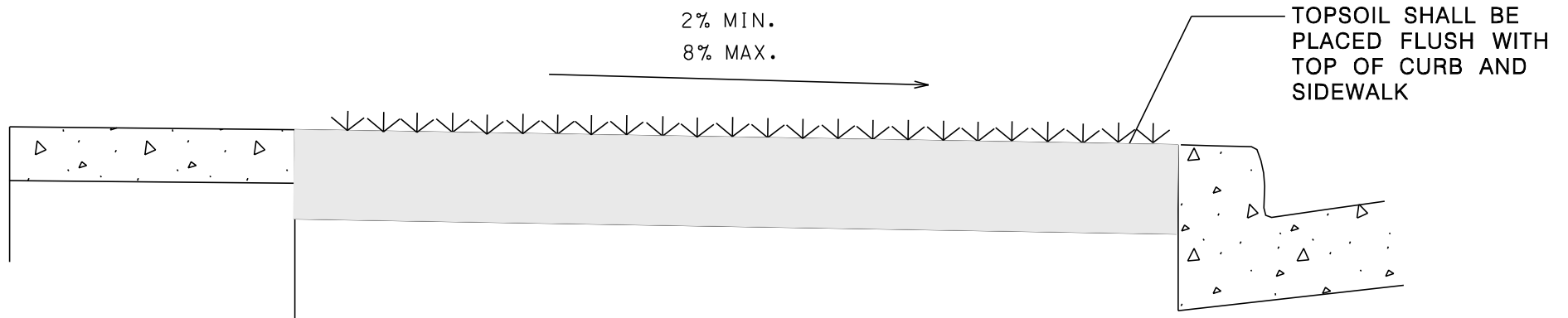


NOTES:

- 1.) CONCRETE SHALL BE CLASS "SI."
- 2.) BITUMINOUS SURFACE COURSE SHALL BE MIX C, CLASS I, TYPE 2
- 3.) AGGREGATE BASE COURSE SHALL BE CM-6.
- 4.) CASTINGS SHALL NOT BE CAST INTO DRIVEWAY.
CASTINGS SHALL BE RELOCATED OUT OF DRIVEWAY BEFORE THE DRIVEWAY IS POURED.
- 5.) PREMOULDED EXPANSION JOINTS SHALL BE PROVIDED AGAINST SIDEWALK AND CURB AND GUTTERS.
- 6.) BARRIER CURB AND GUTTER SHALL BE DEPRESSED AT DRIVEWAYS. BARRIER CURB AND GUTTER SHALL BE DEPRESSED AT DRIVEWAYS. A 3' TRANSITION FROM FULL BARRIER TO FULL DEPRESSION SHALL BE PROVIDED ON EACH SIDE OF THE DRIVEWAY.
- 7.) MOUNTABLE CURB SHALL NOT BE CUT TO ACCOMMODATE DRIVEWAY.
- 8.) 6 X 6, 10 X 10 WELDED WIRE FABRIC SHALL BE USED IN DRIVEWAY.
- 9.) FIBER MESH WILL BE ALLOWED IF APPROVED PRIOR TO POUR



PARKWAY RESTORATION



FURNISHING AND PLACING TOPSOIL, 4";
SODDING; AND FERTILIZER @ 180 LBS/ACRE @ 5:3:2 RATIO

-OR-

FURNISHING AND PLACING TOPSOIL, 4"
SEEDING CLASS I
FERTILIZER @ 270 LBS/ACRE @ 1:1:1 RATIO
MULCH OR EROSION CONTROL BLANKET

RESTORATION WILL NOT BE ACCEPTED BY THE VILLAGE
UNTIL AN ACCEPTABLE STAND OF GRASS IS ATTAINED.
FURNISHING AND PLACING TOPSOIL, SEEDING, FERTIIZING,
AND MULCHING MORE THAN ONCE TO ATTAIN AN
ACCEPTABLE STAND OF GRASS MAY BE REQUIRED

MINOOKA STANDARD

VERSION 1.0

PAVEMENT MARKINGS

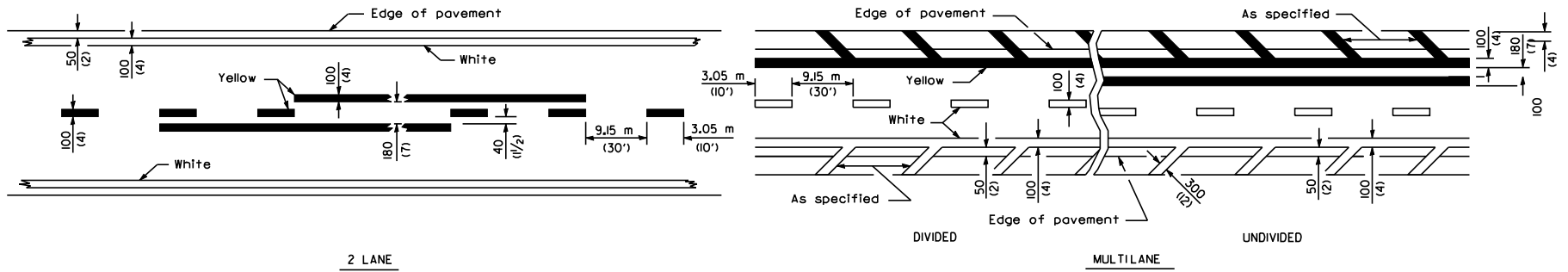
Roads above 25 mph shall be grooved for recessed markings and outlined with contrast tape for concrete roads and any road with speeds greater than 35 mph.

Crosswalks:

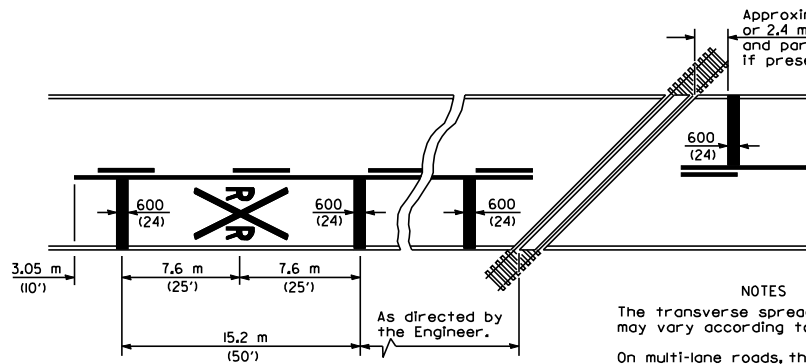
Above 25 mph or near school (at controlled intersection) - Ladder crosswalk with 12" bars and 6" border
 25 mph (at controlled intersection) - 2 @ 6" solid white lines (minimum 6' apart)
 All speeds (non-controlled intersection (not near school)) - no crosswalk
 Bike path crossing (non-controlled intersection) - 12" bars and no border with singage

TYPE OF MARKING	WIDTH OF LINE	PATTERN	COLOR	SPACING/REMARKS
CENTER LINE ON 2 - LANE PAVEMENT	6"	SKIP-DASH	YELLOW	10' DASH WITH 30' SPACE BETWEEN
NO PASSING ZONE LINES				
FOR ONE DIRECTION	6"	SOLID	YELLOW	5 1/2" C/C FROM SKIP-DASH CENTERLINE
FOR BOTH DIRECTIONS	2 @ 6"	SOLID	YELLOW	11" C/C (OMIT SKIP-DASH CENTERLINE BETWEEN)
CENTERLINE ON MULTILANE UNDIVIDED	2 @ 6"	SOLID	YELLOW	11" C/C
LANE LINES	6"	SKIP-DASH	WHITE	10' DASH WITH 30' SPACE BETWEEN
DOTTED LINES (EXTENSION OF CENTER OR LANE LINES)	SAME AS LINE BEING EXTENDED	SKIP-DASH	SAME AS LINE BEING EXTENDED	2' DASH WITH 6' SPACE BETWEEN
EDGE LINES	6"	SOLID	WHITE - RIGHT YELLOW - LEFT	OUTLINE RUMBLE & MOUNTABLE MEDIANS IN YELLOW
TURN LANE MARKINGS	8" LANE LINE, FULL SIZE LETTERS (8') & SYMBOLS	SOLID	WHITE	SEE TYPICAL MARKING PLAN. ARROW = 15.6 SQ. FT. "ONLY" = 20.8 SQ. FT.
TWO WAY LEFT TURN MARKING	2 @ 6" EACH DIRECTION 8' LEFT ARROW	SKIP-DASH AND SOLID IN PAIRS	YELLOW WHITE	10' DASH WITH 30' SPACE BETWEEN FOR SKIP-DASH. 5 1/2" C/C BETWEEN SKIP-DASH AND SOLID LINE. OPPOSING ARROWS 8' APART @ 200'-300' SPACING. SEE TYPICAL MARKING PLAN.
CROSSWALK LINES	2 @ 6"	SOLID	WHITE	NOT LESS THAN 6' APART (FOR PED.X-ING).
A. DIAGONALS	12" @ 45	SOLID	WHITE	2' APART (FOR BIKE & EQUESTRIAN X-ING).
B. LONGITUDINAL LINES (BARS)	12" @ 90	SOLID	WHITE	2' APART (FOR SCHOOL X-ING).
STOP LINES	24"	SOLID	WHITE	PLACE 4' IN ADVANCE OF AND PARALLEL TO CROSS WALK, IF PRESENT. OTHERWISE, PLACE AT DESIRED STOPPING POINT.
PAINTED MEDIAN ISLANDS SEE SPECIAL SPACING FOR MEDIANS OF LESS THAN 150' IN LENGTH	2 @ 6" WITH 12" DIAGONALS @ 45. NO DIAGONALS USED FOR 4' WIDE MEDIAN.	SOLID	YELLOW-2 WAY TRAFFIC WHITE-1 WAY TRAFFIC	11" C/C FOR THE DOUBLE LINE. DIAGONALS 50' C/C (LESS THAN 30 MPH). 75' C/C (30 TO 45 MPH). 150' C/C (OVER 45 MPH).
GORE MARKING AND CHANNELIZING LINES	8" WITH 12" DIAGONALS @ 45	SOLID	WHITE	DIAGONALS 15' C/C (LESS THAN 30 MPH) 20' C/C (30 TO 45 MPH) 30' C/C (OVER 45 MPH)
SHOULDER DIAGONALS	12" @ 45	SOLID	WHITE - RIGHT YELLOW - LEFT	50' C/C (LESS THAN 30 MPH) 75' C/C (30 TO 45 MPH) 150' C/C (OVER 45 MPH)
R.R. CROSSING	24" TRANSVERSE LINES RR IS 6' LETTER 16" LINE FOR "X"	SOLID	WHITE	"R" - 3.6 SQ.FT. EACH "X" = 54.0 SQ.FT.

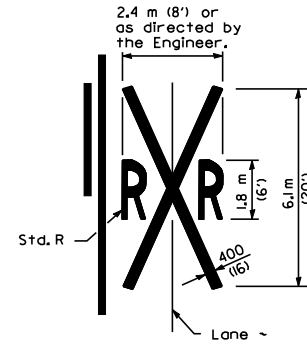
TYPICAL PAVEMENT MARKINGS



LANE AND EDGE LINES



PAVEMENT MARKINGS AT
RAILROAD-HIGHWAY GRADE CROSSING



NOTES

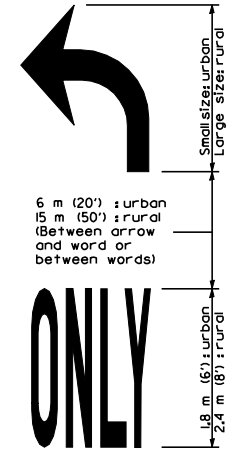
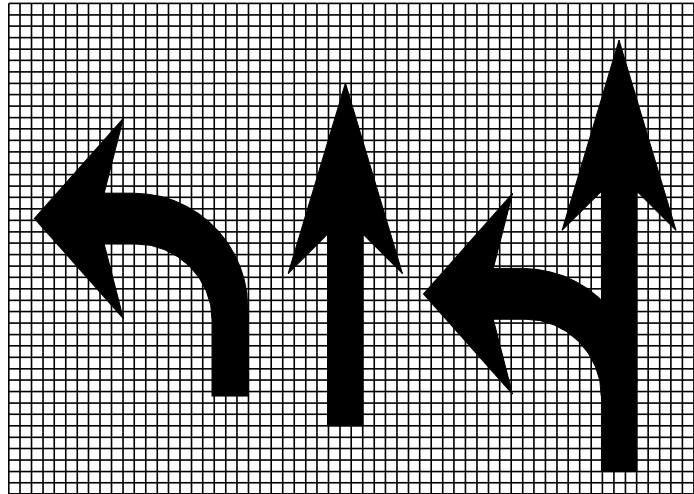
The transverse spread of the "X" may vary according to lane width.

On multi-lane roads, the stop lines shall extend across all approach lanes and separate RXR symbols shall be placed adjacent to each other in each lane.

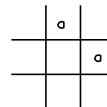
When the pavement marking symbol is used, a portion of the symbol should be located directly adjacent to the Advance Warning Sign (W10-1) as placed by Table II-I, condition B of the MUTCD.

All dimensions are in millimeters (Inches) unless otherwise shown.

TYPICAL PAVEMENT MARKINGS



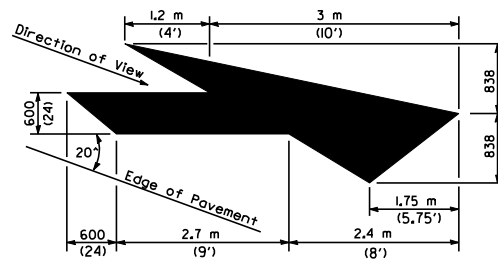
WORD AND ARROW LAYOUT



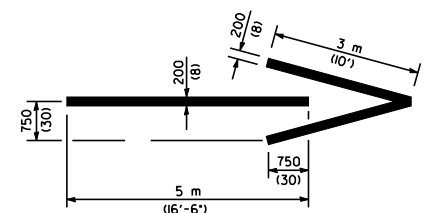
Legend Height	Arrow Size	a
1.8 m (6')	Small	74 (2.9)
2.4 m (8')	Large	96 (3.8)

The space between adjacent letters or numerals should be approximately 75 (3) for 1.8 m (6') legend and 100 (4') for 2.4 m (8') legend.

LETTER AND ARROW GRID SCALE



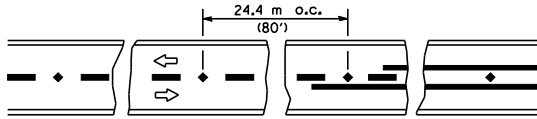
LANE DROP ARROW
Right lane drop arrow shown.
Use mirror image for left lane.



WRONG WAY ARROW

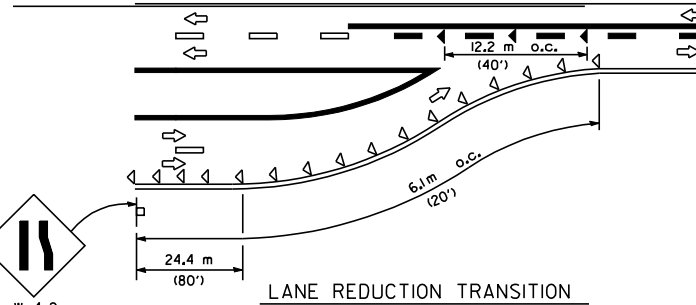
All dimensions are in millimeters (inches) unless otherwise shown.

RAISED REFLECTIVE PAVEMENT MARKERS

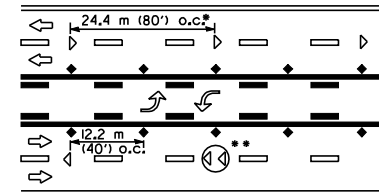


Reduce to 12.2 m (40') o.c. on curves with posted or advisory speeds of 70 km/h (45 mph) or less.

TWO-LANE / TWO-WAY

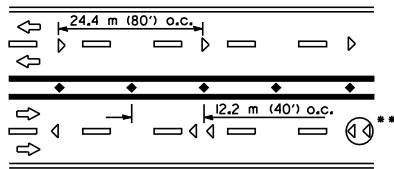


LANE REDUCTION TRANSITION



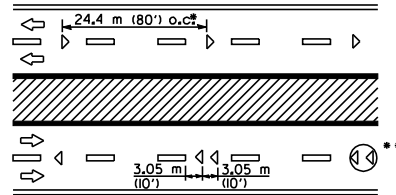
*** See MULTILANE DIVIDED detail for lane marker notes.

TWO-WAY LEFT TURN



*** See MULTILANE DIVIDED detail for lane marker notes.

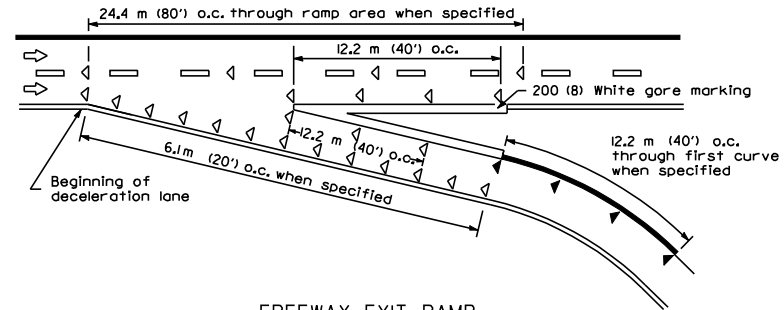
MULTI-LANE UNDIVIDED



* Reduce to 12.2 m (40') o.c. on curves where advisory speeds are 15 km/h (10 mph) lower than posted speeds.

** Where double lane line markers are specified, they shall be spaced as shown.

MULTI-LANE DIVIDED

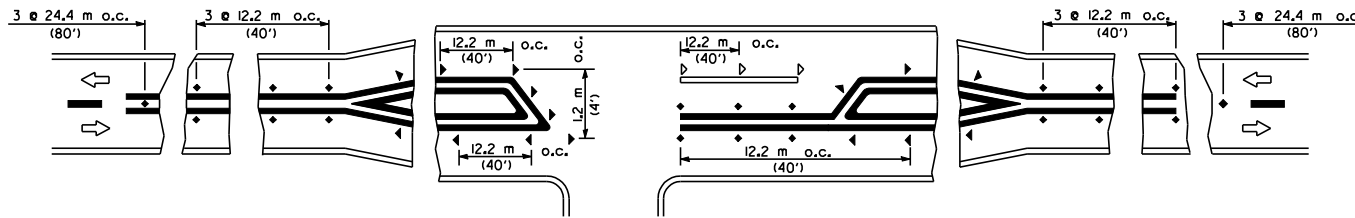


FREEWAY EXIT RAMP

SYMBOLS

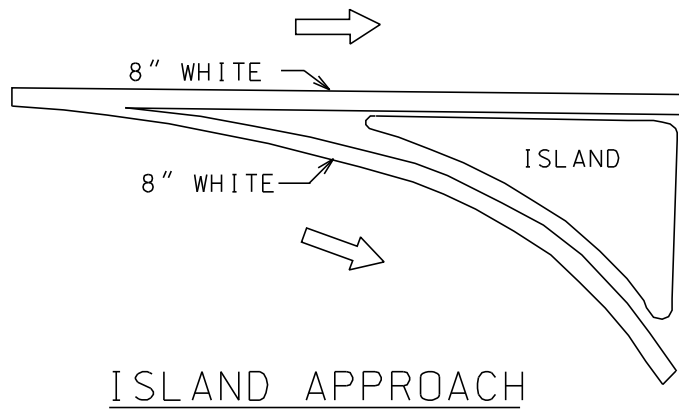
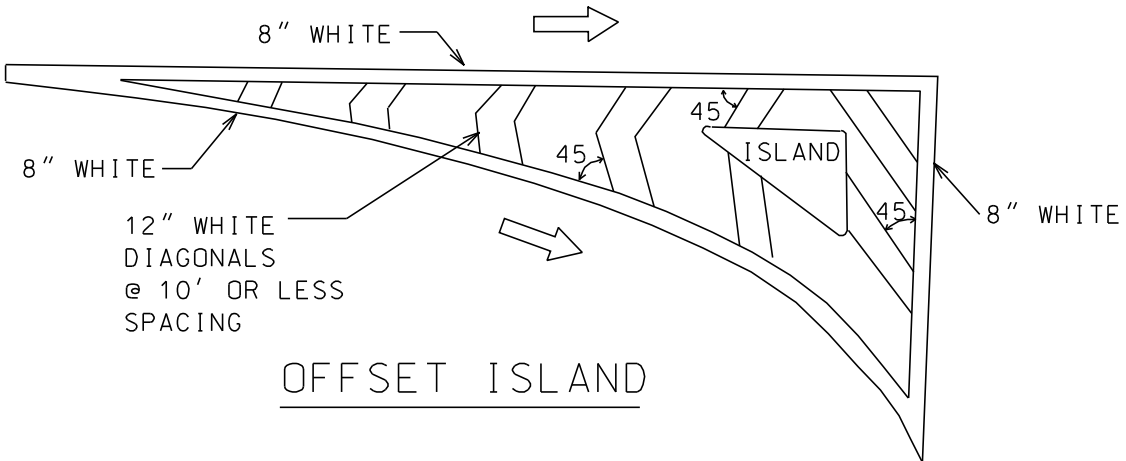
- Yellow stripe
- White stripe
- ▶ One-way amber marker
- ▷ One-way crystal marker
- ◆ Two-way amber marker

All dimensions are in millimeters (inches) unless otherwise shown.

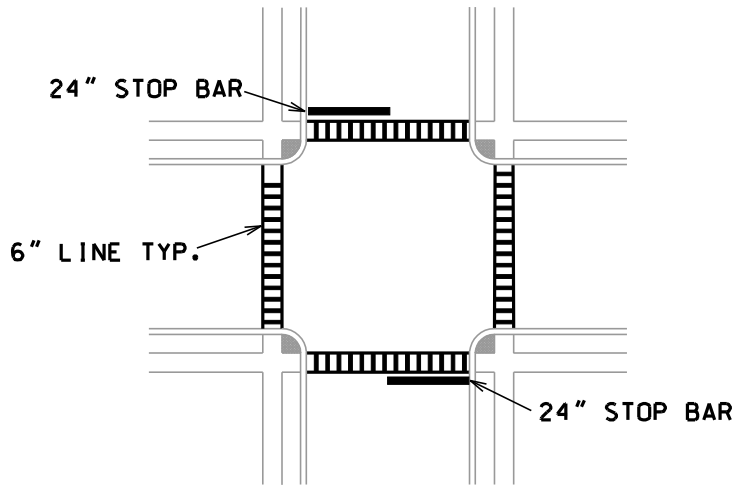


RURAL LEFT TURN

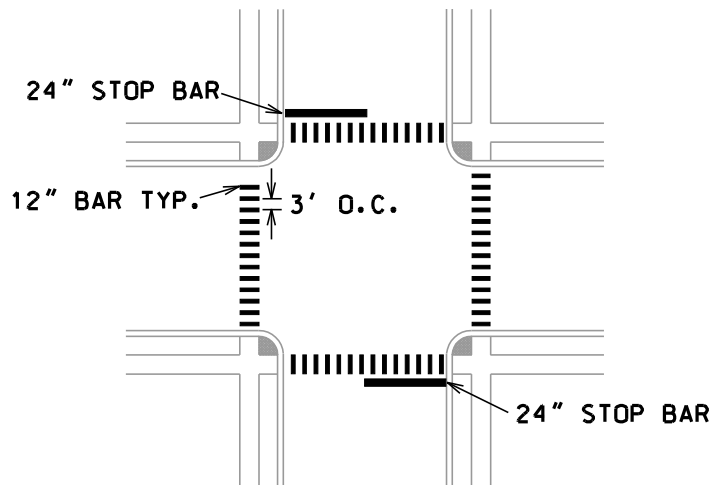
TYPICAL PAVEMENT MARKINGS FOR ISLANDS



CROSSWALK STRIPING

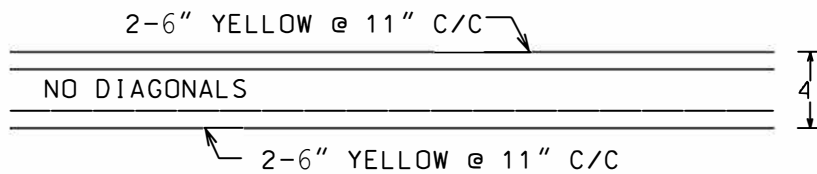


OPTIONAL CROSSWALK MARKINGS BY SCHOOLS

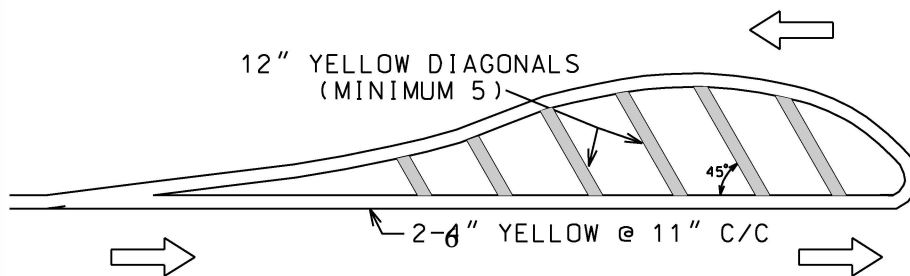


TYPICAL PAVEMENT MARKINGS FOR MEDIANS

PAINTED MEDIAN 4' WIDE



PAINTED MEDIAN OVER 4' WIDE

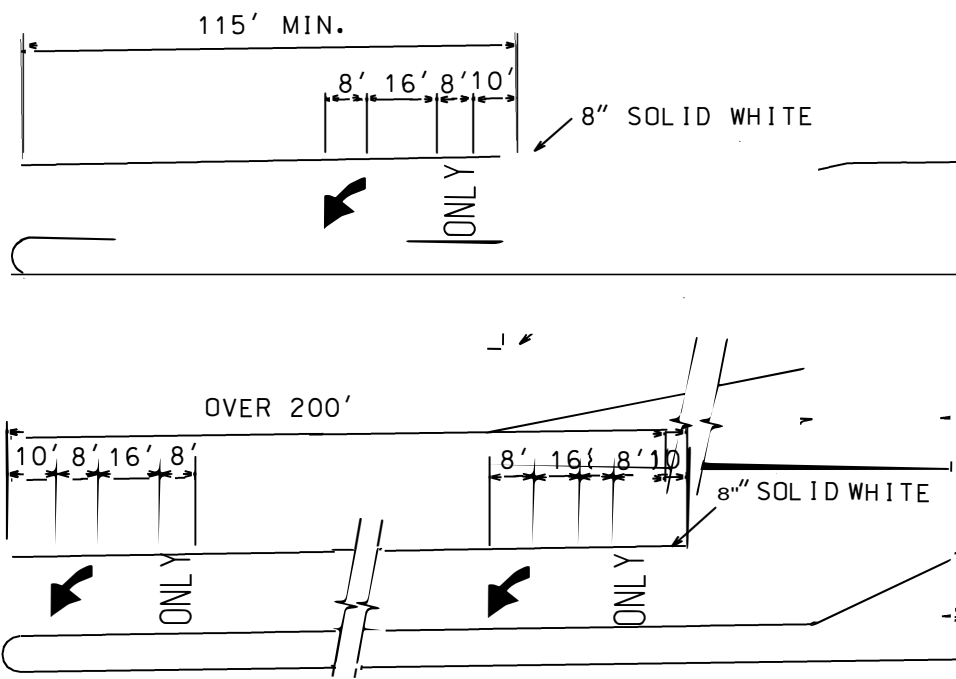


RECOMMENDED SPACING (IN FEET) BETWEEN DIAGONAL LINES

SPEED LIMIT RANGE	CONTINUOUS	INTERSECTION CHANNELIZATION	GORES	OBJECTS
LESS THAN 30 MPH	50	15	15	10
30 - 45 MPH	75	20	20	15
OVER 45 MPH	150	30	30	20

NOTE: IF THE SPACING RECOMMENDED IN THE TABLE DOES NOT PERMIT AT LEAST FIVE DIAGONAL LINES IN THE AREA BEING MARKED, THE SPACING FROM THE NEXT LOWEST SPEED RANGE SHOULD BE USED. THE RECOMMENDED SPACING IS MEASURED PARALLEL TO THE PAVEMENT CENTERLINE.

TYPICAL TURN LANE MARKING



NOTES: TURN LANES IN EXCESS OF 400 FEET IN LENGTH MAY HAVE AN ADDITIONAL SET OF ARROW - "ONLY" INSTALLED MIDWAY BETWEEN THE OTHER TWO SETS OF ARROW - "ONLY"

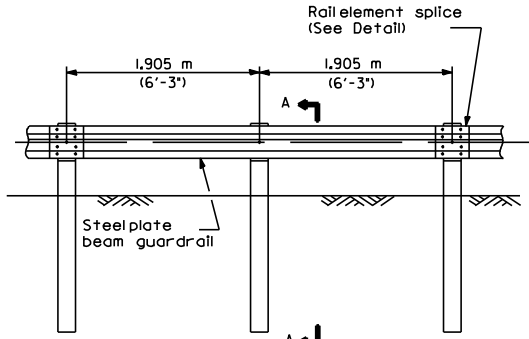
THE 6" SOLID WHITE LINE MAY BE EXTENDED WITH A 6" DOTTED WHITE LINE THROUGH THE ENTRANCE TO THE LEFT TURN LANE WHERE THROUGH TRAFFIC REQUIRES GUIDANCE PAST THE ENTRANCE DUE TO THE GEOMETRICS OR ALIGNMENT. THE DOTTED LINE NORMALLY CONSISTS OF A 2' DASH WITH 6' SPACE BETWEEN.

SIMILAR MARKINGS MAY BE INSTALLED IN RIGHT TURN LANES AS REQUIRED.

FULL SIZE LETTERS (8') AND ARROWS SHALL BE USED.

ARROW = 15.6 SQ.FT. "ONLY" = 20.8 SQ. FT.

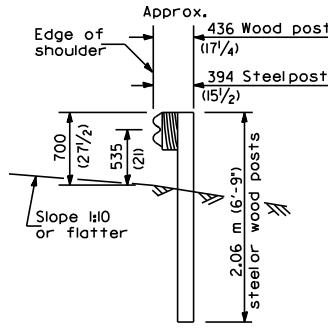
GUARDRAIL DETAIL



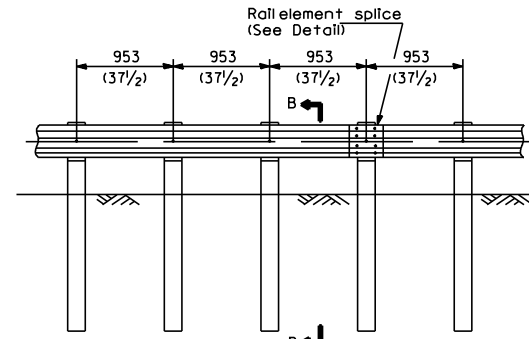
ELEVATION

TYPE A

1.905 m (6'-3") Typical post spacing



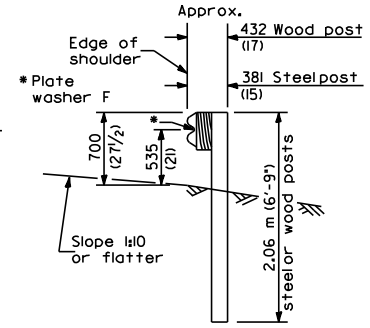
SECTION A-A



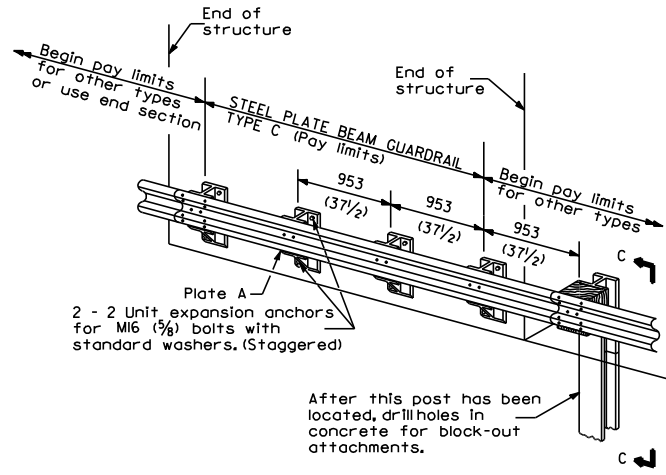
ELEVATION

TYPE B

953 (37 1/2) Closed post spacing

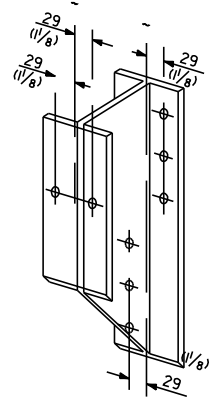


SECTION B-B

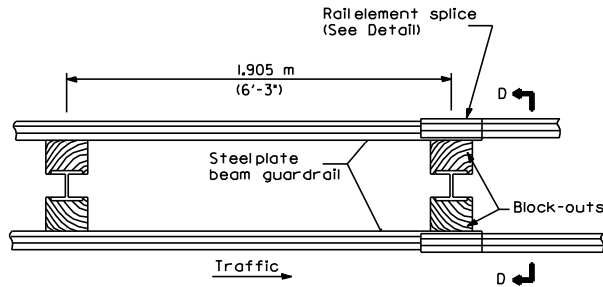


TYPE C

953 (37 1/2) Block-out spacing



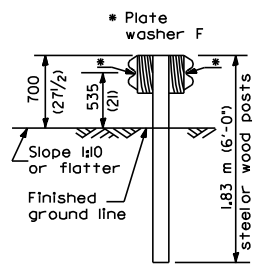
STEEL BLOCK-OUT DETAIL



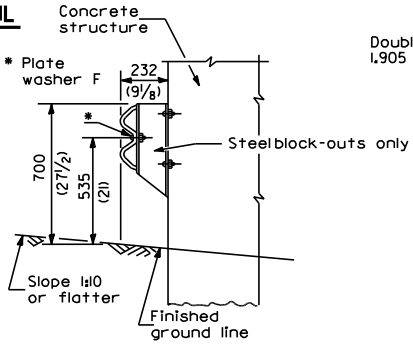
PLAN

TYPE D

Double steelplate beam guardrail
1.905 m (6'-3") typical post spacing



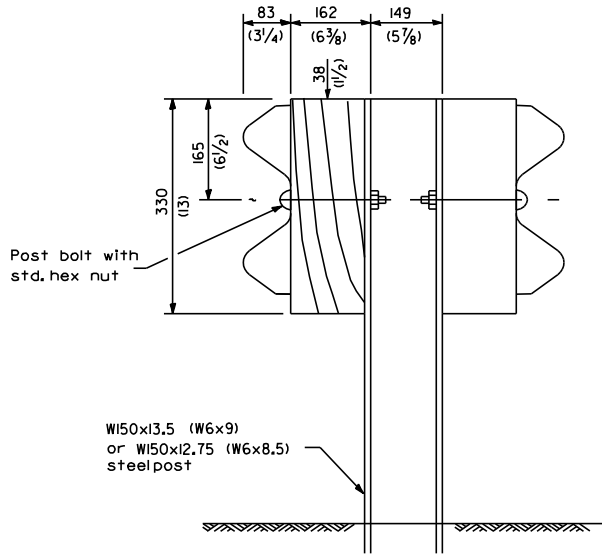
SECTION D-D



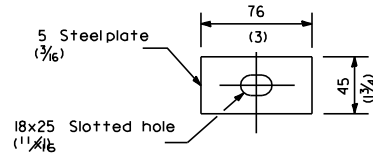
SECTION C-C

GENERAL NOTE

GUARDRAIL DETAIL

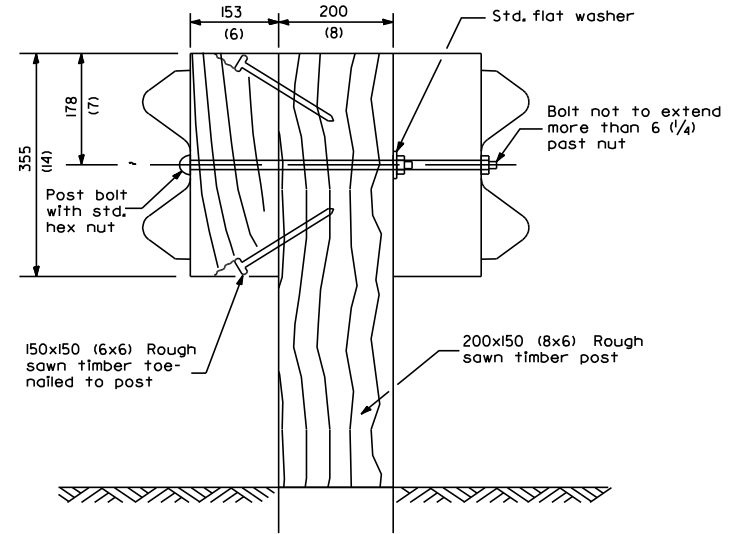


STEEL POST CONSTRUCTION

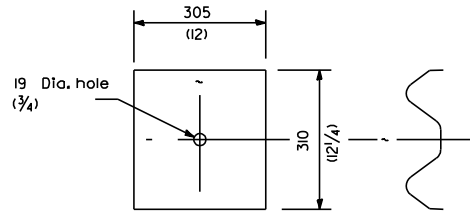


NOTE
Plate washer F shall be used on type A guardrail only where specified, Plate washer F shall be used at all other locations where rail element is bolted to a block-out unless otherwise noted.

PLATE WASHER F



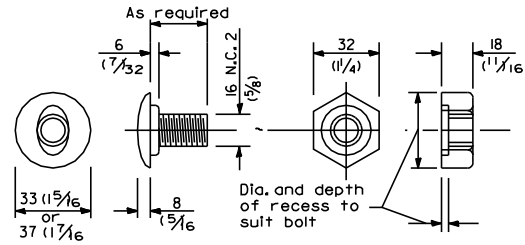
WOOD POST CONSTRUCTION



NOTE

Plate A shall be placed between rail element and block-out at non-splice mounting points only when steel block-outs are used.

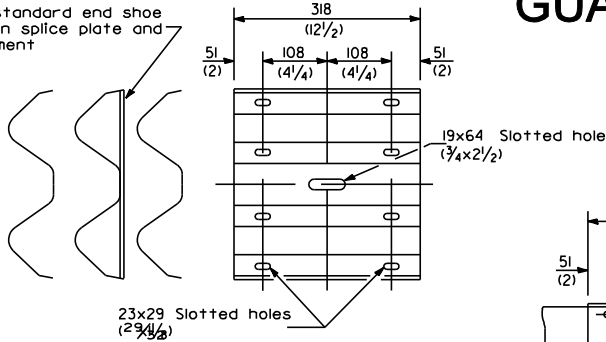
PLATE A



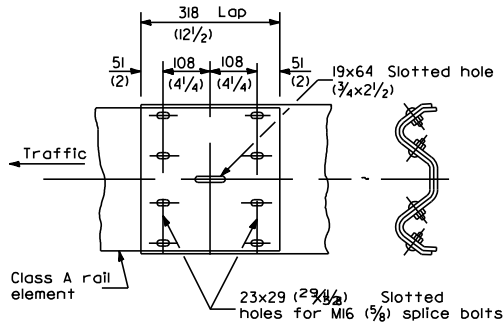
POST OR SPLICE BOLT & NUT

GUARDRAIL DETAIL

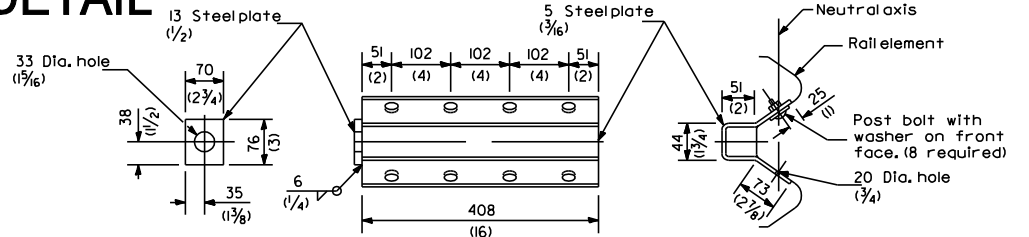
Place standard end shoe between splice plate and rail element



SPLICE PLATE



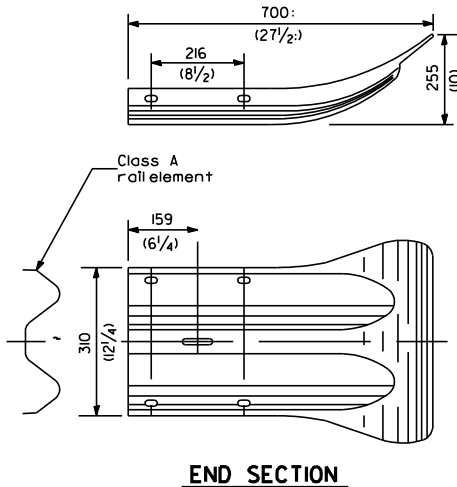
RAIL ELEMENT SPLICE



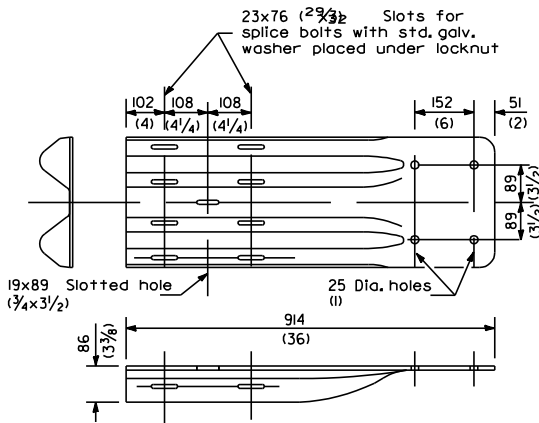
NOTE

Anchor plate T shall be used to attach cable assembly to guardrail when required on traffic barrier terminals.

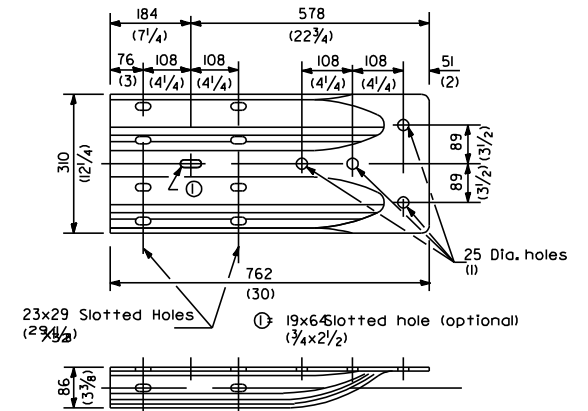
ANCHOR PLATE T DETAILS



END SECTION



END SHOE



ALTERNATE END SHOE

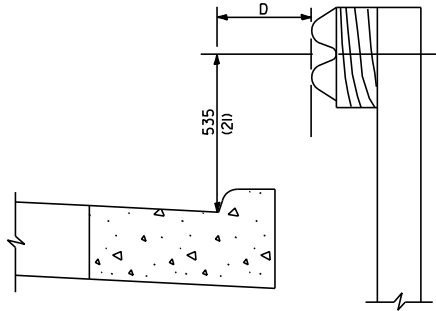
NOTE

When end shoe is attached to a bridge parapet which has an expansion joint, the bolts shall be provided with a locknut or double nut and shall be tightened only to a point that will allow guardrail movement.

The standard end shoe shall be attached to the concrete with pre-drilled or self-drilling anchor bolts. The anchor cone shall be set flush with the surface of the concrete.

Externally threaded studs protruding from the surface of the concrete will not be permitted.

GUARDRAIL DETAIL

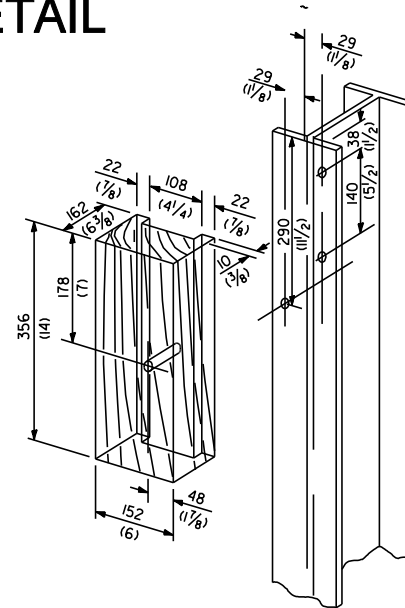


NOTE

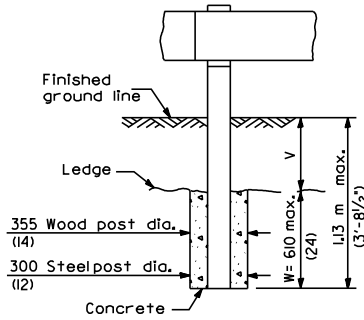
If it is necessary for D to be more than 300 (12) and less than 3.0 m (10'-0") type M-5 (M-2) curb and gutter (Std. 606001) shall be used in front of and in advance of the guardrail.

GUARDRAIL PLACED BEHIND CURB

(D = 0 desirable to 300 (12) maximum)



WOOD BLOCK-OUT AND STEEL POST DETAILS

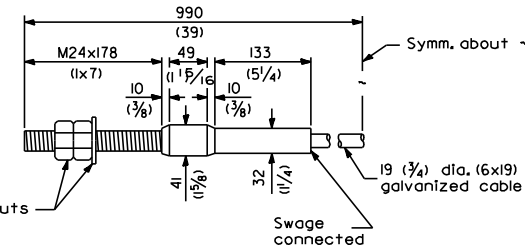


NOTE

When V is 0 to 520 (20 1/2), W = 600 (24).
When V is greater than 520 (20 1/2),
W = 1.13 m (3'-8 1/2") + V. When V is 150 (6)
or less, post hole shall be filled to
ground line with concrete.

Ledge line is top of rock ledge or
hard slag fill.

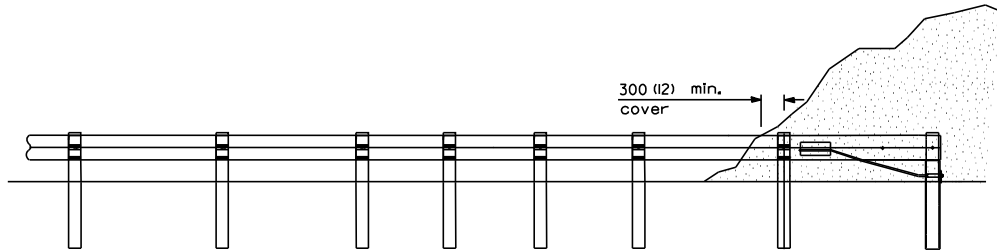
FOOTING FOR POST WHEN IMPERVIOUS MATERIAL IS ENCOUNTERED



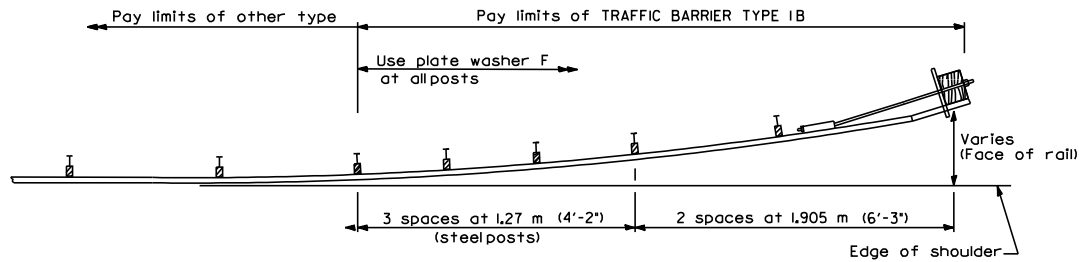
CABLE ASSEMBLY

(18,100 (40,000 lbs.) min. breaking strength)
Tighten to taut tension.

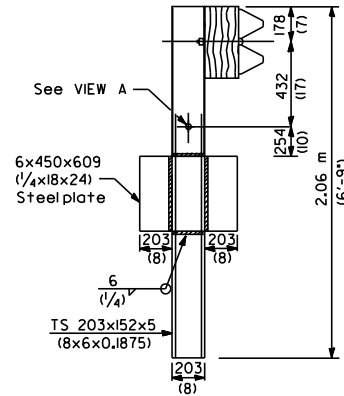
TRAFFIC BARRIER TERMINAL TYPE 1



ELEVATION

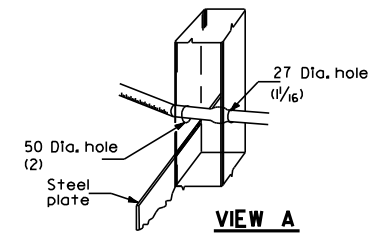


PLAN

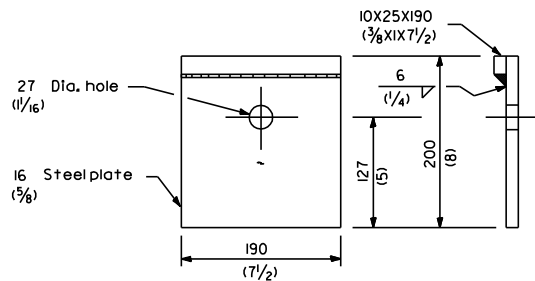


STEEL TUBE & SOIL PLATE

(1 ea.)

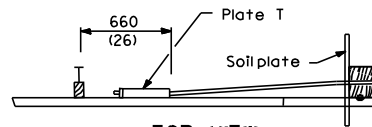


VIEW A

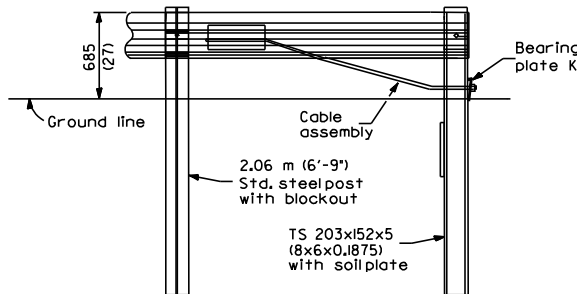


BEARING PLATE K

(1 ea.)



TOP VIEW

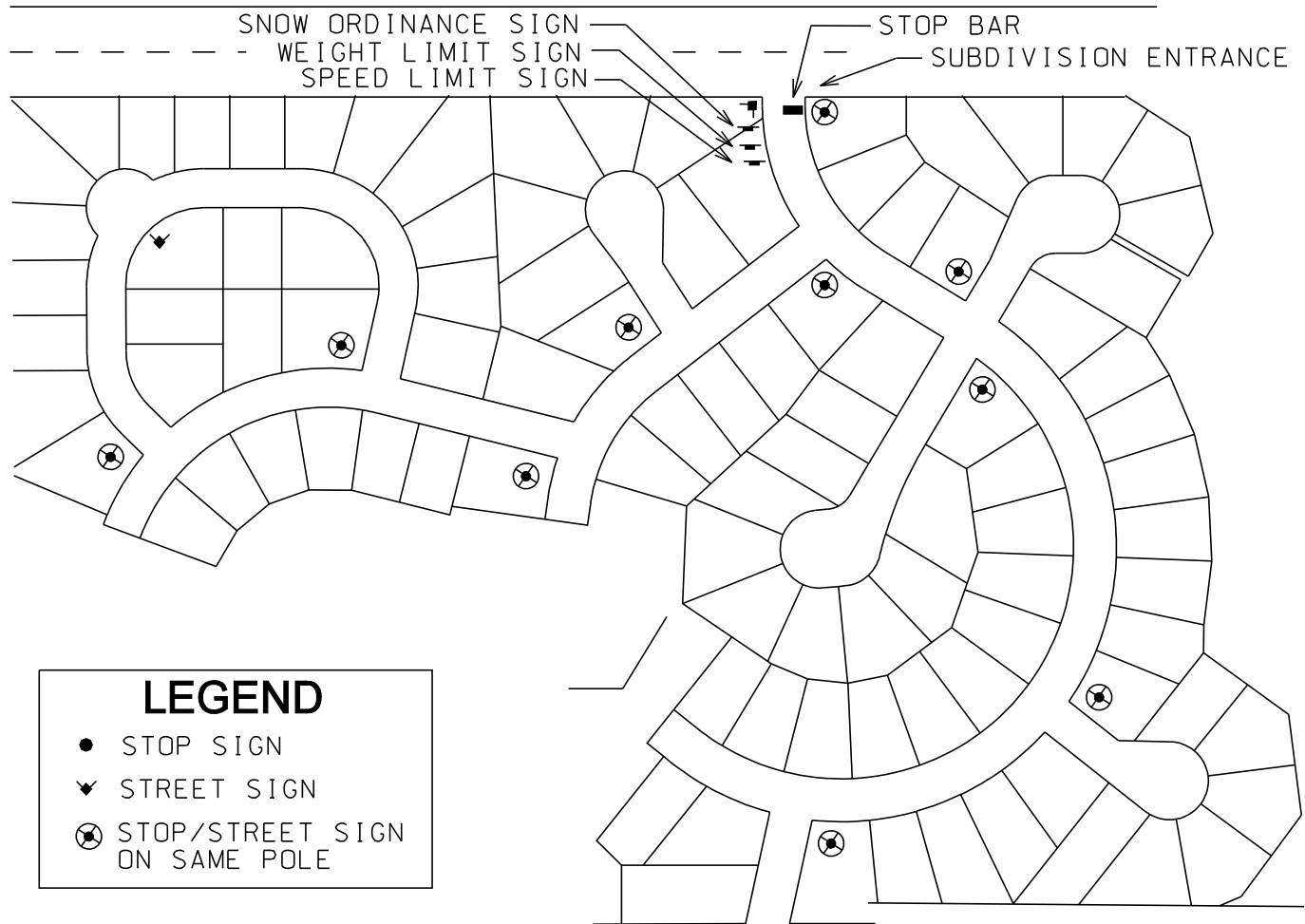


TRAFFIC BARRIER TERMINAL

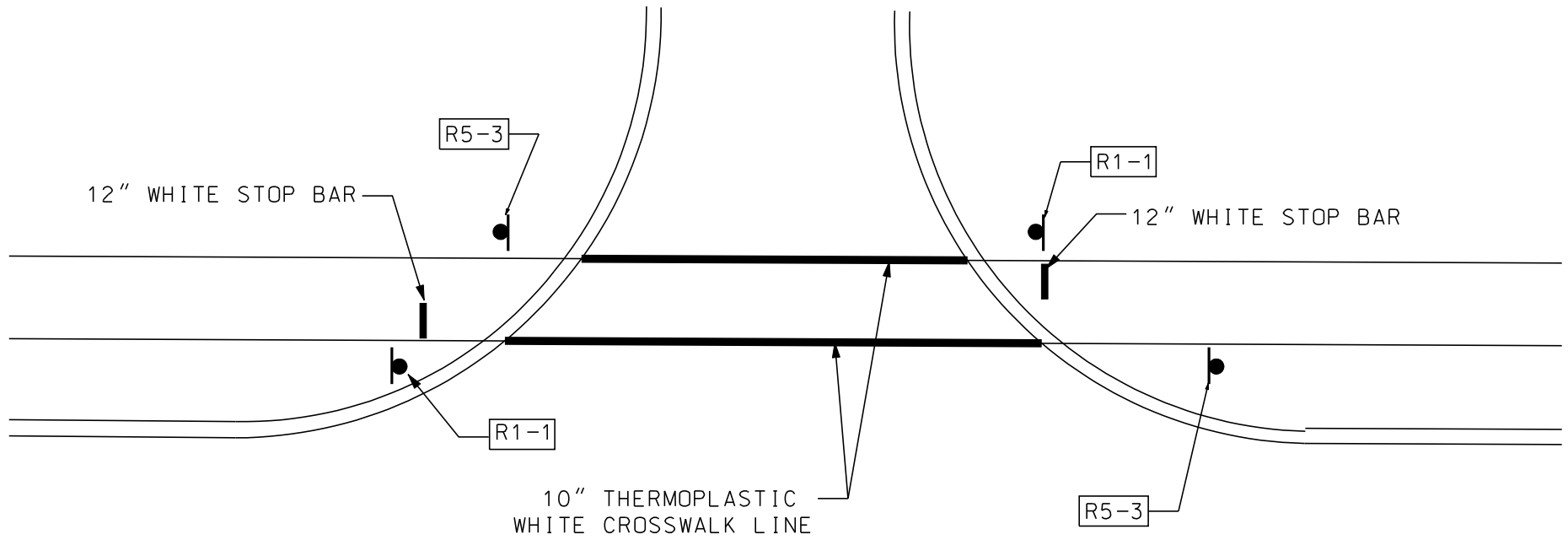
GENERAL NOTES

See Guard Rail Detail for details of guardrail not shown.

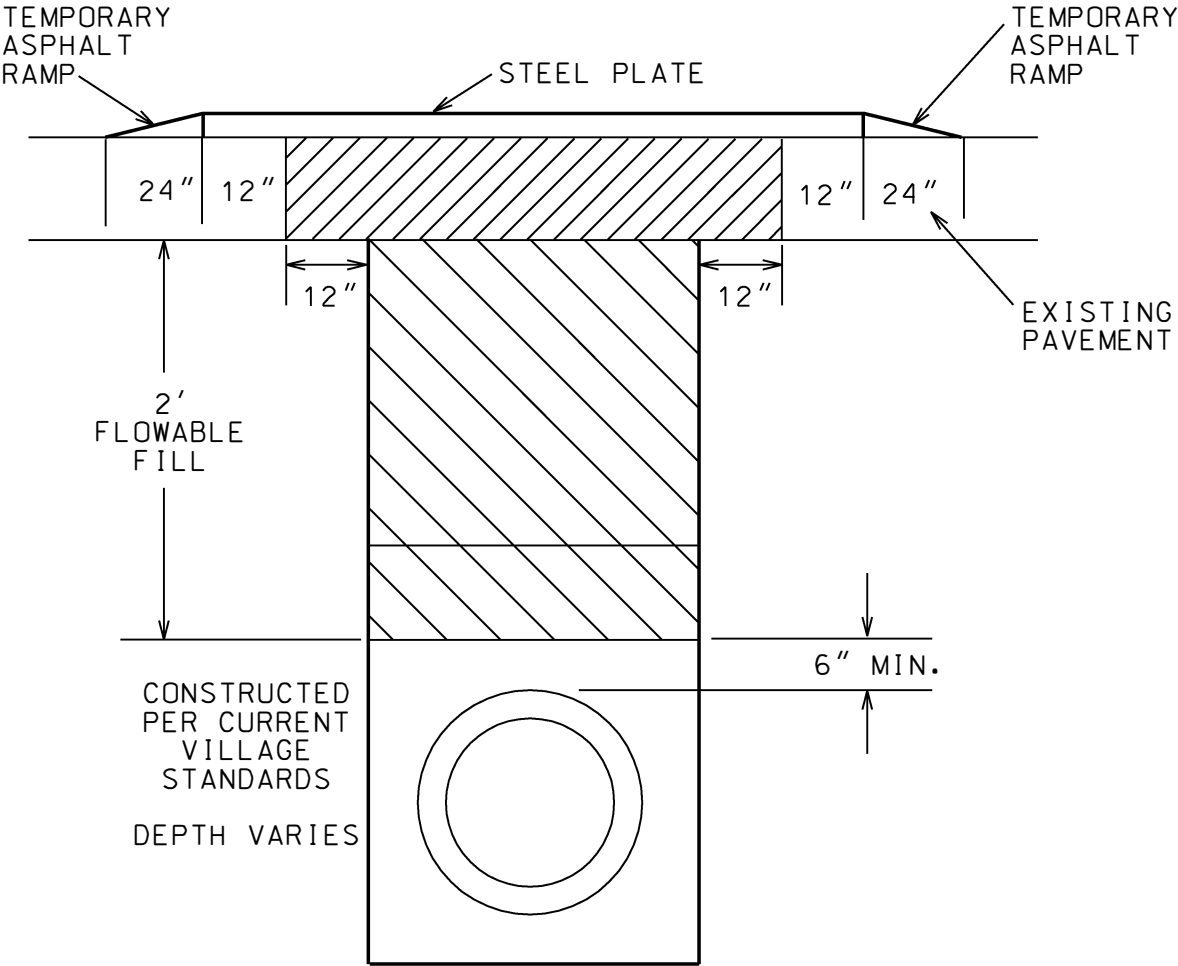
SAMPLE STREET SIGN LAYOUT

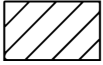
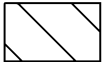


BIKE PATH CROSSING SIGNING DETAIL



TEMPORARY ASPHALT RAMPS



-  PAVEMENT REMOVAL & REPLACEMENT
-  FLOWABLE FILL