NOTES:
5. Pavement shall be PCCP for Approaches, 6 in., on subgrade treatment Type IIIA.
6. See Standard Drawing E 610-DRIV-08 for sections A-A and B-B.

LEGEND:
- Width of sidewalk
- Distance between back face of curb to sidewalk.
- Distance from front face of curb to \( \epsilon \) or R/W.
- Sidewalk elevation transition.

INDIANA DEPARTMENT OF TRANSPORTATION

CLASS I DRIVE

SEPTEMBER 2012

STANDARD DRAWING NO. E 610-DRIV-01

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE
PLAN VIEW

(PAVED SHOULDER LESS THAN 8'-0" IN WIDTH OR UNPAVED SHOULDER)

PLATE VIEW

(PAVED SHOULDER 8'-0" OR GREATER IN WIDTH)

NOTES:
2. See Standard Drawings E 610-DRIV-10 for Sections A-A, B-B and C-C.
4. See Standard Drawings E 610-DRIV-09 for Section S-S.

LEGEND
- M: HMA for Approaches:
  - 165#/yrd HMA Surface Type B on
  - 385#/yrd HMA Intermediate Type B on subgrade treatment Type IIIA
  or
  - PCCP for Approaches, 6", subgrade treatment Type IIIA
- N: The greater thickness of either the drive or the paved shoulder section.
- O: Plan shoulder section.
- P: For type and thickness equivalent to surface in place, see plans.

INDIANA DEPARTMENT OF TRANSPORTATION
CLASS II DRIVE
SEPTEMBER 2010
STANDARD DRAWING NO. E 610-DRIV-02

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER  DATE
/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER  DATE
CONCRETE CURB & GUTTER CONNECTION FOR CLASS I & III DRIVES

**NOTES:**

1. See Standard Drawing E 610-DRIV-08 for Section A-A, and Section B-B.
2. Pavement shall be PCCP for Approaches, 9 in., on subgrade treatment Type IIIA.
3. See Standard Drawings E 604-SDWK-01 or E 604-SDWK-02 for sidewalk elevation transition details, or Standard Drawing E 604-SWCR-09 for sidewalk curb ramp details if the drive is signalized.

**LEGEND:**

- \(W\) = Width of sidewalk
- \(Wd\) = Driveway width
- \(X\) = Distance between back face of curb and sidewalk
- \(Y\) = Distance from front face of curb to \(R\) or R/W
- \(D\) = Sidewalk elevation transition

**PLAN VIEW - CLASS III DRIVE**
PLAN VIEW

SECTION D-D

Notes:
2. See Standard Drawing E 610-DRIV-10 for Section A-A, B-B and C-C.

Where the shoulder is earth or aggregate or the paved width is less than 8'-0", the drive radii shall be tangent to the edge of the travel lane. Where the paved shoulder width is 8'-0" or more, the drive radii shall be tangent to the edge of the paved shoulder.
PLAN VIEW

NOTES:
3. Class VI Drive accommodates a WB-65 (IDW) design vehicle with a 45'-0" turning radius.

LEGEND
- HMA for Approaches:
  165#/yd HMA Surface Type B on
  275#/yd HMA Intermediate Type B on
  880#/yd HMA base, Type B on
  subgrade treatment Type IIIA
  or
  PCCP for Approaches, 9", on
  subgrade treatment Type IIJA
- The greater thickness of either the drive or the paved shoulder section.
- For type and thickness equivalent to surface in place, see plans.

SECTION E-E

SECTION D-D

SECTION F-F
NOTES:


2. See Standard Drawing E 610-DRIV-12 for sections A-A, B-B and C-C.

3. Joint Placement Detail should be used with Class I, III and VII drives.


5. See Standard Drawing E 610-DRIV-16 for details and corners.


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**LEGEND**

- PCCP for Approaches, 9 in., on subgrade treatment Type IIIA
- 755#/yd HMA Intermediate Type B on subgrade treatment Type IIIA
- 880#/yd HMA Surface Type B on subgrade treatment Type IIIA
- HMA for Approaches:
  - 165#/yd HMA Surface Type B on subgrade treatment Type IIIA
  - 275#/yd HMA Intermediate Type B on subgrade treatment Type IIIA

- Sidewalk elevation transition
- For type and thickness equivalent to surface in place, see plans.

---

**JOINT PLACEMENT DETAIL FOR PCCP DRIVES**

**PLAN VIEW**

**HALF PLAN STANDARD COMBINED CURB & GUTTER**

**HALF PLAN INTEGRAL CONCRETE CURB**

**INDIANA DEPARTMENT OF TRANSPORTATION**

CLASS VII DRIVE AND JOINT PLACEMENT DETAIL

SEPTEMBER 2012

STANDARD DRAWING NO. E 610-DRIV-07

/s/ Richard L. VanCleave 09/04/12
SUPERVISOR, ROADWAY STANDARDS DATE

/s/ Mark A. Miller 09/04/12
CHIEF ENGINEER DATE

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INDIANA DEPARTMENT OF TRANSPORTATION

CLASS I AND CLASS III DRIVE
GRADE PROFILES

SEPTEMBER 2010

STANDARD DRAWING NO. E 610-DRIV-08

NOTES:

2. The limits for X are based on a 6" curb height. For other curb heights, the limits for X shall be adjusted.


LEGEND

W = Width of sidewalk
X = Distance between back face of curb to sidewalk.
V = Distance from front face of curb to R or R/W.
= Sidewalk elevation transition section view.
PCCP = PCCP

CLASS I DRIVE - 6" PCCP on subgrade treatment Type IIIA
Class III Drive - 9" PCCP on subgrade treatment Type IIIA

SECTION A-A

1 1/2'
45°

= 0 to < 6'-0" ②
W = 4'-0" min.
+8.33% max. grade
50:1 max. sidewalk slope
max. grade 2% up or 6% down

Max. algebraic diff. ⑦
1/2" preformed joint filler required when existing drive is PCCP

8' or R/W
10'-0"

Max. grade 14% up or 6% down
Meet grade of existing drive

Max. algebraic diff. ⑦

SECTION B-B

1 1/2'
45°

= 6'-0" min.②
W = 4'-0" min.
+8.33% max. driveway grade
50:1 max. sidewalk slope
min.

Max. grade 14% up or 6% down
Meet grade of existing drive

Max. grade 15% up or 14% down
Meet grade of existing drive

1/2" preformed joint filler required when existing drive is PCCP

Max. algebraic diff. ⑦
Notes:
1. See Standard Drawing E 610-DRIV-02 for Class II Drive details.
2. See Standard Drawing E 610-DRIV-04 for Class IV Drive details.

SECTION P-P - CLASS IV DRIVES

SECTION S-S - CLASS II DRIVES
SECTION B-B
(APPROACH GRADE FOR CUT OR FILL TO BE USED WITH EARTH SHOULDERS)

SECTION C-C
(APPROACH GRADE FOR CUT OR FILL TO BE USED WITH PAVED SHOULDER 8'-0" OR WIDER)

SECTION A-A
(APPROACH GRADE FOR CUT OR FILL TO BE USED WITH LESS THAN 8'-0" WIDTH PAVED OR COMPACTED AGGREGATE SHOULDERS)

Notes:
1. See Standard Drawing E 610-DRIV-02, -04 and -05 for location of Sections A-A, B-B and C-C.
2. Where physical restrictions limit the space available for the construction of a drive from a roadway in an embankment section the downgrade breakpoint of the drive may begin at the edge of the shoulder without a crest vertical curve if the algebraic difference in grades meets the criteria in Note 7 on Standard Drawing E 610-DRIV-13.
GENERAL NOTES

1. These notes apply to Standard Drawings E 610-DRIV-01 through 12.

2. If a PCPP approach is Class III or Class IV, the radius shall be constructed using ear
   construction Type C as detailed on Standard Drawing E 605-ERCN-02.

3. When the maximum approach grade of ±10% does not meet the grade of the existing drive before the
   R/W line, the approach grade of ±10% shall extend beyond the R/W to the point of intersection with
   the existing driveway grade. Construction beyond the R/W line shall be done in temporary R/W.

4. The appropriate pipe end treatment should be provided for pipes located either inside the clear zone
   or outside the clear zone.

5. The maximum algebraic difference in grades shall not exceed 8% for crest grade nor 12% for sagged
   grades for Types I and III drives, nor 11% for crest grade and 14% for sagged grades for Types II,
   IV, and V drives.

6. The minimum driveway pavement sections for Class III, IV, VI and VII Drives have been designed for
   400 trucks per day. If the truck traffic count is greater than 400 per day, the required pavement section
   shall be as shown elsewhere on the plans.

7. See Standard Drawing E 610-DRIV-14 for shoulder treatment at driveways.

8. Curb Ramp Type H, as shown on Standard Drawing E 604-SWCR-09, when the approach is signalized,
   or a sidewalk elevation transition as shown on Standard Drawing E 604-SDWK-02 shall be used when
   sidewalk is adjacent to curb.

9. When X is equal to or greater than 2 ft but less than 6 ft, either a Curb Ramp Type G as shown on
   Standard Drawing E 604-SWCR-09, when the approach is signalized, or a sidewalk elevation transition
   as shown on Standard Drawing E 604-SDWK-01 shall be used.

10. When X is equal to or greater than 6 ft, no curb ramp or sidewalk elevation transition is required unless
    the curb height is in excess of 6 inches.

11. Embankment slopes within the mainline clear zone for new construction/reconstruction projects
    or within the obstruction-free zone for 3R projects should be as shown in the table on Standard
    Drawing E 610-PRAP-04. Outside the clear zone or the obstruction-free zone, the embankment
    slopes should ideally be 4:1 but not steeper than 3:1.

12. Hc - earth cover over culvert shall be 1 foot or greater.

LEGEND

- 1/2 in. preformed joint filler
- Monolithic curb for PCPP Approaches or concrete curb and gutter for HMA for
  Approaches
- Longitudinal joint
- Concrete sidewalk
- For type and thickness equivalent to surface in place, see plans.
- Keyway construction joint
- PCCP
- Curb ramp, if signalized, or typically, sidewalk elevation transition.
- Curb ramp or sidewalk elevation transition section view.

NOTES

1. The pay limits shown herein generally apply to Type I, II, III, IV, VI and VII Drives as shown on Standard Drawings
   E 610-DRIV-01, -02, -03, -04, -06 and -07 respectively.

2. Approach Area - HMA for Approaches or PCPP for Approaches. This area typically extends from the edge of an
   8 foot or wider paved travelway shoulder to the right of way or property line or within a few feet of the right of
   way or property line where the new drive meets the grade of the existing drive, depending on the site-specific
   conditions. Where the travelway paved shoulder width is less than 8 feet, this area will be measured from the edge of travelway.

3. Transition Area - an equivalent pavement section to the existing drive. This area typically extends from the right of way
   or property line to a point on the property owner's drive where the new drive grade can match the existing drive grade.

INDIANA DEPARTMENT OF TRANSPORTATION

DRIVES
GENERAL NOTES AND LEGEND
SEPTEMBER 2010

STANDARD DRAWING NO. E 610-DRIV-13

[Design and construction details]

/s/ Richard L. VanCleave 09/01/10
DESIGN STANDARDS ENGINEER DATE

/s/ Mark A. Miller 09/01/10
CHIEF HIGHWAY ENGINEER DATE
TEMPOARY EDGE OF HMA SHOULDER
(TREATMENT WHERE PCCP DRIVE IS TO BE CONSTRUCTED)
NOTES


3. See Standard Drawing E 610-DRIV-07 for keyway joint shown in Detail A and for joint placement and corner reinforcement.

4. See Standard Drawing E 605-ERCN-01 for ear construction Type A. See Standard Drawing E 605-ERCN-02 for ear construction Type B.
PRIVATE DRIVE CROSSOVER PLAN FOR W = 8'-0" to less than 30'-0"

PRIVATE DRIVE CROSSOVER PLAN FOR W = 30'-0" to over 40'-0"

Notes:
1. Thickened edge
2. See Standard Drawings:
   E 605-ERCN-01 for TYPE "A" Ear Construction
   E 605-ERCN-02 for TYPE "B" Ear Construction
   E 610-DRIV-18 for sections A and B-B
3. Contraction Joint Type D-1, see Standard Drawing E 503-CCPJ-01
   for details.
4. Keyway Construction Joint, see Standard Drawing E 610-DRIV-16
   for details.
5. 1" Preformed Joint Filler.
6. Private drive crossovers shall be constructed of HMA or PCCP as shown
   on the plans section unless otherwise directed.
7. Integral Concrete Curb, see Standard Drawing E 605-CCIN-01 for details.
NOTES:

1. Inlets drive crossovers shall be constructed of HMA or PCP as shown on the plans, unless otherwise specified.
2. Thickened edge to be same thickness as mainline pavement.
3. For location of cross sections see Standard Drawing E 610-DRIV-12.

SECTION A-A
TO BE USED WITH CROWN PAVEMENTS.

SECTION B-B
TO BE USED WITH 3 in. TILTED PAVEMENTS

INDIANA DEPARTMENT OF TRANSPORTATION
PRIVATE DRIVE CROSSEORS
CROSS SECTIONS
SEPTEMBER 2007
STANDARD DRAWING NO. E 610-DRIV-18

[Signatures and dates]
COMMERICAL DRIVE CROSSES PANS

1. Thinned edge
2. See Standard Drawings: E 610-ENC-01 for Type "A" ear construction
   E 610-ERC-02 for Type "B" ear construction
3. Construction joint type D-I, see Standard Drawing
   E 610-ERC-01 for details.
4. Keyway construction joint – see Drawing
   E 610-DRV-16 for details.
5. Grades for commercial drive crossover shall be
   the same as for private drive crossovers. For cross
   sections see Standard Drawing E 610-DRV-13, except
   the PCP thickness shall be 9 in.
6. Integral concrete curb, see Standard Drawing
   E 610-ERC-01 for details.
7. Commercial drive crossover shall be constructed
   of HMA or PCP as shown on the plans, unless
   otherwise directed by the Engineer.

INDIANA DEPARTMENT OF TRANSPORTATION

COMMERCIAL DRIVE CROSSOVERS

SEPTMBER 2007

STANDARD DRAWING NO. E 610-DRV-19

STATE OF

9750

J/Mark R. Miller 09/04/07
DESIGN ENGINEER
APPREHEND GRADE FOR CUT OR FILL
TO BE USED WITH PAVED SHOULDER
PRIVATE OR COMMERCIAL DRIVE

Notes

1. 3 ft. or wider as necessary to feather to existing grade
2. Pavement wedge to be centered on centerline of drive.

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Drive area to be treated with HMA for Approaches

PRIVATE OR COMMERCIAL DRIVE

6" min. (typ.)

Edge of travelway

Private drive 52' to 60'
Commercial drive 60' to 100'

6 ft. (typ.)

INDIANA DEPARTMENT OF TRANSPORTATION
PAVEMENT WEDGE LIMITS
MARCH 2004
STANDARD DRAWING NO. E-910-DRW-21

REF: Richard L. Vann/Copple 3-9-04
DIS: Raymond K. Surber 3-9-04
STATE: Indiana Department of Transportation