

STANDARDS FOR STREET DESIGN & CONSTRUCTION

DELAWARE COUNTY, INDIANA

BOARD OF COMMISSIONERS

Cordell H. Campbell, President
Ron Bonham, Member
Jack Peckinpaugh, Member

COUNTY ENGINEER

J.W. Savage

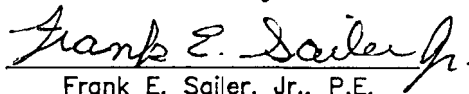
ASSISTANT COUNTY ENGINEER

Linda A. Garrett

Prepared by : Floyd E. Burroughs & Assoc. Inc.

Recomended

by:


Frank E. Sailer, Jr., P.E.

DATE March 22, 1991

5 - 84 - 1

DELAWARE COUNTY CODE

5 - 84 - 6

Chapter 84

STREETS AND ROADS ORDINANCE

5 - 84 - 1. PURPOSE. This Ordinance is enacted with the purpose of establishing certain reasonable minimum standards of design and procedures for the construction of streets and roads within Delaware County, Indiana, under authority of IC 8-17-5-6.

5 - 84 - 2. TITLE. This Ordinance shall be known as the "Streets and Roads Ordinance of Delaware County, Indiana.

5 - 84 - 3. JURISDICTION. The provisions of this Ordinance shall apply to all streets and roadways, in or out of subdivisions, intended to be dedicated as public facilities located in the unincorporated territory of Delaware County, Indiana. No street or roadway intended for public dedication shall be constructed within the unincorporated territory of Delaware County, Indiana until the contractor/developer or his agent has obtained approval of the proposed street or roadway from the Delaware County Engineer's Office. No street or roadway shall be accepted by Delaware County as a dedicated public facility unless it is found to be in conformity with the provisions of this Ordinance. No excavation of land or construction in connection with any street or roadway intended to be dedicated as a public facility shall take place or be commenced except in conformity with this Ordinance.

5 - 84 - 4. INTERPRETATION. In the interpretation and application of the provisions of this Ordinance, they shall be held to be minimum standards for the promotion of the public health, safety and general welfare.

5 - 84 - 5. CONFLICT. This Ordinance is not intended to interfere, abrogate, or annul any other ordinance, rule or regulation, statute or other provision of law. Where any provision of this Ordinance imposes restrictions different from those imposed by any other provision of this Ordinance or any other Ordinance, rule or regulation, or other provision of law, whichever provisions are more restrictive or impose higher standards shall control.

5 - 84 - 6. SAVING PROVISION. This Ordinance shall not be construed as abating any action now pending under, or by virtue of, prior existing ordinances controlling the construction of new

streets and roads or as discontinuing, abating, modifying, or altering any penalty accruing or about to accrue, or as affecting the liability of any person, firm or corporation, or as waiving any right of Delaware County, Indiana under any section or provision existing at the time of the adoption of this Ordinance, or as vacating or annulling any rights obtained by any person, firm or corporation, by lawful action of the County except as shall be expressly provided in this Ordinance.

5 - 84 - 7. STANDARDS ADOPTED BY REFERENCE. The reasonable minimum standards of street and road design shall mean the Standards for Street Design & Construction of Delaware County, Indiana, as promulgated by the Board of Commissioners of Delaware County, Indiana. The Standards for Street Design & Construction of Delaware County, Indiana, and all amendments thereto, are hereby adopted by reference and incorporated as a part of the Streets and Roads Ordinance of Delaware County, Indiana set forth herein. Copies of the Standards for Street Design & Construction are on file and available from the Delaware County Engineer's Office.

5 - 84 - 8. DESIGN PLANS AND SPECIFICATIONS. Two (2) sets of design plans and specifications for streets and roads, prepared by a licensed professional engineer or a licensed surveyor, shall be filed with the Delaware County Engineer's Office. All design plans and specifications shall be in compliance with the Standards for Street Design & Construction of Delaware County, Indiana. When there is more than one soil map symbol for the area where a street is to be constructed, the most restrictive street design alternate shall be employed in the design and construction of such street. The Delaware County Engineer's Office shall review the plans and specifications and may approve, approve with modifications, or reject the plans and specifications. One set of design plans and specifications shall be returned to the contractor/developer and stamped as having been approved, approved with modifications or rejected. If modifications are made, they shall have been indicated on the set of plans and specifications returned to the contractor/developer. If the plans and specifications are rejected, the Delaware County Engineer's Office shall forward a written statement setting forth the reasons for rejection along with the returned plans and specifications. Excavation, construction and installation of a street or roadway shall begin only upon receipt of the approved plans and specifications.

5 - 84 - 9. INSPECTIONS. All excavation, construction and installation of a street or roadway shall be made under the supervision of the Delaware County Engineer, or under a person designated by him. The contractor/developer shall notify the

Delaware County Engineer's Office as to when the excavation, construction or installation of the street or roadway is to begin. The contractor/developer shall give at least forty-eight (48) hours advance notice to the Delaware County Engineer's Office of the date and time on which work shall begin in order that said Office may perform the necessary inspections. Throughout the course of excavation, construction and installation of streets and roadways, inspections are necessary at certain stages to ensure compliance with the Standards for Street Design & Construction of Delaware County, Indiana. The Delaware County Engineer's Office shall establish a regular schedule of inspection based upon the stages of excavation, construction and installation of a street or roadway which shall be made available to any contractor/developer. The contractor/developer shall give at least forty-eight (48) hours advance notice to the County Engineer's Office of the date and time on which an inspection should be made based upon the schedule of inspections established by the County Engineer's Office.

5 - 84 - 10. NONCOMPLIANCE. If any excavation, construction or installation of a roadway intended to be dedicated as a public facility is found to be in noncompliance with the Standards for Street Design & Construction during inspections conducted by the County Engineer's Office, a Notice of Noncompliance sign shall be posted at the project site. The Delaware County Engineer's Office shall forward, by certified mail, a copy of a Notice of Noncompliance to the developer and/or owner of the land on which the roadway is being installed. The developer and/or owner of the land on which the roadway is being installed may contact the Delaware County Engineer to show cause why correction of the noncompliance has not begun within seven (7) days from the receipt of the Notice. Weather conditions which stop work on the project shall be accepted as cause. The Notice of Noncompliance form and the procedure set forth therein are hereby incorporated as a part of this Ordinance. If compliance is not achieved to the satisfaction of the Delaware County Engineer, the Board of Commissioners of Delaware County, Indiana shall be so notified and copies of this notice shall be forwarded to the developer/owner and the Delaware-Muncie Metropolitan Plan Commission.

5 - 84 - 11. AMENDMENTS. The Board of Commissioners of Delaware County, Indiana may, from time to time, initiate and adopt amendments to any provision of this Ordinance in a manner as prescribed by law.

5 - 84 - 12. REPEALER. All ordinances or parts of ordinances in conflict with provisions of this Ordinance are hereby repealed.


5 - 84 - 13. SEVERABILITY CLAUSE. Should any section, paragraph, clause or phrase of this Ordinance be declared unconstitutional or invalid, the remainder of said Ordinance shall continue in full force and effect.

5 - 84 - 14. EFFECTIVE DATE. This Ordinance shall be in full force and effect from and after its passage by the Board of Commissioners of Delaware County, Indiana, and such publication as required by law.

This Ordinance is hereby passed this 29th day of April, 1991.


BOARD OF COMMISSIONERS
DELAWARE COUNTY, INDIANA


Cordell Campbell, President


Ron Bonham, Member

Jack Peckinpaugh, Member

ATTEST:



Kent Riffin, Auditor
Delaware County, Indiana

DELAWARE COUNTY ENGINEER'S OFFICE
DELAWARE COUNTY BUILDING
ROOM 208A
MUNCIE, INDIANA 47305
(317) 747-7765

NOTICE OF NONCOMPLIANCE

DATE: _____

TO: _____

RE: Noncompliance during Roadway Excavation/Construction/
Installation intended to be dedicated as a Public Facility

On _____, this Office made an
inspection of the roadway project located at _____

and found the following violations of the Streets and Roads
Ordinance of Delaware County, Indiana and the Standards for Street
Design & Construction of Delaware County, Indiana:

Immediate correction of the noncompliance is required.
Inspections will be performed over the next seven (7) days to review
the project and verify that it is brought into compliance with the
above cited Ordinance and Standards. If compliance is not achieved
to the satisfaction of the Delaware County Engineer, said Engineer
shall notify the Board of Commissioners of Delaware County, Indiana
and the roadway will not be accepted as a public facility by the
said Board of Commissioners of Delaware County, Indiana.

The ordinance governing the Delaware-Muncie Metropolitan Plan
Commission's action on subdivisions is the Delaware County
Subdivision Ordinance. Article XVII, Section 1(H) of said
Subdivision Ordinance states "All streets in a subdivision shall be
dedicated to the public. Private streets shall not be platted
within a subdivision." A copy of this Notice shall be sent to said
Plan Commission.

A copy of this Notice will be sent to the financial institution
and/or lending institution which have provided surety for completion
of the above described project after the seven (7) day review
period.

Continued work on this roadway project which remains in
noncompliance is considered as work being done on a private roadway.

Delaware County Engineer

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Soil Map Symbols	Required Residential Street Alternates
B1A, B1B, B1B2, BR, BS, CrA, CsA, Ko, Pe, Pk, Pf, Rc, Se	A-1, A-2, A-3, (Concrete Storm Sewers Only) <u>A</u>
MeA, MeB, MmA, MmB2, MmC2, MmD, MnA, MnB, MnC2, MrB3, MrC3, MuB, MuB2, MuD2, MvB2, MvC2, MwB3, MWC3, OcA, OcB, Sh, Sn	B-1, B-2, B-3 (Concrete Storm Sewers Only) <u>B</u>
FoC2, FoD2, FsA, FsB, FxB3, FxC3, Ge, HeE, MdC2, MoA, MoB, Ro	C-1, C-2, C-3 (Corrugated PVC Storm Sewers Allowed) <u>C</u>
Ca, Km, Lm, Wa	C-1, C-2, C-3 may be used only after all peat and/or muck layers which are present in the top 24" of subgrade (roadbed), under the proposed roadway, are removed down to a layer of suitable soil and replaced with B-Borrow. (Concrete Storm Sewers only)

Notes: The soil map symbols are from the Soil Survey of Delaware County, Indiana which is available in the County Engineer's Office.

The required residential street alternate to be used will be based upon the soil map symbol in the area where the roadway is to be placed. If the roadway will be placed on multiple soil map symbol areas either the required residential street alternates for each area may be used or one alternate may be employed. If only one alternate will be used for multiple areas alternate A will be used if any of the areas require alternate A and alternate B will be used if the areas require alternates B and C or as directed by the County Engineer.

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE KEY

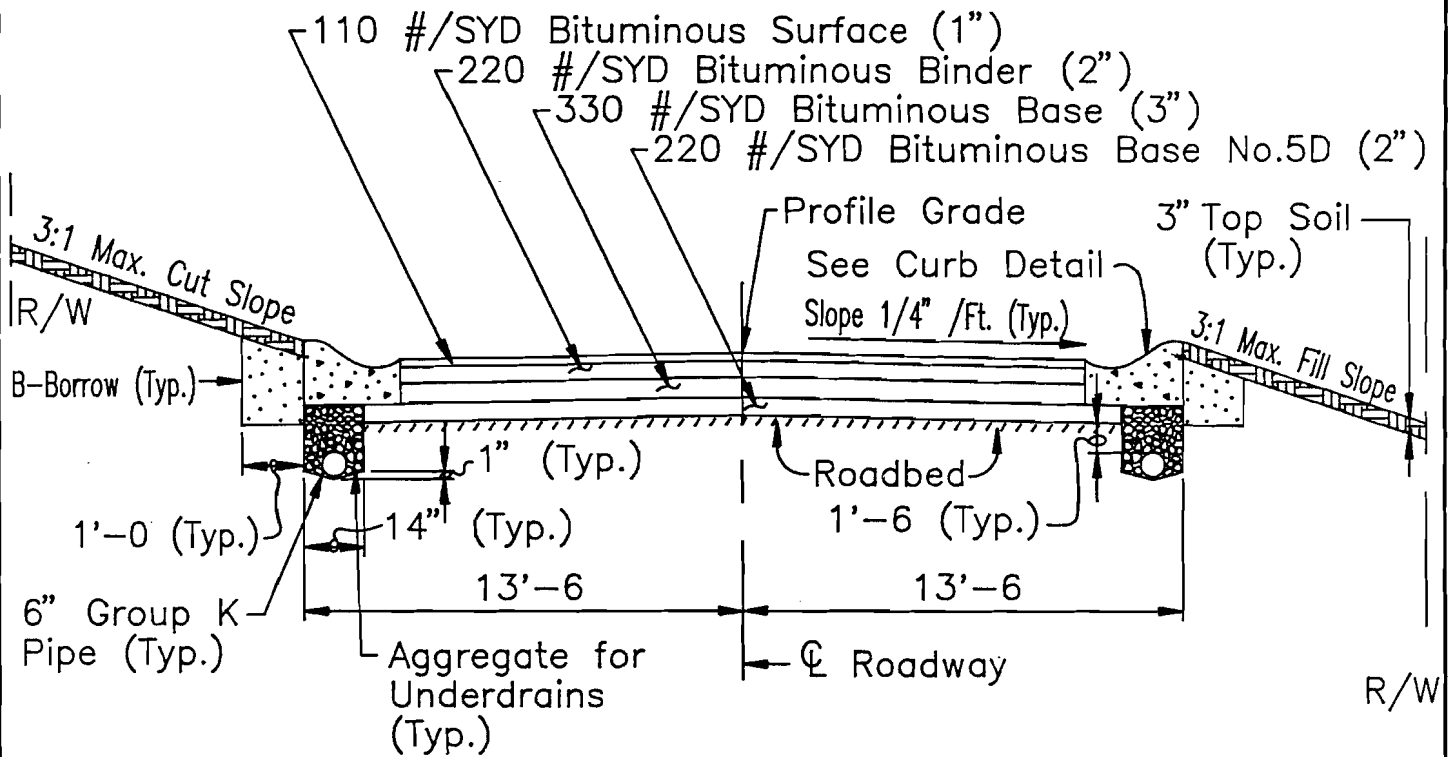
Notes: (Con't)

If the roadway is to be constructed in a soil map symbol area that is not shown in the table, soil testing may be required by the County Engineer. The County Engineer will then decide which residential street alternates may be used.

If the Developer and/or Contractor wish to use a residential street alternate that doesn't coincide with the soil map symbol as shown in the table he/they may perform soil testing as directed by the County Engineer and request the County Engineer to allow them to use another alternate.

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE KEY (Con't)

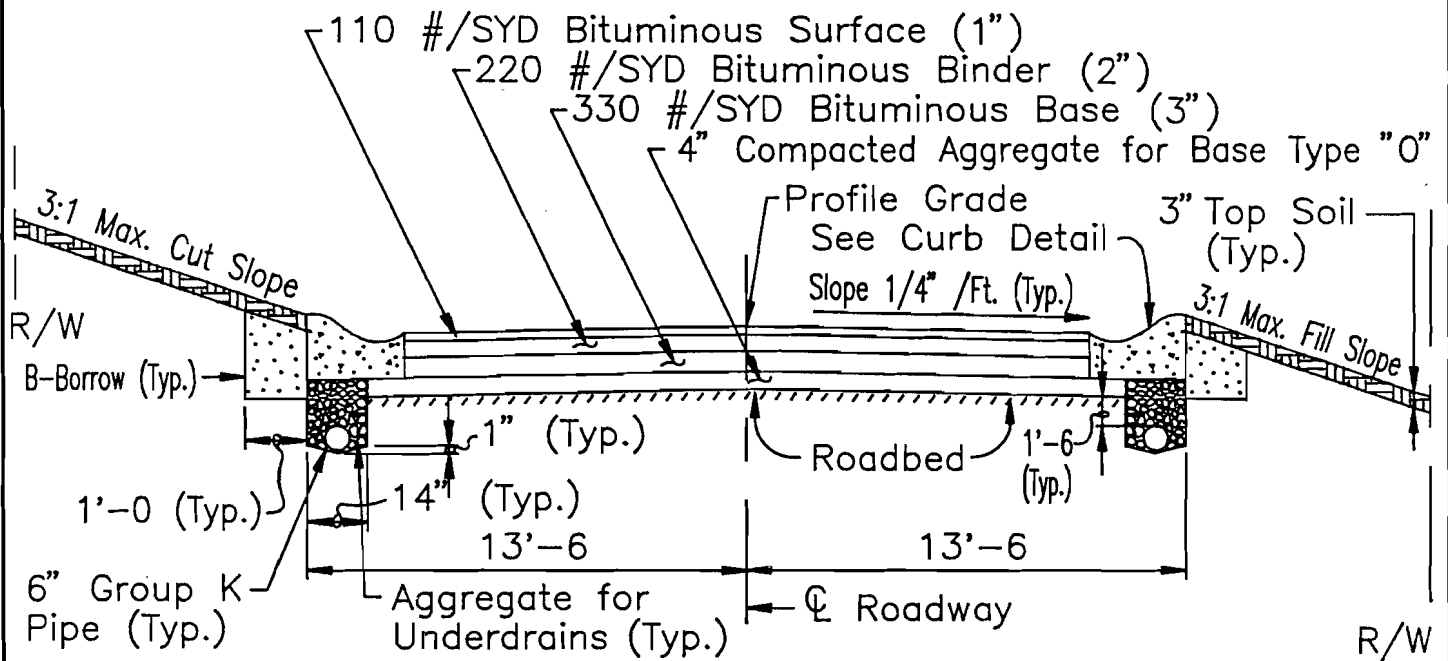


TYPICAL CROSS SECTION
FULL DEPTH BITUMINOUS CONCRETE ALTERNATE A-1

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 5 OF 23

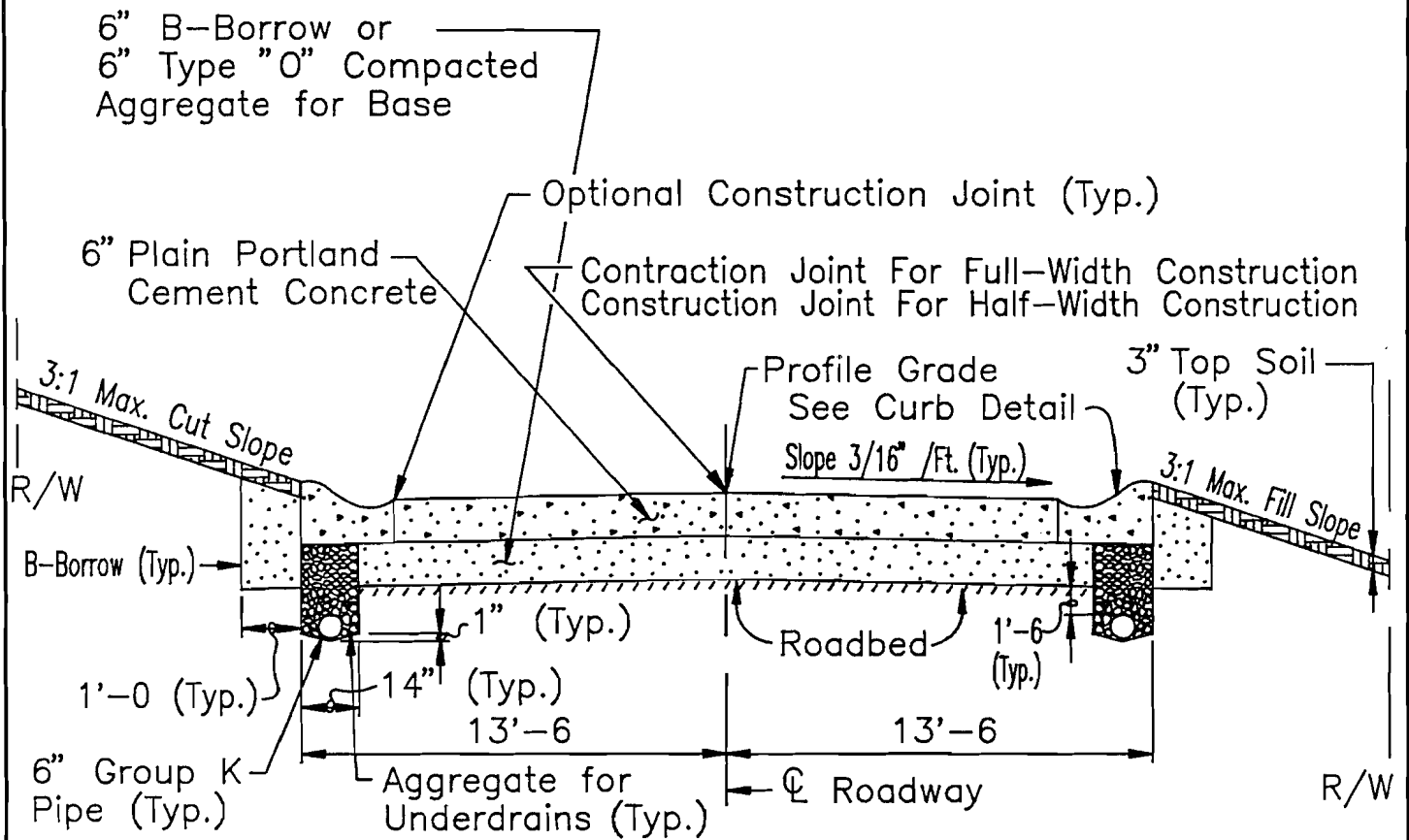


TYPICAL CROSS SECTION
PARTIAL DEPTH BITUMINOUS CONCRETE ALTERNATE A-2

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 6 OF 23

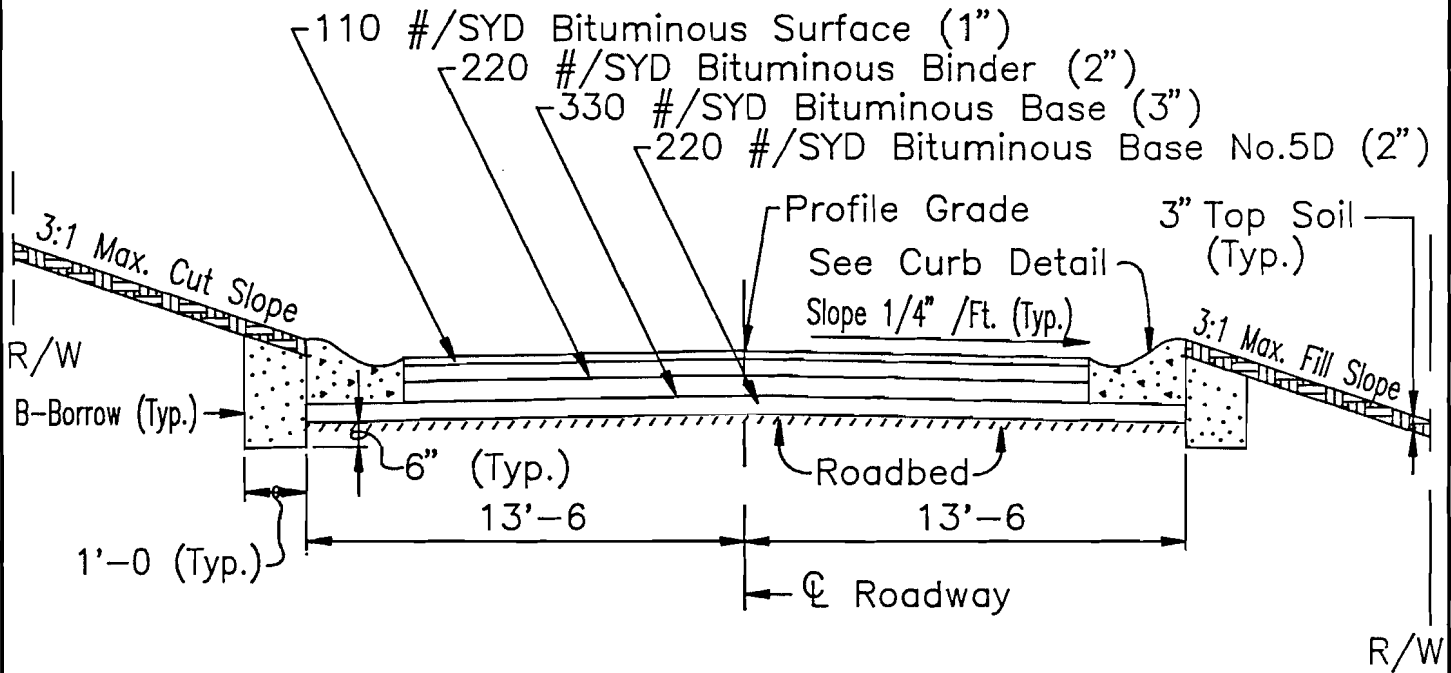


TYPICAL CROSS SECTION
CEMENT CONCRETE ALTERNATE A-3

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 7 OF 23

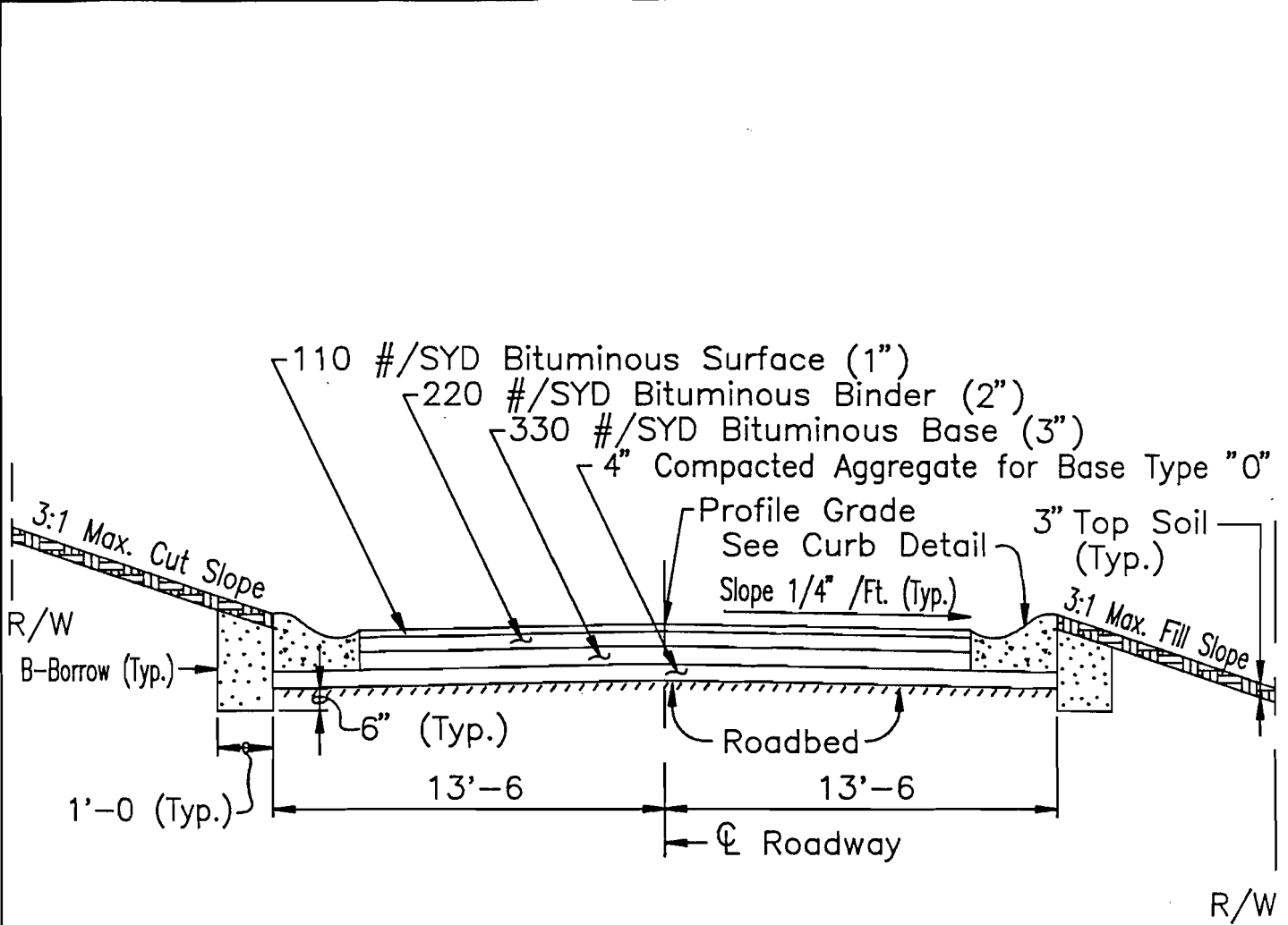


TYPICAL CROSS SECTION
FULL DEPTH BITUMINOUS CONCRETE ALTERNATE B-1

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 8 OF 23

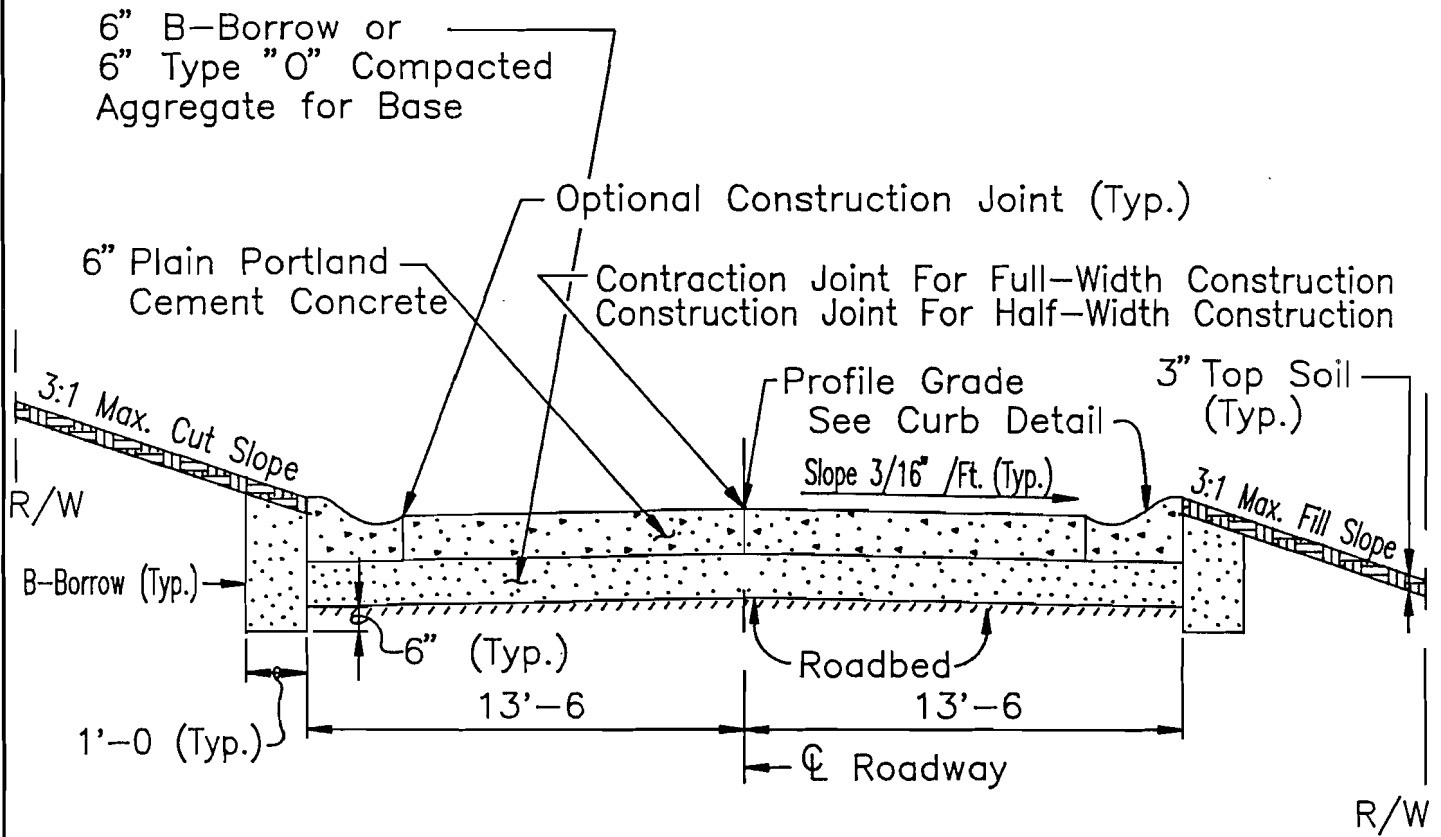


TYPICAL CROSS SECTION
PARTIAL DEPTH BITUMINOUS CONCRETE ALTERNATE B-2

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 9 OF 23

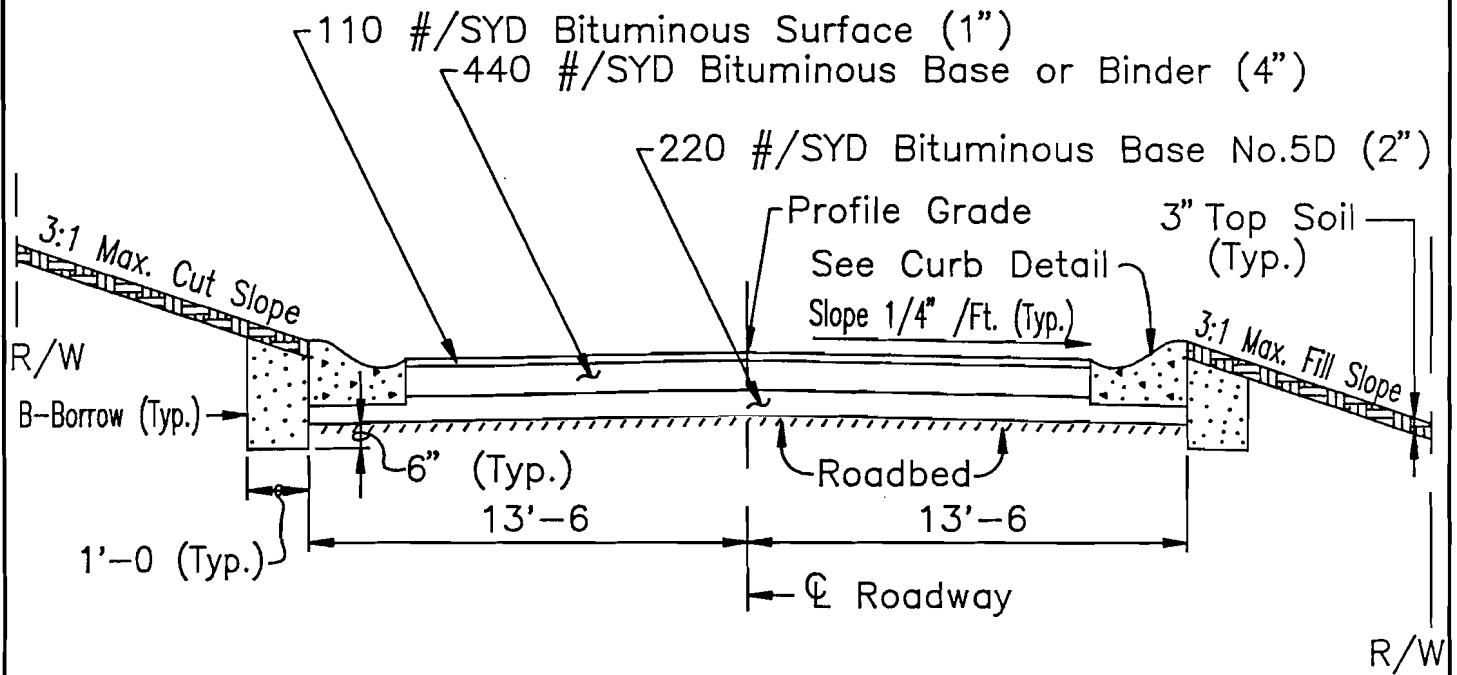


TYPICAL CROSS SECTION
CEMENT CONCRETE ALTERNATE B-3

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 10 OF 23

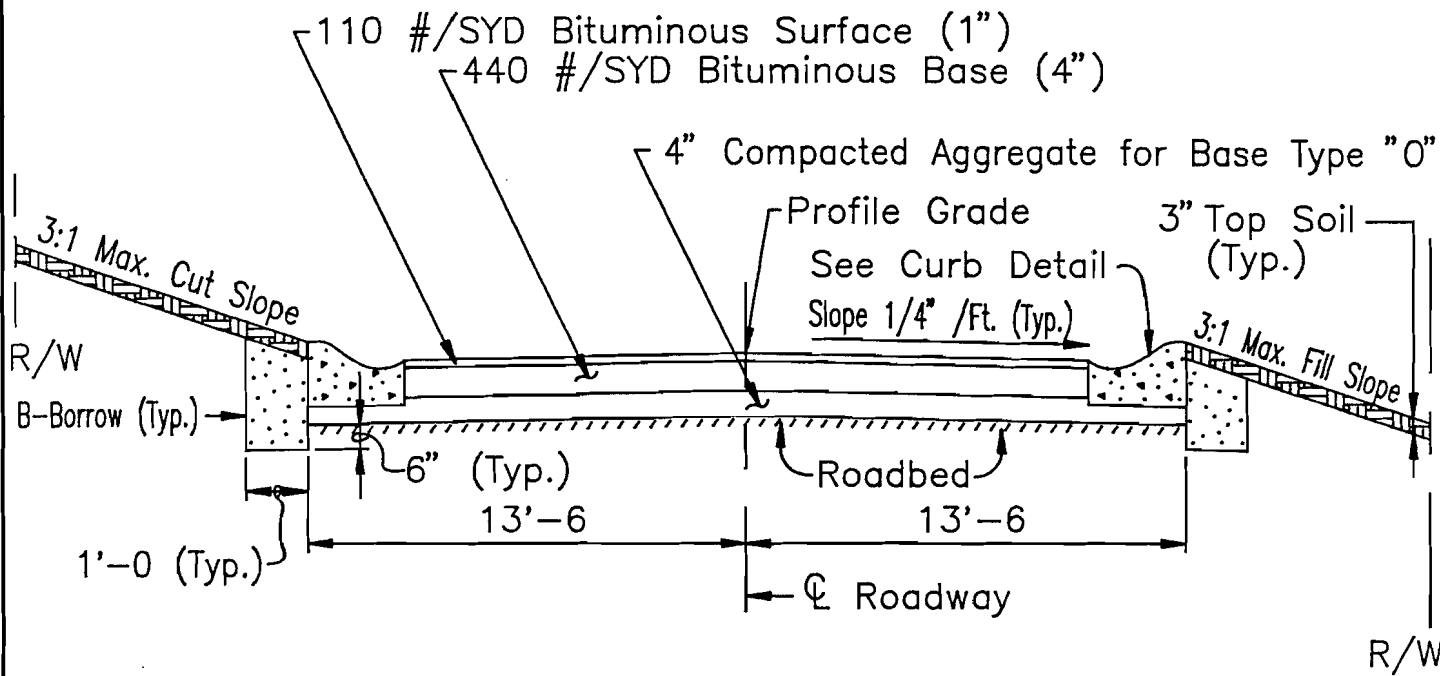


TYPICAL CROSS SECTION
FULL DEPTH BITUMINOUS CONCRETE ALTERNATE C-1

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

SHEET 11 OF 23

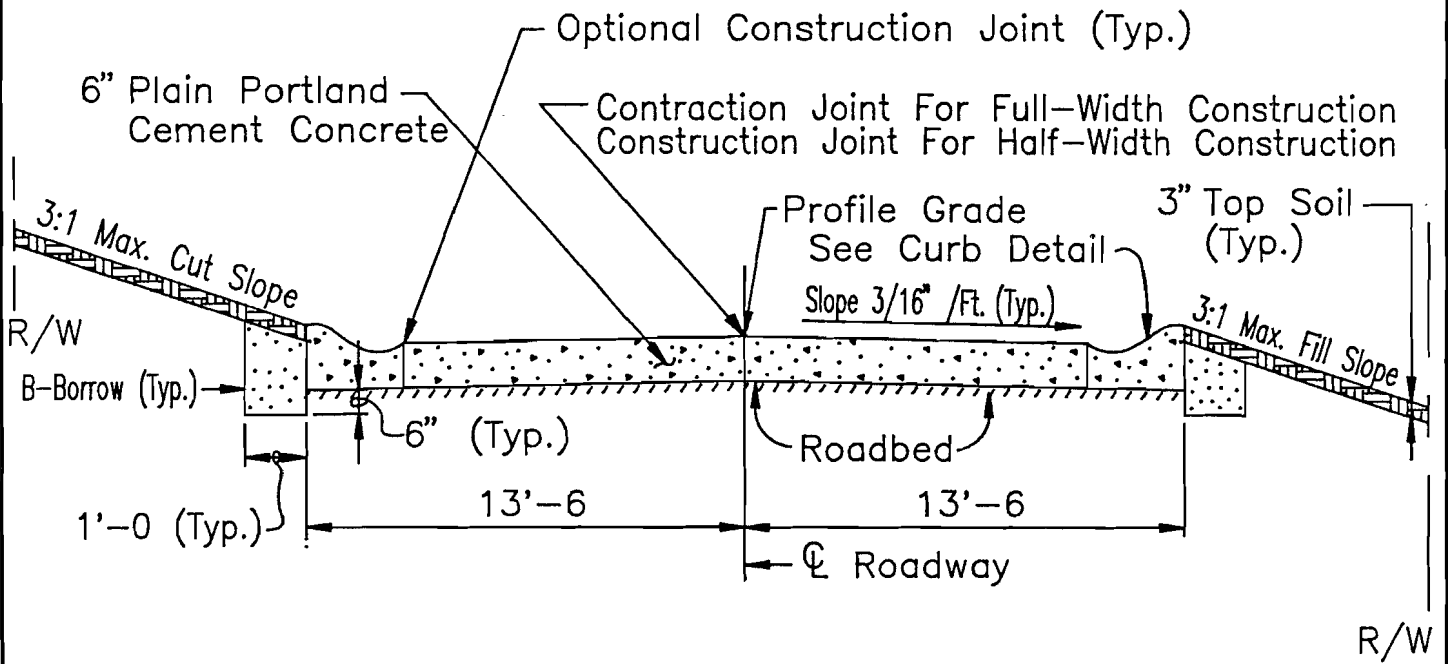


TYPICAL CROSS SECTION
PARTIAL DEPTH BITUMINOUS CONCRETE ALTERNATE C-2

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET ALTERNATE

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TYPICAL CROSS SECTION
CEMENT CONCRETE ALTERNATE C-3

DELAWARE COUNTY ENGINEERING DEPARTMENT

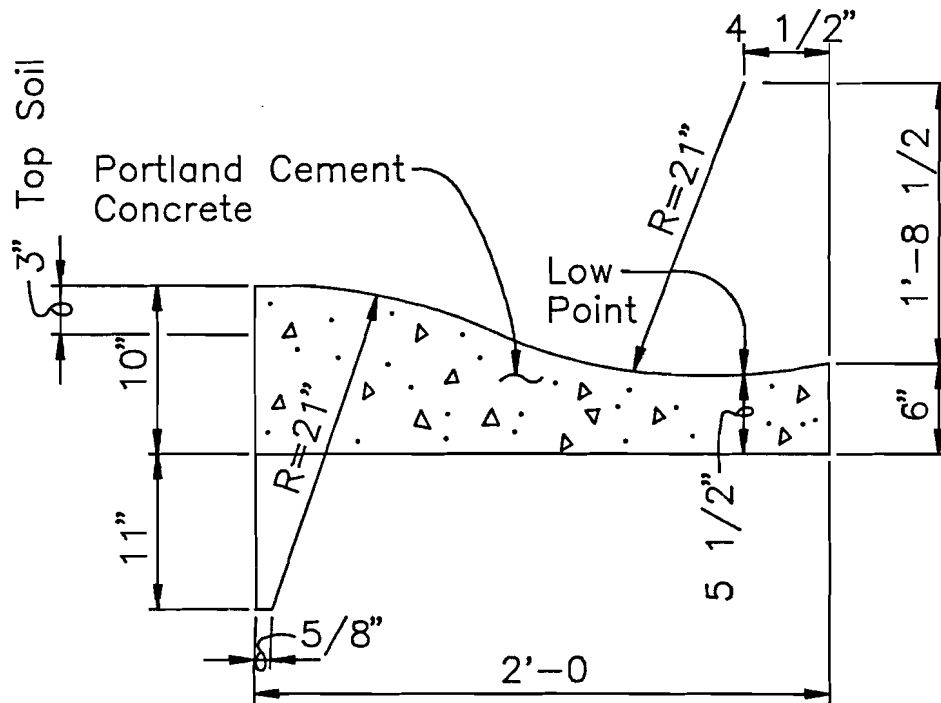
RESIDENTIAL STREET ALTERNATE

SHEET 13 OF 23

- Notes:
- 1.) All applicable provisions in the Indiana Department of Transportation Standard Specifications shall be met except when in conflict with the plans or if otherwise directed by the County Engineer.
 - 2.) For group K pipe materials permitted see section 718 of the INDOT STANDARD SPECIFICATIONS.
 - 3.) All spongy and yielding material which does not readily compact and all vegetation which is under the proposed roadway shall be removed. Soft, yielding or other unsuitable material below the finished grade will be removed and replaced with B-Borrow. All rock encountered shall be removed or broken off at least 6 inches below the finished grade. If the soil in the roadbed exhibits different characteristics within a given soil map symbol area the top 6 inches shall be scarified or bladed and mixed to achieve a more homogenous material. The roadbed shall be rolled with a 3 wheel roller weighing no less than 10 tons or with other approved compacting equipment as directed by the County Engineer.
 - 4.) Concrete Curing of pavement to be in accordance with section 501.17 of the INDOT Standard Specifications. Concrete Curing of the roll curb to be in accordance with section 605 of the INDOT Standard Specification. All curing materials to be in accordance with section 911 of the INDOT Standard Specifications.
 - 5.) Concrete storm sewer pipe shall be in accordance with section 906.01, 906.02 or 906.03 of the INDOT STANDARD SPECIFICATIONS. Corrugated PVC storm sewer pipe shall be in accordance with section 906.20 of the INDOT STANDARD SPECIFICATIONS. The storm sewer pipe will be placed in accordance with the applicable provisions of section 715 of the INDOT STANDARD SPECIFICATIONS.
 - 6.) No peripheral drains will be allowed to drain into the underdrains. The underdrains will be allowed to drain into the catch basins or into ditches.
 - 7.) If field tile are discovered during the construction of the roadway any work being performed that could damage the tile will be halted and the findings will be reported immediately to the County Engineer. It will be the Contractor's responsibility to remove, reroute or replace the tile and/or maintain drainage as directed by the County Engineer.

DELAWARE COUNTY ENGINEERING DEPARTMENT

RESIDENTIAL STREET NOTES

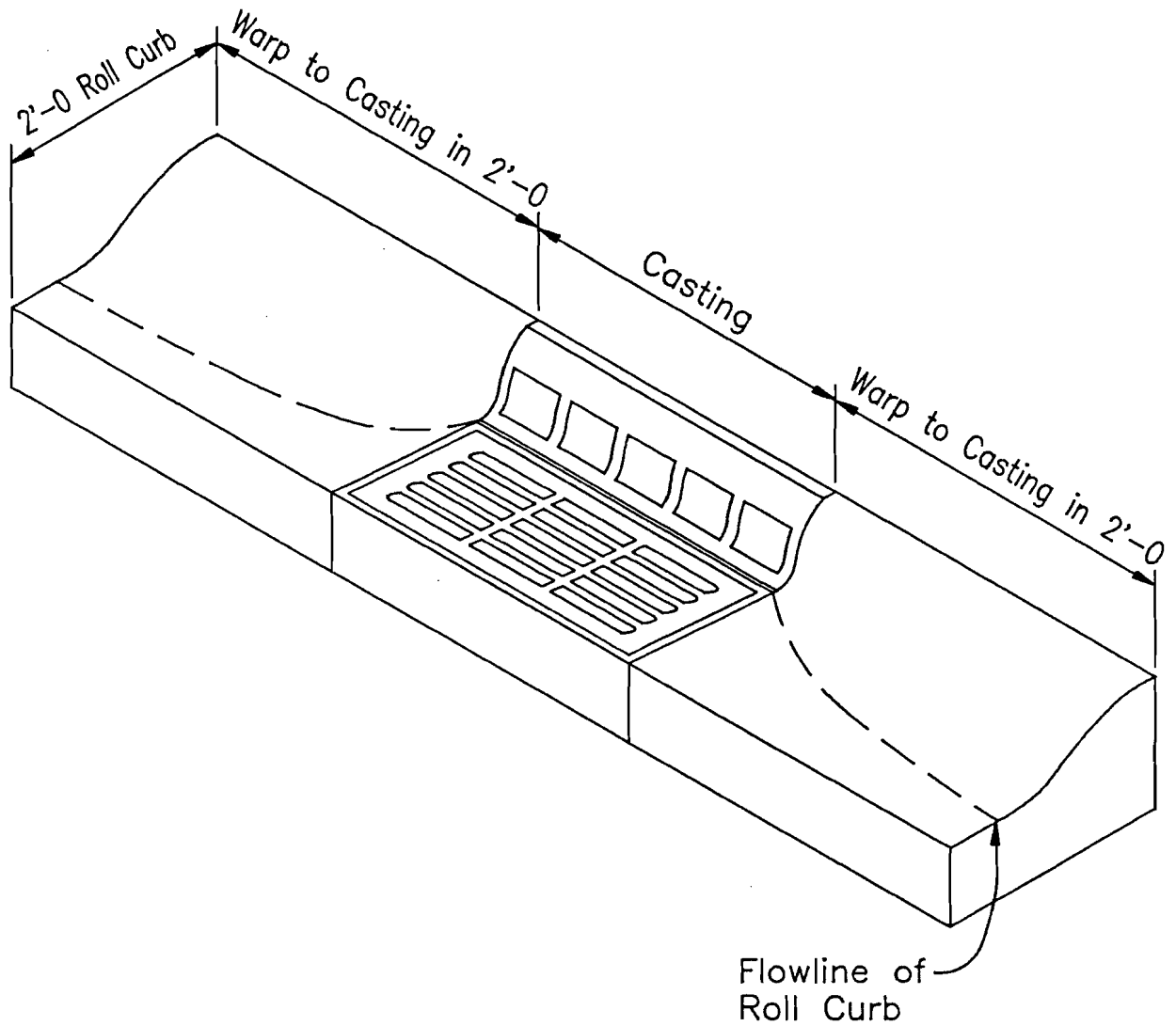


CONCRETE ROLL CURB

DELAWARE COUNTY ENGINEERING DEPARTMENT

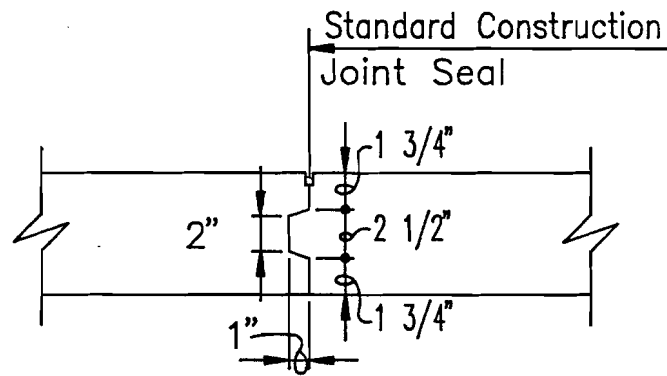
CONCRETE ROLL CURB

SHEET 15 OF 23

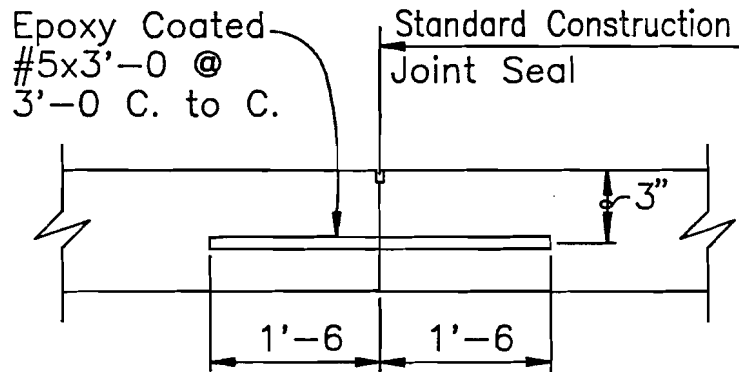


DELAWARE COUNTY ENGINEERING DEPARTMENT

WARP PATTERN ROLL CURB INTO CASTING



KEYWAY ALTERNATE



BULK-HEAD ALTERNATE

DELAWARE COUNTY ENGINEERING DEPARTMENT

CONSTRUCTION JOINT ALTERNATES

SEAL TYPE	PREFORMED ELASTOMERIC SEAL	HOT POURED JOINT SEALANT	LOW MODULUS SILICONE SEALANT
SAWED CONSTRUCTION JOINTS			
SAWED CONTRACTION JOINTS			
EXPANSION JOINTS			

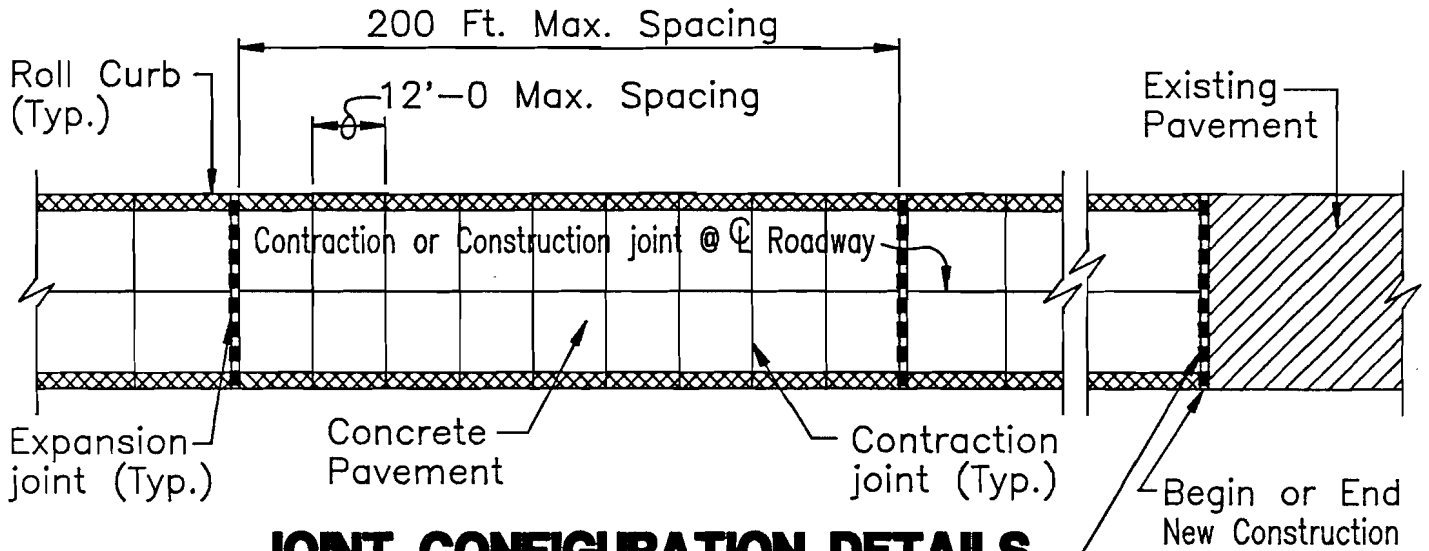
Notes: The configuration of the preformed Elastomeric joint sealer shall be submitted to the engineer for approval.

Seal shall be installed in a compressed condition below surface of pavement as shown.

Joint materials shall be in accordance with section 905 of the INDOT STANDARD SPECIFICATIONS.

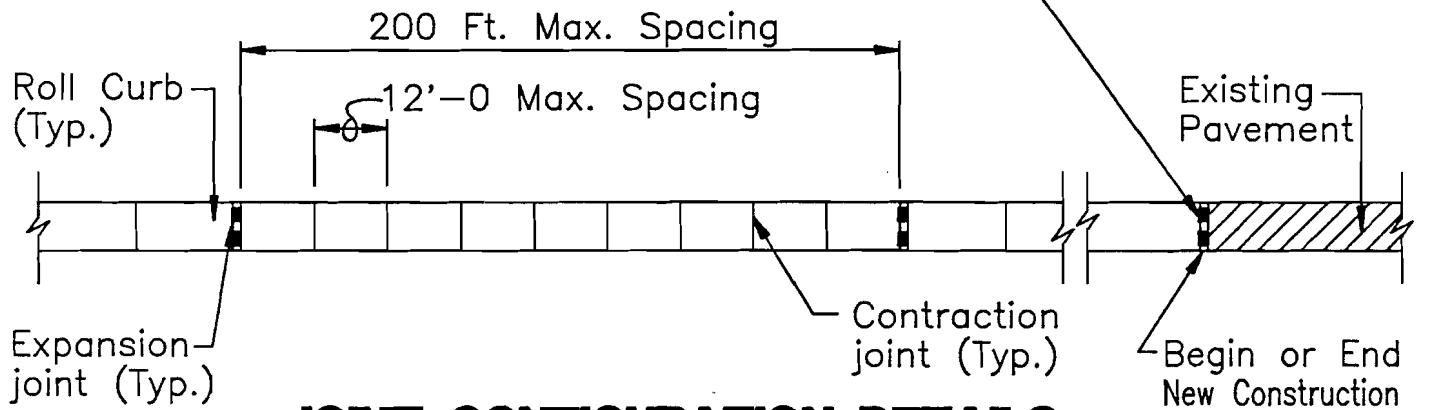
DELAWARE COUNTY ENGINEERING DEPARTMENT

CONCRETE JOINT DETAILS



JOINT CONFIGURATION DETAILS
FOR CONCRETE PAVEMENT

Expansion joint can be eliminated if existing pavement is not concrete.



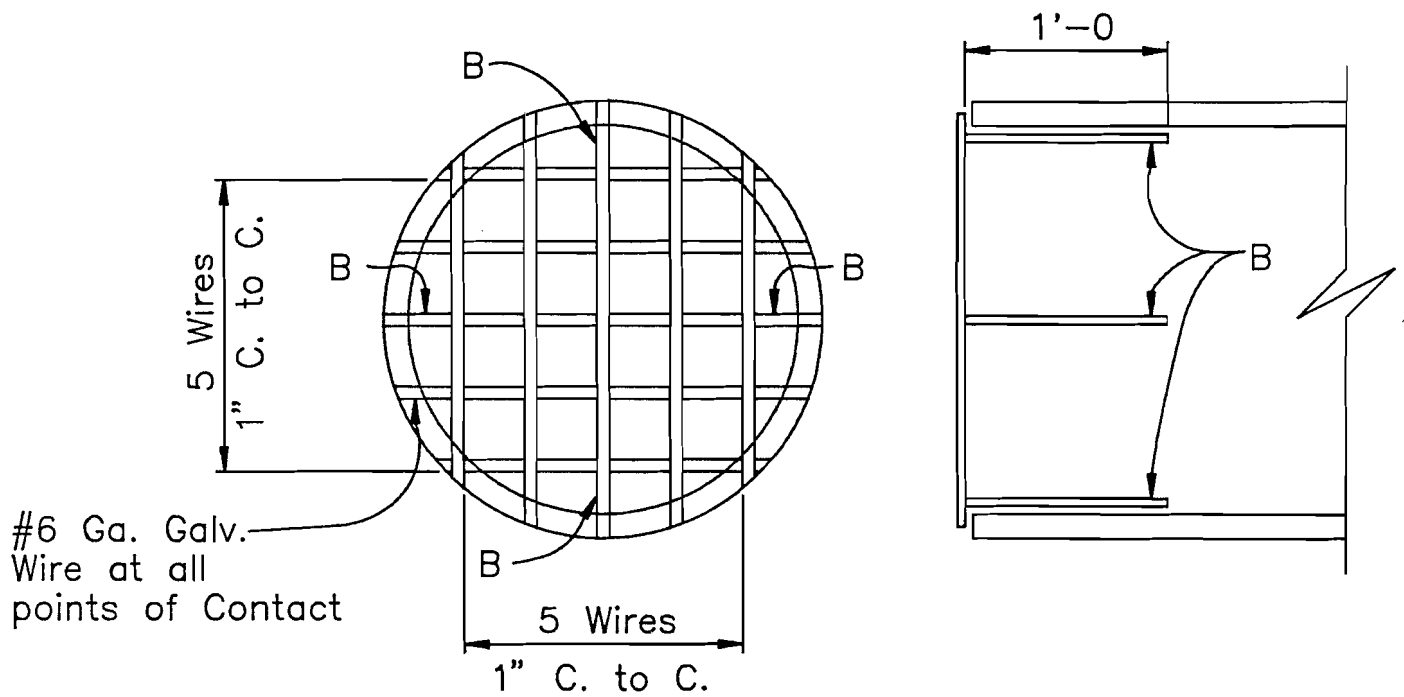
JOINT CONFIGURATION DETAILS
FOR ROLL CURB WITH BITUMINOUS
CONCRETE PAVEMENT

Notes: 1.) Expansion and Contraction joint configuration at intersections subject to approval by the county engineer.

DELAWARE COUNTY ENGINEERING DEPARTMENT

CONCRETE JOINT LOCATIONS

SHEET 19 OF 23



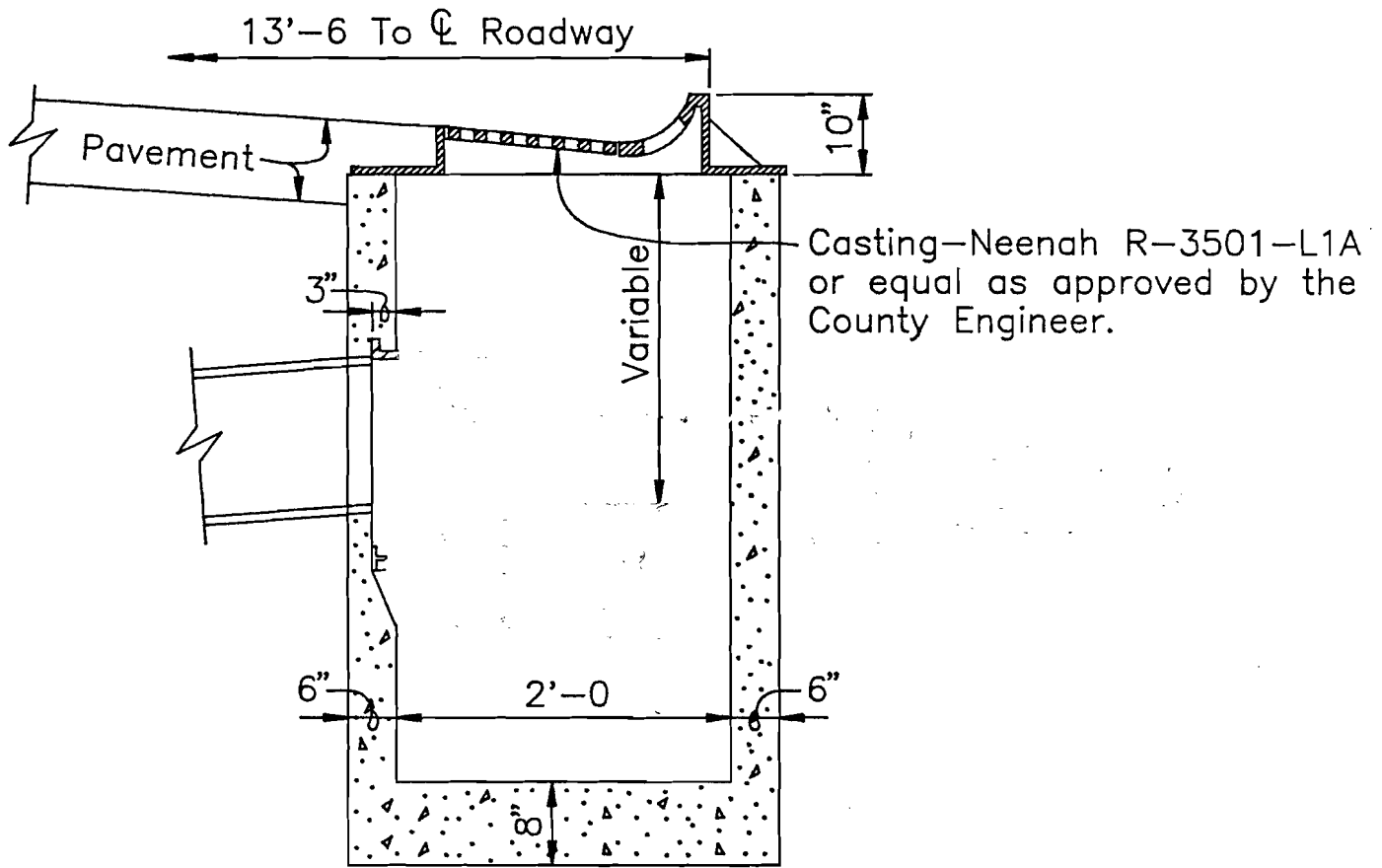
DETAIL OF PIPE SCREEN

- Notes: 1.) Pipe Screen to be used on the outlet end of underdrains.
- 2.) Wires Marked "B" shall be bent as shown and shall extend approximately 1'-0 into inside of pipe.

DELAWARE COUNTY ENGINEERING DEPARTMENT

PIPE SCREEN

SHEET 20 OF 23



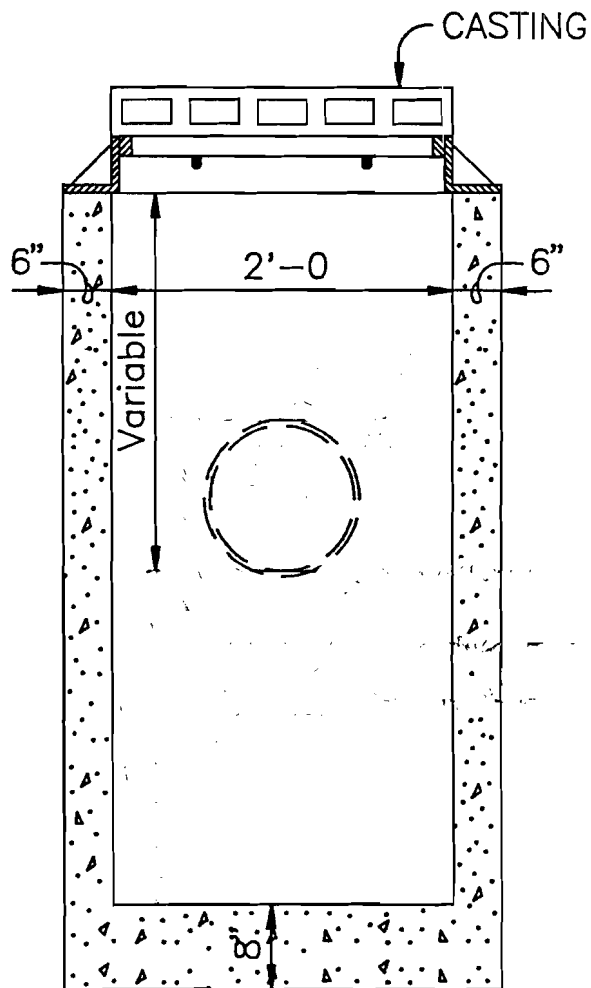
SECTION A-A

REVISED 10-21-92

DELAWARE COUNTY ENGINEERING DEPARTMENT

CONCRETE CATCH BASIN

SHEET 21 OF 23



SECTION B-B

NOTE:

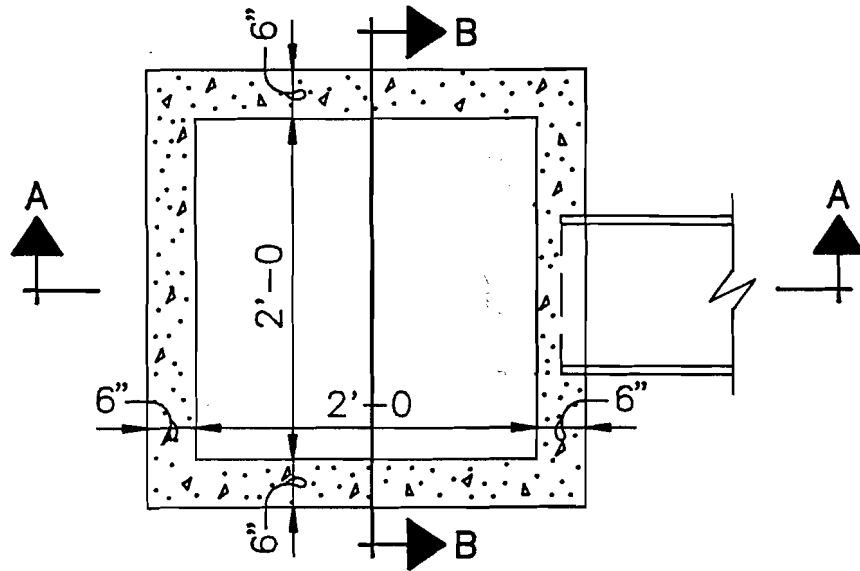
- 1.) Catch Basin to be constructed and placed in accordance with INDOT Standard Specifications.
- 2.) Location of Catch Basin to be approved by the County Engineer.

REVISED 10-21-92

DELAWARE COUNTY ENGINEERING DEPARTMENT

CONCRETE CATCH BASIN

SHEET 22 OF 23



CATCH BASIN DETAIL

REVISED 10-21-92

DELAWARE COUNTY ENGINEERING DEPARTMENT

CONCRETE CATCH BASIN

SHEET 23 OF 23