Street and Storm Sewer Specifications

SUMMIT TOWNSHIP

Summit Township, Erie County, Pennsylvania

Adopted by Resolution 2024-12 on October 7, 2024

SPECIFICATION

SUMMIT TOWNSHIP STREET SPECIFICATIONS

Street construction shall be governed by the following specifications and as detailed in the Summit Township Street Specifications Drawings.

A. Clearing and Grubbing

Clearing and grubbing shall be performed for the full right-of-way width for streets in accordance with PennDOT Publication 408, latest edition, Section 201. Exceptions to this requirement must be applied for and approved by the Township.

B. Grading and Earthwork

1. All streets shall be graded to the full width of the street right-of-way and the adjacent side slopes graded to blend with the natural lay of the land, or in accordance with the approved cross section. Where fill material is necessary to establish uniform grades, compaction of fill materials shall be required in accordance with the standards established by the Township. A slope of three horizontal feet to one vertical foot (3h:1v) beyond the street right-of-way line in cut or fill shall ordinarily be required. Excavation shall be performed in accordance with PennDOT Publication 408, latest edition, Sections 203, 204 and 205. Embankments and fill areas shall be constructed in accordance with PennDOT Publication 408, latest edition, Section 206.

2. Street cross sections shall be in accordance with the standards established by the Township. Where alternatives are available, the Board of Supervisors may designate the cross sections to be used on the advice of the Township Engineer. All details of the cross section, including crowns, curbs, pavement, subgrade, subdrains, and roadside drainage, swales and ditches, shall conform to the designated cross section.

3. Grade stakes shall be placed on each side of the street at maximum intervals of fifty (50) feet and so located as to remain in place until the completion and approval of the asphalt base course. Grade stakes removed prior to the completion of the asphalt base course shall be replaced before any further construction work is performed on the street.

C. The Subgrade

1. Description:

The bottom of the excavation and/or the top of embankment between the outer limits of the street's base course, or subbase, is considered subgrade and shall conform to specified line, grades, and cross sections. Mainly the area that is prepared to receive the placement of the base course, or subbase, is defined as subgrade.

2. Construction Methods:

In general, the subgrade shall be prepared in accordance with PennDOT Publication 408, latest edition, Section 210, and these specifications.

The subgrade shall be shaped to true lines and elevations and shall have a minimum width of the width of the pavement plus two feet. Adequate drainage facilities shall be installed to provide for the disposition of underground seepage and the percolation of surface water. The subgrade shall be thoroughly compacted at optimum moisture content by power rollers with a minimum weight of ten tons to insure satisfactory densification and stabilization. The finish surface shall be uniformly shaped to facilitate drainage, and any irregularities from theoretical grade shall be corrected prior to placing the subbase.

If the material encountered in the normal excavation has a California Bearing Ratio (C.B.R.) value of less than 2.5 and is not of proper quality to develop the required stability and provide for adequate drainage, other material shall be installed to a minimum depth of 12 inches. Material used shall be preferably of granular character, and brought to a firm and thoroughly compacted and uniformly shaped surface.

Prior to placing the subbase, the Township Engineer shall visually inspect the subgrade area. The entire subgrade shall be proof rolled with a 10-ton roller or a fully loaded triaxle truck (loaded with gravel or approved equal) in the presence of the Township Engineer. Areas that are soft, wet or pumping shall be excavated, backfilled with dry material and compacted. The area shall then be proof rolled again, in the presence of the Township Engineer. If unstable areas are found and identified, the material in them shall be removed and replaced with suitable material and thoroughly compacted as described previously. Other unsuitable areas shall be excavated and undercut to the required depth for accommodating the placing of sufficient granular or other suitable subgrade material. In areas of unstable subgrade if designated by the Township Engineer, blind drains and/or a Class 4 geotextile, as specified in PennDOT Form 408, Section 735, latest edition, shall be properly placed on the prepared subgrade.

From visual inspection, the Township Engineer will designate where subdrains and blind drains shall be installed. See Section D.

The prepared subgrade shall be protected by the contractor to prevent undue rutting from trucks or other equipment and if such damage does occur, the subgrade shall be reshaped and compacted prior to placing the subbase material.

The Township Engineer shall provide written approval of the subgrade prior to placement of the subbase.

3. The Sidewalk Area:

The sidewalk area shall be graded out to proper grade and section. The subgrade shall be mechanically compacted. Sidewalks shall be constructed in accordance with the Summit Township Sidewalk Ordinance.

D. Blind Drains and Subdrains Under Pavement

1. Blind Drains:

a. Blind drains shall be laid along the entire length of all streets at a location to be approved in each case by the Township Engineer. Blind drains, spaced at intervals as required by the Township Engineer, shall be installed to drain into the main subdrain. The required interval for blind drains shall be related to ground water conditions and soil type, but in no case shall this interval be greater than 100 feet. If conditions require, six-inch HDPE perforated pipe, wrapped in a geotextile, shall be installed in the blind drains. Blind drains shall extend a minimum from the center of the pavement to the edge of pavement or curb lines.

Blind drains shall be used exclusively for street pavement areas only. Tie-ins to any blind drains from development areas shall be strictly prohibited.

b. In a relatively small part of the Township where the natural soils consist of a well-drained gravel, a waiver from the standard blind drain requirements will be considered by the Township upon written request. Each request will be considered independently and reviewed by the Township Engineer.

2. Subdrains:

a. After the subgrade has been shaped and proof rolled, and blind drain spacing has been established by the Township Engineer, the subdrain shall be installed.

Subdrains shall be used exclusively for street pavement areas only. Tie-ins to any subdrains from development areas shall be strictly prohibited.

b. The trench for the subdrain shall be a minimum of 15 inches wide and shall be excavated to a minimum depth of 30 inches below the bottom of the proposed subbase. Subdrains shall be kept as deep as possible at all locations.

c. A three (3) inch layer of AASHTO #57 stone shall be placed in the bottom of the trench as bedding for the subdrain pipe. Six (6)-inch perforated HDPE pipe shall be placed in the center of the trench. In silty areas and as required by the Township Engineer, subdrains shall be wrapped in a geotextile fabric.

d. The entire trench to the subgrade shall be filled with AASHTO #57 stone.

e. Care must be taken to assure that the stone in the subdrain remains clean and in good contact with the stone or gravel in the subbase.

f. Subdrains shall empty into storm sewer inlets or manholes and shall enter at or above the spring line of the main storm sewer line at that location. The specified depth of subdrain may have to be modified at and near such

inlets and manholes, but shall be brought to specified depths as quickly as practicable.

g. Where perforated storm sewer is installed along the side of the street, a subdrain is not required to be installed in that location provided the blind drains for the street are properly tied into the storm sewer.

E. The Pavement

1. Streets in Commercial, Mixed Use, and Industrial (Zoning) Districts, a Pavement Design shall be submitted by the developer, reviewed by the Township Engineer, and approved by the Board of Supervisors.

2. For temporary turnarounds, the turnaround shall be constructed in accordance with the requirements of the given street.

3. The Subbase:

a. All utilities, including water, gas, sanitary sewers, storm sewers, buried conduits of any kind or any other structures or lines, shall be constructed and in place prior to the placement of the subbase. Utility trenches shall be filled to the subgrade with AASHTO #57 stone or other material as approved by the Township.

b. The subbase shall be PennDOT No. 2A aggregate and shall have a minimum thickness at any point of six (6) inches when compacted. A minimum six (6) inch depth at roadway centerline will require a greater thickness across the roadway section away from the centerline, as the crown on the roadway and crown on the subgrade are different.

c. Subbase construction shall be performed in accordance with PennDOT Pub. 408, latest edition, Section 350 and these specifications. The subbase shall be thoroughly compacted and shaped to the proper grade and cross section. The Township Engineer shall visually inspect the subbase constructed and provide written approval prior to the placement of the asphalt base course.

d. In certain areas of the Township, the natural materials in place are of such a nature as to allow for a reduction in the depth of the subbase required. Upon written request, the Township Engineer shall make an inspection of the natural material and may give written authorization of such reduction in subbase depth if it is determined that such reduction is justified.

4. The Asphalt Base Course:

a. All excavation in the area of the pavement and for a distance of four feet out from the edge of the pavement, including that necessary for the installation of utilities, shall have been completed a minimum of 90 days prior to the placing of the asphalt base course.

b. The asphalt base course shall consist of materials, and be constructed, in accordance with PennDOT Pub. 408, latest edition, Section 313 “Superpave Asphalt Mixture Design, Standard Construction, Base Course”.

c. The asphalt base course shall consist of, and be placed to a minimum thickness when compacted, as follows:

(1) For local and residential streets – Superpave Asphalt Mixture Design, Asphalt Base Course, PG 64-22, 0.3 < 3 million ESALS, 25mm mix, 3” Depth.

(2) For commercial and industrial streets – Superpave Asphalt Mixture Design, Asphalt Base Course, PG 64-22, 0.3 < 3million ESALS, 25mm mix, 5” Depth.

If a pavement design has been provided and approved by the Township, minimum depths of asphalt base course shall be as per the approved pavement design.

d. The Township Engineer shall visually inspect and check the depth and temperature of the asphalt base course at the time of placement. The Township Engineer shall provide written approval of the asphalt base course prior to the placement of the asphalt binder course.

5. Asphalt Binder Course:

a. Tack coat as specified in PennDOT Pub. 408, latest edition, Section 460, shall be required in all cases where the asphalt base course has been in place for a period in excess of 96 hours prior to the placing of the asphalt binder course or in any case where the use of such tack coat is determined to be necessary by the Township Engineer.

b. The asphalt binder course shall consist of materials, and be constructed, in accordance with PennDOT Pub. 408, latest edition, Section 413, “Superpave Mixture Design, Standard and RPS Construction of Plant – Mixed Asphalt Courses with Percent Within Limits and LTS Testing (PWL – LTS)”.

c. The asphalt binder course shall consist of, and be placed to a minimum thickness when compacted, as follows:

(1) For all streets – Superpave Asphalt Mixture Design, Asphalt Binder Course, PG 64-22, 0.3 < 3million ESALS, 19mm mix, 2 1/2” Depth.

d. Special note is made of PennDOT Pub. 408, Section 413.3(g), "Preparation of Existing Surface." The asphalt base course shall be thoroughly cleaned, and all defects remedied prior to the placement of the asphalt binder

course.

e. The asphalt binder course shall be placed within one week of the placement of asphalt base course, weather permitting.

f. The Township Engineer shall visually inspect and check the depth and temperature of the asphalt binder course at the time of placement. The Township Engineer shall provide written approval of the asphalt binder course prior to the placement of the asphalt wearing course.

6. The Asphalt Wearing Course:

a. The asphalt wearing course shall consist of materials, and be constructed in accordance with the following:

(1) PennDOT Pub. 408, latest edition, Section 413, "Superpave Mixture Design, Standard and RPS Construction of Plant - Mixed Asphalt Courses with Percent Within Limits and LTS Testing (PWL – LTS)".

Wearing course shall be Superpave Asphalt Mixture Design, Asphalt Wearing Course, PG 64-22, 0.3 < 3 million ESALS, 9.5mm mix, 1 1/2" Depth SRL-H.

(2) The asphalt wearing course shall be placed to a minimum thickness when compacted of one and one half (1 ½) inches.

b. The Township Engineer shall visually inspect and check the depth and temperature of the asphalt wearing course at the time of placement. The Township Engineer shall provide written approval of the asphalt wearing course.

F. Pavement of Higher Grade

1. Should it be desired by the developer or required by Summit Township to install a pavement of a higher grade than covered by these specifications, such higher grade of work will be considered upon receipt of plans and specifications to cover such work. The plans and specifications shall be approved by the Township prior to the installation of such work.

G. Curbing

1. Concrete curbs or concrete curb/gutter when considered necessary by the Township Engineer and approved by the Board of Supervisors for the protection of the public, or wherever it is determined that the potential volume of pedestrian traffic or safety consideration requires shall be constructed in accordance with PennDOT Pub. 408, latest edition, Section 630. Curb dimensions shall be in accordance with the standards as established by Summit Township.

2. Grade stakes shall be placed on each side of the curb line at maximum intervals of 25 feet and shall be located so as to remain in place until the completion and approval of the curbs.

3. The space behind the curb shall be filled and graded to drain to the street at a maximum slope of three-fourths inch per foot.

SPECIFICATIONS

SUMMIT TOWNSHIP STORM SEWER SPECFICATIONS

For sewers 12 inches to 30 inches in diameter

In accordance with the Summit Township Subdivision Ordinance, plans for all storm sewers shall be submitted for approval before any construction work is begun. At the conclusion of the work, an "as built plan" shall be submitted to the Township for file.

Pipe

A. Size: The minimum size of any storm sewer shall be twelve (12) inches in diameter. The pipe shall be sized in accordance with standard engineering practice. In all cases, the area in acres to be drained by the pipe shall be shown on the plan.

B. Type: All pipe to be used for storm sewers shall be either double wall smooth interior HDPE pipe or reinforced concrete pipe. For storm sewers to be installed along a street to be dedicated to the Township, the pipe shall be perforated.

C. Installation:

1. The pipe shall be installed in straight lines and constant grades between manholes and inlets.

2. Pipe shall be installed on a firm base consisting of AASHTO No. 57 coarse aggregate with a minimum depth of three (3) inches thoroughly tamped. Additional material may need to be removed and replaced with select fill to give a firm base.

3. The pipe shall be installed at such a minimum depth as will provide a minimum cover of twelve (12) inches below the pavement subgrade for paved areas and twelve (12) inches below finished grade in grass areas.

D. Backfill:

1. The backfill around the pipe and for a depth of at least one (1) foot above the pipe shall be AASHTO No. 57 coarse aggregate or other approved material.

2. For pipe installed under pavement areas, backfill the remaining depth with PennDOT 2A subbase in six (6) inch maximum loose lifts, and brought to a firm and thoroughly compacted and uniformly shaped surface.

3. In other locations, backfill remaining depth with suitable material approved by the Township compacted as required.

Manholes

A. Location: Manholes shall be located in the line as required for proper use and maintenance of the line. Manholes shall be located at the end of a line, at all breaks in grade or alignment in a line, and at a maximum interval of 350 feet where inlets are not provided. Manholes shall not be used as inlets.

B. Construction:

1. Manhole sections shall be reinforced precast concrete in accordance with ASTM C478, with resilient connectors complying with ASTM C923.

2. Manhole steps shall be formed galvanized steel rungs; ¾" inch diameter. Formed integral with manhole sections.

3. Manholes shall be constructed with an eccentric cone 42 to 48 inches high with a bottom inside diameter of 48 inches and a top inside diameter of 24 inches with steps as indicated on the detail when required.

4. A formed flow channel shall be constructed on the bottom of the manhole to preclude standing water within the manhole.

C. Frame and Cover:

1. Cast iron frame and cover shall be similar and equal to those manufactured by East Jordon Ironworks.

2. The frame shall be pattern 1975Z.

3. The cover shall be solid type, pattern 1975B.

D. Drop in Manhole: The maximum difference in elevation between the inlet and outlet of the manhole shall be two (2) feet unless a standard drop manhole is provided.

Inlets

E. Location:

1. Inlets shall be located at street intersections at the center of the radius of the curb line and not interfere with the pedestrian accessible route. See Inlet Location Detail for a typical corner installation.

2. Inlets located between intersections shall be located as follows:

a. At the face of curb for vertical curb roadway sections using a "Type M" inlet top, or within the curb using a "Type C" inlet top.

b. At the center of the gutter line for rolled curb roadway sections.

c. Within the integral curb gutter using a “Type C” inlet top.

3. Inlets shall be spaced in accordance with standard engineering practice to minimize the water spread within the roadway. The maximum spacing of inlets shall not exceed 300 feet.

F. Construction:

1. Inlets shall be constructed from precast concrete and be a minimum size of 2’ x 3’-9 ¼” (PennDOT standard box).

2. Grade ring shall be either precast or cast-in-place concrete. Bricks and masonry shall not be permitted for use as grade rings. When the wearing course of a street is not immediately applied, the elevation of the inlets shall be set such that the inlet will collect runoff until such time as the wearing course is applied. At such time as the wearing course is applied, risers shall be installed to adjust the inlet to the final elevation.

3. Pipe penetrations shall be located on the face of the inlet and be mortared both inside and outside of the inlet. No pipes shall penetrate the corners of an inlet.

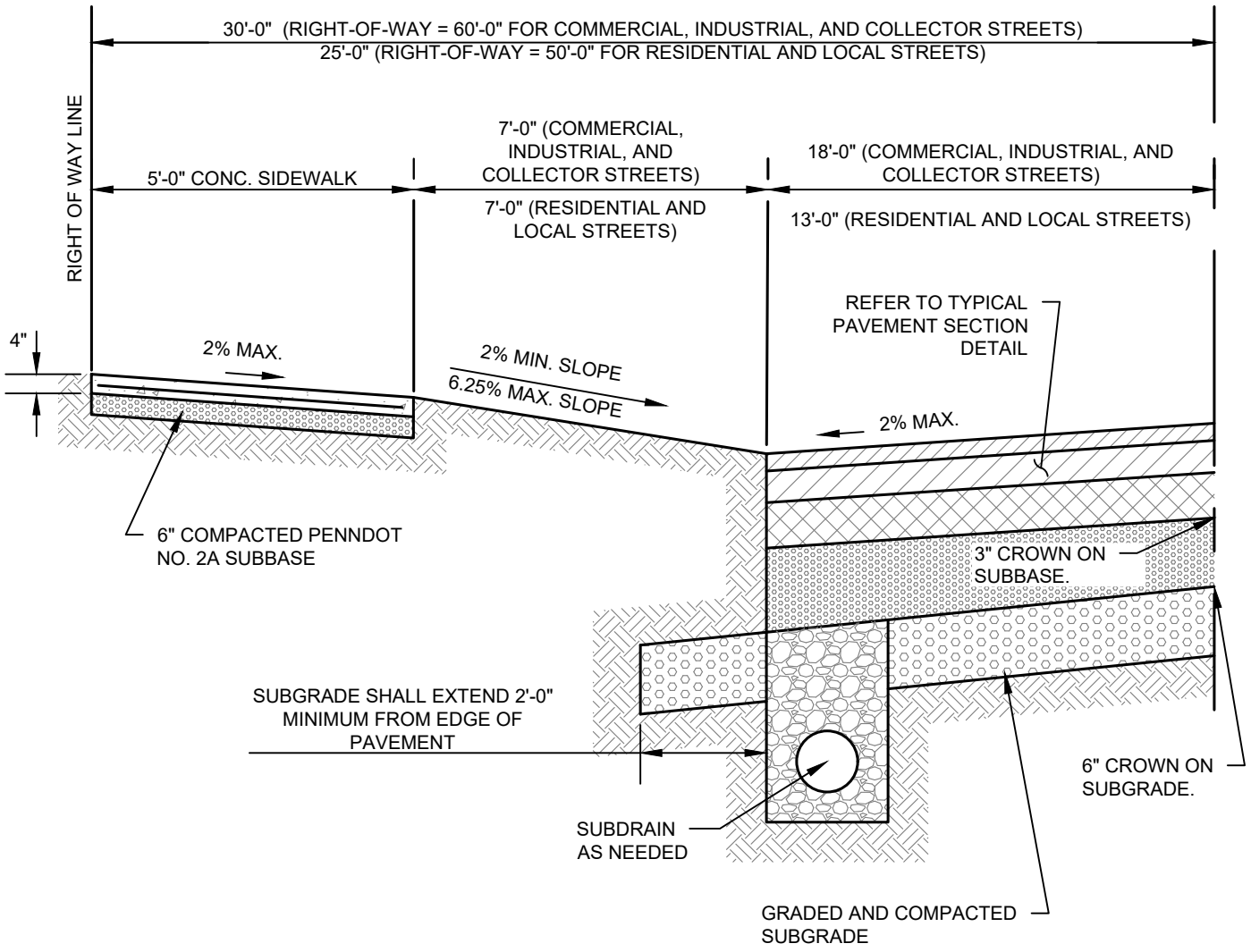
4. The downstream invert of the inlet shall be two (2) inches lower than the upstream inverts unless a poured flow channel is provided.

G. Frame and Grate:

1. Steel Frames and Grates
   a. Structural Steel conforming to AASHTO M270 Grade 50
   b. Welds in accordance with PennDOT Pub. 408, Section 1105, latest edition.
2. Cast Iron Frames and Grates
   a. Cast iron conforming to AASHTO M105, CLASS 35B and AASHTO M306.
3. Bicycle safe grates shall be provided for inlets located within paved areas.

Specifications for storm sewers over thirty (30) inches in diameter shall be treated on a case-by-case basis.

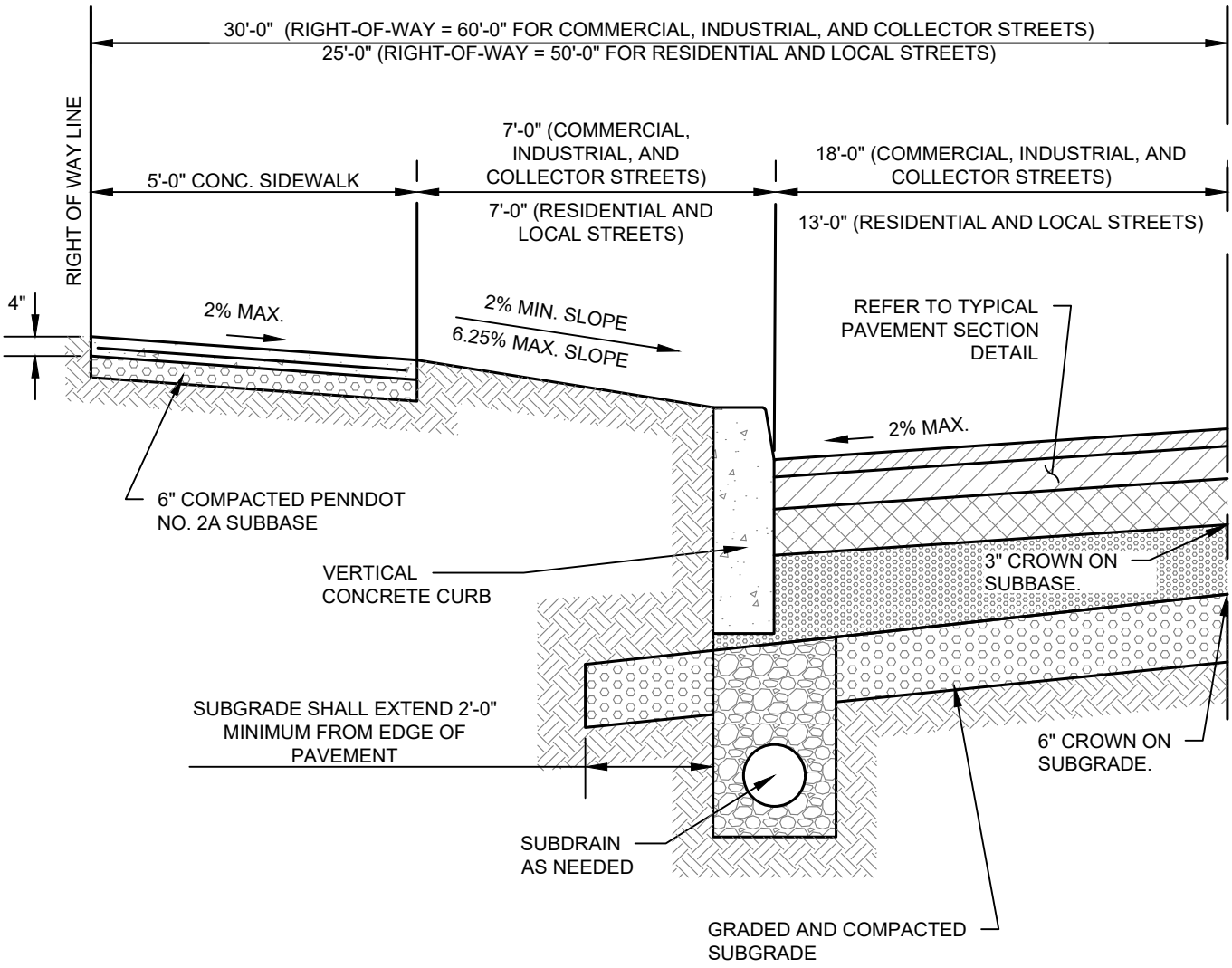
NO TREES SHALL BE PLANTED IN THE RIGHT-OF-WAY.



TYPICAL PAVEMENT CROSS-SECTION WITH NO CURB
N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
TYPICAL STREET CROSS-SECTION	DATE September 26, 2024	DRAWING No. 1

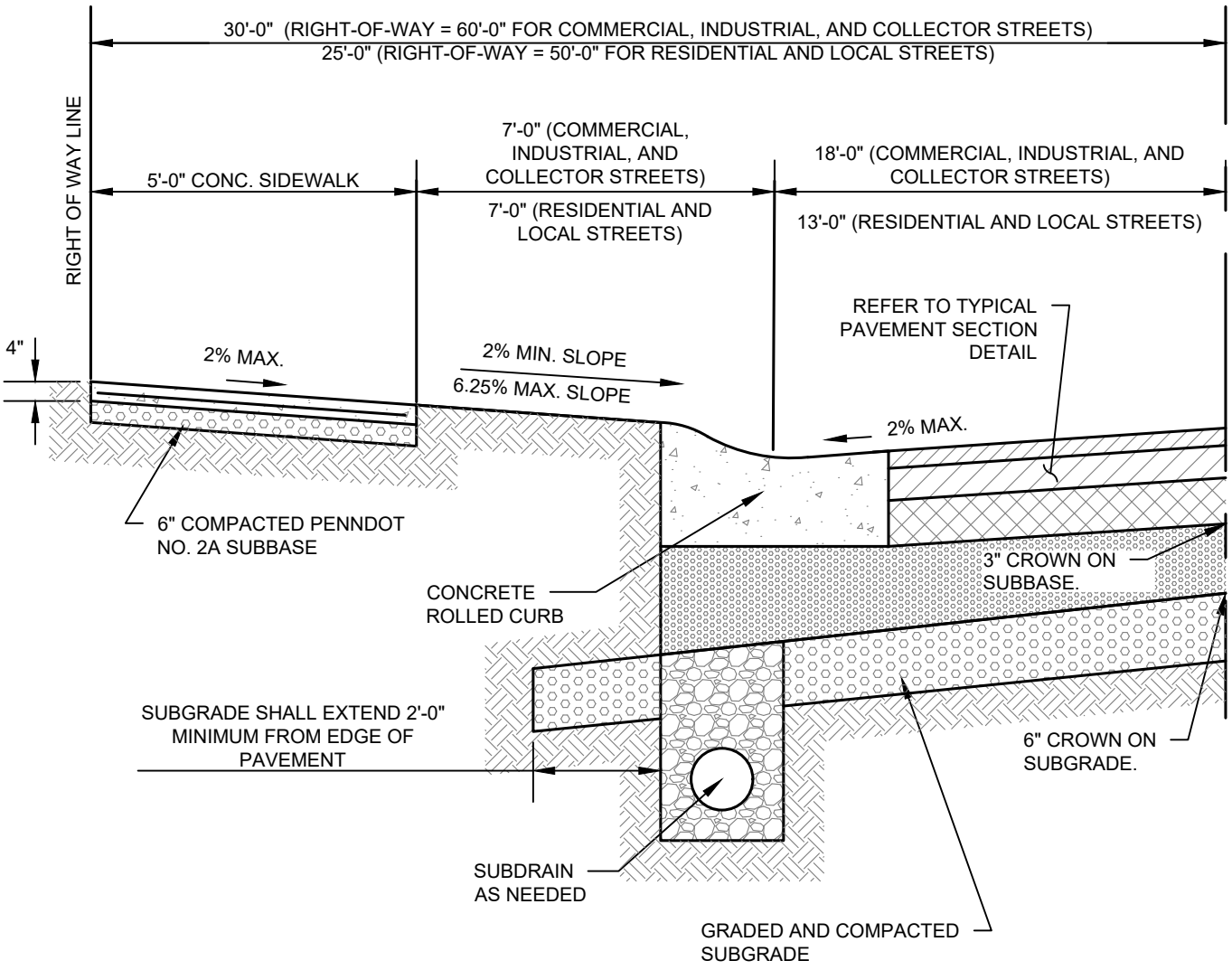
NO TREES SHALL BE PLANTED IN THE RIGHT-OF-WAY.



TYPICAL PAVEMENT CROSS-SECTION WITH VERTICAL CURB
N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
TYPICAL STREET CROSS-SECTION	DATE September 26, 2024	DRAWING No. 2

NO TREES SHALL BE PLANTED IN THE RIGHT-OF-WAY.

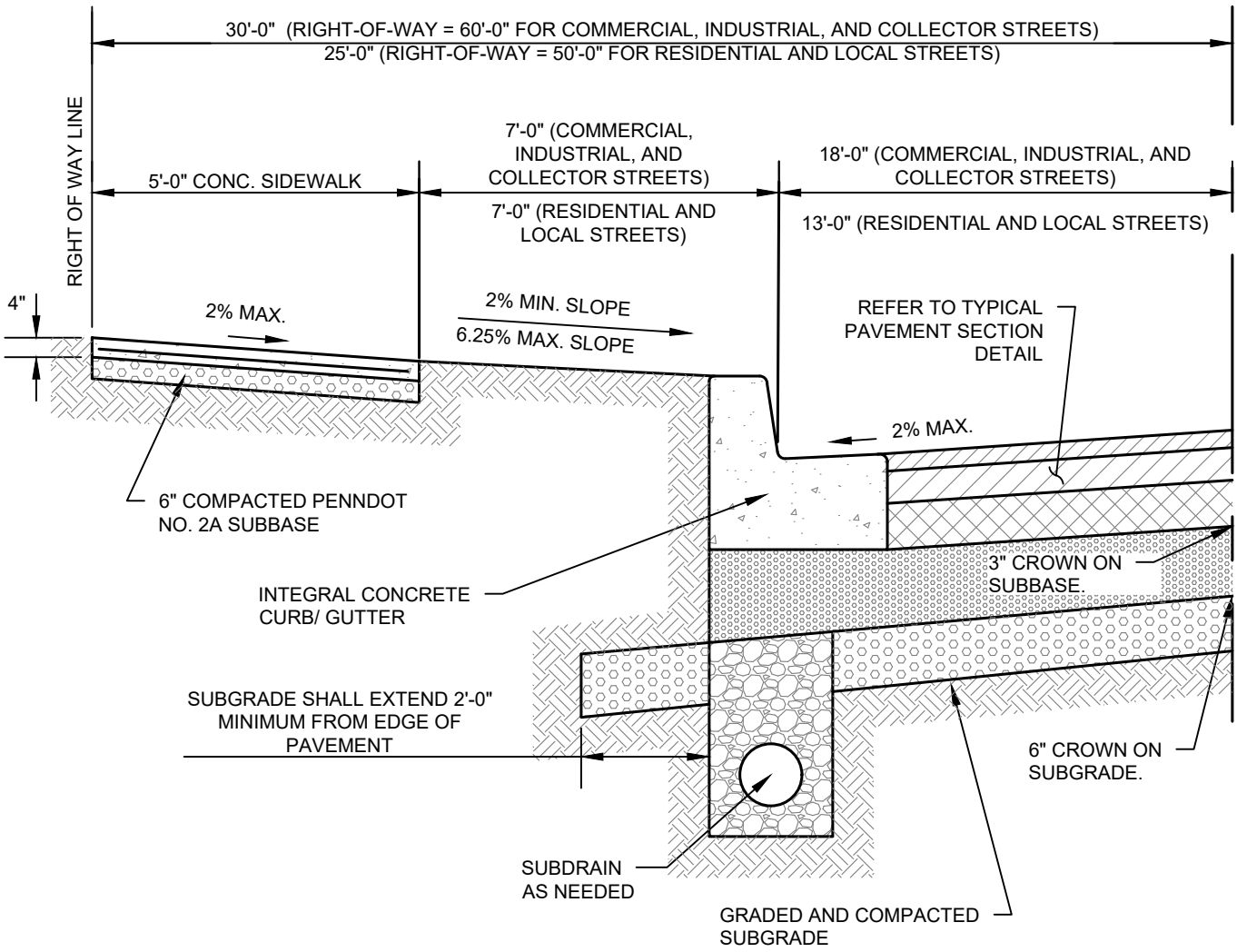


TYPICAL PAVEMENT CROSS-SECTION WITH ROLLED CURB

N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
TYPICAL STREET CROSS-SECTION	DATE September 26, 2024	DRAWING No. 3

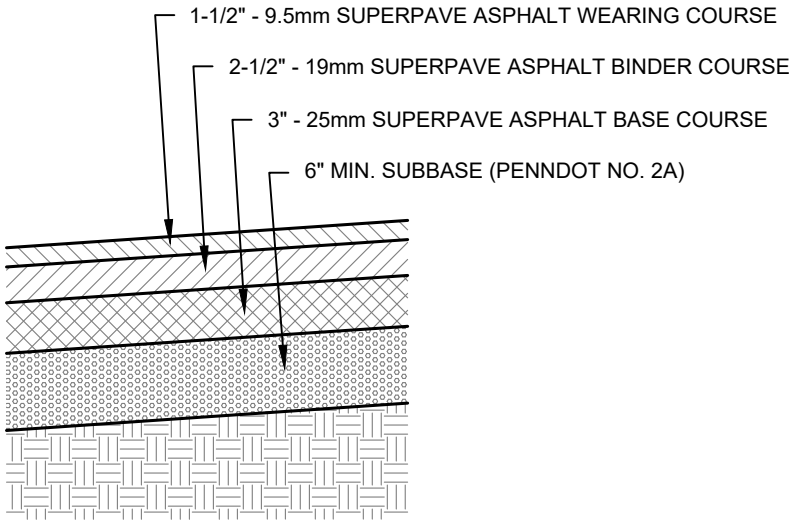
NO TREES SHALL BE PLANTED IN THE RIGHT-OF-WAY.



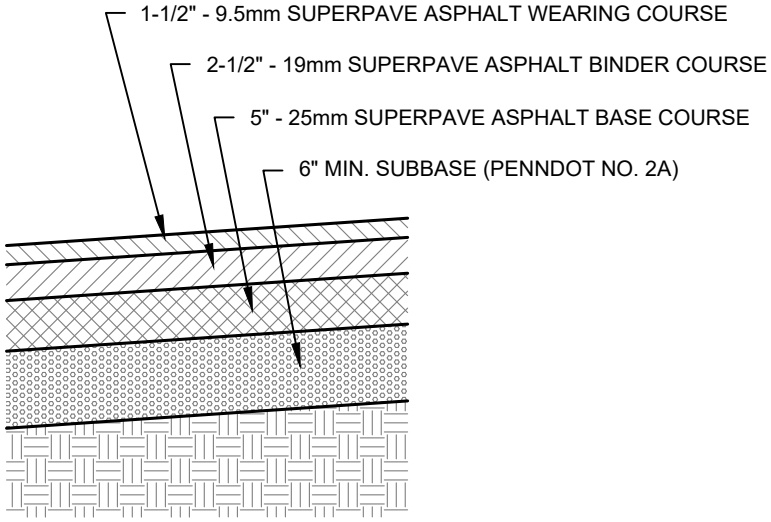
TYPICAL PAVEMENT CROSS-SECTION WITH INTEGRAL CURB/GUTTER

N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
TYPICAL STREET CROSS-SECTION	DATE September 26, 2024	DRAWING No. 4



TYPICAL PAVEMENT SECTION
RESIDENTIAL STREETS
N.T.S.



TYPICAL PAVEMENT SECTION
COMMERCIAL, INDUSTRIAL, AND COLLECTOR STREETS
N.T.S.

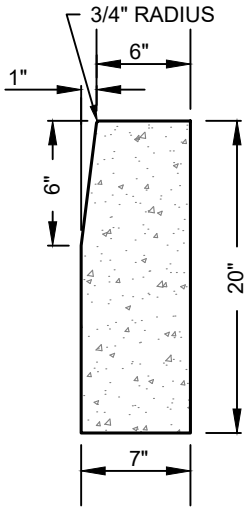
STREET SPECIFICATIONS

SUMMIT TOWNSHIP
1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080
PH: 814/868-9686 • FX: 814/864-0013

TYPICAL PAVEMENT SECTIONS

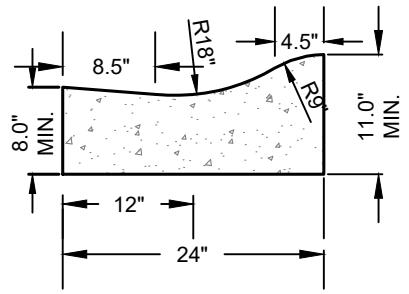
DATE
September 26, 2024

DRAWING No.
5



CURB SECTIONS WILL BE 10' LONG. EXPANSION JOINS OF 1/4" PREMOLDED NON-EXTRUDING FILLER TO BE PLACED AT EACH END OF A CURVED SECTION AND AT INTERVALS OF NOT MORE THAN 120'. INTERMEDIATE JOINTS WILL BE 2" THICKNESS OF 1-PLY BITUMINOUS PAPER.

VERTICAL CONCRETE CURB FOR US IN RESIDENTIAL DISTRICTS
N.T.S.



NOTES:

1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, LATEST EDITION, SECTION 630 FOR PLAIN CONCRETE CURB AND DEPRESSED CURB, SECTION 640 FOR PLAIN CONCRETE CURB AND FOR PLAIN CONCRETE CURB GUTTER.

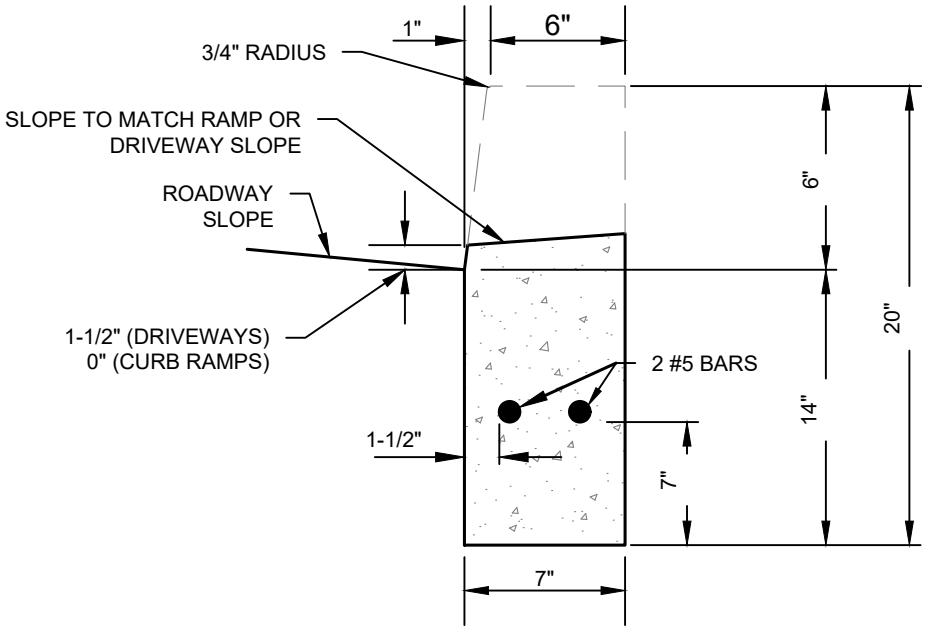
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.

3. PLACE 3/4" PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.

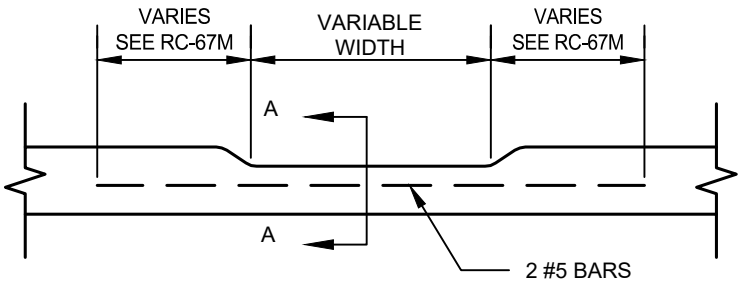
4. MECHANICAL SLIP FORM CURB MACHINE MAY BE USED TO CONSTRUCT CURB.

ROLLED CONCRETE CURB FOR USE IN RESIDENTIAL DISTRICTS
N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
VERTICAL CONCRETE CURB ROLLED CONCRETE CURB	DATE September 26, 2024	DRAWING No. 6



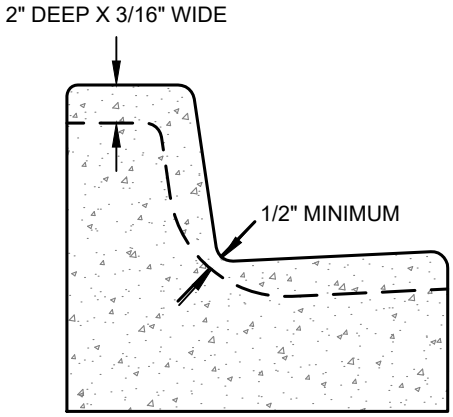
SECTION A-A



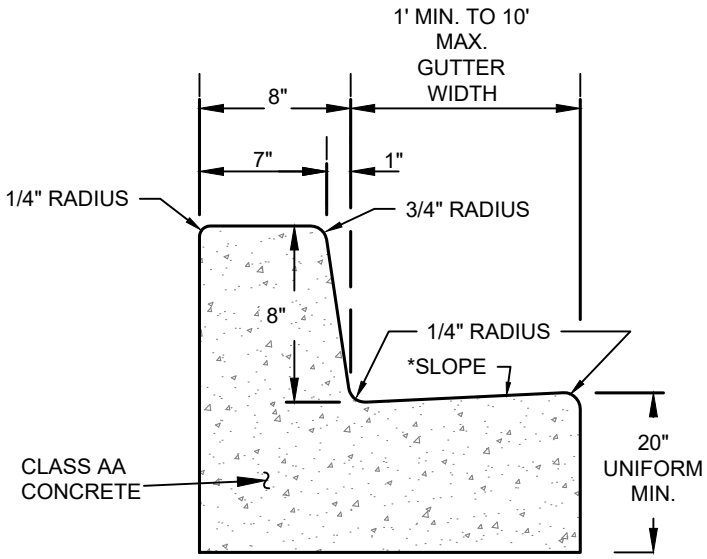
ELEVATION VIEW

DEPRESSED CURB
N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
DEPRESSED CURB	DATE September 26, 2024	DRAWING No. 7

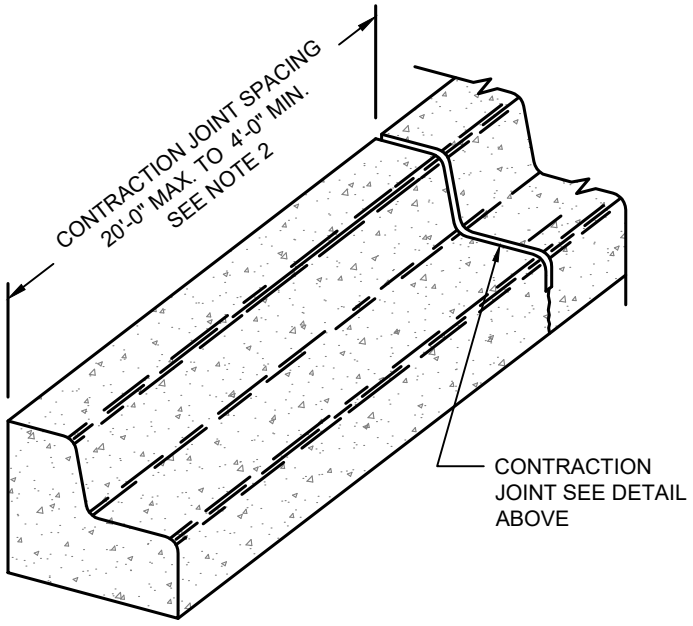


CONTRACTION JOINT DETAIL
N.T.S.



TYPICAL CROSS SECTION

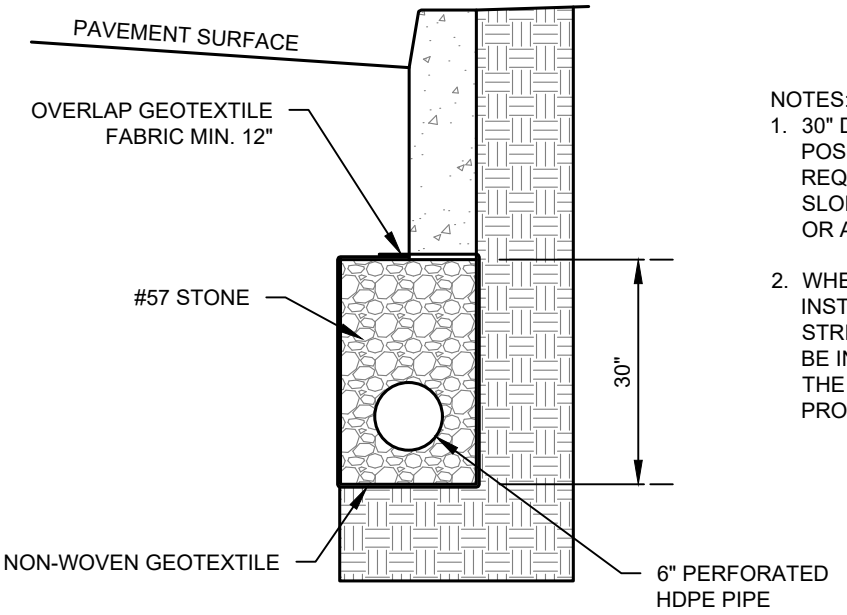
* UNDER 5' GUTTER WIDTH = 1" PER FT. MIN.
* OVER 5' GUTTER WIDTH = MATCH STREET SLOPE



NOTES:
1. PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, LATEST EDITION, SECTION 630 FOR PLAIN CONCRETE CURB AND DEPRESSED CURB, SECTION 640 FOR PLAIN CONCRETE CURB AND FOR PLAIN CONCRETE CURB GUTTER.
2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
3. PLACE 3/4" PREMOLDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.

INTEGRAL CONCRETE CURB/GUTTER FOR USE IN COMMERCIAL / MIXED USE / INDUSTRIAL DISTRICTS
N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
INTERGRAL CONCRETE CURB/GUTTER	DATE September 26, 2024	DRAWING No. 8

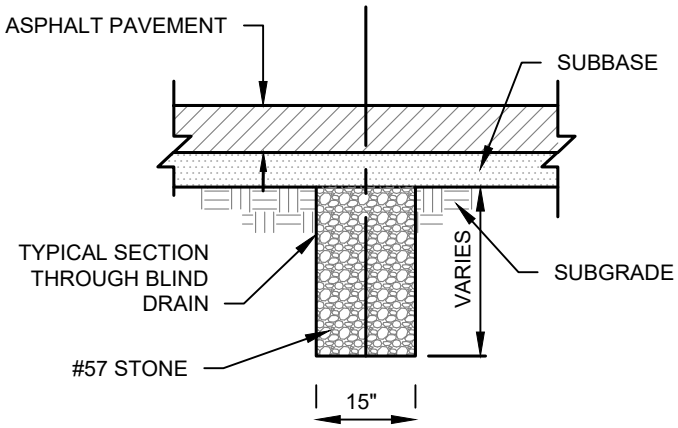


NOTES:

1. 30" DEPTH HELD AS MINIMUM WHENEVER POSSIBLE. WHERE LOWER MINIMUM IS REQUIRED, INCREASE DEPTH BY USING A SLOPE LOWER THAN THE PAVEMENT DESIGN OR AS DIRECTED BY THE ENGINEER.
2. WHERE PERFORATED STORM SEWER IS INSTALLED ALONG THE SIDE OF THE STREET, A SUBDRAIN IS NOT REQUIRED TO BE INSTALLED IN THAT LOCATION PROVIDED THE BLIND DRAINS FOR THE STREET ARE PROPERLY TIED INTO THE STORM SEWER.

SUBDRAIN STANDARD

N.T.S.



BLIND DRAIN

N.T.S.

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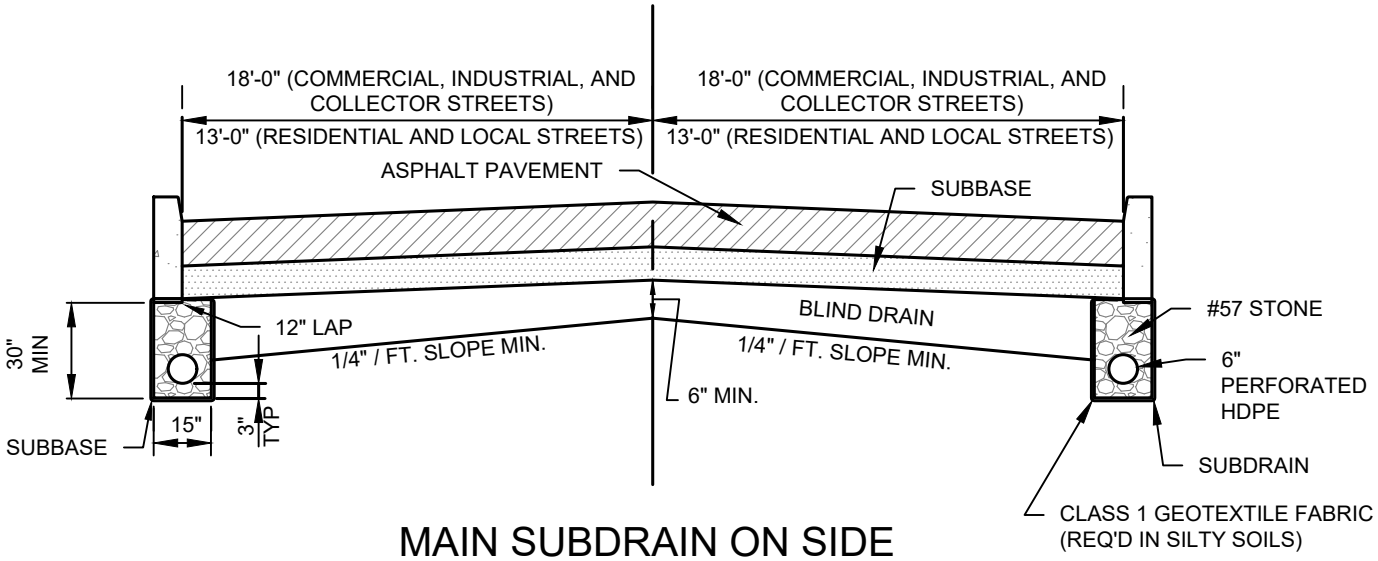
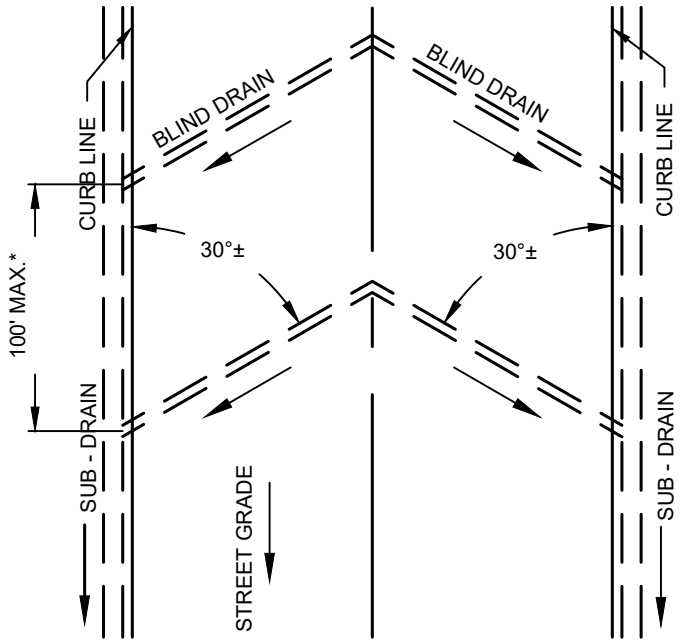
SUBDRAIN AND BLIND DRAIN	DATE September 26, 2024	DRAWING No. 9

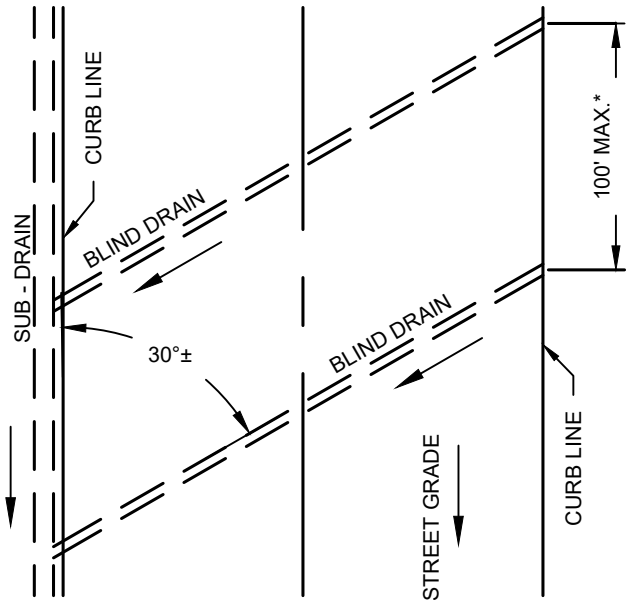


MAIN SUBDRAIN ON SIDE

N.T.S.



BOTH SIDES LOCATION



SIDE LOCATION

* THE REQUIRED INTERVAL FOR BLIND DRAINS SHALL BE RELATED TO GROUND WATER CONDITIONS AND SOIL TYPE, BUT IN NO CASE SHALL THIS INTERVAL BE GREATER THAN 100 FEET.

TYPICAL LOCATIONS FOR SUB-DRAINS AND BLIND DRAINS

N.T.S.

STREET SPECIFICATIONS

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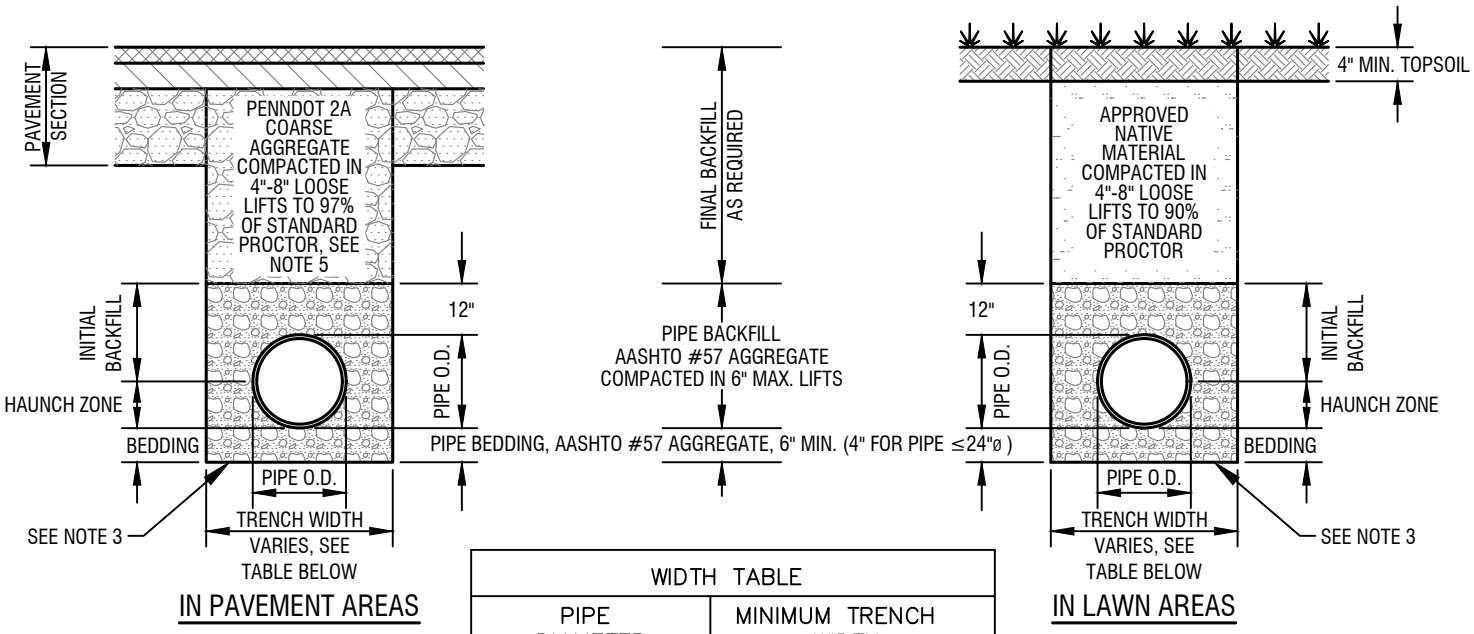
SUBDRAIN AND BLIND DRAIN LOCATIONS

DATE
September 26, 2024

DRAWING No.
10



WIDTH TABLE	
PIPE DIAMETER	MINIMUM TRENCH WIDTH
12"	31"
15"	34"
18"	39"
24"	48"
30"	66"

NOTES:

1. REFER TO THE PIPE MANUFACTURER'S AND ASTM D2321 SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. IN–PAVEMENT AREAS DETAIL SHALL BE USED AS FOLLOWS:
   - WHEN EXCAVATION DEPTH IS FIVE (5) FEET OR LESS, THIS DETAIL SHALL BE USED WITHIN FIVE (5) HORIZONTAL FEET OF ANY PAVEMENT, BERM, SIDEWALK OR DRIVEWAY
   - WHEN EXCAVATION DEPTH IS GREATER THAN FIVE (5) FEET, THIS DETAIL SHALL BE USED WITHIN TEN (10) HORIZONTAL FEET OF ANY PAVEMENT, BERM, SIDEWALK OR DRIVEWAY.
3. UNSUITABLE MATERIAL BELOW THE EXCAVATED TRENCH BOTTOM SHALL BE REMOVED, WHERE DIRECTED, AND REPLACED WITH AASHTO No. 57 AGGREGATE.
4. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 "STANDING PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE".
5. IN ADDITION TO THE APPROVED PIPE BACKFILL OF 2A, OTHER GRAVEL SOURCES MAY BE USED, PROVIDED THAT TEST DATA IS SUBMITTED TO AND APPROVED BY THE ENGINEER PRIOR TO USE OF THE ALTERNATE SOURCE.

STORM SEWER BEDDING AND BACKFILL DETAIL
N.T.S.

STREET SPECIFICATIONS

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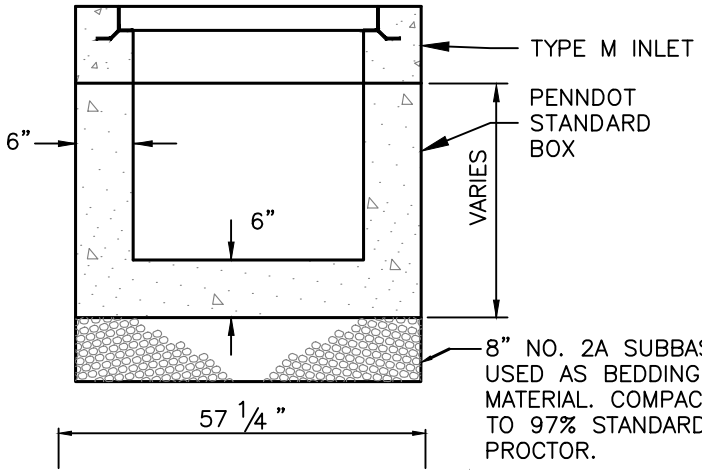
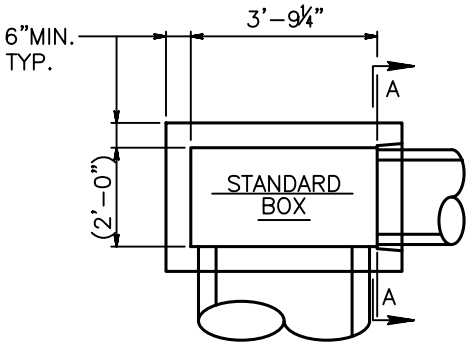
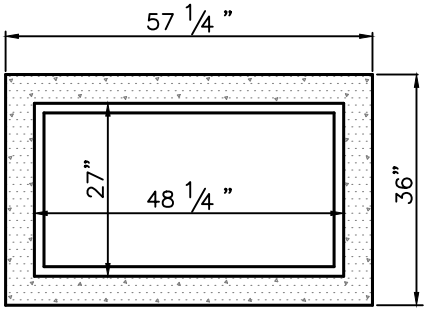
STORM SEWER BEDDING AND BACKFILL

DATE
September 26, 2024

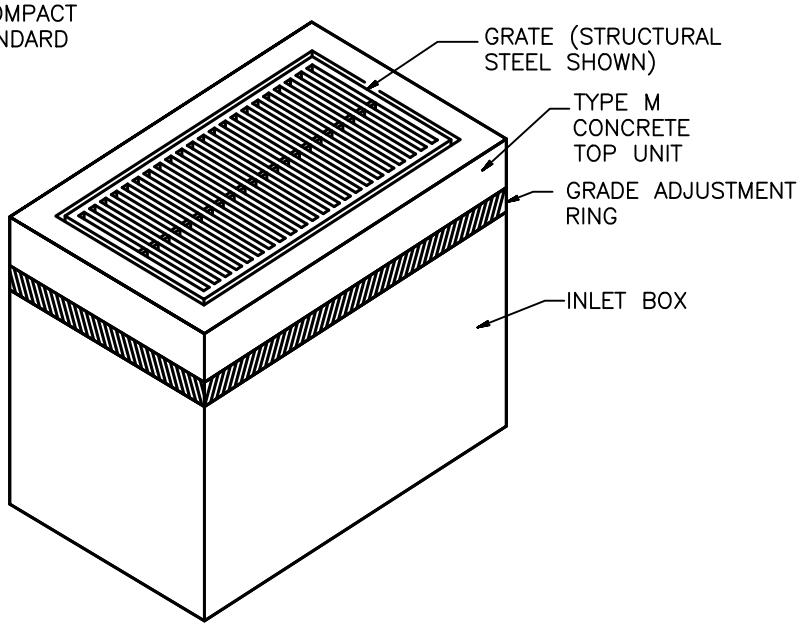
DRAWING No.
11







PLAN



NOTES:

1. ALL CATCH BASINS SHALL PROVIDE A MINIMUM 2" DROP FROM LOWEST INLET PIPE INVERT AND OUTLET PIPE INVERT.
2. ALL CONSTRUCTION MUST BE IN ACCORDANCE WITH PENNDOT PUBLICATION 408 AND PENNDOT PUBLICATION 72M, LATEST EDITIONS.
3. ALL FRAMES, CONCRETE TOP UNITS, AND GRADE ADJUSTMENT RINGS SHALL BE SET IN A BED OF FULL MORTAR IN ACCORDANCE WITH PENNDOT PUBLICATION 408.
4. ALL PIPES ENTERING OR EXITING CATCH BASINS SHALL BE CUT FLUSH WITH THE INSIDE WALL OF THE INLET. PIPES SHALL FIT INTO THE CATCH BASIN WITHOUT KNOCKING OUT AN CATCH BASIN CORNERS.

PENNDOT "TYPE M" INLET DETAIL

N.T.S.

STREET SPECIFICATIONS

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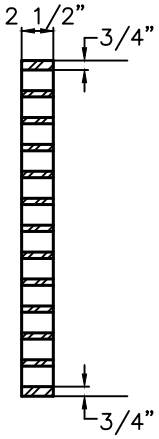
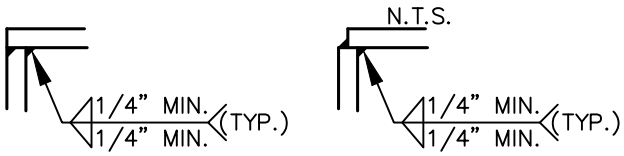
STANDARD INLET

DATE
September 26, 2024

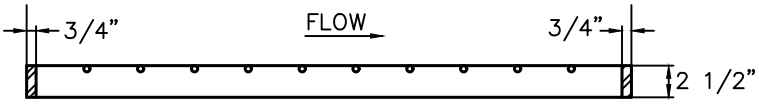
DRAWING No.
12



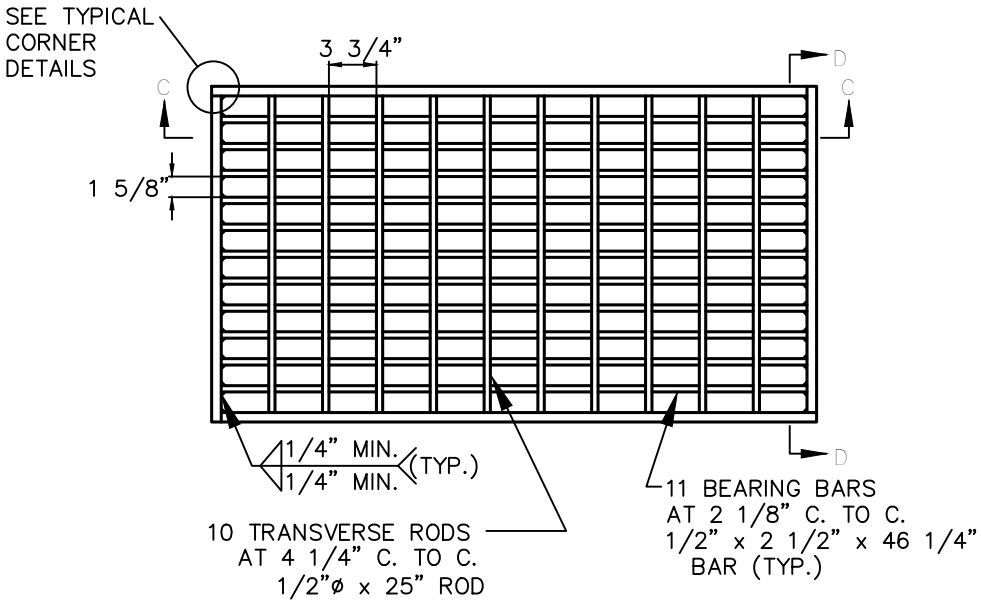
SECTION D-D



TYPICAL CORNER DETAILS
N.T.S.



SECTION C-C



BICYCLE SAFE GRATE DETAIL
N.T.S.

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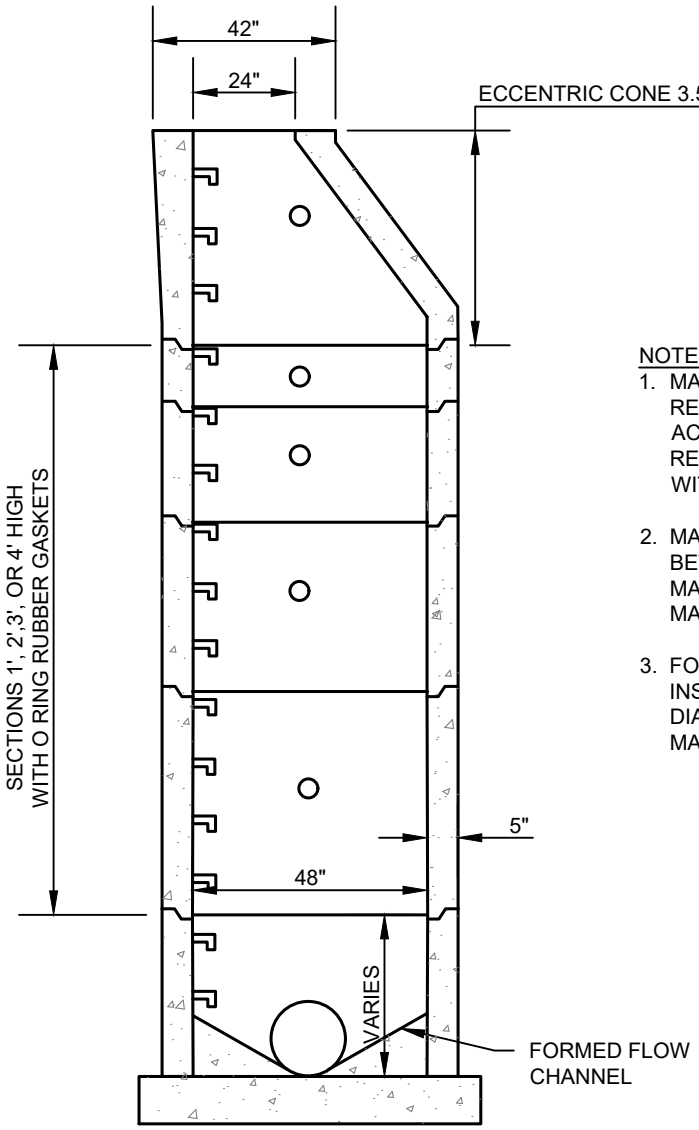
BICYCLE SAFE GRATE	DATE September 26, 2024	DRAWING No. 13

FRAME:
EJI PATTERN 1975Z OR EQUAL

COVER :
EJI PATTERN 1975B OR EQUAL



NOTES:

1. MANHOLE SECTIONS SHALL BE REINFORCE PRECAST CONCRETE IN ACCORDANCE WITH ASTM L478 WITH RESILIENT CONNECTORS COMPLYING WITH ASTM L923.
2. MAXIMUM DIFFERENCE IN ELEVATION BETWEEN THE INLET AND OUTLET OF THE MANHOLE SHALL BE 2' UNLESS A DROP MANHOLE IS PROVIDED.
3. FOR MANHOLE DEPTH OF 4' OR GREATER, INSTALL GALVANIZED STEEEL RUNGS 3/4" DIAMETER FORMED INTEGRAL WITH THE MANHOLE SECTIONS 12" ON CENTER.

STANDARD MANHOLE DETAIL
N.T.S.

STREET SPECIFICATIONS

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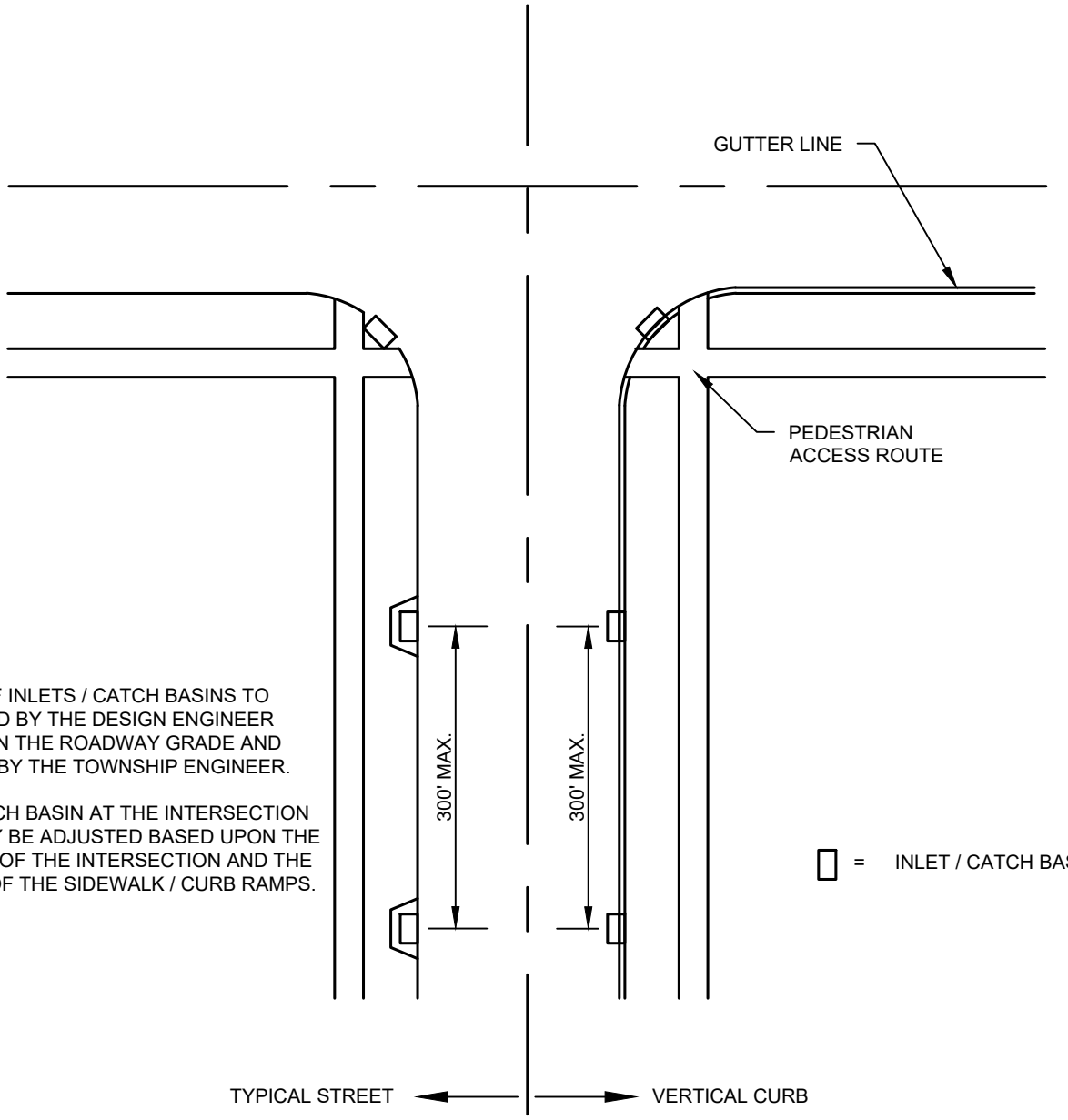
STANDARD MANHOLE

DATE
September 26, 2024

DRAWING No.
14

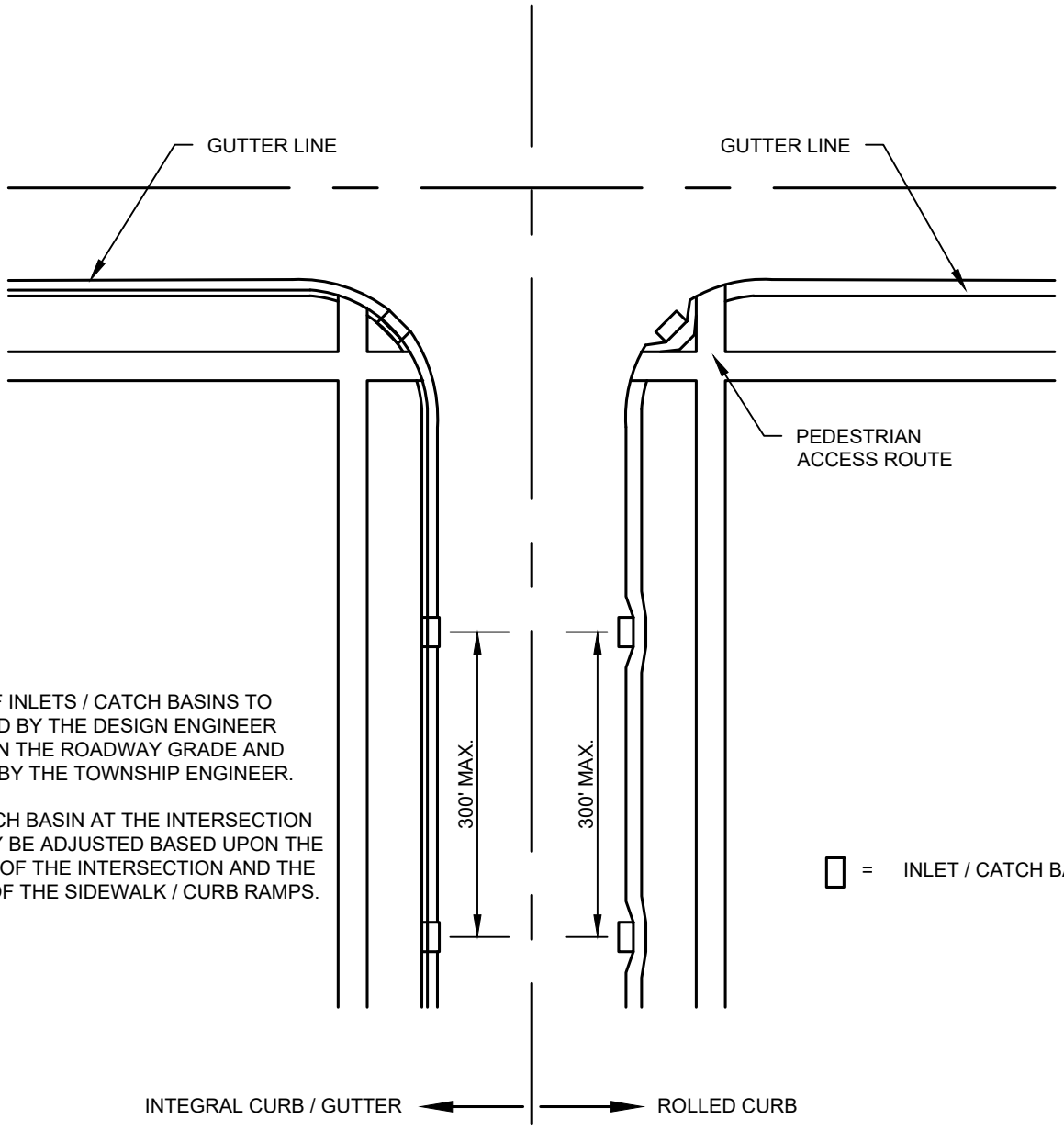


NOTES:

1. SPACING OF INLETS / CATCH BASINS TO DETERMINED BY THE DESIGN ENGINEER BASED UPON THE ROADWAY GRADE AND APPROVED BY THE TOWNSHIP ENGINEER.
2. INLET / CATCH BASIN AT THE INTERSECTION RADIUS MAY BE ADJUSTED BASED UPON THE GEOMETRY OF THE INTERSECTION AND THE LOCATION OF THE SIDEWALK / CURB RAMPS.

TYPICAL INLET LOCATIONS FOR STREETS
N.T.S.

STREET SPECIFICATIONS	SUMMIT TOWNSHIP 1230 Townhall Road, West, Suite 100 • Erie, PA 16509-5080 PH: 814/868-9686 • FX: 814/864-0013	
TYPICAL INLET LOCATIONS FOR STREETS	DATE September 26, 2024	DRAWING No. 15



NOTES:

1. SPACING OF INLETS / CATCH BASINS TO DETERMINED BY THE DESIGN ENGINEER BASED UPON THE ROADWAY GRADE AND APPROVED BY THE TOWNSHIP ENGINEER.
2. INLET / CATCH BASIN AT THE INTERSECTION RADIUS MAY BE ADJUSTED BASED UPON THE GEOMETRY OF THE INTERSECTION AND THE LOCATION OF THE SIDEWALK / CURB RAMPS.

TYPICAL INLET LOCATIONS FOR CURBED STREETS

N.T.S.

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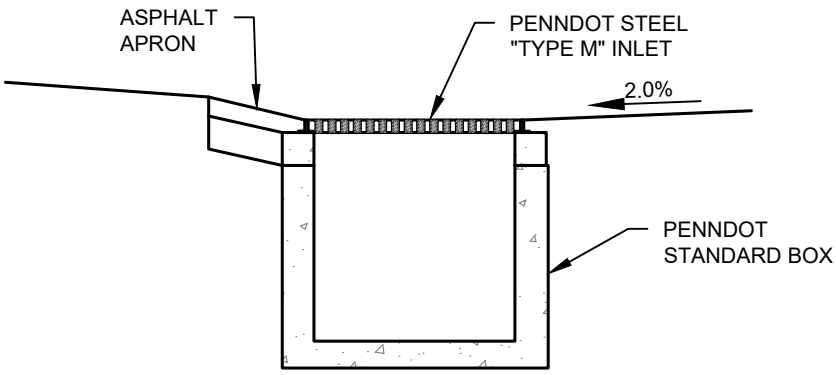
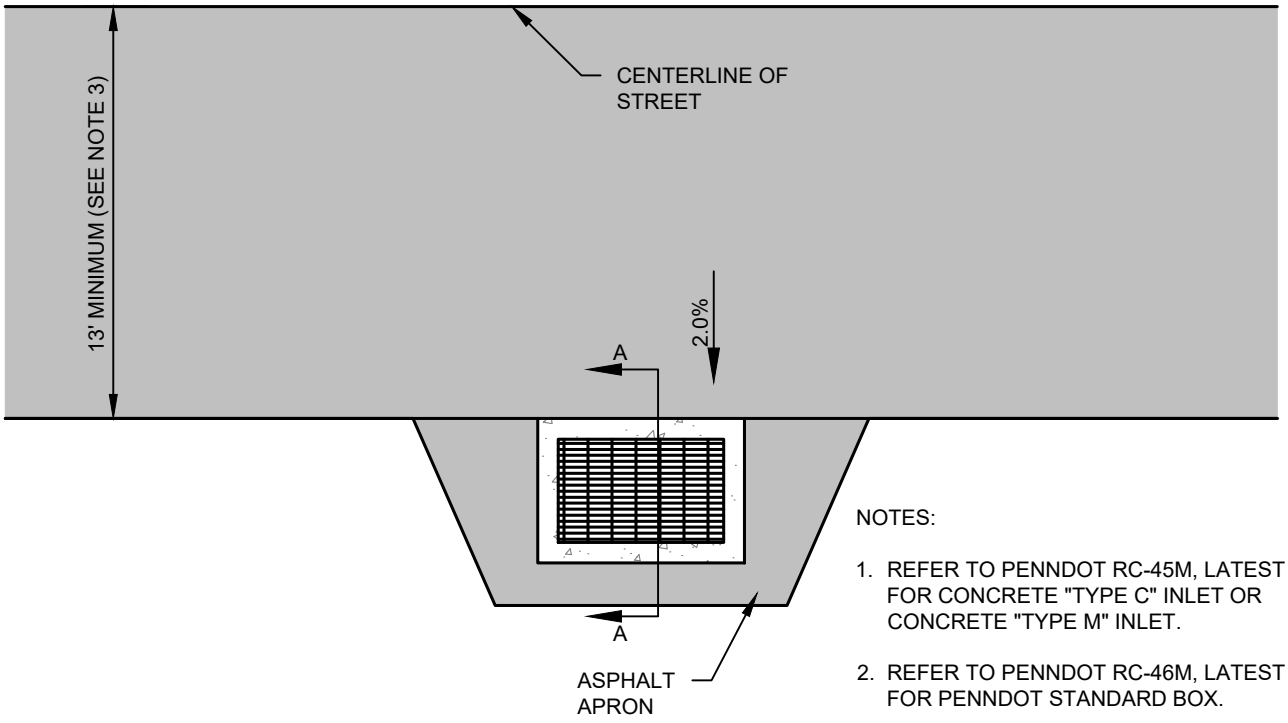
TYPICAL INLET LOCATIONS FOR STREETS	DATE September 26, 2024	DRAWING No. 16



SECTION A-A



NOTES:

1. REFER TO PENNDOT RC-45M, LATEST EDITION FOR CONCRETE "TYPE C" INLET OR CONCRETE "TYPE M" INLET.
2. REFER TO PENNDOT RC-46M, LATEST EDITION FOR PENNDOT STANDARD BOX.
3. THE BOARD OF SUPERVISORS AT THEIR DISCRETION MAY REQUIRE STREET WIDTHS GREATER THAN THE MINIMUM REQUIRED.

STREET SIDE INLET DETAIL
N.T.S.

STREET SPECIFICATIONS

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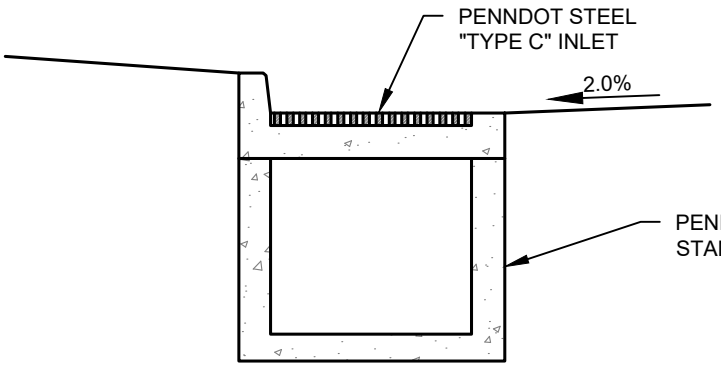
TYPICAL STREET INLET

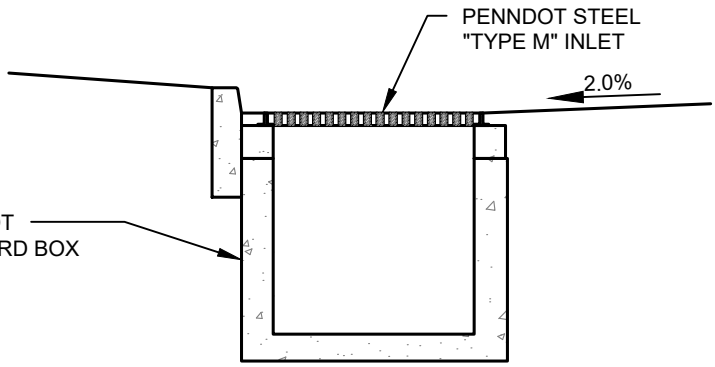
DATE
September 26, 2024

DRAWING No.
17

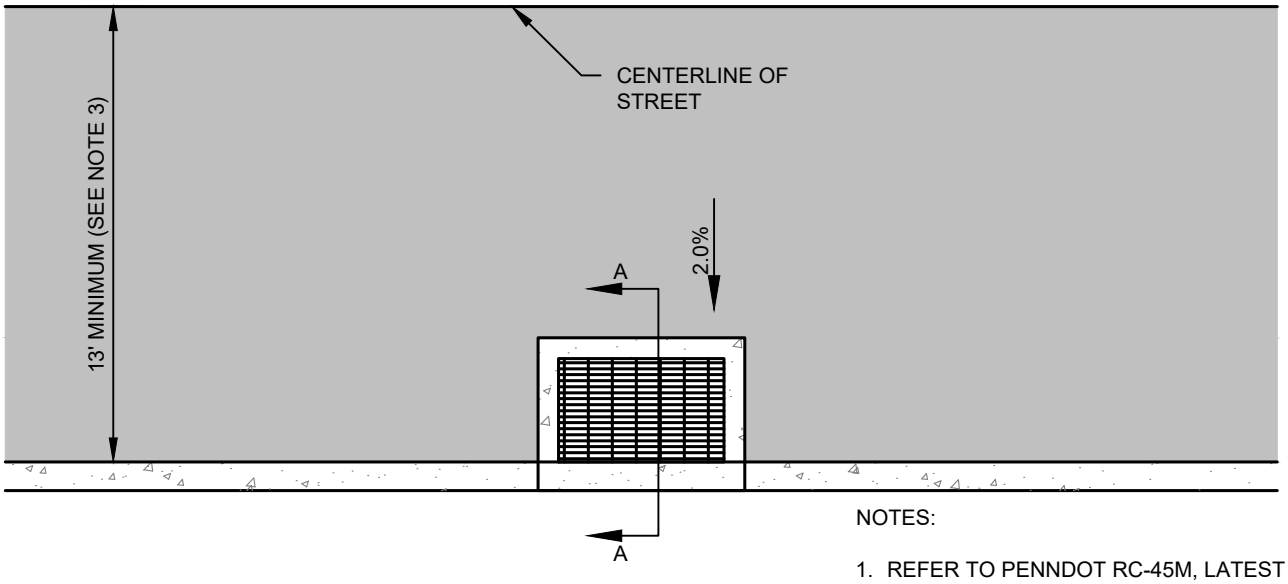


SECTION A-A

OR



SECTION A-A



NOTES:

1. REFER TO PENNDOT RC-45M, LATEST EDITION FOR CONCRETE "TYPE C" INLET OR CONCRETE "TYPE M" INLET.
2. REFER TO PENNDOT RC-46M, LATEST EDITION FOR PENNDOT STANDARD BOX.
3. THE BOARD OF SUPERVISORS AT THEIR DISCRETION MAY REQUIRE STREET WIDTHS GREATER THAN THE MINIMUM REQUIRED.

VERTICAL CURB SIDE INLET DETAIL
N.T.S.

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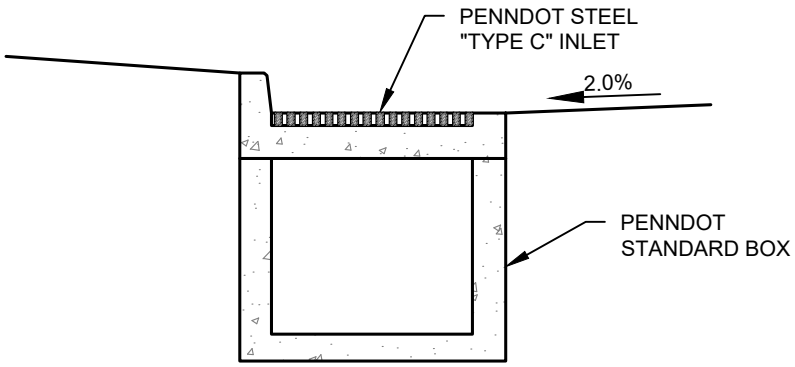
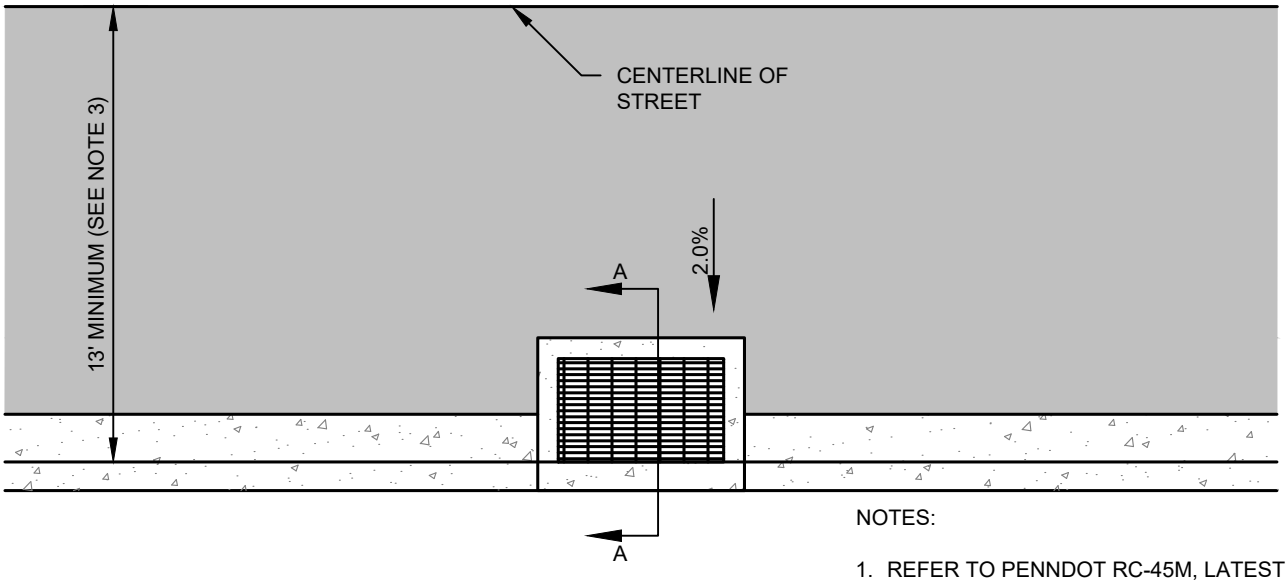
VERTICAL CURB INLET	DATE September 26, 2024	DRAWING No. 18



SECTION A-A



NOTES:

1. REFER TO PENNDOT RC-45M, LATEST EDITION FOR CONCRETE "TYPE C" INLET OR CONCRETE "TYPE M" INLET.
2. REFER TO PENNDOT RC-46M, LATEST EDITION FOR PENNDOT STANDARD BOX.
3. THE BOARD OF SUPERVISORS AT THEIR DISCRETION MAY REQUIRE STREET WIDTHS GREATER THAN THE MINIMUM REQUIRED.

INTEGRAL CURB AND GUTTER SIDE INLET DETAIL
N.T.S.

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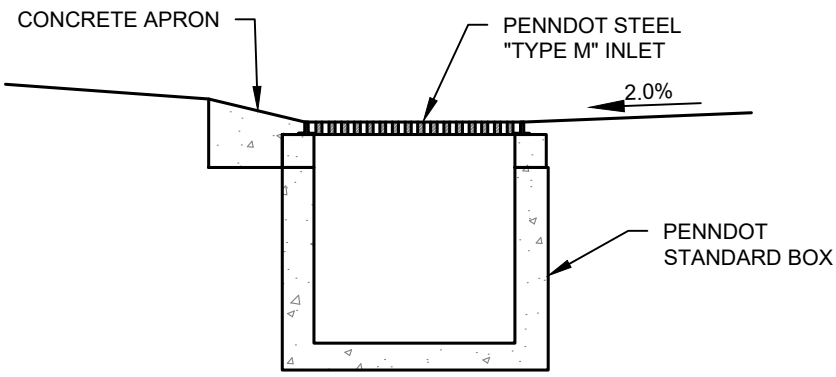
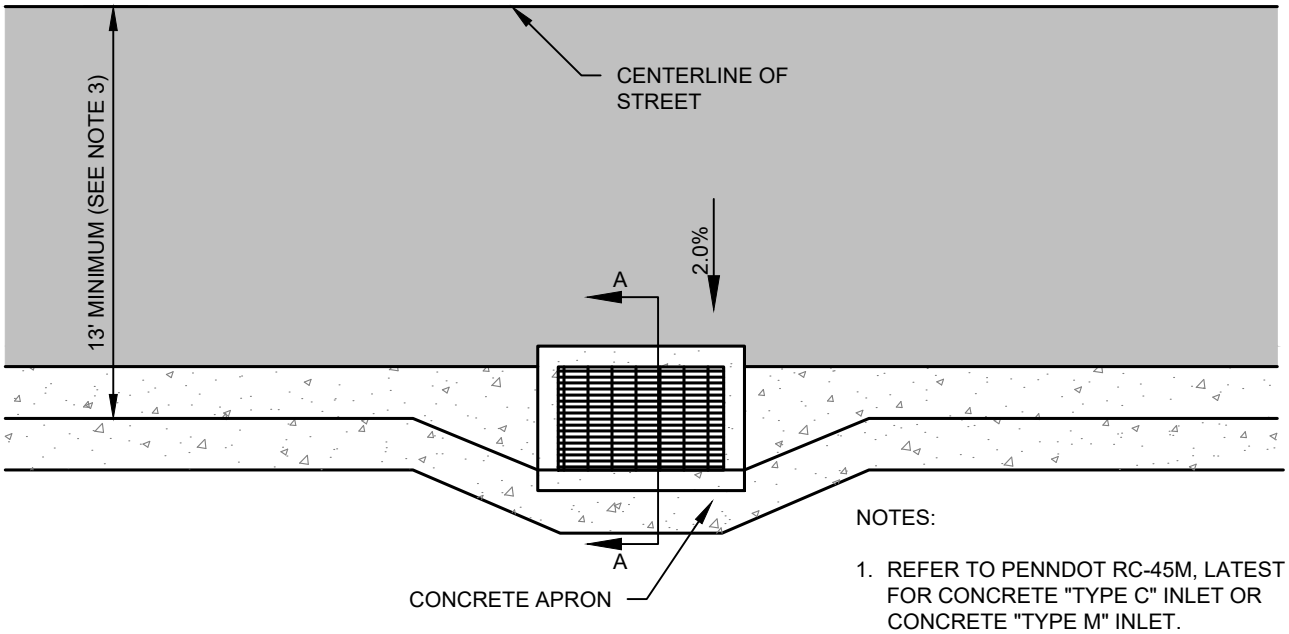
INTEGRAL CURB GUTTER INLET	DATE September 26, 2024	DRAWING No. 19



SECTION A-A



NOTES:

1. REFER TO PENNDOT RC-45M, LATEST EDITION FOR CONCRETE "TYPE C" INLET OR CONCRETE "TYPE M" INLET.
2. REFER TO PENNDOT RC-46M, LATEST EDITION FOR PENNDOT STANDARD BOX.
3. THE BOARD OF SUPERVISORS AT THEIR DISCRETION MAY REQUIRE STREET WIDTHS GREATER THAN THE MINIMUM REQUIRED.

ROLLED CURB SIDE INLET DETAIL

N.T.S.

STREET SPECIFICATIONS

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ROLLED CURB INLET

DATE
September 26, 2024

DRAWING No.
20