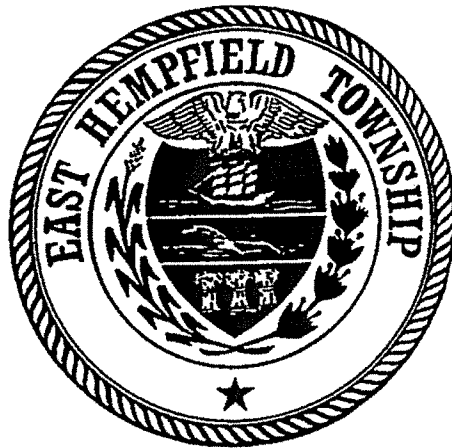


EAST HEMPFIELD TOWNSHIP



TECHNICAL SPECIFICATIONS AND STANDARD DETAILS

ADOPTED August 6, 2014

Resolution #2014-18

EAST HEMPFIELD TOWNSHIP

TECHNICAL SPECIFICATIONS AND STANDARD DETAILS

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ARTICLE I. SPECIAL CONDITIONS OF WORK

1. General
2. Storage of Materials
3. Fire
4. Night and Sunday Work
5. Insurance
6. Indemnification
7. Responsibility Regarding Existing Utilities and Structures
8. Erosion and Sedimentation Control
9. Prevention of Environmental Pollution and Preservation of Public Natural Resources
10. Maintenance Crew
11. Project Safety
12. Work Zone Traffic Control

1. GENERAL

The following paragraphs refer to Special Conditions of Work for all contractors who intend to work within the Township street rights-of-way.

2. STORAGE OF MATERIALS

Materials shall be stored so as to insure the preservation of their quality and fitness for the work. When considered necessary, they shall be placed on wooden platforms, or any other hard, clean surface, not on the ground. They shall be placed under cover and protected from dampness, dust and fire. Stored materials shall be located so as to facilitate prompt inspection. Lawns, grass plots or other private property shall not be used for storage purposes without written permission of the Owner or Leasee.

3. FIRE

The Contractor shall take every precaution to prevent a fire. Open burning is not permitted within the Township.

4. NIGHT AND SUNDAY WORK

See East Hempfield Township Noise Ordinance for requirements.

5. INSURANCE

The Contractor shall secure and maintain insurance policies with the following coverages:

- (a) Workmen's Compensation: The Contractor shall take out and maintain during the life of this Contract Workmen's Compensation Insurance for all employed at the site of the project. The Contractor shall require any subcontractor to provide the same coverage.
- (b) Public Liability and Personal Injury: Public Liability Damage: Public Liability coverage shall be not less than \$500,000 for all damages rising out of bodily injury, including death at any time resulting there from, sustained by any one person in any one accident and a limit of liability of not less than \$1,000,000 aggregate for any such damages sustained by two or more persons in any one accident.
- (c) Property Damage: Property Damage coverage shall be not less than \$300,000 for all property damage sustained by any one person in any one accident; and a limit of liability of not less than \$300,000 aggregate for any such damage sustained by two or more persons in any one accident.
- (d) Explosion, Collapse, and Underground shall be covered with insurance in limits as required under Public Liability, Personal Injury and Property Damage for each occurrence.
- (e) Railroad Protective Liability and Property Damage: When the contract includes work on or under Railroad rights-of-way or properties, the Contractor shall secure and maintain Railroad Protective Liability and Property Damage Insurance. The amount of Insurance, term of policy and name or names of the insured shall be in accordance with current railroad requirements.
- (f) Independent Contractors Liability Coverage: Public Liability shall be in an amount not less than \$500,000 for injuries including accidental death to any one person, or in an amount not less than \$1,000,000 on account of each occurrence. Property damage insurance shall not be less than \$300,000.
- (g) Blasting Coverage shall be in an amount not less than \$500,000 for injuries including accidental death to any one person, or in an amount not less than \$1,000,000 on account of each occurrence. Property damage insurance shall not be less than \$300,000.
- (h) Completed Operations Liability shall be in an amount of not less than \$500,000.
- (i) Fire and Extended Coverage Insurances: The Contractor, at his own expense, shall carry insurance upon the insurable value of the work done pursuant to the Contract. Such policies shall provide protection against loss or damage as a result of fire, lightning, or perils covered by an extended coverage endorsement. Policies insuring work done pursuant to the Contract shall be written in the name and for the benefit of the Contractor and the Owner, as their respective interests may appear.

- (j) Automobile and Truck Public Liability, Bodily Injury, and Property Damage: Public Liability shall be in an amount of not less than \$500,000, Personal Injury in an amount of not less than \$500,000 and Property Damage in amount of not less than \$500,000.
- (k) Owner's and Engineer's Liability: The Contractor shall take out and maintain during the life of this Contract, such Public Liability and Property Damage Insurance as shall protect the Owner and the Engineer from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations connected with or caused by any operation or matter related to this Contract. The amounts of such insurance shall be in accordance with the limits stated in paragraph (b) above.
- (l) Umbrella Excess Liability Insurance: The Contractor shall provide a minimum limit of liability of \$1,000,000 per occurrence which shall be in an excess over the primary limits of insurance required in this section.

Certificates of such insurance shall be furnished to the Owner at the same time as the signed Contract, showing the type, amount, effective dates, and date of expiration. No insurance shall be cancelled or materially altered, except after fifteen (15) days written notice has been received by the Owner.

All insurance policies or certificates of insured herein shall be deposited with the Owner. The insurance provided for herein shall be made payable to the Owner and the Owner shall have the sole right to receive the proceeds thereof and, subject to the written consent of the party or parties in interest to adjust, collect and make claims thereunder.

6. INDEMNIFICATION

The Contractor shall indemnify and hold harmless the State, East Hempfield Township and the Engineer and their agents and employees from and against all claims, damages, losses and expenses including attorney's fees arising out of, or resulting from the performance of work, provided that any such claim, damage, loss or expense:

- (a) is attributable to bodily injury, sickness, disease or death, or to injury to, or destruction of, tangible property (other than the work itself) including the loss of use resulting therefrom, and
- (b) is caused in whole or part by any negligent, reckless or intentional act or omission of the CONTRACTOR, any subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not it is caused in part by a party indemnified hereunder. The CONTRACTOR shall include a rider to his insurance policies which provides for contractual liability which shall save harmless the State, East Hempfield Township and the Engineer.

7. RESPONSIBILITY REGARDING EXISTING UTILITIES AND STRUCTURES

The existence and location of underground utilities, process piping or plant conduits shall be investigated and verified in the field by the contractor before starting work. The Contractor's attention is directed to the existing Local, State and Federal regulations, especially the Pennsylvania One Call System Inc. 1-800-242-1776.

Excavation in the vicinity of existing structures and utilities shall be carefully done. Contractor should call the Pennsylvania One Call System before he starts to dig.

The Contractor shall be held liable for any damage done by reason of breaking any water, sewer, gas, telephone, electric, process piping, plant conduits, or other utility service. The Contractor shall notify all utility companies and the Owner's operating personnel in advance of construction and cooperate with agents of these companies and the Owner during the progress of the work. If any lines or services become broken or damaged during the progress of the work, the Contractor shall cause them to be repaired at once at his own expense. Delays which would result in adjoining residences or businesses having to go overnight or for needlessly long periods during the day without utilities, or the plant operation to be adversely affected, will not be tolerated. The Owner reserves the right to remedy such delays or neglect by ordering outside parties to make repairs at the expense of the Contractor without written notice.

Care shall be taken not to move, without the consent of the Engineer, any sewers, culverts, water, gas, electric, telephone, or other pipes or poles or structures. In crossing, or in running parallel with or near utility lines, process piping or plant conduits, such sewers, culverts, water, gas, electric, telephone, or other pipes or poles or structures shall be securely hung, braced or supported in place until the work is completed. Whenever it is necessary to interfere with said structures, the Contractor, at his own expense, shall maintain their respective services, and if necessary, lay temporary lines or structures.

The Contractor shall repair all damage done to any structures and shall keep them in repair for a period of one year after the completion of the work.

8. EROSION AND SEDIMENTATION CONTROL

The Contractor shall adhere to the regulations relating to the control of erosion and sedimentation implemented by Pennsylvania under Chapter 102 of Public Law 1987, as amended.

9. PREVENTION OF ENVIRONMENTAL POLLUTION AND PRESERVATION OF PUBLIC NATURAL RESOURCES

The Contractor shall adhere to the provisions of the Pennsylvania Act No. 247 of 1972 relating to the prevention of environmental pollution and the preservation of public natural resources.

10. MAINTENANCE CREW

The Contractor shall make available 24 hours a day a maintenance crew for the repairs and maintenance of trenches or other work which has become hazardous to the public or plant operations as a result of trench settlement or other reasons.

The Contractor shall make the name, address and telephone number of a responsible maintenance person available to the Township. If the maintenance person so assigned fails to respond, or the Contractor fails to make the repairs within a reasonable period of time after being directed by the Township, then the necessary repairs or maintenance shall be performed by others and the full costs of the work charged to the Contractor.

11. PROJECT SAFETY

The Engineer shall have no duty to inform the Contractor of any safety violations and should the Engineer voluntarily point out safety violations, such actions shall not be construed to mean that the Engineer has assumed any responsibility for the Contractor's compliance with any applicable safety regulations, codes, or the like. The Contractor is solely responsible for project safety.

12. WORK ZONE TRAFFIC CONTROL

The Contractor shall provide flagmen, signs, barricades, etc. as required to help ensure safe and efficient traffic movement through the work zones, and also to provide safety for the work force. All work zone traffic control shall be in accordance with PennDOT Publication 203, entitled, "Work Zone Traffic Control", latest edition.

ARTICLE II. TECHNICAL SPECIFICATIONS

The Pennsylvania Department of Transportation Specifications Publication 408, with latest revisions and attachments shall be considered part of these specifications, and all work shall conform to those specifications. Any items that are not specifically listed here in these specifications shall be governed by the appropriate section in Publication 408. Where conflicts occur between Publication 408 and the specifications in this Ordinance, the more restrictive specifications shall apply.

All finished gutter joints at the curb line and all surface joints of the streets and drives shall receive a bituminous seal coat of Emulsified Asphalt at least six (6) inches in width.

At the completion of a project, the Contractor shall deliver a written statement to the Township certifying that his work was performed in accordance with these specifications.

1. EARTH WORK

2. BASE COURSES (Section 300)

Section 300 – Bituminous Concrete Base.

Section 309 – Superpave Asphalt Mixture Design, Standard Construction, HMA Base Course

The Contractor shall install the wearing surfaces with a maximum of two paving passes, thus resulting in no more than one paving joint along the length of the road.

Section 350 – Subbase.

3. FLEXIBLE PAVEMENT (Section 400)

Section 409 – Superpave Mixture Design, Standard & RPS Construction of Plant – Mixed HMA Courses.

The Contractor shall install the wearing surfaces with a maximum of two paving passes, thus resulting in no more than one paving joint along the length of the street.

4. INCIDENTAL CONSTRUCTION

Section 601 – Pipe Culverts.

Delete reference to mortar joints and add the following: All pipe shall comply with ASTM C – 76 class 4 standard concrete pipe specifications and use O-ring joints complying with ASTM C – 443 specifications.

Section 605 – Endwalls, Inlets, Manholes and Spring Boxes.

All manholes shall be a minimum of 30" diameter for better access and maintenance.

Section 613 – Stone Backfill for Miscellaneous Drainage.

A. 2A Crushed Stone Backfill – Township Detail Sheet 1.

B. Flowable Backfill

1. Description

This work is construction of flowable backfill of the type specified for trenches and structures. Refer to Township Detail Sheet 1.

Flowable Backfill:

Future excavation of the backfill may be necessary such as at utility trenches, pipe trenches, bridge abutments, and around box or arch culverts.

2. Material

(a) Cement: ASTM C150.

(b) Slag Cement: ASTM C989.

(c) Fine Aggregate: ASTM C33.

(d) Air-Entraining ADMIX: ASTM C260.

(e) Mix Design:

Use Table 1 for the mix design or submit alternate design based on density guidelines and meeting strength requirements of Table 1.

Provide mix designs that meet specific density requirements, where specified. If source of material is changed, submit a revised mix design before using material. Conduct design mix testing at the highest flowability of slump that will be used for the project.

3. Construction

(a) General:

Furnish indicated type of flowable backfill meeting the requirements of Table 1.

Mix and transport in accordance with Section 704 or by other approved methods.

Adjustments to mix in field are permissible provided criteria specified in Table 1 are achieved.

(b) Placement:

Prepare supporting surface to receive flowable backfill as specified. Do not place flowable backfill during rain or through flowing water. Remove and replace flowable backfill damaged by rain or flowing water. When excavation cannot be dewatered, place flowable backfill by a tremie procedure, approved by the Engineer.

Break up lumps by remixing or other approved method.

Do not place flowable backfill at a material temperature below 50° F or when the temperature of either the air or the surface on which the flowable backfill is to be placed is 40° F or lower without protection of the exposed surface.

(c) Opening to Traffic:

For flowable backfill material, do not open to traffic until 1 hour after the surface bleed water has dissipated by a dry surface and as permitted by the Engineer.

Table 1 Flowable Backfill

FLOWABLE BACKFILL CONCRETE MIX DESIGN (100 PSI)

WEIGHTS PER CUBIC YARD (SATURATED, SURFACE-DRY)	
CEMENT	90 -110
SLAG CEMENT	70 - 80
FINE AGGREGATE, ASTM C33	3000
WATER, LB (GAL-US)	400 (47.9)
TOTAL AIR, %	6.0 +/- 1.5
AIR-ENTRAINING ADMIX, ASTM C260	3.5
WATER/CEMENT RATIO	2.29
SLUMP, IN	9 - 11
CONCRETE UNIT WEIGHT, PCF	120-135
3 DAYS (MIN) PSI	50 - 100

Section 630 – Plain Cement Concrete Curb.

All concrete shall be Class AA.

Section 676 – Cement Concrete Sidewalks.

All concrete shall be Class AA.

5. MATERIALS

Section 704 is revised as follows:

- A. Curing of concrete shall be done using a clear non-pigmented curing compound.
- B. Place no concrete until forms, reinforcing steel and other work required to be built into concrete has been inspected and approved. The Contractor shall notify the Township twenty-four (24) hours in advance of such inspection.
- C. All steps shall be poured independently of the sidewalk. The Contractor shall take all steps necessary to try to save those steps that are in good condition. If necessary, the contractor shall be required to saw cut around those steps.
- D. It shall be the Contractor's responsibility to provide the means necessary to adequately protect the fresh concrete from damage done by vandals. To this end, it is preferred that all concrete pours be made before noon of each day.

- E. The Contractor shall schedule his concrete pours in sections to minimize the disruption of pedestrian traffic to the residences and businesses. The Contractor shall be required to provide access ramps or bridges over the sidewalk areas to maintain access to businesses and residences during construction.
- F. All cement concrete for a project shall be supplied by the same manufacturer using materials from the same site to insure the color likeness and durability of the finished product.
- G. The Contractor shall be responsible to install a four inch (4") PVC pipe vertically in the concrete walk in those locations where a sign post will be required. The Contractor shall contact the Township twenty-four (24) hours in advance for such locations.
- H. Closures, concrete fillers at curbs and angular sections, shall be installed as separate slabs and shall be separated from adjoining slabs by expansion joint filled material, and grooved and edged as dry joints.
- I. Where light standards, poles, fire hydrants, access manhole covers or other similar structures are within the limits of the new sidewalks, the concrete around such structures shall be scored, by edging or grooving, in a block eight (8") inches wider than the maximum dimensions of the structure at the sidewalk elevation. Prior to placing the concrete around such structures, pre-molded expansion joint material shall be placed around the structures to the full depth of the slab.
- J. Formed transverse dummy joints should be spaced proportionally to form an esthetically pleasing pattern and additional joints added where required to prevent future sidewalk cracking.

6. ROADSIDE DEVELOPMENT

Section 704 – Seeding and Soil Supplements (Formula B).

ARTICLE III. TYPICAL DETAILS

Table 2 Pavement Specifications

	Parking – 2 sides		Parking – 1 side		NO Parking				
Road Designation	(A) ROW (feet)	(B) Cartway (Feet) (F) Cross-Slope (%)	(A) ROW (feet)	(B) Cartway (Feet) (F) Cross-Slope (%)	(A) ROW (feet)	(B) Cartway (Feet) (F) Cross-Slope (%)	Vertical Curb Reveal (inches)	(E) Sidewalk (feet)	(D) Beauty Strip (feet)
Local (or Residential)	50'	34' 2%	50'	30' 2-3%	50'	26' 2-3%	6"	5'	3' – 7'
Collector Or Industrial (2-lane)	NA	NA	NA	NA	60'	30' 2-3%	8"	5'	6' – 10'
Collector Or Industrial (3-lane)	NA	NA	NA	NA	60'	38' 2%	8"	5'	6' – 10'
Alley	NA	NA	NA	NA	14' Private	14'		NA	NA

Table 3 Pavement Designations (less than 2 years exposure)

Table 3 is applicable if exposure of Base Course to the elements will be less than 2 years before placement of Wearing Course.

***LOCAL ROADS**

ID	DEPTH (inches)	COURSE DESCRIPTION	AGG.	PG	ESALS
I	1 ½"	S.A.M.D., HMA Wearing Course, SRL-H	9.5mm	PG 64-22	0.3 to < 3.0
III	6"	S.A.M.D., HMA Base Course	25 mm	PG 64-22	0.3 to < 3.0
IV	6"	PennDOT 2A Coarse Aggregate			0.3 to < 3.0
		S.A.M.D. Superpave Asphalt Mixture Design			

*** Local roads in the enterprise zone or industrial zone shall use the Collector Street Standards**

COLLECTOR & ARTERIAL ROADS

ID	DEPTH (inches)	COURSE DESCRIPTION	AGG.	PG	ESALS
I	2"	S.A.M.D., HMA Wearing Course, SRL-H	12.5mm	PG 64-22	0.3 to < 3.0
III	8"	S.A.M.D., HMA Base Course	25 mm	PG 64-22	0.3 to < 3.0
IV	6"	PennDOT 2A Coarse Aggregate			
		S.A.M.D. Superpave Asphalt Mixture Design			

NOTES:

Min/Max Lift is 2"/3" for Binder and 3"/5" for Base Course.

In the event the developer does not install the 1 ½" Wearing Course within 24 months of SAMD Base Course Material placement, the Township shall reserve the right to require the Developer to:

1. Remove and replace the Base Course Material in whole or in part,
2. Add fabric, additional pavement thickness, or other construction methods to accommodate for degradation,
3. Establish a 60 month maintenance bond guarantee in lieu of the standard 18 month maintenance bond, or
4. Complete a combination of the above methods 1-3.

Table 4 Pavement Designation (more than 2 years exposure)

Table 4 is applicable if exposure of Base Course to the elements will be greater than 2 years before placement of Wearing Course.

***LOCAL ROADS**

ID	DEPTH (inches)	COURSE DESCRIPTION	AGG.	PG	ESALS
I	1 ½"	S.A.M.D., HMA Wearing Course, SRL H	9.5mm	PG 64-22	
II	2"	S.A.M.D., HMA Binder Course	19.5mm	PG 64-22	
III	4"	S.A.M.D., HMA Base Course	25.0mm	PG 64-22	
IV	6"	PennDOT 2A Coarse Aggregate			
		S.A.M.D. Superpave Asphalt Mixture Design			

*** Local roads in the enterprise zone or industrial zone shall use the Collector Street Standards**

COLLECTOR & ARTERIAL ROADS

ID	DEPTH (inches)	COURSE DESCRIPTION	AGG.	PG	ESALS
I	2"	S.A.M.D., HMA Wearing Course, SRL H	12.5mm	PG 64-22	
II	3"	S.A.M.D., HMA Binder Course	19.5mm	PG 64-22	
III	5"	S.A.M.D., HMA Base Course	25.0mm	PG 64-22	
IV	6"	PennDOT 2A Coarse Aggregate			
		S.A.M.D. Superpave Asphalt Mixture Design			

NOTE:

Min/Max Lift is 2"/3" for Binder and 3"/5" for Base Course.

Binder Course shall be installed within 30 days of placement of the Base Course materials, or before traffic from any vehicles greater than a standard automobile, whichever is sooner.

ARTICLE IV. FIGURES

Figure F-1 Driveway Grade

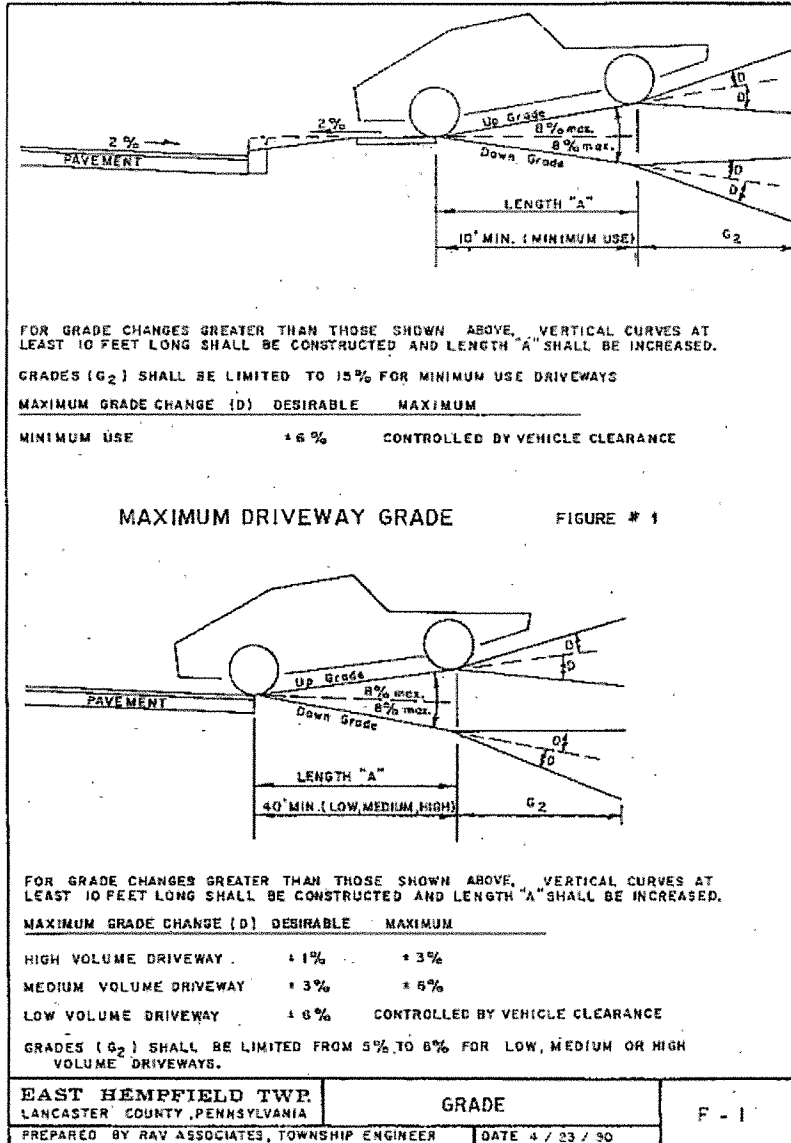


Figure F-2 Fill Slope

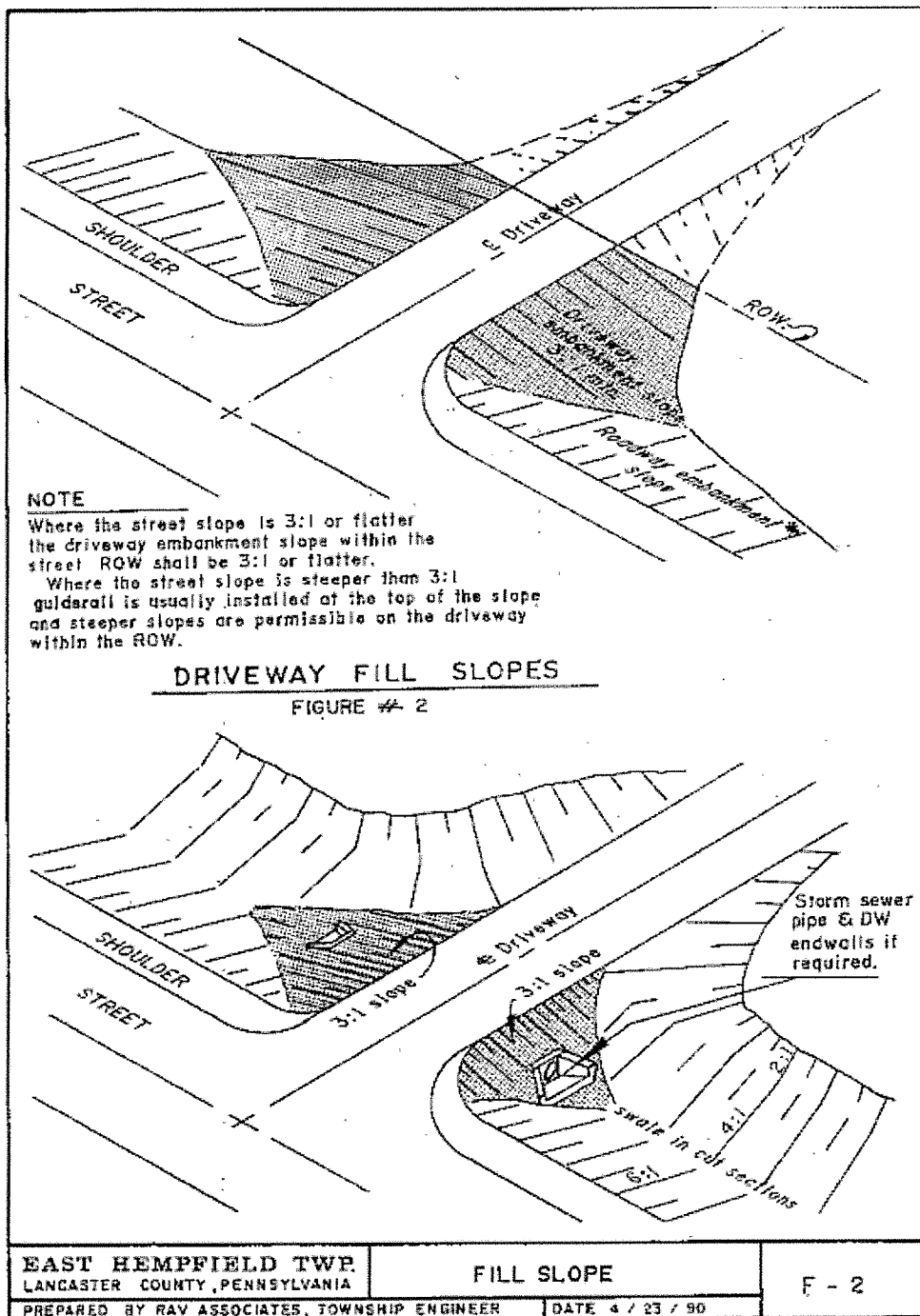


Figure F-3 Minimum Use Driveway

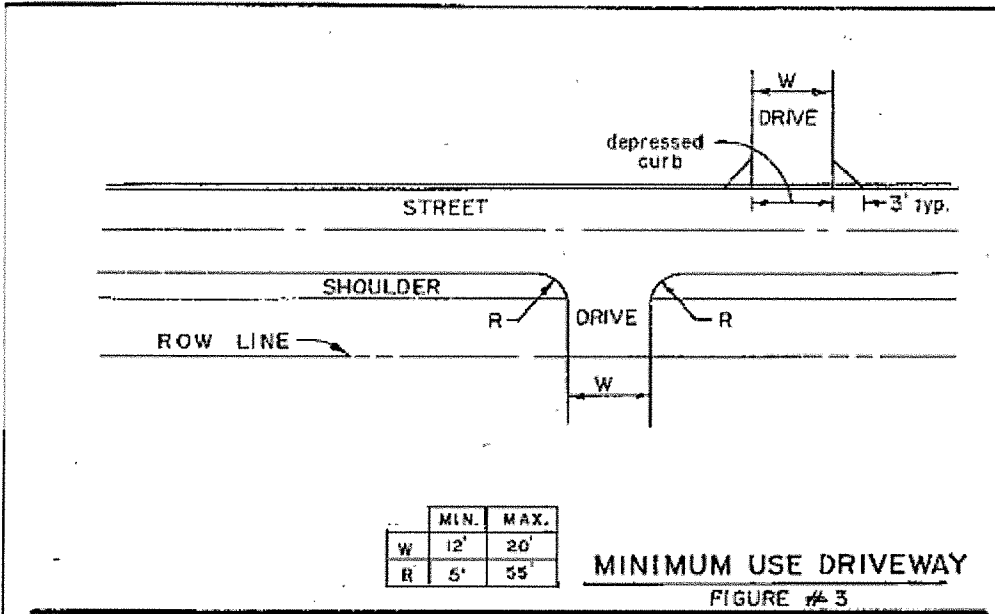


Figure F-4 Low Volume Driveway

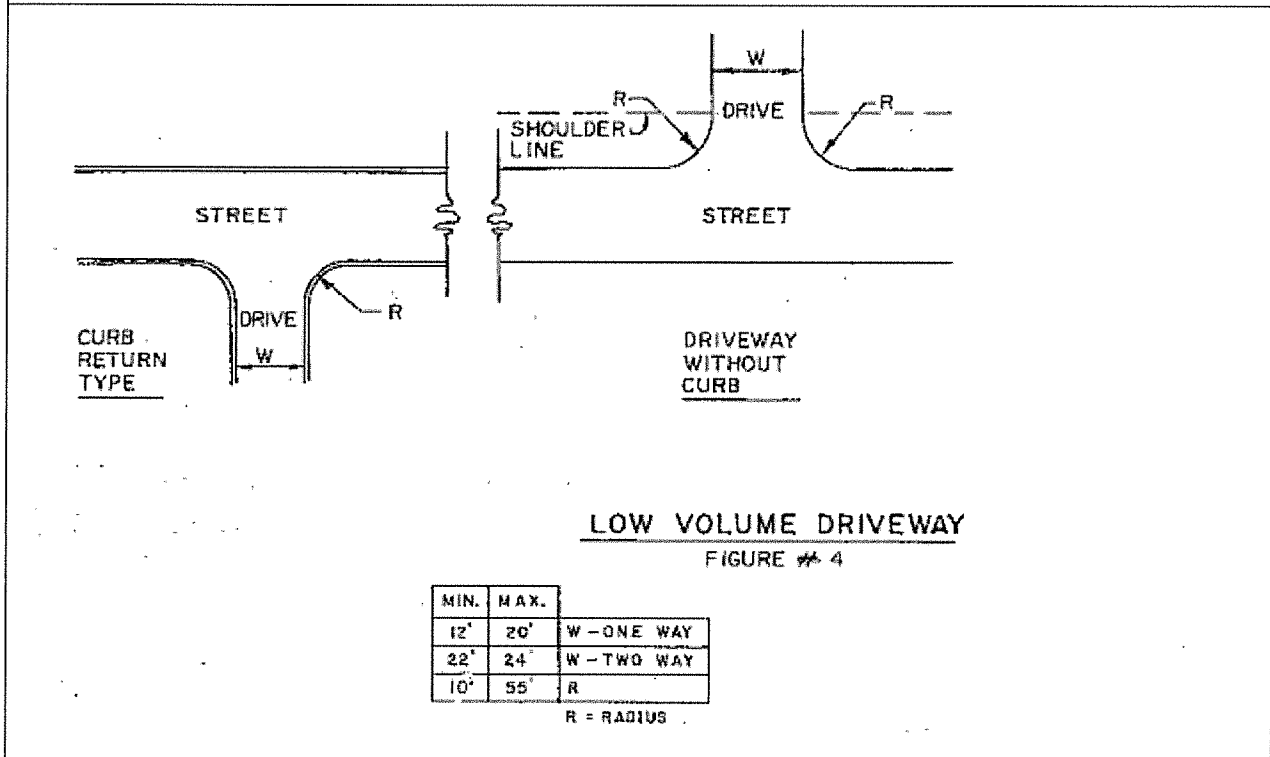
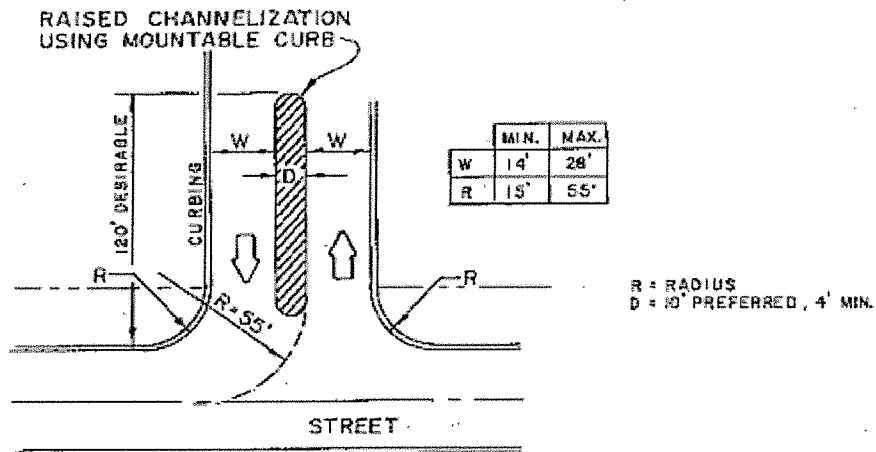
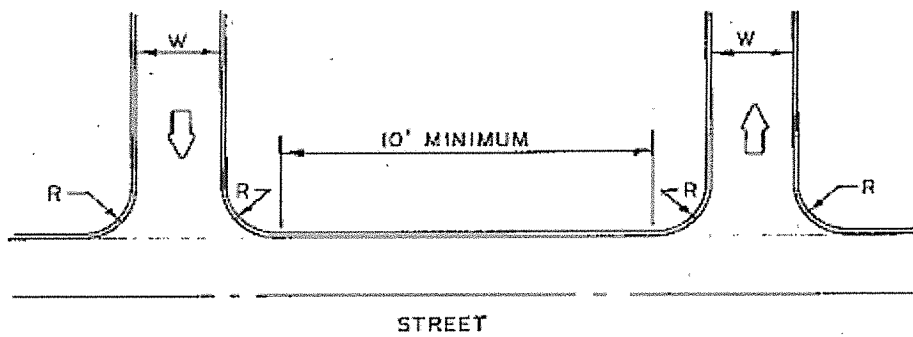


Figure F-5 Medium Volume Driveway



TWO WAY ENTRANCE WITH MEDIAN DIVIDER



TWO WAY ENTRANCE - SEPARATED DRIVEWAYS

MEDIUM VOLUME DRIVEWAY

FIGURE # 5

EAST HEMPFIELD TWP.
LANCASTER COUNTY, PENNSYLVANIA

MEDIUM VOLUME

F - 5

PREPARED BY RAV ASSOCIATES, TOWNSHIP ENGINEER

DATE 4 / 23 / 90

Figure F-6 Medium Volume Fuel Driveway

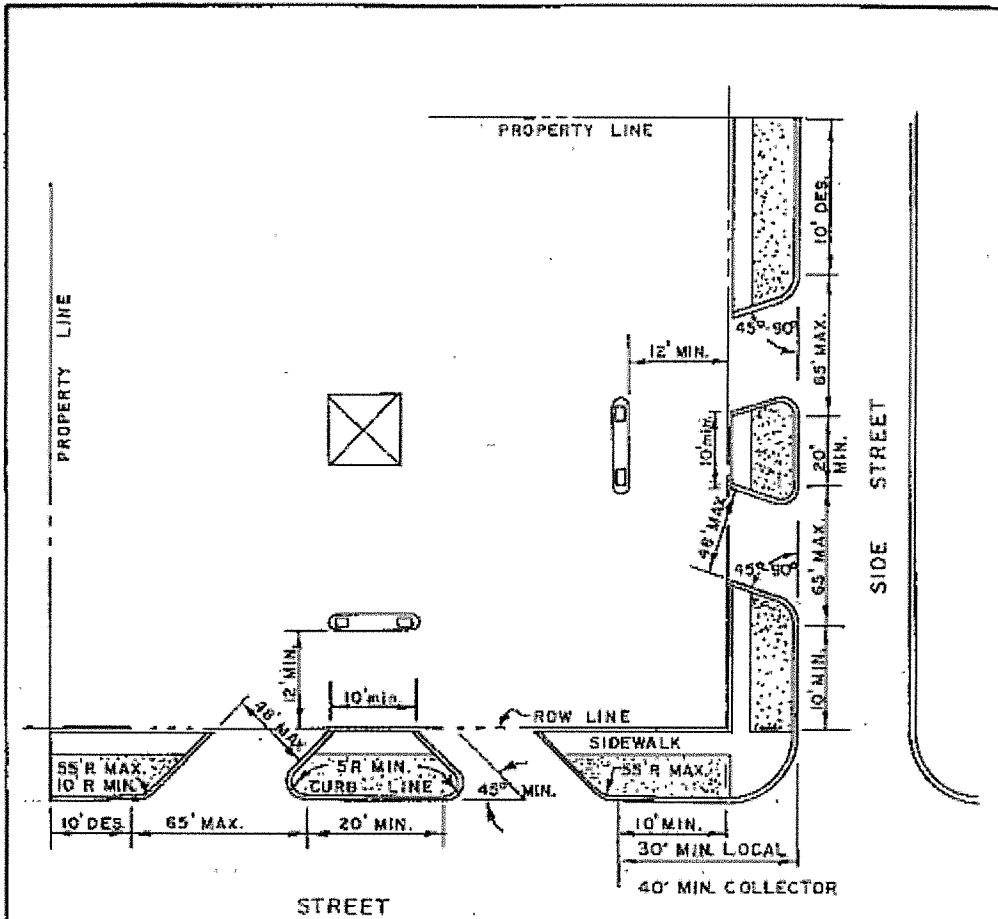


FIGURE # 7

MEDIUM VOLUME DRIVEWAY

EAST HEMPFIELD TWP.
LANCASTER COUNTY, PENNSYLVANIA

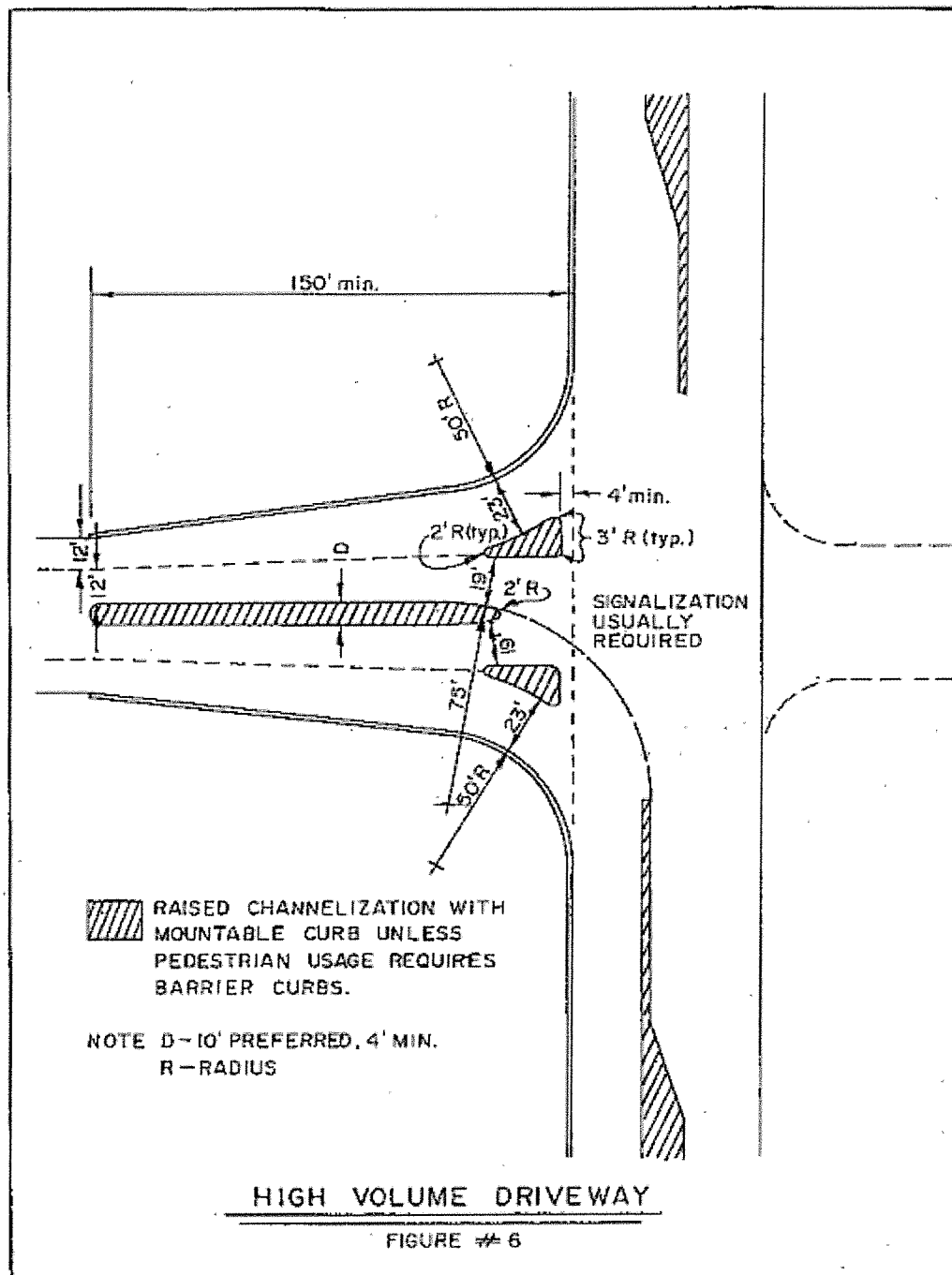
MEDIUM VOLUME
(FUEL STATION)

PREPARED BY RAY ASSOCIATES, TOWNSHIP ENGINEER

DATE 4 / 23 / 90

F - 6

Figure F-7 High Volume Driveway



EAST HEMPFIELD TWP
LANCASTER COUNTY, PENNSYLVANIA

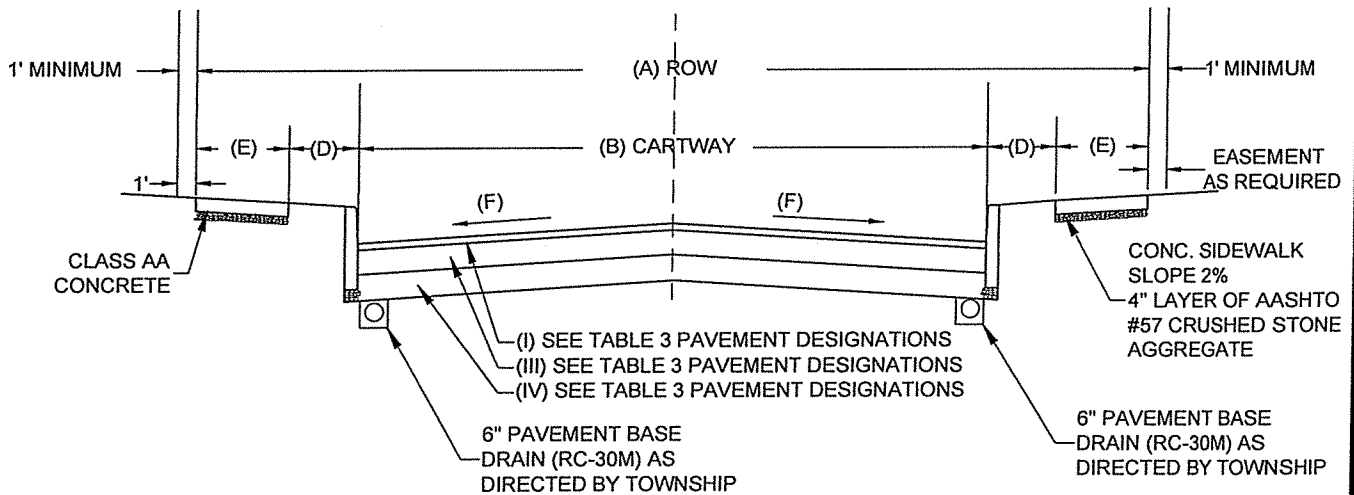
HIGH VOLUME

F - 7

PREPARED BY RAV ASSOCIATES, TOWNSHIP ENGINEER

DATE 4 / 23 / 90

NOTE
SEE TABLE 2 PAVEMENT SPECIFICATIONS FOR WIDTH



TYPICAL STREET CROSS SECTION

APPLICABLE IF EXPOSURE OF BASE COURSE TO THE ELEMENTS WILL
BE LESS THAN 2 YEARS BEFORE PLACEMENT OF WEARING COURSE.
(NOT TO SCALE)

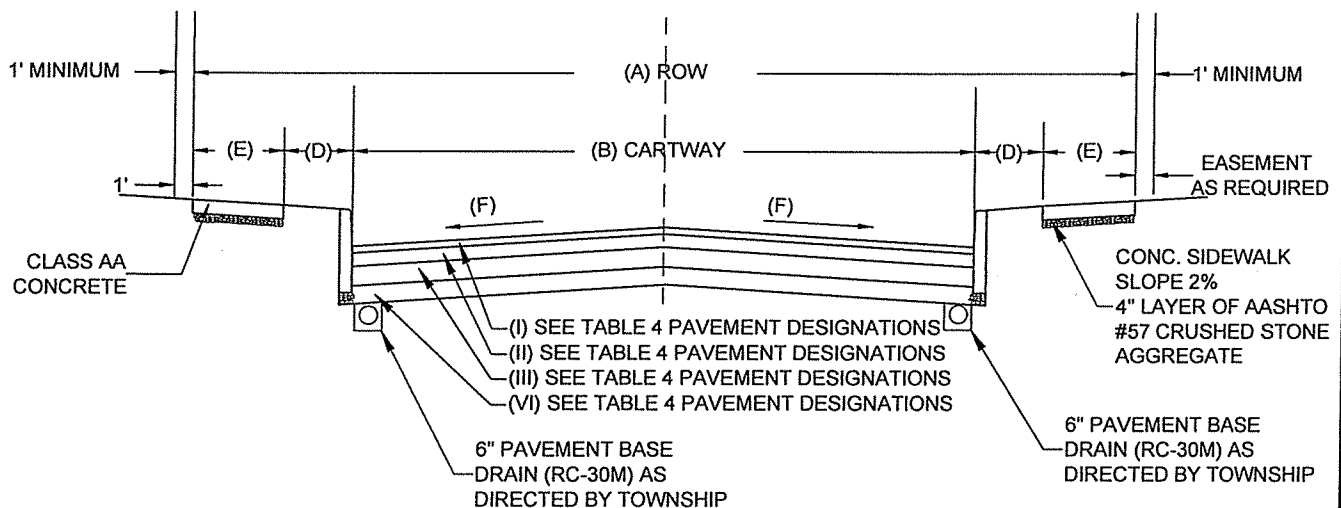
EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-01

NOTE
SEE TABLE 2 PAVEMENT SPECIFICATIONS FOR WIDTH



TYPICAL STREET CROSS SECTION

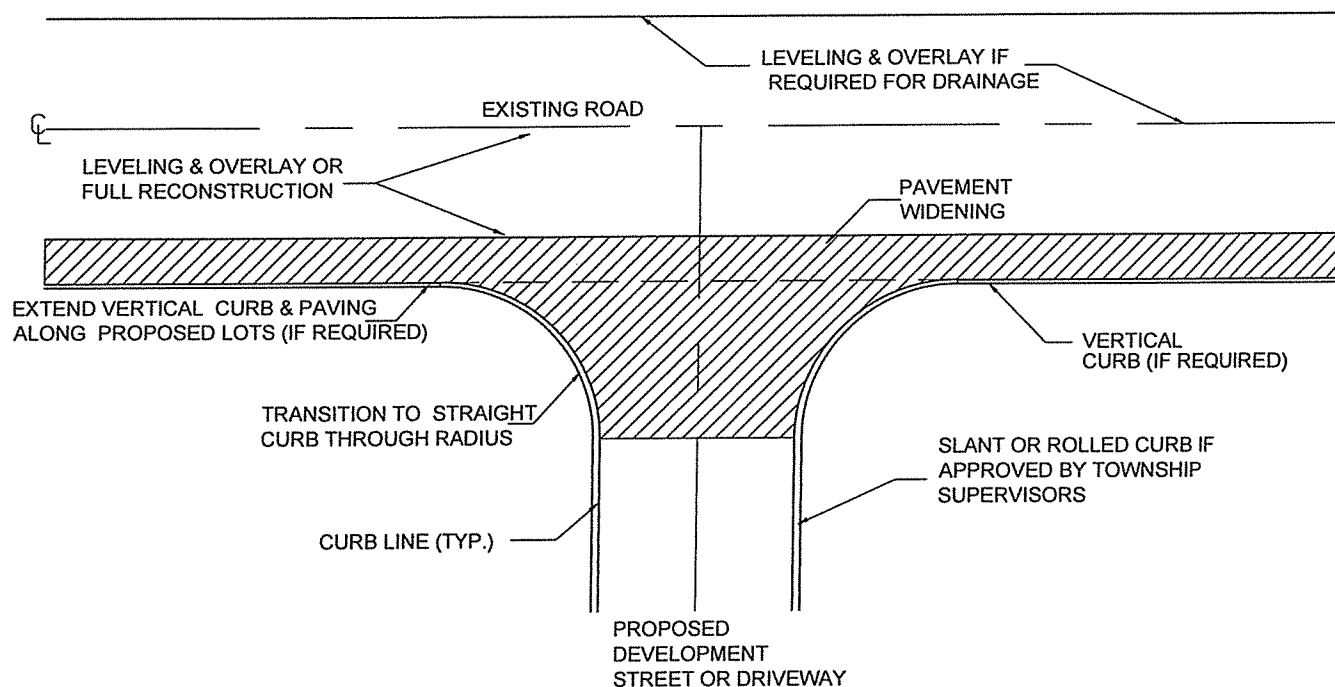
APPLICABLE IF EXPOSURE OF BASE COURSE TO THE ELEMENTS WILL
BE GREATER THAN 2 YEARS BEFORE PLACEMENT OF WEARING COURSE.
(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-02



TYPICAL PAVEMENT WIDENING FOR EXISTING TOWNSHIP ROADS

RESIDENTIAL USE ONLY

(NOT TO SCALE)

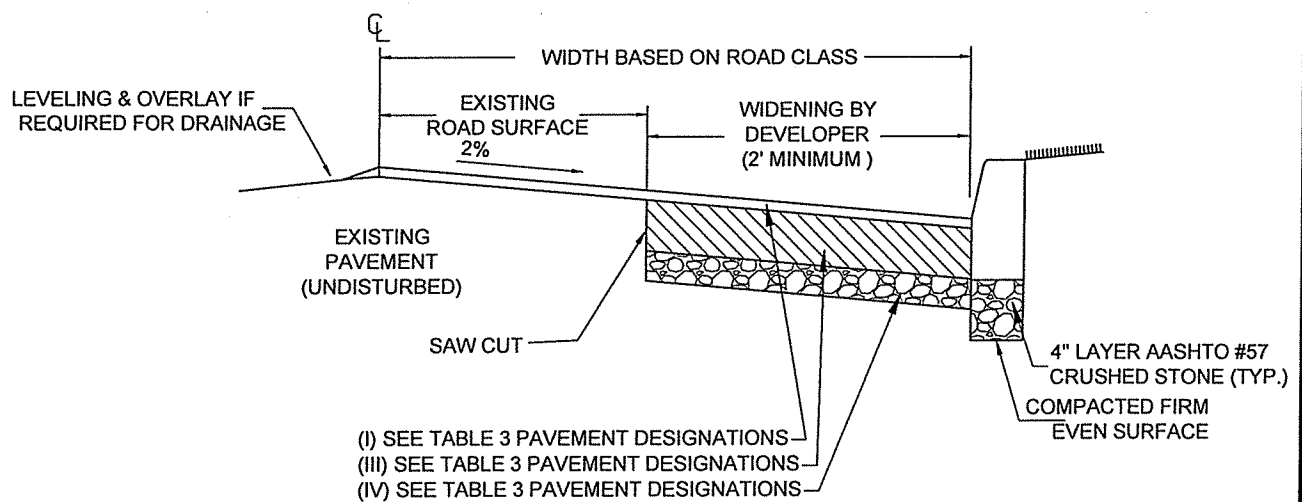
EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

-

SHEET
TY-03



PAVEMENT WIDENING DETAIL

(NOT TO SCALE)

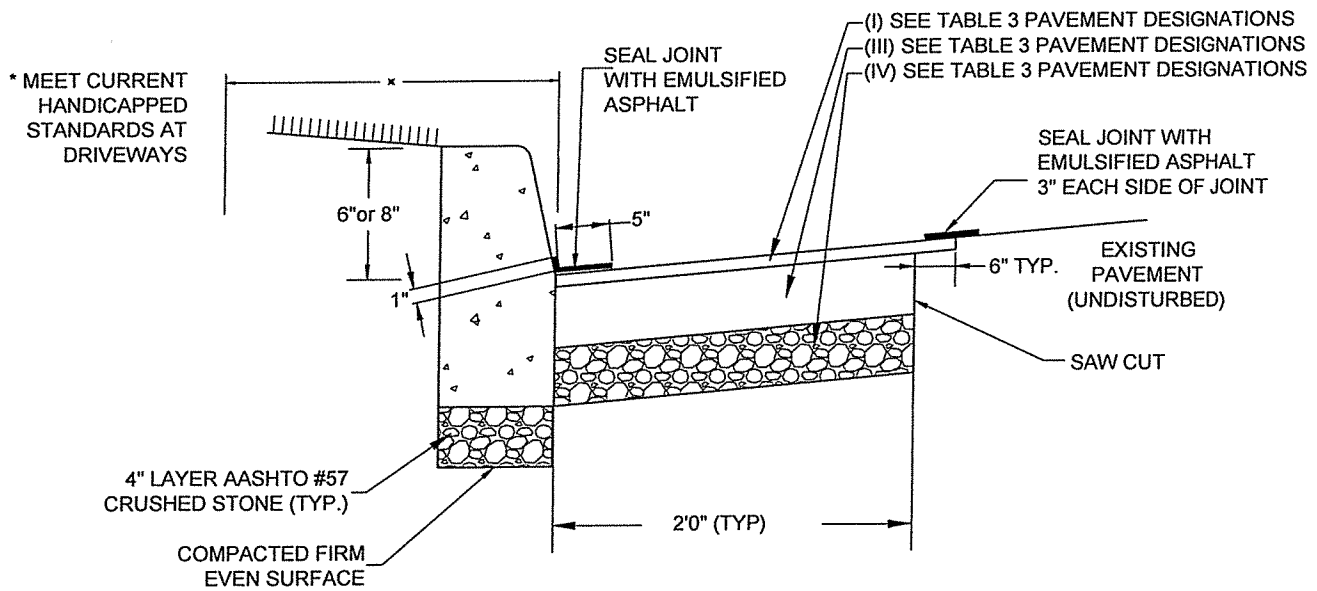
EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

-

SHEET
TY-04



PAVEMENT RESTORATION

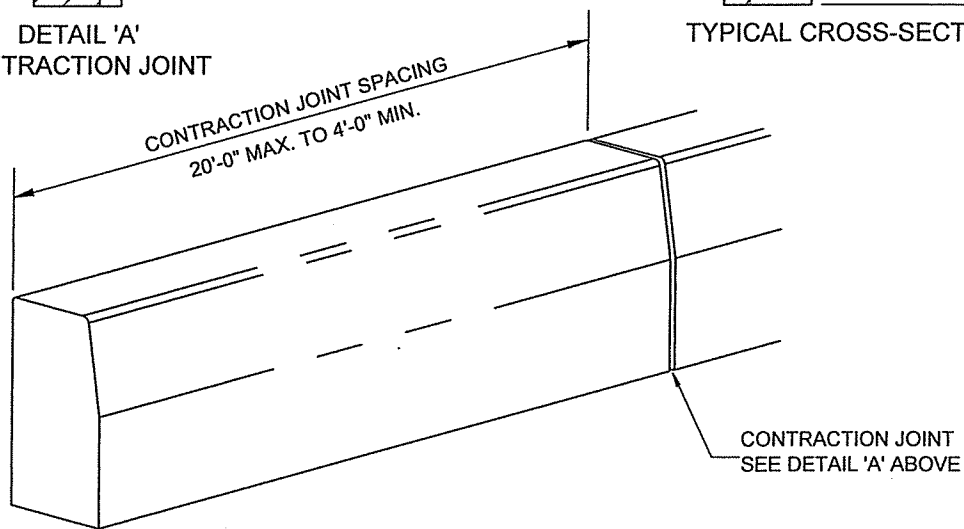
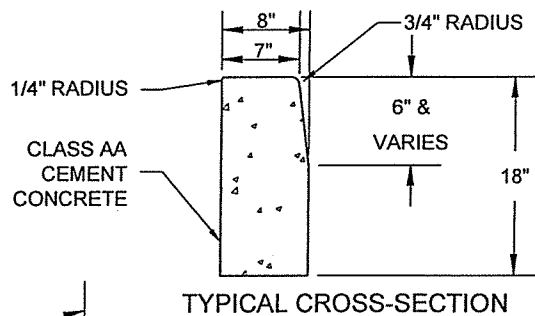
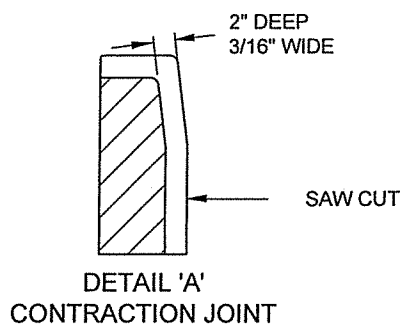
(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-05



STANDARD VERTICAL CURB

(NOT TO SCALE)

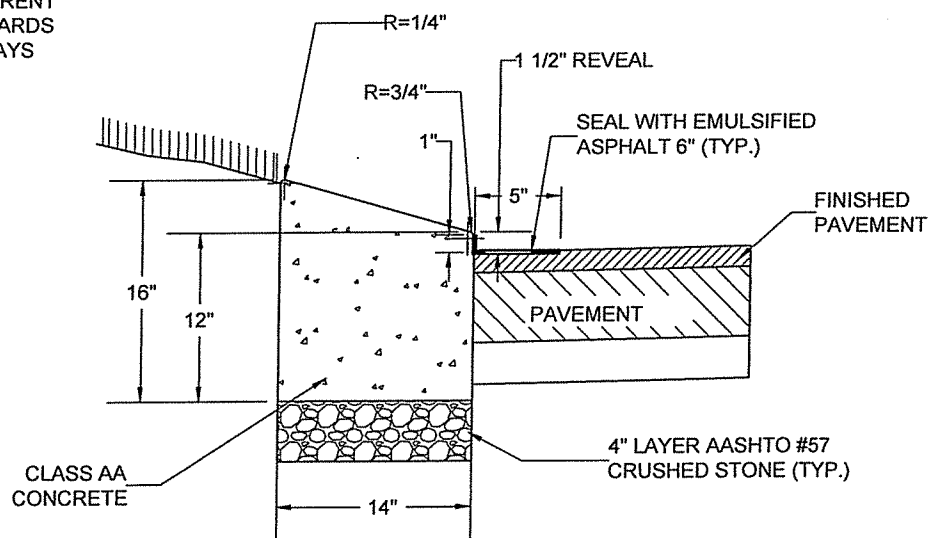
EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-06

* MEET CURRENT
ADA STANDARDS
AT DRIVEWAYS



STANDARD SLANT CURB

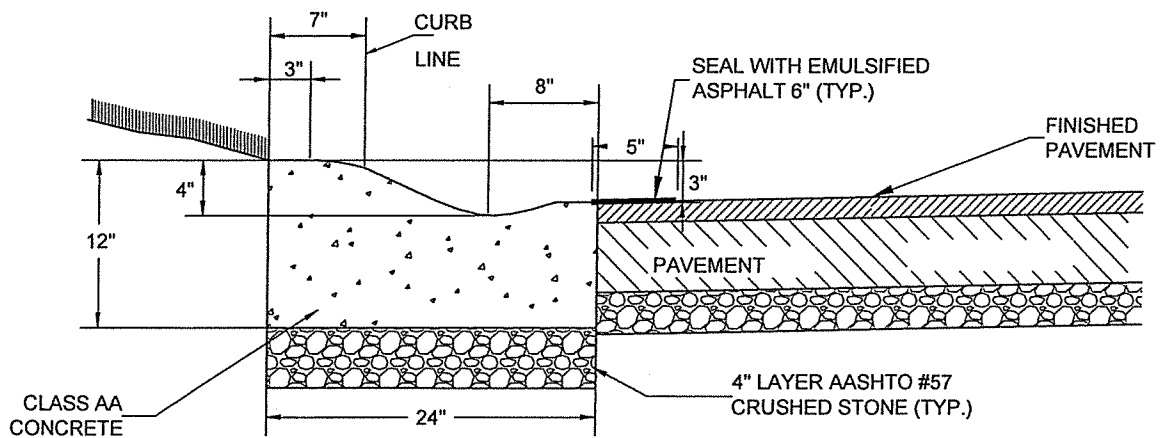
(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-07



STANDARD ROLLED CURB

WHERE APPROVED BY TWP. SUPERVISORS
(NOT TO SCALE)

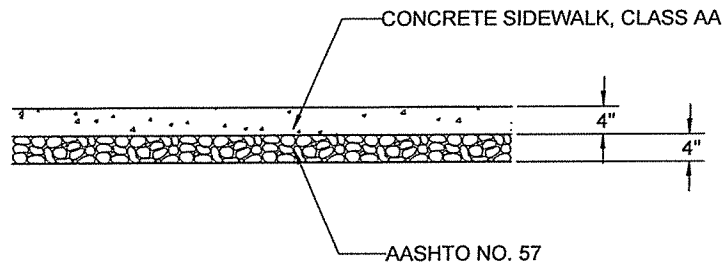
EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

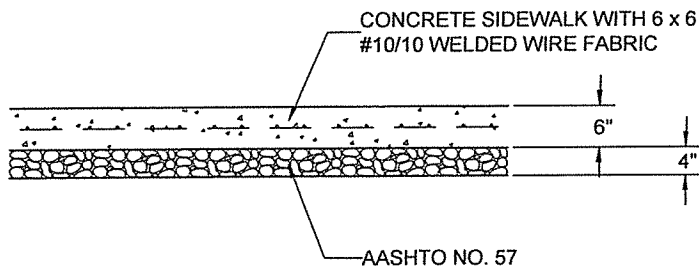
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SHEET
TY-08



CONCRETE SIDEWALK 4" THICK DETAIL

(NOT TO SCALE)



CONCRETE SIDEWALK 6" THICK DETAIL

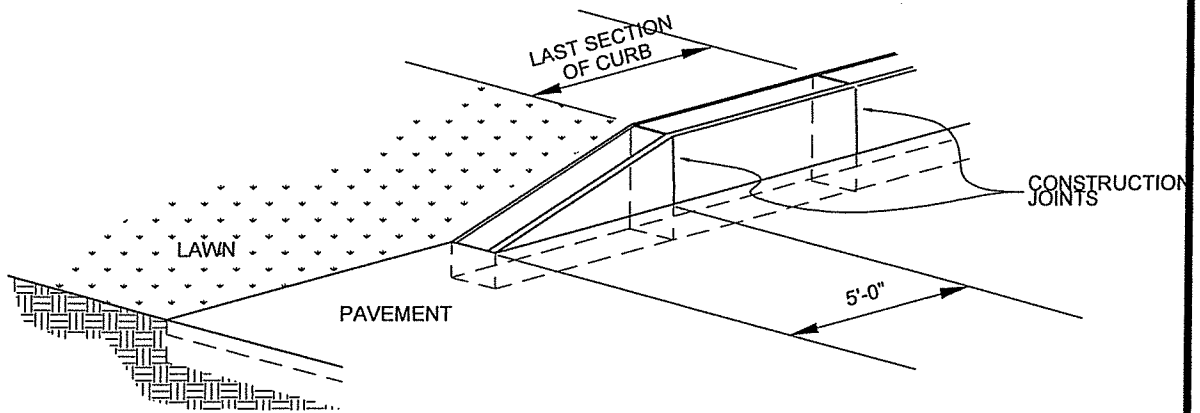
(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-09



VERTICAL CURB END TREATMENT
(NOT TO SCALE)

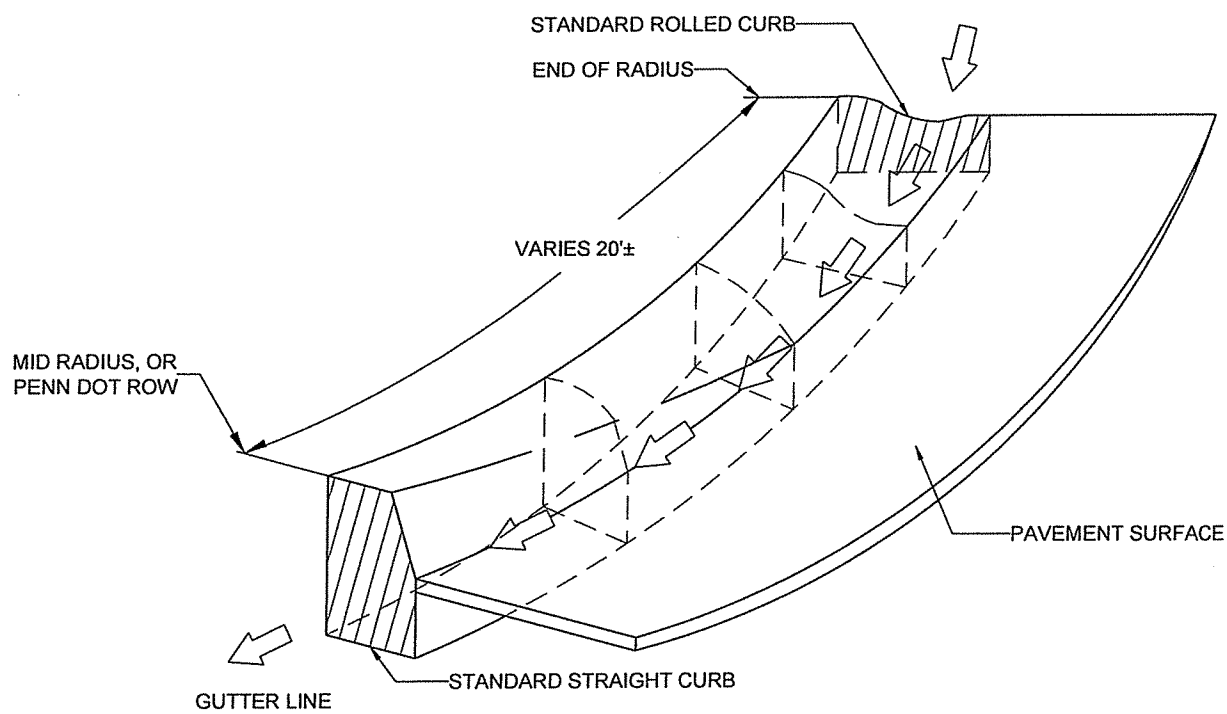
EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

-

SHEET
TY-10



CURB TRANSITION DETAIL

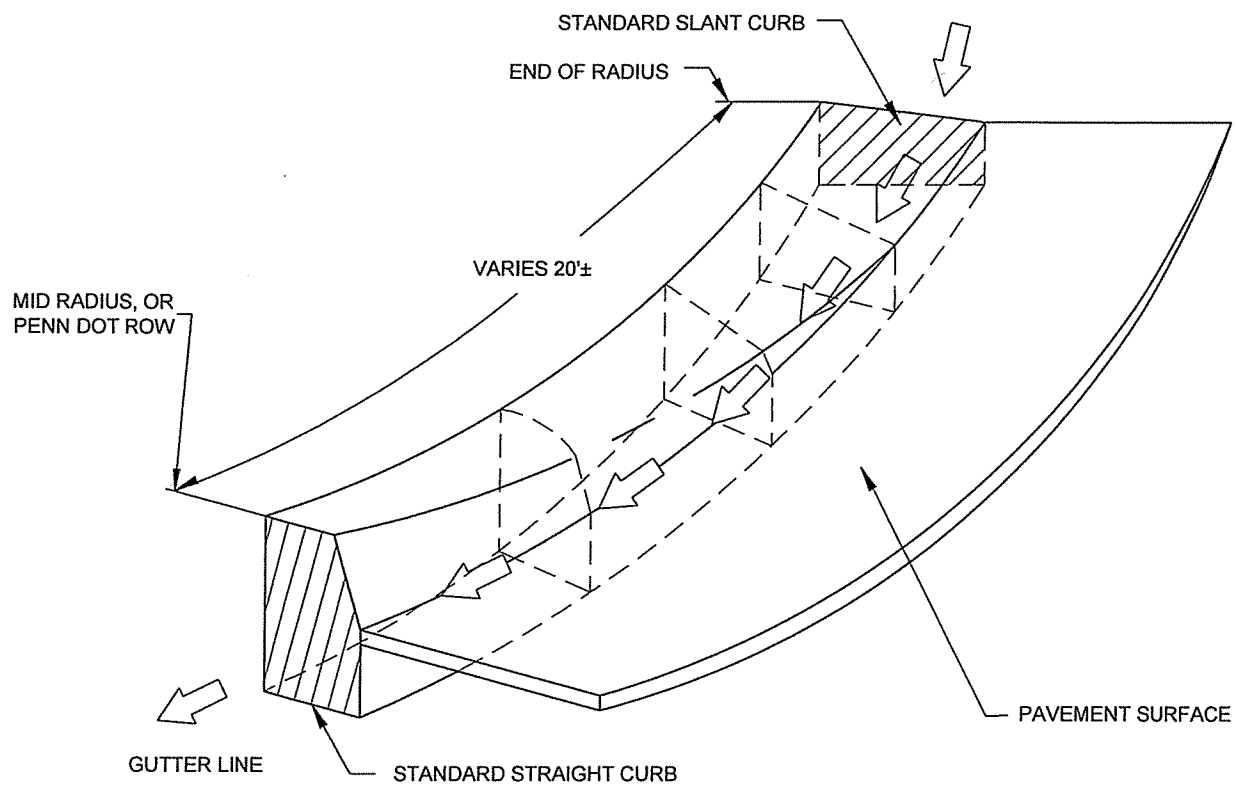
(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-11



CURB TRANSITION DETAIL

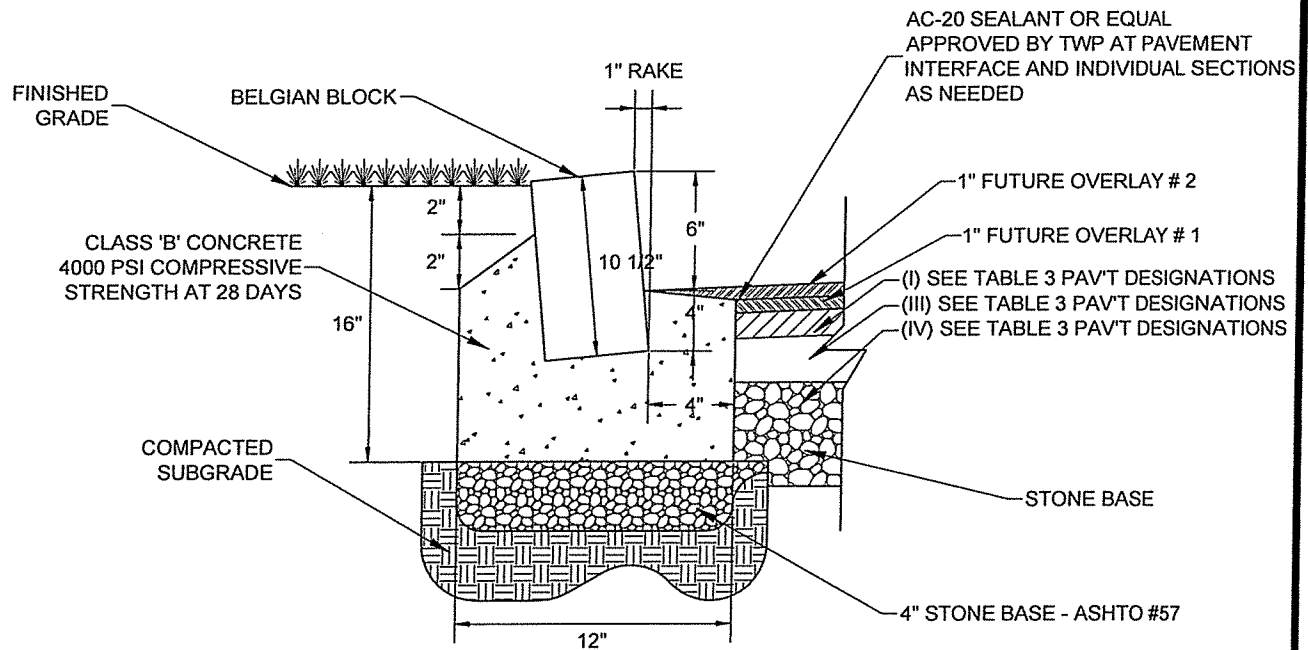
(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-12



NOTE: ALL BELGIAN BLOCK JOINTS ARE TO BE GROUTED COMPLETELY FULL
AND FINISHED WITH TOOLED CONCAVE JOINT ON FACE, TOP AND BACK.

BELGIAN BLOCK CURB DETAILS

(NOT TO SCALE)

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

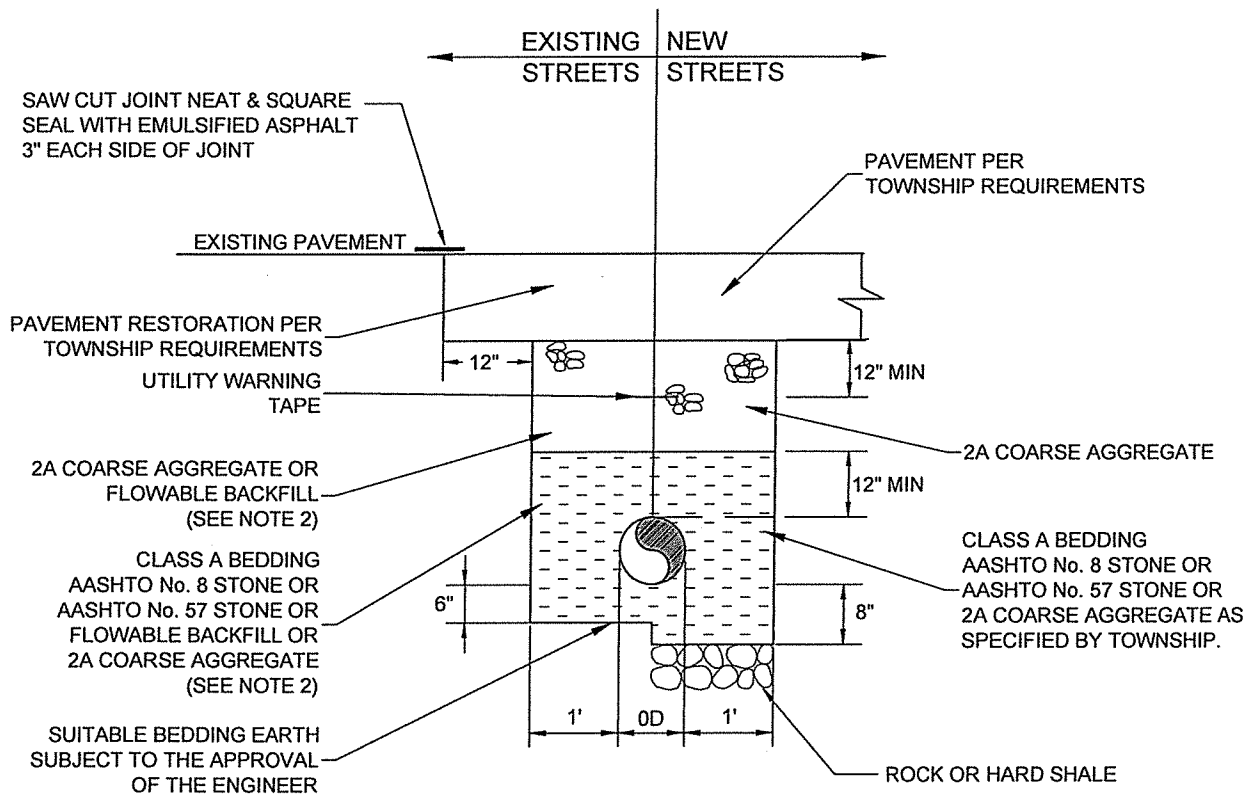
DATE:
7-30-14

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SHEET
TY-13

NOTE:

1. SEE PENN DOT PUB 72 RC-30 M FOR COMPACTION REQUIREMENTS.
2. DETAILS SPECIFYING PAVING AND BACKFILLING PROCEDURES AND MATERIALS SHALL BE OBTAINED FROM THE TOWNSHIP PRIOR TO ANY STREET OPENING WORK. THE TYPE OF BACKFILL MATERIAL SHALL BE AS DIRECTED BY THE TOWNSHIP PUBLIC WORKS DIRECTOR.



STORM SEWER TRENCH DETAIL TOWNSHIP ROW

NOT TO SCALE

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

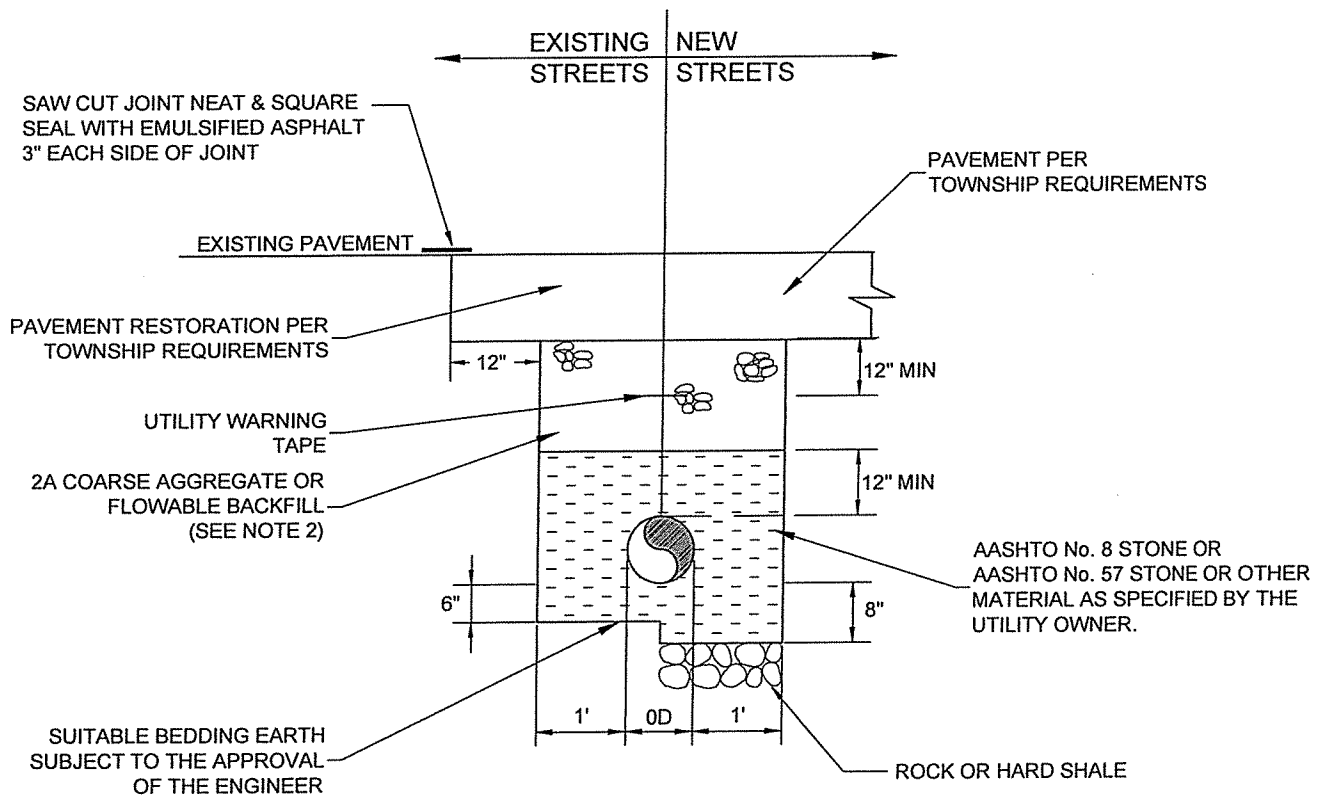
DATE:
7-30-14

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SHEET
TY-14

NOTE:

1. SEE PENN DOT PUB 72 RC-30 M FOR COMPACTION REQUIREMENTS.
2. DETAILS SPECIFYING PAVING AND BACKFILLING PROCEDURES AND MATERIALS SHALL BE OBTAINED FROM THE TOWNSHIP PRIOR TO ANY STREET OPENING WORK. THE TYPE OF BACKFILL MATERIAL SHALL BE AS DIRECTED BY THE TOWNSHIP PUBLIC WORKS DIRECTOR.



UTILITY TRENCH DETAIL TOWNSHIP ROW

NOT TO SCALE

EAST HEMPFIELD TOWNSHIP ROAD ORDINANCE

RAV ASSOCIATES INC.
ENGINEERS - CONSULTANTS

DATE:
7-30-14

SHEET
TY-15

