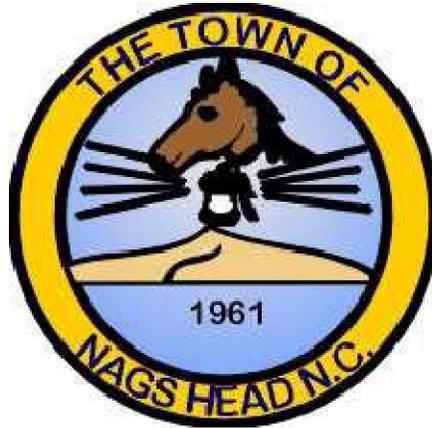


Recommended Standard Details Manual



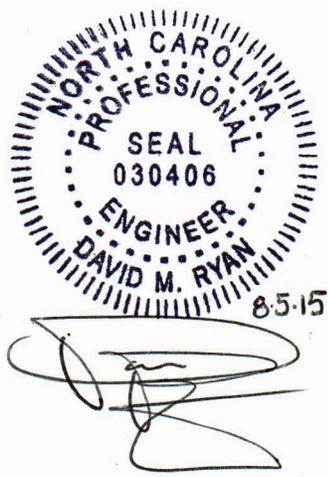
**TOWN OF NAGS HEAD
DEPARTMENT OF PUBLIC WORKS**

P.O. BOX 99

NAGS HEAD, NC 27959

252-441-5508

www.nagsheadnc.gov



Effective Date: August 5, 2015

Introduction

This manual was created and organized to assist planning, design, engineering, contractor and construction professionals for development activities in the Town of Nags Head. The Town of Nags Head "Recommended Standard Details Manual", latest revision, is established to serve as a reference manual and guide to design professionals and contractors to ensure compliance with the Town Code of Ordinances. The information contained herein are minimum requirements for design and construction within the Town and referenced from adopted policies, standards, details and established practices.

This document will be amended periodically to include supplemental development details and/or changes in materials, methods and procedures.

Copies of this manual may be downloaded from the Town of Nags Head web site, (www.nagsheadnc.gov). Hard copies of the information can be supplied upon request.

Manual Provision

The authors of this manual, to the best of their ability, have insured that the information presented here is correct and reliable. The execution of design and construction, however, involves professional judgment and only the design professional/contractor can ascertain whether a technique, method or material can be applied to a given situation. It is the sole responsibility of the design professional/contractor to ensure the standards, methods and practices utilized are accurate and correct.

Variance or Modification

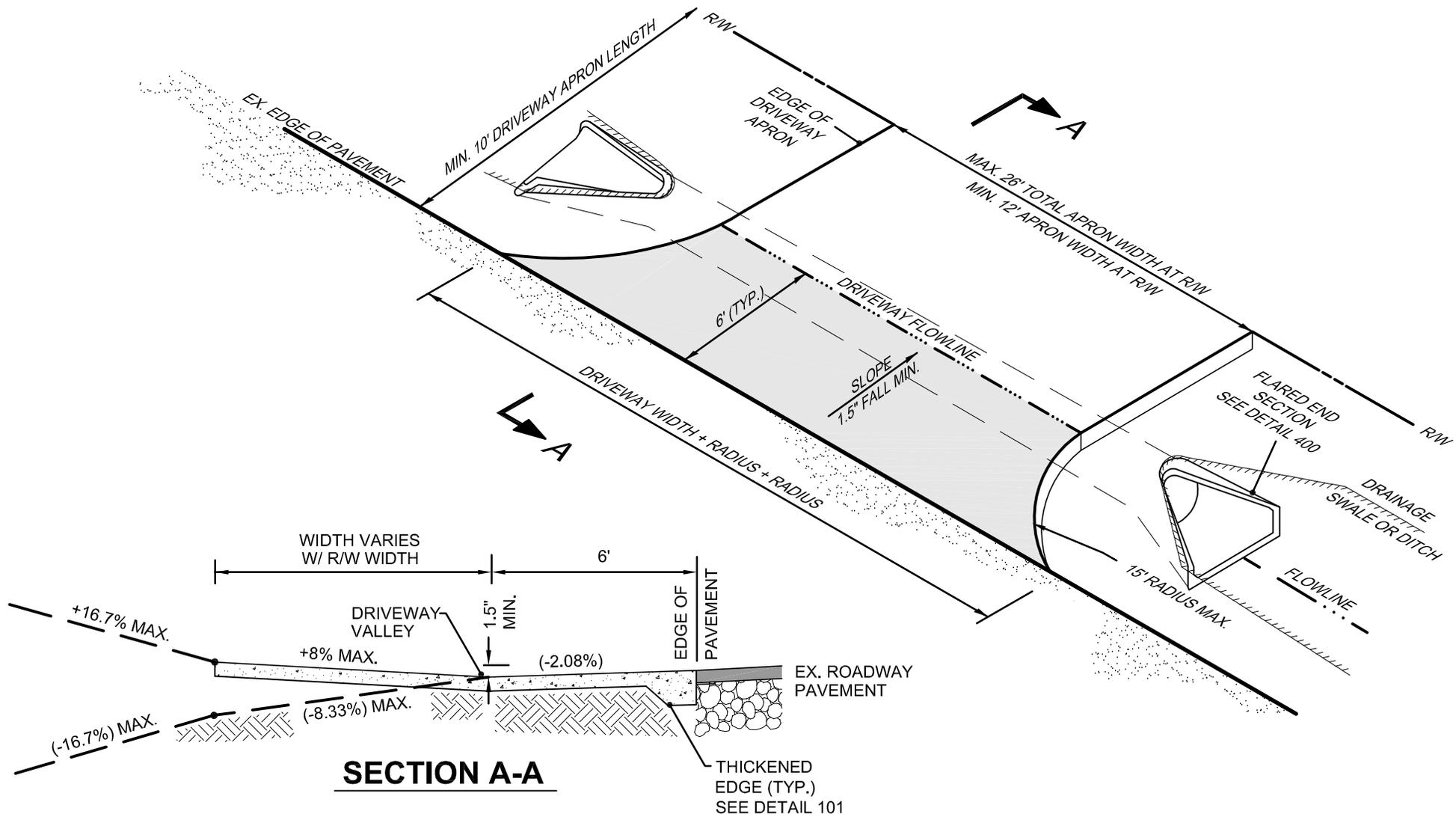
Any variances, alternate design, construction methods and materials, not specifically prescribed herein, shall be subject to the approval of the Public Works Director, Town Engineer or his/her designee.

Applicability

On or after August 5, 2015 this "Recommended Standard Detail Manual," latest revision, shall be applicable to all new improvements, alterations and additions located within the jurisdiction of the Town of Nags Head.

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SECTION A-A

NOTES:

1. All driveways must meet the current Town driveway requirements and NCDOT requirements for spacing, sight distance, and offsets from property lines and intersections.
2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or Public Works Director.
3. The driveway entry radius can be tapered in lieu of a radius connection with a maximum 10' taper length and width.
4. Driveway aprons shall be constructed of a min. 4" thick, 3000 psi concrete or 6" ABC base course with a 2" asphalt surface course.
5. Driveway street approach shall be stabilized prior to commencing with construction.

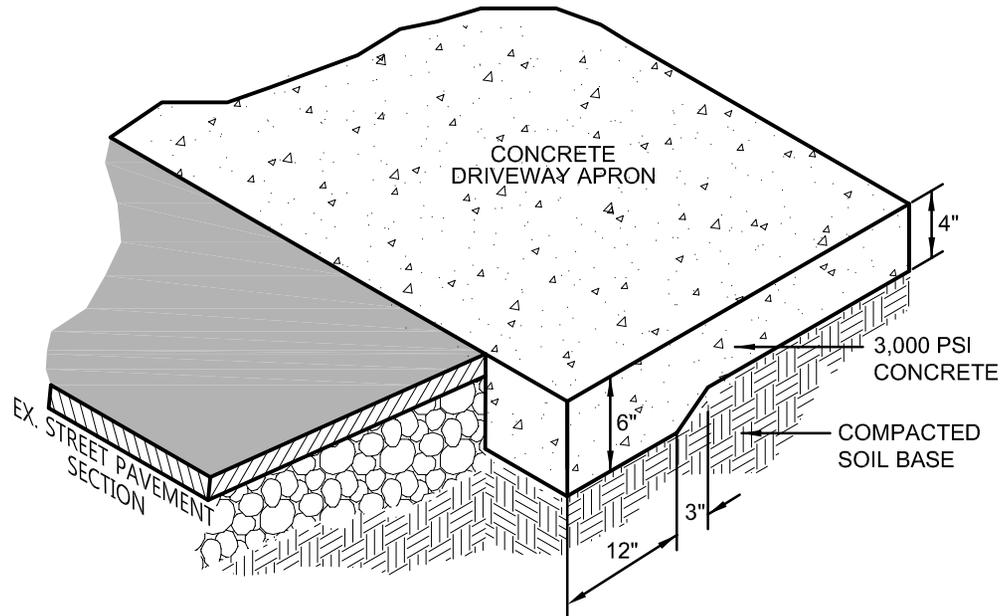


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TYPICAL RESIDENTIAL DRIVEWAY DETAIL

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
 100



NOTES:

1. Contractor shall sawcut existing pavement straight and true prior to concrete apron installation.
2. Contractor shall contact the Department of Public Works prior to concrete installation to confirm compliance.
3. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or Public Works Director.
4. If the street pavement section is damaged during construction activity, the contractor shall patch the pavement section to the same pavement cross section that existed prior to the commencement of construction.
5. Driveway aprons shall be constructed of a min. 4" thick, 3000 psi concrete or 6" ABC base course with a 2" asphalt surface course.

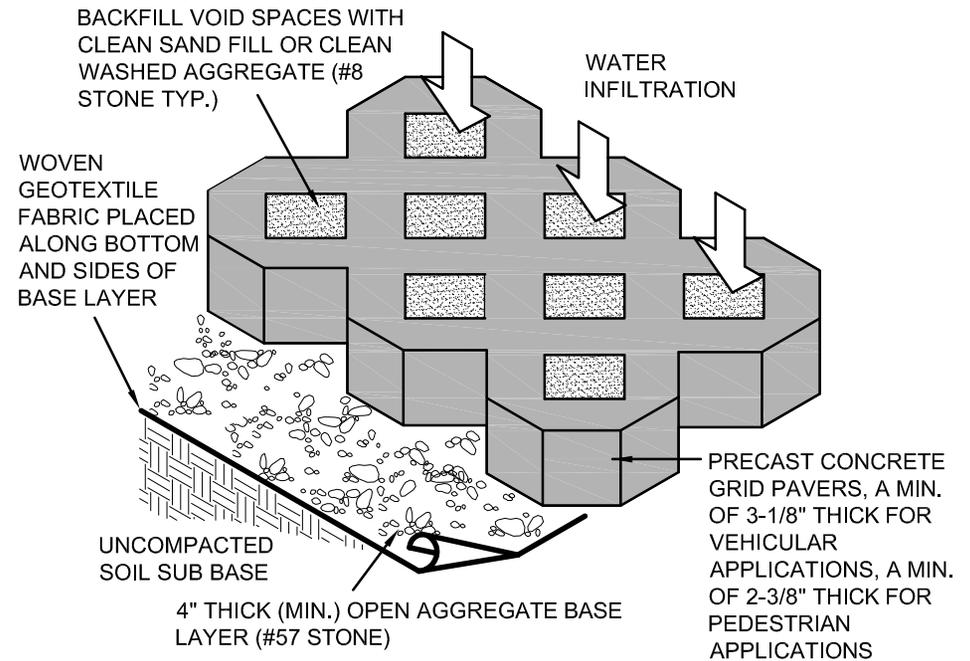
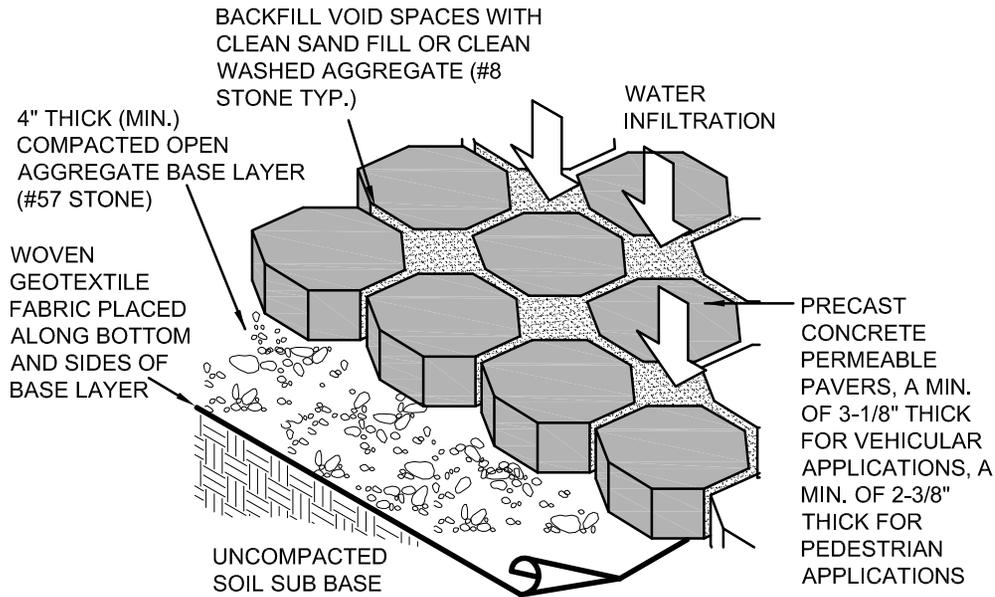


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**TYPICAL RESIDENTIAL DRIVEWAY
 CONCRETE THICKENED EDGE DETAIL**
 (THIS SECTION APPLIES TO CONCRETE DRIVEWAY INSTALLATIONS ONLY)

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
 101



PRECAST CONCRETE PERMEABLE PAVER

PRECAST CONCRETE GRID PAVER

NOTES:

1. Contractor shall submit specific product technical specifications to the Town for review and approval prior to installation.
2. Other permeable pavement systems may be considered, other than those noted hereon, as approved by the Town Engineer.
3. Pavement section substitutions may be considered in accordance with manufacturers recommended specifications OR as designed by a North Carolina Licensed Professional Engineer.
4. The pavement surface course installation shall be continuous and level .
5. The Town Planning or Public Works Department shall be contacted for review and approval of the base layer and woven geotextile fabric layer in advance of the paver installation.
6. A final inspection shall be conducted by the Town Planning or Public Works Department .
7. Edge restraints shall be constructed along the perimeter of the paver installation, (see detail 104) and between paver and asphalt pavement sections.
8. Aggregate fill material shall be installed flush with the finished pavement surface.
9. For paver installations that utilize clean sand fill as the media type to backfill paver void spaces, a secondary woven geotextile layer shall be installed above the aggregate base layer.



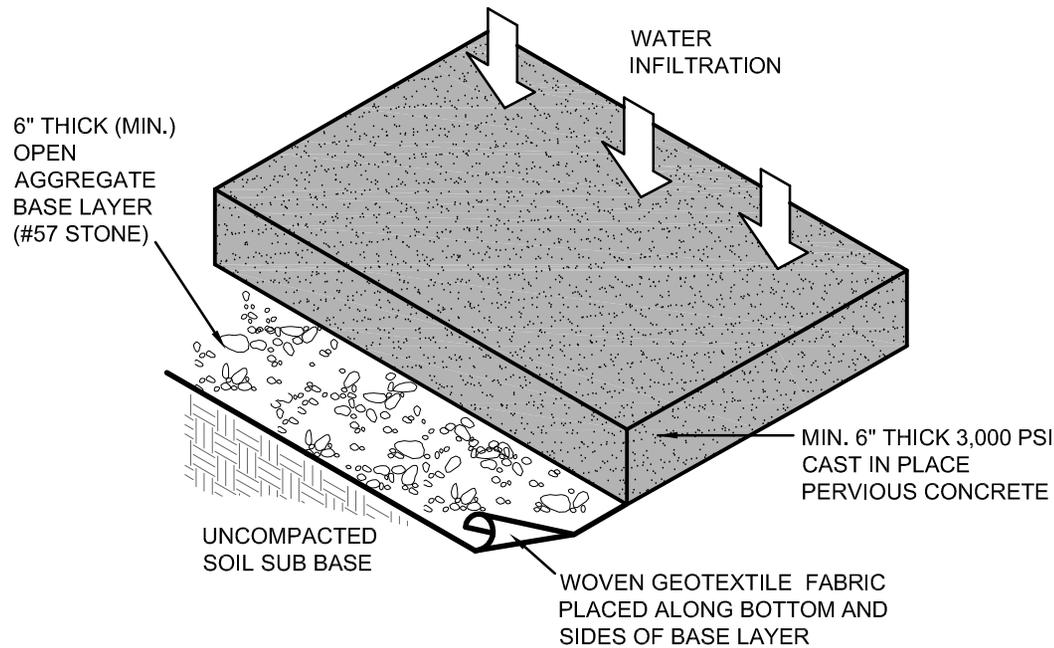
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TYPICAL RESIDENTIAL PERMEABLE PAVER INSTALLATION DETAIL

(REFER TO DETAIL 104 FOR EDGE RESTRAINT OPTIONS)

SCALE: NONE
ISSUE DATE: 7-9-2015
REVISION DATE:
SHEET NO: 1 OF 1
DRAWN BY: DMR

DETAIL NO.:
102



PERVIOUS CONCRETE PAVEMENT SECTION

NOTES:

1. Contractor shall submit an appropriate certification indicating adequate training and experience for pervious concrete installations.
2. The pavement system shall be designed and installed in accordance with ACI specifications, or equivalent standard.
3. Operation and Maintenance requirements shall be a condition of approval.
4. NO porous concrete installation are permitted east of S. Virginia Dare Trail (NC 12) and east of S. Old Oregon Inlet Rd. (SR 1243).
5. The pavement section may be substituted when designed by a North Carolina Licensed Professional Engineer.
6. The pavement surface course installation shall be continuous and level .
7. The Town Planning or Public Works Department shall be contacted for review and approval of the base layer and woven geotextile fabric layer in advance of the surface course installation.
8. A final inspection shall be conducted by the Town Planning or Public Works Department to review for compliance post-installation.
9. Edge restraints shall be constructed along the perimeter of the pavement installation, (see detail 104)



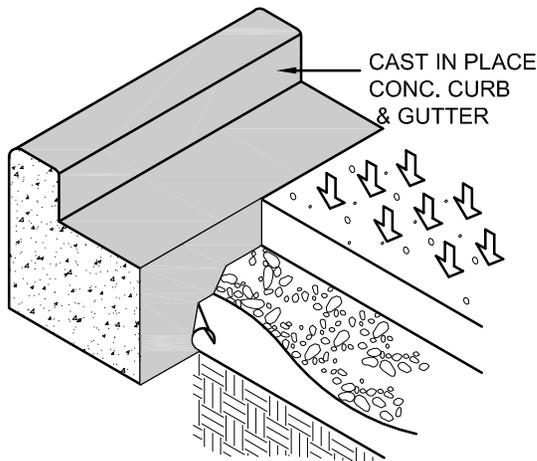
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TYPICAL RESIDENTIAL POROUS CONCRETE INSTALLATION DETAIL

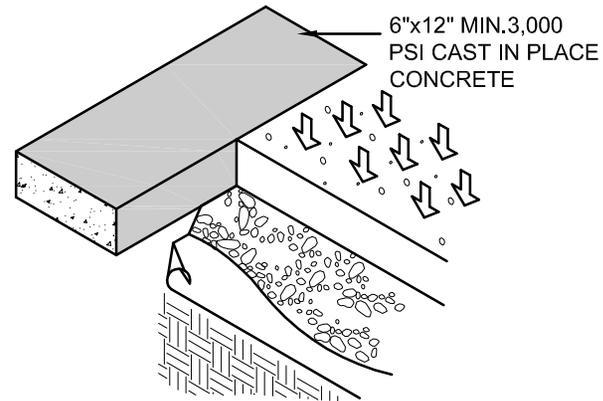
(REFER TO DETAIL 104 FOR EDGE RESTRAINT OPTIONS)

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

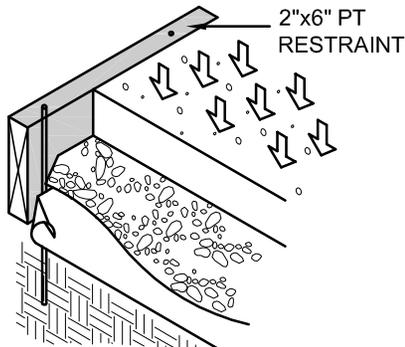
DETAIL NO.:
103



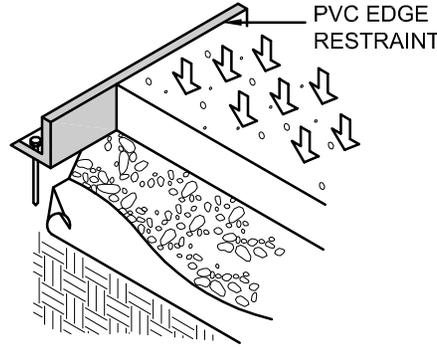
CONCRETE CURB & GUTTER



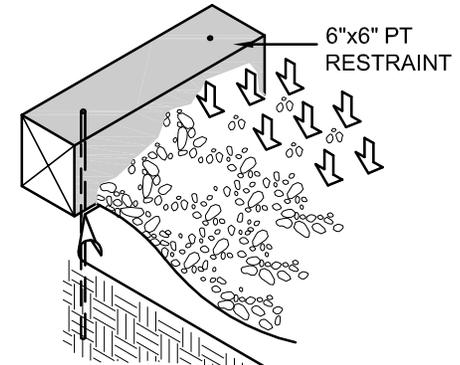
CONCRETE CURB & GUTTER



WOOD EDGE RESTRAINT



PVC EDGE RESTRAINT



TIMBER EDGE RESTRAINT

(THIS APPLIES TO GRAVEL INSTALLATIONS ONLY)

NOTES:

1. PVC Edge restraint and attachments shall be installed in accordance with manufacturer recommendations. PVC Edge restraints shall be used on paver installations ONLY.
2. Cast in place concrete compressive strength shall be a minimum of 3,000 psi. Wood edge restraint shall be pressure treated and drilled with 3/8 dia holes spaced at 3'-0" on center. 48" lengths of #3 rebar stakes shall be placed through the drilled holes and embedded in the soil below and cut flush to the top of restraint.
3. The edge restraint shall be continuous along the pavement length.
4. Refer to Detail 103 and Detail 105 for pavement section material type and thickness.

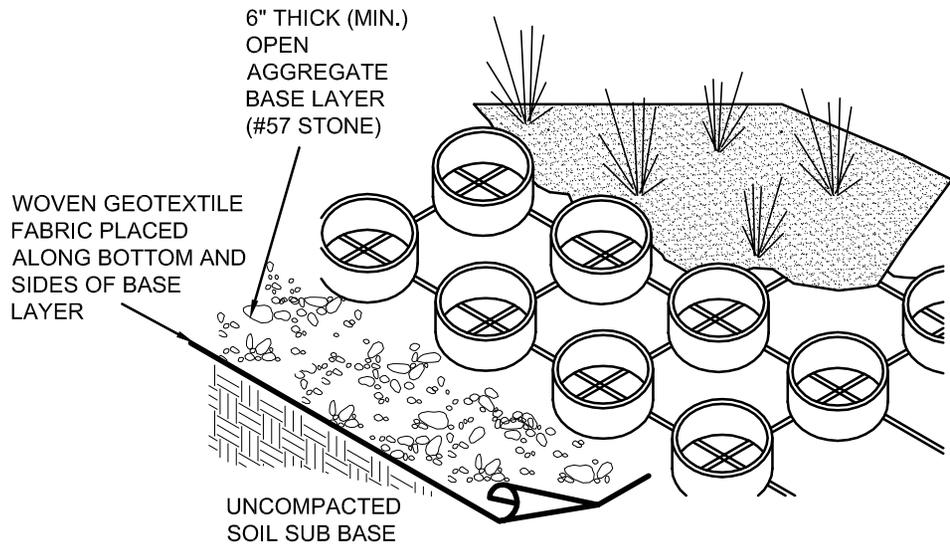


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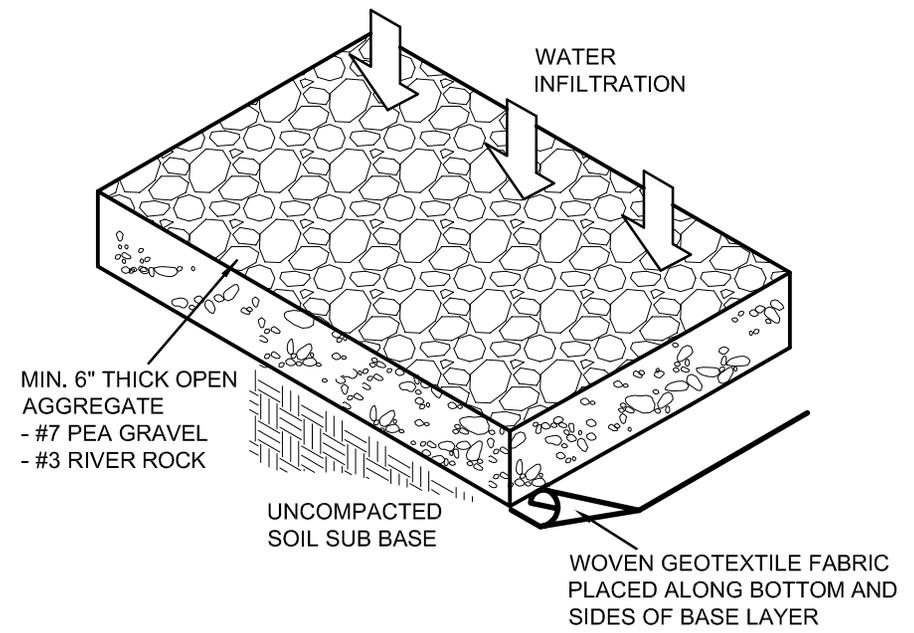
**TYPICAL RESIDENTIAL PERMEABLE
PAVER EDGE RESTRAINT DETAILS**

SCALE: NONE
ISSUE DATE: 7-9-2015
REVISION DATE:
SHEET NO: 1 OF 1
DRAWN BY: DMR

DETAIL NO.:
104



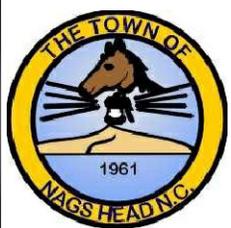
TURF REINFORCEMENT SECTION



GRAVEL PAVEMENT SECTION

NOTES:

1. Contractor shall submit specific product technical specifications to the Town for review and approval prior to installation.
2. Pavement section substitutions may be considered in accordance with manufacturers recommended specifications OR as design by a North Carolina Licensed Professional Engineer.
3. The pavement surface course installation shall be continuous and level.
4. The Town Planning or Public Works Department shall be contacted for review and approval of the base layer and woven geotextile fabric layer in advance of the grid or gravel installation.
5. A final inspection shall be conducted by the Town Planning or Public Works Department to review for compliance post-installation.
6. Edge restraints shall be constructed along the perimeter of the paver installation, (see detail 104).
7. Turf reinforcement shall only be utilized on up to 20% of the required parking spaces and is required to be delineated with curb stops.

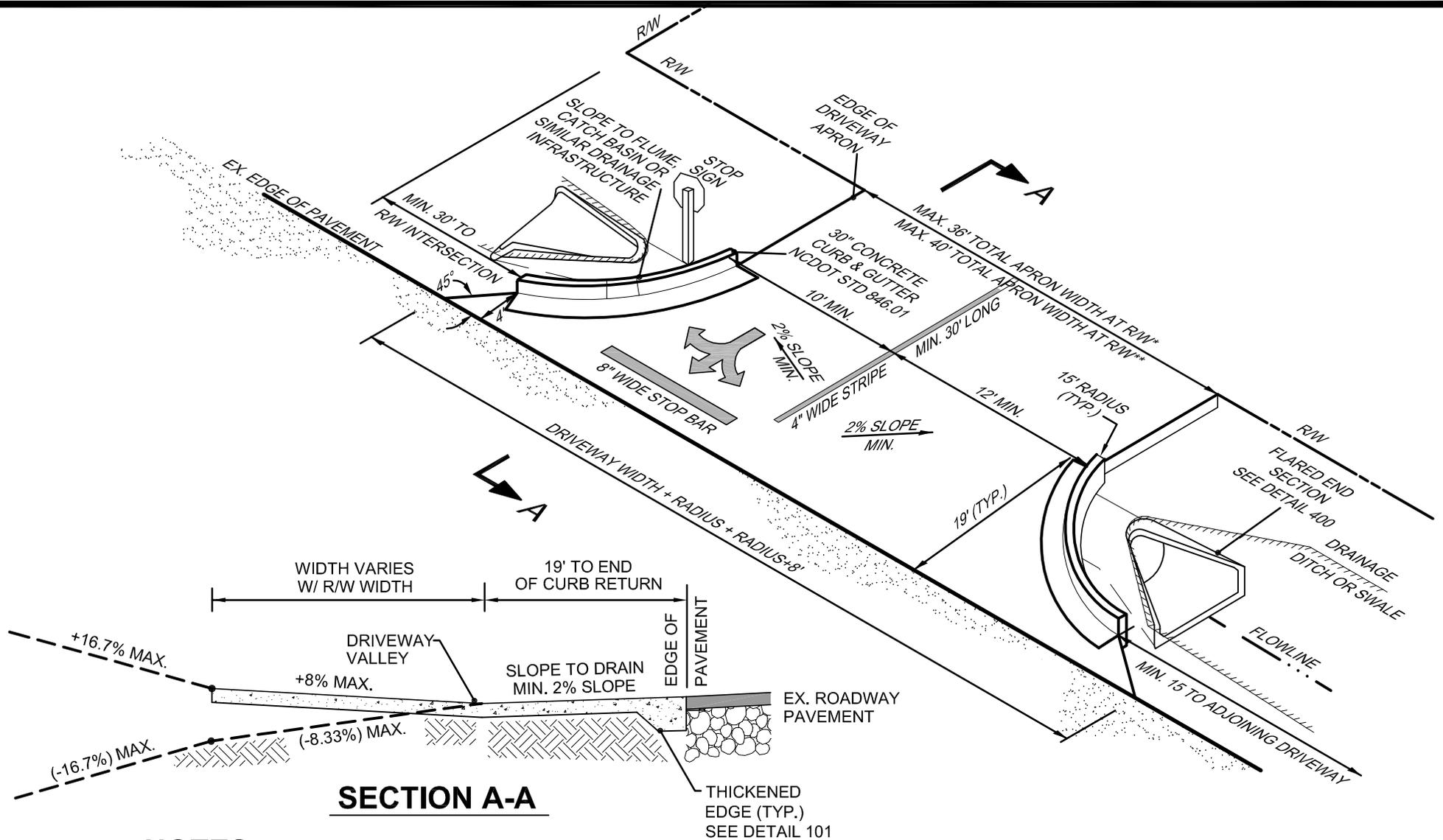


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**TYPICAL RESIDENTIAL ALTERNATIVE
PAVEMENT SURFACE DETAILS**

SCALE: NONE
ISSUE DATE: 7-9-2015
REVISION DATE:
SHEET NO: 1 OF 1
DRAWN BY: DMR

DETAIL NO.:
105



SECTION A-A

NOTES:

1. All driveways must meet the current Town driveway requirements and NCDOT requirements for spacing, sight distance, and offsets from property lines and intersections.
2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or Public Works Director.
3. Driveway width shall not exceed 36' when not served by tractor/trailer traffic (AASHTO WB-40)*.
4. Driveway width shall not exceed 40' when served by tractor/trailer traffic (AASHTO WB-40)**.
5. Driveway aprons shall be constructed of a min. 4" thick, 3000 psi concrete or 6" ABC base course with a 2" asphalt surface course.

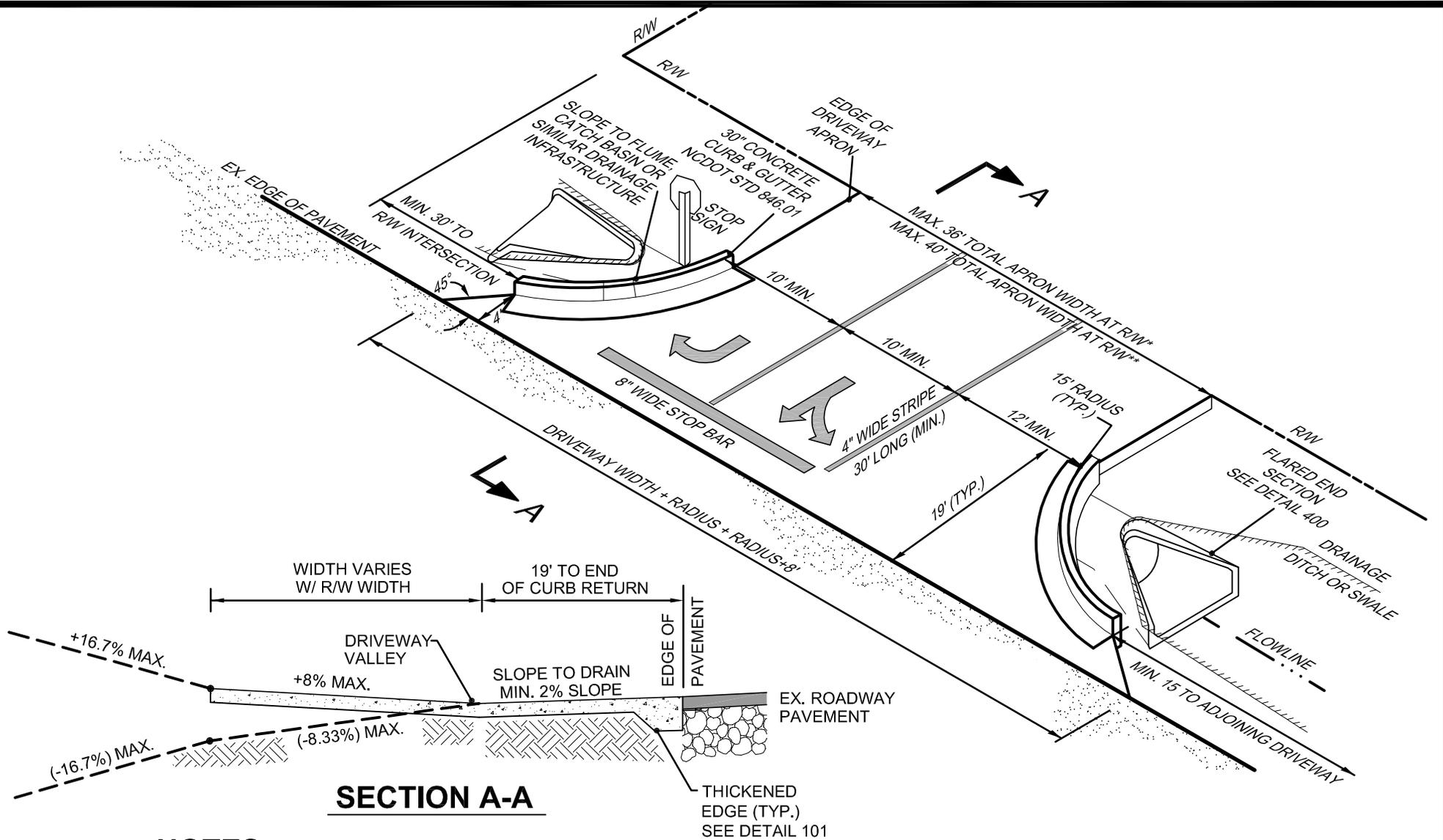


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TYPICAL COMMERCIAL DRIVEWAY DETAIL
SMALL PARKING LOT LAYOUT
 (FOR SMALL PARKING LOTS WITH LESS THAN 36 PARKING STALLS)

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
200



SECTION A-A

NOTES:

1. All driveways must meet the current Town driveway requirements and NCDOT requirements for spacing, sight distance, and offsets from property lines and intersections.
2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or Public Works Director.
3. Driveway width shall not exceed 36' when not served by tractor/trailer traffic (AASHTO WB-40)*.
4. Driveway width shall not exceed 40' when served by tractor/trailer traffic (AASHTO WB-40)**.
5. Driveway aprons shall be constructed of a min. 4" thick, 3000 psi concrete or 6" ABC base course with a 2" asphalt surface course.

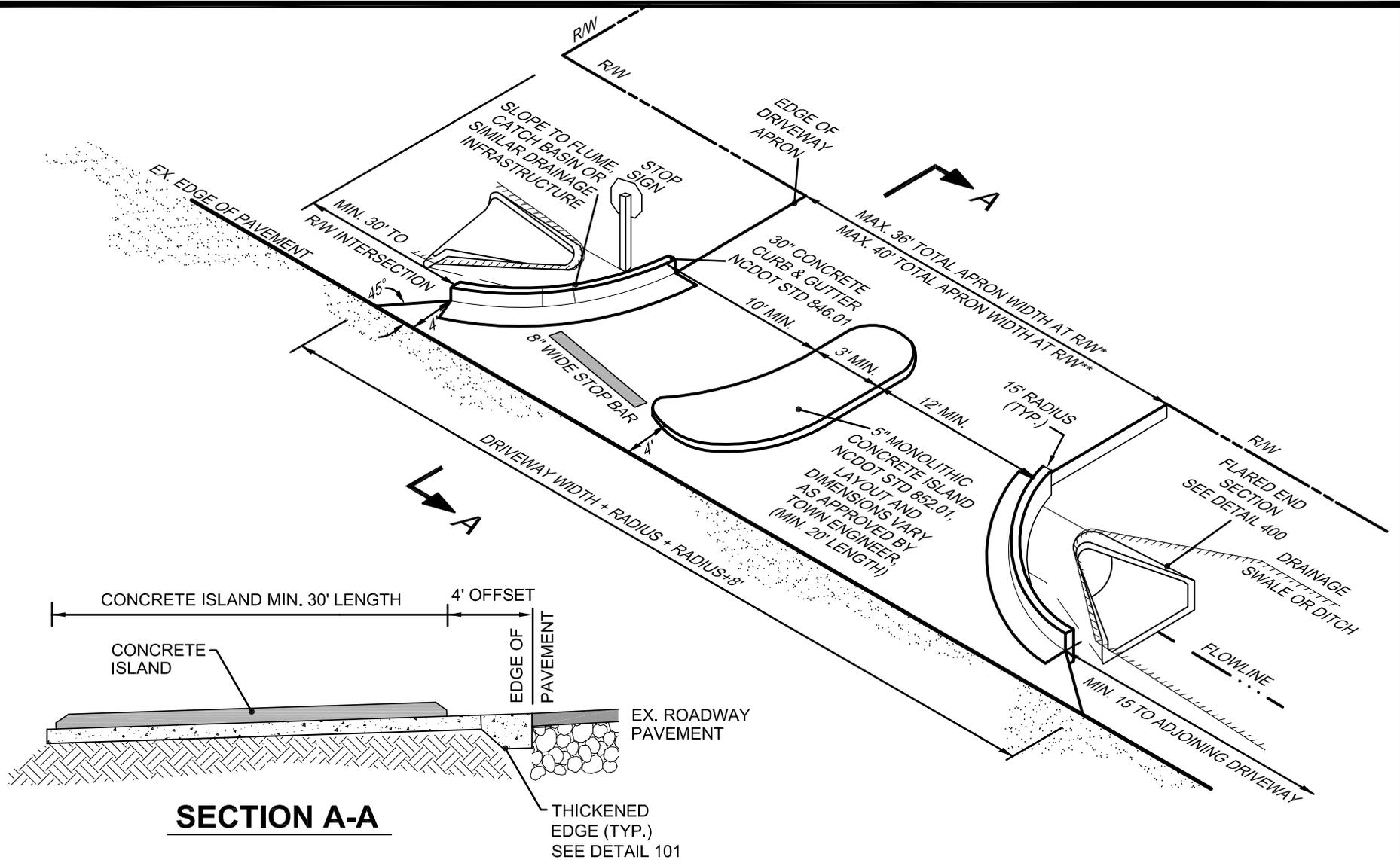


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**TYPICAL COMMERCIAL DRIVEWAY DETAIL
 LARGE PARKING LOT LAYOUT**
 (FOR LARGE PARKING LOTS WITH GREATER THAN 36 PARKING STALLS)

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
201



NOTES:

1. All driveways must meet the current Town driveway requirements and NCDOT requirements for spacing, sight distance, and offsets from property lines and intersections.
2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer, Public Works Director or NCDOT.
3. Concrete mountable island shall be installed in accordance with NCDOT Standard Detail 852.01.
4. Driveway aprons shall be constructed of a min. 4" thick, 3000 psi concrete or 6" ABC base course with a 2" asphalt surface course.

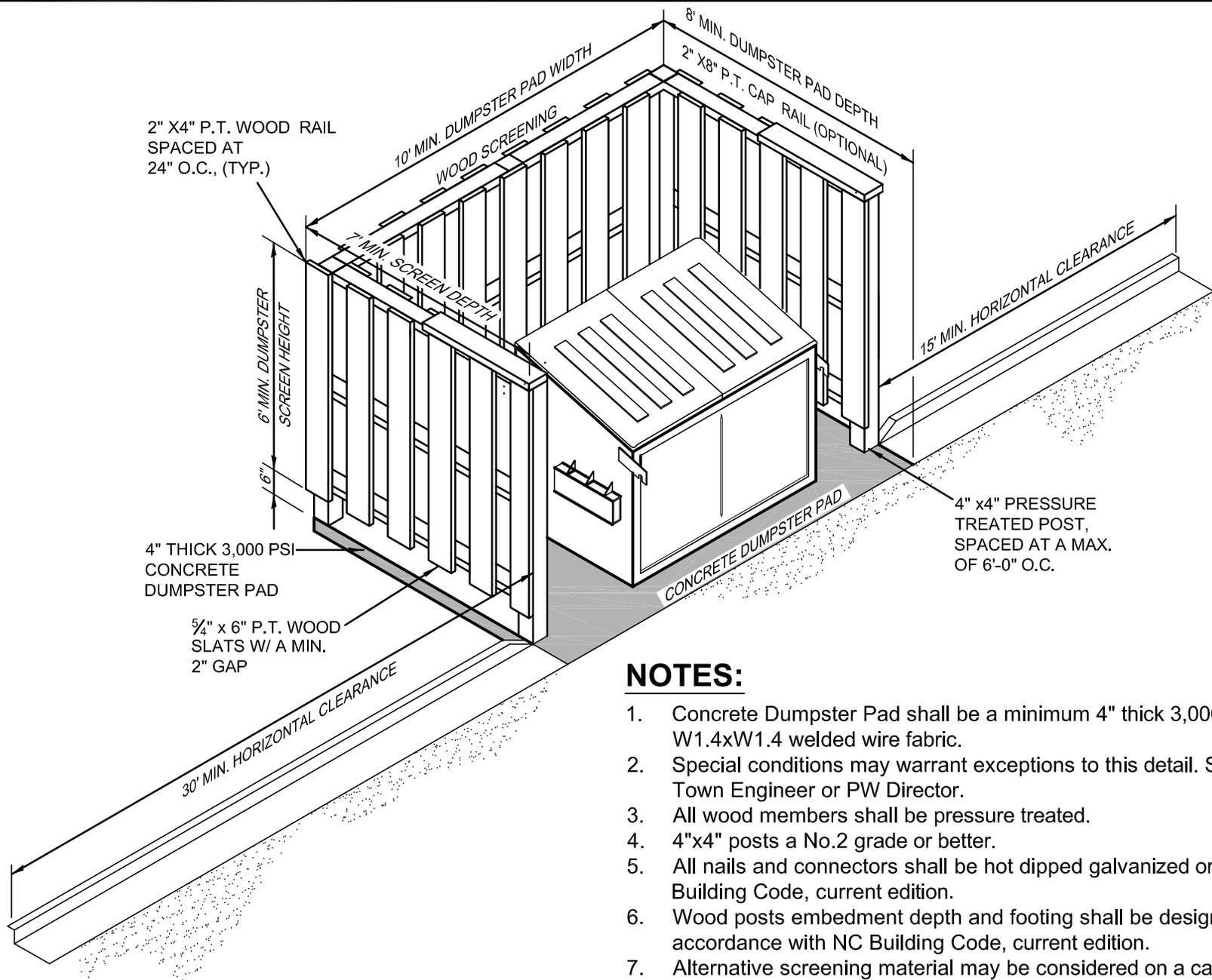


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**TYPICAL COMMERCIAL DRIVEWAY DETAIL
 WITH MOUNTABLE ISLAND DETAIL**
 (FOR DRIVEWAY CONNECTIONS TO S. CROATAN HWY.)

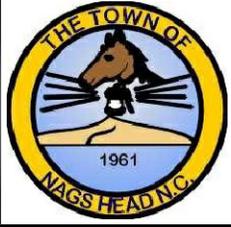
SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
202



NOTES:

1. Concrete Dumpster Pad shall be a minimum 4" thick 3,000 psi concrete with W1.4xW1.4 welded wire fabric.
2. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or PW Director.
3. All wood members shall be pressure treated.
4. 4"x4" posts a No.2 grade or better.
5. All nails and connectors shall be hot dipped galvanized or in accordance with NC Building Code, current edition.
6. Wood posts embedment depth and footing shall be designed and constructed in accordance with NC Building Code, current edition.
7. Alternative screening material may be considered on a case by case basis.
8. A minimum 16' vertical clearance shall be provided at the dumpster pad.
9. Multiple bulk container layouts shall be reviewed & approved by the PW Director.

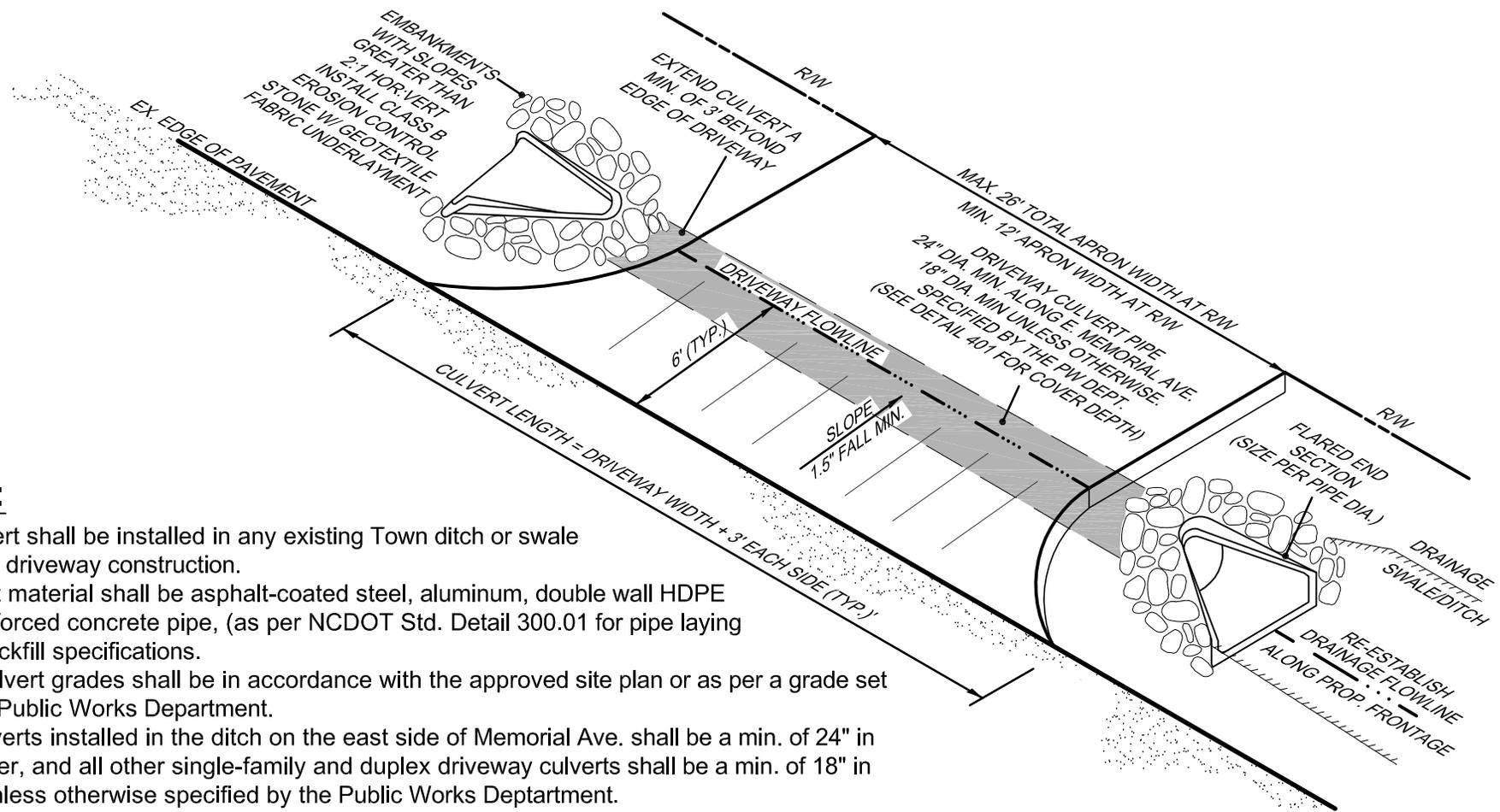


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**TYPICAL COMMERCIAL DUMPSTER PAD
 WITH WOOD SCREEN DETAIL**
 (FOR SIDE LOADING DUMPSTER CONFIGURATIONS)

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
203



NOTES:

1. A culvert shall be installed in any existing Town ditch or swale prior to driveway construction.
2. Culvert material shall be asphalt-coated steel, aluminum, double wall HDPE or reinforced concrete pipe, (as per NCDOT Std. Detail 300.01 for pipe laying and backfill specifications).
3. The culvert grades shall be in accordance with the approved site plan or as per a grade set by the Public Works Department.
4. All culverts installed in the ditch on the east side of Memorial Ave. shall be a min. of 24" in diameter, and all other single-family and duplex driveway culverts shall be a min. of 18" in dia., unless otherwise specified by the Public Works Department.
5. All culverts must be inspected by the Public Works Dept. prior to backfilling.
6. Endwalls are required on each end of all culverts installed in the ditch on the east side of Memorial Ave. and at the ends of other culverts as determined by the Public Works Director. Endwalls shall be constructed in accordance with NCDOT Std Detail 838.01.
7. Special conditions may warrant exceptions to this detail. Subject to approval by Town Engineer or Public Works Director.
8. The flared end material type shall match the pipe material type.
9. Culvert pipe inlet/outlet embankments resulting in a slope greater than 3:1 hor./vert. shall provide Class B erosion control stone, or approved equivalent, with a woven geotextile fabric underlayment installed on compacted a compacted soil base.



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**TYPICAL RESIDENTIAL DRIVEWAY
 CULVERT PIPE DETAIL**

SCALE: NONE
 ISSUE DATE: 7-9-2015
 REVISION DATE:
 SHEET NO: 1 OF 1
 DRAWN BY: DMR

DETAIL NO.:
400