

speed hump program

manual



gwinnettcounty
department of transportation
traffic engineering and planning division
traffic studies section • 12.08

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I. Introduction and general standards

I.1 Function of the Gwinnett County Speed Hump Program

The main function of the *Speed Hump Program* is to aid citizens in determining if their street has a speeding problem, and educating them on traffic-calming options. Speed humps are installed on a residential street to serve as traffic-calming devices. Properly installed, they should foster a constant speed ranging between 28 to 30 mph. They should not be misconstrued as enforcement mechanisms. The Institute of Transportation Engineers developed, by special committee, a policy on the use of speed humps within the United States.

I.2 Street classification

Speed humps will only be considered on streets classified as local, residential streets with a posted speed of 25 mph¹. A physical inspection of the street along with traffic data will be used to determine the effectiveness speed humps will have.

I.3 Legal authority

Speed humps shall be placed only by the authority of the Board of Commissioners in accordance with *Chapter 94, Sections 1-13*, of the *Gwinnett County Code*.

I.4 Standardization of application

In keeping with the general recommendation of the *Manual on Uniform Traffic Control Devices (MUTCD)*, uniformity aids in the recognition and understanding of traffic control devices.² Traffic engineering studies may indicate that speed humps would be unnecessary or unsafe at certain locations. Strict adherence to the standards and guidelines outlined in the manual will help ensure that any given speed hump installation will be equally recognizable and require the same action on the part of the motorists.

¹ Residential Speed Limit Under Statutory Law

² MUTCD, 2003 Edition, US Department of Transportation, Federal Highway Administration, p1A – 2, Section 1A.06

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2. Program elements

2.1 Speed criteria

The 85th percentile is the indicator used to determine the maximum reasonable speed by performing a traffic study. If the study indicates that the 85th percentile is at least 11 mph over the posted 25 mph speed limit, the petition process will proceed at 70 percent of the petition area.

If the 85th percentile is from 30 mph to 35 mph, a waiver may be requested. It will require 90 percent of the petition area to sign in favor of the speed humps.

If the 85th percentile is under 30 mph, speed humps are not advised. The humps were designed to maintain speeds at 28 mph to 30 mph, therefore their installation would serve minimal benefit.

2.2 Establishment of a special assessment district

If a street or street section meets the minimum speed classification criteria, the department will create a special assessment district which consists of properties with access to the street with the proposed speed humps. These properties that make up the *Special Assessment District* will also be known as the *Petition Area*. Properties will not be added or deleted from special assessment districts in an attempt to alter voting ratios.

In many cases, there will also be what is known as a *Notification Area*. Properties located in the notification area will not be part of the voting process. The notification area will consist of properties that are located on a street or streets that must access the street with proposed speed humps in order to enter or exit the subdivision. All properties in these area will be notified of the proposal at the beginning of the petition process.

2.3 Speed hump proposal

Department personnel will design the placement of speed humps on streets meeting program criteria using the following guidelines³:

- A. **GRADE** – Speed humps will not be installed on street sections with grades greater than eight percent.
- B. **SIGHT DISTANCE** – Speed humps should also be placed in locations where sight distance is not an issue. Curves are to be avoided. The humps should be visible from a distance of at least 250 feet using the standard AASHTO measurement procedures.
- C. **NUMBER OF HUMPS IN A SERIES** – Speed humps are not to be used to slow traffic at a given point, but rather to reinforce a safe, consistent speed. For this reason, a single hump is not recommended, unless the street in question is 500 – 600 feet in length. Usually, a series of humps should not exceed three-quarters of a mile. If the street or street section to be considered exceeds a mile, speed humps may be used in conjunction with other traffic-calming devices, such as traffic circles, thus reducing the number of speed humps necessary to achieve targeted speed reduction. (*See the Gwinnett County Traffic Calming Guide for the choices of approved calming devices*).

³ Based on ITE *Guidelines for the Design and Application of Speed Humps*, May 1993.

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- D. **SPACING** – Research indicates that spacing humps between 300 and 500 feet apart is most effective at lowering the 85th percentile speed to the targeted range.
- E. **LOCATION** – The first hump in a series must be located in a position where it cannot be approached at a high speed from either direction. To achieve this objective, the first hump in a series is typically installed within 100 to 200 feet of a small-radius curve or stop sign. Care should be taken so that humps are not proposed in areas which would conflict with existing infrastructure.

2.4 Petition for speed humps

The department will forward the speed hump proposal along with petition forms to the homeowners' representative. A properly executed petition is a generally accepted method to effect a public action. The following rules and requirements, which will be included with the petition forms, help ensure the fairness and integrity of the petition process:

- The objective of the Gwinnett County *Speed Hump Program* is to provide property owners a process to install asphaltic speed humps on County-maintained neighborhood roads, where engineering studies indicate that their use would meet the desired results of reducing neighborhood speeds and their installation is favored by a majority of the property owners in the area.
- To have speed humps installed in Gwinnett County, a petition must be submitted to this office. **All** of the property owners in the subdivision or defined service area should be contacted and given an opportunity to sign this petition, indicating “yes” or “no” concerning the installation of speed humps. Unless property is undergoing change of ownership, a wife’s signature will not be acceptable if she is not the legal owner. If **both** husband and wife are joint legal owners, both signatures are required. A “Mr. and Mrs.” signature is not acceptable. **All** owners must sign individually. This includes owners of undeveloped lots. Renting tenants are not an acceptable substitute for the legal property owner. No signature will be withdrawn from the petition after it is filed with the Department of Transportation. The purpose of the witness’ signature is to verify the signatures of the property owners, if in question. The percentages will be calculated, based on individual lots where owners sign affirmatively, divided by the total number of lots in the plotted subdivision, units, or defined service area. Each lot counts as only one vote, regardless of the number of owners signing. At least 70 percent of the property owners must vote in favor of the speed humps before petitions can be presented to the Board of Commissioners.
- The completed petition must be signed, notarized, and then returned to this office, where it will be checked against tax records and land lot maps to ensure that it meets all requirements. It will be returned to the sender if it does not meet the requirements. Petitions that do meet the requirements will be presented to the Commissioners at their regular Tuesday meeting. A public hearing will be announced at that time for each petition. At the public hearing, the petition will be approved or disapproved by the Board of Commissioners.
- The time span from receiving the petition to installation will be approximately four months or less.

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- Annualized charges for initial installation, maintenance, and repair of speed humps are added to the property tax bills at the end of the year. Each platted lot, whether developed or not, will be subject to the assessed charges. The rate for participation in the speed hump program will be \$12.00 per year per property in the defined service area.
- Removal of speed humps can proceed if the County is presented a petition requesting that speed humps be removed. At least 70 percent of the property owners must vote in favor of removing the speed humps. The petition must be signed by property owners only. In case of multiple owners, each owner must sign. Rental tenants are not an acceptable substitute for the legal homeowner. The percentages will be calculated based on individual lots where owners sign in favor of removal of the speed humps, divided by the total number of lots in the plotted subdivision, units, or defined service area. Each lot counts as only one vote, regardless of the number of owners signing. Such a petition for removal will only be considered after speed humps have been in place for a period of at least one year after installation.
- For subdivisions not completely built out, a minimum of 30 percent of the total units must be occupied before a petition for the installation of speed humps will be considered, and a minimum of 60 percent of the total units must be occupied before a petition for the removal of speed humps will be considered.

2.5 Participation of cities in the Speed Hump Program

The Gwinnett County *Speed Hump Program* is not limited to those residential streets in unincorporated Gwinnett County. Each city has the choice to apply to be included as part of the County speed hump program. The cities that are currently part of the Gwinnett County *Speed Hump Program* are Buford, Grayson, Lawrenceville, Lilburn, Loganville, Snellville, Sugar Hill, and Suwanee. These cities' residents are currently able to inquire about having the speed hump program for their residential streets.

2.6 Implementation of speed control in the planning process

Residential speed control is something that is reviewed during the planning stages of a development. Prior to the development of a subdivision, the developer must include traffic-calming design or speed-control devices on the preliminary plans in order to obtain approval. These speed-control devices are reviewed by Transportation Engineers to determine if they meet an established criterion, prior to being granted approval.

In addition to speed humps, other traffic-calming devices may be used as well, including low-speed curves, traffic circles, median islands, roundabouts, lateral shifts, and raised crosswalks. More detailed descriptions on these options may be found in the Gwinnett County *Traffic Calming Design Guide*. Any of the above options, along with speed humps, may be used solely, or in conjunction with, other calming devices throughout a street or subdivision. The implementation of these calming devices in the planning stage is a proactive measure to help maintain safe speeds within residential areas before they become an issue.

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3. General construction guidelines

Gwinnett County contracts construction of speed humps and their maintenance.

3.1 Contract requirements

A contract, if awarded, will be an open-end type to provide for the requirements of Gwinnett County on an as-needed basis. The quantities of items may be increased or decreased, as necessary, to satisfy the needs of the County.

3.2 Materials

All materials furnished and/or installed by the Contractor shall be from sources certified by the Georgia Department of Transportation, and shall meet all specifications set forth by the Georgia Department of Transportation (GDOT).

3.3 Inspection

Gwinnett County does not commit to furnishing full-time inspection or testing of the work in progress, or at material sources. Absence of inspection and/or testing by the County will in no way relieve the Contractor of his responsibility and liability to provide quality workmanship in accordance with the specifications. Gwinnett County does reserve the right to test all materials.

3.4 Progression of work

Contractor shall proceed with the work within 10 working days of receiving written notice by the County of the projects to be constructed. Failure to proceed within the prescribed time can result in the awarding of the contract to the next lowest qualified bidder, or re-bidding of the remaining work, as determined by the County. Contractor shall provide the County with at least a 24-hour notice of any change in scheduling.

3.5 Keeping the road open to traffic

The work shall be performed in such a manner as to maintain at least one lane of traffic at all times. Contractor shall phase construction such that traffic across the completed work shall be minimal until such time that the asphalt has sufficiently cooled and paint sufficiently dried to prevent damage to the work. When directed by the engineer, the contractor will limit hours of operation to avoid peak hour traffic.

3.6 Traffic control

The contractor shall furnish, install, maintain, and remove all necessary traffic signs, barricades, lights, signals, cones and other traffic-control devices, and all flagging and other means of traffic protection and guidance as required by the *Standard Specifications of the Georgia Department of Transportation* and the *Manual on Uniform Traffic Control Devices*. Such work shall be considered incidental to the overall contract, and no additional compensation will be made.

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3.7 Signs and markings

- A. **CONTRACTOR RESPONSIBILITY** – The contractor shall be responsible for the installation of pavement markings and traffic control signs.
- B. **PAVEMENT MARKINGS** – Shall be installed in accordance with specification in the County contract and/or price agreement. (See Section 3.11 for details in Pavement markings.)
- C. **DISTRICT SIGNS** – The contractor shall place “District Speed” signs at the ends of each established district. (See Appendix F for installation details.)
- D. **SPEED HUMP SIGN AND ADVISORY PLATES** – The contractor shall install “Speed Hump Ahead” and “20 MPH” signs at the end of each established district. (See Appendix F for installation details.)
- E. **MATERIAL SUPPLY** – The County will supply all signs, posts, and hardware for installation. The contractor is responsible for all pavement markings.

3.8 Method of payment

The speed hump installation shall be paid for at the bid unit price per each unit, for “Asphaltic Concrete Speed Humps – Complete.” Payment shall be based upon actual field measurements of the completed work; and shall be full compensation for all labor, materials, (except signs and posts) and equipment used in the cleaning, tacking, paving, signing, and striping operations, along with all traffic control, clean up, and incidental work involved.

3.9 Construction guidelines

All construction guidelines are specified under the current contract. This includes all construction practices, safety guidelines, and material requirements.

3.10 Installing asphaltic concrete speed humps

The procedure for installing the asphaltic concrete speed humps shall be as follows:

- 1. Immediately prior to construction, the contractor shall thoroughly clean the designated locations of all dirt, loose stone, and other debris, to the satisfaction of the engineer.
- 2. The designated locations shall be tacked in accordance with Section 413 of the GDOT Standard Specifications. Special care shall be taken to avoid spraying the bituminous tack coat on adjacent curbs, driveways, and miscellaneous structures. Contractor will be responsible for all clean-up should such over spray occur.
- 3. Concrete cap blocks shall be set in a straight line and secured to prevent movement during paving. Cap blocks shall not be cracked or broken by the contractor.

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4. Contractor shall place Super Pave, Level A, Type 1, 9.5mm, asphaltic concrete according to the contract specifications, to the lines and grades specified for the flat-topped speed hump, in the attached diagram. The placing and rolling operation shall be such that the concrete cap blocks are not displaced, the required compaction is achieved, and the final profile and thickness is within ¼" tolerance of the grade indicated. Any speed hump whose finished grade exceeds the allowable ¼" tolerance will be removed and replaced by the contractor at no additional cost to Gwinnett County. (See Appendix D for installation details.)
5. The contractor shall schedule the work such that an installation at a particular location is completed by the end of the day on which it is started. Speed humps extending across only one lane will not be permitted to be left overnight.

3.11 Thermoplastic asphaltic concrete speed humps

The procedure for installing the thermoplastic in the speed humps shall be as follows:

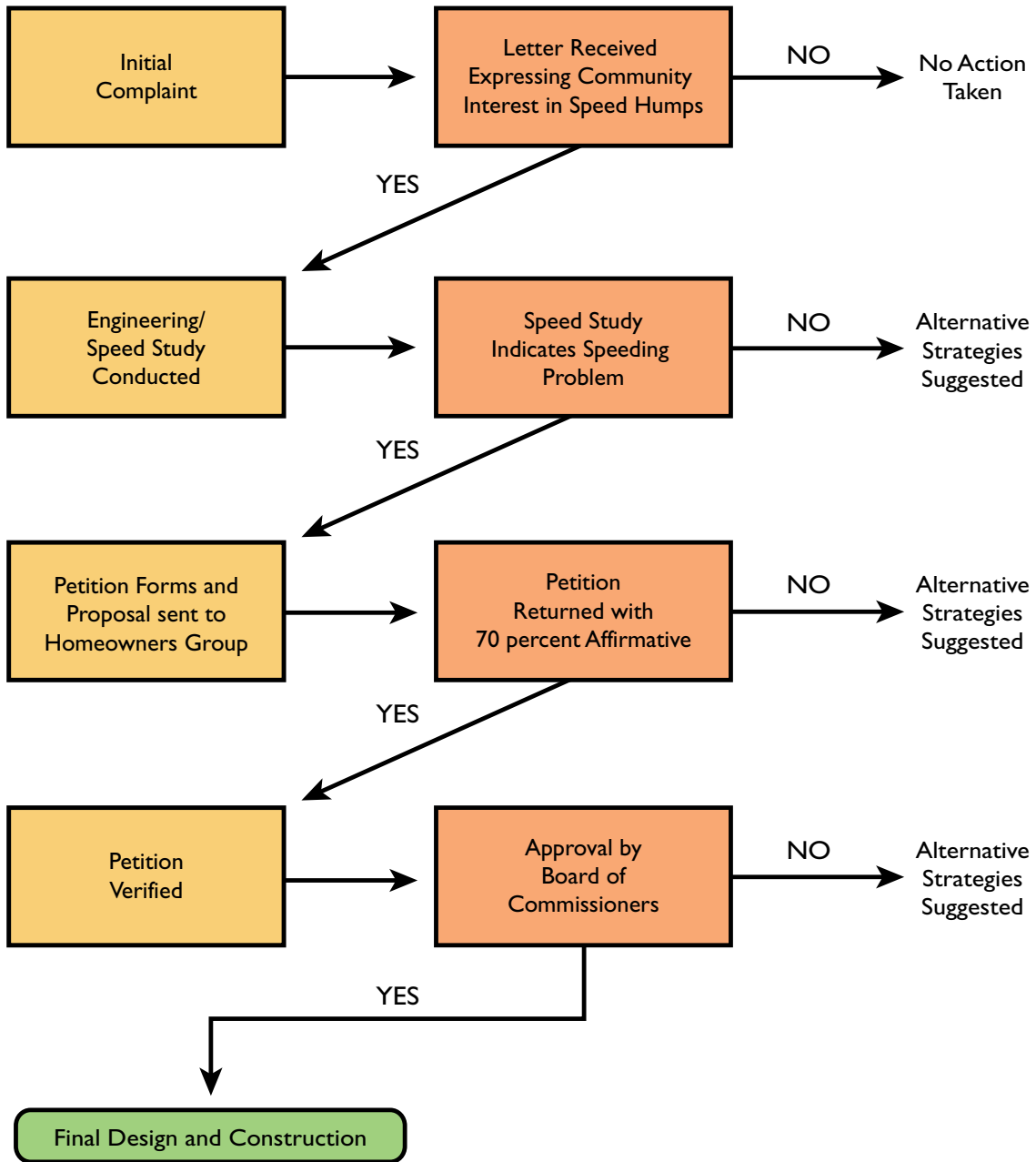
1. Immediately prior to installation, the contractor shall thoroughly clean the location of all dirt, loose stones, and other debris, to the satisfaction of the engineer
2. The weather shall be 50 degrees and rising and the pavement will have been dry for 48 hours before installation
3. Thermoplastic will be installed per the details in Appendix E. Thermoplastic must be installed at 90 millimeters thickness

3.12 Maintenance of speed humps through property assessments

Each property that is located in the special assessment district (Section 2.2) or petition area is assessed an annual maintenance fee. Each of these properties is assessed at \$12.00 per year, in order to fund all maintenance and upkeep of the speed humps. This includes re-painting with thermoplastic, as well as making any and all repairs to the cap blocks, asphaltic concrete, and sign maintenance. The County monitors and inspects all speed humps periodically to ensure that the markings, physical condition, and signage are all up to standard. Where a speed hump or humps are found to be in need of repair of any kind, a work order is sent to the appropriate contractor to make the necessary repairs. The above mentioned assessment funds any and all of these repairs.

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Appendix A – Flowchart of Program Elements



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Appendix B – Petition Cover Letter

Gwinnett County
Department of Transportation
Traffic Engineering and Planning Division
75 Langley Drive
Lawrenceville, GA 30045-6900
770.822.7412

Petition for Speed Humps

We the undersigned, all being property owners of the subdivision legally titled “_____”, unit(s) _____, do hereby petition through our subdivision or unit(s) for installation of speed humps.

Each of us does hereby pledge and consent to the levying of a lien by Gwinnett County against property we own for the purpose of payment of the cost of installing and maintaining the speed humps. There are _____ number of lots currently existing in “_____” and each owner as shown on the tax records has affirmatively signed this petition or their indication for disapproval is noted herein.

This petition represents ____% or more of the property owners of this subdivision to be affected join in this request. *(Please do not fill in any blank spaces that appear above.)*

Special Note

Your signature on this petition indicates that you have read and fully understand all information concerning the speed hump program.

Personally appeared before me a Notary Public, the undersigned affiant, who says an oath that _____ is one of the subscribing witness to the within instrument; that each of said witnesses saw the execution and delivery of the same by each grantor therein for the purpose set forth; and that each of said witnesses signed the same as purported.

Sworn to and Subscribed before me,

This _____ day of _____

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Appendix C – Petition Form

Gwinnett County Speed Hump Program

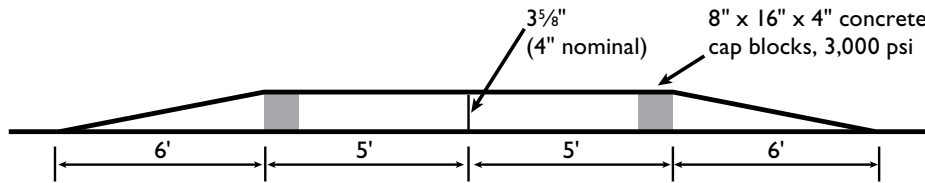
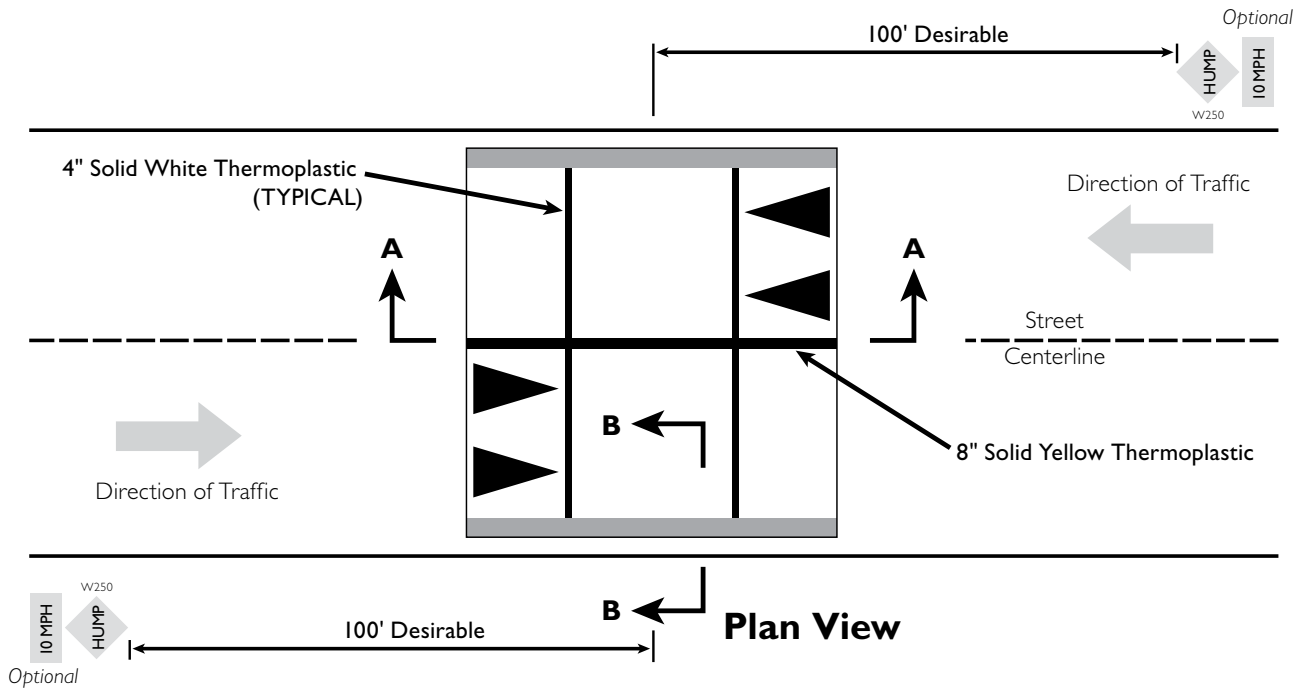
Subdivision Name: _____

(Signature as appears on tax bill) page ____ of ____

	Yes	No		
1.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
2.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
3.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
4.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
5.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
6.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
7.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>
8.	<input type="checkbox"/>	<input type="checkbox"/>	_____	Lot # _____
			<i>Print Name (First, Last)</i>	<i>Witness Signature</i>

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Appendix D – Speed Table Construction

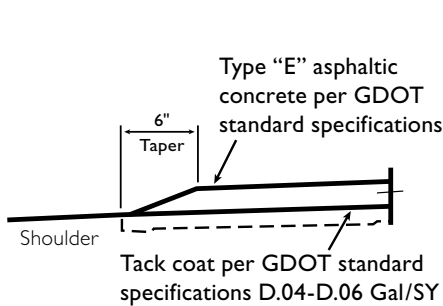


NOTES

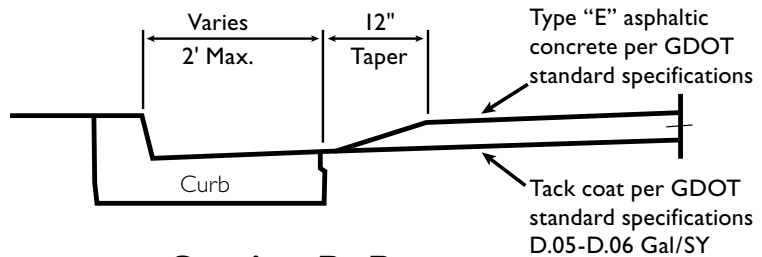
1. Speed humps may only be placed on streets with grades less than 8%
2. Speed humps shall be installed on "two-pass" streets only to ensure residential traffic only will traverse them

Section A-A

Taper shall be 6" for road widths of 22" or less



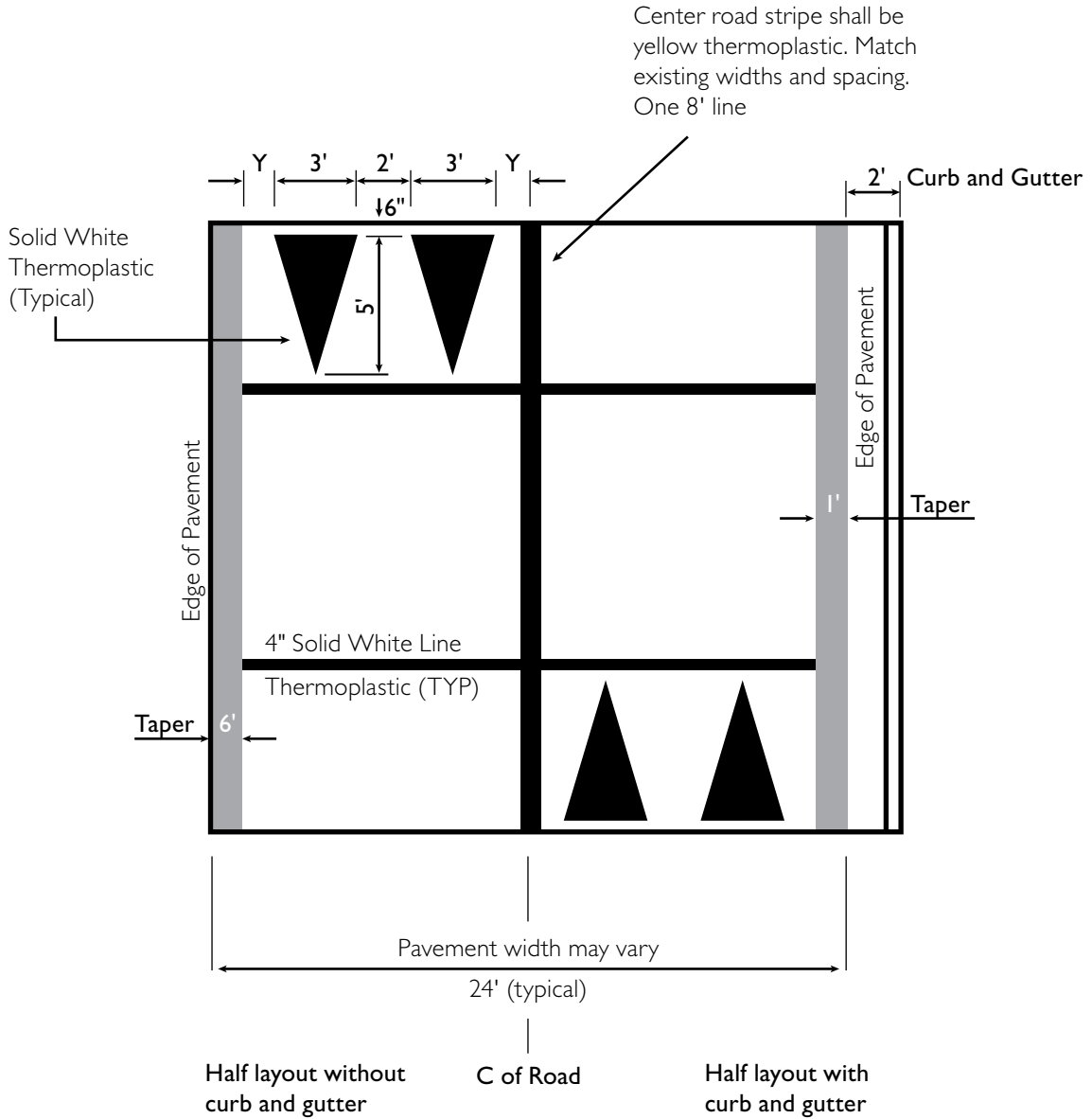
Shoulder detail for streets without curbs



Section B-B

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Appendix D – Speed Table Pavement Marking Details



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Appendix D – Sign Location Diagram

