

## TOWN OF LEDYARD

# Memorandum

**To:** John A. Rodolico, Mayor  
**From:** Steve Masalin, Town Engineer ~  
**Date:** October 29, 2013  
**Re:** Review of Road Ordinance

Per your direction, I have reviewed the Town of Ledyard Ordinance #45 (Road Ordinance) to provide comments relevant to revision. I offer the following.

### Comments

1. General: Consideration should be given to separating the technical specifications from the administrative requirements and promulgating them as a Town standard referred to, but distinct from, the Ordinance. This would allow for a more efficient process of keeping them up to date. The Ordinance could retain the administrative directives. If this approach is chosen, I recommend combining the road and drainage specifications.  
**NAW: The approach of separating technical standards was taken, but no effort was made to add the drainage specifications to the technical document.**
2. References: Beginning in Part I, Section 1, Paragraph B, the various cited references should be examined for relevance and latest revision. For instance, the State of Connecticut DOT's "Standard Specifications for Roads, Bridges and Incidental Construction," Form 813, 1985 has been updated, with the current version being Form 816, 2004. References are cited in several other places, including Part I, Section 2; Part IV, Section 1, Paragraph D; Part V, Section 2, Paragraph B; Part VI, Section 1, Paragraph B; Part VII, Section 1, Paragraph C; Part VIII, Section 1, Paragraph E; and Plates 1 through 4. Another example of an outdated reference is the "Connecticut Guidelines for Soil Erosion and Sediment Control."  
**NAW: All references have been updated and moved to the front of the document in a single location.**
3. Part I, Section 1, Paragraph C: The statement of allowable variations should be more flexible in reference to conditions found in the field and the spirit of the specifications.  
**NAW: Sections C&D in combination provide clear verbiage stating that alternative standards are acceptable under approval of DPW and P&Z. Not sure what else needs to be added.**
4. Part I, Section 2, Definitions: The speed limits cited for the various categories of roads under "Street Hierarchy" should be reviewed and revised as necessary.  
**NAW: Several of these characteristics require review and understanding of what the intention is.**
5. Part II
  - a. Section 2
    - 1) Paragraph A: For purposes of technical review, the Town Engineer should be cited as the cognizant official, rather than the Public Works Director. This should be

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**Comment:** Several of these don't seem very typical.

revised throughout the Ordinance where appropriate.

NAW: I elected not to make this change. When I checked to see how to contact the Town Engineer, I was unable to find a way to do so. The public works director should have the authority to receive technical guidance from the Town Engineer or external consultants as needed.

- 2) Paragraph B: This step should be reviewed for relevance as it is presently outlined. The Public Works Director participates in preliminary design review as one of several officials weighing in at this stage. There is typically no formal validation of the plans at this point, nor is it necessary. Paragraph C adequately expressed the appropriate and present process.

NAW: I agree, it seems the most onerous item is the required meeting. This has been modified somewhat, but the important part that is retained is that P&Z requires Public Works comment prior to approval.

- 3) Paragraphs C, D, and E: The explicit references to establishing a performance bond needs to be revised to be consistent with present CT law.
- b. Section 3: The timing of road acceptance should explicitly cite a point of substantial completion. Substantial completion should be defined as the point of major infrastructure completion, including all drainage, all road surfaces, and all curbing with adequate initial backfill. Appurtenant details such as turf establishment need not be complete.

NAW: Form 816 provides a definition of substantial completion, which I used here.

- c. Section 5: Needs to be revised to be consistent with present CT law.
- d. Section 6, Paragraph C: Opening of the road should be at the point of substantial completion.

NAW: Since road approval is dependant on substantial completion, road opening is as well.

- e. Maintenance Security: The Road Ordinance does not have a provision for a maintenance period/bond. The Road Ordinance had apparently leveraged the Subdivision Regulations Paragraph 2.16 stipulation of a 1-year guarantee period maintenance security. This has been affected by recent changes to CT State law. The Road Ordinance should specify a guarantee period and its terms related to road infrastructure.

#### 6. Part III

- a. Section 1: The Certificate of Insurance is filed with the Finance Department, not the Director of Public Works.

NAW: Fixed.

- b. Section 3: The limits should be reviewed and revised, as necessary.

NAW: These limits seem to be more specific and slightly higher than surrounding towns, but not ridiculously so. Given that I saw no reason to change them.

Montville: No such permit shall be issued unless and until the applicant therefor has filed with the Director of Public Works a policy or certificate of insurance protecting the Town of Montville from any loss, liability or damage that may result or accrue from, or because of, the making, existence or manner of guarding the work or guarding and constructing any such work with limits of \$1,000,000 for bodily injury liability, including wrongful death, and with limits of \$1,000,000 for injury to or destruction of property. An applicant may, in lieu of filing a separate insurance policy or certificate therefor for each permit, file an insurance policy or certificate thereof annually.

Stonington is 300k liability, 50k (!) property, both of which seem incredibly low.

7. Part IV, Section 1, Paragraph 8: A statement of exception should be added for other items in the right-of-way allowed by the Public Works Director. The Public Works Director is the agent who may allow items in the right-of-way per Section 1 of Ordinance #75. Such allowances would be noted on the master copy of the design plans (in keeping with the spirit of Part I, Section 1, Paragraph D).

NAW: Not sure what is being referenced here.

#### 8. PartV

- a. Section 2, Paragraph G: The various design values should be reviewed and confirmed

or revised.

b. Section 3, Paragraph A: The "transition curve" is undefined on Plate #7.

c. Section 5

NAW: these items have been moved to the "Technical Guide" and will need to be modified there.

- 1) Paragraph B.2: This provision is unnecessary; it is an inherent requirement of all construction activity.
- 2) Paragraph 8.3: Plates 1, 2, and 3 cite a requirement for 18" of subbase above ledge.
- 3) Paragraph 8.5: Does the Town have the authority to dictate retention of topsoil on site for later use?
- 4) Paragraph F.2: The "Standard Specifications and Details" should be cited in association with the Article given. (Also in G.2 and H.5.)
- 5) Paragraph G.2: The exclusion of certain portions of Article 3.04.03 is insufficiently defined.

- 6) Paragraph H.6: Should read "...unless otherwise authorized by..." instead of "...unless special permission is obtained from..."
- 7) Paragraph I.1: Should refer specifically to Appendix A.
- 8) Paragraph 1.2: Should qualify the requirement, "...except where processed gravel is suitable as directed by the Public Works Director."
- 9) Paragraph J.1: Should refer specifically to Appendix A.
- 10) Paragraph M: Similar to comment 7 above, should include exceptions as authorized by the Public Works Director.

9. Part VI

- a. Section 1, Paragraph A: Should remove outdated reference to winter sand boxes.

NAW: Modified

- b. Section 2: Should be revised to reflect current MUTCD signage requirements.

NAW: Modified

- 1) Paragraph A: Should be revised to read: "Street name signs shall be furnished and erected at all intersections resulting from the construction of new streets. Unless otherwise directed, only a sign bearing the name of the intersecting street shall be placed. Locations of signs shall be designated on the subdivision plans."
- 2) Paragraph B: Should be revised to read: "Street name signs shall meet the requirements of the MUTCD. The Department of Public Works will install required street sign(s) and the applicant shall reimburse the Town for the cost of such signs."

- c. Section 3, Paragraph B.2: The cited standard should be reviewed for relevance.

- d. Section 4, Paragraph b: Should be revised to read: "Metal beam rail shall be utilized for the various guide railing systems."

NAW: Combined paragraph A&B to accommodate

- e. Section 5: Should be replaced with a single paragraph, reading: "Painted pavement markings and painted or affixed pavement stop bars, of the type and color specified, will be furnished and installed by the Ledyard Public Works Department at locations indicated on the subdivision plans and in conformance with these Standards and as directed by the Public Works Director. The applicant shall reimburse the Town for the cost of such markings."

NAW: Modified

10. Part VII: Entire section needs examination for relevance, appropriateness, clarity, and simplicity.

NAW: Similar to the road construction portions, the vast majority of this I relocated to the technical portion. It would certainly be nice to see an expectation of bothering to test the soil before determining lime and fertilizer application or respect for native grasses, etc.

11. Part VIII

- a. General: Should be reviewed for current relevance of standards and specifications.
- b. Section 1, Paragraph D: Should be revised to read: "Sidewalks shall include ramps and curb cuts for the handicapped, where required by in accordance with the standards of

paragraph E, or as otherwise required by the Planning and Zoning Commission."

NAW: Modified

12. Appendix A

NAW: I lack technical expertise to review this without further guidance from Public Works.

- a. Plate 1: The thickness of the surface and binder courses should be revised to be 1%  
each.
- b. Plate 6: Should be revised to eliminate the island as a standard feature .

c. Plate 7: Should be revised to allow flexibility of nature of gutter line rise (e.g., roll versus blunt).

13. Appendix B: Should be reviewed for current relevance and accuracy.

#### Additional Specifications

The new road (and drainage) regulations/specifications should include additional provisions. Several towns have a comprehensive standard that covers a full range of public infrastructure improvements.

- Footing Drains: Attached is a copy of a page of the Town of Portland Connecticut's regulations addressing underdrains and footing drains. We follow these guidelines relative to our infrastructure, but the footing drain requirements are not part of the Ordinance.
- Construction Entrances: Attached is also a copy of a best management practice guide for construction entrances from the Idaho Department of Environmental Quality Catalog of Stormwater Best Management Practices. Recycled concrete is an allowed material placed as stipulated.

These two represent examples of changes we need to incorporate in a new governing document for Ledyard .



## Stabilization of Construction Entrance/Exit

## BMPS

<b>Description</b>	A temporary sediment removal device—normally a pad of crushed rock or stone—can be installed at the approach from a construction site to a public roadway to stabilize the road. This BMP is used to limit sediment tracking from vehicles and equipment leaving the construction site onto public rights-of-way and streets.	
<b>Applications</b>	A stabilized construction entrance is appropriate in the following locations: <ul style="list-style-type: none"><li>• Wherever vehicles are entering or leaving a construction site to or from a public right-of-way, street, alley, sidewalk or parking area.</li><li>• At any unpaved entrance/exit location where there is risk of transporting mud or sediment onto paved roads.</li></ul>	
<b>Limitations</b>	Drainage area- unlimited Minimum bedrock depth - 3 ft NRCS soil type - ABeD Drainage/flood control- no	Maximum slope- 15% Minimum water table - N/A Freeze/thaw - good
<b>Targeted Pollutants</b>	<ul style="list-style-type: none"><li>• Sediment</li><li>• Phosphorus</li><li>• Trace Metals</li><li>• Hydrocarbons</li></ul>	
<b>Design Parameters</b>	<p><b>Width:</b> The width should be at least 10 ft but not less than the 141 width of points where ingress or egress occurs. At sites where traffic volume is high, the entrance should be wide enough for two vehicles to pass safely. Flare the entrance where it meets the existing road to provide a sufficient turning radius.</p> <p><b>Length:</b> The minimum length should be 50 ft except on a single-residence lot where a 30 ft minimum would apply.</p> <p><b>Depth:</b> Total depth of rock should be at least 6 in.</p> <p>Aggregate: Fractured stone 2 to 8 in. diameter (for the base layer) and crushed stone 2 in. diameter or reclaimed or recycled concrete equivalent (for the top layer).</p> <p>Geotextile (filter fabric): Most installations will include geotextile (filter fabric) with the products placed over the entire area to be covered with aggregate. Work on single residential lots will generally not need geotextile unless there is potential for excessive erosion, a high water table, or other risk factor. The geotextile should be a woven or</p>	

nonwoven fabric consisting only of continuous chain polymeric filaments or yarns of polyester. The geotextile should be inert to commonly encountered chemicals; hydrocarbons, mildew, and rot resistant.

Drainage: Runoff from a stabilized construction entrance should drain to a sediment trap or a sediment basin. Piping of surface water under the entrance should be provided as needed. If piping is impossible, install a mountable berm with 5:1 slopes.

Dust Control; Dust control should be provided at all times (see BMP 7-Dust Control).

#### Construction Guidelines

- Clear all vegetation, roots, and all other obstructions in preparation for grading,
- Prior to placing geotextile (filter fabric), make sure that the entrance is properly graded and compacted.
- To reduce maintenance and loss of aggregate, place geotextile over the existing ground before placing the stone for the entrance.
- Place a 1 ft layer of fractured stone over the entire width and length of the entrance.
- Place a 4 in. layer of 2 in. crushed stone over the base layer.

#### Maintenance

- The entrance should be maintained in a condition that will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with additional 2 in. stone (as conditions demand) and repair or cleaning of any structures used to trap sediment
- All materials spilled, dropped, washed or tracked from vehicles onto roadways or into storm drains should be removed immediately. When necessary, vehicle wheels should be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it should be done on an area stabilized with aggregate that drains into an approved sediment trap.
- Trapped sediment should be removed from the site or stabilized on site and prevented from entering storm drains, ditches, or waterways. Disturbed soil areas resulting from removal should be permanently stabilized.
- The stabilized construction entrance may be removed after final site stabilization is achieved or after the temporary BMPs are no longer needed.