

TOWN OF WAYLAND 2006 NOV -9 FH 3: 49 41 COCHITUATE ROAD MASSACHUSETTS 01778

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PLANNING BOARD

Findings and Determination

RE: Application of Twenty Wayland, LLC for Concept Plan Determination for Mixed-Use Overlay District Project known as the Wayland Town Center Project

Date: November 8, 2006

Location: 400-440 Boston Post Road; Assessor's Map 23, Lots 052, 052B, 052C, and 052F

I. Procedural History

- A. On August 1, 2006, an initial Concept Plan Application Submittal, pursuant to Town of Wayland Zoning Bylaw Article 23 entitled Mixed-Use Overlay District, was filed with the Planning Board by Twenty Wayland, LLC (the "Applicant"). The Concept Plan Application Submittal outlines a proposal for the development of a Mixed-Use Project on 56.9+/- acres of land located on the north side of Boston Post, adjacent to the MBTA right-of-way, at 400 440 Boston Post Road. For this decision, the word "Applicant" shall also mean all assigns and successors.
- B. On August 29, 2006, Applicant filed a plan entitled "CP-6: Perspective Views".
- **C.** On September 1, 2006, Applicant filed a revised Concept Plan Application Submittal, which included supplemental information required by the Planning Board's Mixed-Use Overlay District Rules and Regulations (the "Rules").
- D. On September 9, 2006, the Planning Board (or the "Board"), accompanied by its design consultants, The Cecil Group, visited the town centers of Sudbury, MA, Concord, MA and Weston, MA. On October 1, 2006, the Board accompanied by its design consultants, The Cecil Group, visited the Pine Hills of Plymouth, MA and Mashpee Commons, Mashpee, MA.
- **E.** On September 15, 2006, Applicant filed a Draft "Neighborhood Traffic Impact and Access Study, Wayland Town Center" together with a Technical Appendix prepared by Vanasse & Associates, Inc. for Twenty Wayland, LLC.
- F. On October 4, 2006, the Planning Board sponsored a Community Forum workshop to solicit public input on the September 1, 2006 site layout plan.
- G. On October 10, 2006 and October 11, 2006, Applicant presented three alternative site layout plans referred to as Alternatives #1, #2 and #3.

- **H.** On October 29, 2006, the Planning Board visited 400 440 Boston Post Road and walked the site of the proposed development.
- I. Additional public meetings on the Concept Plan Submittal were held on August 30, 2006; September 6, 2006; September 13, 2006; September 20, 2006; September 28, 2006; October 10, 2006; October 18, 2006; October 25, 2006; November 1, 2006; and November 8, 2006.
- J. The Board deliberated on this determination at its meetings of November 1, 2006 and November 8, 2006 and considered all of the following: the Concept Plan Application Submittals, additional site layout plans, other submissions referred to above and those listed in subsequent sections of this determination, information gleaned from visits to the other locations and the development site, input from The Cecil Group design consultants and TEC, Inc. the Town's traffic consultants, as well as statements from the Applicant and its representatives, comments from town boards, commissions, and committees, and comments from members of the general public as made either at the public meetings or in written submissions to the Planning Board.

II. Application Submittals and Related Documents

The following documents were submitted to the Board by the Applicant:

- A. August 1, 2006 Concept Plan Application Submittal
 - 1. Entitled "Wayland Town Center, 400 Boston Post Road Wayland, Massachusetts"
 - Project Team Arrowstreet, Architect/Masterplanner; RJ O'Connell & Associates, Inc., Civil Engineer; ID Group, Site Lighting; Sheskey Architects, Housing Architect.
 - 3. Comprised of eight (8) sheets as follows:
 - a. Sheet 1 of 8 "Cover Sheet"
 - b. Sheet 2 of 8 "EX-1: Existing Conditions Survey"
 - c. Sheet 3 of 8 "EX-2: Existing Area Plan"
 - d. Sheet 4 of 8 "CP-1: Preliminary Site Development Plan"
 - e. Sheet 5 of 8 "CP-2: Preliminary Utility Plan"
 - f. Sheet 6 of 8 "CP-3: Preliminary Lighting Plan"
 - g. Sheet 7 of 8 "CP-4: Preliminary Signage Plan"
 - h. Sheet 8 of 8 "CP-5: Preliminary Layout Plan"
 - 4. Related Documents:
 - a. Letter dated August 1, 2006 from Francis X. Dougherty, Twenty Wayland, LLC, to the Wayland Planning Board accompanying the submittal of the Concept Plan and a map dated May 24, 2006 delineating the areas where Applicant believes residential use will be allowed by Raytheon.
 - b. Letter dated August 1, 2006 from Francis X. Dougherty, Twenty Wayland, LLC, to the Treasurer of the Town of Wayland transmitting a \$10,000 check for deposit in the Concept Plan Review Escrow Account.

- **B.** September 1, 2006 Concept Plan Application Submittal Revision 1
 - 1. Entitled "Wayland Town Center, 400 Boston Post Road Wayland, Massachusetts – Revision 1"
 - Project Team Arrowstreet, Architect/Masterplanner; RJ O'Connell & Associates, Inc., Civil Engineer; ID Group, Site Lighting; Sheskey Architects, Housing Architect; Vanasse & Associates, Transportation Engineering.
 - 3. Comprised of nine (9) sheets as follows:
 - a. Sheet 1 of 9 "Cover Sheet"
 - b. Sheet 2 of 9 "EX-1: Existing Conditions Survey"
 - c. Sheet 3 of 5 "EX-2: Existing Area Plan"
 - d. Sheet 4 of 9 "CP-1: Preliminary Site Development Plan"
 - e. Sheet 5 of 9 "CP-2: Preliminary Utility Plan"
 - f. Sheet 6 of 9 "CP-3: Preliminary Lighting Plan"
 - g. Sheet 7 of 9 "CP-4: Preliminary Signage Plan"
 - h. Sheet 8 of 9 "CP-5: Preliminary Layout Plan"
 - i. Sheet 9 of 9 "CP-6: Perspective Views
 - 4. Related documents:
 - a. Letter dated September 1, 2006 from Francis X. Dougherty, Twenty Wayland, LLC, to the Wayland Planning Board accompanying the submittal of the Concept Plan Revision 1 and providing some of the missing information requested by the Planning Board on August 8, 2006.
 - b. Anticipated Permits and Schedule dated September 1, 2006.
 - c. Consultant List Wayland Town Center Project dated September 1, 2006.
 - d. Quit Claim Deed for the property.
- **C.** September 15, 2006 Draft "Neighborhood Traffic Impact and Access Study, Wayland Town Center" with a Technical Appendix (total of two volumes) prepared by Vanasse and Associates, Inc. for Twenty Wayland, LLC.
- **D.** Revised Concept Plan entitled Alternative 1 dated October 10, 2006.
- E. Revised Concept Plan entitled Alternative 2 dated October 10, 2006.
- F. Revised Concept Plan entitled Alternative #3 dated October 11, 2006.
- **G.** October 30, 2006 request from Frank Dougherty, Twenty Wayland, LLC, to extend time through November 15, 2006 for the filing of a determination on the Concept Plan.

III. Documents Generated On Behalf of Town Boards/Departments

The following documents were generated on behalf of town boards/departments:

- A. Planning Board Concept Plan Application Checklist August 1, 2006 Application.
- **B.** August 7, 2006 memo from Joseph Laydon, Town Planner, to Department Heads requesting review of the August 1, 2006 Concept Plan Application.
- **C.** August 8, 2006 memo from Joseph Laydon, Town Planner, to Francis Dougherty, Twenty Wayland, LLC, requesting additional information required to complete the application submittal.
- **D.** August 28, 2006 memo from Stephen Kadlik, Director of Highway Operations, providing comments on the August 1, 2006 Concept Plan Application Submittal on behalf of himself and the Board of Road Commissioners.
- **E.** September 5, 2006 memo from Joseph Laydon, Town Planner, to Department Heads requesting review of the September 1, 2006 Concept Plan Application.
- **F.** September 13, 2006 PowerPoint Presentation prepared by The Cecil Group, Inc. for the Planning Board entitled "Building a Vocabulary."
- **G.** September 15, 2006 memo from Blair Davies, Wastewater Management District Commission and Wayland/Sudbury Septage Committee, to the Planning Board providing comments on the Concept Plan Application Submittals.
- **H.** September 27, 2006 memo entitled Wayland MUOD Technical Team Meeting summarizing the meeting between the Applicant's design consultants, the Planning Board's design consultants, and the Town Planner.
- **I.** Planning Board Concept Plan Application Checklist September 1, 2006 Application regarding the submittal of revised Concept Plan submittals dated September 1, 2006.
- J. Land Use Committee Meeting Minutes of September 12, 2006 and October 3, 2006.
- **K.** Document entitled "Community Conversation: Wayland MUOD October 4th Results" summarizing the results of the Community Forum held on October 4, 2006.
- L. Planning Board Meeting Minutes of August 30, 2006; September 6, 2006; September 13, 2006; September 20, 2006; September 28, 2006; October 10, 2006; October 18, 2006; October 25, 2006; November 1, 2006; and November 8, 2006.
- M. November 6, 2006 letter from Kevin R. Dandrade, PE, PTOE of TEC, Inc. to Joseph Laydon regarding the Traffic Engineering Peer Review – Proposed Town Center Project – Mixed-Use Overlay District Concept Plan Review.

IV. Public Comment

Public comment was solicited and received through written submissions and at Planning Board meetings. The Planning Board also held a Community Forum workshop on October 4, 2006 where residents convened in three small groups that were moderated by Steve Cecil, Ken Buckland and Dale Allen from The Cecil Group. Those in attendance provided feedback on the September 1, 2006 Concept Plan and their vision for a Wayland "town center" project. See Attachment A for a summary of comments offered by the Community Forum participants.

V. Review of the Concept Plans Submitted

The Concept Plan is the first submittal required to initiate Planning Board review of a Mixed-Use Project pursuant to Article 23 Mixed-Use Overlay District of the Town's Zoning Bylaws. The purpose of the Concept Plan is to provide a preliminary site plan for the Mixed-Use Project, describing and generally defining the proposed character, uses, site layout, and public amenities proposed for the Project. This determination will address, in detail, the more substantive required submissions in the Concept Plan phase of review.

A. Site Development Plan (CP-1)

This section applies to detailed information on the Concept Plan submitted September 1, 2006. The Plan sheet is CP-1 and is signed by Charles A. Doherty, Civil PE. It also contains the name of the firm RJ O'Connell & Associates, Inc., as civil engineers and land planners. However, since all the plans are labeled with the same four firms, it is not clear which firm prepared the design, nor is it clear with which firm Mr. Doherty is affiliated.

A plan entitled Revised Concept Plan: Alternative #3 was subsequently submitted on October 11, 2006 in response to comments received from the Planning Board, its design consultant, and the public. Alternative #3 is essentially a layout plan.

Findings

Conformance of Submittal to Bylaw and Regulations

The bylaw states the following submittal requirement for a site plan:

A preliminary site development plan (signed by a registered architect or other pertinent design/engineering professional) showing the approximate location and anticipated size of footprint(s) of all proposed buildings, general site grading with finished floor elevations, parking, landscaping, roads, walkways and access ways, open space, and wetlands. The Board's regulations further require that, with regard to a preliminary site development plan, the plan must show:

categories of uses of buildings.

The submitted plan partially conforms to these requirements. The Applicant has prepared a plan which shows the proposed locations and anticipated sizes of footprints of buildings, general site grading with first floor elevations, parking, landscaping, roads, walkways and access ways, open space, and some wetlands. Categories of uses for individual buildings are not identified on this plan.

Details

- 1. The plan shows a mixed-use project depicting building footprints, parking areas, open space locations, and some of the wetlands.
- 2. The plan indicates that the footprint of the largest commercial building is no more than 45,000 square feet and the footprint of the largest residential building is approximately 12,000 square feet.
- 3. Categories of uses for the buildings are not identified.
- 4. Landscaping is suggested but the plan is not detailed enough to evaluate, nor would it be appropriate until placement of the buildings were more certain. A landscaping plan is a requirement of the MSP application.
- 5. The plan identifies some wetlands, the 100-foot wetlands buffer, and flood hazard areas. In its September 1, 2006 letter, Applicant states that it has not completed its wetlands assessments nor filed a request for wetlands determination with the Wayland Conservation Commission and, thus, cannot state the number of acres of upland area to be developed.
- 6. It appears that the municipal building is placed within the flood hazard zone.
- 7. The plan shows approximately 1,200 parking spaces.
- 8. The plan indicates that the property is under two AULs and identifies the "Raytheon line" within which residential uses may be located.
- 9. Walkways along buildings are clearly identified. However, walkways for safe pedestrian movement within the parking areas are not identified.

Discussion

Revisions made to the site layout on October 11, 2006 respond appropriately to the public and technical comments. The review of the Site Development Plan, and the three alternative site layout plans were conducted by the Planning Board and the Town Planner, in conjunction with the Board's design consultants Steve Cecil and Ken Buckland of The Cecil Group and the Board's traffic consultant Kevin Dandrade of TEC.

Matters expected to be addressed in the MSP process

The following items should be addressed in the MSP submittal. This list is derived from a review of Alternative #3 and is not an all inclusive list of the

matters related to the Site Development Plan to be submitted for and discussed during the MSP process. Additional comments that will affect the design are as follows:

- Design Principles. MUOD Design Principles have been developed in conjunction with The Cecil Group and input from Arrowstreet to further elucidate the performance standards contained in the Mixed-Use Overlay District Bylaw at §198-2309 and to express the Town's and the Planning Board's vision of design considerations for the Mixed-Use Project. The MUOD Design Principles which are contained in Attachment B are intended to provide guidance to the project Applicant and to serve as a tool for the Planning Board when evaluating the MUP Master Special Permit application and the proposed design of the Mixed-Use Project.
- 2. Property Access. The Planning Board will reserve judgment on the need for and safety of vehicle access onto Old Sudbury Road until after the traffic impact report is submitted and the technical review is completed to the satisfaction of the Planning Board and Town staff. The plan to be presented in the Master Special Permit application submittal should be able to accommodate any of three options: no access; limited access; and full access, without significant modification of the overall layout and organization of the plan.
- **3.** Main Commercial/Mixed-Use Street. The main commercial street is best presented as a curvilinear street. The intersection shown at the center in Alternative #3, is considered an important element to create more depth and interest in the commercial core, and to better connect the commercial and residential areas. The approximate 75-foot width between building faces along the main commercial street should be appropriate for on-street parking, two lanes of traffic and wide greenspaces/sidewalks. The MSP submittal should incorporate traffic calming measures to reduce vehicle speeds and help create a pedestrian-oriented environment.
- 4. Building Orientation on the "Main Street". The commercial establishments should continue to line up along both sides of the main street and main cross street with a fairly continuous building façade line, broken up with the cross street(s) and pedestrian alleys between buildings that will connect to the rear parking lots and provide crossing points to other buildings. The connection to the largest building/grocery store from the main commercial street should be direct and provide a visual connection, with the wide pedestrian space (i.e., located across from the northwest corner of the largest building/grocery store) that would be available for a variety of uses. The location of the mixed-use building with upstairs apartments is considered appropriate for the overall design. Location of the office space may be appropriate but consideration should be given to a position closer to the municipal building and near to the mixed residential/commercial building.

- **5. Residential Buildings and Area.** The residential area created by the smaller green is considered an asset to the project. However, the grade- level parking garages must be softened in some way so that it does not become the predominant street level element in the building façade. Residential buildings adjacent to the public park must allow public access up to or very near the building footprints on the park side, to limit their impact on public use. The design of the buildings should suggest large, single- family or multi-family residences that derive from historic Wayland. Pertinent images may be found in *The Puritan Village Evolves* by Helen Fitch Emery.
- 6. Municipal Building Pad. The municipal building pad should be considered as an early phase "support" area to the project development. The building's location adjacent to and possibly partially in the floodplain must be reconsidered depending on the chosen use of the site by the town. An alternative temporary use as active open space should also be considered. This alternative use should maintain a low visual profile and a minimal impact on the environmental resources, including the floodplain.
- 7. Main Entrance. Any clustering of buildings at the entrance off Route 20, as a very important feature of the project given the public view, must be carefully designed. Parking should not be the primary visual cue to the district. If spaced across the entrance as shown in Alternative #3, the buildings should be designed by height and features to create an inviting gateway. There should be a progression of features that leads one into and through the site. The location of the first internal site intersection closest to Route 20 and the permissible traffic movements within the intersection should be determined based on a review of the queuing analysis from the project's Traffic Impact and Access Study.
- 8. Design/Programming of the Public Open Spaces. The public open spaces are well located and organized within the district. However, approval of the design of those spaces and the locations of hard facilities will require additional steps in the review. The Applicant is encouraged to submit ideas for the activation of those spaces, together with the designs so that the use can be considered coincident to those designs. The proposals for "hard facilities," *e.g.*, gazebos, ice rinks, etc., will require additional thought on type and location and the Applicant should be prepared to show alternatives for any of these features, including temporary options and no-build alternatives.
- **9. Parking Lots.** The parking lots behind the main street commercial area do not yet indicate the quality of landscape and pedestrian/bicycle passageways that are desired in the plan. Proven landscape and pavement treatments to implement these design requirements must be highlighted in the next submittals.
- **10. Landscape Buffers.** Landscape buffers will require several forms in the project design. Visual buffers from the Sudbury River must be as complete as possible. Buffers for the largest building/grocery store must significantly

soften the building façade, but this should also be accomplished with architectural treatments. The combined effect of architecture and landscape for the grocery building must be to reduce bulk and remain inviting.

- **11. Specimen Trees.** The large and older specimen trees in the development area of the property are to be identified and preserved where ever possible. This is particularly important on the southeast corner where a stand of large maple trees has been noted. This will include the preservation of the roots as well as the trunk and branches for the long-term health of the trees.
- 12. Loading Dock Alternatives. Alternatives to the location of the loading dock on the side of the grocery store should be considered in the required loading dock study. These alternatives should consider an alternate location on the south side of the building as compared to the present proposal with the loading dock on the eastern side of the building. Comparisons should include the feasibility of shielding within landscape and/or architectural treatments to reduce the visual impact, and the views impacted by location. The loading dock and access aisles should be arranged to reduce backing distances and minimize conflict points with high pedestrian traffic areas.
- **13. Pedestrian Access**. The Planning Board requests a plan that shows the locations and grades at the proposed pedestrian connections that cross the MBTA right-of-way along Route20. The Planning Board suggests that one such area to be examined is at the southeast corner of the property where there is an existing worn footpath.

B. Utilities Plan (CP-2)

This section applies to the Concept Plan submitted September 1, 2006. The plan sheet is CP-2 and is signed by Charles A. Doherty, Civil PE. It also contains the name of the firm RJ O'Connell & Associates, Inc., as civil engineers and land planners. However, since all the plans are labeled with the same four firms, it is not clear which firm prepared the design, nor is it clear with which firm Mr. Doherty is affiliated.

Findings

Conformance of Submittal to Bylaw and Regulations

The bylaw states the following submittal requirement for utilities:

A preliminary utilities plan showing the location of hydrants and wastewater facilities; the location and type of stormwater facilities; and the sources of water to be used on the site.

The Board's regulations further require that, with regard to wastewater facilities, the plan must show:

primary and reserve area wastewater facilities, as applicable.

The submitted plan conforms to these requirements because the Applicant has prepared a plan which shows the proposed location of: fire hydrants; a primary and reserve leaching field; multiple sewer lines and pump stations; connections to the Wayland wastewater treatment facility; stormwater facilities; and sources of water.

Details

- 1. <u>Fire Hydrants</u> The plan shows approximately 12 fire hydrants primarily located in the central area of the project site. The rough spacing between hydrants ranges from approximately 113 feet to greater than 400 feet. There are no hydrants depicted to the north, east or west of the semi-circular residential footprints. There are no hydrants depicted to the north or west of the municipal pad. There are no hydrants depicted to the east or south of the 45,000 sq. ft. retail building in the southeast corner of the project site.
- 2. <u>Wastewater Facilities</u> There are two separate and distinct means being proposed to accommodate wastewater generated on the project site:
 - a. A primary and reserve leaching field is depicted on the plan and would be located beneath the southeast quadrant of the proposed public green. It appears from the layout of sewer lines and the one pump station in the vicinity of the leaching field that the leaching area is meant to serve the six retail footprints (comprising 21,500 sq. ft. GFA) located immediately to the south of the public green. We note that the key to plan CP-5 Preliminary Layout Plan lists "retail and restaurants" as one use type consisting of 110,000 sq. ft. GFA. Title V wastewater requirements call out the need for significantly more wastewater capacity to accommodate restaurant uses as compared to retail stores.
 - b. Connections to the Wayland wastewater treatment facility via a sewer line leading to that facility from a southeasterly direction and a 6-inch force main line leading to that facility from a southwesterly direction are depicted on the plan. It appears from the layout of sewer lines and the one pump station located immediately to the south of the residential footprints that the remainder of the wastewater generated on the project site (i.e., wastewater from 351,000 sq. ft. GFA of residential, municipal, retail, restaurant, grocery, and office uses) would be sent to the Wayland wastewater treatment facility.
- 3. <u>Stormwater Facilities</u> The plan depicts two locations marked "stormwater quality basin". One basin (approximately 125 ft. x 150 ft. across the surface at its widest points) is located in the southwest corner of the project site, to the west of the site entrance at Boston Post Road (Route 20), at elevation 127 to 125 sloping toward the Sudbury River to the west and toward land subject to flooding. The second basin (approximately 125 ft. x 63 ft. across the surface at its widest points) is located along the same vertical axis, just to the north of the municipal pad, at elevation 126 to 124 sloping to the west toward the Sudbury River and toward land subject to

flooding. Only the existing contour elevations are shown on the plan and there is no indication of how deep the basins would be nor of the means by which water would be directed to the basins. No additional information was provided and there is no indication on the plan that any other stormwater collection or drainage facilities are proposed for the project site.

4. <u>Sources of Water</u> – The plan shows a 12-inch water main beginning in the middle of Old Sudbury Road (Route 27) and proceeding along the site driveway at the Old Sudbury Road entrance to the site, presumably indicating that water to be used on-site is coming from the Town of Wayland water system. Based on the plans, it would appear that all water to be used on the site will be coming from the Town of Wayland Water Department.

Discussion

The review of the utilities plan was conducted by the Planning Board, in conjunction with the Town Planner, and in the absence of the assistance of a technical expert.

Matters expected to be addressed in the MSP process

The following items should be addressed in the MSP submittal. This list is derived from the Concept Plan review and is not an all inclusive list of the matters related to utilities to be submitted for and discussed during the MSP process.

- 1. **Fire Hydrants**. The Fire Chief has requested that fire hydrants be placed no further apart than 300 feet and that there be sufficient coverage within the project site to assure that sufficient water would be available throughout the project site to readily fight fires from all sides of buildings and parking structures.
- 2. Wastewater Facilities. The plan must provide detail on the design capacity, type of wastewater facility (e.g., traditional septic system, batch treatment facility, etc.), and any other design features of the wastewater treatment system being proposed to service the 21,500 sq. ft. GFA of retail space located immediately to the south of the public green. In addition, the plan must distinguish between the primary leaching fields and those areas reserved as back-up area leaching fields. Also, state the amount of wastewater capacity required to service the remainder of the project site.
- 3. **Stormwater Facilities**. The "stormwater quality basins" shown on the plan during the Concept Plan stage must be further defined to indicate whether they are retention or detention basins, type of construction, type and location of piping to direct water into and out of the basins. The plan must show and describe the overall stormwater management system, including piping, collection and drainage facilities, together with any applicable proposed changes in ground contours and elevations. Examine the usage of low-

impact development techniques such as rain gardens and water quality swales as a component of the stormwater management system.

- 4. **Sources of Water**. Applicant must make a clear statement identifying where the water to be used on the project site (including all potable, non-potable, irrigation and decorative) will come from and the quantity of water to be derived from each source of supply.
- 5. **Underground Utilities**. The plan must indicate the location of all utilities (e.g., water, sewer, wastewater, gas, electric, telephone, cable television, etc.) and must specifically state which will be placed underground and if any are proposed to remain aboveground.

C. Lighting Plan (CP-3)

This section applies to the Concept Plan submitted September 1, 2006. The plan sheet is CP-3 and is signed by Dennis R. Julian, PE. It also contains the name of the firm Integrated Design Group, as electrical consultants. However, since all the plans are labeled with the same four firms, it is not clear which firm prepared the design, nor is it clear with which firm Mr. Julian is affiliated.

Findings

Conformance of Submittal to Bylaw

The bylaw states the following submittal requirement for lighting:

A preliminary lighting plan including a photometric plan and general information regarding light poles, bases and fixtures.

The submitted plan conforms to these requirements.

Theme

The Concept Plan shows lighting for commercial streets, commercial parking areas, and residential areas. Not shown, and neither expected nor required on the Concept Plan, are lights specifically for security, lights affixed to buildings, walkway edge or accent lights, and lights for signage.

The Applicant is evidently applying a theme of dividing the lighting into three basic regions:

- 1. **Commercial parking lots**. Style "Shoebox" (AR); 250-Watt lamps on 30-foot poles.
- 2. Central boulevard and side commercial streets. Style "Historic" (CC); 175-Watt lamps on 20-foot poles.
- 3. Residential areas. Style "Antique" (PR); 175-Watt lamps on 20-foot poles.

We presume that the Applicant's intent is to carry this theme into the other submitted alternative layouts, and into the submittal to be made subsequently for the MSP.

Details

- 1. The plan shows approximately 100 pole-mounted fixtures. The rough spacing between fixtures (typically along the central boulevard) is 100 feet. The style varies between single- and dual-lamp fixtures.
- 2. The luminance plan and chart show that while luminance for the commercial streets is only 0.1 fc above IESNA recommendations, the luminance levels for the parking lots and residential areas are considerably higher than IESNA recommends.¹ The plan has a note indicating that the luminance was increased in these areas for security reasons.
- 3. No light-source types were indicated in the plan (e.g., incandescent, mercury vapor, etc.). This is not required for the Concept Plan submittal.
- 4. The plan indicates that shielded lights will be used throughout, to minimize light pollution to adjacent properties and the night sky.

Matters expected to be addressed in the MSP process

The following items should be addressed in the MSP submittal. This list is derived from the Concept Plan review and is not an all inclusive list of the matters related to lighting to be submitted for and discussed during the MSP process.

- 1. **Light source types**. The atmosphere of the project will be affected greatly by the types of light sources, and detail of the types proposed in the different use areas will be of great importance in the MSP process.
- 2. **Luminance levels**. What is really needed to get adequate safety and security? Are the proposed levels too high?
- 3. **Security lights**. What lights are purely for security purposes? How will normal-use lights be dimmed or otherwise changed for nighttime security?
- 4. Walkway-edge lights. Is any path lighting proposed? If so, details are required as to height, brightness, etc., i.e., the submission requirements as for any other lighting.
- 5. **Decorative lights**. Any lighting proposed for purely decorative or aesthetic purposes, for example, a clock tower light.
- 6. Signage lights. Details on the signage lighting.
- 7. **Light pollution**. Applicant to provide a more precise characterization of the light pollution expected off-site.

¹ IESNA recommends 0.6 fc minimum for commercial roadways, and the plan shows 0.7 fc. For residential, the recommendation is 0.2 to 0.5 fc minimum, and the plan shows 1.3 fc. For retail parking, the recommendation is 0.2 to 0.5 fc minimum, and the plan shows 1.4 fc. For retail walkways, the recommendation is 1.0 fc average, and plan shows 1.5 fc.

D. Signage Plan (CP-4)

This section applies to the Concept Plan submitted September 1, 2006. The plan sheet is CP-4 and is signed by George T. Tremblay, Registered Architect. Mr. Tremblay's affiliation is not supplied.

Findings

Conformance of Submittal to Bylaw

The bylaw states the following submittal requirement for signage:

A preliminary signage plan for the Mixed-Use Project.

The submitted plan conforms to these requirements.

Theme

The Applicant has prepared a plan which lays out the basic signage requirements in the performance standards of the bylaw and attached categories to each building specifying the size of signage permitted.

The plan also stands as a guide to tenants, who will be supplying the signs in actual use. A long narrative written into the plan (*Tenant Sign Design and Construction Criteria*) is a set of landlord-to-tenant directives and constraints.

The plan also shows three monument signs (at the route 20 entrance, the route 27 entrance, and at the central entry point for the residential units ²). The plan also shows directional signs at certain corners.

Discussion

The overall theme in the Criteria may be captured by the following two quotes:

"Tenant signage is intended to enhance the project's character as well as convey the Tenants' brand and identity."

"...signage at Wayland Town Center is viewed as an integral part of the project's image and success..."

These are consistent with the spirit of the bylaw, where the project character is defined by New England tradition and other features of the performance standards. Other constraints of the Criteria are also aligned with this direction, such as the Window Displays section, which promotes displays but bans posters and other "unattractive elements".

Some aspects of the Criteria are of concern, however. Further discussion is required for the following Tenant Sign Design and Construction Criteria:

1. **Signs on glass panes and supports only with Landlord's permission**. This is not an issue of itself, but rules under the MSP decision for such signage have not yet been established, so it is premature of the Applicant to imply that the Applicant has sole power to grant such permission.

² This is based on the September 1, 2006 Plan; subsequent alternatives changed the residential layout to some extent, making the use and placement of a monument sign for these cases unclear.

- 2. **Encouragement of awnings and blade signs**. The constraints regarding these will only be clear in the MSP decision, and discussion of them is expected during the MSP process. It may be premature for the Applicant to make this kind of statement to its tenants.
- 3. **Decorative Banners**. These also should be part of the MSP process, and again it may be premature to claim to tenants that they will be permitted.
- 4. **Glazing Signs (signs on windows)**. Again, this is by permission of the Landlord, and the constraints on that permission have not yet been established in the MSP decision.

Matters expected to be addressed in the MSP process

The following items should be addressed in the MSP submittal. This list is derived from the Concept Plan review and is not an all exclusive list of the matters related to signage to be submitted for and discussed during the MSP process.

- 1. Details of sign lighting.
- 2. **Monument and other entrance signs**. This is a concern to members of the Planning Board, as well as to many citizens. The entrance signs form the basic first impression of the project for a visitor. We will want a fair degree of detail and discussion.
- 3. **Sign types**. More detail on the placement, variety, and number of the various kinds of signs that can appear on buildings e.g., awning blade, etc.
- 4. **Extra/Temporary signs**. Proposals for and the establishment of constraints on both the Landlord and Tenants for the various kinds of extra signs which may need controlling on windows, banners, etc. many of which were mentioned in the Tenant Criteria.
- 5. Residential signs. Further discussion is warranted for residential signs.

E. Preliminary Layout Plan (CP-5)

This section applies to the Preliminary Layout Plan submitted September 1, 2006. The plan sheet is CP-5 and is signed by George Tremblay, Architect.

Findings

Conformance of Submittal to Bylaw and Regulations

The bylaw states the following submittal requirement for site layout plan:

A plan showing proposed buildings as to approximate location, proposed categories of uses, general architectural design, and anticipated size.

The Board's regulations further require that, with regard to building layout, the plan must show:

A description and analysis of design features intended to integrate the proposed Mixed-Use Project into the existing landscape to preserve and enhance aesthetic assets of the site and to screen objectionable features from adjacent properties.

and

A description and analysis of design features intended to integrate the Proposed Mixed-Use Project into the surrounding area.

The submitted plan partially conforms to these requirements. The Preliminary Layout Plan shows building placement and locations, anticipated size, and four categories of use consisting of retail, office, residential, and municipal. General architectural design was not shown. Plan CP-5 contains only broadly drafted verbiage concerning integration into the existing landscape and says nothing about screening of objectionable features. The only mention of integration into the surrounding area is a statement that the Applicant will make pedestrian connections to the MBTA right-of-way available.

Details

- 1. The plan (CP-5) shows a mixed-use project consisting of residential uses in the northwestern quadrant, a municipal pad and open space ("town green") on the west, a primary commercial district, including a grocery store in the southeastern quadrant, a parking fields adjacent to the two proposed site entrances (one proposed along Route 20 and the other proposed along Route 27).
- 2. **Total development for residential and non-residential.** The plan (CP-5) shows buildings broken down into the following use/area categories:

a.	Residential	167,500 square feet
b.	Municipal Building	40,000 square feet
c.	Retail and Restaurants	110,000 square feet
d.	Grocery	45,000 square feet
e.	Office	10,000 square feet

The total building floor area is 372,5000 square feet.

The number of establishments per size category indicates the ability to conform to §2308.3. The plan (CP-5) shows:

Category A	one
Category B	two
Category C	one
Category D	five
Category E	ten

- 3. No architectural design description, influence or style, is indicated.
- 4. The plan indicates two acres of public space as required by the bylaw.

5. Integration of the proposed Mixed-Use Project into the surrounding area consists of a potential road link to Route 27, a yet undetermined access to the Wayland Commons 40B project, an entry way onto Route 20, and the potential for pedestrian walkways to connect to the MBTA right-of-way.

Matters expected to be addressed in the MSP process

The following items should be addressed in the MSP submittal. This list is derived from a review of the Concept Plan Application Submittal of September 1, 2006 and Alternative #3 and is not an all inclusive list of the matters related to site layout to be submitted for and discussed during the MSP process.

- 1. **Design Principles.** The Board's MUOD Design Principles (see Attachment B).
- 2. **Residential Buildings and Area.** Further development and refinement of the residential area is encouraged.
- 3. **Height and Positioning of Buildings**. Height of buildings near the river should be considered so as to limit visibility from the Sudbury River, which is a Wild and Scenic River.
- 4. **Project Integration**. The Project should look for ways to integrate into surrounding business areas and walkways. In the MSP application, further development of integration into surrounding areas needs to be established. Walkways to surrounding businesses, bicycle paths, walking trails are a few possibilities to lessen the isolation of this Mixed-Use Project.

F. Perspective Massing Views (CP-6)

This section applies to the Perspective Massing Views submitted September 1, 2006. The plan sheet is CP-6 and is signed by George Tremblay, Architect of Arrowstreet.

Findings

Conformance of Submittal to Regulations

The Board's regulations require that the submission of a plan that shows;

perspective massing views from 2 locations.

The submitted plan more than conforms to this requirement because it provides four perspective views showing computer-generated "bird's eye" depictions of "view from west", "view from east", "view from south-west", and "view from south."

Matters expected to be addressed in the MSP process

The Board appreciates the presentation of these perspective massing plans and encourages the Applicant to continue to provide similar massing plans during the MSP process.

G. Traffic Study

This section applies to Draft "Neighborhood Traffic Impact and Access Study, Wayland Town Center", September 15, 2006 prepared for Twenty Wayland, LLC by Vanasse & Associates, Inc. (VAI). The Applicant has noted that this report is incomplete and is pending finalization.

Findings

Conformance of Submittal to Regulations

The Board's regulations require that, with regard to a traffic study, the Applicant must submit:

A traffic study that includes: i) existing and projected number of motor vehicle trips to enter and depart the site for an average weekday and weekend, including peak hours; ii) existing and projected traffic flow patterns for both vehicular and pedestrian traffic, including vehicular movements and sight distances at existing and proposed intersections likely to be affected by the proposed Mixed-Use Project; iii) the impact of traffic from the proposed Mixed-Use Project on nearby local streets, especially in relation to road capacities; iv) a preliminary traffic impact analysis, flow analysis, and rationale for the proposed site access points.

The submitted study is not yet in full compliance with these requirements because it does not yet include capacity analyses for three key intersections: Route 27 at Glezen Lane; Route 27 at Bow Road; and Route 126 at Glezen Lane. In addition, the Applicant has not yet provided a rationale for the proposed site access points.

Details

Proposed Site Access Points. The Concept Plan shows two major vehicle access points (i.e., one on Route 20 and one on Route 27) and multiple pedestrian and bicycle access ways into the property. In order to obtain a project as fully integrated with the rest of the community as possible, the Planning Board concurs with the desirability of incorporating multiple pedestrian and bicycle connections to the Project. The Planning Board reserves judgment on the need for and safety of vehicle access onto Old Sudbury Road (Route 27) until after a complete traffic impact report has been submitted, a technical review satisfactory to the Planning Board has been completed, and all interested Town Boards and the public have provided input. Any future plan submissions should be able to accommodate all of the following three options for vehicular access to the Project site: no access from Old Sudbury Road; limited access; and

full access, without significant modification of the overall layout and organization of the plan.

Discussion

The review of the traffic study was conducted by the Town's traffic consultant TEC, Inc., in conjunction with the Planning Board.

Matters expected to be addressed in the MSP Process

- 1. The Planning Board recommends that the next iteration of the Traffic Study address the deficiencies identified during the peer review conducted by TEC, Inc. See Attachment C: Traffic Engineering Peer Review – Proposed Town Center Project – Mixed-Use Overlay District Concept Plan Review.
- 2. **Traffic Study Guidelines**. Guidelines entitled "Preparation of a Traffic Impact and Access Study" ("Traffic Study Guidelines") were established by TEC, Inc. together with a group comprised of a representative of the Planning Board, the Board of Road Commissioners, the Board of Selectmen, the Director of Highway Operations, and the Town Planner. The Planning Board recommends the Applicant submit a traffic study that conforms with the Traffic Study Guidelines to facilitate a comprehensive and timely review of the traffic impacts and mitigation requirements related to the redevelopment of the former Raytheon site as a Mixed-Use Project. See Attachment D: Guidelines for the Preparation of a Traffic Impact and Access Study. Those Guidelines are intended to provide the project Applicant with direction and to serve as a tool for the Planning Board when evaluating the MUP Master Special Permit application, the traffic and loading study required to be submitted during the MSP process, and the proposed design of the Mixed-Use Project.
- 3. **Two-point Road Access Analysis.** What is the quantitative basis for the two-point road access currently proposed? How would traffic level of service (LoS) be impacted by a single point of access? What is the LoS difference between single and double point access? How would that difference affect neighborhood cut-through traffic (without mitigation)? What are the differences in safety for residents associated with single or double point access?
- 4. **Pedestrian Safety**. How can vehicular, pedestrian and bicycle conflicts be avoided in parking lots, when crossing the main street within the site and when crossing Route 20. What is the rationale for connectivity between the proposed MBTA recreational path?
- 5. **Mitigation.** What mitigation is recommended and why? What are the systematic impacts of closing one street such as Glezen Lane to cut-through traffic on other streets?
- 6. **Parking and Loading.** How can conflicts be minimized between supply trucks (for the grocery store and retail establishments) and automobiles?

- 7. **Cut-through Traffic.** How would improvements to the main intersection at Routes 20/27/126 discourage cut-through traffic? State how the Applicant's engineer has quantified travel times in the study area to determine the most accurate distribution of site-generated trips.
- 8. **On-Site Road Design.** What is the rationale for on-site street design to either encourage or discourage bypass traffic between Route 20 and Route 27 (if two point access is adopted)? What is the basis for a capture rate for retail-related traffic higher or lower than what MEPA allows? How has the Applicant avoided double-counting of trips due to: a) pass through traffic; and b) traffic whose new destination is the new "town center" instead of other shopping destinations?
- 9. **Transportation Demand Management.** The goal is to discourage singleoccupant vehicle trips and encourage ride-sharing, demand responsive management and public or private transport options. How can we incorporate a linked or unlinked bus service and bus stop at or near the new "town center"? Where would this service connect?
- 10. **Origin and Destination.** The Board recommends origin-destination or travel time data analysis? to determine the localized distribution of site-generated trips and the potential for cut-through traffic on non-arterial roadways within the study area.
- 11. **Queuing.** The Planning Board recommends the Applicant consider on-site and off-site peak-hour queuing at the proposed site access points.

VI. Determination

The Planning Board determines that the Concept Plan is in substantial conformity with the provisions of Article 23. Further, the Planning Board requests that in its application for a Master Special Permit, the Applicant address the points contained in Section V. "Review of the Concept Plans Submitted" under subsections entitled "*Matters expected to be addressed in the MSP process*".

The Planning Board notes that, although the majority of the technical comments on individual plan sheets refer to the September 1, 2006 Concept Plan Application Submittal, of the four plans submitted, the Planning Board prefers the layout for Alternative #3 (submitted on October 11, 2006). The Planning Board, therefore, encourages the Applicant to move forward with a site layout plan that is in keeping with the Alternative #3 layout concept.

Development within the Mixed-Use Overlay District will represent the single most significant project in Wayland's recent history and the Planning Board intends to carefully review all future project applications and look closely at all project elements to assure that the development fits into and enhances Wayland's Town Center area. The Planning Board looks forward to receipt of a Master Special Permit Application that fully conforms with the requirements of the Town's Zoning Bylaws and the Planning Board's rules and regulations, and to the Design Principles to the extent possible. Filing of a complete application at the outset will enable an organized, thorough review of all elements of the proposed Mixed-Use Project.

VII. Record of Vote

Constituting a majority of the Planning Board, the following members voted to issue these findings and determination based on the Applicant's submissions of its Mixed-Use Project Concept Plan Application and other materials submitted during the review process, the information in the record, and subject to the aforementioned recommendations.

Lynne Dunbrack, Chair

Christopher Seveney, Vice Chair

Ira Montague, Clerk

Lawrence Stabile

Daniel Mesnick

DATE OF DETERMINATION:

BY ORDER OF THE BOARD

Synne alumback

November 8, 2006

Lynne Dunbrack, Chair

ATTACHMENTS:

Attachment A: Summary of Comments Offered by the Community Forum Participants Attachment B: MUOD Design Principles Attachment C: TEC Technical Review Letter Attachment D. Guidelines for the Preparation of a Traffic Impact and Access Study

Attachment A: Summary of Comments Offered by the Community Forum Participants

Community Conversation: Wayland MUOD October 4, 2006 Meeting Results Overall Questionnaire Results:

1. Landscaping

Mature trees to screen housing from river (2) Save current hedge that currently hides Raytheon building by moving grocery store 20' north Landscaping seems overly structural and unnatural Save/reuse as many maples as possible Native, drought-resistant plants No pruning of trees buffering river

2. Massing

More cross streets Smaller frontage on Main St. Roof lines should vary (2) Store sizes should vary More architectural detail for next presentation Café/street seating on Main St. Avoid stage scenery Unique, old-time character (not cookie-cutter)

3. Screening/Buffer Requirements Lower height of multi-family units Shield Historic District residents from grocery store noise, lights, etc. Screening from Wayland Common Ugly things should be buffered No need to buffer nice buildings Clean line of site over the river Avoid blowing trash Protect historic houses on Rt. 27 from hearing development

<u>4. Signs</u> New England character Discreet signage

5. Streets Pervious surface toward river for engines No access road onto Rt. 27 (2) No truck access from Rt. 27 (2) Restrict access to residential and emergency use (2) Discourage/eliminate bypass route from Rt. 20 to Rt. 27 Historic names for streets "Bridlepath" used to cross Raytheon property Pedestrian concourse/boulevard with no auto traffic Two rows of shops back-to-back Changing the axis so that it does not conform to parking lot Better access to grocery store from Rt. 20 Main St. with on-street parking (to avoid "mall look") Main St. with access on both Rt. 20 and Rt. 27 Curves

Clarification of "streets", "paving" and "service areas" in diagrams Two access roads from Rt. 20 and Rt. 27 Make sure stores along Rt. 20 don't feel isolated

6. Parking and Loading

Break-up mass parking adjacent to grocery store Pedestrian walkways through parking lots Parking needs to be broken up and safe to walk through

<u>7. Lighting</u> Downward (2) Safety lighting Low and focused Avoid light pollution

8. Open Space Not "formal" Rolling, more natural green Non-irrigated to minimize wasting water Green should protect views to the Sudbury River (2) 2-acre town green (?) Open space for housing Walking Trails Make sure it can be used to town social functions Statues Gazebo Place for community events in the summer Athletic area for playing Shade/peaceful areas Ice-skating pond Canoe landing Bike trails connecting shopping area and green space areas

<u>9. Efficiency of Design</u> LEED-certified (4) Green-housing and use

<u>10. Stormwater Management</u> Stormwater!

<u>11. Affordable Units</u> Some rental units

Most Popular Themes:

<u>1. Landscaping</u> Use of native plants Use landscaping to buffer and screen river, loading areas, and certain buildings Don't make the landscape overly structured Maintain existing landscape

<u>2. Massing</u> Create a sense of character

Attachment A: Summary of Comments Offered by the Community Forum Participants

Vary roof heights Vary store setbacks Make it pedestrian-friendly Provide historic flavor, with character

3. Screening/Buffer Requirements Provide screening between Sudbury River and all development Put buffer between development and Rts. 20 and 27 Buffer grocery store and use existing vegetation Integrate project with natural landscape

<u>4. Signs</u> New England character Discreet No neon On awnings reflective of architecture Add a commercial directory

5. Streets Extra-wide sidewalks Pedestrian/bicycle access What is the impact of through traffic? Narrow streets Curve the main street Need direct access to supermarket from Rt. 20 Get thru traffic off the main street

<u>6. Parking and Loading</u> Break up the parking lot adjacent to grocery store Pedestrian-friendly Lots of trees Designate employee parking Adequate parking for housing and municipal building

<u>7. Lighting</u> Gas lighting? New England-character lamps Downward lighting Safe but not too bright Fewer tall lampposts

8. Open Space Add topographic relief Open space seems overly formal Add a gazebo Green, open space for housing development Natural amphitheater in the Town Green

<u>9. Efficiency of Design</u> LEED-certified Green housing No pesticides on town green

<u>10. Stormwater Management</u> Reduce asphalt and reduce stormwater problem <u>11. Affordable Units</u> Add rental units

1. Landscaping

Summary of bylaw: Use of natural landscape together with new plantings.

- a. Natural landscaping Do not use any of the invasive species listed by the federal and state environmental agencies, and enhance the landscape with the use of native species. The choices of landscape materials should also consider their value in improving the habitat. Preservation of existing large and specimen trees will require their identification and means to preserve the trees in a healthy state.
- b. Reflect natural character in internal open space A more natural character to the landscape associated with the edges of the site along and near the Sudbury River should be reflected in aspects of the "common" and other features where appropriate.
- c. Protection of the Sudbury River The design of the landscape treatments should include provisions that protect the Sudbury River, such as native species and drainage controls that maintain the ecology of Great Meadows. Analysis of the Great Meadows is recommended to improve the landscape plan. Use of low, mown grasses within areas adjacent to quality habitat is not recommended.
- d. Deciduous and evergreen trees The use of evergreen trees, while providing a good year-round buffer, must be limited to that normally associated with the distribution of tree species in this area.
- e. Hierarchy The site design should create identifiable and practical hierarchies among site elements. The traveled ways and sidewalk designs should distinguish among those intended for principal public access and use, and those that provide for internal circulation or service requirements. Public spaces should range in scale and character, adapted to the active or passive use for which they are intended. Public spaces should be linked by pedestrian access throughout the project and eventually beyond the site boundaries. The features of the pathways should be recognizable primarily to pedestrians but also to drivers.



f. Abutting areas - Comfortable and safe pedestrian, trail and bicycle access from the MUOD into adjacent neighborhoods and the nearby commercial and civic areas should be incorporated into the designs wherever possible. Buffers should be used so long as they do not create a discernable 'wall' but instead are designed for landscape treatments. However, objectionable features,

e. Woods Hole, MA

such as loading docks and mechanical equipment, must be screened.

g. Landscape themes - Unifying themes and consistent design elements should distinguish the public roadway and the public trails and sidewalks. However, a variety of landscape qualities and characters may be employed to reflect the hierarchy of site elements and uses within the MUOD. Streets provide powerful images that create our impression of a place and the means by which we orient ourselves within it. Buildings and trees give a street shape as well as their own beauty. The contribution of detailed facades or fences, walls, and hedges to the streetscape is highly encouraged. Variety in a street's

e.



scenery is often part of its charm.

Landscaping public space - All types of h. public space should be landscaped. Plantings should be chosen to withstand weathering and public use, with particular attention to durability and ability to withstand salted runoff from winter roads. Window boxes and potted plants are acceptable to accommodate tight spaces in pedestrian ways. Plantings and landscape treatments adjacent to private buildings at the edge of any open space should be designed to soften but not hide the buildings and encourage public access up to the edge of the public space.

2. Massing

g., h. Falmouth, MA

Summary of bylaw: Design according to traditional New England style and authentic New England regional character.

- Building scale and shapes A range of building size and roof forms is considered typia. cal of the New England regional character of village centers that is consistent with the image and history of Wayland. Highly repetitive building forms, sizes or scales are not in keeping with this tradition. Variations in articulation of the facades can also add to the visual interest. However, whereas traditional centers were built with the buildings relating to one another, too highly varied building forms do not create an identity of
 - place. The designers should consider both aspects in the design.
- Hierarchy The design of the buildings and location of uses should create distinctions b. in use and design. Commercial building elements should allow easy recognition of the

uses, entrances and areas that are intended to invite and engage the public and reflect the more traditional New England main street of compact, closely-knit buildings that support a pedestrian environment. Residential buildings should be designed and articulated to suggest a scale appropriate to a suburban and rural area, and provide private views and spaces for the residents. Mixed-use buildings should provide combinations of the use indicators, but focus on the commercial and pedestrian aspects. Entrances, signs and windows area some of the key elements that should distinguish and differentiate the uses and spaces.

Historic context - "To a great extent, the c.



personality and individuality of a town like Wayland is the result of its early history..." The Applicant is encouraged to examine the historic building patterns, materials, forms and planning principles that guided settlement in Wayland. The Wayland Public Library is a valuable example of a public building. Important historic buildings such as the Knights

b. Pinehills Also refer to 'e. Buildings with individual integrity'.

of Labor/Grange Hall and the Griffin House should be researched for elements applicable to the largest buildings. Beyond respect for indigenous architecture, applicants are also encouraged to research Wayland's historical past for events which may deserve commemoration. Refer also to the Attachment, Historical Images.

- d. Proportional building heights Heights of buildings should be scaled in proportion to the existing and historic character of Wayland. Public buildings and institutions are usually the tallest structures. Traditional and unique architectural elements in the public buildings can establish these buildings as special places. Commercial buildings may typically be one story, but variations in the dimensions created by multiple stories and traditional roof outlines may appropriately add bulk to the building mass.
- e. Buildings with individual integrity, not complexes - Traditional New England communities that should serve as a source for massing were created with separate buildings on individual lots. Rooflines should not imply the character of large connected complexes of uses within more massive, connected structures. While multiple uses and multiple storefronts are traditionally combined within a single building, each building appears to have its own integrity visible in its massing and the sense of distinction that was historically associated with different ownerships.
- f. Varied roof profiles The rooflines should provide a varied profile against the sky as seen from the internal circulation network and as may be visible from surrounding areas.
- g. Simplicity of forms The varied roofline should not be continuous in materials and color over multiple storefronts, unless clearly associated with the building façade. In general, roof forms should be simple and avoid excessive articulation. Avoid the use of applied roofs as merely decorative elements.





d. Pinehills, Mashpee Commons



e. Pinehills Although the facades are unique, the roof treatment does not distinguish the separate buildings.



i. Cambridge

i. Sudbury

- h. Obscuring buildings from the Sudbury River Buildings or rooflines should not be visible from the surface of the Sudbury River up to the first riverbank.
- i. Relationships with public properties The on-site municipal building will be integrated by access and position, but will maintain a unique position within the MUOD. Private buildings adjacent to the public open space must present an architectural façade that does not present private garages or private parking as the primary, grade-level use.
- Mix of commercial uses The Mixed Use Project should take full advantage of the MUOD bylaw that allows multiple, small-scale commercial uses that will be integrated with one, medium-scale commercial use within the district. The careful use of signage to distinguish and engage is encouraged to accomplish this integration. Also refer to: 4. Signs, below.
- k. Integrate the residential areas To encourage high quality environments for the proposed uses, different designs for street, access, site plans, and building types and orientations may distinguish the commercial and residential areas. However, there should be an attempt to mix the uses and include features that link separate use areas.

3. Screening and Buffers

Summary of bylaw: Visual barriers between dumpsters and trash handling areas, mechanical equipment, service entrances, utility facilities, loading docks, and public streets and abutting properties.

- a. Historic district buffer Provide a visual, landscape buffer towards the adjacent historic district, but do not block qualities that are in keeping with the historic architecture and landscape.
- b. Loading area screening All commercial loading areas should be screened with combinations of architectural and landscape elements. The combination must appear to be an integrated part of the building architecture and not an adjunct or add-on to the building.

4. Signs

Summary of bylaw: According to a traditional New England town center; and integrated with the architectural design.

- a. Historic qualities The signage should reflect the historic and architectural qualities of the buildings. Flush signs, blade/projecting signs, and awning signs can be used where appropriate.
- b. Wayfinding A comprehensive sign program for wayfinding in the entire district should be created to establish a uniform theme and a common style including size, shape and material.
- c. Message Signs should present a clear message and be compatible in terms of type, size, color, and material with the building they serve.
- d. Placement The style and placement should complement the architectural character of the building. Signage that covers or obscures significant architectural details of the building should be avoided.
- e. Multiple storefronts In a multiple storefront building, the signage should be of a size, location, material and color that relates harmoniously between bays.



f. Lighting – Directly illumi-

nated signage on buildings should be from a series of gooseneck or similar extended arm fixtures, which direct light to the façade and sign and are compatible with the design of the building. Lighting on freestanding signs should include down-lighting for pedestrians.

5. Stormwater Management

Summary of bylaw: Design within existing standards

- a. Application of "Low Impact Design" The use of Low Impact Design standards as promoted by the State will satisfy the requirements of this performance standard. This will include, at a minimum, consideration for the use of small, dispersed surface detention areas ('rain gardens'), dispersed under-grade detention structures, separation of roof runoff from pavement runoff, and use of paving materials that reduce the rate of runoff. Additional information may be found at http://www.mass.gov/envir/smart_growth_toolkit/pages/mod-lid.html and http://www.mapc.org/LID.html
- b. Protection of Sudbury River The protection of water quality within the Sudbury River will be established with the design and the long-term maintenance of the grades, drainage facilities, and groundcover.

6. Streets

Summary of bylaw: Adequate access for emergency vehicles, normal traffic, and safe pedestrian access.

- a. Hierarchy of travel ways The range of travel ways provided should include trails, sidewalks, bikeways, residential streets, commercial streets, and gateways. These will be distinguished with design, landscape treatment, lighting and signage. The ways provided should also enable multiple choices for travel and circulation. The combination of ways and paths should provide continuous access across the property.
- b. Accessibility across public and private spaces All spaces used for pedestrian and bicycle access shall be laid out and equipped with sidewalks, crosswalks, paths, and curb ramps to ensure that they are easily accessible to all pedestrians. In addition, clearly identified, safe and fully accessible pathways shall be provided from the private properties to the nearby and adjacent public properties. Safe and accessible paths will typically include lighted ways, down-lit for safe movement.
- c. Support facilities Locations to stop, sit, and rest, and to park a bicycle should be provided at all major activity areas. Signage and clear, safe pathways should be provided in a variety of situations to maintain a flow through the District.



a. Taunton, MA



- d. Accessibility Public spaces and public travelways *a. Garden City, RI* shall be accessible in accordance with the Americans with Disabilities Act and the State Architectural Access Board.
- e. Emergency access The design should not prevent or inhibit emergency access, but should also consider the context of the overall design.



f. Subdivision Standards – The Town subdivision standards will apply, including the use of context-specific designs and waivers to provide high-quality and safe design that fits with the use of the roads and the elements that surround them.

g. Sidewalks and walking paths - Lighted walkways shall be provided to link buildings with public spaces, parking areas, recreation facilities and sidewalks on adjacent land wherever practical. Where pedestrian connections cross vehicle and bicycle ways, a crosswalk or change in paving shall delineate the pedestrian connection. Sidewalk widths should correlate with the use of the space and adjacent building heights.

h. Travel way widths - Total width of the travel ways should be approximately twice as

g. Greenwich, CT

wide as the adjacent buildings are tall; e.g. 35 ft tall buildings are appropriate next to a 70 ft wide space for a road and sidewalks. Travel lanes shall be appropriate to the intended use and demand as determined by the required traffic study.

i. Bicycle lanes and bicycle paths - Designated bicycle paths, when provided, shall be paved with asphalt or a similar smooth and elastic, monolithic surfacing material. Where bicycle paths cross-traveled ways, a change in paving shall delineate the bicycle route. The overall site design shall include bicycle parking spaces.

7. Parking and Loading

Summary of bylaw: Adequate for educational, religious, municipal and child-care facilities; shared parking; separate with landscape; minimize curb cuts; and safe and comfortable for pedestrians.

a. Street parking – Parallel, on-street parking shall be an acceptable option for a portion of the parking demand adjacent to commercial and mixed-use areas. On streets adjacent to open space areas the parking will be appropriate where it does not conflict with

access to the open space. On streets adjacent to residential areas the on-street parking shall be limited to visitor spaces.

b. Commercial parking – The parking areas used for commercial areas should be landscaped and designed to reduce the expanse of pavement used for parking. Landscape islands should be 4 to 6 feet in the smallest width to allow planting of trace. Wellsware across the



trees. Walkways across the *b.Natucket, MA* Well-landscaped commrecial parking lot lot should be separate from the planting beds. Landscaping should provide a shield between the parking areas and the sidewalks.

- c. Entrances Buildings should have entrances from sidewalks or public pedestrian areas, and not directly from parking areas.
- d. Residential parking Where residential parking is provided for a mixed-use building, adjacent parking spaces at half the required number for the residential use may be considered as shared parking spaces.
- e. Open space and public facility parking Adequate provisions for public parking shall be incorporated adjacent to the large open space area and the public building. Expandable, temporary parking areas may be considered to meet the peak demand.
- f. Loading areas The required parking and loading study will be used in part to consider locations, access, lighting and buffering of loading areas.

8. Lighting

Summary of bylaw: Public safety and welfare, and protection of the night sky.

a. Control of light pollution - Use outdoor illuminating devices, lighting practices, and systems that will minimize light pollution and conserve energy while maintaining



reasonable nighttime safety and security. Lighting should be designed to ensure proper illumination of the transportation network and public spaces.

b. Shielding -Direct light emitted by an outdoor light fixture shall not emit directly by a lamp, off a reflector or through a refractor above a horizontal plane through the fixture's lowest light-emitting part.

9. Open Space

Summary of bylaw: Two acres of contiguous upland, and additional spaces to serve public purposes.

- a. Promote a mix of spaces The MUOD should be a positive addition to the cultural, economic and civic character of Wayland. The overall site design within the District shall enhance these civic and social purposes by providing spaces for multiple uses such as outdoor seating areas, including food service and informal meeting areas, and areas for intermittent display of goods.
- b. Large public open space Provide a landscape that relates to the adjacent natural areas but also provides spaces for gathering on the open space, and provides a visual connection to the nearby public building.
- c. Public views The public views across the property and natural areas shall be maintained and considered in the design of the site and building layouts.
- d. Design for activation The design of publicly accessible uses should provide for a high degree of visibility into those areas from sidewalks and traveled ways on the ground level, and provide variety and interest to encourage use of public places along the streets, and along any other areas intended for public use. The design of the main public green should be shown to allow a variety of passive and active use and recreation. A design for multiple uses of the open space is desired.
- e. Other public spaces The smaller public spaces should in-



a. Cranston, RI

clude seating areas, bike parking, and activities that relate to the adjacent buildings and uses.

f. Sudbury River - Where the Sudbury River abuts the District, visual and physical access to the river should only be provided if it entails a very low impact on the natural resources.

10. Aquifer Protection

Summary of bylaw: Conform to the bylaws and clean-up requirements.

- a. Impervious areas Reductions in impervious surfaces should be considered during the sizing of parking spaces and choices of materials for hard surfaces.
- b. AUL's The impact of the Activity and Use Limitations (AULs) on design options should be identified.

11. Affordable Housing

Summary of bylaw: At least 25% of the dwelling units shall be affordable.

a. Affordable Housing Program – The Applicant's choice of an affordable housing program to support the project will be considered during the MSP review to determine any appropriate local conditions needed to implement the program.

12. Efficiency of Design

Summary of bylaw: Daylighting, natural ventilation, and energy efficiency; minimize toxics and non-renewable resources; and incorporate "green" design.

a. Review "Green Design" standards – The results of a LEED-type performance and design analysis of the building designs should be submitted to show compliance with this standard.

13. Utilities

Summary of bylaw: Utilities shall be placed underground where feasible.

a. Underground utilities – Show why any location of above ground utilities is necessary.

Historical Images Attachment to the MUOD Design Principles

The following images were scanned from, *The Puritan village evolves, a history of Wayland, Massachusetts*, by Helen Fitch Emery, Wayland Historical Commission, 1981. These and other historical images are recommended for review prior to design of buildings within the MUOD.







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Mr. Joseph Laydon Wayland Town Planner **Town Offices** 41 Cochituate Road Wayland, MA 01778

November 6, 2006

Ref: T0124.02

RE: Traffic Engineering Peer Review – Proposed Town Center Project Mixed Use Overlay District Concept Plan Review

Dear Mr. Laydon:

As you know, we have been working with the Planning Board over the past several weeks to compile and refine the rules and regulations, as well as the Traffic Impact and Access Study (TIAS) guidelines specific to the Mixed Use Overlay District (MUOD) and the Wayland Town Center project. At the Planning Board's request, TEC, Inc. is providing this comment letter as a summary of observations and issues compiled following our review of the following documents for the above-referenced project:

- (Draft) Neighborhood Traffic Impact and Access Study Wayland Town Center prepared by Vanasse & Associates, Inc. (9/15/06)
- Proposed Conceptual Development Plans Alternatives 1 through 3 • prepared by Arrowstreet, Inc. (10/10/06, 10/11/06, Undated, respectively)

As part of our initial review of the above-referenced documents, we have compiled the following comments pertaining to the conceptual design of the site and the potential traffic impacts of the project:

Conceptual Design Plan(s)

- 1. The current proposed design, Access Alternative 3, presents a logical arrangement of private streets and driveways to service the three major components of the mixed-use development. The "main" street is oriented with a curvilinear alignment from southwest to northeast and connects Route 20 with Route 27 through a new commercial area with proposed on-street parking.
- 2. The northerly couplet of roadways in the northwest guadrant of the development. which services the proposed municipal building and the residential complex, are not likely to see measurable diversionary traffic. This will provide a setting for the proposed residential area that can include several traffic calming features to control the speed of traffic within the complex.

- 3. The "main" street provides a connection to the Wayland Commons site on the northeasterly end of the proposed connection to Old Sudbury Road (Route 27). This will provide the ability to control curb cuts on Route 27 and create a sensible connection to the residential portion of the Wayland Town Center project. This alternative for access was identified as part of the prior 40B hearings for Wayland Commons.
- 4. The primary parking areas for the commercial uses are located behind the structures on the "main" street. This maintains continuity in the retail component and reduces the walking distance for pedestrian traffic. The Master Special Permit (MSP) application materials should include calculations and background data to support the proposed parking ratios within the required parking and loading study.
- 5. The Applicant should review the layout of the proposed supermarket use in the southeasterly corner of the parcel and provide a better defined route for the anticipated truck traffic. The current configuration will require a significant backing distance for trucks to access the loading dock (currently depicted on the east side of the building) as well as potential traffic conflicts with several high pedestrian areas in front of the store.
- 6. The Applicant can consider curb side pull out areas that can be used as either a loading zone or parallel parking by time of day restrictions.
- 7. The MSP submission should provide additional detail to ensure that there are no proposed conflicts with intersection sight lines due to proposed parking areas, landscape features, or alignment of driveways.
- 8. The location of the first internal site intersection on the "main" street (closest to Route 20) needs to be examined by the site designer and the traffic engineer to review the queues that are likely to extend along the southbound driveway approach from Route 20 back into the site. This presents concerns for blocking various movements, most notably the entering left-turn to access the retail building in the southwest corner of the property because this may cause congestion for patrons entering the site. It also may block the left-turn movement exiting from the main parking field near the supermarket and bound for the Route 20 corridor.

Draft Neighborhood Traffic Impact and Access Study (NTIAS)

- 1. The NTIAS was submitted as a draft copy on September 15, 2006. No updates or final copies were provided as of the issuance of this draft peer review letter.
- 2. The study does not include Sunday midday traffic counts at the intersections of Routes 20/27/126, Route 27/Millbrook Road, and Routes 27/126. The traffic volumes collected at the adjacent intersections show less traffic on a Sunday than occurs during a Saturday midday peak period. The Town has requested the Sunday analyses at this critical intersection to evaluate the differences between the No-Build and Build scenarios, knowing that the existing office use would generate negligible traffic volumes during this time period if reoccupied.
- 3. The NTIAS does not currently include travel time data or analyses to evaluate the potential for cut-through traffic in the area of the site. The regional distribution of traffic to and from the site is based on U.S. Census data (for residential, municipal,

and office uses) and a cordon line of existing traffic volume trends (for the retail use). The local distribution of traffic will more likely reflect a path with the shortest travel time. For example, the applicant should assess the differences in travel time during the morning peak hour for residential work trips bound for destinations to the east by way of the Route 20/27/126 intersection versus travel on the potential cut-through routes to the northeast (e.g. Glezen Lane or Plain Road).

4. TEC understands that the Applicant's engineer is collecting origin-destination data for the nearby retail properties. This information will be helpful within the MSP traffic study to evaluate the possibilities of intercepting existing retail trips. This information will also be helpful in determining whether the new connecting road between Route 20 and Route 27 will provide a quantifiable reduction of the turning movements at the intersection of Routes 20/27/126. The new "main" street is expected to accommodate approximately 100 diverted (northbound) vehicles that would otherwise turn left from Route 20 eastbound to Routes 27/126 northbound. Most of these motorists are likely bound for Route 126 North or other roadways to the northeast rather than Route 27 North for the following reasons:

- Motorists on Route 20 eastbound have the option of using Old County Road to access Route 27 North

- Many of the significant trip generators along Route 20 between the Site Driveway and Routes 27/126 are on the south side of Route 20 and would require a left-turn movement across Route 20 traffic to access the proposed "main" street.

These assumptions should be reviewed in greater detail prior to issuance of the MSP traffic study.

- 5. The No-Build condition within the NTIAS assumes full access to and from the Route 27 access point. This is not consistent with the current permits for the site and prior local approvals. The MSP study should reflect primary access to and from Route 20.
- 6. The MSP traffic study should identify the existing safety characteristics and needs for each intersection. Sight distance measurements were summarized for the site access points within the NTIAS, but should also be performed for the other study area intersections. The report should identify any existing or future needs for auxiliary turn lanes (e.g. Route 27 southbound at Glezen Lane) and whether or not the needs are related to the project.
- 7. The MSP report should include detailed crash data from the Wayland Police Department for any intersection with more than ten crashes when referencing the MassHighway crash database. This will provide additional information that will be necessary to draw conclusions for the safety characteristics of each intersection. The following five intersections will require additional research:
 - Route 126 at Glezen Lane (See TEC memorandum to Wayland Police Department)
 - Route 20 at Routes 27 / 126
 - Route 27 at Route 126 (near Library)
 - Routes 27/126 at Pelham Island Road / Millbrook Road
 - Route 20 at Pelham Island Road

- 8. Table 9 within the NTIAS compare the volumes of traffic on roadway segments on the outer links of the study area. TEC recommends that the MSP report identify the differences on other segments closer to the site, such as:
 - Route 20, between Site Driveway and Routes 27/126
 - Route 27, between Site Driveway and Route 126

This will better identify the differences between the No-Build and Build conditions for the roadway segments closer to the site.

- 9. The operational analyses for unsignalized intersections in the existing town center should identify the likely differences in capacity and delay due to queues at the intersection of Route 20/27/126.
- 10. The alternatives analysis performed for the site access points includes the following two scenarios:
 - Access Alternative 1 Access to both Route 20 and Route 27
 - Access Alternative 2 Access to Route 20 only

Please note that the alternatives listed within the NTIAS do not use the same number scheme as the concept plans prepared by Streetscape, LLC. This does not affect the analysis, but should be coordinated in future submissions, if required.

- 11. Access Alternative 1 provides a higher level of access to the Town Center Project. This alternative has a higher risk of cut-through traffic due to the layout of the proposed access point in relation to the existing intersections of Routes 27 / 126, Route 27 / Bow Road, and Route 27 / Glezen Lane. Without the requested travel time data, it is difficult to project the potential for cut-through traffic. This alternative provides the greatest ability to distribute trips, but we still need to confirm the more localized distribution of trips to and from the east / northeast of the site based on field data.
- 12. Access Alternative 2 has notable capacity impacts to the Route 20 corridor because all traffic visiting the site will be required to use the singular point of access. It will introduce additional strain on the intersection of Routes 20/27/126 for the through traffic along Route 20 as well as several turning movements. For example, the 2011 Build weekday evening volume of traffic left-turning from Route 20 eastbound to Route 126 northbound is projected to be 330 vehicles per hour under Access Alternative 2; this volume of traffic typically requires two dedicated left-turn lanes. This same left-turn is reduced to 116 vehicles per hour for the build scenario for Access Alternative 1 (based on the NTIAS projections).
- 13. TEC recommends the Applicant's engineer perform a closer examination of the travel times associated with site-generated traffic and the potential for traffic to be diverted along local neighborhood streets to avoid the known congestion along the Route 20 / Route 126 corridors. This additional data collection and analysis will assist in confirming previous projections for traffic distribution to and from the proposed site prior to reviewing the detailed capacity analyses.
- 14. The NTIAS presents conflicting information concerning the proposed geometry of the intersection of Old Sudbury Road (Route 27) / Proposed Site Driveway. The text describes the introduction on a new exclusive right-turn lane for Route 27 southbound, but Figure 34 shows only one shared lane.

The comments provided within this letter are based on the draft copy of the NTIAS submitted to date. Upon receipt of the additional data and analyses, this letter should be updated and issued as a final copy. We recommend that the next submission of the traffic study include the elements outlined within the document entitled, "Guidelines for the Preparation of a Traffic Impact and Access Study (TIAS) for the Mixed-Use Project proposed by Twenty Wayland, LLC," recently adopted by the Wayland Planning Board for the Twenty Wayland, LLC project.

If you have any questions regarding our preliminary review of the referenced materials, please do not hesitate to contact me at (978) 794-1792 x145.

Sincerely, TEC, Inc.

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Kevin R. Dandrade, PE, PTOE Senior Engineer

 cc: Lynne Dunbrack, Planning Board Mark Santangelo, Chairman, Board of Road Commissioners (by e-mail) Anthony Timperio, P.E., Board of Road Commissioners (by e-mail) Stephen Kadlik, Highway Director of Operations (by e-mail) Frederick Turkington, Town Manager (by e-mail) Joseph Nolan, Chairman, Board of Selectmen (by e-mail) Bill Whitney, Board of Selectmen (by e-mail) Francis Dougherty, KGI Properties / Twenty Wayland, LLC Kenneth Cram, PE, Vanasse & Associates, Inc.

Attachment D: Guidelines for the Preparation of a Traffic Impact and Access Study.

Guidelines for the Preparation of a Traffic Impact and Access Study (TIAS) for the Mixed-Use Project proposed by Twenty Wayland, LLC

The Planning Board reserves the right to amend these guidelines from time to time as it deems appropriate.

Parking and Traffic Analysis:

- a. The Applicant shall provide a parking and loading study demonstrating adequate accommodations for uses within the Mixed-Use Project. Any data presented for shared parking demand projections for the mixed-use project shall be based on data from Institute of Transportation Engineers (ITE), the Urban Land Institute, American Planning Association (APA) or existing data from three existing comparable sites within New England, as applicable.
- b. The Traffic Impact and Access Study (TIAS) for the MUOD development proposal shall generally conform to the study criteria found within the Institute of Transportation Engineers publication entitled, "Transportation Impact Analyses for Site Development", most recent edition.
- c. The study area shall consider: i) all existing and proposed access points for the Mixed-Use Project; ii) major intersections along state-numbered routes within one-half mile of the proposed entrances to the Mixed-Use Project; and iii) other intersections identified by the Applicant along potential arterial or diversionary (or "cut-through") routes (all hereinafter referred to as the "Study Area").
- d. Existing traffic data shall be collected using Turning Movement Counts (TMCs) during weekday morning and evening, Saturday midday, and Sunday midday peak periods. The TMCs shall be supplemented with Automatic Traffic Recorder (ATR) counts in 15-minute intervals to document the daily variations on a typical weekday and weekend on all study area roadways. The Applicant shall research local and regional ATR and other permanent count station data available from the Town, Metropolitan Area Planning Council (MAPC), and/or MassHighway to confirm the seasonal adjustments of previously obtained data.
- e. The TIAS shall include a detailed safety review of each existing and proposed access points for the site and each project study area intersection that is based on field sight distance measurements, review of operations and existing traffic control, and local crash data from the Wayland Police Department. Pedestrian incidents and safety shall also be considered.
- f. The report shall quantify the existing and projected number of vehicle trips to enter and depart the site during an average weekday, weekday morning and evening peak hours, and Saturday and Sunday daily and peak hours. The estimate of site trips projections shall also be presented in a graph showing the expected generation of site traffic over the course of a typical weekday, Saturday, and Sunday for the combination of all uses to show the estimated variation in hourly intervals.

Adopted 10.30.06

Attachment D: Guidelines for the Preparation of a Traffic Impact and Access Study.

- g. When considering the itemized trip generation for the site, the analysis shall consider the most appropriate land use code (category) during each peak hour period if the proposed use has not been specifically identified. The four major land use categories within the MUOD are assumed to be retail, commercial office, residential, and institutional/municipal. The projections shall be based on the applicable land use code found within the ITE document entitled, *Trip Generation*, most recent edition and its associated handbook. The applicant shall provide a trip generation comparison for other alternative municipal land uses.
- h. If the Applicant seeks a reduction in diverted or "intercepted" trips for the retail uses other than the standard ITE pass-by rates, the reduction in the rates shall be based on a roadside origin-destination study to interview or record a sample of passing motorists during each applicable peak period.
- i. The regional distribution of traffic for the various land uses proposed for the MUOD shall be based on the most appropriate data and/or methodologies, such as US Census Data, a gravity model for retail uses, origin-destination study, and/or predominant vehicle flows on the adjacent streets. The local distribution of traffic shall consider travel times between the site and origins/destinations in all directions.
- j. Trip generation shall be segregated by No-Build and Build projections including assumptions made for trip distribution and assignment during the same weekday and weekend peak hours. For consideration within the No-Build condition, the assumptions for re-use of the existing building(s) shall consider the maximum building occupancy rate observed within the five years preceding the filing of a Master Special Permit application. Trip generation rates for the municipal pad shall include at least: i) library, and ii) town offices uses. Occupancy rate for the proposed municipal facilities shall include maximum occupancy allowed under ITE.
- k. The projected traffic volumes within the TIAS should consider a five-year design horizon from the filing of the MSP Application. The projections shall include an ambient growth rate and all known permitted or planned projects identified by the Town Planner, the MAPC, and/or MassHighway.
- I. The following analysis scenarios shall be evaluated as part of the traffic study:
 - Existing Conditions
 - Future Year No-Build Condition with Full Re-occupancy
 - Future Year Build Condition
 - Future Year Build Condition with Mitigation

The analysis will be done on a 5-year horizon, and some or all intersections may be required by the Board to be analyzed under a 10-year horizon, if deemed necessary by the Planning Board.

- m. The TIAS shall quantify the impact of traffic from the proposed Mixed-Use Project on nearby local streets and intersections within the Study Area by comparing the volume-to-capacity ratios and delays for weekday and weekend peak hours.
- n. The report shall describe, with supporting analysis, the traffic circulation interior to the project based on the location of the proposed uses. This

Attachment D: Guidelines for the Preparation of a Traffic Impact and Access Study.

should include operational analyses for major intersections along the main driveway(s) or site roadway(s) that service the site development.

- o. The TIAS shall describe the location and justification for proposed traffic signals, signal re-timing, phased signalization, turning movement lane improvements and any land taking to improve road capacity where mitigation is proposed. Auxiliary lane warrant analyses shall be provided based on criteria from the most recent applicable publications from MassHighway, the Institute of Transportation Engineers, and/or the American Association of State Highway and Transportation Officials (AASHTO).
- p. The TIAS shall identify any proposed neighborhood traffic management strategies and the estimated benefit for diverting traffic.
- q. The TIAS shall identify Transportation Demand Management (TDM) strategies for reducing the use of single-occupancy vehicles. The Applicant shall consider shuttles and/or public transportation alternatives including linked and/or express bus service to and from the site consistent with Smart Growth principles to reduce single-occupancy work and discretionary trip making activity.
- r. The report shall document the estimated environmental impacts, construction phase traffic impacts, schedule for completion, and estimated land taking associated with each likely and proposed off-site mitigation measure as well as construction and land acquisition costs thereof.