TURNING POINT
ENGINEERING
CIVIL SITE DESIGN

March 28, 2025

Oxford Planning Board
325 Main Street
Oxford, MA 01540

Subject: Response to TEC-Traffic Peer Review #2
Ashworth Hills, Oxford MA
Traffic Engineering Peer Review

Dear Planning Board Members:

Turning Point Engineering (TPE) is in receipt of the Board's engineering consultant's (The Engineering Corp (TEC)), traffic engineering peer review letter #2 dated February March 21, 2025, regarding the Site Plan Review for the above noted project. On behalf of the Applicant, Eastland Partners, Inc, TPE offers the following in response to the follow-up Site Plan Comments portion of the noted review. Please note that the Application's Traffic Consultant, Greenman-Pedersen Inc. (GPI) will be responding to the Traffic Study related Comments under a separate cover. For ease of review, the comments are reiterated with responses immediately following in the order of the original letter, and have been noted by revisions clouds on the site plans.

Initial Site Plan Comments

17. A truck turning analysis should be provided for the Oxford Fire Department design vehicle and a large single-unit (SU) truck (representative of a moving van, trash/refuse truck or similar). The turning analysis should demonstrate that the subject vehicles can access and circulate within the project site in an unimpeded manner.

Response: Please refer to the revised site plan's added sheets C11.1-C11.4 "Truck Turning and Sight Line Plan". The noted plan models a large ladder truck fire apparatus appropriately navigating the site (primarily right turns within the site).

TEC Follow-up Comment 3/21/2025: TEC reviewed the truck turns and finds that the comment has been reasonably addressed as the truck sweeps can clearly be performed within the proposed roadway surface. TEC defers to the Oxford Fire Department to confirm if the design vehicle used was appropriate.

Response:3/28/25 Comment Acknowledged.

18. A 3-5 ft buffer between the roadway and shared use path should be considered where feasible for increased pedestrian safety.

Response: Incorporating a buffer strip was considered, however not implemented as the intent of the designs was to minimize the footprint of the overall development impact and maximize the proposed dedicated open space and nature walking trail areas. The shared use path's layouts/designs (widths/alignments) were developed to be consistent with designs of the RT20 corridor shared use paths.

TEC Follow-up Comment 3/21/2025: TEC recognizes the intent to minimize the footprint of the path through most of the proposed development. TEC continues to recommend a 3 ft to 5 ft buffer along Road C between Southbridge Road and Road E, between the curb line and the front edge of the shared use path because vehicles may travel faster along this stretch of road where there is no density of housing. A grass buffer would improve safety and user comfort for both pedestrians and bicyclists and could be considered to compliment the intent to provide open natural space.

Response3/28/25: The Applicant has added a 6-foot buffer between the travel way and the shared use path along the noted portions of Road C.

TEC also recommends that the Town of Oxford coordinate with MassDOT to ensure that the Route 20 project provides adequate separation for the safety and comfort of shared use path users as this segment of shared use path will connect the new residents of these developments to major commercial areas to the east and may act as a connection to or possible segment of the French River Rail Trail. Although TEC and the Town of Oxford are early in the planning process for future trail rail connections, TEC recommends a more robust design of this on-roadshared use path connection. TEC recommends a minimum 5-foot buffer between the Route 20 curb line and the front edge of the path given the operating speed for traffic along Route 20 westbound in this area.

Response: 3/28/25 Acknowledged.

19. Trees should be located a minimum of 3 feet away from the shared use path to provide an appropriate clear distance for cyclists. Trees should be located a minimum of 2 feet away from sidewalks to minimize future root damage to sidewalks that may limit accessibility.

Response: The Typical Roadway Cross section was updated to provide the recommended separation notes for the street trees, see sheet C-8.1. Also, an identical note was added to each of the landscape sheets, see sheets C9.0-C9.4. Lastly, the locations of street trees on the site plan were reviewed and updated to assure the minimum recommended separations are provided.

TEC Follow-up Comment 3/21/2025: Updated plans show that the appropriate notes have been added and that trees throughout the project have generally been located an appropriate distance from the sidewalks and shared use paths. Trees between Station 0+00 and 2+50 of Road A on the left side of the roadway are still located approximately 1 foot from the edge of the shared use path. To prevent future damage to the shared use path or failure of the proposed trees to grow either the proposed trees should be removed or bicycles should be directed on to the street west of the access gate and the shared use path width should be reduced to the width of a sidewalk between the access gate and the point where the shared use path terminates at Ashworth Drive.

Response:3/25/25 The noted street trees have been removed. An existing fence provides a buffer along this area with street trees that are proposed on the opposite side of the street.

20. The applicant should consider an additional road name for one or more segments of Road B to avoid having 3 intersections between Road A and Road B that could lead to confusion for visitors and first responders.

Response: The Applicant agrees that modified road names are/will be necessary to avoid confusion of first responders as well as visitors. The Applicant respectively requests that the

Board make a condition of the Site Plan Review Approval that requires the Applicant to coordinate final road names with the appropriate Town Officials prior to the issuance of any building/occupancy permits.

TEC Follow-up Comment 3/21/2025: TEC recommends updating site plans to show Road B (east of Road C) as Road H on site plans until final names are determined. TEC supports the request for a condition that the applicant coordinate final road names with the appropriate town officials prior to the issuance of any building permits.

Response:3/28/25 The noted naming convention (Road H) has been incorporated along that section of Road B until such time as permanent road names are determined.

32. Sidewalks should be considered on both sides of the proposed roadways to provide accessible pedestrian paths of travel to each unit.

Response: The option of installing sidewalks on both sides of the street was considered during the design process, however not implemented as the intent of the designs was to minimize the footprint of the overall development impact and maximize the proposed dedicated open space and nature walking trail areas. The Applicant believes that one sidewalk as proposed will provide safe and appropriate pedestrian access throughout the site.

TEC Follow-up Comment 3/21/2025: Sidewalks along both sides of the roadway are preferred to increase pedestrian connections, safety, and comfort. TEC defers to the Planning Board to determine if sidewalks on one side of the roadways is acceptable.

Response: Acknowledged.

35. The applicant should clarify the proposed design speed for each roadway within the development and verify that the radius for each proposed horizontal curve and k value for each proposed vertical curve provides sufficient stopping sight distance for the design speed. Traffic calming measures should be considered for lower design speeds.

Response: Below is the summary of the design speeds for the proposed roadway system along with the proposed minimum stopping sight distances, centerline radius and k values provided in the designs. Designs have been verified with one minor revision required, that being a modification to the sag curve Road B station sta 32+00 +/-, where the vertical curve length was lengthened to provide the minimum k value.

<u>Roads A, B (station12+00 to end), C, D, E</u>

- *Design Speed = 30 MPH*
- *Min. Stopping Sight Distance required/provided = 200'*
- *Min. C.L. Radius required = 200'; Provided = 200'*
- *Min. k values*
    - *Sag Required/provided = 37*
    - *Crest Required/provided = 19*

<u>Roads B (station 0+00 to12+00), F and G</u>

- *Design Speed = 25 MPH*
- *Min. Stopping Sight Distance required/provided = 155'*

- *Min. C.L. Radius required = 125'; Provided = 150'*
- *Min. k values*
  - *Sag Required/provided = 26 ; provided = 37*
  - *Crest Required = 12, provided=19*

Traffic Calming/Mitigation for Lower Speeds:

Road A:
- *Proposed access to Ashworth to be emergency gated preventing potential for cut through traffic.*

Road B:
- *Added Speed Limit signs (20 mph) to the approach (both directions) of this section of roadway.*
- *Incorporated reverse curves to assist with calming of traffic*
- *Added all way stop at Road B (12+00) and Road A.*

Road C:
- *Added Raised Intersection at intersection with Road E.*
- *Added pedestrian crossing signs*

Road E:
- *Raised interaction with Road C*
- *Pedestrian Crossing Signs*

Road F:
- *Gated roadway-dead end*
- *Serving only 12 residents.*

Road G:
- *Cul-de-sac -dead end*

TEC Follow-up Comment 3/21/2025: MassDOT's Project Development and Design Guide Table 4-3 sets the minimum design radius for a road with a 25-mph design speed with no superelevation at 200' and a road with a 30-mph design speed with no superelevation at 335', see below. TEC recommends:

- **Reducing the design speed of all roadways to 25 mph. ·**
- **Increasing curve radius to a minimum of 200' if practical. This may include Road B near Station 7+50, Road B near Station 9+50, and Road C near Station 1+50.**
- **Adding roadway curve warning signs (W1-1) and advisory speed plaques (W13-1p) where increasing the minimum curve radius to 200' may not be practical. This may include Road B near Station 2+50.**
- **Noting that dead end or Cul-de-sac roads such as Road G are expected to see lower speeds that would be reasonably accommodated by a 150' curve radius as proposed; However, curve warning signs may still be considered.**

Response: 3/28/25-The Applicant has incorporated all the noted recommendations into the attached revised site plans. Revisions have been noted on the site plans by revision clouds as summarized below:
- Design Speeds have been reduced to 25 MPH. Speed Limit signs have been incorporated into the site plan noting the same.
- Minimum Curve Radius increased to 200 feet in the practical locations as recommended.
- Roadway curve warning and advisory speed signs have been added in the noted location where a 200-foot radius was not practical.

- A 150 foot radius was maintained on the cul-de-sac, however curve warning signs have been incorporated as recommended.

36. All sight line triangles should be shown for all proposed intersections on the Site Plans based on AASHTO criteria along with a general note in the plan set to indicate: "Signs, landscaping and other features located within sight triangle areas shall be designed, installed, and maintained so as not to exceed 2.5- feet in height. Snow windrows located within sight triangle areas that exceed 36 inches in height or that would otherwise inhibit sight lines shall be promptly removed."

Response: Refer to Site Plans, sheet C4.1-C-11 and the Truck Turning and Sight Line Plans sheets C11.1thru C11.4. Sight Lines and the appropriate notes have been added.

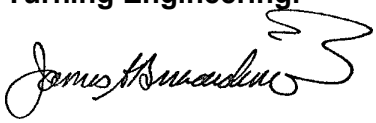
TEC Follow-up Comment 3/21/2025: The desirable sight lines demonstrated on the Sheets C11.1thru C11.4 show multiple locations where trees and driveways, where parked vehicles may become an obstruction, are located within the desired sight triangles. The desired sight distances used ranged from 290' to 335' and are appropriate lengths for not impeding the flow of traffic on the uncontrolled approaches as designed. However, where traffic efficiency is not a critical factor for the internal roads within the residential development, the minimum safe stopping sight distance may be used for safe operations. For a 25-mphdesign speed the minimum stopping sight distance would be between 143' and 165' for the grades proposed for this development (PDDG Table 3-9). TEC reviewed the revised plans and notes that the following changes would allow the project to sufficiently satisfy the minimum safety-related sight lines at each intersection:

- ***Reducing the design speed of all roadways to 25 mph***
- ***Removing or relocating the proposed street trees at:***
  - ***Road A Station 8+30 – Right Side (relative to alignment direction)***
  - ***Road E Station 2+50 – Right Side***
  - ***Road E Station 4+00 – Right Side***
  - ***Road C Station 20+00 – Left Side Road C Station 21+40 – Left Side***

Response:3/28/25 – The design speed has been reduced to 25 mph and the sight lines have been updated according on the site plans. Obstructions within the required sight triangles, including those noted above have been relocated accordingly.

We look forward to continuing to work with the Board as this project moves forward. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Turning Engineering.



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