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December 6, 2021

Sutton Planning Board
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**Subject: Proposed Roadway – Unified/Providence Road @ Boston Road
Definitive Subdivision Plan Review**

Dear Planning Board Members:

We received the following documents in our office on November 11, 2021:

- Correspondence from The Kraft Group LLC to Sutton Planning Board dated November 10, 2021, re: Definitive Subdivision Application, 105 Providence Road, Sutton, MA.
- Correspondence from Nutter McClennen & Fish LLP to Sutton Planning Board dated November 10, 2021, re: UGPG RE Sutton LLC – Definitive Subdivision Approval Application.
- Plans entitled Definitive Subdivision Plans for Unified² Proposed Roadway, Providence Road (Route 122A) @ Boston Road, Town of Sutton, Worcester County, Massachusetts dated November 10, 2021, prepared by Bohler for Unified² Global Packaging Group. (46 sheets)
- Plans entitled Existing Conditions Plan of Land in Sutton, Massachusetts and Millbury, Massachusetts dated November 8, 2021, prepared by WSP USA Inc. for UGPG RE Sutton LLC. (23 sheets)
- Plans entitled Definitive Subdivision of Land, Sutton, Massachusetts and Millbury, Massachusetts dated November 8, 2021, prepared by WSP USA Inc. for UGPG RE Sutton LLC. (23 sheets)
- Document entitled Drainage Report for Proposed Subdivision Road, Unified Parkway, Sutton, Massachusetts, Worcester County dated November 10, 2021, prepared by Bohler for Unified² Global Packaging Group.

Graves Engineering, Inc. (GEI) has been requested to review the documents for conformance with Subdivision Rules & Regulations, Sutton, Massachusetts with amendments through October 30, 2006, the Massachusetts Department of Environmental Protection (MassDEP) Stormwater Handbook and generally accepted engineering practices. As part of this review, GEI visited the proposed subdivision entrances on December 4, 2021.

Our comments follow:

Subdivision Rules & Regulations

1. GEI reviewed the waiver requests. GEI has no technical issues with the waiver requests except as noted in the three following comments.

2. Use of curb inlets – GEI recommends that the waiver request to eliminate catch basin curb inlets be denied. Curb inlets serve a useful purpose of providing additional inlet hydraulic capacity and will allow inlet flow when catch basin grates are partially or fully clogged with leaf litter or trash. Furthermore, granite catch basin curb inlets and transition stones are customarily required in Sutton subdivisions, including the South Sutton Commerce Park industrial subdivision. GEI would not have an issue with the waiver request to allow catch basin spacing of approximately 325 feet near Basin 4 provided that the catch basins are configured with granite curb inlets and transition stones and that catch basins CB-402 and CB-403 at the intersection of Boston Road be configured with double-inlet grates instead of single-inlet grates. (§4.B.2.b)
3. GEI recommends that granite curbing be provided at the radii of the roadway intersections at Boston Road and at Providence Road, and at the intersections of the proposed road and the future site driveways. Such a configuration was used at South Sutton Commerce Park and served to discourage truck drivers from “cutting corners” and allowing truck tires to otherwise encroach upon and damage the curbing and road shoulders. (§5.G.1)
4. GEI recommends that a tree be added at stations 41+60+/- right and 42+90+/- right, and along the right (south) side of the road between stations 49+50+/- and 55+50+/- once the final layout of the Boston Road intersection has been determined. (§5.J.4)
5. GEI has no issues relative to compliance with the Subdivision Rules & Regulations except for the following eight comments.
6. The plans do not currently have the subdivision name – GEI defers to the Planning Board whether a subdivision name other than “Proposed Road” is needed. The name and address of the owner of record, and the applicant need to be added to the plans. (§3.C.2.a)
7. The land plans prepared by WSP USA Inc. need to include the installation of granite monuments and iron pipes/rods. (§3.C.2.f & §5.M)
8. The lot areas in square feet need to be added to the land plans prepared by WSP USA Inc. (§3.C.2.g)
9. On Sheet C-901, construction detail “Typical Subdrain Detail” inadvertently indicates a minimum pipe depth of 2 feet. Per the regulations, the minimum depth of cover should be 2 feet. (§4.B.1.b)
10. Although listed in the table of contents for Appendix F of the Drainage Report, GEI did not receive pipe sizing calculations, which are required. The pipe sizing calculations will need to include the reconfiguring of the drop inlet at the Boston Road entrance. (§4.B.2.b)
11. On Sheet C-902, construction detail “HDPE Storm Drainage Trench” should specify bedding material per the regulations. (§4.B.2.b)
12. GEI recommends that on Sheet C-901, on the construction detail “Typical Pavement Section” the thickness of the binder course be revised from 1-1/2” to 2-1/2”. A binder thickness of 1-1/2” is thin for the heavy-duty truck traffic that will use road. Furthermore, for comparison the South Sutton Commerce Park project had a binder course thickness of 2-1/2”. (§5.F.3)

13. On Sheet C-901, on the construction detail “Bituminous Concrete Sidewalk Pavement Section” the thickness of the gravel borrow needs to be revised from six inches to eight inches. Also, GEI recommends that the bituminous wearing course thickness be increased to 1-1/2”. (§5.I.3.)

Hydrology Calculations & Stormwater Management Review

14. The hydrology computations and stormwater management documentation address construction of the subdivision road only, which is reasonable. As site development plans are prepared and submitted for approval, the hydrologic effects associated with lot development and stormwater management for the lots will have to be addressed during site plan review.
15. GEI reviewed the hydrology computations and found them to be in order except for the following comment.
16. Pre-development Subcatchment E4 consist of a northern area and southern area that drain to different wetlands before the stormwater reaches a stream that is common to both areas. Subcatchment E4 and its corresponding post-development subcatchment(s) need to be divided so that peak runoff rates to each wetland system can be evaluated independently.
17. Compliance with the MassDEP Stormwater Standards and Stormwater Handbook is reasonable except as noted in the following comment.
18. On Sheet C-403, access to the northern gate of Stormwater Management Area #2 is proposed down a 3H:1V (33%) slope. The slope of access to a stormwater basin can't exceed 20%.

General Engineering Comments

19. Available sight distances for drivers of both passenger vehicles and trucks need to be evaluated and shown on the plans. At the Providence Road entrance there is an existing stone wall along the project's frontage; portions of the wall are noted to be rebuilt on Sheet C-402. The plans need to be clear as to how the wall is to be rebuilt so that adequate sight lines and distances are provided. Likewise at the Boston Road entrance, where a dead tree and understory could inhibit sight lines for drivers looking right as they attempt to exit the subdivision.
20. Intersection layout plans with turning templates for the largest vehicle anticipated to access the site (assumed to be a WB-67) need to be provided. The intersection designs need to allow trucks turning left to enter the site and trucks turning right to exit the site to pass one another. As currently proposed, it appears that two trucks will not be able to pass, which would result in traffic delays on the existing streets.
21. Although sidewalks don't currently exist at the two proposed project entrances, cross walks and accessible curb cuts should be proposed across the proposed subdivision street – a pedestrian will have to travel approximately 90 feet to cross the subdivision street.
22. Sheet 17 of the Existing Conditions Plans shows a 68” diameter sycamore tree near the proposed Boston Road entrance. The construction plans do not show the tree. The tree should be shown on the construction plans and efforts made to retain the tree as part of the project.


23. GEI understands that off-site improvements needed to address the number of vehicle trips or the type of vehicle(s) using the existing street network resulting from development of the lots will be addressed during site plan review for each lot, once the use and extent of development on each lot is determined.
24. On Sheet C-903, construction detail “Typical Roadway Cross Section A-A” depicts the proposed retaining wall outside of the right-of-way. However, the Layout Plans (Sheet C-302) propose the retaining wall shall be within the right-of-way. GEI recommends that the Planning Board require any retaining walls to be outside the right-of-way.
25. A sewer main is proposed between Providence Road (station 0+00+/-) and station 13+50+/-, thereby providing Lots 1, 2 and 4 direct access to the sanitary sewer system. The design engineer should explain how Lots 3 and 5 will be served by sanitary sewer.
26. The existing drop inlet at the Boston Road entrance that is to be reconfigured will be located in the new intersection. Because of the proposed curbing, runoff would probably bypass the reconfigured drop inlet’s new grate. A new inlet should be proposed upgradient of the intersection to capture the stormwater before it enters the intersection.

General Comments

27. On Sheet C-403, the drain manhole at station 13+60+/-, 33’ left needs to be labeled.
28. On Sheet C-404, the headwall downstream of OCS-300 needs to be labeled.
29. Sheet C-806 was inadvertently named as C-80C.
30. On Sheet C-902, construction detail “Typical Basin Cross Section Detail” refers to the Layout Plans, the reference should be revised to the Grading and Drainage Plans.
31. On Sheet C-903, the roadway cross sections indicate the placement of 4” of loam for the proposed 4 ft. wide planting area. However, the Landscape and Lighting Plans (Sheets C-702 to C-706) indicate the placement of 6” of loam. The loam depth should be consistent.
32. Construction details need to be provided for the proposed headwalls, sewer manholes and fence gates.
33. GEI understands that the proposed water and sewer utilities will be reviewed by the applicable utility provider.

We trust this letter addresses your review requirements. Feel free to contact this office if you have any questions or comments.

Very truly yours,
Graves Engineering, Inc.



Jeffrey M. Walsh, P.E.
Principal

cc: Keith Curran; Bohler;

Matthew Piekarski; The Kraft Group, LLC