



Engineering Alliance, Inc.
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September 27, 2023

Mr. Peter Matchak
Town Planner/Director
Town of Ashland
101 Main Street
Ashland, MA 01721

Re: EAI Project #: 21-58508
9-49 Homer Avenue
Tax Map 14 Lots 352,353 & 354

Dear Peter:

Engineering Alliance, Inc. is in receipt of the peer review letter dated September 12, 2023 and prepared by GCG Associates. Included for your review please find the following:

- One (1) copy of site plans entitled "Proposed Site Plan 9-49 Homer Avenue (Tax map 14 Lots 352-354) Ashland, Massachusetts" dated June 17, 2002 and revised through September 27, 2023
- One (1) copy of the Drainage Calculations and Storm Water Management Report dated April 22, 2021 and revised through September 20, 2023.

Below are our responses to the comments (comment in italics and response in bold).

C-1 Existing Conditions Plan

1. Resolved
2. Resolved
3. Resolved
4. Resolved
5. Resolved
6. *An existing catch basin was observed through Google Streetview at the southwestern Homer Avenue/Alden Street intersection, (near Lot 354's northeasterly lot corner) Two drainage manholes were also observed on the southern edge of Homer Avenue/Alden Street intersection.*
Response: The catch basin and manholes have been added to the plans.
7. *The added SMH invert elevation has demonstrated the sewer line flows eastward; the applicant should provide additional data to show how the proposed sewer connection invert was determined. The downstream sewer main crossing at the Alden Street intersection does not have a SMH. Applicant should verify if there is any paved SMH at the intersection. Even though the existing sewer invert is not critical in this situation, GCG recommends performing a test pit to verify the existing sewer pipe invert prior to start of construction.*
Response: The sewer manhole located approximately 80-ft east of the Alden Street/Homer Street intersection was field located with a rim of 184.29 and an invert of 177.46. The invert was determined by interpolating between the two invert elevations. Note 3 on Sheet C-4 has been expanded to require test pits to determine the exact position and elevation of the water, sewer and gas mains at the proposed service connection points.
8. Resolved

C-2 Erosion Control Plan

1. Resolved
2. *Locate the missing catch basin at the Homer Avenue/Alden Street southwest intersection corner and install temporary silt sack during construction..*
Response: The missing catch basin has been shown with a proposed silt sack as required.
- 3 Resolved.

C-3 Site Layout Plan

1.
 - a.) *The proposed paver walkway in the emergency vehicle access path was stated as pervious paver in the report and should be designed accordingly. However, a large portion of the walkway and grass area are on top of the garage roof. The plan also called out paver walk and reinforced lawn to meet H2O loading. Design detail should be provided.*
 - b.) *The Fire Department has requested this emergency access or fire lane to be maintained at all times and not grass. The proposed reinforced lawn portion of the access way should require the fire department's approval. If approved, GCG recommends expanding the gravel base reinforcement toward to the building corner to match the emergency vehicle maneuvering path.*
 - c.) *The proposed walkway outside units 1 & 2 should have a minimum width of 4 feet, (ADA/AAB Section 22.2).*
 - d.) *The Alden Street sidewalk replacement should be equipped with a wheelchair ramp at the Homer Avenue intersection to match the existing crosswalk.*

Response: The site plan has been updated to include a one-way circulation through the sight providing a roadway that is H-20 rated from Homer Avenue to Alden Street.

2. *The proposed snow storage area should be accomplished with a revised landscape plan. The applicant should clarify the intent of the proposed seating area (located at the east side of 9-11 Homer Avenue, building to remain) shown on the Architectural ground floor plan. This seating area is separated by a row of planting and intended to serve 9-11 Homer Avenue with a proposed side door. The applicant should clarify how snow be carried to this storage area. Furthermore, if this seating area is intended to serve restaurant uses, which would require additional parking spaces at 1 space per 4 seats. (Section 5.1.2)*

Response: A landscaping plan has been submitted. This area will be a recreational seating area and not part of the restaurant seating program. The seating will be removed for the winter months, as a result, snow storage in this area will not be an issue.

3. *The existing building (9-11 Homer Avenue) is a part of this site plan special permit (SPSP) application and under the Planning Board's jurisdiction. This existing non-conforming structure would require Board approval.*

Response: Refer to memorandum prepared by Attorney Morris dated September 22, 2023.

4. *The existing building (9-11 Homer Avenue) is a part of this site plan special permit application and has no front yard setback. Which is an existing non-conforming condition and requires Board approval. However, the proposed new building should comply with the 8 feet front yard setback requirements.*

Response: Refer to memorandum prepared by Attorney Morris dated September 22, 2023.

5. Resolved

6. *The plan should show the available intersection safety sight distance from the proposed driveway location. GCG estimated approximately 90+/- feet available. A sight distance should be provided to meet the stopping distance for the 85-percentile vehicle travel speed measured on-site. The existing curb opening does not meet the safety sight distance standards, and the proposed new driveway will further reduce the safety sight distance by 28 feet. This development as presented will worsen the hazardous conditions at the proposed driveway intersection. Where additional traffic trips generated from this development will be concentrated at this curb opening. The proposed loop detector with illuminated "Vehicle Exiting Ahead" warning sign transfers the responsibility/liability to the Homer Avenue eastbound drivers and this warning sign is non-enforceable. GCG recommends relocating the driveway entrance further away from the Homer Avenue and Main*

Response: The site circulations has been changed to "one way in" from Homer Avenue with an exit onto Alden Street. The revised site circulation eliminates the sight distance on Homer Avenue as there is no longer an exit onto Homer Avenue allowed.

7. *Parking requirements should be based on the building's leasable floor area and/or per dwelling unit. The existing 3,980 s.f. retail building should have required parking spaces provided on-site; parking spaces should be calculated based on Section 8.5.13.*

Response: Refer to memorandum prepared by Attorney Morris dated September 22, 2023.

8. *GCG recommends showing the building columns to match the Architectural Ground Floor plan. Column locations may affect the parking spaces dimensions. The two parallel parking stalls were designated as pickup/drop-off areas, which should not count as parking spaces. The reduced single parking stall (9' x 18', dimension shortened to save an existing 17" Elm tree), requires Board approval. The total surface parking provided should be 20 spaces, including the reduced length space and handicap accessible spaces). The Parking Calculations table stated 41 below grade spaces, the Architectural plan showed 38 garage parking spaces only. Therefore, the total provided parking (surface and below grade) was counted 58 spaces only. The required parking spaces should be recalculated with the proposed dwelling units, existing to remain and proposed commercial floor area. The applicant should clarify the discrepancy between the latest Architectural floor plans set, which shown 30 proposed dwelling units, and the 29 units stated in the parking calculations table. The proposed seating area at the eastern side of 9-11 Homer Avenue shown on the Architectural plan appeared to be isolated for the 9-11 building uses including, addition parking spaces would be required if the seating area services the restaurant use.*

Response: The column locations are shown on the Architectural drawings. The parking count has been modified to match the revised site layout and the Architectural lower level plan illustrating 38 spaces.

9. *The hours of operation for commercial use should be determined based on the shared parking requirements. Commercial uses should be restricted in the approval conditions to ensure sufficient parking spaces provided for the mix-use shared parking schedules.*

Response: The hours of operation for commercial use will be based on the shared parking requirements.

10. *Section 282-5.2- Loading area waiver should be requested, off business hours should be specified.*

Response: A small loading area has been added at the entrance to the site (9'x20'), however a waiver has been requested from the 12'x65' requirement in 282.5.2.

11. *Section 5.3.12 should be stated as part of the approval conditions.*

Response: No response required.

12. *The proposed Alden Street limit of sidewalk replacement is ended in the middle of an existing garage concrete ramp. The end of the replacement sidewalk should be equipped with a wheelchair ramp to match the Alden Street existing pavement. The response letter stated that the proposed sidewalk along Homer Avenue will be a minimum of 5-feet and widen in most areas. GCG measured two sections of the Homer Avenue sidewalk to be 4 feet wide. GCG recommends calling out the sidewalk width to 5-foot minimum width, where the proposed sidewalk width extended onto the site should be accomplished with a sidewalk easement granted to the Town to release the applicant's liability over the public sidewalk.*
Response: The end of the sidewalk replacement has been equipped with a wheelchair ramp to the Alden Street existing pavement. The sidewalk along Homer Avenue will be 5-ft with the exception of a 27-ft stretch in front of 35 Homer Avenue which varies between 5-ft and 4.7 ft. Should the Town require a 5.0-ft sidewalk in that area then an easement can be granted to accommodate the required width.
13. *The applicant responded that "The building at 9-11 Homer Avenue will be equipped with trash totes that will be collected by a private contractor." The applicant should clarify the trash pickup locations for the 9-11 building and the new building and pickup schedule.*
Response: The owner of the property will contract with a trash company to provide pick-up for both locations. The logistics of the pickup will be coordinated with the trash company.
14. *The revised architectural plan counted 38 parking spaces only versus the 41 below grade spaces called out on the Parking Calculations table. GCG recommends widening the handicap parking spaces for handicap van accessible.*
Response: The parking count has been updated. The van accessible space is provided in the exterior parking lot.
15. *EV charging spaces demand and regulations are still evolving and is not a requirement.*
Response: No response required.

C-4 Grading, Drainage & Utility Plan

1. Resolved
2. Resolved
3. *The proposed spot grade will not resolve the ponding issues, there is an existing hump (elevation 185.10) approximately 20 feet east of the proposed spot grade 184.72. GCG recommends locating the existing catch basin at the southwest intersection corner and determine the existing rim grade and remove the hump between the catch basin rim and the existing high point 185.94 near the catch basin in front of the existing commercial building.*
Response: The existing catch basin has been shown on the plan. Additional spot elevations have been shown to promote positive drainage.
4. Resolved
5. *Show re-construct of wheelchair ramp at the Alden Street crosswalk.*
Response: A proposed wheelchair ramp has been added at the Homer Avenue / Alden Street intersection.
6. *Show Based on the soil test pit (PT-1) data, the drive under garage slab is 4.9' below the ESHGW. The building design should address any potential seepage issues. Pumping/discharging groundwater to sewer line is prohibited.*
Response: The applicant is aware of the ground water issue and will design the garage accordingly without pumping/discharging the groundwater.
7. *The mechanical room shown on the architectural plan was located at the northerly new building corner, which is approximately 250 from the nearest hydrant, Fire Department approval is required.*

Response: The fire department connection point will be located on the Alden Street end of the building within 60-ft of the existing hydrant. It does not need to be located at the mechanical room.

8. Resolved

9. *The plan should show conceptual underground electrical route and cable lines with an estimated transformer location and specify all utilities be underground.*

Response: Conceptual underground utilities and transformer location have been added to the plans.

10. *Show building sewer service invert.*

Response: The sewer invert at the building has been added to the plans.

11. *The proposed drainage appeared to be enlarged, revised drainage calculations should be provided for review and verify drainage system as shown*

Response: Revised stage storage calculations have been submitted for review.

12. Resolved

13. Resolved

14. Resolved

15. Resolved

16. *Re-direct emergency access surface runoff away from 15 Alden Street building. The existing drainage flow path appeared to be ponding in the gravel area and overflowing toward the existing catch basin in front of the garage.*

Response: The exit roadway is equipped with a curb to prevent runoff from being directed to 15 Alden Street.

17. *Subsurface chambers infiltration system not meeting the 2 feet separation to ESHGW requirements, see Stormwater Report comments below.*

Response: The stone has been eliminated from below the Cultec chambers so as to meet the required 2-ft of separation. The detail and TR-20 calculations have been updated accordingly.

D-1 Construction Details

1. Resolved

2. *Cultec Recharge 330XL HD Chamber "Typical Cross Section" shown 24" stone below chamber, which should be 6". This detail called for a minimum of 10" gravel between the pavement and the 6" crushed stone layer on top of chambers. Based on the grading plan, the chambers near the catch basin inlet will have less than 6" gravel between the pavement and stone layer. (Pavement finish grade elevation at 185.57, top of stone layer elevation at 184.80, minus 0.29 feet pavement thickness, the gravel layer thickness becomes 0.478' (5.74"). Furthermore, the bottom of the infiltration system stone is proposed at 181.26, the ESHGW at elevation 179.5 (TP-1), the available separation is 1.76 feet, which does not meet the minimum of 2 feet separation requirements.*

Response: The stone has been removed from the bottom of chamber so as to comply with the 2-ft separation requirement. The stone layer above is part of the 16-inch minimum separation between the finished pavement section and the top of chamber.

D-2 – Construction Details

1. Resolved

2. *The fire department connection location should be reviewed by the Fire Department.*

Response: No response required.

3. *Specify drainage manhole frame and grate similar to the SMH detail. Update Lebaron Foundry to EJ model number.*

Response: The drain manhole detail has been updated accordingly.

4. *Provide pervious paver (H2O rated) and reinforced lawn (H2O rated) details. The access path must be designed to support fire engines and associated emergency vehicles loading. Design shall be certified by a Massachusetts Registered Professional Structural Engineer.*

Response: The pervious paver and reinforced lawn has been removed.

5. *Green roof design over the subsurface garage and first floor commercial area should comply with building code requirements and should be designed with an overflow bypass during cold climate conditions.*

Response: The roof design over the subsurface garage will be designed accordingly a part of the building permit process.

6. *Drainage Outlet Control Structure detail should be provided, a standard drainage structure with a specified baffle wall to create a control should be sufficient.*

Response: An outlet control structure detail has been added to the details.

Autoturn Figure Plan

1. *Proposed granite curb corners at the driveway entrance with 2 feet radius are too tight and forced the right turn entrance vehicle and right turn exit vehicle to encroach the oncoming traffic lane. GCG recommends widening the intersection curve radius to keep vehicles within its traffic lane. Provide standard passenger car (AASHTO 7.0' wide x 19.0 length) turning maneuvering path analysis to size the turning radius.*

Response: An updated autoturn analysis has been submitted for review.

Architectural Plan Set

1. *The North arrow was shown on plan sheet 4 and 5 only. Plan scale appeared to be 1"=20', scale bar's 30 feet label should be 32*

Response: The plans have been updated accordingly.

Lower-Level Parking Plan

- a.) *The proposed 3-story building is smaller than the below grade garage. The southern building wall is on top of the below grade garage driveway. The plan should show all building support columns in the lower garage layout.*

Response: The columns have been added to the plans.

- b.) *The proposed subsurface parking spaces were 9' x 18', which is 2-foot shorter than a standard parking stall, waiver should be required. The proposed 9' x 18' stall with 24' wide aisle is acceptable. However, the columns may further reduce the stall and aisle dimensions.*

Response: A waiver will be requested if required.

- c.) *The proposed finish grade between the garage slab and first floor finish is 12 feet. Maximum ramp slope should be calculated. The Plan should show the ramp slope details with transition slopes at the top and bottom of the ramp. The American Institute of Architects (AIA) recommends 16% for the straight ramp less than 65 feet in length with 8% transition slope for 10 feet at the top and bottom of the ramp (Ramsey/Sleeper Architectural Graphic Standards, Eighth Edition, AIA.)*

Response: Vehicular ramp section has been added to the lower level parking plan

- d.) *GCG recommends widening the handicap accessible parking spaces to fit van accessible parking.*

Response: The van accessible space is shown on the surface parking lot.

- e.) *Provide Autoturn/Vehicle Tracking analysis for the subsurface garage right turn exit to ramp path and from garage door to Homer Avenue right turn path.*

Response:

- f.) *The overhang with columns support building layout created multiple compound curves with steep slope ramp at the garage entrance with poor safety sight distance at the Homer Avenue and driveway intersection. GCG recommends requiring a site Traffic Impact Analysis (TIA) report prepared by a Massachusetts registered Professional Traffic Operation Engineer (PTOE) consultant.*

Response: The site circulation has been changed to one way to alleviate all traffic issues.

First Floor Plan.

1. *The revised plan shows 2 commercial units and two residential units.*

Response: No response required.

2. *Revised plan not submitted.*

Response: No response required.

Second Floor Plan.

1. *The revised second floor plan shows 15 dwelling units, with units #1 and #2 appearing to be 2-story, which should be called out on the plan.*

Response: The notation has been placed on the floor plan to clarify the units

Third Floor Plan.

1. *The revised third floor plan also shows 15 dwelling units, with units #1 and #2 appearing to be 2-story, which should be called out on the plan. There should be 13 units on the third floor. All three floors.*

Response: The third floor plan has been revised to clarify the unit count

Landscape Plan

A Landscape Plan has been submitted for review

9.4.4.8 - Site Lighting Layout, Photometric & Schedules

1. *Photometric data (plan) and lighting plan and schedules should be provided.*
2. *Provide hours of operation for the outdoor lighting.*

Response: Site lighting plan to be vender designed. This is in progress

9.4.6.9 & 9.4.8 - Site Traffic – Vehicle Trip Analysis

Response: The site circulation was modified to address traffic concerns.

Stormwater Report

1. *Chapter 247-6, this project requires a Stormwater Management Permit under 247-6 A, B, and C. Hence, should comply with Chapter 343.*

Response: No Response Required.

2. Resolved

3. *Show existing 9-11 flat roof down spout location on plan and show proposed grading to assure discharge to the intended catch basin.*

Response: The downspout drains onto the grassed area between the parking lot and the building located at 9-11 Homer Avenue. The roof will drain into the parking lot and into the catch basin. The TR-20 model has been modified accordingly.

4. *Test pit TP-1 indicated ESHGW at elevation 179.5, the proposed infiltration system does not meet the minimum two feet separation requirements, the minimum bottom of stone elevation should be 181.50 and 181.26 was proposed. If the bottom of system to be raised to 181.50, the minimum cover over the chambers would not meet the manufacturer's requirements. Additional test pits should be performed within the proposed infiltration system.*

Response: The stone has been removed from the bottom of chamber and the grading has been updated so as to comply with the required cover and groundwater separation.

5. *Statement only, Ashland's stormwater management regulations were based on MassDEP Stormwater Regulations, which was based on (Technical Paper) TP-40 rain fall data. The Ashland Conservation Commission has recently requested to utilize NOAA Atlas 14 rain fall data and this project's study meets the Conservation Commission requirements. No response required.*

Response: No response required.

6. *The applicant should verify the existing/pre-development impervious areas used in the HydroCAD calculations. The 9-11 Homer Avenue's 3,980 S.F. (square feet) roof area appeared to be included in the 10,709 S.F. roofs area already. GCG measured all six existing roof areas (excluding the covered walkway in front of the commercial building) during the first round of review and concurred with the 10,699 S.F. used in the original HydroCAD report. GCG also measured approximately 11,800+/- S.F. of existing pavement area (including the covered concrete walkway), which is much smaller than the 15,011 S.F. used in the report. The discrepancy of the existing impervious areas was rather significant in a 39,658 S.F. watershed and should be revisited. The Existing Conditions peak flow rate and volume should be recalculated accordingly.*

Response: The pre and post development watershed areas have been verified as requested.

7. *The lawn and reinforced lawn and walkway should be modeled as impervious surface, which provides no groundwater recharge and TSS removal credit unless it was designed to retain the required water quality volume, (MSH Vol. 2, Ch. 2, Pg. 112). Revise grading to direct emergency access path runoff away from 15 Alden Street building.*

Response: The reinforced lawn and walkway have been removed. The landscaped area above the underground garage was modeled as grass as it will have absorption value and will not produce the same rate of runoff as an impervious surface.

8. *The proposed CDS unit by Contech Engineered Solutions, Inc. was approved by the New Jersey Department of Environmental Protection (NJDEP), dated January 9, 2015, for 50% TSS removal credit, the rating was also acceptable by the MassDEP. The current MSH (January 2008) does not provide any nutrients removal credit for Proprietary Separators like the proposed CDS unit. The MSH stated that insufficient data for removal efficiencies. Other acceptable evaluations would be the EPA Region 1's BMP Accounting and Tracking Tool or other BMP performance evaluation tool provided by EPA Region 1. Total impervious area should be based on the subsurface garage footprint, (green roof over the subsurface garage and commercial space is considered impervious area), paved parking area outside the garage footprint, and the proposed walkway and the existing 9-11 Homer Avenue roof should also be included in the project impervious area. GCG scaled the total impervious area approximately 33,400+/-S.F. The applicant should update the groundwater recharge and water quantity volume calculations accordingly. The proposed infiltration volume below the out weir appeared to meet the requirements. However, the updated calculates should be provided by the applicant.*

Response: The size of the system exceeds the amount of recharge volume required. Calculations will be provided to demonstrate this.

9. *The existing 12" drainpipe on Homer Avenue is most likely under sized. Typical public roadway drainage systems were designed for 10- to 25-year events only. If the project outflow is controlled to below the pre-development conditions, no adverse impacts should be expected.*

Response: The post development rates of runoff and volume of runoff is less than the pre-development condition.

10. *Chapter 343, Section 7.6.16.c). 7) & 8) require Culvert Capacities and Flow be included in the hydraulic design calculations. GCG is aware of the small inflow pavement area and does not anticipate any catch basin inlet capacity and velocity issues. However, the two proposed 8" roof drain should be sized with capacity to handle the flow.*

Response: The roof drains will be sized during the building permit phase of the project when the mechanical engineer is on-board. The size will be updated accordingly, however, based on prior experience, the 8-inch roof leaders should be sufficient for a building this size.

11. *Resolved.*

12. *Resolved.*

13. *Resolved.*

14. *Resolved.*

15. *The latest architectural plan did not show roof coverage over the three walkway/lawn areas along Homer Avenue, these areas combined total of 560+/- square feet are over the surface garage and considered impervious area and drains directly to Homer Avenue. The applicant should clarify the discrepancy of the post-development PWS-1A watershed boundary and the architectural roof layout.*

Response: The TR-20 calculations have been revised to include all of the impervious surfaces at the entrance points.

Very Truly Yours,

ENGINEERING ALLIANCE, INC.



Richard A. Salvo, P.E.
Principal

Copy to: Charlie Zammuto – Applicant
Attorney Terry Morris
EAI File #: 21-58508