



Engineering Alliance, Inc.

Civil Engineering & Land Planning Consultants

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August 9, 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 June 5, 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 August 9, 2023
- One (1) copy of the Drainage Calculations and Storm Water Management Report dated April 22, 2021 and revised through August 9, 2023.

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

C-1 Existing Conditions Plan

1. *The Lot Number shown on the easterly lot should be #354.*
Response: Lot 354 has been property labeled.
2. *Existing utility pole(s) and overhead wire/cable utilities should be shown on the plan.*
Response: The utility poles and overhead wires have been added to the plan.
3. *Existing drainage, gas, sewer, and water pipe sizes should be specified on the plan.*
Response: Existing pipe sizes where available have been added to the plan.
4. *Existing Hydrant (one at the Main Street and Homer Avenue intersection and another one at the Homer Avenue and Alden Street intersection) should be shown on the plan.*
Response: The two fire hydrants have been added to the plans.
5. *Plan shows an existing catch basin in front of the existing garage on Lot 353. The catch basin invert is 1.59' lower than the drainage manhole invert on Homer Avenue. It is unlikely that the Homer Avenue drainage system drains to this catch basin. The applicant should investigate the onsite drainage system and show the findings on the plan.*
Response: The drainage inverts were investigated and corrected as requested.
6. There are existing catch basins and drainage manholes at the Alden Street intersection and on Alden Street south of the project site which should be shown on the plan. Additional contour or grading on Alden Street is necessary to determine erosion control requirements during construction within Alden Street right-of-way.
Response: The existing catch basins have been graphically shown on the plans so that they can be called out and protected in the erosion control plan. They are located approximately 120-ft south and downstream of the subject property.
7. The upstream sewer manhole and invert should be shown on plan.
Response: The upstream sewer manhole invert has been labeled.
8. Show existing water, sewer, and gas services for each building.
Response: Existing services have been added to the plans

C-2 Erosion Control Plan

1. *Show existing utility poles. The proposed construction entrance appears to have a pole in the middle of the entrance.*

Response: The utility poles have been added to the plans. The stabilized construction entrance has been slightly re-located so as to not conflict with the existing utility pole.

2. *Add silt-sack to existing catch basins on Homer Street and Alden Street (show all catch basins near the site as required on C-1 comment #5. Proposed utilities trench and sidewalk replacement are in the public street right-of-way. Catch basins should be protected.*

Response: Silt sack locations and a construction detail has been added to the Erosion Control Plan

3. *Existing water, sewer, and gas services for each building should be shown on the plan. Show existing utilities services to remain and protected for 9-11 Homer Avenue to retain, and utilities services to be removed, abandoned, or capped.*

Existing services have been added to the plans. The utility services for 9-11 Homer Avenue are not within the work zone and therefore, do not require protection.

C-3 Site Layout Plan

1. *Site Layout Plan should be updated with the May 4, 2023, First Floor Plan as listed in Plan References #5 above. The emergency access path surface material should be identified on the plan. Surface finish and maintenance should meet the Fire Department requirements.*

Response: The site layout plan has been updated to reflect the most recent architectural drawing.

2. *Plan should identify snow storage area on site, to define the excessive snow, which would require removal off site for disposal by the property owner as specified on the O&M plan.*

Response: Snow storage areas have been identified on the Site Layout Plan. The site will have over 3,000 s.f. of snow storage available

3. *Land Usage Table – Chapter 282 Section 8.5.6 Dimensional Standards –minimum front yard setback in ADD-C should be 8 feet. The existing commercial building (9-11) proposed to retain has no front yard setback, this is an existing non-conforming condition, which may require a variance. Minimum rear yard setback – 12 feet required. The existing conforming 0 feet common wall side yard for building 9-11 will become a non-conforming 0 feet rear yard as the three lots merged to a single lot with double frontage on Homer Avenue and Alden Street, all side lot lines become rear lot lines. Which also requires variance approval.*

The existing building located at 9-11 Homer Avenue will not be altered. It is a pre-existing non-conforming structure. At this time, the building department has not indicated if a Special Permit will be required.

4. *Land Usage Table – Chapter 282 Section 8.5.6 Dimensional Standards. Proposed new commercial space #1's northeasterly corner and commercial space #2's northwesterly corner, are within the 8 feet front yard setback (6.5+/- feet as shown) and should be addressed. None of the calculations accounted for the 9-11 Homer Avenue to retain floor areas. Maximum FAR and parking requirements should be revised.*

Response: The front yard setback of 6.5' is noted in the land usage table. The FAR calculation has been updated to reflect the existing building at 9-11 Homer Avenue.

5. *282-5.4.2.3 – Buffer between Residential and Nonresidential uses. A minimum of 6 feet wide landscape area is required. 5.5 feet proposed along 220 to 228 Main Street and 3 feet proposed at the 236 Main Street northeasterly lot corner.*

Response: A minimum 6-ft landscape buffer is proposed between Residential and Non Residential. This area has been dimensioned accordingly.

6. *282-5.6.- Corner Clearance – The existing parking layout on Homer Avenue should be shown on the plan, the existing curb opening has insufficient safety sight distance from the Homer Avenue east bound traffic. A 25 MPH speed limit sign is mounted on the utility pole*

in front of building 9-11. (Appears to lower the speed limit in front of the blind driveway/curb opening). The proposed new curb opening is 30+/- feet closer to the intersection section and exacerbates the situations. Provide driveway intersection sight distance analysis.

Response: The parking on Homer Avenue has been added to the plan. The new curb cut is located 28-ft closer to the Main Street intersection than the existing curb cut. The applicant is willing to install a vehicle entering sign equipped with a loop detector in the driveway and has been shown on the plan.

7. *The existing commercial building (9-11 Homer Avenue) should have parking spaces provided on-site. Parking spaces calculations should be based on the proposed new (8,550 s.f. commercial floor areas per May 5, 2023 Memorandum) and the existing remaining commercial floor (3,980+/- s.f., based on building footprint, actual leasable floor space to be verified by the applicant) areas combined, and the 29 proposed new dwelling units, totaled approximately 127.6 spaces required, and reduced by 56.25% (282-8.5.13), a minimum of 72 parking spaces should be required. Insufficient parking will require Section 5.1.2 waiver.*

Response: The existing building located at 9-11 Homer Avenue currently does not utilize any off-street parking. As a result, the existing building was not included in the parking calculations since it will continue to operate as it does today with on-street parking only.

8. *Surface parking layout – GCG concurs with the Fire Department comments dated May 2, 2023. The parking space #17 shown on the May 4, 2023, First Floor Plan is within the Fire Truck (39.5 feet box truck template used on the Vehicle Turning Figure Plan) exit path. GCG recommends using the (BUS-40, 8.5' wide by 40.5' length) vehicle path to analysis the turning path for emergency vehicles access. The BUS-40 dimensions are most comparable to the Fire Engine. The Vehicle Turning Path analysis should include the turning path through Homer Avenue and Alden Street with all existing and proposed utility poles shown. Vehicle turning path should show the front wheels, rear wheels, and overhang tracks. Furthermore, the Fire Department had requested the parking spots #1 & #2 be designated as emergency vehicle parking only. Homer Avenue turning path should be analyzed to assure the emergency parking spaces (spots 1 & 2) cleared for the vehicle turning path. The Alden Street exit should also be analyzed to allow emergency vehicles to turn within the Alden Street roadway. Parking spot #10 does not meet the 9'W x 20'L standard parking stall dimensions. (Total surface parking provided 19 spaces including spot #10).*

Response: A new emergency vehicle turning movement figure has been provided which utilizes a BUS-40 and includes movements off of Homer Avenue and onto Alden Street. The parking field and building footprint have been modified to accommodate the proposed turning movements.

9. *Section 5.1.7.1 – Provide hours of operation for the commercial uses to assess parking demand and adequate shared parking spaces. 8.5.13. - Applicant should demonstrate feasibility of shared parking spaces for the two uses and provide a shared parking agreement/plan.*

Response: The hours of operation for the commercial uses have not been determined. A shared parking agreement/Plan will be prepared upon approval of this project when the applicant would likely be soliciting tenants.

10. *282-5.2 Loading area required. Section 5.2.6 – Loading Bay(s), not be less than twelve feet in width, sixty-five feet in length, and fourteen feet in height for commercial uses should be provided.*

Response: The commercial units will be small and not likely to require significant loading. As a result, loading and unloading will occur from the drive isle outside of business hours.

11. *Section 5.3.12 – No sign proposed, signs should comply with 5.3.12.*

Response: There is no signage proposed at this time. The applicant understands that any signage will need to comply with 5.3.12 of the Ashland Zoning Requirements.

12. *Proposed sidewalks replacement within the Homer Avenue and Alden Street should be laid out with the existing and proposed relocated utility poles shown. Minimum ADA/AAB sidewalk passage width - Sidewalks should have a minimum width of 4-feet (excluding curb) with a minimum of (5' x 5') passing spaces every 200 feet or provide a minimum 5-foot wide sidewalk (excluding curb) without passing spaces. The minimum passage clearance at the utility pole should not be less than 36". Show wheelchair ramps at all driveway crossings and assessable paths.*

Response: The proposed sidewalk along Homer Avenue will be a minimum of 5-ft and wider in most areas. The sidewalk has been designed in accordance with ADA requirements and will provide a maximum cross slope of 2% and a minimum clear distance of at-least 36" at obstructions such as signs and utility poles. The driveway detail shown on sheet D-2 requires the driveway to ramp up to the sidewalk. As a result, there will be no ramps on either side of the driveway.

13. *The proposed residential trash and recycling room is approximately 240 s.f. in the lower level. The commercial trash room is approximately 80 s.f. on the ground floor. The existing dumpster serving 9-11 Homer Avenue's commercial uses had been eliminated, new trash arrangement for the commercial building (9-11) to remain should be provided. Applicant should provide trash/recycle volume sizing for the proposed uses (residential and commercial) and clarify how the roll-off containers (per May 5, 2023, Memorandum) being transported from the lower level for pickup.*

Response: The building at 9-11 Homer Avenue will be equipped with trash totes that will be collected by a private contractor.

14. *The Lower-Level Parking Layout full size plan should be provided as part of the Civil plan set, the parking plan should be reviewed and certified by the Civil Engineer. Based on the Architectural Lower-Level Parking Plan dated April 13, 2023, 41 parking spaces were proposed in the lower level. However, none of the lower-level spaces meet the standard 9' x 20' dimension. The proposed standard spaces are 8.5+/- feet wide by 16.5+/- feet length with 22+/-feet aisle. The proposed compact spaces are 7.5+/- feet wide by 15+/- feet length with 21+/-feet aisle. As presented, vehicles maneuverability at the bottom of the ramp is questionable. A standard vehicle would not be able to make the turns (in and out) per vehicle tracking template. GCG recommends showing building columns on this plan and demonstrating vehicle maneuvering with vehicle turning path. The parking layout is substantially undersized per industrial standards. The no parking area between the two proposed handicap accessible spaces should be eight feet in width suitable for van access. (As shown the total parking space does not meet the minimum parking spaces requirements.) The commercial portion of the development requires 39 parking spaces (reduced with the 56.25% allowance in the ADD). Therefore, the lower-level parking should be shared with the commercial and residential users with no restrictions.*

Response: The lower level parking scheme has been re-designed to improve maneuverability and eliminate compact spaces.

15. *GCG recommends adding EV charging spaces.*

Response: The applicant intends to provide EV "ready" parking spaces. The actual EV spaces will be installed once the demand is understood.

C-4 Grading, Drainage & Utility Plan

1. *Plan should be updated with the emergency vehicle access path as shown on the May 4, 2023 First Floor Plan*

Response: The plan has been updated with the emergency vehicle access path as requested.

2. *Show 9-11 Homer Avenue commercial building's (to be retained) sewer, water, and gas services. Show proposed utilities upgrade or existing services to be protected.*

Response: The existing utilities for 9-11 Homer Avenue to remain have been added to the plans.

3. *The proposed closing of existing curb cut in front of lots 353 and 354 would create a depression on Homer Avenue and potential icy hazardous conditions during the winter months, the existing spot grades shown a 5+/- inches dip at the existing northeast curb opening gutter and should be addressed.*

Response: A spot elevation has been added to the low point at the curb cut to retain the existing 1% +/- gutter slope. The section of roadway will be re-constructed to as to maintain the cross slope and profile slope.

4. *Spot grades should be provided at all accessible parking spaces and access paths to assure the maximum cross slope not to exceed 2% in any direction.*

Response: Spot elevations have been added to the accessible parking spaces to ensure a maximum slope of 2% in any direction

5. *Specify spot grades at all proposed crosswalks and wheelchair ramps.*

Response: Spot elevations have been added to the accessible parking spaces to ensure a maximum slope of 2% in any direction

6. *Show downstream sewer manhole invert to establish the sewer connection invert grade. The proposed lower-level garage slab grade at 174.60 is lower than the proposed sewer connection invert. A 2" force main is shown on the plan and referenced to a lower-level parking and plumbing plan, (not included in the package). Since the garage entrance is covered by the building roof. There should not be any surface runoff drains down to the underground garage with proper grading. The runoff water should be limited to vehicles dripping and winter snow carried into the garage. The Applicant should consult with the building department to conform with the necessary of a pump station. The proposed 2" sewer force main should comply with Chapter 326. A lower-level parking layout should demonstrate the accessibility of the pump station maintenance vehicles.*

Response: The applicant will meet with the Town of Ashland to discuss the sewer ejector pump and gas trap configuration. The design of these items will appear on the mechanical drawings that will be prepared for building Permit.

7. *A hydrant (show existing and proposed new) should be located or installed near the proposed mechanical room (normally within 100 feet, applicant should verify the minimum distance with the Ashland Fire Department).*

Response: The fire department connection point will be located on the Alden Street end of the building within 60-ft of the existing hydrant.

8. *Show natural gas services connection, where applicable.*

Response: The project does not include a proposed gas service at this time.

9. *Show existing utility poles, show proposed underground electric, telephone, cable, and any other underground utilities connections.*

Response: The utility poles have been added to the plans. The underground electric will be added upon approval from the power company.

10. *Show sewer service pipe size and slope between proposed SMH to sewer main connection.*

Response: The sewer pipe size and slope have been added to the plan as requested.

11. *Drainage overflow connection to the Homer Avenue drainpipe, (works within the public street right-of-way should comply with Chapter 344 – Subdivision of Land standards), should be equipped with a new drainage manhole. 344-23. B. (4) – Drainpipe within the street right-of-way should be RCP (reinforced concrete pipe), Minimum cover for drains shall be twenty-four (24) inches. Piping with less than thirty-six (36) inches of cover shall be laid with reinforced concrete Class V pipe.*

Response: A proposed manhole has been added and the pipe has been changed to 12-inch RCP pipe in accordance with the Town of Ashland Standards.

12. *The proposed infiltration chambers system is a Shallow UIC Class V Injection Well and required to register to MassDEP prior to start of construction and comply with the MassDEP's standards design guidelines.*

Response: The applicant is aware of this requirement and will register the facility proper to the start of construction.

13. *Infiltration Chambers system should be setback 10-feet minimum from foundation wall.*

Response: The infiltration chambers have been relocated to be 10-ft from the foundation wall.

14. *Revise General Utility Notes, multiple notes referenced to the City of Melrose, all sewer system should comply with Ashland Chapter 326 and all water system should comply with Ashland Chapter 334.*

Response: The General Utility Notes have been updated accordingly.

15. *Plan called for removing the existing drain line on Homer Avenue. GCG recommends abandoning the drain in place with bricks and mortar cap if existing pipe is in good condition, or filled the pipe with floatable fill and capped if pipe is in poor condition, to avoid pavement patching and disturbing the road gravel base.*

Response: The note has been adjusted to require the contractor to fill the pipe with flowable fill and cap at each end as suggested.

D-1 Construction Details

1. *Section 326-14 – Typical Trench Section should specify 24” selected borrow above the sewer pipe. Sewer pipe material should conform with Chapter 326-15.*

Response: The trench detail has been updated accordingly.

D-2 – Construction Details

1. *Dewatering detail should be provided and comply with MassDEP – Activities and Use Limitation (AUL) requirements.*

Response: Dewatering details have been added to the Erosion Control Plan.

2. *Add Hydrant detail and should comply with Section 334-56 – Hydrant and valve should “open left”.*

The project does not include the installation of a new fire hydrant, as a result the detail has not been added to the plans.

3. *Add Precast Concrete Drain Manhole structure (for the overflow drainpipe connection within the street right-of-way), bottom should have a cement concrete or brick table/invert like the one shown on MassDOT Construction Standard details drawing number E202.4.0. Concrete structure should with standard H-20 rated top cone or flat slab.*

Response: A precast Drain Manhole detail has been added to the plans.

Architectural Plan Set

1. *Show North arrow on all plan views.*

Response: North arrow has been added to all plan views

Lower-Level Parking Plan

1. *Lower-Level Parking full size plan should be provided. Vehicles maneuverability is questionable. Parking stall dimensions do not meet industrial standards. (See Civil Plan C-3 comments above.*

Response: Lower-Level parking plan has been revised to show vehicle turning radii. All parking spaces are shown at 9’ x 18’ with 24’ backup.

First Floor Plan.

1. *See Civil Plan C-3 comments above.*

Response: No response required.

2. *GCG recommends adding EV charging spaces.*

Response: EV ready provisions added to each parking space

Landscape Plan

1. *A formal landscape plan (like the Ground Floor Planting Plan and Green Roof Landscape Plan presented in the Planning Board meeting) should be provided, plan should be updated to match the latest site layout and demonstrate compliance with Sections 5.4, 5.4.1.2; 5.4.2.3; 5.4.3.1; and 5.4.4.3.*

Response: Landscape design is in discussion with Design Review Committee.

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

1. *The proposed new driveway curb opening with the existing 9-11 commercial building to remain created a hazardous with limited safety sight distance intersection. GCG recommends a Traffic Impact Analysis (TIA) be performed to analysis the proposed driveway location, intersection safety sight distance, shared parking demand, and traffic trap generations for the uses.*

Response: Owner in discussion with Planning Board with regards to TIA

2. *TIAS should include vehicle accessibility analysis for the internal lower level (under buildings) parking layout.*

Response: Owner in discussion with Planning Board with regards to TIA

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: The project has been designed in accordance with Chapter 343.

2. *The applicant should investigate the function of existing drainage catch basin structure on site, (in front of the 3 bays garage building on Lot 353).*

Response: The catch basin appears to be a standard catch basin that happens to be connected to the municipal drainage system. This catch basin will be removed as part of this project.

3. *Building 9-11 (to retain) has a flat roof system, existing roof runoff discharge location(s) should be included in the study.*

Response: The flat roof has been included in the design. A portion of the roof drains onto the existing parking lot. The entire roof has been assumed to drain to the existing parking lot and into the street. In the post development condition, the discharge point will be onto a proposed landscape area which ultimately drains to the design point.

4. *On-site soil test pits should be performed to determine soil drainage classes and estimated seasonal high ground water (ESHGW) and restricted layer elevations. The proposed infiltration system should meet the minimum separations between the bottom of the system to the ESHGW and restricted layer.*

Response: A test pit was excavated in the middle of the property in the vicinity of the garage behind 35 Homer Avenue. Redoximorphic features were observed at a depth of 66-inches indicating the Estimated Seasonal High Ground Water Table. Water and weeping were observed at a depth of 93 & 94 inches. The parent soil material was comprised of a Loamy Sand. The results of the test pit are shown on sheet C-1 and sheet C-4.

5. *The pre-development and post-development HydroCAD studies appeared to be based on the NOAA Atlas 14 precipitation data as preferred by the Ashland Conservation Commission.*

Response: The rainfall intensities were obtained from the NOAA Atlas 14. The results have been included.

6. *The pre-development watershed EWS-1 should include the large gravel area between Lot 353 and 354, where appeared to be collecting surface runoff and possible providing limited exfiltration, per July 2022 Google Street View and the existing edge of pavement line shown on the existing conditions plan. There appeared to be some additional lawn areas (good condition with greater than 75% grass coverage) around building #35 and building 47-49 which should be accounted for the pre-development runoff peak rate and volume for all four study storm events.*

The gravel surface also affects the groundwater recharge volume and re-development status of this site. Any additional impervious areas should be treated as new developments. The existing gravel surface may have a high CN value similar to pavement surface. However, compliance with the TSS removal and nutrient removal treatments and recharge volume are required.

Response: The watershed area labeled EWS-1 has been updated to include the large hardpan gravel area as well as the well-maintained grass area around #35 and #47-#49 Homer Avenue. The report and TR-20 calculations have been updated accordingly.

7. *The post-development PWS-1B should be updated with the emergency vehicle access path and any associated new impervious areas. Which affects the overall impervious areas, ground water recharge volume and 65% Rule and treatment requirements under 343-8.1.6.*

Response: PWS-1B has been updated to reflect the final surface treatment.

8. *Update total impervious area and provide treatments to meet 343-8. Provide total TSS and phosphorus (TP) calculations. The proposed CDS unit qualified for 50% TSS removal credit, but the TP removal would most likely require retaining 1-inch times the total site post-development impervious area volume to meet Section 343-8 requirements.*

Response: The CDS removal calculations have been provided as well as an overall TSS removal Calculation. Additionally, the CDS Unit hydrodynamic separators is sufficient to meet the 60% average total phosphorus removal requirement. A 1999 study performed by the University of Connecticut entitled "Vortech Treatment of Parking Lot Runoff" indicates that a hydrodynamic separator (such as a Contech DS Unit) has an average total phosphorus removal rate of 67%. The report is included in the Appendix D of the Drainage report. The parking lot contains a surface area of 10,567 s.f. which would produce a volume of 880 c.f. of water at 1" of runoff. The sub-surface infiltration facility provides 7,055 c.f. of storage which is much greater than 880 c.f. The total site impervious area is 31,130 s.f. which would produce a volume of 2,594 c.f. of water at 1" of runoff. The sub surface system capacity of 7,055 c.f. is also greater than 2,594 c.f. in accordance with section 343-8.

9. *Existing Homer Avenue drainpipe size should be identified and check for available capacity to handle the overflow connection.*

Response: The sub-surface system has been increased in size such that the system holds the 25 year storm and only contributes 0.17 CFS to the overflow in the 100-year storm event.

10. *Inlet grate and drainpipe capacity and velocity calculations should be provided.*

Response: The Catch Basin is located in a sump condition and the contributing watershed area is less than 10,000 s.f., as a result an inlet grate capacity and drain pipe capacity calculations are not required.

11. *Water Quality Unit sizing calculations should be provided.*

Response: Calculations for the water quality unit have been provided as requested.

12. *Operation and Maintenance plan, GCG recommends catch basin grates and sump be inspected at least 4 times per year and cleaned four times per year or whenever the sediment deposit is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin.*

Response: The O&M Plan has been revised as requested.

13. *Additional Operation and Maintenance for the roof drain inlet should be specified, roof drain gutter and leader should be inspected and cleaned at a minimum twice per year.*

Response: The O&M Plan has been revised as requested.

14. *Operation and Maintenance plan should include a signature block, annual operation budget and sample O&M log.*

15. **Response: The O&M Plan has been revised as requested.**
An illicit discharge statement for the site should be provided.
Response: An illicit discharge statement has been provided.

Very Truly Yours,

ENGINEERING ALLIANCE, INC.



Richard A. Salvo, P.E.
Principal

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