

September 23, 2021

Mr. Anthony Padula, Chairman
355 East Central Street
Franklin, MA 02038

**Re: The Engine Yard
40 Alpine Row
Site Plan Peer Review**

Dear Mr. Padula:

BETA Group, Inc. has reviewed revised documents for the project entitled “The Engine Yard” located at 40 Alpine Row in Franklin, Massachusetts. This letter is provided to update findings, comments, and recommendations.

BASIS OF REVIEW

The following documents were received by BETA and formed the basis of the review:

- Plans (18 sheets) entitled: ***The Engine Yard Site Redevelopment 40 Alpine Row Franklin, MA*** Revised September 13, 2021, prepared by Level Design Group, LLC. of Plainville, MA.
- ***Stormwater Report for Engine Yard***, Revised September 14, 2021, prepared by Level Design Group, LLC. Of Plainville, MA.

Review by BETA included the above items along with the following, as applicable:

- Site Visit
- ***Zoning Chapter 185 From the Code of the Town of Franklin***, current through October 2019
- ***Zoning Map of the Town of Franklin, Massachusetts***, attested to April 30, 2019
- ***Stormwater Management Chapter 153 From the Code of the Town of Franklin***, Adopted May 2, 2007
- ***Subdivision Regulations Chapter 300 From the Code of the Town of Franklin***, current through January 1, 2016
- ***Wetlands Protection Chapter 181 From the Code of the Town of Franklin***, dated August 20, 1997
- ***Town of Franklin Best Development Practices Guidebook***, dated September 2016

INTRODUCTION

The project site includes a single 1.32± acre parcel (#279-181) located at 40 Alpine Row in the Town of Franklin (the “Site”). The Site is located within the Downtown Commercial zoning district and is developed with an office/warehouse building and garages. Associated site features include paved parking areas connected to Alpine Row, a chain link perimeter fence, a weigh station, utility poles, a sewer manhole, and containment walls at the former location of a large above-ground storage tank (AST). Existing stormwater management features include several catch basins. The surrounding region is within the

Downtown Commercial zoning district or the General Residential V zoning district. The Site is not located within the Water Resource District.

Topography at the Site is generally mild, sloping towards the north and then the northwest. No wetlands, streams, or other resource areas are known to be present within or in the vicinity of the Site. The Site is not located within a wellhead protection area, a FEMA-mapped flood zone, an NHESP-mapped estimated habitat of rare or endangered species, or any other critical area. NRCS soil maps indicate the presence of Urban Land with no assigned Hydrologic Soil Group (HSG) rating, though the nearest soil group (Hollis-Rock outcrop-Charlton complex) has an HSG rating of D (very low infiltration potential).

The project proposes to redevelop the Site, retaining the existing southern building and constructing a multi-story residential and commercial structure and an attached single-story commercial building. Associated Site features will include a drive-under parking area beneath the residential building, a concrete patio, a new layout for the parking area, a basketball court, sidewalks, landscaping, and new sewer and water services. The existing garage buildings will be demolished. Stormwater management is proposed via infiltration pits and water quality units, with runoff conveyed to these features via new deep-sump catch basins.

The property is listed in the MassDEP database under two release tracking numbers (RTN): 2-4010321 and 2-4010467. Available documents indicate that two releases of fuel oil occurred at the property circa 1994. A permanent solution is considered to have been achieved at the Site.

FINDINGS, COMMENTS, AND RECOMMENDATIONS

GENERAL

- G1. Clarify if any special provisions are required for work in the area of the former AST and potentially impacted subsurface soils. As the property is a Massachusetts Department of Environmental Protection (MassDEP) listed disposal site, soil (and groundwater, if applicable) should be managed in accordance with the provisions of the Massachusetts Contingency Plan (MCP) including 310 CMR 40.1067 – Remedial Actions After a Permanent Solution Statement has been Submitted to the Department. *LDG: Remedial action has occurred and the site as currently positioned is closed with DEP. If something is encountered during construction the LSP will be notified and dealt with in accordance with the LSP and MCP.* **BETA2: Information provided – issue resolved.**
- G2. Revise the existing conditions plan to reflect current conditions on Alpine Place. The depicted concrete sidewalk to the east of the Site on the north side of the roadway has been removed. *LDG: The existing conditions have been modified to reflect the change, the noted survey is older.* **BETA2: Plan revised – issue resolved.**
- G3. Provide detail for proposed retaining wall, depicting guardrail and fence, where applicable. *LDG: The retaining wall will need to be detailed through the permitting process; a detail has been provided but is not necessarily the wall which will be used at the time of construction.* **BETA2: Detail not provided – issue remains outstanding.**
- G4. Provide locations for proposed guardrail, bollards, and cape cod berm. Note that cape cod berm is typically only permitted in limited sections where matching into existing berm. *LDG: The cape Cod berm is proposed within the interior of the parking lot for this redevelopment and is proposed*

throughout, with the exception of the length of the proposed redevelopment along Alpine, which is proposed to be vertical granite curbing. BETA2: Section §185-29 does not include any provisions for the use of Cape Cod berm and the Board does not permit its installation. As such, the installation of vertical granite or reinforced concrete curb will be required throughout the interior of the site. Also, locations of bollards and guardrail have not been provided, although a general note on the latter has been included on the Layout and Materials Plan. Guardrail should be provided along the entirety of the retaining wall abutting parking spaces, and fence provided where the site abuts the railroad where no fence exists today – issue remains outstanding.

ZONING

The Site is located within the Downtown Commercial (DC) Zoning District. The proposed Site includes mixed residential and commercial uses. Certain commercial uses are allowed in the DC zoning district, while others are not. Multifamily residential uses are permitted under the conditions that (a) All dwelling units shall be located on floors above the street level and (b) No more than one dwelling unit per 2,000 square feet of lot area be permitted. The project proposes fewer residential units than permitted.

- Z1. Add required/proposed building heights to Zoning Table. *LDG: The proposed building height is now listed in the revised plan set as requested. BETA2: Information provided – issue resolved.*
- Z2. Confirm proposed buildings are accurately depicted throughout the civil and architectural plans. The Layout & Materials plan indicates a single-story commercial building, while the architectural renderings appear to show a three-story building with commercial space on the first floor and residences above. *LDG: The note has been modified to detail the residential above. BETA2: Information provided – issue resolved.*
- Z3. Recommend confirming with the Building Commissioner that all proposed residential units meet the requirement for being located on floors above street level. BETA notes that proposed residences, as depicted on the architectural plans, appear to be located only several feet above the sidewalk and parking lot grades at the western side of the residential structure. *LDG: LDG met with the Building Commissioner before the start of Civil Design and the Commissioner completed a letter which was provided to the Board confirming compliance with Zoning. BETA2: BETA defers to the ruling of the Building Commissioner – issue dismissed.*
- Z4. Clarify the intended use of the commercial spaces, if known. Some commercial uses are prohibited in the DC district, while others require a Special Permit. BETA notes that a grease trap is proposed for the existing building to remain. *LDG: The grease trap is a place holder for potential uses. Currently the uses proposed comply with the Zoning without a Special Permit, however if after the development a use is identified which will require a Special Permit as determined by the Building Commission a modification will be applied for as necessary. BETA2: Information provided – issue resolved.*
- Z5. Clarify if any retail uses are proposed at the site, as listed in the Zoning Table heading, which would require a Special Permit from the Planning Board. *LDG: Currently the uses proposed comply with the Zoning without a Special Permit, however if after the development a use is identified which will require a Special Permit as determined by the Building Commission a modification will be applied for as necessary. BETA2: Information provided. Recommend removing “retail” use from table heading.*

SCHEDULE OF LOT, AREA, FRONTAGE, YARD AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

The Site meets the requirements for lot area, depth, frontage, width; front and side yards; building height; and impervious coverage. The Site does not meet the requirements for rear yard width; however, this is an existing nonconformity applicable only to the southern building to remain.

- SC1. Incorporate completed Zoning Table (provided separately via email) onto next plan submission.
LDG: The table as supplied separately is included on the modified plans. BETA2: Table provided – issue resolved.

PARKING, LOADING AND DRIVEWAY REQUIREMENTS (§185-21)

Access to the Site is proposed via two new curb cuts, one on Alpine Row, serving as a one-way entrance, and another on Alpine Place. The existing curb cut on Alpine Place will be closed. A surface parking area with 58 parking spaces is proposed at the Site and a parking garage with 16 parking spaces is proposed beneath the eastern building. Three of the surface parking spaces are proposed to be accessible, 2 of which are van accessible. Typical parking spaces are 19 feet wide and 9 feet long; however, 9 parking spaces including the accessible parking spaces are angled at 60° and have a usable length of approximately 14 feet. Five other spaces are in a parallel layout with dimensions of 10 feet wide and 22 feet long. Accessible parking spaces are provided with stalls of 5' or 8' widths, as required. Proposed driveways are 18 feet wide for the one-way driveway, and 24 feet wide for two-way driveway. It is anticipated that the Fire Chief will review turning movements for emergency vehicles throughout the site

Parking requirements for the Downtown Commercial Zoning District are defined by the Zoning Bylaw. For residential uses, 1.5 spaces are required for each dwelling unit; for 18 dwelling units, 27 spaces are required. For nonresidential uses, 1 space is required for every 500 square feet of gross floor area; for 9,300 sq. ft., 19 spaces are required; therefore, the total required parking is 46 spaces. The provided 74 parking spaces satisfy this requirement.

- P1. Review angled parking spaces to confirm there is adequate usable length that will not result in parked vehicles encroaching into the access aisle. Recommend depicting a standard passenger vehicle within typical angled parking. *LDG: The parking spaces as detailed are within the requirements of the Town of Franklin for parking spaces. A car is depicted on the revised plan set. BETA2: Information provided. In addition to the Town's requirements, BETA has also reviewed the proposed parking and aisle dimensions based upon recommendations of the Urban Land Institute and finds them to be adequate.*
- P2. Clarify if any accessible parking will be provided within the parking garage and depict the pedestrian routes from the accessible parking spaces to the commercial and residential buildings. Accessible parking spaces should be as close as possible to the entrance of the building they are meant to serve. Ramps to sidewalks, where required, should be located within accessible aisles. *LDG: One space is shown in the subsurface parking area, the accessible path has been labeled on the plan. BETA2: Accessible space provided in the garage. Confirm the accessible route continues to an accessible entrance and that the grades of the sidewalk meet all MAAB requirements. The proposed route currently appears to dead-end at a planting bed. The designer may wish to consider working with the Building Commissioner to confirm the extent that 521 CMR Sections 9 and 10 apply to the proposed residences.*

- P3. Revise parking layout such that no off-street parking is within 10 feet of a street right-of-way (§185-21.C(1)). *LDG: The parking spaces have been revised accordingly.* **BETA2: Parking revised – issue resolved.**
- P4. Review turning moments for parking spaces between the two buildings. Parking areas with five or more cars shall not require backing out onto a public way (§185-21.C(3)). Recommend eliminating the two parking spaces located nearest to the Alpine Row right-of-way as vehicles backing out of these spaces may conflict with vehicles entering the site. *LDG: The parking spaces have been relocated greater than 10' from the ROW in accordance with comment P3 above on the revised plans, this will eliminate the potential backing onto the Public Way.* **BETA2: Parking revised – issue resolved.**
- P5. Provide and depict sight distances for the easterly driveway. *Provide and depict sight distances for the easterly driveway.* **BETA2: Information provided. BETA notes the provided sight distance is adequate for vehicle speeds of approximately 27 MPH, accounting for the slope of the roadway and no adverse egress concerns are anticipated at the driveway.**
- P6. Revise parking aisle width in 90° layout areas to be a minimum of 24 feet throughout the development (§185-21.C(8)) or consider using angled parking. *LDG: The parking has been revised for 20' wide aisle at the rear of the building with a 19'x9' parking space at 30°.* **BETA2: Comment no longer applicable – issue dismissed.**
- P7. Revise parallel parking spaces to be at least 24 feet long (§185-21.C(9)(b)). *LDG: The parallel parking spaces have been adjusted to 24'x9' in accordance with the regulations.* **BETA2: Dimensions revised; however, BETA notes the Layout and Materials Plan is not plotted to the depicted scale.**
- P8. Indicate location of proposed loading activities associated with commercial buildings. Loading must be performed off-street (§185-21.D). *LDG: A loading "box" has been added to the plans, assuming loading needs to occur for the use.* **BETA2: The location of the loading "box" is not apparent on the plans – issue remains outstanding.**
- P9. Provide "Do Not Enter" and "One-Way" signs at the end of the one-way site driveway (area of proposed dumpster pad). *LDG: Signs have been added to the revised plan set as requested.* **BETA2: Signs provided – issue resolved.**
- P10. Provide a detail for the parking spaces and retaining wall along the northwesterly property line to confirm construction can take place without impacting stall lengths. *LDG: The parking spaces have move slightly due to the angled proposed parking, as such the comment has been addressed through the changes in the revised plans attached.* **BETA2: There is approximately 2 feet from the edge of the parking stall to the property line, which leaves minimal space to construct a retaining wall with associated guardrail and fence. As such, a detail should be provided to ensure that construction is feasible – issue remains outstanding.**

SIDEWALKS (§185-28)

The project proposes a 5' wide concrete sidewalk along the frontage of Alpine Row where the single-story commercial building is proposed.

- P11. Remove the proposed accessible transition at the easterly driveway. There is no existing sidewalk in this area. *LDG: This portion of the sidewalk has been removed.* **BETA2: Ramp transition callout remains on the Layout and Materials Plan – issue remains outstanding.**

- P12. Provide wheelchair ramp to sidewalks, where applicable, at proposed access aisles at accessible parking stalls. *LDG: A notation has been added to the area adjacent to the single space at the "retail side" of the proposed building.* **BETA2: Locations of accessible ramps provided; however, they are not included as part of the accessible routes at the access aisles as required by 521 CMR 23.4.6 and 23.5 – issue remains outstanding. Also, consider incorporating a pedestrian route from conventional parking spaces to the commercial area that does not require use of the access driveway from Alpine Row.**
- P13. Revise detail for the proposed sidewalks to be consistent with the proposed edge treatments (e.g. curb). *LDG: The detail for concrete sidewalks has 3 separate portions of the detail. One where there is integrated curbing, one where there is no curbing shown – i.e. will but against a different curb than integrated or will not abut a curb and lastly the walk as it is adjacent to a building. No changes have been made to the detail.* **BETA2: The provided detail includes a note indicating that vertical granite curb or concrete curbing shall be used where shown on the layout and materials plan – issue resolved. Clarify that the minimum sidewalk width is 5 feet, excluding curb.**

CURBING (§185-29)

The project proposes vertical granite curbing throughout the interior of the site.

- C1. Clarify the type of edge treatment proposed along Alpine Place and Alpine Row. Consider using vertical granite curb adjacent to sidewalks to be consistent with recent improvements in the area by the Town. *LDG: Vertical granite curbing is proposed along Alpine and the curb radii into the property associated with the road.* **BETA2: Information provided – issue resolved.**
- C2. Consider continuing the proposed edge treatment along Alpine Row in front of the existing building to remain. *LDG: Without knowing the exact use of the building, the applicant is hesitant to propose a treatment along this area. Other modifications are being made however the curbing is not yet proposed until a tenant is located. At the time of the tenant LDG and the applicant will apply for a modification for the proposed tenant fit out.* **BETA2: Information provided – no further comment.**

SITE PLAN AND DESIGN REVIEW (§185-31)

The project has been submitted for Site Plan Review and is required to conform to the requirements of this section.

- SP1. Indicate abutting land uses and zoning data on the locus or vicinity map (§185-31.1.C(3)(d)). *LDG: A separate map has been provided for the description and property uses.* **BETA2: Map provided – issue resolved.**
- SP2. Indicate proposed snow storage areas (§185-31.1.C(3)(i)). *LDG: The proposed multi-use area has been removed for grass, subsequently – snow storage – it has been noted as such in the revised plan set.* **BETA2: Snow storage area provided – issue resolved.**
- SP3. Review planting plan to confirm and then provide note indicating that all proposed plantings will come from the Best Development Practices Guidebook (§185-31.1.C(3)(k)). *LDG: The Landscaping plan has been coordinated as requested and the note has been added.* **BETA2: Note could not be located. In conjunction with Planting Note 6, indicate that all proposed plantings will come from the Best Development Practices Guidebook.**

SP4. Provide data quantifying on-site generation of noise and odors (§185-31.1.C(3)(r)). If rooftop mechanical/HVAC equipment will be utilized, it should be screened from view. *LDG: With the allowable building height there will be very little view of the roof top area. The units will be centrally located on the roof so the angles will not permit the view from the street. All of the units have been screened in accordance with the attached plan. There will be little noise which is not of a residential nature from the property. The allowable uses permit a parking lot and certain commercial spaces as well as residential use, there is nothing which will be deleterious based upon the allowable uses.* **BETA2: While the rooftop units may not be visible from the street, they may be readily visible from residences located on the higher elevations of Alpine Place. Screening is not apparent on the provided architectural plans.**

SP5. Provide information on anticipated traffic in sufficient detail for the Board to determine if a traffic impact analysis is necessary (§185-31.1.C(3)(s)).

LDG: The anticipated traffic from the development can be determined utilizing the ITE trip Generation Manuals for an apartment complex (220). The trip generation details that there will be an increase in traffic over existing conditions of:

1. Peak hour – Weekday 17.45 Trips
2. Peak Hour – Weekend 30.71 Trips
3. Total Daily – 318.0 Trips
4. Peak AM (weekday) – 17.45 Trips
5. Peak PM (weekday) - 33.05 Trips

What these numbers do not account for is the use of this property at the time the property was in use for oil and fuel distribution. That business has 40-50 trucks a day plus employees and the tanker trucks with associated movements throughout this neighborhood. The allowed use in this zone, not asking for relief in any manner for the project details that the Zoning utilized this style development for the proposed zoning definitions. **BETA2: BETA cannot independently verify the trips provided by the designer; however, commercial and residential uses permitted by right are not anticipated to be significant generators of traffic. Any potential restaurant use in the future would require a Special Permit and additional review by the Board – issue dismissed.**

SCREENING (§185-35)

The project proposes outdoor parking for 10 or more cars which must be screened in accordance with this section. The Site will be visible from abutting residential properties located across the street and to the east of the Site along Alpine Place.

The landscaping plan proposes numerous trees and shrubs throughout the parking area and along the perimeter of the Site. The majority of parking areas are located behind the building to limit visibility. A 6' high wooden stockade is proposed adjacent to residences along the eastern portion of the site and a 5' high wood stockade is proposed around the proposed concrete patio.

L1. Provide additional screening adjacent to the westerly driveway (located a minimum of 10 feet from the right-of-way) to screen the parking area from residences. *LDG: The additional screening is proposed in this area.* **BETA2: BETA notes that some screening has been provided in the limited available green space in this area. The landscape plan must be updated to reflect the current parking lot layout, however.**

UTILITIES

Proposed utilities include domestic water, fire service, and sanitary sewer. Detailed review of utilities is anticipated to be provided by the DPW and Fire Chief, as applicable. A proposed grease trap is depicted and indicated to be installed in the future.

- U1. Contact the DPW to determine if easements are required for the existing sewer and drainage infrastructure that crosses the property. *LDG: The applicant is willing to provide easements at the end of the project through discussion with the DPW.* **BETA2: Information provided. If the Board elects to approve the project BETA recommends a condition that requires all easements to be in place to the satisfaction of the DPW prior to the start of construction.**
- U2. Provide an oil separator for the parking garage in accordance with 248 CMR 10.09. **BETA2: Detail provided. Recommend providing note on Grading and Utilities Plan referencing required installation, even if location is not known.**

STORMWATER MANAGEMENT

The project is a redevelopment that will result in an overall decrease in impervious area. Stormwater management will be accomplished through a closed drainage system consisting of catch basins, manholes, and a water quality unit which will convey flow to an existing drainage line that continues offsite to the west. Runoff from the proposed building roof will be captured by a separate roof leader system that discharges to a series of three infiltration pits.

GENERAL

- SW1. Revise proposed HDPE pipe to be RCP. Where cover is less than 42" provide Class V RCP (§300-11.B.(2)(a)). *LDG: The Section detailed is within the Subdivision Standards within the Town. The development is entirely within private property, the HDPE pipe remains as originally proposed. There are no requirements within the Zoning, or the Site Plan sections which require the compliance with the Subdivision requirements. The installation of HDPE pipe requires different depth of installations to prevent deflection of the ground surface depending on the diameter of the pipe. The 18" pipe, which is the largest proposed on-site, is installed as a standard with the bell of the pipe at a greater depth than the base grade gravel within the area of installation.* **BETA2: The project will disturb greater than one acre and is subject to the Town of Franklin Stormwater Management Bylaw. Chapter 153-16 requires stormwater controls to meet the requirements of the Subdivision rules. Furthermore, the Board has required the use of RCP on all projects, both public and private, with the exception of direct connections to subsurface infiltration systems – issue remains outstanding.**
- SW2. Provide stamp on MassDEP Stormwater Checklist. *LDG: The checklist has been stamped as requested.* **BETA2: Stamped checklist provided – issue resolved.**
- SW3. Review grading design throughout parking areas or provide spot grades for clarity. As designed, runoff will pool in apparent low points created by nearby landscape islands or be directed over the retaining wall onto the railroad right-of-way. *LDG: Spot grades have been added as necessary to the plans, there is not flow which will enter the Rail ROW.* **BETA2: Information provided – issue resolved.**

- SW4. Provide additional contour labeling and label high points. Provide grading information at the proposed basketball court. *LDG: The basketball court has been eliminated in-lieu of a grassed area, the area is anticipated at the existing grades.* **BETA2: Adequate grading information provided – issue resolved.**
- SW5. Revise post-development watershed plans to show the boundaries of proposed watersheds (4S, 6S, and 8S). *LDG: The Post Development watersheds have been modified accordingly.* **BETA2: It is difficult to distinguish watershed boundaries from proposed site features and contour lines. Recommend revising the plan to use thicker, colored, or more prominent line types. BETA will provide a detailed review upon receipt.**
- SW6. Revise overflow design of Pond 13P (IP3). The design proposes to allow overflow to flow upwards out of the grate inlet and into the parking area, after which it will flow to 120' to the nearest catch basin. The flows should be piped directly to the converted drainage manholes. *LDG: The replacement of the infiltration pits with a stormtech system provides an overflow which will pass through the proposed DBLE CB prior to discharge.* **BETA2: Design revised. Resolve outlet discrepancy between plans (8" pipe @ 0.4% slope) and HydroCAD model (2 – 10" pipes @ 0.99% slope).**
- SW7. Confirm that adequate cover is provided over all pipes. Plans indicate cover as shallow as 1' in some areas. *LDG: The pipe cover is adequate as provided for the type and size of materials proposed.* **BETA2: BETA notes the comment also relates to confirming there is adequate room to fit the pipes beneath structure top covers and castings. As proposed, specialty flat tops or 4" castings with no brick may be required.**
- SW8. Clarify how the concrete patio area will drain. The patio is at a lower elevation than the top of surrounding retaining wall. *LDG: The patio area will drain to the landscape bed areas, the landscape bed areas will have access to the subdrain behind the wall to prevent any system backup.* **BETA2: Information provided. Recommend depicting required drainage on the plans, even if only conceptually, pending final wall design.**
- SW9. Provide top and bottom of wall elevations for the concrete wall proposed adjacent to the residential properties (#'s 60 – 68) on Alpine Place. In consideration that the site is being filled in this area the designer should confirm that the proposed wall will not block drainage from said properties. *LDG: Additional elevations for the wall in question have been provided.* **BETA2: Information provided. Clarify how the existing residential properties will drain. Based on the limited contour information in this area the proposed wall may block stormwater from running off the properties.**

No untreated stormwater (Standard Number 1): *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.*

The project does not propose any new untreated stormwater discharges to wetlands – **complies with standard.**

Post-development peak discharge rates (Standard Number 2): *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.*

The project proposes a decrease in overall impervious area as well as the installation of three infiltration pits. The provided calculations indicate a decrease post-development peak discharge rates and total runoff volumes compared to pre-development conditions.

SW10. Although all site flows are eventually directed to a single discharge point, the designer should provide a summary of site flows directed onto the public right-of-way in the existing and proposed conditions. *LDG: The individual flows pre and post have been labeled "street" in the analysis.* **BETA2: The intent of the comment was to compare flows directed from the private site onto the public way in the existing and proposed conditions. In consideration that additional mitigation may be required to comply with the Town's Bylaw, the requested analysis may no longer be beneficial. Refer to comment SW11.**

SW11. Review HydroCAD model for Pond Infiltration pits. The diameter and invert of the storage is inconsistent with the detail provided in the plans. *LDG: The pits have been removed from the site plans and a stormtech system installed in its place. Though not required the site has also provided additional capture, treatment and infiltration of a portion of the parking lot through this basin.* **BETA2: The project will disturb greater than one acre and is therefore subject to the Town's Stormwater Management Bylaw. As such, redevelopment areas are required to retain 0.80 inches over the post-construction impervious area or remove 80% TSS and 50% of Total Phosphorus of the post-construction impervious area. Based on the provided documentation it does not appear these requirements have been satisfied.**

SW12. In consideration of the scale of the proposed development evaluate if expanding the size of the proposed infiltration system is practicable. *LDG: The pits have been removed from the site plans and a stormtech system installed in its place. Though not required the site has also provided additional capture, treatment and infiltration of a portion of the parking lot through this basin.* **BETA2: Refer to comment SW11.**

Recharge to groundwater (Standard Number 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.*

NRCS soil maps indicate that soils beneath the Site are Urban Land with no assigned Hydrologic Soil Group (HSG) rating, though the nearest soil group (Hollis-Rock outcrop-Charlton complex) has an HSG rating of D (very low infiltration potential).

As a redevelopment project, the annual recharge from the post-development site must, at a minimum, approximate the annual recharge from pre-development conditions. As the Site proposes a net decrease in impervious area, no recharge is required. The project proposes three infiltration pits to provide limited recharge of roof runoff.

SW13. Revise stormwater report components to use a consistent Hydrologic soil group. The narrative for Standard 3 indicates an HSG of B; while the HydroCAD model indicates an HSG of A. *LDG: The stormwater report has been modified accordingly.* **BETA2: The referenced section of the narrative remains inconsistent with HydroCAD model. Issue remains outstanding.**

SW14. Provide test pit logs for soil investigations identified in the Stormwater Report. *LDG: Within the Phase I report some logs are provided, LDG provides one Soil probe log for the site, the log is provided for an area outside the containment wall.* **BETA2: The locations of the test pits should be identified on the plans.**

- SW15. Review the HydroCAD model as it relates to provided recharge volume, the outflow invert is at the same elevation as the bottom of proposed storage, resulting in no storage volume being available for recharge. *LDG: The pits have been removed from the site plans and a stormtech system installed in its place. Though not required the site has also provided additional capture, treatment and infiltration of a portion of the parking lot through this basin.* **BETA2: The required recharge calculations should be consistent with the soil investigations on the site and as used in the HydroCAD model cover type (i.e. HSG A). Also review the numbers provided for recharge and water quality volume in the narrative. Based on the stage-storage figure for the infiltration system and an outlet elevation of 299, the storage volume is estimated to be 800 cu. ft.**
- SW16. Revise exfiltration rate used in HydroCAD model be consistent with that noted in narrative (2.41 in/hr). *LDG: The exfiltration rate has been removed accordingly.* **BETA2: Exfiltration rate revised – issue resolved.**
- SW17. Provide calculations showing that recharge BMPs will drain within 72 hours. *LDG: The drawdown page is attached independently of the remainder of the report.* **BETA2: Calculation provided – issue resolved.**
- SW18. Clarify if any evaluation has been performed to determine if soils below proposed recharge areas are likely to be impacted by petroleum or other contaminants. *LDG: There has been extensive testing through the Phase I, which is attached, and there is no evidence of residual materials. Should something be encountered during the installation process which is unanticipated the LSP will be utilized for evaluation.* **BETA2: Information provided – issue resolved.**

80% TSS Removal (Standard Number 4): *For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids.*

The project proposes to direct runoff from the majority of impervious areas through water quality units for treatment. A long-term pollution prevention plan was included as part of the Drainage Analysis.

- SW19. Provide TSS worksheets indicating TSS removal achieved at all discharge points. TSS removal rates should be consistent with third-party testing. Also Include calculations for runoff that flows overland onto Alpine Row to demonstrate a portion of the site will remain untreated. *LDG: TSS Worksheets are attached herein.* **BETA2: Worksheets provided. In consideration of the commitment required to receive the credit for street sweeping it is recommended to remove this from the worksheets.**

Higher Potential Pollutant Loads (Standard Number 5): *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads require the use of specific stormwater management BMPs.*

The project is not a Land Use with Higher Potential Pollutant Load (LUHPPL).

Critical Areas (Standard Number 6): *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.*

The project does not propose discharges to critical areas.

Redevelopment (Standard Number 7): *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.*

The project is considered a redevelopment and need only meet certain standards to the maximum extent practicable.

Mr. Anthony Padula, Chairman

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Construction Period Erosion and Sediment Controls (Standard Number 8): *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.*

The project as currently depicted will disturb more than one acre of land; therefore, a Notice of Intent with EPA and a Stormwater Pollution Prevention Plan (SWPPP) are required. The project proposes the use of erosion control barrier (silt fence or compost sock), catch basin inlet protection, and a stabilized construction entrance, which are anticipated to be adequate.

Operations/maintenance plan (Standard Number 9): *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as designed.*

A Long-Term Operation and Maintenance (O&M) Plan has been provided.

Illicit Discharges (Standard Number 10): *All illicit discharges to the stormwater management systems are prohibited.*

An Illicit Discharge Compliance Statement was included in the Stormwater Management Report.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,
BETA Group, Inc.



Matthew J. Crowley, PE
Senior Project Manager



Stephen Borgatti, PE
Engineer

cc: Amy Love, Planner



TOWN OF FRANKLIN

DEPARTMENT OF PUBLIC WORKS

Franklin Municipal Building
257 Fisher Street
Franklin, MA 02038-3026

September 21, 2021

Mr. Anthony Padula, Chairman
Members of the Franklin Planning Board
355 East Central Street
Franklin, MA 02038

RE: Site Plan Modification – 40 Alpine Row

Dear Mr. Chairman and Members:

We have reviewed the revised materials for the subject project and offer the following comments:

1. Based on the applicant's plans, the roadway in front of the proposed building appears to encroach onto private property. We will coordinate with the applicant on the layout of the proposed curb in this area.
2. A 5 foot concrete sidewalk is proposed between the two commercial use buildings, but not along front of parking garage. We note that the Town does not have a sidewalk along this side of the street.
3. Separate water lines will need to be run for fire and domestic services. There is an 8" ductile iron stub onto the property in the vicinity of the 1" Pex waterline which was installed as a blowoff.
4. The curb radius at the eastern driveway extends into the adjacent property's frontage and should be shifted so that all work is within the frontage of the proposed site.
5. The sight distance at the eastern driveway does not appear to be sufficient at 73 feet.
6. Section 185-21.C.1 states that no off-street parking area shall be located within 10 feet of a street right-of-way. However we note that the parking area within 10 feet of the right-of-way will be within the proposed parking garage.
7. As previously noted, any missing easements for town drainage and/or sewer lines that run across the site should be resolved as part of the approval process. These can be identified at the end of the design process, prior to approval.
8. The detail for the wheelchair ramp does not appear to meet ADA/AAB requirements.

9. The plans call out for asphalt berm throughout the parking lot whereas the Board has traditionally required granite or reinforced concrete curb.
10. The Stormwater Report addresses the Massachusetts Stormwater Standards, but does not address whether the design meets Franklin's criteria for new and redevelopment projects:
 - 1) For new development sites all stormwater management systems shall be designed to:
 - a) Retain the volume of runoff equivalent to, or greater than, one (1.0) inch multiplied by the total post-construction impervious surface area on the site AND/OR
 - b) Remove 90% of the average annual load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site AND 60% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1, where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.
 - 2) For redevelopment sites stormwater management systems shall also improve existing conditions by be designed to the following criteria:
 - a) Retain the volume of runoff equivalent to, or greater than, 0.80 inch multiplied by the total post-construction impervious surface area on the site AND/OR
 - b) Remove 80% of the average annual post-construction load of Total Suspended Solids (TSS) generated from the total post-construction impervious area on the site AND 50% of the average annual load of Total Phosphorus (TP) generated from the total post-construction impervious surface area on the site. Pollutant removal shall be calculated consistent with EPA Region 1's BMP Performance Extrapolation Tool or other BMP performance evaluation tool provided by EPA Region 1 where available. If EPA Region 1 tools do not address the planned or installed BMP performance any federally or State approved BMP design guidance or performance standards (e.g. State stormwater handbooks and design guidance manuals) may be used to calculate BMP performance.

11. While a log of the test has been provided, the location of the test pit should be shown on the plan.
12. Proposed drainage piping is called out as plastic pipe (HDPE) whereas reinforced concrete is required.

Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'M Maglio', written in a cursive style.

Michael Maglio, P.E.
Town Engineer



FRANKLIN PLANNING & COMMUNITY DEVELOPMENT

355 EAST CENTRAL STREET
FRANKLIN, MA 02038-1352
TELEPHONE: 508-520-4907
FAX: 508-520-4906

MEMORANDUM

DATE: September 16, 2021
TO: Franklin Planning Board
FROM: Department of Planning and Community Development
RE: 40 Alpine Row
Site Plan

The DPCD has reviewed the above referenced Site Plan application for the Monday, September 27, 2021 Planning Board meeting and offers the following commentary:

General:

1. The site is located at 40 Alpine Row in the Downtown Commercial Zoning District (Assessors Map 279 Lot 181).
2. The applicant is proposing to construct a 12,230 sq/ft structure with commercial, multi-family and under level parking and surface parking.
3. The Applicant is not required to file with the Conservation Commission.
4. Applicant has not requested any waivers.

Comments from July 26, 2021:

1. Applicant has provided an Environmental Site Assessment.
2. There was concern for a higher fence around the Basketball Court. *Applicant has removed the basketball court and added green space.*
3. Show Fire truck turning analysis. *Has not provided the turning analysis.*
4. Fire requested a 20' width around the property. *Applicant has provided 20'.*
5. Planning Board asked to see the Design Review Recommendation. *DPCD has attached the recommendation.*
6. Concern for screening in front of the property. *A revised landscaping plan has been submitted.*



September 13, 2021

Town of Franklin, Planning Board
Attn: Mr. Anthony Padula, Chair
C/O Mrs. Amy. Love, Planner
355 East Central Street
Franklin, MA 02038

Re: The Engine Yard
40 Alpine Row, Franklin, MA
LDG Proj. No.: 1880.00

Level Design Group, LLC (LDG) on behalf of Walker Development & Construction does hereby submit a response to comments for the above referenced project. The comments were peer review comments provided by BETA Engineering, dated July 22, 2021 and are answered in the same order as presented in that letter.

FINDINGS, COMMENTS, AND RECOMMENDATIONS

GENERAL

- G1. Clarify if any special provisions are required for work in the area of the former AST and potentially impacted subsurface soils. As the property is a Massachusetts Department of Environmental Protection (MassDEP) listed disposal site, soil (and groundwater, if applicable) should be managed in accordance with the provisions of the Massachusetts Contingency Plan (MCP) including 310 CMR 40.1067 – Remedial Actions After a Permanent Solution Statement has been Submitted to the Department.
Remedial action has occurred and the site as currently positioned is closed with DEP. If something is encountered during construction the LSP will be notified and dealt with in accordance with the LSP and MCP.
- G2. Revise the existing conditions plan to reflect current conditions on Alpine Place. The depicted concrete sidewalk to the east of the Site on the north side of the roadway has been removed.
The existing conditions have been modified to reflect the change, the noted survey is older.
- G3. Provide detail for proposed retaining wall, depicting guardrail and fence, where applicable.
The retaining wall will need to be detailed through the permitting process; a detail has been provided but is not necessarily the wall which will be used at the time of construction.
- G4. Provide locations for proposed guardrail, bollards, and cape cod berm. Note that cape cod berm is typically only permitted in limited sections where matching into existing berm.

The cape Cod berm is proposed within the interior of the parking lot for this redevelopment and is proposed throughout, with the exception of the length of the proposed redevelopment along Alpine, which is proposed to be vertical granite curbing.

ZONING

- Z1. Add required/proposed building heights to Zoning Table.

The proposed building height is now listed in the revised plan set as requested.

- Z2. Confirm proposed buildings are accurately depicted throughout the civil and architectural plans. The Layout & Materials plan indicates a single-story commercial building, while the architectural renderings appear to show a three-story building with commercial space on the first floor and residences above.

The note has been modified to detail the residential above.

- Z3. Recommend confirming with the Building Commissioner that all proposed residential units meet the requirement for being located on floors above street level. BETA notes that proposed residences, as depicted on the architectural plans, appear to be located only several feet above the sidewalk and parking lot grades at the western side of the residential structure.

LDG met with the Building Commissioner before the start of Civil Design and the Commissioner completed a letter which was provided to the Board confirming compliance with Zoning.

- Z4. Clarify the intended use of the commercial spaces, if known. Some commercial uses are prohibited in the DC district, while others require a Special Permit. BETA notes that a grease trap is proposed for the existing building to remain.

The grease trap is a place holder for potential uses. Currently the uses proposed comply with the Zoning without a Special Permit, however if after the development a use is identified which will require a Special Permit as determined by the Building Commission a modification will be applied for as necessary.

- Z5. Clarify if any retail uses are proposed at the site, as listed in the Zoning Table heading, which would require a Special Permit from the Planning Board.

Currently the uses proposed comply with the Zoning without a Special Permit, however if after the development a use is identified which will require a Special Permit as determined by the Building Commission a modification will be applied for as necessary.

SCHEDULE OF LOT, AREA, FRONTAGE, YARD AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

The Site meets the requirements for lot area, depth, frontage, width; front and side yards; building height; and impervious coverage. The Site does not meet the requirements for rear yard width; however, this is an existing nonconformity applicable only to the southern building to remain.

- SC1. Incorporate completed Zoning Table (provided separately via email) onto next plan submission.

The table as supplied separately is included on the modified plans.

PARKING, LOADING AND DRIVEWAY REQUIREMENTS (§185-21)

- P1. Review angled parking spaces to confirm there is adequate usable length that will not result in parked vehicles encroaching into the access aisle. Recommend depicting a standard passenger vehicle within typical angled parking.

The parking spaces as detailed are within the requirements of the Town of Franklin for parking spaces. A car is depicted on the revised plan set.

- P2. Clarify if any accessible parking will be provided within the parking garage and depict the pedestrian routes from the accessible parking spaces to the commercial and residential buildings. Accessible parking spaces should be as close as possible to the entrance of the building they are meant to serve. Ramps to sidewalks, where required, should be located within accessible aisles.

One space is shown in the subsurface parking area, the accessible path has been labeled on the plan.

- P3. Revise parking layout such that no off-street parking is within 10 feet of a street right-of-way (§185-21.C(1)).

The parking spaces have been revised accordingly.

- P4. Review turning moments for parking spaces between the two buildings. Parking areas with five or more cars shall not require backing out onto a public way (§185-21.C(3)). Recommend eliminating the two parking spaces located nearest to the Alpine Row right-of-way as vehicles backing out of these spaces may conflict with vehicles entering the site.

The parking spaces have been relocated greater than 10' from the ROW in accordance with comment P3 above on the revised plans, this will eliminate the potential backing onto the Public Way.

- P5. Provide and depict sight distances for the easterly driveway.

Stopping Sight Distances have been provided.

- P6. Revise parking aisle width in 90° layout areas to be a minimum of 24 feet throughout the development (§185-21.C(8)) or consider using angled parking.

The parking has been revised for 20' wide aisle at the rear of the building with a 19'x9' parking space at 30°.

- P7. Revise parallel parking spaces to be at least 24 feet long (§185-21.C(9)(b)).

The parallel parking spaces have been adjusted to 24'x9' in accordance with the regulations.

- P8. Indicate location of proposed loading activities associated with commercial buildings. Loading must be performed off-street (§185-21.D).

A loading "box" has been added to the plans, assuming loading needs to occur for the use.

- P9. Provide “Do Not Enter” and “One-Way” signs at the end of the one-way site driveway (area of proposed dumpster pad).

Signs have been added to the revised plan set as requested.

- P10. Provide a detail for the parking spaces and retaining wall along the northwesterly property line to confirm construction can take place without impacting stall lengths.

The parking spaces have move slightly due to the angled proposed parking, as such the comment has been addressed through the changes in the revised plans attached.

SIDEWALKS (§185-28)

The project proposes a 5’ wide concrete sidewalk along the frontage of Alpine Row where the single-story commercial building is proposed.

- P11. Remove the proposed accessible transition at the easterly driveway. There is no existing sidewalk in this area.

This portion of the sidewalk has been removed.

- P12. Provide wheelchair ramp to sidewalks, where applicable, at proposed access aisles at accessible parking stalls.

A notation has been added to the area adjacent to the single space at the “retail side” of the proposed building.

- P13. Revise detail for the proposed sidewalks to be consistent with the proposed edge treatments (e.g. curb).

The detail for concrete sidewalks has 3 separate portions of the detail. One where there is integrated curbing, one where there is no curbing shown – i.e. will but against a different curb than integrated or will not abut a curb and lastly the walk as it is adjacent to a building. No changes have been made to the detail.

CURBING (§185-29)

The project proposes vertical granite curbing throughout the interior of the site.

- C1. Clarify the type of edge treatment proposed along Alpine Place and Alpine Row. Consider using vertical granite curb adjacent to sidewalks to be consistent with recent improvements in the area by the Town.

Vertical granite curbing is proposed along Alpine and the curb radii into the property associated with the road.

- C2. Consider continuing the proposed edge treatment along Alpine Row in front of the existing building to remain.

Without knowing the exact use of the building, the applicant is hesitant to propose a treatment along this area. Other modifications are being made however the curbing is not yet proposed until a tenant is located. At the time of the tenant LDG and the applicant will apply for a modification for the proposed tenant fit out.



SITE PLAN AND DESIGN REVIEW (§185-31)

The project has been submitted for Site Plan Review and is required to conform to the requirements of this section.

SP1. Indicate abutting land uses and zoning data on the locus or vicinity map (§185-31.1.C(3)(d)).

A separate map has been provided for the description and property uses.

SP2. Indicate proposed snow storage areas (§185-31.1.C(3)(i)).

The proposed multi-use area has been removed for grass, subsequently – snow storage – it has been noted as such in the revised plan set.

SP3. Review planting plan to confirm and then provide note indicating that all proposed plantings will come from the Best Development Practices Guidebook (§185-31.1.C(3)(k)).

The Landscaping plan has been coordinated as requested and the note has been added.

SP4. Provide data quantifying on-site generation of noise and odors (§185-31.1.C(3)(r)). If rooftop mechanical/HVAC equipment will be utilized, it should be screened from view.

With the allowable building height there will be very little view of the roof top area. The units will be centrally located on the roof so the angles will not permit the view from the street. All of the units have been screened in accordance with the attached plan. There will be little noise which is not of a residential nature from the property. The allowable uses permit a parking lot and certain commercial spaces as well as residential use, there is nothing which will be deleterious based upon the allowable uses.

SP5. Provide information on anticipated traffic in sufficient detail for the Board to determine if a traffic impact analysis is necessary (§185-31.1.C(3)(s)).

The anticipated traffic from the development can be determined utilizing the ITE trip Generation Manuals for an apartment complex (220). The trip generation details that there will be an increase in traffic over existing conditions of:

1. Peak hour – Weekday 17.45 Trips
2. Peak Hour – Weekend 30.71 Trips
3. Total Daily – 318.0 Trips
4. Peak AM (weekday) – 17.45 Trips
5. Peak PM (weekday) - 33.05 Trips

What these numbers do not account for is the use of this property at the time the property was in use for oil and fuel distribution. That business has 40-50 trucks a day plus employees and the tanker trucks with associated movements throughout this neighborhood. The allowed use in this zone, not asking for relief in any manner for the project details that the Zoning utilized this style development for the proposed zoning definitions.

SCREENING (§185-35)

L1. Provide additional screening adjacent to the westerly driveway (located a minimum of 10 feet from the right-of-way) to screen the parking area from residences.



The additional screening is proposed in this area.

UTILITIES

- U1. Contact the DPW to determine if easements are required for the existing sewer and drainage infrastructure that crosses the property.

The applicant is willing to provide easements at the end of the project through discussion with the DPW.

- U2. Provide an oil separator for the parking garage in accordance with 248 CMR 10.09.

STORMWATER MANAGEMENT

GENERAL

- SW1. Revise proposed HDPE pipe to be RCP. Where cover is less than 42" provide Class V RCP (§300-11.B.(2)(a)).

The Section detailed is within the Subdivision Standards within the Town. The development is entirely within private property, the HDPE pipe remains as originally proposed. There are no requirements within the Zoning, or the Site Plan sections which require the compliance with the Subdivision requirements.

The installation of HDPE pipe requires different depth of installations to prevent deflection of the ground surface depending on the diameter of the pipe. The 18" pipe, which is the largest proposed on-site, is installed as a standard with the bell of the pipe at a greater depth than the base grade gravel within the area of installation.

- SW2. Provide stamp on MassDEP Stormwater Checklist.

The checklist has been stamped as requested.

- SW3. Review grading design throughout parking areas or provide spot grades for clarity. As designed, runoff will pool in apparent low points created by nearby landscape islands or be directed over the retaining wall onto the railroad right-of-way.

Spot grades have been added as necessary to the plans, there is not flow which will enter the Rail ROW.

- SW4. Provide additional contour labeling and label high points. Provide grading information at the proposed basketball court.

The basketball court has been eliminated in-lieu of a grassed area, the area is anticipated at the existing grades.

- SW5. Revise post-development watershed plans to show the boundaries of proposed watersheds (4S, 6S, and 8S).

The Post Development watersheds have been modified accordingly

- SW6. Revise overflow design of Pond 13P (IP3). The design proposes to allow overflow to flow upwards out of the grate inlet and into the parking area, after which it will flow to 120' to the nearest catch basin. The flows should be piped directly to the converted drainage manholes.

The replacement of the infiltration pits with a stormtech system provides an overflow which will pass through the proposed DBLE CB prior to discharge.

- SW7. Confirm that adequate cover is provided over all pipes. Plans indicate cover as shallow as 1' in some areas.

The pipe cover is adequate as provided for the type and size of materials proposed.

- SW8. Clarify how the concrete patio area will drain. The patio is at a lower elevation than the top of surrounding retaining wall.

The patio area will drain to the landscape bed areas, the landscape bed areas will have access to the subdrain behind the wall to prevent any system backup.

- SW9. Provide top and bottom of wall elevations for the concrete wall proposed adjacent to the residential properties (#'s 60 – 68) on Alpine Place. In consideration that the site is being filled in this area the designer should confirm that the proposed wall will not block drainage from said properties.

Additional elevations for the wall in question have been provided.

- SW10. Although all site flows are eventually directed to a single discharge point, the designer should provide a summary of site flows directed onto the public right-of-way in the existing and proposed conditions.

The individual flows pre and post have been labeled "street" in the analysis.

- SW11. Review HydroCAD model for Pond Infiltration pits. The diameter and invert of the storage is inconsistent with the detail provided in the plans.

The pits have been removed from the site plans and a stormtech system installed in its place. Though not required the site has also provided additional capture, treatment and infiltration of a portion of the parking lot through this basin.

- SW12. In consideration of the scale of the proposed development evaluate if expanding the size of the proposed infiltration system is practicable.

The pits have been removed from the site plans and a stormtech system installed in its place. Though not required the site has also provided additional capture, treatment and infiltration of a portion of the parking lot through this basin.

Recharge to groundwater (Standard Number 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.*

NRCS soil maps indicate that soils beneath the Site are Urban Land with no assigned Hydrologic Soil Group (HSG) rating, though the nearest soil group (Hollis-Rock outcrop-Charlton complex) has an HSG rating of D (very low infiltration potential).

Within the site, LDG advanced a soil probe as well as the extensive soil investigations provided by drilling companies for the property environmental reports. Within the attached Phase I there are photos of the soils on property with gravelly sand in place, this is what was noted by LDG during the soil probe. Groundwater (redox) was encountered at a depth between 9 and 11 ft in the previous analysis.



As a redevelopment project, the annual recharge from the post-development site must, at a minimum, approximate the annual recharge from pre-development conditions. As the Site proposes a net decrease in impervious area, no recharge is required. The project proposes three infiltration pits to provide limited recharge of roof runoff.

SW13. Revise stormwater report components to use a consistent Hydrologic soil group. The narrative for Standard 3 indicates an HSG of B; while the HydroCAD model indicates an HSG of A.

The stormwater report has been modified accordingly.

SW14. Provide test pit logs for soil investigations identified in the Stormwater Report.

Within the Phase I report some logs are provided, LDG provides one Soil probe log for the site, the log is provided for an area outside the containment wall.

SW15. Review the HydroCAD model as it relates to provided recharge volume, the outflow invert is at the same elevation as the bottom of proposed storage, resulting in no storage volume being available for recharge.

The pits have been removed from the site plans and a stormtech system installed in its place. Though not required the site has also provided additional capture, treatment and infiltration of a portion of the parking lot through this basin.

SW16. Revise exfiltration rate used in HydroCAD model be consistent with that noted in narrative (2.41 in/hr).

The exfiltration rate has been removed accordingly.

SW17. Provide calculations showing that recharge BMPs will drain within 72 hours.

The drawdown page is attached independently of the remainder of the report.

SW18. Clarify if any evaluation has been performed to determine if soils below proposed recharge areas are likely to be impacted by petroleum or other contaminants.

There has been extensive testing through the Phase I, which is attached, and there is no evidence of residual materials. Should something be encountered during the installation process which is unanticipated the LSP will be utilized for evaluation.

80% TSS Removal (Standard Number 4): For new development, stormwater management systems must be designed to remove 80% of the annual load of Total Suspended Solids.

The project proposes to direct runoff from the majority of impervious areas through water quality units for treatment. A long-term pollution prevention plan was included as part of the Drainage Analysis.

SW19. Provide TSS worksheets indicating TSS removal achieved at all discharge points. TSS removal rates should be consistent with third-party testing. Also Include calculations for runoff that flows overland onto Alpine Row to demonstrate a portion of the site will remain untreated.

TSS Worksheets are attached herein.

Enclosed please find:

Mr. Anthony Padula, Chairman
September 13, 2021
Page 9 of 9



- 2 Full Size sets of plans
- 5 reduced (11x17) size sets of plans
- 7 copies of associated documentation

I look forward to meeting with the Board at the next meeting. If there are any questions prior to the hearing please do not hesitate to ask.

Truly yours,

LEVEL DESIGN GROUP, LLC

A handwritten signature in blue ink, appearing to read "Daniel Campbell", is written over the company name.

Daniel Campbell, P.E.

Principal

Attachments

Cc: Walker Development and Construction

JtA

File