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May 30, 2023

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

RE: Village at Clocktown – Definitive Subdivision Plan Review (12-16 Union Street)
399 Union Street (Assessor's Map 15, Lot 76)

Dear Mr. Matchak:

GCG Associates, Inc. has reviewed the following information for the Village at Clocktown Definitive Subdivision (10-12 Union Street) in Ashland, MA.

Document References:

Application for Planning Board Approval of a Definitive Subdivision Plan (Form C), filed by 58 Exchange Ashland LLC. dated April 3, 2023.

Stormwater Management Study for Village at Clocktown, prepared by Oak Consulting Group (OCG), dated April 2023.

Plan References:

"Village at Clocktown, Union Street, in Ashland, Massachusetts," prepared by prepared by Oak Consulting Group (OCG), dated April 03, 2023, consists of eight (8) sheets, (T-100, C-100, C-200, C-300, C-400, C-401, C-402, C-403).

This Definitive Subdivision Plan proposed alteration and soil disturbance of more than 10,000 square feet and requires a Stormwater Management Permit (SMP) per Chapter 247-1-6 A with Ashland Conservation Commission, and compliance with Chapter 343 Stormwater Management. The proposed total project disturbance area (1.1+/- Acres) exceeded the NPDES threshold and requires a CGP (construction General Permit) NOI (Notice of Intent) and associated SWPPP (Stormwater Pollution Prevent Plan) per plan note stated on sheet C-400. if the limit of work exceeded the 1-acre threshold, (project site area 55,324 s.f.). Wetland delineation was dated June 2018, approximately 5 years ago, Conservation Commission re-approval required. A Notice of Intent filing with the Ashland Conservation Commission is required.

Based upon our review of the above information, we offer the following comments with respect to compliance with Town of Ashland Zoning Bylaw (Chapter 282), Stormwater Management requirements (Chapters 247 & 343), Subdivision of Land (Chapter 344) and Massachusetts Stormwater Handbook

(MSH). The numerical section of the regulations is referenced at the beginning of each comment unless it is a general comment.

GENERAL COMMENTS:

This is a new subdivision off Union Street in the Wildwood Mixed Uses Special District (WMUSD), the property consists of 8.55+/- acres vacant (wooded) parcel (Map 15, Lot 76) per Assessors record.

There are multiple areas of BVW (Bordering Vegetated Wetlands) delineated in June 2018 shown on the existing conditions plan and subject to the Ashland Conservation Commission approval. Subject site appears to be in Zone 'X' – Area of minimal flood hazard per current Flood Insurance Rate Maps (FIRM) panel 25017C0514F, effective July 7, 2014. There are no NHESP priority habitats of rare species or estimated habitats of rare wildlife identified in the site vicinity per MassMapper (formerly MassGIS).

This is a subdivision of land application; This project proposed a 275+/- feet of new cul-de-sac right-of-way and creating two new lots with legal frontage on the cul-de-sac street. The applicant checked the Residential use type in the Application for Planning Board Approval/Permit Form with no proposed uses shown on the plan. The Lots use should be governed under Chapter 282- Zoning, Section 8.6 (Wildwood Mixed Use Special District) and requires a Site Plan Review (per Section 9.4). Approval of this definitive subdivision does not guarantee the lots are buildable, which would require approval of a Site Development Plan through Site Plan Review for the lots.

SITE PLAN

T-100 - Title Sheet

1. Verify Assessors Map number. This parcel is shown on the Ashland GIS 2017 Zoning Map #15 and identified as Parcel 15-76 in the Ashland's MapsOnline web site.
2. Zoning description should identify the sub area of the WMUSD which appeared to be in Area 'B,' (to be confirmed by the Building Inspector).

C-2 – Existing Conditions Plan

1. Existing Conditions Note #2, the datum referenced should be a vertical datum NAVD 88 or NGVD 29.
2. Flood Zone statement should be noted on the plan. Zone, FIRM panel number and effective date should be referenced.
3. Wetland delineation based on June 2018; Conservation Commission re-approval required.
4. Chapter 344-8. B. (1) - Show Zoning classification, including districts boundary and overlay district. Including sub area in the WMUSD.
5. 344-8. B.(11)(k) – show existing trees (excess 15" diameter and 24"), and existing tree line(s).
6. Identify existing utilities sizes on Union Street.
7. Label existing contours. The easterly plan corner's (off site) contour labels indicated 1-foot contours. However, the proposed contours shown on plan sheet C-200 indicated the contours as shown are 2-foot contours, please clarify.

C-200 – Definitive Plan

1. Update Existing conditions Note #2 with a vertical datum reference.
2. Zoning Summary – identify sub zone "Area." This site is in Zone WMUSD Area-B, (Zoning Districts boundary is under Building Inspector's authority, applicant should confirm the Zoning District and boundary with the Building Department.)
3. Verify the proposed lot area, which shows 1,019,304 s.f. (min.), which is approximately 23.4 acres. The existing lot is supposed to be 8.55+/- acres.

4. Zoning Summary should show proposed lot area, frontage, front, side, and rear yards per each new lot.
5. 344-8. B. (2) – Closed traverse for the whole subdivision, each lot, and each street (right-of way) should be provided.
6. 344-8. B. (6) – Permanent monuments proposed should be identified on the plan.
7. 344-8. B. (8) – Planning Board and Town Clark's signature block should be provided on the plan. (Typically, a "Plan of Land" per registry standards is used for definitive subdivision to record to the Registry of Deeds.)
8. 344-8. B.11.(j) – Streetlighting should be shown on the plan.
9. 344-8. B. (15) – Provide calculations showing each lot conforms to the Rule of 22.
10. 344-12(7)- proposed street does not meet the right angles requirements, 89.25+/-˚ angle proposed, which is greater than 60˚. Planning Board approval required.
11. 344-13(A) – Drainage Easement metes and bounds should be shown on the plan.
12. The proposed street ROW (right-of-way) 50-feet width is based on the Collector Street design. Residential uses in WMUSD Area-B are limited to Age restricted mixed use building and multi-family in a mixed-use building only. Since the proposed lot(s) uses are not identified on the plan. Only Collector Street is defined to serve nonresidential abutting property (344-4 Definitions).
13. 344-26 – Street name sign should be provided.
14. Intersection safety sight distance should be provided.

C-300 – Plan and Profile

1. Erosion control barrier should include Union Street existing drainage system and proposed catch basins with erosion control silt sacks or similar system.
2. Utilities Notes: #4 Water main should be 8" diameter minimum (334-38); #5 Water system should comply with Chater 334; #11 Size water services to meet fire protection for mixed use building, which is required in the WMUSD Area-B district? #12– Proposed sewer main within the ROW should be 8" diameter minimum (326-1 - Public Sewer Main definitions), Laterals should be 6" diameter minimum (326-15. B.) Sewer system should comply with Chapter 326.
3. 334-38. J. - No dead ends water main shall be permitted. Easement to loop water should be provided.
4. 334-38.M – Minimum size for water main shall be eight (8) inches in diameter cement-lined Class 52 ductile iron.
5. 335-57. A. (4) – water main shall be installed twelve (12) feet from the property line on proposed streets.
6. 344-23. A. (3) - hydrant shall be located within the ROW. Proposed Hydrant should comply with Chapter 334,
7. Site note #4 – Stop Bar too close to the Union Street sidewalk crossing, stop bar should comply with MUTCD standards and must accompanied by a Stop sign, show proposed stop sign location.
8. Construction stone exit (erosion control) should be shown on the plan.
9. Proposed water service to lot #2 should be revised with proposed water line type.
10. Identify cul-de-sac center island surface coverage, assumed landscape island.
11. 334-22. A. – Collector street requires 5-feet width sidewalks on both sides. 344-22. D. – One side sidewalk should be placed on the downside slope of the street.
12. 334-21. A. (1) - Vertical Granite Curbing (VGC), Type VA 4 is required at the union Street intersection plus at least three feet on each end at all street intersections and wherever grade is at six percent and greater (344-12. C. (1) - exceeded maximum 6% grade for collector streets). (The majority of the proposed road and cul-de-sac and center island should be equipped with VA 4 VGC.
13. Call out Union Street intersection curve radius. Show fire truck maneuvering path entering and exiting the proposed street.
14. Profile should show proposed drainage system.

15. 344-12. C.1 - Proposed roadway grade exceeded the maximum six percent (6%) for Collector Street.
16. Revise vertical curve to meet Collector Street forward sight distance requirements K-values. (350' on collector streets, 344-12. D.)
17. Proposed drainage structures CB-1, CB-2, CB-3, CB-4, and WQU-2 have less than 1- foot of cover over drainpipe. (Physically unable to fit a concrete flat top and frame and grate/cover and brick and mortar bed.) A minimum of two feet between rim grade to top of pipe should be provided.
18. Proposed 100 feet long 36" diameter HDPE detention pipe, catch basins #1 and #2 and WQU #1 are in the Union Street (State Highway Route 135) right-of-way and require MassDOT approval. The proposed 36" diameter detention pipe conflicts with the existing hydrant behind the Union Street sidewalk. GCG recommends relocating all drainage systems to inside the development property. Detention or infiltration system should not be proposed underneath existing or proposed public roadway and/or sidewalk.
19. The proposed Union Street (Route 135) curb cut requires MassDOT State Highway Access Permit approval.
20. Catch basins #3 and #4 are at the bottom of 9.89% slope, runoff by-passing due to the steep slope and high velocity should be analyzed.
21. 344.14 – Double catch basins may be required at the Union Street intersection.
22. Profile at the Union Street intersection (Station 0+20+/-) should show a (maximum 2% cross slope) sidewalk crossing. Catch basins #1 and #2 are proposed in the middle of the wheelchair ramps. GCG recommends relocating the two catch basins to the back of the sidewalk crossing within the development parcel. (Typical MassDOT requirements).
23. The proposed infiltration Chambers system is classified as shallow Class V injection wells and should be registered to MassDEP. The infiltration system should comply with the 10-feet setback from the property line and 15-feet horizontal setback from the adjacent downhill slope (proposed detention basin side slope). See addition stormwater management comments below.
24. The proposed detention pond should be equipped with inflow pipe end stone erosion control, top, side slope should meet the required 15 feet setback to infiltration chambers system. top of the earth berm (elevation 86) is in fill and only 3 feet wide, a minimum of 10 feet width with impervious core material is recommended. An emergency spillway capable of bypassing the runoff from large storms without damaging the impounding structure (provide freeboard to avoid overtopping, emergency spillway flow velocity should be analyzed to prevent erosion) should be provided in the design. Basin maintenance access should be provided through the new street. Access through Union Street (State Highway) is not recommended, which also requires MassDOT approval.
25. Planting within the right-of-way should be shown on the plan and approved by the Planning Board. Landscape changes should be approved by the Board.

C-400 – Erosion Control Notes

1. Proposed Stabilized Construction Entrance location should be shown on the plan.

C-401 – Site Details

1. Detail #2 Title should match the detail content.
2. Detail #5 Roadway Cross Section, Detail Plan should state the class (collector) of the roadway cross section. (Collector Street is required to serve non-residential (mixed use) in WMUSP zone.) 334-38 - Proposed water main should be 8" minimum diameter; 355-57.A.(4) – Water main should be located 12 feet from the property line; 344-21.A.(1) – VGC (Type VA4) required at locations specified per section; 344-20.B. – gravel base should extend to 2 feet wider than the paved width; 344-20.H.(3) – Collector Street pavement width should be 30 feet. 334-22. A. – There should be sidewalks five (5) feet in width on both sides of all collectors. 334-22. D. - If

only one (1) sidewalk is required on a street, the sidewalk shall be placed on the downside slope of the street.

3. Specify grass strip loam and seed and minimum loam borrow thickness.
4. Add Vertical Granite Curb (Type VA4) details.

C-402 – Site Details

1. All Water details should comply with Chapter 334.
2. All Sewer details should comply with Chapter 326.

C-403 – Site Details

1. Detail #1 - Basin 1 Outlet, the 3" orifice outlet should be protected by trash rack device.
2. Details #2 and #3 - Drainage structures (catch basin and Manhole) tongue and groove joints should be equipped with butyl rubber joint sealant to assure water tightness.
3. Plan shown catch basins, drainage manholes, and WQU 2 have less than 1 foot cover over drainpipes, clarify how the drainage structure work with the shallow separation.
4. Proposed detail #4 Infiltration System Detail is 2 feet above ledge elevation shown on soil test pit TP#1. GCG recommends raising the system to gain additional separation to the ledge.

No Street-Lighting proposed.

No Traffic Impact Study provided, proposed residential uses (checked on Form 'C') do not meet the allowed uses in the WMUSD Area-B zone, mixed use required. MassDOT State Highway Access Permit would require the new subdivision roadway uses be specified.

STORMWATER MANAGEMENT STUDY

1. The Stormwater Management Report indicates post-development peak runoff rate increases during all five (2-year, 10-year, 25-year, 50-year, and 100-year storm events. Pre- and post-development runoff volume rates were not compared, but volumes were increased during all five storm events per HydroCAD calculations. Post-development runoff volume should be controlled within/under the pre-development conditions runoff volume, (247-4. C.)
2. The Pre- and Post-Development watershed should not include the BVW (Bordering Vegetated Wetlands) on-site. The resource areas are protected under 310 CMR 10 and M.G.L. Chapter b131, Section 40. Stormwater should be treated and controlled prior to discharge onto the resource area. Therefore, analysis points should be at the edge of the wetland and at the property boundary without wetland resource area. In addition, the existing BVW's storage volumes and time travel lag, which decrease the peak rates were not account to the existing conditions. Therefore, wetland areas should be excluded from the watershed.
3. The sub-catchment Pre 1E in the pre-development HydroCAD drains onto Union Street and flows southwestward, away from the existing Box Culvert and should be modeled as such. Sub-catchments Pre 1A, Pre 1B, and Pre 1D drain to sub-catchment Pre 1C and discharges to the existing Box Culvert. As modeled, sub-catchments Pre 1A, Pre 1B, and Pre 1D short circuited the sub-catchment Pre 1D's flow path 'Tc' (time-of-concentration or travel time) and resulted in a higher pre-development runoff discharge flow rate.
4. Sub-catchment Post 1F's detention basin bottom is 1' to 4' below the test pits #3 and #2's refusal, respectively. Basin's ponding surface area should be modeled as water surface with CN 98 value.
5. Basin #1's 100-year peak ponding elevation at 185.56, which is 0.44 feet below the top of the 3 feet wide berm, freeboard should be provided. An emergency spillway should be sized to assure no over topping the earth berm.
6. Basin #1 outlet device #2 should be horizontal orifice/grate. Vertical orifice/grate used in the calculations.

7. Proposed Infiltration Chambers system width should be 8.17' per (Plan sheet C-403) Infiltration System Detail, system length should be 24.24', with 198 s.f. system area, which does not match the 257 s.f. used on the HydroCAD Pond Infiltration Chambers calculations. Exfiltration rate should be 2.41 in/hr. per Stormwater Management Report Section 1.2 - Site Geology and Hydrogeology paragraph 2. The bottom (183.5) of the chambers system is proposed 2' above the soil test pit #1's refusal at 181.0, and next to the proposed detention basin (bottom at 183.5) and 20+/- feet away from the test pits #3 and #4 with refusal at 184.67 and 186.5, respectively, and 80 feet away from the existing BVW at elevation 185 to 186. Water mounding calculations are required, and the exfiltration function is questionable.
8. Provide detention basin and infiltration chambers system drawdown calculations.
9. Only a portion of the roadway impervious area drains to the detention basin and onto the infiltration chambers for recharge. Infiltration system storage volume should be adjusted with the 65% Rule (MSH Vol. 3, Ch. 1, Pg. 27.)
10. Groundwater recharge and storage volume should be calculated per MSH's "Simple Dynamic" method, (Vol. 3, Ch. 1, Pg. 19). Since the system also provides detention and should be sized accordingly.
11. Proposed "Pipe Detention" is on the State Highway and should be relocated. Approval from MassDOT is unlikely.
12. Stormceptor and CDS units were approved for 50% TSS removal credit by the NJDEP. Therefore, treatment Chain for sub-catchment 1G only achieved 62.5 TSS removal.
13. Treatment chain for sub-catchment 1E should be verified with the stormwater storage volume calculations per comment #10 above.
14. An Operation and Maintenance (O&M) plan during construction period should be prepared similar to plan sheet C-400's erosion control note with responsible party and signature block.
15. Long term O&M Plan - Catch basins should be inspected four times per year. Inlet grate and sump should be cleaned 4 times per year or whenever the depth of deposits is greater than or equal to one half the depth from the bottom of the invert of the lowest pipe in the basin.
16. Provide signed Illicit Discharge Statement per MSH Standard #10.

If you have any questions regarding this matter, please contact our office.

Respectfully submitted,
GCG ASSOCIATES, INC.

Michael J. Carter

Michael J. Carter, P.E.
Project Manager