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Ashland Zoning Board of Appeals  
Town of Ashland  
101 Main Street  
Ashland, MA 01721

October 13, 2025

**Attention: Ms. Jasmin Farinacci  
Director of Planning and Community Development**

**Subject: Stormwater Peer Review – Chapter 40B, Comprehensive Permit  
55 West Union Street (Assessor’s Map 19, Parcel 62)**

Dear Ms. Farinacci;

On behalf of the Applicant, please find the enclosed Site Plan and supporting documentation for the proposed project at 55 West Union Street. The materials have been revised based upon peer review comments provided by GCG Associates, in a letter dated September 25, 2025. A summary of each comment has been provided below followed by a response in **bold text** on how the item has been addressed.

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## GENERAL COMMENTS:

The project exceeded the 1-acre limit of work threshold and requires a NPDES (National Pollutant Discharge Elimination System) CGP Construction General Permit and associates SWPPP to be filed at least 14 days prior to start of construction.

**Response – Comment acknowledged, the project will fall under the ND PES CGP as noted. This item would be appropriate as a condition of approval, where proof of filing with EPA and a copy of the final SWPPP would be provided to the Town prior to construction.**

## SITE PLAN SET

The site plan shows a dash-single-dot line at the southeastern corner of the project parcel. The line appeared to be the Riverfront Area associated with the perennial stream on the eastern side of West Union Street. This line should be identified on the plan.

**Response - The line has been identified as the 200-foot Riverfront Area.**

## Sheet 1 - Existing Conditions Plan, Locus Plan/Cover Page

1. General note #3 stated “Topography shown is from Lidar data obtained from NOAA data and does not constitute and on-the-ground topography performed by Connorstone Engineering Inc.” GCG recommends revising the topography contours along the existing Memorial Drive sidewalk (cape cod berm) CCB curbing in front of the site. Especially contour 244 and contour 246, which will affect the proposed contours along the back of Memorial Drive sidewalk for drainage flow path.

**Response - The note has been updated to note areas on on-ground survey by our office, which includes Memorial Drive and West Union Street along the frontage of the property. The contours along the curb line have been edited as noted.**

2. The existing buildings and surface conditions should be shown on Map 19 Parcel 63. This lot's surface runoff drains directly to the proposed catch basin (CB-6), which would affect the peak surface runoff rate.

**Response - The existing surface features have been added to the revised site plan, and were included within the stormwater analysis and tributary area to CB-6.**

3. There is an existing catch basin on the western side of West Union Street in front of 41 West Union Street, which should be shown on the plan and protected with silt sack during construction.

**Response - The existing catch basin in front of #41 West Union has been added to the plans and noted to be protected with a silt sack during construction.**

### Sheet 3 – Grading & Drainage Plan

4. The proposed roof drain divide line at the middle of the building is on top of the roof drain inlet depression/low point, (see Architectural Plan sheet A-103). The roof drain divide line should be aligned with the ridge of roof surface.

**Response – The roof drain divide has been coordinated with the architectural plans and updated within the stormwater analysis.**

5. CB-6 and CB-11 should be equipped with double inlet grates. (See Drain-Pipe Sizing Calculations comment below).

**Response – CB-6 and CB-11 have been noted to provide double grate inlets.**

6. GCG does not recommend connecting CB-11 to STC-5 (which appeared to be Stormceptor STC450i) with an open grate. The (Massachusetts Stormwater Handbook) MSH, Vol. 2, Ch.2, Pg.4 requires deep sump catch basin to be installed as off-line design to enhance pollution removal and prevents the resuspension of sediments in large storms.

**Response – An additional manhole has been included as recommended.**

7. The applicant should specify the water quality control (STC-1 to STC-5) units with the exact make and model. GCG recognized the 450, 450i, and 900 units are Stormceptor units by Contech Engineered Solutions and confirmed by the Stormwater Report. The "Stormceptor" name and exact model numbers STC450i or STC900 should be shown on the plan, and/or provide details drawings per unit, approved equal is acceptable, but must match the capacity and volume per specified unit.

**Response – The model numbers have been specified in the table as noted above.**

8. The outlet control structure (OCS) at the Stormwater Basin should be OCS-1.

**Response – The label has been updated as noted (OCS-1)**

9. Drainpipe size and pipe material should be shown on the plan; drainpipe from CB-1 to STC-1 and (Drop Inlet) DI-1 to STC-1 should be 8" diameter. DI-1 outlet pipe has approximately 1.5 feet of pipe cover, pipe material should be specified accordingly. D.I. structure should be equipped with a sump to prevent sediment entering the pipe.

**Response – The pipe materials and diameters have been labeled as requested. Drop Inlet 1 has been replaced with a trench drain as required to address separate review items.**

10. Roof drainpipe size should be specified for both pipes, upper pipe inverts should be shown on the plan to determine pipe slope.

**Response – The roof drains sizes have been labeled (12-inch) along with the upper inverts.**

11. Landscape/lawn area spot finish grades should be provided between the northern side of proposed building to the proposed contour 256 to assure surface runoff flow to CB-1.

**Response – The finish grading has been defined as noted to verify flow to CB-1.**

12. Existing sidewalk contours along Memorial Drive should be revised to match the existing cape cod berm (CCB) in front of the sidewalk. Proposed contours 244 and 246 should be modified to assure landscape area surface runoff drains to CB-1.

**Response – The contours have been edited as noted to reflect the CC berm.**

13. MSH Vol.2, Ch.2, Pg.88 Table IB.1 Item 7. - The proposed infiltration basin does not meet the minimum 50 feet distance from any surface water of the commonwealth (BVW wetland).

**Response – The basin has been updated to provide the 50-foot separation.**

14. Standard Design Guideline for Shallow UIC Class V Injection Wells – the proposed concrete drywell system does not meet the minimum 15-foot setback distance from the naturally occurring downhill slope which is not steeper than 3:1 (horizontal to vertical) requirement.

**Response – The plans have been updated per the referenced guidance. A retaining wall has been introduced along with a poly barrier to maintain the 3:1 slope requirement.**

15. The applicant should consider relocating the OCS-2 and FE-4 westward to direct emergency overflow toward the Memorial Drive catch basin instead of discharges to the West union Street intersection. The drywell system was designed to retain the 100-year storm event. The emergency overflow was for extreme storm events only.

**Response – The modification request was reviewed, and the elevation of the outlet at 236.3 would not allow relocation upgradient while also maintaining the outlet outside the existing easement.**

#### Sheet 4 – Utility Plan

16. The proposed drywell system is a shallow (Underground Injection Control) UIC Class V Inject Well and the pre-treatment device (deep sump catch basin CB-1) is within the minimum 10-foot setback to the water supply line. GCG recommends relocating the proposed water lines (fire protection and domestic) westward further away from CB-1.

**Response – The water service has been adjusted to maintain a 10-foot separation.**

#### Sheet 6 – Erosion Control Plan

17. Erosion control silt sacks should be installed at the catch basins near the Memorial Drive and West Union Street intersection. The catch basin at the southern side of Memorial Drive near SMH-D and the catch basin at the western side of West Union Street in front of #41. These two catch basins should be protected during utilities connection and driveway entrance/exit construction.

**Response – As noted, silt sacks have been specified in the two catch basin locations.**

18. Provide procedures and construction sequence for the proposed temporary sediment trap at the concrete drywell location.

**Response – Additional detail on the temporary sediment trap has been provided on the Erosion Control Plan.**

#### Sheet 7 – Construction Details

19. Typical Earth Berm Section shows a 'Impervious Core' within the earth berm, this berm is construction in fill and approximately 10 feet above existing grade, the structural details and impervious core materials are critical to prevent seepage and breach of the earth embankment.

**Response – Comment acknowledged.**

20. Anti-seep collar dimensions and materials should be specified.

**Response – The anti-seep collar dimensions / material has been added to the detail (6'x6' HPDE).**

21. Manhole Outlet Structure should be specified as OCS-1.

**Response – The detail label has been updated to OCS-1**

22. Outlet control structure OCS-2 with buffer details should be provided.

**Response – A detail has been added for OCS-2.**

## Sheet 8 – Construction Details

23. Precast 2'x2' Drop Inlet should be provided with a sump to collect sediment as additional pretreatment.

**Response – A sump has been included on the drop inlet as requested.**

24. Precast concrete drain manhole should be equipped with an invert channel, similar to MassDOT detail drawing E202.4.0.

**Response – The invert channel has been included on the drain manhole detail as requested.**

## Stormwater Report

1. Sub-catchment E1's 'Grass Cover' should be modeled as Meadow cover with CN 30 value. Based on the Google street-view image, the area along the Memorial Drive property line was not regularly mowed. GCG recommends using meadow surface coverage with CN 30 value. The existing sidewalk impervious pavement was not modelled in the HydroCAD calculations. However, as long as the pre- and post-development models are consistent, which should not affect the overall drainage design. Sub-catchment E1's northeasterly divide corner between E1 and E2 should end at the Memorial Drive's catch basin.

**Response - The surface coverage (CN) within Subcatchment E1 has been revised as requested from 'Grass' to 'Meadow,' and the divide has been adjusted to the catch basin rather than the roadway corner.**

2. Sub-catchment E2 – there appeared to be existing buildings and paved area located on the middle portion of Map 19, parcel 63, (41 west Union Street), with surface runoff possibly drains toward E2. GCG recommends showing the existing impervious surface on the abutting lot which could affect the proposed drywell system.

**Response – Offsite areas have been added to the sub-catchment mapping, and included within the analysis.**

3. Sub-catchment E4 appeared to include the 3,800+/-s.f. (square feet) utility, existing slope and drainage easement (upland) area at the western side of the wetland resource area and sub catchment E5 is the wetland resource area, but without the time-of-concentration (Tc) input. The HydroCAD model should analysis the impacts to the wetland but not including the wetland. GCG recommends excluding the wetland resource area (sub-catchment E5) and the western portion of the E4 upland area from the modeling.

**Response - The far westerly side of Subcatchment E4 and the entirety of Subcatchment E5 have been removed from the analysis as recommended. These areas are outside the limit of proposed development.**

4. The applicant should verify the impervious area used in sub-catchment P-1, GCG scaled approximately 580+/- s.f. of pavement area between CB-1 & DI-1 to the property line, and 500 s.f. of proposed patio area. The existing impervious sidewalk surface was not included in the model, same as the pre-development condition, which is acceptable. The minimum Tc used in TR-55 is 0.1 hour or 6 minutes. Sub-catchment P1's northeasterly divide corner between P1 and P4 should be ended at the Memorial Drive's catch basin.

**Response** – A trench drain has been added to capture all impervious area prior to Memorial Drive, and additional spot grades and/or notes have been included to verify drainage divides. The minimum Tc has been adjusted to 6 minutes as requested.

5. Sub-catchments P-2's Tc should be 6 minutes minimum.

**Response** - The minimum Tc has been adjusted to 6 minutes as requested.

6. Sub-catchments P-3's Tc should be 6 minutes minimum. The off-site (Map 19, Parcel 63) runoff should be updated according to Sub-catchment E4 comments above, (item 2).

**Response** - The minimum Tc has been adjusted to 6 minutes as requested, and the off-site drainage areas have been verified.

7. Sub-catchments P-4's Tc should be 6 minutes minimum.

**Response** - The minimum Tc has been adjusted to 6 minutes as requested.

8. Sub-catchment P5, the proposed stormwater basin surface (ponding area) should be modelled as water surface with CN 98.

**Response** - The ponding area has been modified to water surface as requested.

9. Sub-catchment P6 appeared to include the 3,800+/- s.f. of upland area located at the western side of the wetland resource area, like sub-catchment E4. GCG recommends excluding the 3,800+/- s.f. upland area in P6 and the sub-catchment P-7 (wetland resource area with no Tc) from the HydroCAD post-development modeling.

**Response** - The far westerly side of subcatchment P6 and the entirety of Subcatchment P7 have been removed from the analysis as recommended.

10. Model Pond P8 stone void calculations should be based on the concrete Dry Well exterior height of 36" (H-20) instead of 34". The available storage volume #1 for the stone void volume should be 4,416 c.f. instead of 4,994 c.f. shown. Exfiltration should be limited to the bottom surface area only. (MSH, Vol. 3, Ch. 1. Pg.20, item d.) Drawdown calculations should be provided based on the bottom surface area exfiltration only, (MSH, Vol. 3, Ch. 1. Pg.25, item d.)

**Response** - The outside dimension of the chamber has been edited in the HydroCAD model to 36 inches rather than the default 34 inches. The area in question is above the maximum 100-year ponding and would not affect the analysis. The standard referenced related to bottom surface area (Vol. 3, Ch. 1. Pg.20, item d.) is specifically limited to calculating the required Recharge Volume of the system if using the 'simple dynamic' method. The proposed system was calculated utilizing the 'static method,' and far exceeds the required recharge volume. The drawdown calculations were prepared in compliance with Vol. 3, Ch. 1. Pg.25, item d. with the bottom area utilized as the surface area.

11. Model Pond P9, the applicant should verify the surface area at elevation 248, GCG scaled approximately 5,830+/- s.f., calculations used 4,000 s.f. and surface area at elevation 252, GCG scaled approximately 10,200+/- s.f. Exfiltration should be limited to the bottom surface area only. Drawdown calculations should also be limited to bottom surface area only. The emergency spillway elevation should be 251.0 to match the plan. A 24" x 24" horizontal opening with rim elevation at 240.5 should be included at the outlet. Emergency spillway sizing calculations should be provided based on the brimful conditions (assuming all other outlets were blocked) without impinging upon the structural integrity of the basin (without overtopping the minimum 1 foot freeboard earth berm). (MSH Vol.2, Ch.2, Pg. 91).

**Response** - The pond areas have been adjusted as noted and verified through the CAD file. The drawdown calculations had utilized the bottom area as listed in the summary tables under Standard 3. The emergency spillway has been edited to match the plan elevations and the top of concrete structure has been included. A summary of the brimful conditions has also been added to the stormwater report to verify the spillway capacity to pass the 100-year storm while still maintaining 1 foot of freeboard.

12. Drain Pipe Sizing Calculations – Pipes from CB-1 and DI-1 to STC-1 calculations were based on 12" diameter pipes, but plan shows 8" pipes.

**Response** - Drain Pipe Sizing Calculation table has been edited as noted (8-inch pipe).

13. Drains from CB-3 to STC-2 pipe length appeared to be 12-foot length.

**Response** - Drain Pipe Sizing Calculation table has been edited as noted (12-feet).

14. Drains from CB-4 and CB-5 to STC-3 pipe length should be 15-feet. Pipe length measurements were inconsistent, some were measured from center to center of structures, and some were measured from face to face of the structures. GCG accept both methods for measuring pipe length between drainage structures but should be consistent.

**Response** - The pipe lengths were edited in the table (15 feet from CB-5 and 18 feet from CB-4).

15. CB-6 and CB-11 collects 1.94 cfs and 1.75 cfs inflows, respectively, and should be equipped with double inlet grates.

**Response** - Double Grates have been added to CB-6 and -11 as requested.

16. Drains between DMH-2 and DMH-3 was undersized.

**Response** - The drain line has been upgraded to a 15-inch diameter.

17. Drains between DMH-3 and STC-4's downstream invert 249.65 did not match with the plan, plan shown 249.90.

**Response** – The invert within the drainage sizing summary has been edited to 249.9 per the plan view.

18. STC-5 should be equipped with solid cover to avoid catch basin to catch basin connection. Add additional catch basin as necessary.

**Response** – STC-5 has been modified with a solid cover and reconfigured as noted.

19. Roof drain sizing calculations should be provided.

**Response** – The roof drains have been added to the pipe sizing summary to verify capacity.

20. The stormwater report did not provide a comparison of the pre- and post-development runoff discharge volume for the study events which is required under the Ashland Stormwater Management Bylaw, Chapter 247, and Stormwater Management Regulations, Chapter 343. GCG is expecting a waiver with Chapters 247 and 343 will be requested through the Zoning Board of Appeals Comprehensive Permit application. However, MSH requires “Proponents must show that increased off-site flooding will result from peak discharge from the 100-year 24-hour storms, BMPs must also be provided to attenuate these discharges.” Based on the HydroCAD calculations, which indicates substantial increase of runoff volume (approximately 0.25+/- acre feet during the 100-year storm event) toward the wetland resource area, which connects to the large wetland area within the abutting Map 19, Parcel 67. GCG recommends comparing the post-development runoff volume with the pre-development conditions and analysis and flooding impacts to the abutting property.

**Response** – The basin has been revised to mitigate both the peak rate and volume of runoff for all storms including the 100-year event.

21. Although Stormceptor’s manufacturer’s TSS removal rates were calculated at 82% to 90%. GCG recommends accepting the maximum TSS removal rate of 50% per NJDEP letter dated September 1, 2011 which exceeded 44% TSS removal pretreatment requirements for rapid soil infiltration system. Furthermore, the system appeared to have sufficient storage (final storage volume should updated according to the drainage comments), to retain the required 1” water quality volume. The infiltration system appeared to meet the 65% rule.

**Response** - The TSS removal calculations have been updated based upon the recommendation. As noted, the system would remain in compliance with the required pre-treatment, WQV, and 65% rule.

22. The drywell system has sufficient test pits to show 4 feet separation between the infiltration system bottom stone to refusal, no water mounding analysis required. However, the stormwater basin has less than 4 feet separation between the bottom of the basin (elevation 246) to refusal (DTH-4, refusal at 242.15). The existing topography is relatively steep (4H:1V), and the northern portion of the basin may have shallower separation from refusal. The applicant should provide mounding calculations below the Stormwater Basin.

**Response** – The soil test pit had shown refusal four feet below the bottom of basin within the southern portion of the basin (refusal at 242 vs bottom of basin at 246). Our office understands the concern related to the northern portion of the basin, and supplemental soil testing will be performed in the near future to verify the depth to refusal and soil conditions through the remaining basin area. The results will be provided to the Town for review as soon as the testing is completed,

23. The Operation and Maintenance plan for construction period shown on plan sheet 6 was relatively brief and should be referenced to work with the required SWPPP associated with the NPDES CGP filing.

**Response – A reference to the SWPPP has been provided as requested on sheet 6.**

We look forward to discussing the proposed project at the upcoming meeting. Should you have any questions please contact our office at 508-393-9727.

Sincerely,  
Connorstone Engineering, Inc.

A handwritten signature in blue ink, appearing to read 'Vito Colonna', written in a cursive style.

Vito Colonna, PE