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F-4471

December 7, 2022

Ms. Breeka Lí Goodlander, Agent
Town of Franklin Conservation
Commission 355 East Central Street
Franklin, MA 02038

RE: Review Comments from Beta Group, Inc: Franklin Heights, Parcel B, 0 Lincoln Street Dated November 2, 2022

Dear Members of the Commission:

On behalf of our client, Oliver Crossing Realty Trust, Guerriere & Halnon, Inc. has prepared the following information to address comments received from Beta Group dated November 2, 2022 associated with the Stormwater and Notice of Intent Application for the above referenced project.

Beta's findings, comments and recommendations are shown in *italics* followed by our response in **bold**. Comments that have been addressed in a separate comment response letter prepared by Creative Land & Water Engineering, LLC will be identified as “**Addressed by CLAWE**”.

PLAN AND GENERAL COMMENTS AND RECOMMENDATIONS

A1. *No file number or technical comments have been issued by the Massachusetts Department of Environmental Protection (MassDEP) as of 10/31/2022.*

GH Response: MassDEP has issued the project file #159-1260. Their comments mirror those of BETA and have been addressed within this comment letter.

A2. *Depict Assessors' references for both the Site and the abutting properties on the plans.*

GH Response: The Assessor information has been added to the Existing Conditions Plan Sheet 2 as requested.

A3. *Include at least one (1) survey benchmark on the plans.*

GH Response: Benchmarks have been added to plans as requested.

A4. *Include the date(s) and method(s) of the topographic survey in the plan notes.*

GH Response: Note 14 has been added to Sheet 2 of 12 identifying the date and method of the topographic survey.

A5. *Depict the proposed tree line on the Site development plans.*

GH Response: the proposed tree line has been added as requested. See Sheet 5 of 12.

A6. *Provide a detail of the proposed retaining wall at the stream/BVW crossing.*

GH Response: Addressed by CLAWE.

A7. *Revise the WPA Form 3 to detail all temporary and permanent impacts to BVW, Bank, and LUW.*

GH Response: Addressed by CLAWE.

A8. *Depict the limit of erosion controls on all plan sheets.*

GH Response: The Erosion Control is depicted on all sheets except the Existing Condition Plan.

WETLAND RESOURCE AREAS AND REGULATORY REVIEW

Although the Applicant has indicated that the proposed stream/BVW crossing will fully adhere to the Massachusetts Stream Crossing Standards, insufficient information and conflicting calculations were provided. BETA also observed hydrologic/hydraulic conditions associated with the stream that may warrant modifications to the design in order to maintain upstream hydrology and comply with the Water Depth and Velocity Standard (Stream Crossing Standard 6). Further information from the Applicant will also be required to demonstrate that the proposed design reflects a minimization of impacts associated with the stream/BVW crossing.

At this time, the Applicant has not provided sufficient information to describe the Site, the work, or the effects of the work on the interests of the Act.

GH Response: Addressed by CLAWE.

RESOURCE AREA BOUNDARY COMMENTS AND RECOMMENDATIONS

W1. BVW boundaries were previously approved under the ORAD; however, it is unclear whether the boundaries of Bank and the intermittent status of the associated stream were approved. BETA generally observed the Bank flagging in the field to accurately delineate the top of Bank where flags were present, i.e., the first observable break in slope/mean annual flood level. Based on information accessed through the Massachusetts

Geographic Information Systems (MassGIS) website and the United States Geologic Survey (USGS) StreamStats tool, the stream does not appear on USGS topographic maps and is not associated with a drainage area greater than 0.50 square miles; therefore, the stream qualifies as intermittent.

GH Response: Addressed by CLAWE.

W2. Provide additional Bank delineation of the BKN series to depict the location of the stream channel along the BVW replication area.

GH Response: Addressed by CLAWE.

W3. Provide calculations to demonstrate whether the IVWs at the Site have the water holding capacity to qualify as ILSF and be afforded protection under the Act

GH Response: Addressed by CLAWE.

CONSTRUCTION COMMENTS AND RECOMMENDATIONS

W4. The Project will result in approximately 9.6 acres of clearing and grubbing. Provide a phasing plan to supplement the erosion control plan that limits the total area of disturbance at the Site at a one time. The proposed single line of perimeter erosion controls is anticipated to be insufficient for the large area of clearing where soils are associated with high runoff volumes.

GH Response: Addressed by CLAWE. Phasing provided by CLAWE has been included on the site plans and within the stormwater report for consistency.

W5. The Erosion Control Plan indicates that the Site will be cleared following construction of the construction entrance and installation of erosion controls. Clarify whether the construction entrance will include full construction of the stream/BVW crossing, or if a temporary crossing is required. Should a temporary crossing be required, provide construction details.

GH Response: Addressed by CLAWE.

WS6 The Applicant should confirm whether additional test pits will be conducted for this Project. Test pit data provided on the Plans is dated 2005 and should be reconfirmed as discussed in Comment SW18. Conducting test pits at the Site would require approval from the Conservation Commission and would not qualify for the exemption at 310 CMR 10.02(2)(b)2.g. if Resource Area crossings are required.

GH Response: Addressed by CLAWE. Additional testing has been provided for the stormwater basins.

W7. Revise the Erosion Control Plan to include a note stating clearing of the BVW and BVW replication area is prohibited until the Wetland Scientist reviews the area for woody plants to potentially transplant, as indicated on the Stream crossing and Wetland Replication Plan.

GH Response: Addressed by CLAWE.

W8. *The proposed 2V:1H slope at the west side of the site will be stabilized as “designed by others”. Provide the method(s) and timing of both temporary and permanent slope stabilization to prevent sedimentation of the downgradient BVW. The Applicant should consider use of native seed mixes with wildlife habitat / pollinator habitat value for permanent stabilization where within Buffer Zone.*

GH Response: Addressed by CLAWE.

W9. *Provide a plan that depicts all Resource Area impacts associated with the Project, as the Stream Crossing and Wetland Replication Plan does not accurately disclose all impacts. It appears that temporary impacts are anticipated to be required for the following:*

- a. *Stream water control (if applicable);*
- b. *Construction of the stream/BVW crossing and retaining walls;*
- c. *Construction of the BVW replication area; and*
- d. *Installation of erosion controls along/over the BVW boundary between flags B30A/B34AN and B40AN/B44A.*

GH Response: Addressed by CLAWE.

W10. *Erosion controls consisting of siltation fencing and compost filter tubes are proposed to be installed across the stream as depicted on the Wetland Replication & Stream Crossing Plan, which is not a typical method of in-water erosion, sedimentation, and/or turbidity control. Clarify what time of year the crossing work will occur, what erosion controls will be used for in-water work, and how water will be controlled during construction of the crossing. To comply with the Section 404 Massachusetts General Permit, in-water controls should only be in place while required to complete the crossing work. Based on BETA’s experience with the Franklin Conservation Commission, the Commission may wish to clarify if they would prefer the use of alternative erosion controls.*

GH Response: Addressed by CLAWE.

W11 . *To apprise the Conservation Commission of federal permitting requirements, the Project will be required to obtain U.S. Army Corps of Engineers (USACE) approval under the Section 404 Massachusetts General Permit prior to commencing construction*

GH Response: Addressed by CLAWE.

MITIGATION COMMENTS AND RECOMMENDATIONS

W12. *If available, the BVW replication area should be backfilled initially with native hydric soils, with creating a soil blend having high organic content as a way to supplement native soils. The Applicant should estimate the volume of hydric soils that can be reused from the permanent BVW impact area associated with the crossing. Based on hand auger soil sampling conducted during BETA’s Site visit, soils within the proposed replication area consist of shallow refusal and gravelly A- and B-layers. Onsite soils used for a supplemental hydric soil blend should be assessed for appropriate composition, and compost used for the supplemental hydric soil blend should consist of clean leaf mulch. It is recommended that the contractor target 50% organic matter by volume when creating supplemental hydric soils; therefore, additional compost will be required beyond the 1/3 composition indicated on the plans.*

BETA recommends revising the Wetland Replication & Stream Crossing plan notes to reference the items above.

GH Response: Addressed by CLAWE.

W13. A note should be added to the Wetland Replication & Stream Crossing Plan indicating that the subgrade of the BVW replication area should be loosened prior to placing hydric soil backfill to provide sufficient vegetation rooting depth. If a heavily compacted C-layer is encountered, it is recommended that additional excavation/aeration occur to provide greater than 12 inches of hydric soils in the replication area.

GH Response: Addressed by CLAWE.

W14. Provide the specification sheet for the New England Wetland Plants Wetland Seed Mix for the contractor's reference.

GH Response: Addressed by CLAWE.

W15. Include a note on the Wetland Replication and Stream Crossing Plan requiring the BVW replication area to be overseeded by doubling the recommended application rate and include a note requiring placing clean straw mulch over the seed to promote stability in the replication area until germination occurs.

GH Response: Addressed by CLAWE.

W16. Depict supplemental erosion controls directly upgradient of the BVW replication area on the Stream Crossing and Wetland Replication Plan.

GH Response: Addressed by CLAWE.

W17. Provide a narrative describing how Buffer Zone temporarily impacted by the Project will be restored following construction. Based on the provided plans, wooded areas will be cleared to access the BVW replication area and conduct grading, but no Buffer Zone replanting is depicted on the plans.

GH Response: Addressed by CLAWE.

W18. Provide a method for restoring temporary BVW/Bank/LUW impact areas and describe how Banks under the crossing will be graded and permanently stabilized and include notes pertaining to Resource Area restoration on the plan set

GH Response: Addressed by CLAWE.

WPA PERFORMANCE STANDARDS COMMENTS AND RECOMMENDATIONS

Bank (310 CMR 10.54)

W19. Depict all temporary and permanent Bank impacts associated with the construction of the crossing. It is anticipated that a Wildlife Habitat Evaluation for Bank impacts will not be required pursuant to 310 CMR 10.54(4)(a)6.

GH Response: Addressed by CLAWE.

W20. Provide a narrative to demonstrate compliance with the Performance Standards at 310 CMR 10.54(4).

GH Response: Addressed by CLAWE.

W21. The following comments are provided regarding the Massachusetts Stream Crossing Standards:

- a. The proposed crossing appears to meet the Massachusetts Stream Crossing Standards 1 through 4 (Type of Crossing, Embedment, Crossing Span, and Openness Ratio). However, the Applicant should clarify the proposed Openness Ratio. The Openness Ratio is listed as 0.30, which does not meet the 0.82 requirement. However, the design appears to provide sufficient openness in excess of the requirement.

GH Response: Addressed by CLAWE.

- b. Provide information to demonstrate compliance with Standard 5 (Substrate).

GH Response: Addressed by CLAWE.

- c. Provide survey cross sections of the stream to demonstrate that the appropriate water depth and velocity will be achieved (Standard 6). Based on BETA's Site visit, it appears that a one (1)-foot-deep channel may be too deep for this location. The existing stream in this location appears to seep through a discrete hummock under low flow conditions and overtops the hummock in higher flow scenarios. Additional spot shots and revised channel grading should be provided to demonstrate that the deeper upstream water levels observed during the Site visit, which appeared to be a result of the existing hydraulic restriction, will not be adversely affected. The proposed channel grading should result in hydraulic conditions comparable existing conditions.

GH Response: Addressed by CLAWE.

Bordering Vegetated Wetland (310 CMR 10.55)

W22. Provide a narrative describing the "Avoid/Minimize/Mitigate" considerations that were assessed during the design of the Project.

GH Response: Addressed by CLAWE.

W23. Although the Applicant has proposed a replication area that exceeds the size of the proposed BVW impacts, no discussion of BVW Performance Standards was included in the NOI. Demonstrate that the Project adheres to the Performance Standards at 310 CMR 10.55(4)(b).

GH Response: Addressed by CLAWE.

W24. Provide depth to groundwater within the replication area to demonstrate that the proposed grading will result in Estimated Seasonal High Ground Water (ESHGW) levels occurring within 12 inches of the final surface elevation

GH Response: Addressed by CLAWE.

**Land Under Water (310 CMR
10.56)**

W25. Depict all temporary and permanent LUW impacts associated with the construction of the crossing.

GH Response: Addressed by CLAWE.

W26. Provide a narrative demonstrating compliance with 310 CMR 10.56(4).

GH Response: Addressed by CLAWE.

STORMWATER MANAGEMENT REVIEW

GENERAL

SW1. The 100-year flood is defined by DEP as the anticipated water surface elevation resulting from 7.0" of rainfall in a 24-hour period. Revise calculations accordingly.

GH Response: Volume 3, Chapter 1 (Documenting Compliance) of the Stormwater Handbook, in the Standard 2: PEAK RATE ATTENUATION section, points to the "Hydrology Handbook for Conservation Commissioners" for all required computations and demonstrations. In the hydrology handbook, TP-40 is specified as the required rainfall data atlas. Appendix F-1 of the Hydrology Handbook specifies the 100 year 24-hr design storm as 6.7" for Norfolk County. This concurs with the TP-40 Rainfall table within the HydroCAD software. Accordingly, the 100-year design storm rainfall depth has not been revised.

SW2. BETA recommends that the design engineer review the proposed grades around Basin #1. As shown on the detail on sheet 11 of 12, the top of the embankment is Elevation 153.50. The grading, as shown on Sheet 5 of 12, has the crest at Elevation 153.0 with a top width of 0.0'. BETA recommends that the width of the embankment at the crest be a minimum of 4'.

GH Response: A minimum embankment crest width of 4' has been provided as requested.

SW3. In accordance with Volume 2, Chapter 2 of the Stormwater Handbook, an emergency low level dewatering device is required and should be provided at each basin.

GH Response: An emergency low level dewatering device detail has been added to both basin profiles as requested.

SW4. Clarify the methodology used for design and sizing of the proposed culvert at the roadway crossing.

GH Response: See response prepared by CLAWE.

SW5. The design calculations for the piping from the stormwater collection system assume free discharge. However, based upon the HYDRO-CAD calculations, this system will be submerged by ponding in the basins during the 10-year storm. BETA recommends that the inverts into the basin be raised sufficiently to avoid surcharging the inlet pipe into the basin at the peak of the 10-year storm.

GH Response: The invert into Basin #2 has been raised to avoid surcharging as requested.

SW6. Indicate material and depth of rip-rap spillway. Provide impervious barrier, typically a curb, through the full depth of the spillway material to prevent stormwater flow through riprap below the intended invert elevation.

GH Response: Type and depth of material (M2.032.3) "Stone for pipe end" and depth information added to detail sheet, and the basin profile for basin #2 has been revised to specify a weir wall as requested.

MASSDEP STORMWATER STANDARDS

NO UNTREATED STORMWATER (STANDARD NUMBER 1):

SW7. Provide calculations for sizing of riprap apron.

GH Response: Calculations for riprap apron have been provided as requested, see sheet 12 of the revised plan set.

SW8. Depict proposed headwalls on the plans.

GH Response: All stormwater discharges utilize flared end sections, and the detail sheets have been revised to remove any references to headwalls.

POST-DEVELOPMENT PEAK DISCHARGE RATES (STANDARD NUMBER 2):

SW9. Based upon the contours shown, runoff from the two isolated wetlands along the southerly property line does not flow towards the culvert beneath the driveway into 611 Lincoln Street. These should be treated as a separate and distinct analysis points for both existing and proposed conditions.

GH Response: A New sub catchment area and second analysis point have added to plans and

stormwater report as requested.

SW10. Indicate existing conditions flowpath on the watershed plans and provide calculations to determine time of concentration. Woodland conditions combined with a long flow path length will result in a time of concentration greater than the 6-minute minimum used in the model.

GH Response: Existing Condition flowpaths have been added to plan. Calculations for the time of concentration have been updated in the revised Hydro-cad report.

SW11. Depict limit of work and tree clearing on the watershed plans.

GH Response: the proposed limit of work and tree clearing has been added to proposed watershed plan as requested.

SW12. Expand subcatchment PR-2 to include any portions of Leanne Way and Trooper Paul Barry Way that will be graded towards proposed catch basins.

GH Response: Subcatchment PR-2 has been expanded to capture the portion of the new roadway entrance that will be graded towards proposed catch basins as requested.

SW13. Revise sub catchment boundaries to include the footprint of Basin #2 within sub catchment PR-2.

GH Response: Sub catchment PR-2 boundary has been revised to include the footprint of Basin #2 as requested.

SW14. Clarify method of routing building roofs to stormwater BMPs. As no roof leaders are proposed, roofs must be sloped towards the road to match proposed routing.

GH Response: The proposed catchment areas have been revised to accurately represent roof runoff routing. 3 Cultec chamber systems are proposed to capture and infiltrate the entirety of the runoff associated with the 100 year storm from the rear of the roofs for units 23-42, and 61-62.

SW15. Model infiltration basin footprints as "Water Surface, impervious" to avoid "double-counting" infiltration that will occur in these areas.

GH Response: HydroCAD model has been revised to model Infiltration basin footprints as impervious, as requested.

RECHARGE TO GROUNDWATER (STANDARD NUMBER 3):

SW16. In accordance with the Stormwater Handbook, two test pits in the footprint of each stormwater basin are required. Test pits in the vicinity of each basin (TP 10, 11, 12, and 20) show variable groundwater depth. Based upon the depth to groundwater indicated

in the adjacent test pits to each basin, it appears that the bottom of each basin will be less than 2' above groundwater. Additional test pits will clarify actual ESHGW elevations required for the design.

GH Response: Additional test pits were excavated November 4, 2022. Two were excavated in Basin #1 and three in Basin #2. The ESHGW was determined and verifies that both basins meet the minimum ground water separation. The soil information has been added to the Plan set.

SW17. Because the Basins will be used to comply with both Standards 2 and 3, a mounding analysis is required per V2C1 of the Stormwater Handbook.

GH Response: The exfiltration capacity was not included in the HydroCAD model for basin #2 to demonstrate that even when excluding exfiltration, Standard 2 is met. A mounding analysis is required when separation to groundwater is less than 4' and the recharge system is proposed to attenuate the peak discharge from a 10-year or higher 24-hour storm. As the recharge component of the basin is not necessary to comply with standard 2, a groundwater mounding analysis is not required. Basin 1 has been revised to a conventional detention basin and no longer has a recharge component.

SW18. BETA notes that test pits were completed in October 2005, outside of seasonal high groundwater period. In addition, the logs fail to note soil colors, the depth to mottles, and whether the estimated seasonal high groundwater level noted is based upon observed water or mottles. BETA recommends that additional test pits be conducted throughout the Site to confirm seasonal high groundwater elevation.

GH Response: New test pit were performed on 11/4/22, and the test pit data has been added to Sheet 12.

SW19. BETA recommends that an agent of the town observe native soils after test pit excavation for the to confirm design assumptions.

GH Response: As per discussion with the Franklin Conservation Agent, testing was allowed on the condition that the test results and pictures of the testing would be sent to the Agent as soon as possible. The pictures and test results have been sent to the Agent.

SW20. Revise basins to include at least 1' of freeboard between the 100-year peak elevation and the top of the basin.

GH Response: The stormwater basins have been revised to provide 1' of freeboard between the 100-year peak elevation and the top of the basins, as requested.

SW21. Provide a minimum setback between infiltration basin and building foundations – 10 ft when downslope and 100 ft when upslope. The designer must demonstrate that infiltration basins will not adversely impact downslope building foundations, e.g. those buildings with slab elevations located below the basin bottom elevation. The slab

elevations should be raised to be above the bottom elevation of infiltration basin #1 (Elev. 248.5').

GH Response: The stormwater basins have been revised to provide a minimum of 10' of separation between nearby basements. Stormwater basin #1 has been revised to a conventional detention basin with an impervious liner, eliminating the possibility of recharging water impacting downslope building foundations.

SW22. Basin 2 is located within 50' of the wetlands and should be reshaped to provide this minimum setback required by Table 3 of V1C1 of the Stormwater Handbook.

GH Response: Basin #2 has been reshaped as requested and per the guidance provided by BETA on interpretation of the setback.

TOTAL SUSPENDED SOLIDS (STANDARD NUMBER 4):

SW23. In accordance with Volume 1, Chapter 1 of the Stormwater Handbook,

*“The required water Quality Volume equals 1.0 inch of runoff times the **total** impervious area of the post development project....”.*

In the determination of compliance with the Stormwater Standards, the stormwater report states for Standard 4,

“Since roof runoff is considered clean and not considered to contribute contaminants to stormwater runoff, 101,902 sf of roof area is not included in the required water quality volume. “

The roof area is part of the Site impervious area and must be considered when calculating the required water quality volume. Accordingly, the water quality volume must be recalculated.

GH Response: The stormwater report has been revised to include ALL impervious area in the Water Quality Volume calculation. In addition, the new testing within the stormwater basins and throughout the site identified the parent material as Sandy Loam. Because the parent material is no longer considered to have a rapid recharge rate, the water quality volume is based on the 0.5” standard. G&H notes that 1” of runoff is still retained on site, as demonstrated in the MS4 bylaw compliance section of the narrative.

SW24. The impervious area tributary to five of the proposed catch basins exceeds 0.25 acres. In accordance with Volume 2, Chapter 2 of the Stormwater Handbook.

“The contributing drainage area to any deep sump catch basin should not exceed ¼ acre of impervious cover.”

These basins will no longer provide the 25% TSS Removal assumed in the analysis. BETA recommends that additional basins be added to meet this design requirement.

GH Response: Street drainage sub catchment areas have been reconfigured. All catch basin sub catchment areas are now meeting this requirement.

SW25. *The treatment provided by the deep sump catch basin is part of the pretreatment requirement and cannot be counted in conjunction with the final TSS removal calculation of Basin 2. The outfall from Basin 1 is routed through Basin 2, therefore, the 80% TSS Removal rate of Basin 2 should be included in the final treatment train for Basin 1.*

GH Response: TSS work sheets have been revised per this comment and reflect the change in the design of detention basin #1.

EROSION AND SEDIMENT CONTROLS (STANDARD NUMBER 8

SW26. *Recommend requiring the final, completed SWPPP be provided to the Town prior to the start of construction. The provided SWPPP does not include all information required by the EPA.*

GH Response: Acknowledged.

SW27. *Include location of the stabilized construction entrance on the plans.*

GH Response: The location of the stabilized construction entrance has been added to the plan as requested.

SW28. *Revise construction sequencing plan to clarify that temporary sedimentation basins will not be removed but rather reconfigured into permanent infiltration basins.*

GH Response: the temporary basins are located in different areas than the proposed basins. Accordingly, the note will remain as is. References to the basins use as temporary basins have been removed from the basin profile details.

SW29. *Include site restoration in the construction sequencing.*

GH Response: Site restoration has been added to construction sequencing. See documentation provided by CLAWE.

SW30. *Reconcile the two sequencing plans for consistency between the SWPPP and Sheet 4.*

GH Response: Sheet 4, the SWPPP, and Sheet 11 have all been revised for consistency with the construction phasing and sequencing plan provided by CLAWE.

OPERATIONS/MAINTENANCE PLAN (STANDARD NUMBER 9):

SW31. *Revise sediment forebay inspection frequency to be monthly and cleaning frequency to four times per year.*

GH Response: Operation and Maintenance Plan revised as requested.

SW32. *Include inspection and maintenance measures for the outfall and riprap apron.*

GH Response: Operation and Maintenance Plan revised as requested.

SW33. *Provide plan, drawn to scale, that shows the location of all stormwater BMPs in each treatment train along with the discharge point.*

GH Response: A Stormwater BMP plan has been prepared and included with the stormwater report, as requested.

SW34. *Include gate or gap in fence to allow vehicular access to the entire infiltration basin perimeter for maintenance.*

GH Response: A gate has been provided at each infiltration basin.

If you have any further questions or concerns, please contact our office.

Sincerely,
Guerriere & Halnon, Inc.



Michael Hassett
Project Engineer