DANA F. PERKINS, inc.
Consulting Engineers & Land Surveyors

September 26, 2022

Town of Andover
Community Development and Planning Offices
36 Bartlet Street
Andover, MA 01810

Re: Major Non-Residential Project
Proposed Self Storage Facility
43 River Road
Andover, Massachusetts
Assessors Map #148 ~ Lot #1-E

Dear Members of the Board,

On behalf of our client, 3P Properties, LLC., we have submitted the following revised engineering plans and supporting documentation for the subject project:

1. Parking Lot Expansion, 841 Woburn Street, Wilmington, Massachusetts (5 sheets), dated September 7, 2021 and last revised November 1, 2021, as prepared by our firm.
2. Revised hydrological analysis stormwater calculations.

These plans and documents and the accompanying response to comments below address both the stormwater peer review letter received from Horsley Witten Group dated August 16, 2022, as well as comments received both during the Interdepartmental Review meeting with the Town, and the original Planning Board Meeting that took place on August 9th, 2022.

On behalf of our client, we provide the following responses to the August 16, 2022 letter from Horsley Witten Group (original comments in standard text, applicant's comments in bold text).

1. Standard 1 states that no new stormwater conveyances (e.g. outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.

   a. The existing and proposed site topographic discharges stormwater to four separate design points (DP):

      • DP-1: collects stormwater from the majority of the site flowing towards the southern property boundary.

- DP-2: collects stormwater flowing towards the western property boundary and the Greater Lawrence Regional Vocational Technical High School.

- DP-3: collects stormwater flowing towards the northern property boundary and the Andover Park Development L.P.T.

- DP-4: collects stormwater from a small portion of the site flowing towards Riverside Drive.

It appears that the project site does not directly discharge towards any wetlands or waters of the Commonwealth, therefore the Applicant complies with Standard 1.

No further comment.

2. Standard 2 requires that post-development runoff does not exceed pre-development runoff off-site.

   a. In the Proposed HydroCAD model, the Applicant includes subcatchments PR-1A, PR-1B, and PR-1C. However, these subcatchment areas are not delineated on the Proposed Drainage Divide figure. To avoid confusion, HW recommends that the Applicant indicate the individual subcatchments on the Proposed Drainage Divide figure.

The Proposed Drainage Divide figure has been revised to show the individual subcatchment areas.

   b. HW recommends that the Applicant confirm the catchment area to DP-4 under proposed conditions. It appears that the top of the berm, approximately elevation 81, associated with Infiltration Basin #2 should be a divide and the catchment area towards Riverside Drive should be larger.

Proposed flows heading towards catchment area DP-4 have been removed. A stone level spreader has been proposed to capture stormwater runoff from the previous proposed DP-4 subcatchment and now is proposed to discharge to DP-1.

   c. In accordance with the Section IX. E.4. of the Andover Stormwater Regulations Flooding Protection, HW recommends that the Applicant adjust the Curve Number (CN) value for Post Construction grass to be 79 instead of 61 as listed in Table 1.

Curve Numbers for the project have been revised, as requested.

   d. HW recommends that the Applicant provide the flow paths and confirm the time of concentration (Tc) values provided under existing conditions. The Applicant has included a direct entry of 5 minutes for each catchment area which may be fast through this naturally wooded area.

The time of concentration values for the existing conditions have been revised.

   e. The Applicant has noted that test pits have been conducted and therefore are using Hydrologic Soil Group (HSG) B. HW recommends that the Applicant provide the test pit logs.

Test pit logs have been included to supplement the Test Pit Plan submitted along with the Stormwater Report.

3. Standard 3 requires that the annual recharge from post-development shall approximate annual recharge from pre-development conditions.
   a. The Applicant has provided two infiltration basins that appear to provide greater than the required recharge volume. HW recommends that a detail be provided for the Infiltration Basins to clarify surface material, stone sizes, side slopes, and peak elevations for the various storm events.

Details have been added for the infiltration basins.

   b. As noted above, HW recommends that the Applicant provide the test pits to confirm the soil type and depth to seasonal high groundwater. If the separation between the bottom of the basins and seasonal high groundwater is less than 4 feet, HW recommends that the Applicant provide a mounding analysis in accordance with the MSH Volume 3, Chapter 1, page 28.

Test pit logs have been included to supplement the Test Pit Plan submitted along with the Stormwater Report. No observations of groundwater were made within any of the soil test pits. The test pits were conducted to a depth of approximately 3.9' below Infiltration Basin #1 and 3.6' below Infiltration Basin #2. Due to the soil test pit information, and site conditions, it is assumed that seasonal high groundwater is 4 feet or greater. If warranted, a condition of approval could be for the site contractor to verify prior to construction.

4. Standard 4 requires that the stormwater system be designed to remove 80% Total Suspended Solids (TSS) and to treat 1.0-inch of volume from the impervious area for water quality.

a. The Applicant has designed Infiltration Basin #1 to manage the roof runoff from the proposed building. The Applicant has designed Infiltration Basin #2 with a forebay and a water quality unit to capture, treat, and manage the runoff from the parking lot. HW recommends that the Applicant provide the sizing calculations for the forebay in accordance with Section IX.I.1 of the Andover Stormwater Regulations.

Infiltration Basin #2 does not have a proposed forebay. Rip rap has been proposed in the area of the inlet pipes to prevent scouring.

b. HW recommends that the Applicant provide the vendor information for the CDS 2015 water quality unit to verify the size as well as the percentage of TSS removal.

Vendor information from Contech has been provided for the proposed CDS structure.

c. HW recommends that the Applicant confirm that the forebay and trench drain at the end of the driveway will provide adequate pretreatment for this catchment area.

The stormwater discharge from the proposed trench drain is considered to be de minimis, with a discharge less than or equal to 1 CFS for the runoff associated with the 2-year 24-hour storm. A deep sump catch basin has been proposed to provide additional pretreatment for this catchment area.

d. In accordance with Section IX.C. of the Andover Stormwater Regulations, HW recommends that the Applicant provide the applicable calculations to verify that the pre-treatment devices have been adequately sized.

Vendor sizing information from Contech has been provided for the proposed CDS structure.

5. Standard 5 is related to projects with a Land Use of Higher Potential Pollutant Loads (LUHPPL).

    a. A self-storage facility is a land use that does not produce higher potential pollutant loads. therefore Standard 5 is not applicable.

No further comment.

6. Standard 6 is related to projects with stormwater discharging into a critical area, a Zone II, or an Interim Wellhead Protection Area of a public water supply.

    a. The project site does not appear to discharge to a critical area, therefore Standard 6 is not applicable.

No further comment.

7. Standard 7 is related to projects considered Redevelopment.

    a. This project is not considered redevelopment, therefore Standard 7 is not applicable.

No further comment.

8. Standard 8 requires a plan to control construction related impacts including erosion, sedimentation, or other pollutant sources.

The Applicant has provided a Soil Erosion and Sedimentation Control plan (Sheet 3 of 10). HW has the following comments regarding this plan:

    a. The Applicant has proposed erosion controls on the southern corner of the site only. HW recommends that the Applicant place erosion controls around the entire site to avoid any soil from migrating onto abutting properties.

Proposed erosion controls have been added to the plan to prevent soils from migrating onto abutting properties during construction.

    b. HW recommends that the Applicant delineate the locations of critical areas for erosion potential as required in the Andover Stormwater Regulations.

Due to the fact that no wetlands exist on site, there are no critical areas for erosion potential on site. The main concern for the project is to prevent soil from migrating onto abutting properties during construction. Additional proposed erosion controls have been added to the plan to prevent this from occuring.

c. HW recommends that the Applicant label the locations of temporary and permanent seeding, vegetative controls, and other temporary and final stabilization measures.

The Construction Period Pollution Prevention Plan outlines steps to be taken for both temporary and permanent stabilization. In addition, a Stormwater Pollution Prevention Plan (SWPPP) will be provided prior to construction as part of the EPA NOI Construction General Permit for projects disturbing more than one acre. The SWPPP also includes information on temporary and permanent stabilization. The Landscape Plan has been updated to show areas to be grassed as part of the permanent stabilization.

d. HW recommends that the Applicant provide a means to prevent soil compaction on the floor of the basin during construction in accordance with Section IX.I.3. of the Stormwater Regulations.

Notes have been added to the Soil Erosion and Sedimentation Control Plan to prevent soil compaction on the floor of the basin during construction.

The Applicant has also provided a Construction Period Pollution Prevention Plan in the Stormwater Management Permit. HW has the following comments regarding this plan:

e. HW recommends that the Applicant include maintenance and inspection procedures for each proposed stormwater practice, such as deep-sump catch basins, hydrodynamic separator, and the infiltration basins once installed. HW recommends that the stormwater practices be included in the inspection logs.

The Maintenance/Inspection procedures for the Construction Period Pollution Prevention Plan have been revised to include specific references to the individual stormwater BMPs. The inspection report forms have been revised to include the stormwater BMPs.

f. The proposed land disturbance will exceed 1 acre therefore a NPDES Construction General Permit will be required. The Applicant has noted that a Stormwater Pollution Prevention Plan (SWPPP) will be provided prior to construction. The Planning Board may choose to require receipt of the SWPPP a minimum of 14 days prior to land disturbance as a condition of approval.

No further comment.

9. Standard 9 requires a Long-Term Operation and Maintenance (O&M) Plan be provided.

The Applicant has provided a Long-Term Pollution Prevention Plan. HW has the following comments regarding this plan:

a. HW recommends that the Applicant specify the name of the party(ies) responsible for operation and maintenance, including how future property owners will be notified of the presence of the stormwater management system and the requirement for proper operation and maintenance per MSH Volume 1, Chapter 1.

The Long-Term Pollution Prevention Plan has been updated to include the information, as requested.

b. HW recommends that the Applicant include an O&M budget per MSH Volume 1, Chapter 1.

The Long-Term Pollution Prevention Plan has been updated to include an O&M budget.

c. Per Section VI.C.1.b.7 of the Andover Stormwater Regulations, HW recommends that the Applicant include a simple sketch indicating where the stormwater practices requiring inspections are located.

The Long-Term Pollution Prevention Plan has been updated to include a simple sketch outlining the locations of the individual stormwater BMPs.

10. Standard 10 requires an Illicit Discharge Compliance Statement to be provided.

a. HW recommends that the Planning Board requires receipt of an Illicit Discharge Statement signed by the property owner prior to land disturbance.

A signed Illicit Discharge Statement has been included.

11. Additional Comments per Andover Stormwater Regulations:

a. In accordance with Section IX.D. of the Andover Stormwater Regulations, HW recommends that the Applicant provide the applicable calculations to document that the stormwater management systems have been adequately sized to remove 90% of TSS and 60% of Total Phosphorus (TP) from the post-construction impervious surfaces.

Revised TSS Calculation Worksheets have been provided. Based on Massachusetts Stormwater Regulations Volume 2, Chapter 2, infiltration basins provide between 60 to 70 percent Total Phosphorus removal efficiency, meeting the 60% Total Phosphorus removal requirement.

b. In accordance with Section IX.I.4. the perimeter of the basins shall be curvilinear. HW recommends that the Applicant discuss the site constraints with the Planning Board.

Due to site constraints, the ponds have been designed to have a more traditional shape (oval/rectangular). The basins have been located and shaped to follow the natural landform, to the greatest extent practicable, by being placed at naturally formed low points on the site.

c. HW recommends that the Applicant confirm it has provided a minimum of 1 foot of freeboard above the 25-year storm elevation in accordance with Section IX.I.6.

The ponds have been designed to have a minimum of 1 foot of freeboard above the 25-year storm elevation. The Hydrological Analysis Stormwater Summary has been revised to include this information. This information has also been added to the Detail Sheets included with the site plan set.

c. HW recommends the Applicant determine if a low flow outlet is required to prevent clogging in accordance with Section IX.I.9.

The ponds have been designed to infiltrate stormwater to the maximum extent practicable. The only outlets on the ponds being proposed are rip rap spillways. As such, low-flow outlet protection does not apply to this particular design.

On behalf of our client, we provide the following responses to comments/questions received during both the Interdepartmental Review meeting with the Town, as well as the original Planning Board meeting that took place on August 9th, 2022 (original comments in standard text, applicant's comments in bold text).

The Town's Fire Department has requested a Turn Radius Plan illustrating the Town's fire truck ability to maneuver the site.

A Turn Radius Exhibit Plan has been added to the proposed plan set illustrating that the Town's fire truck can safely maneuver the site.

The Town's Fire Department has requested that the applicant provide a fire hydrant located on site.

A proposed fire hydrant has been added to the proposed plan, along with a note that the contractor shall consult with the Town Fire Department for final site location approval.

The Planning Board has requested that additional trees be added for screening purposes.

Additional trees have been added to the plan for screening purposes, as requested.

The Planning Board has requested pictures be provided of other existing facilities that the applicant has built in the past to get a better idea of what the proposed building façade will look like.

Pictures of other storage facilities that the applicants have built have been submitted.

The Planning Board has requested the applicant provide clarification on the site parking calculations and site parking requirements.

The project has received approval of a special permit from the Town Board of Appeals under a Use Classification of "wholesale storage warehousing". Per section 5.1.4.24 wholesale storage parking requirements are as determined by the Planning Board and reported in a memorandum to be filed with the building permit or certificate of occupancy.

The Board of Health has requested that additional information be added to the site plan set in regards to the proposed sewer connection.

The existing conditions plan has been updated with information regarding the existing sewer line that the project is proposing to tie into. A proposed sewer line profile has been added to the Detail Sheets.

The Conservation Commission has requested that a Wetlands Scientist provide clarification on an area of bordering vegetated wetlands that is depicted on the Town's GIS map.

Patrick Seekamp from Seekamp Environmental Consulting, Inc. conducted a site inspection of the area in question, and has provided a letter detailing that there are no bordering vegetated wetlands located on site. A copy of this letter has been included.

Please feel free to contact our office at (978) 858-0680 should you have any questions or require additional information.

Very truly yours,
Dana F. Perkins, Inc.

Andrew Pojasek, P.E.

SEEKAMP ENVIRONMENTAL CONSULTING, INC.

129 Route 125, Kingston, NH 03848
Tel: 603.642.8300 Fax: 603.642.8500

September 1, 2022

Mr. Andrew Pojasek, P.E.
Dana F. Perkins, Inc..
1057 East Street
Tewksbury, MA 01876

RE: Site Inspection for Wetlands, Contractor Yard at 43 River Road, Andover, MA, (Site).

Dear Andy,

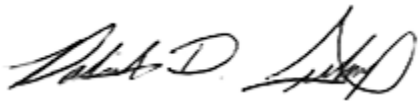
On August 31, 2022 Seekamp Environmental Consulting, Inc., (SEC) inspected the above referenced property for the presence of jurisdictional wetland resource areas on or within 100 feet of the subject property boundaries. The focus of our investigation is at the rear of the Lumber business property where there is an active contractor yard with dry storage of various construction materials.

During our review **we found that there are no wetland resource areas on or within 100 feet of the portion of the property where the Town of Andover Wetlands Map shows a wetland area existing.** We found no evidence of any wetland area existing previously on the Site.

The Site is bounded on the West, East, and South by developed buildings. The undeveloped surrounding area, including a wooded hillside to the North, is generally upland woods and the landscape position of the existing yard lends one to believe that it too was originally wooded uplands. The Map appears to show an anomaly of mapped wetlands as best we can tell.

We trust this letter resolves the question of no wetland areas existing on the Site. Please feel free to contact the undersigned if you have any questions regarding our review.

Sincerely,
SEEKAMP ENVIRONMENTAL CONSULTING, INC.



Patrick D. Seekamp, CWS
Principal / Senior Wetland Scientist