City of Keene, New Hampshire

CONSERVATION COMMISSION

Monday, September 20, 2021 **4:30 PM** **City Council Chambers**

Commission Members

Alexander Von Plinsky, IV, Chair	Councilor Robert Williams
Eloise Clark, Vice Chair	Brian Reilly, Alternate
Kenneth Bergman	Thomas P. Haynes, Alternate
Art Walker	Steven Bill, Alternate
Andrew Madison	John Therriault, Alternate

1. Call to Order

2. Approval of Meeting Minutes – July 19, 2021

3. Applications:

4. Informational

   a. Subcommittee reports
      - Outreach Subcommittee
      - Arm Fund Subcommittee-Non Public Session
   b. Invasive Species

5. Discussion Items

   a. Conservation Commission speaking events
   b. Multiyear Pollinator Census results for Cheshire County

6. New or Other Business

7. Adjournment – Next meeting date **Monday, October 18, 2021**

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City of Keene
New Hampshire

CONSERVATION COMMISSION MEETING MINUTES

Monday, July 19, 2021 **4:30 PM** **Council Chambers**

Members Present:
Alexander Von Plinsky, IV, Chair
Eloise Clark, Vice Chair
Councilor Robert Williams
Art Walker
Ken Bergman
Thomas Haynes, Alternate
Brian Reilly, Alternate
Steven Bill, Alternate

Staff Present:
Rhett Lamb, Community Development Director/Assistant City Manager
Andy Bohannon, Director of Parks, Recreation & Facilities
Corinne Marcou, Administrative Assistant

Members Not Present:
Councilor Andrew Madison
John Therriault, Alternate

SITE VISIT: At 4:00 PM, before the meeting, Commissioners attended a site visit at Russell Park regarding the proposed wetlands permit application.

1) Call to Order

Chair Von Plinksy called the meeting to order at approximately 4:40 PM.

2) Approval of Meeting Minutes – June 21, 2021

Mr. Haynes moved to adopt the minutes of the June 21, 2021 meeting, which Councilor Williams seconded. Mr. Bergman presented the following corrections to the Commission via email on July 16, 2021. The following lines should be revised to read as follows:

68 *Mr. Bergman wondered **if** those wildflower mixes **would** stabilize slopes against erosion*
69 *as **effectively** as grasses might. Mr. Therriault **acknowledged that this issue was worth considering** and stated…*

182 *Regarding the Karner blue butterfly, Mr. Bergman said that there is a large pine bush near the*
183 *Albany, NY, airport where the **endangered** pollinator **also survives**. He reported that Harvard University has **the butterfly specimens collected by the***
184 *famous Russian-American author and **lepidopterist** Vladimir Nabokov,*

185 ***who*** *discovered* ***the Albany population and its dependence*** *on the lupin****e while commuting between his research position at the Harvard Museum of Natural History and his job teaching literature at SUNY Albany.***

With a unanimous show of hands, the Commission approved the June 21, 2021 minutes as amended.

3) <u>Applications: Standard Wetlands Permit Application: Patricia T. Russell Park Improvements and Stream Restoration by City of Keene. SLR, Milone & Macbroom, and Basswood Environmental</u>

Andy Bohannon, Director of Parks, Recreation, & Facilities, introduced Jason Williams and Eric Lema of SLR Consulting to present plans for the Russell Park improvements and answer questions following the site visit. Mr. Williams, landscape architect with SLR of New Haven, CT, began and demonstrated the overall master plan renderings and oriented commissioners with Carpenter Street and Beaver Brook. Almost one year ago, plans began to create an ecological space that can also be an important asset to the community, with rugby and potentially lacrosse athletics. Mr. Williams reviewed the main park elements before Mr. Lema addressed the ecological considerations and wetland features. The idea behind the park is to attract all users from smaller children with their parents to seniors within the neighborhood. The idea is that as you move through the park, you encounter many different features for passive and active recreation.

Mr. Williams reviewed important changes planned:

- Addition of parallel parking along Carpenter Street to add spaces and create a buffer between the street and active/passive activities within the park.
- Rain gardens to adjacent to the parallel parking spaces to capture storm water from the street and parking. There are additional rain gardens planned for the site to catch sheet flow from the athletic fields.
- A paved pathway around the whole park perimeter.
- A typical grass athletic field with picnic tables, wood block seating, and two bleachers along the perimeter.
- A main gateway from Carpenter Street (#19 on plans) would be a large plaza with a large shade pavilion just beyond it.
- New one-way parking along the south side of the site, with a dedicated drop-off/pick-up area or space for a food truck (#11 on plans). Two small plazas for people to sit and relax or for food or drop-off/pick-up.
- Bocce ball court with a pergola for shade behind playground areas (#s 8 and 25 on plans). Open air pavilions adjacent to play areas. Playgrounds are natural playscapes that take aesthetic cues from the Brook, made by Earthscapes, with features made mostly of wood in addition to plastic slides and other natural elements that are fully American Disability Association accessible.
- Neighborhood drainage upgrades. Currently, a line runs directly under the Russell Park athletic field and discharges perpendicular into Beaver Brook. This is not ideal because it increases erosion and water does not flow on 90-degree angles. Therefore, the new pipe would run under the field at an angle. To avoid everything hitting the catch basins

in the neighborhood and dumping right into Beaver Brook, there are two goals. First, slow it down, and second, treat it. Therefore, in the southwest corner of the parcel, there is a small storm water management basin, where water can fall out of daylight into the basin, fill the basin, and once it gets to a high-level overflow, it would move through a cobble spillway into Beaver Brook.

- Invasive species management along Beaver Brook, including the removal of extensive Japanese knotweed and restoration plantings with native species.
- Lighting proposed throughout for safety.
- A bathroom facility with a small plaza (#13 on plans)

Mr. Williams demonstrated the two-wetland areas on the property. A small wetland is half on the property (#7 on plans) and the second wetland is Beaver Brook. The consultants noticed that Beaver Brook is channelized with concrete to the east and northeast until it makes a hook as it flows under Harrison Street, where velocities increase as the Brook moves east and makes another 90-degree turn heading south. The goal is to reduce the velocities through bank excavation, creating a micro floodplain shelf, setting boulder armament, and planting vegetation. While this does not add significant flood capacity, it would open the stream channel as it comes around the sharp corner, lowering the velocity.

Mr. Lema, project ecologist, continued the presentation. He identified the wetlands and natural resources on site plans. The two wetlands that Mr. Williams mentioned are a part of the NH Department of Environmental Services (DES) Wetlands Permit application for impact to Beaver Brook from bank excavation to limit the damaging effects of the high Brook velocities. The second wetland in another part of the park is only half on this property and is a largely undetectable depression area. Because the park is almost entirely within the 100-year floodplain, the smaller depressed wetland area is what DES refers to as a priority resource area. Therefore, every effort must be made to avoid direct impacts to that wetland area if possible. Mr. Lema said that thankfully, the small wetland is far enough on the edge of this site that Mr. Williams' team could avoid it.

Mr. Lema continued discussing permissible impacts proposed to Beaver Brook. The Wetlands Permit proposes approximately 309 linear feet of impacts and because this exceeds 200 linear feet, this project was elevated automatically to a DES major project. Major projects necessitate the full permit that was before the Commission. The project team discussed reducing the impact to 200 linear feet but believed that would not reduce flood flow velocity or improve the capacity of Beaver Brook to transmit water downstream. The plan is to offset the impact through what Mr. Lema called restoration and enhancement of the remaining banks of the Brook, including excavation. By enhancement, he meant invasive species management of Japanese knotweed primarily, in addition to multiflora rose and honeysuckle that are common in urban parks. After invasives are managed, the banks of the Brook would be stabilized by planting native species vetted by the Natural Heritage Bureau, which would result in a net improvement to the surrounding native ecosystem. Mr. Lema was happy to take questions on the ecological aspects of the park and the permitting, which was also his responsibility.

Mr. Bill asked whether there was there any need for a buffer between wetland #7 and playground #8. Mr. Lema spoke to the constraints of the site, stating that it is a pretty tight fit

right now, and the team is taking steps such as putting up fencing and erosion control to avoid wetland #7. A bollard fence would be constructed around playground #8 to keep people out of the wetland to the greatest extent possible. Mr. Williams agreed that there was little space remaining to push the playground further from the wetland, but a native wildflower seed mix that would be inter-planted with birch trees would create a buffer.

Mr. Bergman asked, with this new protection and the cessation of mowing in at least that small part of the wetland, whether Mr. Lema anticipated that a different kind of natural, disturbance tolerant wetland vegetation would begin to reappear in that area. Mr. Lema said it was a great question and something he thought about regarding the lower depressions within the small wetland. He said some disturbance tolerant species were coming up already and trying to persist, and he anticipated a reversion to more wetland species. The challenge is that most of this wetland is not on park property to the best of Mr. Lema's knowledge. Therefore, if mowing does not stop in the remainder of the wetland it would be a moot point. Mr. Lema said he performed a functional analysis of the small wetland that is included in the Wetlands Permit application; its primary function is flood storage but not a significant amount. He said this is not an ecologically robust system because it is an urban park that is mowed routinely, but it still has some value for flood storage capacity and there is potential for enhanced diversity.

The Chairman posed questions about the proposed catchment basins and rain gardens. He first asked whether there was concern that the rain gardens along Carpenter Street would interact with root structures of the existing trees that would be preserved there. Mr. Williams said there is a grading plan and said that because cars have parked between those trees for year, the roots are already compacted. Further, these rain gardens would not be deep, approximately 12 inches, meaning their capacities would not be substantial but rather sufficient to accommodate initial rainfall and sheet flow from Carpenter Street. Beyond stormwater storage, the rain gardens can act as educational demonstrations for what community members could do to catch stormwater from their driveways. Mr. Williams said the additional raingardens proposed on the west side of the park would be approximately the same depth but that they would all be fairly long to increase capacity not gained with depth. Flows would continue to a vertical drain tied to the collector pipe that goes north and then south to the large sediment basin. The actual catchment basin would be approximately six feet deep.

Mr. Bill asked the capacity of the new drainpipe and what design was put in place for rainfall. Mr. Williams did not have that answer but could inquire with the project engineer and return an answer.

The Chairman expressed thanks for the presentation, stating that the Commission was excited about this project as a whole; he called it a feel-good project and Commissioners agreed.

Mr. Lamb said that the Commission should deliberate and determine whether it wanted to send recommendations or concerns to the NH DES as they review this permit application and impose conditions. Staff would draft a letter reflecting the Commission's position from this public record and the Chairman would sign it before sending to DES. There were no specific standards for the Commission to follow, but rather their task was to evaluate the wetland impacts and mitigation plans and to offer recommendations based on their unique knowledge of this site and

community. The Commission would either decide to provide specific recommendations or motion not to intervene (a statutory term) with the Wetlands Permit. If the Commission chose to intervene, Mr. Lamb thought they would need to further evaluate the site.

The Chairman spoke on behalf of Mr. Therriault and recommended native pollinator friendly plantings and practices. As a trained landscape architect, Chair Von Plinksy also spoke more about rain gardens. The gardens are filled with permeable material and plants to slow down the stream of stormwater flowing quickly off impermeable pavement, allowing the water to accumulate throughout the length of the garden, which could have a positive impact on the Beaver Brook streambed. He said there is a similar catchment in front of the Keene Middle School, which is planted with tolerant wetland species. Mr. Bill asked whether they are basins with plants in them. The Chairman said a long, shallow trench would be cut into the earth, so the garden is level with the pavement, and there would be no plastic or metal base but simply a grading change.

Mr. Bill asked about the drainage system from the rain gardens to the main subterranean drainpipe. Mr. Williams replied that each rain garden would have a small base so that if it fills with water, it does not discharge out over the banks of the garden, but rather is directed into the main catchment system. Mr. Williams agreed with the Chairman's explanation and said that because there is a large athletic field on the site, and although that soil will be amended for additional infiltration, there would still be stormwater sheet flow from the field that needs to be captured. Mr. Williams showed a cross section of the site to demonstrate that sheet flow from Carpenter Street and the parking area would pass through a cobble filter strip that would catch sediment and other debris before the water slowly fills the rain garden. A trench would be dug in the bottom of the rain garden, and filled with clean crushed stone, where the water drains down initially before slowly filling a lower area, depending on the rain event and how saturated the subsoil is already. The plant species in the rain gardens would be tolerant to temporary inundation. Eventually, the water gets high enough and to prevent it from spilling back into the roadway or overflowing into the athletic field, there would be a vertical cast iron drain attached to the site's overall drainage system. Mr. Williams said the gardens create a sort of micro-ecosystem and then the drainage creates a microclimate that is beneficial to insects and most importantly, pollinators. This is a place where not only reptiles and amphibians can rest, but it is also a moisture reserve for all fauna and habitat for certain insects. Mr. Williams said that most projects could not accommodate as many rain gardens as planned for this site, and he offered kudos to the City Engineer, Don Lussier, Brett Rusnock, Civil Engineer, and Mr. Bohannon for allowing their placement in so many locations on this site. Vice Chair Clark offered an example of an active rain gardens at the corner of Washington Street and Beaver Street.

Mr. Haynes referred to the stone trench and asked why it would be 24 inches deep and whether it could be bigger to accommodate more water. Mr. Williams stated that he was concerned about the adjacent linden tree roots and was even considering only 18 inches deep to avoid excavating too far. Test pits would be created when construction begins to assess the root structure. He said the trench could be deeper in theory, which would require an entire gravel blanket underneath with a perforated pipe also tied to the drainage system. When the trench fills, the water immediately goes into the pipe and flows out; while a very good engineering

principle, he said it is not very ecological. He reiterated a goal to keep water on site for fauna and so in this case, the stone trench was chosen to function very naturally.

Mr. Bergman asked about the Beaver Brook bank. He recalled hearing that at the north end near the 90-degree turn, there would be an expansion and decrease in the grade to allow for more water to spread out and slow down at that corner. He said he did not know what the contour lines meant and he wondered whether there would be other modifications of the slope or grade of the bank south of that location. He said he knew there would be other gardens and features, but referenced the plans that suggested vegetation along the stream margins, wondering how close people would be to the Brook. He also questioned whether there would be a strip of secure vegetation to protect the very margins of the typical water level of the stream from impingement by people; he said you couldn't approach the water itself it approaches you, and it will be good to be rid of all the knotweed. Mr. Williams explained the contour lines depicted on the plans. He said that an essentially new top bank would be created and come into the site quite a bit. There would be a pathway leading to a lower landing that people can access to look at the stream and he demonstrated entire areas along the stream that would be vegetated fully as a barrier between people and the Brook. However, many of the species would be shorter so people can still see the Brook from a safe distance. At the new top bank, a boulder armament would be installed in a linear fashion to both stabilize the bank post-construction and create habitat in the boulder voids, which would be filled with gravel and soil and planted with fast-growing willows that would eventually mask the gravel and boulders. The armament, in addition to a riprap blanket, would together withstand Beaver Brook's velocities as it rounds the corner.

Vice Chair Clark moved to not intervene with this Wetlands Permit application, which Mr. Walker seconded.

No Commissioners expressed a need to intervene. The Chairman reiterated his point about fostering native pollinators.

Mr. Bill asked the lifespan of the rain gardens and how they are maintained. Mr. Bohannon replied that a key component of rain gardens is catching runoff and therefore regular maintenance every five years by Parks, Recreation, & Facilities crews would be needed. Mr. Bohannon said that Mr. Williams was preparing a maintenance plan for the rain gardens at this site, which is critical to keep sediment from collecting and to change plantings.

The motion not to intervene passed with a unanimous show of hands.

Mr. Lamb would ensure the comment on pollinators was included in the letter to DES, whose review takes three or four months. Construction is planned for spring 2022.

4) <u>Informational</u>

A) Subcommittee Reports

i) *Outreach Subcommittee*

The Subcommittee met recently and confirmed that Councilor Steve Hooper will lead a Goose Pond Through the Lens of a Camera event on August 21. Mr. Bill's Goose Pond walk is planned

for this fall. Vice Chair Clark continues sending Nature Nuggets to Ms. Marcou who posts them to social media. The Chairman said that a friend and city planner in Winchendon, MA, said they are interested in adopting the Nature Nugget idea. The Chairman asked if Councilor Madison should be included on the Outreach Subcommittee because of his plans for a winter speaker series. Mr. Haynes thought it seemed that the Councilor was willing to run the talks on his own, though the Subcommittee would be happy to support him.

ii) *ARM Fund Subcommittee – Non-Public Session*

Tabled until the end of the meeting.

iii) *Goose Pond Forest Stewardship Subcommittee*

Mr. Haynes reported that Subcommittee met last month with another meeting planned for August. The group is working to complete the Subcommittee membership and to identify goals. He said it is a work in progress at this time. Mr. Bill added there are many possible priorities that the Subcommittee is sorting out; they are considering what is feasible in the near future. The Chairman thanked the Subcommittee for their hard work.

B) Invasive Species

The Chairman added this item to the discussion section to keep invasive species management as a Commission focus and he asked Councilor Williams to speak. The Councilor said that he and the Chairman were featured on the cover of a recent Sentinel edition wading through muck near the Dillant Hopkins Airport wetlands; they pulled what they thought originally was water chestnut (annual) but was actually watercress (perennial). Councilor Williams thought the patch they worked on had been growing for a few years and he hoped their work would prevent it from returning extensively next year. Deeper in the wetlands where they could not access there is more watercress growing but the Councilor thought they addressed the main section well. Councilor Williams said he was also concerned with another invasive species that is not a plant, the hemlock woolly adelgid, which is an insect that kills hemlock trees over the course of a few seasons. The adelgid are seen as small white egg sacs on hemlock needles. He has seen it a lot in areas surrounding Keene and he is concerned that it will arrive in Keene.

The Chairman added good news that a few regular volunteers interested in this invasives work were identified throughout the last events.

5) <u>Discussion Items</u>

A) Conservation Commission Speaking Events

Councilor Madison was not present to speak on this matter. Agendized for August.

B) Multiyear Pollinator Census for Cheshire County

Mr. Therriault was not present to speak on this matter. Agendized for August.

6) New or Other Business

Mr. Bergman said he had contact again recently with the Airport Director. Mr. Bergman was told that the Director would be talking to Department of Transportation later this month about Federal Aviation Administration funding for airport projects. The first project will have to do with the taxiway improvements and the Airport Director said funding will need to go towards that, while funding for the fence project will be put off until 2022. Mr. Bergman stated, he did not know what that means, asked whether Mr. Lamb could clarify, and said it is not happening as soon as it might have apparently. Mr. Bergman stated that on a related note in connection with the speaking events, he was talking to Councilor Hooper, who spends a lot of time with the other birders and photographers along Airport Road. He said they thought it might be a good thing at some point to put-on a slide show during a speaking event, which he said might be a good event to alert people to and document the tremendous biological resources there in the form mostly of birds. He said there are a lot of great photographers who can provide lots of interesting slide shows and can speak; he suggested even a group of the commission members could get together and address the public at some time before the fence project is fully funded. Mr. Bergman stated, "I do not anticipate that the Airport Director is trying to undermine our plans at all. I think he is quite interested in trying to protect all the values that we have talked about, but I think having a speaking event like that with a slide show might be a good thing to introduce."

7) Non-Public Session

The Chairman motioned to move into a non-public session to discuss potential land acquisition in the City, which Mr. Haynes seconded, and the motion passed with a unanimous show of hands.

At 6:06 PM, the Chairman motioned to end the non-public session and return to public session, which Mr. Bergman seconded, and the motion passed with a unanimous show of hands.

The Chairman motioned to keep the minutes of the non-public session non-public, which Mr. Haynes seconded, and the motion passed with a unanimous show of hands.

8) Adjournment – Next Meeting Date Monday, August 16, 2021

Mr. Bergman would attend via Zoom next month, which Mr. Lamb could accommodate for only the regular meeting and not a non-public session.

There being no further business, Chair Von Plinsky adjourned the meeting at 6:08 PM.

Respectfully submitted by,
Katie Kibler, Minute Taker
July 25, 2021

Reviewed and edited by,
Corinne Marcou, Administrative Assistant
Reviewed and edited by,
Rhett Lamb, Department Director/Assistant City Manager