

**STAFF REPORT**

**TO:** Planning & Zoning Commission as Inland Wetlands Agency

**PREPARED BY:** Carlos L Cruz, Municipal Inland Wetlands Agent  
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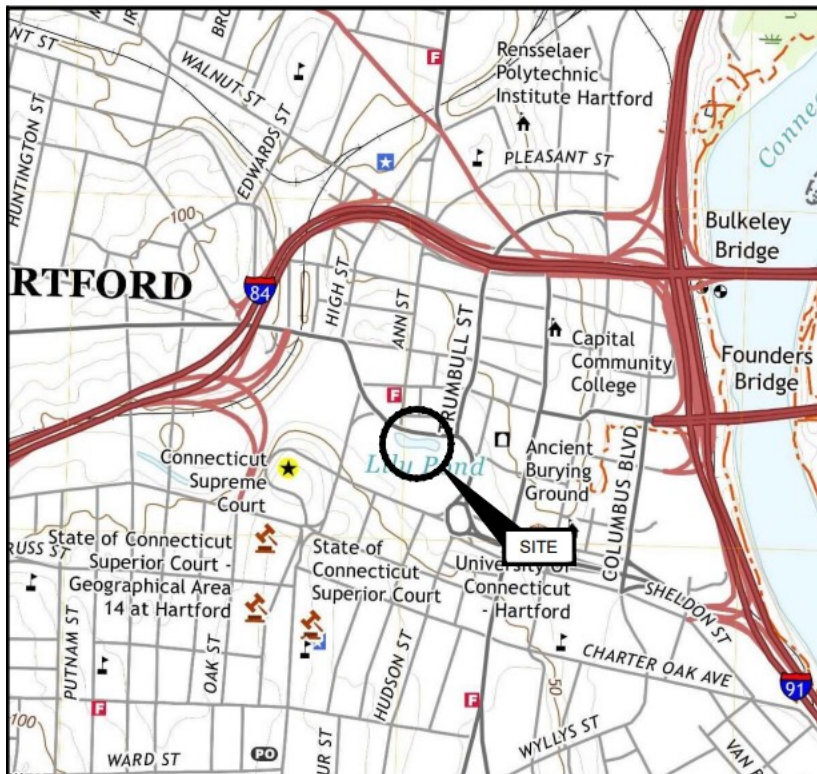
**PROJECT:** Bushnell Pond Sediment Removal  
1 Jewell Street  
PARCEL ID: 246-364-001  
ACCELA ID: PZ-WETLANDS-23-000004

**ZONE:** OS

**TYPE:** Inland Wetlands Permit per Section 4.3 of the Inland Wetlands and Watercourses Regulations, Last Amended February 28, 2017

**APPLICANT:** City of Hartford

**OWNER:** City of Hartford



Map

## **BACKGROUND INFORMATION**

- Application is for an Inland Wetlands and Watercourses Permit to conduct a regulated activity in the watercourse and upland review area for the rehabilitation of Bushnell Park Pond also known as Lilly Pond and surrounding area. Project includes dredging and cleaning of the pond to remove accumulated sediment, establishment of proper water depths, and provide for improved water quality in the pond. Re-establishment of a water supply well and pumping equipment to provide a continuous supply of water for the pond which will increase the water exchange rate and will help alleviate stagnant water conditions. Increased flow will continue to outflow through the existing pond overflow structure located within the pond. Aerators within the pond will be replaced as both an aesthetic and water quality improvement. Project also includes repairs to the stone retaining wall surrounding the pond and to the sidewalk sections on the pond perimeter, primarily along the north side of the pond.

## **KEY APPLICATION TIMELINES**

- Submission Date: May 12, 2023
- Date Application Accepted as Complete: May 12, 2023
- Application Date of Receipt: May 23, 2023 (sooner of either: date of next regularly scheduled meeting, or 35 days after acceptance of complete application).
- Public Hearing is scheduled to open on Tuesday, May 30, 2023; Open Hearing Deadline: July 27, 2023.
- Close Hearing Deadline (if opens May 30, 2023): Tuesday, June 27, 2023.
- CT General Statutes Sec.8-7D allow that the applicant may consent to one or more extensions of time, provided the total extension of all time periods shall not be for longer than 65 days\*.

## **LEGAL STANDARD**

The Inland Wetlands Agency of the City of Hartford was established in accordance with an ordinance and designated to be the zoning commission (now the Planning and Zoning Commission) by ordinance in 1977, and shall implement the purposes and provisions of the Inland Wetlands and Watercourses Regulations (IWWR) and the Inland Wetlands and Watercourses Act in the City of Hartford. (IWWR, Sec. 1.3)

The Agency shall enforce the Inland Wetlands and Watercourses Act and shall issue, issue with terms, conditions, limitations or modifications, or deny permits for all regulated activities on inland wetlands and watercourses in the City of Hartford pursuant to sections 22a-36 to 22a-45, inclusive, of the Connecticut General Statutes, as amended. (IWWE, Sec.1.5)

## **STANDARD SPECIFIC TO THE USE**

Relevant Sections of the Inland Wetlands & Watercourses Regulations (IWWR):

### **Sec. 2. Definitions**

#### **Sec. 2.1...**

““Feasible” means able to be constructed or implemented consistent with sound engineering principles...

...“Prudent” means economically and otherwise reasonable in light of the social benefits to be derived from the proposed regulated activity provided cost may be considered in deciding what is prudent and further provided a mere showing of expense will not necessarily mean an alternative is imprudent...

...“Regulated activity” means any operation within or use of a wetland or watercourse involving removal or deposition of material, or any obstruction, construction, alteration or pollution, of such wetlands or watercourses... Furthermore, any clearing, grubbing, filling, grading, paving, excavating, constructing, depositing or removing of material and discharging of storm water on the land within 100 feet measured horizontally from the boundary of any wetland or watercourse is a regulated activity...

...“Significant impact” means any activity, including, but not limited to, the following activities which may have a major effect:

- (a) Any activity involving deposition or removal of material which will or may have a substantial effect on the wetland or watercourse or on wetlands or watercourses outside the area for which the activity is proposed.
- (b) Any activity which substantially changes the natural channel or may inhibit the natural dynamics of a watercourse system.
- (c) Any activity which substantially diminishes the natural capacity of an inland wetland or watercourse to: support aquatic, plant or animal life and habitats; prevent flooding; supply water; assimilate waste; facilitate drainage; provide recreation or open space; or perform other functions.
- (d) Any activity which is likely to cause or has the potential to cause substantial turbidity, siltation or sedimentation in a wetland or watercourse.
- (e) Any activity which causes substantial diminution of flow of a natural watercourse or groundwater levels of the wetland or watercourse.
- (f) Any activity which is likely to cause or has the potential to cause pollution of a wetland or watercourse.
- (g) Any activity which damages or destroys unique wetland or watercourse areas or such areas having demonstrable scientific or educational value...

...“Watercourses” means rivers, streams, brooks, waterways, lakes, ponds, marshes, swamps, bogs, and all other bodies of water, natural or artificial, vernal or intermittent, public or private, which are contained within, flow through or border upon the City or any portion thereof not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes. Intermittent watercourses shall be delineated by a defined permanent channel and bank and the occurrence of two or more of the following characteristics: (a) evidence of scour or deposits of recent alluvium or detritus, (b) the presence of standing or flowing water for duration longer than a particular storm incident, and (c) the presence of hydrophytic vegetation...

...“Wetlands” means land, including submerged lands defined in this section, not regulated pursuant to sections 22a-28 through 22a-35, inclusive, of the Connecticut General Statutes, which consists of any of the soil types designated as poorly drained, very poorly drained, alluvial and floodplain by the National Cooperative Soils Survey, as it may be amended from time to time, of the Natural Resources Conservation Service of the U.S. Department of Agriculture (USDA). Such areas may include filled, graded, or excavated sites which possess an aquatic (saturated) soil moisture regime as defined by the USDA Cooperative Soil Survey...”

#### **Section 4. Permitted Uses As of Right and Nonregulated Uses**

**Sec. 4.3.** “All activities in wetlands or watercourses involving filling, excavating, dredging, clear cutting, clearing, or grading or any other alteration or use of a wetland or watercourse not specifically permitted by this section and otherwise defined as a regulated activity by these regulations shall require a permit from the Agency...”

#### **Section 10. Considerations for Decision**

##### **Sec. 10.2.**

“Criteria for Decision... the Agency shall take into consideration all relevant facts and circumstances, including but not limited to:

- (a) The environmental impact of the proposed regulated activity on wetlands or watercourses;
- (b) The applicant’s purpose for, and any feasible and prudent alternatives to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands or watercourses.
- (c) The relationship between the short term and long term impacts of the proposed regulated activity on wetlands or watercourses and the maintenance and enhancement of long-term productivity of such wetlands or watercourses.
- (d) Irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity would foreclose a future ability to protect, enhance or restore such resources, and any mitigation measures which may be considered as a condition of issuing a permit for such activity including, but not limited to, measures to (1) prevent or minimize pollution or other environmental damage, (2) maintain or enhance existing environmental quality, or (3) in the following order of priority: restore, enhance and create productive wetland or watercourse resources;
- (e) The character and degree of injury to, or interference with, safety, health or the reasonable use of property which is caused or threatened by the proposed regulated activity; and
- (f) Impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and future activities associated with or reasonably related to, the proposed regulated activity which are made inevitable by the proposed regulated activity and which may have an impact on wetlands and watercourses.”

##### **Sec. 10.3.**

“... the Agency finds on the basis of the record that a feasible and prudent alternative does not exist. In making this finding the Agency shall consider the facts and circumstances set forth in subsection 10.2 of this section. The finding and the reasons therefore shall be stated on the record in writing.”

##### **Sec. 10.4.**

If an application is denied “on the basis of a finding that there may be feasible and prudent alternatives to the proposed regulated activity which have less adverse impact on wetlands or watercourses, the Agency shall propose on the record in writing the types of alternatives which the applicant may investigate...”

##### **Sec. 10.5.**

“... “wetlands and water courses” includes aquatic, plant or animal life and habitats in wetlands or watercourses, and (b) “habitats” means areas or environments in which an organism or biological population normally lives or occurs.

### **FINDING OF FACTS**

- The Inland Wetland Agent has determined that the proposed activities of dredging, draining, excavation and construction may have a significant impact on wetlands/watercourses and upland review, and is therefore subject to a public hearing in accordance with IWWR Sec. 9
- Plan Set titled Bushnell Pond Sediment Removal and Restoration prepared by GEI Consultants submitted on March 23, 2023
- DEEP Activity Reporting Form submitted on April 18, 2023
- Statement Document as described in Section 7.5(i) & 7.5(j) of the IWWC Regulations submitted on April 20, 2023
- List of property owners within 100ft of the property boundary submitted on April 21, 2023
- An Erosion and Sediment Control Plan has been provided, as required per IWWR Sec. 7.6(b)
- The permit term is five (5) years, and is not anticipated to be renewed.
- Site assessment conducted on May 6, 2022 by BSC Group Inc to determine if jurisdictional wetland boundaries are present pursuant to the Connecticut General Statutes (CGS Sections 22a-36 to 22a-45), as amended.
  - Based on the site visit and soil cores samples taken onsite, there were no associated wetlands near the area of the pond which is contained within a man-made concrete bank retaining structure.
  - Bushnell Park described as a greenscaped, recreational area with a pond with man-made concrete banks in the center. Drainage from the surrounding area leads into the pond. A sidewalk lined with various native, decorative and landscaping trees surround the pond limits.
  - Tree species include; Japanese pagoda (*Styphnolobium japonicum*), Chinese mahogany (*Toona sinensis*), ginkgo (*Ginkgo biloba*), bald cypress, as well various maple, oak, dogwoods, and ash species.
  - Various duck species were present within the pond during the time of the site assessment. The surrounding upland area is a large field and grass area for recreation as part of Bushnell Park.
  - Soils in the areas surrounding the pond are composed of a 10-inch layer of a silt loam with no redoximorphic features present.
  - The underlain layer of 11+ inches was comprised of a coarse sandy loam.
  - A web investigation on Natural Resources and Conservation Services Web Soil Series Map showed the area consisted of Udorthents with 0-5% slope which appears to match site conditions of a created recreational park.
  - Based on this assessment, it was concluded that there was one watercourse present on the site, which is a man-made pond with concrete banks at the center of the Bushnell Park site
- Watercourse area of impact will be .83 acres, size of the entire pond
- Upland review area of impact will be approximately 1 acre due to staging, sediment stockpile, and water treatment area

- Inland wetlands limits delineated by a certified soil scientist, these limits have been identified in the report provided by the soil scientist.
  - Soil Scientist determined that the limits of the watercourse (pond) are coincident with the vertical face of the perimeter stone retaining wall.
- The pond suffers from chronic water quality issues and is in need of improvements to improve water quality. The primary objective is to improve aesthetics of the pond, produce cleaner water, and enhance the experience of park users relative to enjoyment of the pond and its surroundings.
- Degradation of water quality caused by multiple factors including sediment accumulation, build-up of organic wastes, and limited exchange of pond water from inflowing water sources.
  - The pond suffers from both an aesthetic degradation, as well as negative impacts for potential habitat for fish, waterfowl, and plant life.
- Improvements to the pond will include dredging and cleaning of the pond to remove accumulated bottom sediment, establishment of proper water depths, and provide for improved water quality in the pond.
  - The Project includes re-establishment of a water supply well and pumping equipment to provide a continuous supply of water for the pond which will increase the water exchange rate and will help alleviate stagnant water conditions. Increased flow will continue to outflow through the existing pond overflow structure located within the pond. This effort will also include.
  - Aerators within the pond will be replaced as both an aesthetic and water quality improvement.
- Project includes repairs to the stone retaining wall surrounding the pond and to the sidewalk sections on the pond perimeter, primarily along the north side of the pond.
- Based on field observation, it is believed that the existing membrane may only extend along the perimeter of the pond, installed to seal just the edges of the stone retaining wall.
- Approximate 1.5 feet depth of sediment to be removed from the pond bottom, which would result in a volume of sediment of about 2,000 cubic yards to be disposed of.
  - Removal sediment, accumulated debris, leaves and litter is a high priority in improving water quality.
  - Due to years of receiving runoff from the urban environment, the sediment has been tested and found to contain low levels of contaminants which will require special handling and disposal.
  - Sampling and testing program for the accumulated sediment to be removed was performed to assist in obtaining required permits, and to determine off-site disposal requirements.
  - Individual sampling and composite sampling shall be performed in accordance with customary requirements needed to satisfy the disposal facilities.
- To meet minimum disposal testing requirements and provide reasonable accuracy for the determination of the extent of sediment chemical properties, GEI Consultants proposes to sample and test 6 sediment samples.
  - Sediment pre-characterization sampling was conducted on April 18, 2022.
  - Waste characterization samples collected from the sediment for analyses. Boring logs produced from the sediment sample are included in the project plans.

- Sediment consisted of low to no plasticity fines with smaller amounts of sand and gravel. Leaf fragments and wind-blown debris (plastic) were also found consistently within the sediment strata. In areas adjacent to sample SED-02, sediment was observed in minimal quantities and the soil characteristics resembled closer to that of a sandy silt with gravel. Slight organic like odors were observed at all the sediment sampling locations. No visual impacts related to petroleum staining or sheens were observed in any of the sediment samples collected.
- Analytical results indicate that concentrations of miscellaneous organics and TCLP metals do not exceed criteria that would classify the sediments as hazardous waste
- Metals concentrations do not exceed any criteria except arsenic in sample SED-03 exceeds the Residential Direct Exposure Criteria (RDEC). Mercury and lead concentrations in this sample appear to exceed natural background concentrations.
- Lead concentration in sample SED-01 appears to exceed natural background concentrations.
- Chlorinated Herbicides, Pesticides, PCB's, SVOCs, and VOCs were non-detected above laboratory reporting limits in any of sediment samples collected. Most of the substances, except for the PAHs, are not likely to be present in sediment in a non-industrial area.
- TPH was detected in one of the six samples at a concentration above the RDEC.
- Sediment associated with samples SED-01 and SED-05 classified as polluted soil as lead or TPH concentrations exceed natural background concentrations.
- Sediment associated with samples SED-03 and SED-04 classified as polluted and contaminated soil as constituent concentrations exceed DEEP criteria.
- Sediment associated with samples SED-02 and SED-06 is classified as clean fill.
- Contractor will be required to perform additional sediment testing that will be required to satisfy disposal facility requirements. Most disposal facilities require one sample of each 500 cubic yards of material to be disposed of, some facilities do not accept test results more than one year old.
- Contractor will be required to perform this testing from sediment stockpiles to more accurately define the material and to comply with disposal facility requirements regarding the age of the analytical results.
- Project calls for removal of the existing pond liner system (edge protection only) and the new design calls for a full pond liner system to be installed for the entire pond bottom to help minimize leakage and the need for continual make-up water.
- New pond bottom treatment (above liner) will have improved aesthetics and will facilitate easier maintenance of the pond bottom.
  - Addition of a 10 Inch layer of round river stones (4"-6" diameter) to cover the liner and provide improved appearance, stone bottom would also allow for easier removal of leaves and litter which will avoid having extensive muck on the pond bottom.
- Minor improvements to the existing overflow structure inside the pond near the west end. GEI will include reconstruction and/or lining of the structure below water level to minimize leakage out of the pond.
- Repair or replacement of existing sidewalks on the pond perimeter. In most cases, it appears that the sidewalks are poured against the stone retaining wall and replacement could disturb the retaining walls.

- The pond liner replacement will be integrated into the retaining walls to help control leakage. The existing perimeter retaining walls exterior structures will receive minor improvements such as resetting and mortar repointing.
- Replacement of pond aeration system and associated electrical and mechanical services.
- Evaluation of the existing water supply well that is used to maintain pond levels and account for evaporation, leakage, and other losses.
  - Replacement of the mechanical and electrical systems will be performed.
  - Well capacity testing will be used to determine if the well has sufficient capacity to deliver the desired flow rate.
- The existing and proposed contours of the pond bottom will remain essentially the same
- Sediment will be stockpiled for drying before being removed for disposal
- Treated water from the pond to go to the overflow to facilitate the dredging and liner install
- Stockpile and staging areas shall be seeded and restored to pre project conditions
- Plan for long term sediment storage in place in the event extended storage is required prior to disposal
- Work is planned for the winter of 2023/2024
- Estimated cost of the project is \$2M
- The pond depth is not conducive to fish habitat and thus there are no plans to enhance the pond bottom.
  - Fish species in the pond have been previously identified as invasive species
  - Water quality improvements are primarily for aesthetic reasons

### ANALYSIS

- Applicant proposes the rehabilitation and improvement of Bushnell Park Pond including dredging and cleaning of the pond to remove accumulated sediment, establishment of proper water depths, and provide for improved water quality in the pond. The project includes re-establishment of a water supply well and pumping equipment to provide a continuous supply of water for the pond which will increase the water exchange rate and will help alleviate stagnant water conditions. Increased flow will continue to outflow through the existing pond overflow structure located within the pond. Aerators within the pond will be replaced as both an aesthetic and water quality improvement. Project also includes repairs to the stone retaining wall surrounding the pond and to the sidewalk sections on the pond perimeter, primarily along the north side of the pond.

In accordance with IWWR Sec. 10.3 a permit shall not be issued unless the Agency finds on the basis of the record that a feasible and prudent alternative does not exist. The reasons for the finding must be stated on the record in writing. Sec. 10.5 states that aquatic, plant or animal life and habitats in wetlands or watercourses may be taken into consideration when deciding an application.

Issuance of Wetland Permit is separate from any Zoning Permit and/or Site Plan Review that may be necessary for the project



**STAFF RECOMMENDATION**

Staff recommends approval of this application with conditions

**A draft resolution follows.**

**ATTACHMENTS**

1. Application and supporting materials

**REVIEWED AND EDITED BY,**

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Erin Howard, Director

**PLANNING & ZONING COMMISSION AS INLAND WETLANDS AND  
WATERCOURSES COMMISSION  
INLAND WETLANDS AND WATERCOURSES PERMIT  
DRAFT APPROVAL RESOLUTION**

**1 Jewell Street**

**May 30, 2023**

**Whereas,** The Planning & Zoning Commission is designated as the Inland Wetlands Agency of the City of Hartford (the “Agency”); and

**Whereas,** The Agency has reviewed an application for Inland Wetlands and Watercourses Permit to conduct regulated activity within watercourse and upland review area related to the rehabilitation of Bushnell Park Pond also known as Lilly Pond located at 1 Jewel St., on property that is identified by the City Assessor as 1 Jewell St., Parcel ID 246-364-001 (the “Property”); and

**Whereas,** The Agency has determined the proposed activity involves a significant impact to the watercourse and upland review area; and

**Whereas,** The Agency finds that the rehabilitation and enhancement of Bushnell Park Pond will serve a greater public purpose than would exist if the resource were to remain as-is; and

**Whereas,** The Agency finds that a feasible and prudent alternative to the proposed regulated activity does not exist; and

**Now Therefore Be It**

**Resolved,**     *That* the Agency hereby approves the petition of the City of Hartford to conduct the following activities on the Property:

Construction and rehabilitation activities as depicted on plans entitled “Bushnell Pond Sediment Removal and Restoration,” prepared by GEI Consultants, dated February 24, 2023, subject to the following conditions:

1. Soil erosion and sediment control measures shall be maintained and installed, and supplemented with additional measures if found to be inadequate, to the satisfaction of the Inland Wetland Agent and/or City Engineer.
2. The applicant and/or property owner must obtain all necessary permits and/or approvals required for the proposed project including but not limited to Zoning Permits and/or Site Plan Review.

**Resolved,**     *That* this permit shall become effective the day after the notice of this action is posted, and shall expire five years from that date;

**Resolved** this 30th day of May, 2023.