Environmental Land Solutions, LLC

Environmental Analysis, Landscape Architecture & Planning

May 3, 2021

Inland Wetlands Agency
City of Norwalk
125 East Avenue
P.O. Box 5125
Norwalk, CT 06856-5125

Re: Environmental Assessment - Proposed Residential Development
The Cottages at Pepper Ridge, 40 Fullin Road, Norwalk, CT

Dear Commission Members:

FRAP LLC, the owner of the above referenced property, is proposing a 40-unit residential development on the above referenced 7.127± acre site. The site contains inland wetlands and therefore a permit from the Inland Wetlands Agency is required for the proposed work. Environmental Land Solutions, LLC (ELS) has been retained by the property owner to prepare this Environmental Assessment report which describes the project with emphasis placed on inland wetland and watercourse resources, their functions and potential development-related impacts to these regulated areas. This report also describes proposed Best Management Practices (BMPs) and recommends mitigation measures designed to minimize development-related impacts to regulated areas and to enhance the site's overall environmental value. To complete this task, ELS staff have reviewed the site plans prepared by D'Andrea Surveying & Engineering, P.C. and visited the site on 4/27 and 4/30/21. ELS also prepared the Landscape Plan, dated 5/3/21, for the site development.

Existing Conditions

The irregular-shaped lot, measuring roughly about 425' by 700', is located on the east side of Fullin Road with Hills Lane, a private road in Westport, to the east. The site is surrounded by apartment buildings to the south, condominium development to the east and north, single-family properties to the northwest, and a parking lot to the southwest. The majority of the site drains to the southwest except for an eastern portion of the property which flows to the southeast. From Fullin Road, the site's topography slopes down roughly 20' in elevation over a 125'± distance to the east to a centrally located 300'x325' abandoned parking lot that was accessed from the adjacent parking lot to the southwest. At the eastern and northern sides of the existing parking lot, the grade steeply rises about 5' in grade to wooded areas. East of the parking lot the wooded area is located on a plateau that pitches to the south with grades of less

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than 10%. A low-lying area is found at the eastern edge of the site by Hills Lane.

The site shows signs of significant past land disturbance including fill piles, areas of cut that border the abandoned parking lot, drainage structures, scattered debris (concrete, asphalt, and pipes) and significant areas vegetated by nonnative invasive species.

The site contains two wetland areas, one on the somewhat wooded hillside between Fullin Road and the existing parking lot and the second in a narrow corridor that borders Hills Lane to the west. The wooded upland portions of the site that are east and north of the parking area are vegetated with Oaks, Shagbark Hickory, White Pine, Apple, Black Cherry, Black Birch, Tuliptree, Beech, Mayflower, and Poison Ivy. Planted Pin Oaks and Burningbush grow within the parking islands with Little Bluestem and goldenrods within the asphalt cracks. Nonnative invasive species grow within the uplands include Ailanthus, Japanese Honeysuckle, Japanese Knotweed, Burningbush, Viburnum sp., Privet, Asiatic Bittersweet, and Garlic Mustard. Thick stands of the invasive Porcelainberry vines were noted growing over the western side of the parking lot. Some of the trees are larger then 36" diameter at breast height.

Wetland and Watercourse Areas

Two inland wetland areas, totaling 0.87 acres, were field delineated on 12/10 and 12/11/20 by Evans Associates. One wooded wetland is located along the eastern property boundary and the second bordering the property's western boundary,

Western Wetland: This 0.58± acre wetland is located on the Fullin Road hillside and drains eastward into a dug swale that flows to the south adjacent to the east side of the existing onsite parking lot. The swale, which may have been created when the parking lot was constructed, contained flowing water during the site visits. The soils report notes that the wetland soils are "best described as "Udorthents, wet substratum, which are wetland soils that have been altered in the past." This wetland is vegetated with Red Maple American Elm, Pin Oak, Ironwood, Box Elder, Ash (seedlings), Spicebush, Skunk Cabbage, and Trout Lily. Portions of this wetland are dominated with invasive nonnative plants including Ailanthus, Multiflora Rose, and Garlic Mustard. The ground is marked with old stone and fill piles. A chain link fence runs in a north to south direct across the wetland and littler was observed on the ground. An old large concrete drainage structure appears to have been discarded over the drainage swale. Landscape debris (wood chips, leaf piles and cut brush) was observed upslope of and within the wetland.

Eastern Wetland: This 0.26± acre wetland, which lies adjacent to and approximately 15' from Hill Lane, is wooded with Red Maple, Elm, Spicebush, and Skunk Cabbage. Some nonnative Burningbush was observed growing within the wetland. No ponding of surface water was noted within the wetland during the site visits. This wetland drains to the south. Although the wetland itself appears relatively undisturbed for many years, the surrounding land with uneven topography show signs of grading and filling. A metal fence along Hills Lane borders the eastern side of this wetland.

Wetlands Functions

The recognized functions provided by the two wetland corridors are influenced by a number of site characteristics that affect the wetland's ability and opportunity to perform these functions. Specifically, the wetland's narrow width, adjacent structures (parking lot and road) and debris, and abundance of nonnative invasive species limit their overall functions.

The functional evaluation of the site's regulated areas described below is based on professional experience and the suggested criteria cited in the publication entitled "The Highway Methodology Workbook *Supplement*, Wetland Functions and Values, *A Descriptive Approach*," prepared by the US Army Corps of Engineers, NEDEP-360-1-30a, September 1999. Using this publication as a guide, the primary functions of the wetland-watercourse areas were identified as follows:

Groundwater Recharge/Discharge - Based on the low-lying landscape position, the site's wetlands lend themselves to being a source of groundwater discharge.

Sediment/Toxicant/Pathogen Retention - The wetland's gently sloping topography allows for the trapping of waterborne sediments from slow moving surface water flows. This function occurs greater in areas where stormwater runoff is slowed by dense vegetation and physical restrictions (such as stone walls or logs). The adjacent land uses, especially the adjacent roads, areas are a potential source of pollutants.

Nutrient Removal/Retention/Transformation - Wetland areas that have gently sloping topography with dense vegetation cover have the capacity for nutrient uptake/removal from stormwater by plant uptake. This function occurs more in gently sloping areas where surface water flows are slow and infiltration is greater. The surrounding land uses are a potential source of pollutants.

Production Export - The vegetation within the site's wetlands provides a source of food for wildlife.

Wildlife Habitat - Wetlands containing dense vegetation that are capable of providing food, roosting areas, and wildlife nesting sites, and containing sources of fresh drinking water are valuable for wildlife habitat.

Secondary functions provided by the two wetlands include:

Recreation - Wetlands that provide outdoor opportunities such as nature photography, hiking, and wildlife observations are valuable for recreational purposes. This function is limited by restricted access due to the site's topography and fencing.

Wildlife

Wildlife usage of the site is expected to by species adapted to suburban land. Due to the limited size of the onsite wetland and lack of a significant wetland buffer, it is unlike that the site provides habitat for any wetland dependent wildlife species. Although few wildlife species were observed during the site visits, the property provides habitat for common suburban wildlife species such as American Crow, Mourning Dove, Downy and Hairy Woodpeckers, Northern Flicker, Blue Jay, Black-capped Chickadee, Tufted Titmouse, White-breasted Nuthatch, Carolina Wren, American Robin, Grey Catbird, Northern Cardinal, Song Sparrow, White-throated Sparrow, Junco, American Goldfinch, House Sparrow, Opossum, Eastern Chipmunk, Grey Squirrel, White-footed Mouse, Raccoon, Striped Skunk, and White-tailed Deer. Additional wildlife species are expected to utilize the site during the migration periods

A review of the online DEEP Natural Diversity Data Base (NDDB) map (December 2020) indicates that the site lies outside of any delineated "State and Federal Listed Species & Significant Natural Communities" area. This indicates that there are no known population of any State or Federal listed rare, threatened or species or special concern on or near the site. In addition, ELS staff observed no species of special concern, threatened species, or endangered species on or near the site during the site visits.

Proposed Condition

The site plans propose a 40-unit residential developed within the central portion of the property with site access from Fullin Road on the west. This development utilizes the existing parking lot and a portion of the upland woods to the east. The new dwellings will consist of 12 duplex buildings and 16 single-family units, each containing a one car garage. Retaining walls are proposed along development boundaries to minimize grading.

Drainage: The majority of the site will drain toward the southwest corner of the site. Stormwater runoff will be collected, treated and detained within underground detention galleries. The underground galleries will be used as a retention system to infiltrate the water quality volume and a detention systems to control peak flows from the site. Swirl concentrators (hydrodynamic separator) are proposed to remove sediments and pollutants from stormwater prior to entering the galleries. The western wetland lies upslope of the development and will not receive any stormwater runoff from the site development. The eastern wetland will receive limited stormwater runoff from roofs and landscape areas.

Potential Impacts to Wetlands and Watercourses

The following direct activities are proposed within wetland areas:

1. To access the site, the project proposes to cross the western wetland at a narrow location by the southern property line. The crossing will have a 36" diameter concrete pipe to allow surface water to flow under the new roadway. The road crossing will directly impact 0.043± acres (1875± sf) of wetland area. Ten trees (6 within the wetland) will be removed by the installation of the new wetland road crossing.

2. Mitigation measures designed to enhance regulated areas are proposed. These mitigation measures generally include the installation of native plants, removal of litter and structures, and control of invasive species.

The following activities, measuring about 0.37 acres, are located within the 50' upland review area:

1. Western Wetland: Removal of the existing parking lot will occur up to the wetland line. A 4075± sf wetland creation area, measuring approximately 18'x225'±, is proposed along the wetland line in this location. This new wetland will be created by removing the parking area and lowering the grade to match the adjacent wetland elevation and planted with wetland type vegetation. The rear portion of 5 units will be approximately 35' from the wetland line. A new retaining wall will aid to preserve the wetland buffer from landscape encroachment.

2. Eastern Wetland: A retaining wall is proposed 30' to 35' from the wetland line. Beyond this wall, four patios, landscaping and a small portion of four dwellings are proposed within the 50' upland review line. Five trees are shown on the site plan to be removed. The rear portion of 4 dwellings will be approximately 40-45' from the wetland line.

Wetland Impacts

To access the site, direct wetland impacts are unavoidable due to the location of the western wetland which is located between this Fullin Road and the upland portions of the property. The development proposes 1875± sf of direct disturbance to the site's regulated areas. A new 4075± sf wetland, created within the existing asphalt parking lot, is proposed to compensate for the direct wetland impact. Potential development-related indirect wetland impacts that can be associated with the development include the following:

a. *Degrading long-term water quality from untreated (or under-treated) stormwater runoff*:

The landscape position of the western wetland is topographically higher than the adjacent development and will not receive stormwater runoff from the developed areas of the project. The eastern wetland currently receives runoff from only a limited portion of the property. Post-development, the eastern wetland will receive only runoff from roofs and a small landscape area. No adverse water quality impacts to the site's wetlands are anticipated with this project.

The stormwater runoff that is collected from the development's roadways and a majority of the roofs will be detained in underground detention galleries prior to being discharged off the site.

b. *Degrading short-term water quality from construction related erosion and sedimentation*:

During construction, short-term water quality impacts, such as erosion and sedimentation, will be controlled by the use of properly installed and maintained erosion and sediment controls. Earth disturbance proposed on the site's gently sloping topography is not anticipated to be a significant erosion and sedimentation concern.

c. *Altering the hydrology of regulated areas*:

The western wetland lies upslope of the proposed development and, therefore no change to this area's hydrology will occur from the development. The development proposes drainage measures that will infiltrate stormwater runoff. The project has been graded in a manner that will not change watersheds patterns.

The hydrology of the eastern wetland is anticipated to remain unchanged since its watershed will remain relatively unchanged.

d. *Long-term diminished groundwater recharge*:

The proposed use of underground infiltration galleries will recharge groundwater and allow for infiltration of stormwater runoff from impervious surfaces. The project will not diminish groundwater recharge to the wetlands.

e. *Reduced recreational opportunities:*

Currently the site offers limited recreational opportunities within or bordering the wetland. After redevelopment of the site, additional recreation opportunities (such as wildlife observations) can occur due to the increased site access.

f. *Loss of wildlife habitat:*

The site's primary wildlife habitat is the woodland which will change to suburban land. The development will not have an adverse impact to any wetland dependent wildlife species. The proposed 4075± sf wetland creation area and additional habitat enhancement plantings will aid to enhance the wetland's wildlife habitat.

Other long-term wetland impacts, such as reduced stream flow, diversion or dewatering of wetlands or watercourse, loss of flood water storage, loss of stream shading, and discharge of sediments (road sands) are not applicable to the proposed project.

Best Management Practices

BMPs have been incorporated into the site plans of the proposed development for the purposes of avoiding and/or minimizing potential adverse environmental impacts to regulated areas and include, but are not limited to, the following:

a. *use of retaining walls* - to minimize disturbance to the western wetland at the road crossing, retaining walls are proposed to limit the disturbance area. Retaining walls are also proposed along the edge of disturbance bordering both wetland corridors. The retaining walls will also act as a physical barrier which will act to prevent encroachment into the wetland buffer with lawn.

b. *erosion and sedimentation controls* - the site plans indicate that erosion and sedimentation will be controlled by the use of silt fencing to trap sediments within stormwater runoff, anti-tracking pads to remove sediments from tires of construction vehicles, and watering of the site's soils as needed to prevent dust.

c. *catch basins fitted with sumps* - designed to improve water quality by trapping sediments from roadway stormwater runoff. Accumulated sediments will be periodically removed as needed to maintain the basins in proper working order.

d. *swirl concentrator* - designed to maintain water quality by trapping road sediments, floatables (litter), and vehicle oils and grease from stormwater runoff. Accumulated sediments, litter and oils will be periodically removed as needed to maintain the system in proper working order.

e. *underground infiltration galleries* - designed to store stormwater runoff for a period of time and infiltrate stormwater runoff into the ground. Underground infiltration galleries reduce flooding, recharge groundwater, and remove dissolved pollutants as it filters through the soil below. Underground galleries also reduce thermal pollution associated with heated runoff from pavement areas.

f. *wetlands enhanced with native plantings* - the thinly vegetated northern portion of the western wetland will be enhanced with the planting of native trees and shrubs. The less disturbed and more wooded eastern wetland will be enhanced with native shrub plantings. These plantings will provide wildlife habitat and aid removal of nutrients from stormwater runoff by plant uptake.

g. *planted upland buffers* - native shade trees, understory trees, shrubs, and herbaceous plants are proposed within the wetland buffer for wildlife habitat and aesthetic purposes. Planted buffers will also aid to maintain water quality by removing nutrient within stormwater runoff by plant uptake.

h. *control of invasive nonnative plant species* - the Landscape Plan indicates the control of invasive nonnative plant species for a two-year period.

i. *buffer demarcation feature* - the proposed retaining walls located along the perimeter of the development will act as a clear demarcation between maintained grounds and land to remain in a natural state.

j. *shade trees* - large growing native shade trees are proposed within the development for wildlife habitat and aesthetic purpose. Over time, these trees will shade the new roads which will aid to decrease thermal pollution.

Recommended Mitigation Measures

In addition to the BMPs listed above, the following mitigation measures are recommended to improve the general environmental quality of the site by proposing additional treatment and infiltration of stormwater runoff, controlling nonnative invasive species, increasing plant diversity, increasing soil stability, increasing recreational opportunities, and enhancing wildlife habitat. These mitigation measures, shown on the Landscape Plan, some of which may have already been incorporated into the site plans, include:

1. Western Wetland:

    a. The creation of a 4075± sf of a new wetland, developed by removing the abandon parking area, lowering the grade to the elevation of the adjacent wetland, and replant with native wetland type vegetation, is proposed to mitigate for the proposed direct wetland impact associated with the wetland road crossing.

    b. Remove accumulated debris from the wetland and buffer. The large concrete drainage structure located over the swale will be removed by machine. Litter scattered along the ground will be removed by hand.

    c. Enhancing the wetland by planting native shade trees and shrubs for wildlife habitat and water quality purposes.

2. Eastern Wetland:

    a. Remove the nonnative invasive Burningbush from the wetland be hand cutting.

    b, Enhancing the wetland by planting native shrub for wildlife habitat and water quality purposes.

Summary

FRAP LLC is proposing a 40-unit residential development on a 7.127 acre site. Approximately half of the development is located on an existing asphalt parking area and half within a wooded area. To access the site from Fullin Road, the site's access drive has to cross over the western wetland corridor where 1875± sf of wetland area will be impacted. To mitigate for this direct wetland impact, a 4075± sf wetland creation area is proposed. The eastern wetland will maintain a 30-40' wide wooded upland buffer. Potential wetland impacts have been minimized by the use of BMPs (such as the use of underground detention galleries,

use of erosion controls, planted wetland and wetland buffers, and use of retaining walls). The proposed development provides a viable way of building on a site bordered by two wetland corridors and existing neighboring developed properties while mitigating anticipated impacts to regulated wetland areas.

Sincerely,

Matthew J. Popp
Professional Wetland Scientist / Landscape Architect
fullin road 40-norwalk-2021 ea wpd