



HOWARD STEIN HUDSON

Engineers + Planners

PRELIMINARY SUBDIVISION  
REVIEW APPLICATION

Preliminary 2 Lot  
Industrial Subdivision  
Narrative

245 Foster Street

Littleton, Massachusetts

Prepared by:

**Howard Stein Hudson**  
114 Turnpike Road, Suite 2C  
Chelmsford, MA 01824

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## Existing Conditions

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The subject site consists of one parcel totaling approximately 33.95 acres in the Industrial A (I-A) zoning district. The existing site is currently undeveloped, consisting of a mixture of field and wooded areas, with a large wetland system cutting across the middle of the parcel. Walking trails exist throughout the site within the wooded areas.

The site is bounded to the west by the MBTA commuter rail and to the north by Route 495. The site is bounded by residential development to the south and east.

The site topography slopes up from Foster Street to a high point approximately 10 feet higher. Then slopes down approximately 20 feet to the wetland at the center of the site, the topography then slopes up slightly before dropping grade by approximately 40 feet at the property lines that border the MBTA commuter rail and Route 495.

Based upon NRCS soil mapping, soils on site vary in detail, however are generally classified as a sandy loam of varying slopes. The soils are classified as well drained, however a significant mixture of hydrologic soil group A, B, C, and D exist. A soils are present along the frontage of Foster Street and into the site to approximately the limit of wetlands. Beyond the wetlands, towards the south portion of the site, B soils exist, and towards the north portion of the site, C soils exist. The wetland itself is comprised of hydric soil belonging to hydrologic soil group D.

There are currently no utilities connected to the site, however water, gas, and electric are present within the Foster Street Right of Way. The site does not currently have access to municipal sewer.

## Proposed Conditions

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The preliminary proposal calls for the construction of a proposed subdivision road totaling 400 linear feet with an associated 60' Right of Way. Two (2) new lots are proposed that would utilize this proposed subdivision road for both frontage and access.

Lot 1 totals approximately 22.41 acres with a total frontage of 900 ft. Lot 1 is situated on the east end of the proposed cul de sac and spans across the wetland with uplands on both the north and south side of the wetland.



Lot 2 totals approximately 10.75 acres with a total frontage of 125 ft. Lot 2 is situated on the north west end of the proposed cul de sac and spans across the wetlands with uplands on both the north and south side of the wetlands.

Preliminary drainage design calls for a crowned roadway surface with two proposed low points. An area has been reserved for a surface infiltration pond. The surface infiltration pond will detain and infiltrate runoff from the proposed impervious surfaces associated with the Subdivision Road to meet both state and local stormwater requirements. The surface infiltration pond is located along the cul de sac within Lot 1. The watershed of this pond has been designed to be the entire proposed subdivision road.

Water, gas, and electric service are proposed to be connected from the Foster Street Right of Way. Sanitary Sewer will be handled via independent septic systems on each lot. Septic flows and design will be further developed upon advancement of the individual lot developments.

The anticipated wetland crossing of the Access Road within the Access Easement has a total impact of 1,879 SF. In accordance with 310 CMR 10.55 4(b), an Order of Conditions may permit the loss of up to 5,000 SF of Bordering Vegetated Wetland, with required replacement of *at least* the impacted amount. This project proposes an approximate 2:1 replacement of wetlands ratio, exceeding the requirement under the Wetlands Protection Act.



# Zoning Summary

245 Foster Street, Littleton, MA 01460

Map R11, Block 3, Lot 0

Industrial-A District

Dimensional Requirements Industrial-A (I-A)	Required	Lot 1	Lot 2
Lot Area	N/A	976,373 SF± 22.41 Acres	468,295 SF± 10.75 Acres
Lot Frontage	N/A	454'±	125'±
Street Setback	80'	N/A	N/A
Side Yard Setback***	50' (150')	N/A	N/A
Rear Yard Setback***	50' (150')	N/A	N/A
Building Height	40'	0	0
Maximum Lot Coverage	80%	0	0
Minimum Lot Shape*	0.40	0.66	0.57
Lot Perimeter	N/A	4,865 ft	3,620 ft
Maximum Building Coverage**	30%	Up to 292,912 SF (ALLOWABLE)	Up to 140,489 SF (ALLOWABLE)
Maximum Lot Coverage**	80%	Up to 781,098 SF (ALLOWABLE)	Up to 374,636 SF (ALLOWABLE)

\* Minimum Lot Shape requirement based upon § 173-29 stating  $[(16A) / P^2] > 0.4$ , where A = total lot area and P = total perimeter.

\*\* Maximum Building Coverage and Maximum Lot Coverage cannot be defined as the proposed lots are not proposed as being developed in this preliminary subdivision. Instead of a percentage coverage per the definition, the above table shows the maximum allowable SF of coverage based on the respective definition.

\*\*\*In an Industrial A District, no building or other structure shall extend nearer than 80 feet to a main public way or nearer than 50 feet to a side or rear lot line or secondary public way, except when the public way divides an industrial and a residential district, the setback shall be 150 feet.



# Development Impact Statements

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Per section 249-25, a Preliminary Plan of Subdivision is required to provide preliminary findings of Development Impacts Statements per 249-32(E).

(1) Environmental Analysis. All subdivisions creating frontage shall be based on an environmental analysis, which shall be prepared by an interdisciplinary team to include a land surveyor, civil engineer and architect or landscape architect, unless otherwise agreed to by the Planning Board, and shall consist of the following graphic and narrative items. The following documentation is required for each analysis:

(a) Site analysis and proposal drawings, at uniform scale on sheets not larger than 42 inches by 60 inches, showing the following;

(i) All information required under section 4.2 of the regulations adopted under MGL Ch. 131 §40, unless certain requirements are waived by the Board as not being germane or feasible;

*All information relative to wetland impacts are preliminary in nature at this time. The Preliminary Subdivision Plan, submitted under separate cover, contains information relative to wetland impacts. Upon advancing to a Definitive Subdivision, all proper wetland permitting and information relative to wetland performance standards will be designed and provided.*

*At this preliminary stage, impacts include a wetland crossing totaling 1,879 SF of impact to the wetland, with a proposed greater than 2:1 replication ratio. Impacts within the 50' Do Not Disturb Buffer Zone and 100' Buffer Zone are proposed relative to the roadway construction at the wetland crossing. In order to minimize wetland impacts, the crossing is proposed to be located in an area where the wetland reduces in width and an existing cart path exists.*

(ii) Vegetative cover analysis, including identification of general cover type (wooded, thicket, fresh wetland, etc.), location of all major tree groupings, plus other outstanding trees or other botanical features and important wildlife habitats;

*A Vegetative Cover Exhibit has been prepared and attached to this report under Appendix A.*



*The existing 33.95 acre site is currently undeveloped and includes large areas of woodlands, isolated grassed areas, a large wetland system throughout the middle of the site from North to South, and a trail system that exists throughout the site.*

- (iii) Visual analysis of scenic vistas and locations of visual prominence.

*Upon advancement to a Definitive Subdivision, viewshed analysis will be conducted at a more advanced level. We do not anticipate scenic vistas and or locations of visual prominence to be affected by the proposed development.*

- (b) A narrative statement, documenting the following, with references to the above maps as germane:

- (i) Impact upon surface water quality and level;

*Stormwater runoff resulting from the proposed roadway will be treated and recharged by a stormwater management system to maintain the current water quality and quantity per state and local stormwater requirements.*

- (ii) Impact upon groundwater quality and level;

*At this preliminary stage, one infiltration pond has been designed to detain and recharge stormwater runoff generated by the roadway and sidewalks associated with the proposed Subdivision Road. Upon advancement to Definitive Subdivision design, all drainage will be detailed in conformance with Massachusetts Stormwater Standards, and any applicable local bylaws, to ensure sufficient stormwater is recharged and the groundwater quality and level is not impacted.*

- (iii) Material effects upon priority and estimated habitat for rare and endangered species, outstanding botanical features and scenic or historic environs;

*The subject parcel is not mapped as a priority or estimated habitat for rare and endangered species. Beyond the wetland system, there are no known environmental features of the site. As it pertains to the wetland system, all necessary protections will be made to ensure the natural habitats located within the wetland systems are protected from development related impacts. All permanent wetland impacts will be replicated at a 2:1 ratio and the 50' Do Not Disturb Buffer will be adhered to in all locations not associated with the access road wetland crossing. Upon advancement to Definitive Subdivision Design, all necessary performance standards related to*



*wetland protection will be met related to wetland impacts, wetland crossing, and replication.*

*The site is marked as an Inventoried Property on the MassHistoric Commission Inventory. As the project progresses, the project will work with MassHistoric to ensure all requirements or protections are met or exceeded for an Inventoried Property.*

- (iv) Capability of soils, vegetative cover and proposed erosion-control efforts to support proposed development without danger of erosion, silting or other instability;

*Soil evaluations have not been conducted on site. NRCS data maps the soils on site as generally a sandy loam with varying slopes, and with exceptional depths to restrictive layers. The soil types are classified as well drained, and at this preliminary stage are anticipated to support the proposed development via infiltration practices. As the project progresses to more advanced design during the Definitive Subdivision stage, existing soil types will be further evaluated via on-site soil testing, and the site will be designed accordingly to prevent erosion, siltation, and other earth related instabilities that may impact the undisturbed areas existing on site.*

- (v) Relationship to the requirements of the Wetlands Protection Act (MGL Ch. 131 §40 and 40A).

*As the project progresses from Preliminary Subdivision to Definitive Subdivision, all requirements of the Wetlands Protection Act will be described and adhered to. As is required, a Notice of Intent will be filed with both the Littleton Conservation Commission and the Massachusetts Department of Environmental Protection (MassDEP) where the development must prove all requirements of the Wetlands Protection Act, and subsequently local wetland bylaws and regulations, are met satisfactorily.*

*As is currently proposed, the wetlands will see an impact of 1,879 SF, which falls below the maximum impact allowable for an Order of Conditions to be issued. Exceeding the requirement, a 2:1 replacement ratio is proposed to maintain the health and prosperity of the wetland system in the area of the proposed crossing and impact. Based upon the proposed road, stormwater management areas have been identified in a preliminary state to meet and exceed requirements for stormwater management. This design will be refined and finalized as the project progresses.*





- (2) Traffic Study. As defined below, the Applicant is required to submit a traffic study for any type of new land development or redevelopment regardless of its size or whether or not the State agency is the access granting authority. The traffic study should follow the guidelines published by the ITE “Transportation Impact Analysis for Site Development: An ITE Recommended Practice”, the guidelines issued by the Massachusetts Department of Transportation and various references noted below as appropriate. The analysis should be documented in the report and shall be completed by or under the supervision of an ITE Member registered as a Professional Engineer in the State of Massachusetts.

*At this time, the subdivision is preliminary in nature. Based upon the size of the parcels, coupled with the Littleton Zoning Definitions of each type of Right of Way, it was determined best to use the largest reasonable Right of Way, a Collector Street, as to not limit the potential uses of each site. Upon advancement to Definitive Subdivision Design, we anticipate more information to be available regarding potential use of each site, and as such will be able to define projected traffic volumes and if off site mitigation will be necessary.*

*As part of the Definitive Subdivision submission package, a full traffic study utilizing best practices and suggested intersections from staff and/or peer review will be performed and submitted for review.*

- (3) Sanitary Sewer Study. The Applicant shall submit calculations showing (a) that any proposed sanitary sewer system has been designed according to the standards set forth in these rules; and (b) any impact of said sanitary system would have on existing sanitary systems downstream from the proposed point of discharge. Sewage estimates shall be based on the Massachusetts Department of Environmental Protection’s Title 5;

*At this preliminary stage, it is not clear the potential use of each proposed parcel. As such, it is not possible to estimate potential sewage flows at this time. Upon advancement to Definitive Subdivision, more information may become available regarding potential and/or likely uses of each site. At that time, sewer design will be completed based upon local standards and MassDEP’s Title 5.*

- (4) Water Study. The Applicant shall submit a study certified by a Professional Engineer with demonstrated qualifications as a water consultant, showing that the proposed water system would provide the development with adequate fire flows and demonstrate that each service connection shall have a minimum residual water pressure at street level of 20 PSI under all design conditions of flow. Standards for fire flows are based on Insurance Services Office standards. Any waivers and all testing for residual water pressure and impacts within 2,000 feet of the proposed subdivision must be consistent with the recommendations of the Insurance



Services Office ([www.ISO.com](http://www.ISO.com)), and the National Fire Protection Association ([www.nfpa.org](http://www.nfpa.org)). Conclusions of the study shall demonstrate how to mitigate the impacts of the development on the water pressures in the surrounding area. Impacts on public and private water facilities shall be described;

*As the design is preliminary in nature, uses for each site have not been decided. As such, potential impact to local water distribution systems cannot be evaluated. Upon advancement to Definitive Subdivision, a Professional Engineer, qualified to consult on water design, will be contracted to ensure all water distribution will be designed in accordance with all local requirements.*

- (5) Public Works costs. Additional costs for future plowing, sanding, and sweeping per lane mile (using current costs per lane mile, including disposal) plus catch basin cleaning (using current costs per catch basin, including disposal) and maintenance of the storm sewer system;

*The project team has coordinated with DPW Coordinator Stephen Jahnle, who has determined that adding 400 linear feet of roadway would add an annual cost of roughly \$2,500 per year.*

- (6) Municipal service costs. Estimates of costs based on existing average cost per resident for police, fire, libraries, recreation, and schools, including school enrollment projections.

*The uses of the proposed lots are not yet determined.*



## Appendix A: Vegetative Cover Exhibit

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