



FINAL
Environmental Assessment
(24 CFR Part 58)

Project Identification: Meriden Commons II: New Construction
Meriden, CT

Map/Lots: 0106-0029-0001-0003
0106-0029-0002-0000
0106-0029-001A-0000

Responsible Entity: City of Meriden, CT

Month/Year: January 2018

**Environmental Assessment
Determinations and Compliance Findings for HUD-assisted Projects
24 CFR Part 58**

Project Information

Responsible Entity: City of Meriden, CT
[24 CFR 58.2(a)(7)]

Certifying Officer: City Manager, Meriden, CT
[24 CFR 58.2(a)(2)]

Project Name: Meriden Commons Phase II

Project Location: 144 Mills Street, 161 State Street, 177 State Street, 62 Cedar Street;
Meriden CT.

Estimated total project cost: TBD

Grant Recipient: Meriden Housing Authority, Meriden CT.
[24 CFR 58.2(a)(5)]

Recipient Address: 22 Church Street
Meriden, CT 06451

Project Representative: Robert Cappelletti

Telephone Number: 203-235-0157

Conditions for Approval: (List all mitigation measures adopted by the responsible entity to eliminate or minimize adverse environmental impacts. These conditions must be included in project contracts or other relevant documents as requirements). [24 CFR 58.40(d), 40 CFR 1505.2(c)]

The proposed action requires no mitigation measures.

FINDING: [58.40(g)]

Finding of No Significant Impact

(The project will not result in a significant impact on the quality of the human environment)

Finding of Significant Impact

(The project may significantly affect the quality of the human environment)

Preparer Signature:

Name/Title/Agency:

Deborah Howes January 2, 2018
Deborah Howes AICP Date
Manager of Impact Assessment and Permitting, AECOM

Recipient Signature:

Name/Title/Agency:

City Manager, City of Meriden Date

Recipient Signature:

Name/Title/Agency:

Robert Cappelletti Date
Executive Director, Meriden Housing Authority

**RE Reviewing
Official Signature**

Name/Title/Agency:

Date

**RE Approving Official
Signature**

Name/Title/Agency:

Date

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Statement of Purpose and Need for the Proposal: [40 CFR 1508.9(b)]

The purpose of the Meriden Commons II (MC II) project is to partially replace substandard housing in a primarily low-income minority neighborhood with a high concentration of poverty. The Meriden Housing Authority's former Mills Memorial Apartments ("Mills"), a federally-funded, family-affordable, housing development, was characterized by distressed housing conditions and disenfranchisement among residents. These conditions could not be remedied with renovations to the existing housing, since Mills was partly situated inside the 100-year floodplain, making it vulnerable to repetitive loss.

The City of Meriden (City) documented a need to expand the supply and improve the quality of affordable housing within the municipality in its 2015 HUD Choice Neighborhoods Transformation Plan (HUD Choice Plan). To address this need, the City committed to demolish and replace all Mills units with quality housing outside of the 100-year floodplain. The City pledged to replace all 140 demolished housing units with quality public housing and/or project based voucher (PBV) units within the municipality. These replacement units will meet federal standards for low-income housing, requirements that include decent, safe, and sanitary housing at a reasonable rent.

The demolition and partial replacement *in situ* of Mills units is a phase of the Master Plan, known as Meriden Commons, an undertaking that has been broken into discrete project phases. Figure 1a identifies the location of Meriden Commons within the City of Meriden. The staging plan will be described in greater detail below. The current phase, MC II, is essential to meet the housing needs of residents who have been relocated from Mills to facilitate building demolition and other site redevelopment activities. MC II is also critical to the City's immediate and long-term planning and economic development goals. Figure 1b identifies the location of the parcels associated with MC II.

MC II will supply a mix of quality replacement, affordable, and market-rate housing, as well as retail amenities and improved open space. Without this project, Meriden would be unable to meet the commitments made in the HUD Choice Plan and based upon which HUD approved the removal of Mills from the federal Public Housing Inventory. Apart from fulfilling its obligation to all lease-compliant Mills residents, MC II is a critical component of a comprehensive downtown revitalization founded on transit-oriented development (TOD). Mixed-use, walkable development will enhance multimodal activity in the city; optimize the use of underutilized land previously allocated to parking; and spur local economic development. Access improvements to and from local amenities such as community space and retail shops, consistent with general TOD objectives, is an imperative.

Description of the Proposal: Include all contemplated actions, which logically are either geographically, or functionally a composite part of the project, regardless of the source of funding. [24 CFR 58.32, 40 CFR 1508.25]

MC II is the final phase of a multi-phased master plan, known as Meriden Commons, for the site bound by State, Park, Mill, Cedar, and Pratt Streets in downtown Meriden. The earlier phases received a Finding of No Significant Impact (FONSI) by the U.S. Department of Housing and Urban Development (HUD), and those actions are underway and/or completed.

The first two approved phases of the overall redevelopment of the Mills site were:

- Demolition of the existing Mills buildings, land disposition/transfer, and parcel assembly. Pursuant to public housing regulations ("The Public Housing Program: Demolition or Disposition of Public Housing Projects [24 CFR 970]), Mills was removed from the Federal public housing program prior to these actions.
- MC I: Construction of 75 housing units, including 25 Mills replacement units, on the site's west side (formerly 161 and 177 State Street). MC I includes 35 additional affordable units and 15 market rate units. The replacement units will primarily serve households below 30% Area Median Income (AMI) (<\$26,250). MC I was awarded a 9% Low-Income Housing Tax Credit (LIHTC) award from the Connecticut Housing and Finance Agency.

MC II entails construction of 76 additional housing units on the site's northeast side (mostly on land that was formerly 77 Cedar Street). The new buildings provide partial replacement of the affordable units that were eliminated when Mills was demolished, as well as additional non-replacement affordable units. According to the approved MHA Mills Relocation Plan and Right to Return Policy, 26 lease-compliant Mills households with Project-Based Vouchers will be returned to MC II, based on the Plan's commitment to guaranteeing ample choice in respect of housing type, location, and bedroom type to all Mills residents.

The first building will contain 49 housing units, the second building will contain 15 units, and the third building will have 12 units. Of these 76 units, 60 will be affordable, including 26 replacement PBV units. Of the 60 affordable units, 24 will be designated for households between 26-50% AMI (\$22,750-\$43,750); 11 will serve households between 51-60% AMI (\$44,625-\$52,500); and 15 of the units will target households with less than 25% AMI (\$21,875).

The new development will also include 13,575 ft² of common-area space, an 8,275 ft² community room, 1,487 ft² of retail, and 80 surface parking spaces. A small section (8%) of MC II is located within a mapped Special Flood Hazard Area (SFHA) Zone AE, meaning that is currently subject to inundation by the 1-percent chance annual flood. In order to mitigate the risk associated with repetitive flood loss, the topography of the project site will be altered so that all developed portions of the MC II site are located at least four feet above the base flood elevation of 131 feet.

Existing Conditions and Trends: Describe the existing conditions of the project area and its surroundings, and trends likely to continue in the absence of the project. [24 CFR 58.40(a)]

The City is located in northeastern New Haven County, in south-central Connecticut, roughly 20 miles north of New Haven, and 20 miles south of Hartford, the state's capital. According to 2015 U.S. Census Bureau Estimates, the City's population is 59,988.¹ Median household income in Meriden is \$53,401, lower than both the County (\$61,646) and statewide (\$69,899) averages.² Poverty is highly concentrated and prevalent in the immediate project area: in the Census Blocks containing Mills, the Census Bureau estimates that 36.5% of households live below the federal poverty line. Compared to the City at large, the average downtown resident is three times as likely to be unemployed.

The blocks surrounding Mills generally consist of residential uses, vacant land, commercial properties, and parking lots. The City's near-term development priorities include infill development of new housing and retail options and the preservation of existing historic building fabric on commercial corridors including Colony and Main Streets.

The Meriden Green, a 14-acre flood control/park and economic development project located in the heart of downtown, is located southwest of the project site, across Mill Street. The project, which was completed in 2016, includes the restoration of Harbor Brook and the creation of a town green, along with economic development and transit-oriented development opportunities.

A new intermodal transportation center is planned across State Street west of the project site. This facility will integrate planned commuter rail service along the New Haven-Hartford-Springfield (MA) corridor with local and express bus service. The line runs at-grade one-half block west of the project site, parallel with State Street. State Street contains a variety of commercial and community facility uses. Current tenants of the street's primarily one- and two-story brick buildings include a rehabilitation agency, a pharmacy, and a community health clinic.

The blocks east of Cedar Street are characterized by additional low-rise multi-family residential buildings. These two-story brick buildings are set back from Cedar Street and include shared parking for building residents. Low-rise semi-attached residential structures are also found north of the project site, on both

¹ <http://www.census.gov/quickfacts/table/PST045215/09,09009,0946450,00>

sides of Park Street. Further east, several detached residential buildings are located on the north side of Park Street, near Center Street.

The immediate area south of Pratt Street is also largely residential. Southwest of the project site, on Pratt Street and Caitlin Street, is a large five-story multi-family residential building with off-street rear parking. The Meriden Public Library is located roughly 1,000 feet south of the project site, at the intersection of Caitlin and Miller Streets.

Directly south of the site, both sides of Twiss Street contain single-family detached residences. A Meriden Public School career center is located on Pratt Street between Twiss and Center Streets. A large U.S. Post Office and mail distribution center is located on the western block face of Center Street between Pratt and Miller Streets. This facility is located across Center Street from a large light industrial/manufacturing structure occupied by the Miller Company.

The principal east-west highway in the City, U.S. Interstate 691 (I-691), runs several blocks north of the project site. I-691, which is classified by the Connecticut Department of Transportation as a Principal Arterial roadway, is a spur highway that links I-91 to I-84 in Cheshire. Pratt Street and State Street are classified as Collector roadways. All other streets surrounding the project site are classified as local roadways. A roadway functional class map for the City is shown in **Figure 2**.

Several bus lines are found within close proximity to the project site. The “A”, “B”, “C” and “M” lines, operated by North East Transportation and Middletown Area Transit, run on State Street directly west of the project site. The “M” bus offers regional service to Middletown and Cromwell, while the other local lines operate within the City. Additional bus lines operate throughout Meriden and the region.

No major changes related to land use or urban character are anticipated in the near future. There should, however, be significant improvement to the quality of the built environment, as projects that are either planned or already online will bring over 120,000 ft² of new commercial space and at least 670 new housing units. Many of these housing units will be located in mixed-use buildings or developments.

Statutory Checklist

[24CFR §58.5]

For each listed statute, executive order or regulation, record the determinations made. Note reviews and consultations completed as well as any applicable permits or approvals obtained. Attach evidence that all required actions have been taken. Record any conditions or mitigation measures required. Then, make a determination of compliance or consistency.

STATUTES, EXECUTIVE ORDERS, AND REGULATIONS LISTED AT 24 CFR 50.4 & 58.5

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5	Are formal compliance steps or mitigation required?	Compliance Determination
Historic Preservation [36 CFR 800]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is located in a disturbed urban environment. Mills was constructed in 1961 and the project site is not believed to contain significant historic resources. The Connecticut State Historic Preservation Office has approved the new construction activities that are described in this EA. Therefore, the proposed action would not violate the Advisory Council on Historic Preservation’s 36 CFR 800: Protection of Historic Properties.
Floodplain Management [24 CFR 55, Executive Order 11988]	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	<p>A portion (0.18 acres) of the project site is located within a Special Flood Hazard Area (SFHA) Zone AE, meaning that it is subject to inundation by the 1-percent annual chance flood. The lowest base flood elevation (BFE) on the project site is roughly 131 feet. As part of MC II development, site topography will be altered to effect physical alteration of the floodplain. An MC II building whose planned footprint is partly located in the current floodplain will be constructed with a lowest floor elevation of 135 feet, or four feet above BFE.</p> <p>Executive Order 11988, as implemented by “Floodplain Management and Protection of Wetlands” (24 CFR Part 55), does apply to the proposed action. Based upon the decisionmaking process described in Section 55.20, the proposed action is demonstrated to comply with 24 CFR Part 55. Although the proposed action will partially occur in an existing floodplain, modification to this floodplain will result in all built space to be located at least four feet above BFE. The proposed action would therefore not result in flood hazards in the floodplain, aggravate the current hazards to other floodplains, or disrupt floodplain values. The project would be in compliance with the Federal Emergency Management Agency’s (FEMA’s) Executive Order 11988.</p> <p>The City of Meriden will be filing a Letter of Map Revision-Based on Fill to mitigate the flood insurance implications of the property being partially sited in the floodplain. This action is in accordance with Chapter 110: Floodplain Management of the City’s Municipal Code.</p> <p>See Figure 3: FEMA Floodplain Map of MC II project site (Panel #0166H); Attachment A, “Determination of Applicability to 24 CFR 55.”</p>
Wetlands Protection [Executive Order 11990]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is not located in, nor does it encroach upon, any federal wetlands. Therefore, the proposed action would not violate Executive Order 11990: Protection of Wetlands.
Coastal Zone Management Act [Sections 307(c),(d)]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is not located within Connecticut’s designated Coastal Boundary. The proposed action therefore would not violate the Coastal Zone Management Act.

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5	Are formal compliance steps or mitigation required?	Compliance Determination
Sole Source Aquifers [40 CFR 149]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The proposed activities are not located above a designated sole source aquifer. The proposed action would therefore not violate 40 CFR 149.
Endangered Species Act [50 CFR 402]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is centrally located in Meriden, a highly developed urban area of Connecticut. According to the Connecticut Department of Energy and Environmental Protection's (DEEP's) Natural Diversity Data Base Maps (December 2016) ² , Federal- and state-listed endangered, threatened and special concern species and significant natural communities are found in the vicinity of the project site. In a DEEP letter dated July 14, 2017 to the Project Manager, DEEP affirms the presence of extant populations of the State Special Concern species <i>Glyptemys insculpta</i> (Wood Turtle) in the vicinity of the project site. While the project's area of disturbance is not part of the species' direct habitat, best management protection strategies will still be utilized in an effort to protect the area's wood turtle populations from indirect project impacts. These mitigation measures have been reviewed and approved by DEEP, ³ and the proposed action would therefore not violate the 1973 Endangered Species Act (50 CFR 402).
Wild and Scenic Rivers Act [Sections 7 (b), (c)]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	There are no designated Wild or Scenic Rivers within or adjacent to the project site. ⁴ Therefore, the project would not violate the 1968 Wild and Scenic Rivers Act.

² C:\Users\aline.reynolds\Desktop\Projects\Meriden, CT\nd080.html

³ ftp://ftp.state.ct.us/pub/dep/gis/endangeredspeciesmaps/nd080.pdf

⁴ http://www.nps.gov/ncrc/programs/rtca/nri/states/ct.html

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5	Are formal compliance steps or mitigation required?	Compliance Determination
<p>Air Quality [Clean Air Act, Sections 176 (c) and (d), and 40 CFR 6, 51, 93]</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The activities described in this EA, including proposed demolition and new building construction, require the performance of additional air quality analysis. The Revision to the Guideline on Air Quality Models (40 CFR 51) and Determining Conformity of Federal Actions To State or Federal Implementation Plans (40 CFR 93) requires quantification of construction and operational nonattainment pollutant emissions in the area where the project site is located.</p> <p>Prior to MC II, the USEPA’s recognized Emission Simulator (MOVES) program was used to predict truck and commuter vehicle running emission factors for NO_x, VOC, and PM_{2.5}. For O₃ nonattainment areas, USEPA’s conformity rules establish <i>de minimis</i> emission levels for both O₃ precursors, VOC and NO_x, on the presumption that VOC and NO_x reductions will contribute to reductions in O₃ formation. These <i>de minimis</i> levels and the assumptions and methodologies used to determine airborne concentrations are indicated below, and described in additional detail in Appendix A.</p> <p>Since the project site is located in an O₃ moderate nonattainment area in an O₃ transport region and a maintenance area for PM_{2.5}, the <i>de minimis</i> levels of 100 ton per year (tpy) of NO_x and PM_{2.5}, and 50 tpy of VOC apply. The default assumed trip length for trucks or commuting vehicles is 20 miles roundtrip. The model anticipates that roughly 1,200 truck trips and 7,500 car trips will be generated as a result of project construction. Even in the most conservative modeling scenario, which assumes that all construction activities would take place within one year, project-related emissions are significantly below all applicable thresholds. The proposed project action would therefore have minimal air quality impacts and would not require a formal conformity determination. The proposed action would conform with the State Implementation Plan (SIP).</p>
<p>Farmland Protection Policy Act [7 CFR 658]</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The project would not involve the conversion of farmland to non-agricultural use and therefore would not violate the U.S. Department of Agriculture’s Farmland Protection Policy Act.</p>
<p>Environmental Justice [Executive Order 12898]</p>	<p>Yes No <input type="checkbox"/> <input checked="" type="checkbox"/></p>	<p>The proposed action would not result in a disproportionately high adverse human health impact or environmental impact on minority or low-income populations. The proposed action is located in a predominantly low-income area, but it would not result in any unmitigated adverse environmental impacts, or in any impacts that disproportionately harm vulnerable populations.</p>

Compliance Factors: Statutes, Executive Orders, and Regulations listed at 24 CFR §58.5	Are formal compliance steps or mitigation required?	Compliance Determination
Noise Abatement and Control [24 CFR 51 B]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>To measure the noise impacts associated with the construction and operation phases of this project, HUD’s 2010 Day/Night Noise Level (DNL) Assessment Tool Calculator was utilized. DNL specifies that all major roads within 1,000 feet of the project site and all operating railway lines within 3,000 feet should be considered in project assessments. The site is located immediately adjacent (~ 50 feet) to State Street, a local arterial road, and several minor streets, as shown in Figure 1a. State Street is the only major road within a 1,000-foot radius of the site. The New Haven-Hartford-Springfield Railway runs within 270 feet of the project site. Predicted DNL levels indicate that the project site is considered “Acceptable” for residential use. Noise attenuation and other mitigation measures will therefore not be necessary for this project.</p> <p>These analyses are also based on a conclusion that construction would not generate or reroute vehicular traffic, and that no new sensitive noise receptors or noise sources (including mobile and stationary sources) would be introduced as part of the proposed action.</p>

<p>Toxic or Hazardous Substances and Radioactive Materials [HUD Notice 79-33]</p>	<p>Yes No <input checked="" type="checkbox"/> <input type="checkbox"/></p>	<p>A Phase II/III Environmental Site Assessment (ESA) was performed by AECOM in October 2015 for 62 Cedar Street, the former address where the project site is primarily located. The assessment entailed soil analysis of two boring locations. Of three soil samples with detections above laboratory reporting limits, one sample had Extractable Petroleum Hydrocarbon (ETPH) concentrations above the Residential Direct Exposure (R DEC) criteria. Additionally, six heavy metals were detected above the laboratory reporting limit but below soil criteria in the above-mentioned borings. Lead and arsenic were the only two metals that were detected at concentrations above the Industrial/Commercial Direct Exposure Criteria (IC/DEC) and the R DEC in two soil samples. Of the Polyaromatic Hydrocarbons (PAHs) that were analyzed in seven samples, only Benzo(k)fluoranthene was detected above the GB Pollutant Mobility Criteria (GB PMC), in two of the soil samples. Groundwater tests of one monitoring well revealed that only lead was detected above the SWPC criteria. PAH and metal concentrations in soils and groundwater are likely associated with fill material underlying the site. Arsenic concentrations are likely due to silt content of samples and/or naturally occurring concentrations documented throughout the area. Soil and groundwater results consisting of PAHs, metals, and ETPH are characteristic of the fill material across the site and on neighboring properties. Based on the Synthetic Precipitation Leaching Procedure (SPLP) Analysis performed on samples during the Phase II/III ESA, all metals impacts are below the GB PMC. The PAH results indicate exceedances of the GB PMC. The Phase II/III ESA provided sufficient information for preliminary planning of future property use and remedial design.</p> <p>MC II consists of a redevelopment plan on two parcels: 177 State St and 62 Cedar. The City of Meriden has entered the 177 State St property into a regulatory remediation program as a requirement of state funds. According to HUD regulations, all property proposed for use in HUD programs must "...be free of hazardous and contaminated materials...where a hazard could affect the health and safety of occupants..." [24 CFR Part 58.5(i) (2) & 50.3(i)]. To adhere to this regulation, the soil containing hazardous materials must be removed from the site and/or capped in place. Any soils to be removed from the site as part of redevelopment activities would be tested and disposed of at a regulated landfill. Any contaminated soil remaining on-site must be rendered environmentally isolated and inaccessible, in accordance with the CT DEEP's Remediation Standard Regulations (RSRs).</p> <p>The City has conducted investigative and remediation activities for activities related to other project phases. For instance, the City developed asbestos abatement work plans and specifications to demonstrate ACM removal based on the findings of a Phase I ESA for the former 144 Mills Memorial site. Similarly, based on the recommendations of a Phase III ESA, the former 177 State Street tax parcel has undergone remediation using funds provided by a state DECD brownfield grant. The site has been entered into the state Voluntary Remediation Program (VRP), and cleanup has been conducted in accordance with the Remedial Action Plan completed by a Licensed Environmental Professional (LEP).</p> <p>Following completion of prior project phases, a closure report was prepared and submitted to the state DEEP. The report is accompanied by verification from the designated site LEP that all investigation and remediation activities are in compliance with the RSR Criteria. Based on this history of developing actionable management strategies to reduce and mitigate hazardous substance concentrations, and based on the management strategies specific to MC II, no negative impact</p>
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		associated with human exposure to toxic or hazardous substances is anticipated.
Explosive and Flammable Hazards [24 CFR 51 C]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	<p>The Phase I ESAs and Phase II ESI prepared for the project site revealed that there are no hazardous operations that pose a threat to the project site. A survey of the area revealed that there are 22 underground storage tanks (UST) present within approximately ¼ mile of the project site and no aboveground storage tanks (AST).</p> <p>The project site is located within a primarily residential area of Meriden. No hazardous operations, including industrial operations, fuel supply depots or private filling stations, are located within 1,000 feet of the project site. The proposed action therefore complies with "Siting of HUD-Assisted Projects Near Hazardous Operations Handling Conventional Fuels or Chemicals of an Explosive or Flammable Nature (24 CFR 51C).</p> <p>See related Phase I & Phase II/III documentation, attached.</p>
Airport Clear Zones and Accident Potential Zones [24 CFR 51 D]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	The project site is located more than one mile northeast of the Meriden-Markham Municipal Airport, meaning that no further assessment is warranted and no impacts would result.
List of Permits Obtained	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	No permits are required as part of the proposed action.
Public Outreach [24 CFR 50.23 and 58.43]	Yes No <input checked="" type="checkbox"/> <input type="checkbox"/>	The Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) was made available for public comment for a 15-day period from December 6, 2017 to December 22, 2017. A notification of the FONSI and the opportunity for public comment was published in the <i>Record-Journal</i> on December 6, 2017.
Cumulative Impacts Analysis [24 CFR 58.32]	Yes No <input type="checkbox"/> <input checked="" type="checkbox"/>	Because no significant adverse impacts are anticipated as a result of the proposed action, no cumulative impacts require assessment. Any cumulative social impacts to public housing are being considered for the City as part of its Choice Neighborhoods Initiative, which emphasizes a holistic approach to revitalizing communities by forging close connections between housing, educational opportunities, and wraparound youth education services. Furthermore, the previous low-income housing at Meriden Mills is being replaced with additional high-quality affordable housing, thereby providing improved housing options for the former Mills residents.

Environmental Assessment Checklist

[Environmental Review Guide HUD CPD 782, 24 CFR 58.40; Ref. 40 CFR 1508.8 &1508.27]

Evaluate the significance of the effects of the proposal on the character, features and resources of the project area. Enter relevant base data and verifiable source documentation to support the finding. Then enter the appropriate impact code from the following list to make a finding of impact. **Impact Codes:** (1) - No impact anticipated; (2) - Potentially beneficial; (3) - Potentially adverse; (4) - Requires mitigation; (5) - Requires project modification. Note names, dates of contact, telephone numbers and page references. Attach additional materials as needed.

Land Development	Code	Source or Documentation
Conformance with Comprehensive Plans and Zoning	1	<p>The project site is located within a mapped Transit Oriented District (TOD) Zone. Specifically, the combined parcel is located within the TOD-Park Sub-district (adopted in 2013), as shown in Figure 5. Multi-family residences (up to 100 dwelling units per site) are permitted in this district, as are commercial and institutional uses. In a TOD-park district, maximum lot coverage of 75 percent is permitted for multi-family dwellings. Any future TOD mixed-income development on this site would be limited to eight stories in height under the existing zoning regulations.</p> <p>The proposed action would not include a change to the site’s existing zoning, since it would conform with existing zoning regulations.</p>
Compatibility and Urban Impact	1	<p>The proposed construction activities associated with MC II would positively impact the City’s efforts to create urban-scale transit-oriented development that is founded around quality housing and a contextually appropriate mix of commercial amenities. All phases of the Meriden Commons project are key components of a broader municipal strategy to foster equitable and sustainable urban-scale transit-oriented development. The overall MC project will also contribute to enhanced natural and open space resources in urbanized downtown.</p>
Slope	1	<p>As discussed in relation to floodplain impacts, the topography of the site is generally flat. Planned alterations to the topography in order to remove the new Meriden Commons II development from the floodplain will not result in negative impacts to site slope or to creation of hazardous slopes. Site improvements to Harbor Brook will reduce the amount of development on the floodplain. Based on the site’s natural topography and the planned improvements, no negative impacts to slope are anticipated.</p> <p>See also the Phase I ESA for 144 Pratt Street and 161 State Street; and Phase I ESA Part 1 for 62 Cedar Street.</p>
Erosion	1	<p>No erosion impact is anticipated.</p> <p>See also the Phase I ESA for 144 Pratt Street and 161 State Street; and Phase I ESA Part 1 for 62 Cedar Street.</p>

<p>Soil Suitability</p>	<p>1</p>	<p>The Phase II/III Environmental Site Assessment for 62 Cedar Street indicated that, based on soil samples from two soil borings (B-62-01 and B-62-02), the project site is underlain by urban fill composed of sand and silt—with varying quantities of gravel, clay, rock fragments, concrete, asphalt, and other miscellaneous debris. Organic silt, which appears to represent the former ground surface prior to filling, was encountered at deeper subsurface levels. These materials commonly occur in the area and do not negatively impact the feasibility of redevelopment at the project. See Phase II/III ESA Report, October 2015. The Phase II Subsurface Investigation Report determined that the project site is underlain by fill material followed by sand, asphalt, brick, and concrete fragments. These materials commonly occur in the area and do not negatively impact the feasibility of redevelopment. See Phase II ESA Report, December 2012.</p>
<p>Hazards and Nuisances including Site Safety</p>	<p>1</p>	<p>There would be no significant hazards or nuisances associated with the proposed action. The proposed new construction and PBV allocation would result in no increased emissions of air pollutants; exposure to heavy metals or other contaminants; attraction of vermin or pests; or creation of noise or odors.</p>
<p>Energy Consumption</p>	<p>1</p>	<p>The proposed action involves new construction only. Both the approved MC I and the proposed MC II have been designed to maximize energy efficiency of the built environment. For instance, the MC I project included construction of a rooftop solar array to minimize site dependence on the traditional energy grid. No negative impact is anticipated.</p>
<p>Noise - Contribution to Community Noise Levels</p>	<p>1</p>	<p>A visual and auditory field inspection was conducted when the former Mills buildings were occupied and operational. Many former Mills residents were believed to own vehicles, which contributed to the ambient noise profile of the area. The buildings' mechanical systems were observed to be operating within a normal decibel range. It is reasonable to assume that the noise findings of the previous Mills buildings will be consistent with those of the new buildings.</p> <p>Additionally, users of the open space at the project site, which includes active recreation elements such as playground equipment, are considered an existing stationary noise source on the site. Construction noise from Meriden Green (former HUB site) located at Pratt Street is considered a temporary noise source.</p> <p>In all, elevated community noise levels are not expected to result from the proposed action, and no negative impact is anticipated.</p>
<p>Air Quality Effects of Ambient Air Quality on Project and Contribution to Community Pollution Levels</p>	<p>1</p>	<p>To assess the effects of ambient air quality on the proposed action, a visual survey was conducted prior to MC I to determine whether there are any industrial emission sources in the area that could potentially affect existing residents and users of the project site. The result of the industrial source visual survey is that the potential for air toxic impacts on the project site is not significant.</p> <p>As a result of the proposed action, no new stationary or mobile emission sources would be introduced on or near the project site. Therefore, the proposed action would have no significant adverse impact on community pollution levels.</p>
<p>Environmental Design Visual Quality - Coherence, Diversity, Compatible Use and Scale</p>	<p>1</p>	<p>The proposed action would replace distressed public family housing units with quality construction of urban-scale mixed-use residential and commercial development. This new development would be consistent with design standards for a dense, walkable central business district. The proposed action will therefore improve the visual quality and compatibility of the built environment.</p>

Demographic Character Changes	1	In prior project phases as described above, 140 units (24 vacant units and 116 occupied units) were removed from the Federal public housing program. Lease-compliant tenants who were displaced from substandard low-income housing have received relocation vouchers for quality replacement housing located within the City of Meriden. Displacement is minimized based on HUD-approved Relocation and Right to Return Plan. Some current residents may choose to relocate from the immediate project area, but this is not anticipated to cause a significant negative change in the neighborhood's demographics. The planned in-kind replacement of all PBVs, and the addition of new affordable and market-rate residential housing units, will minimize long-term residential displacement, and limit changes to the demographic character of the neighborhood. Thus, the project would not result in a significant adverse impact to the area's demographic character.
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Socioeconomic Code Source or Documentation

Displacement	1	While the project entails the relocation of former Mills tenants, the City's HUD Choice Plan is designed to limit the temporal extent of displacement. The construction activities included in MC II will allow the City to partially fulfill its commitment to relocate former tenants of substandard housing to quality affordable housing. As described in approved Relocation and Right to Return planning documents, displaced residents will be "right-sized" into their replacement units, based on bedroom size needs and geographical preferences. Therefore, the proposed action would not result in significant adverse impacts commonly associated with displacement.
Employment and Income Patterns	1	The proposed action would not result in significant adverse impacts associated with employment and income patterns. In fact, it is anticipated the new development at Meriden Commons II would generate full-time jobs in the areas of building maintenance and retail.

Community Facilities and Services Code Source or Documentation

Educational Facilities	1	Under the project's previous disposition action, 140 units (24 vacant units and 116 occupied units) were removed from the Federal public housing program. This may cause a small number of school-aged children to relocate out of the immediate area over the course of several years, but it is anticipated that these students' departure would be offset by the arrival of new-school aged children in either the new affordable or new market-rate housing built as part of MC II.
Commercial Facilities	1	The proposed action would not have an adverse effect on existing commercial uses in the area. The mixed-use components of MC II are designed and anticipated to complement the existing downtown commercial market, and to catalyze new retail growth.
Health Care	1	The proposed action is not expected to cause a noticeable change in the demand for local health care services. The City has planned appropriately for its population to stabilize and eventually grow modestly.
Social Services	1	The proposed action is not expected to cause a noticeable change in the demand for local social services. The City has planned appropriately for its population to stabilize and eventually grow modestly.
Solid Waste	1	The proposed action is not anticipated to cause greater solid waste generation or to impose additional demand on the City's solid waste collection services.
Waste Water	1	The proposed action would not adversely affect Meriden's waste water conveyance system or treatment facilities. Waste water would continue to be handled by the city's Water Pollution Control Facility Division. The proposed action would not result in increased demand for sewage disposal or treatment, and no impacts would occur.
Storm Water	1	The proposed action would not adversely affect Meriden's storm water system. An increase in the amount of impervious surface on the immediate project site will be offset by the flood protection activities described elsewhere in the document, and by the significant creation of impermeable surface directly to the south of the MC II site, on land formerly occupied by Mills high and low-rise buildings and by surface parking.

Water Supply	1	The proposed action would not adversely affect Meriden’s water supply.
Public Safety - Police	1	There would be no impact on police services due to the proposed action. Police protection services are provided by the Meriden Police Department. The station nearest to the project site is located in close proximity to the proposed project site, at 50 West Main Street.
- Fire	1	There would be no impact on fire services due to the proposed action. Fire protection services are provided by the Meriden Fire Department. The station nearest to the project site is located in close proximity to the proposed project site, at 50 West Main Street.
- Emergency Medical	1	The proposed action would not result in increased demand on emergency medical services. The Midstate Medical Center provides emergency medical services and is located approximately one mile northwest of the project site.

Community Facilities and Services

	Code	Source or Documentation
Open Space and Recreation - Open Space	1	The proposed action would not result in the net removal of landscaped areas on the project site. The demolition of Cedar Park was approved in a prior project phase. The loss of this 1.6 acres of public open space that included a basketball court, a playground, a paved parking lot, and a grassy landscaped area is more than compensated by the development of high-quality open and natural space resources immediately south of the project site. The daylighting of Harbor Brook and the open space link to the new Meriden Green will offer significant offsetting active and passive recreation activities. The new residents that would be introduced via the proposed action are not expected to change utilization rates of open space. Therefore, the proposed action would not result in a significant adverse impact to open space resources in the project area.
- Cultural Facilities	1	The proposed action would not adversely affect cultural facilities.
Transportation	1	A small increase in the number of residents directly located on the project site may influence traffic volumes, pedestrian volumes, transit ridership, and parking demand. No significant impacts to any of these conditions are anticipated, however: the project is part of the City’s comprehensive downtown revitalization plan, which prioritizes multimodal transit-oriented development. There are ample surface parking resources planned on the immediate project site, and current traffic volumes are acceptable.

Natural Features	Code	Source or Documentation
Water Resources	1	The proposed project would not result in a significant effect on water resources, including groundwater and surface water. Harbor Brook, a low-gradient stream that currently flows through an underground culvert will be daylighted immediately south of the project site. Based on surface topography, groundwater flow is assumed to be in a southwesterly direction towards Hanover Pond (Figure 3). New construction and operation of MC II will not negatively impact local or regional water resources.
Surface Water	1	The proposed project would not result in a significant effect on surface water resources. The nearest surface water body is Harbor Brook, which flows through an underground culvert beneath a portion of the project site and is classified by the state DEEP as “B” surface water. Based on state Water Quality Standards, “B” surface water is designed for recreational use, fish and wildlife habitat, agricultural and industrial supply, and other legitimate uses including navigation. Stormwater catch basins were observed in various areas throughout the exterior portions of the site. These catch basins are believed to discharge to Harbor Brook. Figure 6 shows the Water Quality Classification Map for City. There would be no additional discharge to nearby surface water.
Unique Natural Features and Agricultural Lands	1	There are no unique natural features or agricultural lands in close vicinity of the project site. Therefore, the proposed action would have no anticipated impact on such resources.
Vegetation and Wildlife	1	The project site and its immediate surroundings are occupied by buildings, paved areas, or landscaped areas. According to the Connecticut Department of Energy and Environmental Protection’s (DEEP’s) Natural Diversity Data Base Areas graphic (dated December, 2016) ⁵ , Federal- and state-listed endangered, threatened and special concern species and significant natural communities are found in the vicinity of the project site. A In a DEEP letter dated July 14, 2017 to the Project Manager, the state explains that there are , there are known extant populations of the State Special Concern species <i>Glyptemys insculpta</i> (known colloquially as the “wood turtle”) in the vicinity of the project site. While the project’s area of disturbance is not part of the species’ direct habitat, best management protection strategies will still be utilized in an effort to protect the area’s wood turtle populations from indirect project impacts. These mitigation measures have been reviewed and approved by DEEP. ⁶ Therefore, the proposed action would not violate the 1973 Endangered Species Act (50 CFR 402). Therefore, no significant impacts to vegetation or wildlife would result from the proposed action.

NOTE: The Responsible Entity must additionally document compliance with 24 CFR §58.6 in the ERR, particularly with the Flood Insurance requirements of the Flood Disaster Protection Act and the Buyer Disclosure requirements of the HUD Airport Runway Clear Zone/Clear Zone regulation at 24 CFR 51 Subpart D.

Summary of Findings and Conclusions

The proposed action is part of the City’s comprehensive strategy to replace substandard housing and to provide a range of quality affordable and market-rate housing. The proposed action includes new construction of 76 new quality housing units, allocation of 26 Project Based Vouchers (PBVs) for residents temporarily displaced by the demolition of the substandard former Mills Memorial Amartments, and construction of new urban-scale mixed-use amenities, including community facilities and retail shops.

⁵ C:\Users\laine.reynolds\Desktop\Projects\Meriden, CT\nd080.html

⁶ ftp://ftp.state.ct.us/pub/dep/gis/endangeredspeciesmaps/nd080.pdf

The proposed action would not adversely affect the character, features, or resources of the surrounding area—and it would not result in a significant impact on the quality of the human environment. No potential adverse impacts are expected as a result of this project. Mitigation as part of the proposed action would therefore not be required through the Request for Release of Funds.

The proposed new development would partly replace 140 federally public housing low-income housing units that were substandard and that could not be renovated in a way that would yield quality affordable housing. MC II is a critical component of the City's comprehensive plan to fulfill its commitment of providing displaced residents from the former Mills Memorial Housing complex with quality low-income housing. The proposed action is consistent with recognized Transit-Oriented Development principles that will help to revitalize downtown Meriden.

The project was conceived within the context of the current administration's proposed Choice Neighborhoods Initiative (CNI), which is predicated upon a holistic approach to revitalizing communities through fostering close connections between housing, educational opportunities, and "wraparound" (youth education) services. The proposed action would attempt to meet these goals by expanding the supply of affordable housing within the city limits as well as providing indoor and outdoor communal space for Meriden residents.

ALTERNATIVES TO THE PROPOSED ACTION

Alternatives and Project Modifications Considered [24 CFR 58.40(e), Ref. 40 CFR 1508.9] (Identify other reasonable courses of action that were considered and not selected, such as other sites, design modifications, or other uses of the subject site. Describe the benefits and adverse impacts to the human environment of each alternative and the reasons for rejecting it.)

No other reasonable alternatives were considered or selected for the proposed action. Several other development alternatives for MC I were previously considered, but ultimately not selected by the community and development team because of their inability to mitigate flooding from Harbor Brook; the high cost of modernization of the existing units; and the lack of suitable sites with access to services and transit.⁷ Because MC I was considered the only practical means of avoiding long-term residential displacement and catalyzing positive downtown redevelopment, MC II represents a logical configuration of the remaining former Mills site.

No Action Alternative [24 CFR 58.40(e)]

(Discuss the benefits and adverse impacts to the human environment of not implementing the preferred alternative).

Under the No Action Alternative, the proposed construction of 76 new quality housing units, including 26 Mills-replacement units, would not occur. In the absence of these actions, it is assumed that the project site would remain in its current state. The City would not be able to meet its HUD Choice Plan goals of expanding and improving affordable housing in the City. It would also fail to keep its promise to provide a total of 494 new housing units over a five-year period. The City's downtown would experience continued disinvestment and dilapidation of its housing stock. The City's affordable housing stock, in particular, would continue to fail to meet the needs of its low-income residents, and would continue to fail to provide attractive housing options for residents of all income levels. In the absence of this project, the City would lose significant momentum in its quest to leverage \$125 million in recent public and private investment in downtown Meriden.

Thus, while there would be no adverse impacts to human health and the environment under the No Action Alternative, the City would forego an opportunity to replace distressed housing with more contextually appropriate mixed-use development that includes quality affordable housing. Mixed-use downtown redevelopment will improve overall housing stock, link jobs and residents to transit options, and improve and expand open space resources. In the No Action scenario, not all of the plan's replacement and new low-income housing units would be built—and that the city's affordable housing needs would not be met. Thus, the project's purpose and need would not be achieved. Most seriously, this would raise significant equity and environmental justice questions. It would also deprive the City of a prime opportunity to accomplish goals related to promotion of Transit-Oriented Development and downtown revitalization.

Mitigation Measures Recommended [24 CFR 58.40(d), 40 CFR 1508.20]

(Recommend feasible ways in which the proposal or external factors relating to the proposal should be modified in order to eliminate or minimize adverse environmental impacts.)

The new construction of 76 quality housing units, and the allocation of 26 PBVs to former Mills tenants would result in no adverse environmental impacts. Therefore, no mitigation measures are required to ensure there are no significant impacts, and none is recommended in the assessment.

⁷ <http://www.meriden2020.com/Customer-Content/www/CMS/files/Exhibitsfile.pdf>

Additional Studies Performed

Phase I Environmental Site Assessment (ESA), 62 Cedar Street, Meriden CT, Tighe & Bond, April 2012.

Phase I Environmental Site Assessment (ESA), 177 State Street, Meriden CT, AECOM, November 2015.

Phase I Environmental Site Assessment (ESA), 144 Pratt Street, Meriden CT, Tighe & Bond, June 2012.

Phase I Environmental Site Assessment (ESA), 161 State Street, Meriden CT, Tighe & Bond, April 2012.

Phase II Environmental Site Assessment (ESA), 161 State Street, Meriden CT, Tighe & Bond, December 2012.

Phase III Environmental Site Assessment (ESA), 161 State Street, Meriden CT, AECOM, March 2016.

Phase III Environmental Site Assessment (ESA), 177 State Street, Meriden CT, AECOM, March 2014.

Hazardous Materials Building Assessment High Rise 1, AECOM, October 2015.

Hazardous Materials Building Assessment High Rise 2, AECOM, October 2015.

Hazardous Materials Building Assessment Low Rise 1, AECOM, October 2015.

Hazardous Materials Building Assessment Low Rise 2, AECOM, October 2015.

Hazardous Materials Building Assessment Low Rise 3, AECOM, October 2015.

List of Sources, Agencies and Persons Consulted [40 CFR 1508.9(b)]

HUD Exchange “Environmental Assessment Determinations and Compliance Findings for HUD-assisted Projects 24 CFR Part 58”. <https://www.hudexchange.info/resource/3140/part-58-environmental-assessment-form/>. Accessed July 26, 2016

HUD Exchange “Additional Factors to Consider for Environmental Assessments”. <https://www.hudexchange.info/resource/3895/additional-factors-to-consider-in-an-environmental-assessment/>. Accessed July 26, 2016.

United States Census Factfinder. <http://www.census.gov/quickfacts/table/PST045215/09,09009,0946450,00>. Accessed August 3, 2016.

City of Meriden GIS Home Page. <http://gis.meridenct.gov/meriden/MapSearch.aspx>. Accessed August 3, 2016.

A County Report of Connecticut’s Endangered, Threatened and Special Concern. http://www.ct.gov/deep/lib/deep/endangered_species/species_listings/newhavenctyspecies.pdf. Accessed June 2017.

Natural Diversity Data Base Areas for Meriden, CT. <ftp://ftp.state.ct.us/pub/dep/gis/endangeredspeciesmaps/nd080.pdf>. Accessed June 2017.

National Park Service Rivers, Trails and Conservation Program, Connecticut Segments. <https://www.nps.gov/nrcr/programs/rtca/nri/states/ct.html>. Accessed August 3, 2016

City of Meriden Administration legislation, Chapter 2013-Zoning, Article V-Commercial District. <http://ecode360.com/13397144>.

Accessed August 3, 2016

City of Meriden, Zoning Map. <http://gis.meridenct.gov/website/StaticMaps/ZoningMap.pdf>. Accessed August, 2016.

Meriden Biz, City of Meriden Economic Development, Presentation “Demolition and Remediation of 144 Mills Memorial, Meriden, CT, January 2016.” http://www.meridenbiz.com/Customer-Content/www/CMS/files/Presentation_1-19-2016_144_Mills_remediation_FINAL3.pdf. Accessed August 1, 2016

Meriden Biz, City of Meriden Economic Development, <http://www.meriden2020.com/Customer-Content/www/CMS/files/Exhibitsfile.pdf>. Accessed August 3, 2016

Meriden Biz, City of Meriden Economic Development, http://www.meriden2020.com/Customer-Content/www/CMS/files/MeridenChoice_102015_transformation_plan_final_2.pdf. Accessed August 4, 2016

Meriden Biz, City of Meriden Economic Development, <http://www.meriden2020.com/Downtown-Development/The-Meriden-HUB-Park-and-Flood-Control-Project/>. Accessed on August 9, 2016

HUD Exchange “Floodplain Management and Protection of Wetlands”
<https://www.hudexchange.info/resource/3769/24-cfr-part-55-floodplain-management-and-protection-of-wetlands/>.
Accessed August 4, 2016

Harbor Brook Flood Control and Linear Trail Project Master Plan for Meriden, Ct. Prepared by GZA GeoEnvironmental, Inc. November, 2011.

Phase I Environmental Site Assessment (ESA), 62 Cedar Street, Meriden CT, Tighe & Bond, April 2012.

Phase I Environmental Site Assessment (ESA), 177 State Street, Meriden CT, AECOM, November 2015.

Phase I Environmental Site Assessment (ESA), 144 Pratt Street, Meriden CT, Tighe & Bond, June 2012.

Phase I Environmental Site Assessment (ESA), 161 State Street, Meriden CT, Tighe & Bond, April 2012.

Phase II Environmental Site Assessment (ESA), 161 State Street, Meriden CT, Tighe & Bond, December 2012.

Phase III Environmental Site Assessment (ESA), 161 State Street, Meriden CT, AECOM, March 2016.

Phase III Environmental Site Assessment (ESA), 177 State Street, Meriden CT, AECOM, March 2014.

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Hazardous Materials Building Assessment High Rise 2, AECOM, October 2015.

Hazardous Materials Building Assessment Low Rise 1, AECOM, October 2015.

Hazardous Materials Building Assessment Low Rise 2, AECOM, October 2015.

Hazardous Materials Building Assessment Low Rise 3, AECOM, October 2015.

Other Requirements (Section 58.6) Checklist

PROJECT NAME **Meriden Mills Apartments Disposition and Related Parcel Assembly,
Meriden CT**

In addition to the duties under the laws and authorities specified in 58.5 for assumption by Responsible Entities (REs) under the laws cited in 58.1(b), REs must comply with the following requirements. Applicability of the following requirements does not trigger the certification and release of funds procedure under this Part or preclude exemption of an activity under 58.34 (a) (12) and/or the applicability of 58.35(b). However, the RE remains responsible for addressing the following requirements in its Environmental Review Record (ERR) under 58.38 and meeting these requirements, where applicable, regardless of whether the activity is exempt under 58.34 or Categorically Excluded under 58.35 (a) or (b).

(a) Federal Flood Insurance Purchase Requirements (do not apply to funds from Federal formula grants made to a State).

(1) Does the project involve acquisition or construction (including rehabilitation) in a community identified by the Federal Emergency Management Agency (FEMA) as having special flood hazard areas (100 year and 500 year floodplains)? Yes No If "Yes," go to (a)(2). If "No," go to Question (b).

(2) Is the project located in 100 year flood plain (500 year floodplain for "critical" actions*)? Yes No If "Yes," go to (a) (3). If "No," go to Question (b).

(3) Is the community in which the project is located () participating in the National Flood Insurance Program or, () has less than a year passed since FEMA notified the community concerning such hazards. (Please check one of the above depending on the situation) Yes No . If "Yes," attach a statement concerning how you will assure that flood insurance will be maintained in accordance with the "Flood Insurance Protection" guidance sheet attached to this Checklist and go to Question (b). The implementation of this project consistent with your statement must be made a condition on the environmental findings and recommendations for the project. If "No," project cannot be funded.

* As defined in the U.S. Water Resources Council's Floodplain Management Guidelines for Implementing Executive Order 11988.

See Attached Standard Flood Hazard Determination indicating that Federal Flood Insurance is available as part of the Regular Program.

(b) Coastal Barriers Resources

Is the project to be undertaken located in the Coastal Barrier Resources System, as amended by the Coastal Barrier Improvement Act of 1990 (16 U.S.C. 3501)?

Yes No . If "Yes," Federal financial assistance may not be provided. If "No," then go to Question (c).

(c) Projects located in Close Proximity to Airports Contained on the HUD list of 24 CFR Part 51D Covered Airports.

Does the project involve assistance, subsidy, or insurance for the purchase or sale of an existing property in a Runway Clear Zone or Clear Zone as defined in 24 CFR Part 51D? Yes No If "Yes," the buyer must be advised that the property is in a runway Clear Zone or Clear Zone, what the implications of such a location are, and then there is a possibility that the property may, at a later

date, be acquired by the airport operator. The buyer must sign a statement acknowledging receipt of this information. The implementation of this requirement must be made a condition in the environmental review findings and recommendations for this project.

Although Federal financial assistance would be used for acquisition of land within an area identified by the Federal Emergency Management Agency (FEMA) as having special flood hazards, financial assistance would not be provided to property owners under the proposed action (existing public housing units would be removed from the Federal public housing program and no new units would be constructed under the proposed action). The future action includes redevelopment of Mills Megablock. Under selected alternative Mills Megablock would be constructed outside the flood zone. For such a development, flood insurance protection funding would not be required.

Preparer Signature:



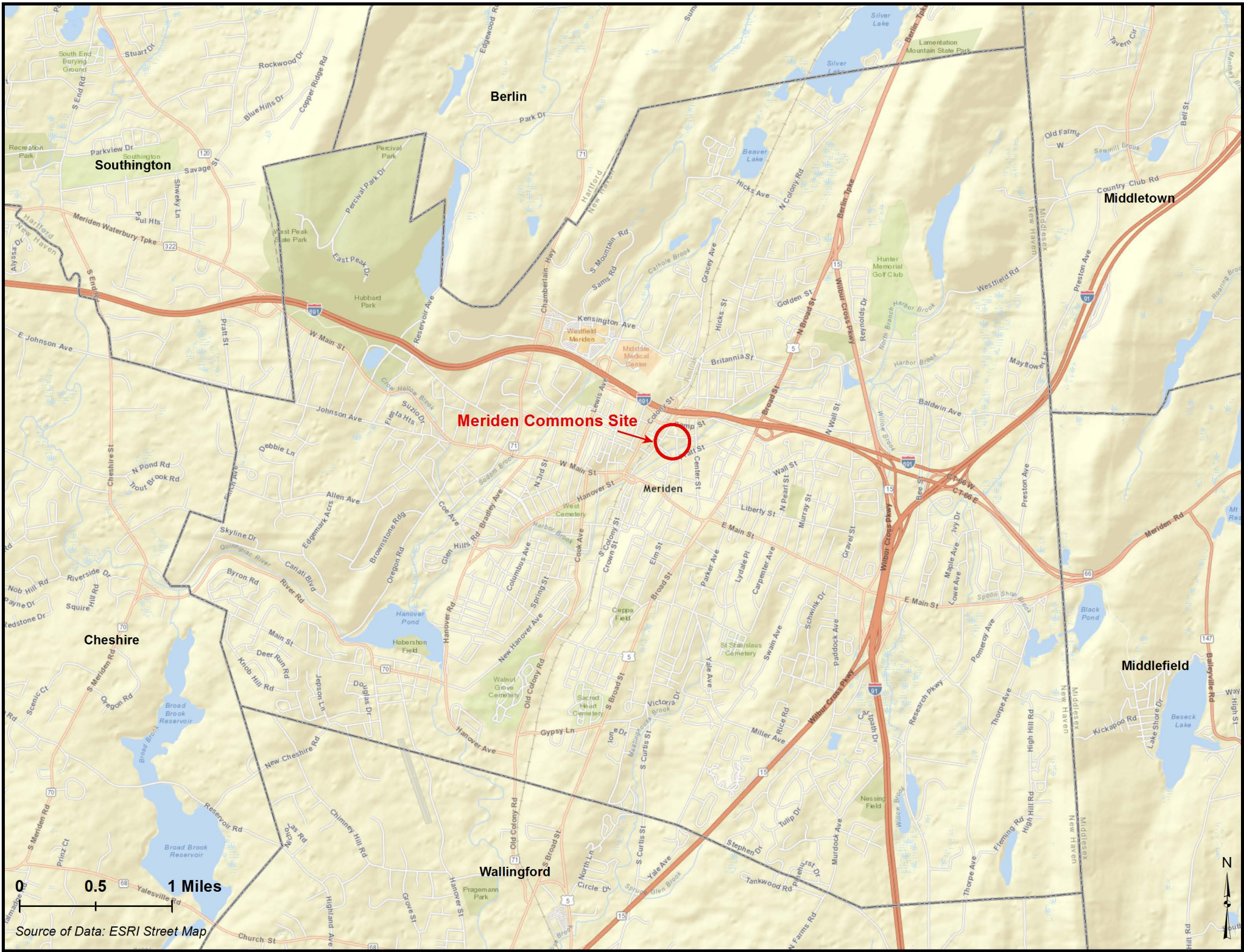
Name/Title/Agency:

Deborah Howes, AICP
Director of Community Planning, AECOM

January 2, 2018
Date

FIGURES

FIGURE 1: PROJECT LOCATION
Figure 1a: Area Map



Meriden Commons Site



Southington

Berlin

Middletown

Meriden

Cheshire

Middlefield

Wallingford

0 0.5 1 Miles

Source of Data: ESRI Street Map



FIGURE 1: PROJECT LOCATION
Figure 1b: Parcels Map

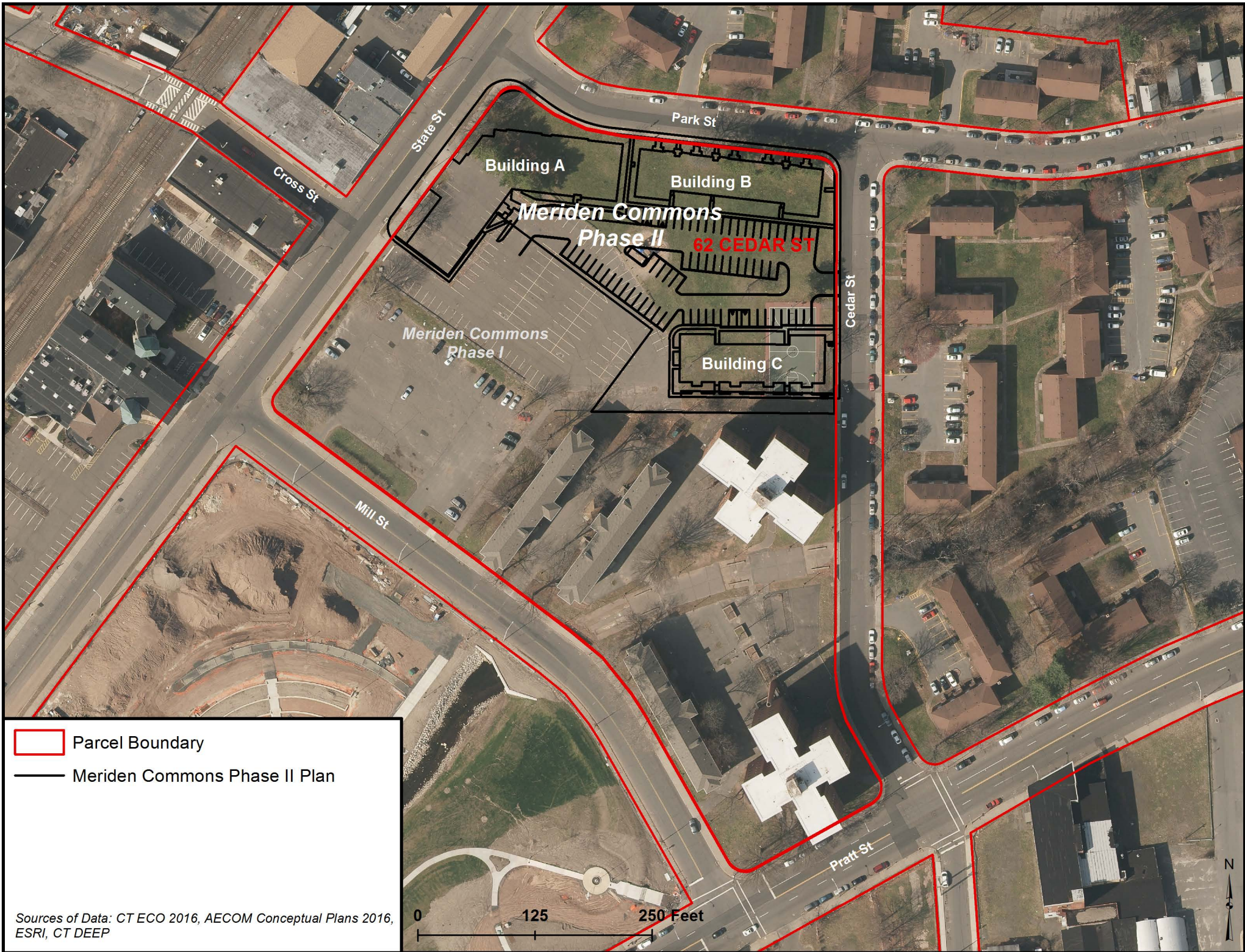


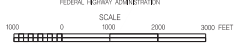
FIGURE 2: MERIDEN ROADWAY FUNCTIONAL CLASSIFICATION MAP



MERIDEN CONNECTICUT

PREPARED BY THE
CONNECTICUT DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH THE
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION



ACCEPTED AS OF DEC. 31, 2016

FUNCTIONAL CLASSIFICATION LEGEND	
URBANIZED AREA	
Principal Arterial	(Blue line)
Interstate	(Thick blue line)
Other Exway	(Red line)
Other	(Green line)
Minor Arterial	(Purple line)
Collector	(Orange line)
Local	(Black line)
RURAL AREA	
Principal Arterial	(Blue line)
Interstate	(Thick blue line)
Other Exway	(Red line)
Other	(Green line)
Minor Arterial	(Purple line)
Major Collector	(Orange line)
Minor Collector	(Yellow line)
Local	(Black line)
Utility Lines	(Thin black line)



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property of CDOT. It is not to be
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without the express written
approval of the Connecticut
Department of Transportation.

FIGURE 3: FEMA FLOOD INSURANCE RATE MAP

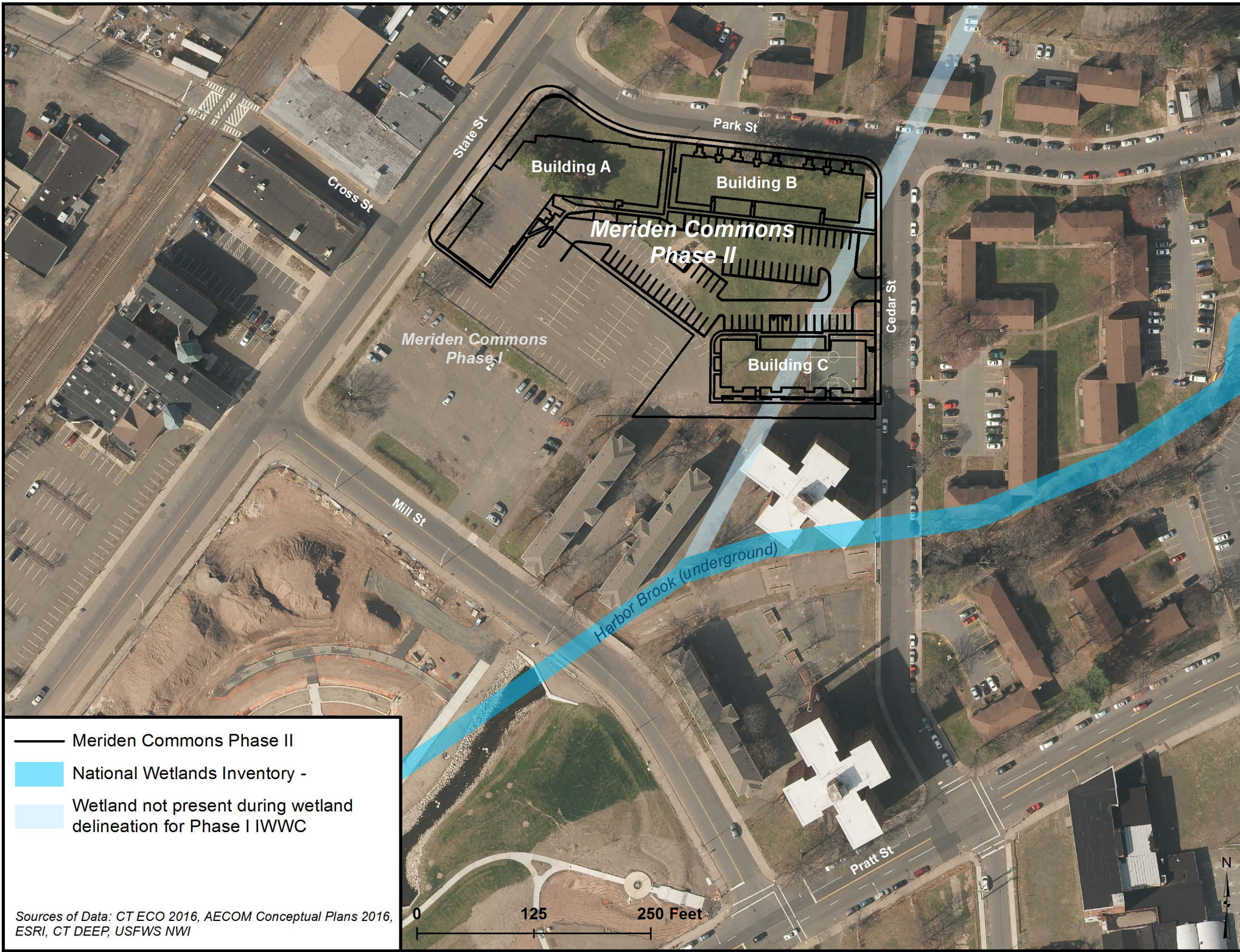
FEMA's National Flood Hazard Layer (Official)

Data from Flood Insurance Rate Maps (FIRMs) where available digitally. New NFHL FIRMette Print app available: <http://tinyurl.com/j4xwp5e>



National Geospatial-Intelligence Agency (NGA); Delta State University; Esri | scott.mcafee@fema.dhs.gov

**FIGURE 4: NATIONAL WETLANDS INVENTORY MAP
(Meriden Commons II Project Site)**



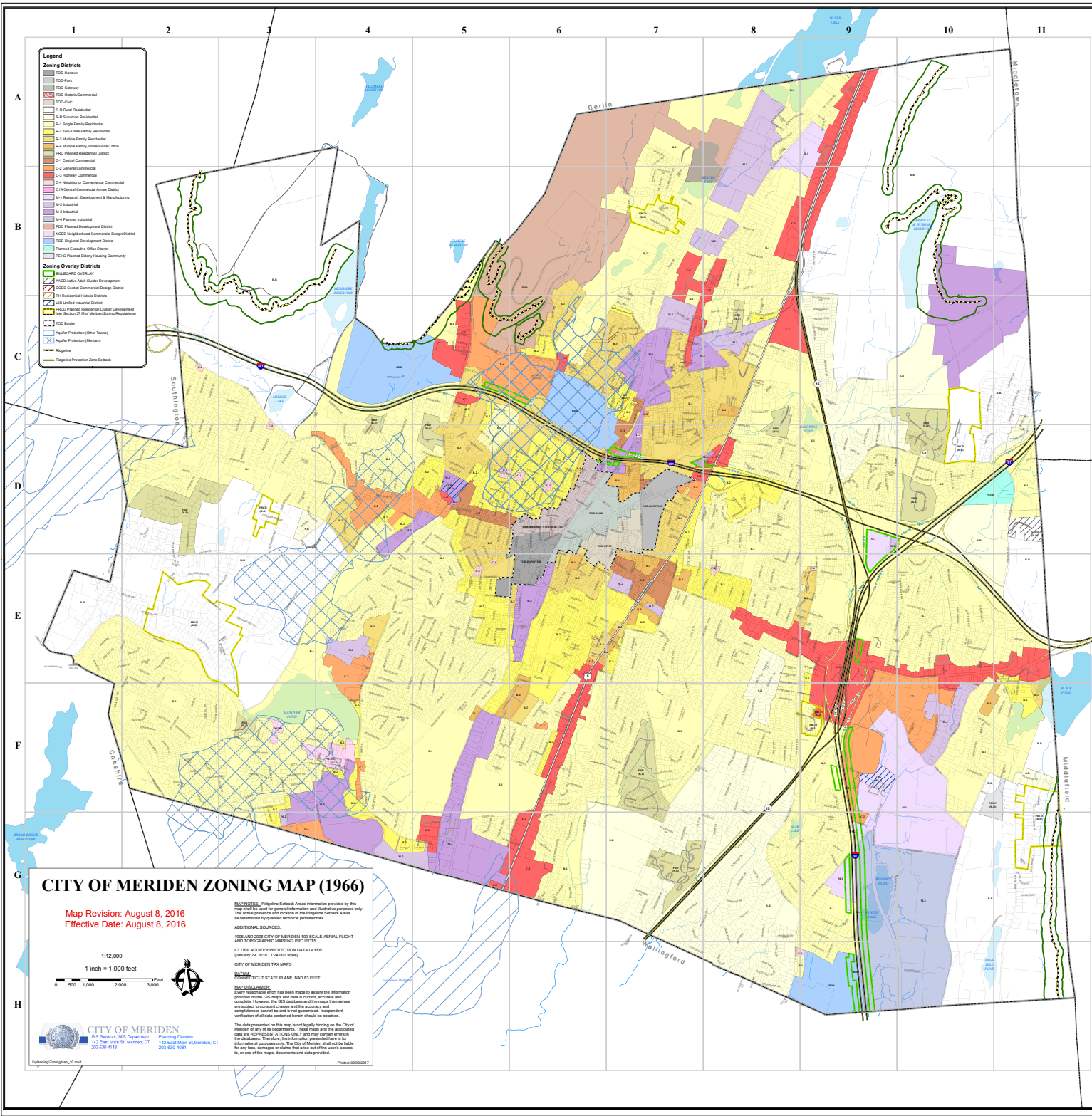
- Meriden Commons Phase II
- National Wetlands Inventory -
- Wetland not present during wetland delineation for Phase I IWWC

FIGURE 5: CITY OF MERIDEN ZONING MAP



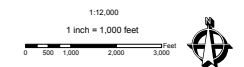
Table listing parcel identifiers and their corresponding zoning codes, organized in columns.

Legend section containing 'Zoning Districts' and 'Zoning Overlay Districts' with color-coded boxes and descriptions.



CITY OF MERIDEN ZONING MAP (1966)

Map Revision: August 8, 2016
Effective Date: August 8, 2016



CITY OF MERIDEN Planning Division
105 State Street, Meriden, CT 06450
142 East Main St, Meriden, CT 06450-4051

NOTICE: Riparian Setback Areas information provided by this City and the user for general information and illustrative purposes only...
ADDITIONAL SOURCES:
Aerial and GIS data provided by the State Aerial Flight and Geographic Mapping Projects...
CITY OF MERIDEN TAX MAPS
CONNECTICUT STATE PLANE, NAD 83 FEET
MAPPING/PLANNING:
This map was prepared by the City of Meriden and its staff...
Printer: 1/25/2017

FIGURE 6: CITY OF MERIDEN WATER QUALITY CLASSIFICATION MAP

WATER QUALITY CLASSIFICATIONS MERIDEN, CT

SURFACE WATER QUALITY CLASSES



NOTE: Surface Water Quality Classifications beginning with A or B are of Current and Marine Surface Water. B' is a subset of Class B while all other surface water designations are defined either by their flow connection with Class AA, A, and SA, or surface water.

GROUND WATER QUALITY CLASSES



EXPLANATION

WATER QUALITY CLASSIFICATIONS (WQC) MAPS are one of the elements of the Water Quality Standards (WQS) for the State of Connecticut. WQC is a part of Connecticut's clean water program and is central to protecting and improving water quality. The WQS follow the principles of Connecticut's Clean Water Act which is in Chapter 22-249 of the Connecticut General Statutes. The WQS provide policy guidance to many areas, for example: design of acceptable surface water quality goal of a receiving body of water, permit or authorization of municipal sewage systems projects. The final element of the WQS are the Standards, which set an overall policy for management of water quality, and the Criteria, which set specific and enforceable standards that describe the allowable parameters and goals for various water quality classifications. A discussion of these two elements is found in the Water Quality Standards document available on the CT DEEP website. The third element in the Classifications and the Water Quality Classification Maps which show the Classification assigned to each surface and groundwater resource throughout the State. The WQS are adopted using a public participation process but do not require a referendum. The Standards and Criteria bearing Revisions and additions of the WQS must be reviewed by the specific legislative procedures contained in Section 22-249 of the Connecticut General Statutes. WQC is subject to periodic review, revision and changes must be reviewed and adopted. All changes to the Surface WQC require an adoption process which is subject to public review and approval in addition to CT regulation. The adoption dates for the WQC by major drainage basin are: Housatonic River, Haddam River and Southwest Coastal Basins - March 1999; Connecticut River and South Central Coastal Basins - February 1999; Thames River, Pawcatuck River and Southeast Coastal Basins - December 1998; Surface Water Classifications do not change after the adoption date until the next major revision. Ground Water Classifications may change after the adoption date under specific circumstances. The map may have more than one WQC adoption date because a new map may be in more than one major drainage basin.

SURFACE WATERS in Connecticut are divided into freshwater classified as AA, A, B or B' and saline waters classified as SA or SB. Class AA designated uses are fishing and wildlife, recreation, and water supply for industry and agriculture. Class A designated uses are habitat for fish and other aquatic life and wildlife, recreation, drinking water supply, recreation, navigation, and water supply for industry and agriculture. Class SA designated uses are habitat for marine fish, other aquatic life and wildlife, shellfish harvesting for direct human consumption, recreation, industrial water supply, and navigation. Class SB designated uses are habitat for fish and aquatic life and wildlife, recreation, and water supply for industry and agriculture. Class B, B' applicable to Candleford Lake, is a subset of Class B and is identical to all water in the designated basin, except that designated Class SB designated uses are habitat for marine fish and aquatic life and wildlife, shellfish harvesting, recreation, industrial water supply, and navigation.

DATA SOURCES

WATER QUALITY CLASSIFICATIONS DATA - Water quality classification shown on this map are based on information from the following digital spatial datasets that are typically shown together - Ground Water Quality Classification, Surface Water Quality Classification, and Surface Water Quality Classification Poly. The map legend reflects the content of these three data sources. These WQC data were initially compiled on a 1:24,000 scale 7.5 minute USGS topographic quadrangle maps and later digitized at a 1:24,000 scale. For example, the Surface Water Quality Classification, Line and Surface Water Quality Classification to some bodies such as rivers, streams, reservoirs, lakes, ponds and creeks used at a 1:24,000 scale. The Ground Water Quality Classification Poly data sources were not include all the waterbodies in Connecticut. The Ground Water Quality Classification Poly data sources ground water quality classifications at a 1:24,000 scale, to the remaining land areas in Connecticut.

AQUIFER PROTECTION AREA DATA - Aquifer Protection Areas shown on this map are from the Aquifer Protection Area digital dataset which contains polygons data intended to be used at a 1:24,000 scale. The dataset contains regulated areas classified as Level A Aquifer Protection Area (Final) and Level B Aquifer Protection Area (Proposed). The Level B areas are not shown on the WQC maps. The data was collected from 1991 to the present and is actively updated as final area mapping reflects surface Preliminary areas. The Aquifer Protection Areas are delineated by

the individual water computer covering the well fields and submitted to the CT DEEP for approval. Preliminary mapping provides a general estimate of the area contributing ground water to the well field. Final mapping is based on extensive, site-specific, detailed modeling of the ground water flow system. CT DEEP may adjust Final area boundaries to be consistent with 1:24,000 scale topography and base map data where appropriate during the approval process.

MAJOR DRAINAGE BASIN DATA - Major drainage basin shown on this map are from Major Basin Line data developed by CT DEEP and intended to be used at 1:24,000 scale.

BASE MAP DATA - Based on data originally from a 1:24,000 scale USGS 7.5 minute topographic quadrangle maps published between 1989 and 1992. It includes political boundaries, roads, airports, hydrography, geographic names and geographic places. Streets and street names are from 1:62,500 scale digitized data. This map information is neither current nor complete.

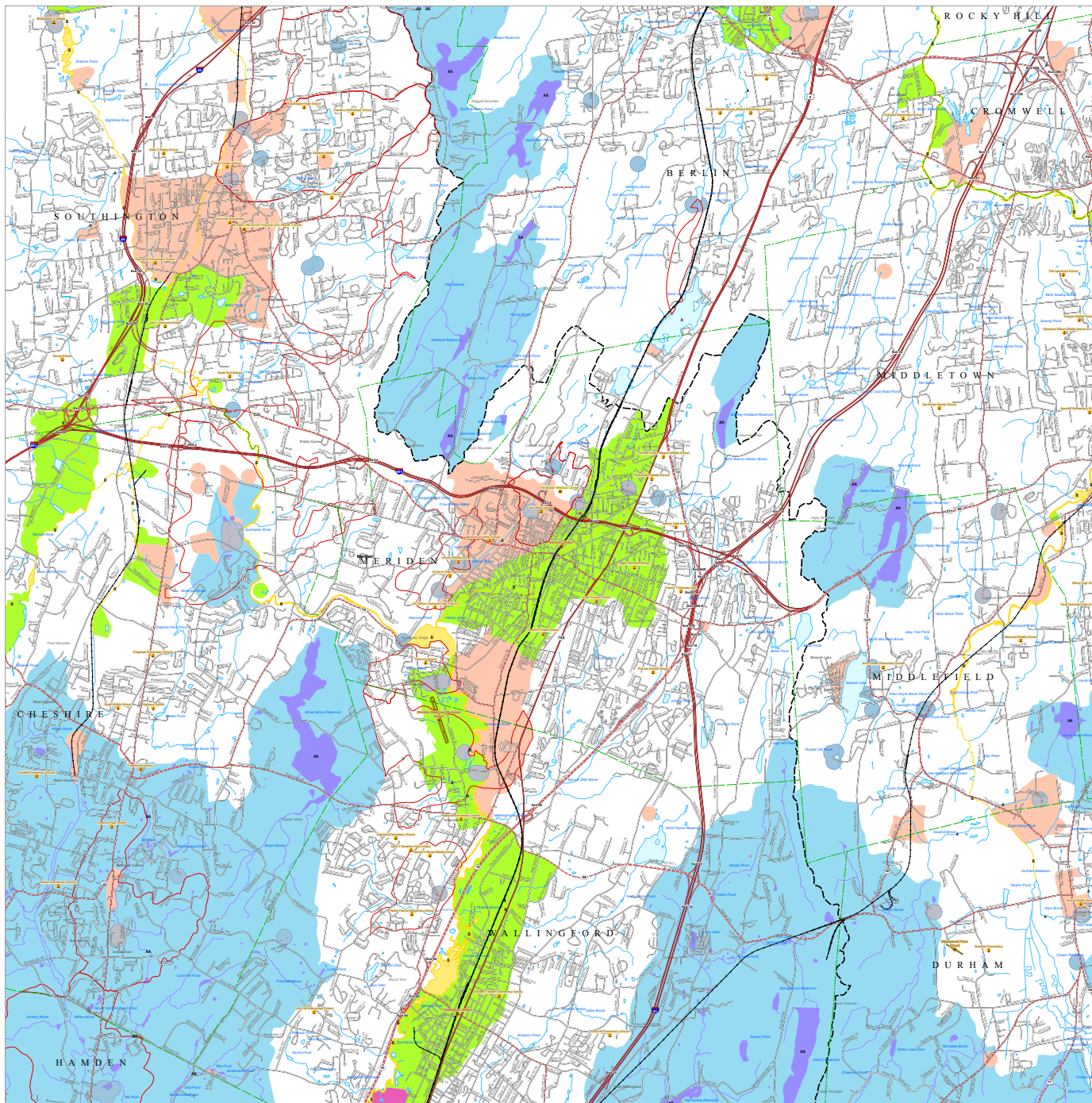
RELATED INFORMATION - This map is intended to be printed at its original dimensions in order to preserve the 1:24,000 scale. The WQC data is not shown on the map for a variety of reasons and the full use of the Water Quality Classification and for other information on water quality. **AQUIFER PROTECTION AREAS** - See the CT DEEP website for more information.

ADOPTED DATES

- Water Quality Standards
February 25, 2011
- Thames River, Pawcatuck River and Southeast Coastal Basins - December 1998
- Connecticut River and South Central Coastal Basins - February 1999
- Housatonic River, Haddam River and Southwest Coastal Basins - March 1999



SCALE 1:24,000 (1 inch = 2,000 feet when map is printed at original size)



Appendix A

GENERAL CONFORMITY RULE APPLICABILITY ANALYSIS

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Clean Air Conformity

The 1990 amendments to the Clean Air Act (CAA) require federal agencies to ensure that their actions conform to the appropriate State Implementation Plan (SIP) in a nonattainment area. The SIP provides for implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS); it includes emission limitations and control measures to attain and maintain the NAAQS. Conformity to a SIP, as defined in the CAA, means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of the standards. The federal agency responsible for a proposed action is required to determine if its proposed action conforms to the applicable SIP.

The US Environmental Protection Agency (USEPA) has developed two sets of conformity regulations; federal actions are differentiated into transportation projects and non-transportation-related projects:

- Transportation projects, which are governed by the "transportation conformity" regulations (40 CFR Parts 51 and 93), effective on December 27, 1993 and revised on August 15, 1997.
- Non-transportation projects, which are governed by the "general conformity" regulations (40 CFR Parts 6, 51 and 93) described in the final rule for *Determining Conformity of General Federal Actions to State or Federal Implementation Plans* published in the *Federal Register* on November 30, 1993. The general conformity rule became effective January 31, 1994 and was revised on March 24, 2010.

This general conformity applicability analysis is prepared as an appendix to the environmental assessment (EA) for the Meriden Mills housing development in the City, which is located in New Haven County, Connecticut. Since the proposed action requires funding and approval from US Department of Housing and Urban Development (HUD) and is a non-transportation project, only the general conformity rule applies.

General Conformity

Attainment and Nonattainment Areas

The general conformity rule applies to federal actions occurring in air basins designated as nonattainment for the NAAQS or in attainment areas subject to maintenance plans (maintenance areas). Federal actions occurring in air basins that are in attainment with the NAAQS are not subject to the conformity rule.

A criterion pollutant is a pollutant for which an ambient air quality standard has been established under the CAA. The designation of nonattainment is based on the exceedances or violations of the air quality standard. A maintenance plan establishes measures to control emissions to ensure the air quality standard is maintained in areas that have been re-designated as attainment from a previous nonattainment status.

Under the requirements of the 1970 Clean Air Act (CAA), as amended in 1977 and 1990, the USEPA established NAAQS for six criteria pollutants: carbon monoxide (CO), sulfur dioxide (SO₂), nitrogen dioxide (NO₂), ozone (O₃), inhalable particulate matter (PM₁₀ and PM_{2.5}), and lead (Pb).

Areas that meet the NAAQS for a criterion pollutant are designated as being in “attainment”; an area where a pollutant level exceeds the corresponding NAAQS is designated as being in “nonattainment.” O₃ nonattainment areas are subcategorized based on the severity of their pollution problem (marginal, moderate, serious, severe, or extreme). PM₁₀ and CO nonattainment areas are classified as moderate or serious. When insufficient data exist to determine an area’s attainment status, it is designated unclassifiable (or in attainment).

The Meriden Mills housing development project would take place within the City, Connecticut. The City is currently designated as a moderate nonattainment area for 8-hour O₃, a maintenance area for PM_{2.5}, and an attainment area for the other criteria pollutants. O₃ is principally formed from nitrogen oxides (NO_x) and volatile organic compounds (VOC) through chemical reactions in the atmosphere.

De Minimis Emissions Levels

To focus general conformity requirements on those federal actions with the potential to have significant air quality impacts, threshold (*de minimis*) rates of emissions were established in the final rule. A formal conformity determination is required when the annual net total of direct and indirect emissions from a federal action occurring in a nonattainment or maintenance area for a criterion pollutant would equal or exceed the annual *de minimis* level for that pollutant. Table 1 lists the *de minimis* levels for each pollutant.

For O₃ nonattainment areas, USEPA’s conformity rules establish *de minimis* emission levels for both O₃ precursors, VOC and NO_x, on the presumption that VOC and NO_x reductions will contribute to reductions in O₃ formation. Since the project site is located in an O₃ moderate nonattainment area in an O₃ transport region and a maintenance area for PM_{2.5}, the *de minimis* levels of 100 tons per year (tpy) of NO_x and PM_{2.5}, and 50 tpy of VOC apply.

Table 1
De Minimis Emission Levels for Criteria Air Pollutants

Pollutant	Nonattainment Designation	Tons/Year
Ozone*	Serious	50
	Severe	25
	Extreme	10
	Other nonattainment or maintenance areas outside ozone transport region	100
	Marginal and moderate nonattainment areas inside ozone transport region	50/100**
Carbon Monoxide	All	100
Sulfur Dioxide	All	100
Lead	All	25
Nitrogen Dioxide	All	100
Particulate Matter ≤ 10 microns	Moderate	100
	Serious	70

Particulate Matter ≤ 2.5 microns***	All	100
Notes: * Applies to ozone precursors – volatile organic compounds (VOC) and nitrogen oxides (NO _x). ** VOC/NO _x ; *** Applies to PM _{2.5} and its precursors.		

Analysis

This CAA General Conformity Rule (GCR) analysis was conducted according to the guidance provided by 40 CFR Parts 6, 51, and 93. *Determining Conformity of Federal Actions to State or Federal Implementation Plans*, (USEPA, November 30, 1993 and March 24, 2010).

The analysis was performed to determine whether a formal conformity analysis would be required for the proposed action. Pursuant to the GCR, all reasonably foreseeable emissions (both direct and indirect) associated with the project implementation were quantified and compared to the applicable annual *de minimis* levels to determine potential air quality impacts.

The conformity analysis for a federal action examines the impacts of the direct and indirect net emissions from mobile and stationary sources. Direct emissions are emissions of a criterion pollutant or its precursors that are caused or initiated by a federal action and occur at the same time and place as the action. Indirect emissions, occurring later in time and/or further removed in distance from the action itself, must be included in the determination if both of the following apply:

- The federal agency can practicably control the emissions and has continuing program responsibility to maintain control.
- The emissions caused by the federal action are reasonably foreseeable.

Increased direct and indirect NO_x, VOC, and PM_{2.5} would result from the following potential demolition and construction activities:

- Use of diesel and gas-powered demolition and construction equipment.
- Movement of trucks containing construction and removal materials.
- Commuting of construction workers.

Emissions Determination

The GCR requires that potential emissions generated by any project-related activity and/or increased operational activities be determined on an annual basis and compared to the annual *de minimis* levels for those pollutants (or their precursors) for which the area is classified as nonattainment or maintenance. Emissions attributable to activities related to the proposed action were analyzed for NO_x, VOC, and PM_{2.5} based on the construction activity data and emission estimate tools discussed below.

Proposed Activities Resource Data Estimates

Estimates as to construction crew and equipment requirements and productivity are based on data presented in:

- “2003 RSMMeans Facilities Construction Cost Data”, R.S. Means Co., Inc., 2002
- “2011 RSMMeans Facilities Construction Cost Data”, R.S. Means Co., Inc., 2010

Based both on the size of the 3- and 7-story buildings to be demolished and the proposed mixed-use development to be constructed in their place, the below major building elements associated with the proposed action were correlated to R.S. Means handbook-defined activity items and considered in determining demolition and construction equipment and crew activity data:

- Existing building demolition.
- Construction of a proposed building foundation that is assumed to be a reinforced slab foundation with pile-supported grade beams running along the exterior edges of the slab to support the masonry and steel-frame exterior walls.
- Construction of proposed building superstructure such as wall, roof, etc.
- Proposed building interior fit-out activities such as mechanical system, utility installation, etc.

Equipment Operations and Emissions

The quantity and type of equipment necessary were determined based on the activities necessary to implement the proposed action as described above. All equipment was assumed to be diesel-powered unless otherwise noted. Pieces of equipment to be used include, but are not limited to:

- Compressor.
- Crane.
- Dozer.
- Front end loader.
- Gas engine vibrator.
- Grader.
- Concrete pump.
- Roller.
- Construction trucks.

Estimates of equipment emissions were based on the estimated hours of usage and emission factors for each motorized piece of equipment to be utilized for the project. Emission factors for each pollutant related to heavy-duty diesel equipment were obtained from the U.S. EPA's Motor Vehicle Emission Simulator (MOVES) 2014a emission factor model (U.S. EPA, 2015).

The U.S. EPA recommends the following formula to calculate hourly emissions for the “ith” pollutant from non-road engine sources, including tractors:

$$M_i = N \times HP \times EF_i$$

where:

- M_i = mass of emissions of ith pollutants during inventory period;
- N = source population (units);
- HP = average rated horsepower; and
- EF_i = average emissions of ith pollutant per unit of use (e.g., grams per horsepower-hour).

Estimated emissions from operation of nonroad equipment are presented in Table 2.

**Table 2
Demolition and Construction Equipment Emissions**

Equipment Type	Days	Hours	Horsepower (hp)	Emission Factor (grams/hp-hour)			Emission Rate (tons)		
				VOC	NOx	PM _{2.5}	VOC	NOx	PM _{2.5}
Compressor, 250 cfm	250	2000	85	0.28	2.60	0.22	0.05	0.49	0.04
Concrete pump, small	55	440	60	0.49	4.65	0.38	0.01	0.14	0.01
Crane, 90-ton	30	240	250	0.19	1.67	0.07	0.01	0.11	0.00
Crane, hydraulic, 33 ton	115	920	152	0.20	1.82	0.12	0.03	0.28	0.02
Crane, SP, 5 ton	35	280	42	0.19	3.45	0.09	0.00	0.04	0.00
Dozer, 300 HP	20	160	300	0.18	1.93	0.11	0.01	0.10	0.01
Front end loader, 1.5 cy, crl	20	160	90	0.84	3.94	0.68	0.01	0.06	0.01
Front end loader, TM, 2.5cy	114	912	149	0.63	3.66	0.42	0.09	0.55	0.06
Gas engine vibrator	32	256	9	0.67	4.58	0.41	0.00	0.01	0.00
Gas welding machine	146	1168	23	1.23	5.33	0.68	0.04	0.16	0.02
Grader, 30,000 lb	20	160	215	0.18	1.25	0.07	0.01	0.05	0.00
Roller, vibratory	20	160	33	0.19	3.41	0.08	0.00	0.02	0.00
Tractor truck, 240 HP	20	160	240	0.56	3.45	0.32	0.02	0.15	0.01
Total Emissions							0.30	2.15	0.19

Construction Vehicle Operations and Emissions

Truck and commuting vehicle operations would result in indirect emissions. It is assumed each truck or commuting vehicle trip would take a 20-mile round trip to and from the site. USEPA's Motor Vehicle Emission Simulator (MOVES) program was used to predict truck and commuter vehicle running emission factors for NOx, VOC and PM_{2.5}. The national default input parameters applicable for the New Haven area, where the project site is located, were used in emissions factor modeling. Estimated emissions from operation of trucks and commuting vehicles are presented in Table 3.

Table 3

Demolition and Construction Period Vehicle Emissions

Vehicle Type	Total Trips	Miles per Trip	Emission Factor (lb/mi)			Emission Factor (tons)		
			VOC	NO _x	PM _{2.5}	VOC	NO _x	PM _{2.5}
Trucks	1742	20	0.00	0.01	0.00	0.02	0.13	0.01
Cars	7884	20	0.00	0.00	0.00	0.01	0.03	0.00
Total motor vehicle emissions						0.03	0.16	0.01

Compliance Analysis

Based on this analysis of NO_x, VOC and PM_{2.5} emissions performed in conjunction with the Final Rule of *Determining Conformity of Federal Actions to State or Federal Implementation Plans* (USEPA, November 30, 1993) and *Revisions to the General Conformity Regulations* (USEPA, March 24, 2010), the proposed project would not require a formal conformity determination. The conservative results, assuming the total emissions predicted from demolition and construction activities would occur within one year, and presented in Table 4, show no exceedance of the applicable *de minimis* criteria of 100 tpy for NO_x and PM_{2.5} and 50 tpy of VOC. Therefore, the proposed project action would have minimal air quality impacts and would not require a formal conformity determination.

**Table 4
Total Demolition and Construction Emissions**

Activity	VOC (ton)	NO _x (ton)	PM _{2.5} (ton)
Non-Road Construction Equipment Emission	0.30	2.15	0.19
On-Road Vehicle Emission	0.03	0.16	0.01
Total Emission	0.33	2.31	0.20
<i>De minimis</i> Threshold	50	100	100

References

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Appendix B

NOISE ASSESSMENT

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INTRODUCTION

Noise pollution comes from numerous sources. Some noise is caused by activities essential to the health, safety, and welfare of the community's inhabitants, such as emergency vehicle sirens, garbage collection operations, and construction and maintenance equipment. Other sources of noise, such as traffic and aircraft, stem from the movement of people and goods, activities that are essential to the viability of a community as a place to live and do business. Although these and other noise-producing activities are necessary to modern life, the noise they produce is sometimes undesirable and may detract from the quality of the living environment.

A number of factors affect sound as it is perceived by the human ear. These include the actual level of the sound (or noise), the frequencies involved, the period of exposure to the noise, and changes or fluctuations in the noise levels during exposure. Levels of noise are measured in units called decibels (dB). Since the human ear cannot perceive all pitches or frequencies equally well, these measures are adjusted or weighted to compensate for the human lack of sensitivity to low-pitched and high-pitched sounds. This adjusted unit is known as the A-weighted decibel, or dBA. The A-weighted network de-emphasizes both very low- and very high-pitched sounds, so the measured levels correlate well with the human perception of loudness.

Human response to changes in noise levels depends on a number of factors, including the quality of the sound, the magnitude of the changes, the time of day at which the changes take place, whether the noise is continuous or intermittent, and the individual's ability to perceive the changes. Human ability to perceive changes in noise levels varies widely with the individual, as does response to the perceived changes. Generally, changes in noise levels less than three dBA will barely be perceptible to most listeners, whereas a ten dBA change normally is perceived as a doubling (or halving) of noise levels. These guidelines permit direct estimation of an individual's probable perception of changes in noise levels.

Since the dBA noise metric describes a noise level at just one moment, and very few noises are constant, other ways of describing noise over extended periods are needed. One way of describing fluctuating sound is to describe the fluctuating noise heard over a specific time period, as if it had been a steady, unchanging sound. For this condition, a descriptor called the equivalent sound level, L_{eq} , can be computed. The L_{eq} descriptor is the constant sound level that, in a given situation and time period (e.g., one-hour L_{eq} , or 24-hour L_{eq}), conveys the same sound energy as the actual time-varying sound.

Alternatively, it is often useful to account for the difference in response of people in residential areas to noises that occur during sleeping hours as compared to waking hours. A descriptor, the day-night noise level (DNL), is defined as the A-weighted average sound level in decibels during a 24-hour period with a 10-dBA penalty weighting applied to nighttime (10pm – 7am next day) sound levels. It is a widely-used indicator for such evaluations. The 10-dBA weighting accounts for the fact that noises at night sound louder because there are usually fewer noises occurring at night. The DNL descriptor has been adopted by the Department of Housing and Urban Development (HUD), the EPA, the Federal Aviation Administration (FAA), the Department of Defense (DoD) and other organizations as one of the most appropriate metric for estimating the degree of nuisance or annoyance that increased noise levels would cause in residential neighborhoods. Therefore DNL is the appropriate noise descriptor for describing the affected noise environment for the proposed housing project that requires HUD funding and approval.

HUD NOISE CONTROL CRITERIA AND STANDARDS

HUD has adopted noise standards, criteria, and guidelines for determining acceptability of federally-assisted projects and has proposed mitigation measures to ensure that activities assisted by HUD will achieve the goal of a suitable living environment. However, these guideline values are strictly advisory.

HUD assistance for the construction of new noise-sensitive land uses is generally prohibited for projects with Unacceptable noise exposure and is discouraged for projects with Normally Unacceptable (as defined in Table 1) noise exposure without suitable mitigating measures. This policy applies to all HUD programs for residential housing, college housing, mobile home parks, nursing homes, and hospitals. It also applies to HUD projects for land development, new communities, redevelopment, or any other provision of facilities and services that is directed toward making land available for housing or noise-sensitive development.

Table 1: HUD Outdoor Site Acceptability Standards

Noise Zone	Day-night Sound Level (DNL)
Acceptable	Not exceeding 65 dB
Normally Unacceptable	Above 65 dB but not exceeding 75 dB
Unacceptable	Above 75 dB

Source: 24 CFR Part 51, Subpart B.

Sites falling within the Normally Unacceptable zone require implementation of additional sound attenuation or reduction or other mitigation measures: five dB if the DNL is greater than 65 dB but does not exceed 70 dB and 10 dB if the DNL is greater than 70 dB but does not exceed 75 dB. If the DNL exceeds 75 dB, the site is considered Unacceptable for residential use.

Additionally, HUD considers 45 dB as the maximum indoor noise limit per 24 CFR Part 51.101(a)(9). This indoor level assumes that an indoor level will be 45 dB or less with a common building structure that is correlated to an outdoor noise level of 65 dB or less under "Acceptable" condition ((24 CFR Part 51.103(c)(2)).

NOISE ANALYSIS METHODOLOGIES

The HUD-developed Day/Night Noise Level Assessment Calculator, an electronic assessment tool that calculates the DNL contributed from roadway and railway traffic. This tool was utilized to analyze the existing DNL levels at the proposed housing site along State Street.

DNL Contributions from Roadway

According to the tool User Guide, all major roads within 1000 feet of the study site should be considered in the assessment. The project site is located immediately adjacent to State Street, a local arterial road as shown in Figure 1. This road is the only major road within the 1000-ft radius of the site and the DNL at the project site contributed from this road was predicted with the following inputs:





Figure 1 – Proposed Housing Site

- Distance of 45 feet from centerline to the closest building façade.
- Average travel speed of 25 miles per hour (mph) based on the speed limit posted.
- 2010 Average daily traffic (ADT) of 4,300 published by Connecticut Department of Transportation and the night traffic fraction of approximately 9 percent based on CTDOT-recorded data along State Street in 2007.
- Truck fractions of approximately 2.5 percent medium truck and 1.2 percent heavy truck, respectively derived based on the field data collected between 9 and 11 AM on April 6, 2017.

DNL Contributions from Railway

Per the tool User Guide, all railways within 3000 feet of the site should be assessed. New Haven-Hartford- Springfield railroad as shown in **Figure 1** above is approximately 270 feet from its centerline to the proposed building façade.

Other input parameters to the calculation include:

- Average train travel speed of 25 mph.
- One engine per train for commuter train and two engines per train for freight train.

-
- Each commuter train consists of an average of 8 cars and each freight train consists of an average of 80 cars.
 - Per train schedule, a total of 12 commuter train and 8 freight train two-way trips including 2 nighttime freight train trips during nighttime hours (10PM to 7AM next day morning) are operating along the New Haven-Hartford-Springfield corridor.
 - No horn is allowed in the City.

DNL Contributions from Airport Noise

Meriden Markham Municipal Airport is located approximately 2.5 miles southwest of the project site. Given the type of aircraft (general aviation) and the limited traffic from the airport, 65 DNL contours are typically within the airport. Therefore, aircraft noise from the airport is anticipated to contribute negligible DNL levels at the proposed site.

DNL RESULTS

Based on the calculated DNL level using the HUD-developed tool, it was found that the DNL is dominated by adjacent roadway traffic at the project site as shown below:

- 62.8 dBA from road only.
- 59.9 dBA from rail only.
- 64.6 dBA from road and rail contributions combined.

The predicted DNL level indicates that the project site is considered “Acceptable” for residential use per the HUD guideline.

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Federal Railroad Administration. 2016. *NEC Future Tier 1 Final Environmental Impact Statement*.

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