



Durham-Orange  
Light Rail Transit Project

# Final Section 4(f) Evaluation



February 2016



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# 4(f)

## Final Section 4(f) Evaluation

This Final Section 4(f) Evaluation has been prepared to comply with the United States Department of Transportation (USDOT) Act of 1966 (23 U.S.C. § 138 and 49 U.S.C. § 303), hereinafter referred to as “Section 4(f),” and its implementing regulations codified at 23 C.F.R. Part 774. Additional guidance was obtained from FHWA Technical Advisory T6640.8A (FHWA 1987b) and the revised FHWA Section 4(f) Policy Paper (FHWA 2012).

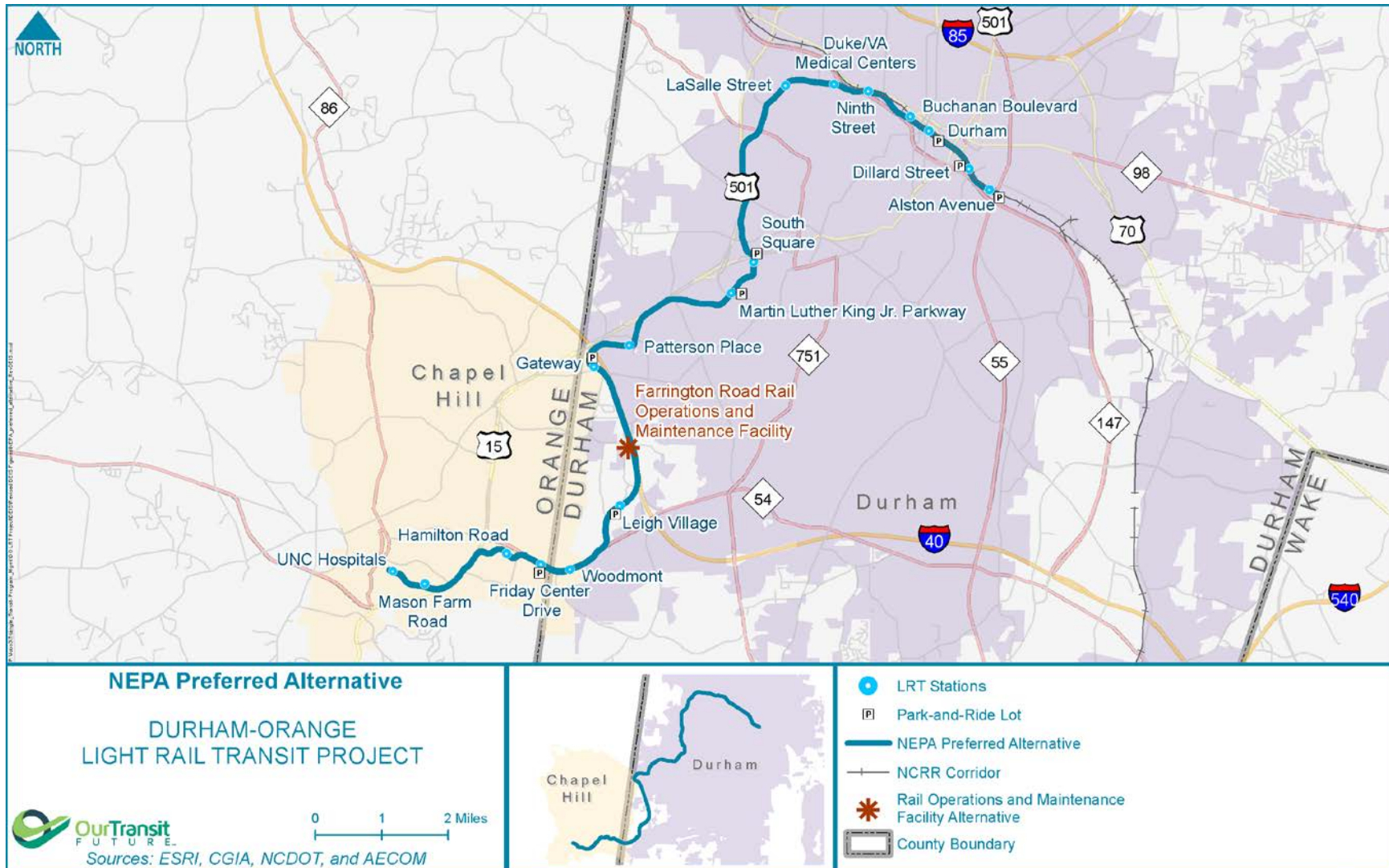
This Final Section 4(f) Evaluation identifies properties in the Durham-Orange Light Rail Transit (D-O LRT) Project study area protected by Section 4(f), evaluates the use

of these properties by the NEPA Preferred Alternative, and presents documentation required for FTA to approve the use of Section 4(f) properties.

This document utilizes similar numbering to the DEIS chapter 6 Draft Section 4(f) Evaluation sections for ease of the reviewer.

The NEPA Preferred Alternative includes the C2A, NHC 2, Trent/Flowers Drive Station, and the Farrington Road Rail Operations and Maintenance Facility (ROMF) Alternatives (**Figure 6.1-1**).

Figure 6.1-1: D-O LRT Project NEPA Preferred Alternative



As described in DEIS section 6.6, the NEPA Preferred Alternative would result in a use of the following Section 4(f) resources:

- US Army Corps of Engineers (USACE) Jordan Game Lands
- University of North Carolina at Chapel Hill (UNC) Central Park South (Planned)
- Coker Pinetum
- UNC Finley Golf Course and Athletic Fields
- UNC Open Space
- New Hope Creek Trail (Planned)

However, impacts associated with the NEPA Preferred Alternative would not adversely affect the activities, features, and attributes that qualify these properties for protection under Section 4(f). Therefore, after considering measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) and agency and public comments received, FTA has determined that the impacts associated with uses of each of these Section 4(f) properties would be *de minimis*. These *de minimis* impacts determinations are based on coordination with the officials with jurisdiction over the respective properties. These officials with jurisdiction are federal or designated state or municipal agencies that own and/or administer the affected portion of the respective property protected by Section

4(f). These officials have concurred with FTA's intent to make *de minimis* impacts determinations. Letters of concurrence from the agencies with jurisdiction over Section 4(f) properties for which *de minimis* impacts determinations are made are included in FEIS/ROD appendix A.

FTA will make a final determination of effects finding regarding archaeological resources once archaeological surveys have been completed. The Section 106 Memorandum of Agreement (MOA) document between the NC State Archaeological Office, Triangle Transit, and FTA contains terms that will be executed prior to ground disturbing activities (FEIS/ROD appendix B).



## 6.1 Methodology

23 U.S.C. § 138 and 49 U.S.C. § 303, which were originally enacted as Section 4(f) of the USDOT Act of 1966, protect publicly owned parks, recreation areas, wildlife and/or waterfowl refuges, as well as significant historic sites and historic archaeological sites, whether publicly or privately owned. Section 4(f) requirements apply to all transportation projects that require funding or other approvals by the USDOT. As a USDOT agency, the FTA must comply with Section 4(f). FTA's Section 4(f) regulations are found at 23 C.F.R. Part 774.

FTA cannot approve a transportation project that uses a Section 4(f) property, as defined in 23 C.F.R. § 774.17, unless FTA determines that:

- There is no feasible and prudent avoidance alternative, as defined in 23 C.F.R. § 774.17, to the use of land from the Section 4(f) property, and the action includes all possible planning, as defined in 23 C.F.R. § 774.14, to minimize harm to the property resulting from such use (23 C.F.R. § 774.3(a)); or
- The use of the Section 4(f) property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by the applicant would have a *de*

*minimis* impact, as defined in 23 C.F.R. § 774.17, on the property (23 C.F.R. § 774.3(b)).

If there is both the use of a 4(f) property that has not been determined to be *de minimis* and FTA determines that there is no prudent and feasible alternative, the project must include all possible planning to minimize harm to the site, which includes all reasonable measures to minimize harm or mitigate impacts (49 U.S.C. 303(c)(2)). After making a 4(f) determination and identifying the reasonable measures to minimize harm, if there is more than one alternative that result in the use of a 4(f) property, FTA may also compare the alternatives to determine which alternative has the potential to cause the least overall harm. The least overall harm may be determined by balancing the following factors:

- The ability to mitigate adverse impacts on each Section 4(f) property (including any measures that result in benefits to the property).
- The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection.
- The relative significance of each Section 4(f) property.

- The views of the official(s) with jurisdiction over each Section 4(f) property.
- The degree to which each alternative meets the purpose and need for the project.
- After reasonable mitigation, the magnitude of any adverse impacts on resources not protected by Section 4(f).
- Substantial differences in costs among the alternatives.

This Final Section 4(f) Evaluation was conducted according to the requirements of 23 C.F.R. Part 774 and FHWA's Section 4(f) Policy Paper. The evaluation included the following steps:

- Using a study area (250 feet on each side of the centerline of the NEPA Preferred and Project Element Alternatives), Triangle Transit reviewed existing mapping, conducted field investigations/site reconnaissance, searched property records, and consulted with officials with jurisdiction to identify the publicly owned parks, recreation areas, wildlife and/or waterfowl refuges protected by Section 4(f). Public ownership, public access, significance, and funding of parks and recreational facilities were verified through coordination with the property owners. For planned





recreational trails, only those portions of trails that would be constructed on lands that are owned by public entities, are significant, would be constructed outside of transportation corridors, have the potential to incur a Section 4(f) use, and are located in close enough proximity (i.e., within 250 feet) of the alignment alternatives, were evaluated.

- Because the proposed D-O LRT Project is a federal undertaking, it must also comply with Section 106 of the National Historic Preservation Act (NHPA). The NHPA's implementing regulations at 36 C.F.R. § 800.4(a)(1) require the establishment of an Area of Potential Effects (APE). The APE is the geographic area within which an undertaking may directly or indirectly alter the character-defining features of a historic property or archaeological resource, which makes the property potentially eligible for the National Register of Historic Places (NRHP). Therefore, the APE serves as the study area for Section 4(f) historic properties and archaeological resources that are potentially eligible for listing, or are listed on, the NRHP. It is important to recognize the difference between Section 4(f) use of historic properties or archaeological sites and Section 106 project effects to historic properties or archaeological sites, which are discussed in section 4.5 of the DEIS.

Section 4(f) and Section 106 are similar in that they both mandate consideration of historic properties and archaeological sites in the planning of a federal undertaking. Section 4(f) applies to the actual use or occupancy of an historic or archaeological site, while Section 106 involves an assessment of adverse effects of an action on historic properties or archaeological sites. The Section 106 process is integral to the Section 4(f) process when historic properties are involved, but the Section 4(f) process is not central to the Section 106 process.

- Assessment of Potential Section 4(f) Uses:** FTA and Triangle Transit identified and quantified potential uses of Section 4(f) properties by the NEPA Preferred Alternative and Project Element Alternatives. This assessment considered the potential for permanent use (23 C.F.R. § 774.17), constructive use (23 C.F.R. § 774.15), and temporary use (23 C.F.R. § 774.13(d)).
- Temporary Occupancy Exceptions:** In evaluating potential uses, FTA and Triangle Transit considered the exception for temporary occupancy in 23 C.F.R. § 774.13(d). If the criteria for a temporary occupancy exception are met, there is no use.
- De minimis Impacts:** For properties that would be used, FTA and Triangle Transit

evaluated the use to determine whether it would meet the requirements for a *de minimis* impact determination. FTA and Triangle Transit have notified the officials with jurisdiction of each property for which they are proposing a determination of *de minimis* impacts. Pursuant to 23 C.F.R. § 774.5(b)(2), the proposed *de minimis* impacts determinations were also made available for public review and comment for a 45-day comment period from August 28, 2015 to October 13, 2015. The agencies with jurisdiction have concurred in writing with FTA's *de minimis* determinations. Letters of concurrence from the agencies with jurisdiction over these Section 4(f) properties are included in FEIS/ROD appendix A.

Section 4(f) uses of historic properties and archaeological sites were evaluated by (1) identifying if the project would permanently incorporate land from the property, and (2) reviewing the effects on the property, including potential proximity impacts, as documented during the Section 106 NHPA process.

- If the project would permanently incorporate land from the property or result in an adverse temporary occupancy and would also result in an "adverse effect," this impact would constitute a Section 4(f) use.



- If the project would permanently incorporate land from the property or result in an adverse temporary occupancy but have “no adverse effect,” the impact was evaluated to determine if it would be *de minimis* to the property.
- If the project would not permanently incorporate land from the property but would result in an adverse effect determination under Section 106, the impact was evaluated to determine if the alternative would result in a substantial impairment to the features that qualify the property for protection under Section 4(f) resulting in a constructive use of the property.
- Section 4(f) use of archeological resources occurs at sites that are on or eligible for the NRHP and that warrant preservation in place. A use does not occur if the importance from the archeological resource is data recovery.

### 6.1.1 Definition of Section 4(f) Uses

After identifying the Section 4(f) properties in the D-O Project study area, FTA determined whether and to what extent the NEPA Preferred and Project Element Alternatives would use each property. The type of Section 4(f) use was then determined according to the Section 4(f) use definitions below.

- **Permanent Use:** Pursuant to 23 C.F.R. § 774.17, a permanent use occurs when land from a Section 4(f) property is permanently incorporated into a transportation project. This may occur as a result of partial or full acquisition of the Section 4(f) property, permanent easements, or temporary easements that exceed regulatory limits.
- **Temporary Use:** As defined in 23 C.F.R. § 774.13(d), a temporary use occurs when there is a temporary use of land that is “adverse in terms of the statute’s preservation purpose as determined by the criteria in 23 C.F.R. § 774.13(d).” If the criteria in 23 C.F.R. § 774.13(d) are met, the “temporary use exception” applies in which there is no “use” of the Section 4(f) property. If the criteria in 23 C.F.R. § 774.13(d) are not met, the use is evaluated as permanent.
- **Constructive Use:** As defined in 23 C.F.R. § 774.15(a), a constructive use occurs when a transportation project does not incorporate land from a Section 4(f) property, but the project’s proximity impacts are so severe that the protected activities, features, or attributes that qualify a property for protection under Section 4(f) are substantially impaired.

### 6.1.2 Temporary Occupancy Exception

Temporary occupancies do not constitute a use and, therefore, are not subject to the provisions of Section 4(f) if they meet each of the five criteria for temporary occupancy exception in 23 C.F.R. § 774.13(d):

- Duration of occupancy must be temporary (i.e., less than the time needed for construction of the project, and there can be no change in ownership of the land)
- The scope of work must be minor (i.e., both the nature and magnitude of the changes to the Section 4(f) property are minimal)
- There can be no anticipated permanent adverse physical impacts, nor can there be interference with the activities, features, or attributes of the property that make it eligible for protection under Section 4(f), on either a temporary or permanent basis.
- The land being used must be fully restored (i.e., the property must be returned to a condition which is at least as good as that which existed prior to the project)
- Written concurrence must be obtained from the officials with jurisdiction, documenting agreement with the above



conditions. If the official with jurisdiction does not agree with a temporary occupancy exception determination, an analysis of use must be conducted. If concurrence is obtained from the officials with jurisdiction over the properties, a final determination will be made by FTA in the Final Section 4(f) Evaluation.

### 6.1.3 De Minimis Impacts

The specific requirements for a *de minimis* impacts determination are different for historic sites and for public parklands, recreational areas, and wildlife and waterfowl refuges. Per Section 4(f) regulations, evaluations of avoidance alternatives and selection of an alternative having the least overall harm are not required if a *de minimis* impacts determination is made.

If the official with jurisdiction does not agree with a *de minimis* impacts determination, an analysis of avoidance alternatives must be conducted. If the analysis concludes that there is no feasible and prudent alternative to use of the Section 4(f) property, FTA may only approve the alternative that causes the least overall harm. A least overall harm analysis is conducted to determine which alternative may proceed. A *de minimis* impacts determination is inappropriate where a project results in a constructive use. (23 C.F.R. § 774.3(b) and 774.17)

#### 6.1.3.1 Historic Properties

As defined in 23 C.F.R. §§ 774.5 and 774.17, a *de minimis* impacts determination is made for an historic site if FTA has determined, in accordance with 36 CFR Part 800 that no historic property is affected by the project or that the project will have “no adverse effect” on the historic property in question through consultation under Section 106 of the NHPA, and the State Historic Preservation Officer (SHPO) concurs with that determination.

For historic sites, the consulting parties identified in accordance with 36 CFR Part 800 must be consulted. The official(s) with jurisdiction must be informed of the intent to make a *de minimis* impact determination and must concur in a finding of no adverse effect or no historic properties affected in accordance with 36 CFR Part 800. Compliance with 36 CFR Part 800 satisfies the public involvement and agency coordination requirement for *de minimis* impact findings for historic sites.

#### 6.1.3.2 Parks, Recreation Areas, and Refuges

A *de minimis* impact on a public parkland, recreational area, or wildlife and waterfowl refuge is defined as that which does not “adversely affect the features, attributes or activities qualifying the property for protection under Section 4(f).” This determination can be made only with the

concurrence of the official with jurisdiction, and can be made only after an opportunity for public review and comment on the proposed determination.

#### 6.1.4 Constructive Use

The DEIS assessment of the potential for proximity effects of the NEPA Preferred and Project Element Alternatives was used by FTA and Triangle Transit to determine whether a constructive use of properties protected by Section 4(f) would occur. The DEIS assessed the direct, indirect, and cumulative effects of the NEPA Preferred and Project Element Alternatives on the natural and human environments.



## 6.2 Project Description

### 6.2.1 Purpose and Need

The purpose of the proposed D-O LRT Project is to provide a high-capacity transit service located within the D-O Corridor, between Chapel Hill and Durham, along the North Carolina (NC) 54, Interstate 40 (I-40), United States (US) 15-501, Erwin Road, and NC 147 transportation corridors, that improves mobility, expands transit options, and supports future development plans. The Purpose and Need for the proposed D-O LRT Project is covered in detail in chapter 1 of the DEIS.

The needs of the proposed project include the following:

#### Improve Mobility

- Enhance mobility: provide a competitive, reliable alternative to auto use that supports compact development
- Increase transit operating efficiency: offer a competitive, reliable transportation solution that will reduce travel time

#### Increase Connectivity

- Expand transit options between Durham and Chapel Hill: enhance and seamlessly connect with the existing transit system

- Serve major activity and employment centers between Durham and Chapel Hill: serve the UNC campus area, east Chapel Hill, Leigh Village, 15-501 Corridor, Duke West Campus and the Duke and Durham Veterans Affairs (VA) Medical Centers, Old West Durham / Duke East Campus, downtown Durham, and east Durham

#### Promote Future Development

- Support local land use plans that foster compact development: support compact development, manage future growth, and maximize the potential for economic development near activity centers

### 6.2.2 Project Overview and Build Alternatives

The D-O Corridor is located within the Research Triangle region. It extends roughly 17 miles from southwest Chapel Hill to east Durham, and includes several educational, medical, employment, and other key activity centers which generate a large number of trips each day. Additional detail regarding the D-O Corridor is included in chapter 1.

#### 6.2.2.1 Alternatives Considered

The DEIS for the proposed D-O LRT Project evaluated a No Build, NEPA Preferred (including the preferred alignment options, one Rail Operations and Maintenance Facility (ROMF) option, and station

selections in each area where alignment and station alternatives exist), and Project Element Alternatives. The NEPA Preferred and Project Element Alternatives include station alternatives associated with the alignment alternatives (Little Creek and New Hope Creek Alternatives). The project also evaluates the location of the Duke/Durham VA Medical Centers Station and five alternative locations for the ROMF. Additional detail regarding the alternatives considered is included in chapter 2.

#### No Build Alternative

The No Build Alternative includes the existing and planned transportation programs and projects scheduled to be built and implemented before forecast year 2040 and contained in the 2040 Metropolitan Transportation Plan (MTP), excluding only rail transit improvements and related bus transit modifications that would be associated with the proposed D-O LRT Project. The No Build Alternative would not meet the Purpose and Need of the project.

#### NEPA Preferred Alternative

As discussed in chapter 2 of the DEIS, a NEPA Preferred Alternative has been identified for the proposed D-O LRT Project. The NEPA Preferred Alternative would generally follow NC 54, I-40, US 15-501, and the North Carolina Railroad (NCR) Corridor in downtown Durham and east Durham. The alignment would begin at UNC Hospitals,





parallel Fordham Boulevard, proceed east on NC 54, travel north along I-40, parallel US 15-501 before turning east toward the Duke University campus along Erwin Road, and then follow the NCR Corridor parallel to NC 147 through downtown Durham, before reaching its eastern terminus near Alston Avenue. The alignment would consist of at-grade alignment, fill and cut sections, and elevated structures. The NEPA Preferred Alternative includes the C2A Alternative for the crossing of Little Creek, the NHC 2 Alternative for the crossing of New Hope Creek, the Trent/Flowers Drive Station Alternative at the Duke/Durham VA Medical Centers, and the Farrington Road ROMF Alternative site (**Figure 6.1-1**).

A total of 17 stations are planned, and up to 5,100 parking spaces would be provided as part of the D-O LRT Project. In addition, a ROMF would be constructed to accommodate the D-O LRT fleet.

Bus routes would be modified to feed into the D-O LRT stations, and headways would be adjusted to provide more frequent bus service and minimize transfer waiting times. These services would also connect light rail passengers with other area transportation hubs, including park-and-ride lots and transfer centers.

### Project Element Alternatives

The Project Element Alternatives were also studied in this DEIS for the crossings of Little

Creek and New Hope Creek, as well as alternative station and ROMF locations. These Project Element Alternatives are described below.

#### Little Creek Alternatives

- Alternative C1 would follow the property line between Finley Golf Course and The Exchange at Meadowmont to the existing Friday Center parking lot and an elevated station. The alignment would turn north and cross over NC 54 and follow Meadowmont Lane to the Meadowmont Lane Station. The alignment would cross Meadowmont Lane at Green Cedar Lane and then continue northeast through the Jordan Game Lands (USACE property), crossing George King Road to the Leigh Village Station.
- Alternative C1A would follow the same alignment as Alternative C1 to Green Cedar Lane, turn north to avoid the USACE property, cross Park Bluff Drive and Iron Mountain Road, and tie back into Alternative C1 prior to reaching the Leigh Village Station.
- Alternative C2 would follow the property line between Finley Golf Course and The Exchange at Meadowmont to the existing Friday Center parking lot to an at-grade station. The alignment would continue east and cross Friday Center Drive and Barbee Chapel Road to the

south of the Courtyard by Marriott hotel. It then would turn slightly north and continue along the south side of NC 54 in NCDOT right-of-way to the Woodmont Station east of Barbee Chapel Road. The alignment would then follow the C2A alignment to the Leigh Village Station.

#### New Hope Creek Alternatives

- Under the NHC LPA Alternative, a station at Patterson Place is located east of Sayward Drive. The alignment would continue east, cross over New Hope Creek approximately 1/3 mile south of US 15-501 on elevated structure, and return to ground level prior to crossing Garrett Road. The alignment would join the same alignment as the NEPA Preferred Alternative (NHC 2) following the property line between Springfield Apartments and Laurel Trace Apartments and then transitioning to the median of University Drive at Ivy Creek Boulevard.
- Under the NHC 1 Alternative, a station at Patterson Place is located east of Witherspoon Boulevard in the same location as the NEPA Preferred Alternative. The alignment would continue on the same alignment as the NEPA Preferred Alternative to just west of Garrett Road, where it would continue east along US 15-501. Near Larchmont



Road, the alignment would cross over Sandy Creek and Martin Luther King Jr. Parkway traveling along the east side of Martin Luther King Jr. Parkway to the Martin Luther King Jr. Parkway Station. At University Drive the alignment would turn northeast paralleling University Drive before transitioning to the median of University Drive at Westgate Drive, rejoining the NEPA Preferred Alternative.

### Duke VA/Medical Center Station Alternative

The Duke Eye Center Station Alternative was added during Scoping due to traffic concerns expressed by the City of Durham, NCDOT, Duke University, and the Duke University and Durham VA Medical Centers.

### ROMF Alternatives

As part of the DEIS, the following four additional alternative sites for the ROMF were evaluated:

- Leigh Village ROMF Alternative
- Patterson Place ROMF Alternative
- Cornwallis Road ROMF Alternative
- Alston Avenue ROMF Alternative



## 6.3 Section 4(f) Properties

Section 6.3.1 identifies those park, recreation, open space, and wildlife and waterfowl refuge properties within 250 feet of the project alternatives that meet the criteria for protection as Section 4(f) properties. Section 6.3.2 identifies cultural resources within 250 feet of the project alternatives that meet the criteria for protection as Section 4(f) properties and that may be affected by the project alternatives. All Section 4(f) properties within the Section 4(f) study area are shown on **Figures 6.3-1** through **6.3-4**, **Table 6.3-1** and **Table 6.3-2**. The following text provides information about the attributes of each of the properties that have the potential to incur a Section 4(f) use or are located in close enough proximity to the project alternatives that discussion of proximity impacts is warranted.

### 6.3.1 Publicly Owned Parks, Recreational Facilities, and Wildlife and Waterfowl Refuges

Section 4.6 of the DEIS provides a description of park, recreation, and open space areas in the study area. Importantly, not all of these facilities qualify for protection under Section 4(f).

The following text describes Section 4(f) parks, recreation, open space, and wildlife

and waterfowl refuge properties that have the potential to incur a Section 4(f) use, or are located in close enough proximity (i.e., within 250 feet) of the alignment alternatives that a discussion of proximity impacts is warranted. Further, only those planned trails with portions to be constructed on lands currently owned by public entities, that would be constructed outside of transportation corridors, have the potential to incur a Section 4(f) use, and are located within close proximity (i.e., within 250 feet) to the alignment alternatives are noted. The use determinations for publicly owned parks, recreational facilities, and wildlife and waterfowl refuges are summarized in **Table 6.3-3**.



Figure 6.3-1: Section 4(f) Properties

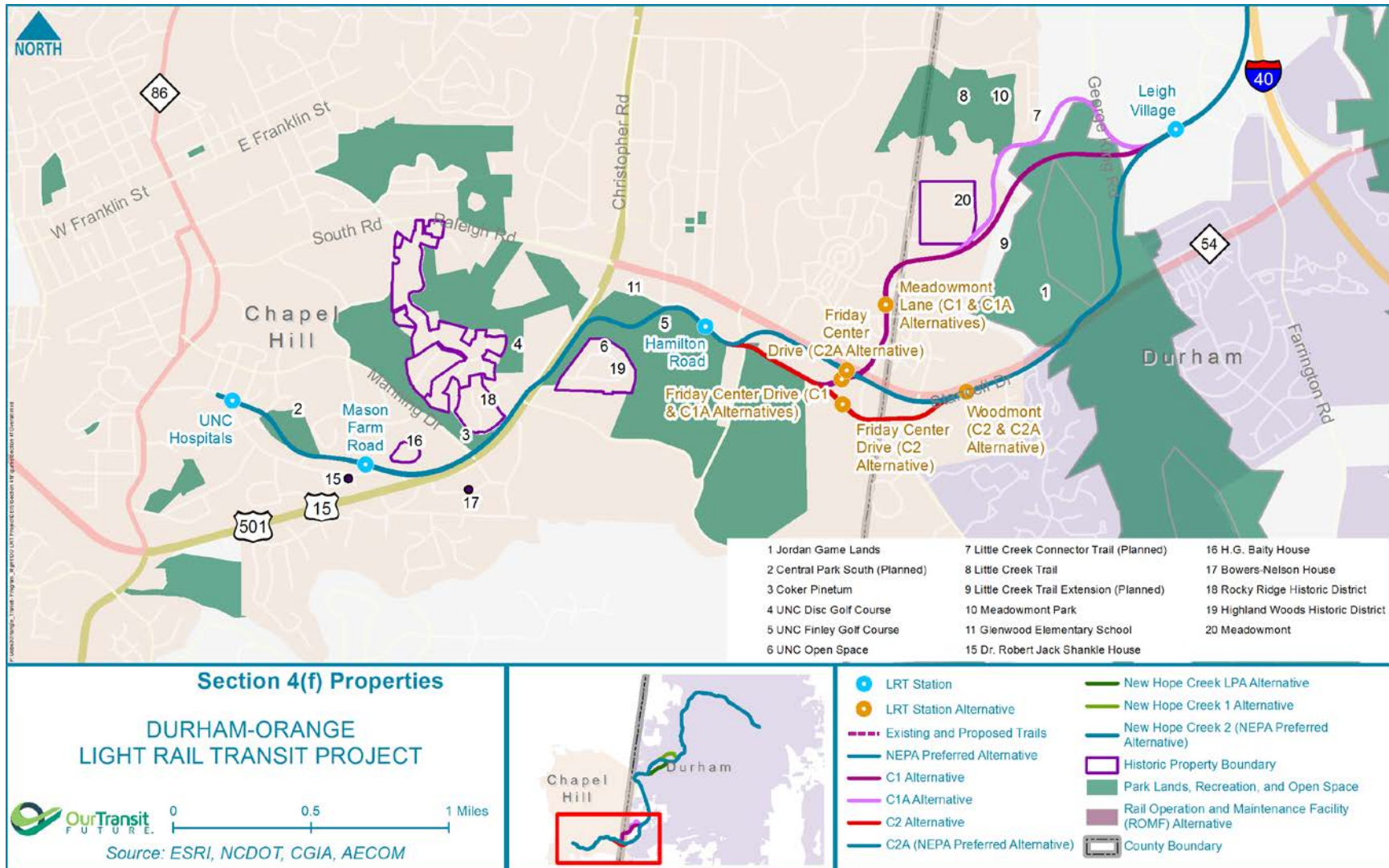




Figure 6.3-2: Section 4(f) Properties

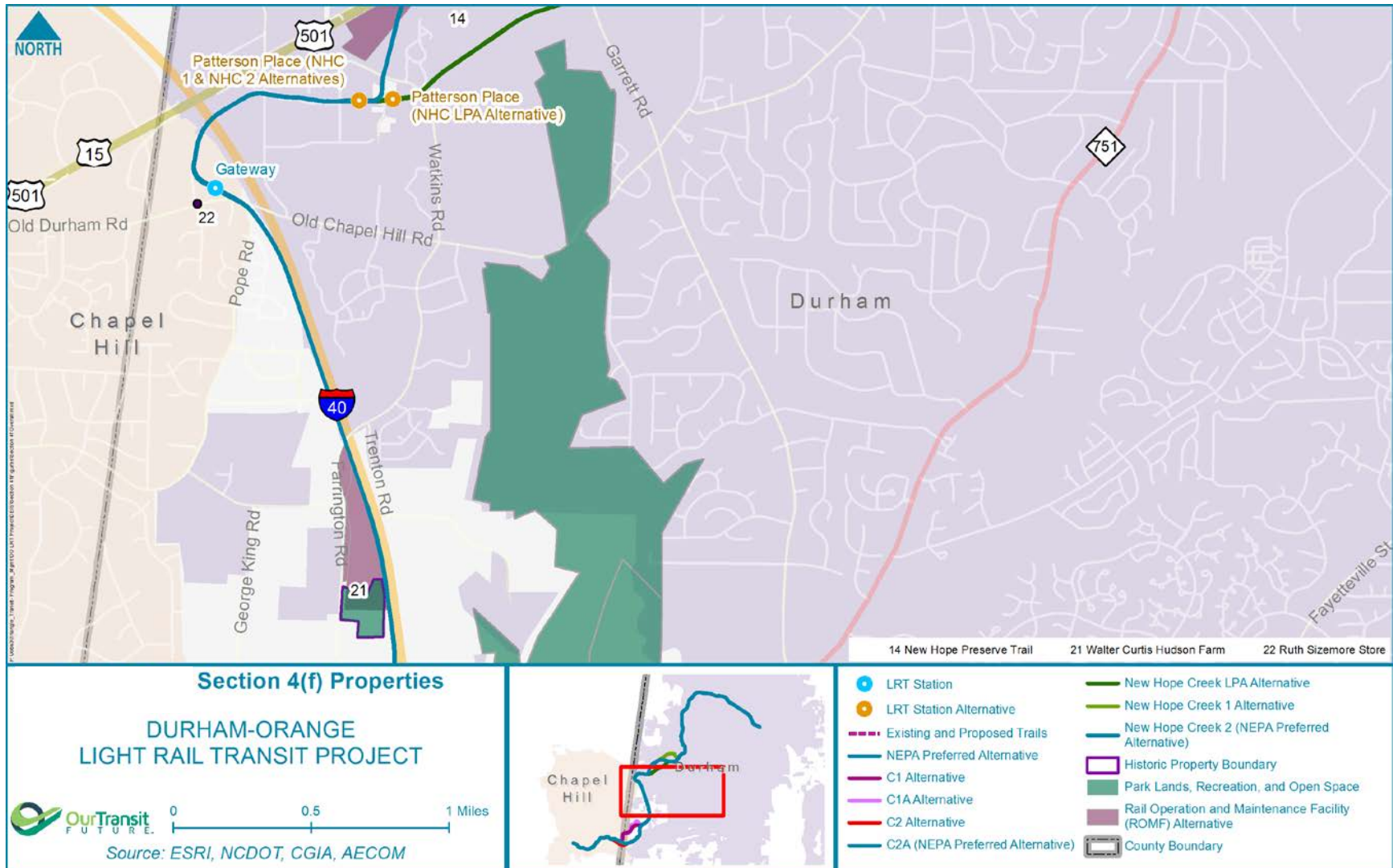


Figure 6.3-3: Section 4(f) Properties

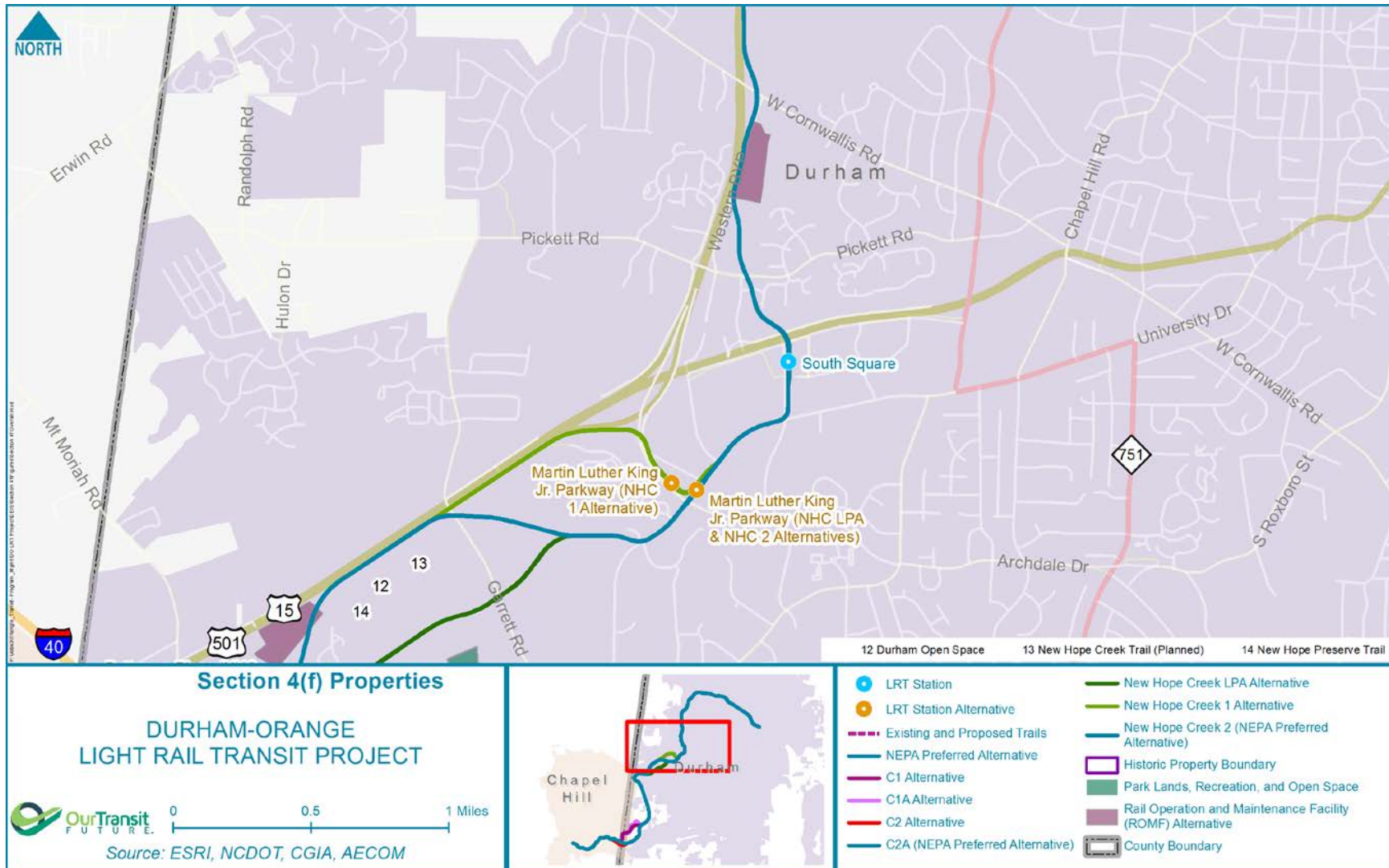
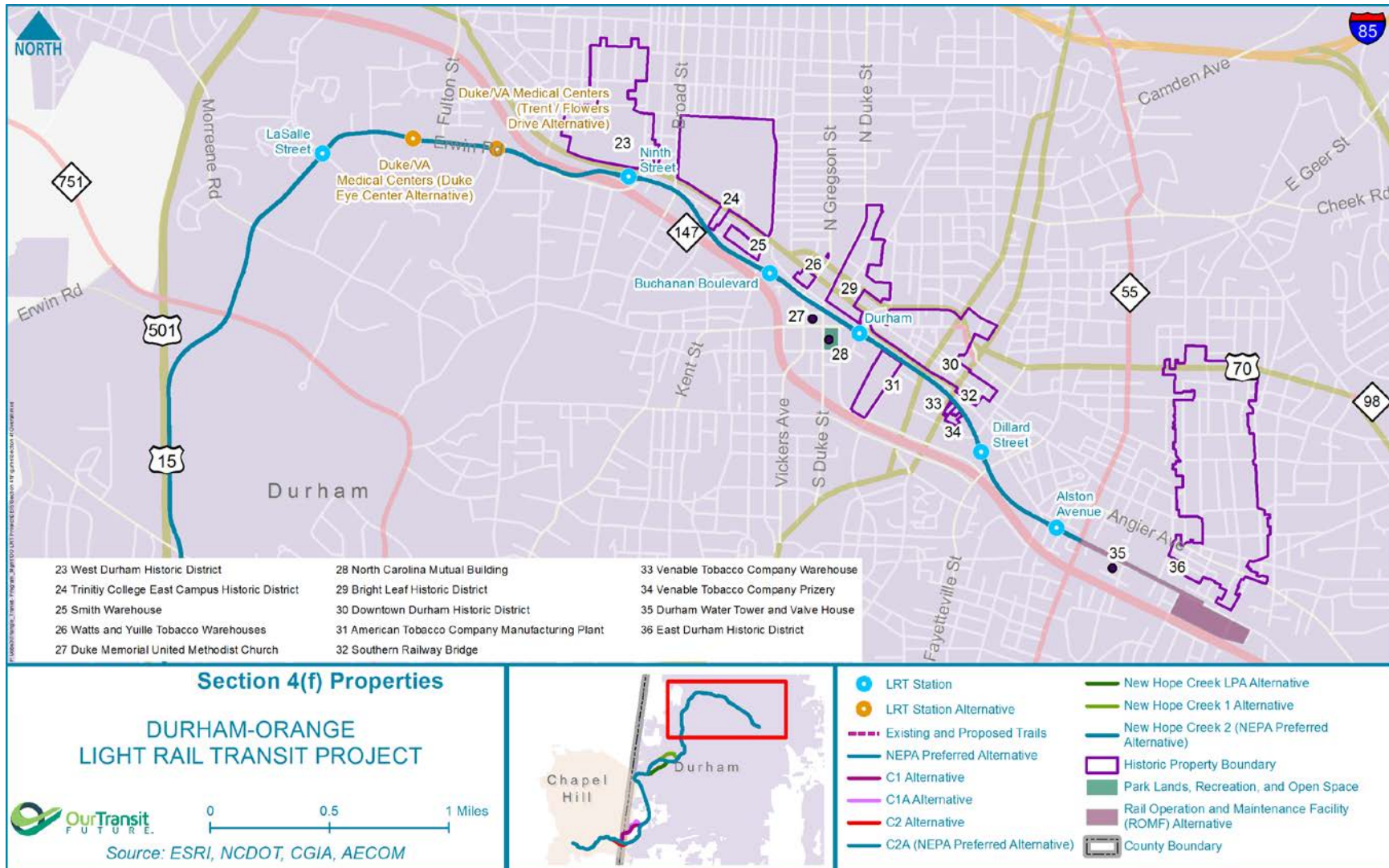




Figure 6.3-4: Section 4(f) Properties



**Table 6.3-1: Section 4(f) Parks, Recreational Spaces, and Open Spaces within 250 Feet of Project Alternatives**

Property Name on Figures 6.5-1 through 6.5-4	Legend Reference Number	Location	Description	Official with Jurisdiction	Distance from Anticipated Limits of Construction (feet) <sup>1</sup>
Jordan Game Lands	1	Multiple locations in Durham County: east of Meadowmont neighborhood; east of Leigh Farm Park; east/north of Old Chapel Hill Road Park	Waterfowl impoundment, recreational area	USACE	Within anticipated limits of construction
Central Park South	2	South of William Blythe Drive, north of Mason Farm Road, Chapel Hill	Planned park	UNC	Within anticipated limits of construction
Coker Pinetum	3	240 Manning Drive, Chapel Hill	Recreational area: nature reserve	UNC	Adjacent to anticipated limits of construction
UNC Disc Golf Course and Athletic Fields	4	414 Country Club Road, Chapel Hill	Recreational area: Tennis courts, disc golf course, outdoor recreation, softball fields	UNC	200
UNC Finley Golf Course and Athletic Fields	5	Finley Golf Course Road, Chapel Hill	Recreational area: golf course, athletic fields, and trails	UNC	Within anticipated limits of construction
UNC Open Space	6	South or east side of US 501/NC 54, adjacent to UNC Finley Golf Course	Recreational open space	UNC	Within anticipated limits of construction
Little Creek Connector Trail	7	Meadowmont Drive to Old Chapel Hill Road, Chapel Hill/Durham	Planned - recreational off-road path along north side of NC 54	Town of Chapel Hill/ City-County of Durham	Within anticipated limits of construction
Little Creek Trail	8	Meadowmont Park, Chapel Hill	Unpaved trails within park	Town of Chapel Hill	Within anticipated limits of construction
Little Creek Trail Extension	9	Meadowmont Park to NC 54, Chapel Hill	Planned - Off-road pedestrian trail	Town of Chapel Hill	Within anticipated limits of construction
Meadowmont Park	10	621 Meadowmont Lane, Chapel Hill	Recreational area: athletic fields, basketball courts	Town of Chapel Hill	Within anticipated limits of construction
Glenwood Elementary School	11	2 Prestwick Road, Chapel Hill	School playground and track	Chapel Hill-Carrboro City School District	School within anticipated limits of construction <sup>2</sup>
Durham Open Space	12	New Hope Creek Corridor	Recreational area: Open space with trails	City-County of Durham	Within anticipated limits of construction
New Hope Creek Trail	13	Multiple locations in Durham: Old Chapel Hill Road to NC 54 and link between US-15-501 and Orange County	Planned - pedestrian trail through Jordan Game Lands and natural area	City-County of Durham	30





**Table 6.3-1: Section 4(f) Parks, Recreational Spaces, and Open Spaces within 250 Feet of Project Alternatives**

Property Name on Figures 6.5-1 through 6.5-4	Legend Reference Number	Location	Description	Official with Jurisdiction	Distance from Anticipated Limits of Construction (feet) <sup>1</sup>
New Hope Preserve Trail	14	North of Old Chapel Hill Road Park, Durham	Pedestrian trail	City-County of Durham	Within anticipated limits of construction

<sup>1</sup>As measured from edge of property closest to project alternative.

<sup>2</sup>As described in DEIS section 6.2, the recreational facilities at Glenwood Elementary School are not within the D-O LRT Project footprint

**Table 6.3-2: Historic Properties Listed in, or Determined or Recommended Eligible for, the National Register of Historic Places within 250 Feet of Project Alternatives**

Name (NC HPO Inventory#)	Legend Reference Number on Figures 6.5-1 through 6.5-4	Address/Location	NRHP Eligibility <sup>1</sup>	Section 106 Effect Determination	Distance from Anticipated Limits of Construction (feet)
<b>Orange County</b>					
Dr. Robert Jack Shankle House (OR-2771)	15	1306 Mason Farm Road, Chapel Hill	DOE/B & C	No Effect	250
H.G. Baity House (OR-2772)	16	1503 Baity Hill Drive, Chapel Hill	DOE/B & C	No Effect	70
Rocky Ridge Farm Historic District (OR-1303/1748)	17	Roughly bounded by Raleigh Road and Country Club Road on the north, Laurel Hill Road and Laurel Hill Circle on the east, Fern Lane on the south, and Ridge Road and the Coker Pinetum on the west, Chapel Hill	Listed/A & C	No Adverse Effect	60
Highland Woods Historic District (OR-1460)	18	Highland Woods Road, Chapel Hill	DOE/A & C	No Adverse Effect	190
Dubose Tenant Farm Complex (OR-1250) <sup>2</sup>	19	Roughly bounded by north side of Sprunt Street on the north, east side of Old Barn Lane on the east, north side of NC 54 on the south, and West Barbee Chapel Road and west side of Old Barn Lane on the west, Chapel Hill	DOE/Not specified	No Effect	240



**Table 6.3-2: Historic Properties Listed in, or Determined or Recommended Eligible for, the National Register of Historic Places within 250 Feet of Project Alternatives**

Name (NC HPO Inventory#)	Legend Reference Number on Figures 6.5-1 through 6.5-4	Address/Location	NRHP Eligibility <sup>1</sup>	Section 106 Effect Determination	Distance from Anticipated Limits of Construction (feet)
<b>Durham County</b>					
Meadowmont (DH-1708)	20	Roughly 28-acre square of land with Meadowmont main house at center, Chapel Hill	Listed/A, B & C	No Effect	Adjacent to anticipated limits of construction
Walter Curtis Hudson Farm (DH-2373)	21	5117 Farrington Road, Durham County	DOE/C	Adverse Effect (Leigh Village ROMF Alternative) No Adverse Effect (NEPA Preferred Alternative and Farrington Road ROMF Alternative) No Effect (all other aspects of project)	90
Ruth-Sizemore Store (DH-2561)	22	5520 Old Chapel Hill Road, Durham County	DOE/C	No Adverse Effect	Adjacent to anticipated limits of construction
West Durham Historic District (DH-1134)	23	Roughly bounded by West Knox Street on the north, Ninth and Iredell streets on the east, West Main Street on the south, and Rutherford Street and Carolina Avenue on the west, Durham	Listed/C	No Effect	210
Trinity College East Campus Historic District (DH-1821)	24	Roughly bounded on the north by West Markham Avenue, on the east by North Buchanan Boulevard, on the south by West Main Street and Maxwell Avenue, and on the west by Campus Drive and Broad Street, Durham	DOE/Not specified	No Adverse Effect	<10
Smith Warehouse (DH-89)	25	114 South Buchanan Boulevard, Durham	Listed/A, B & C	No Adverse Effect	120



**Table 6.3-2: Historic Properties Listed in, or Determined or Recommended Eligible for, the National Register of Historic Places within 250 Feet of Project Alternatives**

Name (NC HPO Inventory#)	Legend Reference Number on Figures 6.5-1 through 6.5-4	Address/Location	NRHP Eligibility <sup>1</sup>	Section 106 Effect Determination	Distance from Anticipated Limits of Construction (feet)
Watts and Yuille Tobacco Warehouses (DH-87)	26	114 South Buchanan Boulevard, Durham	Listed/A, B & C	No Effect	240
Duke Memorial United Methodist Church (DH-1253)	27	504 West Chapel Hill Street, Durham	Listed/A, B & C	No Adverse Effect	50
North Carolina Mutual Building (DH-2477)	28	411 West Chapel Hill Street, Durham	DOE/A & C	No Adverse Effect	<10
Bright Leaf Historic District (DH-71)	29	Roughly bounded by Minerva Avenue on the north, railroad tracks and Liggett and Morris streets on the east, railroad tracks and West Main Street on the south, and North Duke Street on the west, Durham	Listed/A & C	No Effect	190
Downtown Durham Historic District (DH-1692)	30	Roughly bounded by West Morgan, East Seminary, and East Parrish streets on the north, North Roxboro and North Queen streets on the east, Ramseur Street on the south, and Great Jones and West Morris streets on the west, Durham	Listed/A & C	No Effect	140
American Tobacco Company Manufacturing Plant (DH-1872/10)	31	Block bounded by West Pettigrew Street on the north, Blackwell Street on the east, Willard Street on the south, and Julian Carr Street on the west, Durham boundaries	Listed/A & C	No Adverse Effect	230
Southern Railway Bridge (Seaboard Coastline Railroad Overpass) (DH-2504/1867)	32	East Pettigrew Street at South Roxboro Street, Durham	DOE/Not specified	No Adverse Effect	50



**Table 6.3-2: Historic Properties Listed in, or Determined or Recommended Eligible for, the National Register of Historic Places within 250 Feet of Project Alternatives**

Name (NC HPO Inventory#)	Legend Reference Number on Figures 6.5-1 through 6.5-4	Address/Location	NRHP Eligibility <sup>1</sup>	Section 106 Effect Determination	Distance from Anticipated Limits of Construction (feet)
Venable Tobacco Company Warehouse (DH-97)	33	302-304 East Pettigrew Street, Durham	Listed/A & C	No Adverse Effect	<10
Venable Tobacco Company Prizery and Receiving Room (DH-2560)	34	302-304 East Pettigrew Street, Durham	Listed/A	No Adverse Effect	<10
Durham Water Tower and Valve House (DH-3508)	35	1318 East Pettigrew Street, Durham	DOE/A & C	No Effect	90
East Durham Historic District (DH-2184)	36	Roughly bounded by Southern Railway right-of-way on the south, North Guthrie Avenue on the east, Holloway Street on the north, and Hyde Park Avenue, South Plum Street, and Vale Street on the west, Durham	Listed/A & C	No Effect	190



**Table 6.3-3: Summary of Use Determinations – Park, Recreational Spaces, and Open Spaces within 250 Feet of Project Alternatives**

Section 4(f) Property	Alternative	Permanent Use, Not <i>De Minimis</i>	Permanent Use, <i>De Minimis</i>	No Use	Temporary Easement (Acres)	Permanent Easement (Acres)
Jordan Game Lands	NEPA Preferred (C2A) and C2		●		1.4	0.2
	C1A	●			0.7	2.6
Central Park South (Planned)	NEPA Preferred		●		1.1	0.9
Coker Pinetum	NEPA Preferred		●		0.0	0.21
UNC Disc Golf Course and Athletic Fields	NEPA Preferred			●	0.0	0.0
UNC Finley Golf Course and athletic fields	NEPA Preferred		●		0.4	2.6
	C1, C1A, C2	●			0.06	1.0 (C1/C1A) 1.2 (C2)
UNC Open Space	NEPA Preferred		●		1.0	0.8
Little Creek Connector Trail (Planned)	NEPA Preferred			●	0.0	0.0
	C1A			●	0.0	0.0
Little Creek Trail	NEPA Preferred			●	0.0	0.0
	C1A	●			<0.01	<0.01
Little Creek Trail Extension	NEPA Preferred			●	0.0	0.0
	C1			●	0.0	0.0
Meadowmont Park	NEPA Preferred			●	0.0	0.0
	C1A			●	0.2	0.6
Glenwood Elementary School <sup>a</sup>	NEPA Preferred			●	0.1	0.1
Durham Open Space	NEPA Preferred			●	0.0	0.0
	Patterson Place ROMF		●		0.0	0.3
New Hope Creek Trail (Planned)	NEPA Preferred (NHC 2) and NHC 1		●		<0.1	0.0
New Hope Preserve Trail	NEPA Preferred			●	0.0	0.0
	NHC LPA		●		<0.02	<0.05
	Patterson Place ROMF	●			0.0	0.0

Note: Shading indicates properties proximate to the NEPA Preferred Alternative.



### 6.3.1.1 USACE: Jordan Game Lands (Existing)

#### Section 4(f) Property Description

##### Size and Location

This multi-parcel natural wooded area covers 570 acres on the eastern side of Durham County. The property is within the project study area at multiple locations: east of the Meadowmont neighborhood; immediately east/north of Old Chapel Hill Road Park; immediately east of Leigh Farm Park; and in the vicinity of Little Creek. The location east of Meadowmont is within close proximity to the alignment and in this area NC 54 crosses the Game Lands to the south of the waterfowl impoundment.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

For purposes of Section 4(f), the Jordan Game Lands are considered both a wildlife refuge and a recreational property. The Jordan Game Lands are designated as permanent wildlife lands and serve as mitigation for adverse impacts from the construction of B. Everett Jordan Lake. There are two separate areas of waterfowl habitat (111 acres and 50 acres) within the project study area; however, only one waterfowl impoundment located north of NC 54 is within the 250-foot assessment area for Section 4(f) properties. Within the project study area, multiple roads and

parking lots are available for public access to the waterfowl impoundments including two gravel access roads and parking lots (parking area #1 and parking area #2) west of George King Road. The Jordan Game Lands are managed as a natural wooded area for habitat and water quality protection; hunting and other public recreational uses are also allowed.

##### Ownership

The Jordan Game Lands are owned by the USACE and managed by the North Carolina Wildlife Resources Commission (NCWRC). The portions of the Little Creek Bottomlands and Slopes and wetlands contained within the Jordan Game Lands are designated as a State Natural Heritage Area by the North Carolina Natural Heritage Program.

##### Use of Section 4(f) Property

As described below, the Jordan Game Lands would be impacted by the NEPA Preferred Alternative and two of the Little Creek Alternatives (C1 and C2) (see **Figure 6.3-5**). Little Creek C1A Alternative would not directly impact the Jordan Game Lands nor is it in close enough proximity to the Jordan Game Lands to incur potential proximity impacts.

##### NEPA Preferred Alternative

The NEPA Preferred Alternative (C2A) would minimize the use of the Jordan Game Lands by using existing NCDOT

easement(s) and rights-of-way crossing the property, with the exception of a small area at the intersection of NC 54 and George King Road. The NEPA Preferred Alternative (C2A) would require a permanent easement of approximately 3.6 acres in the area of the Jordan Game Lands. This is comprised of approximately 1.7 acres of permanent easement within an existing transportation easement held by NCDOT for the occupancy of NC 54; approximately 1.7 acres of permanent easement within the George King Road right-of-way, and approximately 0.2 acre of land in the Jordan Game Lands at the western edge of George King Road and northern edge of NC 54. The latter 0.2 acre is not within an existing easement or right-of-way and would constitute a Section 4(f) use of the property (see **Figures 6.3-6** and **6.3-7**).

Approximately 1.4 acres of land would be needed for a temporary construction easement for the construction of the NEPA Preferred Alternative (C2A). This temporary occupancy would be for a short duration (less than the total time needed to construct the entire D-O LRT Project), would not result in a change in ownership of the property, and would result in minimal impacts to the waterfowl impoundment and recreational features (e.g., hunting and hiking) associated with the Jordan Game Lands that qualify it for protection under Section 4(f). Approximately 0.9 acre is needed during construction for mitigation to provide access





to parking area #1 and parking area #2, and approximately 0.2 acre is needed to provide the USACE requested access to parking area #3.

**Coordination**

In accordance with 23 C.F.R. Part 774, coordination with the USACE regarding the potential use of the Jordan Game Lands has been ongoing. In a meeting between Triangle Transit, USACE, and NCWRC on March 11, 2015, potential use of the land was noted and discussed.

**Minimization and Mitigation**

The following mitigation measures have been identified based on information to date:

- Replace reservoir water storage volume lost due to fill below elevation 245 feet msl by excavation of an equal amount of new storage volume at the same elevation as the lost storage volume.
- Compensate NCWRC for loss of marketable timber. Timber value would be determined by a registered government forester and payment for timber would be collected at the time the permanent easement is issued.
- Coordinate with USACE and NCWRC regarding location of fencing on government property necessary for safety and security of the D-O LRT.

■ Complete the following mitigation measures to the satisfaction of NCWRC:

- Relocate the access road to the existing impoundment parking area #1, place gravel on the parking lot, provide and install a new gate and informational signs.
- Construct a gravel access road (16 feet wide) from parking area #1 to parking area #2 along the D-O LRT alignment. Improve parking area #2 by installing gravel, provide and install a new gate and informational signs.
- Construct a public access parking area #3 on the south side of NC 54, provide and install a double gate and informational signs.
- Replace the existing Waterfowl Impoundment sign and install a new Game Lands access directional sign for the new parking area #3, along NC 54.

Approximately 0.3 acre is needed during construction of the aerial structure along NC 54. The area used for the temporary construction easement would, at a minimum, be restored to the condition it was in before construction or be utilized by the USACE for its identified purposes as part of the mitigation for the D-O LRT Project.

A mitigation agreement, consistent with the mitigation measures stated above, would be signed by Triangle Transit and the USACE prior to issuance of the easements (permanent and temporary) required for the D-O LRT Project.

In a letter dated January 7, 2015, the USACE stated “Based on review, C2/2A is a viable alternative for crossing government property and could be authorized if identified as the preferred alternative” (DEIS appendix G). Further, in a letter dated May 20, 2015, the USACE stated that “after taking into account proposed avoidance, minimization, mitigation, and enhancement measures, it appears that alternatives C2/C2A may result in no adverse effect” to this Section 4(f) property (DEIS appendix G).

The NEPA Preferred Alternative (C2A) would be located within existing transportation rights-of-way in wooded areas and would avoid the waterfowl impoundment, so impacts to wildlife would be minimal. The existing trees in the area would provide a visual barrier to the LRT and thereby minimize the visual impacts to hunters and other recreational users of the Jordan Game Lands. There would be an increase in noise in the proximity of NC 54; however, an impact to the use of the property is not anticipated. As described in the Noise and Vibration Technical Report (DEIS appendix K.24), the ambient noise level (59 dBA) at the sound receptor site



associated with the Jordan Game Lands near NC 54 (Receptor 37A) is higher than the anticipated project noise levels (45 dBA). The NEPA Preferred Alternative (C2A) would, therefore, not adversely affect the activities, features, and attributes that qualify the Jordan Game Lands for protection under Section 4(f).

### Determination

In light of the foregoing, FTA has determined that, pursuant to 23 C.F.R. § 774.3, as to the NEPA Preferred Alternative (C2A), “the use of the [Jordan Game Lands], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], will have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” USACE concurred with this determination in a letter to FTA dated September 23, 2015. A copy of this concurrence letter is included in FEIS/ROD appendix A.2.

### Project Element Alternatives

#### Little Creek – C1 Alternative

The C1 Alternative would result in permanent acquisition of 2.6 acres of the Jordan Game Lands from the USACE. This alternative would create a new transportation right-of-way (approximately 55 feet wide) that crosses through natural, undisturbed forested areas within the Jordan Game Lands. The acquisition of this land

would constitute a permanent use of the Jordan Game Lands.

In addition to the permanent acquisition of 2.6 acres of land, approximately 0.7 acre of land would be acquired for a temporary construction easement for the construction of the C1 Alternative. However, this occupancy would be of short duration (less than the total time needed to construct the entire project), would not result in a change in ownership of the property, and would result in minimal impacts to the waterfowl impoundment and recreational features (e.g., hunting and hiking) associated with the Jordan Game Lands that qualify it for protection under Section 4(f). Following the conclusion of construction activities, the area to be used for the temporary construction easement would be restored to the condition it was in before construction or better. Therefore, this temporary construction easement would not result in a Section 4(f) use of the Jordan Game Lands.

There would be changes to the visual character of the Jordan Game Lands and potential increases in noise as a result of the operation of the C1 Alternative that could potentially adversely affect the recreational features of this property (e.g., hunting and hiking).

### Coordination

Coordination with the USACE, the official with jurisdiction over the Jordan Game Lands, has been on-going to identify the

long term and short term effects of Alternative C1. The USACE stated in a letter to Triangle Transit dated January 7, 2015, that “a request to use government property for alternative C1 would not be authorized, given the availability of less damaging alternatives” (DEIS appendix G).

Due to the incorporation of 2.6 acres of the Jordan Game Lands into the C1 Alternative and the resultant adverse effects to the natural setting and recreational features of the property as determined in coordination with the official having jurisdiction over the property, the C1 Alternative would adversely affect the activities, features, and attributes that qualify the property for protection under Section 4(f) and would constitute a use of the property.

### Determination

The selection of the C1 Alternative would result in a Section 4(f) use of the Jordan Game Lands, as part of the Jordan Game Lands would be permanently incorporated into a transportation facility (i.e., the D-O LRT Project). Further, as explained by USACE in its letter on May 20, 2015, “C1 would not be authorized, given the availability of less damaging alternatives” (DEIS appendix G).

#### Little Creek – C1A Alternative

The C1A Alternative was developed in conjunction with USACE in light of the permanent use of the USACE’s Section 4(f) property by Alternative C1.





Pursuant to 23 C.F.R. § 774.3, FTA may not approve the use of a Section 4(f) property unless a determination is made that: (1) there is no feasible and prudent avoidance alternative ... to the use of land from the property; and the action includes all possible planning ... to minimize harm to the property resulting from such use;” or (2) “the use of the property, including any measure(s) to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), committed by [Triangle Transit], will have a *de minimis* impact ... on the property.” (23 C.F.R. § 774.3(a)-(b))

The C1A Alternative would cross Little Creek on privately owned land, upon which the USACE holds a flowage easement to allow the government to impound water onto the property. The easement is for flood control and not for recreation or a wildlife or waterfowl refuge. As such, the C1A Alternative would not result in a Section 4(f) use of the Jordan Game Lands, as it completely avoids this particular resource.

Despite the avoidance of the Jordan Game Lands, the C1A Alternative is not a feasible and prudent avoidance alternative under Section 4(f). This alternative involves multiple factors that cumulatively cause unique problems or impacts, including:

- Impacts two Chapel Hill Section 4(f) resources – Meadowmont Park and Little Creek Trail

- Additional impacts to UNC’s Finley Golf Course, a Section 4(f) property
- More impacts undisturbed forested areas and water resources associated with Little Creek, in particular, the Little Creek Bottomlands and Slopes Significant Natural Heritage Area
- Higher anticipated capital cost than the NEPA Preferred Alternative (C2A) or any other Little Creek Alternative
- More vibration and ground-borne noise impacts to residences
- More residential acquisitions
- The longest length of the Little Creek Alternatives, resulting in the longest travel times and the least ridership
- Less supportive of local land use plans and policies than the NEPA Preferred (C2A) and the C2 Alternatives

**Determination**

In light of the factors noted above, the FTA determination, pursuant to 23 C.F.R. Part 774, as to the C1A Alternative is that it is not a “feasible and prudent avoidance alternative ... to the use of land from the property” under Section 4(f). As a result, the FTA may approve, from among the remaining alternatives that use Section 4(f) properties, either the NEPA Preferred Alternative (C2A) or the C2 Alternative.

**Little Creek – C2 Alternative**

Through the Jordan Game Lands, the C2 Alternative follows the same alignment as the NEPA Preferred Alternative (C2A). Accordingly, see the discussion above about the NEPA Preferred Alternative for a full explanation of the uses of the property by the C2 Alternative.



Figure 6.3-5: Jordan Game Lands (Existing)

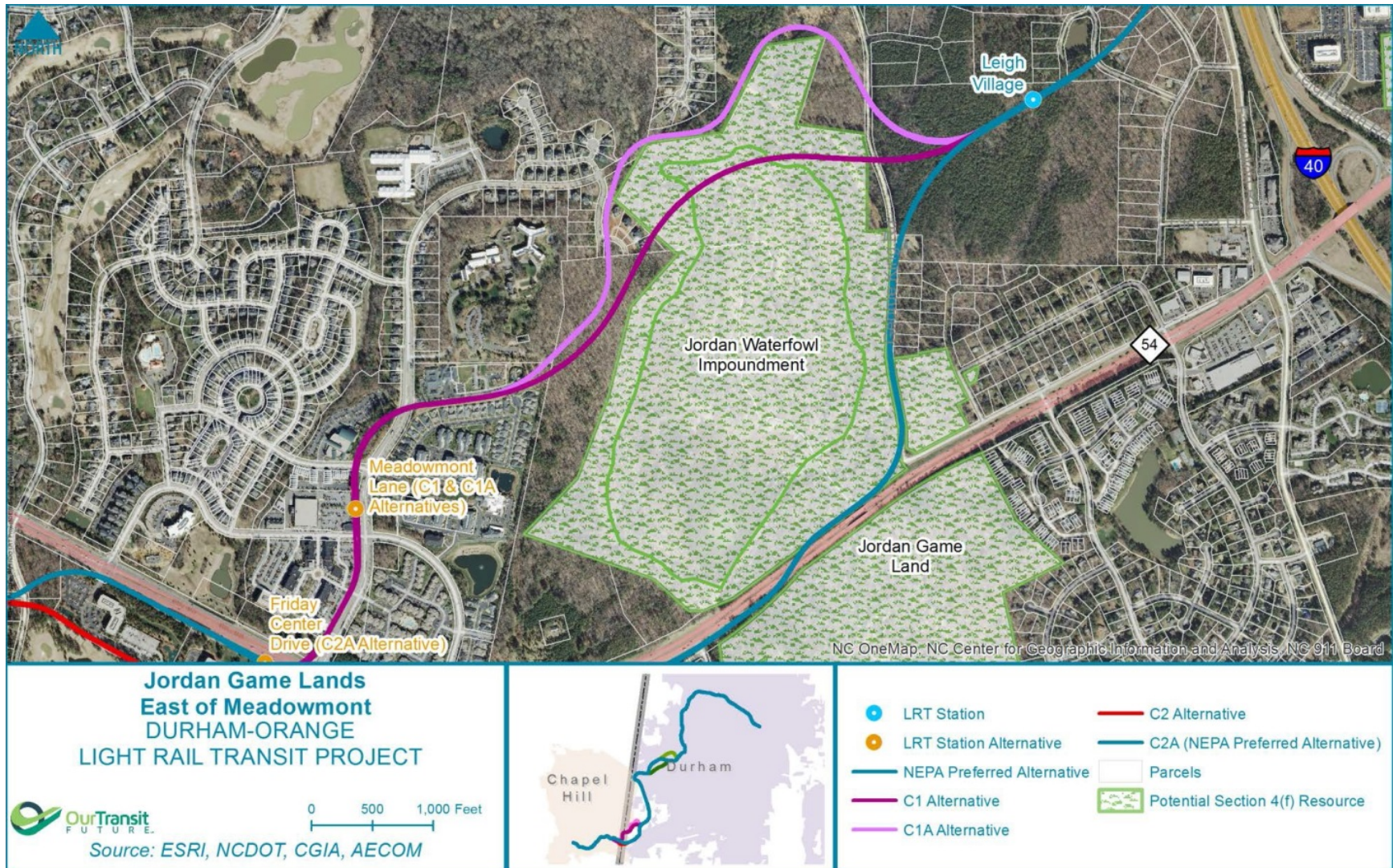




Figure 6.3-6: Proposed Easements on Federal Government Property at Jordan Game Lands – Sheet 1

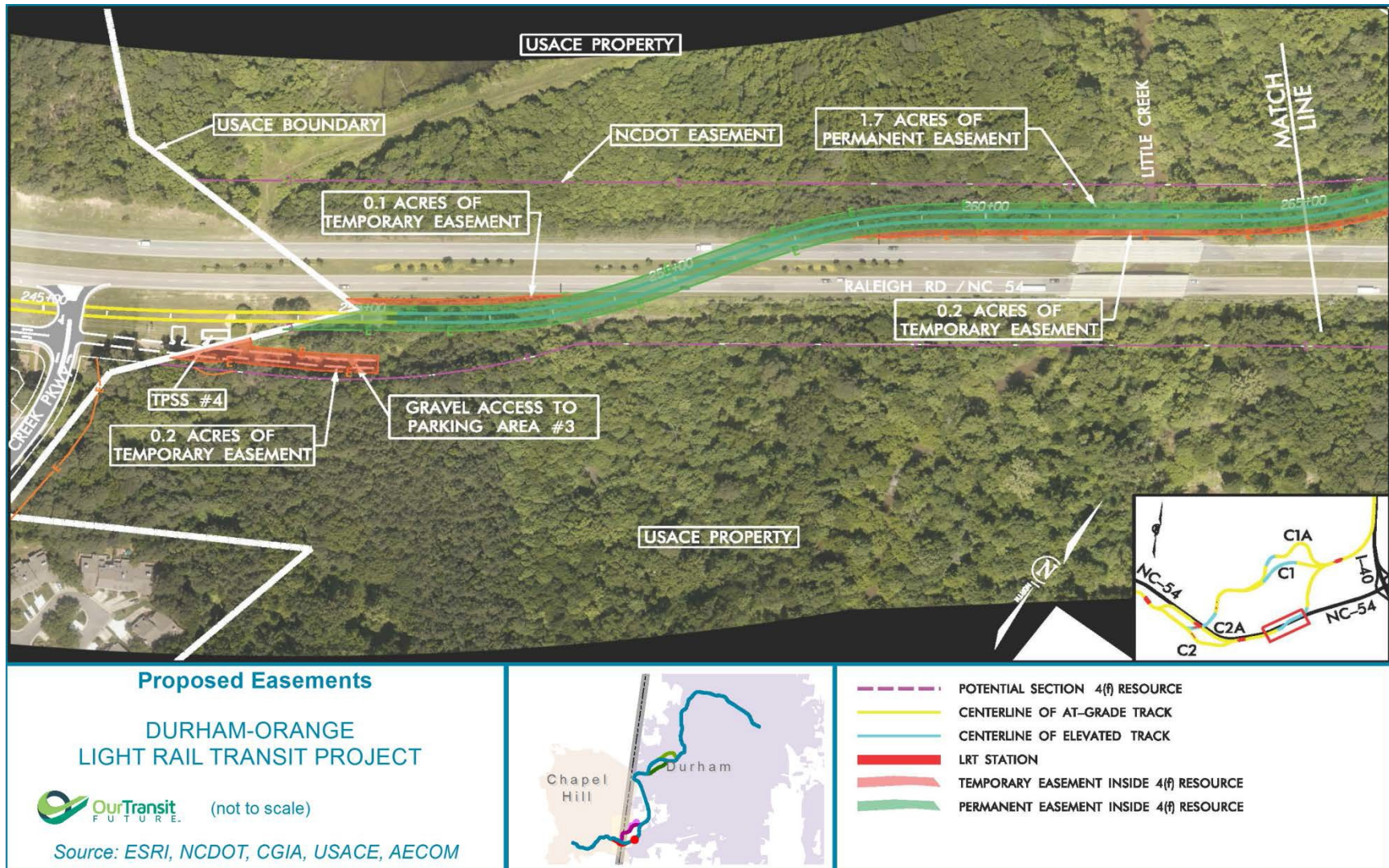
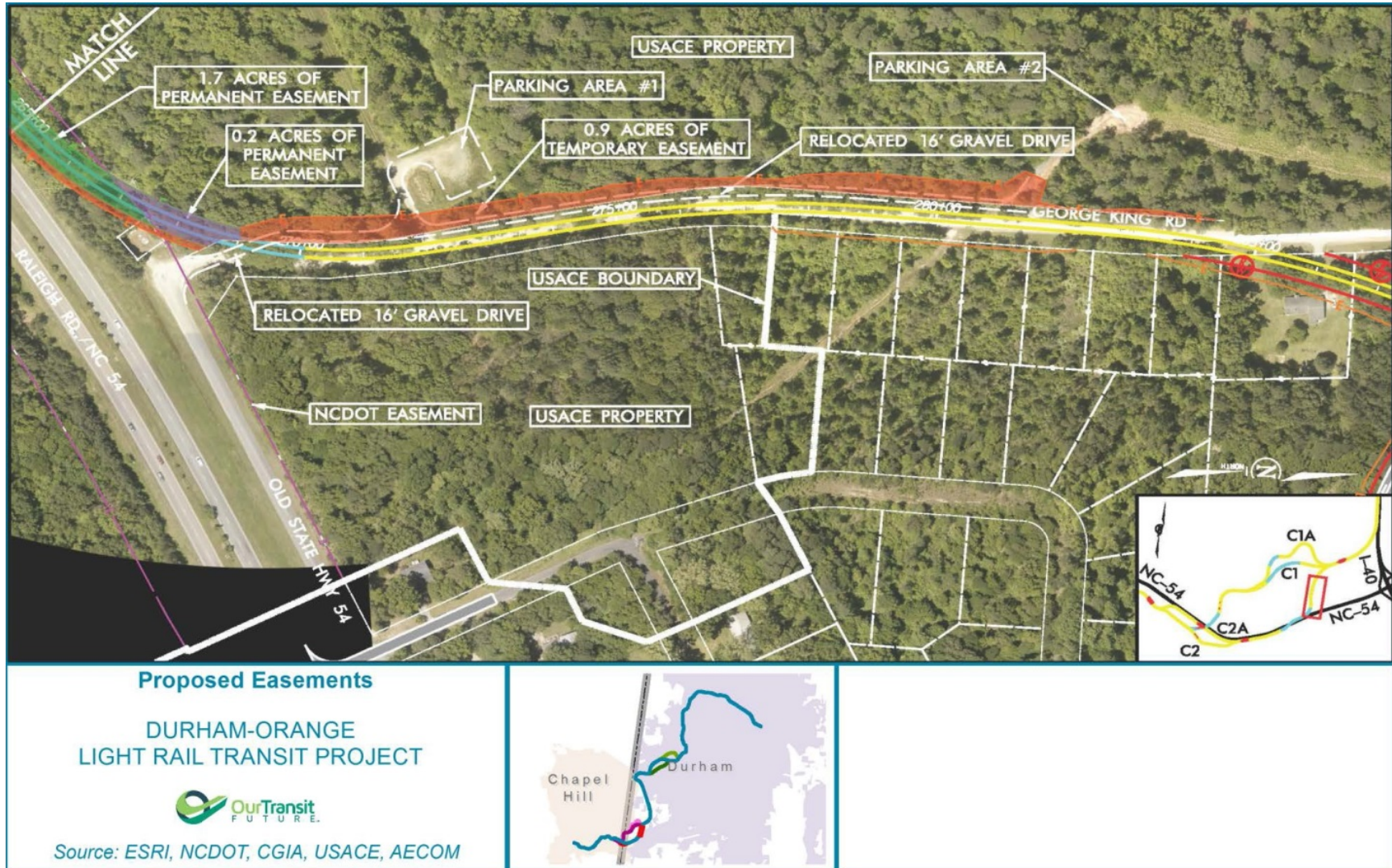




Figure 6.3-7: Proposed Easements on Federal Government Property at Jordan Game Lands – Sheet 2



### 6.3.1.2 UNC: Central Park South (Planned)

#### Section 4(f) Property Description

##### Size and Location

Central Park South is a planned 13.7 acre park that would be constructed on the UNC campus south of William Blythe Drive and north of Mason Farm Road in a wooded area west of the Kenan-Flagler Business School. The park is planned by UNC and is identified in the UNC Campus Master Plan (2006).

##### Function(s) of the Property (Intended, Actual/Current, Planned)

Central Park South is planned to be a park for passive recreation.

##### Ownership

The planned park would be constructed on land owned by UNC.

##### Use of Section 4(f) Property

As described below, the planned Central Park South would be impacted by a portion of the NEPA Preferred Alternative alignment that is common to all alternatives (**Figure 6.3-8 and Figure 6.3-9**).

##### NEPA Preferred Alternative

The NEPA Preferred Alternative would require acquisition of approximately 0.9 acre of permanent easement of the 13.7 acres of

UNC lands designated for the future development of Central Park South. The NEPA Preferred Alternative would cross the planned park both at-grade and on an elevated guideway. Construction of the proposed project would not preclude future development of Central Park South. In addition, access to the future park would not be affected by the project, and access within the park would be possible beneath the planned guideway. The parcels on which Central Park South would be constructed are undeveloped, and currently, there is no funding or schedule for construction of this planned park. However, the permanent acquisition of land would constitute a Section 4(f) use of Central Park South.

##### **Coordination**

Pursuant to 23 C.F.R. Part 774, coordination with UNC, the official with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on the planned Central Park South. The results of this coordination are reflected in this evaluation.

##### **Minimization and Mitigation**

The introduction of the new visual feature (i.e., the at-grade and elevated guideways) and noise increases as a result of operation are not anticipated to adversely affect the planned use of the park. The existing trees in the area planned for the park would provide a visual barrier to the LRT and thereby minimize the visual impacts to future

users of the park. Noise impacts from the construction and operation of the NEPA Preferred Alternative are not anticipated to impede the future recreational use of the planned park given the current ambient traffic noise and the proposed use of the park.

Should Central Park South be built prior to the construction of the project, construction activities may be seen and heard from the park; however, this will not adversely affect the use of the planned park by the public as construction activities would be temporary in nature. During construction and operation, access to the planned Central Park South would be maintained.

In its letter dated May 22, 2015, UNC stated that, based on review of information provided to date by Triangle Transit, UNC does not anticipate that “the segment through Central Park South would adversely affect the use, activities, features, or attributes that qualify UNC’s property, as described in this letter, for protection under Section 4(f)” (DEIS appendix G). Additional meetings and coordination between UNC and Triangle Transit staff from June through December 2015 underscored UNC’s initial assessment of the D-O LRT Project on Central Park South (Planned) and affirmed FTA’s preliminary evaluation. Therefore, there would be no adverse effects on the activities, features, or attributes that qualify the park for protection under Section 4(f).



### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the NEPA Preferred Alternative is that “the use of the [planned Central Park South], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], will have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” UNC concurred with this determination in a letter to Triangle Transit on December 16, 2015. A copy of this concurrence letter is included in FEIS/ROD appendix A.6.





Figure 6.3-8: UNC Central Park South (Planned)

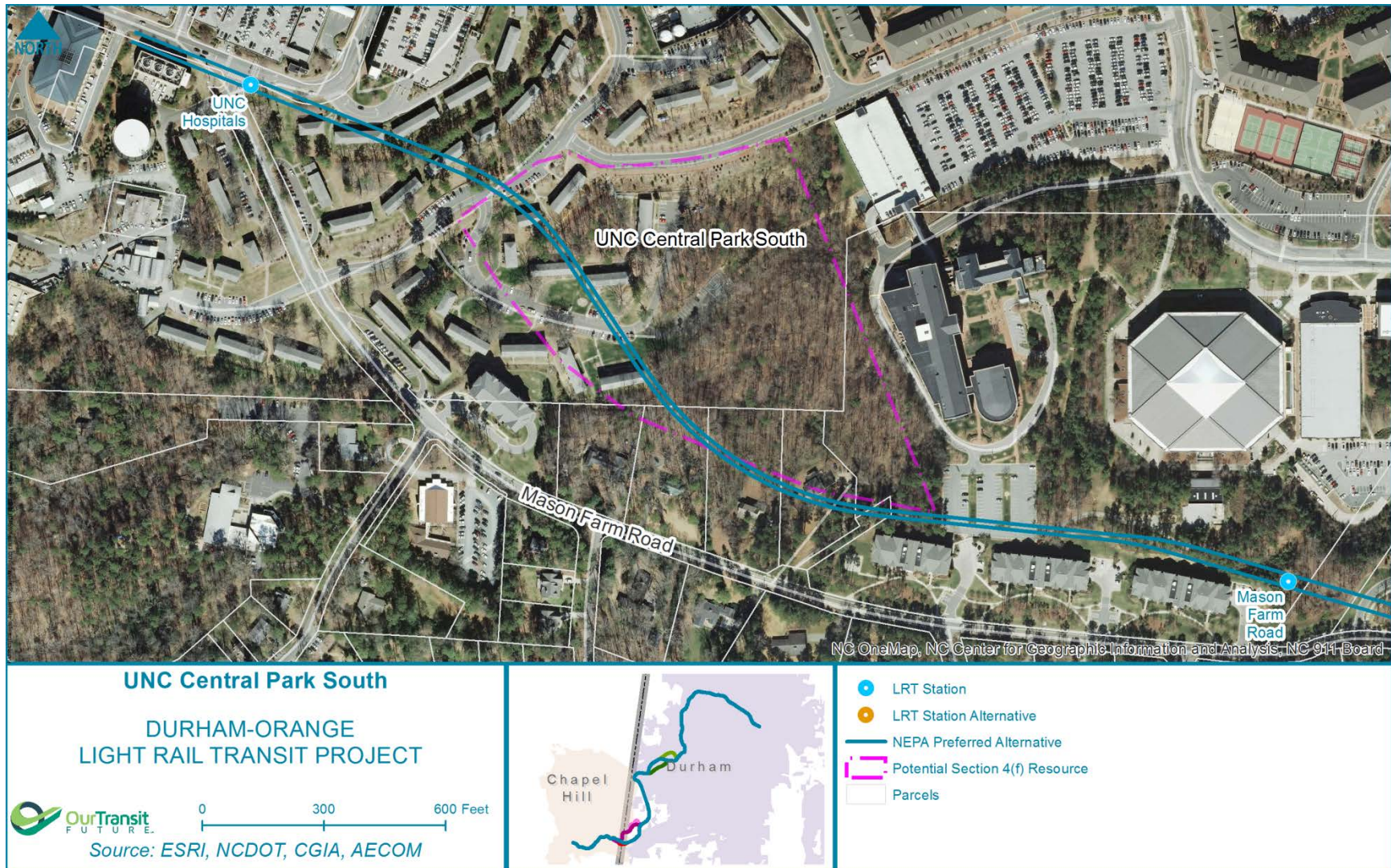
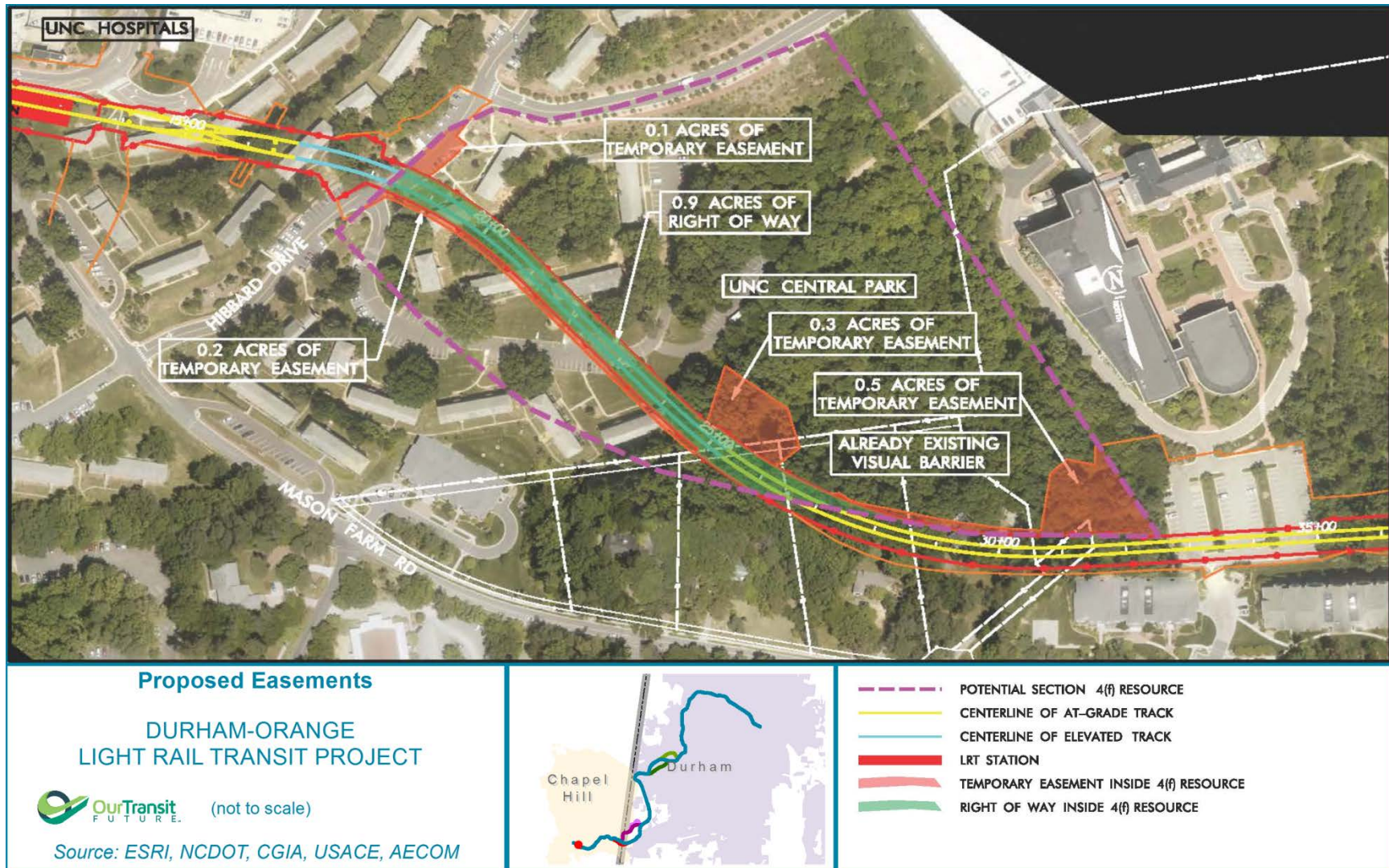




Figure 6.3-9: Proposed Easements at UNC Central Park South





### 6.3.1.3 UNC: Coker Pinetum (Existing)

#### Section 4(f) Property Description

##### Size and Location

This 25-acre park is located at 240 Manning Drive in Chapel Hill. The boundaries are Round Hill Road (north), US 15-501/Fordham Boulevard (east), Manning Drive (south) and Ridge Road (west). Bicycle/pedestrian access is provided from multiple access points, but there are no parking lots. The Coker Pinetum is surrounded by the UNC's mixed land uses.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

The Coker Pinetum was deeded to the UNC Botanical Gardens with the stipulation that the property should be used only as a botanical garden and park area. The Coker Pinetum is a natural wooded area featuring a collection of conifers that are used for scientific study. The Coker Pinetum includes a natural trail that connects the UNC Botanical Gardens with the UNC campus. Mountain biking and hiking are also permitted within the Orange Water and Sewer Authority (OWASA) easement.

##### Ownership

The Coker Pinetum is owned by UNC; OWASA currently holds a utility easement within the property.

##### Use of Section 4(f) Property

As described below, the Coker Pinetum would be impacted by the NEPA Preferred Alternative alignment that is common to all alternatives (see **Figure 6.3-10** and **Figure 6.3-11**).

##### NEPA Preferred Alternative

The NEPA Preferred Alternative would require a permanent easement of approximately 0.21 acre of land from the Coker Pinetum. The permanent easement would constitute a Section 4(f) use of the property.

##### Coordination

Pursuant to 23 C.F.R. Part 774, coordination with UNC, the official with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on the Coker Pinetum. The results of this coordination are reflected in this evaluation.

##### Minimization and Mitigation

The NEPA Preferred Alternative would be constructed adjacent to US 15/501 along the southeast portion of the Coker Pinetum. While the alignment would be visible from the Coker Pinetum, it would not result in a substantial change that would adversely affect the users of the property as explained in DEIS section 4.4. Noise impacts from the project are not anticipated given the close

proximity to the highway as explained in DEIS section 4.10.

Construction of the NEPA Preferred Alternative would result in temporary increases in noise levels that could be considered a nuisance for users of the Coker Pinetum. However, the property is not considered to be a noise sensitive receptor; therefore, the temporary increase in noise would not adversely affect the protected activities, features, or attributes of the property. Construction activities would likely be visible from the eastern end of the property; however, this would not adversely affect the recreational features of the Coker Pinetum and would be temporary in nature. Access to the facility would not be affected by construction or operation of the alternative. Meetings and additional coordination between UNC and Triangle Transit staff from June through December 2015 affirmed FTA's preliminary evaluation of the D-O LRT Project on the Coker Pinetum. Therefore, there would be no adverse effects on the activities, features, or attributes that qualify the park for protection under Section 4(f).

##### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the NEPA Preferred Alternative is that "the use of the [Coker Pinetum], including any measures to minimize harm (such as any avoidance, minimization,



mitigation, or enhancement measures) committed to by [Triangle Transit], will have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” UNC concurred with this determination in a letter to Triangle Transit on December 16, 2015. A copy of this concurrence letter is included in FEIS/ROD appendix A.6.





Figure 6.3-10: UNC Coker Pinetum (Existing)

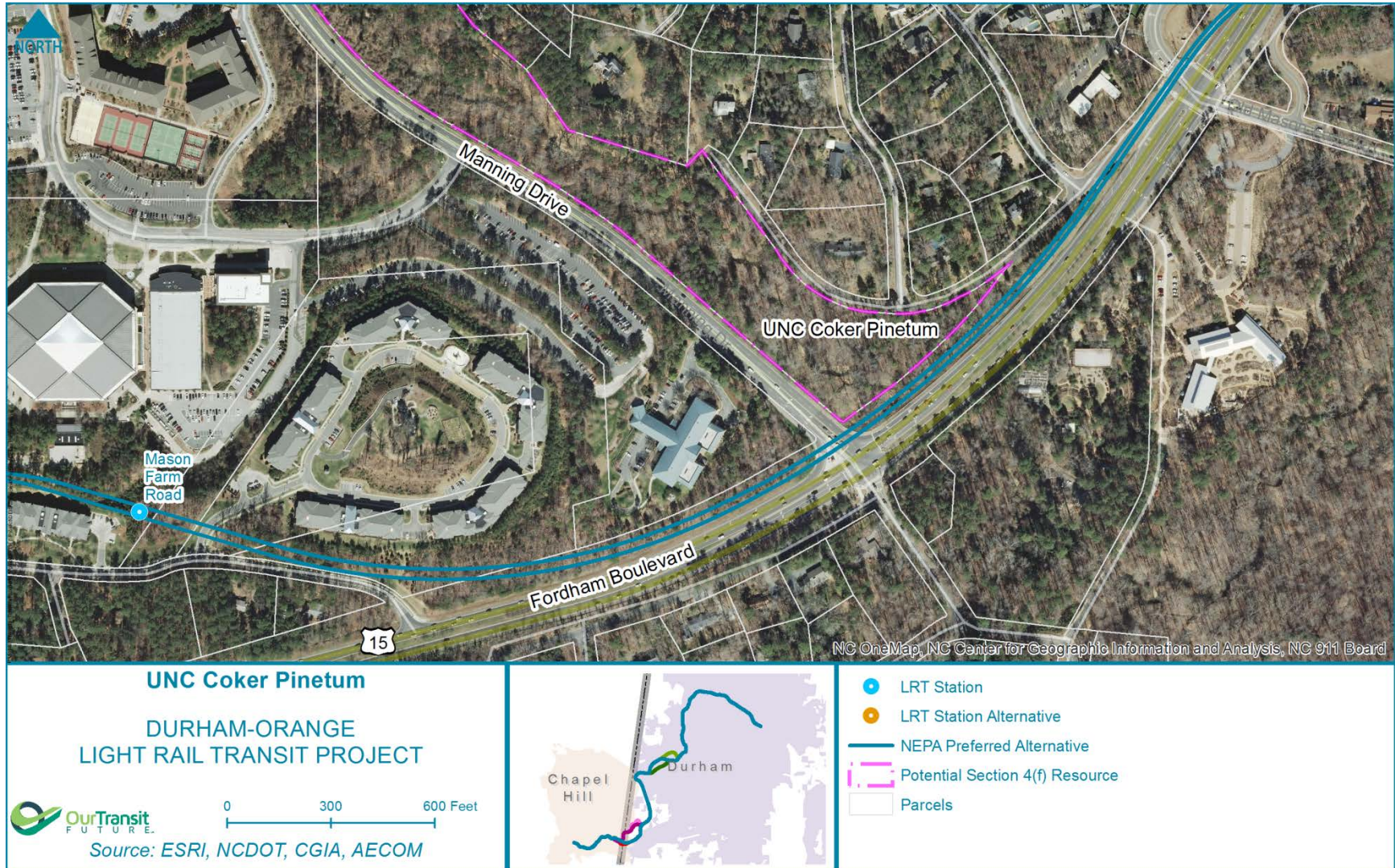




Figure 6.3-11: Proposed Easements at UNC Coker Pinetum



### 6.3.1.4 UNC: Disc Golf Course and Athletic Fields (Existing)

#### Section 4(f) Property Description

##### Size and Location

This 73-acre facility is located at 414 Country Club Road in Chapel Hill. The boundaries are NC 54/Raleigh Road (north), US 15-501 (east), Laurel Hill Road (south), and Laurel Hill Road (west). Usage of Park (Intended, Actual/Current, Planned)

##### Function(s) of the Property (Intended, Actual/Current, Planned)

The property features tennis courts, disc golf, and outdoor recreation and softball fields. Parking lot access is provided by Country Club Road on the property's west side. It is surrounded by residential land uses. The facility has a modest membership fee and is available to the general public (i.e., not restricted to UNC students and staff).

##### Ownership

The disc golf course and athletic fields are owned by UNC.

##### Use of Section 4(f) Property

As described below, the UNC Disc Golf Course and Athletic Fields property is located within 250 feet of the NEPA Preferred Alternative alignment that is

common to all alternatives (see **Figure 6.3-12**).

##### NEPA Preferred Alternative

The UNC Disc Golf Course and Athletic Fields are located within 250 feet of the NEPA Preferred Alternative. However, the alignment would not temporarily or permanently require use of land associated with the UNC Disc Golf Course and Athletic Fields. Thus, there would be no actual or temporary use as result of the implementation of the NEPA Preferred Alternative.

##### Coordination

Pursuant to 23 C.F.R. Part 774, coordination with UNC, the official with jurisdiction over this property, has been on-going.

##### Minimization and Mitigation

Access to the facility would be maintained and would not change during either construction or operation. The closest sound receptor (Receptor 18) indicates the ambient noise level (73 dBA) is higher than the anticipated operational noise level of the LRT alignment (45 dBA) as indicated in the Noise and Vibration Technical Report. The NEPA Preferred Alternative alignment would be constructed on the opposite side of US 15-501 from the UNC Disc Golf Course and Athletic Fields, so no substantial noise or visual impacts from the construction or operation of the alignment are anticipated that would adversely affect the activities and

features of the property that qualify it for protection under Section 4(f).

Construction of the NEPA Preferred Alternative would result in temporary increases in noise levels that could be considered a nuisance for users. However, the recreational activities (i.e., disc golf, tennis, and softball) are not noise sensitive and users are accustomed to noise as a result of the close proximity to US15-501; therefore, the temporary increase in noise would not adversely affect the protected activities, features, or attributes of the property. Nevertheless, Triangle Transit will coordinate with UNC on the schedule of construction activities near the disc golf course and athletic fields.

Construction activities would be visible from the facility. However, the main activities of the UNC Disc Golf Course and Athletic Fields (outdoor tennis courts, disc golf course, and softball fields) do not require a high-quality visual setting for the public to use and enjoy the facility. In addition, the areas of the facility that would have the most direct view of the NEPA Preferred Alternative and the construction activities are the main entrance and parking lot, which are not the recreational spaces of the facility. Access to the facility would not be affected by construction or operation of the alternative. Additional coordination between UNC and Triangle Transit staff from June through December 2015 affirmed FTA's



preliminary evaluation of the D-O LRT Project on the UNC Disc Golf Course and Athletic Fields. Therefore, the recreational activities associated with the UNC Disc Golf Course and Athletic Fields would not be impacted by the NEPA Preferred Alternative. Nevertheless, Triangle Transit will coordinate with UNC on the schedule of construction activities near the Disc Golf Course and Athletic Fields.

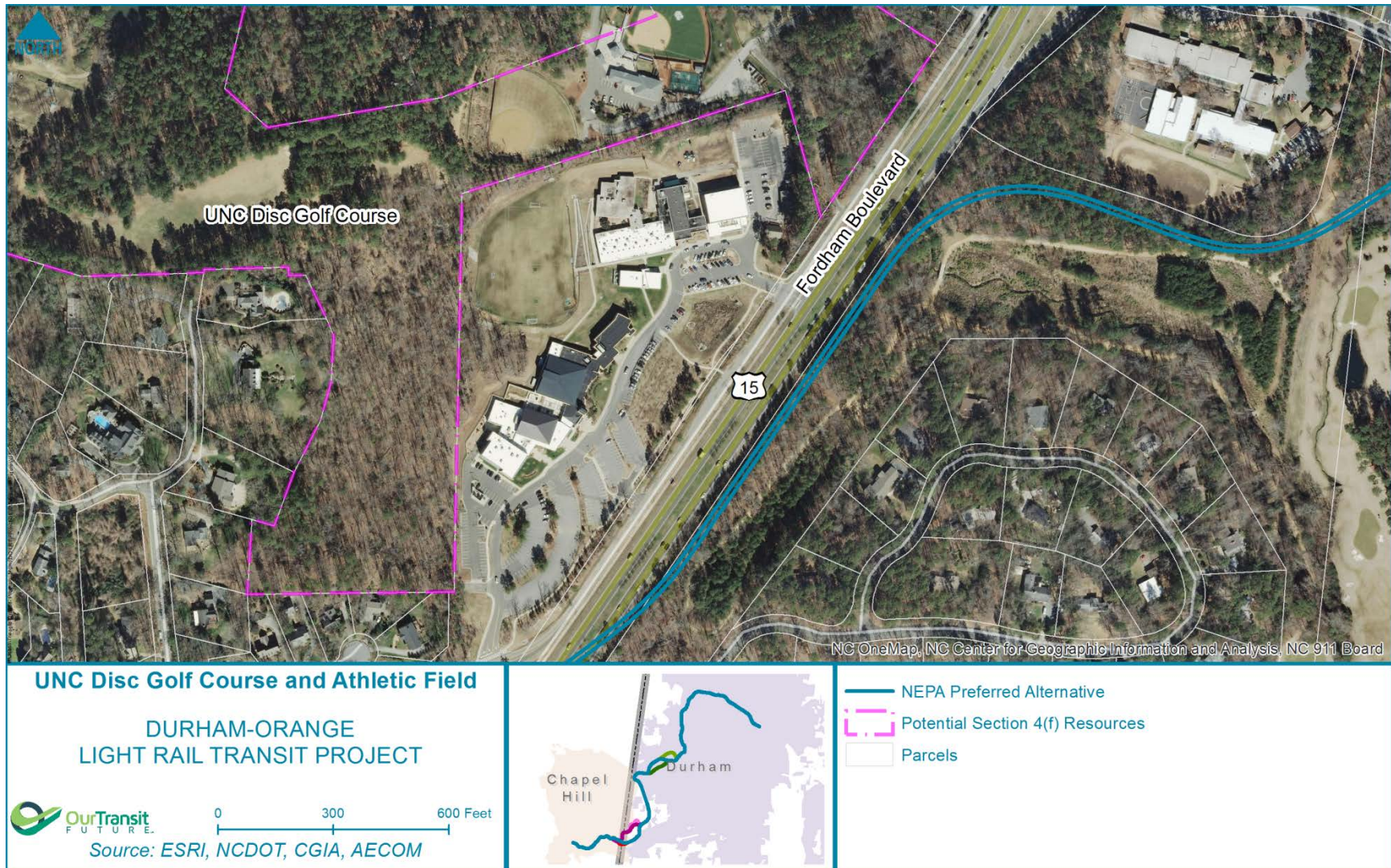
### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.15, as to the NEPA Preferred Alternative, is that no constructive use of the UNC Disc Course and Athletic Fields would occur. The proximity impacts from construction and operation of the NEPA Preferred Alternative would not substantially impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)[.]”





Figure 6.3-12: UNC Disc Golf Course and Athletic Fields (Existing)





### 6.3.1.5 UNC: Finley Golf Course and Athletic Fields (Existing)

#### Section 4(f) Property Description

##### Size and Location

This 256-acre facility is located along Finley Golf Course Road. The site's boundaries are NC 54/Raleigh Road (north), Friday Center (east), Old Mason Farm Road (south), and US 15-501/Fordham Boulevard (west). The site is surrounded by UNC's mixed land uses.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

The park features a golf course, including driving range, outlying athletic fields, and off-road pedestrian trails. Parking lot access is provided by Old Mason Farm Road on the site's south side. The athletic fields are located on the east side of the golf course, just north of Old Mason Farm Road. The driving range is on the southern end of the property. The facility has modest entry/user fees and is open to the public.

##### Ownership

The golf course and athletic fields are owned by UNC.

##### Use of Section 4(f) Property

As described below, the UNC Finley Golf Course and athletic fields would be used by the NEPA Preferred Alternative (C2A) and

Little Creek Alternatives C1, C1A, and C2 (see **Figure 6.3-13** and **Figure 6.3-14**).

##### NEPA Preferred Alternative

Both a portion of the NEPA Preferred Alternative that is common to all alternatives and a portion of the alignment crossing Little Creek (C2A) would use the UNC Finley Golf Course and Athletic Fields. For comparison purposes the portion crossing Little Creek is discussed in a separate section below.

A portion of the NEPA Preferred Alternative that is common to all alternatives would require approximately 2.6 acres of permanent easement from the UNC Finley Golf Course and Athletic Fields. This permanent easement would cross the UNC Finley Golf Course and Athletic Fields in the vicinity of Hole 17 where the impacted area consists of cart paths, tee boxes, vegetation, and trees. Construction of the alignment would require cart paths and tee boxes to be re-located and vegetation to be cleared. This alternative would result in a Section 4(f) use of the golf course.

The golf course is considered to be a sensitive noise receptor as described in DEIS section 4.10. The removal of vegetation from the construction of the alignment would result in increased noise at Hole 17, which could adversely impact the golfers' experience. However, as described in the Noise and Vibration Technical Report (DEIS appendix K.24), the project would not

result noise impacts to the golf course. The golf course is in a developed area and described in the Visual and Aesthetic Technical Report as being within a mixed use/institutional landscape unit. As described in the Visual and Aesthetics Technical Report, golf course users are a high exposure and high sensitivity viewer type and UNC Finley Golf Course is a visually sensitive property. Therefore, visual changes, such as clearing vegetation, would result in adverse impacts to the recreational features.

##### Coordination

Per 23 C.F.R. Part 774, coordination with UNC, the official with jurisdiction, has been conducted to determine the long-term and short-term effects on the UNC Finley Golf Course and Athletic Fields. The results of this coordination are reflected in this evaluation.

##### Minimization and Mitigation

Triangle Transit has committed to the implementation of mitigation measures such as sound barriers, landscaping, and tree buffers placed along the alignment to increase privacy and minimize noise impacts users of this Section 4(f) property in accordance with the *Finley Golf Course Design Concept Plan and Construction Cost Estimates*, by Fazio Golf Course Designers, Inc., last updated in April 2014 (Fazio 2014). (See DEIS appendix G)





Figure 6.3-13: UNC Finley Golf Course (Existing)

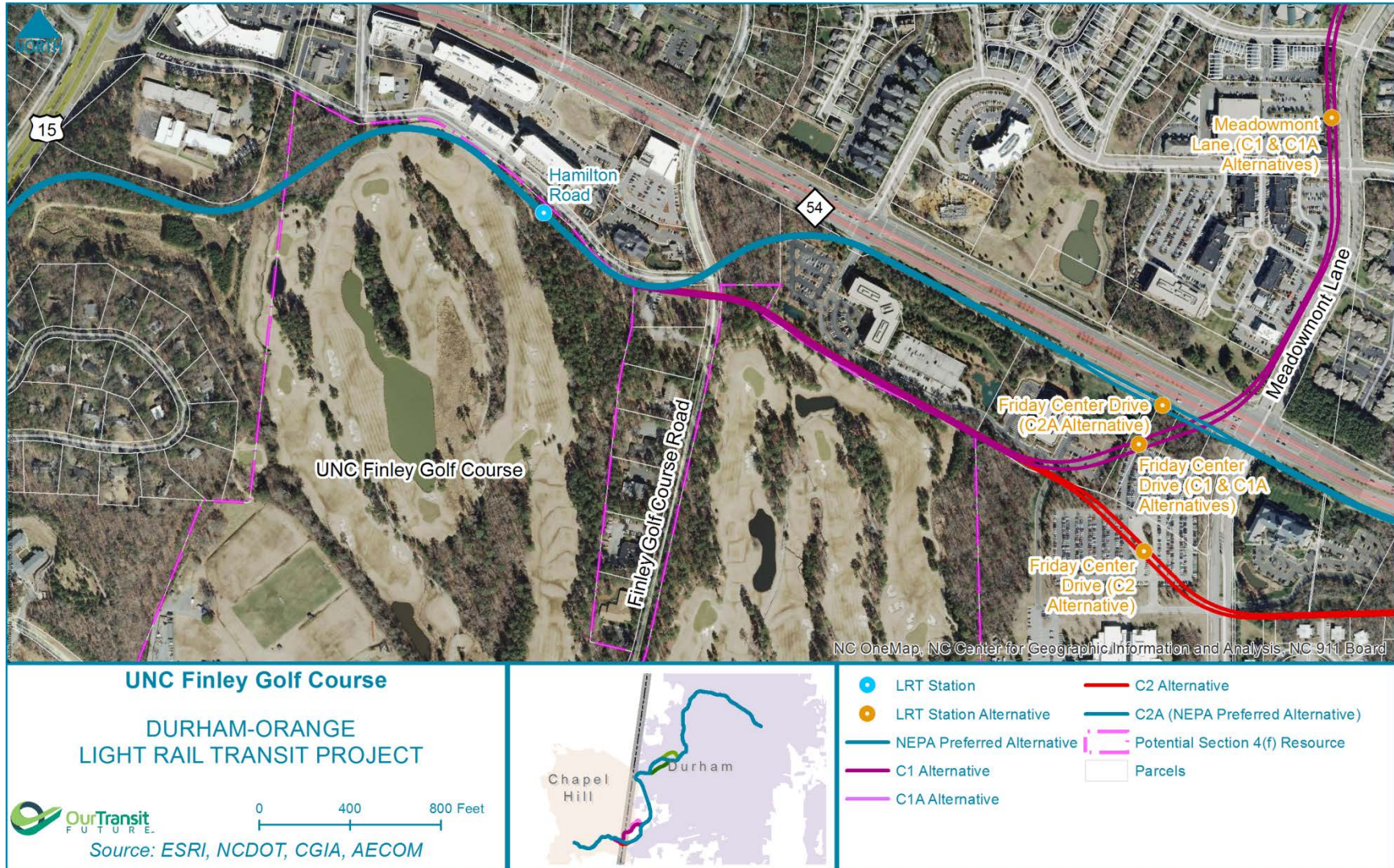
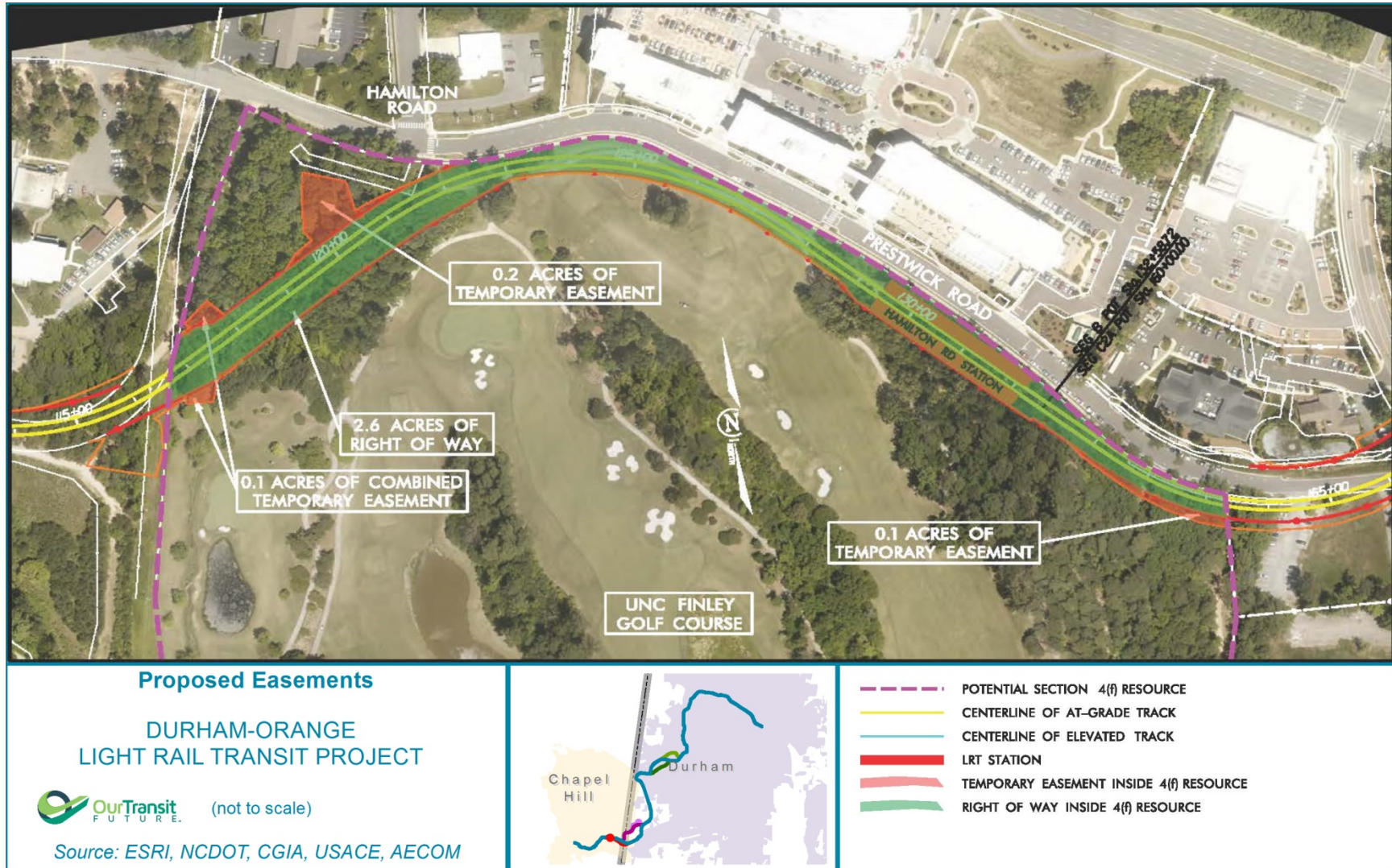




Figure 6.3-14: Proposed Easements at UNC Finley Golf Course



Triangle Transit will coordinate with UNC to minimize disruption to the golf course users and staff. With the implementation of these proposed mitigation measures, and continued coordination with UNC, the use of the public UNC Finley Golf Course and Athletic Fields will not adversely affect the activities, features, and attributes that may qualify the property for protection under Section 4(f).

The NEPA Preferred Alternative would also require a 0.3 acre temporary construction easement. This temporary construction easement would be a short duration (less than the total time needed to construct the entire project), would not result in a change in ownership of the property, and would result in minimal impacts to the recreational features of the golf course that qualify it for protection under Section 4(f). The area used for the temporary construction easement would be restored to the condition it was in before construction or better. Therefore, the temporary occupancy would not result in a Section 4(f) use.

The NEPA Preferred Alternative in the vicinity of Little Creek (C2A) would traverse approximately 0.1 acre of land on an undeveloped, wooded portion of the 256-acre golf course not being used as part of the fairway. The permanent acquisition of land would result in a Section 4(f) use.

The users of Finley Golf Course and Athletic Fields would not be affected by the

operation of the NEPA Preferred Alternative (C2A) and no noise or visual impacts are anticipated, given the wooded area through which the alignment would traverse. Construction activities may be seen and heard by users, but these impacts would be temporary in nature and would not adversely affect the features of the public golf course that may qualify it for protection under Section 4(f). Triangle Transit would work with UNC to minimize construction-related effects and maintain access to the public properties during construction.

Though the NEPA Preferred Alternative would require Triangle Transit's permanent acquisition of property, the impacts would be minimal and the construction and operation of the D-O LRT would not adversely impact the activities, features, and attributes that may qualify UNC's Finley Golf Course and Athletic Fields for protection under Section 4(f). In a letter dated May 22, 2015, UNC stated, "given Triangle Transit's commitment to implement the Fazio Plan, indications are that the noise and visual impacts should not adversely affect the activities, features, and attributes of Finley Golf Course" (DEIS appendix G). Additional coordination between UNC and Triangle Transit staff from June through December 2015 underscored UNC's initial assessment of the D-O LRT Project on the UNC Finley Golf Course and Athletic Fields and affirmed FTA's preliminary evaluation.

### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the NEPA Preferred Alternative is that "the use of the [Finley Golf Course and Athletic Fields], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], will have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property." UNC concurred with this determination in a letter to Triangle Transit on December 16, 2015. A copy of this concurrence letter is included in FEIS/ROD appendix A.6.

### Project Element Alternatives

#### Little Creek – C1, C1A, and C2 Alternatives

Differences in use of the Finley Golf Course are negligible under the C1, C1A, and C2 Alternatives. Thus, the following discussion applies to all three alternatives and is in addition to the impacts described in the common alignment section of the NEPA Preferred Alternative above.

The C1, C1A, and C2 Alternatives would cross the golf course in the vicinity of Hole 3, affecting existing cart paths and tee boxes. The C1 and C1A Alternatives would permanently use a total of approximately 1.0 acre of the golf course, and the C2 Alternative would use 1.2 acres. To facilitate the construction of any of these alternatives,





trees would have to be removed. This removal would impact the golfers' views and potentially increase the noise levels in the area of Hole 3. The permanent acquisition of land for incorporation into the alignment would result in a Section 4(f) use of the property.

Construction of any of the three alternatives would also require a temporary construction easement of approximately 0.06 acres of land. The temporary construction easement or occupancy required for the three alternatives would be for a short duration (less than the total time needed to construct the entire project), would not result in a change in ownership of the property, and would result in minimal impacts to the recreational features of the golf course that qualify it for protection under Section 4(f). The area used for the temporary construction easement would be restored to the condition it was in before construction or better. Thus, the temporary occupancy would not result in a Section 4(f) use.

#### Coordination

Per 23 C.F.R. Part 774, coordination with UNC, the official with jurisdiction over this property, has been conducted.

Implementation of mitigation measures such as sound barriers and tree buffers placed along the alignment would increase privacy and minimize noise impacts on the golf course. Additionally, to minimize impacts to the public's access to the facility during

construction of the project, the golf course would remain open during construction. Triangle Transit will coordinate with UNC to minimize disruption to the golf course users and staff.

In a letter dated May 22, 2015, UNC stated only that in addition to the "use of approximately 3.1 acres of land from Finley Golf Course [,]" the "Little Creek alternatives in this location would require additional land use at Finley Golf Course," including "C1: approximately 1.0 acre, C1A: approximately 1.0 acre, C2: approximately 1.2 acres, and C2A: Approximately .01 acre." (See DEIS appendix G).

#### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the C1, C1A, and C2 Alternatives is that "the use of the [Finley Golf Course and Athletic Fields], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], would have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property." However, as described in the FEIS/ROD, the C1, C1A, and C2 Alternatives have not been selected as part of the NEPA Preferred Alternative.

### **6.3.1.6 UNC: Open Space (Existing)** **Section 4(f) Property Description**

#### Size and Location

The UNC Open Space property is comprised of 120 acres featuring trails and forest lands. This land is located on the south or east side of US 15-501/NC 54 and is adjacent to the UNC Finley Golf Course.

#### Function(s) of the Property (Intended, Actual/Current, Planned)

The property features undeveloped wooded land; however, there are gravel paths that are used for cross country running and informal recreation. Bicycle/pedestrian access is provided from multiple access points, but there are no parking lots. Access is not restricted and the area is open to the general public.

#### Ownership

The open space property is owned by UNC.

#### Use of Section 4(f) Property

As described below, UNC Open Space would be used by a portion of the NEPA Preferred Alternative alignment that is common to all alternatives (see **Figure 6.3-15** and **Figure 6.3-16**).

#### NEPA Preferred Alternative

The NEPA Preferred Alternative would cross land identified as UNC Open Space.





Approximately 0.8 acre of the 120 acre UNC Open Space property would be acquired for a permanent easement. The permanent acquisition of land would result in a Section 4(f) use. The NEPA Preferred Alternative would primarily cross undeveloped wooded land and would relocate a UNC Athletics cross country trail and direct users to a short segment of the golf course cart path to avoid crossing the proposed D-O LRT alignment at-grade. There will be temporary construction noise within the Open Space; however, this will not impact these recreational features of this property, as cross country running is not a noise sensitive sport and the impacts would not preclude casual recreational users from using the paths.

### Coordination

Per 23 C.F.R. Part 774, coordination with UNC, the official with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on the UNC Open Space. The results of this coordination are reflected in this evaluation.

### Minimization and Mitigation

Public access would be affected during construction of the transitway; however, this effect would only be of short duration. Triangle Transit will notify UNC at least 48 hours in advance as to when the paths will be temporarily closed and will coordinate closely with UNC to communicate the closure to users to minimize impacts to the

public's recreational use of the property during construction.

In addition to the permanent acquisition described above, approximately 1.0 acre would be acquired as a temporary construction easement. The temporary construction easement or occupancy would be for a short duration (less than the total time needed to construct the entire project), would not result in a change in ownership of the property, and would result in minimal impacts to the recreational features of the UNC Open Space that may qualify it for protection under Section 4(f). The area being used for the temporary construction easement would be restored to the condition it was in before construction or better. Thus, the determination is that the temporary occupancy would not result in a Section 4(f) use of UNC Open Space.

In a letter dated May 22, 2015, UNC stated that based on its initial evaluation of "potential impacts, information provided to us to date by Triangle Transit, and the proximity of the D-O LRT to US 15-501/NC 54, we do not anticipate that the operation of the light rail would adversely affect the use of UNC Open Space and the associated gravel paths." (DEIS appendix G). Additional coordination between UNC and Triangle Transit Staff from June through December 2015 underscored UNC's initial assessment of the D-O LRT Project on UNC Open Space and affirmed FTA's preliminary evaluation.

### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the NEPA Preferred Alternative is that "the use of the [UNC Open Space], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], will have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property." UNC concurred with this determination in a letter to Triangle Transit on December 16, 2015. A copy of this concurrence letter is included in FEIS/ROD appendix A.6.



Figure 6.3-15: UNC Open Space (Existing)

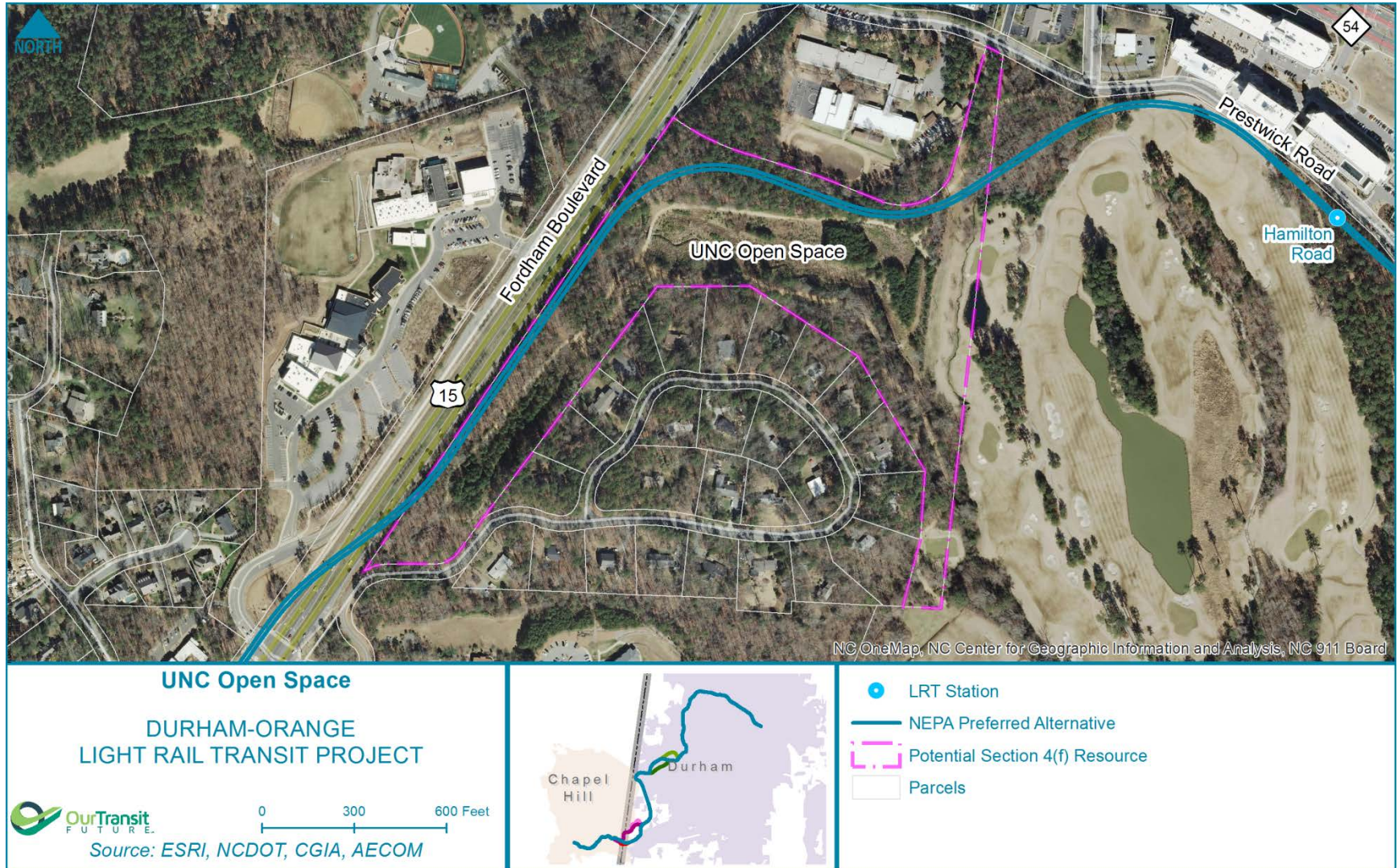
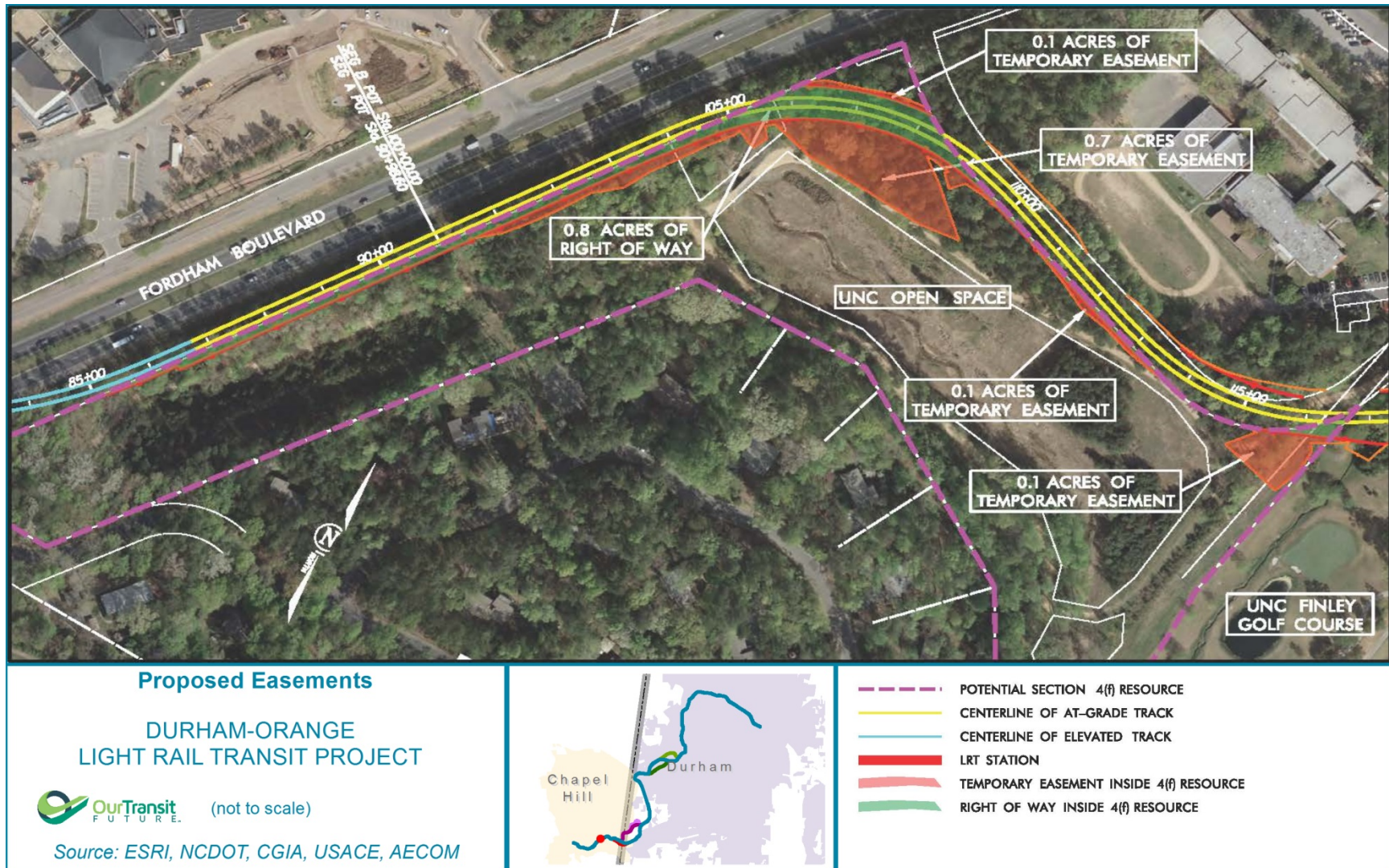




Figure 6.3-16: Proposed Easements at UNC Open Space



### 6.3.1.7 Durham County: Little Creek Connector Trail (Planned)

#### Section 4(f) Property Description

##### Size and Location

The Little Creek Connector Trail is a planned 2.8 mile off-road pedestrian trail that would connect Chapel Hill (at Meadowmont Park), through Leigh Village, to Old Chapel Hill Road in the City and County of Durham. It is planned by the City of Durham and is described in the Durham Trails and Greenways Master Plan (2011).

##### Function(s) of the Property (Intended, Actual/Current, Planned)

When constructed, this trail will be an off-road pedestrian recreational trail.

##### Ownership

Portions of the trail are planned to be constructed on land owned by the County of Durham.

##### Coordination

Per 23 C.F.R. Part 774, coordination with the County of Durham, the official with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on the Little Creek Connector Trail (Planned). The results of this coordination are reflected in this evaluation.

#### Use of Section 4(f) Property

None of the project alternatives would directly use the portions of the planned Little Creek Connector Trail to be constructed on lands that are publicly owned. However, as described below, portions of the planned Little Creek Connector Trail would be located on lands currently owned by USACE and the Town of Chapel Hill. These portions of the trail would be located within 250 feet of the Little Creek C1A Alternative (see **Figure 6.3-17**).

#### NEPA Preferred Alternative

There would be no permanent, temporary, or constructive use of the trail by the NEPA Preferred Alternative.

#### Project Element Alternatives

##### **Little Creek – C1A Alternative**

Portions of the Little Creek Connector Trail would be constructed on USACE lands in proximity to the C1A Alternative. At this time, there is no funding or timeline for construction of this trail. However, because the C1A Alternative would not require the acquisition of right-of-way or easements from the publicly-owned lands proposed for the construction of the trail, construction of the C1A Alternative would not use or preclude the future development of this trail.

Construction of the C1A Alternative would result in temporary increases in noise levels that could be considered a nuisance for

users of the trail, should the trail be constructed prior to the construction of this Alternative. However, the recreational activities are not noise sensitive; therefore, the temporary increase in noise would not adversely affect the protected activities, features or attributes of the property. Construction activities would likely be visible from the trail but would be temporary and partially blocked by existing vegetation. Access to the trail would not be affected by construction or operation of the alternative.

In a letter dated May 28, 2015, the County of Durham stated that “no adverse impacts to the activities, features, or attributes of this planned trail would be anticipated” (DEIS appendix G).

#### Determination

In light of the foregoing, FTA has determined that, pursuant to 23 C.F.R. Part 774, as to the C1A Alternative, no constructive use of the planned Little Creek Connector Trail would occur. The proximity impacts from construction and operation of the C1A Alternative would not substantially impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)[.]”





### 6.3.1.8 Town of Chapel Hill: Little Creek Trail (Existing)

#### Section 4(f) Property Description

##### Size and Location

Little Creek Trail is an unpaved, off-road pedestrian trail located in Meadowmont Park and included in the Town of Chapel Hill Greenways Master Plan (2013).

##### Function(s) of the Property (Intended, Actual/Current, Planned)

Little Creek Trail is an unpaved recreational trail within the Meadowmont Park.

##### Ownership

This trail is owned by the Town of Chapel Hill.

##### Use of Section 4(f) Property

##### NEPA Preferred Alternative

There would be no permanent, temporary, or constructive use of this trail by the NEPA Preferred Alternative.

##### Project Element Alternatives

##### **Little Creek – C1A Alternative**

The C1A Alternative would cross approximately 80 linear feet of the Little Creek Trail with an elevated transitway within Meadowmont Park; less than 0.1 acre of land would be acquired for a permanent easement (**Figure 6.3-18**). The permanent

acquisition of land would result in a Section 4(f) use of the Little Creek Trail and the planned extensions.

##### *Coordination*

Pursuant to 23 C.F.R. Part 774, coordination with the Town of Chapel Hill, the official with jurisdiction over this property, has been conducted to identify the long term and short effects on Little Creek Trail. The results of this coordination are reflected in this evaluation.

##### *Minimization and Mitigation*

Access to Little Creek Trail would be maintained during construction and operation, and the introduction of a new visual feature and increased noise is not anticipated to adversely affect or otherwise restrict the public's use of the trail.

Impacts from the C1A Alternative on Little Creek Trail would be minimal given the elevated transitway over the trail in this area and maintaining public access during construction.

In a letter dated June 4, 2015, the Town of Chapel Hill stated “based on our preliminary review, and after taking into account proposed avoidance, minimization, and enhancements measures, it appears that D-O LRT Project alternative C1A would not adversely affect those properties and trails to such an extent that they would be significantly impacted.” ... “However, we believe that other alternatives should be

pursued instead of Alternative C1A.” (FEIS/ROD Appendix A.8).

##### *Determination*

In light of the foregoing, FTA has determined that, pursuant to 23 C.F.R. § 774.3, as to the C1A Alternative “the use of the [Little Creek Trail], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], would have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” However, as described in the FEIS/ROD, the C1A Alternative has not been selected as part of the NEPA Preferred Alternative.

### 6.3.1.9 Town of Chapel Hill: Little Creek Trail Extension (Planned)

#### Section 4(f) Property Description

##### Size and Location

The Little Creek Trail Extension is a planned off-road pedestrian trail that would connect the existing Little Creek Trail in Meadowmont Park to NC 54 through the Jordan Game Lands. The extension is planned by the Town of Chapel Hill and is discussed in the Town of Chapel Hill Greenways Master Plan (2013).





Function(s) of the Property (Intended, Actual/Current, Planned)

The Little Creek Trail Extension is planned to be an off-road pedestrian recreational trail.

Ownership

Portions of the trail are planned to be constructed on land owned by USACE and managed by NCWRC. However, no agreements or timelines have been reached between USACE, NCWRC, and the Town of Chapel Hill regarding this planned trail.



Figure 6.3-17: Little Creek Connector Trail (Planned)

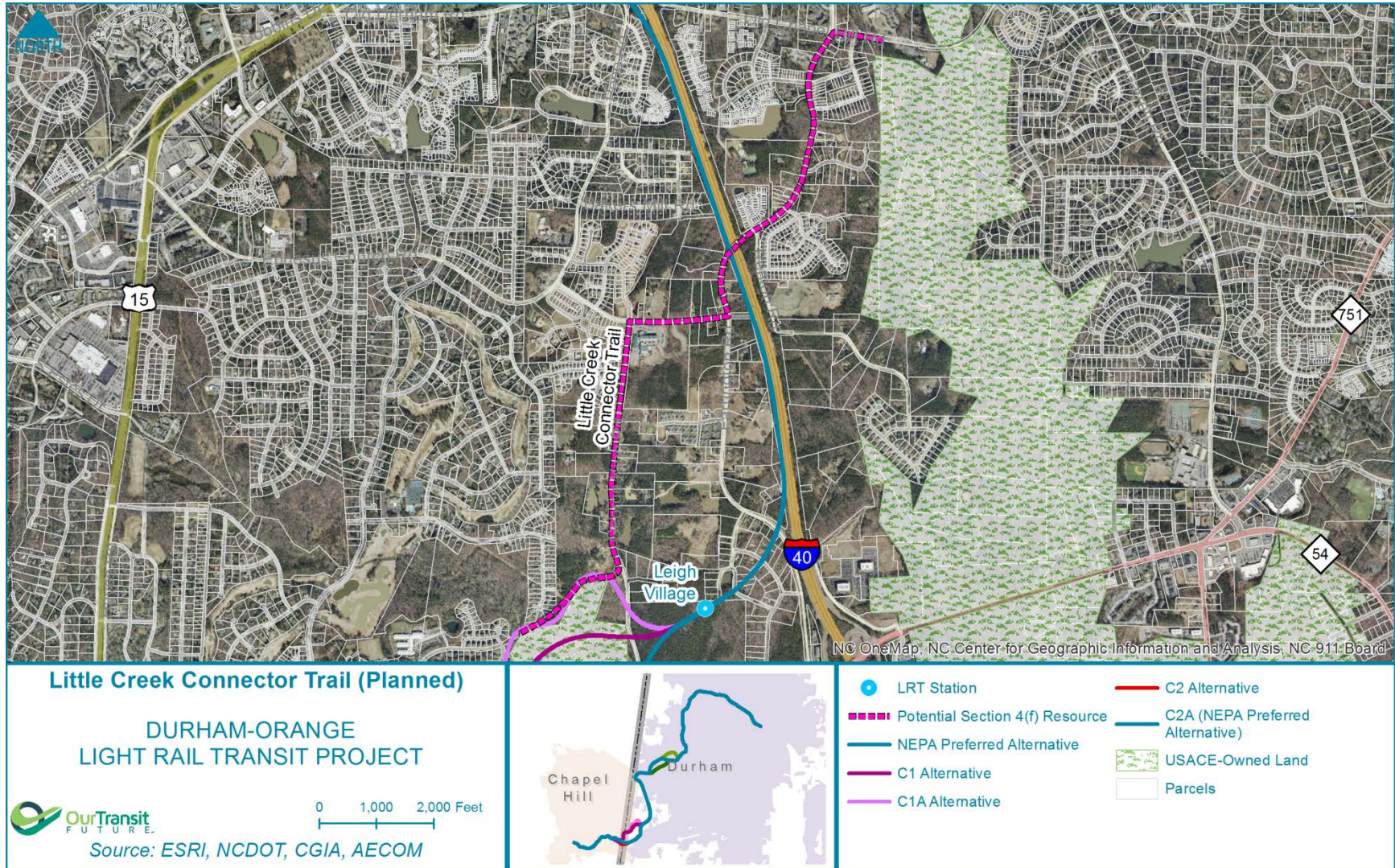
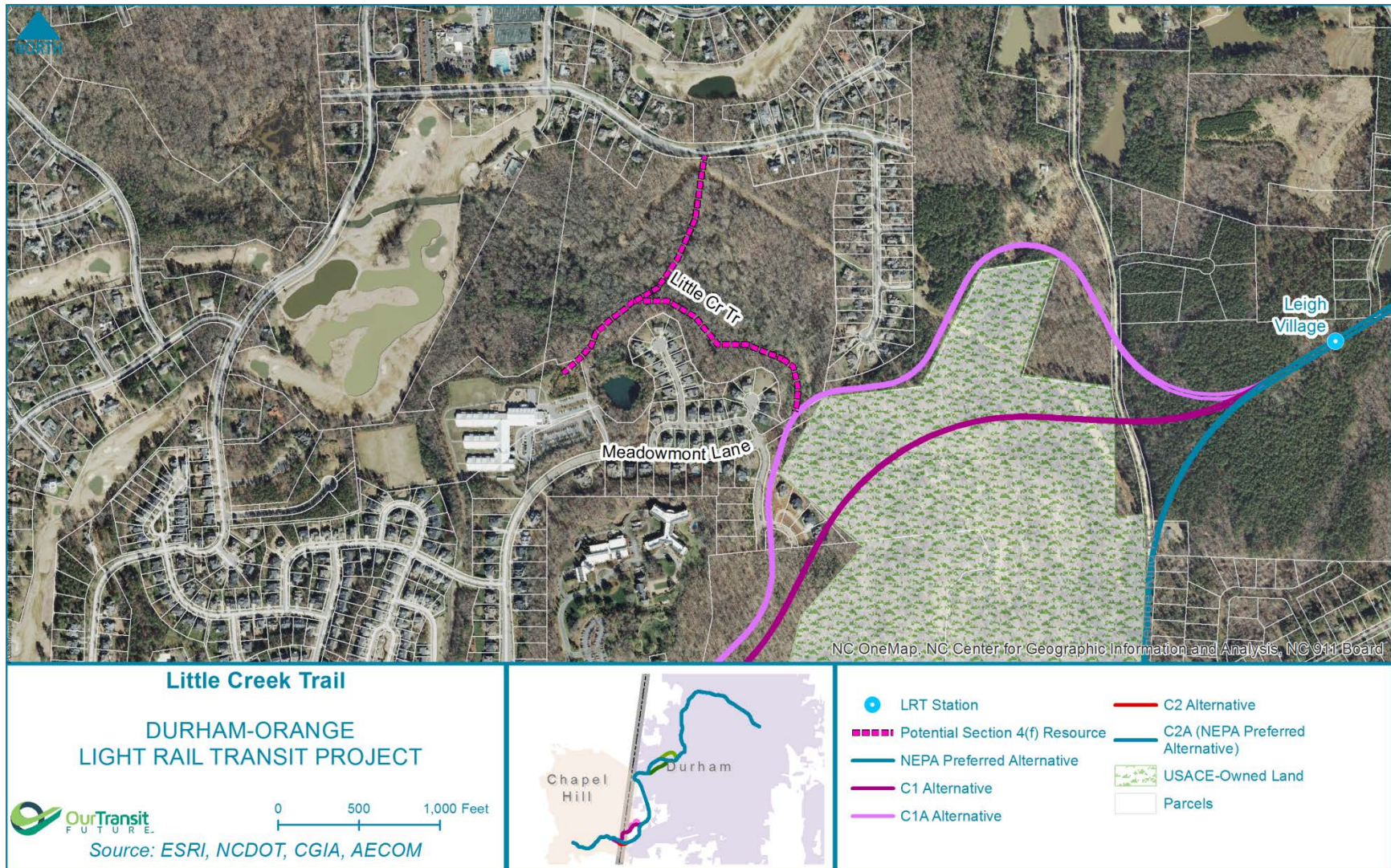




Figure 6.3-18: Little Creek Trail (Existing)





Use of Section 4(f) Property

None of the project alternatives would directly impact the portions of the planned Little Creek Trail Extension proposed for construction on lands that are publicly owned by USACE and the Town of Chapel Hill. The proposed route for the planned Little Creek Trail Extension is shown on lands currently owned by USACE, but the Town of Chapel Hill has not requested use of government property for the proposed trail. Construction of the trail would require approval of the USACE and NCWRC. These portions of the trail would be located within 250 feet of the C1 Alternative (Figure 6.3-19).

NEPA Preferred Alternative

There would be no permanent, temporary, or constructive use of this property by the NEPA Preferred Alternative.

Project Element Alternatives

**Little Creek – C1 Alternative**

Portions of the planned Little Creek Trail Extension would be constructed on UNC and USACE lands in proximity to the C1 Alternative.

Coordination

Pursuant to 23 C.F.R. Part 774, coordination with the Town of Chapel Hill, the official with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on the planned Little

Creek Trail Extension. The results of this coordination are reflected in this evaluation.

Minimization and Mitigation

At this time, there is no funding or timeline for construction of this trail. However, because the C1 Alternative would not require the acquisition of right-of-way or easements from the publicly-owned lands proposed for the construction of the trail, construction of the C1 Alternative would not preclude the future development of this trail.

Should the trail be constructed prior to the construction of the C1 Alternative, construction would result in temporary increases in noise levels that could be considered a nuisance for users of the trail. However, the recreational activities are not noise sensitive.

Construction activities would likely be visible from the trail but would be temporary and partially blocked by existing vegetation. Access to the trail would not be affected by construction or operation of the C1 Alternative. Therefore, the proximity impacts from construction and operation of the C1 Alternative would not substantially impair the features of the property that may qualify it for protection under Section 4(f), and the determination is that no constructive use would occur.

Determination

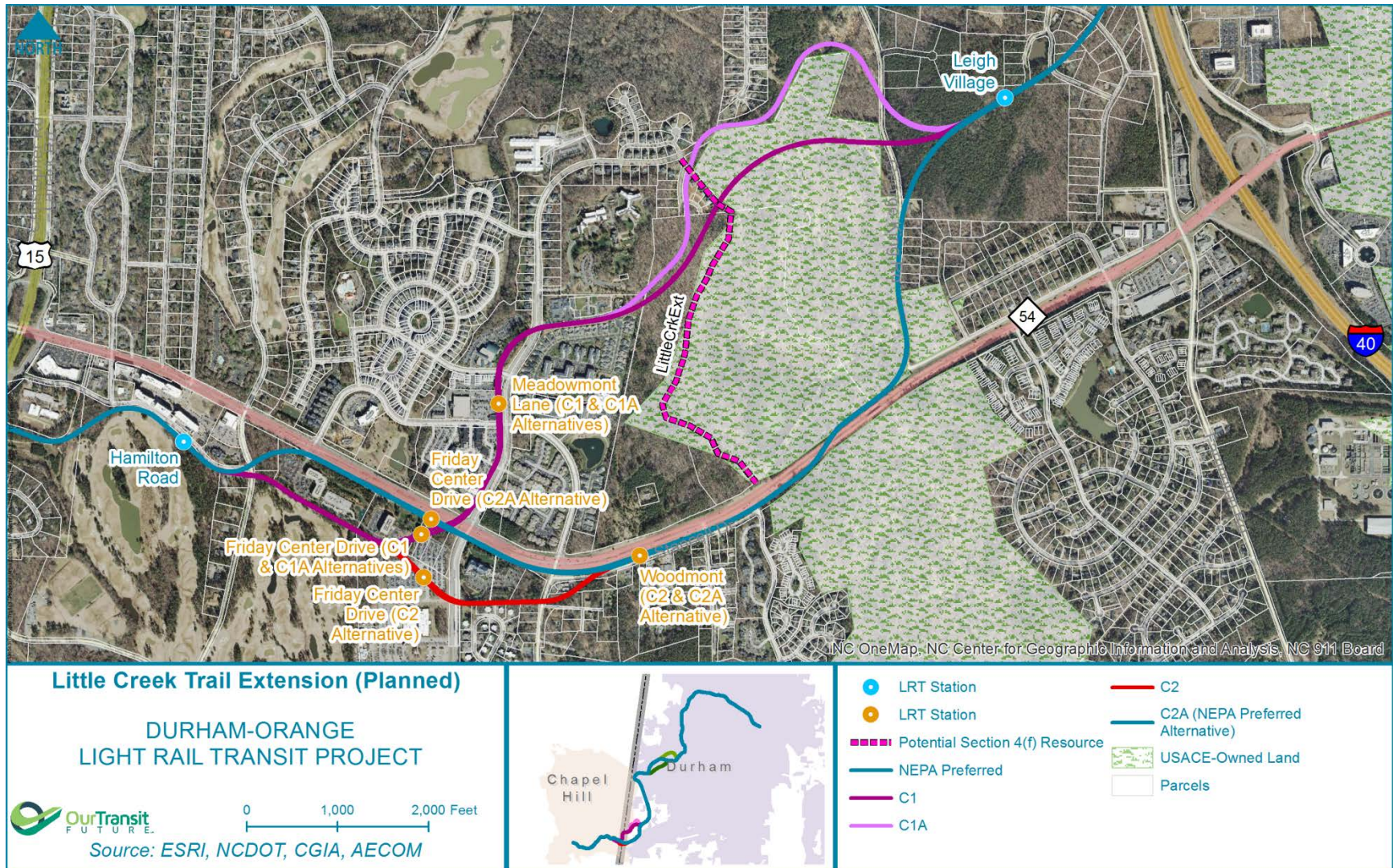
In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. Part

774, as to the C1 Alternative, is that no constructive use would occur. The proximity impacts from construction and operation of the C1 Alternative would not substantially impair “the protected activities, features, or attributes that qualify the property for protection under Section 4(f)[.]” However, as described in the FEIS/ROD, the C1 Alternative has not been selected as part of the NEPA Preferred Alternative.





Figure 6.3-19: Little Creek Trail Extension (Planned)





### 6.3.1.10 Town of Chapel Hill: Meadowmont Park (Existing)

#### Section 4(f) Property Description

##### Size and Location

Meadowmont Park is a 65-acre park located at 621 Meadowmont Lane in Chapel Hill. The park's boundaries are Lancaster Drive (north), Helmsdale Drive (east), Meadowmont Lane (south), and Pinehurst Drive (west). The park is surrounded by residential land uses to the north, east, and south side, and the privately-owned Chapel Hill Country Club golf course to the west.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

Meadowmont Park features soccer fields, basketball courts, picnic shelters, a pond, and trails (i.e., the Little Creek Trail). Bicycle/pedestrian access is available from Lancaster Drive (north) and Little Creek Trail/Meadowmont Lane (south); parking lot access is provided from Meadowmont Lane.

##### Ownership

Meadowmont Park is owned by the Town of Chapel Hill.

##### Use of Section 4(f) Property

As described below, Meadowmont Park would be used by only the C1A Alternative (**Figure 6.3-20**). None of the other alternatives would directly use the park nor

would they be in close enough proximity to the park to incur potential proximity uses.

##### NEPA Preferred Alternative

There would be no permanent, temporary, or constructive use of Meadowmont Park by the NEPA Preferred Alternative.

##### Project Element Alternatives

##### Little Creek – C1A Alternative

The C1A Alternative would cross Meadowmont Park above grade on elevated tracks and would require the permanent acquisition of approximately 0.6 acre of undeveloped land from the southeast portion of the 65-acre park for structural supports of the elevated guideway. This permanent acquisition of land would constitute a Section 4(f) use of Meadowmont Park.

##### Coordination

Coordination with the Town of Chapel Hill, the official with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on Meadowmont Park. The results of this coordination are reflected in this evaluation.

##### Minimization and Mitigation

The introduction of the new visual feature (i.e., the elevated guideway) and noise increases as a result of operation are not anticipated to adversely affect the use of the park. As described in the Noise and Vibration Technical Report (DEIS appendix K. 24), the closest sound receptor (Receptor

28) would experience no operational noise impacts based on the anticipated project sound levels compared to the ambient sound levels (42 dBA compared to 57 dBA). Construction activities may be seen and heard from the park; however, this would not adversely affect the use of the park by the public and the construction activities would be temporary in nature. During construction and operation, access to the park would be maintained and the elevated transitway would have minimal effects on the undeveloped portion of the park through which the alignment would pass. The C1A Alternative would have no effect on the developed features of the park such as the athletic fields, basketball courts, or picnic shelters.

In a letter dated June 4, 2015, the Town of Chapel Hill stated “Based on our previous discussion related to Section 4(f) property we can support the concept that the impacts are *de minimis*. However we believe that other alternatives should be pursued instead of Alternative C1A.” (FEIS/ROD Appendix A.8).

##### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, is that “the use of the [Meadowmont Park], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], would

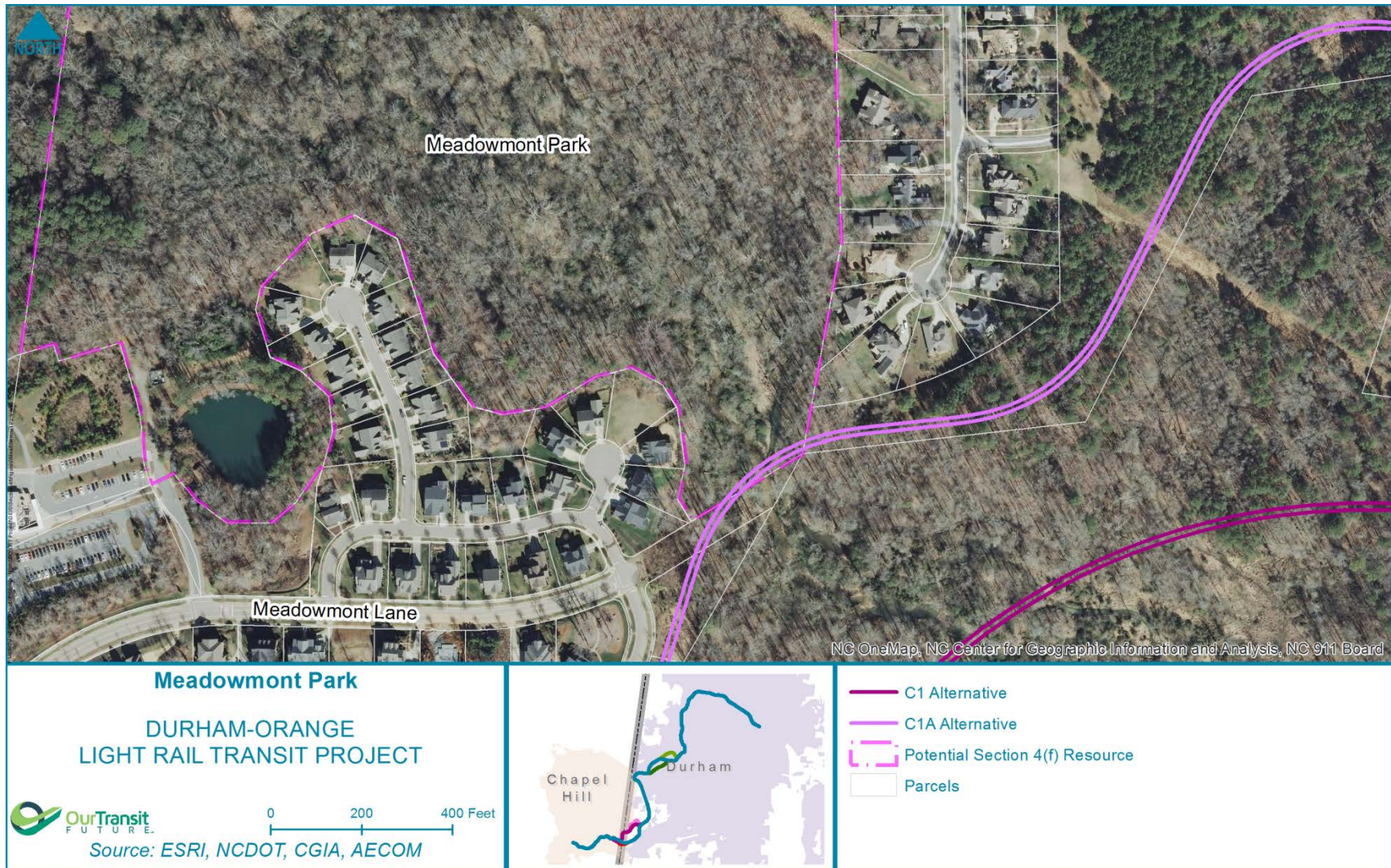




have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” However, as described in the FEIS/ROD, the C1A Alternative has not been selected as part of the NEPA Preferred Alternative.



Figure 6.3-20: Meadowmont Park (Existing)





### 6.3.1.11 Chapel Hill/Carrboro City School District: Glenwood Elementary School (Existing)

#### Section 4(f) Property Description

##### Size and Location

Glenwood Elementary School is located at 2 Prestwick Road in the Town of Chapel Hill.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

The school’s recreational features consist of basketball courts, playgrounds, and a dirt running track. The public has access to the facilities outside of normal school hours.

##### Ownership

This school is owned by the Chapel Hill/Carrboro City School District.

##### Use of Section 4(f) Property

As described below, the Glenwood Elementary School property would be used by the portion of the NEPA Preferred Alternative that is common to all alternatives. Neither the NEPA Preferred or Project Element Alternatives would directly impact the recreational facilities, nor would they be in close enough proximity to the recreational facilities to incur potential proximity impacts (Figure 6.3-21).

#### NEPA Preferred Alternative

The proposed NEPA Preferred Alternative would require a permanent easement of approximately 0.1 acre of undeveloped land in the southeast corner of the school’s property. In addition, a temporary easement of 0.1 acre would be required for construction of the light rail alignment. However, the areas in which the easements would occur are composed primarily of wooded land. The features of the elementary school that qualify it for protection under Section 4(f) include a playground, athletic fields, and a dirt track (Figure 6.3-22).

The alignment would not directly impact the area of the school property developed or used for recreational purposes, as the proposed alignment is over 150 feet away in a wooded area not used by students for recreation. Therefore, no actual or temporary use would occur as result of the implementation of the NEPA Preferred Alternative.

#### Coordination

Pursuant to 23 C.F.R. Part 774, coordination with the Chapel Hill/Carrboro City School District, the official with jurisdiction over this property, has been on-going to identify the long term and short effects on Glenwood Elementary School. The results of this coordination are reflected in this evaluation.

#### Minimization and Mitigation

Construction activities may be heard by students using the playground, basketball courts, and dirt track; however, these recreational features are not noise sensitive and so no permanent impacts are anticipated. Due to topography, the NEPA Preferred Alternative may be only slightly visible, if at all, from the school grounds and noise impacts from the operation of the alignment would not affect the students while they use the recreational features of the property, as playgrounds and athletic fields are not noise sensitive. As described in the Noise and Vibration Technical Report (DEIS appendix K. 24), the project noise level would be lower than the ambient noise level (51 dBA and 73 dBA, respectively) at the sound receptor (Receptor 21) located at Glenwood Elementary. Therefore, no noise impacts are anticipated. No impacts to public access to the playground, basketball courts and dirt track would occur; thus, construction of the NEPA Preferred Alternative would not result in a use or a constructive use of the Glenwood Elementary School’s property.

#### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. Part 774, as to the NEPA Preferred Alternative, is that no constructive use would occur. The proximity impacts from construction and operation of the NEPA Preferred Alternative would not substantially impair “the protected





activities, features, or attributes that qualify  
the property for protection under  
Section 4(f)[.]”



Figure 6.3-21: Glenwood Elementary School (Existing)

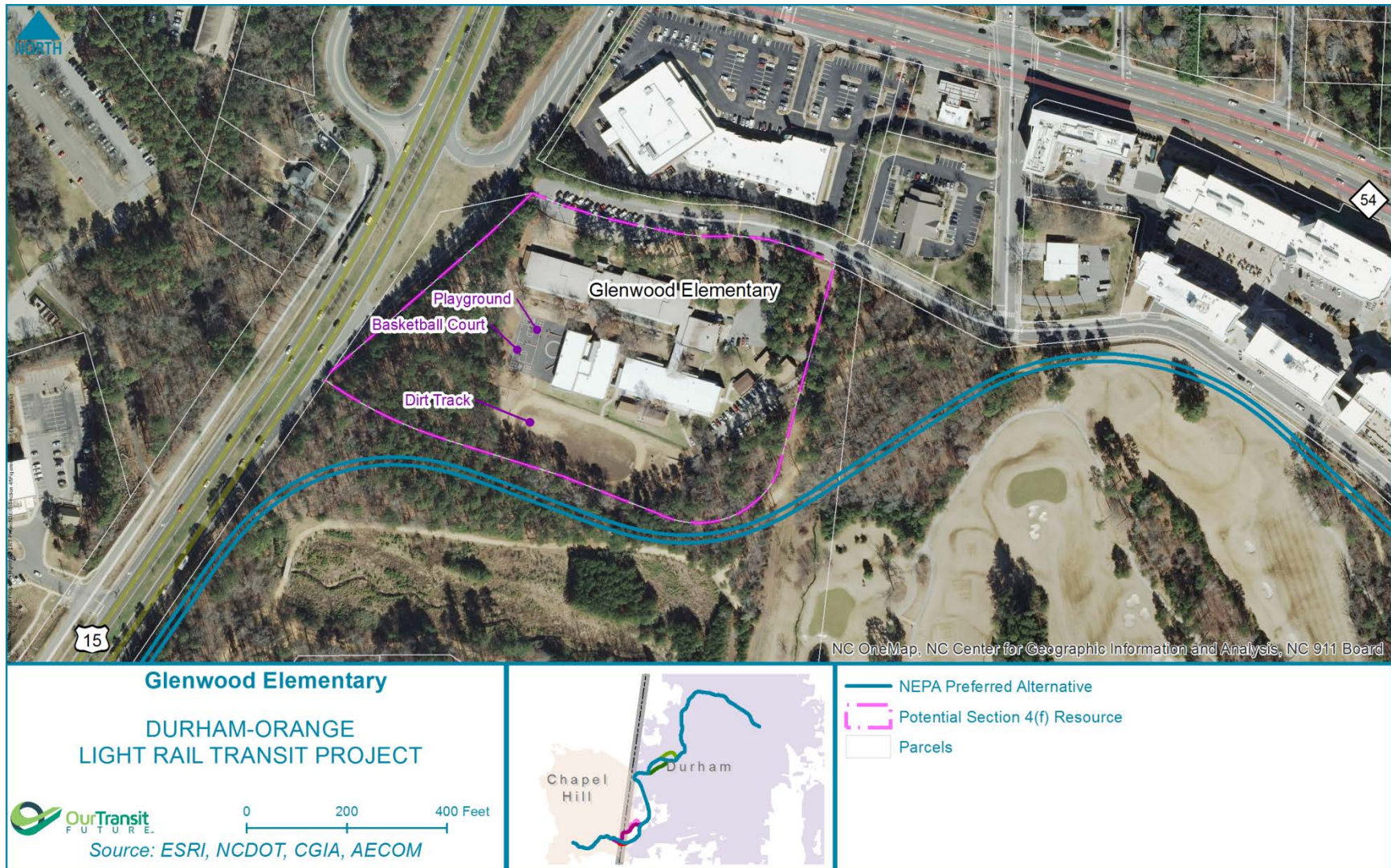
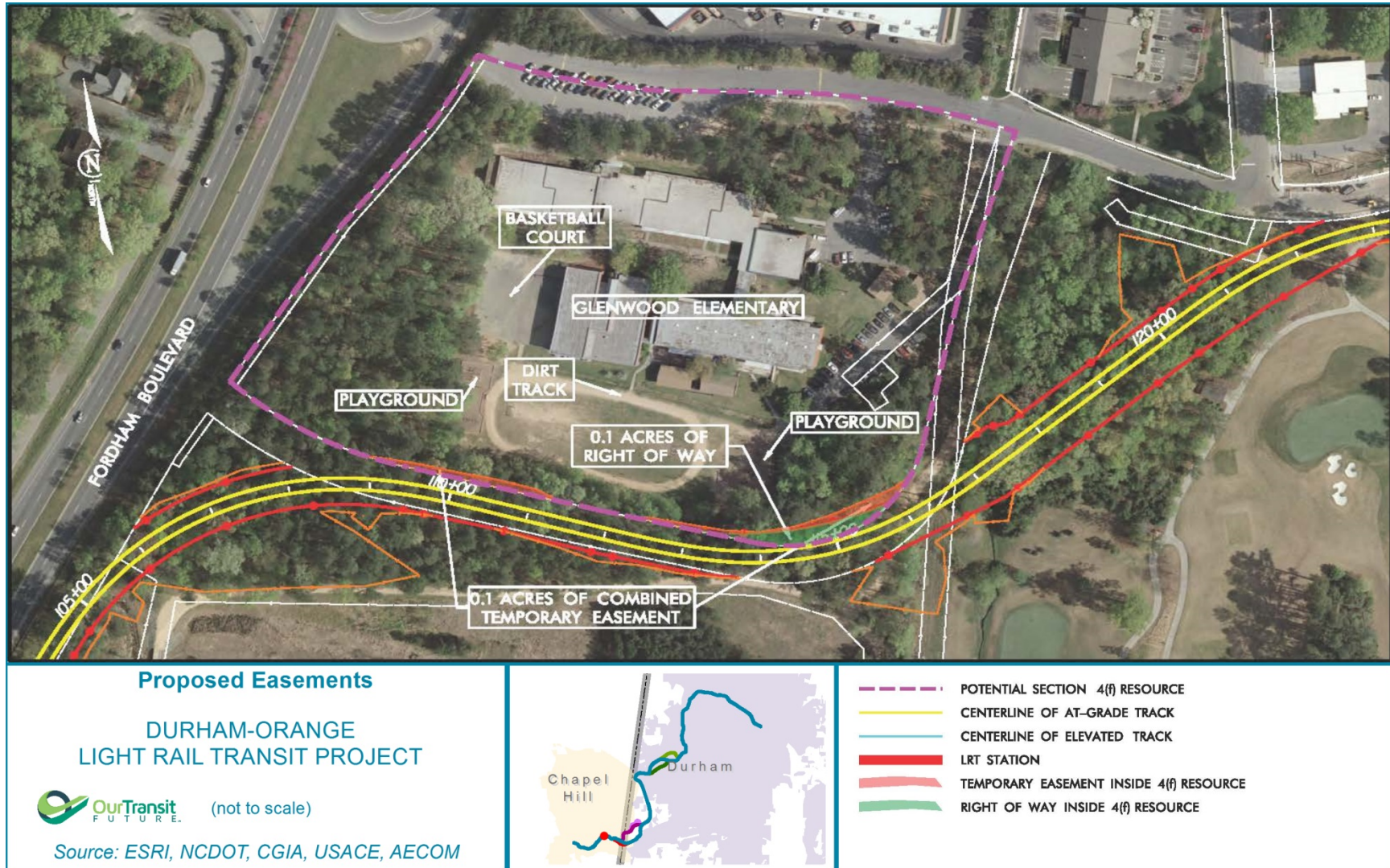




Figure 6.3-22: Proposed Easements at Glenwood Elementary School





### 6.3.1.12 Durham County: Open Space (Existing)

#### Section 4(f) Property Description

##### Size and Location

Durham Open Space consists of six parcels (111 acres total) within the study area. These parcels are immediately north of the Jordan Game Lands, and US 15-501 crosses through the area.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

Durham Open Space is land that is included in the Durham County New Hope Corridor Open Space Master Plan (1991), in an area near New Hope Creek. The Open Space is protected by the City and County of Durham “[t]o provide opportunities for passive recreation.” Features of the Open Space include the New Hope Creek Preserve Trail and the planned New Hope Creek Trail.

##### Ownership

This property is owned by the County of Durham.

##### Use of Section 4(f) Property

As described below, Durham Open Space would be used by the Patterson Place ROMF Alternative (**Figure 6.3-23**). None of the other alternatives would directly use the Open Space nor would they be in close

enough proximity to the Open Space to incur potential proximity uses.

##### NEPA Preferred Alternative

There would be no use from the NEPA Preferred Alternative (Farrington Road ROMF).

##### ROMF Alternatives

##### **Patterson Place ROMF**

The Durham Open Space would be affected by the Patterson Place ROMF Alternative. The Patterson Place ROMF Alternative would require the permanent acquisition of approximately 0.3 acre of the 111-acre Durham Open Space, including an additional crossing of the New Hope Preserve Trail, as described below. The Durham Open Space would be impacted by the non-revenue tracks leading to this ROMF site. This permanent acquisition of land would result in a Section 4(f) use.

##### **Coordination**

Coordination with the County of Durham, the officials with jurisdiction over this property, has been conducted to determine the long-term and short-term effects on the Durham Open Space. The results of this coordination are reflected in this evaluation.

##### **Minimization and Mitigation**

The Open Space is a recreational area featuring trails. The introduction of a new visual feature (i.e., elevated transitway and ROMF facility) and noise increases as a

result of operation are not anticipated to adversely affect the use of the Open Space, due in part to the proximity to US 15-501, which is located along the northern edge of the property. As described in the Noise and Vibration Technical Report (DEIS appendix K. 24), the two closest sound receptors (Receptors 65 and 98) to the Patterson Place ROMF Alternative and the Durham Open Space indicated no impacts to noise levels, as the ambient noise levels were higher than the project noise levels.

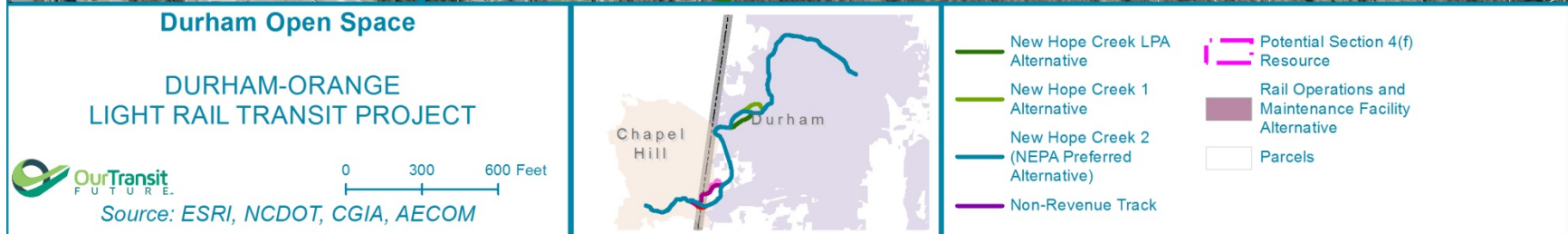
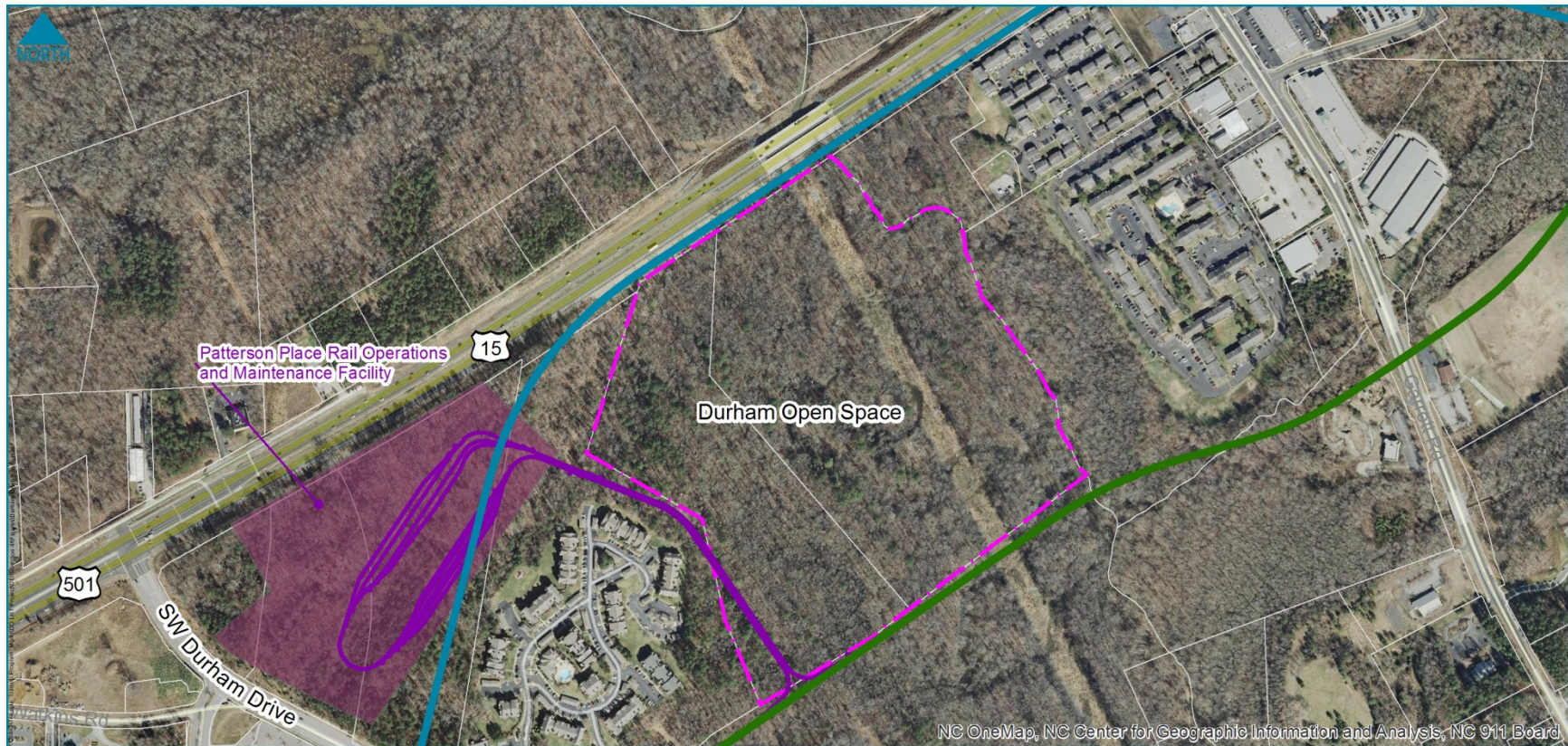
##### **Determination**

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the Patterson Place ROMF Alternative is that “the use of the [Durham Open Space], including any measures to minimize harm committed to by [Triangle Transit], would have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” However, as described in the FEIS/ROD, the Patterson Place ROMF Alternative has not been selected as part of the NEPA Preferred Alternative.





Figure 6.3-23: Durham Open Space





### 6.3.1.13 Durham County: New Hope Creek Trail (Planned)

#### Section 4(f) Property Description

##### Size and Location

Two segments of the planned New Hope Creek Trail would be located within the study area. The first segment would provide a link between Old Chapel Hill Road and NC 54. The second segment is planned to provide a connection through the New Hope Creek corridor (and Jordan Game Lands) across US 15-501 to the Orange County boundary. The trail is planned by the City and County of Durham and is included in the *Durham Trails and Greenways Master Plan* (2011).

##### Function(s) of the Property (Intended, Actual/Current, Planned)

This trail is planned to be an off-road pedestrian trail.

##### Ownership

Portions of the trail are planned to be constructed on land owned by the County of Durham.

##### Use of Section 4(f) Property

As described below, the planned New Hope Creek Trail would be used by the NEPA Preferred Alternative (NHC 2) and the NHC 1 Alternative (**Figure 6.3-24**). None of the other Project Element Alternatives would directly impact the planned trail nor would

they be in close enough proximity to the planned trail to incur potential proximity effects.

##### NEPA Preferred Alternative

The NEPA Preferred Alternative (NHC 2) would cross the proposed New Hope Creek Trail in the vicinity of US 15-501 on an elevated platform and require less than 0.1 acre of land for permanent easement. The permanent acquisition would result in a Section 4(f) use (**Figure 6.3-25**).

##### Coordination

Pursuant to 23 C.F.R. Part 774, coordination with the County of Durham, the official with jurisdiction over the property has been conducted to determine the long-term and short-term effects on the planned New Hope Creek Trail. The results of this coordination are reflected in this evaluation.

##### Minimization and Mitigation

At this time, there is no funding or timeline for construction of this trail. The construction of the NEPA Preferred Alternative would not preclude the future development of this trail. Further, the project effects would be minimal given the close proximity to the existing highway structure and the elevated guideway. While the guideway would be a new visual element in the vicinity of the planned trail, the overall change in visual character of the area would be moderate, given the existing highway structure that would be viewed from the trail. Thus, the

visual impacts to the trail would be minimal. Noise impacts from the construction and operation of the NEPA Preferred Alternative are not anticipated to impede the recreational use of the trail given the ambient traffic noise currently from the highway.

In a letter dated May 28, 2015, the County of Durham stated that “no adverse impacts to the activities, features, or attributes of this planned trail would be anticipated” (DEIS appendix G).

Additional coordination between Durham County and Triangle Transit staff from June through December 2015 underscored Durham County’s initial assessment of the D-O LRT Project on New Hope Creek Trail (Planned) and affirmed FTA’s preliminary evaluation.

##### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the NEPA Preferred Alternative is that “the use of the [planned New Hope Creek Trail], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], will have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” Durham County concurred with this determination in correspondence to Triangle Transit on December 22, 2015. A



copy of this concurrence is included in FEIS/ROD appendix A.7.

### Project Element Alternatives

#### **New Hope Creek – NHC 1 Alternative**

Through the New Hope Creek area, alternative alignments converge; the NHC 1 Alternative follows the same alignment as the NEPA Preferred Alternative (NHC 2). As such, see the discussion above about the NEPA Preferred Alternative for a full explanation of the uses of the property by the NHC 1 Alternative.





Figure 6.3-24: New Hope Creek Trail (Planned)

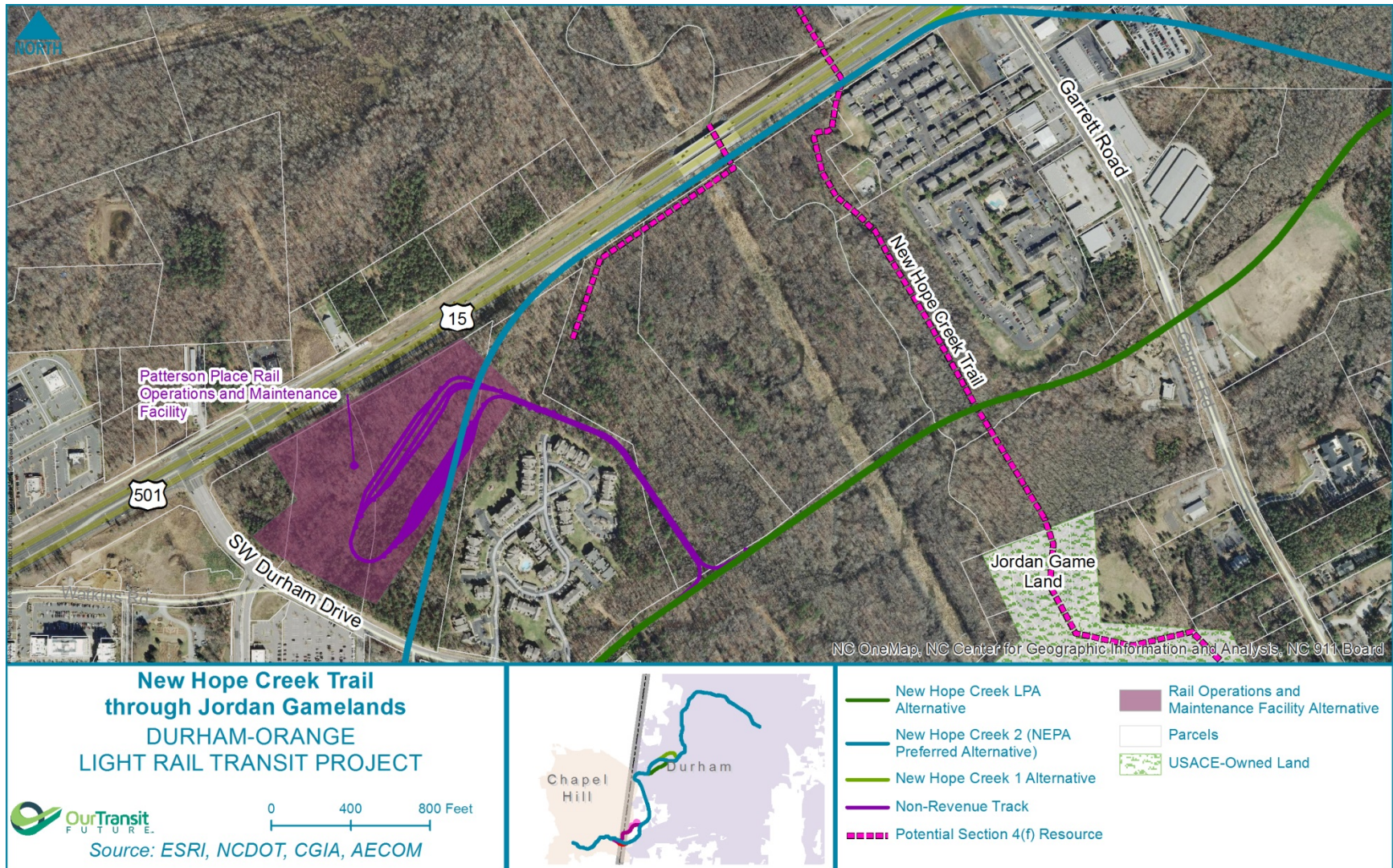
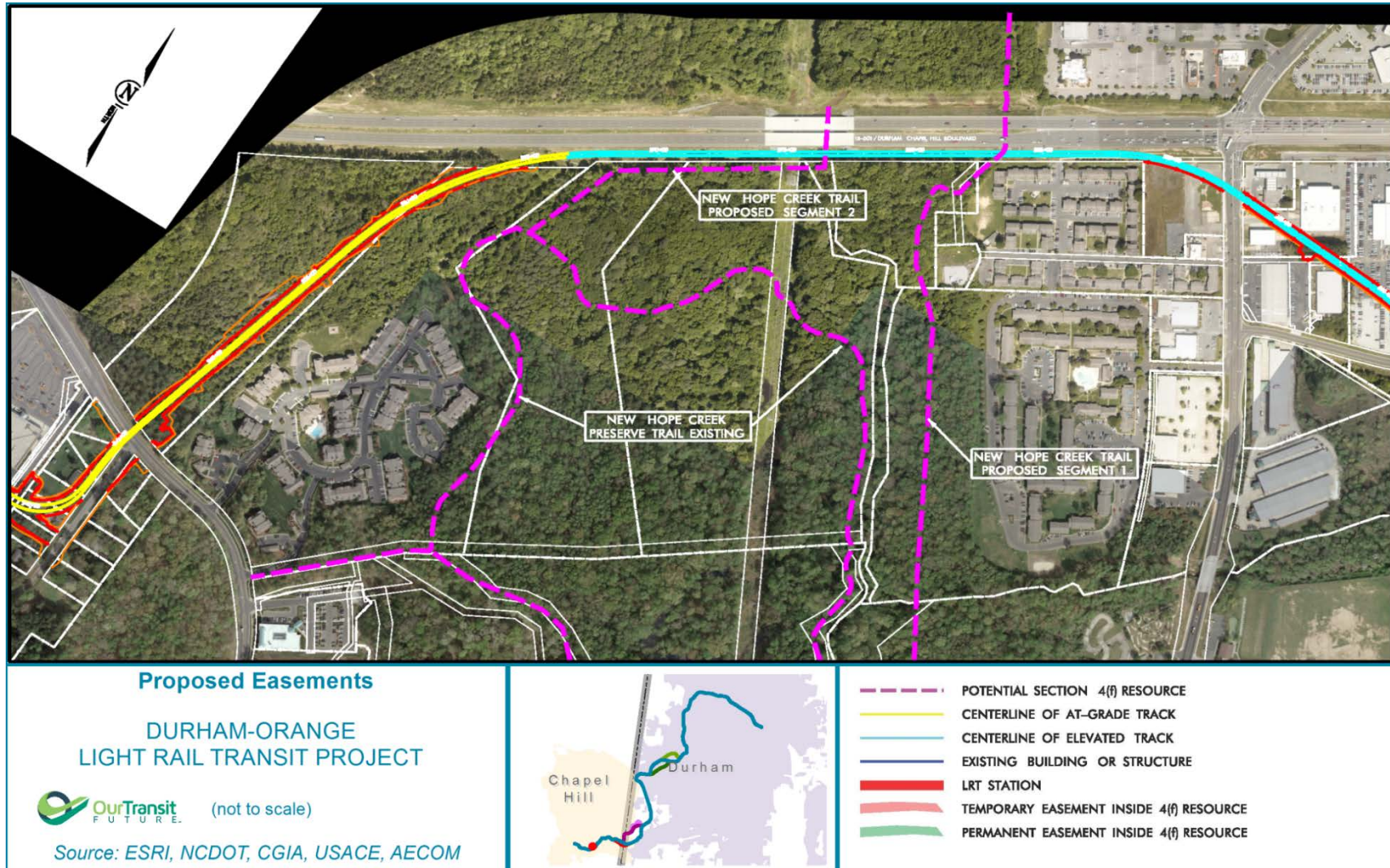




Figure 6.3-25: Proposed Easements at New Hope Creek Trail (Planned)





### 6.3.1.14 Durham County: New Hope Preserve Trail (Existing)

#### Section 4(f) Property Description

##### Size and Location

The New Hope Preserve Trail is a 2-mile natural surface loop trail in an undeveloped wooded area north of Old Chapel Hill Road Park and south of US 15-501 in the City and County of Durham.

##### Function(s) of the Property (Intended, Actual/Current, Planned)

The New Hope Preserve Trail is an off-road pedestrian trail. It includes a 700-foot-long spur-trail west to Watkins Road. Bicycle/pedestrian access is provided from Watkins Road and Old Chapel Hill Road Park and parking lots are located in Old Chapel Hill Road Park. The trail is surrounded by undeveloped land to the north, residential land uses to the east, Sherwood Githens Middle School to the south, and residential land uses to the west. The trail is included in the Durham Trails and Greenways Master Plan (2011).

##### Ownership

The New Hope Preserve Trail goes through two parcels owned by the County of Durham and through a permanent easement held by the County of Durham on privately-owned land. The sections of the trail on private property are within a 50-foot wide easement;

the sections of the trail on public property are within designated as Durham Open Space. The trail easement (dated May 12, 2004) includes specific language that the easement shall not restrict the construction of a regional transit way across the privately-owned land (DEIS appendix F). The New Hope Preserve Trail is maintained by the City and County of Durham.

##### Use of Section 4(f) Property

As described below, New Hope Preserve Trail would be impacted by NHC LPA Alternative and the Patterson Place ROMF Alternative (**Figure 6.3-26**). None of the other New Hope Creek Alternatives, the Little Creek Alternatives, or the NEPA Preferred Alternative would directly impact the New Hope Preserve Trail nor would they be in close enough proximity to the New Hope Preserve Trail to incur potential proximity effects.

##### NEPA Preferred Alternative

There would be no permanent, temporary occupancy, or constructive use by the NEPA Preferred Alternative.

##### Project Element Alternatives

##### New Hope Creek Alternatives

The NHC LPA Alternative would span two sections of the New Hope Preserve Trail with an elevated guideway. The NHC LPA Alternative crosses approximately 135 linear feet of this trail within an easement held by

Durham County on privately-owned land. The May 12, 2004, trail easement contains a covenant that is favorable to public transit (DEIS appendix G). Construction activities would likely be visible from the trail but would be temporary and partially blocked by existing vegetation. Construction would also result in temporary increases in noise levels that could be considered a nuisance for users of the trail, and a portion of the trail may be temporarily closed during construction. However, recreational activities are not noise sensitive and any trail closure would be fleeting.

##### Coordination

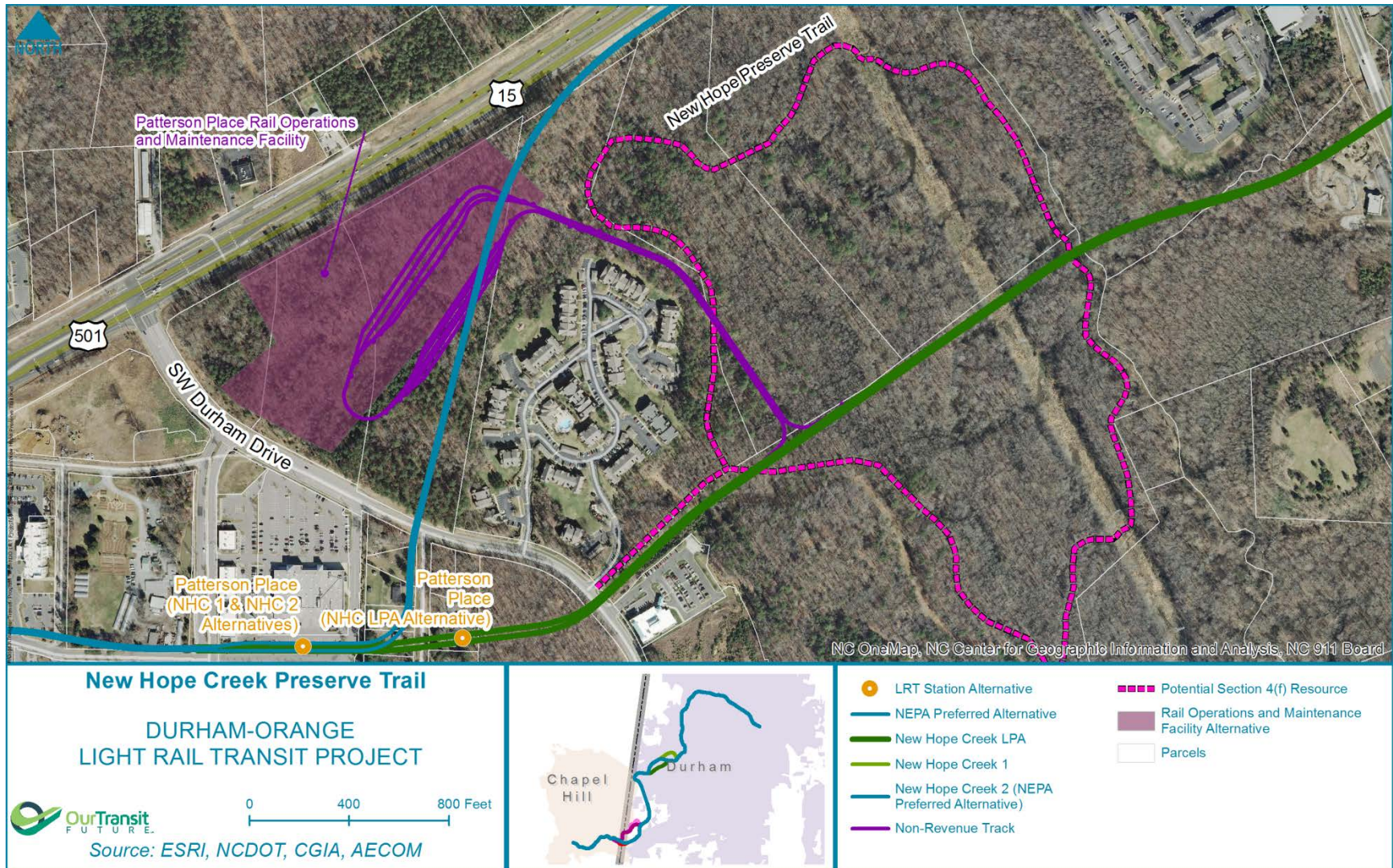
Pursuant to 23 C.F.R. Part 774, coordination with the County of Durham, the official with jurisdiction over the property, has been conducted to determine the long-term and short-term effects on the New Hope Preserve Trail. The results of this coordination are reflected in this evaluation.

In a letter to Triangle Transit dated May 28, 2015, Durham County expressed concerns about the impacts on this Section 4(f) property (DEIS appendix G).





Figure 6.3-26: New Hope Preserve Trail (Existing)





### Determination

In light of the foregoing, the FTA determination, pursuant to 23 C.F.R. § 774.3, as to the NHC LPA Alternative is that “the use of the [existing New Hope Preserve Trail], including any measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures) committed to by [Triangle Transit], would have a *de minimis* impact, as defined in 23 C.F.R. § 774.17, on the property.” However, as described in the FEIS/ROD, the NHC LPA Alternative has not been selected as part of the NEPA Preferred Alternative.

### ROMF Alternatives

#### Patterson Place

The non-revenue tracks associated with the Patterson Place ROMF Alternative would cross the New Hope Preserve Trail above grade, crossing approximately 30 linear feet of trail within publicly-owned land. The direct impacts to the trail would result in a Section 4(f) use. However, as described in the FEIS/ROD, the Patterson Place ROMF Alternative has not been selected as part of the NEPA Preferred Alternative.

## 6.3.2 Cultural Resources

Historic properties within the Section 4(f) study area that are listed or eligible for listing in the NRHP and that qualify as Section 4(f) properties are shown on **Figures 6.3-1** through **6.3-4** and are summarized in **Table 6.3-2**. The Section 4(f) use determinations of

these historic properties are summarized in **Table 6.3-4**.

As described above in Section 6.1.3.1, potential Section 4(f) uses of historic properties were evaluated by (1) identifying if the project would permanently incorporate land from the property, and (2) reviewing the effects on the property, including potential proximity impacts, as documented during the Section 106 of the NHPA process.

- If the project would permanently incorporate land from the property or result in an adverse temporary occupancy and would also result in an “adverse effect,” this impact would constitute a Section 4(f) use.
- If the project would permanently incorporate land from the property or result in an adverse temporary occupancy but have “no adverse effect,” the impact was evaluated to determine if it would be *de minimis* to the property.
- If the project would not permanently incorporate land from the property but would result in an adverse effect determination under Section 106, the impact was evaluated to determine if the alternative would result in a substantial impairment to the features that qualify the property for protection under Section 4(f) resulting in a constructive use of the property.

The historic properties that meet these criteria are described below. As shown, the NEPA Preferred Alternative would result in no permanent uses of any historic property and a temporary occupancy use of four historic properties. Further, the Leigh Village ROMF Project Element Alternative would result in the permanent use of one historic property.

The presence and significance of archeological resources is not yet determined. One previously recorded archeological site potentially eligible for the National Register, two potential sites, and five areas were identified for further study. Since the eligibility of the one previously recorded archeological site is not known at this time, and data recovery is recommended to make the eligibility determination on that site, no use of a known archeological resource would occur. The remaining two sites and five areas are recommended for further study and are subject to a Memorandum of Agreement with the SHPO that outlines the measures for the identification of archeological resources, avoidance measures, and continued consultation. Procedures for an expedited 4(f) determination will be utilized if any resource warrants preservation in place.



**Table 6.3-4: Summary of Use Determinations – Historic Properties Listed in, or Determined or Recommended Eligible for, the National Register of Historic Places within 250 Feet of Project Alternatives**

Section 4(f) Property	Alternative	Section 4(f) Use, Impacts are Not <i>De Minimis</i>	Sectoin 4(f) Use, <i>De Minimis</i> Impacts	No Use	Temporary Easement (Acres)	Permanent Easement (Acres)
Dr. Robert Jack Shankle House (OR-2771)	NEPA Preferred			●	0.0	0.0
H.G. Baity House (OR-2772)	NEPA Preferred			●	0.0	0.0
Rocky Ridge Farm Historic District (OR-1303/1748)	NEPA Preferred			●	0.0	0.0
Highland Woods Historic District (OR-1460)	NEPA Preferred			●	0.0	0.0
Meadowmont (DH-1708)	NEPA Preferred			●	0.0	0.0
Walter Curtis Hudson Farm (DH-2373)	NEPA Preferred			●	0.0	0.0
	Leigh Village ROMF	●				
Ruth-Sizemore Store (DH-2561)	NEPA Preferred			●	0.0	0.0
West Durham Historic District (DH-1134)	NEPA Preferred			●	0.0	0.0
Trinity College East Campus Historic District (DH-1821)	NEPA Preferred			●	0.0	0.0
Smith Warehouse (DH-89)	NEPA Preferred			●	0.0	0.0
Watts and Yuille Tobacco Warehouses (DH-87)	NEPA Preferred			●	0.0	0.0
Duke Memorial United Methodist Church (DH-1253)	NEPA Preferred			●	0.0	0.0
North Carolina Mutual Building (DH-2477)	NEPA Preferred			●	0.0	0.0
Bright Leaf Historic District (DH-71)	NEPA Preferred			●	0.0	0.0
Downtown Durham Historic District (DH-1692)	NEPA Preferred			●	0.0	0.0
American Tobacco Company Manufacturing Plant (DH-1872/10)	NEPA Preferred			●	0.0	0.0
Southern Railway Bridge (Seaboard Coastline Railroad Overpass) (DH-2504/1867)	NEPA Preferred			●	0.0	0.0
Venable Tobacco Company Warehouse (DH-97)	NEPA Preferred			●	0.03	0.0
Venable Tobacco Company Prizery and Receiving Room (DH-2560)	NEPA Preferred			●	0.0	0.0
Durham Water Tower and Valve House (DH-3508)	NEPA Preferred			●	0.0	0.0
East Durham Historic District (DH-2184)	NEPA Preferred			●	0.0	0.0





### 6.3.2.1 Walter Curtis Hudson Farm Property Description

The Walter Curtis Hudson Farm includes the house built by Walter Hudson in 1918 and a number of outbuildings to its north and east, most of which he also built. The Walter Curtis Hudson Farm is NRHP eligible under Criterion C as an excellent and intact example of a small Durham County farmstead of the early twentieth century.

#### Use of Section 4(f) Property

##### Project Element Alternatives

##### Leigh Village ROMF

The Leigh Village ROMF alternative would be constructed on the northern half of the Walter Curtis Hudson Farm’s National Register boundaries, which would result in the demolition of its house, all other buildings, and much of its farmland (**Figure 6.3-27**). This alternative would diminish the historic property’s integrity of location, design, setting, materials, workmanship, feeling, and association, and alter all of the characteristics that qualify the farm for National Register listing. The FTA has determined that the Leigh Farm ROMF would have an “adverse effect” on the Walter Curtis Hudson Farm under Section 106 of the NHPA. Further, the demolition of the properties would substantially impair the features and attributes that qualify the resource for

protection under Section 4(f). A Section 4(f) use of the Walter Curtis Hudson Farm would occur under the Leigh Village ROMF alternative.

A Section 4(f) use of the Walter Curtis Hudson Farm could be avoided by selecting the NEPA Preferred Alternative (Farrington Road ROMF), Patterson Place, Cornwallis Road, or Alston Avenue ROMF Alternatives. By selecting one of these four ROMF alternatives, there would be no Section 4(f) use of this property.

### 6.3.2.2 Venable Tobacco Company Warehouse

#### Property Description

The Venable Tobacco Company Warehouse is located at 302-304 East Pettigrew Street in Durham and was included in the NRHP in 1985. It was determined significant under Criterion A in the area of Industry and Criterion C in the area of Architecture.

#### Use of Section 4(f) Property

##### NEPA Preferred Alternative

A portion of the NEPA Preferred Alternative that is common to all alternatives would be constructed at-grade approximately 25 feet north of the Venable Tobacco Company Warehouse within the current alignment of East Pettigrew Street, in an urban setting (**Figure 6.3-28** and **Figure 6.3-29**). The NEPA Preferred Alternative has been

designed to avoid taking any property located within the warehouse’s National Register boundaries. Therefore, no use under Section 4(f) would occur.

Therefore, the FTA has made a determination that the NEPA Preferred Alternative would have no adverse effect on this NRHP-listed property under Section 106.

Construction of the NEPA Preferred Alternative would require a temporary construction easement of approximately 0.03 acre from the northeast/northwest corner of the parcel’s NRHP boundaries. This temporary construction easement would be required to allow for the reconstruction of curbs and sidewalks associated with roadway modifications required by the NEPA Preferred Alternative. This temporary occupancy would be for a short duration (less than the total time needed to construct the entire project), would not result in a change in ownership of the property, and would have no effect on the features or attributes that qualify the property for protection under Section 4(f). Following the conclusion of construction activities, the area to be used for the temporary construction easement would be restored to the condition it was in before construction or better. Therefore, the FTA has made a determination that this temporary construction easement would not



result in a Section 4(f) use of the Venable Tobacco Company Warehouse.





Figure 6.3-27: Walter Curtis Hudson Farm

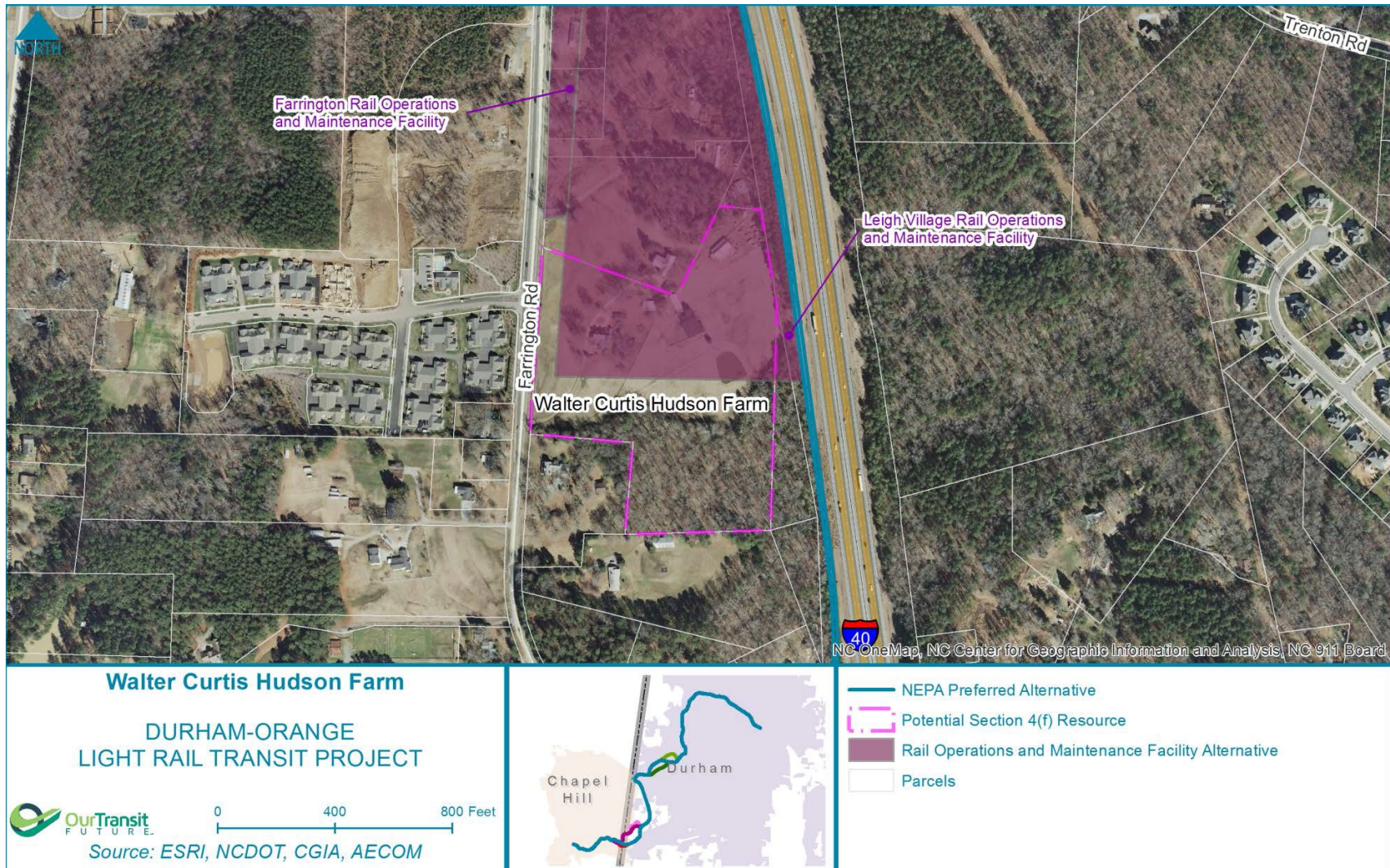




Figure 6.3-28: Venable Tobacco Company Warehouse

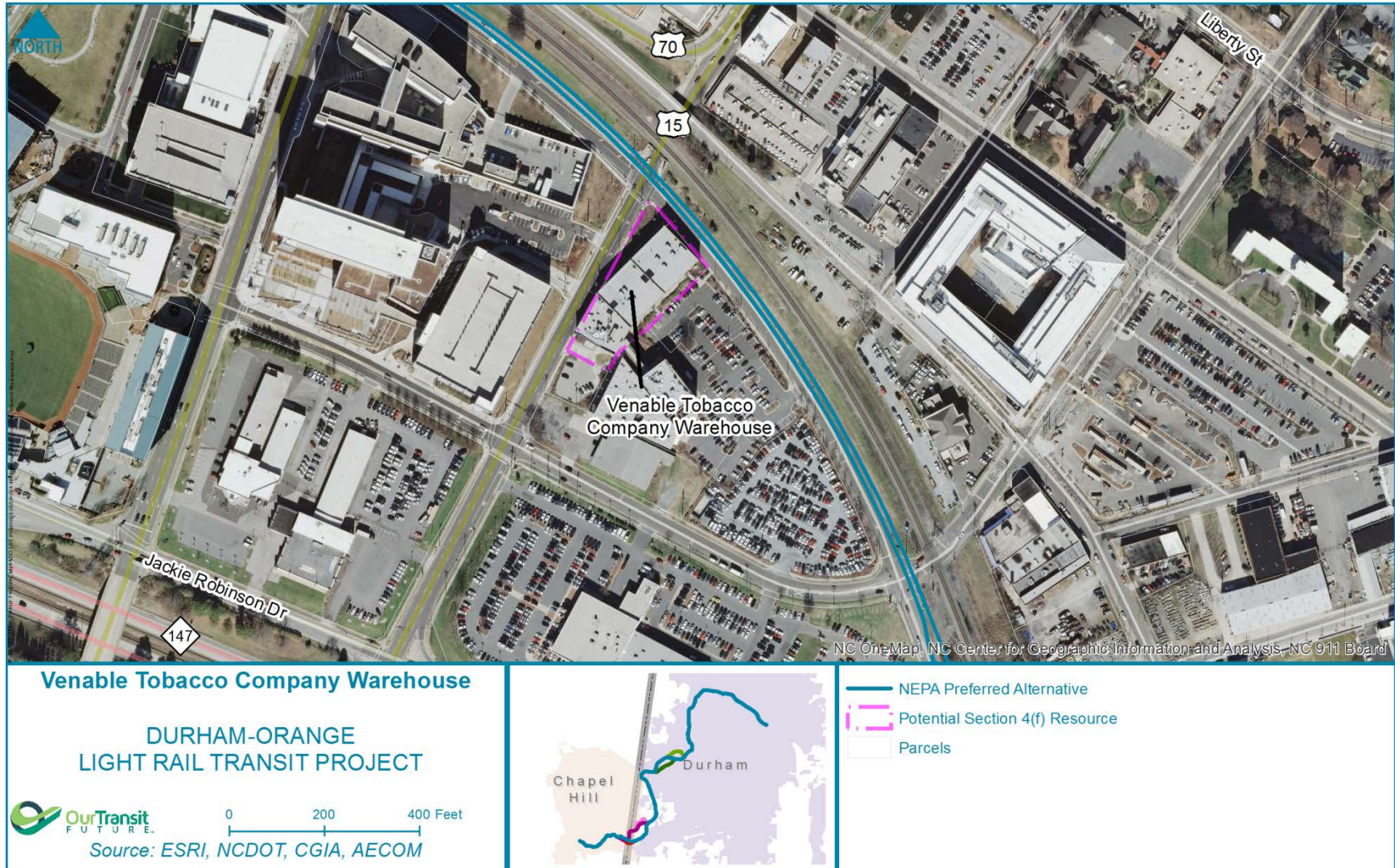
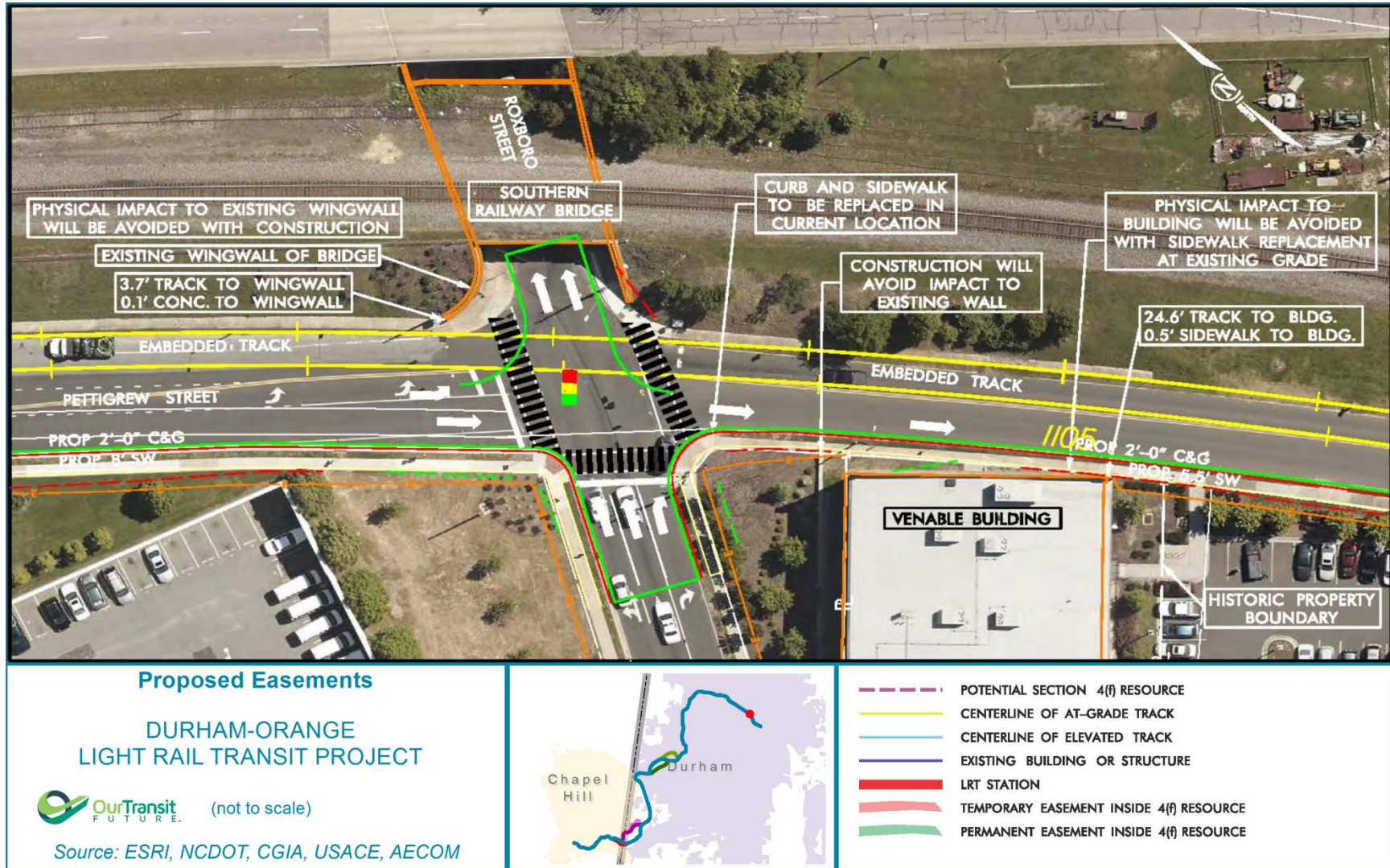




Figure 6.3-29: Proposed Temporary Construction Easements at Venable Tobacco Company Warehouse



## 6.4 Coordination

At key points during the Environmental Impact Statement (EIS) process, Triangle Transit and the FTA have consulted with representatives from federal, state, regional, and local agencies that have jurisdiction over the public park properties, wildlife refuges, and historic resources. A list of these consultation efforts is included in **Table 6.4-1**. Coordination letters related to the consultation process are included in DEIS appendix G. Letters of concurrence from the agencies with jurisdiction over Section 4(f) properties for which *de minimis* impacts determinations were made are included in FEIS/ROD appendix A. Related coordination activities have also occurred throughout the Section 106 of the NHPA and Tribal Consultation process. This coordination is summarized in DEIS section 4.5, and further coordination following the publishing of the DEIS are included in FEIS/ROD appendix B.

Consistent with 49 U.S.C. § 303 and 23 C.F.R. Part 774, copies of the Draft Section 4(f) evaluation were provided for coordination and comment to the officials with jurisdiction over the Section 4(f) resources, the Department of the Interior, and key North Carolina agencies. The draft evaluation was made available to officials/agencies with jurisdiction, the Department of the Interior, other appropriate parties, and the public for a 45-day comment

period from August 28, 2015 to October 13, 2015.

Triangle Transit and the FTA will continue to consult with affected agencies regarding the impacts of the proposed D-O LRT Project on the features and attributes of Section 4(f) properties.





**Table 6.4-1: Section 4(f) Consultation List**

Date	Presentation to or Meeting with:	Topic
11/22/2011	Triangle Land Conservancy	Project update, potential impacts to New Hope Creek
8/21/2012	Interagency Group	Review and processing of scoping input; development of scope, draft outline, etc.
5/7/2013	UNC	Hamilton Station / UNC Finley Golf Course – refinement of alignment and location of station.
5/9/2013	NHC Corridor Advisory Committee	Data collection in NHC bottomlands and US 15-501 area; input related to resources.
5/29/2013	UNC	Hamilton Station/UNC Finley Golf Course – refinement of alignment and location of station; discussions related to encroachment, noise, visual, etc.
7/11/2013	NHC Corridor Advisory Committee, Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO), Durham Planning	Alternatives developed in response to scoping comments
7/22/2013	USACE	Project development process, scoping comments, alternatives near Little Creek and NHC, avoidance alternative at Little Creek
8/14/2013	UNC, Fazio Design	UNC Finley Golf Course concerns/documentation; concerns related to visual impacts, screening, noise and encroachment
8/23/2013	USACE, FTA	USACE Operations – status of project, review comments
8/26/2013	USACE, FTA	USACE Regulatory – status of project, review comments
8/27/2013	Interagency Group	Status of project, alternatives, comment responses
9/12/2013	NHC Corridor Advisory Committee	Project update at regularly scheduled NHC Commercial Advisory Committee (CAC) meeting
9/18/2013	UNC, Fazio Design	UNC Finley Golf Course interface issues; Fazio mitigation plans
1/8/2014	USACE	Delineation review; JD coordination
1/16/2014	USACE, FTA, NCDOT, DCHC MPO	USACE crossings, project development overview, application to use USACE property
4/15/2014	Durham Bicycle and Pedestrian Advisory Commission	Bicycles on LRT, bicycle/ped development
5/1/2014	NHC Corridor Advisory Committee	Site visit
5/7/2014	Triangle Land Conservancy Committee	Project update
5/8/2014	NHC Corridor Advisory Committee	Project update at regularly scheduled NHCCAC meeting; data collection and field activities
6/18/2014	Durham Open Spaces and Trails Commission	NCH impacts, greenway connections
10/8/2014	Town of Chapel Hill and UNC	
10/11/2014	Leigh Farm Park	Ribbon cutting
10/21/2014	USACE	
2/16/2015	UNC	Overview of Section 4(f), potential use of property – UNC Finley Golf Course and UNC Open Space; UNC's role in next steps
3/11/2015	USACE	Potential use of property – Jordan Lake Game Lands; USACE's role in next steps



**Table 6.4-1: Section 4(f) Consultation List**

Date	Presentation to or Meeting with:	Topic
3/16/2015	Town of Chapel Hill	Overview of Section 4(f), potential use of property – Meadowmont Park and Little Creek Trail; Chapel Hill's next steps
3/26/2015	Durham County, City of Durham	Overview of Section 4(f), potential use of property – New Hope Preserve Trail and Durham Open Space; Durham's next steps
Date	Correspondence/Discussion with:	Topic
2/10-11/2014	Durham Planning, Durham Parks, Durham Open Space	Clarification on Section 6(f) properties/locations, NHC easements
2/14/2014	NC Parks	Clarification on Section 6(f) properties/locations
3/3/2014	NC Parks – archives research	Clarification on Section 6(f) properties/locations
3/6-10/2014	Durham Parks	Clarification on Section 6(f) properties/locations
8/14-15/2014	Meadowmont Community Association (MCA)	MCA common lands/open space; confirmation that there is no public interest, easement or leases
9/16-22/2014	Duke Forest	Trails, boundaries of property; confirmation that property is not crossed by alternatives
1/28/2015	UNC	Request for Formal Section 4(f) Consultation
1/28/2015	USACE	Request for Formal Section 4(f) Consultation
1/29/2015	Durham County	Request for Formal Section 4(f) Consultation
1/28/2015	Town of Chapel Hill	Request for Formal Section 4(f) Consultation
5/21/2015	USACE	Comments on potential impacts to Section 4(f) properties
5/28/2015	UNC	Comments on potential impacts to Section 4(f) properties
5/28/2015	Durham County	Comments on potential impacts to Section 4(f) properties
6/4/15	Town of Chapel Hill	Review impacts to Town properties
6/17/15	USACE	Response to questions from USACE
7/20/2015	UNC	Section 4(f) resources; mitigation; acquisition of right-of-way
8/13/15	Durham County	Review impacts of D-O LRT on all City/County properties
8/24/15	UNC/Town of Chapel Hill	Review impacts on UNC and Town properties
9/4/15	UNC	Right-of-way needed from UNC and impacts to UNC properties
9/23/15	USACE	Concurrence with <i>de minimis</i> impact determination
11/13/15	UNC	D-O LRT Project interface with Finley Golf Course and Athletic Fields
11/19/15	Durham County	<i>De minimis</i> impacts determination
11/20/15	USACE	Acknowledge <i>de minimis</i> impacts determination concurrence
11/20/15	UNC	<i>De minimis</i> impacts determination
12/16/15	UNC	Concurrence with <i>de minimis</i> impact determination
12/22/16	Durham County	Concurrence with <i>de minimis</i> impact determination





## 6.5 Section 4(f) Determination

The NEPA Preferred Alternative includes C2A, NHC 2, Trent/Flowers Drive Station, and the Farrington Road ROMF Alternatives. As described in section 6.3, the NEPA Preferred Alternative would result in use of the following Section 4(f) properties:

- Jordan Game Lands
- UNC Central Park South (Planned)
- Coker Pinetum
- UNC Finley Golf Course and Athletic Fields
- UNC Open Space
- New Hope Creek Trail (Planned)

However, impacts associated with the NEPA Preferred Alternative would not adversely affect the activities, features, and attributes that qualify these properties for protection under Section 4(f). Therefore, as also described in in section 6.3, after considering measures to minimize harm (such as any avoidance, minimization, mitigation, or enhancement measures), the FTA has determined that, pursuant to 23 C.F.R. § 774(b), the impacts associated with uses of each of these Section 4(f) properties would be *de minimis*. As a result, a discussion of avoidance alternatives is not required.

Letters of concurrence from the agencies with jurisdiction over these Section 4(f) properties are included in FEIS/ROD appendix A.

