

IV. SECTION 4(f) EVALUATION

*SR 1, Little Heaven Grade Separated Intersection Project
Environmental Assessment / Section 4(f) Evaluation*



*U.S. Department of Transportation
Federal Highway Administration*



Delaware Department of Transportation

IV. SECTION 4(f) EVALUATION

A. Introduction and Methodology

Section 4(f) of the U.S. Department of Transportation Act of 1966 (23 USC 138 and 49 USC 303 and implementing regulation 23 CFR 774) permits the use of land from a publicly-owned public park, recreation area, wildlife or waterfowl refuge, or land of a historic site of national, state or local significance (as determined by federal, state and local officials having jurisdiction over such resources), only if there is no prudent and feasible alternative to the use of such land and if the action includes all possible measures to minimize harm in accordance with the FHWA Section 4(f) regulations, 23 CFR 774 as well as FHWA's Section 4(f) Policy Paper (March, 2005) and is consistent with the criteria for a Section 4(f) Evaluation (discussed herein).

A Section 4(f) "use" occurs when property identified as a Section 4(f) resource is permanently acquired and incorporated into a transportation project or when there is occupancy of land that is adverse in terms of the integrity of the Section 4(f) resource. The requirements of Section 4(f) apply to the SR 1, Little Heaven Grade Separated Intersection Project because the proposed build alternatives would require the direct take and use of land from three historic properties listed on or eligible for listing on the National Register of Historic Places (NRHP).

If there is no prudent and feasible alternative that completely avoids Section 4(f) resources, the prudent and feasible alternative that causes the "least harm" to Section 4(f) resources must be selected (FHWA *Section 4(f) Policy Paper*, pp. 4-5). If two or more alternatives cause substantially equal harm to Section 4(f) resources, FHWA can choose freely between them.

This Section 4(f) Evaluation describes historic properties within the study area for which Section 4(f) is applied, as well as the location and design of alternatives developed to avoid and minimize harm to Section 4(f) resource. As part of this evaluation, additional right-of-way needed for the project as well as any structures (buildings, fences, driveways, signs, walls, etc.) potentially impacted that may contribute to the significance of the Section 4(f) resource are discussed. Their impacts are described, as are any potential temporary uses of the Section 4(f) resources that might be applied under *de minimis* (23 CFR 774).

The Section 4(f) Evaluation also justifies the *de minimis* impact findings with respect to minor impacts and temporary impacts associated with two of the three historic properties involved. No other Section 4(f) resources are involved. Under the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) amendment to the Section 4(f) requirements allows the U.S. Department of Transportation (DOT) to determine that certain uses of Section 4(f) land will have "no effect" or "no adverse effect" on that specific protected resource. When this is the case, and the responsible official(s) with jurisdiction over the resource agrees in writing, compliance with Section 4(f) is satisfied.

Section 4(f) coordination was initiated during the early stages of this Transportation Planning and Environmental Assessment (EA) process. Chapter I of this EA identifies the need for transportation improvements in the project area. The process undertaken to develop and confirm alternatives for the project was coordinated between DelDOT, FHWA, DE SHPO, DNREC, USACE, USFWS, USEPA, Delaware Office of State Planning, property owners, elected officials, and the larger community.

In compliance with the Section 106 process, and in order to identify the Section 4(f) resources in the project area, coordination was conducted with the DE SHPO who served as the official having jurisdiction over Section 4(f) resources. In this project the Advisory Council on Historic Preservation did not participate in consultation, and was not involved in the effort to identify

historic properties, therefore does not constitute a an official having jurisdiction in the Area of Potential Effect (per 23 CFR Section 774.17(b)).

B. Project Action

As previously covered in this EA, DelDOT is considering various roadway improvement options including grade separating the intersection of SR 1 at Bowers Beach Road, providing north-south service roads on both sides of existing SR 1 in the area of Little Heaven, Delaware (see **Figures I-1** and **I-2**). The limits of the proposed project extend along SR 1 from north of the Mulberrie Point Road intersection to south of the Barratt's Chapel Road intersection (approximately 2.76 miles).

As defined in Chapter I of this EA, the *purpose and need* of the project is to improve traffic safety and relieve traffic congestion along SR 1 and at its roadway crossings while providing access for existing and planned developments and avoiding or minimizing adverse effects to the socio-economic, cultural and natural environmental resources within the project area. The project purpose is consistent with the SR 1 CCPP's four main goals, as follows:

1. Maintain the road's ability to handle traffic efficiently and safely.
2. Minimize the transportation impacts of increased economic growth.
3. Preserve the ability to make future transportation-related improvements, as needed.
4. Prevent the need to build an entirely new road.

The purpose of the SR 1, Little Heaven Grade Separated Intersection Project is supported by the project *needs* listed below and further described in subsequent sections:

1. Traffic Safety
2. Preserve Roadway Capacity for Current and Future Traffic

Six Build Alternatives and a No-Build Alternative were evaluated to determine how closely they met the purpose and need for the project and the extent of their impacts to the socio-economic, cultural and natural environment. The alternatives are discussed in detail in Chapter II of this EA.

All of the Build Alternatives preserve capacity and enhance safety on SR 1 by separating local and through traffic. Variations between them exist mainly in local roadway connectivity, notably in the area of the Tara subdivision to the east of northbound SR 1. (See **Figures II-2** through **II-7** for comparisons). The Preferred Alternative is shown on **Figure II-4**.

Alternative C is DelDOT's Preferred Alternative because it provides interconnection of roadways, separates local and through traffic, maintains access for emergency response vehicles and was evaluated to be the best alternative for addressing safety and maintaining community cohesiveness. Alternative C is the only alternative that provides access to the service road for all of the roadways that previously had access to SR 1. Alternative C was advanced into preliminary engineering as the Preferred Alternative because Alternative C is the only alternative that meets all aspects of the purpose and need. Additionally, Alternative C was the preferred design of the local communities in the project area. Several refinements have been made to Alternative C to avoid, minimize and/or mitigate impacts to the existing socio-economic, cultural and natural environmental resources within the project area, including Section 4(f) properties.

The Preferred Alternative would shift SR 1 to the east of the existing SR 1 roadway corridor; would provide two-way north-south parallel service roads on each side of SR 1; would construct/reconstruct several intersections to tie into the proposed improvements; and; would provide a grade separated crossing of SR 1 over Bowers Beach Road. The Bowers Beach Road

crossing would connect to the new two-way, north-south service roads that would be constructed parallel to SR 1. This element would in turn provide connections between local roadways and would provide access to and from SR 1 via ramps. The west service road would connect Clapham Road in the north to Barratt's Chapel Road in the south. The east service road would connect Mulberrie Point Road in the north to south Skeeter Neck Road in the south (See **Figure II-4**).

The proposed typical cross section for the Preferred Alternative consists of reconstructing SR 1 to a four lane divided, access controlled freeway consisting of two 12-foot travel lanes in each direction with 10-foot outside shoulders and 4-foot inside shoulders. A 42-foot open grass median would divide the northbound and southbound lanes (See **Figure II-1**). A service road would be provided adjacent to the east of northbound SR 1 and to the west of southbound SR 1 in order to provide access to properties and public streets. The typical cross section for the two-way service roads consists of two 12-foot lanes (one in each direction) and 10-foot shoulders on both sides of the roadway.

Locating the grade separated crossing of SR 1 to Bowers Beach Road instead of north of Mulberrie Point Road would avoid direct impacts to several communities. It would also avoid further impacts to the historic Mt. Olive School located near the intersection of Clapham Road and Mulberrie Point Road as well as minimizing wetland impacts and a sewer pumping station and underground line for Kent County.

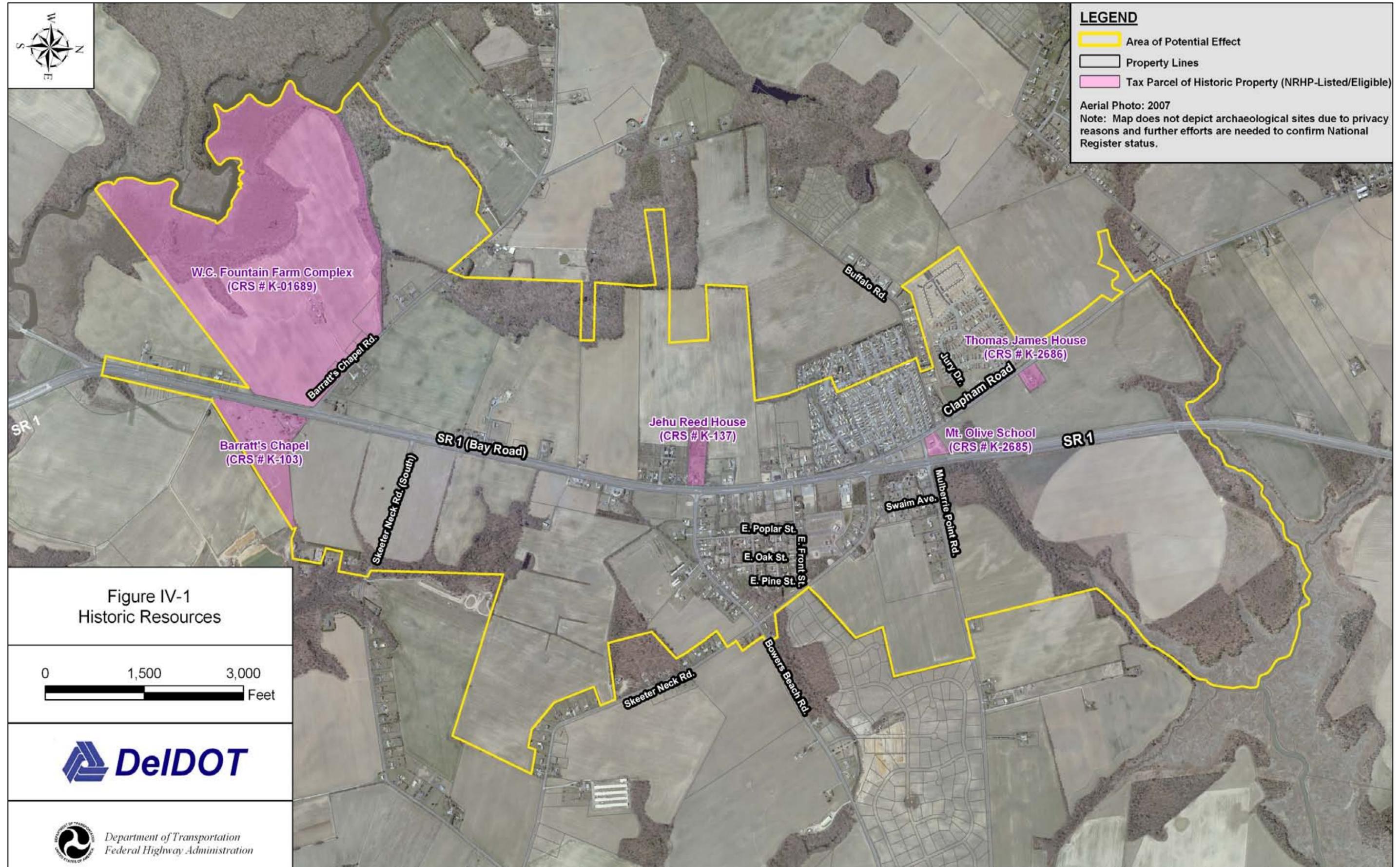
The intersection improvements would align the intersections of south Skeeter Neck Road and Barratt's Chapel Road and would provide ramps connecting Clapham Road to and from southbound SR 1 and would provide access to and from southbound SR 1 and Clapham Road. The existing SR 1 intersection with Barratt's Chapel Road would be closed in favor of using this new configuration.

The Preferred Alternative would improve the local road network while helping to preserve the capacity of SR 1. The project limits for Alternative C extend to Barratt's Chapel Road, which is further south on SR 1 than either Alternative A or B. The Preferred Alternative requires right-of-way acquisition of 21.18 acres of residential and agricultural property and 23.62 acres of commercial property. There are five residential relocations and 13 business relocations necessary for the construction of this alternative.

The Preferred Alternative is consistent with the goals and objectives identified in the State of Delaware's Long-Range Transportation Plan, the SR 1 Corridor Capacity Preservation Program, the Strategies for State Policies and Spending and the Livable Delaware Initiative. The proposed action is also consistent with the Kent County Comprehensive Plan and the Dover/Kent County Metropolitan Planning Organization's Long-Range Transportation Plan and is included in their Transportation Improvement Program.

C. Description of Section 4(f) Properties

Five (5) properties (See **Figure IV-1**) listed in or eligible for the NRHP were identified in the project's area of potential effect. Section 4(f) applies to three of the five historic properties (Barratt's Chapel and Cemetery, Thomas James House and the Mt. Olive Colored School/Mt. Olive School). The other two historic properties (W.C. Fountain Agricultural Complex and the Jehu Reed House) are not subject to Section 4(f) uses and therefore will not be discussed in this 4(f) Evaluation.

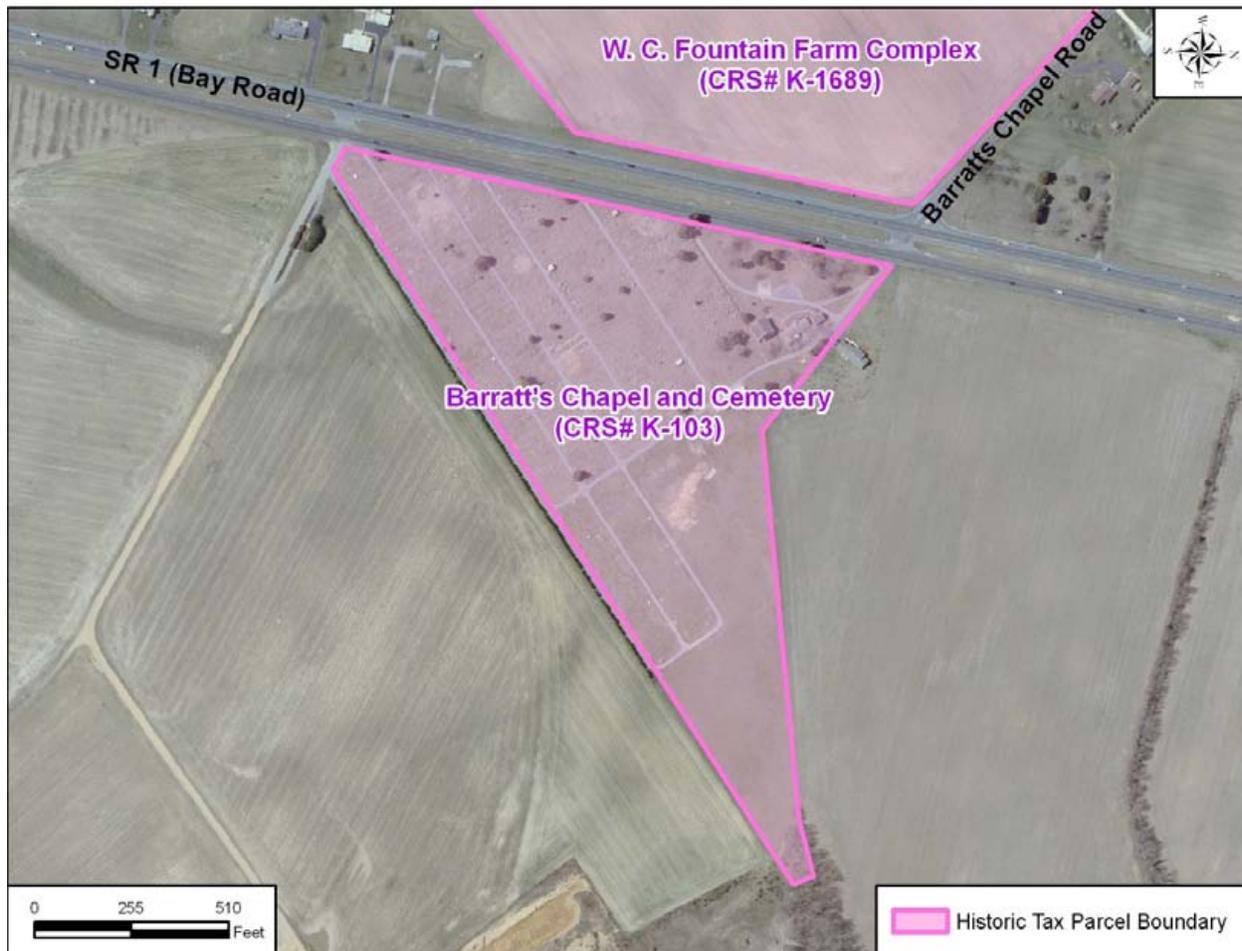


Archaeological sites have also been identified, but have not yet been evaluated for eligibility to the NRHP. The commitment to undertake this effort is addressed in the Section 106 Memorandum of Agreement (MOA) (See **Appendix A**). If, as a result of this effort, archaeological sites are found to be eligible chiefly for the information they contain (i.e., Nation Register Criterion D), then the sites would be exempt from 4 (f) evaluation (per 23 CFR 774.13(b)). If, however, sites are found to have value for preservation in place, this Section 4(f) Evaluation would need to be revisited.

1. Barratt's Chapel and Cemetery (CRS # K-103)

The Barratt's Chapel and Cemetery is listed on the NRHP under Criteria A and C (36 CFR Part 800) as significant for its broad patterns of religious affiliation and architecture. Barratt's Chapel and Cemetery historic boundary is made up of a multi-parcel, triangular piece of land comprising 24.6 acres abutting the east side of SR 1 (**Figure IV-2**) and contains standing buildings and the cemetery. The complex of buildings at this site is at the northwestern corner of the property, near SR 1 now includes a small parking lot and several paved driveways.

Figure IV-2: Barratt's Chapel and Cemetery (CRS # K-103)



The cemetery occupies most of the large expanse of land at this site, and the cemetery has been expanded to the east. The cemetery features a variety of headstones, ranging from simple flat (vertical) stone slabs to obelisks and other, larger features and structures, including at least one mausoleum and an elevated tomb. There are also a variety of markers, including tall granite shafts. The cemetery grounds feature low-cut grass and several walkways.

Trees are sparse, and a brick wall encloses part of the cemetery. Although the brick wall is not actually a part of the chapel, it abuts the building at two ends and has been rebuilt and extended in more recent modern times.

There are several non-contributing buildings that due to their age (post-1960's) are not eligible for the NRHP. Since the original NRHP nomination was completed in 1972, four other buildings have been erected in addition to the chapel. These modern buildings include a brick museum building (ca. 1964-1965), a brick vestry (1991), and two modern utility sheds (ca. 1990s). The non-contributing buildings include the Museum (ca. 1964-1965), the Vestry (1991), two modern sheds (ca. 1990s) and the "new" caretaker's house (2004). According to the caretaker the previous caretaker's house, a frame Colonial Revival (ca. 1940s), was dismantled in order to enlarge the parking lot.

2. Thomas James House (CRS # K-2686)

The Thomas James House (CRS # K-2686) is located on a 2.06 acre parcel on the east side of Clapham Road, approximately 0.75 miles northwest of Little Heaven at 628 Clapham Road (see **Figure IV-3**). As a former farmstead, the Thomas James House is only eligible for listing in the NRHP under Criteria C for its architecture; however the tax parcel serves as the logical NRHP historic boundary.

Figure IV-3: Thomas James House (CRS # K-2686)



The property consists of a nineteenth-century farmhouse and an early twentieth-century, frame, tool/wood shed. The farmhouse is a *circa*-1855, two-and-one-half-story, side gable front block with a *circa*-1845, one-and-one-half-story, side gable, rear ell extending from the southeast

corner. The frame dwelling sits upon a full brick foundation. Aluminum siding covers the exterior walls of the dwelling, which features aluminum corner boards. The gable ends of the front block are clad in vertical aluminum siding. The steeply pitched, side gable roof that caps the front block is sheathed in asphalt shingles and features gable end returns. Two interior, brick end chimneys protrude from the roof ridge. The rear ell is capped by a steeply pitched, asphalt shingle-clad, side gable roof. An interior brick end chimney protrudes from the eastern end of the roof ridge.

The dwelling features six-over-six light, double-hung sash, wood windows in the west and east elevations of the front block. The north and south elevations contain two evenly spaced, four-over-four light, double-hung sash, and wood windows in the gables. The south and north elevations of the rear ell contain six-over-six light, double-hung sash, wooden windows in the first story. The first story of the rear ell's north elevation features aluminum replacement windows hung in pairs. The upper story of each elevation features narrow, rectangular, double-hung sash windows, some of which have been replaced. Two evenly spaced, four-over-four light, double-hung sash wood windows light the east gable of the rear ell.

A one-story frame *circa*-1930 tool/wood shed, erected in three parts, is located immediately to the east of the dwelling. The building was converted for use as a dog kennel ca. 1965, and a wire-mesh fence extends outward from the east elevation of the building. The building sits atop a concrete slab, and vertical-board siding, painted white, covers the exterior walls. A steeply pitched, side gable roof, sheathed in asphalt shingles and featuring three separate planes along the ridge, caps the building.

A semi-circular gravel farm lane leads east from Clapham Road to the south side of the dwelling and tool/wood shed. A line of mature deciduous and evergreen trees delineate the north, south, and east borders of the property. Cultivated fields surround the property line outside the tree line to the south and west, and a post-2000 mobile home park (Barker's Landing) is located directly across Clapham Road, immediately to the west of the property.

3. Mt. Olive Colored School / Mt. Olive School (CRS # K-2685)

The Mt. Olive School is located on the west side of SR 1 in Kent County, Delaware. The property fronts Clapham Road to the west, existing SR 1 to the east and Mulberrie Point Road to the south (See Figure IV-4).

During the 1920s, schools for Caucasian children were consolidated to serve larger geographical areas with more grades under one roof, while those for African-American students remained small (usually one- or two-room) and limited to elementary grades. Mt. Olive was built as a "two-room" or "two-teacher" school. The Mt. Olive Colored School is recommended eligible for listing in the National Register of Historic Places under Criterion A for its importance as a locus of rural African-American education in Delaware and Criterion C as an example of the 1920s Colonial Revival schools, which were designed specifically for Delaware by nationally renowned school architect James Oscar Betelle.

The school sits back off of the highway. The front of the school building faces west toward Clapham Road at the end of a gravel drive and is surrounded by some yard space. Remnants of a one-story frame produce stand (ca. 1980) which is non-contributing are located northeast of the former school.

Figure IV-4: Mt. Olive School/Mt. Olive Colored School CRS # K-2685)



The one-and one-half-story, frame, side gable school (ca. 1923) faces west and is generally three times longer than it is wide. Overall, the frame walls of the building are clad in vinyl siding and the façade and rear elevation, although the original wooden-shingle siding remains visible at a portion of the rear elevation and at the side elevations. The building foundation is parged and painted white in color. The roof is clad in asphalt shingles.

The façade (west elevation) features a central pair of entrance doors which are accessed via steps. A fanlight is located above the central opening. The door opening is sheltered by a one-story portico with a curved underside roof and decorative crown which is supported by paired squared wooden columns. The southern portion of the west elevation retains four original windows, six-over-six double-hung sash, in their original fenestration pattern. To the north of the entrance door, only two window openings remain and the original windows have been replaced with one-over-one double-hung sash.

The fenestration at the rear elevation of the school includes six window openings with double-hung sash windows. The two southern window openings feature large nine-over-nine windows which are nearly double the size of the remaining four openings.

At the gable ends of the building there are cornice returns and brick end chimneys. The southwest and northwest corners of the building are unique in that they feature two cornice returns, which seem to indicate the building was widened; however, the school presented this appearance in a photograph taken soon after its initial construction.

The single addition to the school is a small one-story shed-roofed frame addition to the southwest corner of the building. This addition does not appear in a photograph of the building dating to 1941. The addition was possibly added to the house, also, a stove, as indicated by a metal pipe running from the east elevation of the shed is an addition to the chimney attached to the south elevation of the school.

Also located on the property is a non-contributing, one-story frame produce stand that appears to date to the third quarter of the twentieth century. The produce stand is clad in corrugated metal sheathing at the lower level and plywood at the upper level. The shallow gable roof which shelters the structure is also clad in corrugated metal sheathing. A shed roof addition is attached to the rear elevation. It is an accessory building that is not operating.

The property is owned by the State Department of Education, but has been unoccupied and vacant for several years. The school house is in poor condition and could not be adequately used or easily converted into an office, meeting room, and/or residential use without substantial renovation. Roof sheathing and shingles are missing in several areas and the building has probably suffered significant water damage.

D. Impacts to Section 4(f) Properties

Throughout the development of the Preferred Alternative refinements were undertaken and closely analyzed. Efforts in design were undertaken to meet the project needs and minimizing impacts to the project area. Efforts were also undertaken to minimize known impacts to Section 4(f) resources, while not introducing impacts to other historic properties that could be subject to Section 4(f).

As a result, in the application of the Criteria of Adverse Effect under Section 106 consultation with the DE SHPO, the Preferred Alternative was found to have a “no adverse effect” on the Barratt’s Chapel and Cemetery and the Thomas James House, therefore, application of *de minimis* findings were initiated for those two properties. The Preferred Alternative was found to have an adverse effect on the Mt. Olive School, and therefore is subject to further Section 4(f) Evaluation analyses.

Table IV-1 provides a quantified breakdown of impacts of each of the 4(f) resources and classified them whether they are fee simple right-of-way (RW) acquisitions, permanent easements (PEs) or temporary construction easements (TCEs) for the original Alternative C and Minimized Preferred Alternative C which includes minimization of impacts.

Table IV-1: Section 4(f) Resource Impacts by Alternative (in Acres)

4(f) Resource (Size of Historic Property)	Areas Impacted (in Acres)						Change in impacts (+/-) Comparing Alternative C with Minimized Alternative C		
	Alternative C			Minimized Preferred Alternative C			RW	PE	TCE
	RW	PE	TCE	RW	PE	TCE			
Barratt’s Chapel and Cemetery (24.60 acres)	0	0	0.19	0	0	0.19	0	0	0
Thomas James House (2.06 acres)	0.21	0	0.02	0.14	0	0.06	-0.07	0	+0.04
Mt. Olive Colored School / Mt. Olive School (2.07 acres)	0.78	0.53	0.18	0.50	0.78	0.19	-0.28	+0.26	0
Total:	0.99	0.53	0.39	0.64	0.78	0.44	-0.35	+0.26	-0.05
RW – Fee Simple Right-of-Way PE – Permanent Easement TCE – Temporary Construction Easement									

1. Barratt's Chapel and Cemetery (CRS # K-103)

Figure IV-5 shows the proposed undertaking at the Barratt's Chapel and Cemetery property. There are no right-of-way acquisitions to the Barratt's Chapel and Cemetery property. However, TCEs are required to conduct entrance improvements that were requested by the Barratt's Chapel personnel. They are not of themselves part of implementing the Preferred Alternative C. TCE's will also be required to widen along the existing right of way shoulder and remove some roadside trees that are within the clear zone. Due to the existing clear zone safety requirements, a commemorative bell, entrance sign, and sign marker conveying the historic significance of Barratt's Chapel will also be removed and relocated a few feet outside of the existing right-of-way on the Barratt's Chapel property. They will be reset east of its current location. Trees that will be removed will be mitigated on a one to one basis and re-established on the property by the roadside.

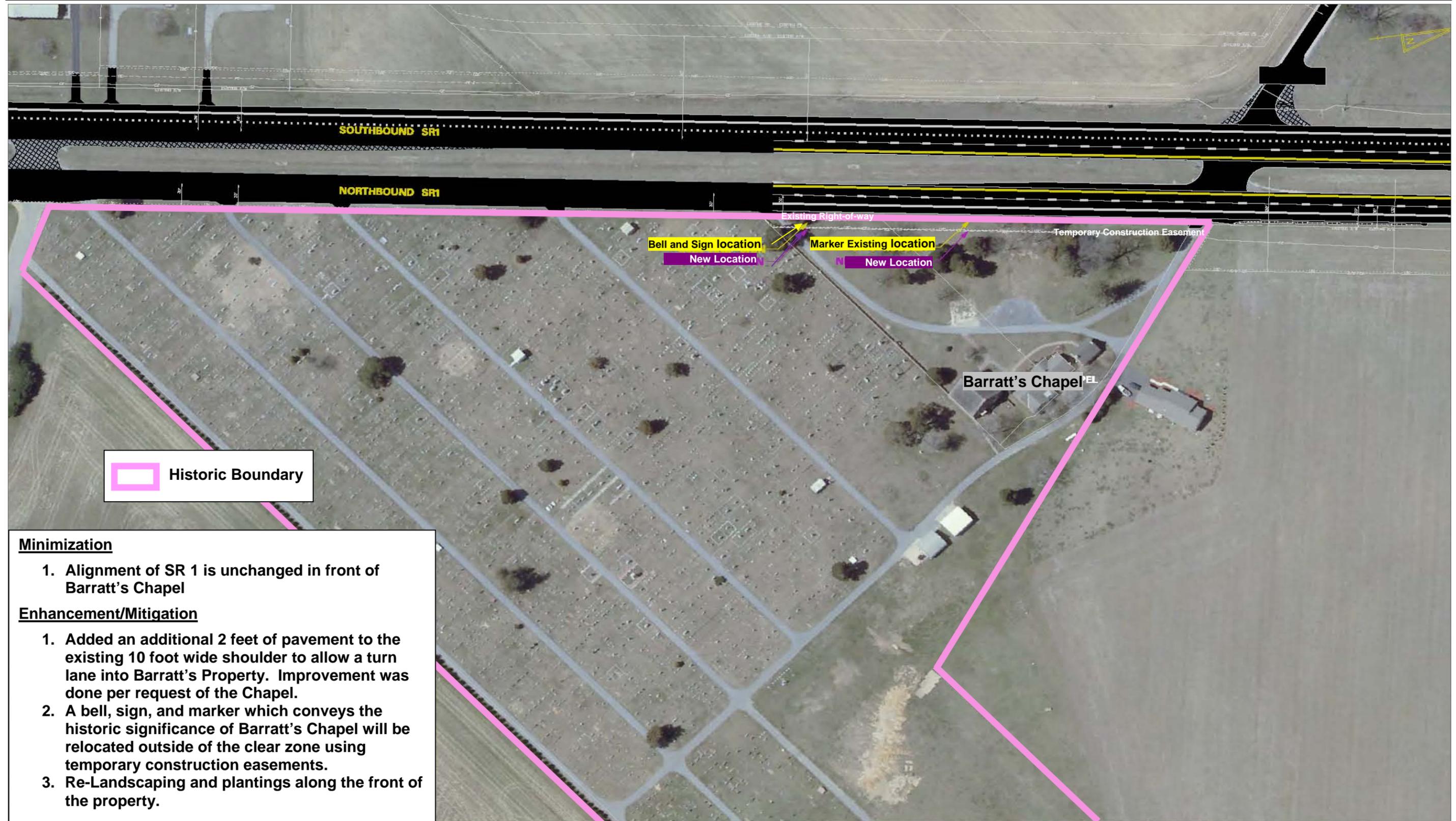
None of the elements that need to be removed, relocated, adjusted, or replanted are contributing elements or specific features within the nomination listing. However, in order to achieve the roadside shoulder and egress improvements to property as well as relocate non-character defining features of the property, access within the historic boundary area will be necessary. When complete, all temporary access or occupancy on the property will be restored to existing or better conditions.

In accordance with 23 CRF 774, impacts to the property apply to a Section 4(f) *de minimis* finding regarding the minor use and temporary occupancy impact to the property area. The minor impact consists of temporary construction easements needed and total 0.19 acres. This action will not alter or involve the characteristics that listed the property in the National Register of Historic Places. This *de minimis* finding satisfies the requirements of Section 4(f) and is supported by the DE SHPO consultation that the temporary occupancy, impacts, and anticipated construction methods are considered "not adverse" when judged against the property.

The DE SHPO has acknowledged and agreed with DelDOT's intent to seek a Section 4(f) *de minimis* impact finding. As the agency with jurisdiction over the Section 4(f) qualified resource, their comments are discussed in Part E. of this Section 4(f) Evaluation. Therefore, at the Barratt's Chapel and Cemetery the project qualifies for a Section 4(f) *de minimis* impact finding based on the following criteria:

- The DE SHPO, as part of the Section 106 process, determined that the project at this specific location and involving the property's temporary use is not adverse.
- The DE SHPO has been informed of FHWA's intent to make *de minimis* impact finding on specific properties based on their written concurrence in the Section 106 effects determination; and
- The views of and needs of the property owner have been considered and obligated. More importantly, it should be noted that their input and requested action caused the Section 4(f) applicability in the first place.

Copies of the DE SHPO's correspondence specific to the Section 106 adverse effect (Pages VI-21 to VI-22) and *de minimis* Section 4(f) finding (pages VI-23 to VI-24) are included in Appendix B.



Minimization

1. Alignment of SR 1 is unchanged in front of Barratt's Chapel

Enhancement/Mitigation

1. Added an additional 2 feet of pavement to the existing 10 foot wide shoulder to allow a turn lane into Barratt's Property. Improvement was done per request of the Chapel.
2. A bell, sign, and marker which conveys the historic significance of Barratt's Chapel will be relocated outside of the clear zone using temporary construction easements.
3. Re-Landscaping and plantings along the front of the property.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE 0 60 120 180 FEET	SR1, LITTLE HEAVEN GRADE SEPARATED INTERSECTION	CONTRACT	BRIDGE NO.	-
					24-122-D2	DESIGNED BY:	SFP
					COUNTY	CHECKED BY:	WFC
					KENT		

**Figure IV-5
Barratt's Chapel and
Cemetery Minimization**

2. Thomas James House (CRS # K-2686)

Figure IV-6 shows the Preferred Alternative at the Thomas James House property. The undertaking would require that a 20' wide strip of right-of-way be acquired along the length of the property fronting Clapham Road. This calculates to 0.14 acres of acquisition or converted use of the property resulting in a Section 4(f) "Use" due to minor permanent impacts to the property. TCEs are also needed totaling 0.06 acres. The changes to the front of the property involve removal of strip vegetation and trees in order to widen the roadway. Several trees (although not contributing to the NRHP eligibility) will be replaced along the front of the newly improved road. Despite this encroachment, the dwelling historically contributing to the property is set back from the road and will not be affected.

The dwelling is NRHP-eligible under Criteria C for architecture and the landscape surrounding the house is not specifically identified as a contributing element of the historic property, the minor changes of the physical features resulting from widening the roadway will not result in an adverse effect because the location, setting, and feeling elements will continue to operate and function no differently than before. The undertaking is, therefore, recommended for a *de minimis* impact finding (per 23 CFR 774.3(b)). The application of a *de minimis* finding satisfies the requirements of Section 4(f) and is supported by the DE SHPO's consultation that the minor take and use of the property and the anticipated construction methods are not considered adverse.

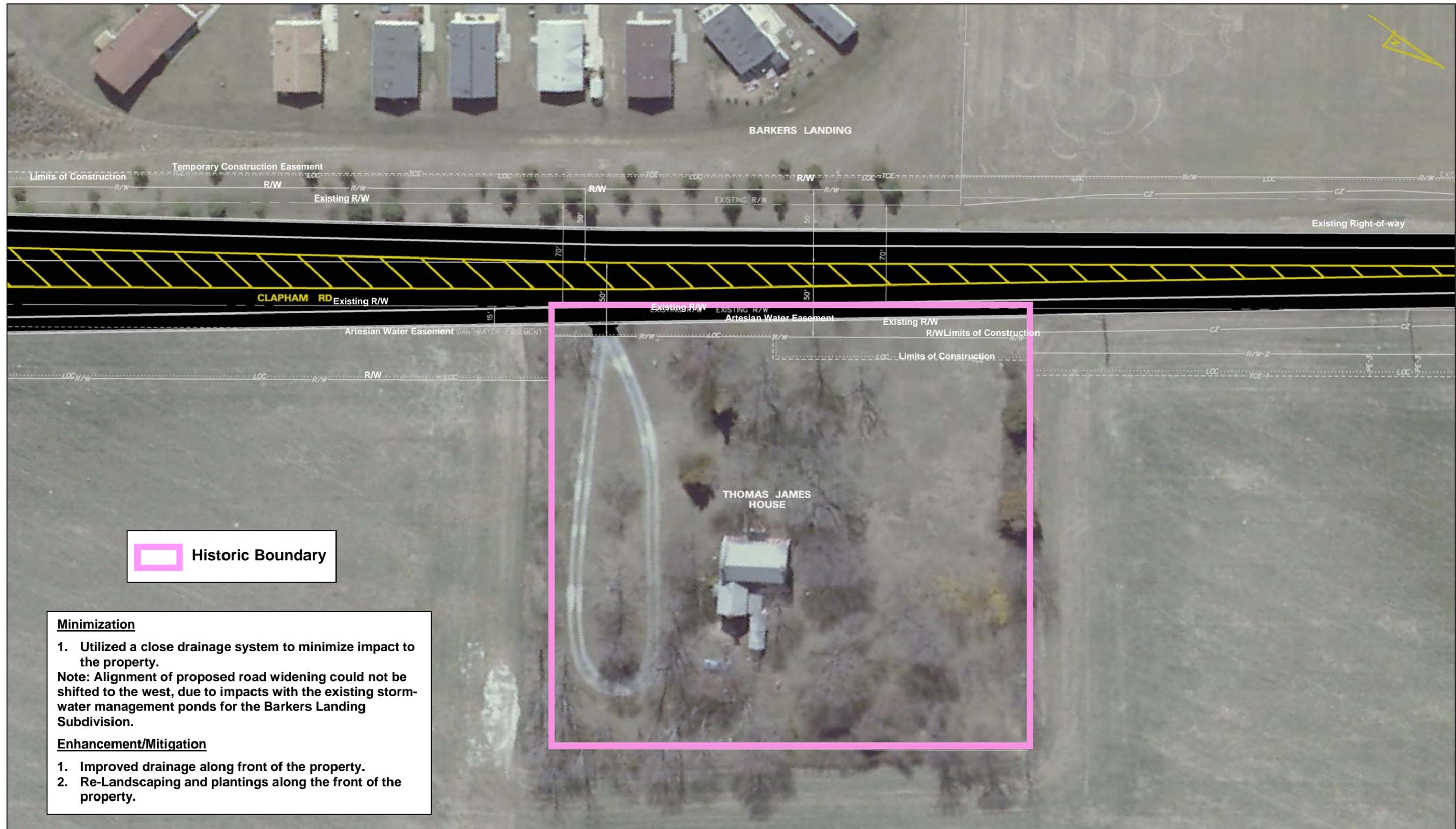
The DE SHPO has acknowledged and agreed with DelDOT's intent to seek a Section 4(f) *de minimis* impact finding. As the agency with jurisdiction over the Section 4(f) qualified resource, their comments are included in Part E. of this Section 4(f) Evaluation. The Thomas James House the project qualifies for a Section 4(f) *de minimis* impact finding based on the following criteria:

- The DE SHPO, as part of the Section 106 process, determined that the project at this specific location and involving the property's use is not adverse.
- The DE SHPO has been informed of FHWA's intent to make *de minimis* impact finding on specific properties based on their written concurrence in the Section 106 effects determination; and
- The views of and needs of the property owner (Trustees of Barratt's Chapel) will be considered and obligated. Any trees that are anticipated to be removed will be replaced on the property or state right of way on a one to one basis.

Additionally, TCEs totaling 0.06 acres will be required from the Thomas James House during construction and during the proposed tree replacements. Given that the access needs would occur on a temporary basis only, the requirements of Section 4(f) would not apply because:

- The duration of the impact will be temporary (less than the time needed for construction of the project);
- There will be no change in ownership of the land;
- The scope of work will be minor, (both the nature and magnitude of the changes to the Section 4(f) resource);
- There are no anticipated permanent adverse physical impacts; and
- The land being used will be fully restored, i.e. the resource will be returned to a condition which is at least as good as that which existed prior to the project.

Copies of the DE SHPO's correspondence specific to the Section 106 adverse effect (Pages VI-21 to VI-22) and *de minimis* Section 4(f) finding (pages VI-23 to VI-24) are included in Appendix B.



 **Historic Boundary**

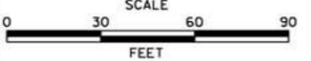
Minimization

- Utilized a close drainage system to minimize impact to the property.

Note: Alignment of proposed road widening could not be shifted to the west, due to impacts with the existing storm-water management ponds for the Barkers Landing Subdivision.

Enhancement/Mitigation

- Improved drainage along front of the property.
- Re-Landscaping and plantings along the front of the property.

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS		SCALE  FEET	SR1, LITTLE HEAVEN GRADE SEPARATED INTERSECTION	CONTRACT	BRIDGE NO.	-
					24-122-02	DESIGNED BY:	SFP
					KENT	CHECKED BY:	WFC
					Figure IV-6 Thomas James House Minimization		

3. Mt. Olive Colored School/Mt. Olive School (CRS # K-2685)

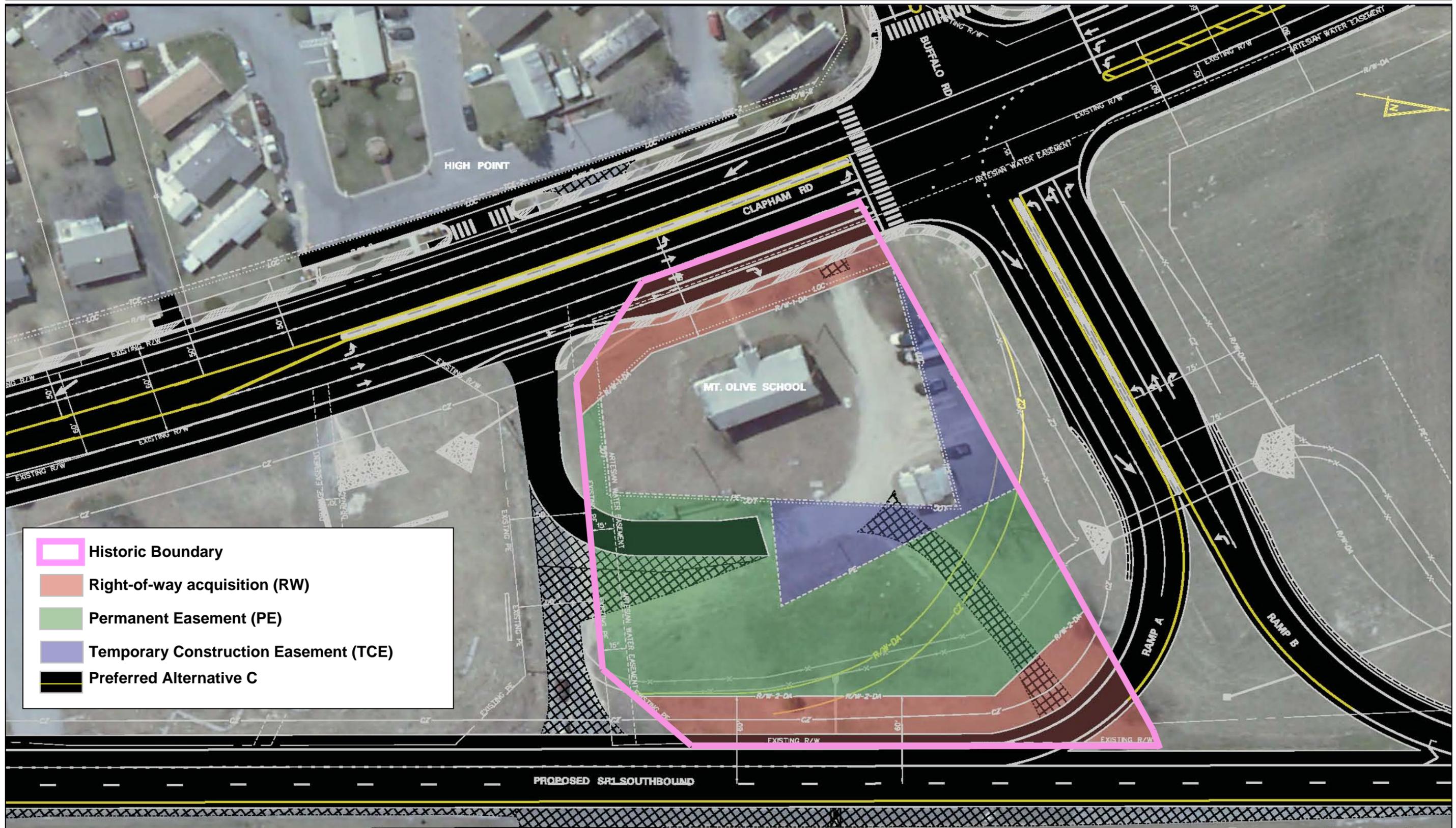
Figure IV-7 shows the Preferred Alternative at the Mt. Olive Colored School/Mt. Olive School property, which fronts Clapham Road to the west, existing SR 1 to the east and Mulberrie Point Road to the south. The Preferred Alternative would require the following right-of-way acquisitions to the property: a 50' wide strip of right-of-way along the length of the property fronting Clapham Rd (0.21 acres); an area adjacent to SR 1 (0.28 acres) and an area as a Permanent Easement (0.78 acres) for a total of approximately 1.27 acres of the property. Right-of-way and permanent easements constitute approximately 62% of the use of the total property.

Based on improvements in this area, driveway access from the property to and from SR 1 would be removed, however access to this property would be provided via an entrance on Mulberrie Point Road. Drainage and an underground sewer line (a primary line for the entire County) will also be implemented, adjusted, and re-graded along the property and will need to maintain a permanent easement for future maintenance, however the land will be landscaped and grass will be replanted after it is installed. However, there are no impacts to the former school building itself. If in the future any changes, including access would be needed it would need to be coordinated with the DE SHPO and FHWA and would be subject to additional Section 106 coordination and Section 4(f) Evaluation.

A 0.19- acre TCE will serve as a staging area during construction. The TCE would constitute an exception to the Section 4(f) requirements based on the following criteria:

- The duration of the impact will be temporary, i.e. less than the time needed for construction of the project;
- There will be no change in ownership of the land;
- The scope of the work will be minor, (i.e., both the nature and the magnitude of the changes to the Section 4(f) resource are minimal);
- There are no anticipated permanent adverse physical impacts; and
- The land being used will be fully restored, i.e. the resource will be returned to a condition which is at least as good as that which existed prior to the project.

Because the right-of-way and permanent impact acquisitions to the Mt. Olive Colored School/Mt. Olive School have adverse effects (under 36 CFR 800) it was necessary to undergo the development of a full avoidance alternative that would avoid this Section 4(f) property altogether (per 23 CFR 774.3(a)(1)). Avoidance Alternatives for this resource are discussed in the following section followed by the options to minimize harm, prevent harm, and provide mitigation.



DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="width: 50px; height: 15px;"> </td><td style="width: 50px; height: 15px;"> </td></tr> <tr><td style="width: 50px; height: 15px;"> </td><td style="width: 50px; height: 15px;"> </td></tr> <tr><td style="width: 50px; height: 15px;"> </td><td style="width: 50px; height: 15px;"> </td></tr> </table>							SCALE 0 30 60 90 FEET	SR1, LITTLE HEAVEN GRADE SEPARATED INTERSECTION	Figure IV-7 Preferred Alternative C in the Vicinity of the Mt. Olive School

E. Avoidance Alternatives

Avoidance alternatives were considered for all historic structures identified in the entire project area. With the exception of the No-Build Alternative, none of the alternatives were able to completely avoid right-of-way impacts to either the Mt. Olive Colored School/Mt. Olive School or the Thomas James House properties. As discussed in the previous headings of this Section 4(f) Evaluation, the strip right-of-way required for transportation improvements upon the Thomas James House is *de minimis* therefore no further avoidance or minimization alternatives need to be developed. An avoidance alternative was not needed for Barratt's Chapel because the Preferred Alternative avoids any need for right-of-way or permanent easements and meets exception for a *de minimis* finding.

However, several avoidance alternatives were tested and determined in order to best avoid encroaching onto the Mt. Olive Colored School/Mt. Olive School property. In sum, all were determined not to be *prudent* or *feasible* in order to satisfy the project purpose and need and because of impacts would result due to the Mt. Olive School's location at the junction of SR 1 and Mulberrie Point Road.

The following Section 4(f) Avoidance Alternatives for the Olive Colored School/Mt. Olive School were considered:

1. No-Build Alternative

The No-Build Alternative (**Figure IV-8**) is based on a no-construction scenario where roadway improvements would not take place. Future improvements would entail maintenance of the existing roadway surfaces, road paving, road signs, traffic signals and signal timing. This alternative would include the implementation of feasible Intelligent Transportation Management Systems strategies similar to those along Interstate I-95, SR 1, or US 13 and 113. These transportation strategies might include:

- Continuation of traffic signals that are integrated within a regional signal system and coordinated and administered by the DelDOT Transportation Management Center (TMC).
- Surveillance cameras linked to the TMC and the DelDOT web site for live interactive traffic monitoring and emergency response.
- Dynamic message signs.
- Traffic and transit information kiosks.
- Vehicle detection systems used to optimize traffic signals and detect incidents.

Although additional transit, pedestrian, or bicycle facilities could be added and implemented as separate projects, the No-Build Alternative would not be consistent or adhere with the SR 1 Corridor Capacity Program. Moreover, under the No-Build Alternative, the project would not meet the purpose and need and would not address existing or future traffic congestion, accident safety, and local transportation access needs. However, the No Build Alternative would result in no use of a Section 4(f) resource.



 Historic Boundary

DELAWARE DEPARTMENT OF TRANSPORTATION		ADDENDUMS / REVISIONS			SR1, LITTLE HEAVEN GRADE SEPARATED INTERSECTION	Figure IV-8 No-Build Alternative in the Vicinity of the Mt. Olive School

2. Avoidance Alternative for Preferred Alternative C

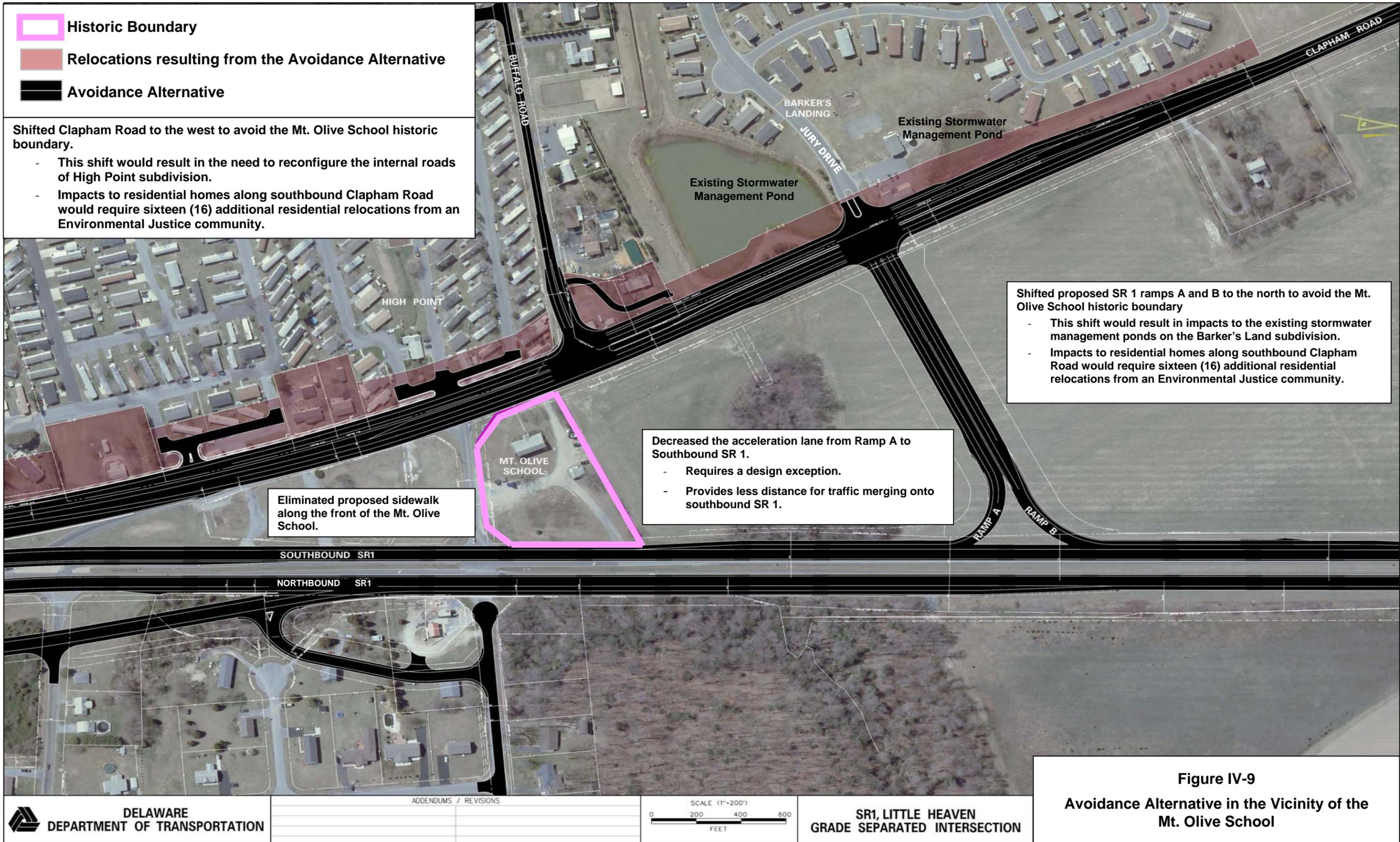
The first total Avoidance Alternative, the No-Build Alternative was not prudent or feasible because it did not address the project's purpose and need. A second Avoidance Alternative for Preferred Alternative C was developed and evaluated to avoid encroaching onto the Mt. Olive Colored School/Mt. Olive School property, while still meeting the project's purpose and need. This Avoidance Alternative (See **Figure IV-9**) eliminates the proposed sidewalk along the front of the school, shifts the Clapham Road alignment to the west, shifts the SR 1 ramps A and B to the north and decreases the length of the acceleration Ramp A to southbound SR 1 to avoid impacting the School property, but actually results in more significant impacts at other locations.

There are several significant secondary and cumulative impacts that result from implementing an Avoidance Alternative at this location. First, the shift of the Clapham Road alignment to the west would result in sixteen (16) residential relocations from High Point subdivision, which would constitute a disproportionately high and adverse impact to this Environmental Justice community. The impact would be even greater if a sidewalk is added on either side of the roadway (i.e., a sidewalk footprint is normally 5' in width).

As a result of the shift of Clapham Road west under this Avoidance Alternative, additional utility pole and sewer line relocations would result, both of which would increase the impacts to the High Point subdivision and would be anticipated to substantially increase the cost and scope of the project. The impacts to High Point would also require additional entrance improvements and reconfiguration of the internal roadway network. The remaining residents of the community with units closest to the road would experience increased noise and visual impacts. These modifications would also result in the need to redesign the alignment of Clapham Road to the south of this location in order to tie-in to the realignment which would in turn result in even more frontage takes along Clapham Road. In addition, excluding any pedestrian amenities, such as a sidewalk in an effort to reduce right-of-way impacts, places hardship on impacts upon Environmental Justice communities by eliminating safe pedestrian facilities. Local transit (DART) does service this area and would need to be relocated.

The Avoidance Alternative would also be designed with a new ramp access to SR 1 and Clapham Road connecting with the Jury Drive intersection to form a four-legged, signalized intersection. This would eliminate right-of-way, construction, or easement acquisitions at the northeast corner of the Mt. Olive School property at the on-ramp to southbound SR1. In order to avoid this acquisition the Avoidance Alternative would shift the SR 1 ramps A and B to the north where they would connect to a new 4-way intersection at Clapham Road at the entrance to the Barker's Landing Subdivision (i.e., Jury Drive). Barker's Landing is a small neighborhood to the north of the High Point community. Although no homes are directly in front, two existing stormwater management ponds for this subdivision are located to the west of existing Clapham Road. Adding a 4-way intersection and shifting Clapham Road to the west would impact both stormwater management ponds. These ponds would have to be rebuilt at another location, which would lead to addition right-of-way acquisition. Due to the tight constraints in this area, this would also result several more residential relocations in the Barker's Landing subdivision.

Although this Avoidance Alternative could be achieved from a design parameter, several traffic operation and safety issues would result from relocating ramps A and B adjacent to the entrance of Barker's Landing. By relocating the proposed ramps excessive queuing would occur along Clapham Road between Buffalo Road and the new intersection of the SR 1 ramps at Clapham Road/Jury Drive. Further measures to split the traffic flow using signalization would cause further operational issues for through and turning movements at both intersections.



The Avoidance Alternative does not fully meet any of the goals of the purpose and need and therefore it is not *prudent* to relocate the intersection of the ramps at any location other than across from Buffalo Road. The avoidance cannot accommodate existing and future traffic volumes and maintain safe and efficient traffic operations. Accommodating existing and future traffic volumes and maintaining safe and efficient traffic operations can only be achieved when the proposed ramps meet with Buffalo Road to form a four-legged intersection, as proposed in the Preferred Alternative C.

In addition to the aforementioned avoidance measures, the Avoidance Alternative would require decreasing the length of the acceleration lane from Ramp A to southbound SR 1 from 1,350' to 710', a difference of 640'. This decrease would result in the need to obtain a design exception because the length does not meet typical standards for a high speed roadway. Reducing the length of the acceleration ramp would create a safety issue as motorists on the ramp would not be able to accelerate to a speed where they could safely merge with the high volume of through traffic on SR 1 which would create high potential for rear-end type crashes and sideswipe accidents due to the high volume of through traffic on SR 1. It is not *prudent* to shorten the acceleration ramp given the traffic volumes for the existing and future conditions along SR 1.

An avoidance of the Mt. Olive School property is feasible, but would not be prudent given the substantial impacts discussed above. In summary, avoiding the Mt. Olive School property result in substantial community disruption (16 displacements of EJ community residents), reduced safety for vehicles accessing SR 1 to/from Ramp A, reduced pedestrian mobility due to removal of sidewalk along Clapham Road. Therefore, attempts to totally avoid the impact on the Mt. Olive School are not *feasible* or *prudent* and therefore consistent with Section 4(f) approval under 23 CFR 774.3(a)(1) which states: "There is no feasible and prudent avoidance alternative, as defined in §774.17, to the use of land from the property". Options to Minimize Harm, Prevent Harm and Provide Mitigation are discussed in the following section and are consistent with Section 4(f) approval under 23 CFR 774.3(c)(2) which states: "The alternative selected must include all possible planning, as defined in §774.17, to minimize harm to Section 4(f) property."

F. Options to Minimize Harm, Prevent Harm and Provide Mitigation

As a result of refinements to initial Alternative C alternatives the overall right-of-way acquisition and permanent easements from the Mt. Olive Colored School/Mt. Olive School was reduced by 0.03 acres for the Preferred Alternative as previously shown in **Table IV-1** and **Figure IV-7**. In addition, the efforts to minimize Section 4(f) impacts also included the following minimization and enhancement and mitigation measures:

Minimization

- SR 1 Southbound on-ramp (Ramp A) reduced design speed from a 30 MPH curve to a 25 MPH curve, which reduces right-of-way and permanent easement takings from the school by 0.03 acres when compared to the original Alternative C. While it is acknowledged that this minimization of RW and PE does not minimize the adverse effect, it does represent, along with the Avoidance Alternative all possible planning, as defined in §774.17, to minimize harm to the property resulting from such use.

Enhancement/Mitigation

- Proposed sidewalk along the front of the school house.
- A new paved driveway will maintain access to this property replaces the dirt driveway that was prone to soil erosion.
- Re-landscaping and plantings along the front of the property.

As a measure to prevent further harm and provide mitigation, re-landscaping activities will be undertaken to mitigate the loss of the few trees that front the property. It would screen the property from traffic along SR 1, thus reducing visual impacts.

Similar to existing conditions, a sidewalk will also be re-installed along the front of the property. This will enable a safer pedestrian environment and re-convey a setting of a school house where students walked. All other paved areas will be restored to grasses and safe vehicular access will be provided for potential adaptive use needs.

If requested and verified by the property owner and the Division of Historic and Cultural Affairs as part of a mitigation package, a historic sign marker can also be added as a means to publicly convey the importance of this former school house historic property. Vibration studies and other protective measures can be implemented to best ensure that damage and repairs (should it be warranted) will not occur during construction and utility phases. There are also provisions for appropriate repairs (if warranted). All mitigation measures to prevent further harm are formalized and included in the project's MOA (see **Appendix A**).

G. Consultation and Coordination

Coordination with the DE SHPO was initiated as part of the alternatives development process and has occurred throughout the NEPA process. Coordination with individual property owners and Kent County government has also been on-going throughout preliminary engineering regarding the Section 4(f) resources. DelDOT's also partook in public outreach efforts with area residents, property owners and or other consulting parties with respect to development of the alternatives and development of the MOA. DE SHPO involvement and consultation has been extensive in term of plan overview, written and verbal coordination/communications, resource identification needs, scope changes, and field assessments.

FHWA and DelDOT have consulted with the DE SHPO and the public on alternatives or measures to avoid and/or help minimize effects on historic properties. The undertaking best minimizes impacts and harm to historic properties (and others) by incorporating various minor shifts in the alignment. The Preferred Alternative C takes into account efforts to avoid/minimize effects to all properties, particularly historic properties (i.e., Barratt's Chapel and Cemetery, Thomas James House, Mt. Olive Colored School/Mt. Olive School, W.C. Fountain Agricultural Complex and the Jehu Reed House). The proposed transportation improvements include shifts in the alignment where impacts to certain historic properties were unavoidable.

Copies of the DE SHPO's correspondence specific to the Section 106 adverse effect (Pages VI-21 to VI-22) and Section 4(f) finding (pages VI-23 to VI-24) are included in **Appendix B**.

Owners of the Mount Olive School (Delaware Department of Education) were contacted regarding impacts and the status of their state owned property. The question was also raised about the condition and status of the building with its lack of use/occupation and upkeep. At this time, the agency did not express specific historic preservation concern. They are aware of the

expected impact upon their property. Changes in vehicular access were not a concern either. The use of the building, now and into the future, has not been determined by this organization.

Trustee's for the Barratt's Chapel and Cemetery were contacted on several occasions. The relocation or removal of the fixtures (bell, sign, and trees) was coordinated as well as improvements in existing roadway shoulder access into their property. Improvement to their entranceways is not a result of the other transportation measures, but as a request to improve safety and ease of accessing the property. This added measure was not unreasonable.

No other property owners or organizations were known to express a historic preservation concern or view upon his/her property, including the Thomas James property.

Public outreach will continue during the project design with the public involvement process as deemed appropriate for purposes of Section 106, Section 4(f) the level of effort and 23 CFR 771.

H. Conclusion

Based upon the above considerations, there is no *feasible* and *prudent* alternative to the use of land from the Mt. Olive Colored School/Mt. Olive School. The Preferred Alternative includes all planning to minimize harm to the Mt. Olive Colored School/Mt. Olive School resulting from such use.