



ENVIRONMENTAL ASSESSMENT



Blue Ball Properties

**BLUE BALL PROPERTIES
AREA TRANSPORTATION
IMPROVEMENT PROJECT**

**July 2001
(Revised September 2001)**



US Department of Transportation
Federal Highway Administration



Delaware
Department of Transportation

MTA

McCormick, Taylor & Associates, Inc.



**Blue Ball Properties Area Transportation Project
New Castle County, Delaware**

Environmental Assessment

Submitted pursuant to
42 U.S.C. 4332 (2) (c) and 49 U.S.C. 303
U.S. Department of Transportation
Federal Highway Administration
and Delaware Department of Transportation

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July 2001

SUMMARY

A. Introduction

The National Environmental Policy Act of 1969 (NEPA) process requires the preparation of a detailed environmental documentation for federally funded projects where it is yet to be determined if environmental impacts will be significant. This Environmental Assessment provides a summary of the evaluation process that occurred in developing the Master Plan Alternative for the Blue Ball Properties Area Transportation Improvement Project located in New Castle County, Delaware for public, federal, state and local environmental resource protection agencies.

This Environmental Assessment clearly and concisely presents the results of the investigations conducted on the project alternatives and forms the basis for the selection of a preferred alternative. It provides the environmental and engineering information necessary to satisfy the NEPA regulatory requirements as part of the decision making process. Detailed technical information is included in supporting documentation which is appropriately referenced in the Environmental Assessment.

B. Project Description

The study area extends along U.S. Route 202/Concord Pike from just north of Delaware Route 141 to Broom Street, and from the intersection of Delaware Route 141 and Childrens Drive eastward to the vicinity of the intersection of Foulk and Murphy Roads, in an area commonly known as the Blue Ball Properties. The Delaware Department of Transportation (DelDOT) is proposing the construction of an alternate Delaware Route 141 (i.e., the Route 141 Spur), a local road system connecting Augustine Cut-Off, Rockland Road, and Weldin Roads, as well as improvements to the surrounding transportation system.

In May 1992, an Environmental Assessment (EA) was approved for Delaware Route 141 improvements, from Delaware Route 141, Montchanin Road (S.R. 100) to U.S. 202 (Concord Pike). The EA evaluated potential impacts to the widening of a 4.5 mile section of Delaware Route 141 to accommodate 2010 traffic forecasts. The Preferred Alternative, D1 (known as the “Spaghetti Plan”) consisted of an urban diamond interchange at Foulk Road and U.S. Route 202, the interconnection of Rockland Road and Augustine Cut-Off, and an optional tunnel connection from Rockland Road/Augustine Cut-Off to U.S. Route 202. After much public opposition between 1992 and 1994, the project was split, and the Foulk Road/U.S. 202 Interchange improvements were put on hold.

Subsequently, in 1999, the Blue Ball Properties Area Transportation Project improvement study began as part of a Master Planning study of the Blue Ball Properties Area, looking at not only transportation improvements to the area, but recreational facilities, stormwater management facilities and environmental mitigation. The selection of a Preferred Transportation Concept resulted from this Master Planning process. The Preferred

Transportation Concept was analyzed in detail and an avoidance and minimization study of area resources was implemented to improve the preferred alternative. This effort was completed to satisfy the requirements of NEPA, Section 106 of the National Historic Preservation Act, Section 4(f) of the U.S. Department of Transportation Act and Section 404 of the Clean Water Act. The resultant Master Plan Alternative is designed to alleviate the identified project needs of traffic congestion and traffic safety and to minimize environmental impacts to the extent possible, given the constraints of the project needs.

C. Project Purpose and Needs

A comprehensive needs analysis was completed in May 2000, which determined that improvements in the project area are necessary to address highway network compatibility, capacity, access, safety and to support economic growth in the region. The findings were summarized in the Draft *Project Purpose and Needs Summary* report completed in June 2000. The study determined that the principal project needs for this study are traffic congestion and relief, infrastructure upgrades and traffic safety. These are the primary problems that are present on the existing roadway system, and both problems would be expected to worsen in the future, without transportation improvements in the area. Secondary project needs are based on the comprehensive planning and economic development goals for the area. This includes the development of open space and recreation facilities in the area as well as planned future land use and economic growth.

In summary, the purposes of the Blue Ball Properties Area Transportation Improvement Project are to:

- Decrease vehicular congestion within the study area, by:
 - Meeting the “no degradation” Level of Service criteria (defined in *Section I. D*) at all applicable study area intersections; and
 - Meeting standard level of service criteria for highly developed urban areas at other major study area intersections.
- Improve the transportation safety within the study area.
- Provide adequate transportation facilities to support the planned study area economic and recreational development.
- Encourage non-single occupancy vehicle trips by significantly improving transit in the region and developing transportation demand management strategies.
- Utilize Intelligent Transportation Management System strategies to optimize traffic flow within the study area.

D. Alternatives

As part of the Master Planning Process, two (2) committees were established to review the proposed improvements to the Blue Ball Properties Area: a Transportation Technical Committee and a Recreational and Historic Preservation Technical Committee. These committees met regularly with the Project Team, in meetings that were open to the public, to assist in the process of developing a preferred alternative. A large number of options were developed as a result of these meetings.

In the initial screening process, options were dismissed or carried forward for further analysis/refinement for the following reasons:

- The option would not meet the “no degradation” criteria, or, if designed to meet the “no degradation” criteria, the option would create unacceptable impacts to surrounding communities, proposed parkland, or natural and cultural resources.
- The option would not provide acceptable access to the A.I. DuPont Hospital and other businesses and residential areas.
- The option would significantly increase traffic on local roads.
- The option would cause unacceptable loss of land and potentially preclude the AstraZeneca expansion.
- The option would be impracticable to construct or would create unacceptable maintenance and protection of traffic issues during construction.

Based on the results of the transportation option screening process and public input, a limited number of options for Route 141, Augustine Cut-Off, and Foulk Road were carried forward.

To further refine the project alternatives development process, the best options carried forward were combined to form the transportation concepts that would best address the project needs and minimize impacts to the area’s resources. As a result, two (2) complete transportation concepts were developed.

Throughout the transportation planning effort, several interchange options were discussed. Based on traffic modeling and analysis, a grade-separated interchange would be required, rather than an at-grade intersection. However, in order to improve traffic flow and reduce vehicle delays, interchange options restricted some traffic movements to local roads. The consensus of the Transportation Committee was that all moves should be provided at every intersection, to the extent possible. In applying this philosophy, two interchange options emerged which were ultimately named the “Bow Tie” option, and the “Diamond” option.

Both options would meet the “no degradation” traffic performance criteria. However, the “Diamond” option would use less land and be more compatible with planned land use and the proposed recreation facility development. The “Diamond” option was incorporated into the preferred transportation concept.

E. Environmental Consequences

This Environmental Assessment presents an examination of existing environmental features within the Blue Ball Properties study area. The following subject areas were investigated for this study and are presented in the Blue Ball Properties Area Transportation Improvement Project Environmental Assessment: Transportation; Community Effects; Historic and Archaeological Sites; Air Quality; Noise; Hazardous, Municipal and Residual Waste; Water Quality; Hydrologic Impacts; Geology and Groundwater; Fish and Wildlife; Wetlands; Land Use; Other Natural Resources; and Access. Recommended mitigation measures are identified where appropriate.

Environmental studies were completed at two levels to help determine the feasibility of implementing the proposed alternatives, at a macro scale as part of the Master Planning and at a detailed scale during the avoidance/minimization analysis. Impacts evaluations, located in *Section IV*, reviewed both Build and No-Build Alternative analysis. An additional analysis of the previously proposed improvements, the “spaghetti” plan vs. the preferred transportation concept, was also evaluated.

F. Preferred Alternative

The Preferred Alternative or proposed action would include the construction of the following roadway improvements in the Blue Ball area:

- The Route 141 Spur would be built on a new 4-lane boulevard from the Childrens Drive/Delaware Route 141 intersection south to a new intersection with U.S. Route 202 and Foulk Road.
- U.S. Route 202 would be widened and improved from I-95 north to the existing Murphy Road intersection. Lanes will be added through most of this section for bus use only.
- A local roadway network will be constructed on the west side of U.S. Route 202 (Westpark Drive), which will connect the Augustine Cut-Off to the proposed Route. 141 Spur. A local roadway connection will be constructed to link the west side road under U.S. Route 202 to Weldin Road on the east side of U.S. 202.
- Weldin Road would be relocated to allow an improved intersection with Foulk Road. A small connector roadway would be constructed from this intersection west to U.S. Route 202.

- This proposed network of local roads connected under U.S. Route 202 would allow for the desired separation of local and regional traffic.
- U.S. Route 202/Powder Mill Road/Murphy Road – An additional through lane in each direction on U.S. Route 202 will be provided, as well as an additional turn lane on Murphy Road
- U.S. Route 202/Foulk Road/Route 141 Spur – This signalized intersection will be located on top of the structure carrying the Route 141 Spur under U.S. Route 202 to Foulk Road. The intersection will include an efficient two-phase traffic signal, serving three lanes in each direction on U.S. Route 202 in one phase, followed by the dual left-turn lanes on Foulk Road and the Route 141 Spur in the second phase.
- U.S. Route 202/Augustine Cut-Off – The “Partial Signal” option allows right-turns from Augustine Cut-Off and northbound left-turns on U.S. Route 202. The eastbound left turns and southbound right turns will not be allowed, and these movements will be diverted to other intersections. The intersection of the West Side Park Road and Augustine Cut-Off will also be signalized and will work together with the signal on U.S. Route 202 to ensure vehicles do not stack out onto the U.S. Route 202 mainline.
- U.S. Route 202/I-95 Ramps – Signalization of one or more of the ramp accesses to I-95 on U.S. Route 202 is being considered for capacity and traffic calming reasons.
- Route 141 Spur/Powder Mill Road /Childrens Drive – The existing three-leg intersection will be reconfigured into a four-leg intersection to efficiently connect the Route 141 Spur into existing Delaware Route 141 (Powder Mill Road). Two through lanes and dual left-turn lanes will be provided on each approach.
- Route 141 Spur/West Side Park Road – This proposed intersection will serve Route 141 Spur traffic, relocated Augustine Cut-Off traffic, and park traffic. Two through lanes are provided in each direction on the Route 141 Spur. Northbound traffic on the West Side Park Road will have separate right and left turn lanes, while southbound traffic on Ramp C will have separate left, through, and right-turn lanes.
- Route 141 Spur/Ramp F – This intersection will serve the heavy traffic movement from I-95 to the Route 141 Spur. Ramp F will include dual left-turn lanes and a separate right-turn lane.
- Foulk Road/Connector Road to Relocated Weldin Road – This intersection will replace the existing intersection of Foulk Road and Weldin Road. Additionally, a fourth leg to the intersection will be added, connecting to the U.S. Route 202 Connector Road.

- Eastpark Drive will be placed in an east-west alignment between the proposed golf practice area and the proposed multi-purpose soccer fields, north of a hedgerow that buffers the three (3) sports fields from each other. The Eastpark Drive then connects to Carruthers Lane and travels north to a relocated segment of Weldin Road. This portion of Weldin Road connects to Foulk Road at an intersection north of the existing Foulk Road/Weldin Road intersection.

This alignment of Eastpark Drive would minimize direct impacts upon the J.R. Weldin archaeological site through use of a retaining wall or slope/wall combination. The alignment would place the roadway south and immediately adjacent to three (3) multi-purpose sports fields. The arrangement of the field and other supporting facilities of the park have been redesigned to accommodate this alignment.

- A greenway trail network would be constructed from the Alapocas trail head on the west, under U.S. Route 202, to the existing trail terminus on the east.
- The proposed action would include the construction of several stormwater management facilities to prevent flooding and protect water quality and aquatic life in the watershed.

As a result of the avoidance and minimization analysis, modifications to the Preferred Alternative have been made to incorporate minimization concepts and features. These minimization features include;

- Realignment and shift of the 141 Spur 100 feet to the north at its U.S. 202 crossing. This minimization reduces the land area required from the Nemours Historic District by approximately 1 acre. This shift also allows the 141 to U.S. 202 off ramps to be realized at a location further from the Blue Ball Barn. A resulting impact of this shift is the loss of the Weldin-Husbands Home, a locally historic structure at the corner of Foulk Road and U.S. 202. Although a locally historic structure, the property and structure is not eligible for the National Register of Historic Places (NRHP). This determination was approved by the State Historic Preservation Office (SHPO) and the keeper of the National Register. The SHPO concluded that the Weldin-Husbands House is not historic.

Other minimization strategies incorporated into this alternative include;

- Grass shoulder and 11 foot travel lanes for the Westpark Drive through the Nemours Historic District.
- Reduced lane and shoulder widths for the widened portion of Childrens Drive adjacent to the William Murphy House.
- Placement of a retaining wall and fence between the One Rock Manor property and the U.S. 202 to I-95 on-ramps.
- Placement of a retaining wall or wall/slope combination along the eastern edge of the Route 141 Spur adjacent to the J.R. Weldin Archaeological site.

G. Comments and Coordination

Public involvement/coordination has been an integral part of the transportation planning process for the Blue Ball Properties Transportation Improvement Project. Analysis of the Blue Ball Properties Area Transportation Project took place through public workshops and coordination with public officials and state and federal natural resource agencies. All of these meetings and workshops that took place with the committees were open to the public. The public meetings with the Transportation and Recreation and Historic Preservation Committees were held between August 1999 and June 2000. A further list and discussion of these meetings is found in *Section V* of the Environmental Assessment.

Additionally, meetings sponsored by the Delaware Department of Transportation (DelDOT), the Delaware Economic Development Office (DEDO), the Department of Natural Resources and Environmental Control (DNREC), New Castle County and other public officials and civic leaders were held. Public Workshops and a Master Plan Open House were held to inform the community of the Preferred Transportation Concepts and invite their comments and concerns.

Identification and analysis of environmental features included coordination with the natural resource agencies and the Delaware State Historic Preservation Office to determine the requirements that would need to be met as the project evolved. Agencies involved in the effort included:

- New Castle County
- Federal Highway Administration
- Division of Historical and Cultural Affairs
- Delaware State Historic Preservation Office
- DNREC- Wetlands and Subaqueous Lands Section
- United States Army Corps of Engineers
- United States Environmental Protection Agency

The natural resource agency meetings and Field Views were held from June 2000 to present.

H. Unresolved Issues with Agencies

Historic Properties

The identification and evaluation of historic properties, as defined under Section 106 of the National Historic Preservation Act and implementing regulations, 36CFR§800, is currently being completed within the Area of Potential Effect (APE) for the Blue Ball Properties Area Transportation Improvement Project. The APE has been previously established in consultation with DelDOT, Federal Highway Administration (FHWA), the Delaware State Historic Preservation Officer (SHPO), and additional Consulting Parties. Properties eligible for listing in the National Register of Historic Places are being

identified. The Identification and Evaluation Survey has two components, one for architectural resources and one for archaeological resources.

A Historic Resources Survey/Determination of Eligibility Report was submitted to the Delaware State Historic Preservation Office (SHPO) on October 30, 2000. Verbal concurrence was received from the SHPO at a January 24, 2001 meeting.

As part of the Section 106 process and documentation requirements, a Determination of Effect/Case Report has been prepared in draft form and submitted to the SHPO and other Section 106 consulting parties for review. Concurrently, a Memorandum of Agreement (MOA) in draft form has been prepared and submitted for review. The MOA outlines legal status and regulatory compliance for mitigation upon historic properties that will be adversely affected.

A Determination of Effect/ Case Report has been prepared in draft form and submitted to the SHPO and other Section 106 consulting parties for review and concurrence. Concurrently, a Memorandum of Agreement in draft form has been prepared and submitted for review and for mitigation options and regulatory compliance.

I. Federal or State Action Required (Permits, Approvals)

Stream crossings over Alapocas Run and Matson Run and their tributaries will be required as a result of the project. The stream crossings and wetland impacts will require permits from New Castle County, a Coastal Zone Management (CZM) consistency determination, a 404 Permit from the Army Corps of Engineers (ACOE), a Subaqueous Lands Permit from the Delaware Department of Natural Resources and Environmental Control (DNREC) and a Section 401 Water Quality Certification.

The Brandywine Creek is dammed downstream of the project area and the relevant portions of Alapocas Run and Matson Run are both above the fall line. As such, it is expected that a Coast Guard Permit will not be required for the project.

J. Other Proposed Government Actions in the Area

Integrated Transportation Management System (ITMS) improvements, including the implementation of additional transit services in the study area and region, are currently under study by DelDOT and the Delaware Transit Corporation (DTC). Therefore, although multi-modal improvements will ultimately be implemented within the study area and region, they are not specifically evaluated in this document.

Additionally, state park and recreation facilities are proposed for both the east and west sides of U.S. 202. Passive recreation is proposed for the west side and active recreational facilities are being proposed for the east side of U.S. 202. Although not part of this Federal Environmental Action, analysis of the park facilities can be found in the Blue Ball Properties Master Plan.

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SUPPLEMENTAL DOCUMENTS

- A: *Blue Ball Properties Area Improvements Draft Case Report (Section 106)*
- B: *Blue Ball Properties Area Transportation Improvement Project Draft Section 4(f) Evaluation*
- C. *Blue Ball Properties Master Plan, dated January 2001*

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