

ADDENDUM III

**TRC OMNI ENVIRONMENTAL CORPORATION
WETLANDS INVESTIGATION REPORT
REGARDING A CONNECTOR ROAD
BETWEEN
ROUTE 518 & CHERRY VALLEY ROAD
APRIL 3, 2002**

I. INTRODUCTION

TRC Omni Environmental Corporation (TRC Omni) was requested by Montgomery Township to investigate the possibility of constructing a "Master Plan Road," that would provide a new, north-south connection between Cherry Valley Road and Route 518. The key issue on this matter is that the "Master Plan Road" would need to be constructed through very high quality wetlands, defined as "exceptional" because of the presence of threatened and endangered species in the area.

The three proposed alternatives, all of which pass through a forested wetland complex that comprises the headwaters of Van Horne Brook and Cherry Brook, were:

- a. A northerly extension of Linton Dr. directly through the wetland complex, passing to the west of the airport and running north to Route 518 (Shown in red on Figure 1).
- b. A road running northerly from Cherry Valley Rd. that intersects the western end of Applegate Rd., then extending westerly through the wetland before turning north past the airport to Route 518 (Shown in blue on Figure 1).
- c. A new road running northerly from Cherry Valley Rd. passing to the west of the Yorkshire Woods subdivision, then passing northeasterly through the wetland, before turning to the north to Route 518 (Shown in green on Figure 1).

Figure 1 depicts the approximate locations of these alternative routes and shows the location and classification of wetlands as recorded in the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) database, which is used by New Jersey Department of Environmental Protection (NJDEP).

TRC Omni conducted a field reconnaissance of the wetland complex to verify the approximate boundaries relative to the NWI mapping and to assess the quality of the wetland and its suitability as wildlife habitat. The three different proposed routes were walked to see if there were any significant differences in the quality of the wetlands that would be affected by the various alternatives. A meeting with the New Jersey Department of Environmental Protection (NJDEP) was held to discuss its permitting concerns relative to the various proposed alternatives. This report summarizes those investigations.

II. FIELD RECONNAISSANCE

All three alternatives pass through a deciduous forested wetland complex that is located between the Princeton Airport and the existing subdivisions (Yorkshire Woods and Woodsedge) off of Cherry Valley Road. The main wetland complex comprises approximately 83 acres and is roughly 750 feet wide and a mile long, running east-west from Route 206 towards Cherry Hill Road. The wetland complex is a high quality, palustrine forested wetland (PFO) according to the USFWS classification (Cowardin *et al.*, 1979). This wetland complex includes some of the headwaters of Van Horne Brook and Cherry Brook. The primary forest canopy is dominated by red maples (*Acer rubrum*), black gum (*Nyssa sylvatica*), green ash (*Fraxinus pennsylvanica*) and pin oaks (*Quercus palustris*), with an assortment of other hardwoods such as hickories (*Carya sp.*) and American beech (*Fagus grandifolia*). The understory, which is heavily browsed by white-tail deer, contains various shrubs and saplings such as spice bush (*Lindera benzoin*) and American elms (*Ulmus americana*). There was hydrologic evidence (blackened leaves) of vernal pools throughout the wetland that would be appropriate breeding habitat for various amphibian species. Figures 2 through 4 depict typical views of this wetland.

Based on the field reconnaissance, the depiction of the wetland complex on the NWI maps is approximately correct in terms of both location and classification. There is no significant difference in either quality or nature of the wetland between the three alternative routes. Using the NWI boundaries and assuming a fifty-foot wide right of way, the approximate area of wetlands affected by each of the alternatives is summarized in Table II.1. This estimate includes only the wetlands between Cherry Valley Road and the point west of the airport where the three alternatives meet. It does not include any wetlands that might be crossed on the route north to Route 518 and does not include wetland transition areas.

Table II.1: Wetland Acreage Affected By Various Alternatives

Alternative Route	Total acres of Wetlands Impact
(a) Linton	1.5
(b) Western	1.5
(c) Applegate	2.7

III. PERMITTING ISSUES

On March 18th, 2002, Dr. Peter L. Kallin of TRC Omni Environmental Corporation and Mr. Donald Johnson of Johnson Consulting Engineers (Montgomery Township's Environmental Engineer, met with Chris Jones and Kim Kissinger of the New Jersey Department of Environmental Protection Land Use Program to discuss permitting issues associated with the proposed road crossing of the wetland complex north of Linton Drive. The three different alternative versions of the "Master Plan Road" depicted on Figure 1 were discussed.

All three of these alternatives pass through the forested wetland complex that comprises the headwaters to Van Horne Brook and Cherry Brook. This deciduous forested wetland is classified by NJDEP as an "Exceptional Resource Value" wetland. NJAC 7:7A-2.4 defines an "Exceptional Resource Value Wetland" as one that:

1. Discharges into FW-1 or FW-2 trout production waters or tributaries;
2. Is a present habitat for threatened or endangered species; or
3. Is a documented habitat for threatened or endangered species, and which remains suitable for breeding, resting, or feeding by these species during the normal period these species would use the habitat.

According to NJDEP's Natural Heritage Database for threatened and endangered species, the wetland complex in question is present habitat for at least one endangered species (a bird) and documented habitat and remains suitable for two others (a reptile and an amphibian). An "Exceptional Resource Value Wetland" warrants a 150-foot transition area (NJAC 7:7A-2.5(d))

According to Mr. Jones, who is the permitting authority for this area, obtaining a permit to disturb these wetlands would be a "long and difficult process." It would require an Individual Freshwater Wetlands Permit, which would only be granted if the applicant could demonstrate that all the requirements of NJAC 7:7A-7.2 were met. This section of the code lists 14 different criteria that must be met, including an alternatives analysis to demonstrate that the applicant:

1. *“Has no practical alternative which would:
 - i. “Have a less adverse impact on the aquatic ecosystem or would not involve a fresh-water wetland or State open water;” and
 - ii. “Would not have other significant adverse environmental consequences, that is, it shall not merely substitute other significant environmental consequences for those attendant on the original proposal;”*
2. *“Will result in the minimum feasible alteration or impairment of the aquatic ecosystem including existing contour, vegetation, fish and wildlife resources, and aquatic circulation of the freshwater wetland and hydrologic patterns of the HUC-11 in which the activity is located;*
3. *“Will not destroy, jeopardize or adversely modify a present or documented habitat for threatened or endangered species; and shall not jeopardize the continued existence of a local population of a threatened or endangered species, as defined at NJAC 7:7A-1.4.”*

These criteria would be extremely difficult to meet with any of the proposed alternatives. For example, the Land Use personnel suggested two possible alternatives that would have significantly less environmental impact:

- a. A road running easterly off Cherry Hill Rd. between Cherry Vail Ct, and Cherry Brook Dr. and then turning north towards Rt. 518;
- b. A road running westerly off Rt. 206 north of the airport and then turning north towards Rt. 518.

These alternatives are depicted on Figure 5 along with the original options. The applicant would have to demonstrate that neither of these alternatives is practical in order to satisfy the first criterion, above.

To meet the second criterion, i.e., minimize impact to the hydrology and endangered species; the wetland crossing would likely have to be some type of raised causeway to allow unimpeded flow of water and movement of wildlife under the road. This would significantly

increase the construction cost and even then, the criteria might not be judged as met due to noise, potential polluted runoff, or destruction of habitat (criterion 3).

The total wetlands impact of the proposed alternatives and the two additional alternatives suggested by NJDEP are summarized in Table III.1. The totals in this table differ from Table II.1 in that they also include the impacts from the portion of the road north of the airport to Route 518. The new alternatives do not cross the Exceptional Resource Value wetland complex and disturb significantly fewer wetland acres.

Table III.1: Wetland Acreage Disturbed By Alternatives (a)-(e)

Alternative Route	Total acres of Wetlands Impact
(a) Linton	2.00
(b) Western	1.90
(c) Applegate	3.04
(d) Cherry Hill	0.43
(e) Rt. 206	0.31

IV. CONCLUSIONS AND RECOMMENDATIONS

In our opinion, the likelihood of obtaining an Individual Freshwater Wetlands Permit to disturb these Exceptional Resource Value wetlands is low. While NJDEP cannot officially deny a permit before reviewing the entire permit package and associated environmental impact statements (EIS), they predict a “long and difficult process” that would involve public meetings with residents to defend the various alternatives and justify the impacts. The time and effort that would be spent in this process is probably better spent in evaluating other alternatives that would accomplish the same goals but with less adverse environmental impact.

An interesting option that we believe is worth investigating is the possibility of permanently preserving the Exceptional Resource Value wetlands in order to obtain mitigation credits that could be used to offset wetlands impacts elsewhere within Montgomery Township. Under the provisions of NJAC 7:7A-15, the Wetlands Mitigation Council may accept the

permanent protection of property from future development as mitigation for other wetland impacts. Among the criteria they use to evaluate this option are size, location relative to other preserved open space, habitat value, and interaction with other resources. The presence of critical habitat for threatened or endangered species is specifically cited as an example of when this option might be approved. If approved, the mitigation credit is generally calculated at a nominal 27:1 ratio, i.e., preservation of 27 acres would be accepted as mitigation for destruction of one acre. If the entire 83-acre tract were preserved, Montgomery Township could potentially acquire over 3 acres of mitigation credits that could be used to offset wetland losses on other Township projects.

There are two different ways that the Township could possibly generate wetlands credits through preservation. The first would be to simply wait until a need for mitigation occurs (e.g., if wetlands needed to be destroyed to construct a new road). The Township could propose to NJDEP that preservation be approved as a mitigation option. There are some restrictions on the use of public land [NJAC 7:7A-15.4] for mitigation. Specifically, land that is purchased with Green Acres funding is not eligible. There is also a caveat that the land is supposed to have been acquired or held specifically for mitigation. If the original intent for acquiring the land included preservation, this would most likely suffice. Public property has also been approved in the case where the land to be preserved was donated to a private conservancy such as The Nature Conservancy. Middle Township in Cape May County recently obtained mitigation credits in this fashion. To make this happen, the option would have to be discussed in some detail with NJDEP Land Use Program personnel involved in mitigation, specifically Bob Piel or Virginia Kop'kash. If they endorse the idea, a detailed mitigation proposal would then have to be prepared and presented to the Wetlands Mitigation Council for their approval.

A second possibility would be to take a proactive approach and apply to NJDEP to create a mitigation bank that the Township could either draw against whenever they needed credits or sell to others needing credits. These credits would normally be available for use anywhere within the same HUC-II region [02030105160- Millstone River below and including Carnegie Lake]. Again, the first step would be to meet informally with Bob Piel and/or Virginia Kop'kash to discuss the possibility. At this meeting, the land currently owned by the Township, or readily attainable by the Township would be assessed in terms of size, habitat value, relationship to

other preserved land, etc. If they felt it was feasible, a detailed mitigation proposal would have to be prepared and presented to the Mitigation Council for conceptual approval.

The establishment of a mitigation bank is a fairly lengthy process. A full delineation and wetland functional assessment of all wetlands on the property would have to be conducted and a detailed proposal for creation, enhancement, or preservation completed. The water budget would have to be calculated and existing soils sampled and assessed. For creation or enhancement, a detailed planting plan would have to be prepared. If the proposal is only for preservation, it becomes somewhat easier and basically a habitat assessment would be the main requirement. A detailed plan for both use of the credits and long-term maintenance of the site would need to be prepared. The Wetlands Mitigation Council must initially give conceptual approval for the bank and then final approval once all the requirements are met. The total process can run anywhere from two to seven years. Again, if the credits are to be generated through preservation, the process is considerably easier and the time frame should be on the low end of the range.

If Montgomery Township is interested in further investigation of either of these options, we would recommend setting up an informal meeting with NJDEP Land Use Program mitigation personnel to discuss the possibilities and solicit their feedback.

V. REFERENCES

Cowardin, L.M., V. Carter, F. Golet, and E. LaRoe, 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service. 103 pp.