OFFICE OF ADJUDICATIONS

IN THE MATTER OF : APPLICATION NO. IW-99-118

DOT ROUTE 66
MIDDLETOWN/MIDDLEFIELD : JUNE 12, 2002

PROPOSED FINAL DECISION

The parties have submitted the attached *Agreed Draft Decision* (Attachment 1) for my consideration in this matter. I hereby adopt this agreement as my *Proposed Final Decision*, and recommend that the Commissioner issue the requested permit incorporating the terms and conditions set forth in the attached draft permit (Attachment "A").

June 12, 2002
Date

/s/ Elaine R. Tata
Elaine R. Tata, Hearing Officer

AGREED DRAFT DECISION

I

SUMMARY

The Connecticut Department of Transportation (the "applicant"), has applied to the Department of Environmental Protection for a permit to conduct regulated activities in the Route 66 roadway corridor in the Town of Middlefield and in the City of Middletown (DOT Project 81-83). These regulated activities are associated with the reconstruction of Route 66 from approximately 350m (1150 feet) east of Jackson Hill Road in Middlefield to approximately 185m (600 feet) west of Plaza Drive in Middletown, for a total project length of approximately 2.3 kilometers (1.4 miles). The DOT has filed an application for an Inland Wetlands and Watercourses Permit pursuant to General Statutes §22a-39 of the Inland Wetlands and Watercourses Act. General Statutes §22a – 36 through 22a-45. (Ex. DOT – 1)

The applicant and Inland Water Resources Division ("staff") are the only parties in this matter. Staff supports issuance of the permit and has submitted into the record a draft permit that would authorize the applicant's proposed regulated activities. (Ex. DEP –6)

The reconstruction of Route 66 that is the subject of this permit application would improve public safety by upgrading the substandard roadway geometry to comply with current design standards, providing roadway capacity for existing and future volumes and providing adequate intersection sight distance and safe stopping sight distance. The proposed project will alleviate these problems and provide a safer, more efficient roadway. (Ex. DOT – 1, Testimony – G. Soja)

The project has been planned to minimize wetland impacts while meeting current highway design and safety standards. These proposed regulated activities, if conducted in accordance with the terms and conditions of the draft permit, would be consistent with the applicable legal standards for issuance of the permit. (Ex. DOT – 1)

This permit should be issued in accordance with the terms and conditions of the draft permit (Attachment A).

II

DECISION

A

FINDINGS OF FACT

1. The Application

On August 3, 1999, the Department of Transportation (DOT) submitted an application to the Department of Environmental Protection (DEP) Inland Water Resources Division for an Inland Wetland and Watercourses permit. (Ex. DOT – 1) A hearing was requested upon receiving a petition with more than twenty-five signatures, and a hearing was held on March 20, 2002. (Ex. DEP–7) The record remained open until April 12, 2002 to allow time for the submission of additional written public comments.

The responses by DOT to the written public comments of RES and DeWolfe Engineering are incorporated as Attachment "B" in this Agreed Draft Decision.

2. The Project

a. The proposed regulated activities that are the subject of this permit application (the "project") are all associated with the reconstruction of Route 66 in the Town of Middlefield and in the City of Middletown. The project will begin approximately 350m (1150 feet) east of Jackson Hill Road in Middlefield and ends approximately 185m (600 feet) west of Plaza Drive in Middletown, a distance of approximately 2.3 kilometers (1.4 miles). Generally, the existing roadway will be widened to accommodate a 19.2m (63foot)/ wide pavement section. Wetland areas discussed in the application are herein described as Sites 1, 2, 3, 4, 5 and 6. The proposed reconstruction of Route 66 in the vicinity of Peters Lane and Ballfall Road will require significant vertical grade modification in order to comply with acceptable current design standards. The present roadway is operating at a level of service E and according to traffic projections for the year 2015, and without improvements to the roadway, the project area will deteriorate to level of service F. The additional travel lanes and turning lanes at major intersections will provide an overall level of service B in the year 2015. A new drainage system is proposed for the entire length of the project. Improvements to the system include adding drainage swales with erosion control matting to trap sediment, installing end-walls with proper riprap splash pads at out-falls and the creation of a sedimentation basin as well as a wetland mitigation site which incorporates a sediment forebay. The storm drainage design for the catch basins and piping in the project area conforms to applicable DOT state and federal guidelines. (Ex. DOT – 1, Testimony – R. Nault)

b. The proposed project has been identified by the DOT as a priority due to substandard roadway geometry, inadequate safe stopping sight distance, traffic congestion, high accident history and unacceptable level of service on Route 66. The project is intended to help improve capacity restraints and safety issues caused by current design deficiencies. (Ex. DOT – 1, Testimony – R. Nault)

c. Route 66 is characterized as a major midstate regional east-west roadway that provides direct access to the Arrigoni Bridge and Route 9 in Middletown and connects I-91 in Meriden to the west. Based on DOT standards for a roadway which has been classified as an Urban Principal Arterial, the road should have two 3.6m (12 foot travel lanes and a 2.4m (8 foot) shoulder width in each direction. The present width of the road, which varies from 12m (40 feet) to 18m (60 feet), cannot consistently accommodate these standard widths. (Ex. DOT – 1, Testimony – R. Nault)

d. Improvements as a result of this project include vertical and horizontal alignment, realignment of George Street and Camp Street with Route 66 at 90 degree angle and upgrading the roadway drainage system. Pursuant to state DOT design guidelines, fill slopes for the roadway will be as flat as possible for safety purposes. This project also includes improvements to 5 local roads that intersect this area of Route 66. These roads are Peters Lane, Ballfall Road, George Street, Old Route 6A and Camp Street. (Ex. DOT – 1, Testimony – R. Nault)

e. The present horizontal and vertical alignments of Route 66 in the area of the project do not conform to federal FHWA and state DOT operational, geometric and safety standards in several locations as specified below:

    1. Peters Lane / Route 66 intersection: Inadequate intersection sight distance due to steep vertical grades on the east approach on Route 66. (Ex. DOT – 1, Testimony – R. Nault)
    2. Ballfall Road (Route 217) / Route 66 intersection: Inadequate intersection sight distance due to steep grade on the west approach on Route 66. (Ex. DOT – 1, Testimony – R. Nault)
    3. George Street / Route 66 intersection: George Street intersects Route 66 at a very acute angle. (Ex. DOT – 1, Testimony – R. Nault)
    4. Route 66 between Ballfall Road and Peters Lane: Inadequate stopping sight distance due to steep vertical grades on Route 66 mainline. (Ex DOT – 1, Testimony – R. Nault)

f. Traffic accidents recorded during the period from January 1, 1989 to December 31, 1993 within the project limits totaled 137 accidents. From January 1, 1997 to December 31, 2001, there were 190 accidents during this 5 year period – representing an increase of 39%. Without improvements to the roadway, it is reasonable to

assume the rate of accidents will increase, particularly with the expected increase in traffic volumes in this area. (Ex. DOT-1, Testimony – G. Soja)

Watercourses/ Flood Control

g. Located within the limits of the project are the following unnamed watercourses which are tributary to the Coginchaug River:

1. Station 1+520. This watercourse flowing from north to south is culverted beneath Route 66 via a 600mm (24 inch) RCP. To the north of Route 66 is a red maple swamp. To the south is a defined stream channel within a scrub/shrub wetland.
2. Station 1+995. This watercourse flowing from north to south is culverted beneath Route 66 via a 900mm (36 inch) RCP. North of Route 66, the stream is deeply channelized between developed properties on either side separated by a narrow strip of woods. South of Route 66 the stream continues in a shallow swale through an area of manicured lawn.
3. Station 2+475. In this vicinity a narrow intermittent stream passes beneath Route 66 from a north to south direction via a 450mm (18 inch) RCP. North of Route 66 the intermittent stream is channelized along the west side of a gravel driveway. South of Route 66, the intermittent stream continues in a channelized fashion through a small wooded area within the Woodgate Condominium complex, discharging to a detention basin area, and subsequently, to wetlands south of the complex.
4. Station 2+660. An intermittent stream diagonally intercepts Route 66 along a relatively steep landscape. The stream flows in a narrow man-made channel paralleling Route 66, before entering into the highway drainage system at Route 66 via a 1200mm (48 inch) RCP. (Ex. DOT – 1. Testimony –R. Nault)

h. The project will increase the hydraulic capacity of the new culverts and will raise the roadway near major stream crossings above the predicted 50 -year flood elevation. This will lessen the frequency and duration of floodwaters that might back up at the culvert locations and decrease the likelihood of environmentally destructive flood damage. The size of the respective drainage areas for the unnamed tributaries to the Coginchaug River, as well as the estimated times of concentration for the highest flow volumes, will yield a negligible difference in peak flow and water surface elevation in storm events, including a rapidly-arriving 100-year storm. The new roadway will permit passage of the 50-year flood. (Ex. DOT – 1. Testimony –R. Nault, Testimony – S. Yurasevecz)

i. There are no stratified drift aquifers located in the project area. There are 2 community wells associated with the Sylvan Ridge Condominiums, which are located south of Route 66 and west of Harvest Wood Road. (Testimony – M. Alexander)

Wetland Impact Sites/ Proposed Activities

j. The current project will impact 5 wetland sites. A total of 0.45 acres of wetlands (1843 square feet/171.2 square meters) will be impacted by the project. Most of these impacts are minimal and are unavoidable with the proposed alignment.

1. *Site 1* - (Station 1+480 to 1+580)

Site 1 - The wetland is located at the base of the existing roadway slopes. The stream flows through a culvert beneath Route 66, connecting the north and south segments of this wetland. There are two existing storm water discharges to this wetland: one located in the southwest corner of the northern wetland and one in the northwest corner of the southern wetland.

To the north of Route 66, the wetland area is a red maple swamp with some American elm scattered throughout. Tussocks of sedge, typical in many red maple swamps of this nature are prominent. The shrub layer is relatively sparse, with some blueberry and winterberry present. Near the roadway, black locust is dominant in the canopy layer, with a sparse understory. Groundcover includes tussock sedge, skunk cabbage, and jewelweed. Poison ivy is the dominant vine.

South of Route 66, the wetland resources include a defined stream channel bordered by a scrub / shrub wetlands with some mature and immature red maples, eastern red cedar and oaks dominating the forested fringe of the wetland. Dominant shrub species include multi-flora rose, staghorn sumac and black raspberry. Ground cover species include skunk cabbage, mitterwort and jewelweed. Grapes are the dominant vine.

Functional values associated with this wetland area are limited due to its proximity to the roadway and surrounding development. These wetland areas provide moderate wildlife habitat characteristics for species tolerant of human disturbance and some flood storage potential, but minimal aquatic habitat or groundwater recharge. (Ex. DOT – 1, Testimony – M. Alexander)

• Approximately 0.237 acre of wetland, or 10,355 square feet/ 962 meters, will be impacted. The impacts on the north side of the roadway will result in the loss of 6.5m of the watercourse and 396 sq. m of wetland. The impact on the south side of the roadway will result in a loss of 15m of the watercourse and 566 sq. m of wetlands. The embankment will require 2,468 cu. m of fill at a 2:1 slope and the riprap splash pad will require 14.5 cu. m of excavation over the wetland area.

• The existing 600mm culvert does not have adequate capacity and the roadway cross section would require a longer culvert. The proposed design includes removing the existing culvert and installing a 1200mm culvert. The culvert will be provided with end walls. The outlet channel will have a riprap splash pad.

• At this site, the existing roadway is approximately 16m (52') wide. It was built on fill with steep 2:1 slopes. Improvements here include widening the road to 19 m (63') wide and raising the existing roadway profile approximately 3 m (10'), so that the required stopping and intersection sight line can be achieved at the Peter's Lane intersection. The existing culvert will be upgraded to a 48" (1200mm) RCP to conform to ConnDOT drainage design criteria.
• The existing 24" culvert does not have adequate capacity which can cause the road to over-top and flood upstream properties. (Ex. DOT – 1, Testimony – R. Nault)

Sites 2 and 3 (Station 1+900 to 2+000)

Sites 2 and 3 - Approximately 100 meters east of the intersection with Route 217 (Ballfall Road), a small watercourse flows from north to south beneath Route 66. The watercourse flows under Route 66 via a 900 mm RCP. Existing storm water drainage from Route 66 is currently discharged directly into the culvert.

North of Route 66, (wetland site 3) the watercourse is deeply channeled with a narrow strip of woods on either side of the stream. The property to either side is developed. Dominant vegetation along the stream includes cottonwood, red maple, locust and ash in the canopy. Multiflora rose, red-oiser dogwood, staghorn sumac, and Japanese knotweed dominate the shrub layer. The vegetation near the roadway has recently been cleared, with some of the trees and brush remaining in the stream itself. South of Route 66 (wetland site 2) the watercourse continues in a shallow swale through an area of lawn associated with the Bestway Inn. The swale maintains some wetland vegetation, particularly near the outlet, including cattail, beggar tick, jewelweed and purple loosestrife. The banks of the swale appear somewhat unstable and large amounts of sediment are present at the outlet.

The functional value of this wetland system is extremely limited given the channel-like structure of the watercourse, the lack of significant fringe wetland or upland vegetation and the elimination of any flood storage characteristics. Given the relative lack of vegetation within the stream and the evident scour, this wetland resource is not expected to significantly contribute to sediment removal or pollutant attenuation. Due to the evident scour and erosion, this system may in fact, be a source of sediment to downstream wetlands. (Ex. DOT –1, Testimony – M. Alexander)

• At site 2 a wetland basin is proposed to mitigate the loss of wetlands for this project. The site would create approximately 795 sq. meters (0.20 acres) of wetland. The basin will be initially used as a sedimentation basin to trap sediments from roadway construction activities. After all construction activities are completed and turf has

been established on roadway slopes, all sediments will be removed from the basin and the final wetland basin will be established.

• At site 3, approximately 0.02 acre of wetland, or 1,087 square feet/ (101 square meters), will be impacted. The impact on the north side of the roadway will result in the loss of 9m of the watercourse and 33 sq. m of wetland. The impact on the south side of the roadway will result in a loss of 19m of the watercourse and 101 sq. m of wetland. The total fill will be approximately 91 cubic meters, and the total cut about 26 cubic meters.

• At site 3, the existing 900mm culvert does not have adequate capacity and the proposed roadway cross section would require a longer culvert. The proposed design includes removing the existing culvert and installing a 1200mm culvert. The outlet channel will have a riprap splash pad. Crushed stone slope protection at 1:5 to 1 slope is proposed between station 1+960 to station 1+980 to reduce the impact on the regulated areas.

• At this site, the existing roadway is approximately 12 m (40') wide. Improvements here include widening the road to 19.2 m (approximately 63'), upgrading the existing culvert to 48" (1200 mm) RCP and installing riprap protection at the outlet.

• The existing 36" culvert does not have adequate capacity which can cause the road to over-top and flood upstream properties. (Ex. DOT –1, Testimony – R. Nault)

3. *Site 4* (Station 2+440 to 2+500)

Site 4 - In the vicinity of the Woodgate Condominiums, a narrow intermittent watercourse passes beneath Route 66 from a north to south direction. North of Route 66, there is a small depressional area with Phragmites as the dominant vegetation with small amounts of highbush blueberry, winterberry, multi-flora rose and pussy willow present. Goldenrod is dominant in the herbaceous layer where Phragmites is not present. A channel is present which runs adjacent to the driveway, and is dominated by various grasses. Farther back from the existing roadway, a mix of mature oaks and hemlocks dominate.

South of Route 66, the intermittent watercourse continues through the center of the Woodgate Condominium complex, eventually discharging to a detention basin area, and subsequently, to wetlands south of the complex. Near the existing roadway, the watercourse displays a silty bottom and passes through a wooded area. In this vicinity, the intermittent stream is flanked by red maple, spicebush, and blueberry. Mosses are present on the sides of the banks. The associated forested wetland to the west is dominated by an oak/beech complex. Ironwood is dominant in the shrub layer and Christmas fern, sensitive and cinnamon fern, boneset, and rough stemmed

goldenrod dominate the herbaceous layer. Poison ivy is the dominant vine.

The naturally wooded area immediately north of Route 66 offers some potential wildlife habitat. However, the limited shrub and ground cover, the short, episodic duration of surface flow, and transitional nature of wetland associated vegetation (i.e., species which are commonly associated with either uplands or wetlands) reduces the opportunities for wetland affiliated wildlife. The small area of muck soils at the culvert and dense Phragmites stand may offer minimal pollutant filtering.

South of the highway, the wooded wetland area exhibits reasonable vertical stratification and offers some limited habitat for suburban adapted wildlife. However, this area is totally enclosed by development (i.e., the condominiums and Route 66). Pollutant retention functional values are very limited for this wetland area.(Ex. DOT –1, Testimony – M. Alexander)

- Approximately 0.050 acres of wetland, or 2,174 square feet/ 202 square meters, will be impacted. The impact on the north side of the roadway will result in a loss of 11m of watercourse and 185 sq. m of wetland. The impact on the south side of the roadway will result in the loss of 9m of watercourse and 17 sq. m of wetland.
The total fill will be approximately 177 cubic meters, and the total cut about 18 cubic meters.

- *The existing 450mm culvert does not have adequate capacity and the roadway cross section would require a longer culvert. The proposed design includes removing the existing culvert and installing a 600mm culvert. The outlet channel will have a riprap splash pad.*
- *At this site the existing roadway is approximately 15 m (49') wide. Improvements here include widening the roadway to 19.2 m (63') wide.*
- *The existing 18" culvert does not have adequate capacity which can cause the road to over-top and flood upstream properties. (Ex. DOT –1, Testimony – R. Nault)*

4. *Site 5* (Station 2+580 to 2+700)

Site 5 – Site 5 is an intermittent watercourse which lies to the north of Route 66, roughly opposite the Sagamore Hill Apartments. This intermittent stream runs from a forested area which is dominated by mature maple, hickory, ash and oak species. Burning bush is present in the understory and poison ivy is the dominant vine in this forested area. Adjacent to Route 66, the watercourse channel itself is approximately 1 meter (3.3 feet) wide and 0.3 meters (1 foot) deep with a cobble and gravel substrate with some sand deposits in the slower-flowing sections. Some bank erosion is evident and some groundwater seepage has been noted to contribute to stream base

flow. The streambed and banks are dominated by goldenrod, multi-flora rose, red-oiser dogwood, various rushes, swamp milkweed and raspberry. Some young red maple and green ash saplings are also present, but appear to be cut down on a fairly regular basis to maintain sight lines on the existing road. The streambed runs adjacent to the existing Route 66 until it enters into the highway drainage system and is directed to the southeast along with storm water discharge south of Route 66.

This watercourse/wetland resource provides extremely low functional values, except for providing a stable natural drainage way for stormwater runoff.(Ex. DOT – 1, Testimony – M. Alexander)

- Approximately 0.14 acre of wetland, or 6,222 square feet/578 square meters, will be impacted. Wetland fill would involve 259 cu. m and approximately 187 cu. m of wetland would be excavated for construction of a stormwater grass swale.
- Impacts at Site 5 are associated with encroachment into the wetland for placement of roadway embankment fill and slope excavation at a 1:2 negative slope as well as creation of a grassed swale at the toe of slope. The existing watercourse will discharge into a junction structure and into a proposed 1050mm RCP and will connect to an existing drainage system at station 2 + 700.
- At this site, the existing roadway is approximately 13m (43') wide. Improvements here include widening the roadway to 19.2 m (63') wide. There will be no curbing on the north side of Route 66 in order to allow storm water runoff to sheet flow off the roadway and enter grass lined swales, where sediments and pollutants may be filtered. (Ex. DOT –1, Testimony – R. Nault)

5. *Site 6* (Station 3+140 to 3+200)

Site 6 - On the north side of Route 66, there is a depression between the short remaining segment of old Route 6 and the existing Route 66. The area within this depression includes no vegetated wetland or hydric soils. Non-wetland species comprise greater than 50% of the vegetative assemblage. Therefore, the area was not considered to be wetland resource, but does drain to wetlands downgradient. This area receives intermittent storm drainage inputs that exit the site via a culvert at the intersection with Camp Street. The dominant species in this depressional area include sugar maple, oak, birch and black cherry in the canopy layer. The understory is very limited and is dominated by staghorn sumac and multiflora rose. Pokeweed and goldenrod dominate the herbaceous layer

South of Route 66, opposite Camp Street, there is a relatively flat area which receives storm water runoff from Route 66. No distinct watercourse is present immediately adjacent to the highway but a small erosion gully develops and exits toward a wetland area to the

southwest. The area appears to have been altered by filling and/or grading and is characterized as an early successional field. Vegetative species include tall goldenrod, rough stemmed goldenrod, English plantain, reed canary grass, common milkweed, purple knapweed, garlic mustard, silky dogwood, multi-flora rose, and locust saplings. To the south of this field lies an existing forested wetland which will not be directly impacted. (Ex. DOT –1, Testimony – M. Alexander)

- Zero acres of wetland, will be impacted. The total fill will be zero cubic meters, and the total cut, zero cubic meters.
- The existing 600mm culvert does not have adequate capacity. The proposed design includes removing the existing culvert and installing a 900mm culvert with a standard wing type endwall and providing riprap protection at the outlet. The wetlands are located approximately 5m away from the riprap outlet pad.
- At this site, the existing roadway is approximately 13m (43') wide. Improvements here include widening the roadway to 19.8 m (63') wide to accommodate a four lane section with exclusive turning lanes at the Camp Street intersection.
- To help trap sediments originating from eroding areas, construction activities and roadway pavement, a permanent sedimentation basin is proposed on the north side of the roadway. (Ex. DOT –1, Testimony – R. Nault)

k. The wetlands in the immediate vicinity of Route 66 do not provide high quality wildlife habitat due to the roadway, nearby residential and commercial development and the associated lack of vegetation. The wetlands which will be affected are habitat for wildlife tolerant of motor traffic and disturbance by humans. New impacts to wildlife within the project area will be minimized due to the limited impact area of the project, and the existing disturbance of the roadway and residential uses. (Ex. DOT –1, Testimony – M. Toni)

l. The DEP Fisheries Division did not recommend measures to minimize impacts to fisheries resources, as it was determined that these unnamed tributaries to the Coginchaug River and Hans Brook are not expected to support viable finfish populations. Upstream passage was deemed not warranted by the Fisheries Division at any of the stream crossings in question. DOT has incorporated design measures which will aid in sediment removal and water quality renovation, which in the long term, will help to improve fisheries resources downstream. Best Management Practices during construction will also aid in preventing pollution downstream. (Ex. DOT – 1, Ex. DEP - 2)

3. Mitigation

Wetland Mitigation Site

a. A wetland mitigation site will be located in the area referred to as Site 2. The goal of the mitigation site is to create approximately 0.20 acres of a mix of scrub/shrub and emergent wetland to compensate for the loss of 0.45 acres of inland wetlands and watercourses and associated habitats that will occur as a result of the project impacts. This site has been designed chiefly to create a wetland that will provide stormwater renovation and detention as well as improving wildlife habitat. The creation of undulating topography will maximize species diversity because small differences in the water available to the plants will encourage a wider range of wetland species to develop. (Ex. DOT –1, Testimony – M. Toni)

b. The mitigation site was chosen chiefly because it exhibited impaired functions and values, with a high potential for successful restoration and will improve water quality downstream. No other sites of this nature and suitable size were identified within the project area. (Ex. DOT –1, Ex. DOT-4)

c. The hydrology at the site is conducive to this proposed mitigation site plan. The proposed mitigation site consists of a small forested area and mowed meadow which is bisected by a small permanent stream. The stream has some vegetation growing in the channel, but has mowed lawn running up to the banks on both sides for about 1,000 linear feet. The stream then enters a forested wetland area. The site is well suited for restoration and creation because of existing ground water levels in the area and planned stormwater drainage system outlets to the site both during and following construction. The site consists of a sedimentation basin which will be maintained during construction which will be converted to a shallow scrub/shrub/emergent wetland complex after construction is completed. The overall site will include a mix of permanent and seasonally inundated areas. (Ex. DOT – 1, Ex. DOT – 3)

d. The planting plan for the site has been designed to provide and maintain the ecological diversity and productive habitat function and value for the wetlands. The plan has also been designed to maximize species diversity, minimize erosion, and discourage the establishment of invasive species. The DOT intends to preserve as many of the large canopy trees adjacent to and within the site as possible. A permanent sediment forebay has been incorporated into the northern portion of the site near the stormwater outlet to enhance the site's ability to collect sediment from roadway runoff and also to aid in future maintenance (sediment removal) without disturbing the remaining wetland mitigation site. During construction, the mitigation site will be used as a sedimentation basin. (Ex. DOT – 1, Ex. DOT – 3)

e. The non-inundated areas of the site will be seeded at the completion of excavation resulting in several overlapping vegetative zones. The seed mix will be selected to represent varying degrees of drought tolerance; seedlings will establish themselves based upon micro-topography and the resulting variation in soil moisture. Wet

conservation grass seed mix will be used on the slopes to establish sod cover to minimize erosion. (Ex. DOT – 1)

Construction Mitigation: Erosion and Sedimentation Controls

f. Short-term impacts will be minimized through erosion and sedimentation control guidelines that will be included in the construction contract for the project as required by the DOT. (*Standard Specifications for Roads, Bridges and Incidental Construction* Form 814A (or 815) (1995) *and Supplemental Specifications* (2000); *On-site Mitigation for Construction Activities,* Connecticut DOT Environmental Planning Division 1994.) These guidelines address the installation, schedule for implementation, maintenance, inspection and expected results for the selected methods for erosion and sedimentation control. Adherence to these guidelines will assure minimization of adverse effects to fisheries or riparian habitat as a result of this project. These guidelines provide for protection of ground and surface water quality, and minimize the possibility of siltation and sedimentation within the area of regulated wetlands and watercourses. (Ex. DOT-1)

g. Specific care and special construction methods will be used. When existing piping is being repaired or upgraded, drainage work will be done during seasonal periods of low rainfall and flow. In drainage installations, accepted water-handling methods will be used. These include cofferdamming and piping to an adequate basin in accordance with Best Management Practices. (Ex. DOT-1)

h. The following specific erosion and sedimentation control measures are proposed:

    1. Silt fencing will be installed in conjunction with all disturbed and new soil slopes that could affect other areas;
    2. Exposed soils will be seeded with an approved erosion control mixture within seven days of the contractor reaching the appropriate grade;
    3. Sedimentation control measures will be installed around all catch basins receiving flow from unstabilized areas;
    4. Curbing use will be minimized to allow storm runoff to sheet flow off the roadway in order to filter sediment and any pollutants through roadside vegetated areas;
    5. Vegetated swales will be used in some areas; some will be lined with erosion control matting prior to turf establishment to reduce the risk of erosion and allow a quicker establishment of vegetation; and
    6. Riprap splash pads or plunge pools, as appropriate, will be installed at stormwater discharge locations where erosion potential has been determined to be high.(Ex. DOT-1)

Other Mitigative Measures

i. Wetland impacts have been minimized in the proposed design by incorporation of the following design measures:

1. Incorporation of vegetated swales into the stormwater design to promote water quality renovation of runoff.
2. Use of catch basins having deep sumps to trap sediments.
3. Installation of a temporary and a permanent Sedimentation Basin
4. Creation of a wetland pond with a permanent sediment forebay.
5. Use of riprap splash pads at drainage system outlets to reduce velocity of runoff and trap sediments.
6. Use of sedimentation control systems of hay bales or filter fabric fences to trap any sediments contained in the runoff of slopes adjacent to wetlands.
7. Use of hay bale check dams to slow the velocity runoff of proposed swales to prevent downstream erosion.
8. Use of 1.5:1 side slope protection to reduce wetland impacts. (Ex. DOT – 1, Testimony – R. Nault)

4. State Threatened, Endangered, or Species of Special Concern

The DEP Natural Diversity Database Maps[1] , dated July 2001, revealed that there are no known populations of state or federal endangered, threatened, and special concern species or natural communities that occur at the project site. (Ex. DOT – 1)

5. Alternatives

During the planning and design of this project, a continuous examination of design alternatives was conducted. The following alternatives were considered in consultation with the various units of the DOT, as well as the DEP, the U.S. Army Corps of Engineers, the Town of Middlefield and the City of Middletown, concerned citizens and regulatory agencies. Among the factors considered when assessing alternatives were geometric constraints, historical and archeological concerns, impacts to private property, and environmental concerns. The following alternatives were considered when examining the potential range of alternatives.

[1] DEP Natural Diversity Database mapping includes information regarding critical biological resources available to the DEP. The information is a compilation of data collected over the years by the DEP Natural Resource Center's Geological and Natural History Survey and cooperating units of the DEP, private conservation groups, and the scientific community.

Alternative 1: No Build – The existing two lane roadway does not have adequate capacity for existing or future traffic volumes. The roadway horizontal and vertical alignments are substandard and do not comply with current ConnDOT standards. This alternative would not provide vehicle safety due to inadequate stopping sight distance and inadequate intersection sight distance.

Alternative 2: This alternative would provide for a four lane roadway with turning lanes at major intersections. The proposed alternative will provide roadway capacity for existing and future volumes and provide adequate intersection sight distance and stopping sight distance, accommodate vehicle turning requirements at the intersections and meet the minimum geometric design standards. Widening of the existing alignment was considered to involve the least amount of impact to the wetlands areas, meet the necessary design objectives and minimize the environmental impact of the project. (Ex. DOT – 1)

B
CONCLUSIONS OF LAW

The purposes and policies set forth in the Inland Wetlands and Watercourses Act are secured through the process and criteria outlined in §22a-41 of the General Statutes. Section 22a-41(b)(1) provides that where a permit application has been the subject of a hearing, the commissioner must find that there is no feasible and prudent alternative to the proposed action before issuing a permit. In determining whether such an alternative exists, the commissioner must consider all relevant facts and circumstances, including but not limited to, the six statutory factors outlined in §22a-41 (a).

The six factors set out in § 22a-41 (a) are:

(1) The environmental impact of the proposed regulated activity on wetlands or watercourses;

(2) The applicant's purpose for, and any feasible and prudent alternatives to, the proposed regulated activity which alternatives would cause less or no environmental impact to wetlands and watercourses;

(3) The relationship between the short-term and long-term impacts of the proposed regulated activity on wetlands or watercourses and the maintenance and enhancement of long-term productivity of such wetlands or watercourses;

(4) Irreversible and irretrievable loss of wetland or watercourse resources which would be caused by the proposed regulated activity, including the extent to which such activity would foreclose a future ability to protect, enhance or restore such

resources, and any mitigation measures which may be considered as a condition of issuing a permit for such activity including, but not limited to, measures to (A) prevent or minimize pollution or other environmental damage, (B) maintain or enhance existing environmental quality, or (C) in the following order of priority: Restore, enhance and create productive wetland or watercourse resources;

(5) The character and degree of injury to, or interference with, safety, health or the reasonable use of property which is caused or threatened by the proposed regulated activity; and

(6) Impacts of the proposed regulated activity on wetlands or watercourses outside the area for which the activity is proposed and future activities associated with, or reasonably related to, the proposed regulated activity which are made inevitable by the proposed activity and which may have an impact on wetlands or watercourses.

Applying these factors to this permit application, the following facts are found:

(1) *Environmental Impacts*

The proposed project will result in some loss of wetlands and some disturbance to wetlands during the construction phase. The project has been designed and planned to reduce impacts on wetlands to the greatest extent possible. Impacts to wildlife as a result of the project will be limited due to the restricted area of the project, and the existing disturbance of the area due to the existing roadway and residential properties. The project design has minimized wetland impacts which occur in various narrow strips along the existing roadway embankment, and do not effect the higher quality areas of the wetlands. Therefore, this unavoidable impact to wetlands and their functional values is minimal.

Short-term impacts during construction will be reduced through measures to control sedimentation and erosion. These controls will assure that no permanent adverse effects will impact fisheries or riparian habitat. These measures will minimize the chance that siltation and sedimentation will encroach into the area of the regulated wetlands and watercourses. Ground and surface water quality will also be protected.

The existing functional values of the wetlands and watercourses to be affected in the long-term are in the low to moderate range and take place over long linear extent of roadway improvements affecting only a narrow margin in each individual area. The higher functional value ranking of wetlands areas are largely due to the wetland features further away from Route 66 which will not be directly impacted by the roadway.

To compensate for the loss of wetlands, a mitigation site will be developed to create approximately 795 sq. m. (0.20 acres) of wetlands.

The site has been designed to provide sediment trapping, excess nutrient uptake functions and wildlife habitat enhancement. The site will also include a sediment forebay area, which will trap roadway sediments and pollutants before discharging into the wetland basin. A maintenance access drive to the area has been provided to facilitate removal of sediments.

The project will not result in any significant short or long-term environmental impacts. The overall long-term impacts to the wetlands will be minimal. The loss of 1,843 sq. m. (0.45 acres) of wetlands that will result from the project will be compensated for by the creation of 795 sq. m. (0.20 acre) wetland mitigation site. Short-term impacts will be controlled though the use of sedimentation and erosion controls during construction. Long-term impacts to the wetland system as a habitat for wildlife and fish will be minimal.

(2) *Alternatives*

There are no feasible or prudent alternatives to the present proposed plan for the project. The alternative of taking no action, or the "no build alternative", would not meet the goal of the project and obligation of the applicant to provide for a safe roadway. The project has been designed to minimize environmental impacts to the greatest extent possible. Where safety would be significantly and negatively impacted, the DOT reasonably rejected changes to the design that would only minimally improve the impact to the environment. The proposed plan for the Reconstruction of Route 66 in Middlefield and Middletown is reasonable in view of the social benefits to be derived from an improved and safer roadway. The applicant has adequately demonstrated that the proposed plan is a feasible and prudent choice.

(3) *Short and Long-term Iimpacts /Maintenance and Enhancement of Long-Term Productivity*

The record demonstrates that the short-term impacts of the project, primarily due to the construction activities that will be necessary, will be minimized through erosion and sedimentation control guidelines that will be included in the construction contract as required by the DOT. These guidelines will protect ground and surface water by minimizing the possibility of siltation and sedimentation within the area of the wetlands and watercourses impacted by the project. Adherence to these guidelines and the terms and conditions of the permit will assure that temporary impacts to the environment will be minimal.

The project will improve the functioning of some areas of the present wetland systems as a result of the proposed stormwater collection systems intended to improve the quality of stormwater runoff and collect

sediment prior to discharging into watercourses and wetlands. The new wetland site, an 0.20 acre mitigation site, will create a new, functioning wetland to mitigate the long-term wetland values lost to the project.

This project will impact the environment, both in the short and long term. However, the short-term impacts during construction will be tempered by construction mitigation efforts and the long-term impacts will be kept to a minimum. Improvements as a result of the project will enhance the overall long-term productivity of the wetlands and, where wetlands are lost, a mitigation site will be created as compensation. The proposed plans include steps that will be taken to rehabilitate some areas of the impacted wetlands immediately after construction is completed.

(4) *Irreversible/Irretrievable Loss of Wetlands and Watercourses Resources and Mitigation Measures*

The proposed project keeps to a minimum the irreversible and irretrievable commitment of wetlands resources. In recognition of wetlands as an indispensable, irreplaceable fragile natural resource, the project is designed to protect existing wetland areas to the greatest extent possible. The applicant will mitigate the loss of wetlands by creating a wetland site to replace this natural resource.

The project will improve and enhance some of the functions of the existing wetlands through the incorporation of grass swale into the stormwater design to improve water quality renovation of runoff, the use of catch basins having deep sumps to trap sediments, use of splash pads at drainage system outlets to reduce velocity of runoff and trap sediments, the use of sedimentation control system of hay bales or filter fabric fences to trap any sediments contained in the runoff of slope adjacent to wetlands and the installation of a sedimentation basin. These systems will also allow for better drainage and storm water control. The commitment of wetland resources to the proposed project will not result in an unacceptable loss of irretrievable or irreplaceable wetland resources and the mitigation site that is proposed will create a productive wetland resource.

(5) Impact on Safety and Health or Reasonable Use of Property

The project, which will result in a safer roadway, has been designed to avoid adverse impacts to the wetlands to the greatest extent possible. The applicant will take measures to mitigate the potential for harm during construction, including the protection of ground and surface waters. The success of these measures will be monitored through regular inspections during the construction phase of the project. Potential impacts to wildlife and fisheries resources will be minimized through measures that include the incorporation of recommendations of the DEP. When concluded, the improvements to existing cross culverts under Route 66, and the enhancements of existing stream channels will enhance the ability of the

wetland system to control storm waters. The improvements as a result of the project will provide a safer Route 66 for the public. These improvements will also enhance the functioning of the overall wetland systems to be impacted by the project. The impacts to the wetlands do not pose a threat of injury or interference with the public health or safety or the reasonable use of property.

(6) *Impacts on Wetlands Outside the Area and Inevitable Future Activities*

There is no evidence that the proposed project will have a negative impact on wetlands outside of the project area. The measures that will be taken during construction will prevent erosion and sedimentation that could encroach upon surrounding wetlands. Improvements as a result of the project, such as renovation of water quality runoff and sediment trapping will offset the impacts to wetlands. The wetland mitigation site that will be developed will have a beneficial impact, and could benefit wetland systems that surround that area. The project as designed will not prevent future activities in and around Route 66. Those future activities, if designed in a fashion similar to the present plan, could also have an overall minimal impact on the environment.

RECOMMENDATION

The requirements of General Statutes §22a-41(b) have been met by this permit application. The record presented and consideration of all the relevant facts and circumstances pursuant to the six factors outlined in §22a-41(a) demonstrate that there is no feasible and prudent alternative to the proposed project that meets the purpose of the project and that would cause substantially fewer impacts to the natural resources.

The reconstruction and reconfiguration of Route 66 will result in a safer and better roadway and a more efficient transportation system. The proposed plan strikes an appropriate balance between the obligation of the applicant to improve a road that is presently a risk to human health and safety and the mission of the DEP to protect the environment. The permit that is the subject of this application should be issued.

/s/ Edgar Hurle — 6/6/02
Applicant, Department of Transportation — *Date*

/s/ Robert L. Smith — *6/11/02*
Robert L. Smith, Bureau Chief — *Date*
Water Bureau

DRAFT PERMIT

Permittee: Connecticut Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546

Attn: Edgar T. Hurle

Permit No: IW-1999-118
Permit Type: Inland Wetlands and Watercourses
Town: Middletown/Middlefield
Project: DOT Project Number 81-83

Pursuant to Connecticut General Statutes Section 22a-39 the Commissioner of Environmental Protection hereby grants a permit to the Connecticut Department of Transportation (the "permittee") to conduct activities within inland wetlands and watercourses in the Town of Middletown/Middlefield in accordance with its application and plans which are part thereof filed with this Department on August 4, 1999 signed by Edgar T. Hurle and dated July 28, 1999, revised April 6, 2001, and April 11, 2001 (the "plans"). The purpose of said activities is the reconstruction of Route 66 from Jackson Hill Road in Middlefield to approximately 600 feet west of Plaza Drive in Middletown (the "site").

AUTHORIZED ACTIVITY

Specifically, the permittee is authorized to alter 0.45 acres of inland wetlands or watercourses for roadway widening and modifications to the roadway drainage system in accordance with said application.

This authorization constitutes the permits and approvals required by Section 22a-39 of the Connecticut General Statutes and is subject to and does not derogate any present or future property rights or other rights or powers of the State of Connecticut, conveys no property rights in real estate or material nor any exclusive privileges,

and is further subject to any and all public and private rights and to any federal, state, or local laws or regulations pertinent to the property or activity affected hereby.

PERMITTEE'S FAILURE TO COMPLY WITH THE TERMS AND CONDITIONS OF THIS PERMIT SHALL SUBJECT PERMITTEE AND PERMITTEE'S CONTRACTOR(S) TO ENFORCEMENT ACTIONS AND PENALTIES AS PROVIDED BY LAW.

This authorization is subject to the following conditions:

SPECIAL CONDITIONS

1. If any changes are proposed in the water handling plan at the site from that which is shown on the permit plates, the permittee shall submit such changes to the Commissioner for review and written approval. The permittee shall not implement any such plan until an approval is issued.

2. If any changes are proposed in the storm drainage system at the site, including any proposed swales, from that which is shown on the permit plates, the permittee shall submit such changes to the Commissioner for review and written approval. The permittee shall not implement any such plan until an approval is issued.

3. If any changes are proposed in the bank protection from that which is shown on the permit plates, the permittee shall submit such changes to the Commissioner for review and written approval. The permittee shall not implement any such plan until an approval is issued.

4. The permittee shall conduct any necessary unconfined in-water work at the site only between June 1 and September 30 of any calendar year.

5. The permittee shall implement the plan entitled, “Reconstruction of Route 66 Wetland

Creation Site Plan, Planting Plan," dated April 2001 by the expiration date of this permit.

GENERAL CONDITIONS

1. **Initiation and Completion of Work.** At least five (5) days prior to starting any construction activity at the site, the permittee shall notify the Commissioner of Environmental Protection (the "Commissioner"), in writing, as to the date activity will start, and no later than five (5) days after completing such activity, notify the Commissioner, in writing, that the activity has been completed.

2. **Expiration of Permit.** If the activities authorized herein are not completed by five years after the date of this permit, said activity shall cease and, if not previously revoked or specifically extended, this permit shall be null and void.

   Upon the written request of the permittee and without notice, the Commissioner may extend the expiration date of this permit for a period of up to one year, which period may be extended once for a like period, in order for the permittee to complete activities authorized herein which have been substantially initiated but will not be completed by the expiration date of this permit. Any request to extend the expiration date of this permit shall state with particularity the reasons therefore.

In making his decision to extend the expiration date of this permit, the Commissioner shall consider all relevant facts and circumstances including but not limited to the extent of work completed to date, the permittee's

compliance with the terms and conditions of this permit, and any change in environmental conditions or other information since the permit was issued.

Any application to renew or reissue this permit shall be filed in accordance with the Section 22a-39 of the General Statutes and section 22a-3a-5(c) of the regulations of Connecticut State Agencies.

3. **Compliance with Permit.** All work and all activities authorized herein conducted by the permittee at the site shall be consistent with the terms and conditions of this permit. Any regulated activities carried out at the site, including but not limited to, construction of any structure, excavation, fill, obstruction, or encroachment, that are not specifically identified and authorized herein shall constitute a violation of this permit and may result in its modification, suspension, or revocation. In constructing or maintaining the activities authorized herein, the permittee shall not store, deposit or place equipment or material including without limitation, fill, construction materials, or debris in any wetland or watercourse on or off site unless specifically authorized by this permit. Upon initiation of the activities authorized herein, the permittee thereby accepts and agrees to comply with the terms and conditions of this permit.

4. **Transfer of Permit.** This authorization is not transferable without the written consent of the Commissioner.

5. **Reliance on Application.** In evaluating the permittee's application, the Commissioner has relied on information provided by the permittee. If such information subsequently proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked.

6. **Best Management Practices.** In constructing or maintaining the activities authorized herein, the permittee shall employ best management practices, consistent with the terms and conditions of this permit, to control storm water discharges and

erosion and sedimentation and to prevent pollution. Such practices to be implemented by the permittee at the site include, but are not necessarily limited to:

a. Prohibiting dumping of any quantity of oil, chemicals or other deleterious material on the ground;

b. Immediately informing the Commissioner's Oil and Chemical Spill Section at 424-3338 of any adverse impact or hazard to the environment, including any discharges, spillage or loss of oil or petroleum or chemical liquids or solids, which occurs or is likely to occur as the direct or indirect result of the activities authorized herein;

c. Separating staging areas at the site from the regulated areas by silt fences or haybales at all times.

d. Prohibiting storage of any fuel and refueling of equipment within 25 feet from any wetland or watercourse.

e. Preventing pollution of wetlands and watercourses in accordance with the document "Connecticut Guidelines for Soil Erosion and Sediment Control" as revised. Said controls shall be inspected by the permittee for deficiencies at least once per week and immediately after each rainfall and at least daily during prolonged rainfall. The permittee shall correct any such deficiencies within forty eight (48) hours of said deficiencies being found.

f. Stabilizing disturbed soils in a timely fashion to minimize erosion. If a grading operation at the site will be suspended for a period of thirty (30) or more consecutive days, the permittee shall, within the first seven (7) days of that suspension period, accomplish seeding and mulching or take such other appropriate measures to stabilize the soil involved in such grading operation. Within seven (7) days after establishing final grade in any grading operation

at the site the permittee shall seed and mulch the soil involved in such grading operation or take such other appropriate measures to stabilize such soil until seeding and mulching can be accomplished.

g. Prohibiting the storage of any materials at the site which are buoyant, hazardous, flammable, explosive, soluble, expansive, radioactive, or which could in the event of a flood be injurious to human, animal or plant life, below the elevation of the five-hundred (500) year flood. Any other material or equipment stored at the site below said elevation by the permittee or the permittee's contractor must be firmly anchored, restrained or enclosed to prevent flotation. The quantity of fuel stored below such elevation for equipment used at the site shall not exceed the quantity of fuel that is expected to be used by such equipment in one day.

h. Immediately informing the Commissioner's Inland Water Resources Division (IWRD) of the occurrence of pollution or other environmental damage resulting from construction or maintenance of the authorized activity or any construction associated therewith in violation of this permit. The permittee shall, no later than 48 hours after the permittee learns of a violation of this permit, report same in writing to the Commissioner. Such report shall contain the following information:

(i) the provision(s) of this permit that has been violated;

(ii) the date and time the violation(s) was first observed and by whom;

(iii) the cause of the violation(s), if known

(iv) if the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and times(s) it was corrected;

(v) if the violation(s) has not ceased, the anticipated date when it will be corrected;

(vi) steps taken and steps planned to prevent a reoccurrence of the violation(s) and the date(s) such steps were implemented or will be implemented;

(vii) the signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify said report in accordance with section 9 of this permit.

For information and technical assistance, contact the Department of Environmental Protection's Inland Water Resources Division at (860)424-3019.

7. **Contractor Liability.** The permittee shall give a copy of this permit to the contractor(s) who will be carrying out the activities authorized herein prior to the start of construction and shall receive a written receipt for such copy, signed and dated by such contractor(s). The permittee's contractor(s) shall conduct all operations at the site in full compliance with this permit and, to the extent provided by law, may be held liable for any violation of the terms and conditions of this permit.

8. **Monitoring and Reports to the Commissioner.** The permittee shall record all actions taken pursuant to Condition Number 6(e) of this permit and shall, on a monthly basis, submit a report of such actions to the Commissioner. This report shall indicate compliance or noncompliance with this permit for all aspects of the project which is the subject of this permit. The report shall be signed by the environmental inspector assigned to the site by the permittee and shall be certified in accordance with Condition Number 9 below. Such monthly report shall be submitted to the Commissioner no later than the 15th of the month subsequent to the month being reported. The permittee shall submit such reports until the subject project is completed.

9. **Certification of Documents.** Any document, including but not limited to any notice, which is required to be submitted to the Commissioner under this permit shall be signed by the permittee, a responsible corporate officer of the permittee, a general partner of the permittee, or a duly authorized representative of the permittee and by the individual or individuals responsible for actually preparing such document, each of whom shall certify in writing as follows:

"I have personally examined and am familiar with the information submitted in this document and all attachments and certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief, and I understand that any false statement made in this document or its attachments may be punishable as a criminal offense in accordance with Section 22a-6 under Section 53a-157b of the Connecticut General Statutes."

10. **Submission of Documents.** The date of submission to the Commissioner of any document required by this permit shall be the date such document is received by the Commissioner. Except as otherwise specified in this permit, the word "day" as used in this permit means the calendar day. Any document or action which falls on a Saturday, Sunday, or legal holiday shall be submitted or performed by the next business day thereafter.

Any document or notice required to be submitted to the Commissioner under this permit shall, unless otherwise specified in writing by the Commissioner, be directed to:

The Director
DEP/Inland Water Resources Division
79 Elm Street, 3rd Floor
Hartford, Connecticut, 06106-5127

Issued by the Commissioner of Environmental Protection on:

_____ _____

Date Arthur J. Rocque, Jr., Commissioner