OFFICE OF ADJUDICATIONS

IN THE MATTER OF :APPLICATION NO. IW-2002-116

DEPARTMENT OF TRANSPORTATION
(RTE 4/HARMONY HILL INTERSECTION) : AUGUST 12, 2004

PROPOSED FINAL DECISION

I
SUMMARY

The Connecticut Department of Transportation (DOT) has applied to the Department of Environmental Protection (DEP) Inland Water Resources Division (IWRD) for an inland wetlands and watercourses permit. General Statutes §22a-39. The permit would allow the DOT to conduct regulated activities in connection with roadway and intersection improvements on Route 4 near and at the intersection of Harmony Hill Road and Locust Road in Harwinton. The total wetland impact would be approximately .053 acres.

The primary purpose of this project is to improve sight distances[1] on Route 4 and properly align Harmony Hill and Locust Roads opposite each other. The project would also update and improve storm water management systems. IWRD staff has prepared a draft permit that would authorize the activity. (Attachment B.) In response to previous problems with erosion at a DOT project in Harwinton, special conditions have been added to the draft permit to require additional safeguards to prevent possible damage that could be caused in the event of failed erosion and sediment controls.

[1] Sight distance is the length of roadway ahead that is visible to a driver. Sufficient sight distance allows drivers to safely stop their moving vehicles when necessary. (Ex. APP-7; test. 4/14/04, J. Scalise.)

In addition to the DOT and the DEP, a group known as Catlin Corner Residents was granted status as an intervening party pursuant to General Statutes §22a-19.[2] A hearing on the application was held in Harwinton on April 14, 2004[3], and continued on April 30 at the DEP in Hartford. At the April 14 hearing, the public commented on alternatives to the planned elevation of a "dip" area on Route 4 by six and one-half feet and possible impacts to wetlands, fish and wildlife. Speakers expressed their concerns as to other possible consequences of the project, such as increased traffic and speeding on Route 4 if the road were improved, and questioned whether traffic "calming" methods, such as traffic lights or signs, could be considered as alternatives. Written public comments in favor of the project addressed its impacts on safety; letters against the project reflected the concerns of speakers at the public hearing.

I have reviewed the comments of speakers at the April 14 public hearing as well as written public comments received before, during and after the hearing. Some comments, while relevant to issues such as the need for the project and travel on Route 4, raise specific concerns that are not within the scope of the responsibilities of the DEP that are reflected in the permit that is the subject of this proceeding. I have considered only those comments that raise issues within the bounds of that responsibility and my authority in this matter.

On May 4, DEP staff filed a written summary of its testimony and relevant information presented in its exhibits. The intervenor and the applicant each filed proposed findings of fact and conclusions of law on May 28 and June 18, 2004, respectively.[4] Regs., Conn. State Agencies §22a-3a-6(x).

[2] Section 22a-19 provides for intervention upon the filing of a verified complaint asserting that a proposed activity is likely to result in unreasonable pollution, impairment or destruction of the environment. See *Nizzardo v. State Traffic Commission*, 259 Conn. 131 (2002) (Defining verified petition.)
[3] This hearing was postponed from March 24, 2004, in order for the DOT to conduct a public information session on that evening in Harwinton to discuss and answer questions on the application.
[4] The applicant's proposals are entitled "Proposed Final Decision". (Attachment A.)

I have reviewed the record and the submissions of the applicant, the intervenor, and DEP staff. Following this review and my analysis of those issues that are relevant to the statutory and regulatory criteria that govern my decision, I find that the proposed regulated activities, if conducted in accordance with the conditions of the draft permit, would comply with those standards. I advise that the Commissioner issue the permit.

II
DECISION

A
FINDINGS OF FACT

1. I adopt the applicant's proposed findings of fact. These facts include the purpose of the project, description of the site and project, consideration of alternatives to the project and the project's potential impacts. Where these facts implicate conclusions of law, I incorporate them into my conclusions, below.

2. In response to the intervenor's proposed findings of fact and sworn comments of public speakers relevant to this application, I expressly find the following.

Investigation and Management of Excavated Soils

a. During the design development process for this application, the DOT hired a consultant to conduct an investigation and analysis of subsurface soils to verify the absence or presence and location of subsurface contamination within the project limits. The purpose of this study was to determine how excavated materials would be handled if areas of contaminated soils were identified. The investigation was initiated primarily to address the presence of a gasoline station near the planned construction; however, it is also common to encounter polluted soils when planning projects such as this one. (Exs. APP-5A, 5D, 7, 10; ex. INT-1; test. 4/14/04, J. Scalise, 4/30/04, J. Witherell.)

b. Twenty-seven parcels located within the project limits were evaluated to assess the relative environmental risk associated with current and former land uses. Two parcels were designated high risk; three parcels were assigned a moderate risk designation. All other parcels were assigned a low risk designation; these properties were not tested. Ten geoprobe borings were drilled in areas designated high or moderate risk. Testing indicated that the primary pollutants were concentrations of polynuclear aromatic hydrocarbons (PAHs)[5] exceeding the DEP Remediation Standard Regulations (RSRs) for soils in a GAA groundwater[6] area, specifically the pollutant mobility criteria (PMC) and the residential direct exposure criteria (DEC).[7] PAH contamination was found at levels that exceeded these DEP regulatory standards at a depth of zero to two feet below grade; no contamination was found below a depth of two feet. No groundwater was found during any of the testing. DEC do not apply to inaccessible soils that have no risk for contact or ingestion, such as soil more than four feet below ground or two feet below pavement greater than three inches thick. If PAH levels exceed PMC on a site, it is not proof of leaching, especially where that site has no groundwater. (Ex. APP-10; ex. INT-1; test. 4/30/04, J. Witherell.)

c. Based on these results, ten more geoprobe borings were drilled into the project corridor to more accurately evaluate the limits of the PAH contaminated soils within the project limits. Geoprobe borings were made until test results indicated no further drilling was necessary. (Ex. APP- 10; test. 4/30/04, J. Witherell.)

[5] PAHs are found in exhaust from gasoline and diesel engines, in emissions from coal, oil and wood stoves and general soot and smoke from industrial, municipal, and domestic sources. (Ex. APP-10.)

[6] A GAA classification means the groundwater is designated as an "existing or potential public supply of water suitable for drinking without treatment". DEP *Water Quality Standards*, December 17, 2002.

[7] RSRs for soils are divided into two sets of criteria. PMC evaluate the potential for contaminants to leach from the soil in concentrations that may degrade groundwater quality. DEC protect human health from risks associated with direct contact with or ingestion of various common soil contaminants. (Ex. APP-10; ex. INT-1; test. 4/30/04, J. Witherell.)

d. No testing was performed in the wetlands areas, as no groundwater was present in the project area. Even if groundwater were present, PAHs adsorb very strongly to soil, so leaching to groundwater would not be expected. In addition, the PAH contamination found in this site was present only in surficial soils, which would be excavated during the project. (Exs. APP-7, 10; test. 4/30/04, J. Scalise, J. Witherell.)

e. As a result of this investigation, three areas containing contaminated soils were identified and designated as areas of environmental concern. Given the widespread nature of PAH contamination detected and its unknown source, a Remedial Management Plan was developed for all areas of construction to manage the soils to be excavated in this project. The areas of environmental concern are to be designated on the construction plans, and all soils excavated from these areas, "controlled materials", shall be specially handled. All excavated controlled materials would be transported to a designated temporary waste stockpile area and tested for reuse on site or for transport to an approved treatment or disposal facility. (Exs. APP-7,10; test. 4/14/04, J. Scalise, 4/30/04, J. Witherell.)

f. Controlled materials reused on site would have concentrations of pollutants at levels of contamination below levels of regulatory concern. Such soils are not "contaminated soils" in the sense that use of such a term could imply that dangerous soils would be used in this project. Also, materials reused on site would not be placed in wetlands, in areas subject to possible erosion, or where flooding would ever be an issue. There are no flooding impacts to the project area. (Exs. APP-7, 10; ex. DEP- 10; test. 4/14/04, C. Chase, 4/30/04, J. Scalise, J. Witherell.)

g. The process for handling soils during construction is the same process that would be followed if the site were being remediated. Soils would be excavated, removed and tested for reuse or treatment and disposal. (Test. 4/30/04, J. Witherell.)

h. The investigation was carried out according to standard practices and protocols. These practices include regular interaction between the applicant and the DEP throughout an application process. The DOT was not required to notify the DEP of the presence of the contamination found on site. An applicant is required to notify the DEP only when certain threshold limits of contamination are crossed; these limits were not reached in this case.[8] (Test. 4/14/04, C. Chase, 4/30/04, J. Witherell.)

Water Quality Improvement and Protection

i. Improvements to storm water management systems would improve water quality. Old pipes would be replaced and relocated to provide better hydraulic alignment with down stream watercourses; the proposed location of one pipe has been shifted to avoid wetlands impacts during its installation. The installation of catch basins, with sumps to trap sediments, and the development of new vegetative swales and ditches for outflows from those basins, would result in presently untreated storm water to be cleaned before being carried to watercourses, such as the area near the intersection of Route 4 and Further Lane (Station 1+200), which flows to an unnamed brook. Presently eroded banks allow sediment to drain directly into watercourses; these would be improved with the installation of riprap to prevent erosion and contain sediments. (Exs. APP-5B, 5C, 6, 8, 9; test. 4/30/04, K. Missell, R. Fontaine.)

j. Erosion and sedimentation prevention measures would be in place throughout the construction process. The construction contract would include a sequencing plan that would outline measures that must be in place before each specific stage of construction can begin. (Exs. APP-1, 6, 7, 8, 9; test. 4/14/04, J. Scalise, 4/30/04, K. Missell, R. Fontaine.)

[8] PAH levels must be thirty times RSR standards to be reportable. (Test. 4/30/04, J. Witherell.)

Wetlands Impacts

k. The impacted area of wetlands would involve a drainage channel and an existing crossing at an unnamed brook, for a total impact of 0.053 acres. Two existing culverts would be redesigned and thirty-five meters of vegetated swale would be developed. The area of the project is along an existing roadway. One and one-half to one fill embankment slopes would be used where possible to avoid and minimize impacts to the wetlands, which are also along the roadway. Where feasible, slight shifts in alignment have been made to save mature trees on Harmony Hill Road. The wetlands function as a habitat for wildlife tolerant of nearby motor traffic and disturbance by humans. (Exs. APP-1, 6, 8; test. 4/14/04, J. Scalise, K. Missell, 4/30/04, K. Missell.)

l. Stabilized slopes and improved storm water management systems would reduce erosion and minimize sedimentation. Short-term impacts during construction, such as migration of soils to wetlands and surface waters, would be reduced through erosion and sedimentation control measures, water handling techniques and phased construction. As confirmed by DEP experts, there would be no impact to fisheries. The site is also not in an area that is a habitat for an endangered, threatened or species of special concern. Erosion and sedimentation control measures would also ensure that no permanent adverse impacts would occur to fisheries or riparian habitat downstream. (Exs. APP-1, 8, exs. DEP-2, 4, 6; test. 4/14/04, J. Scalise, K. Missell, C. Chase, 4/30/04, K Missell.)

m. Excavation would remove soils with surficial levels of PAH contamination from the site; any soils reused on site would have been tested and characterized as acceptable for reuse. These soils would also be stabilized or stabilized and under pavement. Finally, no groundwater was found in the area, which would be necessary for pollutants to leach to a wetlands area. (Test. 4/30/04, J. Witherell.)

Alternatives

n. Filling the "dip" in Route 4 six and one-half feet and cutting the crest of Route 4 at Harmony Hill and Locust Roads by one and one-half feet are the minimum amounts necessary to provide a safe sight distance with the least impact to wetlands.[9] These improvements are necessary to bring this section of Route 4 into compliance with existing DOT and American Association of State and Highway Transportation Officials highway design standards and would reduce the likelihood of accidents at the intersection of Route 4 and Harmony Hill and Locust Roads. (Exs. APP-1, 3, 6, 7; test. 4/14/04, 4/30/04, J. Scalise.)

o. No expert testimony or evidence was presented to show that filling the "dip" by only three feet and lowering the crest of Route 4 and Harmony Hill and Locust Roads by two feet would result in adequate, safe sight lines and breaking distances, even for the posted 40 mile per hour speed limit.

p. The work that would directly impact the .053 acres of wetlands, the installation of new pipes and other drainage improvements would not be changed by reducing the height of the planned elevation of the "dip", as the need for this work is based on velocity of water, not height of the roadway. The width of the road would be narrowed only "slightly" if three feet of fill were used. (Test. 4/30/04, J. Scalise, K. Missell.)

q. Design standards require sight distances on a roadway to be long enough for a vehicle traveling at the "85th percentile" speed to stop before reaching a stationary object. The recorded 85th percentile vehicle speed in the area of the project is 53 miles per hour. (Exs. APP-1,7; test. 4/14/04, 4/30/04, J. Scalise.)

[9] To reduce impacts to adjacent properties, a design speed of 45 mph was used for assessing stopping sight distances. Although the posted speed limit in the area is 40 mph, the public expressed concerns about making assessments of safety by using this speed limit. (Ex. APP-7; test. 4/30/04, J. Scalise.)

r. The installation of traffic lights at the intersection of Harmony Hill and Locust Roads would not resolve the stopping sight distance problems on Route 4. This could also result in the need to widen the intersection of Harmony Hill and Locust Roads or make other changes to the roadway alignment. The placement of "traffic calming" measures such as warning signs or blinking lights would also not address the problem of sight line distances.[10] (Test. 4/14/04, 4/30/04, J. Scalise.)

Application

s. On September 23, 2003, the DEP issued a tentative decision to approve the application for a permit to conduct a regulated activity in an inland wetland or watercourse. Such a determination is made after the DEP first determines that an application is complete and contains all required information. (Exs. DEP-7-9; test. 4/14/04, C. Chase.)

B

CONCLUSIONS OF LAW

I adopt the conclusions of law proposed by the applicant. (Attachment A.) The application meets all the requirements of General Statutes §22a-41(b). The record and all relevant facts and circumstances demonstrate that there is no feasible and prudent alternative to the proposed project that would fulfill the purpose of the project and cause fewer environmental impacts. §22a-41(a). I also make the following conclusions of law in response to those presented by the intervenor.

The Commissioner has the responsibility to protect wetlands and watercourses by regulating activity that might have an adverse impact on natural resources. General Statutes §§22a-28 through 45, *Inland Wetlands and Watercourses Act*. See *River Bend Associates, Inc. v. Conservation & Inlands Wetlands Commission*, 269 Conn. 57, 71 (2004), quoting *AvalonBay Communities, Inc. v. Inland Wetlands Commission*, 266

[10] Drivers often ignore signs or a blinking light. For example, Route 4 currently has posted speed limits of 40 mph; the recorded 85th percentile speed for this roadway was 53 mph. (Test. 4/30/04, J. Scalise.)

Conn. 150, 160-161 (2003). Therefore, no regulated activity shall be conducted upon any wetland without a permit. §22a-32. Regulated activities may occur upon any wetland only if the Commissioner determines that a complete application complies with the conditions for the issuance of a permit set out in §22a-41 and relevant regulations.[11]

The DOT has satisfied its burden of providing substantial evidence to demonstrate that it has met the statutory and regulatory prerequisites for issuance of the permit it seeks and that there is no alternative to the proposed project that is the subject of its application. *Samperi v. Inland Wetlands Agency*, 226 Conn. 579 (1993). There is substantial evidence in the record that the proposed project has been planned to meet the goals of the DOT to improve the safety of this roadway while minimizing wetlands impacts to the greatest extent possible. In fact, the applicant presented substantial evidence that improved stability of slopes and storm water management systems as a result of its project would reduce erosion and minimize sedimentation in wetlands areas.

The intervenor makes unsupported allegations to support its conclusion that the DOT filed an application that was "false, inaccurate, incomplete and deceptive" because the DOT "knowingly withheld material information that widespread chemical contamination which had the potential to leach into designated wetlands existed in the soil of the DOT project". The serious implications of the assertions made by the intervenor and the potential for these claims to misinform and mislead those concerned about this project compel me to address them for the record.

There was no evidence to support the intervenor's contention that wetlands could be impacted by "chemical contaminants" beneath Route 4. The regulations that protect human health from risks associated with direct contact or ingestion of soil contaminants do not apply to inaccessible soils below pavement or more than four feet below grade.

[11] Applications are not complete unless in such form and with such information as the Commissioner deems necessary for a fair determination of the issues. Regs., Conn. State Agencies §22a-39-5.1.b.

There was no evidence that the wetlands could be impacted due to "levels of chemical contaminants or other pollutant materials within the designed wetlands and all other relevant areas of the project". The DOT presented extensive evidence on the investigation of the site for possible contaminants in the soils and the plan for management of soils excavated during construction. There was no evidence that the DOT failed to disclose "chemical contaminants" that could impact the wetlands.

The intervenor offered no evidence to support the claim that "possible transport of chemical contaminants from the westerly down slope of Route 4" could adversely impact wetlands. Evidence was introduced at the hearing to support a conclusion that transport or leaching of the contaminants found in the soils of the project area would not occur due to the properties of those contaminants and a lack of groundwater. The excavation and eventual disposal of contaminated soils would also prevent this occurrence.

The application filed by the DOT was not false, inaccurate, incomplete or deceptive because of any willful withholding of material information on the part of the DOT. As reflected in the record of the hearing, the DOT was not required to report on the contaminants found in soils within the boundaries of the project site, as the levels of contaminants were not at the levels where such information would be considered "material" and reporting would be required. In response to the revelation that contaminated soils were present on site, and, as experts for the DOT testified, because the areas of contamination were widespread, areas of environmental concern were identified and a plan for management of excavated soils with possible contamination was developed and would be incorporated into the construction plans for the project. The DOT did not knowingly withhold material information from the DEP.

The DOT has presented substantial evidence that it has complied in full with the statutory and regulatory requirements for the issuance of an inland wetlands and watercourses permit. The DOT submitted an application that the DEP determined was complete and contained all the information that was necessary for the DEP to review and make a tentative determination that the application should be approved.

There is no evidence to support the intervenor's allegations. Speculation or general concerns do not qualify as substantial evidence. *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, supra, 269 Conn. 71, quoting *Connecticut Fund for the Environment, Inc. v. Stamford*, 192 Conn. 247, 250 (1984). In addition, the determination of factual issues and the credibility of witnesses are matters within the authority of the trier of fact. *River Bend Associates, Inc. v. Conservation & Inland Wetlands Commission*, supra, 269 Conn. 70.

III

CONCLUSION AND RECOMMENDATION

The proposed regulated activities, if conducted in accordance with the conditions of the draft permit, would comply with all relevant statutes and regulations that govern the decision to issue the requested permit. General Statutes §22a-41; Regs., Conn. State Agencies §22a-39-6.1. The proposed project would improve an unsafe roadway without adversely impacting environmental resources. I recommend that the Commissioner issue the permit that is the subject of this proceeding.

8/12/04
Date

/s/ Janice B. Deshais
Janice B. Deshais, Hearing Officer

ATTACHMENT A

STATE OF CONNECTICUT

IN RE APP. NO. IW-2002-116	:	DEPARTMENT OF ENVIRONMENTAL
	:	PROTECTION
CONNECTICUT DEPARTMENT OF TRANSPORTATION ROUTE 4 - HARWINTON	:	

"PROPOSED FINAL DECISION"

I

SUMMARY

The Connecticut Department of Transportation ("DOT" or "Applicant"), has applied to the Department of Environmental Protection for a permit to conduct regulated activities on Route 4 at the intersection of Harmony Hill Road and Locust Road in the Town of Harwinton. These regulated activities are associated with the bringing up to standard a stretch of 1500 feet of roadway. 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.

The proposed improvements to the geometry and drainage are the subject of this permit application would improve public safety by improving stopping sight distance on Route 4 and allowing a 50-year storm to pass without flooding the roadway. The proposed project will alleviate these problems and provide a safer, more efficient roadway.

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.

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

II

DECISION

FINDINGS OF FACT

A
Procedural Background

(4) The DOT submitted an application to the Connecticut Department of Environmental Protection (DEP) Inland Water Resources Division ("IWRD") for an Inland Wetland and Watercourses permit in 2001 that was identified as IW-2001-117 for DOT project number 65-100 located at Harmony Hill Road and Route 4 in Harwinton. APP Ex. 8, p.4, DEP Ex. 6 and DEP Staff Summary dated May 4, 2004.

(5) DEP Fisheries Division staff reviewed application number IW-2001-117. DEP Ex. 2.

(6) After withdrawing the 2001 application, the DOT submitted a new application for the same project to the Connecticut Department of Environmental Protection (DEP) Inland Water Resources Division ("IWRD") for an Inland Wetland and Watercourses permit on November 21, 2002. APP. Ex. 1.

(7) IWRD staff conducted engineering meetings to review application number IW-2002-116 on January 2, 2003, August 20, 2003 and September 10, 2003. DEP Ex. 6.

(8) The DEP staff gave notice to the chief executive officer of the Town of Harwinton on September 23, 2003. DEP Ex. 7.

(9) Staff of the IWRD reviewed the application and issued a Notice of Tentative Determination and Intent to Waive Public Hearing on September 24, 2003. DEP Ex. 1.

(10) The DEP staff sent a draft permit to the DOT on September 24, 2003. DEP Ex. 4.

(11) On October 24, 2003, the IWRD received a petition signed by 52 persons submitted by the First Selectwoman from the Town of Harwinton requesting a hearing on the application.

(12) At the November 25, 2003 status conference, the hearing officer established December 12, 2003 as the date for the site visit, February 18, 2004 as the date for filing prehearing submittals and March 24, 2004 as the date for the hearing.

(13) Due to inclement weather, the December 10, 2003 site visit was cancelled.

(14) The DEP staff gave notice to the chief executive officer of the Town of Harwinton and to each member of the legislature in whose district the project is located on February 3, 2004. DEP Ex. 3.

(15) The parties filed their prehearing submittals on February 18, 2004.

(16) A group of local residents known as the Catlin Corner Residents sent a petition for intervention by facsimile to the hearing officer on February 20, 2004.

(17) IWRD staff published a Notice of Tentative Determination and Public Hearing for the March 24, 2004 public hearing on February 23, 2004. DEP Ex. 8.

(18) The hearing officer granted the Catlin Corner Residents' petition for intervention on March 8, 2004.

(19) On March 9, 2004, the Harwinton Historic District and Historic Properties Commission ("Historic Commission") petitioned to intervene.

(20) At the March 11, 2004 prehearing conference, the hearing officer recommended that the March 24, 2004 hearing be postponed until April 14, 2004 so that the Applicant could conduct a public meeting on March 24, 2004 in order to better inform the public about Project 65-100. The parties agreed to postpone the hearing until April 14, 2004.

(21) On March 12, 2004, the Applicant opposed the Historic Commission's petition to intervene.

(22) The hearing officer denied the Historic Commission's petition to intervene on March 15, 2004.

(23) IWRD staff published a Notice of Tentative Determination and Public Hearing for the April 14, 2004 site visit and public hearing on March 19, 2004. DEP Ex. 9.

(24) A site visit was held on April 14, 2004 followed by a public hearing at the Harwinton Consolidated School.

(25) The public hearing was continued on April 30, 2004 at the DEP offices in Hartford.

(26) The DOT presented expert testimony from four witnesses at the hearings: Mr. Joseph Scalise, P.E., DOT Project Engineer; Ms. Kimberly Lesay Missell, DOT

Transportation Planner; Ms. Jane Witherall, P.E., L.E.P., Maguire Group Inc.; and Mr, Richard Fontaine, P.E., Close, Jensen and Miller, P.C. APP Ex. 5a-d; APP Ex. 7; APP Ex. 8; APP Ex. 9 and APP Ex. 10.

(27) The DEP presented expert testimony from Ms. Cheryl Chase, DEP Civil Engineer III.

(28) The intervenors did not present any witnesses at the hearings.

(29) The record for the public hearing remained open until May 14, 2004.

B

Project Description

(30) DOT project number 65-100 ("the Project") is an intersection improvement at Route 4, Harmony Hill and Locust Roads in the town of Harwinton. APP Ex. 1, Attachment A-1 p.2.

(31) The purpose of this project is to improve the stopping sight distance on Route 4, and properly align Harmony Hill Road and Locust Road opposite each other (APP. Ex. 1; APP Ex. 7, Testimony of Joseph Scalise) along with the replacement of two corrugated metal pipes, both of which have exceeded their life expectancies. APP Ex. 9, Testimony of Richard Fontaine.

(32) The project will have the added benefit of relocating a fixed object with a blunt end further away from the traveled portion of the road. The fixed object currently sits within an area of the road in which an errant vehicle could veer off the road and strike the fixed object resulting in severe injuries to the occupants of the vehicle. APP Ex. 7, Testimony of Joseph Scalise.

(33) The existing vertical curve hides cars from the line of site at the intersection. APP Ex. 1.

(34) In order to have a safe distance that cars on Route 4 can be seen from vehicles entering form Locust and Harmony Hill Roads, Route 4 must be cut 1.5 feet at the crest of the hill near its intersection with Locust and Harmony Hill Roads and raised as much as 6.5 feet at the sag west of the intersection. These improvements would bring this section of Route 4 into compliance with existing DOT and American Association of State and Highway Transportation Officials ("AASHTO") highway design standards. APP. Ex. 1; APP Ex. 7; Testimony of Joseph Scalise.

(35) The DOT considered an alternative that did not have as much fill in the sag but determined that the alternative did not meet the design standards. APP Ex. 1 Attachment J; Testimony of Joseph Scalise.

(36) The DOT considered an alternative incorporating traffic signalization at the intersection but determined that it did not meet the criteria necessary for traffic signalization and did not resolve the stopping sight problem. APP Ex. 1 Attachment J; Testimony of Joseph Scalise.

(37) The DOT considered " No Build" alternative which it determined was not acceptable since the existing roadway does not meet design standards. APP Ex. 1 Attachment J; Testimony of Joseph Scalise.

(38) The project includes the redesign of two existing culverts crossing Route 4 (APP Ex. 9; Testimony of Richard Fontaine) and will include 35 meters of vegetated swale. APP Ex. 1, Attachment H, Part 2, p.16; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(39) The project will impact 0.053 acres of wetlands. APP Ex. 1; APP Ex. 2; APP Ex. 6; APP Ex. 7; APP Ex. 8; Testimony of Kimberly Lesay Missell; May 4, 2004 DEP Staff Summary.

C

Site Description and Proposed Modifications

(40) The Project extends from approximately 200 feet west of Further Lane near Station 1+95 east to approximately 600 feet east of the intersection of Route 4 and Harmony Hill Road/ Locust Road, just east of the Harwinton Volunteer Fire Department Building located at 158 Burlington Road, Harwinton. The length of the project is approximately 1500 feet. APP Ex. 2; APP Ex. 6; APP Ex. 7; Testimony of Joseph Scalise.

(41) The intersection of Route 4 with Harmony Hill Road and Locust Road has a 4-way geometric configuration with stop control provided on Harmony Hill Road and Locust Road. Harmony Hill Road and Locust Road are offset. Harmony Hill Road has two points of access from Route 4 separated by a raised island. The intersection is located on a crest vertical curve of Route 4 with the high point approximately 130 feet east of the intersection. There is a sag vertical curve with a low point approximately 100 ft. east of Further Lane. The existing width of Route 4 is approximately 9.5 m (32 ft.), essentially 4.75 m (16 ft.) in each direction. APP Ex. 7; Testimony of Joseph Scalise.

(42) The project cannot accomplish its goal of meeting the design standards with an amount of fill that is less than 6.5 feet at the sag. APP Ex. 3; APP. Ex. 4; Testimony of Joseph Scalise.

(43) The goals of the project cannot be met by traffic signalization at the intersection since the problem with the vertical geometry will not be resolved. APP. Ex. 3; APP. Ex. 4; Testimony of Joseph Scalise.

(44) An alternative with greater cuts at the crest near the intersection and less fill at the sag would require the removal of trees not designated for removal as part of the proposed project and would negatively impact driveway access to Route 4. APP. Ex. 2; APP. Ex. 3; APP Ex. 6; Testimony of Joseph Scalise.

(45) There are two wetlands located within the project limits identified on the project plans as Site 1 and Site 2. APP Ex. 2; APP Ex. 6; APP Ex. 7; APP Ex. 8; Testimony of Joseph Scalise; Testimony of Kimberly Lesay Missell.

(46) This project lies within the Rock Brook Drainage Basin, which is part of the Naugatuck Regional Basin. The roadway corridor in the project area is characterized by residential development. According to the latest GIS soils information, the overall project area is dominated by Paxton and Montauk soils, and Canton and Charlton soils. Both of these soil series are well drained. In the area of wetland site 1, the soil type is a regulated wetland soil and is identified as Leicester fine sandy loam. However, field inspections indicated that soils along the roadway are disturbed, and would be classified as Udorthents. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(47) The impacted area in this project consists of a regulated drainage channel and an existing crossing at an unnamed brook. The current project will directly impact one site. A total of 0.053 acres of wetlands and watercourses will be permanently impacted by the project. This has been reduced from 0.073 acre (2001 application # IW-2001-117). These impacts are minimal and are unavoidable with the proposed alignment. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell; Testimony of Cheryl Chase.

(48) Site 1 is located on Route 4 at Sta. 1+200, north and south of the roadway, just east of Further Lane. The roadway width will not be widened in this area but the elevation of the roadway will be raised approximately 2 m (6.5 feet) to improve stopping sight distance. APP Ex. 2; APP Ex. 6; APP Ex. 7; Testimony of Joseph Scalise.

(49) This wetland consists of an unnamed brook, which is a tributary to Bull Pond and associated wetlands, and eventually, Rock Brook. It flows through the project area under existing Route 4 in a roughly north to south direction. Adjacent to the roadway, the channel runs parallel with the roadway for approximately 30 m and is characterized by a silty bottom. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(50) The vegetation near the roadway and within the channel is mostly herbaceous in nature. Various grasses, including reed canary grass *(Phalaris arundinacea)*, along with goldenrod *(Solidago sp.)* are most common. On the northern bank of the channel, and farther back from the road, multiflora rose *(Rosa multiflora)*, speckled alder *(Alnus rugosa)*, meadowsweet *(Spirea sp.)* and winterberry *(Ilex verticillata)* dominate the shrub layer and some maples *(Acer rubrum)*, which appear to be trimmed regularly for the power lines, are present. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(51) Here, the brook is joined by stormwater flows from the west which run under Further Lane via an existing 375 reinforced concrete pipe (RCP). This portion of the channel is eroded and is dominated by various grasses, goldenrod *(Solidago sp.)* and meadowsweet *(Spirea sp.)*. These combined flows then travel under Route 4 via an existing 900 mm corrugated metal pipe (CMP). APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(52) On the south side of Route 4, the brook passes through the remnants of a stone wall, which causes it to pool during higher flow periods. The brook continues south and in this vicinity is characterized by a rocky bottom and its flow is partially constrained by remnants of retaining walls in certain portions. The channel is lined with mature trees and shrubs as the brook travels southwest beyond Route 4. Dominant species in the canopy layer of the channel consist of sycamore *(Platanus occidentalis)* and maple *(Acer rubrum)*. Japanese barberry *(Berberis thunbergii)*, raspberry *(Rubus sp.)*, and dogwood *(Cornus sp.)* dominate the shrub layer with curly dock *(Rumex crispus)*, goldenrod *(Solidago sp.)* and various grasses present in the herbaceous layer. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(53) On the north side the existing open channel will be relocated to the north, the old channel will be filled. The existing 900 mm (36 inch) metal pipe which brings the channel under Route 4 will be replaced with a 1200 mm (48 inch) concrete pipe. APP Ex. 2; APP Ex. 6; APP Ex. 7; APP Ex. 8; Testimony of Joseph Scalise; Testimony of Kimberly Lesay Missell.

(54) On the south side of Route 4, a residence lies to the east side of the brook. This area consists of a manicured lawn with white pine *(Pinus sp.)* and spruce *(Picea sp.)* present. A row of maple *(A. rubrum)* trees exists just behind the stone wall. Wetland functions and values are limited adjacent to Route 4, but include groundwater discharge and production export. Approximately 0.053 acre of wetland resource will be impacted in this area. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(55) The existing channel on the north side will be relocated to accommodate the fill embankment and will be replaced with an intermediate riprap channel for approximately 25 m. The existing 375 mm RCP which carries stormwater under Further Lane will be relocated to accommodate the fill slope and will be fitted with a reinforced concrete culvert end (RCCE) and a modified riprap splash pad which will also lead to the intermediate riprap channel. This drainage system currently consists of two catch basins. The updated system will have five catch basins, with the last one before the outlet being fitted with a 1.2 meter sump to aid in sediment trapping. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(56) The existing 900 mm corrugated metal pipe (CMP) under Route 4 will be replaced with a 1200 mm reinforced concrete pipe (RCP) and corresponding reinforced concrete culvert ends (RCCE's). The new pipe will be extended to accommodate the new fill embankment and will be on a slightly different angle to align the outlet properly with the existing channel on the south side. Riprap is also being installed at the approach and exit channels to prevent erosion from occurring during the design storm event. .

The wetland functions and values of groundwater discharge and production export will not be adversely impacted. Erosion in the channel will be stabilized and improvements to the drainage system will improve sediment loads entering the brook. APP Ex. 2; APP Ex. 6; APP Ex. 8; APP Ex. 9; Testimony of Kimberly Lesay Missell; Testimony of Richard Fontaine.

(57) The drainage system which currently outlets to the northeastern side of Site 1 consists of 4 catch basins. This system will be updated to include eight catch basins with a 1.2 meter sump in the last basin to improve sediment trapping. The outlet has also been pulled back from the wetland boundary to provide for 35 meters of vegetated swale before joining the flows of the unnamed brook. As a result, water quality will be improved through increased sediment trapping and excess nutrient uptake. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(58) On the south side of the roadway, a stone lined plunge pool will be installed at the end of the new 48 inch concrete pipe. The culvert and plunge pool are on a slightly different alignment to better line up with the existing channel. Total wetland impact is approximately 0.053 Acres. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(59) The proposed cross culvert at Site 1 will carry the unnamed intermittent watercourse with a drainage of approximately 92 acres under Route 4 and is designed to pass a 50-year storm. The backwater for the 50-year storm will be reduced by approximately 2.2 feet. APP Ex. 1; APP Ex. 9; Testimony of Richard Fontaine; DEP Ex. 6; May 4, 2004 DEP Staff Summary. Site 2 is located approximately at Station 1+480 and consists of two small wet depressions situated between the existing roadway and stone walls which line both sides of the roadway. Both areas are similar in size and vegetation and are connected by an existing 450 mm corrugated metal pipe (CMP) which runs under Route 4. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(60) Dominant species are elderberry *(Sambucus canadensis)*, meadow sweet *(Spirea sp.)* and raspberry *(Rubus sp.)* in the shrub layer, with a few saplings of maple (Acer sp.) and ash *(Fraxinus sp.)* also present. Common species in the herbaceous layer are goldenrod *(Solidago sp.)*, aster *(Aster sp.)*, reed canary grass *(Phalaris arundinacea)*, pokeweed *(Phytolacca americana)*, sensitive fern *(Onoclea sensibilis)* and creeping myrtle *(Vinca sp.)* (on the south side only). Principal wetland functional values are limited to sediment/toxicant retention due to the small size of the wetland resource. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(61) The existing 450 mm corrugated metal pipe (CMP) connecting these two wetland areas will be replaced by a 450 mm reinforced concrete pipe (RCP) which accommodates the roadway fill in the vicinity, with corresponding reinforced concrete culvert ends (RCCE's) and a modified riprap splash pad at the outlet. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(62) The skew of the new pipe has been modified from the existing location to avoid impacting these wetland areas and the splash pad at the outlet will be constructed to direct any flows east in order to maintain the hydrological connection between these two wetland areas. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(63) There will be no adverse impacts to the functions and values provided by this wetland due to the project.

(64) The project included two redesigns of existing culvert crossings. These redesigns were based upon the Connecticut Department of Transportation Drainage Manual 2000. APP Ex. 9; Testimony of Richard Fontaine.

(65) Both existing pipes are corrugated metal and are in poor condition. They have exceeded their life expectancy and are in need of replacement. APP Ex. 9; Testimony of Richard Fontaine.

(66) 1.5:1 fill embankment slopes have been proposed where possible to avoid and minimize impacts to wetlands and stone walls along the roadway. APP Ex. 1; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(67) Swales leading to the new 1200 mm RCP under Route 4 will be either grass lined or riprap with sedimentation check dams to protect water quality through enhanced sedimentation controls. APP Ex. 1.

(68) The construction plans prohibit equipment or material storage or laydown or equipment refueling or maintenance in the restricted area of the project identified as "Public Water Supply Boundary." APP Ex. 1.

(69) All pertinent environmental compliance Best Management Practices listed in Section 1.10 of the State of Connecticut Department of Transportation Standard Specifications of Road, Bridges and Incidental construction Form 815 will apply to the construction of the project. APP Ex. 1.

(70) The DOT will use measures to control sedimentation and erosion and proper water handling techniques and phasing of construction to assure that no permanent adverse effects will occur to downstream fisheries or riparian habitat in accordance with the "Connecticut Guidelines for Soil Erosion and Sediment Control." APP Ex. 8; DEP Ex. 4; Testimony of Kimberly Lesay Missell.

(71) Such measures will include: the use hay or straw bale dikes; silt fencing, catch basin protection and turbidity controls where necessary; vegetated swales will be used in some areas while others will be lined with erosion control matting prior to turf establishment; staged construction to allow for continued flow through existing CMP until RCP is ready to accept flow; curbing 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; riprap splash pads or plunge pools will be installed at stormwater discharge locations with high erosion potential; and exposed soils will be seeded with an

approved erosion control mixture within seven days of the contractor reaching the appropriate grade. APP Ex. 1; APP Ex. 8; Testimony of Kimberly Lesay Missell.

(72) The overall long-term impacts to the wetlands will be minimal or positive. APP Ex. 8; Testimony of Kimberly Lesay Missell.

(73) Where feasible, slight shifts in alignment have been made to save mature trees on Harmony Hill Road. APP Ex. 2; APP Ex. 6; APP Ex. 8.

(74) Impacts to wildlife as a result of the project will be limited since the project will be restricted to an existing roadway. APP Ex. 2; APP Ex. 6; APP Ex. 8.

(75) The wetlands are limited in this function as habitat for wildlife tolerant of nearby motor traffic and disturbance by humans. APP Ex. 2; APP Ex. 6; APP Ex. 8.

(76) The impact area contains invasive plant species and displays signs of erosion. APP Ex. 2; APP Ex. 6; APP Ex. 8.

(77) The DOT reviewed the GIS Natural Diversity Database Maps for this project area and determined that there are no known extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur in the project corridor. APP Ex. 1; APP Ex. 8.

(78) The amount of wetlands impacted is deemed to be minor when compared to the criteria used by the U.S. Army Corps of Engineers, which uses 5000 square feet as the threshold for activities which fall into the category of activities allowed under their non-reporting general permit. This project impacts lest than half the threshold amount. Testimony of Cheryl Chase; May 4, 2004 DEP Staff Summary.

(79) The original project at this site, submitted under application IW-2001-117, was reviewed by DEP fisheries and deemed to be of such a minor nature that no further review was required. DEP Ex. 2.

(80) There is no Federal Emergency Management Agency flood zone at the site. APP Ex. 1; May 4, 2004 DEP Staff Summary.

(81) The storm drainage system was designed for the 10 year storm with adequate outlet protection. APP Ex. 1; DEP Ex. 6; May 4, 2004 DEP Staff Summary.

(82) The DOT directed its environmental consultant, Maguire Group, Inc. to conduct an environmental investigation of site conditions within the project limits.

(83) Maguire identified several areas of moderate to high risk during the initial environmental investigation, known as a Task 110. APP-10; Testimony of Jane Witherall; INT. Ex. 1.

(84) As a result of identifying the moderate to high risk areas, Maguire proceeded to obtain soil samples from those areas. APP-10; Testimony of Jane Witherall.

(85) The soil samples revealed the presence of polyaromatic hydrocarbons, known as PAHs. APP-10; Testimony of Jane Witherall; INT. Ex. 1.

(86) PAHs adsorb very strongly to soil and will not be expected to leach to the groundwater. APP-10; Testimony of Jane Witherall.

(87) Maguire conducted another set of soil sampling to more accurately evaluate the limits of the PAH contaminated soils within the project limits. APP Ex. 10; Testimony of Jane Witherall.

(88) Several soil samples taken from a depth of 0 to 2 feet below the surface indicated the presence of PAH concentrations in excess of the DEP's regulatory standards. APP-10; Testimony of Jane Witherall; INT Ex.1.

(89) The source of the PAH contamination detected in surficial (0 to 2 feet) soils in the project corridor is unknown. APP-10; Testimony of Jane Witherall.

(90) Soil samples taken from a depth below 2 feet below the surface did not indicate the presence of contaminants at concentrations in excess of the DEP's regulatory standards. APP-10; Testimony of Jane Witherall; INT. Ex. 1.

(91) When Maguire received results from geoprobe 20 indicating that there were no PAHs present, it concluded soil sampling. INT Ex.1, Table 1(f); Testimony of Jane Witherall.

(92) Maguire identified the areas where soil samples with PAH concentrations in excess of the DEP regulatory standards as "Areas of Environmental Concern." (AOC). APP Ex. 7; APP Ex.10; Testimony of Jane Witherall; INT Ex. 1.

(93) The specific areas where pollutants were found will be identified on the construction plans as "Areas of Environmental Concern." APP Ex. 7; APP Ex. 10; Testimony of Joseph Scalise; Testimony of Jane Witherall.

(94) The construction contract will include specific documentation that the contractor must follow when handling excavated material from within these Areas of Environmental Concern. APP Ex. 7; APP Ex. 10;Testimony of Joseph Scalise Testimony of Jane Witherall;.

(95) The DOT's environmental consultant will be on site to monitor the excavation operations within these Areas of Environmental Concern, to collect soil samples and observe site conditions. APP Ex. 7; APP Ex. 10; Testimony of Joseph Scalise; Testimony of Jane Witherall.

(96) The contractor will be required to transport excavated material from these Areas of Environmental Concern to a temporary waste stockpile location. The

designated waste stockpile location for this project is located off the project site on state property on Route 118 near Route 8. APP Ex. 7; APP Ex. 10;Testimony of Joseph Scalise; Testimony of Jane Witherall.

(97) The environmental consultant will sample stockpiled material so that the controlled material can be characterized for disposal purposes. APP Ex. 7; APP Ex. 10;Testimony of Joseph Scalise; Testimony of Jane Witherall .

(98) Based on the testing results, the material will be taken from the waste stockpile area and either reused onsite, or disposed of at a permitted disposal facility, as identified in the specifications. APP Ex. 7; APP Ex. 10;Testimony of Joseph Scalise; Testimony of Jane Witherall.

(99) Sedimentation and erosion control measures employed during construction will prevent the migration of soil to the wetlands and surface waters. APP-10; Testimony of Jane Witherall.

(100) There will be no direct impact to the Site 2 wetland areas. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell; Testimony of Cheryl Chase.

(101) There will be no adverse impacts to the functions and values provided by this wetland due to the project. APP Ex. 2; APP Ex. 6; APP Ex. 8; Testimony of Kimberly Lesay Missell.

No formal mitigation is necessary for this project since impacts are minimal due to the limited functions and values and the extent of the impacts. APP Ex. 8.III

Conclusions of Law

A

Statutory and Regulatory Standard for Permit Issuance

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.

B

Application of Findings of Fact to the Statutory and Regulatory Standard for Permit Issuance

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

1. Environmental Impacts

The proposed project will result in minimal 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. Proper staging, water handling, and a time-of-year restriction on in-water work have been incorporated into design plans and construction contracts, minimizing impacts to fisheries resources.

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 has been designed and planned to reduce impacts on wetlands to the greatest extent possible.

1.5:1 fill embankment slopes have been used where possible to avoid and minimize impacts to wetlands and stone walls along the roadway. Where feasible, slight shifts in alignment have been made to save mature trees. Impacts to wildlife as a result of the project will be limited due to the restricted area of the project which is along an existing roadway.

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. Proposed pipes are located so as to allow for water to flow through the existing pipes until the new system is in place and stabilized. Drainage systems including the new swales, will be constructed from the outlet, working back, ensuring that the area is stable before flows are directed into the new system. In drainage installations, accepted water-handling methods will be used in accordance with Best Management Practices.

Soil testing procedures will be utilized by the Applicant to ensure that any excavated soils with concentrations of contaminants in excess of the remediation standard regulations are not reused as fill as a part of the project. Soils will be stockpiled and tested offsite to protect the wetlands within the project limits. In the event that soil must be brought in as fill from outside the project limits, the Applicant will have the soil tested to ensure that the fill does not contain any contaminants in excess of the regulatory standard regulations.

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. 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 intersection improvements on Route 4 at Harmony Hill and Locust Roads 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 Impacts /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 the current drainage systems will be updated and will include 1.2 meter sumps in certain basins to improve sediment trapping. The project also provides for 35 meters of vegetated swale before joining the flows of the unnamed brook. As a result, water quality will be improved through increased sediment trapping and excess nutrient uptake. Erosion currently occurring in the drainage channel will be eliminated, reducing sediment loads downstream .

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.

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 project will improve and enhance some of the functions of the existing wetlands through updating the current drainage systems and inclusion of 1.2 meter sumps in certain basins to improve sediment trapping. The project also provides for 35 meters of vegetated swale before joining the flows of the unnamed brook. As a result, water quality will be improved through increased sediment trapping and excess nutrient uptake. Erosion currently occurring in the drainage channel will be eliminated, reducing sediment loads downstream. The commitment of wetland resources to the proposed project will not result in an unacceptable loss of irretrievable or irreplaceable wetland resources.

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 Route 4 cross culvert and the enhancements of existing stream channels will facilitate wildlife and fish movement throughout the wetlands system and will enhance the ability of the wetland system to control stormwater. The improvements as a result of the project will provide a safer Route 4 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 updates to the current drainage system

and inclusion of 1.2 meter sumps and vegetated swales will offset the impacts to wetlands. The wetland mitigation site that will be developed off-site 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 4 and Harmony Hill and Locust Roads. Those future activities, if designed in a fashion similar to the present plan, could also have an overall minimal impact on the environment.

IV

Permit Conditions

7. 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.

8. 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.

9. The permittee shall make necessary modifications to the project soil erosion and sedimentation controls at the site of the project, during construction and thereafter, to prevent pollution to wetlands and watercourses. The permittee shall report on such modifications as part of the monthly monitoring requirement in General Condition number 8. Such modifications shall comply with the "Connecticut Guidelines for Soil Erosion and Sediment Control", as revised. If design and implementation of such modifications require temporary alterations to regulated areas in excess of permanent or temporary disturbance shown on approved permit plates, the permittee shall submit such modifications, including hydraulic design of such, to the Commissioner for review and written approval prior to implementation at the site. If such implementation is required prior to continuation of work at the site, such work shall cease until such modifications are approved and implemented.

V

Conclusion 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 intersection improvements of Route 4 at Harmony Hill and Locust Roads 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.

ATTACHMENT B

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-2002-116
Permit Type: Inland Wetlands and Watercourses
Town: Harwinton
Project: DOT Project Number 65-100

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 Harwinton in accordance with its application and plans which are part thereof filed with this Department on November 21, 2002 signed by Edgar T. Hurle and dated November 6, 2002, revised through August 29, 2003(the "plans"). The purpose of said activities is intersection improvements at Route 4 and Harmony Hill (the "site").

AUTHORIZED ACTIVITY

Specifically, the permittee is authorized to alter 0.053 acres of inland wetlands or watercourses for roadway widening, the replacement of a cross culvert, and drainage system reconstruction 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. The permittee shall make necessary modifications to the project soil erosion and sedimentation controls at the site of the project, during construction and thereafter, to prevent pollution to wetlands and watercourses. The permittee shall report on such modifications as part of the monthly monitoring requirement in General Condition number 8. Such modifications shall comply with the "Connecticut Guidelines for Soil Erosion and Sediment Control", as revised. If design and implementation of such modifications require temporary alterations to regulated areas in excess of permanent or temporary disturbance shown on approved permit plates, the permittee shall submit such modifications, including hydraulic design of such, to the Commissioner for review and written approval prior to implementation at the site.

If such implementation is required prior to continuation of work at the site, such work shall cease until such modifications are approved and implemented.

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, this permit shall be null and void.

   Any application to renew or reissue this permit shall be filed in accordance with Sections 22a-6j and 22a-39 of the General Statutes and Section 22a-3a-5(c) of the regulations of Connecticut State Agencies. In order to be considered timely, any such application must be filed at least 120 days prior to the expiration date of this permit.

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