OFFICE OF ADJUDICATIONS

IN THE MATTER OF	***: APPLICATIONS NO. 200300427 (DIV) & 200301081 (SD & Fill)***
CITY OF MIDDLETOWN/ARMETTA & ASSOCIATES LLC	***: AUGUST 25, 2004***

PROPOSED FINAL DECISION

The City of Middletown (City) and Armetta & Associates, LLC (Armetta) have applied to the Department of Environmental Protection (DEP) for a permit to conduct structures, dredging and fill activities and a permit to divert waters of the state. General Statutes §22a-361, §22a-369. Permits for these regulated activities are necessary for the applicants to construct two collector wells off of River Road in Middletown to provide water diverted from the Connecticut River to be used as cooling water for the applicants' proposed Kleen Energy Power Plant.

Staff of the DEP Office of Long Island Sound Programs has prepared a draft permit that would authorize the structures, dredging and fill activities; DEP Inland Waters Resources Division staff has prepared a draft permit to authorize the diversion. (Attachment B.) In addition to the applicants and DEP staff, the Connecticut River Watershed Council and Mr. David Bauer are intervenors.

A hearing was held at Middletown City Hall on May 20, 2004, and continued on May 25 at the DEP in Hartford. Public comments at the hearing in Middletown included support for the project as well as concerns as to possible impacts of the diversion and the need for additional studies of the withdrawals from the River. Written public comments were also received at and after the hearing. I have considered all relevant comments, but cannot include issues that do not pertain to the statutory and regulatory criteria that govern my review of this application and recommendation to the Commissioner. General Statutes §4-178.

The applicants have submitted a "proposed draft decision" for my consideration. Regs., Conn. State Agencies §22a-3a-6(l). (Attachment A.) Prior to its submittal, this draft decision was circulated to staff and the intervenors. Comments from DEP staff were incorporated into that decision; the draft does not include comments received from the CWRC, which submitted separate comments for my consideration. Mr. Bauer did not directly comment on the proposed draft decision, but submitted separate comments on July 9, 2004.

I have reviewed the proposed draft decision and the comments of the CWRC and Mr. Bauer. I note and endorse the mitigation measures outlined in the decision that the applicants have voluntarily agreed to carry out. A joint venture water development entity of the City and Armetta will upgrade the United States Geological Survey gaging station at the Pratt & Whitney dock in Middle Haddam to allow for the installation of a bi-directional flow monitor once the proposed project is constructed and in operation.

As outlined in the draft decision presented for my consideration, the proposed regulated activities, if conducted in accordance with the conditions of the draft permits, would comply with the requirements of governing statutes and regulations. I therefore adopt the proposed draft decision submitted by the applicants as my proposed final decision and recommend that the Commissioner issue the structures, dredging and fill and water diversion permits that are the subject of this proceeding.

8/25/04___ \s\ Janice B. Deshais_____
Date Janice B. Deshais, Hearing Officer

APPENDIX A
P A R T Y L I S T

In the Matter of City of Middletown and Armetta & Associates, LLC
Applications No. 200300427 (DIV) and 200301081 (SD & F)

PARTY	REPRESENTED BY
The Applicants	
City of Middletown Hon. Domenique Thornton, Mayor 245 DeKoven Drive Middletown, CT 06457	Lawrence Golden, Esq. Pullman & Comley, LLC 90 State House Square Hartford, CT 06103-3702
Armetta & Associates, LLC William Corvo 90 Industrial Park Road Middletown, CT 06457	
Nicolle Burnham. P.E. Milone & MacBroom, Inc. 716-726 Main Street Cheshire, CT 06410	
Department of Environmental Protection 79 Elm Street Hartford, CT 06106	
Inland Water Resources Division Jeffrey Caiola	
Office of Long Island Sound Programs Micheal Grzywinski	
	Petitioner – George Frick 24 Ernest Drive Durham, CT 06422-2201 (860) 349-3030

ATTACHMENT A

PROPOSED DRAFT DECISION[1]
SUMMARY

The City of Middletown ("City") and Armetta & Associates, LLC ("Armetta") (together, the "Applicants") have applied to the Department of Environmental Protection ("DEP") for permits to divert waters of the state ("Diversion") and to conduct structure, dredging and fill activities ("S, D & F"). Conn. Gen. Stat. §§ 22a-365 et seq. and 22a-359 et seq. The Applicants propose to construct two collector wells off of River Road in the City in order to provide up to 7.39 million gallons of water per day ("MGD") from the Connecticut River. Up to 5.8 MGD of the water withdrawn would be used as cooling water and other purposes for the proposed Kleen Energy Power Plant ("Power Plant"). The remaining water would be available to the City for either industrial or potable use (the latter of which would require approval from the Connecticut Department of Public Health). Staff of the DEP Inland Water Resources Division ("IWRD") has prepared a draft permit that would authorize the Diversion (Attachment A), and staff of the DEP Office of Long Island Sound Programs ("OLISP") has prepared a draft permit that would authorize the S, D & F activities (Attachment B).

The applications are complete and comply with all relevant statutes and regulations. Conn. Gen. Stat. §§ 22a-359 through 22a-362 and 22a-365 through 22a-380; Reg. Conn. Stat. Agencies §§ 22a-372-1 through 22a-377c-2. The Diversion and S, D & F activities are necessary for meeting the projected needs of the Power Plant and the City, which include those of providing other municipalities with water, and, following considerations of alternatives, is the most feasible and prudent option for meeting those needs with no significant adverse impacts. I recommend that the draft permits be issued.

[1] The applicants conveyed this decision in a letter dated July 22, 2004; it has been reformatted as an attachment and certain editorial changes have been made.

II
FINDINGS OF FACT
A.
Procedural History

The Applicants filed their permit applications for Diversion on February 12, 2003 and for S, D & F on March 31, 2003. Notices of these applications were published in accordance with General Statutes § 22a-6g. (Exhs. DEP–3, 25).

Staff of the IWRD and the OLISP reviewed the applications. In response to staff comments, the Applicants submitted supplemental information and revisions to the applications. (Exhs. App–3 thru 8, 10).

After concluding that the applications were complete and had been submitted on the prescribed forms, and following its technical review of the applications and all supplements and revisions, the DEP published notice of its tentative determination to approve the applications and issued draft permits that would authorize the requested Diversion and S, D & F activities. (Exhs. DEP–22, 23, 32; Tr. 5/25/04 at 6-10).

Petitions were received and a hearing was held on May 20, 2004 at the Middletown City Hall. A site visit was also conducted on that day; representatives of the Applicants, DEP staff and the public were present. Public comments included concern about the Roth well field and the reservoir at the Connecticut Valley Hospital, the need for additional studies of the Connecticut River withdrawals and the effect of river troughs and undulations. The Connecticut River Watershed Council and David Bauer were admitted as intervenors. (Tr. 5/20/04 at 8, 16-17, 70, 74, 92, 99, 115 and 120).

The hearing continued on May 25, 2004 at the DEP Office Building, at which evidence was received from the Applicants and DEP staff as to the completeness of the applications and their compliance with applicable statutory and regulatory requirements. The Applicants also responded to questions posed at the earlier public hearing. The record closed on June 30, 2004. (Tr. 5/25/04 at 5-10, 12-49).

B.
Project Description

The Diversion consists of indirect withdrawal of water from the Connecticut River in Middletown. Two collector wells are proposed for this Diversion, to be constructed off of River Road approximately 200 feet upstream of Bodkin Rock. Each well will be capable of independently supplying the maximum flow of 7.39 MGD allowed by the draft permit. Collector well construction begins with a central caisson, which is constructed with concrete with a 16-foot inner and 18-foot outer diameter. A series of lateral well screens are advanced horizontally outward from the caisson into the aquifer formation. Each well will have a maximum of 11 arms. The top of the caisson will be extended above the 500-year flood elevation and a pump house and controls are then added. (Exhs. App–2, Attachment I, Section 2; App–1, Section 1, Pages 2-3).

An access road will be needed for construction and maintenance of the collector wells. This will be accomplished by improving an existing gravel road through property landward of Stream Channel Encroachment Lines and High Tide Lines. The access road will cross railroad tracks owned by the Connecticut Department of Transportation ("DOT"), and discussions between the Applicants and DOT indicate this crossing is feasible. Once across tracks, the access road will remain above the 10-year flood elevation and landward of the High Tide Line to the greatest extent possible. (Exhs. App–2, Attachment I, Section 2; App–1, Section 1, Page. 5).

The Diversion consists of the indirect withdrawal of water from the Connecticut River. Up to 5.8 MGD of this withdrawal would be used as cooling water and other purposes for the Power Plant. A transmission main of approximately one mile in length will transport the water to two 2.5 million gallon raw water storage tanks on the Power Plant property. The remaining water would be available for use by the City for either industrial or potable use. Potable use will require approval from the Connecticut Department of Public Health. (App–1, Section 1, Page 3).

There is no construction proposed directly within the River. Construction will occur below the bed of the River and in the overbank. However, some activities must be conducted waterward of the high tide line, and therefore require an S, D & F permit. These include installation of piping below the River bed for collector well arms, placement of concrete in the overbank for collector Well #2, construction of a portion of the pump station for Well #2, placement of fill material for construction of the access road and clearing of vegetation from 0.02 acres of upland floodplain. (Exhs. App–3, Page 5 of 10; App–1, Section 1, Page 5).

C.
Site Description

The proposed collector wells are located on two adjoining parcels of land on the banks of the Connecticut River off of River Road in Middletown. The properties are bordered to the north and west by the Connecticut River, to the south by inactive railroad tracks and to the east by undeveloped riverfront land. Drilling at the proposed site yielded fine and medium sands in the overbank and medium to coarse sands in the riverbed, conditions that are favorable for development of collector wells. The area of the proposed activities consists of forested floodplain with a wetland pocket in the central portion. The wetland accepts discharge from an area south of the railroad tracks and a small stream located within the wetland discharges to the River. Approximately 820 square feet of impact to this wetland would result from the proposed development. (Exhs. App–2, Section A, Page 4 of 6; DEP–9).

The Federal Emergency Management Agency (FEMA) has established a regulatory floodplain for the Connecticut River at the project site. The collector wells are within the flood plain. (Exh. App–2, Section A–1, Page 4 of 6; Tr. 5/20/04 Page 30).

City land use commissions have granted approvals needed for construction of the collector wells and access road. (App–1, Section 1, Page 6).

D.
The Diversion Application
1.
Need for the Diversion

The collector wells will be used to provide industrial water supplies to the Power Plant and the City. The Power Plant may have the ability to generate up to 619 MW of power to meet peak electric demands in the region, in which case it may use up to 5.8 MGD for cooling, demineralization, pollution control and boiler blowdown make-up water. The Connecticut Siting Council has granted a certificate of environmental compatibility and public need to the Power Plant, and this finding of need is binding on all state and local agencies. The DEP staff concurs that water is needed at the Power Plant for the reasons specified. (Exhs. App–2, Attachment A–1, Page 2 of 6; App–2, Attachment A–2, Pages 2 and 4 of 7; App–2, Attachment I, Page 2-14; App–1, Section 1, Page 16; DEP–31).

Water not used by the Power Plant will be available to the City. Industrial expansion in the nearby I-3 Zone area of the City is expected with the completion of the Connecticut River Sewer Interceptor Project ("CRISP"). In addition, the municipalities of Durham and Berlin have requested water from the City. (Exhs. App–1, Section 2, Pages 1-3; App–5).

DEP staff has determined that it is appropriate to allocate 0.42 MGD for additional industrial use in the I-3 area such as for Pratt and Whitney and the NRG power facility, and an additional 1.17 MGD for the towns of Durham and Berlin. This 1.59 MGD for City use, together with the Power Plant use of up to 5.8 MGD, authorizes a Diversion of 7.39 MGD. This is less than the 10.0 MGD requested in the application. (Tr. 5/20/04 at 49-51; Exh. DEP–31).

2.

Reasons for the Diversion

16. The Applicants' reasons for the Diversion are based on the need for additional water supplies as set forth above. (Exhs. App–2, Attachment A-1, Page 2 of 6; App–2, Attachment A–2, Pages 2 and 4 of 7; App–2, Attachment I, Pages 1-2 and 2-14; App–1, Section 1, Page 16; App–1, Section 2, Pages 1-3; App–5; DEP–31).

17. Use of Class B Connecticut River water for the purposes proposed is consistent with the policies of the State of Connecticut. In particular, reports to the General Assembly from the DEP and the Water Planning Council recommend the use of Connecticut River water for power plant cooling and industrial use. In addition, the River at this point is tidally influenced, above the salt wedge, adjoining high ground and near a high voltage transmission line. (Exhs. App–1, Section 1, Pages 13-14; App–12,13; Tr. 5/25/04 at 28-30, 123.

3.

The Existing Water System

18. The City, acting through its Water Department, provides water to almost 90% of its residents. The Water Department was created by an act of the General Assembly in 1867. The Department maintains two active potable water supply sources: The John S. Roth Wellfield and the Mount Higby Reservoir Complex, both of which have dedicated treatment plants. The Department also maintains the inactive Laurel Brook Reservoir and emergency interconnections with the water supply system of the Connecticut Valley Hospital and the Cromwell Fire District. (Exh. App–2, Attachment I, Page 2-1).

19. The Roth Wellfield consists of approximately 7.6 acres of land upstream of the collector well sites. There are a total of 10 wells in the Roth Wellfield. A maximum of 9.0 MGD may be withdrawn pursuant to its diversion permit, the safe yield is 7.83 MGD and the available yield is 7.48 MGD. The Mount Higby Reservoir has a diversion permit limit of 3.24 MGD and a safe yield of 1.09 MGD. Therefore, the system-wide safe yield of the City's available supply sources is 8.92 MGD and its

available yield is 8.57 MGD. The City intends to maintain the Department of Public Health's recommended 15% margin of safety, which means that its system-wide available yield is 7.45 MGD. (Exhs. App–2, Attachment I, Pages 2-1 to 2-2; App–5).

4.

Location of Withdrawals and Discharges

20. The proposed collector wells are located on two adjoining parcels of land on the banks of the Connecticut River in Middletown. The site is accessed from River Road and is bordered to the north and west by the Connecticut River, to the south by inactive railroad tracks and to the east by undeveloped riverfront land. (Exh. App–2, Attachment A–1, Page 4 of 6; Attachment C, Attachment O).

21. A portion of the water will be evaporated in the cooling towers at the Power Plant. Remaining water will be discharged to the City's Sewage Treatment Plant using the CRISP line. Following a proposed decommissioning of the City's facility, wastewater will be discharged to the Mattabasett District Water Pollution Control Facility in Cromwell. Discharges from the Power Plant will be a maximum of 0.8 MGD. Both treatment facilities discharge into the Connecticut River upstream of the project site. The City's facility has sufficient capacity to process industrial discharges from the I-3 Zone. (Exhs. App–2, Attachment A-2, Page 3 of 7; App–1, Section 2, Page 2; App–1, Attachment I, Page 4-15).

5.

Quantity, Frequency and Rate of Water Diversion

22. The draft Diversion permit calls for a withdrawal of up to 7.39 MGD, of which a maximum of 5.8 MGD may be withdrawn for use by the Power Plant, 0.42 MGD may be withdrawn for future industrial use within the I-3 Zone and 1.17 MGD may be used for sales to Durham and Berlin not already allocated in their water supply plans. (Exhs. DEP–21, 23).

23. The Diversion would operate on a continuous basis, 24 hours per day, 365 days a year. The withdrawal rates would be less than shown on the application, which

requested a Diversion of 10.0 MGD. The Power Plant is expected to use a maximum of 4.5 MGD at its normal rating of 520 MW and 5.8 MGD at its rating of 619 MW in order to meet peak demand. (Exh. App–2, Attachment A–2, Pages 3-4 of 7).

6.

Time Period Of Permit

24. The Diversion would be in place for twenty-five years. (Exhs. DEP–23; App–1, Section 1, Pages 20-21).

7.

Effect of the Proposed Diversion

25. The Applicants conducted a study of the environmental impacts of the proposed Diversion assuming a maximum withdrawal of 10.0 MGD and that no portion of this amount would be discharged back to the Connecticut River as treated wastewater. Pursuant to the draft permit, the maximum withdrawal will be 7.39 MGD, and this will only occur during peak periods. In addition, some of this amount will be discharged back to the River. Nonetheless, even on the assumptions made by the Applicants, the Diversion would not have a significant adverse environmental impact. (Exh. App–2, Attachment I).

(a)

Water Supplies

26. The Connecticut River is the largest in New England, and spans 410 miles from the headwaters in northern New Hampshire and Canada to Long Island Sound. The River drains 11, 268 square miles in portions of New Hampshire, Vermont, Massachusetts and Connecticut. In Connecticut, the River flows for 70 miles and drains 1,435 square miles. (Exh. App–2, Attachment I, Page 4-1).

27. A withdrawal rate of 10.0 MGD represents less than 0.2% of the River's August mean annual flow. The River's 7Q10 freshwater flow based on data at the Thompsonville gauge is 2200 cfs, which would equate to 2479 cfs at Middletown. A withdrawal of 10.0 MGD is 15.5 cfs, which represents 0.6% of the 7Q10 flow rate of the

River. Moreover, the River is tidally influenced at this site of the wells, meaning that River flows in Middletown are supplemented by water from the Sound. (Exh. App–2, Attachment I, Pages 4-15 to 4-17; App–2, Attachment A-2, Page 5 of 7).

28. There will be no impact of the Diversion on aquifer protection zones or water supplies. The withdrawal is from the River, not ground water. (Exhs. DEP–8, 31; Tr. 5/25/04 at 32-34).

29. The contribution and recharge areas of the collector wells are 3200 feet downstream from the contribution and recharge areas of the Roth Wellfield, and the Diversion will not affect them. Similarly, the Diversion will not affect the three private wells drilled within 3000 feet of the collector wells. (Exh. App–2, Attachment I, Pages 4-19 to 4-21; App–1, Section 1, Pages 11-12; Tr. 5/25/04 at 34-38).

(b)

Water Quality

30. The DEP has established surface and ground water standards and classifications that serve as the basis of the State's water quality management program. The reach of the River from Hurd State Park in East Hampton to Reservoir Brook in Portland does not meet water quality standards. The main stem of the Connecticut River at the project site is of Class C/B water quality (other areas are Class B). Class C water bodies may be available for certain fish and wildlife habitat, recreation uses, industrial uses and navigation. Class C/B water bodies do not meet one or more of the Class B criteria due to pollution. The goal for the Connecticut River is Class B quality. Class B waters are suitable for recreational use, fish and wildlife habitat, agricultural and industrial supply and other uses such as navigation. The Connecticut River has been impacted by industrial pollutants such as Poly Chlorinated Biphenyls ("PCB") at the project site. Exh. App–2, Attachment I, Pages 4-17 to 4-18).

31. The Diversion will not adversely impact water quality or designated uses of the River. The Diversion will not result in the discharge of untreated wastewater.

Construction of the collector wells will not result in disturbance of riverine sediment, which would have the potential to release PCBs. There will only be minimal changes in the instantaneous flows, and the River circulation will not be affected because the arms of collector wells will be placed beneath the bed of the River. (Exhs. App–2, Attachment I, Pages 4-18 to 4-19; DEP–5, 31).

(c)
Wastewater Treatment and Waste Assimilation

32. The proposed Diversion will not adversely impact waste assimilation in the Connecticut River. The Diversion represents less than 1.0 percent of the 7Q10 flow rate of the River. The major municipal treatment plants in the project area, the Middletown Sewage Treatment Plant and the Mattabasett District Water Pollution Control Facility, are located upstream of the project site, and the Diversion will not reduce the volume of water available at these facilities for waste assimilation. Given the River's flow, there is substantial dilution of waste discharge from the facilities. In addition, the Connecticut River is tidally influenced as far upstream as Hartford, meaning that River flows in these areas are supplemented by waters from the Sound. (Exh. App–2, Attachment I, Page 4-20; Tr. 5/25/04 at 40-42, 125).

(d)
Flood Management

33. The proposed Diversion site is located along the west bank of the main stem of the Connecticut River immediately upstream of Bodkin Rock. The site and surrounding areas contain flood hazard areas as delineated on the Flood Insurance Rate Map completed for the City pursuant to FEMA. A floodplain boundary for the 100-year storm event extends west from the River. The FEMA designation indicates that the site area is subject to flooding during the 100-year storm event and base flood elevations have been predicted to be approximately 22.0 feet NGVD. FEMA predicted elevation of the 500-year flood to be 25.0 feet NGVD. The well caissons will extend to an elevation of 26.0 feet NGVD, and the pump building structure will extend about 10 feet above the top of the caissons. (Exhs. App–2, Attachment I, Pages 2-10, 4-23, 4-24; App–2, Attachment A-1, Page 4 of 6).

34. Impacts of the proposed project on flood management have been evaluated as part of the permit application process. HEC-RAS modeling indicates that the proposed activities will not raise water surface elevations during the 100-year flood event more than 0.1 feet. (Exhs. App–2, Attachment I, Page 4-24; App–2, Attachment H; App–4; DEP–14).

35. A compensatory flood storage area in a one-to-one ratio will compensate for the proposed fill material needed for the access road, riverward of the Stream Channel Encroachment Lines. (Exhs. App–4; DEP–14).

36. The proposed Diversion will have minimal impact on flood management. (Exhs. App–2, Attachment I, Page 4-24; App–4; Tr. 5/20/04 at 44-46; Tr. 5/25/04 at 119-120).

(e)

Water-Based Recreation

37. The Class C/B water quality designation indicates the River is deemed suitable for certain recreational uses. The River is used for recreational boating and canoeing as well as fishing. The property where the development is proposed does not currently provide authorized public access to the River. The steep topography of the area and the need to cross the railroad tracks from River Road makes the development of safe public access for recreational purposes such as boating infeasible through this reach. The Applicants have committed to providing controlled public access for bird watching. (Exh. App–2, Attachment I, Page 4-23).

38. The Diversion will result in a reduction of mean August flow rates of less than 0.2 percent. This slight flow reduction will not impact recreational activities such as boating and fishing. Following construction, the well caissons will have viewing decks and an observation tower to provide for a safe, secure site for bird watching in an area

where none is currently available. The Diversion will not adversely impact recreational uses of the River. (Exh. App–A-2, Attachment I, Page 4-23).

(f)

Wetland Habitats

39. Inland wetlands and watercourses at the collector well sites and along the access road were assessed by a certified soil scientist in accordance with the regulations of the City and state statutes as well as the 1987 Corps of Engineers Delineation Manual. No wetland soils or watercourses are mapped by the United States Department of Agriculture Natural Resources Conservation Service on the subject property, except of course, for the Connecticut River. However, small areas of wetland soils and a minor stream were identified during field investigations. (Exh. App–2, Attachment I, Pages 4-5 and 4-7, Attachment O).

40. An intermittent watercourse is piped under River Road just to the west of an existing tree farm near the proposed access road. It continues through the overgrown fields, shrubs and woods to the River. A culvert conveys flows under one of the deteriorated roads in the fields and another conveys it under the railroad. A very small pocket of poorly drained Rippowam soil, with very little wetland vegetation, can be found immediately adjacent to the stream. This is classified as a palustrine wetland dominated by scrub/shrub habitat. Its primary wetland function is to convey seasonal flow and stormwater runoff; it also provides a water source for wildlife. Neither of these are critical functions in this area. (Exh. App–2, Attachment I, Page 4-7).

41. Just east of the tree farm field is an area with an abrupt drop in topography which serves as an exfiltration area for groundwater. A slope wetland has developed here and forms another intermittent watercourse. The stream flows northward down to the River and is conveyed by a culvert under the railroad. There are several pockets of poorly drained Rippowam soil associated with the stream. Wetland vegetation is dominant here and the wetland is classified as a palustrine, forested wetland. Its primary

functions are as a discharge point for groundwater, conveyance for seasonal flow and stormwater, and as a wildlife habitat. These functions are not critical in this watershed. (Exh. App–2, Attachment I, Page 4-7).

42. Approximately 820 square feet of wetland impact would result from the proposed activities. Impacts to wetlands have been minimized to the greatest feasible or prudent extent. The existing culvert under the railroad tracks will be maintained and a new one installed beneath the access road to allow for the continued discharge of water through this area. A piezometer was used during pump testing to assess the potential impacts to the wetlands from operation of the collector wells and no drawdown was observed. Operation of the collector wells is not expected to result in a long-term adverse impact to the wetlands. The City Inland Wetlands and Watercourses Commission has approved construction of the collector wells and access road. (Exhs. App–2, Attachment I, Page 4-8; App–2, Attachment H; App–1, Section 1, Page 6; DEP–8).

(g)

Agriculture

43. Water from the Connecticut River downstream of the site is not widely used for agricultural purposes due to salinity. In addition, the small percentage of River water proposed for withdrawal will not affect agricultural water users or result in the loss of any farmland. The Diversion is not expected to have adverse impacts to agriculture. (Exhs. App–2, Attachment I, Page 4-22; DEP–16).

(h)

Fish and Wildlife

44. In-water resources of the Connecticut River will not be impacted by the proposed Diversion. The collector well arms will extend beneath the River and will not impact fish or wildlife resources. The collector well system prevents the impingement and entrapment of aquatic species. There will be no construction directly within the

River; therefore, existing benthic habitat will not be impacted. Clearing of trees will not occur immediately adjacent to the River, maintaining existing shade. (Exhs. App–2, Attachment I, Pages 4-10 to 4-13; DEP–17; Tr. 5/25/04 at 124).

45. The site is within an area identified by the DEP Natural Diversity Database as a habitat for several Endangered, Threatened or Special Concern Species. A field investigation was conducted in July 2002 and none of the listed species were discovered. However, DEP has requested that the site be surveyed again immediately prior to construction for the Eastern Box Turtle. If the turtle is identified on-site, the Applicants will relocate it to adjacent property. (Exhs. App–2, Attachment I, Page 4-14; DEP–20, 31; Tr. 5/25/04 at 124).

(i)

Low Flow Requirements

46. Based upon data collected at the Thompsonville gauge, the maximum withdrawal of water is 0.6% of the 7Q10 flow rate of the River at the site. The actual maximum withdrawal rate is less than that, as the River is tidally influenced in the project area. (Exhs. App–2, Attachment A–2, Page 5 of 7; App–2, Attachment I, Pages 4-15 to 4-17; Tr. 5/25/04 at 58-60).

47. It is appropriate to use data from the Thompsonville gauge. This gauge represents 88 percent of the River watershed area and provides data since 1928. It is preferable to have 30 years of flow data, and Thompsonville provides more than 75 years of information. In addition, rain has increased in Connecticut in recent decades, so the Thompsonville data is conservative. The Applicants used standard transformation techniques to measure hydrology at the Middletown site. (Tr. 5/25/04 at 13-18, 24-26, 56).

48. Downstream of the project site, the elevation of water is controlled by the tide, not the low flow coming down the River. (Tr. 5/25/04 at 59, 65-67)

(j)

Interests of Affected Municipalities

49. The City is one of the Applicants for the permits. Testimony in support of the applications was provided by Mayor Thornton, State Representative Serra, City Council Minority Leader Gionfriddo, Water Department Head Russo, and Water Pollution Control Authority Chairman Giuliano. (Tr. 5/20/04 at 79-89; Exh. App–1, Section 2).

50. The Diversion permit would enable the City to provide water to the municipalities of Berlin and Durham. Other municipalities would therefore be positively impacted by the proposed Diversion. (Tr. 5/20/04 at 49-51; Tr. 5/25/04 at 105; Exhs. DEP–31; App-1, Section 1, Page 17).

(k)

Economic Development

51. The Power Plant will provide significant tax revenue to the City as well as employment opportunities during construction and operation. The Power Plant will also support economic development by enhancing the reliability of the electric system in the region. (Exhs. App–1, Section 1, Page 14, App–2, Attachment I, Page 3-2).

52. The City will recap benefits from the Diversion through increased water revenue and the development by the joint venture entity of new water infrastructure such as pumping and secure storage facilities. (Exhs. App–1, Section 1, Page 14; App–2, Attachment I, Page 2-14; App–1, Section 2, Page 3).

53. The Diversion will make industrial grade water available to other developable properties in the I-3 Zone, such as Pratt and Whitney and NRG. Development of the I-3 Zone has been a goal of the City since the area was first zoned for such development in the 1950s, but has been limited due to inadequate public water or

sewer. (Exhs. App–1, Section 1, Pages 14-15; App–1, Section 2, Page 3; App–5; App–8).

8.
Alternatives

54. As part of its application, the Applicants considered the following options: (1) taking no action; (2) postponing action pending further study; (3) taking actions of a different nature; and (4) conducting the proposed activity at a different location. Seven alternatives were identified and evaluated: (1) taking no action; (2) utilization of air cooled technology; (3) development of on-site ground water wells; (4) diversion from the Middletown Sewage Treatment Plant; (5) diversion from the Mattabasett District Water Pollution Control Facility; (6) purchase of potable water from the Middletown Water Department; and (7) diversion from the Connecticut River. (Exh. App–2, Attachment I, Pages 3-1 to 3-13; Tr. 5/25/04 at 44-49).

55. The "no action" alternative was rejected because the Siting Council has found that the Power Plant is needed for the reliability of Connecticut's electric system, and the site for the Power Plant is adjacent to high voltage electric transmission lines, natural gas lines and the largest river in New England. (Exh. App–2, Attachment I, Pages 2-14, 3-2).

56. Air cooling was evaluated, but rejected as a less efficient process. With air cooling, the cooling towers would have had to increase in height from 50.5 feet to 110 feet. In addition to visibility issues, this increased height would have created an emission downwash from the stacks, causing them to have to be increased in height by 20%. Electric output of the Power Plant would have been reduced by 7.5 MW due to the need to meet the electricity consumption of the air to air heat exchangers. To achieve the desired output level, additional combustion (duct burning) would be needed, with resulting increased emissions and water (potable) needed from the City. Given the Power Plant's proximity to a major water source, and the environmental and financial impacts of

air cooling, it was not feasible or prudent to pursue air cooling. (Exh. App–2, Attachment I, Pages 3-3 to 3-4; Tr. 5/25/04 at 75-77).

57. The geology of the Power Plant site and nearby areas would not support groundwater wells that would yield the amount of water needed for the Power Plant and other uses. (Exh. App–2, Attachment I, Pages 3-4 to 3-6; Tr. 5/25/04 at 45).

58. The City is currently implementing a plan to decommission the Middletown Sewage Treatment Plant, so using "grey water" from this facility is not a long-term solution. In any event, there are not sufficient wastewater volumes being discharged from the Middletown facility to provide an adequate, consistent water source to the Power Plant. (Exhs. App–2, Attachment I, Page 3-6; App–1, Section 2, Page 2; Tr. 5/25/04 at 45-46).

59. In order to use "grey water" from the Mattabasset District Water Pollution Control Facility in Cromwell, over 28,000 linear feet of piping would be required, and a treatment system would have to be constructed on the Power Plant site. This alternative would utilize water that is otherwise discharged to the River. Because industrial wastes are discharged at Mattabasset, some pollutants such as metals remain in the wastewater. Treatment at the Power Plant site would generate additional wastewater. Power plants in New England that use "grey water" have experienced reliability problems due to the lack of sufficient water around the clock. For all of these reasons, and because of the availability of nearby water from the River, use of "grey water" was not considered a viable option. (Exh. App–2, Attachment I, Pages 3-7 to 3-8; Tr. 5/25/04 at 73-75).

60. The Middletown Water Department does not have sufficient supply to meet all of the Power Plant's needs. Moreover, the use of potable water from the Roth Wellfields for industrial cooling is not consistent with state policy. (Exh. App–2, Attachment I, Page 3-8; Tr. 5/25/04 at 46-47).

61. Use of a direct intake structure to take water from the Connecticut River would have impacts to fisheries and benthic habitats due to impingement and entrainment. (Exh. App–2, Attachment I, Page 3-9; Tr. 5/25/04 at 47-48).

62. Use of shallow overburden wells was examined at two sites. At one site the silt deposits could not be developed for water supply. A greater potential for supply was found at the second site. However, the relatively low transmissivity of the aquifer would require significant drawdowns from numerous wells and the site would not allow for this. Therefore, the diversion would not be feasible using vertical wells drilled into the stratified drift deposits. (Exh. App–2, Attachment I, Pages 3-10 to 3-11; Tr. 5/25/04 at 48-49).

63. Given the facts discussed, the Connecticut River was deemed the most appropriate supply source. It has an abundant amount of water and is tidally influenced south of Hartford. Its water quality is higher than treated sewage effluent. Use of collector wells is the most appropriate withdrawal method, as it will minimize environmental and other impacts to the River and other types of wells are not technically feasible. (Exh. App–2, Attachment I, Pages 3-12 and 3-13).

9.
Conservation Measures

64. The application includes the Water Conservation Plan for the Power Plant and the City Water Department's Water Conservation Plan as found in its 1999 Water Supply Plan. These Plans promote long-term water conservation and address issues of demand and supply management. The Power Plant intends to utilize approximately seven cycles of concentration (the number of times process water can be passed through the cooling system before being discharged), which will also reduce water usage. (Exh.. App–2, Attachment M; Tr. 5/25/04 at 77-78).

10.

State Policies and Programs Regarding
Long-Range Planning, Management, Allocation
and Use of Water Resources

65. Use of Class B Connecticut River water for the purposed proposes is consistent with the policies of the State. In particular, reports to the General Assembly from the DEP and the Water Planning Council recommend the use of Connecticut River water for power plant cooling and industrial use. The DEP prefers that diversions take place in main stems of water sources and not higher up in the watershed where flows are lower and more vulnerable to withdrawal. (Exhs. App–1, Section 1, Pages 13-14, App–12, 13; Tr. 5/25/04 at 29-30, 123).

66. The Power Plant, as well as other potential industrial customers that may benefit by the draft permit, are in "Growth Areas" as designated in the State's Conservation and Development Plan. In addition, the authorized diversion to other municipalities is consistent with the C&D Plan. (Exhs. App–1, Section 1, Page 19; DEP–30, DEP–31).

11.

Interbasin Transfer

67. The Diversion does not involve an interbasin transfer. (Exh. App.-1, Section 1, Page 8; Tr. 5/25/04 at 141-142).

12.

Mitigation

68. The joint venture water development entity of Armetta and the City has volunteered to provide funding to enable the City to meet its financial obligation to pay for 25% of the costs of the Middletown gauging station, operated by the United States Geologic Survey, once the water project is constructed and operating. Currently, the City provides an annual payment of $1,500. Armetta will supplement this funding in order for the City to meet its obligations going forward. (Tr. 5/25/04 at 95).

69. The joint venture water development entity of Armetta and the City will upgrade the USGS gauging station at the Pratt and Whitney dock in Middle Haddam to allow for the installation of a bi-directional flow monitor once the water project is constructed and operated. The terms and conditions for installation and maintenance of this flow monitor would be incorporated into an agreement between the City and the United States Geological Survey. Implementation of this upgrade may necessitate a S, D & F permit from OLISP. The Applicants will work with that Division to determine the permit requirements prior to upgrading the station. (Tr. 5/25/04 at 95-98).

70. These mitigation measures are being undertaken voluntarily by the Applicants. It is the opinion of expert witnesses and DEP staff that they are not necessary in order for the Diversion and S, D & F permits to be issued, and the draft permits shall not be modified to include them as conditions of the permits. (Tr. 5/25/04 at 18, 108-110).

13.

Permit Conditions

71. The draft Diversion permit would authorize the Applicants to withdraw a maximum of 7.39 MGD, rather than the 10.0 MGD requested in the application. The Applicants agree to accept the Diversion permit authorizing a maximum withdrawal of 7.39 MGD. (Exh. DEP-23).

E.

The S, D & F Application and Impacts

72. The S, D & F permit application was submitted on forms provided by OLISP on April 1, 2003. No work is proposed directly within the Connecticut River. However, some activities will require a S, D & F permit as they are proposed waterward of the high tide line, as described in the application. (Exh. App–9, Application Page 5 of 10).

73. There are no impacts on navigation, since no in-water work is proposed. (Exh. App–9, Application Page 7 of 10; Tr. 5/25/04 at 131).

74. There are no impacts to tidal wetlands, as none exists on the site, and there would be no negative impacts to tidal wetlands downstream as a result of the withdrawal. (Exh. App–9, Application Page 7 of 10; Tr. 5/25/04 at 131-132).

75. There are no impacts to finfish or shellfish from the project. (Exhs. App–9, Application Page 6 of 10; Tr. 5/25/04 at 132).

76. There are no permanent impacts to wildlife habitat anticipated. However, staff recommends that conditions be included in the permit during construction in order to protect the Eastern Box Turtle and the Bald Eagle. (App–9, Application Page 6 of 10; Tr. 5/25/04 at 133-135).

77. No impacts are expected to erosion and sedimentation or flooding. Erosion and sedimentation controls will be employed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. Hydraulic analysis shows a negligible increase in water surface elevations. Structures within the floodplain are allowed for water dependent uses and the structures involved so qualify. (App–9, Application Page 70 of 10; Tr. 5/25/04 at 133).

78. The proposed activities are a water dependent use as defined in CGS § 22a-93(16). The proposed wells must be located directly adjacent to the River to generate water. The accuracy of the horizontal drilling that is necessary to install the collector arms is limited to about 300 feet in length. Locating the wells landward of the railroad tracks would require the collector arms to extend some 600 feet, since it is the length of the arm below the bed of the River that dictates well yield. The proposed activity is water dependent and cannot be relocated. (App–1, Section 1, Page 23; Tr. 5/25/04 at 133-134).

F.

S, D & F Permit and Modifications

79. A draft S, D & F permit was issued. (DEP-32).

80. The final permit will reflect corrections to the record made on May 25, 2004 concerning the depth of the caissons, which will be between minus 35 and minus 40 feet NGVD. (Tr. 5/25/04 at 12, 137).

81. Special Terms and Conditions No. 7 of the draft permit will be modified to state that any pile driving work associated with the installation of the caisson will not take place between December 31 and March 1. (Tr. 5/25/04 at 137-138).

III.
Conclusions of Law
A.
The Diversion Application

Section 22a-369 of the General Statutes requires than an application for a diversion permit include information the commissioner has deemed necessary to fulfill the purpose of the Connecticut Water Division Policy Act. §22a-365 through 22a-380. The information includes the following: (1) the need for the diversion; (2) the reasons for the diversion and the use of the diverted water; (3) a description of the existing water system where the diversion is proposed; (4) the locations of withdrawals and discharge of water the applicant proposes to divert; (5) the quantity, frequency and rate of water the applicant proposes to divert; (6) the length of time for which the diversion permit is sought; (7) the effect of the proposed diversion on public water supplies, water quality, waste water treatment needs and waste assimilation, flood management, water-based recreation, wetland habitats, agriculture, fish and wildlife, and low flow requirements; (8) the alternatives to the proposed diversion, including a study of cost factors, feasibility and environmental effects of the alternatives; (9) conservation measures instituted by the applicant prior to the application and the applicant's long-range water conservation plan, including actions outlined in the statute, and (10) in the case of an interbasin transfer (which this is not), an environmental report.

The Applicants presented sufficient evidence on all this required information. Therefore, the application complies with § 22a-369.

B.
Statutory and Regulatory Standards for Diversion Permit Issuance

In deciding whether to issue a diversion permit, the commissioner must consider all relevant facts and circumstances that include, but are not limited to, those listed in General Statutes § 22a-373 and those set out in § 22a-377(c)-2(f) of the Regulations of Connecticut State Agencies. There is substantial evidence to support the issuance of this diversion permit, based on consideration of each of the substantive issues outlined below.

> *The proposed diversion would have no substantial adverse impact on related needs for public water supply, including existing and projected uses, safe yield of reservoir systems and reservoir ground water development. 22a-373(b)(i); 22a-377(c)-2(a)(2), (d)(l) and (2).*

The Applicants have fully evaluated the effect of the proposed withdrawal on all flow dependent resource needs within the watershed. That evaluation shows that the proposed diversion would not have a significant adverse impact on flow dependent water resource needs.

The Connecticut River is the largest in New England. Testing under critical 7Q10 conditions showed that a diversion of 10.0 MGD would only represent 0.6% of the flow rate of the River at the site. A diversion of 7.39 MGD would have a substantially lower impact. Moreover, the River in Middletown is tidally influenced, further reducing the diversion's impact. There would be no impact on aquifer protection areas or water supplies. The contribution and recharge areas of the collector wells are more than 3,200 feet from the contribution and recharge area of the Roth Wellfield and this diversion will not affect them; nor will it affect the three private wells drilled within 3,000 feet of the collector wells.

The diversion would have no substantial impact on existing and planned water uses on the areas affected including flood management, water-based recreation, wetland habitats or waste assimilation. There would be no adverse impacts, including thermal effects, on fish and wildlife as a result of flow reduction, alteration or augmentation for the diversion. §22a-373(b)(2), (b)(6) and (b)(7); 26-310; 22a-377(c)-(2)(a)(2),(d)(3),(f)(2 and (3).

Impacts of the project have been evaluated as part of the permit application process. Hydraulic modeling indicates that the proposed activities will not raise water surface elevations during the 100-year flood event more than 0.1 feet. The net effects on flood conveyance capacity will be negligible. A compensatory storage area will also be instituted by the Applicants.

There would be no significant long-term impact on wetland vegetative structure or wetland functions as a result of construction activities or the diversion. Wetlands in the area are small and do not provide critical functions. Testing showed no drawdown of wetlands from operation of the collector wells. Impacts to wetlands as a result of construction of the wells and the access road have been minimized to the greatest feasible or prudent extent. The City Inland Wetlands and Watercourses Commission approved construction of the collector wells, pump house and access road.

There would not be any significant impact on fisheries, shellfish and wildlife. There is no direct take from the River that could result in impingement or entrapment. Since there will be no construction directly on the River, benthic habitat will not be impacted. The small rate of the diversion as a percentage of low flows and the fact that the River is tidal in Middletown minimize fisheries impacts. A condition of the diversion permit will provide for relocation of the Eastern Box Turtle should it be found during a site visit prior to construction. No endangered species have been located on the site.

The diversion will result in a reduction of mean August flow rates of less than 0.2 percent. This slight flow reduction will not adversely impact recreational activities such as boating and fishing. Following construction, the well caissons will have viewing decks and an observation tower for bird watching.

The two wastewater treatment facilities in the area are upstream from the collector wells. Therefore, the diversion will not alter the volume of water available at these facilities for waste assimilation. In addition, since the Connecticut River is tidally influenced as far upstream as Hartford, flows in the project area are supplemented by water from the Sound.

The proposed diversion is compatible with the policies and programs of the State of Connecticut dealing with long-range planning, management, allocation and use of water resources of the state. §22a-373(b)(3); §22a-377(c)-2(f)(5).

Use of Class B Connecticut River water for the purposes proposed is consistent with the policies of the State. Reports to the General Assembly from the DEP and the Water Planning Council both recommend the use of Class B waters such as the Connecticut River water for power plant cooling and industrial use. The DEP also recommends diversions in the main stems of watersheds rather than at lower flow tributaries upstream. Use of water for industrial customers in "Growth Areas" and to supply other municipal utilities is also consistent with the Conservation and Development Policies Plan for Connecticut.

The proposed diversion would have no significant adverse impacts on existing water conditions, including watershed characterization, groundwater availability potential, evapotranspiration conditions and water quality. §22a-373(b)(5); 22a-377(c)-2(d)(3) and (f)(1).

Total flow in the Connecticut River at the site would be reduced by 0.6 percent in 7Q10 conditions, based on a diversion of up to 10.0 MGD (instead of 7.39 MGD) and not factoring in tidal influences. Groundwater would not be adversely impacted by withdrawals from the collector wells, and existing public water supplies, such as the Roth Wellfields, would not be affected. The diversion will not adversely impact water quality in view of the minimal flow reduction and the lack of construction in the River.

The water to be diverted is necessary and the diversion proposed by the Applicants was the most prudent and feasible alternative selected of those reviewed, including conservation. §22a-373(b)(8); §22a-377(c)-(2)(d)(4).

The Connecticut Siting Council has determined that the Kleen Energy Power Plant is needed for the reliability of Connecticut's electric system. The Applicants examined a variety of alternatives for cooling the power plant, but all were rejected because of adverse environmental, siting, reliability or geologic considerations. Given the location near the Connecticut River, the Applicants' choice to use collector wells is both prudent and feasible and will minimize the environmental impact of the diversion.

The City Water Department does not currently have sufficient water supplies to provide the power plant and other industrial users in the I-3 "Growth Area" zone with the water they need. The diversion will also enable the City to provide other municipalities with water they require.

The proposed diversion would have a positive impact on economic development and the creation of jobs. §22a-373(b)(4); §22a-377(c)-(2)(d)(2).

The Kleen Energy Power Plant will provide substantial economic benefits to Middletown in the form of tax revenues and will create large numbers of construction employment opportunities and some jobs for plant operators. The water development project, which is a joint venture between the City and Armetta, will also provide revenue

to the City and water resources at virtually no cost. The availability of water in the I-3 zone should also stimulate economic growth in the area; such growth is likely to bring new economic opportunities that include jobs.

> *The diversion is not inconsistent with any action taken by the Attorney General pursuant to §§3-126 and 3-127 and there is no evidence that it would be in substantial conflict with the interests of any municipalities affected by the diversion. §22a-373(b)(9), (10).*

The proposed diversion would not affect interstate waters; therefore, the provisions of §§ 3-126 and 127 are not relevant to this Application (any impact to the Connecticut River would only affect Connecticut). The Applicants have obtained the necessary approvals from the City's Planning and Zoning Commission and Inland Wetlands and Watercourses Commission. Support for the application was obtained from the mayor, city council majority leaders and legislative and other administrators in the City. No municipality opposed the application.

C.

The S, D & F Application

Section 22a-359 of the General Statutes states that the commissioner shall regulate dredging and the erection of structures and the placement of fill in the tidal, coastal or navigable waters of the state waterward of the high tide line. Any decision shall be made with due regard for indigenous aquatic life, fish and wildlife, the prevention or alleviation of shore erosion and coastal flooding, the use and development of adjoining uplands, the improvement of coastal and inland navigation for all vessels, including small craft for recreational purposes, the use and development of adjacent lands and properties and the interests of the state, including pollution control, water quality, recreational use of public water and management of coastal resources, with proper regard for the rights and interests of all persons concerned.

The Applicants presented sufficient evidence on all this required information. Therefore, the application complies with § 22a-359.

D.

Statutory Standards For S, D & F Permit Issuance

In deciding whether to issue a permit, the commissioner must consider all of the relevant facts and circumstances listed in General Statutes § 22a-359. There is substantial evidence to support the issuance of this S, D & F permit, based on considerations of each of the substantive issues outlined below, all of which are found in § 22a-359.

Impact on indigenous aquatic life, fish and wildlife.

There are no impacts to finfish or shellfish from the project, for the reasons discussed above in regard to the Diversion permit. There are no permanent impacts to wildlife habitat anticipated. However, staff recommends that certain conditions be imposed that will protect the Eastern Box Turtle and the Bald Eagle. Prior to construction, the applicants shall conduct a field investigation for the Eastern Box Turtle and, if it is discovered, shall relocate it to adjacent property. In regard to the Bald Eagle, no pile driving for construction of the caissons shall be permitted from December 31 to March 1 in order to reduce noise. I find these conditions to be reasonable and appropriate.

The prevention or alleviation of shore erosion and coastal flooding, the use and development of adjoining uplands, the use and development of adjacent lands and properties and the interests of the state.

No impacts are expected to erosion and sedimentation or flooding. Erosion and sedimentation controls will be employed in accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sedimentation Control. Hydraulic analysis shows a

negligible impact in water surface elevation. Structures within the floodplain such as those proposed are allowed for water dependent uses. The collector wells so qualify. The water supplies produced by the collector wells will encourage industrial development in the I-3 zone.

The improvement of coastal and inland navigation for all vessels and recreational use of public water.

The project will not have any impact on navigation, since there is no direct take of water, no construction in the River, and the collector wells will draw such a small amount of the total flow at the site.

The interests of the state, including pollution control, water quality and management of coastal resources.

There will be no impact on tidal wetlands, since they are not located on the site. The project will not affect water quality in the region for the reasons discussed in regard to the diversion permit. Also, as discussed above, use of the collector well technique will result in less pollution than some alternatives, such as air cooling or use of treated effluent.

IV.
Conclusion/Recommendation

The application for a water diversion permit complies with all applicable statutory and regulatory requirements. The diversion is necessary to meet the needs of the Kleen Energy Power Plant, industrial customers in the "Growth Area" of the City's I-3 Zone and other municipalities and, following the Applicants' consideration of alternatives, is the most feasible and prudent option for meeting those needs.

The diversion would have no substantial adverse impact on related needs for water supply, as it would have a minimal impact on flow at the site and downstream, even under drought conditions. The diversion would not affect groundwater, aquifers, nearby public well fields and private wells. The diversion would have no substantial adverse impact on existing and planned uses in the areas affected including flood management, water-based recreation, wetland habitats and waste assimilation. The diversion is compatible with and would in fact promote the state's policies and programs for long-range planning, management, allocation and use of the state's water resources. The diversion would have no significant impact on existing water conditions, including watershed characterization, groundwater availability potential, evapotranspiration and water quality.

The diversion would provide a significant source of high-quality water to meet the needs of the Kleen Energy Power Plant, industrial customers, and other municipalities without adverse environmental impacts. The draft permit allowing the Applicant to construct and operate the collector wells and access road should be issued.

The application for an S, D & F permit complies with all statutory requirements. The activities are for a water dependent use and will not have an adverse impact on navigation, recreation, fisheries and wildlife habitat, tidal wetlands, erosion and sedimentation control and flooding issues.

The S, D & F permit is necessary for the construction and operation of the collector wells and access road. The activities will not have an adverse environmental impact. The draft permit allowing the Applicant an S, D & F permit should be issued, with modifications as noted in the record.

ATTACHMENT B

PERMIT

Permittee: City of Middletown
245 DeKoven Drive
Middletown, Connecticut, 06457

Domenique Thornton
Mayor, City of Middletown

Armetta & Associates LLC
90 Industrial Park Road
Middletown, Connecticut, 06457

William Corvo
Armetta & Associates, LLC

Permit No.: DIV-200300427, SCEL-2
Permit Type: Water Diversion / Stre ncroa t / Stru
Dredging
Town: Middletown
Riv Connecticut
SCEL Map N CONN-M -

Pursuant to Conn Ge ates secti a-3 22a- ne City of Middletown and ta A s LLC (th rmitt e her by authorized to conduct activities ward am Char ncro Lines and divert the waters of the g Riv d 0.6 mi uth ersection with Silver Street in the City wn (t e") in ac at permittee's application dated Februar l wit Departm ruary 14, 2003 and described herein. the a is to co wo collector wells, and an access roadw

THORIZED ACTIVITY

The tee is zed

1 tru llector wells, and place 1,270 cubic yards of material associated roadway riverward of encroachment lines in accordance with it d "River Road Collector Wells City of Middletown, CT and Armetta ates LLC", dated April 2003, revised through July 10, 2003, prepared by e & Macbroom, signed by James Mac Broom, P.E. and documentation submitted as a part of the application;

2) withdraw a total combined maximum of 7.39 million gallons per day (mgd) from Collector Well #1 and Collector Well #2 for water supply use, of which a maximum

of 5.8 mgd may be withdrawn for use at the Kleen Energy Systems LLC power generation facility located to the south/southwest of River Road.

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.

SPECIAL CONDITIONS

1. **Metering of Withdrawals**. Prior to initiating the authorized withdrawal of water, the permittee shall install a totalizing flow meter to measure and record the amount of water withdrawn from the Connecticut River along the eastern shoreline [illegible] miles south of its intersection with Silver Street, and shall for the duration of the permit continuously operate and maintain such meter. In the event of meter malfunction or breakage, the permittee shall repair or replace the meter within 72 hours. The permittee shall secure such meter in a locked facility with access controlled solely by the permittee or other designee.

2. **Record Keeping and Reporting**. The permittee shall maintain a daily record of the amount of water withdrawn as authorized herein. The permittee shall submit a copy of said withdrawal records for the preceding calendar year annually to the Commissioner no later than January 15 of each year.

3. **Meter Calibration and Reporting**. The permittee shall annually test and calibrate each source meter and calibrate within [illegible] percent accuracy as shown through a post-calibration check and shall submit the results of the accuracy test and calibration for the preceding calendar year annually to the Commissioner no later than January [illegible] of each year.

4. [illegible] A submission identifying the location of any proposed water main to be [illegible] City of Middletown to convey water diverted from Collector Well #[illegible] Collector Well #[illegible] the City of Middletown's water supply distribution system shall be submitted to the Commissioner for review and approval at least one hundred twenty (120) days prior to any construction of said water mains.

5. **Record Keeping and Reporting Violations.** Within 48 hours after the permittee has knowledge of a violation of this permit, the permittee shall report the violation in writing to the Commissioner. Such report shall include the following information:
   a. Section(s) of this permit that has been violated;
   b. The date and time the violation(s) was first discovered and by whom;
   c. The cause of the violation(s), if known;
   d. If the violation(s) has ceased, the duration of the violation(s) and the exact date(s) and time(s) it was corrected;
   e. If the violation(s) has not ceased, the anticipated date when it will be corrected;

f. 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;
g. The signatures of the permittee and of the individual(s) responsible for actually preparing such report, each of whom shall certify as follows:

> "I have personally examined and am familiar with the information submitted in this document, and I 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. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the General Statutes, pursuant to Section 53a-157b of the General Statutes, and in accordance with any other applicable statute."

6. **Flood Storage Compensation.** The permittee will initiate construction of the Flood Storage Mitigation Area within one year of the start of construction of the access roadway and collector wells. The Flood Storage Mitigation Area shall compensate for the 1,270 cubic yards of fill material placed below the Stream Channel Encroachment Base Flood event. The permittee shall submit as-built drawings 30 days after the completion of the Flood Storage Mitigation area.

GENERAL CONDITIONS

1. The permittee shall notify the Commissioner in writing two weeks prior to: (A) commencing construction or modification of structures or facilities authorized herein; and (B) initiating the diversion authorized herein.

2. The permittee may not make any alterations, except de minimis alterations, to any structure, facility, or activity authorized by this permit unless the permittee applies for and receives a modification of this permit in accordance with the provisions of section 22a-377(c)-2 of the Regulations of Connecticut State Agencies. Except as authorized by subdivision (5) of section 22a-377(b)-1(a) of the Regulations of Connecticut State Agencies, the permittee may not make any de minimis alterations to any structure, facility, or activity authorized by this permit without written permission from the Commissioner. A de minimis alteration means an alteration that does not significantly increase the quantity of water diverted or significantly change the capacity to divert water.

3. All structures, facilities, or activities constructed, maintained, or conducted pursuant hereto shall be consistent with the terms and conditions of this permit, and any structure, facility or activity not specifically authorized by this permit, or exempted pursuant to section 22a-377 of the General Statutes or section

22a-377(b)-1 of the Regulations of Connecticut State Agencies, shall constitute a violation hereof which may result in modification, revocation or suspension of this permit or in the institution of other legal proceedings to enforce its terms and conditions.

4. Unless the permittee maintains in optimal condition any structures or facilities authorized by this permit, the permittee shall remove such structures and facilities and restore the affected waters to their condition prior to construction of such structures or facilities.

5. In issuing this permit, the Commissioner has relied on information provided by the permittee. If such information was false, incomplete, or misleading, this permit may be modified, suspended or revoked and the permittee may be subject to any other remedies or penalties provided by law.

6. If construction of any structures or facilities authorized herein is not completed within three years of issuance of this permit, unless other time as may be provided by this permit, or if any activity authorized herein is not commenced within three years of issuance of this permit, unless other time as may be provided by this permit, this permit shall expire three years after such issuance or at the end of such other time.

7. This permit is subject to and does not derogate any rights or powers of the State of Connecticut, conveys no property rights or exclusive privileges, and is subject to all public and private rights and to all applicable federal, state, and local law. In constructing, maintaining, or using any structure or facility or conducting any activity authorized herein, the permittee may not cause pollution, impairment, or destruction of the air, water, or other natural resources of this State. The issuance of this permit shall not create any presumption that this permit should be renewed.

8. In constructing, maintaining any structure or facility or conducting any activity authorized herein or in removing any such structure or facility under paragraph 4 hereof, the permittee shall employ best management practices to control storm water discharges, prevent erosion and sedimentation, and to otherwise prevent pollution of wetlands and other waters of the State. The permittee shall immediately notify the Commissioner of any adverse impact or hazard to the environment which occurs or is likely to occur as the direct result of the construction, maintenance, or conduct of structures, facilities, or activities authorized herein.

9. This permit is not transferable without the prior written consent of the Commissioner.

10. Permit DIV-200300427 shall expire on [25 years]. Permit SCEL-2003-07 shall expire within three years of the date of issuance of this permit.

11. **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 or a responsible corporate officer of the permittee, a general partner 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 attachment may be punishable as a criminal offense in accordance with Section 22a-376 under 53a-157 of the Connecticut General Statutes."

12. **Submission of Documents**. 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:

Director
DEP/Inland Water Resources Division
79 Elm Street
Hartford, CT 06106-5127

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. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval on any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this permit means any calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the nest business day thereafter.

This authorization constitutes the permit required by section 22a-342 and 22a-368 of the Connecticut General Statutes.

Issued as a permit of the Commissioner of Environmental Protection on [date].

_____
Arthur J. Rocque, Jr.
Commissioner

ATTACHMENT C

PERMIT

Permit No.: 200301081-MG

City: Middletown

Work Area: Connecticut River off property located off River Road identified by the City of Middletown's Tax Assessor's Office as Map 46, Blocks 25/2 and 25/3A and Lots 1 and 2AZ

Permittees: City of Middletown and Armetta & Associates, LLC

Pursuant to section 22a-359 through 22a-363f of the Connecticut General Statutes ("General Statutes"), and in accordance with section 22a-98 of the General Statutes and the Connecticut Water Quality Standards dated December 2002, a permit is hereby granted by the Commissioner of Environmental Protection (Commissioner) to install collector wells for water diversion as is more specifically described below in the SCOPE OF AUTHORIZATION, in the "work area" in the Connecticut River described above.

*****NOTICE TO PERMITTEES AND CONTRACTORS*****

FAILURE TO CONFORM TO THE TERMS AND CONDITIONS OF THIS PERMIT MAY SUBJECT THE PERMITTEES AND ANY CONTRACTOR TO ENFORCEMENT ACTIONS, INCLUDING PENALTIES AND INJUNCTIONS, AS PROVIDED BY LAW.

SCOPE OF AUTHORIZATION

The Permittees are hereby authorized to conduct the following work as described in application #200301081-MG, including nine (9) sheets of plans submitted by the Permittees to the Commissioner and attached hereto, sheet 1 of 6 dated February 2003, sheet 2 of 6 dated February 18, 2003, sheets 3, 4 and 4a of 6 dated February 28, 2003, revised July 10, 2003, sheets 5 and 6 of 6 dated February 12, 2003, sheet 5a of 6 dated July 10, 2003 and sheet 6a of 6 dated July 21, 2003:

1. construct two collector wells to an elevation of +26' NGVD consisting of a central caisson 18' in diameter to a depth of 45 feet below grade (-35' to -40' NGVD) each with a pump house with an approximate roof elevation of +55' NGVD. Each well will have a maximum of eleven (11) 300' long by 12" diameter collector arms ("laterals") radiating out in two tiers, with five (5) arms on the upper tier and six (6) on the lower tier. The collector laterals will be installed using a variation of horizontal directional drilling at elevations -24' NGVD and -34' NGVD. With eleven (11), 300' long laterals per collector well, the total length of laterals is 6,035 feet all located waterward of the high tide line (HTL).

2. remove and re-use on-site a total of approximately 180 cubic yards of material associated with the installation of the lateral arms identified above;

3. construct an approximately 260' long concrete retaining wall, of which approximately 55' is located waterward of the HTL using approximately 86 cubic yards of concrete associated with the construction of caisson well #2; and

4. place approximately 250 cubic yards of fill landward of the retaining wall identified above.

UPON INITIATION OF ANY WORK AUTHORIZED HEREIN, THE PERMITTEES ACCEPTS AND AGREES TO COMPLY WITH ALL TERMS AND CONDITIONS OF THIS PERMIT.

SPECIAL TERMS AND CONDITIONS

1. Except as specifically authorized by this permit, no equipment or material including but not limited to, fill, construction materials, excavated material or debris, shall be deposited, placed or stored in any wetland or watercourse on or off-site, nor shall any wetland or watercourse be used as a staging area or accessway other than as provided herein.

2. At no time shall heavy equipment, including but not limited to excavators, front-end loaders, trucks, backhoes, tractors and other non-low pressure equipment be staged waterward of the high tide line or in tidal wetlands.

3. The Permittees shall not use bentonite or other drilling lubricant other than water during the installation of the collector arm wells authorized herein unless otherwise approved in writing by the Commissioner.

4. The excess sediment associated with the installation of the collector arm wells shall be reused on-site landward of the high tide line and outside of any tidal wetlands.

5. All work associated with the construction of the retaining wall associated with collector well #2 shall be conducted from land-based equipment during periods of low water only.

6. The Permittees shall install sedimentation and erosion controls measures around the construction area. The Permittees shall maintain sedimentation and erosion control measures in optimal operating condition until the work authorized herein has been completed and the area has stabilized.

7. The driving of piles associated with the construction of the collector wells authorized herein shall not be conducted between December 31st and March 1st, inclusive, of any year in order to protect wintering bald eagles in the area, unless otherwise authorized in

writing by the Commissioner.

8. The Permittees shall contact Julie Victoria of the DEP Wildlife Division at (860) 642-7239 in the event that Eastern box turtles are discovered during the construction in the area of the activities authorized herein.

9. All waste material generated by the work authorized herein shall be disposed of at an approved upland location landward of the high tide line and outside of any tidal wetland vegetation.

10. Not later than two (2) weeks prior to the commencement of any work authorized herein, the Permittee shall submit to the Commissioner, on the form attached hereto as Appendix A, the name(s) and address(es) of any contractor(s) employed to conduct such work and the expected date for commencement and completion of such work.

11. On or before (a) ninety (90) days after completion of the work authorized herein, or (b) upon expiration of the work completion date or any authorized one-year extension thereof, whichever is earlier, the Permittee shall submit to the Commissioner "as-built" plans prepared and sealed by a licensed engineer, licensed surveyor or licensed architect, as applicable, of the work area showing all contours, bathymetries, tidal datums and structures.

GENERAL TERMS AND CONDITIONS

1. All work authorized by this permit shall be completed within three (3) years from date of issuance of this permit ("work completion date") in accordance with all conditions of this permit and any other applicable law.

2. The Permittees may request a one-year extension of the work completion date. Such request shall be in writing and shall be submitted to the Commissioner at least thirty (30) days prior to said work completion date. Such request shall describe the work done to date, work which still needs to be completed and the reason for such extension. The Commissioner shall grant or deny such request in his sole discretion.

3. Any work authorized herein conducted after said work completion date or any authorized one-year extension thereof is a violation of this permit and may subject the Permittee to enforcement action, including penalties, as provided by law.

4. In conducting the work authorized herein, the Permittees shall not deviate from the attached plans, as may be modified by this permit. The Permittees shall not make de minimis changes from said plans without prior written approval of the Commissioner.

5. The Permittees shall maintain all structures or other work authorized herein in good

condition. Any such maintenance shall be conducted in accordance with applicable laws including, but not limited to, sections 22a-28 through 22a-35 and sections 22a-359 through 22a-363f of the General Statutes.

6. Prior to the commencement of any work authorized herein, the Permittees shall cause a copy of this permit to be given to any contractor(s) employed to conduct such work. At the work area the Permittees shall, whenever work is being performed, make available for inspection a copy of this permit and the final plans for the work authorized herein.

7. In undertaking the work authorized hereunder, the Permittees shall not cause or allow pollution of wetlands or watercourses, including pollution resulting from sedimentation and erosion. For purposes of this permit "pollution" means "pollution" as that term is defined by section 22a-423 of the General Statutes

8. Upon completion of any work authorized herein, the Permittees shall restore all areas impacted by construction, or used as a staging area or accessway in connection with such work, to their condition prior to the commencement of such work.

9. Any document required to be submitted to the Commissioner under this permit or any contact required to be made with the Commissioner shall, unless otherwise specified in writing by the Commissioner, be directed to:

    Permit Section
    Office of Long Island Sound Programs
    Department of Environmental Protection
    79 Elm Street
    Hartford, Connecticut 06106-5127

10. 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. The date of any notice by the Commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three (3) days after it is mailed by the Commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" as used in this permit means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or a Connecticut or federal holiday shall be submitted or performed on or before the next day which is not a Saturday, Sunday, or a Connecticut or federal holiday.

11. The work specified in the SCOPE OF AUTHORIZATION is authorized solely for the purpose set out in this permit. No change in the purpose or use of the authorized work or facilities as set forth in this permit may occur without the prior written authorization of the Commissioner. The Permittees shall, prior to undertaking or allowing any change in use or

purpose from that which is authorized by this permit, request authorization from the Commissioner for such change. Said request shall be in writing and shall describe the proposed change and the reason for the change.

12. This permit may be revoked, suspended, or modified in accordance with applicable law.

13. This permit is not transferable without prior written authorization of the Commissioner. A request to transfer a permit shall be submitted in writing and shall describe the proposed transfer and the reason for such transfer. The Permittees' obligations under this permit shall not be affected by the passage of title to the work area to any other person or municipality until such time as a transfer is authorized by the Commissioner.

14. The Permittees shall allow any representative of the Commissioner to inspect the work authorized herein at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.

15. In granting this permit, the Commissioner has relied on representations of the Permittees, including information and data provided in support of the Permittees' application. Neither the Permittees' representations nor the issuance of this permit shall constitute an assurance by the Commissioner as to the structural integrity, the engineering feasibility or the efficacy of such design.

16. In the event that the Permittees become aware that they did not or may not comply, or did not or may not comply on time, with any provision of this permit or of any document required hereunder, the Permittees shall immediately notify the Commissioner and shall take all reasonable steps to ensure that any noncompliance or delay is avoided or, if unavoidable, is minimized to the greatest extent possible. In so notifying the Commissioner, the Permittees shall state in writing the reasons for the noncompliance or delay and propose, for the review and written approval of the Commissioner, dates by which compliance will be achieved, and the Permittees shall comply with any dates which may be approved in writing by the Commissioner. Notification by the Permittees shall not excuse noncompliance or delay and the Commissioner's approval of any compliance dates proposed shall not excuse noncompliance or delay unless specifically stated by the Commissioner in writing.

17. In evaluating the application for this permit, the Commissioner has relied on information and data provided by the Permittees and on the Permittees' representations concerning site conditions, design specifications and the purpose of the work authorized herein, including but not limited to representations concerning the commercial, public or private nature of the work or structures authorized herein, the water-dependency of said work or structures, its availability for access by the general public, and the ownership of regulated structures or filled areas. If such information proves to be false, deceptive, incomplete or inaccurate, this permit may be modified, suspended or revoked, and the Permittees may be subject to enforcement action.

18. The Permittees may not conduct any work waterward of the high tide line or in tidal wetlands at this work area other than work authorized herein, unless otherwise authorized by the Commissioner pursuant to section 22a-359 et. seq. and/or section 22a-32 et. seq. of the Connecticut General Statutes.

19. The issuance of this permit does not relieve the Permittees of their obligations to obtain any other approvals required by applicable federal, State and local law.

20. 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 Permittees 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."

21. This permit is subject to and does not derogate any present or future property rights or powers of the State of Connecticut, and 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.

Issued on _____, 2004.

STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION

_____
Arthur J. Rocque, Jr.
Commissioner

Permit Application No. 200301081-MG, Middletown
City of Middletown and Armetta & Associates, LLC
Certified Mail #_____

APPENDIX A

TO: Permit Section
Department of Environmental Protection
Office of Long Island Sound Programs
79 Elm Street
Hartford, CT 06106-5127

PERMITTEES:

City of Middletown
c/o Domenique Thornton, Mayor
245 DeKoven Drive
Middletown, CT 06457

Armetta & Associates, LLC
c/o William Corvo
90 Industrial Park Road
Middletown, CT 06457

PERMIT NO.: 200301081-MG, Middletown

CONTRACTOR 1: _____

Address: _____

_____

Telephone #: _____

CONTRACTOR 2: _____

Address: _____

_____

Telephone #: _____

CONTRACTOR 3: _____

Address: _____

_____

Telephone #: _____

EXPECTED DATE OF COMMENCEMENT OF WORK: _____

EXPECTED DATE OF COMPLETION OF WORK: _____

PERMITTEES: _____ _____
(signature) (date)