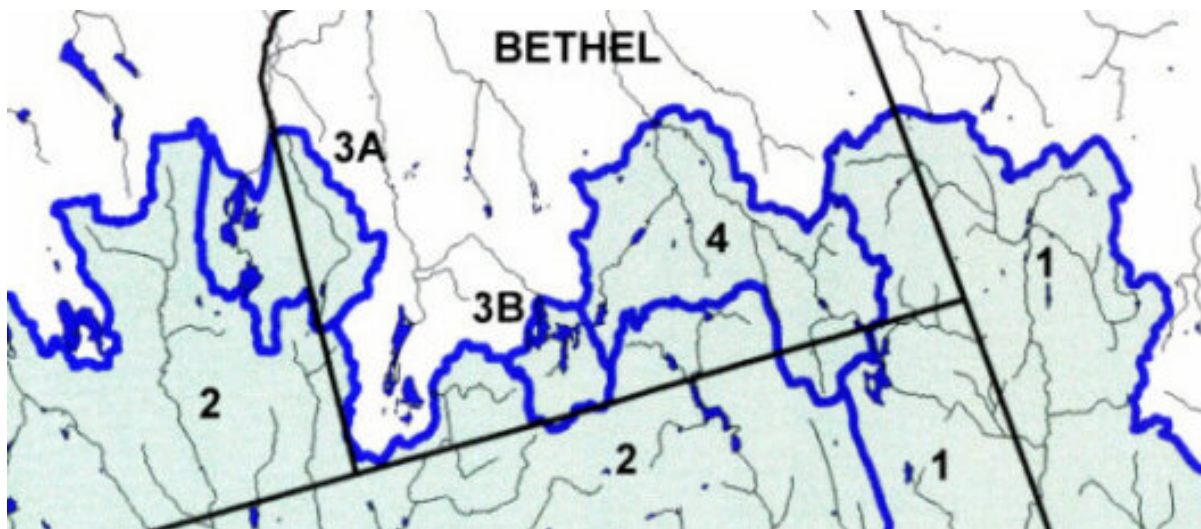


ADOPYING A WATER SUPPLY WATERSHED PROTECTION DISTRICT OVERLAY ZONE FOR BETHEL, CONNECTICUT



A REPORT PREPARED FOR THE
HOUSATONIC VALLEY COUNCIL OF ELECTED OFFICIALS (HVCEO)
BY KOZUCHOWSKI ENVIRONMENTAL CONSULTING (KEC)
OCTOBER, 2006

Part I: Background and Introduction

The Town of Bethel is in the process of updating its Plan of Conservation and Development. A part of this Plan includes strategies for natural and water resource protection. Connecticut state statutes require that municipal plans of conservation and development address water supply resource protection. According to Section 8-23 of the CT General Statutes, in preparing the municipal plan the planning commission "*shall consider the need for protection of existing and potential public surface and ground drinking water supplies.*"

About 26% of Bethel's total land area, approximately 2,837 acres in the southern part of the municipality, is designated by Connecticut Department of Environmental Protection (DEP) as existing or potential water supply watershed land. As indicated by the attached map (Figure 1, page10), the watershed areas are situated in four distinct basins, comprising the southernmost edge of Bethel.

Two of these watersheds – watershed 3A (Eureka Reservoir / Murphy's Brook) and 3B (Chestnut Ridge Reservoir)- directly recharge Bethel's two reservoir systems. Two others – Aspetuck River (1) and Sympaug Brook(2) recharge reservoirs that are located in Redding, Easton and Fairfield. A fifth watershed (4) is designated by state planning, as a potential future water supply for the Town of Bethel.

The City of Danbury has a history of adopting and administering water supply protection district (**WSPD**) overlay zone regulations (Section 7 of the Danbury Zoning Regulations). The watershed of Eureka Lake – a public water supply reservoir owned by the Town of Bethel, which is geographically located in Danbury – is already protected by the City's WSPD regulations.

Part II (page 2) of this report describes the City of Danbury's experience in adopting and administering this regulation. The purpose of this report is to analyze and evaluate the applicability of the Danbury regulation to the Town of Bethel and to identify the issues that need consideration for customizing the provisions to Bethel's zoning regulations and administering the protection program.

The approach that will be used in this policy analysis is as follows:

- Critique each section of the Danbury **WSPD** regulations to comment on its applicability to Bethel.
- Identify the issues that need modification for Bethel's customization of these regulations.
- Highlight the issues of potential conflict with regard to future development restrictions and enforceability.

The format of this analysis (provided in Part III of this report) corresponds to the numbering system of Section 7 of Danbury's Zoning regulations, broken out into discussions that correspond to issues of applicability and customization to Bethel's Zoning regulations.

For reference, the entire text of Danbury's water supply protection district (**WSPD**) overlay zone regulations is provided in Appendix 1. The reader is encouraged to use this appendix as a section-by section analysis that comprises Part III of this report. The red bold type font ("red flag issues") identifies issues of potential significance in considering the adoption of such water supply protection (**WSPD**) regulations in Bethel. The

blue bold type font (“blue flag issues”) designates the customization points that would make this regulation work in the Town of Bethel.

Part II: The City of Danbury’s Public Water Supply Protection District Regulations

In the late 1980s, the City of Danbury, with support from the Housatonic Valley Council of Elected Officials (HVCEO) initiated the development of a regulatory process for protecting land areas that recharge its water supplies. The impetus for this initiative was a water shortage due to the drought of the early 1980s, combined with the degrading quality of its reservoirs and the groundwater that recharged the Lake Kenosia water supply.

Over-riding these short-term issues was the perception that the future water quality of Danbury’s potable water system is a function of the quality of water that drains off of its watersheds. Land use decisions in these water supply watersheds will cumulatively determine the quality and future potability of these reservoirs.

Furthermore, zoning and land use are somewhat irreversible in their effects on the runoff and recharge to the surface water reservoirs. Once degraded, the decisions of historical land use are in place as a determinant of the impervious coverage, drainage systems and surface discharge quality from the developed community.

During the 1980s, numerous academic and federally sponsored studies demonstrated a direct correlation between the quality of urban stormwater runoff as a detriment to the quality of surface receiving streams, lakes and reservoir impoundments. Also local episodes of contamination due to discharges from industrial and commercial based pollutants emphasized the need to prevent the improper siting of such facilities in the future.

By the 1980s, Connecticut’s Department of Public Health (DPH) and Department of Environmental Protection (DEP) were initiating regulatory and incentive programs for municipalities to protect their surface water and potable water supplies.

Hence, Danbury’s WSPD regulations were pro-active to these trends and concerns. The City convened a planning committee, with representation from its Planning, Health, Engineering and Public Utilities Departments and input from HVCEO. A final regulation was proposed in 1993 and adopted by the Zoning Commission.

The regulation that was adopted is largely based on performance standards. However, there are several provisions that require approval by the Director of Health of Danbury. Also, for every application, there is the requirement that an “Environmental Analysis” be submitted, which includes a technical analysis of pollutant loading on ground and surface waters, estimations of travel time of subsurface sewage effluents, seepage analysis and erosion controls.

These environmental analyses have been customarily referred by the Planning Department to the Health Department for review and approval. This enforcement process has worked in Danbury, since the Health Department has a separate environmental health Division that has responsibility for issues that include new development reviews on wetlands, watercourses and areas that affect Danbury’s water supplies.

In 2004, acting on a petition to the Zoning Commission, the City modified its provision that prohibits new gasoline stations in the public water supply watersheds, which allowed an upgrading of an existing facility (i.e., abandoning old tank systems and replacing with a new system that meets strict performance standards).

In 2006, a draft of a further update of the regulation, which included the addition of Candlewood Lake as an additional Class II watershed was drafted, but has not yet been adopted.

Part III: Section-by section analysis and adaptability of Danbury’s WSPD regulations to Bethel

Section 7C1: *Purpose and Intent*

The four provisions stated in this section of the Danbury regulation provide an obvious statement of justification as to the need to employ land use controls to protect the integrity watershed areas in Bethel that recharge surface water supplies.

Blue Flag Issue: The sole “blue flag modification” to this provision is to limit the intent of the regulation to protection of surface water supplies. The upcoming “aquifer protection regulations” are intended to be the mechanism for protecting Bethel’s groundwater supplies. Hence the modification is as follows:

b. To protect existing and potential surface ~~and ground~~ drinking water supplies from sources of contamination, which contribute to the degradations of water quality.

Section 7C2: *Classifications.*

The City of Danbury, in adopting its regulations, recognized two distinct areas of recharge to its public water supply reservoirs. The northwest sector of the municipality was almost entirely low density residential and had a long history of use as water supply watersheds.

In contrast, the watershed of Lake Kenosia is a diverse mix of commercial, industrial and various densities of residential zones. The use of Lake Kenosia as a back-up emergency supply was recent (1982). Hence, the regulatory provisions applying to Lake Kenosia watershed are different and less restrictive, recognizing the land use policies of the City for this section of Danbury.

Blue Flag Issue: The Town of Bethel has no need to make such distinctions in regulating land use for its water supply watersheds. The southern tier of Bethel, where all of its water supply watersheds exist, are similar in land use character to the lands of northwest Danbury, which is so designated as “Class I watersheds”. Hence, all references to “Class II watersheds” should be eliminated and only those sections that apply to Class I lands apply to the Bethel watersheds.

Hence, Section 7.C.2c is the only part of this section applicable to the Town of Bethel and should be clarified as follows:

The watershed boundaries should be illustrated on a map attached as Addendum 1 of this regulation, and illustrated on the Town of Bethel’s GIS overlay that is available in the Town of Bethel Engineering Department. The boundaries shown will be approximate, particularly near the watershed boundaries, and are subject to field verification. The area to be regulated would be identical to the land area of Bethel designated as Class GAA by the Connecticut Department of Environmental Protection (DEP).

Section 7.C.3 a Use Regulations - *Prohibitions (modify language to eliminate Class I / Class II distinctions)*

Red Flag issue: Prohibited uses can be very restrictive and are difficult to reverse. Such uses as landfills, gasoline stations and salt piles are appropriate, since the possibility of long term contamination remains very high. However, the one provision of Danbury’s regulation that was somewhat controversial in its implementation was the outright prohibition of auto repair and body shops. This prevented new car dealerships from providing maintenance, auto-detailing and car washes. An alternative to prohibiting these operations outright, is provided in the “blue flag” customization, below (modification in italicized type).

Blue Flag Issue: (1) The following uses are prohibited:

- (a) Manufacture, use storage or disposal of hazardous materials in any watershed area without a Spill Prevention, Control and Countermeasure Plan (SPCC) certified by a licensed professional engineer or Certified hazardous materials manager and approved by the Town of Bethel Public Utilities Commission;
- (b) Sanitary landfill, septage lagoon, or wastewater treatment facility for municipal or industrial wastes;
- (c) Junkyard, salvage yard
- (d) Truck terminal or bus parking facility with ten (10) or more spaces;
- (e) Gasoline station
- (f) *Auto repair or auto body shop without a Spill Prevention, Control and Countermeasure Plan (SPCC) certified by a licensed professional engineer or Certified hazardous materials manager and approved by the Town of Bethel Public Utilities Commission¹;*
- (g) Bulk storage of road salt for commercial or industrial purposes;
- (h) Any use which is not allowed in the respective zoning district.

7.C.3(2): *Drainage from Parking Areas*

At the time of the adoption of the Danbury regulations in 1993, the contemporary view of controlling runoff from newly developed areas was to direct impervious drainage to an oil and water separator. Since 1993, the management science for treating runoff from newly developed areas has evolved into a variety of treatment options.

Hence, the language of Danbury’s existing regulations is limiting. The Blue flag customization note, below, includes the approach that has been drafted in the proposed update to Danbury’s WSPD regulation in 2006:

Blue Flag Issue: (2) All parking areas containing ten (10) or more parking spaces shall have a treatment system designed to retain spills and renovate stormwater, approved by the Town of Bethel Public Utilities Commission. A proposed maintenance plan for the parking area shall be submitted at the time of the application and referred to the Town of Bethel Public Utilities Commission for review and report.

¹ This proposed review / enforcement agency is stated here and throughout this Policy Analysis, as a “default”. However, see the “Red flag” issue on enforcement discussed on page 8.

7.C.3 a (3): *Exemption for Gasoline Station relocation in WSPD*

This section of the regulation was modified in 2005, as discussed in the historical background of Part II (page 2) of this report. With the exception of replacing all approvals by the Director of Health to the Bethel Public Utilities Commission – the default enforcement agency of this regulation - it is an appropriate mechanism to allow remediation and upgrading of existing gasoline stations.

7.C.3 b: “*Additional Regulations Applicable to all Class I Watershed Areas*”

This provision provides the sewer prohibition provision of the regulation. New extensions of public sewer in the regulated WSPD Zone is prohibited, unless the Town determines that there is an existing or potential pollution problem due to failing septic systems. This is a potential red flag issue. In the development of Danbury’s regulation, considerable documentation was provided to link sewer extensions with greater future densities and pollution discharges. Although this is a potentially restrictive prohibition, the current zoning and the potential future sewer extension areas in the Town of Bethel do not seem to be a conflict with this prohibition provision.

7.C.3c and d : “*Additional regulations applicable to Environmentally Sensitive Areas*”

This part of the regulations applies to a definition of a sub-classification of “environmentally sensitive zones” within each public water supply watersheds. In the Danbury regulations, “Environmentally Sensitive Zones” are defined in Section of the regulations (see the end of Appendix 1 for this definition).

These lands are considered “sensitive” due to their proximity to reservoirs or streams tributary to a reservoir or wetlands in the watershed. Since there is no distinction between Class I and Class II watershed lands, section c and d can be combined (and e can be eliminated). These provisions are largely performance based and should be considered applicable to a Bethel WSPD regulatory strategy. However, note the following “Blue Flag” issues of applicability:

Blue Flag Issue: In sections c (1), c (3) and d (3) replace “Director of Health” or “Health Department” with “Town of Bethel Public Utilities Commission”. See discussion on red flag issue, page 7 below.

- The zones stated in section d(2) should be customized to match the Town of Bethel’s zoning designations for commercial, industrial and residential classifications.

7.C.4 *Environmental Analysis and Plan Notation.*

All applications for new developments in water supply watersheds need to be accompanied by an “Environmental Analysis and Plan Notation”. This provision assures the integrity of the designs for new development by requiring a certification by a soils scientist or professional engineer that pollutant discharges are analyzed (and modeled) based upon applicable standards and that appropriate sewage travel times and erosion controls are planned for the applied use.

This can be a somewhat technical analysis. Based on the experience in implementing Danbury's regulation, engineers are very familiar with this level of analysis. However, the issue for Bethel to consider is whether to impose a Town agency to review and approve such analyses (see red flag issue, page 7, below).

7.C.3 b. Plan Review and Enforcement.

Red Flag issue: Any new regulation implies an increased level of staff oversight and permit review time. Hence the consideration of which agency in the Town of Bethel should administer these regulations is pertinent. As indicated in Part 2, the Environmental Health Division of its Health Department largely administered the Danbury regulation. For Bethel, the following options are provided:

- Public Utilities Commission (default indicated throughout this draft);
- Planning and Zoning;
- Town Engineer;
- Health Department;
- Self-enforcement (see Exhibit 1 checklist that would be required for each site plan prior to approval).

The considerations in making this decision are beyond the scope of this analysis. However, it should be considered as a major red flag issue to decide before the next stage of development of this regulation.

Part IV: Recommendation

Any new regulatory process involves restrictions and costs. The restrictions of imposing a water supply protection district (**WSPD**) overlay zone regulation in the Town of Bethel will limit the character and type of developments in the 26% of the town land areas in the southern tier of Bethel that can occur. The costs include increased analysis and site design considerations on the part of future developers in Bethel. The costs also include staff review for new permit applications and enforcements. This may also involve an increase in the amount of time that is required to process permits in a WSPD overlay zone in Bethel.

In spite of these consequences, there is a strong argument to be made to institute a WSPD overlay zone in Bethel. The existing character of land use in southern Bethel is, fortuitously, consistent with the goal of maintaining high quality of water for reservoirs that recharge from the southern tier of Bethel. Hence, instituting such regulations will institutionalize the Town's commitment for maintaining high quality of its surface water supplies in the future.

The Town's water supplies² are currently dependent on two reservoirs (and the emergency back-up of Murphy's Brook), along with the well fields³ of Consolidated Water Supply. The Connecticut DPH recently completed

² It should be noted that other watershed areas of the southern tier of Bethel recharge reservoirs located in Redding, Easton and Fairfield. Similar to the City of Danbury's WSPD regulatory strategy of protecting all watershed lands, including Bethel's, regardless of whether it preserves water supplies of its own municipality or others, this universal protection strategy is also recommended here.

assessments for all reservoirs and associated watersheds in the State. DPH concluded that the absence of source protection regulations in Bethel is a potential risk factor for its water supply. DPH recommended the creation of local watershed protection regulations. Hence, since water supply is a critical element of the Town’s future infrastructure, the benefits of water source protection far outweigh the costs.

Hence, this analysis concludes with a three-point recommendation:

1. The Town Planner should incorporate the strategy of developing a water supply protection district (WSPD) overlay zone in the current update to Bethel’s Plan of Conservation and Development.
2. The First Selectman should appoint a working committee that includes the Town Planner, the Town Engineer, the Health Director and other agencies or officials that will be key to administering WSPD. This committee, when appointed, should establish a strategy for developing an implementation structure for such regulations in a 12-18 month time period.
3. Based upon the implementation infrastructure developed by this committee and the “blue flag” guidelines in this report, the Town Planner (and the consultant retained to reorganize the Town’s zoning regulations) should create the language of a WSPD overlay zone and petition this as an inclusion to Bethel’s Zoning regulation. The WSPD regulations should include a GIS based overlay map that clearly delineates the boundaries of the WSPD watersheds.

EXHIBIT 1: Self Enforcement Application Checklist for new applications in Bethel WSPD Zone

The following checklist provides a “self enforcement” approach to administering Bethel’s proposed WSPD regulations. Each application for development in the WSPD would require certification by a licensed professional engineer or a certified hazardous materials manager for each of the provisions specified below. The Town of Bethel would only need to assure that each of these certifications are accompanying the application.

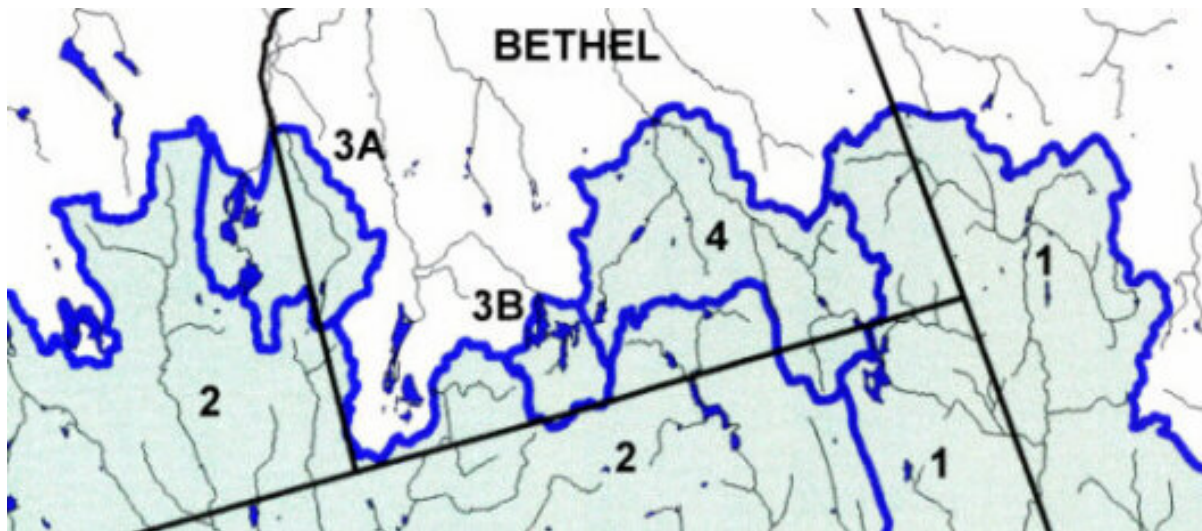
Section # ⁴	Content required	Certification & documentation OK	Inadequate documentation
7.C.3 a 1 and 7.C.3 d (4)	Has the licensed professional engineer (P.E), Certified Hazardous Materials Manager (CHMM) or Site Planner certified that none of the prohibited activities listed are part of the application for development?		
7.C.3 a (1) (a) and (e)	For exemption to prohibition of hazardous materials operations (a), is there an adequate SPCC plan certified by a licensed P.E. or a CHMM? For exemption to prohibition of auto repair and auto body shops (e) is there an adequate SPCC plan certified by a licensed P.E. or		

As noted, the universal protection strategy of Danbury has had the effect of regulating land use in the watershed in Danbury that recharges Eureka Reservoir.

³ The future quality of the groundwater recharging these well fields will be regulated by the up and coming Aquifer Protection regulations.

⁴ Corresponding to Section 7 of Danbury’s WSPD regulations. When Bethel adopts its own WSPD zoning provisions, the numbering here would obviously need to change.

	a CHMM?		
7.C.3 a (2)	If parking areas contain 10 or more spaces, is there an adequate stormwater management plan prepared by a licensed P.E. or C.H.M.M. as part of the application?		
7.C.3 a (3)	Is there a site remediation and/or underground storage tank abandonment plan that has been prepared by a Licensed Environmental Professional (LEP)? ⁵		
7.C.3 b	If an extension of public sewer system is deemed necessary by Director of Health, is there an adequate water supply impact analysis prepared by a licensed P.E. or a CHMM?		
7.C.3 c (1)	For development on environmentally sensitive zones of watersheds, is there an adequate stormwater management plan prepared by a licensed P.E. or C.H.M.M. as part of the application?		
7.C.3 c (2)	Is there documentation by a licensed P.E. that septic systems in environmentally sensitive zones have been designed with seepage rates of existing soils?		
7.C.3 c (3)	Is there an adequate sedimentation and erosion control plan prepared by a licensed P.E. or C.H.M.M. as part of the application?		
7.C.3 d (1) (2) and (3)	Is there documentation by a qualified site planner that lot sizes, slopes and 10 % coverage limit meet WSPD requirements?		
7.C.3 4	Is there an adequate Environmental Analysis and Plan Notation certified by a licensed P.E. that addresses provisions 7.C.4 a (1)- (4)?		



⁵ NOTE: A standard condition of approval for such plans should include a requirement that an LEP certifies that all remediation construction be observed and deemed complete in accordance with the remediation plan.

Figure 1: Bethel's Water Supply Watersheds (Watershed #s refer to text on page 1)

Appendix 1: Section 7C of Danbury's Zoning Regulations (WSPD overlay zone)

7.C. PUBLIC WATER SUPPLY WATERSHED PROTECTION ZONES.

7.C.1. Purpose and Intent.

It is the purpose and intent of the overlay zones:

- a. to facilitate the adequate provision of potable water,
- b. to protect existing and potential public surface and ground drinking water supplies from sources of contamination which contribute to the degradation of water quality,
- c. to promote public health and the general welfare of the community, and
- d. to promote environmental protection.

7.C.2. Classifications.

The public water supply watershed protection zones are comprised of two area classifications, located on the map entitled "Public Water Supply Watershed Protection Zones" enacted September 9, 1993, as amended, each containing a subclass to which additional regulations apply:

- a. Class I Watershed Area: Lands located within the public water supply watersheds, excluding the Class II Lake Kenosia Watershed Area.

(1) Class I Environmentally Sensitive Area: Lands located within the Class I Watershed Area having one or more of the characteristics noted in Section 2.

- b. Class II Lake Kenosia Watershed Area: Lands located within the public water supply watershed of Lake Kenosia, which are regulated differently from Class I due to differences in water resource function and existing and potential future land use conditions.

(1) Class II Lake Kenosia Environmentally Sensitive Area: Lands located within the Class II Lake Kenosia Watershed Area, having one or more of the characteristics noted in Section 2.

- c. The watershed boundaries shown on the map are approximate and precise locations are subject to field verification.

7.C.3. Use Regulations.

In addition to other provisions of these Regulations, the following regulations shall apply for all lots or portions of lots located within the designated public water supply watershed protection areas specified in Section 7.C.2. above. All land, wetlands, streams, rivers, lakes, ponds, and other bodies of water located within such designated watershed protection areas shall be subject to provisions pertaining to public water supply watersheds. If a conflict exists between provisions in Section 7.C. governing public water supply watersheds and other regulations applicable to a parcel, the regulations in Section 7.C. governing public water supply watersheds shall apply to the extent necessary to give said regulations full

force and effect.

a. Regulations Applicable to all Class I and Class II Lake Kenosia Watershed Areas.

(1) The following uses are prohibited.

- (a) Manufacture, use, storage, or disposal of hazardous materials in any watershed area without an emergency response plan approved by the Health and Housing Department.
- (b) Sanitary landfill, septage lagoon, or wastewater treatment facility for municipal or industrial wastes.
- (c) Junkyard, salvage yard.
- (d) Truck terminal or bus parking facility with ten (10) or more parking spaces.
- (e) Gasoline station, auto repair, auto body shop. See Section 7.C.3.a.(3) below.
- (f) Bulk storage of road salt for commercial or municipal purposes.
- (g) Any use which is not allowed in the respective zoning district.

(2) All parking areas containing ten (10) or more parking spaces must be paved with impervious surface, contain an oil separation system, and be maintained in accordance with an approved maintenance plan. A proposed maintenance plan for the parking area shall be submitted at the time of the application and referred to the Director of Health or his/her designee for review and report.

(3) Notwithstanding Section (1)(e) above, existing gasoline stations, auto repair and auto body shops located within Class I Watershed Areas or Class II Lake Kenosia Watershed Areas may undertake environmental remediation or may be relocated to other parcels located within said Class I and Class II watershed areas for the purpose of rehabilitating the existing site of environmental contaminants or substandard fuel storage facilities, but not for other reasons for relocation, subject to the following conditions.

(a) Environmental remediation of sites with existing uses specified above, whether or not such sites are to be abandoned, shall require site plan approval; relocation from one site to another, as specified above, shall require approval as a special exception for the proposed site for relocation by the Planning Commission. For purposes of remediation and/or relocation, the applicant shall submit a report along with the application for site plan and/or special exception approval containing evidence of contaminated subsurface conditions or substandard fuel storage facilities existing on the site, and a recommended remediation plan for the existing site. The report shall include a review and findings by the City's Director of Health or his/her designee that sufficient evidence exists to merit remediation of the site due to existing environmental contamination or substandard fuel storage facilities to prevent the release of fuel and/or hazardous materials and that the recommended remediation plan is adequate to remove said contaminants and/or substandard fuel storage facilities.

(b) Remediation of all contaminated subsurface conditions at the existing location shall meet the standards of Connecticut's Remediation Standard Regulations and shall be certified as clean by a Licensed Environmental Professional for the use of the property. If there are no documented conditions of release, a Connecticut Voluntary Site Remediation Standards environmental investigation shall be conducted at the existing location to be abandoned or remediated by a Licensed Environmental Professional and

certified as clean.

(c) All existing underground fuel storage systems at the site shall be properly abandoned in accordance with the standards of the Connecticut Department of Environmental Protection.

(d) The existing use may only be relocated to a zoning district that otherwise allows such use as a permitted or special exception use and shall be developed in accordance with the regulations governing said zoning district, including all other requirements of §7.C. of these Regulations except as modified by this §7.C.3.a.(3). No use, as specified above, shall be relocated to or within an environmentally sensitive area. The underground fuel storage systems at the relocated or remediated site shall meet all tank system standards specified in Section 9-82 of the Danbury Code of Ordinances, as amended. All proposed auto repair and auto body shops shall meet the hazardous materials storage and operational standards of the Connecticut Department of Environmental Protection and the Environmental Health Division of the City Department of Health and Housing.

(e) No Certificate of Compliance shall be issued for the remediated and/or relocated use unless the use meets all requirements of these Regulations and unless the existing site from which a relocated use has been abandoned has been remediated in accordance with an approved remediation plan reviewed by the Director of Health or his/her designee for conformance with these provisions.

(f) All other provisions governing nonconformities, as specified in Section 9 of these Regulations, shall remain in effect, except as modified herein.

(g) No Certificate of Compliance shall be issued for the remediated and/or relocated use unless the use meets all requirements of these Regulations and unless the existing site from which a relocated use has been abandoned has been remediated in accordance with an approved remediation plan reviewed by the Director of Health or his/her designee for conformance with these provisions.

(h) All other provisions governing nonconformities, as specified in Section 9 of these Regulations, shall remain in effect, except as modified herein.

b. Additional Regulations Applicable to all Class I Watershed Areas.

No new development in a Class I Watershed Area shall be served by public sewer unless the extension of service is necessary to protect public water supplies and the watershed from existing conditions that result in present or potential pollution problems after due consideration of such factors as soil suitability for on-site septic systems, lot sizes and configurations, pollution problems in the area, and other relevant factors. The extension must otherwise comply with all regulations of the City of Danbury. All applications shall be referred to the Director of Health or his/her designee for review and report on compliance with this provision.

The foregoing notwithstanding, a new development may be served by public sewer if the applicant, at the time of application, can demonstrate to the satisfaction of the City:

(1) that the proposed development is consistent with the Land Development Plan Map, dated March 1, 2002, of the Plan of Conservation and Development, as amended, as determined by the Director of Planning or his or her designee, and

(2) that through a Water Supply Impact Analysis, the sewer extension needed by the new development will not adversely affect public water supplies in the watershed. The Water Supply Impact Analysis shall be referred to the Director of Health or his or her designee for review and

report on compliance with this provision. The Analysis as submitted shall include:

- (a) a site specific pollutant loading analysis that demonstrates that the new development will result in no net increase of stormwater pollutants to the receiving water bodies, and
- (b) a watershed analysis that identifies: ((1)) the locations where new development could occur between the existing sewer line and the site where the sewer is proposed to be extended, including the maximum level of land use development that could occur under existing zoning regulations and the potential impact of said uses upon water supplies (including appropriate mitigation measures); and, ((2)) a transportation hazard analysis.

The transportation hazard analysis shall identify locations of transport of fuel or hazardous materials on roads served by the new sewer extension.

c. Regulations Applicable to all Class I and Class II Lake Kenosia Environmentally Sensitive Areas.

In addition to the provisions of Section 7.C.3.a., the following requirements apply to lots or portions of lots located within the Class I and Class II Lake Kenosia Environmentally Sensitive Areas.

- (1) No development, except for single family dwellings on individual lots or accessways or driveways serving less than three (3) dwellings or home landscaping or maintenance activities, shall drain stormwater onto land within a Class I or Class II Environmentally Sensitive Area without an acceptable means of pretreatment of such runoff. Acceptable pretreatment measures will be evaluated by the Director of Health or his or her designee in terms of their compliance with current best management practices as published by Federal and/or State agencies.
- (2) Where individual sewage disposal systems are proposed, the design and installation of such systems shall be in accordance with Health Department regulations and shall use seepage rates which do not exceed that of soils existing on the site prior to the deposition of any fill. Seepage rates of fill sections shall not be used in the system design, unless the system is approved by the Department of Environmental Protection and the Health and Housing Department.
- (3) An Erosion and Sedimentation Control Permit must be obtained from the Health Department prior to the commencement of any work resulting in an earth change, except for those activities listed within Section 8.A.7. All earth changes shall be stabilized within twenty-four (24) hours of the completion of the work and must be revegetated within a time period determined by the Health and Housing Department.

d. Additional Regulations Applicable to Class I Environmentally Sensitive Area.

The following requirements shall apply to lots or portions of lots located within the Class I Environmentally Sensitive Area in addition to the provisions of Section 7.C.3.a-c.

- (1) Any lot created subsequent to the adoption of this provision, September 9, 1993, shall have a minimum lot area of 80,000 square feet.
- (2) No greater than ten percent (10%) of a lot located in an RA-80, RA-40, CN-20, IL-40, or LCI-40 zoning district and no greater than twenty percent (20%) of a lot located in an RA-20 zoning district shall be covered by buildings, structures, parking, and impervious surfaces.
- (3) Earth changes shall be prohibited on slopes greater than twenty-five percent (25%), unless the Planning Commission receives a report from the Department of Health and Housing of the City of Danbury which documents that erosion control measures provided with the plan are adequate to meet the purpose and intent of these regulations and to protect public health, safety

and welfare.

(4) Manufacture, use, storage, or disposal of hazardous material shall be prohibited.

e. Additional Regulations Applicable to Class II Lake Kenosia Environmentally Sensitive Area. The following requirements shall apply to lots or portions of lots located within the Class II Lake Kenosia Environmentally Sensitive Area in addition to the provisions of Section 7.C.3.a. and 7.C.3.c.

(1) No greater than fifty percent (50%) of any lot shall be covered by buildings, structures, parking and impervious surfaces. The maximum building coverage shall not exceed the percentage set for the zoning district in which the lot is located, except for cluster subdivisions subject to Section 4.A.6.

7.C.4. Environmental Analysis and Plan Notation.

a. An Environmental Analysis must be submitted with any application for a special exception, subdivision, site plan, or excavation permit involving lots or portions of lots located within a public water supply watershed protection zones. The Environmental Analysis shall be prepared and certified by a qualified soils scientist or licensed engineer and shall contain at least the following information.

(1) Impact of the project upon ground and surface water quality and ground water recharge based on applicable water quality standards and including the estimated phosphate and nitrate loading on ground water and surface water from new streets, driveways, septic tanks, lawn fertilizer, and other activities within the development.

(2) A map illustrating the soil units between the proposed leachfield and the nearest downgradient watercourse. This map shall be accompanied by a narrative discussion of the estimated travel time of sewage effluent to the nearest watercourse based upon permeability characteristics that are typical of the soils downgradient of the proposed leachfield, exhibited on the map.

(a) Based upon this map and discussion, the Health and Housing Department may require an on-site seepage analysis and a specific calculation of the travel time of sewage to assure adequate renovation, i.e., 21 day travel time, of sewage effluent prior to its discharge to the nearest watercourse.

(b) If the location of a subsurface disposal system in a public water supply watershed is situated in an "area of special concern", as defined by Section 19-13 B 103 (d)(e)(1)(a) of the Connecticut Public Health Code Standards and Technical Regulations, then the Health and Housing Department may require a seepage analysis, using on-site soil permeability data.

(3) Capability of soils, vegetative cover, and proposed erosion control measures to support the proposed development and to prevent erosion, silting or other instability.

(4) Certification that the development shall not cause a diversion of existing drainage water from a reservoir where such diversion would result in a net decrease of volume over what now enters such reservoir.

b. All site plans submitted for permitted uses, special exception uses, and excavation permits, and all plot plans submitted for the issuance of a Zoning Permit, shall note that the proposed development is subject to all the applicable requirements of the Zoning Regulations pertaining to the Public Water Supply Watershed Protection Zone in which it is located.

Definition from Section 2.B of regulations of “Environmentally Sensitive Zone” referred throughout Section 7B, above):

Environmentally sensitive area. Land located within a public water supply watershed protection zone which has one or more of the following characteristics: (1) areas located within two hundred fifty (250) feet of the high water mark of a reservoir; (2) areas located within one hundred (100) feet of any wetland or watercourse, as defined in Sections 2.32 and 2.33 of the "Inland Wetland and Watercourses Regulations of the City of Danbury," which drain into a reservoir; (3) wetlands, watercourses, reservoirs, lakes, and ponds; and, (4) areas with slopes fifteen (15%) or greater which have a soil depth of twenty inches (20") or less to bedrock.