

**ENVIRONMENTAL PROTECTION BOARD
AGENDA SUMMARY REPORT**

APPLICATION:	EPB #2923, F. Compolattaro	DATE:	March 12, 2010
LOCATION:	1459 High Ridge Road – Parcel A, B and the Subdivision Accessway	ZONE:	R-10
WATERSHED:	Rippowam River	AREA:	Total: 2.4733 Acres Lot A: 0.7838 Acres Lot B: 1.1737 Acres Access: 0.5158 Acres

REFERENCES:

- “Development Plan,” and “Notes and Details,” Compo Estates, 1459 High Ridge Road, Stamford, Connecticut, Prepared for Frank and Sharon Compolattaro, Sheets 1 and 2 of 3, by Rocco V. D’Andrea, Inc., revised March 11, 2010.
- “Subsurface Soil Data,” Compo Estates, 1459 High Ridge Road, Stamford, Connecticut, Prepared for Frank and Sharon Compolattaro, Sheet 3 of 3, by Rocco V. D’Andrea, Inc., revised March 2, 2010.
- Correspondence from Leonard C. D’Andrea, P.E., Rocco V. D’Andrea, Inc., dated March 2, 2010 and March 11, 2010.
- Correspondence from William Kenny, Soil Scientist, William Kenny Associates, LLC, dated May 20, 2005.
- “Drainage Summary Report for Compo Estates, 1459 High Ridge Road, Stamford, Connecticut,” Prepared for Frank Compolattaro, by Rocco V. D’Andrea, revised September 11, 2006.

REGULATED ACTIVITIES:

Permission to maintain/construct a subdivision accessway, drainage, utilities and other related features situated within the base floodplain of the Rippowam River and proximate to wetlands, watercourses and designated conservation easement areas. Although the required EPB Permit was not previously secured, the common paved accessway, drainage and other related features have already been constructed in and proximate to the regulated areas.

APPLICATION HISTORY:

See attached “Schedule A” for a detailed history.

SITE CHARACTERISTICS:

The subject property lies along the east side of High Ridge Road, approximately 250 feet south of Meredith Lane.

The property is currently developed, supporting a single family dwelling, detached garages, sheds, driveways, walls, septic system, individual water service, public water supply piping/easements, and other related facilities. The site is characterized by gently to moderately sloping uplands, a narrow strip of riparian wetlands, a 270+ foot reach of the Rippowam River, known floodplain/floodway areas, and a number of small to moderately large sized trees (Oak, Maple, Ash, Apple, Pine, Dogwood, Spruce, Fir, Shadblow, Magnolia, Birch), shrubs (Arrowwood, Blueberry, Clethra, Hydrangea, Euonymus, Yews) and groundcovers (Lawn Grass). It is noted that many of the shrubs were introduced to the site as part of the previously approved subdivision plan. Most of the site's larger trees are situated in/proximate the existing conservation easement along the river.

A detailed soil report was prepared in advance of the subdivision application (Kenny, 5/20/05). Both wetlands and non-wetland soils were identified and classified.

Uplands, which occupy nearly the entire site, were classified as Hinkley gravelly sandy loam (Hk) and Udorthents (Ud). Hinkley soils are gently sloping, excessively well drained soils found on terraces, kames and eskers in stream valleys. The permeability of this soil is rapid in the surface layers and subsoil and very rapid in the substratum. The soil is medium to very strongly acid. The main limitations to community development are the very rapid permeability of the substratum and droughtiness. The permeability may cause a hazard of groundwater pollution in areas used for on-site sewage disposal systems. Droughtiness makes watering necessary for lawns, gardens, and shrubs. The soil may be unstable during excavations (P.18). The soils manual identifies development restrictions as a "Severe" for shallow excavations and lawns and landscaping, "Moderate" for small commercial buildings and "Slight" for dwellings with basements, dwellings without basements, roads and streets and septic systems. It is again noted that the excessive permeability of the soils may increase the threat for groundwater pollution (Pp. 96, 101). Udorthents are those areas having at least two (2) feet of their original soil surface altered by excavation or grading. Soil restrictions are variable and often necessitate site specific evaluation ("Soil Survey of Fairfield County, Connecticut," by the USDA, Soil Conservation Service, 1984, Pp. 32).

On the entire parcel, the regulated areas consist of the 270+ reach of the Rippowam River (east), a narrow wetland fringe (7,418 square feet – east – includes river area), the special flood hazard areas (52,000 square feet - south and east), wetland/watercourse buffers of 25 feet (11,500 square feet – south and east), and the designated open space/conservation easement areas (14,778 square feet – east).

The on-site wetlands generally coincide with the marked edge of the river. These soils have been defined as Aquents (Aq) - wetland soils where the natural soil has been disturbed through filling, grading or excavation. These soils have a seasonal high water table within 20 inches of the surface, have an aquic moisture regime and can be expected to support wetland vegetation. It is noted that the property situated immediately to the south of the site (N/F Lida Nosik) supports extensive wetland areas that closely parallel the property boundary.

The site lies, in part, within a special flood hazard area (Zone AE, Flood Insurance Rate Map - 090015-0007D, November 17, 1993). During a 100-year storm (Elevation 162-163 feet NGVD), flood waters would be expected to impact approximately 48% of the property (52,000 square feet - south and east) with flood depths ranging from 0 to 9.5 feet. As expected, the greatest flood depths lie proximate to the river (east). Flooding of lesser depth lies closer to High Ridge Road (west).

The property lies within the non-drinking water supply watershed of the Rippowam River

ISSUES:

The applicant proposes to maintain and or construct a subdivision accessway, drainage, utilities and other related features constructed within the base floodplain of the Rippowam River and proximate to wetlands, watercourses and designated conservation easement areas. The project, although reviewed under the subdivision process, was “substantially” completed in advance of this EPB Permit Application. Note that with projects of this sort, impacts may include:

- General resource loss due to poor planning or construction practice;
- Elevated flood heights caused by the floodplain encroachment;
- Drainage impacts caused by altered flow patterns or substantial increases in site imperviousness;
- Water quality impacts caused by increased imperviousness, intensification of use, and/or the release of oils, chemicals, sediment during and post construction;
- The creation of conditions that may compromise the integrity of the structures or increase hazards to persons or property.

The applicant has sought to address these concerns as follows:

Impacts to the Existing Character of the Land:

The site of the new subdivision road, graded shoulders, drainage and other facilities generally occupies what was developed lands (south) consisting of lawn grass, a few trees, gravel pathway and accessory structures. To implement the construction, grade changes (0-1+ feet) and resources impacts (8-9 of the site’s larger trees) were fairly low. The applicant reports that approximately 18,000 square feet of the floodplain (0.413 Acres) and 3,100 square feet of the regulatory buffer (0.071 Acres) - to both on and offsite wetlands - were affected by this development. There are no wetland/watercourse encroachments and intrusion into the conservation easement shall be limited to the landscaping and maintenance activities outlined under both the subdivision and this permit application.

Impacts on Drainage:

As part of the prior subdivision review, the project engineer submitted a drainage report to analyze the anticipated impact the development will have on drainage, infrastructure and adjoining properties (“Drainage Summary Report,” D’Andrea, 9/11/06).

The engineer noted that in the pre-development condition, the total project area (2.4733 Acres) was divided into four (4) subwatersheds as follows:

- Area 1 - comprised of 0.4205 acres occupied by the existing dwelling, shed, and lawn areas to the northeast - drain overland in an easterly direction towards the Rippowam River.
- Area 2 – comprised of approximately 0.2596 acres occupied by portions of the existing drive, sheds, garage, and lawn areas in the north central portions of the property – drain in a northerly direction to existing residentially developed properties.

- Area 3 – comprised of approximately 0.9916 acres occupied by lawn and substantial portions of the drive in the southern and western portions of the property – drain overland in a southerly direction to adjoining properties.
- Areas 4 – comprised of approximately 0.6434 acres of driveway, foundations, and lawn in the central portion of the site - drain to the southeast to the Rippowam River.

Anticipated impacts of the subdivision and the projected construction of a new single family dwelling, common accessway and other related features were evaluated by the project engineer. The applicant proposed to better collect and manage post-construction runoff by developing/managing four (4) post construction watersheds, and installing certain mitigating drainage structures including catch basins, pipes, level spreaders, infiltration devices and “rain-gardens.” Post construction, the watersheds include the following:

- Area 1 - comprised of 0.4866 acres to be occupied by the existing dwelling, shed and a slightly expanded lawn area to the northeast – will continue to drain overland in an easterly direction towards the Rippowam River. The increase in area shall result in a minimal increase in flow to the river.
- Area 2 – comprised of approximately 0.2766 acres to be occupied by some drive, a potential pool site/deck and lawn in the north central portions of the property – will continue to drain in a northerly direction to existing residentially developed properties. The anticipated removal of a portion of existing impervious surfaces (drive and accessory structures) is expected to result in a decrease in flows.
- Area 3 – comprised of approximately 0.8283 acres to be occupied by portions of the new common accessway, an individual paved drive and lawn in the southwestern portion of the site – shall sheet flow over the common drive and to a proposed “rain garden” before continue to discharge to a parcel situated south of the site. The reduction in the total area and use of mitigating structures shall allow for the peak rate of runoff to remain virtually unchanged in this watershed.
- Areas 4 – comprised of approximately 0.7238 acres to be occupied by the new dwelling, portions of the common accessway, lawn and other features - shall be directed through an infiltration device and/or collected in/proximate to the new common accessway in structures and/or “rain gardens” before discharging to the southeast to the Rippowam River. Post construction peak rates of runoff shall increase by a marginal amount in this watershed.

Post construction impacts may be summarized as follows:

A comparison of the existing and proposed conditions may be summarized as follows:

POC/Areas	Direction of Flow	Existing Condition	Proposed Condition
“A” Area 1	East to the Rippowam River	0.19 cfs	0.22 cfs
“B” Area 2	North to Adjoining Properties	0.43 cfs	0.03 cfs
“C” Area 3	South to Adjoining Properties	0.24 cfs	0.24 cfs
“D” Area 4	Southeast to the Rippowam River	0.23 cfs	0.71 cfs

The project engineer concluded that the development will maintain existing drainage patterns. Peak flow rates in two watersheds (B and C) shall experience either a decrease in peak flow or no change. In the remaining watersheds (A and D), increases are reported, but given the site’s proximity to the Rippowam River, there shall be no negative effects or adverse impacts on local drainage patterns, adjoining properties, existing storm drainage systems or the receiving watercourse. Stormwater detention was neither necessary nor proposed.

During the subdivision review process, plans and reports were transmitted to the Engineering Bureau for review (Emerson to Gentile, 8/23/06). The City Engineer's Office confirmed the study methodology, conclusions and preliminary design (Gentile, to Emerson, 1/4/07).

As part of this permit application, the project engineer has reaffirmed that the project continues to have no adverse short or long term impacts on local drainage patterns or adjacent properties, again making reference to the site's proximity to the river, the employment of low impact drainage features, and by securing a minimal waiver on the overall driveway width standard (D'Andrea, 3/2/10).

Impacts on Flood Heights:

During the prior subdivision review, the project engineer provided a statement confirming that the development will not cause a rise in flood heights exceeding the thresholds outlined in Stamford's "Flood Prone Area Regulations," given the absence of encroachments and limited fills (French, 10/30/06). During the subdivision review process, plans and reports were transmitted to the Engineering Bureau for review (Emerson to Gentile, 8/23/06). The City Engineer's Office confirmed the study methodology and conclusions outlined in this statement (Gentile, to Emerson, 1/4/07).

The project engineer has reconfirmed that the roadway was designed and installed "at grade" so as to minimize disturbance, and not cause any increase in the predicted flood height during the 100-year storm (0.00 feet) for this reach of the Rippowam River. The engineer further notes that conveyance characteristics were further improved by the removal of two (2) accessory buildings that previously existed in the floodplain (D'Andrea, 3/2/10).

Impacts on Water Quality:

To assist in the attenuation of possible water quality impacts, the applicant provided for the following:

- Submission of a sediment and erosion control plan consisting of silt fence along the site's perimeter, the application of anti-tracking materials to site accessways, designation of stockpile areas, installation of asphalt paving/curbs, and final soil stabilization measures ("Roadway Development Plan," D'Andrea, 3/11/10). Some or all of these control measures had been used on the site during the construction. Currently, with the exception a several areas of erosion proximate to the "rain-gardens," the site has been fully stabilized. It is noted that the applicant intends to restabilize the "rain-gardens" by adding stone inlet protection and reseeded ("Roadway Development Plan," D'Andrea, 3/11/10).
- A new catch basin maintains a minimum two (2) foot deep sump and bell trap/elbow to assist in the collection of silt/debris ("Roadway Development Plan," D'Andrea, 3/11/10). The collected stormwater is then directed to a level spreader and enhanced vegetated buffer to further attenuate potential impacts before discharging to the river.
- "No Dumping" signage has been applied to the catch basin installed on the parcel ("Notes and Details," D'Andrea, 3/11/10)
- Much of the flow collected from the paved road surfaces has been directed to "rain-gardens" – shallow vegetated depressions in the landscape (usually underlain by clean sand or washed gravel) to assist in the pre-

treatment of runoff prior to discharge. The “rain gardens” seize upon plant’s/soil’s natural ability to filter, cool and otherwise treat runoff prior to discharge (“Roadway Development Plan,” D’Andrea, 3/11/10).

Flood Protection and Structural Floodproofing:

Per Section 7.1 of the Stamford Zoning Regulations (“Floodprone Area Regulations of the City of Stamford”) the issue of flood protection and floodproofing has been addressed as follows:

- New water and underground electrical/cable services that cross the floodplain boundary support a floodproof design as certified by the engineer (“Notes and Details,” D’Andrea, 3/11/10). Note that the new water service is expected to lie within the confines of the subdivision roadway property.
- The subdivision, as designed, allows for safe access and evacuation during the occurrence of a base flood event, with most of the paved surfaces maintaining reasonably accessible depths, and dry pedestrian access available to all parcels (“Roadway Development Plan,” D’Andrea, 3/11/10).

Mitigation:

To protect resources, enhance the streetscape, and improve the overall conservation values/aesthetics of the property, the applicant has provided for the following:

- Provision of a professionally designed landscape plan (“Roadway Development Plan,” D’Andrea, 3/11/10). The plan consists of numerous trees (Shadblow – 6, Flowering Dogwood – 5, Norway Spruce – 8, Douglas Fir – 12, Birch - 2), shrubs (Arrowwood – 21, Blueberry – 10, Clethra – 15) and groundcovers (New England Restoration Seed Mix). Many of the plantings selected by the applicant have conservation value. Plantings have been located proximate to the wetlands/watercourses, in the “rain-gardens,” along the subdivision road, and proximate to the State Highway.
- Limited mow designations have been assigned to portions of the conservation easement, proximate to the river. Further definition of the “limited mowing limits” and a more concise statement concerning the anticipated frequency and timing of the mowing should be noted on the plans and referenced in a landscape agreement. (“Roadway Development Plan,” D’Andrea, 3/11/10).
- Tree protection in the form of snow fence had been applied to trees expected to be incorporated into the post construction landscape (“Roadway Development Plan, D’Andrea, 3/11/10).
- Limits of the conservation easement have or shall be pinned and posted in accordance with the provisions of subdivision (“Roadway Development Plan,” D’Andrea, 3/11/10).
- Continued removal of debris from the river’s edge and roadway shoulders (“Roadway Development,” D’Andrea, 3/11/10).

DISCUSSION/OPTIONS:

Pending the receipt of positive comments from Engineering, and if the Board finds that the development will not result in a significant environmental impact, impacts on adjoining properties or an irreversible commitment

important resources, that no reasonable alternatives for development exist, that appropriate mitigation has been provided, and that the project is consistent with the structural and preparedness standards outlined in the "Flood Prone Area Regulations of the City of Stamford," the Board may act to **APPROVE** EPB Permit Application No. 2923 with the following conditions:

- 1) Work shall comply with the following:
 - "Development Plan," and "Notes and Details," Compo Estates, 1459 High Ridge Road, Stamford, Connecticut, Prepared for Frank and Sharon Compolattaro, Sheets 1 and 2 of 3, by Rocco V. D'Andrea, Inc., revised March 11, 2010.
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- 2) Submission of a permit filing fee in the estimated amount of Sixty-three and 00/100 Dollars (\$63.00) within fifteen (15) days of the decision's publication (on or about April 7, 2010).
- 3) "Permit Compliance Fee" in the amount of Eight Hundred and 00/100 Dollars (\$800.00) shall be filed with the Environmental Protection Board. The initial fee shall be submitted to the EPB within thirty (30) days or prior to the start of any further site activity, whichever comes first. Subsequent fees shall be submitted on an annual basis on or before the anniversary of the permit's effective date until the project is satisfactorily completed. Said fee is required pursuant to Section 5.10b of the "Inland Wetland and Watercourse Regulations."
- 4) Within thirty (30) days of the published decision or prior to the start of any further site activity, whichever comes first, revision of the site development/landscape plans to further define the limits of mowing and restrict mowing to a maximum of two (2) times in any given year (during the months of July and November) as the means to improve the conservation values and water quality functions of the buffer/conservation areas.
- 5) Submission of a performance bond, certified check or other approved surety to secure the timely and proper performance of: a) remaining site utilities within the confines of the road b) conservation landscaping, c) professional supervision of engineered elements, floodproofing, landscaping and final stabilization measures, and d) preparation of a final improvement location survey and certifications. A detailed estimate of these costs must be supplied to EPB Staff for approval prior to

the submission of the performance surety. The performance surety shall be submitted to EPB Staff within thirty (30) days or prior to the start of any site activity, whichever comes first. Note that the EPB's surety requirement may be combined with any surety required/maintained by the Planning Board.

- 6) Submission of a completed "Contractor's Compliance Statement" within thirty (30) days or prior to the start of any further site activity, whichever comes first.
- 7) All disturbed areas shall be stabilized in accordance with the permit plans prior to the release of the performance surety.
- 8) All engineered elements, including the road, utilities, utilities, grading, final stabilization measures, etc., shall be completed under the supervision of a Connecticut registered professional engineer (signed and sealed correspondence) and licensed land surveyor (signed and sealed improvement location survey) prior to the return of the required performance surety.
- 9) All floodproofing shall be completed under the supervision of a Connecticut registered professional engineer/architect. Upon the completion of the construction, and prior to the return of the required performance surety, a Connecticut registered professional engineer/architect shall certify (signed and sealed correspondence) that the proposed facilities have been constructed in accordance with Section 7.1 of the Stamford Zoning Regulations ("Flood Prone Area Regulations of the City of Stamford") and is capable of withstanding the flood depths, pressures, velocities, impact and uplift forces and other factors associated with the base flood. Specific reference to the proposed floodproofing measures shall be made.
- 10) Prior to a return of surety, the supervising landscaping professional shall certify (signed and on letterhead), that landscape measures (particularly those proposed to mitigate development along the river) have been completed in accordance with the approved design plan/permit.
- 11) A standard landscape maintenance agreement shall be executed and filed on the Stamford Land Records to ensure the full and proper maintenance of all final landscaping features within thirty (30) days or prior to the start of any further site activity. The agreement shall reference the revised development/landscape plans described in Condition Four (4) above.

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