

AGENDA
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting, Monday, April 4, 2011, 7:30 p.m.
Or upon completion of Inland Wetlands Meeting
Council Chambers, Audrey P. Beck Municipal Building

Minutes

3/21/11

Scheduled Business

7:35 p.m. Zoning Agent's Report

- A. Monthly Activity
- B. Enforcement Update
- C. Other

Old Business

1. **Application to Amend the Zoning Map, Rezone a 10.4 acre parcel from R-20 to PB-1, K. Tubridy o/a. File #1297 (M.A.D. 5/6/11)**
2. **4-Lot Subdivision Application, (3 New Lots) Wormwood Hill & Gurleyville Roads, S. Plimpton o/a, PZC File #1298**
Reports from Director of Planning, Assistant Town Engineer, EHHD, Fire Marshal, Open Space Preservation Committee, Conservation Commission
3. **3-Lot Subdivision Application, (2 New Lots) 64 Puddin Lane, R. Hellstrom-applicant/Sterling Trust Company, owner, PZC File #1299**
Reports from Director of Planning, Assistant Town Engineer, EHHD
4. **Request to review and revise Plan of Conservation and Development regarding Hunting Lodge Road area**
5. **Approval Request: Revised Plans for exhibit building Paideia Greek Theater Project, 28 Dog Lane, File #1049-7**
(to be tabled until April 19th meeting)
6. **Other**

New Business

1. **Request to stop collecting bond escrow funds for Freedom Green Phase 4C**
(to be tabled until April 19th meeting)
2. **Regulatory Review Committee recommended revisions to the Zoning Regulations**
Report from Director of Planning
3. **March Draft: UConn Water Supply Plan update**
Report from Director of Planning
4. **Verbal Update from Director of Planning on Storrs Center Garage/Intermodal Center**
5. **Other**

Reports from Officers and Committees

1. Chairman's Report
2. Regional Planning Commission
3. Regulatory Review Committee (Next meeting scheduled April 13, 2011 at 1:15 pm in Room B)
4. Other

Communications and Bills

1. 3/21/11 Letter from Mayor Paterson to Masonicare
2. 3/28/11 Quarterly Status Report from Town Manager
3. CT Appellate Court Decisions Re: Alternates
4. Other

PAGE
BREAK

DRAFT MINUTES
MANSFIELD PLANNING AND ZONING COMMISSION
Regular Meeting
Monday, March 21, 2011
Council Chamber, Audrey P. Beck Municipal Building

Members present: R. Favretti (Chairman), M. Beal, J. Goodwin, R. Hall, G. Lewis, P. Plante, B. Pociask, B. Ryan
Members absent: K. Holt
Alternates present: K. Rawn, V. Ward
Alternates absent: F. Loxsom
Staff Present: Gregory J. Padick, Director of Planning

Chairman Favretti called the meeting to order at 7:01 p.m. and appointed alternate Ward to act in Holt's absence and Ryan as acting secretary.

Minutes:

03-07-11- Hall MOVED, Ryan seconded, to approve the 3/7/11 minutes as corrected. MOTION PASSED with Beal disqualified. Ward and Pociask noted they listened to the recording of the meeting.

03-15-11 Field Trip- Beal MOVED, Ryan seconded, to approve the 3/15/11 field trip minutes as written. MOTION PASSED with Favretti, Beal, Rawn and Ryan in favor and all others disqualified.

Zoning Agent's Report: Hirsch noted a minor modification that he and Chairman Favretti signed off on for the installation of a "Red Box" DVD kiosk at the CVS on Middle Turnpike. Hirsch also noted renovations at the Phil's Building where Select Therapy will relocate during the construction of the Dog Lane 1 Building.

Old Business

1. 3-Lot Re-Subdivision Application (1 New lot), Property on Candide Lane and Stearns Road,

J. Listro o/a, File #1296

Plante MOVED, Hall seconded, to approve with conditions the subdivision application (File #1296), of John and Suzanne Listro, on property owned by the applicants, located on Candide Lane and Stearns Road, in a RAR-90 zone, as submitted to the Commission and shown on plans dated November 4, 2010 and as revised to March 3, 2011.

This approval is granted because the application, as hereby approved, is considered to be in compliance with the Mansfield Subdivision Regulations. Approval is granted with the following conditions:

1. Final plans shall be signed and sealed by the responsible surveyor, engineer and soil scientist.
2. All conditions of the Inland Wetland Agency's license approval shall be met.
3. Pursuant to subdivision regulations, particularly Sections 7.5 and 7.6, this action specifically approves, subject to revisions noted below, the depicted Building Area and Development Area Envelopes and a setback waiver for lot 1. Unless the Commission specifically authorizes revisions, the approved envelopes shall serve as the setback lines for all future structures and site improvements, pursuant to Article VIII of the Zoning Regulations. This condition shall be specifically Noticed on the Land Records and the deeds for the subject lots. This condition also shall be incorporated onto the final plans.
4. This approval accepts the applicant's proposed dedication of conservation easements as appropriate to address the open space dedication requirements of Section 13 for the subject 3-lot subdivision. Conservation easement documents shall be approved by the Director of Planning and Town Attorney

and filed on the Land Records in association with final plans. The easements shall utilize the Town's model format.

5. Final plans shall include erosion and sediment control contact information (see 3/3/11 report from Assistant Town Engineer).
6. Final plans shall incorporate Building Area Envelope revisions as recommended in the 3/3/11 report of the Director of Planning. Revised envelopes shall be approved by the PZC Chairman and Director of Planning.
7. The Commission, for good cause, shall have the right to declare this approval null and void if the following deadlines are not met (unless a ninety (90) or one hundred and eighty (180) day filing extension has been granted):
 - A. All final maps, including submittal in digital format, conservation easements and a Notice on the Land Records to address condition 3 (with any associated mortgage releases) shall be submitted to the Planning Office no later than fifteen days after the appeal period provided for in Section 8-8 of the State Statutes, or, in the case of an appeal, no later than fifteen days of any judgment in favor of the applicant;
 - B. All monumentation (including delineation of the conservation easements with Town markers every 50 to 100 feet on perimeter trees or on cedar posts) with Surveyor's Certificate, shall be completed or bonded pursuant to the Commission's approval action and Section 14 of the Subdivision Regulations no later than fifteen days after the appeal period provided for in Section 8-8 of the State Statutes, or, in the case of an appeal, no later than fifteen days of any judgment in favor of the applicant.

MOTION PASSED UNANIMOUSLY.

2. **4-Lot Subdivision Application, (3 New Lots) Wormwood Hill & Gurleyville Roads, S. Plimpton o/a, PZC File #1298**
Item tabled until 4/4/11- awaiting staff reports.
3. **3-Lot Subdivision Application, (2 New Lots) Puddin Lane, R. Hellstrom-applicant/Sterling Trust Company, owner, PZC File #1299**
Item tabled until 4/4/11- awaiting staff reports.

Public Hearing

Application to Amend the Zoning Map, Rezone a 10.4 acre parcel from R-20 to PB-1, K. Tubridy o/a. File #1297

Chairman Favretti opened the Public Hearing at 7:16 p.m. Members present were Favretti, Beal, Goodwin, Hall, Lewis, Plante, Pociask, Ryan, and alternates Ward and Rawn. Ward was appointed to act. Padick read the Legal Notice as it appeared in the Chronicle on 3/8/11 and 3/16/11 and noted in addition to applicant submissions, a 3/17/11 memo from G. Padick, Director of Planning. Favretti noted that this site was visited on a field trip.

Kevin Tubridy, owner and applicant, submitted return receipts noting all are accounted for except one which was returned. Tubridy reviewed the proposal to change a 10.4 acre parcel he owns which is zoned R-20 to a PB-1 zone consistent with the abutting parcel he owns to the east.

Favretti noted no comments or questions from the public or Commission. Plante MOVED, Beal seconded, to close the Public Hearing at 7:25 p.m. MOTION PASSED UNANIMOUSLY.

Hall agreed to work with staff on a motion for the next meeting.

New Business

1. Modification Request, 86 Storrs Road, Proposed Tenant Space, College Mart/U.S. Properties Inc., o/a, File #483-4

Joseph Boucher, Towne Engineering, representing the applicant, reviewed the proposal to utilize the spaces currently occupied by Sears and the Salvation Army for a Petco. He stated that only exterior improvements to the façade will be performed, adding that no structural changes to the exterior are proposed. Padick noted that the occupancy use for the spaces has not changed and therefore no parking changes are necessary.

Plante MOVED, Hall seconded, that the PZC Chairman and Zoning Agent be authorized to approve the 3/10/11 modification request of U.S. Properties, Inc. for a new retail tenant (Petco) and related site work at 82-86A Storrs Road as described in the submitted Statement of Use and depicted on submitted plans. This authorization is subject to the following conditions:

1. All previously approved plans and associated conditions of approval shall remain in effect except as altered by this modification approval.
2. An appropriately sized refuse/waste storage area that would address disposal and recycling requirements of the Town shall be provided. The size and configuration of the refuse/waste storage area shall be determined after consultation with the Director of Planning and Recycling Coordinator.
3. Prior to the issuance of a Zoning Permit, it shall be confirmed that the proposed signage will be in compliance with all zoning requirements.

MOTION PASSED UNANIMOUSLY.

2. Approval Request: Revised Plans for exhibit building Paideia Greek Theater Project, 28 Dog Lane, File #1049-7

Item tabled pending staff review and neighborhood notification.

3. Request to review and revise Plan of Conservation and Development regarding Hunting Lodge Road area (3/16/11 Letter from A. Hilding)

Allison Hilding expressed concern for continued development in this area of Mansfield and the detrimental effects she believes it will have on ground water and wells. She discussed the nearby abandoned landfill and its effects. She also expressed concern that any further development nearby will cause further contamination to ground water. She requested the Commission consider revising the Plan of Conservation and Development to not concentrate high density housing in this area.

The Commission briefly discussed her proposal and decided to add this item to the next agenda for a decision.

4. Request of A. Kotula to acquire existing Town land on Maple Road (2/16/11 and 3/9/11 letters from A. Kotula; 3/15/11 report from Open Space Preservation Committee)

Anthony Kotula discussed his request to acquire a .15 acre parcel of existing town-owned land on Maple Road which abuts his property. He distributed a map showing that this land was "carved" from his lot in order to accommodate parking for the old Bennet Road trail. However, parking was located elsewhere because of site-line issues. Discussion followed. Some members felt that selling the piece in question would set an undesirable precedent, while others felt that this is a unique situation because of the configuration of the .15 acre piece. After extensive discussion, Plante MOVED, Hall seconded, that the Planning and Zoning Commission recommend that the Town Council authorize Mr. Anthony Kotula's proposed acquisition of a .15 acre portion of existing Town owned open space land on Maple Road subject to conditions that specify that the land only be used for agricultural purposes and that there be no disturbance to the stone walls on site. MOTION PASSED with all in favor except Lewis and Favretti who were opposed.

Reports from Officers and Committees:

Chairman Favretti noted a Regulatory Review Committee meeting for 3/30/11 at 1:15 p.m. in Council Chambers.

Communications:

Padick noted that he expects comments from staff to be prepared for the next meeting regarding the UConn Campus Wide Drainage Master Plan.

Adjournment:

Chairman Favretti declared the meeting adjourned at 8:38 p.m.

Respectfully submitted,

Bonnie Ryan, Acting Secretary

TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Planning and Zoning Commission
From: Gregory Padick, Director of Planning
Date: 3/31/11
Re: Plimpton subdivision, 4 lots (3 new) on Gurleyville and Wormwood Hill Roads, File #1298



General

The following comments are based on the applicant's submissions (including a 15-page set of subdivision plans dated January 2011, as revised to 2/9/11, as prepared by Swamp Yankee Survey LLC and P. Biscuti Consulting Civil Engineer and a February 2011 drainage report) and consideration of applicable subdivision and zoning regulations.

The subject application seeks approval to subdivide 49.4 acres of land into four lots ranging in size from 4.7 to 32.9 acres. Lot 1 (6.5 acres in size) is located at the corner of Wormwood Hill and Gurleyville Roads and contains two existing dwellings. Lot 2 (5.3 acres in size) and lot 3 (4.7 acres in size) are located off of Gurleyville Road. Lot 4, which includes a 19.2 acre conservation easement area, is situated off of Wormwood Hill Road. The property is in an RAR-90 zone.

The subject site is primarily wooded in character and contains a significant amount of wetland/watercourse areas and steeply sloped areas. The drainage report and the submitted plans provide details of the existing site characteristics. A wetland license is pending before the Inland Wetland Agency. The property is not within designated flood hazard or stratified drift aquifer areas and it is within the Willimantic River drainage basin.

The proposed new lots on Gurleyville Road would be accessed by a proposed 700 foot common driveway. The proposed Wormwood Hill Road lot would be accessed by an individual 1000 foot long drive. Proposed lots 2,3 and 4 do not have 200 feet of frontage on a Town or State road and necessitate frontage waivers. The applicant has submitted a yield plan which depicts a potential Town Road in the location of the common driveway from Gurleyville Road. To authorize the necessary frontage waivers, the PZC must determine that the yield plan is feasible and approvable by both the PZC and Inland Wetland Agency. Depending on final building area envelope depictions, approval of some setback waivers may also be appropriate.

The Open Space Preservation Committee and Conservation Commission reviewed the plans (see attached comments) and comments have been received from abutting property owners C. and K. Gottman (email attached). It must be confirmed that return receipts have been submitted as per subdivision provisions.

Sanitary

- A 3/24/11 report has been received from Eastern Highland Health District. It has been determined that all lots can meet Health Code requirements.
- The proposed lots would be served by individual well and septic systems that have been designed for 4-bedroom homes.

Road/Drainage/Driveways

- Reports are expected from the Assistant Town Engineer and Fire Marshal. Any identified issues should be addressed by the applicant.
- The front property lines of Lots 1, 3 and 4 do not appear to be setback 30 feet from the centre of the abutting town road. If confirmed, a right of way dedication is required pursuant to Section 8.3 of the regulations.
- A catch basin/pipe drainage system has been proposed for the Lot 4 driveway. As depicted, the drainage system would convey storm water northerly along Wormwood Hill Road to an existing cross culvert outlet area. It must be confirmed that this proposed drainage work is acceptable to the Assistant Town Engineer and that all required easement rights have been obtained.
- Drainage concerns have been expressed by property owners abutting the Lot 2/3 common driveway (see email from C. and K. Gottman). As proposed, the common driveway will have a gravel surface and stormwater would

sheet flow from driveway edges. Potential drainage issues for property owners abutting the Lot 2/3 driveway should be reviewed with the applicant's engineer and plans need to be found acceptable by the Assistant Town Engineer.

- Sidewalks could be required, but are not considered appropriate.
- The proposed driveways exceed 300 feet in length and are subject to bypass and turnaround requirements (See Section 7.11).
- The Lot 2/3 common driveway does not include a required pull-off area and only one pull-off area is depicted for the Lot 4 drive. Pull-offs are required at an average interval of 300 feet. The Lot 2/3 drive is about 700 feet long and the Lot 4 drive is about 1,000 feet long. This issue needs to be reviewed with the applicant and pull-offs and turnarounds need to be found acceptable by the Fire Marshal.
- The plan includes acceptable sightline information for both driveways. No roadside tree cutting or road edge work is required for acceptable sightlines.
- Driveway cross-sections are provided on the plans. The Lot 4 drive will be paved for the initial 450 feet and a retaining wall is proposed. Section 7.9 authorizes the Commission to require driveways over 10% in grade to be constructed by the subdivider.
- Section 7.10.e. requires common driveways to be completed or bonded prior to the filing of a subdivision on the land records. This can be addressed in any approval motion and should be noted on the plans.
- The plans depict underground utility routes to Lot 2 and Lot 4 and along a portion of Lot 3. Final plans should include the proposed underground utility lines to Lot 3.

Environmental Impact/Erosion Control

- As noted, the subject plans are pending before the IWA and no PZC action can be taken until the wetland license application has been acted upon.
- Sheet C-2 of the plans includes erosion and sediment control notes and sheet C14 of the plans depict erosion checks downgradient of areas to be disturbed. Anti-tracking construction entrances are proposed. The E&S control plan includes daily inspections of controls during periods of construction and monthly E&S monitoring reports are indicated. It must be determined that the E&S control plan is acceptable to the IWA and Assistant Town Engineer.
- Other than proposed driveway construction, no significant fill is proposed. To meet regulatory requirements, the plans need to provide an estimate of the amount of fill are needed for each house site exclusive of septic system fill.
- As previously noted, the site is not within stratified drift aquifer areas or flood hazard area. It is within or the Willimantic Reservoir watershed. The Windham Water Works has indicated that the plans are acceptable subject to implementation of E & S control measures.
- The depicted houses have an acceptable solar orientation and an adequate note encouraging solar orientation and energy efficient design.
- As per regulatory requirements, soil classification information is provided on the plans.
- Based on DEP mapping, there are no areas with species of special concern on the proposed areas of development.
- The proposed Development Area and Building Area envelopes for Lots 2 and 3 are within regulated wetland areas. The Conservation Commission has recommended envelope revisions for Lot 3. It must be determined that proposed envelopes are acceptable to the Inland Wetlands Agency.

Subdivision Design Criteria

- The plans indicate that proposed DAE's meet the 40,000 square foot provisions of Article VIII, Section B.6 of the Zoning Regulations.
- As previously noted, the proposed subdivision necessitates frontage waivers for 3 of the proposed 4 lots. These waivers cannot be granted unless the Commission determines that 3 conventional lots with standard frontage are feasible and approvable based on all applicable requirements. Based on the provisions of Section 6.10.6, the applicant has submitted a yield plan that depicts a new 1,100 foot long road from Gurleyville Road. Yield plan lot locations and planned house and septic sites are similar, if not identical, to the proposed subdivision. The open space dedication and the depicted DAE's on the yield plan also are similar to the proposed development. The submittal includes a plan and profile of the new road and drainage details. My review indicates that a new road would have somewhat greater potential for drainage and environmental impact than the proposed plan. However, with appropriate stormwater management and design, it is considered approvable.

- It is important to note that there is no apparent alternative way to access a majority of the 49 acre site without building a new Town road.
- Section 7.4.a authorizes the PZC to require a cluster design with lot sizes less than 90,000 square feet and a larger open space dedication. While any significant reduction in lot size does not appear warranted, some increase in the size of the conservation easement could be considered to enhance wetland protection and interior forest characteristics. These issues should be reviewed in conjunction with the open space dedication.
- Final plans must include appropriate notation that depicted BAE's serve as setback requirements and that revisions in envelopes need PZC approval. Authorized frontage and setback waivers also need to be addressed on the map as well as in any approval motion.
- On a lot by lot basis, I have identified a few additional DAE and BAE issues that should be reviewed and, as appropriate, incorporated onto the plans. More specifically:
 - As recommended by the Conservation Commission, the Development Area Envelope and Building Area Envelope on Lot 2 should be moved further away from wetland areas. The currently depicted DAE is over 55,000 square feet. The current plans have common borders for the DAE and BAE. The BAE does not have to be over 40,000 square feet in size.
 - The DAE's on both Lots 3 and 4 need to extend out to Town roads and include all areas that will be disturbed in association with driveway construction.
 - On Lot 4 the existing stone wall west of areas of proposed development should be used for both the DAE and BAE.
 - No BAE setback is indicated between Lots 2 and 3. This would allow structures to be built on the property line which could be considered problematic. Consideration should be given to moving the BAE's away from the common boundary line.
 - On Lots 2 and 3, the plans indicate that four existing trees will be saved "as appropriate". The protection of these trees needs to be reviewed with the applicant and if saving them is appropriate, the plans should clearly indicate that they "will be saved" and will be protected during construction activity. It must be determined that the provisions of Section 7.8 have been met.
 - The submitted plans indicate that the only significant views are on Lot 4.
 - The plans indicate a number of stonewalls and that some of the existing wall segments will be disturbed for septic system construction (Lots 2 and 3). The plans note on Lot 3: "Reuse removed stones to enhance other existing stonewalls". Section 7.7 authorizes the PZC to require more specific provisions for protecting existing stonewalls. Wherever possible, stonewalls should be used as property lines or boundaries for development area or building area envelopes. This issue needs to be reviewed with the applicant.

Open Space/Recreation

- Reports have been submitted from the Open Space Preservation Committee and Conservation Commission.
- Sec. 13 provides criteria for judging the suitability of an open space dedication. The PZC must make a final determination based on the criteria and standards of Sec. 13, particularly subsection 13.1.2. Any approval motion should require deeds or easements for open space dedications to be finalized before maps are signed. In addition, any approval should require the perimeters of all open space areas to be delineated with the Town's official medallions every 50 to 100 feet. Depending on the PZC's determination of the appropriate dedication alternative, map notes and details may need to be revised.
- Mansfield's Existing and Potential Conservation Areas map depicts wetlands on the subject property within an open space preservation classification and the entire property is within an "interior forest" open space preservation classification. The site does not abut any existing preserved open space areas.
- To address Mansfield's open space dedication requirements, the applicant has proposed a 19.2 acre conservation easement area on Lot 4. The reports from the OSPC and Conservation Commission have recommended the expansion of the easement area to include more of the steep hillside on Lot 4.
- The applicant has not provided any data regarding the percent of wetlands or slopes over 20% on the subject property. Accordingly, character of land provisions of Section 13 are difficult to address. My review indicates that this is not an issue for determining compliance with a conventional 15% dedication but the lack of this information is an issue for reviewing a 40% cluster dedication. This issue should be reviewed with the applicant.
- In this reviewer's opinion, the use of a conservation easement is the most appropriate alternative for addressing open space dedication requirements. Due to expressed concerns regarding the wetland areas on Lots 1 and 2,

consideration should be given to including a conservation easement to protect the observed pool area. Additionally, the PZC can require a more specific analysis of the percent of wetlands and slopes over 20% in order to determine the maximum open space dedication that can be required pursuant to Section 13.

Other

- It must be confirmed that the applicant has mailed certified notice to abutting property owners.
- Final plans must be signed and sealed by all responsible professionals, as per Sec. 6.3.d.
- Final plans need to be submitted in digital format, as per the requirements of Sec. 6.3.g.
- Subject to resolution of identified subdivision issues, any approval motion should address the filing requirements of Sec. 6.12.6.

Summary

Within this report I have identified a number of issues and a number of recommended map revisions that should be reviewed with the applicant and resolved to the PZC's satisfaction. The primary issues to resolve are:

- Confirmation that the plans are acceptable to the Inland Wetlands Agency.
- Confirmation that driveway construction and associated drainage and easement issues are acceptable to the Assistant Town Engineer.
- Confirmation that the submitted yield plan is adequate to address regulatory requirements and that the proposed use of a common driveway and necessary frontage waivers are acceptable to the PZC.
- Confirmation that the proposed open space dedication is in compliance with Section 13 and considered acceptable to the PZC.

Memorandum:

March 30, 2011

To: Planning and Zoning Commission
From: Grant Meitzler, Assistant Town Engineer
Re: Plimpton - Gurleyville & Wormwood Hill Rds
4 lot subdivision

plan reference: bearing latest revision date February 9, 2011, 21 sheets

This application proposes 3 new lots together with one lot containing the existing Plimpton homestead and associated buildings.

The new lots are numbered 2, 3, and 4. Lots 2 and 3 are on a shared driveway located on Gurleyville Road. Lot 4 is on a drive located on Wormwood Hill Road.

Traffic

Traffic at this location is quite light and the amount of traffic from these three new lots will be easily accommodated. I have timed approaching traffic at the proposed driveway location for Lot 4 on Wormwood Hill Road and found 8.4 seconds for northbound vehicles. This is ample time for an exiting vehicle to be seen and the approach vehicle to be seen as well. Most cars were travelling at very moderate speeds.

The maximum slope on the driveways:

1. Lot 4 is set at 12.0 percent and is paved from Wormwood Hill Rd to the top of the hill at about 450' from the road where the drive levels off.
2. The drive for Lots 2 & 3 has 3.0 percent slope at its steepest point.

Drainage

The shared drive for lots 2 and 3 is graded to keep outflow on the west side of the drive. Protection for potential construction period impacts has been provided by beginning excavation away from Gurleyville Rd and directing collected water to a dirt bag to filter sediment from the water being removed. This is appropriate treatment.

I recommend placing stone filled areas on the west side of the drive near the edge of Gurleyville Rd and at stations 11+00 and 12+00 to limit outflow for the longer term.

On Wormwood Hill Rd for the Lot 4 driveway, upgrading of the roadside drainage from the present 6" underdrains to 15" pipe is shown. Additional piping is needed to maintain the roadside flow coming from the uphill section of roadside swale. The proposed pipe ends where the existing pipe size increases to 15". Adding new water to this pipe system across the Potz property and Lot 1 on the Plimpton property requires the acquisition of drainage rights in favor of Lot 4 from each of these properties.

Sediment & Erosion Plan

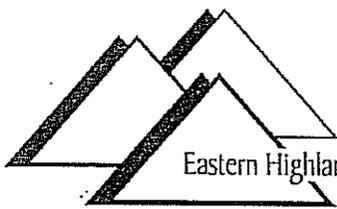
Silt fencing has been provided along downhill edges of the house construction area on Lot 4. The sediment & erosion plan provides for excavation starting at the top

of the hill on both driveways and excavation towards the adjacent roads. This will trap water and allow suitable treatment with fabric bagging to trap sediments.

Silt fencing on Lots 2 and 3 should be extended to protect wetland areas located downhill to the rear of each lot.

Summary Recommendations:

1. I recommend professional comment be sought from an appropriate expert to comment on the potential for significant impact on the pool on Lot 2 that is likely a vernal pool.
2. I recommend placing a stone filled excavation on the west side of the shared drive near the edge of Gurleyville Rd and at stations 11+00 and 12+00 to limit outflow for the long term.
3. On Wormwood Hill Rd for the Lot 4 driveway, upgrading of the roadside drainage from the present 6" underdrains to 15" pipe is shown. Additional piping is needed to maintain the roadside flow coming from the uphill section of roadside swale.
4. Adding new water to the system carrying water across the Potz property and Lot 1 on the Plimpton property requires the acquisition of drainage rights in favor of lot 4 from each of these properties along the frontage of each lot.
5. A street dedication of right of way 30 feet from the centerline of Wormwood Hill Rd and Gurleyville Road is required.
6. Silt fencing on Lots 2 and 3 should be extended to protect wetland areas located downhill to the rear of each lot.



Eastern Highlands Health District

4 South Eagleville Road • Mansfield CT 06268 • Tel: (860) 429-3325 • Fax: (860) 429-3321

PLAN APPROVAL MEMO

March 24, 2011

Scott Plimpton
627 Wormwood Hill Rd
Mansfield Center, CT 06250

Re: **Subsurface Sewage Disposal System Plan** for: 4-lot subdivision (3 new)
Address: 627 Wormwood Hill Rd Mansfield Center CT
Plan Designed by: Swamp Yankee Survey
Plan Date: 1/7/2011, Latest Revision Date: 2/9/2011

Dear Scott Plimpton:

The above referenced plan has been reviewed for compliance with the Connecticut Public Health Code and Technical Standards. **The plan is approved with the following conditions:**

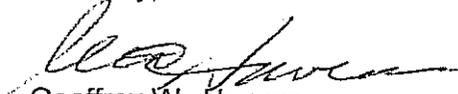
- 1) Lots 2, 3 and 4 have been shown to be capable of supporting site development in compliance with the requirements of the Public Health Code, pending final approval of design plans by this office.
- 2) Designation of depth to firm layers as the soils' restrictions rather than depth to mottling has resulted in lower values for calculated MLSS on data from test pits #1 and 4 than should be applied. Even so, the proposed leaching areas show available space for required MLSS.
- 3) Lot 1 has been evaluated for compliance with Section 19-13-B100a of the Public Health Code and found to satisfy requirements for reduction of potential repair area.

Please note that this plan approval is not an approval to construct the sewage disposal system.

If not already done, a completed application and fee for the Permit to Construct the Sewage Disposal System must be submitted to the health district for review and approval. The permit will be approved when all above noted conditions of approval have been met.

If you have any questions, please call the health district office at 860-429-3325.

Sincerely,


Geoffrey W. Havens
Sanitarian II

✓ Cc: Greg Padick, Mansfield Town Planner



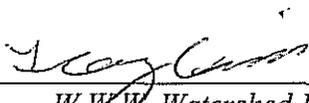
TOWN OF WINDHAM WATER WORKS

174 Storrs Road
Mansfield Center, CT 06250
Tel. 860-465-3075 • FAX 860-465-3085

- Inland Wetlands Commission
- Zoning Commission
- Planning & Zoning Commission
- Zoning Boards of Appeals

- TOWN: Ashford Chaplin Eastford
 Hampton Mansfield Pomfret
 Union Willington Windham
 Woodstock

INSPECTED BY:



Troy Quick W.W.W. Watershed Inspector

DATE:

March 8, 2011, WW File #M0111

The Windham Water Works has received notification of a proposed project per the requirements of Public Act 89-301.

PROJECT DESCRIPTION:

4-lot subdivision on 49 acres w/septic systems & wells, 2-lots at 5 ac+/-, 1-lot at 32 ac +/-, 1 lot w/house existing at 6-1/2 ac +/-

Applicant: Scott Plimpton

COMMENTS:

The Windham Water Works has reviewed the proposed project and with best management practices and with proper soil and erosion control measures throughout the duration, we would have no objections, we will monitor accordingly.



Town of Mansfield
Mansfield Fire Department
Office of the Fire Marshal



To: Planning and Zoning Commission
From: John Jackman, Deputy Chief/Fire Marshal 
Date: Wednesday, March 30, 2011
Re: Plimpton – 627 Wormwood Hill Road Subdivision

After reviewing the site plan and file for a proposed 3 lot subdivision located at Gurleyville Road and Wormwood Hill Road, submitted by S. Plimpton, I have the following comments:

- Proposed driveway (Driveway A) is a common driveway serving lots 2 and 3 approximately 700 feet in length and has a maximum slope of 3 %. With the exception of the requirement for a pull off area the driveway meets the requirements of § 7.10. To be considered acceptable to this reviewer, a pull off area (that meets the requirements of § 7.11.b) should be located approximately 300 feet from Gurleyville Road.
- Proposed driveway (Driveway B) is a driveway serving lot 4 approximately 900 feet in length and has a maximum slope of 12 %. It was noted that the applicant proposes to pave the area of the driveway with slopes exceeding 10%. With the exception of the requirements for pull off areas every 300 feet the driveway meets the requirements of § 7.11. To be considered acceptable to this reviewer, an additional pull off area (that meets the requirements of § 7.11.b) should be located approximately 600 feet from Wormwood Hill Road.

PAGE
BREAK

OPEN SPACE PRESERVATION COMMITTEE

Comments on Plimpton Subdivision Proposal

March 15, 2011

To: Mansfield Planning and Zoning Commission, Greg Padick

The committee reviewed this proposed four-lot subdivision at their meeting on March 15, 2011. The proposed open-space dedication is a 19.21-acre conservation easement in the southwest corner of the property on Lot 4.

COMMENTS

The proposed conservation easement (rather than Town-owned land) is acceptable for the open-space dedication area since there does not appear to be present or future access to the area. The ratio of wetlands vs. uplands in the proposed open-space area is not indicated. This ratio is supposed to be consistent with the wetlands vs. uplands ratio in the development area, but it appears that there are more wetlands in the open-space area than in the development area.

The committee recommends that the open-space area be extended up the slope on Lot 4 for these reasons:

- address the wetlands vs. uplands ratio issue
- protect more of the interior forest habitat
- provide a wooded buffer on this steep slope to protect the wetlands below.

A conservation easement boundary beginning at 50 feet from the development area envelope of Lot 4 is recommended.

Other issues:

The yield plan does not show the required 200-foot frontage on either Wormwood Hill Road or on the proposed new road for Lot 4. Does PZC plan to waive this requirement? The yield-plan table indicates only 50 feet of frontage.

The proposed driveway for Lot 4 would be steep and be located in a deep cut in the hillside. The committee has concerns about stormwater runoff onto Wormwood Hill Road (which already has stormwater problems) and about how snow could be removed from the deep cut.

TOWN OF MANSFIELD CONSERVATION COMMISSION

Memo to: Mansfield Inland Wetland Agency and Planning and Zoning Commission
From: Mansfield Conservation Commission
Date: Wednesday, March 30, 2011
Re: Plimpton Subdivision

At a meeting held on 3/16/11, the Mansfield Conservation Commission unanimously agreed on the following comments:

“The Commission suggests (1) that the house on Lot 2 be moved farther from the wetland lying to the northeast and (2) that the conservation easement on Lot 4 be enlarged by moving its eastern boundary farther up the slope to increase protection of the large wetland below from logging and other activities. The Commission observes (a) that the common driveway provision of the subdivision regulations is again being used to enable development at less expense to the developer with no off-setting environmental gain from clustering, (b) that some stone walls will apparently be disturbed by construction, and (c) that no open space calculation has been provided. It hopes that disturbed stone walls will be rebuilt as required and that the open space calculation, when done, will take account of previous lots carved out of the Plimpton property.”

Commissioner Lehmann visited the Plimpton site on the 03/15/11 IWA Field Trip; and made the following comments:

IWA #1474 (Plimpton, Wormwood Hill & Gurleyville Roads). A 3-lot subdivision is proposed for 43 interior acres off Wormwood Hill and Gurleyville Roads.

A 32.9 acre back-lot (numbered 4) would be accessed by a long driveway ascending from Wormwood Hill Road (between two existing houses) along the path of an old woods road. We did not walk to the house site. This lot does not appear to raise wetland issues: house & septic system would be located at considerable distance from, and about 80 vertical ft above, a large wetland, which would be protected by a 19-acre conservation easement.

The remaining two back lots (numbered 2 and 3 – 5.3 and 4.8 acres respectively) would be accessed by a common driveway (running between three existing houses) off Gurleyville Road. The interior end of this common driveway is close – around 60 ft – to a wetland that may be a vernal pool. (It did not have a particularly vernal aspect when we saw it, being still partially ice-covered.) The house proposed for Lot 2 is also about 60 ft from this wetland. A minimum distance to wetlands of 100 ft is recommended for vernal pools; both the driveway and this house could be moved to honor this recommendation. There is also a small area near Gurleyville Road and about 70 ft from the proposed driveway entrance that was submerged when we visited -- probably runoff dammed by the next driveway to the east. Development proposed for Lot 3 is not as close to wetlands as the house on Lot 2.

Logging on Lots 2 and 3 this past fall removed every tree of value from the area; only spindly specimens remain. Apparently these lots will be marketed to people who prefer acres of lawn.

Jessie L. Shea

From: Karen Gottmann [gottmann.karen@gmail.com]
Sent: Monday, March 28, 2011 2:17 PM
To: PlanZoneDept
Cc: cliffgottmann@gmail.com
Subject: Subdivision Concerns: PZC file 1298 / IWA W1474
Attachments: Natural Buffer 580 Gurleyvl.JPG; Natural Buffer Slope 580 Gurleyvl.JPG; Slope Toward House Foundation.JPG; Shed 580 Gurleyvl.JPG

I write to express three concerns regarding the property owned and to be developed by Scott Plimpton: PZC file 1298 / IWA W1474.

My first concern, which may or may not be turn out to be an issue, is that of privacy: noise, headlights, etc. that may be a nuisance due to construction equipment, and subsequent automobile, traffic on the proposed driveway on Gurleyville Road.

My second concern is far more serious: water runoff from this proposed driveway onto our property at 580 Gurleyville Road. Our lot slopes toward the house from east to west and, to a lesser degree, south to north. A significant section of the proposed driveway appears to be positioned where our back yard would be subject to increased water runoff and snow melt. Our leach fields run north-south in our back yard, directly downhill from the proposed drive. Our septic tank fills rapidly, necessitating pumping every 18 months. I am concerned that unless the drainage from the proposed driveway is directed away from our property we may have real problems with our leach fields.

At this time of year, even under normal rain and snowfall conditions, our back yard is already wet.

As the proposed driveway along our southern border drains toward our back yard, another question I raise is whether the increased runoff will undermine the strength of the surface footings for our shed.

My third concern is disruption to an area of natural growing trees and underbrush, interspersed with large boulders, which is right next to our house. As this naturally-occurring buffer lies substantially higher than our foundation, I am concerned that development of the driveway as proposed will break down or even eliminate this buffer, with the resulting runoff flowing directly toward my foundation.

Question: As there is a second driveway proposed on Wormwood Hill Road, could it serve as access for all of these subdivision lots? Obviously, this approach would eliminate my water runoff concerns.

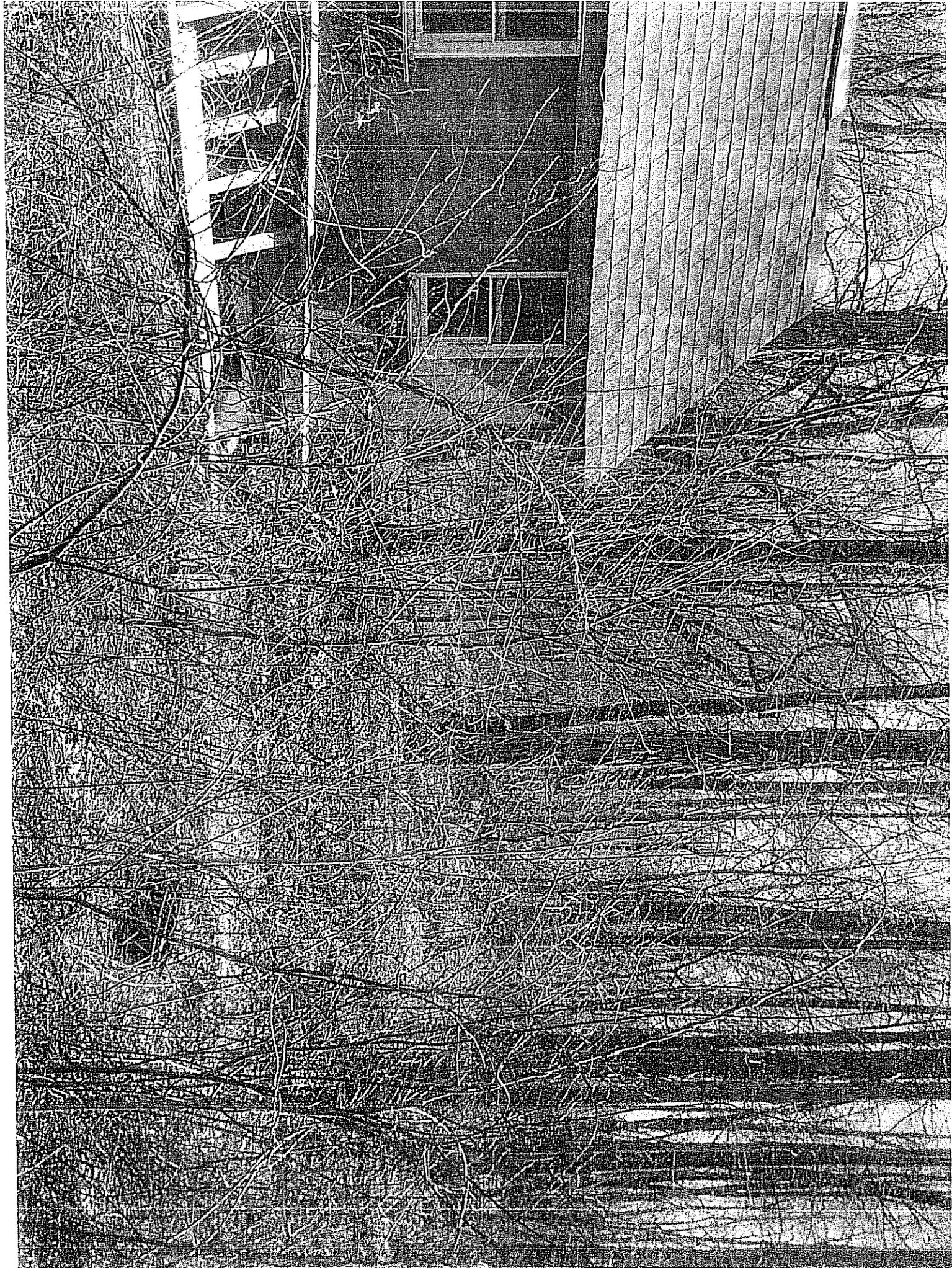
Additionally, I would consider purchasing some of the unusable land from Scott Plimpton, if that would help him in this process.

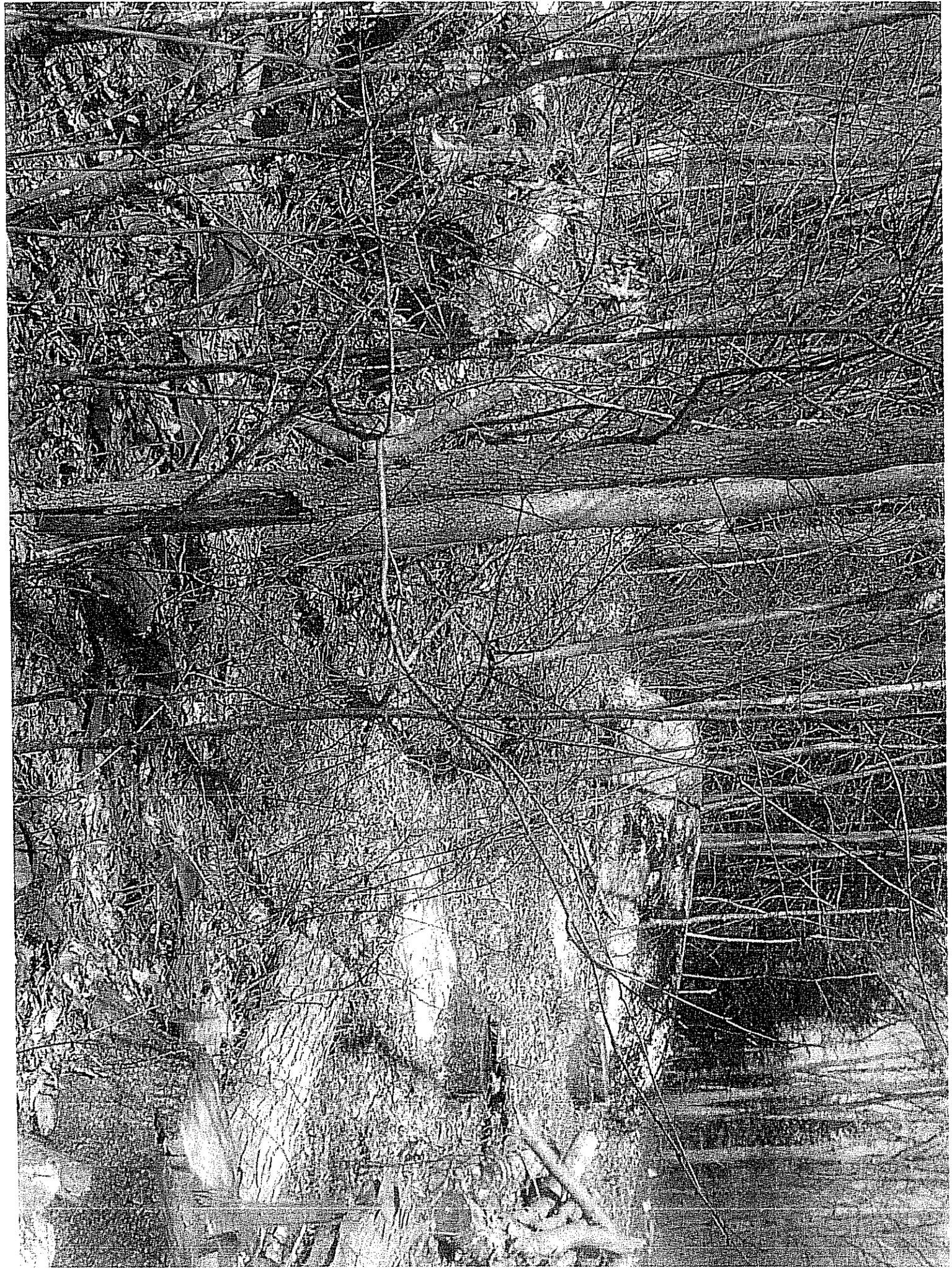
Respectfully,

Cliff Gottmann
Karen Kidder Gottmann

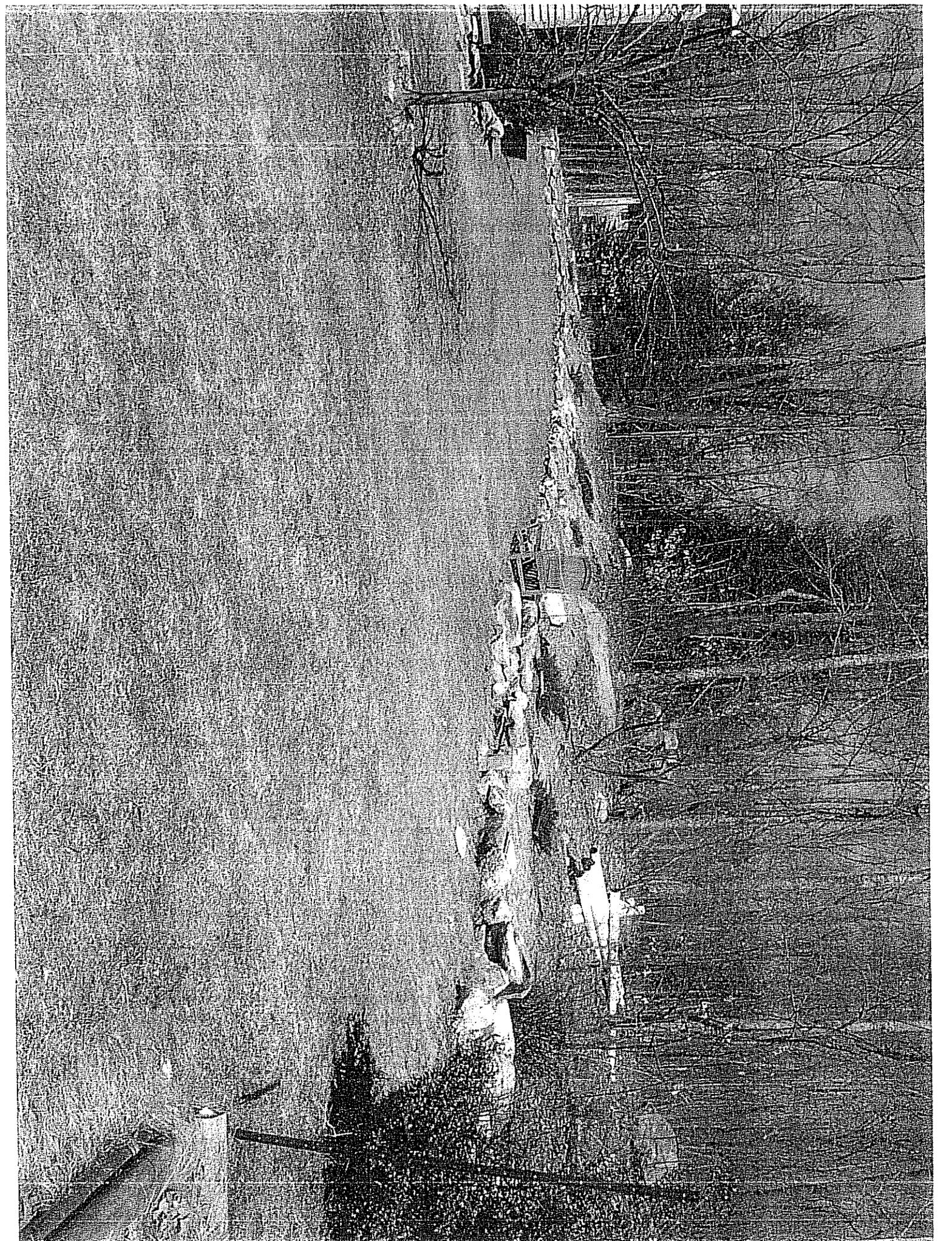
3/28/2011

PAGE
BREAK









**TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT**

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Planning and Zoning Commission
From: Gregory Padick, Director of Planning
Date: 3/31/11
Re: Puddin Lane Subdivision, 2 new lots, PZC File #1299



General

The following comments are based on the applicant's submissions (including a 3-page set of subdivision plans dated 2/14/11, as prepared by Rob Hellstrom Land Surveying, LLC, and consideration of applicable subdivision and zoning regulations.

The proposed subdivision application seeks approval to develop two new house lots off of Puddin Lane at the corner of Sawmill Brook Lane. An existing house is located on Lot 3 which would retain .75 acres of land. Proposed Lot 1 would be 1.1 acres in size and Lot 2 would be .78 acres in size.

The subject property is located in an R-20 zone and all three lots have the required 125 feet of frontage. The three lots have depicted development and building area envelopes and no setback waivers have been requested. The property is a mix of cleared and wooded area. Areas along Puddin Lane are level but northerly areas of Lots 1 and 2 have slopes exceeding ten (10) percent. The property is not within a designated flood hazard area and is not within the Willimantic Reservoir drainage basin. It is within a Plan of Conservation and Development designated Stratified Drift Aquifer Area. There are no regulated wetland areas within the subdivision or within 150 feet of proposed construction.

To date, no comments have been received from abutting property owners. It must be confirmed that abutter notification requirements have been met.

Sanitary

- See 3/24/11 report from Eastern Highlands Health District. This report indicates that all State Health Code requirements have been addressed.
- The existing and proposed houses will be served by on-site septic systems and the three lots are served by the Windham Water Works public water supply system. The new lots have been approved for 3 bedroom homes.

Road/Drainage/Driveways

- See 3/30/11 report from the Assistant Town Engineer. No road, drainage or driveway issues have been identified.
- A right-of-way dedication is required along Puddin Lane. This should be addressed in any approval motion.
- The plans note that utilities will be underground and a utility route is depicted as required by Section 6.5.h. As proposed, the utility connection for Lot 1 will pass through Lot 2 and an easement for this purpose is depicted. Any approval should address the filing of this easement.
- My review indicates that the proposed driveways comply with applicable subdivision criteria.

Environmental Impact/Erosion Control

- Sheet 3 of the plans includes an Erosion and Sediment Control narrative and the plans include silt fencing downgradient of areas of construction. Anti-tracking pads are proposed for the new

driveways. The plans include provisions for daily inspection of controls until all disturbed areas are stabilized. Note 12 of Sheet 3 needs to provide a current contact person.

- The submittal includes a generic map note regarding solar orientation and the depicted houses on Lots 1 and 2 have acceptable orientation.
- As per regulatory requirements, soil classification information is included on the plans.
- No portion of the site is within a DEP-depicted area of potentially endangered, threatened or special concern species.

Subdivision Design Criteria

- As noted, the plans depict Development Area Envelopes (DAE) and Building Area Envelopes (BAE) for the subject lots. The plans note that BAEs serve as setback lines.
- As previously noted, no frontage or setback waivers are needed. The BAE for Lot 3 needs to be clearly labeled.
- The plans indicate that there are no significant vistas or views.
- A number of significant trees have been identified on the lots. A number of these exist along Puddin Lane. The current plan indicates that a 36 inch maple on Lot 2 is to be saved. Consideration should be given to saving other identified trees. This issue should be reviewed with the applicant. It must be determined that the provisions of Section 7.8 have been addressed.
- The plans include the required lot area certification and meet the 20,000 square feet minimum DAE requirements.

Open Space/Recreation

- Section 13 provides criteria for judging the suitability of an open space dedication. The PZC must make a final determination based on the criteria and standards of Section 13, particularly subsection 13.1.2. Any approval motion should require the deeds for open space dedications to be finalized before maps are signed. In addition, any approval should require the perimeters of all open space areas to be delineated with the Town's official medallions every 50 to 100 feet.
- No open space dedication has been proposed. Based on the provisions of Section 13, fifteen (15) percent of the site can be protected as open space. The only area that may be appropriate for protection is along Puddin Lane where a conservation easement can be required. This issue should be reviewed with the applicant.

Other

- Final plans must be signed and sealed by all responsible professionals as per Section 6.3.d.
- Final plans need to be submitted in digital format, as per the requirements of Section 6.3.g.
- Subject to resolution of identified subdivision issues, any approval motion should address the filing requirements of Section 6.12.6.
- On Sheet 1, the map note regarding distance from wetlands should be revised to specify "150" feet.

Summary

Within this report I have identified a couple of issues and/or recommended map revisions that should be reviewed with the applicant and resolved to the PZC's satisfaction. Issues to be reviewed include:

- Confirmation that there are no additional significant trees within proposed envelopes that warrant special protection;
- Confirmation that open space dedication requirements have been appropriately met;
- Incorporation of minor mapping revisions regarding the BAE on Lot 3, Erosion and Sediment Control Note 12 on Sheet 3 and the wetland Note on Sheet 1. These map revisions can be addressed as approval conditions.
- Confirmation that abutter notification requirements have been met.

Memorandum:

March 30, 2011

To: Planning and Zoning Commission

From: Grant Meitzler, Assistant Town Engineer

Re: Sterling Trust Company - Puddin Lane - 3 lot subdivision

plan reference: February 14, 2011

This application proposes subdivision of a parcel with frontage on both Puddin Lane and Sawmill Brook Lane. An existing house occupies Lot 3 which has frontage on both roads; two new lots are being created with frontage on Puddin Lane.

There are no wetlands within 150 feet of the property.

Municipal water is available in both fronting streets. This system belongs to the Windham Waterworks.

Traffic

Traffic at this location is moderate and the amount of traffic from these three new lots will be easily accommodated. Most cars were travelling at very moderate speeds. The time of visibility I observed were:

Lot 1 - 6.00 seconds

Lot 2 - 5.50 seconds

Lot 3 - 6.04 seconds

I consider these acceptable sight distances. The plans note the required 300 feet of sight distance has been provided for each lot. The plans note the new driveways for Lot 1 and 2 are to be gravel surface.

These lots are very flat and well drained in the front. At the very rear of lots 1 and 2 the land slopes up but is still well drained with no sign of any concentrated water flow from the hill behind.

Drainage

I see no drainage issues with this subdivision.

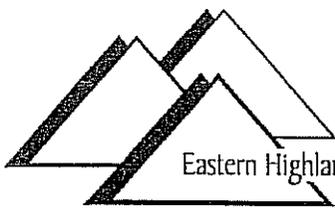
Sediment & Erosion Plan

Silt fencing has been provided protecting construction areas proposed on lots 1 and 2.

Tracking pads for containment of construction sediments have been provided on Lots 1 and 2. None is needed for the existing drive for Lot 3.

Street Dedication

The plans indicate the right of way for Sawmill Brook Lane is 50' thus no dedication along this road is needed. The plan shows a front yard line set at 30 feet from the centerline of Puddin Lane for which a deed to the town is needed to establish this as the Puddin Lane streetline.



Eastern Highlands Health District

4 South Eagleville Road • Mansfield CT 06268 • Tel: (860) 429-3325 • Fax: (860) 429-3321

PLAN APPROVAL MEMO

March 24, 2011

Rob Hellstrom
Rob Hellstrom Land Surveying, LLC
32 Main St
Hebron, CT 06248

Re: Subsurface Sewage Disposal System Plan for:
Address: 64 Puddin Lane Mansfield Center CT
Plan Designed by: Rob Hellstrom
Plan Date: 2/14/2011, **Latest Revision Date:** 3/9/2011

Dear Rob Hellstrom:

The above referenced plan has been reviewed for compliance with the Connecticut Public Health Code and Technical Standards. **The plan is approved with the following conditions:**

Lots 1 & 2: The plan presented appears to demonstrate the site evaluated is suitable and can comply pending final approval of a design plan by this office.

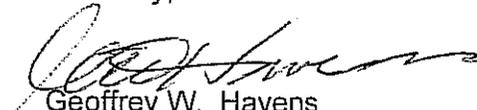
The lot remaining with the existing dwelling has been evaluated for compliance with Section 19-13-B100a of the Public Health Code and found to satisfy requirements for reduction of potential repair area.

Please note that this plan approval is not an approval to construct the sewage disposal system.

If not already done, a completed application and fee for the Permit to Construct the Sewage Disposal System must be submitted to the health district for review and approval. The permit will be approved when all above noted conditions of approval have been met.

If you have any questions, please call the health district office at 860-429-3325.

Sincerely,


Geoffrey W. Havens
Sanitarian II

✓ Cc: Greg Padick, Mansfield Town Planner

17 Southwood Road
Storrs, CT 06268
March 30, 2011

Mansfield Planning and Zoning Commission
Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

Dear Commission Members,

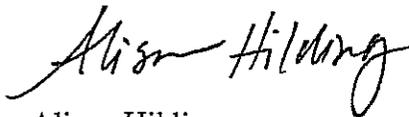
Attached please find two hundred and fifty five supporting signatures to the March 16, 2011 letter concerning the request to change the density designation in the 2006 Mansfield Plan of Conservation and Development to low density for the undeveloped land in the Hunting Lodge Road area.

Please note that while there are many complete pages of signatures, there are also numerous pages that bear only a few signatures, therefore, please keep turning all the pages.

You received in your March 21, 2011 meeting packet a copy of the March 16, 2011 letter with my original signature and also that of Gene Salorio.

Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Alison Hilding". The signature is written in black ink and is positioned above the printed name.

Alison Hilding

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

<u>Alison Holding</u>	<u>Alison Holding</u>	<u>17 Southwood Road Storrs CT 06268</u>
Eugene Salorio	<u>Eugene Salorio</u>	17 Southwood Road
GEORGEY KERN	<u>Georgey Kern</u>	58 CEMETERY RD. STORRS, CT 06268

MNSFLD

PRINT NAME

ADDRESS

SIGNATURE

Stacie Houle 410 middle turnpike Mansfield Depot Stacie Houle

Arthur S. Abramson 494 Middle Turnpike, Mansfield Depot Arthur S. Abramson

George Thompson 1414 Stafford Rd Mansfield CT George Thompson

George Thompson Jr 26 Ridge Circle Mansfield CT George Thompson Jr

Burnie Thompson Jr 111 middle turnpike Mansfield CT Burnie Thompson Jr

April Holinko 52 Middle Tpk Mansfield Depot CT April Holinko

Burnham W Thompson

Burnham W Thompson 138 Birch Rd Mansfield CT Burnham W Thompson

Geraldine A Thompson 138 Birch Rd Mansfield CT Geraldine A Thompson

PRINT NAME

ADDRESS

SIGNATURE

Anthony Mingrone Anthony R. Mingrone 620 Mansfield City
Storrs, CT

Karen Provoncha Karen B Provoncha 652 Chaffeeville R
Storrs CT

Devico Sustron 247 Wolfish Falls Rd. David Sustron
LOOMIS

Jack Loomis 17 Bostow Drive Jack Loomis

Denette Anthay 151 Birch Road, Storrs Denette Anthay

MARTIN CALVERLEY 52 Philip DRIVE STORRS, CT Mark Calverley

MICHAEL G. GERGLER 19 Deerfield Lane STORRS CT 06268 Michael G. Bergler

Caitlin Bergler 19 Deerfield Ln Storrs CT 06268

Susan Ridzon 944 Stafford Rd Storrs Susan Ridz

Paul Ridzon 944 Stafford Rd Storrs Paul Ridz

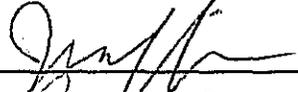
Print Name	Signature	Address
Richard Pellegrini	Richard Pellegrini	269 Clover Mill Rd Storrs, Ct 0268
Richard Steg	Richard Steg	313 N. Eagleville Rd. Storrs Ct.
CAROLYN Stearns	Carolyn Stearns	440 Mansfield City Rd. Storrs Ct.
Jennie Talbot	Jennie Talbot	26 Southwood Rd Storrs Ct
Robert Talbot	Robert Talbot	26 Southwood Rd Storrs Ct

PRINT NAME

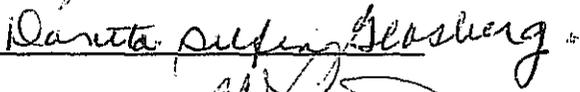
ADDRESS

SIGNATURE

KATHRYN RATCLIFF 60 BUNDY LANE 

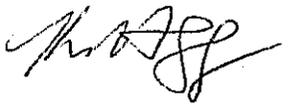
JERRY SMITH ^{MANSFIELD CT} 36 CLEARVIEW DR 

GAYE ⁰⁶⁷⁰² TUCUMSON 23 SILVER FALLS 

DAVITA SILFEN GLASBERG 29 HIDI DR. 

HARRY A FRANK 33 ATWOODVILLE RD 

Kim Chambers 30 Lorraine Drive 

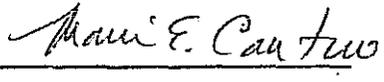
Katrina Higgins 828 Wormwood Hill Rd 

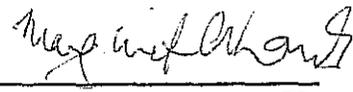
Elizabeth Jockusch 77 Birchwood Heights Rd. 

Charles A House 12 Olsen Drive 

Robert Thorsen 9 STORRS HS 

ERIC SCHUEZ 239 HANKS HILL RD 

Mauri E. Cantow 122 Dog Lane 

MARGARET LAMB 65 Timber Dr. 

LAWRENCE ARMSTRONG 3A Sycamore Drive 

Karla Fox ^{KARLA FOX} 1 Storrs Heights Road 

PRINT NAME

ADDRESS

SIGNATURE

LILA TULIN 47 MEADOWOOD RR STORRS Lila Tulin

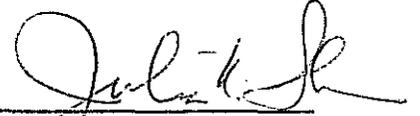
1. Marty Hirschorn 63 DAVIS RD STORRS Marty Hirschorn
2. Cynthia Hirschorn 63 Davis Rd. Storrs Cynthia Hirschorn
- 3/4. Susan + Bill Morgan 79 Davis Rd. Storrs Susan Morgan
William H. Morgan
5. Amy Dunstan 939 Storrs Rd Storrs Amy Dunstan
6. Scott DUNSTAN 939 Storrs Rd Storrs Scott Dunstan
7. Gaille O'Connell 4 Davis Rd. Storrs Gaille O'Connell
8. Richard BARNETT 11 DAVIS RD STORRS Richard Barnett
9. Shelly Barnett 11 Davis Rd Storrs Shelly Barnett
10. Barbara Casey 70 Davis Rd Barbara Casey
11. Kathleen Romeo 64 Davis Rd, Storrs Kathleen Romeo
12. Michael Romeo 66 Davis Rd., Storrs L. Mick Romeo Jr.
13. Marie Roulier 19 Fellen Rd Storrs Marie Roulier
14. Gail POSTEN 48 Fellen Rd., Storrs Gail Posten

PRINT NAME

ADDRESS

SIGNATURE

Julia R. Sherman 43 Pinewoods Lane
Mansfield Ctr, CT



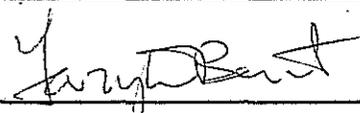
Kathleen Ouillette 493 Warmwood Hill Rd. Mansfield Ctr.



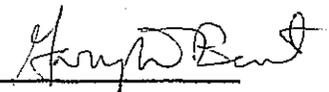
Sandra Popelski 206 Countryside Rd. Mansfield Ctr.



Ann Trotter 12 Avonmore Rd. Storrs CT



97 Mansfield Hollow Rd.
Mansfield CT 06250



R PIRRIE

657 CHAFFEEVILLE RD
STORRS CT 06268



John Blomstrom

255 South Englewood Rd.
Storrs, CT 06268



Blank lines for additional entries.

Print Name

Signature

Address

Martha Kelly

Martha Kelly, 29 Brandy Lane

Ronald Kelly

Ronald Kelly, 29 Brandy Lane

Joan Webster

Joan Webster 23 Southwood

TERRY R. WEBSTER

Jerry R. Webster 23 Southwood Rd.

Henry H. Conland

Henry H. Conland 25 Southwood Pt.

JUDITH CONLAND

Judith Conland 25 Southwood Rd

Print Name

Signature

Address

Patricia H. Maines Patricia H. Maines 38 Spring Hill Road, Starrs

Janice Mills Janice Mills 29 Mansfield Hollow Rd, Mansf. Ctr.

Alan R. Maines Alan R. Maines 38 Spring Hill Road - Starrs

Carol Morgan Carol Morgan 18 Mansfield Hollow Rd, Mansf. Ctr.

Beth Frankofskie Beth Frankofskie 120 Hillyncille Rd Starrs

Donna Neborsty Donna Neborsty 160 Spring Hill Rd Starrs

Nancy Bradley Nancy Bradley 885 Warendville Rd M.C.P.

PRINT NAME

ADDRESS

SIGNATURE

Susanne Davis

97 Gwynville Rd, Storrs

Susanne Davis

Ruth B Moynihan

37 Farrell Rd, Storrs

Ruth B Moynihan

Wm. T. Moynihan

37 Farrell Rd., Storrs

W.T. Moynihan

PRINT NAME

ADDRESS

SIGNATURE

Nancy Silander 30 Silver Falls Nancy Silander

Leigh Jones-Bamman 6 Forest Rd. Leigh Jones-Bamman

Jane Knox 146 Birch Rd. Jane L Knox

~~James Knox~~ " " James Knox

Robin G. Tracey 24 Silver Falls Robin G. Tracey

DAVID B TRACEY 24 Silver Falls David B Tracey
Lori Riley

John Barry 6 Silver Falls Lori Riley

John Barry 6 Silver Falls John Barry

Andrew Bourquin 791 Mansfield City Rd Andrew Bourquin

Peter Greer 123 Brown Rd. Peter Greer

Carol Ann 487 Storrs Rd 06250 Carol Ann

PRINT NAME

ADDRESS

SIGNATURE

William A. Bill 952 Stafford Rd William A. Bill

Priscilla Charlier 941 Stafford Rd Priscilla H. Charlier

Russ Darling 513 International Hill Rd Russell A. Darling
84 Highland Rd

KATHY BESSETTE Mansfield, Ct Kathy Besette
130 Sycamore drive

Bailey Blanshard Storrs Ct Bailey Blanshard
521 Stafford Rd

Donald S Nye Sr Mansfield Ct Donald S Nye Sr

Erika Neff 4100 Stafford Rd Erika Neff

Berita Miller 208 Gurleyville Rd Berita Miller
STORRS

Richard Miller 208 Gurleyville Rd Richard Miller
STORRS

SUSAN LUSSIER 446 Stafford Rd Susan Lussier
Mansfield

CRAIG LUSSIER 446 Stafford Rd Craig Lussier
Mansfield

Leah D. Mouchel, STORRS Leah D. Mouchel
463 MIDDLE TAKE

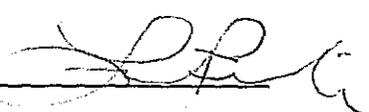
Mrs Piccoli 507 W. Englewood Rd Mrs Piccoli

Merrill Cook 219 Separatist Rd Merrill Cook

PRINT NAME

ADDRESS

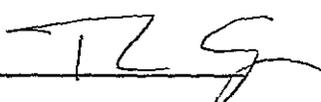
SIGNATURE

Lisa Piccoli 507 No. Eagleville Rd 

Beverly Sims 61 Northwood Rd. Beverly Sims

Sarah Cook Curtis 219 Separatist Rd 

Patricia A. Tuite 205 Separatist Rd. Patricia Tuite

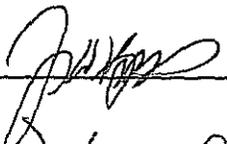
Thomas Gorin 222 Separatist Rd 

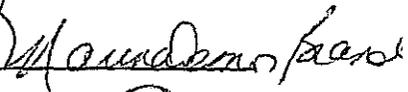
Virginia Gorin 222 Separatist Rd, 
William B. Colburn

Richard R. Chen 36 Ridge Rd Storrs, Ct

Emmanuel Hilding 17 Southwood Rd Storrs, Ct

Patricia A. Suprenant 441 Gurlayville Rd Storrs 

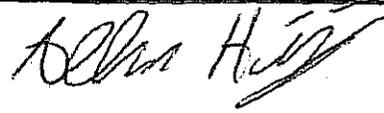
Joseph W. Korabel 441 Gurlayville Rd Storrs Ct 06268 

Marina Demos Brand 410 Gurlayville Rd. Storrs Ct 06268 

R. Curtis Brand 410 Gurlayville Rd Storrs Ct 06268 

Lisa Z. Eaton 89 Lorraine Dr. Storrs, Ct. 06268 

Abraham Hilding 17 Southwood Rd Storrs Ct



PRINT NAME

ADDRESS

SIGNATURE

Melissa Stone 3 Westgate Ln. Storrs
Melissa Stone

Elisabeth Mehlinger 16 Westgate Ln Storrs Elisabeth Mehlinger

Matta Bailey 22 Westgate Ln. Matta Bailey

Leon Bailey 22 Westgate Ln. LEON BAILEY

R.L. 34 Westgate Lane, STORRS GEORGE FOX

George Fox 34 Westgate Lane, Storrs Sofox

Kurt 38 WESTGATE LANE, STORRS

Miguel 44 WESTGATE LN, STORRS

Sonia Antoinette Marrero 52 Westgate Lane, Storrs, CT

Antoinette Marrero 52 Westgate Lane Storrs, CT

Lona Zalatimas 31 Westgate Ln Storrs, CT

Richard C. Lopez 31 Westgate Ln Storrs, CT

Mary Elizabeth Lopez 31 Westgate Lane, Storrs, CT

Bettejane Karnes 353 North Eagleville, Storrs, CT
06268

PRINT NAME

ADDRESS

SIGNATURE

HARRIET WALKER 65 RIVERVIEW RD MANSFIELD CTR CT Harriet R. Walker

Eric Holinko 52 Middle Tpke, DECATUR Ga Eric Holinko

GEORGE JONES 221 WOODBROOK HILL RD Jones

Clara Taylor 60 Meadowood R

Beth Under 44 Meadowood Rd. Beth Under

LISA YOUNG
Lisa Young 41 Meadowood Young

Arthur Robinson

Curtis Kiser 38 Meadowood Curtis Kiser

Michael J. Palmieri 11 Meadowood Michael J. Palmieri

Barbara Dybdahl 329 N. Eagleville Rd Barbara Dybdahl

Barbara Dybdahl 329 N. EAGLEVILLE Dybdahl

Karen J. Zera 321 N. Eagleville Rd. Karen J. Zera

Susan Jones 431 North Eagleville Rd

Eric Goldberg 481 N. Eagleville Rd. Eric Goldberg

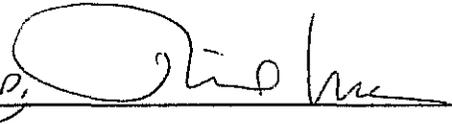
Christina J. Maysa 499 N. Eagleville Rd

PRINT NAME

ADDRESS

SIGNATURE

RICHARD MEEHAN, 1105 STORRS RD,



Donna Meehan 1105 Storrs Rd. Donna Meehan

PAT KOLEGA 744 STAFFORD RD P Kolega

ADAM TODD 184 RAVINE RD. A Todd

VIOLET HILL DORGAN 164 RAVINE ROAD Violet Hill Dorgan

Edward Dorgan 164 Ravine Rd. Edward Dorgan

PRINT NAME

ADDRESS

SIGNATURE

Nancy Walsi 11 Hunting Lodge Rd Nancy Walsi

Drake T. Smith 202 Ravine Rd Drake T. Smith

Cheryl Dudley 32-7 Pompey Cheryl Dudley

Bernice D. Smith-Hewes 202 Ravine Rd Bernice D. Smith

Jean Ann Kenny 17 Lynwood Rd Jean Ann Kenny

Rick DiCapua 17 Lynwood Rd Rick DiCapua

PRINT NAME

ADDRESS

SIGNATURE

John Maloney Storrs
5 Southwood Rd

John Maloney

Dorothy Maloney " "

Dorothy Maloney

Marcus M. Hilditch Storrs
55 Northwood Rd

Marcus M. Hilditch

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

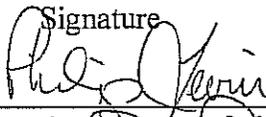
We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name	Signature	Address
PHIL LEVIN		11 SOUTHWOOD RD., STORRS
Lisa Oransoff		11 Southwood Rd Storrs

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

Jayet Jones *Jayet Jones* 221 Downwood Hill Rd.
M.E. 06250
Mark O'Connell 55 Northwood Rd - Storrs

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

MARK MAKUCH  70 BONE MILL RD STORRS, CT

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

David Spencer



28 Deerfield Lane

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

PATRICK WENZEL
Patrick Wenzel
28 July 10
Mark J.

PRINT NAME

ADDRESS

SIGNATURE

Janet Avery

77 White Oak Rd. Stars

Janet M. Avery

Cecile Brennan

124 Cedar Swamp Rd Stars

Colleen Bodino

103 Newton Rd Mansfield

Colleen Bodino

Phyllis Bernick

51 Ball Hill Rd. Stars, Ct.

Phyllis Bernick

81 Ball Hill Rd

Stars Ct

PRINT NAME

ADDRESS

SIGNATURE

Lilyne M Holtzworth 20 Timber Dr Stors J M Holtz A

Thomas W Holtzworth 20 Timber Dr Stors [Signature]

Judith A Meagher 20 Heritage Sp Mans. Co. Judith A Meagher

ALEXANDER X BALDWIN B/Cherokee Oak St. Alexander Baldwin

J B. START 3 Cherokee Oak St. [Signature]

C Kueffner 192 Ravine Rd, Stors [Signature]

W. BECKERT 121 GURLEYVILLE R [Signature]

Tom Birkenholz 108 S. Eagleville Rd [Signature]

PRINT NAME

ADDRESS

SIGNATURE

NANCY TRAWICK-SMITH 389 STEARNS RD

Nancy Trawick-Smith

JEFFREY TRAWICK-SMITH 389 STEARNS RD

Jeffrey Trawick-Smith

THOMAS A. SUITS 12 HILLYNDALE RD.

Thomas A. Suits

Alice-Mae Suits " "

Alice-Mae Suits

Blank lined area for additional entries.

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

Elizabeth Cowles Elizabeth D. Cowles 50 Meadowood Rd.

PRINT NAME

ADDRESS

SIGNATURE

CONSTANCE NEAL } 112 SAWMILL BROOK LANE Constance Neal
WILLIAM NEAL } MANFIELD CTR, CT 06250 W.N.

Lined area for additional entries.

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

Winthrop Smith Mr. W. Smith 156 Hillyndele Rd., Storrs
06268

Print Name

Signature

Address

Anne K. Smith *Anne K. Smith* 156 Hillyndale Pl. Storrs

JANE CARRON *Jane Carron* 10 Thompson Rd Storrs Ct.

ARTHUR W WRIGHT *Arthur W Wright* 147 Hillyndale, STORRS, CT

Marilyn K. Wright *Marilyn K. Wright* 147 Hillyndale STORRS CT

Leanne W Wright *Leanne W Wright* 147 Hillyndale Storrs Ct

Jane D. Howard *Jane D. Howard* 138 Hillyndale Storrs, Ct.

G. Michael Howard *G. Michael Howard* 138 HILLYNDALE RD STORRS

Jan Sheardwright (JAN SHEARDWRIGHT) 144 HILLYNDALE ROAD, STORRS, CT.

Melissa Sheardwright *Melissa Sheardwright* 144 Hillyndale Road Storrs CT

Print Name

Signature

Address

55 Mountain Rd 06250

LINDA SANCHINI L Sanchini Mansfield CTR, CT

Miriam Kurland Miriam Kurland 269 Wormwood Hill Rd Mansfield CT 06250

DOLORES T. HILDING Dolores Hilding 22 Southwood Rd

Winthrop E. Hilding Winthrop E. Hilding 22 Southwood Rd

Blank lined area for additional entries.

March 16, 2011

Mansfield Planning and Zoning Commission
Town of Mansfield –Audrey Beck Building
4 South Eagleville Road
Storrs, CT 06268

We the undersigned residents of Mansfield ask the Mansfield Planning and Zoning Commission to change the density designation in the 2006 Mansfield Plan of Conservation and Development from medium/ high density residential to low density residential for the undeveloped land within the greater Hunting Lodge Road neighborhood.

We make this request in light of the more than two decades of significant safety and social problems in this neighborhood which are a consequence of its already high population.

Of equal concern is the unfortunate history of residential drinking water pollution in this neighborhood from toxic chemicals that leached into the aquifer from the UCONN chemical pits. The current Mansfield Plan of Conservation and Development makes its recommendation for medium/high density in Hunting Lodge Road neighborhood based on the premise that UCONN water would be continually and universally available to new construction in this area. This is no longer the case. While the town is considering other public water sources, none currently exist.

The UCONN Landfill Remediation Program successfully stabilized the toxic chemicals which remain in the bedrock below the chemical pits. It is entirely unclear if long-term pumping of new community wells in the greater Hunting Lodge Road neighborhood might de-stabilize this balance, mobilize the toxic chemicals anew, and once again compromise the safety of residents' private drinking wells in the greater neighborhood.

Moreover, we are concerned that if multiple community wells were added and operated in this area that the volume of water available to existing domestic wells in the greater neighborhood might become compromised.

We call upon the Planning and Zoning Commission to act now to protect our health, safety, and property, as well as what remains of our quality of life.

Print Name

Signature

Address

Joyce Donahoe Joyce Donahoe 18 Lodgewood Dr. Storrs, CT 06268

PRINT NAME

ADDRESS

SIGNATURE

RICHARD S. COWLES 50 MEADOWOOD RD.

Richard Cowles

Edward R. Postles Jr 22 Meadowood Rd

Edward R. Postles Jr

Edward R. Postles Jr 22 Meadowood Rd

Edward R. Postles Jr

Victor A. Chadd 22 Meadowood Rd

Victor A. Chadd

Linda E. Robinson 38 Meadowood Rd

Linda E. Robinson

BRIAN USHER 44 MEADOWOOD RD.

Brian Usher

Kathy Usher 44 Meadowood Rd

Kathy Usher

Elizabeth Usher 44 Meadowood Rd

Elizabeth Usher

Anne Usher 44 Meadowood Rd

Annie Usher

Marie Palmieri 11 Meadowood Rd

Marie Palmieri

Richard Clark 65 Meadowood Rd

Rich m Clark

Jamie Clark 65 Meadowood Rd

Starr Jamie Clark

PRINT NAME

ADDRESS

SIGNATURE

ARTHUR D. ROBERTS 18 HEDGWOOD DR. STORRS Arthur D. Roberts

KRISTINA M. ELIAS-STARRON 572 STORRS RD, Kristina Miller-Starron

LEE TERRY 117 DUNHAM FOND RD, STORRS, CT Lee Terry

JANIE DUFFY BOX 246, MANSFIELD CT -T. Janie Duffy

LEIGH DUFFY 108 CRANE HILL RD, MC, CT Leigh Duffy

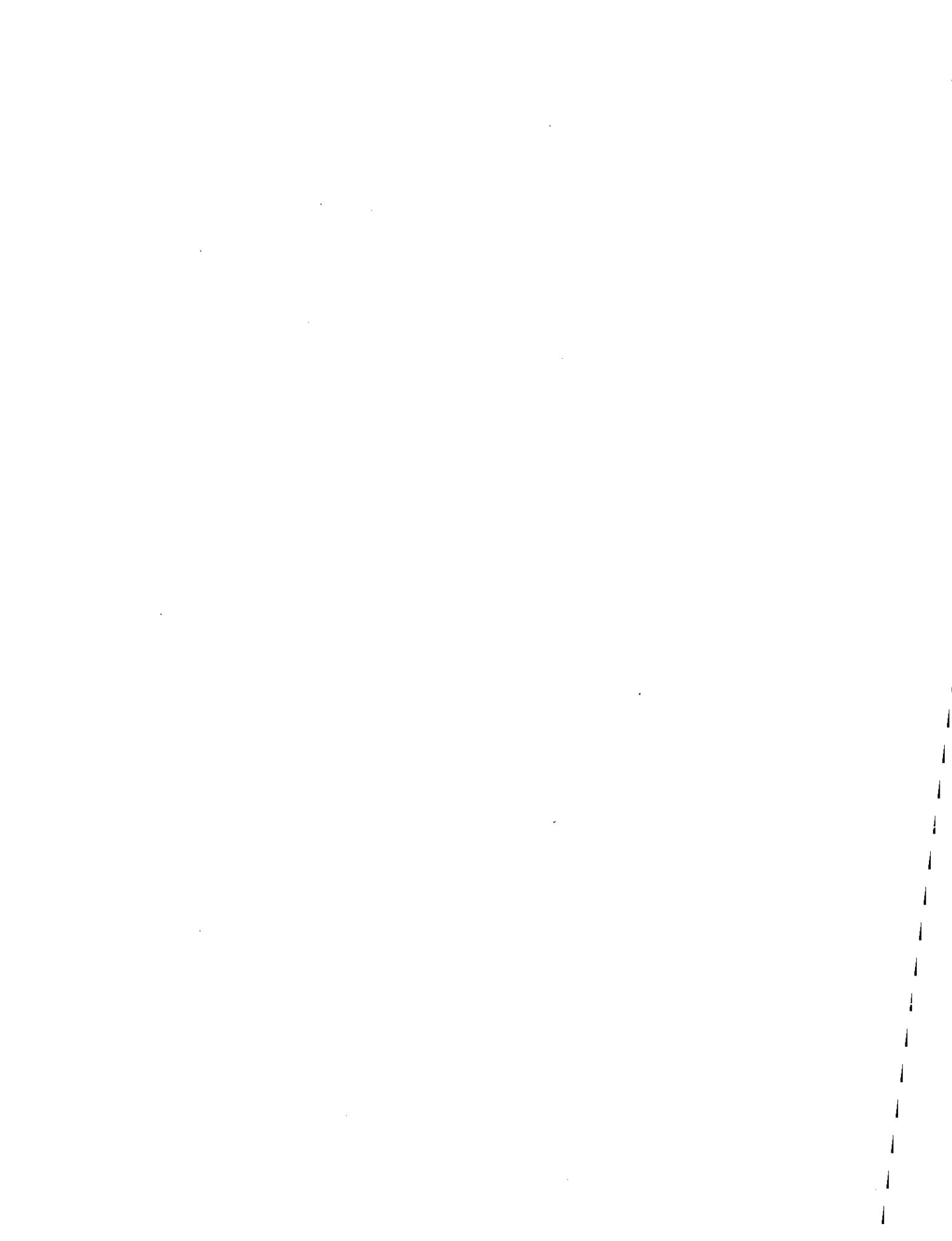
LYNN MARDON 416 CHAFFEEVILLE RD, ^{CT 06268} Mansfield Lynn Mardon

JANICE TETREAULT 916 HEDGWOOD DR. ^{Janice L Tetraault} STORRS, CT 06268

BRIAN KEYSTOF 26 HEDGWOOD DR STORRS CT B. Keystof

JOSEPH HADDAAD 4 POPLAR LANE, STORRS J. Haddad
UConn DORM

DYNA HADDAAD 108 CRANE HILL RD - MC, CT. Dyna Haddad



**Dennis R. Poitras
Attorney At Law
1733 Storrs Road
P.O. Box 534
Storrs, Connecticut 06268**

**Telephone (860) 487-0350
Fax (860) 487-0030 or (860) 429-4694**

Email: drpoitras@yahoo.com

March 23, 2011

Mansfield Planning and Zoning Commission
c/o Greg Paddick, Town Planner
Town of Mansfield
4 South Eagleville Road
Storrs, CT 06268

Re: The Villages at Freedom Green – Phase IVC
Bonding

Dear Greg:

I am writing to request permission to stop collecting bond escrow funds for Phase 4C.

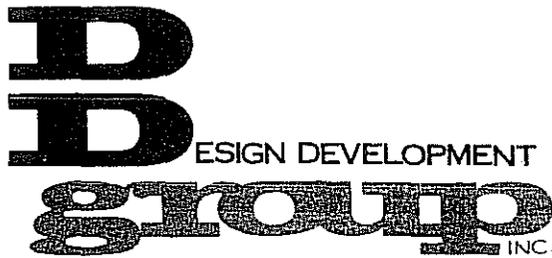
There is currently in excess of \$200,000.00 in the bond account for Phase 4C.

There are thirteen units remaining to be declared in Phase IVC. The bonded items remaining to be completed include paving, grading and landscaping. Enclosed herewith is a statement of substantial completion from our engineer, Robert Amantea. Also enclosed is an estimate from Boivin Construction of \$70,400.00 for the remaining paving. Finish grading, planting and landscaping is estimated by my client at under \$20,000.00.

Respectfully submitted,

Dennis R. Poitras

Enc.



458 EAST MAIN STREET
MERIDEN, CT 06450 203-235-9809

CONSULTING ENGINEERS
LAND SURVEYORS

Feb. 28, 2011

Town of Mansfield
Planning Department
4 South Eagleville Road
Mansfield, Ct. 06268
Attn. Greg Paddock

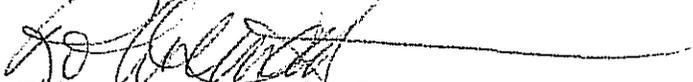
Re: Freedom Green
Phase IV C

Dear Mr. Paddock,

Phase IVC

We have made an inspection of the completed road, water, storm and sanitary for this section and find it to be in substantial conformance with the approved plans prepared by this office. Work that remains to be completed, includes final grading/landscaping around 13 additional units and final coarse of pavement, clean drainage structures, walks and driveways.

Respectfully submitted,
DESIGN DEVELOPMENT GROUP



Robert Amantea P.E. & L.S.

PROPOSAL

boivin construction, inc.

PO BOX 337
COLUMBIA, CT 06237
TEL: 860-228-4030
800-PAVE 145
FAX: 860-228-1808
State Registration No. 516255

Estimate # 5808

PROPOSAL SUBMITTED TO (HEREINAFTER CALLED "BUYER") STREET CITY, STATE AND ZIP CODE ATTENTION	PHONE JOB NAME JOB LOCATION PROPERTY OWNED BY	FAX PHONE DATE DATE
JEAN BEAUDOIN MERIDEN, CT	FREEDOM GREEN MANSFIELD, CT JEAN BEAUDOIN	01/19/11

1. RESURFACING - Roadway area of approx. 33,597 Sq. Feet, work to include: keying of transition, adjustment of structures, sweeping, manual application of tack coat, Leveling as needed, installation of 1 1/2" of Bituminous Concrete Top in 1 course(s). **REMOVAL OF SHIMS INCLUDED**
DEVIATIONS IN FOOTAGE BY UNIT PRICE IF ANY
ASPHALT ESCALLATION IF ANY APPLIES
UNKNOWN COST OF ASPHALT BASED ON 2010 CLOSING COST PER TON
\$50,400.00

2. NEW CONSTRUCTION - Driveway area of approx. 9,999 Sq. Feet, work to include: fine grading and rolling of existing base, installation of 2" of Bituminous Concrete in 1 course(s), 2" of Top. **BASED ON DOING AT LEAST TWO AT ONE TIME IF MORE CAN BE PAVED AT ONCE DISCOUNT WOULD APPLY**
\$20,000.00

ASPHALT EXCALLATION APPLIES IF APPLICABLE

TERMS: Net cash upon completion and upon receipt of final invoice, no retainage to be held. Subject to credit approval.

ESTIMATE EXPIRATION: This estimate is valid for 30 days.

COMPLETION DATE OF THIS CONTRACT WILL BE: 05/31/11

MOBILIZATIONS: Price based on a 1 mobilization(s).

SALES TAX: Prices include the applicable Connecticut sales tax on materials and other related taxable items to be used on this project.

NOTICE: This agreement is subject to the Connecticut Home Solicitation Act: You the buyer (owner), may cancel this transaction at any time prior to midnight of the third business day after the date of this transaction. See the attached notice of cancellation form for an explanation of this right.

Unless a lump sum price is to be paid for the foregoing work and is clearly so stated it is understood and agreed that the quantities referred to above are estimates only and that payment shall be made at the stated unit prices on the actual quantities of work performed by the Company as determined upon completion of the work.

If the foregoing meets with your acceptance, kindly sign and return the attached copy of our proposal. Upon its receipt it is understood the foregoing, including the terms and conditions set forth on the reverse side hereof, will constitute the full and complete agreement between us.

This proposal expires thirty (30) days from the date hereof, but may be accepted at any later date at the sole option of the Company.

ACCEPTED: The above prices, specifications and conditions are satisfactory and are hereby accepted. Buyer <u><i>Jeannette Beaudoin</i></u> Signature _____ Date of Acceptance _____	CONFIRMED: BOIVIN CONSTRUCTION CO., INC. Authorized Signature <u><i>[Signature]</i></u> Title <u>Beth Boivin Sales</u>
--	---

ADDITIONAL TERMS AND CONDITIONS OF SALE APPEAR ON REVERSE HEREOF

ORIGINAL

PAGE
BREAK

**TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT**

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Mansfield Planning and Zoning Commission
From: Gregory Padick, Director of Planning
Date: Thursday, March 31, 2011
Re: 3/31/11 Draft Revisions to the Zoning Regulations



Please find attached 3/30/11 draft revisions to various sections of the Zoning Regulations. The draft revisions include:

1. Incorporation of a new intent section and new Design Criteria for the Planned Business-3 zone (Four Corners Area).
2. Incorporation of revised application and approval criteria designed to protect historic resources and add new zoning permit, site plan and special permit approval criteria that would apply to exterior construction in Plan of Conservation and Development designated historic village areas.
3. Incorporation of new reference revisions to existing Architectural and Design Standards and specific revisions and additions to these standards.
4. Incorporation of new setback provisions for outdoor recreational facilities.
5. Incorporation of revised site plan and special permit submission and approval criteria for lighting improvements.
6. Incorporation of revised provisions for sidewalk, bikeway, trail and other pedestrian and bicycle improvements and construction details for recreational improvements.
7. Incorporation of revised notification provisions.
8. Incorporation of revised standards for refuse areas.

The draft revisions have been worked on the past months by the PZC Regulatory Review Committee. They were refined at the 3/30/11 committee meeting and are considered ready for PZC consideration and the scheduling of a public hearing. May 16th has been tentatively identified as an appropriate public hearing date. Explanatory notes will be added before referrals are distributed. It also is noted that the Committee is continuing to refined proposed revisions to the agricultural regulations. It is expected that draft agricultural regulation revisions will be submitted to the Commission for review at the April 19th meeting. If the Commission considers the 3/30/11 draft revisions ready for public hearing the following motion should be considered:

MOVE seconds, that a public hearing be scheduled for May 16th, 2011 to hear comments on the attached 3/30/11 draft revisions to the Zoning Regulations. The draft regulations shall be specifically referred to the Town Attorney, WINCOG Regional Planning Commission, adjacent municipalities, Town Council, Zoning Board of Appeals, Conservation Commission, Eastern Highlands Health District, Open Space Preservation Committee, Four Corners Water and Sewer Advisory Committee and Design Review Panel.

PAGE
BREAK

March 30, 2011 Draft

Proposed Zoning Regulation Revisions Re: Planned Business-3 Area (Four Corners)

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(Explanatory Notes are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

1. In Article VII, Section N; revise the title of this section to insert "Four Corners" between "44" and "Area"

N. Uses Permitted In The Planned Business 3 Zone (Route 195/Route 44 Four Corners Area)

2. Add a new Section N.1. to read as follows:

1. Intent

The Planned Business-3 zone is situated in the "Four Corners" area of Town at or near the intersection of State Routes 44 and 195. This historically important crossroads area has provided in part commercial services to Mansfield residents and visitors for over 200 years. Due in part to the lack of public sewer and water services, many properties in this area have deteriorated over the past few decades and a number of businesses have closed. Consistent with Mansfield's Plan of Conservation and Development, it is the Town's objective to revitalize the Four Corners area and Town officials are working to address existing infrastructure needs.

Due to current infrastructure deficiencies, the current listing of permitted uses in the Planned Business zone is limited. However, upon approval of commitments to provide public sewer and water services to this area, it is the intent of the Planning and Zoning Commission to review and, as appropriate, modify zone classifications and zone boundaries; the listing of permitted uses maximum height and coverage requirements and all other associated land use regulations. In the interim, the Commission has established in Article X, Section A, initial design criteria that will help establish a design framework for the planned revitalization and growth of this area.

3. Renumber Article VII Section N.1. as N.2 and revised and reformat existing provisions to read as follows:

2. General

The uses listed or referenced below in Section N.2 in separate categories and associated site improvements are permitted in the Planned Business 3 zones provided:

- a. Any special requirements associated with a particular use are met;
- b. [provided] Applicable provisions of Article X, Section A are met; and
- c. [provided] Special Permit approval is obtained in accordance with the provisions of Article V, Section B for any of the activities delineated in Article VII, Section A.2.

Article VII, Sections A.3, A.4 and A.5 also include or reference provisions authorizing the Zoning Agent to approve changes in the use of existing structures or lots and authorizing the PZC Chairman and Zoning Agent to approve minor modifications of existing or approved site improvements.

4. Add a new Article X, Section A.11 to read as follows:

11. Special Provisions for the Planned Business-3 Zone (Four Corners Area-Route 195/44)

Four Corners Design Criteria

To facilitate the coordinated development or redevelopment of properties in the Four Corners area, the following design criteria have been established. In addition to addressing the Architectural and Design standards contained in Article X, Section R, all proposed development in the Four Corners area shall comply with the following design criteria:

- a. Developments along Routes 44 and 195 and along North Hillside Road shall incorporate a prominent pedestrian oriented and extensively landscaped streetscape. The streetscape area shall include a walkway/bikeway, street trees and other landscape enhancements and, as deemed appropriate by the Commission, pedestrian sitting areas, bicycle racks, bus stops and bus shelters. The required streetscape area shall be a minimum width of fifty (50) feet (from edge of street) unless specifically reduced by the Commission based on site characteristics and the site specific development plan.
- b. To enhance vehicular and pedestrian safety, site layouts shall be designed with the primary goals of minimizing curb cuts along public roadways and providing or facilitating interior connections between adjacent properties.
- c. Except where specifically waived by the Commission based on site characteristics and the site specific development plan, new buildings and associated landscape areas shall be located immediately adjacent to streetscape areas to further enhance roadside aesthetics and a significant pedestrian orientation.
- d. Except where specifically waived by the Commission based on site characteristics and the site specific development plan, parking, loading, waste disposal and storage areas shall be located to the rear or side of buildings and screened from adjacent roadways and walkway/bikeways.
- e. All parking areas shall be designed to provide clearly defined pedestrian pathways within the parking area and to and from building entries.
- f. New buildings shall be designed to minimize mass by utilizing smaller visual components through the use of projections, recesses, varied façade treatments, varied roof lines and pitches, and where appropriate, variations in building materials and colors;
- g. Site specific landscape and lighting plans shall be designed by qualified professionals and implemented to reduce visual impact, minimize light spill (undesirable light that falls outside the area of intended illumination) and promote compatibility with neighboring agricultural and residential uses.
- h. Developments consisting of more than one structure shall exhibit a high degree of coordination in site planning, architectural design, site design and site detailing. All physical components shall be designed to complement an overall plan.
- i. Building materials are a significant factor in defining the appearance of a building and coordinating development within an area. Traditional high quality building materials, such as brick and wood siding, that reflect Mansfield's architectural tradition shall be used in the Four Corners area. Modern materials, such as fiber cement siding that have the same visual characteristics as wood, may be used but the following materials are examples of materials that

are not considered acceptable in the Four Corners area: highly reflective metal or plastic siding or panels, brushed aluminum, bronzed glass, concrete siding, unfinished concrete block and corrugated fiberglass.

- j. National franchise uses shall utilize building designs and building materials that reflect Mansfield's architectural traditions in their form, detailing and material.

Explanatory Note:

PAGE
BREAK

March 30, 2011 Draft

Proposed Zoning Regulation Revisions Re: Historic Preservation criteria/Historic Village Areas

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(Explanatory Notes are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

- 1) In Article V, Section A.3.d.15 incorporate the following revisions:

Existing and proposed fencing, walls, screening, buffer and landscaped areas, including the location, size and type of significant existing vegetation and unique or special landscape elements; historic features including but not limited to old foundations, dams, sluiceways, mill races, rip-rapping, wells and other utility features, walks, paths, hitching posts and former gardens, arbors or enclosed areas; and the location, size and type of proposed trees and/or shrubs. Plants identified in the current State Department of Environmental Protection Agency listing of invasive species shall not be used.

[Areas to remain as natural or undisturbed and areas to be protected through the use of conservation easements shall be identified on the site plan.]

- 2) In Article V, Section A.5.d incorporate the following revisions:

- d. The proposal has made safe and suitable provisions for water supply, waste disposal, flood control, fire and police protection, the protection of the natural environment, including air quality and surface and groundwater quality and the protection of existing aquifers and existing and potential public water supplies, cemeteries, historic structures and other features of historic value[;].

For all properties within one of the ten (10) historic village areas identified in Article X, Section J, the special historic village area review criteria contained in Article X, Section J.2 also shall be complied with:

- 3) In Article V, Section A.5.j add “or other historic features” after “stonewalls” and replace “specimen” with “significant”.
- 4) In Article VIII, Section A, (Schedule of Dimensional Requirements Chart), add a new footnote 21 for the minimum front, side and rear setback line columns. The new footnote 21 shall read as follows:

21. The Planning and Zoning Commission shall have the right to reduce or increase front, side and/or rear setback line requirements for properties within one of the ten (10) historic village areas identified in Article X, Section J. Setback reductions or increases shall only be approved or required where the reduction or increase in setback is considered necessary to address the special historic village area review criteria contained in Article X, Section J.2.

- 5) In Article X, delete existing Section J (Special Provisions for multi-family housing without sewers) in its entirety and replace it with a new Article X, Section J to read as follows:

J. Special Provisions for Plan of Conservation and Development designated Historic Village Areas

1. Intent

Mansfield's Plan of Conservation and Development emphasizes the importance of preserving historic structures, historic neighborhoods and other historic and/or archaeological resources. Although seventeen (17) separate historic village areas are identified in Mansfield's Master Plan, ten (10) of these areas have retained common characteristics that warrant special protective measures. To help preserve and enhance the character of these remaining village areas, the following special provisions have been adopted. These provisions shall apply to the following historic village areas as specifically identified on Map 5 of Mansfield's Plan of Conservation and Development: Eagleville, Gurleyville, Hanks Hill, Mansfield Center, Mansfield Depot, Mansfield Four Corners, Mansfield Hollow, Mount Hope, Spring Hill and Wormwood Hill.

2. Special Historic Village Area Review Criteria

All exterior construction within the ten (10) historic village areas noted above in Section 1, including but not limited to new primary or accessory structures, building additions, swimming pools, signs and site work or site improvements, that require site plan or special permit approval pursuant to Article V, Sections A or B of these regulations and/or Zoning Permit approval pursuant to Article XI, Section C of these regulations shall comply with the following provisions:

- a. New buildings and site improvements shall be designed to fit the individual characteristics of their particular site and village neighborhood. Careful consideration shall be given to promoting compatibility in architectural form, massing, detail and materials. Compatible designs do not require uniformity in building styles.
- b. All structural elements shall be in scale with and proportionate to adjacent buildings and other visual structures.
- c. Overall spacing between roadside structures within the village area shall be maintained.
- d. Setbacks from roadways and property lines shall be consistent with neighboring structures within the village areas.
- e. The height of new building shall be consistent with neighboring structures within the village area. One and one-half to two and one-half story structures are typical in Mansfield's historic village areas. Through the use of variations in building height, roof line and grade definition, the perceived high of buildings can be influenced.
- f. Building and site improvements shall be designed to avoid impacts on significant trees, stone walls, scenic views and vistas and other features that contribute to a historic village area.
- g. Traditional building materials, such as wood siding and brick that reflect Mansfield's architectural tradition shall be used. Modern materials, such as fiber cement siding, that have the same visual characteristics as wood are considered acceptable.

- 6) In Article X, Section R.2.b. add the following to the end of the existing section:
(see Article X, Section J. 2 for special historic village area review criteria)
- 7) In Article XI, Section C.1 (Zoning Permit Applicability) add a new section C.1.7. to read as follows:
7. The erection, placement or enlargement of any structure, sign, fence, wall or similar site improvement for properties within one of the ten (10) historic village areas identified in Article X, Section J.
- 8) In Article XI, Section C.3 (Approval Considerations for Zoning Permits) add a new Section C.3.j. to read as follows:
- j. For all properties within one of Mansfield's designated "Historic Districts" and/or one of the ten (10) historic village areas identified in Article X, Section J, no zoning permit shall be issued until:
1. Any required "Certificate of Appropriateness" has been granted by Mansfield's Historic District Commission;
 2. The Planning and Zoning Commission has reviewed the proposed development and determined compliance with the special historic village area review criteria contained in Article X, Section J.2.

PAGE
BREAK

March 30, 2011 Draft

Proposed Zoning Regulation Revisions Re: Architectural and Design Standards

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(*Explanatory Notes* are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

1. Revise Article V, Section A.1 to incorporate the following revision:

As required in other sections of these Zoning Regulations, the approval of a site plan [application] may be necessary for new construction, including expansion; site modifications; new uses and changes in use. The following site plan requirements are designed to ensure the appropriate and orderly use and development of land within Mansfield's assorted Zoning Districts; to minimize any detrimental effects on neighborhood character, the natural environment and property values; and to protect and promote Mansfield's health, welfare and safety.

For all projects involving new construction, the Architectural and Design Standards contained in Article X, Section R shall be utilized as determinants to organize a site layout and to develop the composition and character of new buildings and site improvements. The use of these standards will facilitate Mansfield's application review and approval processes.

2. Revise Article V, Section B.1 to incorporate the following revision:

It is recognized that there are certain uses that would only be appropriate in Town if controlled as to area, location, or relation to the neighborhood so as to promote the public health, safety and general welfare. As provided for elsewhere in these regulations, such uses shall be treated as special permit uses and provided procedures, standards and conditions set forth or referenced herein are complied with, these uses may be permitted in their respective zoning districts. All such uses are considered to have special characteristics and accordingly each application must be carefully reviewed on a case-by-case basis.

For all projects involving new construction, the Architectural and Design Standards contained in Article X, Section R shall be utilized as determinants to organize a site layout and to develop the composition and character of new buildings and site improvements. The use of these standards will facilitate Mansfield's application review and approval processes.

3. Revise Article X, Section R (Architectural and Design Standards) to incorporate the following revisions:

- A. Revise Section 2.f. to read as follows:

- f. Vehicular and pedestrian safety and accessibility shall be addressed in a comprehensive and intermodal manner. Design site entrances and, where appropriate, building entrances, to be clearly visible and identifiable from public accessways or any other primary vantage points. [Vehicular and pedestrian safety issues need to be addressed.] Provide safe and attractive walkway/bikeways and, where appropriate, public transit amenities and interconnected

development that promotes walking and cycling to, and within, the area and enhanced public transit opportunity.

B. Revise Section 3.g. to read as follows:

- g. [Consider n]Natural materials, or modern materials with the same visual characteristics, in their traditional applications (e.g., wood, stone, brick, glass, metal, etc.) should be used as primary building materials. [Limit t]The number of different materials on the exterior building elevation should be limited and attention shall be given to detail at corners, trim, openings and wherever there are abutting materials. Long term maintenance shall be an important consideration in the selection of building materials.

C. Add a new Section 3.h. to read as follows:

- h. National franchise uses shall utilize building designs and building materials that reflect Mansfield's architectural traditions in their form, materials and details.

D. Add a new Section 3.i. to read as follows:

- i. Secondary rear or side building facades that are visible from public spaces or adjacent properties shall be designed to complement the architectural treatment of primary facades.

E. Add a new Section 3.j. to read as follows:

- j. The design of signage, lighting fixtures, accessory structures, fences, storage enclosures, bicycle racks, benches, trash baskets and other site improvements shall be coordinated with primary buildings in form, materials and details.

F. Add a new Section 3.k. to read as follows:

- k. Buildings shall be sited and designed to promote energy conservation. Consideration should be given to solar orientation, insulation, lighting, plumbing, landscaping and other energy efficient design elements.

G. Revise Section 4.c. to read as follows:

- c. Utilize landscape buffers, berms, fencing, etc to screen parking areas and waste storage areas from adjacent streets, walkways, bikeways, other public spaces, and, as appropriate, neighboring properties.

Explanatory Note:

March 30, 2011 Draft

Proposed Zoning Regulation Revisions Re: Setbacks for Outdoor Recreational Facilities

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(*Explanatory Notes* are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

- A. In Article VIII, Section A, revise the heading of the Schedule of Dimensional Requirements Chart to read as follows:

Unless specific exceptions are noted in other sections of these regulations, (particularly Article VIII, Section B, Article VII and Article X), this schedule of dimensional requirements shall apply to all lots, buildings, structures and site improvements, including parking, loading, outdoor recreational facilities such as tennis, volleyball or basketball courts that are distinct from driveway /parking areas or lawns, and outside storage areas. See other side of this page for notes included in this Schedule.

- B. In Article VIII, revise Section A to read as follows:

Unless specific exceptions are noted in other sections of these regulations, all lots, buildings, structures and site improvements, including parking, loading outdoor recreational facilities such as tennis, volleyball or basketball courts that are distinct from driveway /parking areas or lawns, and outside storage areas erected or altered after the enactment of these Zoning Regulations, shall conform to the dimensional requirements for the subject zone in which the building, lot, structure or improvement is located as specified in the Schedule of Dimensional Requirements which is included in these Regulations.

Explanatory Note:

PAGE
BREAK

March 30, 2011 Draft

Proposed Zoning Regulation Revisions Re: Lighting Requirements

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(*Explanatory Notes* are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

A. In Section A.3.d.17 incorporate the following revisions:

Existing and proposed outdoor illumination, including method and intensity of proposed lighting and manufacturer's installation charts. Comprehensive lighting plans with foot candle details can be required as determined by the Commission.

B. In Section A.5.g. incorporate the following revisions:

The proposal has adequately considered all potential nuisances such as noise and outdoor lighting. Except where specifically authorized by these Regulations, all lighting shall be the minimum necessary to address safety and security needs taking into account manufacturer's installation charts and spacing recommendations for the proposed lighting. All lighting fixtures shall be designed to prevent undesirable illumination or glare above the site or beyond the site's property lines. All lighting fixtures shall be shielded and aimed downward unless it can be demonstrated that alternative designs will not result in spill light (undesirable light that falls outside the area of intended illumination).

Explanatory Note:

PAGE
BREAK

March 30, 2011 Draft

Proposed Zoning Regulation Revisions Re: Recreational and Pedestrian Improvements

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(*Explanatory Notes* are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

A. In Article V, Section A.3.d.13, replace “pedestrian ways” with “sidewalks, bikeways, paths and trails”.

B. In Article V, Section A.3.d.18 incorporate the following revisions:

Location of existing and proposed recreational facilities including appropriate construction details for trails, ball fields, playgrounds, swimming pools, tennis, volleyball or basketball courts or other recreational improvements.

C. In Article V, Section A.5.e. incorporate the following revisions:

Vehicular and pedestrian access to the property and egress from the property and internal vehicular and pedestrian traffic patterns are safe and suitable and have been designed to maximize safety and avoid hazards and congestion. Adequate provisions have been made to address accessibility problems of handicapped individuals. All curb cuts shall have adequate sightlines and adjacent streets shall have adequate capacity to safely accommodate the traffic flows associated with the proposed use(s). As deemed necessary, offsite road and drainage improvements may be required by the Commission;

Sidewalks, bikeways, trails and/or other improvements designed to encourage and enhance safe pedestrian and bicycle use shall be required, unless specifically waived by a three-quarter (3/4) vote of the entire Commission (7 votes), for all sites within or proximate to Plan of Conservation and Development designated “Planned Development Areas; proximate to schools, playgrounds, parks and other public facilities; or proximate to existing or planned walkway, bicycle or trail routes. In evaluating any waiver request, the Commission shall consider the size and the location of the proposed development, its relationship to existing or planning development, school sites, playground areas and other public areas and the location and nature of existing or planned sidewalk, bikeway or trail improvements.

Explanatory Note:

PAGE
BREAK

March 30, 2011 Draft

Proposed Zoning Regulation Revisions

Re: a. Notification Requirements, b. Refuse Areas, c. Other

(New provisions are underlined or otherwise indicated)

(Deletions are bracketed or otherwise indicated)

(*Explanatory Notes* are provided to assist with an understanding of the proposed revisions. These notes are not part of the proposed zoning revisions.)

A. Notification Requirements

1. In Article V, Section A.3.c. delete “return receipt” in line 6;
2. In Article V, Section B.3.c. insert “and” between “owners” and “a listing” in line 9 and delete “and return receipts from certified mailings” in lines 9 and 10.

B. Refuse Areas:

1. In Article V, Section A.3.d.14. incorporate the following revisions:

Existing and proposed off-street parking and loading areas, fire access lanes, outside storage and refuse areas, and underground and aboveground fuel and chemical storage tanks. All required parking spaces, loading areas, fire lanes, etc. shall be clearly delineated with pavement markings or other suitable measures. All refuse areas shall be adequately sized for both refuse and materials to be recycled and shall be screened to minimize visual impact.

C. Other:

1. In Article V, Sections A.2 and A.3 replace “Town Planner” with “Director of Planning”

Explanatory Note:

PAGE
BREAK

TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Town Council
From: Gregory Padick, Director of Planning
Date: March 31, 2011
Re: March 2011 Draft UConn Water Supply Plan



This memo updates my 3/23/11 memo. The Town has submitted a written request to the University of Connecticut to extend the deadline for Town comments until April 26th. This requested extension which is expected to be approved, will allow additional time for the Planning and Zoning Commission, Conservation Commission, Town Council and staff to review the draft and formulate consolidated comments. I expect formal approval of the extension request prior to Monday's meeting.

Assuming UConn approval, the Commission should be expected to act on this issue at its April 19th meeting. Discussion should begin on Monday and my staff report will be provided in the April 19th agenda packet.

TOWN OF MANSFIELD
OFFICE OF PLANNING AND DEVELOPMENT

GREGORY J. PADICK, DIRECTOR OF PLANNING

Memo to: Town Council
Mansfield Planning and Zoning Commission
Conservation Commission

From: Gregory Padick, Director of Planning

Date: March 23, 2011

Re: March 2011 Draft UConn Water Supply Plan



Please find attached the Table of Contents, Lists of Tables and selected pages from a March 2011 Draft UConn Water Supply Plan as prepared by Milone and MacBroom Inc. This draft plan would replace UConn's existing Water Supply Plan. I also have attached selected pages from associated "Water Conservation" and "Wellfield Management Plans". Complete copies of all three draft plans are available at: <http://www.facilities.uconn.edu/wtr-swr.html> Copies also are available at the Library and Town Clerk's Office.

The subject plans provide important information about UConn's existing water facilities, supply issues, existing and anticipated demands and recommended system improvements. The draft plans will be submitted to the State Department of Public Health in May 2011. Prior to this submission, University Officials will consider potential revisions based on public comments submitted on the draft plan. The deadline for submitting public comments is April 18, 2011.

Consistent with past Town practices, an effort will be made to forward consolidated Town comments prior to the April 18th public comments period deadline. Mansfield staff members are in the process of reviewing the March 2011 draft plans and it is anticipated that staff comments will be available prior to the Planning and Zoning Commission's April 4th meeting. Subsequently, Planning and Zoning Commissions comments and any comments then available from the Conservation Commission will be forwarded to the Town Council prior to the Council's April 11th meeting. It is noted that the Conservation Commission does not have a regularly scheduled meeting until April 20th and it may be appropriate for the Planning and Zoning Commission and the Town Council to authorize the PZC Chairman and Mayor to incorporate supplemental comments provided by the Conservation Commission.

It is understood that all comments received on the draft plan will be included in the submittal to the State Department of Public Health. University representatives also plan to include a description of any changes made to the plans in response to received comments. Comments on the draft plans should be sent in writing to Mr. Jason Coite, Environmental Compliance Analyst, UConn Office of Environmental Policy, 31 LeDoyt Road, Unit 2088, Storrs, CT 06269.

Please contact me at (860) 429-3329 or padickgj@mansfieldct.org if you have any questions regarding the water supply plan review process.

Excerpts from

UNIVERSITY OF CONNECTICUT
WATER SUPPLY PLAN

MAY 2011

MMI #1958-31

Prepared for:



University of Connecticut
Facilities Management – Operations
25 Ledoyt Road, Unit 3252
Storrs, Connecticut 06269-3252
(860) 486-0041

Prepared by:

Milone & MacBroom, Inc.
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.miloneandmacbroom.com

TABLE OF CONTENTS

1.0 INTRODUCTION.....

2.0 WATER UTILITY STRUCTURE AND ASSETS

2.1 Historical Perspective

2.2 Organizational Structure

2.3 Operator Certification

2.4 Legal Authority and Contractual Agreements

2.5 Financial Program.....

2.6 Water Utility Assets.....

2.7 University-Owned Land

3.0 EXISTING WATER SUPPLY SYSTEM.....

3.1 Overall System Description

3.2 Ground Water Supply Sources.....

3.3 Source Water Assessment.....

3.4 Source Water Protection

3.5 Wellhead Protection Regulations.....

3.6 Diversion Registrations.....

3.7 Flooding.....

3.8 Safe Yield Evaluation

3.9 Available Supply.....

3.10 Margin of Safety

4.0 EXISTING SYSTEM PERFORMANCE.....

4.1 Treatment Facilities

4.2 Storage, Pumping, Transmission, and Distribution

4.2.1 *Pressure Zones*.....

4.2.2 *Storage Facilities*.....

4.2.3 *Pumping Facilities*.....

4.2.4 *System Pressures/Fire Protection*.....

4.2.5 *Transmission and Distribution System Facilities*

4.2.6 *Consumptive Use Metering*.....

4.3 Operations and Maintenance

4.3.1 *System Operations*

4.3.2 *System Maintenance*

4.4 Water Quality.....

4.4.1 *Regulatory Overview*

4.4.2 *Water Quality Monitoring Program*.....

4.4.3 *Raw Water and Entry Point Monitoring*.....

TABLE OF CONTENTS (Continued)

4.4.4 *Distribution Monitoring*..... -

4.4.5 *Cross Connections*..... -

4.4.6 *Summary*..... -

4.5 *Hydraulic Model*..... -

4.6 *Utility Design Criteria*..... -

4.7 *System Deficiencies and Needed Improvements*..... -

5.0 **POPULATION AND HISTORIC WATER USE**.....

5.1 *System Overview*.....

5.2 *Current Population and Water Usage Categories*.....

5.2.1 *On-Campus Residential Users*.....

5.2.2 *On-Campus Non-Residential Users*.....

5.2.3 *Off-Campus Residential Users*.....

5.2.4 *Off-Campus Non-Residential Users*.....

5.2.5 *Summary of Known Water Usage*.....

5.3 *Historic Water Production*.....

5.4 *Historic Water Consumption*.....

6.0 **LAND USE, FUTURE SERVICE AREA, AND DEMAND PROJECTIONS**.....

6.1 *General*.....

6.2 *Land Use, Zoning, and Future Service Area*.....

6.2.1 *Existing and Exclusive Service Areas*.....

6.2.2 *Land Use*.....

6.2.3 *Review of Local Planning Documents*.....

6.2.4 *Zoning*.....

6.2.5 *General Discussion of Potential Future Service Areas*.....

6.2.5 *Committed Future Service Areas*.....

6.3 *Population and Water Demand Projections*.....

6.3.1 *Population Projections*.....

6.3.2 *Projected Water Demands*.....

6.3.3 *Non-Revenue Water*.....

6.3.4 *Projected Monthly Demands*.....

7.0 **ASSESSMENT AND SELECTION OF ALTERNATIVES**.....

7.1 *Projected Margins of Safety*.....

7.2 *Assessment of Alternative Water Supplies*.....

7.2.1 *Fenton River Well D*.....

7.2.2 *Reclaimed Water Project*.....

7.2.3 *Relocation of Fenton Well A*.....

7.2.4 *Interconnection with Windham Water Works*.....

TABLE OF CONTENTS (Continued)

7.2.5 *Interconnection with Tolland Water Department*.....

7.2.6 *Interconnection with The Connecticut Water Company*.....

7.2.7 *New Stratified Drift Ground Water Sources*.....

7.2.8 *Prioritization of Future Supplies*.....

7.3 System Improvements and Maintenance Activities.....

7.4 Financing of Proposed Improvements and Programs.....

LIST OF TABLES

Table 2-1 Summary of State Certifications.....

Table 2-2 Summary of Water Rates.....

Table 2-3 Water & Sewer Annual Revenues.....

Table 2-4 Recent Water Supply System Upgrades and Initiatives.....

Table 2-5 Probable System Replacement Costs.....

Table 3-1 Fenton River Wellfield Specifications.....

Table 3-2 Willimantic River Wellfield Specifications.....

Table 3-3 Diversion Registrations.....

Table 3-4 Fenton River Wellfield Available Water Supply.....

Table 3-5 Monthly Margins of Safety, 2010.....

Table 4-1 Summary of Storage Tank Specifications.....

Table 4-2 Summary of Pumping Specifications.....

Table 4-3 Distribution Piping Inventory for Main Campus.....

Table 4-4 Distribution Piping Inventory for Depot Campus.....

Table 4-5 Operation and Maintenance Schedule.....

Table 4-6 Raw Water Quality Monitoring Program.....

Table 4-7 Entry Point Water Quality Monitoring Program.....

Table 4-8 Distribution Water Quality Monitoring Program.....

Table 4-9 Summary of 2002 Cross Connection Survey Report.....

Table 4-10 Breakdown of Distribution System Model Pipes by Diameter.....

Table 4-11 Breakdown of Distribution System Model Pipes by Material.....

Table 5-1 Main Campus Resident Populations and Water Demands, 2010.....

Table 5-2 On-Campus Non-Residential Water Usage.....

Table 5-3 Summary of Makeup Water Consumption at Central Utilities Plant, 2006.....

Table 5-4 Summary of Makeup Water Consumption at Central Utilities Plant, 2008.....

Table 5-5 Off-Campus Residential Complexes Served by the University.....

Table 5-6 Off-Campus Commercial and Business Customers Served by the University..

Table 5-7 Off-Campus Institutional Customers Served by the University.....

Table 5-8 Service Population and Water Usage by Category, 2007-2009.....

TABLE OF CONTENTS (Continued)

Table 5-9	Summary of Annual Production
Table 5-10	Monthly Production (MG)
Table 5-11	Monthly Production (mgd)
Table 5-12	Peak Day Demands by Month
Table 5-13	Metered Water Demand Since 2000
Table 5-14	Top Five Non-University Water Users
Table 5-15	Top Ten University Water Users
Table 6-1	Summary of Zoning Designations
Table 6-2	Design Criteria for Residential Zones
Table 6-3	Committed Water Demand Estimates
Table 6-4	North Campus Water Demand Estimates
Table 6-5	Depot Campus Water Demand Estimates
Table 6-6	Statewide and Townwide Population Data
Table 6-7	North Campus Water Demand Planning Horizons
Table 6-8	Depot Campus Water Demand Planning Horizons
Table 6-9	Allocation of Committed Water Demand Estimates
Table 6-10	Seasonality of Potable Water Consumption
Table 6-11	Projected Monthly Water Demands, 2015
Table 6-12	Projected Monthly Water Demands, 2030
Table 6-13	Projected Monthly Water Demands, 2060
Table 6-14	Peaking Factors
Table 6-15	Projected Peak Water Demands, 2015
Table 6-16	Projected Peak Water Demands, 2030
Table 6-17	Projected Peak Water Demands, 2060
Table 7-1	Projected Monthly Margins of Safety, 2015
Table 7-2	Projected Monthly Margins of Safety, 2030
Table 7-3	Projected Monthly Margins of Safety, 2060
Table 7-4	Projected Peak Margins of Safety, 2015
Table 7-5	Projected Peak Margins of Safety, 2030
Table 7-6	Projected Peak Margins of Safety, 2060
Table 7-7	Projected Monthly Margins of Safety With Well D, 2015
Table 7-8	Projected Peak Margins of Safety With Well D, 2015
Table 7-9	Projected Monthly Margins of Safety With Well D, 2030
Table 7-10	Projected Peak Margins of Safety With Well D, 2030
Table 7-11	Projected Monthly Margins of Safety with RWF, 2015
Table 7-12	Projected Peak Margins of Safety with RWF, 2015
Table 7-13	Windham Water Works Projected Margins of Safety
Table 7-14	Windham Water Works Water Demands, 2008-2010
Table 7-15	Projected Monthly Margins of Safety with RWF + Additional 0.5 mgd, 2030
Table 7-16	Projected Peak Margins of Safety with RWF + Additional 0.5 mgd, 2030
Table 7-17	Projected Monthly Margins of Safety with RWF + Additional 0.5 mgd, 2060
Table 7-18	Projected Peak Margins of Safety with RWF + Additional 0.5 mgd, 2060

TABLE OF CONTENTS (Continued)

Table 7-19 Short Term Improvement Schedule (2011-2015).....
Table 7-20 Intermediate Term Improvement Schedule (2016-2030).....
Table 7-21 Long Term Improvement Schedule (2031-2060).....

LIST OF FIGURES

Figure 1-1 University Water System.....
Figure 2-1 Organizational Chart.....
Figure 2-2 University-Owned Land.....
Figure 3-1 System Schematic.....
Figure 3-2 Location Plan of Fenton River Wellfield.....
Figure 3-3 Location Plan of Willimantic River Wellfield.....
Figure 6-1 North Campus Future Development.....
Figure 6-2 Depot Campus Future Development.....
Figure 7-1 Overview of Potential Interconnections.....
Figure 7-2 Overview of Potential Groundwater Supplies.....
Figure 7-3 Potential Interconnections on State Plan of Conservation.....
Figure 7-4 Potential Groundwater Supplies Along Willimantic River.....

LIST OF APPENDED FIGURES

Figure I Water Service Area
Figure II Distribution System Mapping (Five Sheets)
Figure III Town of Mansfield Zoning Map
Figure IV Future Service Areas

LIST OF APPENDICES

Appendix A Operator Certificates
Appendix B Agreement with Town of Mansfield
Appendix C Source Water Assessment Report
Appendix D Water Transmission and Distribution System Mains
Appendix E Rules and Regulations of the University of Connecticut Water System

SECTION 1.0
INTRODUCTION

1.0 INTRODUCTION

The University of Connecticut currently provides potable water to the area of Storrs, Connecticut and portions of the surrounding Town of Mansfield. This water supply plan is an update of the University of Connecticut ("University") *Water Supply Plan* dated November 2004, revised January 2006, and approved by the Connecticut Department of Public Health (DPH) on May 23, 2006. The subject water supply plan addresses both the Main Campus water system (public water system #CT0780021) and the Depot Campus water system (public water system #CT0780011) that are identified separately by the DPH¹. Figure 1-1 depicts the area served by the University of Connecticut.

Certain regulated water utilities in Connecticut must complete water supply plans in accordance with Section 25-32d of the Connecticut General Statutes, Section 25-32d of the Regulations of Connecticut State Agencies, and the updated Water Supply Plan regulations² adopted in the year 2005. The Water Supply Plan regulations and the supporting statutes recognize that planning is a critical management activity of all water utilities. The principal goals of water system planning as defined by the DPH are to: (1) ensure an adequate quantity of pure drinking water, now and in the future; (2) ensure orderly growth of the system; and (3) make efficient use of available resources.

Although the University is not considered a "water company" as set forth in Connecticut General Statute (CGS) Section 25-32a, the University views the *Water Supply Plan* as an integral device in planning for a safe and adequate water supply system through the foreseeable future. Thus, this plan addresses (when possible) the requirements of CGS Section 25-32d and the University will distribute the plan to reviewing agencies and interested parties for review and comment.

Legend

UConn Existing Service Area



Main Campus System



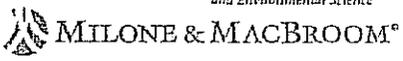
Depot Campus System

Willimantic River Wellfield

Fenton River Wellfield

DEPOT CAMPUS

MAIN CAMPUS

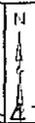


Engineering,
Landscape Architecture
and Environmental Science

99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773 Fax: (203) 272-9733
www.miloneandmacbroom.com

University Water System

MMI#: 1958-31
MXD: H:\Figure1-1.mxd
SOURCE: Microsoft



University of Connecticut Water Supply Plan

LOCATION:

Mansfield, CT

Map By: SJB

Date: 1/7/2011

Scale: 1"=3,500'

SHEET:

Figure 1-1

The University is fortunate to have access to high quality drinking water through its Fenton River and Willimantic River wellfields. These resources have served the University for decades and will continue to serve the University for years to come. The supply and distribution system also includes a water treatment facility at each wellfield, three booster pumping stations, six water storage tanks, and 23 miles of water transmission and distribution mains.

Currently, the University withdraws water from eight production wells, with four production wells located at each wellfield. Seven of the eight wells are gravel packed wells, and all eight wells are constructed as high-capacity wells in stratified drift. Recent environmental studies, namely the "Fenton River Study" of 2006³ and the "Willimantic River Study" of 2010⁴, have demonstrated that operating the wells results in diminution of river flows. Under certain low river flow conditions, extended pumping may result in adverse environmental impacts. As such, both wellfields have been recently operated in accordance with individual management plans that are hereby consolidated in the *Wellfield Management Plan* developed in association with this Plan.

The University also has a considerable amount of water storage capacity with over eight million gallons (MG) available. This storage volume, in combination with the University's booster pump capacity and well production capacity, enables the University to accommodate all of its system demands, including peak day demands. The University could turn off its wellfields and be able to meet average day demand from storage alone for several days.

Average daily demand was 1.29 million gallons per day (mgd) in 2010. The construction and development of the "UConn 2000" and "21st Century UConn" initiatives have not adversely stressed the University's water system. In fact, the University is using less water today than it did back in the 1980s and early-to-mid 1990s. This is due to water conservation efforts and capital improvement programs aimed at reducing water leakage

and overall consumption. The University continues to be committed to conserving water and installing water efficient devices in new construction.

This Water Supply Plan evaluates various components of the University's water system for the 5-, 20-, and 50-year planning periods. The five-year planning period is projected from the year of the plan preparation (2010). The 20- and 50-year planning periods are projected from the most recent decennial census (2010). Accordingly, these planning periods correspond to the years 2015, 2030 and 2060.

This Plan assesses the ability of the University to meet the intended goals of the Statutes and Regulations of the DPH, and outlines capital improvements and operations necessary to meet those goals in the future. The information contained in this Plan was obtained from a variety of sources, including a review of University files and written and verbal information obtained from University staff. Additional information was obtained from a review of reports and records relative to the water supply system that were formulated since the previous Plan. Where appropriate, portions of these documents have been incorporated.

Budgetary estimates are referenced in this document. These are preliminary estimates and are intended to be used for planning purposes only. Opinions of probable capital and operational costs are based on best estimates. Actual costs may substantially vary from the costs reported in this planning document.

Special thanks is given to the following individuals from the University, the Town of Mansfield, and The Connecticut Water Company for their time, effort, and input throughout the preparation of this plan:

- Mr. Thomas Callahan, Vice President, University of Connecticut
- Mr. Eugene Roberts, Facilities Operators Director, University of Connecticut
- Mr. Michael Pacholski, University of Connecticut (retired)

- Mr. Rich Miller, University of Connecticut Office of Environmental Policy
- Mr. Tim Tussing, Facilities Manager, Water & Sewer, University of Connecticut
- Mr. Jason Coite, University of Connecticut Office of Environmental Policy
- Mr. Pete Puhlick, Utility Maintenance Engineer, University of Connecticut
- Mr. Stanley Nolan, Energy Engineer, University of Connecticut
- Mr. Lon Hultgren, Town of Mansfield Department of Public Works
- Mr. Greg Padick, Town of Mansfield Planning Department
- Mr. Pete Pezanko, Contract Operator, Connecticut Water Company
- Mr. Robert Wittenzellner, Contract Operator, Connecticut Water Company

TABLE 2-4
Recent Water Supply System Upgrades and Initiatives

Description	Cost
Production meter cleaning and calibration ¹	\$5,605
Repair Depot water treatment meter and replace flow chart recorder	\$2,965
Troubleshoot Fenton well pacing	\$2,090
Install High Head level with chart recorder	\$4,650
Repair Willimantic transmission line	\$677,000
Complete distribution mapping	\$600
Replace pumps on Willimantic Wells 1 & 3	\$146,975
Install Willimantic pump controls / protection – Wells 1 & 3	\$1,520
Replace Fenton production meters	\$14,720
Flow test Fenton booster pumps	\$620
Repair Fenton chemical flow meter/pacing	\$15,250
Install temporary pump/motor Willimantic Well 3	\$8,065
Replace pump on Willimantic Well 4	\$78,265
Install Willimantic pump controls/protection – Well 4	\$2,265
Re-drill Well 3 – Screen collapse	\$48,100
Install Bone Mill Road tank level control	\$18,580
Horsebarn Hill leak detection	\$1,520
Install Willimantic wellfield radio controls	\$30,075
Replace Fenton caustic storage	\$90,500
Integrate Fenton controls	\$1,520
Repair Depot clay valve and replace control	\$2,840
Repair Fenton Well D	\$85,500
Install Towers tank controls	\$18,300
Repair 550 gpm Clearwater tank booster	\$62,230
Replace six-inch pipe to Central Utility Plant	\$110,000
Four-year sub-metering program	\$2,400,000
Fenton/Willimantic River USGS streamflow gages	\$22,000
South Campus express line modifications	\$360,000
New 16" water main – Towers to Glenbrook and North Eagleville Road	\$2,300,000
Replacement of two smaller Towers tanks with new 1 MG tank	\$2,500,000
New Well Water Treatment Facility – Willimantic River Wellfield	\$3,500,000
Total Capital Upgrades:	\$12,514,755
Fenton River Instream Flow study	\$564,000
Fenton River invertebrate study	\$87,000
Water Supply Master Planning	\$115,000
Water Conservation Study	\$78,000
Willimantic River Level A Study	\$9,700
Water System Hydraulic Study	\$45,000
Reclaimed Water Feasibility Study	\$25,000
Willimantic River Instream Flow Study	\$173,000
NEWUS Operation and Management (2006-2009)	\$667,000
Streamflow gauge operation (by USGS, per year)	\$30,000
Compliance and Sustainability	\$300,000
Total Upgrades and Initiatives	\$14,575,455

¹Now performed annually under NEWUS contract.

Professional Office Zone 1 (PO-1, associated with a few properties in Storrs), Planned Business Zone 2 (PB-2, associated with a few additional properties in Storrs), and Planned Business Zone 4 (PB-4, located along King Hill Road/North Eagleville Road) are currently in the water service area, as are the I zone (the Main and Depot Campuses) and the RD/LI zone (North Campus). Of the residential zones, sections of the DMR, R-90, and RAR-90 zones overlap with the water system.

Future service areas described below in Section 6.2.6 are located in the PO-1 and PB-2 zones (Storrs Center); PB-4 zone (King Hill Road/North Eagleville Road), RD/LI zone (North Campus), and I (Depot Campus). All future committed developments to be served by the University's water system are believed to be appropriate for their zoning.

6.2.5 General Discussion of Potential Future Service Areas

The Town of Mansfield Water Supply Plan (Milone & MacBroom, Inc., 2002) summarized projected new water demands in the Town of Mansfield, including developable land as well as small public water systems that were considered candidates for an expanded University or municipal water supply. The discussion was broken into two categories: "Existing and/or Committed UConn Water Service" and "Not Served by UConn Water System."

The category "Existing and/or Committed UConn Water Service" in the Mansfield plan included the North Campus area, Storrs Center project area, additional new University housing, Holinko Apartments, the North Eagleville Road/King Hill Road planned business area, and the Depot Campus. All of these areas were denoted as Planned Development Areas in the previous Mansfield Plan of Conservation and Development, and some of them remain as such in the current Plan of Conservation and Development.

Much of the new University housing has been completed since 2002 (such as Hilltop Apartments, Charter Oak Apartments, and Charter Oak Suites), although the portion of

the new University housing that was predicted to be located at or west of Northwood Apartments is no longer proposed. The Storrs Center project, North Campus Development, and Depot Campus development are all pending with different timetables. Finally, current plans are not in place for redevelopment of the North Eagleville Road/King Hill Road planned business area, although redevelopment could occur at any time.

The category "Not Served by UConn Water System" included the following areas of interest: portions of Meadowood Road, Mansfield Four Corners inclusive of Rosal Apartments, Carriage House Apartments, Club House Apartments, Hunting Lodge Apartments, Jensen's Rolling Hills Mobile Home Park, and undeveloped parcels off Hunting Lodge Road, Separatist Road, and South Eagleville Road. All of these listed areas are relatively proximal to the University water system. To date, none of the areas listed above have been connected to the University water system. Some of the areas remain undeveloped; some continue to use community water systems; and some continue to rely on individual private wells.

Based on their inclusion in the Town of Mansfield Water Supply Plan, the above categories of future potential water demand were discussed in the University's Water and Wastewater Master Plan in 2007. The master plan included an additional category of future potential water demand based on a review of the Mansfield Plan of Conservation and Development. This review took an aggressive point of view relative to future water demands but did not attach timetables or likelihoods to the listed water demands:

- Orchard Acres Apartments off Separatist Road – Existing apartment complex with community water system;
- Parcels southwest of Knollwood Acres Apartments – Proposed medium- to high-density age-restricted residential use;
- A parcel north of Route 44 and west of Cedar Swamp Road – Proposed medium- to high-density age-restricted residential use;

- Parcels north of Jensen's Mobile Home Park adjacent to the Four Corners planned business area – Proposed medium- to high-density age-restricted residential use or medium- to high-density residential use;
- Parcels southwest of Hunting Lodge Apartments at Birch Road and Hunting Lodge Road – Proposed medium- to high-density residential use; and
- Parcel southeast of Hunting Lodge Apartments on Hunting Lodge Road – Proposed medium- to high-density residential use.

Projected water demands for these parcels were primarily based on discussions with the Town of Mansfield Planning Department to determine the potential number of units except for the following parcels, where alternate estimation methods were used: for the Orchard Acres apartment complex, population was reported in the DPH sanitary survey report; and for the small parcel located southwest of Hunting Lodge Apartments, zoning was used to estimate a nominal build-out of two housing units.

During the development of the master plan, the Town of Mansfield also indicated that adjustments need to be considered for existing housing complexes that may increase density if water and sewer became available. The following complexes in particular were cited as potential candidates for additional water demands equal to 50% of the current estimated demands: Orchard Acres, Club House, Hunting Lodge and Carriage House Apartments.

In total, the following future potential water demands were estimated in the Water and Wastewater Master Plan:

- Committed Service – 357,700 gpd
- Areas Identified in the Mansfield Water Supply Plan – 170,600 gpd
- Additional Areas – 118,900 gpd

Including all of the above demands and irrespective of timelines or actual likelihoods of development, the total future potential additional water demand for the University water system would be 647,200 gpd.

6.2.6 Committed Future Service Areas

Subsequent to the completion of the Water and Wastewater Master Plan, the University has revisited its commitments for water service and currently has a firm understanding of future water demands that (1) are likely to occur and (2) will be served from the existing water system. These are known as "committed water demands" and are summarized in Table 6-3.

TABLE 6-3
Committed Water Demand Estimates

Description	Committed Demand Estimate
North Campus Development	89,600 gpd
Storrs Center	169,300 gpd
North Eagleville Road/King Hill Road PBA	5,000 gpd
Depot Campus (New Development)	93,800 gpd
<i>Total</i>	<i>357,700 gpd</i>

A description of the estimate for each is provided below.

North Campus – This area has been the focus of several studies and planning efforts. An Environmental Impact Evaluation (EIE) was first completed in 1994. The Outlying Parcels Master Plan (2000) and North Campus Master Plan EIE (2001) first provided detailed estimates of water demands on the order of 90,000 gpd exclusive of the residential components of the project (which have been constructed as the Charter Oak Apartments). The figure was based on an estimate of 0.1 gpd per square foot of research, office, or retail. This multiplier is provided in the DPH design guidelines for estimating wastewater flows from non-residential buildings.

The current Draft Environmental Impact Statement (2007) has not directly revised water demands, although the total square footage has been modified very slightly from 900,000 square feet to 896,000 square feet. Applying the same 0.1 gpd/square foot multiplier, the current estimate for water demand is 89,600 gpd. Table 6-4 provides a breakdown of the parcels and their respective square footage and water demand.

TABLE 6-4
North Campus Water Demand Estimates

Parcel	Building Square Footage	Average Day Water Demand Estimate
B	281,000	28,100 gpd
C	173,000	17,300 gpd
D	127,000	12,700 gpd
E	190,000	19,000 gpd
G	90,000	9,000 gpd
H	Charter Oaks Apartments	No new water demand
J	35,000	3,500 gpd
	<i>Total</i>	<i>89,600 gpd</i>

The University recognizes that applying a multiplier of 0.1 gpd/square foot is not the most ideal means of estimating water demands, as an analysis of actual building usage is typically preferred. However, until such time that plans are in place for any one of the North Campus parcels, the estimate of 89,600 gpd is a reasonable figure to use for planning purposes.

Storrs Center – The Storrs Center project has been in planning and development since 2001, and is currently expected to include approximately 200,000 square feet of retail/restaurant use and 700 residential units. Of the 700 units, 290 are anticipated to consist of upscale apartment homes with a mixture of studio, one-bedroom, two-bedroom and three-bedroom units. Scheduled to be completed in 2012 and 2013, respectively, the first two phases will include both commercial and residential components. Phase IA will include 125 residential rental units and 30,000 square feet of retail/ restaurant space, while Phase IB will include 150 residential rental units and 40,000 square feet of retail/restaurant space.

Water demand estimates for the Storrs Center project were previously estimated in the Mansfield Water Supply Plan (2002) and the University's Water and Wastewater Master Plan (2007), with the most recent estimate at 169,300 gpd.

Businesses at 1254 Storrs Road, 13 Dog Lane, 10 Dog Lane (sometimes known as Phil's building), and 4 Dog Lane will be affected by the construction of Storrs Center, as are the University of Connecticut Design Center, Print Shop, and former Publications building. The University has been relocating its facilities throughout campus. The businesses will be relocated to the project site. Specifically, Select Physical Therapy (13 Dog Lane), Tailoring by Tima (10 Dog Lane), Storrs Automotive (4 Dog Lane) and the businesses at 1254 Storrs Road (Wings, Travelplanners, Campus Cuts, Body Language, and Skoras barber shop) are current businesses that will be relocated to the new development.

The leasing process for Phase 1A began in 2009. Twelve tenants have signed letters of intent, including some existing businesses. These are Vanilla Bean Cafe, Cosimos, Insomnia Cookies, Moe's Southwest Grill, Storrs Automotive (to be relocated from 4 Dog Lane), and the following to be relocated from 1254 Storrs Road: Wings, Travelplanners, Campus Cuts, Body Language, Tailoring by Tima, Skoras and Select Physical Therapy. Negotiations are underway with other potential tenants.

This Storrs Center area is currently served by the University's water system. Phil's is a metered water customer with a demand of approximately 60 gpd to 100 gpd, whereas Storrs Automotive and the plaza at 1254 Storrs Road are non-metered water customers that are included in the 15% non-metered category discussed in Section 5.0. Phil's, Storrs Automotive, and the tenants of 1254 Storrs Road together utilize a nominal quantity of water that is included in the overall estimate for Storrs Center.

North Eagleville Road/King Hill Road – This area already contains some commercial establishments and is zoned for additional development. The area is already served by

the University water system already, and therefore has continued access to the water system. Additional demand would be only a few thousand gallons per day. A figure of 5,000 gpd has been utilized in previous planning documents such as the Town of Mansfield Water Supply Plan and the University's Water and Wastewater Master Plan, and is carried forward to this plan.

Depot Campus (New Development) – Additional development of this area was addressed in the Outlying Parcel Master Plan. A mixture of housing, offices, and classrooms has been proposed. Water demands were estimated in the Mansfield Water Supply Plan on a parcel-by-parcel basis, utilizing the previously-available notations of "Parcel 1" through "Parcel 7" and taking into account the square footage of existing buildings that will remain on-site, as well as square footage of proposed buildings that may be developed. Based on these estimates, a water demand of 95,300 gpd was calculated. Water demand was not estimated for existing occupied buildings (such as Parcels 3 and 5), because these already use water from the existing supply.

The Center for Clean Energy Engineering ("Enterprise Building") was constructed on Parcel 2 in 2001. This metered building had a water demand of approximately 1,500 gpd in 2010. Therefore the previous calculation for Parcel 2 has been revised downward by 1,500 gpd. Table 6-5 provides a breakdown of the parcels and their respective square footage and water demand.

**TABLE 6-5
Depot Campus Water Demand Estimates**

Parcel	Building Square Footage	Average Day Water Demand Estimate
1	315,000	31,500 gpd
1B	48,800	4,900 gpd
2	135,000	13,500 gpd
2	Enterprise Building	-1,500 gpd
2C	23,300	2,300 gpd
3 & 3B	96,000	9,600 gpd
4 & 4B	255,000	25,500 gpd
5	Currently occupied	No new water demand
5B	80,000	8,000 gpd
	<i>Total</i>	<i>93,800 gpd</i>

As with the North Campus estimates, the University recognizes that applying a multiplier of 0.1 gpd/square foot is not the most ideal means of estimating water demands. However, until such time that plans are in place for any one of the Depot Campus parcels, the estimate of 93,800 gpd is the most reasonable figure to use for planning purposes.

6.3 POPULATION AND WATER DEMAND PROJECTIONS

6.3.1 Population Projections

University of Connecticut – Residential and Non-Residential Populations

Although fluctuations will occur from year to year, the University's on-campus residential population is not projected to increase or decrease substantially throughout the five, 20, and 50-year planning horizons. Therefore, the associated water demands have been captured in the recent production and consumption figures.

On-campus transient and non-transient non-residential water demands will increase in the specific areas already targeted for growth, such as North Campus and additional

SECTION 7.0
ASSESSMENT AND SELECTION OF ALTERNATIVES

7.0 ASSESSMENT AND SELECTION OF ALTERNATIVES

7.1 PROJECTED MARGINS OF SAFETY

Projected water demands are presented in Section 6.0 of this Plan. Projected margins of safety are discussed herein. Recall from Section 3.10 that monthly margins of safety dropped below 1.0 in September and October 2010 as water production ramped up to accommodate returning students combined with high water demands at the CUP. The University has met demands for the past few years by operating the Willimantic River Wellfield for 19 to 20 hours per day as needed, exceeding the safe yield of the supply but not exceeding the hydraulic capacity of the wellfield or its transmission system.

Tables 7-1, 7-2, 7-3, and 7-4 present the monthly margins of safety for the University for 2015, 2030, and 2060 without consideration of any potential future supplies.

TABLE 7-1
Projected Monthly Margins of Safety, 2015

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	1.29	1.48	0.84	1.80
February	1.75	1.48	0.84	1.33
March	1.40	1.48	0.84	1.66
April	1.68	1.48	0.84	1.38
May	1.14	1.48	0.84	2.03
June	1.17	1.48	0	1.27
July	1.24	1.48	0	1.19
August	1.26	1.48	0	1.17
September	1.79	1.48	0	0.82
October	1.66	1.48	0	0.89
November	1.46	1.48	0.84	1.59
December	1.38	1.48	0.84	1.68

TABLE 7-2
Projected Monthly Margins of Safety, 2030

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	1.51	1.48	0.84	1.53
February	2.07	1.48	0.84	1.12
March	1.65	1.48	0.84	1.41
April	1.99	1.48	0.84	1.17
May	1.31	1.48	0.84	1.77
June	1.34	1.48	0	1.10
July	1.42	1.48	0	1.04
August	1.44	1.48	0	1.02
September	2.11	1.48	0	0.70
October	1.96	1.48	0	0.76
November	1.71	1.48	0.84	1.36
December	1.62	1.48	0.84	1.44

TABLE 7-3
Projected Monthly Margins of Safety, 2060

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	1.53	1.48	0.84	1.51
February	2.09	1.48	0.84	1.11
March	1.67	1.48	0.84	1.39
April	2.01	1.48	0.84	1.15
May	1.33	1.48	0.84	1.75
June	1.35	1.48	0	1.09
July	1.43	1.48	0	1.03
August	1.46	1.48	0	1.01
September	2.13	1.48	0	0.69
October	1.98	1.48	0	0.75
November	1.73	1.48	0.84	1.34
December	1.64	1.48	0.84	1.42

Without new sources of water supply, margins of safety will decrease as committed water demands are realized in the system. By 2015, average monthly margins of safety are projected to drop below 1.0 in September and October. Peak day margins of safety are likewise lacking as new committed water demands are realized. Tables 7-4 through 7-6 present the peak day margins of safety for the years 2015, 2030, and 2060.

TABLE 7-4
Projected Peak Day Margins of Safety, 2015

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	2.00	1.97	0.84	1.40
February	2.24	1.97	0.84	1.25
March	2.39	1.97	0.84	1.18
April	2.23	1.97	0.84	1.26
May	1.89	1.97	0.84	1.49
June	2.01	1.97	0	0.98
July	2.04	1.97	0	0.97
August	2.45	1.97	0	0.80
September	2.32	1.97	0	0.85
October	2.21	1.97	0	0.89
November	2.32	1.97	0.84	1.21
December	2.16	1.97	0.84	1.30

TABLE 7-5
Projected Peak Day Margins of Safety, 2030

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	2.30	1.97	0.84	1.22
February	2.67	1.97	0.84	1.05
March	2.72	1.97	0.84	1.03
April	2.64	1.97	0.84	1.06
May	2.11	1.97	0.84	1.33
June	2.23	1.97	0	0.88
July	2.27	1.97	0	0.87
August	2.69	1.97	0	0.73
September	2.74	1.97	0	0.72
October	2.60	1.97	0	0.76
November	2.65	1.97	0.84	1.06
December	2.47	1.97	0.84	1.14

TABLE 7-6
Projected Peak Day Margins of Safety, 2060

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	2.33	1.97	0.84	1.21
February	2.71	1.97	0.84	1.04
March	2.75	1.97	0.84	1.02
April	2.68	1.97	0.84	1.05
May	2.13	1.97	0.84	1.32
June	2.25	1.97	0	0.87
July	2.29	1.97	0	0.86
August	2.71	1.97	0	0.73
September	2.78	1.97	0	0.71
October	2.64	1.97	0	0.75
November	2.68	1.97	0.84	1.05
December	2.50	1.97	0.84	1.13

The University of Connecticut has identified a number of pending and potential water supplies to address the projected margin of safety shortfalls. These are described in the next section.

7.2 ASSESSMENT OF ALTERNATIVE WATER SUPPLIES

The most feasible alternatives for meeting near-term future water demands include the use of Fenton Well D for potable water supply and the use of treated effluent to supply non-potable water needs at the CUP. Intermediate and long-term water demands may be met by relocating Fenton Well A to a site with lesser environmental impacts, using new interconnections with nearby water utilities, and/or development of new sources of supply. Each of these alternatives is described in the discussions that follow.

7.2.1 Fenton River Well D

As stated in Section 3.10, the University is committed to bolstering its available water supply and restoring monthly margins of safety to levels greater than 1.0 in the short term, and greater than 1.15 in the long term. The addition of Well D to the total available

supply in September and October of any given year will effectively restore average monthly margins of safety to levels greater than 1.0. Refer to Table 7-7 and Table 7-8 for the projected monthly and peak day margins in the year 2015, respectively.

TABLE 7-7
Projected Monthly Margins of Safety With Well D, 2015

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	1.29	1.48	0.84	1.80
February	1.75	1.48	0.84	1.33
March	1.40	1.48	0.84	1.66
April	1.68	1.48	0.84	1.38
May	1.14	1.48	0.84	2.03
June	1.17	1.48	0	1.27
July	1.24	1.48	0	1.19
August	1.26	1.48	0	1.17
September	1.79	1.48	0.35	1.02
October	1.66	1.48	0.35	1.10
November	1.46	1.48	0.84	1.59
December	1.38	1.48	0.84	1.68

TABLE 7-8
Projected Peak Day Margins of Safety With Well D, 2015

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	2.00	1.97	0.84	1.40
February	2.24	1.97	0.84	1.25
March	2.39	1.97	0.84	1.18
April	2.23	1.97	0.84	1.26
May	1.89	1.97	0.84	1.49
June	2.01	1.97	0	0.98
July	2.04	1.97	0	0.97
August	2.45	1.97	0	0.80
September	2.32	1.97	0.35	1.00
October	2.21	1.97	0.35	1.05
November	2.32	1.97	0.84	1.21
December	2.16	1.97	0.84	1.30

Thus, Well D will accomplish the goal of bolstering available supply in the short term. However, by the subsequent planning horizon, Well D will not be sufficient as the sole

future "new" supply to the University. Refer to Table 7-9 and Table 7-10 for the projected monthly and peak day margins in the year 2030, respectively.

TABLE 7-9
Projected Monthly Margins of Safety With Well D, 2030

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	1.51	1.48	0.84	1.53
February	2.07	1.48	0.84	1.12
March	1.65	1.48	0.84	1.41
April	1.99	1.48	0.84	1.17
May	1.31	1.48	0.84	1.77
June	1.34	1.48	0	1.10
July	1.42	1.48	0	1.04
August	1.44	1.48	0	1.02
September	2.11	1.48	0.35	0.87
October	1.96	1.48	0.35	0.93
November	1.71	1.48	0.84	1.36
December	1.62	1.48	0.84	1.44

TABLE 7-10
Projected Peak Day Margins of Safety With Well D, 2030

Month	Projected Water Demand (mgd)	Available Supply from Willimantic River Wells (mgd)	Available Supply from Fenton River Wells (mgd)	Margin of Safety
January	2.30	1.97	0.84	1.22
February	2.67	1.97	0.84	1.05
March	2.72	1.97	0.84	1.03
April	2.64	1.97	0.84	1.06
May	2.11	1.97	0.84	1.33
June	2.23	1.97	0	0.88
July	2.27	1.97	0	0.87
August	2.69	1.97	0	0.73
September	2.74	1.97	0.35	0.85
October	2.60	1.97	0.35	0.89
November	2.65	1.97	0.84	1.06
December	2.47	1.97	0.84	1.14

Furthermore, the use of Well D is not intended to fuel development and expansion of the water system, including even those demands that have been committed and are viewed as

important to the University and the Town of Mansfield. Additional new sources are more appropriate for meeting committed demands.

7.2.2 Reclaimed Water Project

The 2004 Campus Sustainable Design Guidelines developed for the University proposed several water reuse strategies. The infrastructure conditions assessment performed for the University in 2006 recommended an expansion of the wastewater treatment plant to include a new water treatment system capable of providing up to 0.5 mgd of treated effluent for reuse on campus. The project was recommended as a means for reducing the demand of water on the Fenton River Wellfield and reducing the overall impact of the wastewater discharge to the Willimantic River.

As a result of the 2004 and 2006 studies and recommendations in the Water and Wastewater Master Plan in 2007, the University authorized a feasibility study to evaluate the use of highly treated effluent from the University's Water Pollution Control Facility (WPCF) to produce reclaimed water. If feasible, it was believed that reclaimed water could then be used to reduce the reliance on potable water for non-potable uses such as heating and cooling at the CUP. Since the CUP requires an average of 0.4 mgd during its peak month each year, a significant benefit to margin of safety could be realized through the use of reclaimed water.

The reclaimed water feasibility study was completed by the firm Hazen & Sawyer in 2008. Hazen & Sawyer was then retained to complete design and permitting of the facility from 2009 through 2010. Bids for construction of the reclaimed water facility (RWF) were received in mid-2010, and the project is planned for construction from 2011 through 2012. The facility will likely be completed prior to occupancy of Phase IA of the Storrs Center project, allowing for the University to begin serving the first of its committed water demands without development of a new source of supply.

Tables 7-11 and 7-12 provide monthly and peak day margins of safety for the year 2015 with the reclaimed water facility available to the University, in addition to Fenton Well D. In these tables, the water made available as a result of the reclaimed water facility is shown as a subtraction from future water demand rather than as a future supply. Because average annual committed water demands will remain relatively low at 0.11 mgd by the year 2015, the projected monthly margins of safety are all above 1.15 in 2015. With regard to the peak day analysis, projected margins of safety will likely drop below 1.15 in August and September, and may drop below 1.0 for brief periods of time in August. The University's 5.4 million gallon reservoir will easily provide the buffer needed to address peak days.

It is important to note that this peak day margin of safety analysis relies on average monthly requirements of the CUP instead of peak day requirements of the CUP. This is an approximate approach since it is well understood that peak demands at the CUP exceed the average month demands. For example, during the peak month at the CUP (July), the maximum amount of water needed on the day with maximum cooling tower demands exceeds 0.4 mgd. The reclaimed water facility is designed to have a peak capacity of 1.0 mgd, and in reality it will provide a subtraction of greater than 0.4 mgd when CUP demands are peaking.

TABLE 7-11
Projected Monthly Margins of Safety with Well D and RWF, 2015

Month	Current Production (mgd)	Future Committed Demands (mgd)	Associated Unaccounted Water (mgd)	Future RWF Offset (mgd)	Total Future Demand (mgd)	Available Water Supply (mgd)			Margin of Safety
						Willimantic River Wells	Fenton River Wells	Total	
January	1.18	0.10	0.005	-0.20	1.09	1.48	0.84	2.32	2.14
February	1.59	0.15	0.007	-0.20	1.54	1.48	0.84	2.32	1.50
March	1.28	0.11	0.006	-0.19	1.21	1.48	0.84	2.32	1.92
April	1.53	0.14	0.007	-0.18	1.50	1.48	0.84	2.32	1.55
May	1.06	0.08	0.004	-0.34	0.81	1.48	0.84	2.32	2.88
June	1.09	0.08	0.004	-0.35	0.82	1.48	0	1.48	1.81
July	1.16	0.08	0.004	-0.40	0.84	1.48	0	1.48	1.75
August	1.17	0.08	0.004	-0.37	0.89	1.48	0	1.48	1.66
September	1.64	0.14	0.007	-0.27	1.53	1.48	0.35	1.83	1.20
October	1.52	0.13	0.007	-0.23	1.43	1.48	0.35	1.83	1.28
November	1.34	0.11	0.006	-0.25	1.21	1.48	0.84	2.32	1.92
December	1.27	0.11	0.005	-0.25	1.13	1.48	0.84	2.32	2.06

TABLE 7-12
Projected Peak Margins of Safety with Well D and RWF, 2015

Month	Current Production (mgd)	Future Committed Demands (mgd)	Future RWF Offset (mgd)	Total Future Demand (mgd)	Available Water Supply (mgd)			Margin of Safety
					Willimantic River Wells	Fenton River Wells	Total	
January	1.86	0.14	-0.20	2.00	1.97	0.84	2.81	1.56
February	2.04	0.20	-0.20	2.24	1.97	0.84	2.81	1.38
March	2.23	0.16	-0.19	2.39	1.97	0.84	2.81	1.28
April	2.03	0.20	-0.18	2.23	1.97	0.84	2.81	1.37
May	1.78	0.11	-0.34	1.89	1.97	0.84	2.81	1.81
June	1.90	0.11	-0.35	2.01	1.97	0	1.97	1.19
July	1.93	0.11	-0.40	2.04	1.97	0	1.97	1.20
August	2.33	0.12	-0.37	2.45	1.97	0	1.97	0.95
September	2.12	0.20	-0.27	2.32	1.97	0.35	2.32	1.13
October	2.02	0.19	-0.23	2.21	1.97	0.35	2.32	1.17
November	2.16	0.16	-0.25	2.32	1.97	0.84	2.81	1.36
December	2.01	0.15	-0.25	2.16	1.97	0.84	2.81	1.47

The University will continue to require additional water supplies beyond the offset provided by the RWF. Relocation of Fenton Well A, interconnections, and/or future groundwater supplies will need to supply the next increment of water demand. Refer to Figure 7-1 for an overview of potential interconnections. Refer to Figure 7-2 for an overview of potential groundwater supplies.

7.2.3 Relocation of Fenton Well A

Section 9.0 of the Fenton River Study report ("Testing of Selected Wellfield Management Scenarios") evaluated 11 different pumping scenarios comprised of different combinations of withdrawals from the four Fenton River wells. Scenarios 10 and 11 considered that Well A was relocated to a point 250 to the south or somewhat further to the south toward Well D, respectively. Both scenarios assumed that Well A was pumping for 14 hours at 300 gpm, or an equivalent of 252,000 gpd (0.25 mgd).

The study concluded that "it appears that the best management scenarios (Scenario 10 and 11) call for relocation of Well A by moving it either 250 feet in the South direction (i.e., without requiring a new permit) or approximately halfway between the original location of Well A and D (on university property)." Furthermore, "The new location of Well A was chosen under the premise that a well located in the parts of the aquifer where the Stratified Drift has greater thickness will have substantially reduced effects on the Fenton River stream flow [but] based on this preliminary analysis and with the caveat emptor statement above, the cost of relocating Well A beyond the 250 feet distance may not be justified as the decrease in ΔQ is only minimal."

The University believes that further investigation is warranted to evaluate whether relocating and pumping Well A in accordance with Scenario 10 (within 250 feet of the current location) may prove to have lesser impacts to instream flow than the well currently is believed to cause.

Legend

-  Potential Interconnections
-  Town Boundaries
-  CTWC - South Willington System
-  Tolland Water Commission
-  University of Connecticut
-  Windham Water Works



MILONE & MACBROOM
 Engineering, Landscaping, Architecture and Environmental Science
 99 Realty Drive
 Cheshire, Connecticut 06410
 (203) 271-1773 Fax: (203) 271-9733
 www.miloneandmacbroom.com

Overview of Potential Interconnections

MMI#: 1958-31-1
 MXD: H:Figure7-L.mxd
 SOURCE: Microsoft

University of Connecticut
 Water Supply Plan

LOCATION:
 Mansfield, CT

Map By: SJB
 Date: 1/7/2011
 Scale: 1"=4,000'

SHEET:
 Figure 7-1

Because field investigations have not been conducted, it is impossible to know precisely what volumes of water could be available on a daily basis. However, at least 0.25 mgd may be assumed for planning purposes.

7.2.4 Interconnection with Windham Water Works

Windham Water Works is a municipal department of the Town of Windham. Windham Water Works operates a public water system that serves the Willimantic and South Windham portions of Windham, and the southern portion of the Town of Mansfield.

The Windham Water Works water supply plan was prepared by Milone & MacBroom, Inc. for the Windham Water Commission and submitted to DPH in early 2009. The plan is currently under review. Table 7-13 presents the projected water demands and margins of safety of the Windham Water Works system.

TABLE 7-13
Windham Water Works Projected Margins of Safety

Year	Average Day Demand/ Margin of Safety		Maximum Month Demand/ Margin of Safety		Peak Day Demand/ Margin of Safety	
	mgd		mgd		mgd	
2007-2008	2.16	1.90	2.56	1.60	3.06	1.34
2013	2.16	1.90	2.44	1.68	3.13	1.31
2020	2.33	1.76	2.63	1.56	3.38	1.21
2050	2.43	1.69	2.75	1.49	3.52	1.16

Note: Available water = 4.1 mgd

The sole source of supply for Windham Water Works is the Willimantic Reservoir. The reservoir is a run-of-the-river impoundment of the Natchaug River. The reservoir has a safe yield of 7.9 mgd, which is largely a function of the relatively stable regulated flows released to the Natchaug River from the upstream Mansfield Hollow Dam. However, the Windham Water Works filter plant capacity and diversion permit limitation is only 4.1 mgd.

For the purpose of this alternatives analysis, Windham Water Works provided recent water production records to Milone & MacBroom, Inc. Table 7-14 lists actual water demands and margins of safety for 2008, 2009, and 2010.

TABLE 7-14
Windham Water Works Water Demands, 2008-2010

Year	Average Day Demand/ Margin of Safety		Maximum Month Demand/ Margin of Safety		Peak Day Demand/ Margin of Safety	
	2008	2.10 mgd	1.95	2.36 mgd	1.74	2.86 mgd
2009	2.12 mgd	1.93	2.31 mgd	1.77	2.81 mgd	1.46
2010	2.26 mgd	1.81	2.50 mgd	1.64	3.02 mgd	1.36

Note: Available water = 4.1 mgd

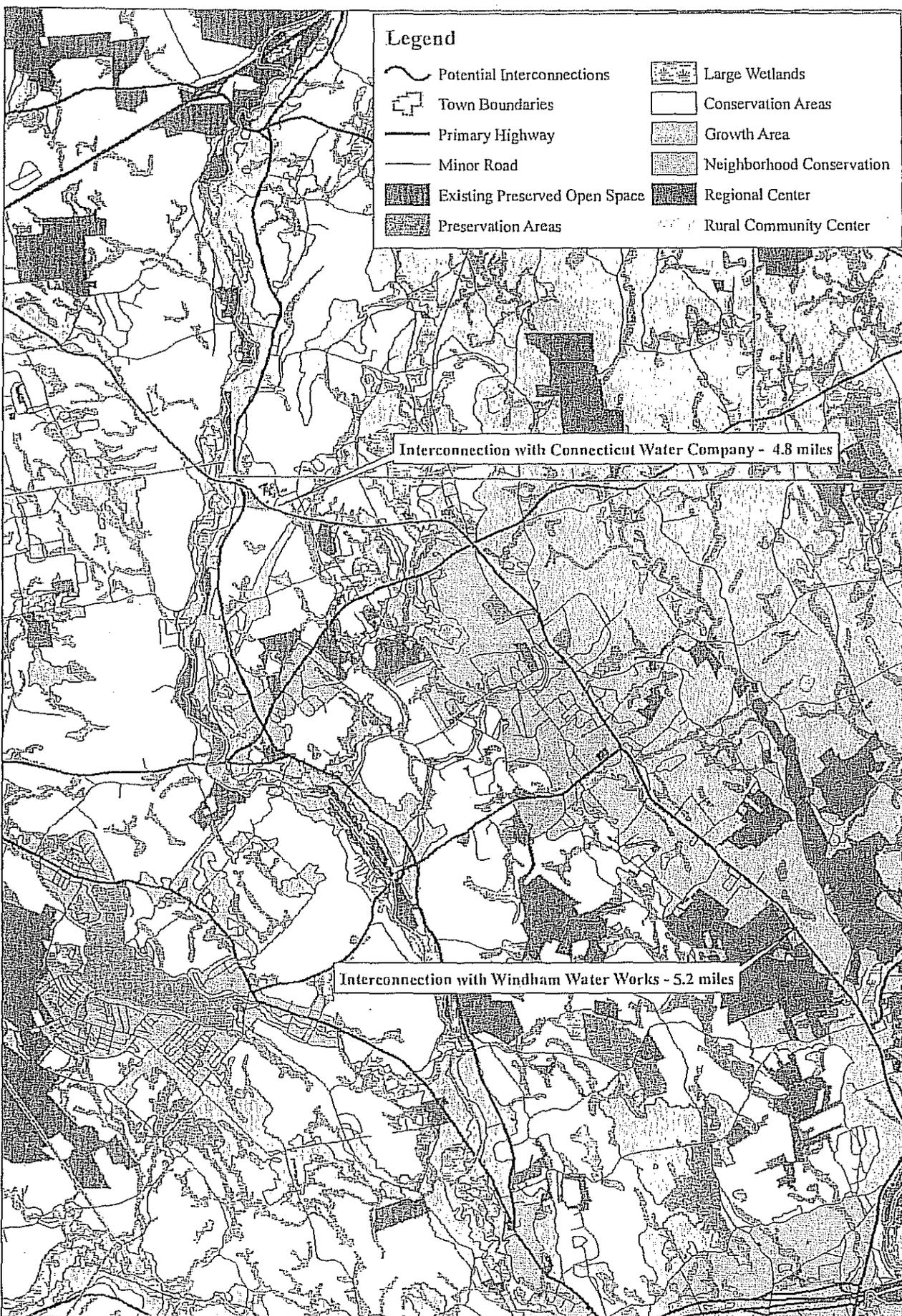
In general, Windham Water Works is producing average day, maximum month, and peak day volumes of water that are consistent with the projections. Because the available water is the same for an average day, maximum month average day, and a peak day, Windham Water Works is somewhat peak day limited. The system has approximately 0.5 mgd available as excess supply at the present time, but this increment will decrease as Windham's projections are realized. Much of Windham's projected increase in demand (on the order of 0.1 mgd) is located in southern Mansfield, although additional demand is projected within Windham as well.

According to the Windham Water Supply Plan, if any water were made available for use by the University of Connecticut, it would be necessary to increase the Windham Water Works treatment plant capacity and amend the diversion permit to allow a withdrawal that maintains the 15% margin of safety under average, maximum month, and peak day conditions. Based on the previous effort that was completed for the current diversion permit, any such additional withdrawal from the Willimantic Reservoir would be approved only if the Army Corps of Engineers were able to formally commit to operating Mansfield Hollow Lake for maintenance of instream flows in the Natchaug River.

If Windham Water Works were to provide water to the University of Connecticut, it may request that the University assist in the permit application process and any negotiations with the Army Corps of Engineers. Windham Water Works may also request that the University assist in the expansion of treatment plant capacity above 4.1 mgd. Such expansion would need to include all aspects of filter plant operations, including pumping, filtration, treatment, etc.

A pipeline installed along 5.2 miles of Route 195 between the Windham Water Works system and the University system would be needed for the interconnection. Because the elevation change from the water treatment plant to the University system is approximately 450 feet (from approximately 200 feet to 650 feet), a pumping station would be necessary. The expense associated with a pipeline of that length would include significant capital costs for the water main and a pumping station, and operational costs associated with operation of the pumping station. Capital costs have not been formally estimated, but would likely exceed \$4.5 million for the water main and pumping station.

In order to utilize University funds to upgrade Windham's water treatment plant, construct the pumping station, and install the water main, the project would be required to proceed through the Connecticut Environmental Policy Act (CEPA) review process and be evaluated in an Environmental Impact Evaluation (EIE). Because the pipeline would traverse Preservation and Conservation areas depicted in the Conservation and Development Policies Plan for Connecticut, 2005-2010 (also known as the State Plan of Conservation and Development), the EIE would be required to propose mitigation for induced development along the pipeline. Refer to Figure 7-3 for a copy of the state plan designations. Typically, mitigation for induced development can include amendments to a local Plan of Conservation and Development, zoning regulations, and/or other regulations.



Legend

- Potential Interconnections
- Town Boundaries
- Primary Highway
- Minor Road
- Existing Preserved Open Space
- Preservation Areas
- Large Wetlands
- Conservation Areas
- Growth Area
- Neighborhood Conservation
- Regional Center
- Rural Community Center

Interconnection with Connecticut Water Company - 4.8 miles

Interconnection with Windham Water Works - 5.2 miles

Engineering,
Landscape Architecture
and Environmental Science

MILONE & MACBROOM[®]

99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773 Fax: (203) 272-9733
www.miloneandmacbroom.com

Overview of Potential Interconnections
(State Plan of Conservation & Development Base)

MMH: 1958-31-1
MXD: H:\Figure7-1.mxd
SOURCE: Microsoft, State of CT

University of Connecticut
Water Supply Plan

LOCATION:
Mansfield, CT

Map By: SJB
Date: 1/7/2011
Scale: 1"=4,000'

SHEET:
Figure 7-3

Finally, in order to deliver water to the University system, the University and Windham Water Works would need to apply for and obtain a diversion permit from DEP and a sale of excess water permit from DPH. It is possible that the increased withdrawal from the Willimantic Reservoir and the interconnection with the University system could be authorized in a single diversion permit issued to Windham Water Works and the University, although this would need to be verified by DEP.

The above obstacles for interconnecting with the University of Connecticut will be challenging to overcome. Significant effort will be necessary to authorize additional withdrawals from the Willimantic Reservoir, expand the Windham Water Works treatment plant, and install a pipeline along Route 195. However, this alternative water supply is believed feasible.

7.2.5 Interconnection With Tolland Water Department

The Tolland Water Department manages a municipal water system in eastern Tolland. The system obtains water from two wells located along the Willimantic River. Tolland is currently operating with peak day margins of safety below 1.0 relative to its diversion permit limit of 0.22 mgd. A diversion permit application was submitted to DEP in 2008, requesting an increase to 0.41 mgd. The DEP denied the request for an increase in 2009. The same year, Tolland's water supply plan was completed and submitted to DPH for review. The water supply plan demonstrates a need for an increased diversion permit limit, and another diversion permit application was submitted in 2010.

Even when the Tolland system is authorized to withdraw greater than 0.22 mgd through a modified diversion permit, the supply will be completely allocated to meeting future demands in Tolland and South Willington. Excess supply will not be available to the University of Connecticut. This alternative is not feasible as an additional supply.

7.2.6 Interconnection With The Connecticut Water Company

CWC has expressed an interest in serving a portion of Mansfield from its Northern Region/Western System for at least ten years. The source of water to the University would be the Shenipsit Reservoir. Unlike Windham Water Works and Tolland, CWC currently has excess water supply in the Western System relative to its registered and permitted diversions.

However, similar to Windham Water Works, a treatment plant expansion would be necessary to facilitate additional withdrawals and filtration from Shenipsit Reservoir. Other project issues are similar to those that would be faced by Windham Water Works. A pipeline installed along Route 195 between the CWC and the University system would need to be 4.8 miles in length, although a portion of that distance would be overcome by utilizing the section of the Tolland system located in Route 195, which in turn requires a contract with the Town of Tolland.

Because the elevation change from the Coventry/Mansfield town line (along the Willimantic River) to the University system is approximately 300 feet, a pumping station in Mansfield would be necessary. The expenses associated with a pipeline would include significant capital costs for the water main and a pumping station in northwest Mansfield, and operational costs associated with operation of the pumping station. Capital costs have been estimated by CWC at \$6.5 million.

In order to utilize University funds to construct the pumping station and install the water main, the project would be required to proceed through the CEPA review process and be evaluated in an EIE. Because the pipeline would traverse mainly Rural areas and a few Conservation areas depicted in the State Plan of Conservation and Development, the EIE would be required to propose mitigation for induced development along the pipeline. Typically, mitigation for induced development can include amendments to a local Plan of Conservation and Development, zoning regulations, and/or other regulations. The

CEPA-related issues can be avoided if CWC funds the project, which is something that is not possible for a pipeline from Windham Water Works.

Finally, in order to deliver water to the University system, the University and CWC would need to apply for and obtain a diversion permit from DEP and a sale of excess water permit from DPH.

The CWC pipeline is believed feasible. Additionally, it has several advantages over a pipeline from Windham Water Works:

- CWC has adequate diversion permits and registrations for its Western System sources, whereas Windham Water Works would need to modify its diversion permit to allow increased withdrawals from its single source of supply;
- The CWC pipeline would be shorter than a Windham Water Works pipeline;
- The CWC pipeline would be mainly traversing Rural areas whereas the Windham Water Works pipeline would be mainly traversing Conservation areas depicted in the State Plan of Conservation and Development;
- As an investor-owned water utility, CWC can initiate treatment plant upgrades and a pipeline project more quickly than Windham Water Commission can;
- A pipeline from CWC can serve areas in need of a public water supply such as the Mansfield Four Corners area, areas that may benefit from a public water supply such as the Route 32/Route 195 intersection in Mansfield, and existing small public water systems located along Route 195;
- The Windham Water Works pipeline would not pass by any significant areas in need of a public water supply.

7.2.7 New Stratified Drift Ground Water Sources

It is possible that new sources of ground water supply could be developed in a number of locations in the Town of Mansfield. In order to develop a new ground water source under current regulatory requirements and sanitary criteria, the following conditions generally need to be met or addressed:

- The wellheads must be raised above flood elevations;
- The wells must not significantly draw down the water table in adjacent wetlands;
- Direct impacts to wetlands must be avoided and/or mitigated;
- The wells must not reduce instream flows in nearby streams to the extent that it is detrimental to fish habitat, water quality, competing water users, or other environmental receptors;
- The land within 200 feet of each well must be in the control of the water utility;
- The wells must not draw contaminants from septic systems, landfills, or other potentially contaminated sites; and
- Existing private and public water supply wells cannot be impacted.

Stratified drift aquifer ground water supplies are typically used for larger, regional water needs as opposed to small local or clustered demands. These types of wells tend to produce large flow rates; however, they are also more expensive to develop, maintain, and protect from contamination, making them better suited for large customer bases.

The Water and Wastewater Master Plan reviewed the following alternative ground water supplies: (1) additional withdrawals at the Willimantic River Wellfield, (2) development of the Willimantic River aquifer at Mansfield Depot, (3) development of the Willimantic River aquifer at Eagleville, (4) additional withdrawals at the Fenton River Wellfield, and (5) development of the Fenton River aquifer near Mansfield Hollow Reservoir.

Alternative number 1 was also evaluated as part of the Willimantic River Study completed and published in 2010. The alternative was ruled out as part of the Willimantic River Study because the incremental supply did not make sense in light of the instream flow constraints identified by the study. Alternatives 2 and 3 warrant additional consideration and are revisited below, except that they have been combined in favor of the Mansfield Depot location and a site that is intermediate between Mansfield Depot and Eagleville.

Relative to similar instream flow concerns, Alternative number 4 was one of the least prudent of the five discussed in the master plan. Relocation of a well such as Well A is unlikely to gain back the operational capacity that is needed to bolster margins of safety as the committed water demands are developed because the middle section of the Fenton River at the wellfield is most vulnerable to flow diminution. Instead, the use of Well D is the most appropriate means of restoring operational capacity of the Fenton River Wellfield. Alternative 5 warrants additional consideration and is revisited below.

Willimantic River Aquifer

The Town of Mansfield has previously indicated that a potential well site exists in the area of Mansfield Depot where Route 44 crosses the Willimantic River. The mapped surficial geology in this area appears to support this assumption. Several successful wellfields have been sited along the Willimantic River, including the Willimantic River Wellfield and the Tolland Water Department Wellfield. Additionally, a large parcel of land is located adjacent to the river near Route 44. The size of the parcel would permit the required 200-foot radius of control.

The USGS drilled a test hole just south of Route 44 in 1963. The hole encountered medium sand down to 34 feet, overlying compact sand and gravel (likely glacial till) from 34 to 51 feet. Bedrock was encountered at a depth of 51 feet. The static water level was only four feet below the ground surface, indicating a saturated thickness of 30 feet.

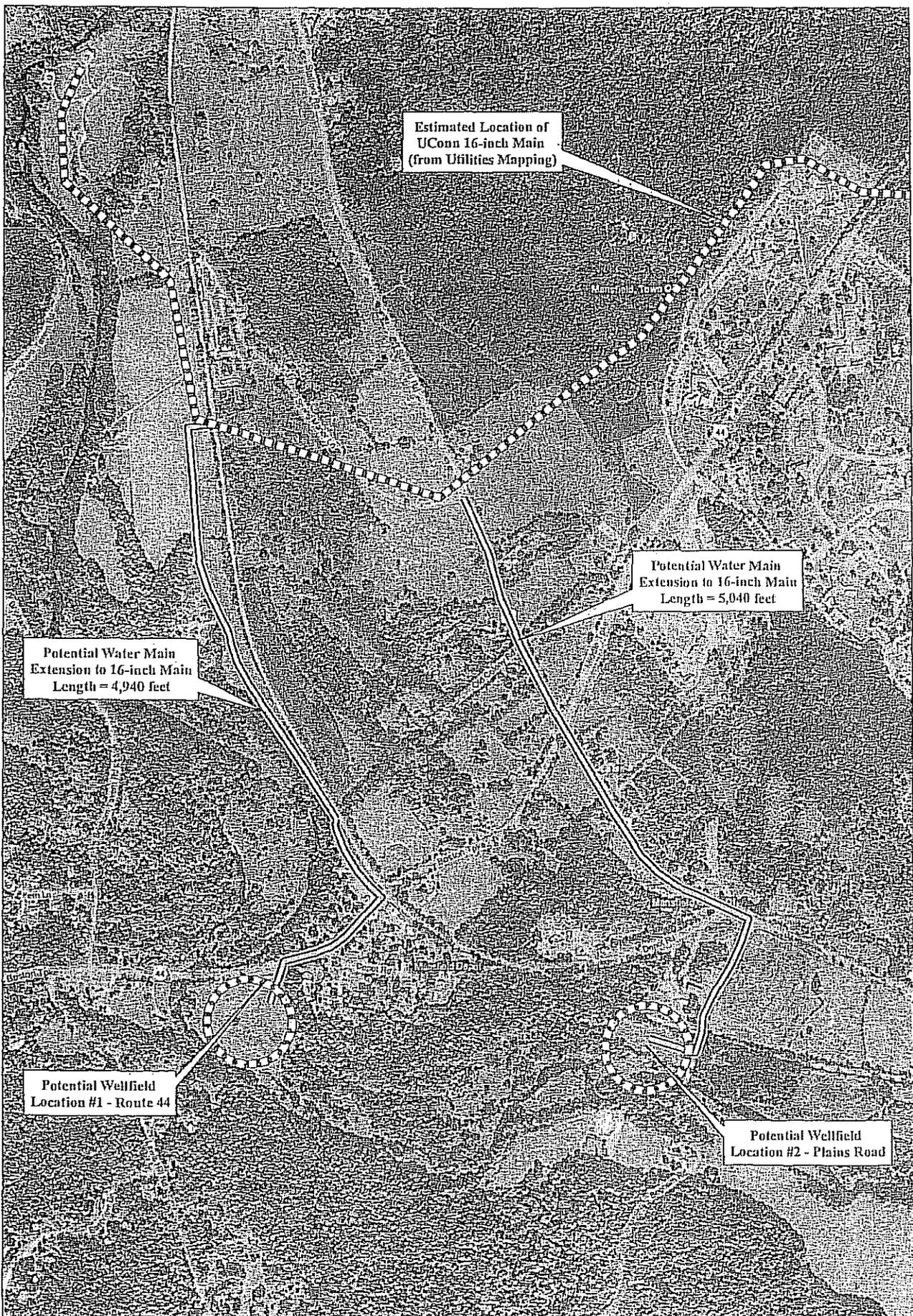
Although high-yield production wells are typically deeper, a saturated thickness of 30 feet would not prohibit development of a well. The surficial material (medium sand) most likely has a high hydraulic conductivity, such that a high well yield would be expected.

Site disturbance and associated direct wetland impact may be issues at the site, as it has not been developed. Although private water supply wells are located nearby, these wells are drilled into bedrock and would not likely be impacted by a stratified drift wellfield. The area is located in the SFHA along the river, such that the development of a new well would require filling to raise the new wellhead above the flood elevation.

Two natural diversity database polygons are located just east of the potential well site. The associated Species of Special Concern are located in upland wooded areas. Development of a well site may require evaluation of habitat impacts. Closed landfills/dumps are located north and southeast of Mansfield Depot, both within one-half mile of the potential well site. Therefore, potential ground water quality problems must be considered if siting a well at this location. Certainly, high-quality ground water may be available at this site, even with the landfills nearby.

To deliver water from the Mansfield Depot area to the University system, 4,900 feet of water transmission main would need to be installed from the new well site to the existing 16-inch main that delivers water from the Willimantic River Wellfield to the system. Refer to Figure 7-4 for a depiction of this potential route.

In the last two years, a nearby location has been discussed as well. Town-owned land is available off Plains Road, further downstream than Route 44. This location is intermediate in location between the original alternatives described in the master plan (the site in Mansfield Depot and the site in Eagleville) and is superior to any sites further downstream due to the increasing distances involved.



Estimated Location of
UConn 16-inch Main
(from Utilities Mapping)

Potential Water Main
Extension to 16-inch Main
Length = 5,040 feet

Potential Water Main
Extension to 16-inch Main
Length = 4,940 feet

Potential Wellfield
Location #1 - Route 44

Potential Wellfield
Location #2 - Plains Road

 MILONE & MACBROOM <small>Engineering, Landscape Architecture, and Environmental Science</small> 99 Reedy Drive Cheshire, Connecticut 06410 (203) 271-1773 Fax: (203) 272-9733 www.miloneandmacbroom.com	Potential Willimantic River Wellfields & Transmission Main Extensions		LOCATION: Mausfield, CT	
	ADM#: 195B-31 MXD: H:Figure7-4.mxd SOURCE: Microsoft, UConn	 University of Connecticut Water Supply Plan	Map By: SJB Date: 1/7/2011 Scale: 1"=600'	SHEET: Figure 7-4

This potential well site off Plains Road has similar issues as the site located near Route 44. For example, it is located in the SFHA and would require installation of a 5,000-foot water main to deliver water to the existing 16-inch transmission main. However, the Plains Road site is more favorable than the Route 44 site with respect to instream flows, as it is adjacent to the backwater of Eagleville Lake and therefore groundwater withdrawals will minimally impact fish habitats. Although the Depot Campus effluent discharge was historically located at the upstream end of Eagleville Lake, it has been discontinued. Therefore, no water quality concerns are related to sewage effluent.

One benefit of developing new ground water supplies along the Willimantic River is that the water withdrawn from the resource would ultimately be returned to the river via the treated wastewater effluent from the University WPCF. Development of ground water supplies in the Natchaug River basin (described below) would result in a transfer to the Willimantic River basin, although it is recognized that both rivers are part of the Shetucket drainage basin.

Mansfield Hollow Reservoir and Lower Fenton River Aquifer

The master plan included a planning-level evaluation of stratified drift along the lower Fenton River and Mansfield Hollow Reservoir. The stratified drift aquifers associated with the Fenton River, Mount Hope River, and Natchaug River meet at Mansfield Hollow Reservoir. Including the areas that are inundated by the existing impoundment, the aquifer is 1.5 miles wide and 2.6 miles long where the three rivers meet. According to the Water Resources Bulletin for the Shetucket River Basin (USGS, 1966), the saturated thickness of the aquifer ranges from less than 10 feet at its edges to more than 80 feet south of Echo Lake. Beneath the existing reservoir, the aquifer is approximately 40 feet thick, but the water column above the aquifer is at least 20 feet deep.

There are two blocks of glacial till in the interior of the aquifer, between Echo Lake and the reservoir, where the stratified drift aquifer is absent. The two glacial till blocks significantly limit the location of a wellfield on the west side of the reservoir.

Wetland systems adjacent to Echo Lake would likely limit the development of a wellfield in close proximity, as drawdown of the water table would be expected. Similar low-lying areas with potential wetlands also exist in Mansfield Hollow (on either side of Mansfield Hollow Road); along a watercourse that flows in a southerly direction in the vicinity of the landfill; perpendicular to Bassett Bridge Road; north of Mansfield Hollow Reservoir between the shore and Route 89; and along Bassett Bridge Road near the bridge over the reservoir.

To avoid unacceptable instream flow impacts, a wellfield would need to be distant from the main stems of the Fenton River and Mount Hope River, limiting the locations available to the northwest and northeast of Mansfield Hollow Reservoir. A well located near the lake would be expected to have negligible impacts to instream flows because the lake provides a significant control on ground water base level.

Private wells are located at every residential, institutional, and commercial property in the vicinity of the Mansfield Hollow Reservoir. Some dug wells operate in this area, and these would be susceptible to drawdown caused by pumping of a stratified drift wellfield. An aquifer pumping test would be necessary to evaluate possible dug well impacts in this area. Bedrock wells would not be expected to be susceptible to drawdown.

There are fewer potential environmental impacts and private well impacts east of the Mansfield Hollow Reservoir. However, areas east of the reservoir are likely too remote for development of a wellfield, especially as the distance from Bassett Bridge Road increases. Additionally, construction of a water main through large tracts of undeveloped land is undesirable.

Flood elevation constraints would be an important factor for siting a public water supply near the Mansfield Hollow Reservoir. A new wellfield here would need to be located above the spillway elevation of 257 feet in order to meet the flood elevation criteria. This requirement removes the entire reservoir fringe from consideration.

Natural diversity database polygons are located in the northern and central portions of the Mansfield Hollow Reservoir. The frosted elfin moth is associated with each polygon. Habitat impacts would need to be evaluated if these areas were selected for well development.

The active town landfill and compost area located off Route 89 severely limit the potential for wellfield development northwest of the reservoir near the Fenton River. The closed town landfill off Cemetery Road significantly limits the location of a wellfield on the west side of the Mansfield Hollow Reservoir. The necessary separation between the landfill and a wellfield would depend on the pumping rates of the wells, the natural ground water flow direction, and contaminants (if any) associated with the landfill.

With the limitations discussed above, there are very few potential well sites in the Mansfield Hollow stratified drift aquifer. The following sites are the only potentially feasible choices:

1. North or south of Bassett Bridge Road, 1,500 feet east of Route 195;
2. Immediately east of Route 89 at the intersection with Wormwood Hill Road;
3. Immediately adjacent to Bassett Bridge Road on the east side of the reservoir, above the spillway elevation; and
4. Immediately east of Bassett Bridge Road on the west side of the reservoir, where the road abruptly curves to the north, on a small "island" above the spillway elevation.

Of these four locations, development of a water supply would be difficult at locations 1, 2, or 3 because the parcels are small, and several would need to be acquired to obtain the

physical space and setbacks needed and/or deeded control of the land. Option 4 is contained wholly within the Mansfield Hollow State Park, lending itself to land-use control but requiring permission from the State of Connecticut and the federal government, as well.

In light of the environmental concerns, and without large tracts of available, contiguous land, it is unlikely that development of a community ground water supply in the vicinity of Mansfield Hollow Reservoir or the lower Fenton River would be feasible under the current regulatory climate.

7.2.8 Prioritization of Future Supplies

Well D from the Fenton River Wellfield is already in place and used along with the other Fenton River wells when instream flows in the river are sufficient. Given its immediate availability, Well D is the first logical increment of "new" supply for the University.

The RWF project is scheduled to begin construction in 2011 and be completed in 2012, serving as the second increment of new supply to the University. The project will ensure that margins of safety are as high as possible as committed water demands begin to materialize.

However, the next increment of new supply will need to be in progress as of 2015 in order to ensure that margins of safety remain above 1.15. Of the potential options discussed above, the following should be pursued on parallel tracks:

- Relocation of Fenton Well A
- CWC interconnection
- Windham Water Works interconnection
- New ground water supply along the Willimantic River

A new ground water supply near the lower Fenton River or Mansfield Hollow Reservoir is too distant and has too many associated uncertainties to justify its pursuit.

Discussions with CWC have focused on the provision of 0.5 mgd to the University. The same quantity, 0.5 mgd, is the upper limit of how much water could reasonably be supplied by Windham Water Works (in the short-term only) without a diversion permit modification or treatment plant upgrade. Because these quantities likely exceed the availability associated with a relocated Fenton Well A, they are used here for planning purposes.

Tables 7-15 and 7-16 provide margins of safety for projected monthly and peak day demands in 2030, and Tables 7-17 and 7-18 provide margins of safety for projected monthly and peak day demands in 2060. These projections assume that 0.5 mgd is available as needed, but particularly in late summer and early fall.

As shown on the tables, the additional increment of 0.5 mgd will provide margins of safety above 1.15 for all projected monthly demands. Peak day margins of safety will also be above 1.15 for all projected peak day demands, except occasionally in the month of August when the margin of safety will be above 1.0. The University anticipates that slightly more than 0.5 mgd can be supplied by the new source of supply during these isolated instances, or storage can be used to buffer the peak days.

TABLE 7-15
Projected Monthly Margins of Safety with Well D, RWF, and Additional 0.5 mgd, 2030

Month	Current Production (mgd)	Future Committed Demands (mgd)	Associated Unaccounted Water (mgd)	Future RWF Offset (mgd)	Total Future Demand (mgd)	Available Water Supply (mgd)				Margin of Safety
						Willimantic River Wells	Fenton River Wells	Additional Supply	Total	
January	1.18	0.32	0.016	-0.20	1.31	1.48	0.84	--	2.32	1.77
February	1.59	0.45	0.023	-0.20	1.86	1.48	0.84	--	2.32	1.25
March	1.28	0.35	0.018	-0.19	1.46	1.48	0.84	--	2.32	1.59
April	1.53	0.44	0.022	-0.18	1.81	1.48	0.84	--	2.32	1.29
May	1.06	0.24	0.012	-0.34	0.97	1.48	0.84	--	2.32	2.38
June	1.09	0.24	0.012	-0.35	0.99	1.48	0	--	1.48	1.50
July	1.16	0.25	0.012	-0.40	1.02	1.48	0	--	1.48	1.45
August	1.17	0.26	0.013	-0.37	1.08	1.48	0	--	1.48	1.37
September	1.64	0.44	0.022	-0.27	1.84	1.48	0.35	0.5	2.33	1.26
October	1.52	0.42	0.021	-0.23	1.73	1.48	0.35	0.5	2.33	1.35
November	1.34	0.35	0.018	-0.25	1.46	1.48	0.84	--	2.32	1.59
December	1.27	0.33	0.016	-0.25	1.36	1.48	0.84	--	2.32	1.70

TABLE 7-16
 Projected Peak Margins of Safety with Well D, RWF, and Additional 0.5 mgd, 2030

Month	Current Production (mgd)	Future Committed Demands (mgd)	Future RWF Offset (mgd)	Total Future Demand (mgd)	Available Water Supply (mgd)				Margin of Safety
					Willimantic River Wells	Fenton River Wells	Additional Supply	Total	
January	1.86	0.44	-0.20	2.10	1.97	0.84	--	2.81	1.34
February	2.04	0.63	-0.20	2.46	1.97	0.84	--	2.81	1.14
March	2.23	0.49	-0.19	2.53	1.97	0.84	--	2.81	1.11
April	2.03	0.61	-0.18	2.46	1.97	0.84	--	2.81	1.14
May	1.78	0.33	-0.34	1.77	1.97	0.84	--	2.81	1.59
June	1.90	0.33	-0.35	1.88	1.97	0	0.5	2.47	1.31
July	1.93	0.34	-0.40	1.87	1.97	0	0.5	1.97	1.32
August	2.33	0.36	-0.37	2.33	1.97	0	0.5	2.47	1.06
September	2.12	0.62	-0.27	2.48	1.97	0.35	0.5	2.82	1.14
October	2.02	0.58	-0.23	2.37	1.97	0.35	0.5	2.82	1.19
November	2.16	0.49	-0.25	2.40	1.97	0.84	--	2.81	1.17
December	2.01	0.46	-0.25	2.22	1.97	0.84	--	2.81	1.27

TABLE 7-17
Projected Monthly Margins of Safety with Well D, RWF, and Additional 0.5 mgd, 2060

Month	Current Production (mgd)	Future Committed Demands (mgd)	Associated Unaccounted Water (mgd)	Future RWF Offset (mgd)	Total Future Demand (mgd)	Available Water Supply (mgd)				Margin of Safety
						Willimantic River Wells	Fenton River Wells	Additional Supply	Total	
January	1.18	0.34	0.017	-0.20	1.33	1.48	0.84	--	2.32	1.74
February	1.59	0.48	0.024	-0.20	1.89	1.48	0.84	--	2.32	1.23
March	1.28	0.37	0.019	-0.19	1.48	1.48	0.84	--	2.32	1.57
April	1.53	0.46	0.023	-0.18	1.83	1.48	0.84	--	2.32	1.27
May	1.06	0.25	0.012	-0.34	0.99	1.48	0.84	--	2.32	2.35
June	1.09	0.25	0.013	-0.35	1.00	1.48	0	--	1.48	1.47
July	1.16	0.26	0.013	-0.40	1.03	1.48	0	--	1.48	1.43
August	1.17	0.28	0.014	-0.37	1.09	1.48	0	--	1.48	1.35
September	1.64	0.47	0.024	-0.27	1.87	1.48	0.35	0.5	2.33	1.25
October	1.52	0.44	0.022	-0.23	1.75	1.48	0.35	0.5	2.33	1.33
November	1.34	0.37	0.019	-0.25	1.48	1.48	0.84	--	2.32	1.57
December	1.27	0.35	0.017	-0.25	1.38	1.48	0.84	--	2.32	1.68

TABLE 7-18
 Projected Peak Margins of Safety with Well D, RWF, and Additional 0.5 mgd, 2060

Month	Current Production (mgd)	Future Committed Demands (mgd)	Future RWF Offset (mgd)	Total Future Demand (mgd)	Available Water Supply (mgd)				Margin of Safety
					Willimantic River Wells	Fenton River Wells	Additional Supply	Total	
January	1.86	0.47	-0.20	2.13	1.97	0.84	--	2.81	1.32
February	2.04	0.67	-0.20	2.50	1.97	0.84	--	2.81	1.12
March	2.23	0.52	-0.19	2.56	1.97	0.84	--	2.81	1.10
April	2.03	0.65	-0.18	2.49	1.97	0.84	--	2.81	1.13
May	1.78	0.35	-0.34	1.79	1.97	0.84	--	2.81	1.57
June	1.90	0.35	-0.35	1.90	1.97	0	0.5	2.47	1.30
July	1.93	0.36	-0.40	1.89	1.97	0	0.5	1.97	1.31
August	2.33	0.38	-0.37	2.35	1.97	0	0.5	2.47	1.05
September	2.12	0.66	-0.27	2.51	1.97	0.35	0.5	2.82	1.12
October	2.02	0.62	-0.23	2.41	1.97	0.35	0.5	2.82	1.17
November	2.16	0.52	-0.25	2.43	1.97	0.84	--	2.81	1.16
December	2.01	0.49	-0.25	2.24	1.97	0.84	--	2.81	1.25

As shown on the tables, the additional increment of 0.5 mgd will provide margins of safety above 1.15 for all projected monthly demands. Peak day margins of safety will also be above 1.15 for all projected peak day demands, except occasionally in the month of August when the margin of safety will be above 1.0. The University anticipates that slightly more than 0.5 mgd can be supplied by the new source of supply during these isolated instances, or storage can be used to buffer the peak days.

In summary, the RWF plus an additional source of supply of up to 0.5 mgd is needed to meet all committed future water demands. The RWF will address the earlier components of the committed future water demands from 2012 through 2015, whereas the additional supply will address subsequent components of committed future demands.

7.3 SYSTEM IMPROVEMENTS AND MAINTENANCE ACTIVITIES

Source and system improvements have been identified and described in detail throughout this Plan. The improvement schedules summarized in Tables 7-19, 7-20, and 7-21 relate these recommended improvements to the time frame in which they are believed to be necessary. The Short, Intermediate, and Long Term Improvement Schedules correspond to the five, 20, and 50-year planning periods. Cost estimates, financing sources, and the year in which each is anticipated to occur are also listed.

TABLE 7-19
Short Term Improvement Schedule, 2011 - 2015

Item	Estimated Cost	Year	Funding Source
Proceed with construction of reclaimed water facility	\$25,000,000	2011-2012	CI
Continue metering of service connections and groups of buildings	\$100,000	2011-2012	OB
Safe yield pumping test of Willimantic River Wellfield	\$25,000	2011-2012	OB
Replace Hillside Road water main	\$200,000	2011-2012	OB
Permitting and design of interconnections with The Connecticut Water Company and/or Windham Water Works	\$500,000	2012-2015	OS & OB
Work with Town of Mansfield regarding other potential water supplies such as new wells along the Willimantic River	\$75,000	2012-2015	OS & OB

TABLE 7-19 (Continued)
Short Term Improvement Schedule, 2011 - 2015

Item	Estimated Cost	Year	Funding Source
Investigate feasibility of relocating Fenton Well A	\$75,000	2012-2013	OB
Additional hydraulic model calibration and expansion as needed	\$25,000	2012-2015	OB
System extension and installations for Storrs Center Phase IA	\$150,000	2011-2012	OS
Additional system installations for Storrs Center Phase IB	\$150,000	2012-2013	OS
Extend system into North Campus area	\$250,000	2012-2013	CI
Repair main breaks as needed	\$2,000/yr	As Needed	OB
Repair leaking services as needed	\$2,000/yr	As Needed	OB
Meter testing/calibration/replacement program	\$5,000/yr	Annually	OB
Annual water balance and conservation programs	NA	Annually	OB
Update water supply plan	\$50,000	2015	OB
Begin construction of additional future supply such as interconnection or new wells along the Willimantic River	\$3M to \$7M	2014-2015	OS & CI

Note: Cost estimates are for planning purposes only. Where an estimated cost "NA" is shown, this work is intended to be conducted by in-house staff, or paid for by other departments.

CI = Capital Improvement funds

OB = Operating Budget

OS = Outside Sources

TABLE 7-20
Intermediate Term Improvement Schedule, 2016 - 2030

Item	Estimated Cost	Year	Funding Source
Complete construction of additional future supply such as interconnection or new wells along the Willimantic River	\$3M to \$7M	2016	OS & CI
Relocate Fenton Well A if feasible and prudent	\$100,000	2016	OB
More fully interconnect the Depot Campus sub-system with the Main Campus sub-system such that the Fenton River Wellfield could provide water during emergencies	\$700,000	By 2030	CI
Redevelop wells as needed	\$20,000-\$50,000	Various	OB
Repair main breaks as needed	\$2,000/yr	As Needed	OB
Repair leaking services as needed	\$2,000/yr	As Needed	OB
Meter testing/calibration/replacement program	\$5,000/yr	Annually	OB
Annual water balance and conservation programs	NA	Annually	OB
Inspect and maintain storage facilities	\$50,000	Various	OB
Update water supply plan	\$50,000	2022, 2030	OB

TABLE 7-21
Long Term Improvement Schedule, 2031 - 2060

Item	Estimated Cost	Year	Funding Source
Redevelop wells as needed	\$20,000-\$50,000	Various	OB
Repair main breaks as needed	\$2,000/yr	As Needed	OB
Repair leaking services as needed	\$2,000/yr	As Needed	OB
Meter testing/calibration/replacement program	\$5,000/yr	Annually	OB
Annual water balance and conservation programs	NA	Annually	OB
Inspect and maintain storage facilities	\$50,000	Various	OB
Update water supply plan	\$50,000	2038, 2046, 2054	OB

7.4 FINANCING OF PROPOSED IMPROVEMENTS AND PROGRAMS

Three types of financing are planned for the above improvements. Operating budget expenses such as metering, meter testing, main breaks, and routine repairs are paid from the annual budget of the Facilities Department. Revenue from water rates is the main contributor to this budget.

Capital improvement funds are necessary for significant projects like the RWF, which otherwise could not be constructed using funds from annual budgets and water ratepayers. Capital improvement funds may also be used for interconnections, depending on the contributions of other parties. The Connecticut Water Company will likely contribute a significant percentage of the total funds needed for an interconnection from its Western System, whereas Windham Water Works would contribute little if anything toward an interconnection with the University.

The Connecticut Water Company is an example of the third category of funding. Outside sources will be necessary for some of the projects listed in the improvement tables, such as the Storrs Center water system infrastructure. Without these outside sources, some of the University's projects would be difficult to fund using annual budgets and State funds.

EXCEPTS FROM
UNIVERSITY OF CONNECTICUT
WATER CONSERVATION PLAN

MAY 2011

MMI #1958-31

Prepared for:



University of Connecticut
Facilities Management – Operations
25 Ledoyt Road, Unit 3252
Storrs, Connecticut 06269-3252
(860) 486-0041

Prepared by:

Milone & MacBroom, Inc.
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.miloneandmacbroom.com

TABLE OF CONTENTS

1.0 BACKGROUND AND PURPOSE.....

1.1 General.....

1.2 Regulatory Overview.....

1.3 Goals & Objectives.....

1.4 Overview of the System.....

1.5 Evaluation of Present and Future Water Demands.....

1.6 System Margin of Safety.....

2.0 DEMAND MANAGEMENT.....

2.1 Summary of Recent Demand Management.....

2.2 Demand Management Goals and Objectives.....

2.3 Short-Term Demand Management.....

2.4 Long-Term Demand Management.....

2.4.1 *Controlling Growth in Water Consumption*.....

2.4.2 *Water Pricing*.....

2.4.3 *Local Regulations and Ordinances*.....

2.4.4 *Water Use Audits*.....

2.4.5 *Retrofit Programs*.....

2.4.6 *Public Education Programs*.....

2.5 Anticipated Water Savings.....

3.0 SUPPLY MANAGEMENT.....

3.1 Summary of Recent Supply Management.....

3.2 Supply Management Goals and Objectives.....

3.3 Meter Management.....

3.4 Water System Evaluation.....

3.5 Leak Detection and Repair.....

3.6 Pressure Reduction.....

4.0 WATER CONSERVATION PLAN IMPLEMENTATION.....

TABLE OF CONTENTS (Continued)

TABLES

Table 1-1	System Fact Sheet.....
Table 1-2	Projected Monthly Water Demands, 2015.....
Table 1-3	Current Demands and 2015 Margins of Safety for Monthly Average Day Demands.....
Table 1-4	Projected Peak Day Margins of Safety, 2015
Table 2-1	Summary of Water Rates.....
Table 2-2	Major Water Users.....
Table 4-1	Water Conservation Plan Implementation Schedule

FIGURES

Figure 1-1	System Location Plan
Figure 1-2	System Schematic

APPENDICES

Appendix A	Water Conservation Opportunities, 2007
Appendix B	Examples of University Correspondence Related to Conservation
Appendix C	Leak Detection Survey Report, 2006

1.0 BACKGROUND AND PURPOSE

1.1 GENERAL

This Water Conservation Plan has been prepared for the University of Connecticut ("University") to promote long term water conservation and to ensure an adequate supply of water to meet essential needs.

This Plan has been prepared in accordance with existing statutes and regulations currently in effect. The State guidelines for water conservation planning, prepared by the Connecticut Department of Public Health (DPH), Department of Public Utility Control (DPUC), Department of Environmental Protection (DEP), the Office of Policy and Management (OPM), and Office of Consumer Counsel (December 1990) have also been consulted and utilized, where appropriate. These guidelines, as well as "Conserving Water - Plan On It" (1987), have been used in the preparation of this plan.

1.2 REGULATORY OVERVIEW

Although the University is not considered a "water company" as set forth in Connecticut General Statute (CGS) Section 25-32a, the University views its Water Supply Plan as an integral device in planning for a safe and adequate water supply system through the foreseeable future. Thus, the University's Water Supply Plan addresses (when possible) the requirements of CGS Section 25-32d and the University distributes the plan to reviewing agencies and interested parties for review and comment.

Section 19-13-B102(s) of the Connecticut Public Health Code requires conservation practices, including a program to reduce the amount of water that cannot be accounted for. This plan is consistent with the Public Health Code requirements.

The University developed its initial Water Conservation Plan in 2000 as part of the revisions to its 1999 Water Supply Plan. That initial plan was revised in 2001 and again in 2004 concurrent with the previous Water Supply Plan update. This plan is a revision and update of the 2004 Water Conservation Plan.

1.3 GOALS & OBJECTIVES

It is the objective of the State of Connecticut and of the University in developing this plan to manage and conserve the University's water resources through the following goals and policies:

- To make water resource conservation a priority in policy setting and in practice;
- To conserve water resources through technology, methods, and procedures designed to promote efficient use of water and to eliminate the waste of water;
- To balance competing and conflicting needs for water equitably at a reasonable cost to all;
- To reduce or eliminate the waste of water through water supply management practices; and
- To prevent contamination of water supply sources or reduction in the availability of future water supplies.

These goals and objectives are reflected in the strategies and practices set forth in this document.

1.4 OVERVIEW OF THE SYSTEM

Table 1-1 is a system fact sheet for the University water supply system.

**TABLE 1-1
System Fact Sheet**

Are you currently under agency order or consent agreement? If yes, describe No

Number of service connections: 330 Estimated population in service area¹: 15,000

Number of new service connections added over the last year: <5

Annual demand: 470.8 MG (2010) Annual average day demand: 1.29 mgd (2010)

Max. month average day demand: 1.64 mgd (9/2010) Max. one day (peak) demand: 2.23 mgd (3/2010)

Max. month-to-average-day ratio: 1.27 (2010) Peak day-to-average-day ratio: 1.72 (2010)

System safe yield and available supply or treatment capacity: Varies by month; treatment capacity exceeds supply

Estimate non-metered water for each of the last five years:

	Year: '07-'09	Year: 2006	Year: 2005	Year: 2004	Year: 2003
Non-Metered:	194,146 gpd	N/A	N/A	N/A	N/A
Percentage:	15%	N/A	N/A	N/A	N/A

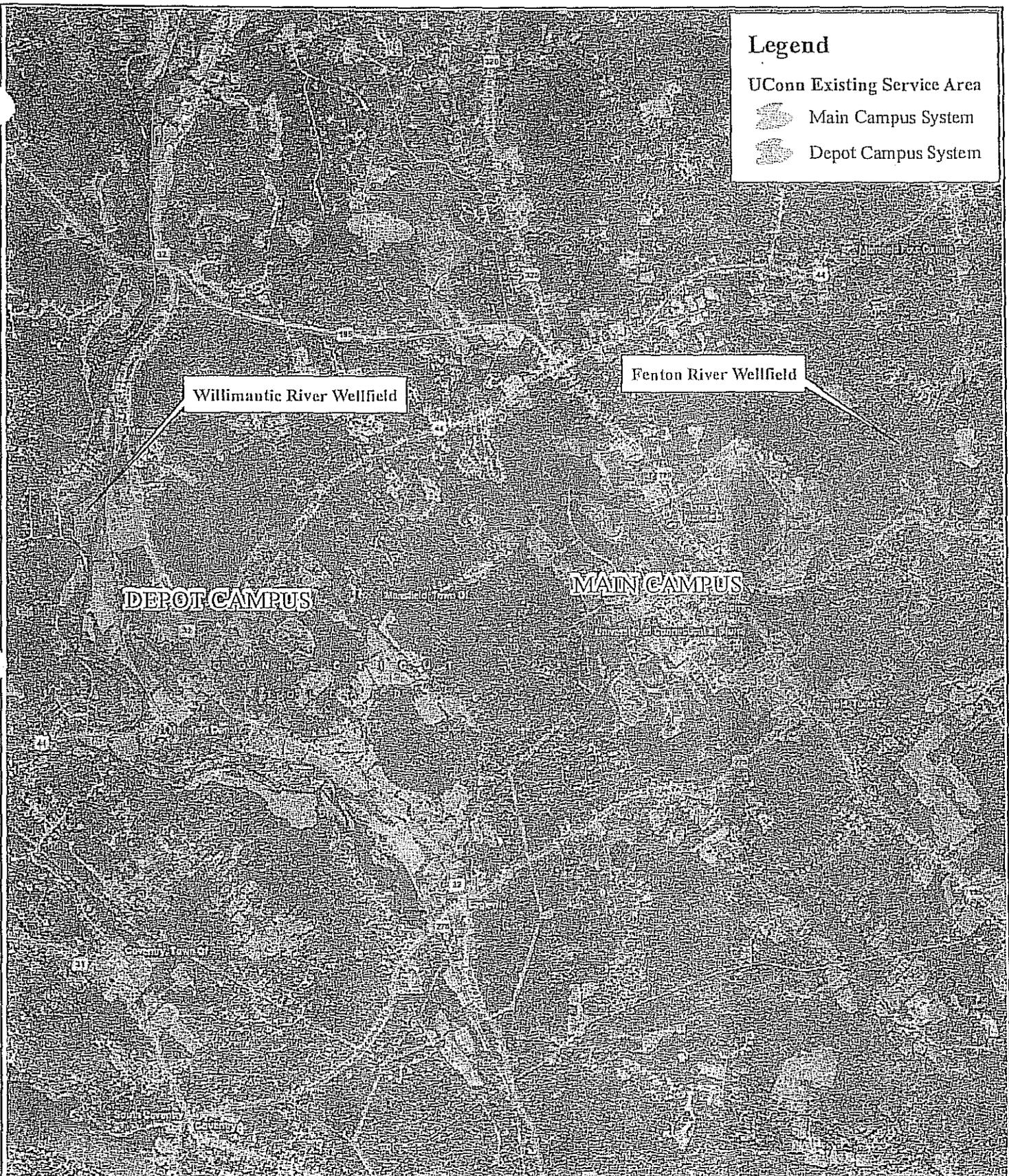
2007-2009	On Campus Res.	On Campus Non-Res.	Off-Campus Res. Homes	Off-Campus Res. Complex	Off-Campus Com.	Off-Campus Inst.	Non-metered	Total
Average day demand (gpd)	413,143	484,732	15,646	47,273	30,575	78,005	194,146	1,263,520
% of total water use	33%	38%	1%	4%	2%	6%	15%	100% ²
No. of service connections	17	170	115	7	17	4	N/A	330
No. of connections metered	17	45	98	7	15	4	N/A	186

1. Estimated service population including resident, non-transient, and transient classifications.
2. Totals do not sum to 100% exactly due to rounding.

Water is supplied to the University system from eight wells located in two wellfields (Wells A, B, C, and D in the Fenton River Wellfield and Wells 1, 2, 3, and 4 in the Willimantic River Wellfield). Refer to Figure 1-1 for the locations of key system features. Figure 1-2 presents a schematic plan of the system.

Legend

- UConn Existing Service Area
- Main Campus System
- Depot Campus System



<p>Engineering, Landscape Architecture and Environmental Science</p> <p>MILONE & MACBROOM®</p> <p>99 Realty Drive Cheshire, Connecticut 06410 (203) 271-1773 Fax: (203) 272-9733 www.miloneandmacbroom.com</p>	<p>University Water System</p>	<p>LOCATION: Mansfield, CT</p>
<p>MMI#: 1958-31 MXD: H:\Figure1-1.mxd SOURCE: Microsoft</p>	<p>N</p> <p>University of Connecticut Water Supply Plan</p> <p>-97-</p>	<p>Map By: SJB Date: 1/7/2011 Scale: 1"=3,500'</p> <p>SHEET: Figure 1-1</p>

Other water system components include five distribution storage tanks, one transmission storage tank, four booster pumping stations, three treatment facilities, and 23 miles of water transmission and distribution mains. The University has no interconnections with outside water utilities, although the Main Campus System and the Depot Campus system are considered interconnected with one another for regulatory purposes.

1.5 EVALUATION OF PRESENT AND FUTURE WATER DEMANDS

Based on an examination of consumption data, the breakdown of water use by user category for the last three years was presented in Table 1-1. The average daily water production from the wells was 1,263,520 gpd in for the period 2007 to 2009. On-campus demands accounted for 71% of the overall usage during this period, with 15% of demands (including unmetered users and lost water) remaining unmetered.

Future water demands have been estimated in the Water Supply Plan. The University has committed to service an additional 357,700 gpd to proposed developments on its campus (North Campus and Depot Campus) and developments adjacent to its system in Mansfield (Storrs Center and North Eagleville Road / King Hill Road). Out of these demands, 106,555 gpd will be realized by 2015, and 340,100 gpd will be realized by 2030.

The above demands do not account for seasonality or peaking factors. Any future water consumption near the University will exhibit seasonality similar to that already experienced by the University's water system. These water use patterns essentially require a monthly basis for analysis.

Table 1-2 presents a summary of recent and projected monthly water demands. The 20-year and 50-year planning periods are excluded from this discussion as this document will be updated again before such planning periods are realized. The projections suggest that monthly water demands will average around 1.7 mgd in February, April, September,

and October, with a noticeable drop-off in demand for the remaining months. These peaks equate to the return of students (February and September) from semester break as well as higher water needs at the Central Utility Plant (CUP). The September and October months are also two of the months when available supply is restricted due to environmental concerns.

TABLE 1-2
Projected Monthly Water Demands, 2015

Month	Maximum Monthly Production, 2008-2010* (mgd)	New Committed Water Demand by 2015 (0.11 mgd average)	Additional 5% as Unaccounted Water Associated with New Water Demand (mgd)	Total Water Demand by 2015 (mgd)
January	1.18	0.10	0.005	1.29
February	1.59	0.15	0.007	1.75
March	1.28	0.12	0.006	1.40
April	1.53	0.14	0.007	1.68
May	1.06	0.08	0.004	1.14
June	1.09	0.08	0.004	1.17
July	1.16	0.08	0.004	1.25
August	1.17	0.09	0.004	1.26
September	1.64	0.14	0.007	1.79
October	1.52	0.14	0.007	1.66
November	1.34	0.11	0.005	1.46
December	1.27	0.10	0.005	1.38

**Includes current non-metered and unaccounted water demands; these are projected to remain stable although the University will continue to work toward more comprehensive metering.*

1.6 SYSTEM MARGIN OF SAFETY

Table 1-3 presents the margins of safety under existing conditions and for the 5-year planning horizon with existing supplies. Margins of safety would drop below 1.15 for average day demands in the months of September and October within the 5-year planning period. However, the availability of Well D in September and October along with the construction of the proposed Reclaimed Water Facility (RWF) will ensure that margins of safety will remain above 1.15.

TABLE 1-3
Current Demands and 2015 Margins of Safety for Monthly Average Day Demands

Month	Current Water Demand (mgd)	2015 Water Demand (mgd) with RFW Offset	Margin of Safety with Well D and RWF Available
January	1.18	1.09	2.14
February	1.59	1.54	1.50
March	1.28	1.21	1.92
April	1.53	1.50	1.55
May	1.06	0.81	2.88
June	1.09	0.82	1.81
July	1.16	0.84	1.75
August	1.17	0.89	1.66
September	1.64	1.53	1.20
October	1.52	1.43	1.28
November	1.34	1.21	1.92
December	1.27	1.13	2.06

However, even with the Reclaimed Water Facility, the margin of safety on peak days will drop below 1.15 in August and September and below 1.0 in August by 2015 as summarized in Table 1-4. However, the University will be able to handle peak days through water in its storage facilities (7.6 MG of useable storage), or by pumping the Willimantic River Wellfield for greater than 18 hours per day.

TABLE 1-4
Projected Peak Day Margins of Safety, 2015

Month	Projected Water Demand (mgd)	Margin of Safety with Well D and RWF Available
January	2.00	1.56
February	2.24	1.38
March	2.39	1.28
April	2.23	1.37
May	1.89	1.81
June	2.01	1.19
July	2.04	1.20
August	2.45	0.95
September	2.32	1.13
October	2.21	1.17
November	2.32	1.36
December	2.16	1.47

The University understands that operating below a margin of safety of 1.15 is not an ideal operating scenario, particularly in regards to operating wells for periods longer than 18-hours per day. As such, the Water Supply Plan evaluates several alternative sources of supply.

Excerpts from

UNIVERSITY OF CONNECTICUT
WELLFIELD MANAGEMENT PLAN

MAY 2011

MMI #1958-31

Prepared for:



University of Connecticut
Facilities Management – Operations
25 Ledoyt Road, Unit 3252
Storrs, Connecticut 06269-3252
(860) 486-0041

Prepared by:

Milone & MacBroom, Inc.
99 Realty Drive
Cheshire, Connecticut 06410
(203) 271-1773
www.miloneandmacbroom.com

TABLE OF CONTENTS

1.0 INTRODUCTION.....

1.1 Background.....

1.2 Purpose.....

1.3 Relationship to Water and Wastewater Master Plan

1.4 Relationship to Other Water System Planning Documents.....

1.4.1 Relationship to Individual Water Supply Plan.....

1.4.2 Relationship to Drought Response Plan.....

1.4.3 Relationship to Emergency Contingency Plan.....

1.4.4 Relationship to Water Conservation Plan.....

2.0 REVIEW OF FENTON RIVER STUDY

2.1 Purpose.....

2.2 Findings

2.3 Conclusions.....

2.4 Recommendations.....

3.0 REVIEW OF WILLIMANTIC RIVER STUDY.....

3.1 Purpose.....

3.2 Findings

3.3 Conclusions.....

3.4 Recommendations.....

4.0 SYSTEM OPERATIONAL HISTORY.....

4.1 System Operation Prior to 2006.....

4.2 System Operation Subsequent to Fenton River Study.....
Case Study: 2007 Low-Flow Period.....

4.3 System Operation Subsequent to Willimantic River Study.....
Case Study: 2010 Low-Flow Period.....

5.0 FENTON RIVER WELLFIELD WELL D STUDIES.....

5.1 Numerical Modeling Analysis.....

5.2 2010 Pumping Test.....

5.3 Recommendations.....

TABLE OF CONTENTS (Continued)

6.0 PROTOCOLS FOR CONJUNCTIVE USE OF SUPPLIES

6.1 Interpretation of Gaging Station Discharge

6.2 Normal Operation Procedures

6.3 Low-Flow Operation Procedures

6.3.1 Stage IA – Water Conservation Alert

6.3.2 Stage IB – Water Supply Advisory

6.3.3 Stage II – Water Supply Watch

6.3.4 Stage III – Water Supply Warning

6.3.5 Stage IV – Water Supply Emergency

6.3.6 Water Conservation Measures

6.3.7 Recovery from Conservation Measures

LIST OF TABLES

Table 2-1 Percent of Maximum WUA, Discharge, and Persistent Duration of Common, Critical, and Rare Habitat Thresholds for Target Fish Community

Table 2-2 Percent of Maximum WUA, Discharge, and Persistent Duration of Common, Critical, and Rare Habitat Thresholds for Target Fish Community in Modeling Sub-Reach 2

Table 3-1 Percent of Maximum WUA, Discharge, and Persistent Duration of Common, Critical, Rare, and Extreme Habitat Thresholds for Target Fish Community

Table 3-2 Recommended Willimantic River Drought Trigger Levels and Corresponding Management Response

Table 5-1 Measured Streamflows During Well D Pumping Test

Table 6-1 Low-Flow Operation Procedures

LIST OF FIGURES

Figure 2-1 Fenton River Wellfield

Figure 3-1 Willimantic River Wellfield

LIST OF APPENDICES

Appendix A Drought Response Plan, 2008

Appendix B Low-Flow Case Studies

Appendix C Fenton Well D Study (2008) and Well D Pumping Test Data (2010)

**SECTION 1.0
INTRODUCTION**

1.0 INTRODUCTION

1.1 BACKGROUND

The University of Connecticut (the University) withdraws water from two stratified drift wellfields in the town of Mansfield, Connecticut. These are known as the Fenton River Wellfield located to the east of campus along the Fenton River, and the Willimantic River Wellfield located to the west of campus along the Willimantic River. The four Fenton River wells are registered with the Connecticut Department of Environmental Protection (DEP) for a maximum withdrawal rate of 0.8443 million gallons per day (mgd). The four Willimantic River Wellfield wells are registered with the DEP for a maximum withdrawal rate of 2.3077 mgd. Both wellfields are integral sources of supply for the University of Connecticut, which also provides water to portions of the town of Mansfield.

As a result of ongoing concern about the environmental impacts of withdrawing water from the Fenton River Wellfield and in conjunction with the Environmental Impact Evaluation of the North Campus Master Plan, the Fenton River and its stratified drift aquifer have been extensively studied. The University's "Fenton River Study" was published in March 2006 with the formal name *Long-Term Impact Analysis of the University of Connecticut's Fenton River Water Supply Wells on the Habitat of the Fenton River*. The study was conducted to determine whether and how water withdrawals from the Fenton River Wellfield affect the fisheries habitat of the Fenton River adjacent to the wellfield.

The Fenton River Study found that fisheries habitat became perceptibly reduced when the upstream flow in the Fenton River was flowing at less than 7.0 cubic feet per second (cfs) and the Fenton River Wellfield was operating. The amount of available habitat became significantly reduced by the pumping of the wellfield when the upstream flow was at 3.0 cfs. Thus, the primary recommendation of the Fenton River Study was to institute a series of successive reductions in the daily volume of pumping when the upstream flow in the

Fenton River dropped from 6.0 cfs to 3.0 cfs, with the wellfield being shut down when upstream flows dropped below 3.0 cfs.

With a better understanding of the aquifer processes in the Fenton River and the impacts of ground water withdrawals, attention then turned to the Willimantic River aquifer and associated wellfield. The University's "Willimantic River Study" was published in June 2010 with the formal name *Report of the Willimantic River Study: An Analysis of the Impact of the University of Connecticut Water Supply Wells on the Fisheries Habitat of the Willimantic River*. Similar to the Fenton River Study, the Willimantic River Study was conducted to determine whether and how water withdrawals from the Willimantic River Wellfield affect the fisheries habitat of the Willimantic River adjacent to the wellfield.

The Willimantic River Study found that the amount of available fisheries habitat in the Willimantic River is much greater than that in the Fenton River. For this reason, and the fact that the Willimantic River Wellfield is the University's only remaining source of supply after the Fenton River is shut off during low-flow periods, the Willimantic River Study recommended a progression of voluntary and mandatory water conservation measures as upstream flows in the Willimantic River dropped from approximately 19 cfs to approximately 8.0 cfs. The ability of the University to enact these water conservation measures was tested immediately following the completion of the study, as dry conditions prevailed in summer 2010 and low river flows occurred.

One of the primary recommendations of the Willimantic River Study was to develop the subject comprehensive Wellfield Management Plan to conjunctively manage the University's water supplies at the Fenton River Wellfield and the Willimantic River Wellfield. This plan would then enable the University to formally incorporate the results of the Fenton River Study and the Willimantic River Study into its various plans and procedures for operating the University water system.

1.2 PURPOSE

As discussed above, the primary purpose of this document (the University's initial *Wellfield Management Plan*) is to allow the University to formally incorporate the results of the Fenton River Study and the Willimantic River Study into the overall management of the University's water system. This document includes a review of both the Fenton River Study and the Willimantic River Study, a review of system operational history, and protocols for operating both wellfields throughout the year. As suggested by the Willimantic River Study, this document further includes:

- A determination for how the University will monitor USGS-measured upstream discharges at each wellfield and correlate pumping rates to the habitat threshold triggers determined in both the Fenton River Study and the Willimantic River Study.
- A formal update to the Drought Response Plan, including response timing and recovery guidelines.
- Recommendations for limited use of the Fenton Well D when the Fenton River Wellfield would otherwise be shut down. This may allow for brief decreases in pumping at the Willimantic River Wellfield to provide short periods of relief to the fish species in the Willimantic River, while also restoring the system margin of safety.

1.3 RELATIONSHIP TO WATER AND WASTEWATER MASTER PLAN

On September 26, 2005, the Connecticut Department of Public Health issued a consent order to the University of Connecticut to address what it characterized as deficiencies in the operation and management of its water supply system. As part of the consent order, the University agreed to develop a Water System Master Plan to identify and evaluate viable options for meeting the University's future drinking water needs. Additionally, the University voluntarily expanded this charge to include evaluation of its wastewater collection and treatment needs as well.

The Water and Wastewater Master Plan was published in June 2007. The document was designed to convey an understanding of the extent and condition of water and wastewater infrastructure owned and operated by the University of Connecticut; evaluate the capacity of the system to meet current and future water demands and wastewater treatment needs; estimate the value of water and wastewater assets owned by the University; assess management and ownership options for the water and wastewater systems; and develop recommendations relative to future management and operation of the water and wastewater systems.

Most of the recommendations of the Water and Wastewater Master Plan are more directly applicable to the Individual Water Supply Plan than to this Wellfield Management Plan. With regard to the two wellfields, the Water and Wastewater Master Plan recommended the following:

- Perform, as planned, the Willimantic River Study (completed in 2010);
- Continue to operate the Fenton River as outlined in the Fenton River Study (ongoing);
- Relocate Fenton Well A further from the river but within the distance available [250 feet] for a diversion permit exemption (pending additional study); and
- Provide emergency power to Well #2 and Well #4 at the Willimantic River Wellfield (completed in 2011).

As this document recommends a monthly-based operating strategy derived from the current understanding of the characteristics of the two wellfields and the associated rivers, this Wellfield Management Plan supersedes the hypothetical operating scenarios presented in the Water and Wastewater Master Plan.

1.4 RELATIONSHIP TO OTHER WATER SYSTEM PLANNING DOCUMENTS

This Wellfield Management Plan presents a review of historical operational procedures as well as a review of the recent environmental studies that presented recommendations for reducing or curtailing withdrawals during periods of low streamflow. In addition, this plan provides guidelines for the incorporation of wellfield management procedures into a variety of other University documents, including the Water Supply Plan, the draft Drought Response Plan, the Emergency Contingency Plan, and the Water Conservation Plan. As such, a large portion of this initial Wellfield Management Plan provides background information above and beyond the scope of a typical operational reference document. It is envisioned that future versions of this Wellfield Management Plan will be more streamlined to be used as operational reference guides.

1.4.1 Relationship to the Individual Water Supply Plan

Whereas the Individual Water Supply Plan is the University's comprehensive water system planning document, this Wellfield Management Plan is intended toward incorporating the operational recommendations of the two recent environmental studies into a comprehensive operations document. As such, this document is designed to be included as part of the Water Supply Plan but can also serve as a stand-alone document.

The monthly margin of safety projections prepared for the Water Supply Plan are influenced by the recommendations of this Wellfield Management Plan, particularly regarding the proposed operation of Well D during low-flow periods. It is envisioned that the University may choose to update or amend the Wellfield Management Plan concurrent with the Water Supply Plan in the future.

1.4.2 Relationship to the Drought Response Plan

Several months prior to the extreme dry period in 2007, the University prepared a draft "Drought Response Plan" to augment to the pre-existing Emergency Contingency Plan. A copy of this plan (revised through August 22, 2008) is included in Appendix A. Designed to serve as a set of protocols more than as a plan document, the Drought Response Plan establishes trigger levels, describes responses, lists conservation measures, and describes recovery from "emergency." The levels of response in the plan are denoted as follows:

- Stage IA – Water Conservation Alert
- Stage IB – Water Supply/Drought Advisory
- Stage II – Water Supply/Drought Watch
- Stage III – Water Supply/Drought Warning
- Stage IV – Water Supply/Drought Emergency

The University's protocols begin with an Alert stage, which is not specifically called for in the Connecticut Drought Preparedness and Response Plan published in August 2003. However, the terms Advisory, Watch, Warning, and Emergency are consistent with the Connecticut Drought Preparedness and Response Plan.

The University's draft Drought Response Plan links the projected available supply (including the available supply from the Fenton River Wellfield in accordance with the recommendations of the Fenton River Study) and High Head Reservoir levels to the trigger levels. An itemized list of response protocols was presented in the plan for each of the stages listed above to enable the University to respond according to each particular trigger level.

The Connecticut DPH reviewed the draft Drought Response Plan and offered the following comments by memorandum on September 9, 2008. Considerations related to

these comments have been incorporated, where appropriate, into the Emergency Contingency Plan and this Wellfield Management Plan:

- *Initial Trigger Level:* Issue Stage IA when the flow in the Fenton River reaches 4.0 or 5.0 cfs instead of 3.0 cfs to allow additional time to prepare for implementing conservation measures.
- *Source-Based Trigger Levels:* It may be more appropriate to base trigger levels for Stage IB, Stage II, Stage III, and Stage IV on groundwater levels rather than levels in the High Head storage facility.
- *Water Audits:* Water audits of the system's largest users should be performed when demand reductions are not met at each response stage. Such water audits should be part of the water system's normal business practice.
- *System Recovery:* Recovery triggers should be based on groundwater levels and streamflows in addition to the High Head storage facility levels.
- *Term Clarification:* Clarification was recommended for what constitutes a projected available supply being "significantly less" than projected water usage, and what constitutes an "overall decrease in tank storage." These statements could be quantified in units or percentages.
- *Emergency Sources:* The plan should identify all potential sources of water supply within a reasonable proximity to its distribution system that could potentially be tapped during a Stage IV emergency. This would necessitate an emergency order that is unlike the one outlined in prior stages, would require water boiling and possibly other public health precautions contingent on the quality of the emergency source.

The draft Drought Response Plan was considered during the Willimantic River Study to correlate its protocols to those recommended when the Willimantic River falls below the threshold streamflow triggers outlined in its environmental study. The protocols suggested in the Willimantic River study report were then followed during the dry summer of 2010.

This Wellfield Management Plan fully incorporates the University's Drought Response Plan. Because a dry spell or moderate drought is not necessarily a water supply emergency and therefore should not always be treated as such, this Wellfield Management Plan instead uses the guidelines from the two river studies to revise the five stages of water conservation triggers.

1.4.3 Relationship to the Emergency Contingency Plan

The purpose of the Emergency Contingency Plan is to outline protocols to follow when actual emergencies occur, such as failing wells, water main breaks, tank levels falling rapidly, contamination of water, or other disasters. It is understood that such events can curtail the University's ability to provide potable water, which may result in a threat to public health.

This Wellfield Management Plan does not consider the impact of such emergencies, but rather considers day-to-day operation of the wellfields under normal operating conditions and during periods of low river flows when wellfield operation could cause adverse environmental stress to the habitat of the rivers adjacent to each wellfield. Seasonal low streamflows are not considered an emergency situation for the University, but instead a situation that advises conservation and results in the utilization of response protocols.

On the other hand, it is understood that a sustained drought such as the drought of record in the 1960s could result in low groundwater levels that could in turn cause wells to go dry. This situation would be considered an emergency.

Currently, the draft Drought Response Plan offers reasonable response protocols for instituting water conservation measures when available supply is limited due to declines in available storage. These response protocols have been folded into the Emergency Contingency Plan as appropriate for the Water Supply Plan. Low groundwater levels were also added to the Emergency Contingency Plan as this scenario would represent an

emergency situation. These modifications were necessary to provide a clear, workable set of emergency response protocols for the University and differentiate emergency response from typical drought response for the majority of low-flow events.

1.4.4 Relationship to the Water Conservation Plan

The purpose of the Water Conservation Plan is to describe *how* to accomplish University-wide water conservation measures both in the long-term and in the short-term when triggered by the Drought Response Plan, the Emergency Contingency Plan, or this Wellfield Management Plan. The protocols for water conservation are similar between the three documents, although the timing of water conservation initiatives may need to be expedited during emergency situations.

PAGE
BREAK



TOWN OF MANSFIELD
OFFICE OF THE TOWN COUNCIL

ELIZABETH C. PATERSON, Mayor

AUDREY P. BECK BUILDING
FOUR SOUTH EAGLEVILLE ROAD
MANSFIELD, CT 06268-2599
(860) 429-3336
Fax: (860) 429-6863

March 21, 2011

Stephen B. McPherson, President
Masonicare
Corporate Services
22 Masonic Avenue
Wallingford, CT 06492

Dear Steve:

I am writing concerning your continued interest in developing an Independent/Assisted Living facility in Mansfield. As you are aware, it does not appear that the university is in a position at the present time to authorize any additional connections to their water supply that are not listed as a committed use under the university's water and wastewater master plan.

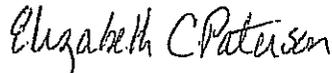
Given the limitations of the existing water supply, the Town of Mansfield is committed to partnering with UConn to develop additional water sources to address our collective needs, as we have recognized that the current situation is untenable and will not support any future development. As our Town Manager has highlighted in his recent letter to you, we are aggressively pursuing a number of different options, including wellfields and interconnections to existing water utilities, in order to meet our future water needs. The town has retained an engineering firm for this project, and we will be testing our preliminary water supply options over the next several months. While it is difficult to estimate an exact date when additional public water supply would be available, we believe that a 24-48 month timeframe is reasonable. Obviously, the permitting and construction of additional supply would require a number of authorizations at the state and local level as well as approval from our voters to appropriate additional bond funding for the project.

The Town of Mansfield is committed to supporting the development of an independent/assisted living facility in town, and we would view a connection to Masonicare's proposed property on Maple Road as having the highest priority for new users. As the designated "preferred developer" for this facility, we are interested in working collaboratively with you to support the success of this initiative, and we understand that access to water is critical to the project.

The Mansfield Town Council appreciates your organization's continued interest in this project. We are committed to working with you to bring this plan to fruition and fully support the Town's efforts to secure water and wastewater service for the project.

Please feel free to contact me if you have any additional questions.

Sincerely,



Elizabeth C. Paterson
Mayor

CC: Town Council
Matt Hart, Town Manager
Four Corners Water and Wastewater Advisory Committee
Kevin Grunwald, Director of Human Services
Lon Hultgren, Director of Planning
Gregory Padick, Director of Planning

Memo

To: Town Council

From: Matt Hart, Town Manager

CC: Maria Capriola, Sara-Ann Bourque, Audrey Conrad

Date: March 28, 2011

Re: Quarterly Status Report: October – December 2010

Below please find a status report regarding the current projects, initiatives and responsibilities of the Town Manager's Office. This list does not encompass every activity, but does provide a summary of the more important items. I welcome any questions or comments that the Town Council may have.

Major Projects and Initiatives/Areas of Focus

1) Community/campus relations

- Preparations underway for Spring Weekend 2011
- Assisted Community Quality of Life Committee (CQLC) with its review of proposed nuisance house ordinance and draft assembly permit ordinance to regulate certain large gatherings
- In collaboration with Mansfield Community-Campus Partnership (MCCP), implemented pilot blight and litter reduction program in the Hunting Lodge Road neighborhood, including litter pick-up and changing the day of trash service. Refuse and recycling containers to be installed along Hunting Lodge Road in Spring 2011.
- MCCP awarded \$20,000 Healthy Campus Grant to strengthen policy development and enforcement efforts related to hosting parties where alcohol is served. As part of this grant, MCCP to work with Celeron Square Apartments to create a "normative environment" relative to party hosting and alcohol use.

2) Community water and wastewater issues

- Continued to serve as member of UConn Water and Wastewater Advisory Committee; this Spring committee to review update to UConn water supply plan

- 3) Economic Development
 - Provided Council with update regarding staff's work to develop more comprehensive economic development program. Staff committee will continue business visitation and other activities; will discuss governance and policy issues with Council post budget.
- 4) FY 2011/12 Operating Budget and Capital Improvement Program (CIP)
 - Submit Proposed FY 2011/12 Budget and CIP to Council on 03/28/11; will assist Council with review and development of its proposed budget for presentation to voters at 05/10/11 Town Meeting
- 5) Four Corners water and sewer project
 - Environmental Partners reviewed draft report with Four Corners Advisory Committee in January 2011; Environmental Partners to test ground water well sites during the Spring and Summer of 2011
- 6) Independent/assisted living project
 - Assisted Masonicare with review of water supply issues; Masonicare to purchase property on Maple Road within next 90 days
 - Staff recommends Council meet with Masonicare in near future to discuss program; Council also to consider re-establishment of advisory committee to serve as liaison to Masonicare and various stakeholders
- 7) Mansfield Community Center
 - Made plans for renovation and maintenance for 2011
 - Prepared FY 2011/12 CIP proposal for equipment replacement and other needs
- 8) Mansfield 2020: A Unified Vision (strategic plan)
 - Conduct strategic planning team meeting and provide update to Council in late Spring 2011
- 9) Mansfield Downtown Partnership and Storrs Center
 - Continued work to prepare Storrs Center parking management plan
 - Executed Storrs Center Development Agreement as authorized by Council
 - Design of all public and private improvements underway
 - Mansfield Downtown Partnership preparing update to Council and community for April 2011
- 10) Police Services Study
 - Staff and Committee are awaiting a draft version of the study from the consulting team; consulting team will present initial findings to Steering Committee and then to Council in Spring 2011

11) Policy on Open and Transparent Government

- Town Council adopted policy proposed by Personnel Committee

12) Regionalism/shared services collaborative

- Staff conducted meetings with ECSU and WINCOG, and selected UConn Master of Public Administration program to retain group of UCONN MPA students to research potential opportunities for sharing services between Mansfield and Windham parks and recreation departments; study is targeted for completion in late April 2011
- Continued to participate in ongoing WINCOG efforts to examine service-sharing opportunities, including code enforcement, engineering and economic development

13) School Renovation Project

- Council decided not to send proposed two new elementary schools and selected renovations to Mansfield Middle School (Option E) to voters at referendum this Spring
- Will assist Council in determining next steps for this project

14) Senior Services

- Implemented the Council initiated service improvement to increase the senior services social worker schedule to four days per week effective January 1, 2011.

15) Sustainability

- Sustainability Advisory Committee provided update to Council at 02/14/11 meeting
- Evaluated ways to provide additional staff support to coordinate Town's sustainability efforts; presented proposal to establish part-time position as part of proposed FY 2011-12 budget

Capital Projects

1) ARRA projects

- Construction of Birch Road bikeway well underway and grading and base course is complete; final prep and paving remain to be followed by landscaping and finish work; project currently in "winter shutdown" and will resume in early Spring 2011

2) Bridge Projects

- Laurel Lane bridge project in final design; project should be ready to bid in May 2011
- Stone Mill Road bridge project currently out to bid; bids are due in mid- April 2011

3) Salt Shed

- Salt Shed erected; completing punch list items and final sitework

PAGE
BREAK

Gregory J. Padick

From: Connecticut Planning Professionals [CT_PLANNING_PROFESSIONALS-L@LISTSERV.UCONN.EDU] on behalf of Roberts, Richard P. [ROBERTS@HALLORAN-SAGE.COM]
Sent: Wednesday, March 30, 2011 11:59 AM
To: CT_PLANNING_PROFESSIONALS-L@LISTSERV.UCONN.EDU
Subject: Participation in hearings and deliberations by non-seated alternates

Today, in *Komondy v. Chester ZBA*, the CT Appellate Court issued a decision addressing this question. The gist of it appears to be that unseated alternates may participate in the hearing but should not participate in the deliberations.

Whether or not that participation is fatal to the commission's decision depends on whether the alternate's participation had a "profound effect", although the court frowned on such participation (See footnote 10 - "In light of our conclusion in part I B of this opinion, we emphasize that the participation of an unseated alternate in the board's deliberations is not to be condoned. Even if that participation ultimately is deemed harmless, it nevertheless raises the specter of impropriety. For that reason, the prudent course is to prohibit such participation in all instances.").

Here's a link to the decision. -

<http://www.jud.ct.gov/external/supapp/Cases/AROp/AP127/127AP282.pdf>

RESPONSES TO:

Richard P. Roberts, Esq.
Halloran & Sage LLP
One Goodwin Square
Hartford, CT 06103-4303
Telephone: 860-297-4695
Fax: 860-548-0006
<mailto:roberts@halloran-sage.com>
www.halloran-sage.com

IRS Circular 230 Disclosure: In compliance with Treasury Department Regulations, we inform you that any U.S. tax advice contained in this communication (including any attachments) is not intended or written to be used by any taxpayer, and cannot be used, for the purpose of: (i) avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer; or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.

Confidentiality: The information contained in this e-mail message is intended only for the use of the individual or entity named above and is privileged and confidential. Any dissemination, distribution, or copy of this communication other than to the individual or entity named above is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone.

PAGE
BREAK

The "officially released" date that appears near the beginning of each opinion is the date the opinion will be published in the Connecticut Law Journal or the date it was released as a slip opinion. The operative date for the beginning of all time periods for filing postopinion motions and petitions for certification is the "officially released" date appearing in the opinion. In no event will any such motions be accepted before the "officially released" date.

All opinions are subject to modification and technical correction prior to official publication in the Connecticut Reports and Connecticut Appellate Reports. In the event of discrepancies between the electronic version of an opinion and the print version appearing in the Connecticut Law Journal and subsequently in the Connecticut Reports or Connecticut Appellate Reports, the latest print version is to be considered authoritative.

The syllabus and procedural history accompanying the opinion as it appears on the Commission on Official Legal Publications Electronic Bulletin Board Service and in the Connecticut Law Journal and bound volumes of official reports are copyrighted by the Secretary of the State, State of Connecticut, and may not be reproduced and distributed without the express written permission of the Commission on Official Legal Publications, Judicial Branch, State of Connecticut.

MARGUERITE A. KOMONDY *v.* ZONING BOARD OF
APPEALS OF THE TOWN OF CHESTER
(AC 31944)

Gruendel, Alvord and Dupont, Js.

Argued January 5—officially released April 5, 2011

(Appeal from Superior Court, judicial district of
Middlesex, Jones, J.)

Christina P. Burnham, for the appellant (plaintiff).

John S. Bennet, for the appellee (defendant).

Opinion

GRUENDEL, J. In this certified zoning appeal, the plaintiff, Marguerite Komondy, appeals from the judgment of the Superior Court dismissing her appeal from the decision of the defendant, the zoning board of appeals (board) of the town of Chester (town), which denied her appeal from two decisions of the zoning enforcement officer and her application for a variance from § 113B.5 of the town zoning regulations (regulations). She contends that the board acted illegally in permitting an unseated alternate member to participate in both the public hearing and the board's deliberations thereon. We affirm the judgment of the Superior Court.

This appeal concerns the use of a mobile home on 29 Liberty Street in Chester (property), which is located in an R-1 residential district of the town and at all relevant times was owned by the plaintiff. Section 113B.5 of the regulations permits the temporary use of a mobile home on a property during the construction of a permanent dwelling. That regulation requires notification of such use to the zoning enforcement officer and expressly limits the use to a period of six months.¹

The property contained a 6531 square foot historic single-family residence, which a fire destroyed in March of 2005. Days later, the plaintiff, pursuant to § 113B.5, applied for a six month use permit to install a temporary mobile home on the property during the reconstruction of her home, which was granted on March 14, 2005. Approximately one year and four months later, Zoning Enforcement Officer Judith R. Brown issued a cease and desist order regarding the use of the mobile home on the property. In response, the plaintiff requested an extension of the permit originally issued in March, 2005, which Brown denied on August 25, 2006.

On August 28, 2006, the plaintiff filed an appeal with the board from both the cease and desist order and the denial of her request for an extension. In addition, the plaintiff applied for a variance from the "[six] months time limit" contained in § 113B.5.² The board held a public hearing on the plaintiff's applications on December 18, 2006. In attendance at that hearing were regular board members Mario Gioco, Jim Miller, Tom Englert and Mark Borton, and three alternate board members, Dan Bednarz, Theresa Myers and Andy Vomastek. Because only four regular members were present, Bednarz was seated pursuant to General Statutes § 8-5a.³ After the public hearing concluded, the board deliberated the merits of the plaintiff's applications. The board then voted to deny both the appeal from the decisions of the zoning enforcement officer and the application for a variance from § 113B.5. From that decision, the plaintiff appealed to the Superior Court, which rendered judgment dismissing her appeal. In so doing, the court rejected the plaintiff's claim that the board acted ille-

gally in allowing Myers, an unseated alternate, to participate in the public hearing and the board's deliberations. In addition, the court concluded that the board properly denied the variance application because the requisite hardship was lacking.⁴

On appeal to this court, the plaintiff challenges only the court's determination regarding Myers' participation in the public hearing and the board's deliberations. She does not challenge its determination that no unusual hardship existed to warrant a variance of the zoning regulations. Accordingly, we focus our attention on the propriety of Myers' involvement in the December 18, 2006 proceedings.

The record before us contains a transcript of the December 18, 2006 proceedings on the plaintiff's applications. It substantiates the court's finding that Myers was an alternate who, despite not being seated to act on the plaintiff's applications pursuant to § 8-5a, participated in both the public hearing and the subsequent deliberations of the board. During the public hearing, Myers asked more than a dozen questions, the majority of which were directed at the plaintiff's husband, Christopher Komondy, who offered testimony in support of the plaintiff's applications. Her participation in the board's subsequent deliberations on the plaintiff's variance application was even more extensive.⁵ The transcript of the deliberations thereon contains more than twenty separate statements by Myers.⁶ Myers posed various questions to the town's attorney and articulated her opinion on various aspects of the variance at issue during those deliberations. For example, Myers expressed her view that "we have a larger obligation to the greater good if you want to call it that. And if we decide to write and grant a variance where we put limitations in, first of all, without knowing what enforcement is, what is the good of having a limitation or making a law or saying this is what's going to happen if we don't know (a) if we can enforce it and (b) how we're going to enforce it. And who's going to be responsible for . . . checking all this out and monitoring this, and, you know, we've already had months of delays and people in the town waiting on this decision as well as the applicant. You know, this could drag out to have a life of its own and by the time we're even getting to the point of figuring out how to handle it, the building could be gone or could be up, could be not, God knows what could happen in any part of this process in two to three years"

On the issue of hardship, Myers questioned whether this is "a financial hardship or a hardship with [the] land." When Gioco and Miller discussed potential conditions related to the timing of the reconstruction on the property, Myers opined that "it was a chronological argument, very well said, and, I mean, you could argue either way, but that is not necessarily a solid grounding

for a hardship.” She concluded that statement by noting that “[y]ou can’t talk yourself into a hardship, either it is a hardship or it isn’t.” Similarly, when another board member raised the possibility of attaching a condition to the variance that would limit the use of a mobile home on the property “by time,” Myers stated that “then it’s two months back, three months later, where do you just cut it off and stop the bleeding, I mean, when are you, obviously, we are all sympathetic, but you know what I mean. You let them go for two years and then they guarantee that they got three more months and then you’re going to say, well, sorry, and then in three more months it’s like, you know, the world fell apart, and it’s going to take three or four more months. That’s the problem with this . . . as much as we want to do this, that’s the problem with this, how, where does it end; it ends when they’re done, not when we decide to grant a variance.” Near the end of the board’s deliberations, Gioco, the board’s chairman, opined that “really this . . . should have been handled by [the] planning and zoning [commission] because it is not clear Maybe we should give them the chance to fix it as opposed to us.” In response, Myers stated that “if we really have gone through this whole process and decided that we shouldn’t be hearing this and then we shouldn’t have accepted the application. . . . We have heard it, it is on the books . . . I think *we have to make a decision*. I mean, if the applicants or if we want to talk to [the planning and zoning commission] about modifying [§ 113B.5] . . . but I don’t think *we* can postpone *our decision* based on that” (Emphasis added.) Plainly, Myers was an active participant in the board’s deliberations on the variance application.

I

The plaintiff claims that Myers’ participation in the proceedings ran afoul of General Statutes § 8-5 (a), rendering the board’s action on her applications illegal. She argues that the plain language of that statute forbids an alternate member from participating in either the public hearing or board deliberations on an application unless that alternate has been seated pursuant to § 8-5a. Her claim presents a question of statutory construction, over which our review is plenary. See *Buttermilk Farms, LLC v. Planning & Zoning Commission*, 292 Conn. 317, 328, 973 A.2d 64 (2009).

“The process of statutory interpretation involves the determination of the meaning of the statutory language as applied to the facts of the case, including the question of whether the language does so apply. . . . When construing a statute, [o]ur fundamental objective is to ascertain and give effect to the apparent intent of the legislature. . . . In other words, we seek to determine, in a reasoned manner, the meaning of the statutory language as applied to the facts of [the] case, including the question of whether the language actually does

apply. . . . In seeking to determine that meaning, General Statutes § 1-2z directs us first to consider the text of the statute itself and its relationship to other statutes. If, after examining such text and considering such relationship, the meaning of such text is plain and unambiguous and does not yield absurd or unworkable results, extratextual evidence of the meaning of the statute shall not be considered. . . . The test to determine ambiguity is whether the statute, when read in context, is susceptible to more than one reasonable interpretation.” (Internal quotation marks omitted.) *Id.* In addition, “common sense must be used in statutory interpretation, and courts will assume that the legislature intended to accomplish a reasonable and rational result.” (Internal quotation marks omitted.) *Cannata v. Dept. of Environmental Protection*, 239 Conn. 124, 141, 680 A.2d 1329 (1996).

We thus begin with the language of the statute. Section 8-5 (a) provides in relevant part: “In each municipality having a zoning commission there shall be a zoning board of appeals consisting of five regular members and three alternate members, unless otherwise provided by special act. Such alternate members, also referred to as ‘the panel of alternates’, shall, when seated as herein provided, have all the powers and duties set forth in the general statutes relating to zoning boards of appeals and their members. . . .” General Statutes § 8-6 (a) enumerates the “powers and duties” of a zoning board of appeals as follows: “(1) To hear and decide appeals where it is alleged that there is an error in any order, requirement or decision made by the official charged with the enforcement of this chapter or any bylaw, ordinance or regulation adopted under the provisions of this chapter; (2) to hear and decide all matters including special exceptions and special exemptions under section 8-2g upon which it is required to pass by the specific terms of the zoning bylaw, ordinance or regulation; and (3) to determine and vary the application of the zoning bylaws, ordinances or regulations”

A

The first question we must ask in considering the aforementioned statutory language is whether it precludes the participation of an unseated alternate in the public hearing portion of a board’s proceedings. We conclude that it does not. While quite specific in other regards; see, e.g., General Statutes § 8-7 (requiring board to “state upon its records the reason for its decision”); General Statutes § 8-7a (requiring evidence to be taken by stenographer or recording device); General Statutes § 8-7d (a) (requiring that “[a]ll applications and maps and documents relating thereto shall be open for public inspection” and permitting any person to “appear and be heard” at public hearing); our General Statutes do not prescribe any protocols or duties regarding the *participation* of board members in the public hearing.



See generally R. Fuller, 9 Connecticut Practice Series: Land Use Law and Practice (3d Ed. 2007) § 20:1, p. 556 (“[t]he general procedures followed by most land use agencies are similar, and acceptable procedures have evolved by custom and experience rather than from statutory requirements”).

This legislative silence on the issue of participation by board members in the public hearing is understandable. Whether it is an appeal from a decision of the zoning enforcement officer, a variance application or another matter specified by statute, the burden rests with the applicant to demonstrate its entitlement to the requested relief. See, e.g., *Cumberland Farms, Inc. v. Zoning Board of Appeals*, 74 Conn. App. 622, 630, 814 A.2d 396 (“the board properly exercised its discretion in upholding the decision of the zoning enforcement officer [because] the plaintiff had not satisfied its burden of establishing the validity of the proposed gasoline station use as a preexisting, nonconforming use”), cert. denied, 263 Conn. 901, 819 A.2d 836 (2003); *Pike v. Zoning Board of Appeals*, 31 Conn. App. 270, 274, 624 A.2d 909 (1993) (applicant bears burden of demonstrating existence of hardship). It thus is incumbent on an applicant to provide an evidentiary basis, whether through testimony, documentation or a combination thereof, in support of its plea for relief. Under Connecticut law, active participation by board members in a public hearing is not statutorily required. Rather, it is entirely permissible, if nevertheless uncommon,⁸ for a board to passively observe the applicant’s presentation without asking questions or otherwise making inquiry as to the specifics of the application. We are aware of no authority to the contrary, nor has the plaintiff provided any.

The plaintiff argues that the word “hear,” as that term is used in the phrase to “hear and decide” contained in § 8-6 (a) (1) and (2), connotes active participation in public hearings. We disagree. Rather, we read that term as one indicating that the zoning board of appeals is the proper forum for certain appeals and matters as specified therein. Put differently, the term expresses the board’s power to entertain such matters.

Such expression is necessary because zoning boards of appeal are creatures of statute, as every Connecticut municipality having a zoning commission is required to have a zoning board of appeals. General Statutes § 8-5 (a). They possess a limited authority, as circumscribed by statute, the scope of which cannot be enlarged or limited by either the board or the local zoning regulations. See *Langer v. Planning & Zoning Commission*, 163 Conn. 453, 458, 313 A.2d 44 (1972) (board’s powers “stem directly from the statute” and “are not subject to restriction by provisions contained in the ordinance or amendments thereto”); *Bora v. Zoning Board of Appeals*, 161 Conn. 297, 302, 288 A.2d 89 (1971) (holding

that board acted illegally by exceeding its power in granting variance); 2 P. Salkin, *American Law of Zoning* (5th Ed. 2010) § 13-27, p. 13-82 (zoning boards of appeal “are constrained by the limitations of the power granted to them by law”). As often is noted, “[s]ubject matter jurisdiction is the power of the court to *hear and determine* cases of the general class to which the proceedings in question belong. . . . The same principle applies to administrative agencies . . . including zoning authorities.” (Citations omitted; emphasis added; internal quotation marks omitted.) *Lauer v. Zoning Commission*, 220 Conn. 455, 460, 600 A.2d 310 (1991); see also *Konover v. West Hartford*, 242 Conn. 727, 740–41, 699 A.2d 158 (1997) (no jurisdiction to act unless under precise circumstances and in manner particularly prescribed by enabling legislation); cf. *Mitchell Land Co. v. Planning & Zoning Board of Appeals*, 140 Conn. 527, 531, 102 A.2d 316 (1953) (explaining that “[p]rior to 1947, the statutes did not specifically refer to . . . special exceptions [which] the General Assembly [recently] empowered zoning boards of appeal ‘to hear and decide’”). By delineating precisely what matters properly may be acted upon by a zoning board of appeals, § 8-6 (a) sets forth the confines within which zoning boards of appeals operate.

In addition, we note that § 8-6 (a) (3) does not contain the particular language relied on by the plaintiff. If the plaintiff is correct in her contention that the term “hear,” as it is used in the phrase to “hear and decide,” constitutes active participation in public hearings, then its omission from § 8-6 (a) (3) suggests that the legislature, in enacting this statute, sought to vest in board members the power to actively participate in public hearings on the matters set forth in § 8-6 (a) (1) and (2) but not in hearings where a variance is sought. The legislature could not have intended such a bizarre result. See *S.I.S. Enterprises, Inc. v. Zoning Board of Appeals*, 33 Conn. App. 281, 286, 635 A.2d 835 (1993) (principles of statutory construction require court to construe statutes in manner that will not lead to absurd results). That § 8-6 (a) concludes by providing that the board shall not be required “to hear any application for the same variance . . . for a period of six months after a decision by the board or by a court on an earlier such application” further indicates that the term “hear” refers to the board’s power to entertain certain matters.

Common sense also persuades us that the legislature did not intend to preclude the participation of unseated alternate members in public hearings. The convening of a public hearing affords an opportunity for the applicant to demonstrate its entitlement to the requested relief and for other members of the community “to register their approval or disapproval and to state the reasons therefor.” *Couch v. Zoning Commission*, 141 Conn. 349, 357, 106 A.2d 173 (1954); see also *Clifford v. Planning & Zoning Commission*, 280 Conn. 434,



443, 908 A.2d 1049 (2006) (purpose of local zoning body in holding public hearing is to afford opportunity to interested parties to make views known and to enable board to be guided thereby). Thus, the aim of the public hearing is to obtain any and all information relevant to the inquiry on hand, so as to facilitate the rendering of an informed decision by the board. See *Loh v. Town Plan & Zoning Commission*, 161 Conn. 32, 42, 282 A.2d 894 (1971) (board members must be sufficiently acquainted with issues raised and arguments presented at public hearing “in order to exercise an informed judgment”); *Strain v. Mims*, 123 Conn. 275, 282, 193 A. 754 (1937) (“[t]he purpose of the public hearing is, of course, to inform the members of the commission as to the reasons why the change should or should not be made”); T. Tondro, *Connecticut Land Use Regulation* (2d Ed. 1992) p. 405 (“the purpose of the hearing is to provide the board with information to improve the quality of its decision”). In light of that central aim, we perceive no good reason why unseated alternate members should be relegated to bystander status during public hearings. Indeed, we cannot envision any prejudice to an applicant resulting from their participation, particularly in light of the mandatory disqualification of any board member from “any matter in which he is directly or indirectly interested in a personal or financial sense.” General Statutes § 8-11.



We also are mindful of the fact that an alternate member who is not seated for a public hearing may well be called on to act in the place of a regular member in the board’s subsequent deliberations. It seems incongruous to vest in such an alternate the statutory power to decide the substantive matter before the board yet preclude that alternate from asking pertinent questions or otherwise commenting during the public hearing. Permitting that alternate to explore the merits of the application through participation in the public hearing contributes to the ultimate aim of an informed decision and assures that the applicant and other interested members of the community have the opportunity to address whatever concerns the alternate has regarding the application.

As a final matter, we note that a degree of deference generally is accorded to local land use agencies. See, e.g., *Fedorich v. Zoning Board of Appeals*, 178 Conn. 610, 614, 424 A.2d 289 (1979) (“because the local authority is closer to the circumstances and conditions which create the problem and shape its solution, zoning authorities are given wide discretion in determining public need and the means of meeting it”); *Couch v. Zoning Commission*, supra, 141 Conn. 359 (“[t]he history of zoning legislation indicates a clear intent on the part of the General Assembly that, subject to certain underlying principles, the solution of zoning questions is for the local agencies”); *Megin v. Zoning Board of Appeals*, 106 Conn. App. 602, 607, 942 A.2d 511 (courts

generally employ deferential standard of review to actions of zoning board), cert. denied, 289 Conn. 901, 957 A.2d 871 (2008). It is plausible, if not probable, that the legislature's silence on the issue of board member participation in public hearings simply reflects a willingness to let local agencies fashion their own protocols or duties related thereto.

In sum, a review of our General Statutes reveals that they do not address the issue of board member participation in the public hearing. Mindful that we must avoid a construction that fails to attain a rational and sensible result; see *S.I.S. Enterprises, Inc. v. Zoning Board of Appeals*, supra, 33 Conn. App. 286; we reject the plaintiff's interpretation of § 8-5 (a). Because participation in the public hearing is neither a power nor duty set forth in the General Statutes relating to zoning boards of appeal and their members, we cannot accept the plaintiff's contention that Myers' participation in the December 18, 2006 public hearing contravened the plain language of § 8-5 (a).

B

We next turn our attention to whether the statutory language at issue precludes the participation of an unseated alternate in the board's deliberations. We answer that query in the affirmative.

Section 8-6 (a) vests the board with the power to "decide" certain matters and to "determine and vary the application of the zoning bylaws, ordinances or regulations" The board accomplishes those tasks by engaging in deliberations following the close of the public hearing. See, e.g., *Hescock v. Zoning Board of Appeals*, 112 Conn. App. 239, 246-47, 962 A.2d 177 (2009) (reviewing portions of transcript of both "the public hearing" and "the board's decision-making process").

One judge who considered the question before us analogized the unseated alternate board member to an alternate juror. See *Weiner v. Zoning Commission*, Superior Court, judicial district of Litchfield, Docket No. CV-94-0066607 (May 23, 1995) (*Pickett, J.*) (14 Conn. L. Rptr. 245). The comparison is apt. To deliberate is to "weigh, ponder, discuss, regard upon, consider . . . to weigh in the mind; to consider the reasons for and against." (Internal quotation marks omitted.) *State v. Washington*, 182 Conn. 419, 428, 438 A.2d 1144 (1980). Just as deliberation is "the process by which a jury reaches a verdict, as by analyzing, discussing, and weighing the evidence"; Black's Law Dictionary (9th Ed. 2009) p. 492; the act of deliberating is the process by which the board reaches its decision.⁹

For good reason, the General Assembly has seen fit to require alternate jurors in civil and criminal cases alike to "be segregated from the regular panel . . . when the case is given to the regular panel for delibera-

tion" General Statutes §§ 51-243 (e) and 54-82h (c). "[T]he primary if not exclusive purpose of jury privacy and secrecy is to protect the jury's deliberations from improper influence." *United States v. Olano*, 507 U.S. 725, 737-38, 113 S. Ct. 1770, 123 L. Ed. 2d 508 (1993); see also *Turk v. Silberstein*, 48 Conn. App. 223, 224 n.1, 709 A.2d 578 (1998) ("[t]he risks involved in allowing an alternate to sit in during deliberations are obvious"). Participation by an unseated alternate tarnishes the jury's deliberations. See *State v. Murray*, 254 Conn. 472, 495, 757 A.2d 578 (2000) (en banc) (jury deliberations tarnished when jurors come into contact with outside influences). Similarly, the participation of an unseated alternate tarnishes the deliberations of a zoning board of appeals, as it permits one not authorized to vote on the matter before the board to nevertheless pass on the merits thereof. See *Clifford Development Corp. v. Zoning Commission*, Superior Court, judicial district of Litchfield, Docket No. CV-95-0068705 (May 17, 1996) ("[a]n alternate member of the agency who is not needed for the vote should not participate in the deliberations"); 9 R. Fuller, *supra*, § 21:4, p. 606 (same). The unseated alternate's participation, whether by design or inadvertence, injects an improper influence into the board's decision-making process.



That the board's decision-making process includes its deliberations is evidenced by the linguistic distinction contained in the plain language of §§ 8-5 (a) and 8-6 (a). Section 8-5 (a) provides in relevant part that "[t]he board shall keep minutes of its proceedings showing the *vote* of each member and each alternate member when seated upon each question" (Emphasis added.) By contrast, § 8-6 (a), in enumerating the powers and duties of the zoning board of appeals, states that it is authorized to "decide" and to "determine" the specified matters. It is well established that, in construing statutory language, "[n]o part of a legislative enactment is to be treated as insignificant or unnecessary, and there is a presumption of purpose behind every sentence, clause or phrase . . . and no word in a statute is to be treated as superfluous." (Internal quotation marks omitted.) *State v. Anderson*, 227 Conn. 518, 528, 631 A.2d 1149 (1993); see also *Vibert v. Board of Education*, 260 Conn. 167, 176, 793 A.2d 1076 (2002) (every word in statute presumed to have meaning). Our interpretation thus must give meaning to that distinction. Had the legislature intended to permit the participation of unseated alternates in the board's deliberations on an application but to preclude their involvement in the vote thereon, it simply could have used the term "vote" in § 8-6 (a), as it did in § 8-5 (a). That the legislature instead utilized "decide" and "determine" to describe the powers and duties of the board indicates that the board's power in this regard includes something other than simply voting on a particular matter. Our objective in construing statutory language is to give effect to the

apparent intent of the legislature. *Buttermilk Farms, LLC v. Planning & Zoning Commission*, supra, 292 Conn. 328. We conclude that the apparent intent of the legislature was to include the deliberations of a zoning board of appeals among the powers and duties set forth in § 8-6 (a).

Because under § 8-5 (a) only alternate members seated pursuant to § 8-5a possess the powers and duties set forth in § 8-6 (a), § 8-5 (a) precludes the participation of an unseated alternate in board deliberations following the close of the public hearing. We therefore agree with the plaintiff that Myers improperly participated in the deliberations on the variance application.

K

II

That conclusion does not end our inquiry. We also must determine whether that impropriety mandates a reversal of the judgment of the Superior Court dismissing the plaintiff's appeal.

←

A

At the outset, we note that the court employed, in essence, a harmlessness test in evaluating Myers' conduct. It determined that although Myers "was an alternate that was not seated," her participation in the board's deliberations did not have a profound effect on the voting members. Three other Superior Court judges have employed a similar test. See *Optiwind v. Planning & Zoning Commission*, Superior Court, judicial district of Litchfield, Docket No. CV-08-4007819-S (September 15, 2010) (*Roche, J.*) (limited participation of unseated alternate "did not have a profound effect on the deliberations"); *Winston v. Zoning Board of Appeals*, Superior Court, judicial district of Litchfield, Docket No. CV-04-0092297-S (January 6, 2005) (*Bozzuto, J.*) ("[t]he record is devoid of any evidence that the alternate . . . had any sort of 'profound' [e]ffect upon the voting members"); *Weiner v. Zoning Commission*, supra, 14 Conn. L. Rptr. 246 (concluding that unseated alternate "had a profound effect upon the deliberation").

The "profound effect" test adopted in those cases is akin to the standard utilized in *Murach v. Planning & Zoning Commission*, 196 Conn. 192, 491 A.2d 1058 (1985), in which a salaried member of the local fire department who statutorily was proscribed from membership on the local planning and zoning commission participated in the approval of a zone reclassification. *Id.*, 200. In considering "the legal effect" of his participation; *id.*; our Supreme Court explained that "we have not always adhered to a per se rule of invalidation when a member of a board or commission had a conflict of interest that should have counseled disqualification in a matter upon which the member should not have participated." *Id.*, 202. Instead, the court indicated that the burden rested with the appellant property owner "to

show that [the improper member's] disqualification tainted the entire proceeding" *Id.*, 204; see also *Grimes v. Conservation Commission*, 243 Conn. 266, 278, 703 A.2d 101 (1997) ("the burden is on the plaintiff to show that the commission acted improperly"). The court continued: "[N]ot all procedural irregularities require a reviewing court to set aside an administrative decision; *material prejudice* to the complaining party must be shown." (Emphasis added; internal quotation marks omitted.) *Murach v. Planning & Zoning Commission*, *supra*, 205; accord *Anziano v. Board of Police Commissioners*, 229 Conn. 703, 713, 643 A.2d 865 (1994) ("a demonstration of procedural irregularities would not require us to set aside the board's decision in the absence of a showing of material prejudice"); *Owens v. New Britain General Hospital*, 32 Conn. App. 56, 69 n.5, 627 A.2d 1373 (1993) ("[a]n administrative proceeding is not 'tainted' by procedural irregularities unless substantial rights of the parties have been prejudiced"), *aff'd*, 229 Conn. 592, 643 A.2d 233 (1994). Because the disqualified member's "role in this matter was minimal" and "he made no attempt to influence or sway the other members of the commission"; (internal quotation marks omitted) *Murach v. Planning & Zoning Commission*, *supra*, 204; the court concluded that the appellants failed to demonstrate any resulting prejudice. *Id.*, 206.

A similar standard is employed in the context of juror misconduct. In evaluating the intrusion of an alternate into a jury's deliberations, our Supreme Court has noted that "prejudice will . . . be presumed [where] an alternate juror actually participated in jury deliberations." *State v. West*, 274 Conn. 605, 651, 877 A.2d 787, cert. denied, 546 U.S. 1049, 126 S. Ct. 775, 163 L. Ed. 2d 601 (2005), citing *United States v. Olano*, *supra*, 507 U.S. 739-41. At the same time, that presumption may be rebutted by evidence that no harm resulted from the participation of the alternate. *State v. West*, *supra*, 650-51.

In our view, the proper measure to evaluate the participation of an unseated alternate in a board's deliberations is an inquiry into whether the participation resulted in material prejudice to the applicant.¹⁰ See *Murach v. Planning & Zoning Commission*, *supra*, 196 Conn. 205. Among the factors relevant to that inquiry is a determination of whether the participation impacted the board's decision-making process. See *Weiner v. Zoning Commission*, *supra*, 14 Conn. L. Rptr. 246 (concluding that unseated alternate "had a profound effect upon the deliberation"). Also relevant is the frequency and severity of the unseated alternate's participation. Cf. *State v. Stevenson*, 269 Conn. 563, 573, 849 A.2d 626 (2004) (evaluation of claims of prosecutorial impropriety includes inquiry as to frequency and severity of misconduct); *State v. Joyner*, 225 Conn. 450, 473, 625 A.2d 791 (1993) (prosecutor's single questionable statement will not, in all probability, impair effec-

F

tiveness or integrity of defendant's trial); *State v. Orellana*, 89 Conn. App. 71, 105, 872 A.2d 506 (isolated misstatement not prosecutorial impropriety), cert. denied, 274 Conn. 910, 876 A.2d 1202 (2005). Though not dispositive, a finding that the alternate's participation was minimal militates against a finding of material prejudice. *Murach v. Planning & Zoning Commission*, supra, 204; see also *Optiwind v. Planning & Zoning Commission*, supra, Superior Court, Docket No. CV-08-4007819-S (unseated alternate's "limited participation" consisted of "two short statements"); *Winston v. Zoning Board of Appeals*, supra, Superior Court, Docket No. CV-04-0092297-S (unseated alternate made only one comment during deliberations that was consistent with sentiments of other members). In addition, apart from the persuasiveness of the unseated alternate's participation is the question of whether that alternate attempted "to influence or sway the other members" of the board. (Internal quotation marks omitted.) *Murach v. Planning & Zoning Commission*, supra, 204. The aforementioned factors are not exclusive, but rather are cornerstones of an inquiry into whether an unseated alternate's participation in the board's deliberations resulted in material prejudice.

B

Having clarified that standard, the present case nevertheless does not require its application. The record indicates that Myers participated only in the deliberations on the plaintiff's variance request. Although that participation was improper, it remains that the court determined that no unusual hardship existed to warrant a variance from § 113B.5 of the regulations. "Proof of exceptional difficulty or unusual hardship is absolutely necessary as a condition precedent to the granting of a zoning variance." *Bloom v. Zoning Board of Appeals*, 233 Conn. 198, 207-208, 658 A.2d 559 (1995); see also *Ward v. Zoning Board of Appeals*, 153 Conn. 141, 143, 215 A.2d 104 (1965) ("[t]he hardship requirement is a fundamental one in zoning law"). The plaintiff has not challenged the court's determination that the requisite hardship was lacking. "This court does not presume error on the part of the trial court; error must be demonstrated by an appellant . . ." *State v. Tocco*, 120 Conn. App. 768, 781 n.5, 993 A.2d 989, cert. denied, 297 Conn. 917, 996 A.2d 279 (2010). Thus, irrespective of the impropriety of Myers' participation in the board's deliberations, we must conclude that the court properly dismissed the plaintiff's appeal.

The judgment is affirmed.

In this opinion the other judges concurred.

¹ Titled "Temporary Use During Construction of Home," § 113B.5 provides: "When used, after notification to the Zoning Compliance Officer, as a temporary dwelling on premises of the owner thereof during construction of such owner's permanent dwelling upon the same premises, provided that such mobile home shall not remain upon said premises for more than six months from the time that it is first placed thereon; and provided such mobile home

shall be connected to a water supply and sewage disposal system approved by the Town Director of Health in conformity with the requirements of the State Health Code and regulations enacted by the State Department of Health thereunder and to the requirements of any Town regulations pertaining thereto.”

² Under Connecticut law, a property owner is permitted to simultaneously file with the zoning board of appeals a variance application and an appeal from the decision of the zoning enforcement officer. As this court has observed, “[t]he plain language of [General Statutes] § 8-6a clearly allows a party to file a bifurcated claim with a zoning board relying on both [General Statutes] § 8-6 (1) and § 8-6 (3) and requesting simultaneous relief under each of these subsections. Simply put, § 8-6a permits the concurrent filing of both an appeal from a zoning enforcement officer’s ruling and a request for a variance. When a party applies for a review under both §§ 8-6 (1) and 8-6 (3), § 8-6a specifically requires that a zoning board first decide the issues presented by the § 8-6 (1) application for a building permit. Should the board uphold the denial of the building permit, it must then act upon the § 8-6 (3) request for a variance of the zoning ordinance.” *Minter v. Zoning Board of Appeals*, 20 Conn. App. 302, 306, 566 A.2d 997 (1989). It is undisputed that the board complied with the foregoing in the present case.

³ General Statutes § 8-5a, titled “Designation of alternate members to act,” provides: “If a regular member of a zoning board of appeals is absent, he may designate an alternate from the panel of alternates to act in his place. If he fails to make such designation or if he is disqualified, the chairman of the board shall designate an alternate from such panel, choosing alternates in rotation so that they shall act as nearly equal a number of times as possible. If any alternate is not available in accordance with such rotation, such fact shall be recorded in the minutes of the meeting.”

⁴ In its August 17, 2009 memorandum of decision, the court also found that “[t]he mobile home remains on the property today, three and one half years later, without the construction of the new house.”

⁵ The transcript indicates that Myers did not participate in the deliberations on the appeal from the decisions of the zoning enforcement officer.

⁶ In addition, the transcript is punctuated by numerous statements for which the identity of the speaker is referred to as “unknown.”

⁷ We note that General Statutes §§ 8-7, 8-7a, 8-7d and 8-11 also contain provisions pertaining to the activities of zoning boards of appeals. Those statutory provisions require, inter alia, the board to “state upon its records the reason for its decision”; General Statutes § 8-7; to ensure proper recordation of evidence submitted at public hearings; to publish notice of public hearings; to permit any person to “appear and be heard”; General Statutes § 8-7d (a); and further require the disqualification of any board member from “any matter in which he is directly or indirectly interested in a personal or financial sense.” General Statutes § 8-11. Because none of those statutes bears on the issue of board member participation in public hearings or board deliberations, we focus our inquiry on §§ 8-5 (a) and 8-6 (a), as have the parties to this appeal.

⁸ One commentator has described the typical public hearing as follows: “The applicant must be allowed to present documentary evidence and speakers supporting the application to build a record. After the applicant’s presentation, the agency members *may* ask questions about the application and for input from the staff or consultants to the agency who are present. The chairman then generally asks if there are any other persons present who support the application. If so they are allowed to make or file statements in support of the proposal. . . . After that, opponents of the application are allowed to make statements and presentations against it or to ask questions of the applicant and its representatives. After the opponents conclude their remarks and the agency members ask other questions, the applicant is usually given the opportunity to rebut the opposition and make concluding remarks. The chairman then declares the hearing closed or suspends it to another date so that additional evidence can be presented.” (Emphasis added.) 9 R. Fuller, *supra*, § 20:3, p. 558.

⁹ We emphasize that the analogy to alternate jurors pertains to the sanctity of the decision-making process and do not suggest that the proceedings of a zoning board of appeals otherwise are comparable to the work of a jury in judicial proceedings. Plainly, local land use proceedings are informal and transpire without regard to strict rules of evidence; see *Megin v. Zoning Board of Appeals*, *supra*, 106 Conn. App. 608; due in large measure to the fact that such proceedings are conducted by boards “comprised of citizens from all walks of life, serving their communities on a voluntary basis . . .

who may not always express themselves with the nicety of a Philadelphia lawyer." (Internal quotation marks omitted.) *Anatra v. Zoning Board of Appeals*, 127 Conn. App. 125, 145, 3 A.3d (2011) (*Gruendel, J.*, concurring). Similarly, our Supreme Court has explained that the procedural right involved in such administrative proceedings properly is described as a right to fundamental fairness, as distinguished from the due process rights implicated in judicial proceedings. *Grimes v. Conservation Commission*, 243 Conn. 266, 273 n.11, 703 A.2d 101 (1997).

¹⁰ In light of our conclusion in part I B of this opinion, we emphasize that the participation of an unseated alternate in the board's deliberations is not to be condoned. Even if that participation ultimately is deemed harmless, it nevertheless raises the specter of impropriety. For that reason, the prudent course is to prohibit such participation in all instances.