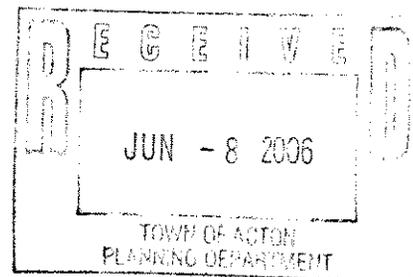


TOWN OF ACTON
472 Main Street
Acton, Massachusetts, 01720
Telephone (978) 264-9628
Fax (978) 264-9630



Engineering Department

INTERDEPARTMENTAL COMMUNICATION

To: Planning Department

Date: June 6, 2006

From: Engineering Department

Subject: Review of Renwick Way – 45 Main Street
Determination pursuant to Zoning Bylaw Section 1.3.16(4)

We have reviewed the above referenced Road Improvement Plan dated April 26, 2006 and we have the following comments relative to the requirements of the Town of Acton Subdivision Rules and Regulations:

1. According to recorded lot plans for these properties, we noticed the existing 30-foot wide private way is shown on a separate parcel of land. The applicant will need to conduct a title search to ensure ownership of this private way and that there are no other people who have retained rights to this road that could raise a problem. Our concern is that if the applicant does not own the underlying land shown as the private way that he might not be able to subdivide the property as shown. The land area for Lot #2 is compromised of a portion of the private way and land located on either side of this roadway.
2. The project engineer identifies Main Street in the Development Impact Report as a collector road. The Town Master Plan identifies Main Street an arterial road.
3. The title of the Details & Sections sheets (DS-1, DS-2 & SWPP) should be changed from Dunham Park Acton, MA to 45 Main Street Acton, MA.
4. The engineer needs to show the 100-year flood zone that is located on this property.
5. We noticed that Lot #1 does not conform to the minimum standards for a legal building lot in Residence 2 zoning district as stated by the Zoning Bylaw. Lot #1 is shown to have 135.75 feet of frontage and only 33,097 square feet of land.
6. The existing property line monumentation such as the drill holes in the stone wall should be clearly labeled on all the subdivision plans. We are concerned that some of these points will be disturbed and/or destroyed during construction. There should be a note on the plans to mark these points in the field prior to construction. The note should also state that if these property markers are damaged or destroyed during construction that the applicant will hire a registered land surveyor to reset the monuments and certify the new locations.

7. The engineer should rename the proposed easement on Lot #1 & #2 from an "access easement" to a "drainage and utility easement" to clearly identify the intent of this easement on the subdivision plan. The engineer should also encompass the detention basin outlet pipe on Lots #2 & #3 in an easement in order to allow future owners of these lots the legal right to enter upon this property in order to inspect, maintain and repair this drain pipe as necessary.
8. The engineer should show an access gate in the chain link fence surrounding the detention basin that is of adequate size and situated in an appropriate location for maintenance equipment to enter the area to maintain and/or repair problems in the basin or at the outlet control structure.
9. The applicant will have to propose street addresses for the subdivision. We want to be sure there is no potential confusion with the building addresses, especially during a 911 emergency. The applicant will need to obtain final approval for the street addresses from the Engineering, Police and Fire Departments. I do not foresee a conflict with the proposed street name "Renwick Way".
10. The Town requires the elevations shown on the plans to be referenced to the National Geodetic Vertical Datum of 1929. The engineer should also needs to note the location and elevation of the starting reference benchmark with at least one temporary benchmark set on the site and labeled on the subdivision plans. The temporary benchmark should be located on a fixed object that will not be disturbed during construction.
11. The engineer needs to submit a copy of the water balance calculations to demonstrate that the annual amount of precipitation being captured and recharged to groundwater has not been reduced as a result of the subdivision.
12. The Operation and Maintenance Notes for the proposed drainage system should describe, in more detail, how to inspect the catch basins and determine when they might need to be cleaned. The procedure should be written, in layman's terms, so the future homeowners that are responsible for the maintenance and upkeep can easily understand the inspection process.
13. Operation and Maintenance Note #2 incorrectly references to the Town of Tyngsborough. If the intention is to have Renwick way accepted as a town way then the engineer will need to redesign the roadway to fully comply with the Subdivision Rules and Regulations. We would not recommend granting waivers allowing the right of way to be less than 40 feet in width or allowing the T-shaped turnaround and the driveways as it is shown on the plans. If Renwick Way is to remain a private road, the engineer will need to revise this note to state the private homeowners will be jointly responsible for all the future maintenance and upkeep of the drainage system.
14. Operation and Maintenance Note #4 refers to the maintenance responsibilities for the sediment forebay, the detention basin, the infiltration system and the stone trenches. This note needs to be revised so that it relates only to the drainage system that is proposed in this subdivision. If there are separate infiltration systems or stone trenches on the private lots, the engineer will need to show these drainage facilities on the subdivision plans.
15. The Operation and Maintenance notes for the drainage system should clearly state who will be responsible for the proposed drainage system. We recommend that the operation and

maintenance plan for the proposed drainage system be incorporated into the future private way maintenance agreements for the road.

16. Based on their drainage calculations, the engineer was able to reduce the overall peak runoff rates from the site for a design ten-year storm event.
17. The opening statement for the drainage calculations in the Supplemental Data Report should have referred to the Acton Planning Board instead of the Westford Planning Board.
18. We would recommend relocating the detention basin outlet pipe so that it drains toward wetland flag #6A. This adjustment would place the outlet pipe at about the midpoint between the existing house and the new home on Lot #3. It would also reduce the amount of pipe required to be installed while still maintaining a 50-foot separation from the wetlands as it is currently shown on the plans.
19. The engineer should add a label for the detention basin outlet pipe on the plans to state the pipe diameter, slope, type of pipe, length, etc...
20. The engineer should conduct a deep test hole and percolation test in the same locations as the proposed detention/infiltration basin to field verify the type of existing soils, the actual infiltration rate and the depth to groundwater. The engineer should identify the elevation of estimated high groundwater in the proposed drainage basin to confirm the storage capacity of these detention basins will not be diminished due to a groundwater table that is higher than the bottom of the proposed detention basin. We also want to confirm the bottom of the detention/infiltration basin is at least 2 feet above the groundwater table as required by the MA Stormwater Policy.
21. We recommend that the engineer show some drain inlets such as catch basins at the intersection with Main Street to intercept pavement runoff prior to discharging overland onto Main Street. We want to try and prevent any potential icing problems on Main Street during the winter months. These catch basins could probably be connected directly into the existing drainage system on Main Street.
22. The engineer needs to add a typical cross section of a trench for the installation of the proposed drainage pipe on the plans.
23. The contractor will be required to apply for Permits to Construct within a Public Way for any work in the layout of Main Street such as the underground utility connections (water and gas).
24. There are no fire alarm call boxes shown on the subdivision plans. The engineer will need to meet with the Acton Fire Chief to discuss the requirements for a fire alarm call box.
25. The Fire Chief will have to review the plan to ensure that it is adequate for emergency SU-30 vehicles (fire truck). Based on our turning templates, it appears that a fire truck can safely maneuver within the turnaround for Renwick Way as shown on the plans without driving over the curb.
26. The engineer need to correct the proposed edge of pavement for the intersection of Renwick Way so that it does not encroach into the Main Street road pavement as it is currently shown on the plans. The engineer might need to relocate the existing utility pole at

this location in order to provide an adequate pavement radius for this intersection. The pavement radius needs to be large enough to accommodate an emergency SU-30 vehicle (fire truck) to enter the site without the need to obstruct oncoming traffic on Main Street.

27. The applicant still needs to address the requirement for sidewalks.
28. The engineer should sketch the approximate location of the existing septic system for the existing home on lot #2.
29. Due to the close proximity of the homes at 43 & 47 Main Street, we recommend that the dwellings on these properties be shown on the plans to clearly show how this subdivision relates to these homes.
30. The engineer should show the existing utility pole on Main Street that is adjacent to this driveway on the plans. We want to be sure that the location of this utility pole will not interfere with the new location of the proposed road.
31. We noted the following inconsistencies with the information provided for the proposed detention basin:
 - The invert of the 4-inch orifice on the outlet structure in the detention basin is labeled at elevation 87.00 on the Details & Sections sheet.
 - In the drainage calculations, the invert of the 4" orifice is stated at elevation 86.00.
 - The cross-section of the detention basin on the Details & Section Sheet shows a pipe buried in stone or some sort of material.
 - The proposed contours labeled on the subdivision plans show the bottom of the sediment forebay to be at elevation 86.00.
 - The cross section of the detention basin shows the sediment forebay to be at an unknown elevation below elevation 86.00.

This information needs to be corrected so that the information is consistently shown on the plans, details and the drainage calculations.

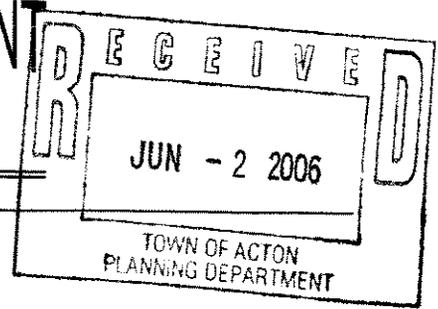
32. If a perforated pipe is proposed to be buried in stone in the detention basin, the engineer will need to label the size of the stone, the pipe diameter, length of pipe, inverts, etc...
33. The engineer needs to add a typical detail of the emergency spillway for the detention basin on the plans.
34. Note #5 on the Details & Sections sheet (sheet DS-1) should be changed to require the stone bounds shall be a six (6) inch square by four (4) feet long piece of granite set flush with the finished grade as required by the Subdivision Rules and Regulations.
35. Note #20 on the Details & Sections sheet (sheet Ds-1) states that Renwick Way will eventually be accepted as a public way. If the intention is to have Renwick way accepted as a town way then the engineer will need to redesign the roadway and the T-shaped turnaround to fully comply with the Subdivision Rules and Regulations. We would not recommend granting waivers to allow the right of way to be less than 40 feet in width. We would also not recommend waivers from Section 8.1.18.2 of the Subdivision Rules and Regulations relating the design of the T-shaped turnaround.

36. If Renwick Way is to remain a private road, the engineer will need to remove the portion of Note #20 on the Details & Sections sheet relating to Renwick Way becoming a public way from the plans. We also recommend that the applicant incorporate some language for the private way into their legal documents and maintenance agreements so that future residents clearly understand the Town will not be responsible for snow plowing or any other related maintenance and that the roads will not become public ways.
37. The proposed centerline grade of Renwick Way at Main Street (3.75%) exceeds the maximum allowable grade of 2% for the transitional area as shown on the table for vertical design standards in the Subdivision Rules and Regulations.
38. The proposed K-value for the crest vertical curve of Renwick Way (11.43) is below the minimum allowable K-value (15) for a low intensity local street.
39. The engineer should add a note to the plans requiring all loam and yielding material shall be removed from the roadway area and replaced with suitable material. The note should also state that provisions will be made for dust control.
40. All of the radiuses for the face of curb in the roundings should be labeled on the Plan and Profile sheets.
41. The Sign Detail should state that all traffic related signs will comply with the latest edition of the Manual on Uniform Traffic Control Devices.
42. The detail for the cape cod berm should clearly show the minimum reveal of the curb above the wearing course to be 6 inches.
43. The applicant might need to request waivers from certain sections of the Subdivision Rules and Regulations in order to allow such changes as an asphalt curb in the T-shape turnaround versus sloped granite curbing, reduced road shoulder widths, etc...
44. The engineer should add the following notes about paving the roads:
 - Prior to the installation of the wearing surface on the road, the binder surface shall be swept clean, dried if necessary, patched and treated with an asphalt emulsion or tack coat to ensure a satisfactory bond between the pavement courses. It should also require that the wearing course would not be applied until all construction on lots served by Renwick Way is in the opinion of the Board completed or substantially completed.
 - No paving shall take place after November 15th of any given year.
45. The engineer should show the proposed stone bound locations along Renwick Way on the subdivision plans.
46. We recommend that an as-built plan showing the road, drainage and utilities be required at the conclusion of construction along with a letter from a professional engineer certifying that the project was constructed according to the approved plans.
47. After the survey monumentation is set, the applicant should be required to submit a certificate (Form CB) by a registered land surveyor at the subdivider's expense, indicating

that these permanent monuments are in place and are accurately located, including evidence that the bound traverse had a ratio "error of closure" of 1:15,000 or better.

48. The typical road cross section should be redrafted to show the proposed grading to stay within the 30-foot right of way as it is shown on the subdivision plans so that the work does not encroach onto abutting private property. The engineer should also change the width of the road shoulder from a 5 foot level area to a 2-3 foot level area as shown on the subdivision plans.
49. General Construction Requirement Note #10 on the Details & Sections sheet should be corrected to restrict hauling material to and from the site between 9AM and 4PM on weekdays.
50. The engineer should show the approximate location of the existing gas main in Main Street on the plans.

ACTON PLANNING DEPARTMENT
Inter-departmental Memo
978-264-9636



Date: May 4, 2006

To: Assessors Conservation Commission Fire Department Municipal Properties Water District Building Commissioner Engineering Administrator Health Department Police Department, fyi Acton Community Housing Corporation, fyi

From: Kim DeNigro, Secretary *DD*

Subject: Renwick Way - 45 Main Street; Determination pursuant to Section 1.3.16 (4) of the Acton Zoning Bylaws, if the way (shown on plan) qualifies as a street for zoning purposes.

Attached is an application for approval for a road improvement plan which is being proposed at 45 Main Street. General information about the address is as follows:

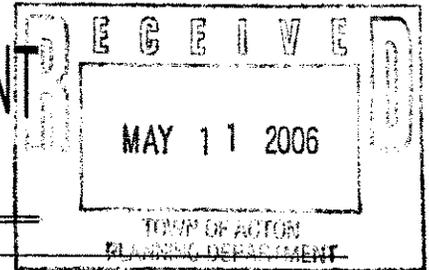
Location: 45 Main Street
Applicant & Owners: Renwick S. Tweedy Jr.
Address: 45 Main Street Acton, MA 01720
Engineer: LANDTech Consultants, Inc.
Lots: 3 3.45 acres
Street Name: Renwick Way
Street Length:
Map: I-2
Parcel: 10
Zoning: R-2
Decision Due: July 27, 2006

Please review the enclosed application and send your comments to the Planning Department no later than June 2, 2006. The public hearing is scheduled for June 13, 2006 at 7:45 PM.

Review Comments: Please be advised that I have
no comment or objection.

Signature: Robert C. Craig, Fire Chief Date: 6/2/06

ACTON PLANNING DEPARTMENT
Inter-departmental Memo
978-264-9636



Date: May 4, 2006

To: Assessors
Conservation Commission
Fire Department
Municipal Properties
Water District ✓

Building Commissioner
Engineering Administrator
Health Department
Police Department, fyi
Acton Community Housing Corporation, fyi

From: Kim DeNigro, Secretary 

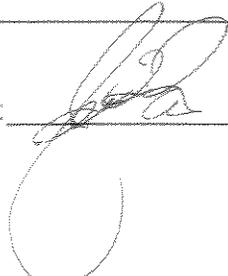
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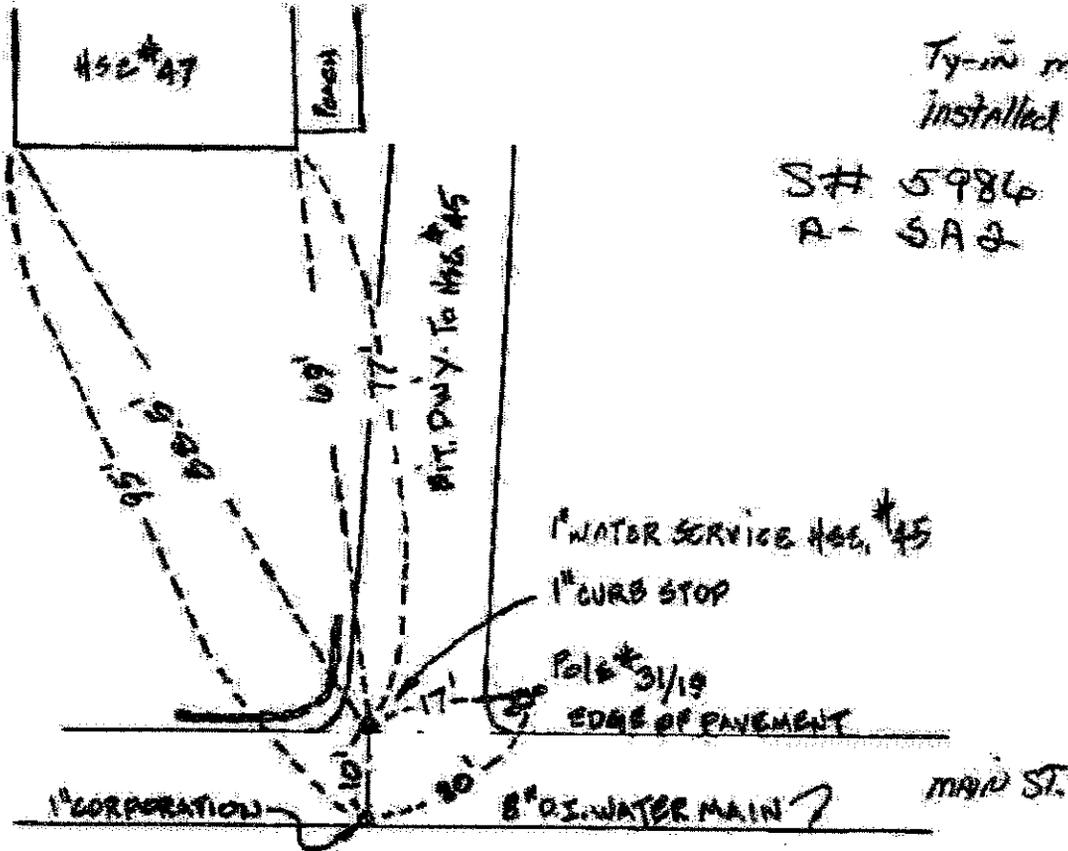
Review Comments: #45 Main St. is currently serviced by an existing 1" service line. It is not clear on the attached plan what is proposed for the new, and existing, properties on Renick Way?

Signature:  Date: 5-8-06

Ty-in #45 MAIN ST. NEW 1" SERVICE OFF NEW 8" DE TO NEW 1" CURBSTOP

10-2001

Ty-in made by Tom Geyon
installed by SHANNON CONST.



S# 5984
R- SA2

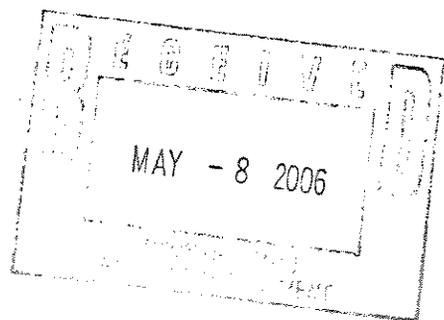
ACTON MUNICIPAL PROPERTIES DEPARTMENT

INTERDEPARTMENTAL COMMUNICATION

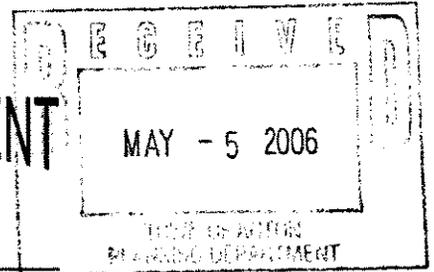
To: Kim DelNigro, Planning Department *Date:* 5/5/06
From: Dean A. Charter, Municipal Properties Director (DAC)
Subject: Review of Renwick Way, 45 Main Street

I have reviewed the plans submitted and visited the site of the proposed subdivision. My comments are as follows:

1. The existing access strip is quite narrow, and when the new pavement is added there will not be any room for street trees in proximity to the roadway. The developer should contact the abutters on either side of the access strip and see if they would be amenable to have trees planted on their property that would serve as street trees.
2. All brush and overhanging limbs growing into the Main Street from #43 and #47 Main Street should be trimmed back to the property line to provide improved visibility for vehicles turning onto Main Street from Renwick Way.
3. Due to the roadway width issue noted in #1 above, I do not think it is feasible (or necessary) to have a sidewalk on Renwick Way. An appropriate contribution to the sidewalk fund seems more in order.



ACTON PLANNING DEPARTMENT
Inter-departmental Memo
978-264-9636



Date: May 4, 2006

To: Assessors
Conservation Commission
Fire Department
Municipal Properties
Water District
Building Commissioner
Engineering Administrator
Health Department ✓
Police Department, fyi
Acton Community Housing Corporation, fyi

From: Kim DelNigro, Secretary *KD*

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Please review the enclosed application and send your comments to the Planning Department no later than June 2, 2006. The public hearing is scheduled for June 13, 2006 at 7:45 PM.

Review Comments: *Proposed development is in the Interim Well Protection Area for wells located in Maynard. In accordance with Title 5 development of the site will be limited to 440 gallons per day per acre*

Signature: *[Signature]* Date: *5/4/06*