



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

Engineering Department

INTERDEPARTMENTAL COMMUNICATION

To: Board of Appeals

Date: December 3, 2013

From: Engineering Department

Subject: Comprehensive Permit #13-06

**6 Post Office Square
Map E-4 Parcel 59-1**

The engineering department has reviewed the plans titled "Definitive Subdivision Plan of Post Office Crossing in Acton, Massachusetts" dated October 22, 2012 and has the following comments:

Drainage

1. The runoff from the lot is increased towards Post Office Square in the post-development condition from the existing conditions for all storm events. In particular, the runoff rate for the 10-year storm increases from 1.41 cfs to 3.08 cfs.

The applicant is making the argument that since the post-development rates for the new development (NEW RATE) is less than the post-development rates provided in the original subdivision (OLD RATE), no runoff attenuation is required. The drainage system on Post Office Drive is privately owned and regardless of whether the existing detention basin is property sized to handle the increased runoff, the adjacent owners are under no obligation to accept a higher runoff rate to their system, nor would it be proper for the Town to approve an increased runoff rate to private property.

2. The applicant should provide plans showing the watershed areas of the original subdivision design, the existing pre-development condition and the post-development condition. The narrative makes reference to a watershed map and a soil map but the report does not provide either.
3. There are a number of assumptions and design criteria in the OLD RATE that don't allow a direct comparison to the NEW RATE. For example:
 - The OLD RATE assumes a Type II storm distribution, the NEW RATE assumes Type III.
 - The OLD RATE calculated a rate for an assumed site development of 75% impervious cover, which may be more impervious area than what the NEW RATE is proposing, but isn't what exists.

- The OLD RATE assumes a runoff co-efficient of 0.8 for impervious and 0.2 for pervious (composite rate of 0.65) while the NEW RATE assumes 0.95 for impervious, 0.20 for wooded areas and 0.25 for lawns (composite rate of 0.59).

In the project narrative, the applicant calculated runoff rates for the OLD RATE using assumptions in the original analysis and we assume the applicant adjusted their calculations for the differences listed above however, these calculations were not provided in the report.

4. We request the applicant add the drainage system to the grading plan with the rim and invert elevations labeled on all structures as well as the length, slope and pipe material labeled on all pipes.
5. On the construction detail sheet, the catch basin detail does not show the required 1" minimum butyl-rubber gas tight sealant or equivalent caulking material
6. The applicant should use drop manholes at STA 1+95, 3+25, 4+00 and anywhere else the difference between inverts is greater than 2 to 3 feet.
7. All drain manholes should have shaped inverts
8. The plans do not show the limits of the Groundwater Protection Zones. The property is located in Zones 2 and 4.
9. The plans do not comply with the regulations of the Groundwater Protection District. Specifically:
 - The applicant hasn't stated whether the plans meet the requirements for Zone 2 which require 70% open space, 40% undisturbed open space and 30% maximum impervious area
 - There are no water balance calculations provided
 - The first inch of every storm event must be collected by gas trap catch basins and be directed to clay-lined retention ponds exposed to the sun.
 - The plans don't provide any pollution safeguards laid out in section 4.3.6.4 of the bylaws
 - Runoff from Zone 4 on the property directed to Zone 2 must meet the same water quality standards of Zone 2.

Miscellaneous

10. The Fire Department should comment on the accessibility of a fire truck. Based on our templates, the common driveway is adequate for an SU-30 vehicle.
11. The existing conditions plan labels the property as "Lot 2" with no reference to what the other lot or lots are. Lot 2 refers to the original subdivision of which this property was the second lot of four. We suggest providing a locus map of the four lots or renaming the property.
12. The applicant has not provided the earth removal calculations
13. The applicant has not provided a proposed name for the new road or stated whether the road will be public or private. The proposed name will need to be approved by the Fire

and Police Departments. Considering Post Office Square is a private way, we recommend the roadway remaining private.

14. The applicant should add the location of an MUTCD compliant street name sign and make a note of it being a private way.
15. The applicant should label the street numbers for the proposed units. We suggest avoiding using the number 4 as that number has given developers trouble marketing units. We recommend the following street numbers and parcel IDs:

Unit #	Street #	Parcel ID (Map/Lot)
Unit #1	2	E4 / 59-1-1
Unit #2	6	E4 / 59-1-2
Unit #3	8	E4 / 59-1-3
Unit #4	10	E4 / 59-1-4
Unit #5	12	E4 / 59-1-5
Unit #6	16	E4 / 59-1-6
Unit #7	18	E4 / 59-1-7
"Parcel A"	20	E4 / 59-1-8
Unit #8	1	E4 / 59-1-9
Unit #9	3	E4 / 59-1-10
Unit #10	5	E4 / 59-1-11
Unit #11	7	E4 / 59-1-12
Unit #12	9	E4 / 59-1-13

The street numbers will need to be reviewed and approved by the Police and Fire Departments

16. It is assumed that Parcel A, intended for the shared septic and drainage systems, will remain its own separate lot under common ownership and not intended to be part of one of the other 12 proposed lots. The distinction is needed in order to assign street, map and parcel numbers to the parcel.
17. The following items are missing from the Recordable Plan Sheet (3.14.3):
 - Abutting ownership information
 - Groundwater Protection Zone Lines
 - Bearing on the north arrow
 - House numbers
 - Location of the house units
 - Planning Board endorsement
 - Comprehensive Permit statement
18. The Existing Conditions Plan should show the locations of the test pits with the maximum groundwater elevations indicated. The locations are shown on the site development plans.
19. The following items are missing from the Site Development Sheet (3.14.5):
 - Lot and House numbers
 - Groundwater Protection Zone Lines
 - All notes indicated in section 3.14.5.27

20. The following items are missing from the Plan/Profile Sheet (3.14.6):

- There are no existing grades on the sideline of the road
- There is no mention of whether the road will be public or private and if the roadway complies with subdivision rules and regulations

21. There is no landscaping plan provided

22. Erosion control details have been provided with no plan

23. There are a few typos on sheet 6 including "1½" wearing" and "planting strip"

24. The applicant will need to show two temporary benchmarks that will not be disturbed during construction

25. The centerline of the street should be monumented at all points of curvature and tangency using magnetized masonry nails in the final course of pavement. The engineer should add a note that no permanent monuments shall be installed until all construction is completed.

26. The applicant will be responsible for providing an as-built plan that will be certified by a PE/PLS.