

# Brem - 201 - 04.06.2015

"THE BIRCHES", LONG RIDGE ROAD, CARLISLE, MA

04/06/2015

## HIGHLIGHTS OF CIVIL ENGINEERING PEER REVIEW AND RESPONSES: by JA Brem

Dec. 8, 2014 response to Oct, 24, 2014 Peer Review
▲ Private Driveway increased to 24'
▲ Maximum Road Grade reduced to 6% (no waiver)
▲ K Value complies (no waiver)
▲ Roof Infiltration Systems - LID
▲ Rain Gardens - 10 Proposed - LID
▲ Bio-Retention - LID
▲ "Stormwater Buffer Zone" - inlet device - 4
▲ Cistern
▲ Septic System 1 moved to north side
▲ Two additional wells (11 domestic, 1 irrigation)
▲ Final Plans
▲ Final Stormwater Management Report and Plans
▲ Low Pressure E-One Sewer - Individual
Feb 6, 2015 response to Dec 22, 2014 Peer Review
◇ Many items labeled "this comment has been addressed"
◇ Snow Plow response with Detail provided (5.9')
◇ Detail adjustments on drainage design and specs
◇ Piping changes as noted
◇ HydroCAD warning reports and messages addressed
◇ Standard 1 - no direct discharge (added SBZ & Infiltration)
◇ Standard 2 - Peak Rates - see 3-13-15
◇ Standard 3 - Annual Recharge - OK
◇ Standard 4 - Water Quality - added SBZ
◇ Standard 5, 6, 7 - N/A
◇ Standard 8 - ECB and notes added as recommended
◇ Standard 9 - O&M plan amended for SBZ and Mass STEP
WAIVERS (Page 18+...)
✧ 1. Units separated by 30 feet - wall to wall
✧ 2. Front yard waiver request withdrawn
✧ 3. Side/Rear setback - Landscape screening provided

✘ 4. > 6 units on private driveway - Defers to ZBA
✘ 5. Landscape plan waiver withdrawn, shows add'l screening
6. Two access > 10 lots: Second access to neighborhood not supported by Public Safety officials - ✘ Defers to ZBA
✘ 7. Single access > 10 - see 6 above - Defers to ZBA
✘ 8. Centerline offset < 125'. Nitsch agrees within AASHTO, Traffic review no mention
✘ 9. Min Centerline Radius - Turning Template acceptable
✘ 10. Street Grade withdrawn
✘ 11. Save Vertical Curve waiver withdrawn
✘ 12. Dead End > 10 lots See 6 - Defers to ZBA
✘ 13. Cul-de-sac Geometry - Turning Template acceptable, Public Safety accepted
✘ 14. ≤ 3 lots on cul-de-sac - Defers to Fire Chief and ZBA, acceptable to Fire
✘ 15. Partial curbing waiver- LID
✘ 16. Pretreatment ≥ 80%; Nitsch supports waiver
✘ 17. Cons Comm Fees - Defers to Cons Comm
✘ 18. ZBA Rules - Setbacks - Screening Provided
19. ZBA Rules-common drive ≤ 6 lots - porches within 30', defers to ZBA on 20 units allowed on ✘ proposed driveway
✘ 20. Turnouts - Nitsch recommends granting
✘ 21. Cul-de-sac Geometry - Turning Template acceptable, Public Safety accepted
✘ 22. ≤ 3 lots on cul-de-sac - Defers to Fire Chief and ZBA, acceptable to Fire
23. Two access > 10 lots: Second access to neighborhood not supported by Public Safety officials - ✘ Defers to ZBA
✘ 24. ZBA Fee - Defers to ZBA
✘ 25. Well offset - Defers to GHC
✘ 26. Septic Flow Rate - Need submission, Defers to BOH
✘ 27. Septic Flow Rate- See 26
✘ 28. Well offset to public roadway - Requests applicant to confirm that waiver is still necessary
Additional Information Needed as of 12-22-2014
★ Confirm Fire Dept. - 30,000 gallon cistern is appropriate
★ Confirm Fire Dept. - 30 feet building to building setback acceptable
★ Confirm Fire Dept - Cul-de-sac layout acceptable
★ Ten Stormwater Standards Met
★ Updated Traffic Report on new geometry and layout - Submitted Feb. 13
★ Updated hydrologic and geologic report for well testing - submitted 3-25-2015
★ Additional stormwater treatment near Long Ridge - SBZ provided 2-06-15

★ Update ZBA on Cons Comm and BOH permitting
★ Adjust location of erosion control at rear of site - Done
Mar 31, 2015 response to Mar 13, 2014 PARTIAL Peer Review
■ A1. Impervious Area discrepancy - report vs. model
■ A2. Sediment forebay and cistern removed from model routing
■ A3. Offsite routing adjustment
■ A4. Warning messages
■ A5. Pipe capacity - Needs adjusting then re-route model
■ A6. Cover over a few driveway culverts
■ B1. Underdrain beneath swales and rain garden suggestion
■ B2. Curbing suggestion at intersection with Long Ridge
■ B3. Cultec details to match report
■ B4. Cover over a few driveway culverts
Final comment - drainage analysis limited review: "it appears that the proposed drainage system will meet the stormwater quantity mitigation requirements of Standard 2 of the MassDEP Stormwater Management Standards"