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MEMORANDUM

To: Amesbury Planning Board
Date: September 23, 2015

Cc: Mr. Nipun Jain – City Planner
Community & Economic Development
Re: Definitive Subdivision Plan
47.5 -57 Kimball Road
Amesbury, MA

From: Gerard J. Fortin, P.E.
Michael E. Leach
Stantec Consulting Services Inc.
Owner: Yvon Cormier Construction
Applicant: BC Realty Trust
Project No. 1951-13124

Stantec Consulting Services Inc. has completed a design review of the above referenced project. The following information was provided for review:

1. Definitive Subdivision Plan set of 47.5-57 Kimball Road in Amesbury Massachusetts, dated Jan. 20, 2015, sheets 1-14 of 14 prepared by Atlantic Engineering & Survey Consultants, Inc.
2. Project Narrative, 47.5-57 Kimball Road, Definitive Subdivision under Special Permit Application, Cluster Residential/Common Access Driveway, Amesbury Massachusetts, dated January 20, 2015, prepared by Atlantic Engineering & Survey Consultants, Inc.
3. City of Amesbury Legal Notices for 47 ½ - 57 Kimball Road.
4. Document Take in form dated 4/21/15 with application for Water Resources Protection District Permit including Applicant's letter dated April 15, 2015.
5. Hydraulic Report, Definitive Subdivision under Special Permit Cluster Residential/Common Access Driveway , 47 ½ - 57 Kimball road, Amesbury Massachusetts, dated January 17, 2015, prepared by Atlantic Engineering & Survey Consultants, Inc.

We note the project is a proposed ten lot subdivision with eight proposed residential lots, one open space lot, one undesignated parcel (X), and a common access driveway parcel. The project site is located along Kimball Road and the project plan includes dedication of land along Kimball Road to the City of Amesbury – parcel Y. We note that five of the eight residential lots will utilize a proposed common access driveway.

The definitive subdivision application submission includes three separate special permit requests to the Zoning bylaws. Three special permits being requested are Cluster Residential Special Permit, Section XI.D; Common Access Driveway Special Permit, Section XI.O and Water Resources Protection District Special Permit, Section XI.V.

The Applicant notes several waivers are requested to the Subdivision Regulations and Zoning Bylaws for this project, but written requests to the Planning Board for the waivers were missing from the submittal.

We offer the following comments:



September 23, 2015
Definitive Subdivision Plan
47.5 - 57 Kimball Road – Amesbury, MA
Applicant: BC Realty Trust
Page 2 of 8

General Comments:

1. We understand that the project application information has been reviewed by the Board of Health, Conservation Commission, Fire Chief, Police Chief, and Department of Public Works in accordance with section 6.01.3 of the Subdivision Rules and Regulations. We recommend the Applicant update the project information and address the comments and concerns for each Department, as applicable.

2. The Applicant indicates seven (7) subdivision waivers on the plan title sheet. However, the Applicant has not provided a written waiver request to the Planning Board for the waivers noted on the plans or provided supporting information for each waiver request to the Amesbury Subdivision Rules and Regulations per Section 1.05 of the regulations. The following waivers are noted on the plan:
 - A. Section 6.02.12 relative to trees over 12". The Applicant has shown trees along the edge of Kimball Road only on the plans.
 - B. Section 7.09.G relative to roadway curbing. No curbing is provided with the design.
 - C. Section 7.09.H relative to sidewalks. No sidewalks are provided with the design.
 - D. Section 7.09.I relative to street tree spacing. Trees are shown along the common driveway only at an interval of 35 feet as noted by the Applicant.
 - E. Section 7.09.K.2 relative to size of the cul-de-sac size and vehicle access. The Applicant notes the design is capable of access with vehicles having a 30 ft. wheel base.
 - F. Section 7.13 relative to street lighting. The Applicant notes private yard lamps are proposed, but none are indicated on the plans.
 - G. Section 8.10 relative to water line size. The Applicant proposes a 6" water line that is less than the 8" minimum.

We recommend the Applicant provide a written request for each waiver with justification for consideration by the Board in accordance with the regulations.

3. The Applicant notes two waivers to the Zoning Bylaws on the plan title sheet. However, the Applicant has not provided a written waiver request to the Planning Board for the waivers noted on the plans or provided supporting information for each waiver request. The following waivers are noted on the plan:
 - A. Section XI.D-3.b.b.8 relative providing building plans prepared by a registered architect.
 - B. Section XI.D-6b.9 relative to minimum yard requirements. Proposed lots 4 and 5 do not comply as proposed. In addition, the Applicant further notes variations to the frontage and width requirement in the Site Zoning Table on the cover sheet that are not specifically associated with a zoning section waiver. These variations should be defined and clarified relative to the Zoning Bylaws for consideration by the Board.

We recommend the Applicant provide a written request for each waiver with justification for consideration by the Board in accordance with the regulations.

4. We recommend the Applicant address/provide the following information relative to cluster residential plan requirements under section XI.D3.b of the Zoning Bylaws:
 - A. Distances between buildings and lot lines as proposed(b.11);



- B. Percent building coverage as proposed(b.12);
 - C. Average Height of each building as proposed(b.13);
 - D. Number of parking spaces as proposed(b.17);
 - E. Total square feet of all landscaped and recreational areas as proposed (b.19);
 - F. Projected traffic flow (b.21).
5. The project design appears to imply that the lots 6, 7 and 8 have frontage on a public way and we note the common driveway right-of-way on sheets 6, 7 and 10 is labeled as "Proposed Road". However, the application information and note 17 on the cover sheet indicate the right-of-way is to be Common Access Drive (CAD), but frontage along the CAD cannot be used to satisfy Zoning requirements per Section XI.O.2.n.1 unless waived by the Board. Thus, we recommend the Applicant properly label the CAD on all plans and submit a written waiver request with justification for the Zoning Bylaws for consideration by the Board as required, if this is the design intent of the project. In addition, the notes on the cover sheet shall be updated to include the statement that "The Common Access Driveway (CAD) shall not become a public or private way maintained by the City" as stipulated in Section XI.O.2.f of the Zoning Bylaws.
6. The project proposes a Common Access Drive (CAD) design that will serve five lots and the Applicant is requesting a special permit under section XI.O of the Amesbury Zoning Bylaws. We note the proposed CAD is located along the inside portion of a curve along Kimball Road, and there is a concern that proper and safe sight distance may not be provided. We note that the project design information does not include a sight distance plan to clarify proper and safe sight distance is achieved per section 7.09.D.2 or the regulations. We recommend the Applicant provide an intersection sight distance plan with certification from a licensed professional engineer that proper and safe all season sight distance is achieved upon completion of the CAD and site improvements. The plans should specify all work needed to achieve the sight distance for proper construction.
7. The proposed design indicates the project development will be outside the 100 foot wetlands buffer. We recommend the Applicant confirm the 100-foot buffer location with the Conservation Commission (6.02.13).
8. The project subdivision design includes "Parcel X", but the plan or the plan notes do not appear to explain the parcel intent or designate that the parcel is non-buildable as it appears. Please provide additional notes and information as to the intent of Parcel X. This should include the ownership and drainage system maintenance responsibilities acceptable to the Planning Board.
9. The project proposes development in the Water Resources Protection District under a special permit request noting that the development would render more than 15 percent of the lots impervious. We recommend the Applicant provide a summary table that clarifies the percent impervious area that is proposed for each lot for consideration by the Board under the special permit request.
10. We recommend the Applicant update the project plans to address the following items of the Subdivision Rules and Regulations:



- A. Revise the locus map on the cover sheet to indicate the proposed driveway and the location of the Zoning Districts applicable to the site (6.01.b). In addition, please update the project plans as applicable to indicate the Water Protection Overlay District (6.02.4).
 - B. Revise the title blocks of the plans to include the Owner's name and address (6.02.1)
 - C. The proposed grading/topography associated with proposed lots 1 and 2 is incomplete on sheet 6. Please revise to provide proposed grading for the entire site development area per section 6.02.16 of the regulations.
 - D. Revise the utility plan to label the type of existing sewer pipes, existing water pipes and gas pipes and material, pipe material/type of the proposed sewer service, the size, material and type of water services per 6.02.17 of the regulations. We note the location of the water services for lots 1 and 5 appears incomplete. In addition, the underground utilities (electric telephone, CATV, gas) to the dwellings are missing from the utility plan (6.02.17). Please update the plans to include the pertinent information accordingly. In addition, please provide utility provider letters indicating that the proposed utility service is available to serve the project for the Planning Board's file.
 - E. The need to extend the municipal sewer along Kimball Road to serve lot 3 is unclear since the dwelling can be serviced from the CAD at SMH#1 with less sewer pipe and less impact to Kimball Road. We recommend the sewer utility design be revised accordingly.
11. We recommend the Applicant address the following relative to the CAD:
- A. The profile design indicates grades in excess of 4% within 25 feet of the Kimball Road right of way and does not comply with section 7.09.K.7 of regulations. Please revise the design in compliance with the regulations.
 - B. The profile on sheet 9 does not provide the centerline profile along the driveway center of pavement in the cul-de-sac as anticipated and necessary to clarify the minimum 1% slope is provided section 7.09.K.5 of regulations. We note the grading within the cul-de-sac, especially along the edges shown on sheet 6 does not appear to provide the minimum slope of 1% per section 7.09.K.5 of regulations. Please revise the profile alignment to be along the centerline of the entirety of the driveway to clarify the design is in compliance with the regulations.
 - C. We note the Applicant is requesting a waiver for curbing under 7.09.G for roadways but section 7.09.K of the regulations applies to the CAD. Section 7.09.K.6 requires slope granite curb at the roundings with Kimball Road and section 7.09.K.8 notes different curbing is required based upon the slope of the CAD. Please revise the design accordingly or revised the waiver request to address curbing as related to the CAD for this project. If the Board decides to grant the requested waiver, we recommend a two (2) foot gravel shoulder be provided to support the edge of pavement without curbing.
 - D. The requirements for catch basins and methods of handling stormwater as noted in section 7.09.K.10 and in section 8.04 are not provided. We note the submitted information indicates a Low Impact Design (LID) method is proposed, but a waiver to the above drainage requirements was not provided. The Applicant should review and revise the design to include the required storm drainage structures of the regulations or submit a waiver request for Planning Board consideration.



- E. We recommend a paved waterway/swale be provided from the cul-de-sac pavement edge to the riprap apron to prevent erosion of the pavement edge.
 - F. The grading design of the CAD on sheet 6 appears to direct all the stormwater runoff to lot X, but it is unclear how the runoff would be maintained across the unpaved center portion. Please provide sufficient spot elevations for clarity and proper construction. In addition, please clarify how runoff would flow if snow is stored in the center of the cul-de-sac.
 - G. The CAD cross slope design indicates all runoff would be directed toward the swale located along the northerly side of the roadway. We are concerned that driveway icing may occur if snow is stored along the southerly roadway shoulder. We recommend that the Applicant provide additional information on the proposed snow storage method to be utilized for this CAD design.
 - H. We recommend a 20 foot wide easement for suitable access to the open space be provided from the cul-de-sac per section XI.D.8.e of the Zoning Bylaws. In addition please provide appropriate legal documents for the proposed open space area per section X.I.D.9 of the Bylaws acceptable to the Board.
 - I. We recommend that the proposed driveways have pavement roundings of a minimum three feet or as acceptable to the DPW.
 - J. We recommend that the proposed location of the mailboxes per section XI.O.2.g of the Zoning Bylaws be shown on the plans.
 - K. We recommend that the Applicant clarify the intent of the trash and recycling storage and if a shed would be utilized per section XI.O.2.h of the Zoning Bylaws.
12. We recommend the Applicant address the following relative to the grading design shown on sheet 6;
- A. Please provide additional spot elevations for the driveway serving lot 4 to clarify the intended drainage design and for proper construction.
 - B. Please provide additional existing contours and proposed spot elevations for the driveways serving lots 1, 2 and 5 to clarify the intended drainage design and for proper construction. Will the driveways drain into Kimball Road?
 - C. Please label the height and type of wall that is proposed at lot 5 and include a detail for proper construction. We recommend the Applicant provide a proper wall design acceptable to the Building Department prior to construction.
 - D. The proposed grading for the drainage swale extends beyond the property line of Parcel X to the northwest onto the open space lot – lot 9. In addition, a riprap weir is shown upon lot 9, but these improvements do not appear to be encumbered within a drainage easement for future maintenance for the benefit of the subdivision on sheet 7. Please review and clarify if an easement is needed as related to parcel X and as acceptable to the Planning Board.
 - E. The grading shown between lots 4 and 5 adjacent to Kimball Road indicate filling, but it is unclear if the proposed runoff is directed toward Kimball Road. Please provide additional spot elevation to clarify the proposed grading intent.
 - F. The grading design implies nearly all of the proposed lot areas outside the 100 foot buffer would be disturbed. Please clarify how the proposed subdivision design has complied with section 7.05 (Protection of Natural Features) of the regulations and is acceptable to the Planning Board.



- G. The proposed chambered infiltration system located on Parcel X has a bottom of chamber elevation of 120.97, as noted in the detail on sheet 11. This implies that the bottom would be located approximately 10-13 feet below the existing ground elevations along the easterly portion of the system. However, test pit #2 at elevation 131.4 was only excavated to a depth of 7 feet. In addition, the westerly portion of the proposed chamber system is indicated to be approximately 6-7 feet below the existing ground, but test pit #3 at elevation 127.2 is only excavated to 6 ½ feet below the existing ground. Based upon the information provided, is unknown if the proposed chamber system could be installed without encountering ledge or the water table and be installed to provide a minimum two foot separation to the water table as required. In addition, it is unknown if the soils at or below the proposed chamber bottom area would be suitable for infiltration. The Applicant shall obtain and provide additional information to clarify and support the proposed chambered infiltration design can be properly installed acceptable to the Planning Board.
- H. The design grading at lots 6 and 7 for the proposed infiltration trenches along the driveways indicates the trenches are placed in fill and not placed in natural soil consistent with the DEP design intent. We note that the plan states perforated pipes are to be placed in the trenches, but it is unclear as to the need for the pipes and how the pipes will be installed since they are not connected to a drainage system. Will they have a clean out? Please review, revise and provide additional information for the proposed infiltration trench design to clarify consistency with DEP practices. In addition, please review and revise the design of the infiltration trench for lot 5 accordingly. We recommend a detail be provided in the plan set for proper construction of the infiltration trenches. In addition, please provide proposed elevations for the trench bottom and pipes for each lot for proper construction.
- I. Driveway drainage trenches are provided for several lots that are associated with the drainage analysis and mitigation for the project development impacts. We note that the trench on lot 8 is adjacent to the lot line and portions of the trenches on lots 6 and 7 are in close proximity to the lot line. However, the plans or supporting project information does not appear to include any mechanism that requires the lot owner to retain and maintain these drainage features. The proposed rain gardens shown on lots 4 and 6 would also fall under this concern. Also, each lot contains two separate infiltration areas for the roof runoff that require maintenance and remain operational. We would anticipate the project legal documents would include these provisions, but the submission did not include information relative to operation and maintenance of the drainage facilities proposed. Please provide additional information that clarifies how these proposed infiltration features will be maintained and retained by the lot owners in the future acceptable to the Planning Board. In addition, we note that the location of the roof infiltration systems may limit future site improvements to the lots by the owners and recommend that the Applicant review and consider their placement prior to final approval of the project by the Board.
- J. The project design indicates grading will occur to the limits of the property and in the open space adjacent to lot 1. Please clarify how this proposed design complies with the 50 foot limit of work to the property line per section XI.D6.b.8 of the Zoning bylaws. Please revise as necessary acceptable to the Board.
- K. The drainage design indicates the 6" stone weir and a portion of the 5.5 foot grass treatment swale embankment are located outside the limits of lot X and within the



open space area, but an easement does not appear to be provided. Please update the design to provide provisions for future maintenance of these site facilities acceptable to the Board.

13. We recommend the Applicant address the following relative to the landscaping and erosion control plan:
 - A. We recommend check dams be provide in the roadway swale as an erosion control measure until vegetation is successfully established.
 - B. The plan indicates trees along Kimball Road, but it is unclear how many will remain after the project is constructed. We recommend the plan clearly identify all the trees to be removed by the Applicant as needed to provide safe sight distance for the CAD.
 - C. Please indicate the stone construction entrance on the plan.
 - D. The design indicates plantings will be placed along the proposed CAD swale adjacent to lot 3 and within lot X. In addition, landscaping is indicated within the cul-de-sac center area. Please address how the landscaping will be retained and maintained in these locations acceptable to the Board.
 - E. The plan does not show the proposed retaining wall indicated at lot 5 on sheet 6. Please update the plan to include the proposed wall.
14. We note the project includes easements that are indicated on sheet 7. We recommend the Applicant update this plan sheet as necessary to address the comments within and provide appropriate draft documents of all easements for review by the Board.
15. We recommend the Applicant indicate the water service curb box on the utility plan for each lot and indicate the curb box to be placed at the right of way line for proper construction. Please update the details in the plan set to include a water service detail for proper construction.
16. This project details include a catch basin detail on sheet 12, but the proposed project drainage design does not include any catch basins. Please remove the detail since it is not part of the current design.
17. Please update the hydrant detail to indicate the hydrant is a minimum of three (3) feet from the pavement as typically requested by the Department of Public Works.
18. Please label the material and specification for the pipe bedding in all utility details for proper construction and as acceptable to Department of Public Works.
19. Please revise the site management notes to eliminate all the references to catch basins and drain manholes, since the proposed project design does not include these features. In addition, please carefully review the notes for consistency with the proposed design as presented. Also, please review the cover sheet notes for errors and update as necessary.
20. We recommend the Applicant address the following relative to the project hydraulic report:
 - A. The post development routing diagram indicates eight separate subcatchment areas, with ponds but the post development watershed plan does not include all the



subcatchments or ponds. We recommend the post development watershed plan be revised to indicate all eight of the watersheds and the eight ponds consistent with the analysis diagram to confirm the design and routing diagram represents the proposed condition. Please update the watershed plan to indicate all components used in the analysis. This may require the post development watershed map to be larger to properly display the proposed design features and locations.

- B. The post development analysis implies the entire runoff from subcatchment 4 is directed to the rain garden 1 (Pond 1P) located on lot 4, but the proposed grading indicates only a small portion of the runoff in the subcatchment could flow to the garden. Please review and revise the analysis to properly represent the proposed condition.
- C. The post development analysis implies the entire runoff from subcatchment 5 is directed to the rain garden 2 (Pond 2P) located on lot 6, but the proposed grading indicates only a small portion of the runoff in the subcatchment could flow to the garden. Please review and revise the analysis to properly represent the proposed condition.
- D. The amount of woods in post subcatchments 3, 4 and 5 seem high since the grading plan indicates a significant portion of these post subcatchment areas will be regraded. Please indicate the limits of clearing on the grading plan in the plan set and verify the woods areas in each subcatchment are representative of the post development conditions.
- E. The pre and post development plans represent the limits of the development and are shown to encompass the same total area. However, the post development total area size in the calculations is significantly less than the pre-development size, when they should be the same size. Please review and revise the analysis as necessary to indicate the same total areas for both the pre- and post-development conditions.
- F. The site grading implies the proposed runoff from lot 1 including the driveway would drain westerly and increase runoff to the abutting parcels. However, the post development analysis does not address this issue. Please revise the analysis to include a summary table that identifies the abutting parcels and the impacts, both predevelopment and post development to the parcels that indicates no increase in runoff occurs to the abutters.
- G. The project design indicates decks will be part of the proposed house development area, but the analysis does not appear to address these areas. Please review and clarify how these areas are addressed in the analysis.
- H. The hydraulic report was submitted prior to the latest special permit application for the Water Resources Protection District. We recommend the report be updated to clarify how the proposed design has addressed the requirements of the Water Resources Protection District under this special permit.

Summary:

We recommend the Applicant arrange a meeting with the Community & Economic Development Department before addressing the issues noted above. After the meeting, we recommend the Applicant address the comments and issues noted above and resubmit revised drawings and supporting information. We recommend the Applicant provide a summary response letter with the revised drawings and supporting information addressing each comment noted above as required by the regulations.