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DEPARTMENT OF  
PLANNING & ZONING

City of Burlington  
Department of Public Works  
Technical Services Engineering Division  
645 Pine Street, Suite A  
Burlington, VT 05402  
P 802-863-9094 / F 802-863-0466 / TTY 802-863-0450  
[www.burlingtonvt.gov/DPW](http://www.burlingtonvt.gov/DPW)

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**To:** *City of Burlington Planning & Zoning  
Eric Farrell – Cambrian Rise*

**From:** *Norman J. Baldwin P.E. – City Engineer/Ass't Director, DPW  
Laura K. Wheelock P.E. - Public Works Engineer, DPW*

**Subject:** *Cambrian Rise, BCCH, LLC & 375 North Ave.*

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The Department of Public Works (DPW) has been working with the Cambrian Rise Development Team to review and discuss details of the project as it relates to the public Right-of-Way (ROW) along North Avenue, the project intersections on North Avenue, as well as the internal streets as the applicant has indicated that they would like to turn over to the City 60-foot public ROW for the three internal streets. DPW has conducted our review on both the progress plans dated 12/23/2016 as well as the Traffic Impact Assessment dated 12/21/16 and corresponding memo dated 12/28/16. Water Resources review to be submitted separately.

**Traffic Impact Assessment (TIA):**

DPW has been working with the Development Team for over a year to review various iterations of the projects traffic impact within the City's transportation network. The projects impacts are primarily concentrated in the northern areas of the Old North End with some project generated traffic reaching as far south as Main Street; as well as the southern areas of the New North End.

Based on the mix of uses identified in the RSG memo 12/28/2016; the anticipated external project trips will be 381 in the AM Peak, and 425 in the PM Peak. In general the impact to the levels of service, queue lengths, or overall delay at studied intersections is minor.

The only exception is the intersection of North Ave/Berry/Washington. This intersection currently has stop control on the side street approaches, and is slightly offset. It is anticipated that with the project generated traffic the Level of Service (LOS) in the PM Peak will change from a C to an E, and the corresponding delay to vehicles will change from 23 seconds to 46 seconds in the 5 year buildout future year of 2027. DPW has discussed this intersection with the developer, and the change in LOS and delay is significant, it is however within an acceptable change per VTrans Traffic Impact Assessment Guidelines. To mitigate concerns and impacts that are anticipated in future years DPW will continue to monitor and assess this intersection for improvements that can be implemented with impact fees.

DPW has also asked the Development Team to address crosswalks both immediately adjacent to the project and for 1000 feet north and south of their project to ensure the addition of crosswalks at the project's southern drive work with other existing or planned crosswalks along North Ave. The TIA had two findings with regards to crosswalk locations:

1. The existing crosswalk (and bus stop) near Champlain Farms should be removed, as the ultimate spacing of crosswalks and stops will be more uniform with the planned crossings and stops at the Project's southern drive.
2. New crosswalk should be placed proximate to the new Parks & Recreation redeveloped path near Covent Square with that project
3. At the northern project drive, a crosswalk should be considered if/when future activity warrants such a facility.
4. Per the project plan set, crosswalks shown at the project intersection of South Road/North Ave.

Conditions from the Traffic Study:

DPW's agrees with the review of the crosswalk recommendations and requests for the third recommendation that the Applicant be made responsible prior to the close of their permit to conduct pedestrian counts and submit a memo to DPW reviewing the northern project drive on North Ave and the warrant for installation of a crosswalk at that location to be paid by the Applicant should a crosswalk warrant be met.

**Progress Plans Dated 12/23/2016:**

DPW reviewed the project plans for impacts on North Ave, as well as the three internal project streets in anticipation that the Applicant will seek to have these streets and their ROW accepted by the City in the future. DPW's findings are as follows.

North Ave

The proposed improvements as shown in the submitted plan meet or exceed City Standards as currently specified with the following exceptions, notes, or comments:

1. The Applicant will be required to replace the sidewalk more than 5 years old on the West side of North Ave between the southern property line (Building K) and the northern property line (north of North drive)
2. The signal at North Ave and South Road should be installed during phase one of the project and left in flash, until either trip/pedestrian warrants are met, at which time the signal should become active.
3. A No Parking flashing beacon should be installed at/near the intersection of North Ave and South Road, the cost of the beacon is the responsibility of the Applicant. Due to the unique nature of these beacons DPW will install the beacon and seek reimbursement for the materials and cost of installation.
4. DPW and Applicant to discuss narrowing of the painted median on the north side of the intersection of North Ave and South Road, DPW to review final plan before line work is implemented.
5. Bike lane shall have stop bars marked within the bike lanes, these could be offset from the travel lane stop bars if appropriate.
6. Bike lane markings across intersection at South Road shall be consistent with City typical markings in both size and configuration. This should include skip lines at the intersection and bike size chevron in the lane. Also diagonal line striping in the separated portion of the bike lane should be removed

7. DPW and Applicant to review bicycle left turns at North Ave and South Road. DPW would like to see a pull off ahead of the crosswalk to allow bicycles to utilize the pedestrian push button, an alternative we would consider is a bicycle box in the lane striping. DPW to review and approve final plan before work is implemented.
8. At the Northwest corner of North Ave and South Road the proposed bus stop area shows a significant amount of concrete/hardscape area. This area will need to be revisited/revised with DPW.
9. Applicant will seek to adjust property boundary lines in the future on North Ave to place the sidewalk along North Ave back in the ROW.

#### Project Streets (South, West, North)

The proposed improvements as shown in the submitted plan meet or exceed City Standards as currently specified with the following exceptions, notes, or comments:

1. A crosswalk needs be placed at the west side of the intersection of South Road and West Road. This will facilitate pedestrian movements given the planned commercial activity in the area, adjacent recreational facilities, and ability for DPW to maintain and clear snow at the intersection.
2. Applicant to review location of stop bars relative to the crosswalks at the intersection of North Road and West Road. Crosswalks should be placed in front of stop bars.
3. Signage and Striping:
  - a. Crosswalk warning signs MUST reflect YIELD to pedestrians, per VT State Law
  - b. Share the lane signage should be independent of the pedestrian crossing signs
  - c. The only on street striping should be for crosswalks, stop bars, and in the immediate vicinity of the proposed signal for center line delineation. No line striping should be placed for individual parking spaces, center line, or fog lines.
  - d. No speed limit signs within the development
4. Sidewalk configuration/alignment and connection to Lakeview Cemetery will need to be reviewed by DPW/Parks prior to construction if Applicant pursues acceptance of project streets by the City.
5. Applicant to review bicycle/pedestrian connection from Building O and P to the bike path to the west to determine whether additional connection will be at back of building or at end of sidewalk.
6. Applicant will be required to submit design drawings for retaining wall along North Road, stamped by a Professional Engineer registered in the State of Vermont.

#### General Comments

1. Applicant will be required to place monuments at all parcel boundaries.
2. All public infrastructure intended to be part of the dedication must be within the proposed limits of the ROW.
3. Any materials used in the ROW that exceed City Standards will be the responsibility of the Applicant, and the Applicant will be required to enter into a License Agreement with DPW, unless otherwise waived, for the care, maintenance, replacement, removal for the life that material unless otherwise replaced with a Standard material, at which time the Agreement can be dissolved.

4. For the dedication process the Applicant must, at minimum, provide the following:
  - a. As-built drawings of all infrastructure in the ROW
  - b. Certification from the engineer of record that infrastructure constructed was completed per plans and specification
  - c. All documentation by the project resident engineer for all infrastructure in the ROW. This shall include but is not limited to: Notes, photographs, reports, quality control testing, change orders, submittals.
  - d. The City shall be invited to participate at all construction meetings
  - e. The City shall have the right to have oversight during construction, review of resident engineer documentation, submittals.
5. Review the sequence of work to connect South Road sidewalk/path to the proposed Parks Path, a connection to those facilities in advance of 2022.
6. There is a discrepancy between the phasing of the project shown on P1.0 by CEA and sheet 2 of 2 by VHB with regard to when Building H, Q, and R will be constructed. Of concern is the varying stormwater treatments that occur during construction, treatment types shown varies.

Should you have any questions please contact me at [LWheelock@burlingtonvt.gov](mailto:LWheelock@burlingtonvt.gov) or 540-0397.