

TABLE A
RESOLUTION SUMMARY of JULY 9, 2019 CATE STREET EXTENSION ROADWAY DESIGN PEER REVIEW #3

Color Code:		Addressed/ Corrected
		Change in progress or confirmation needed

Comment #	Comment	Status	Response
1	Typical Sections on Sheet CS-001 end at Station 15+20. Add typical sections to the limit of work on Cate Street and for work on Bartlett Street as necessary	Addressed	Typical Sections have been revised
2	Clarify limits of proposed pavement treatment throughout the work limits (e.g. full depth pavement, cold plane@ overlay, etc). Add notes on the Roadway Plans and/or with corresponding shading included in legend on Sheet CN-003. Also label/shade the section of median island to be removed on US Route 1 Bypass.	Change in Progress	Now that the Alignment is agreed upon, the limits fo full dept and partial depth construction will be added ot the Roadway plans and CN-003.
3a	Recommend a 75-foot taper for the exclusive right-turn lane, per NHDOT Standard Plans.	Addressed	The suggested change has been made and is depicted on CS-101
3b	Recommend continuing the eastbound widening beyond the U-Haul driveway to the next site driveway at Station 5+00. This would better accommodate the turning movement for U-Haul trucks right onto Cate Street Extension, and create a wider painted median for some separation between eastbound and westbound travel.	Addressed	The suggested change has been made and is depicted on CS-101
3c	Consider a painted island to protect the left turn lane approaching US Route 1 Bypass, with appropriate taper lengths per NHDOT Standard No. PM-6 (see attached sketch).	Addressed	The suggested change has been made and is depicted on CS-101

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4a	Applicant should consider adjusting the roadway alignment and adjacent site design to provide a wider roadway with 5' shoulders and use horizontal curves of R=198' to meet a 25 mph design speed, as suggested in the initial peer review letter dated May 13, 2019. It appears that the tangents before and after the reverse curves may be adjusted to create an alignment consistent with a 25 mph design speed (see attached sketch).	Addressed	The suggested change has been made and are depicted on the roadway plans
4b	We recommended flattening the centerline radius as much as possible (a radius of R=120' appears to be feasible with adjusted tangents) and match into the existing granite curb on both sides just prior to the bridge abutment at approximate Station 18+35. Consider using a short tangent parallel to the edge of the railroad bridge abutment instead of the reverse curve as shown. This option appears to accommodate 11' lanes and 4' shoulder on the west side. A minor amount of additional widening and sidewalk reconstruction may be necessary within the newly constructed residential development.	Addressed	The suggested change has been made and is depicted on CS-104 and CS-105
5ai	For the site driveway at Station 14+25, the sight distance provided for turns onto Cate Street is approximately 155 feet, which would meet the minimum for 25 mph.	Addressed	The suggested change has been made and is depicted on CT-104

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5aii	For the site driveway at Station 15+75, the sight distance provided for turns onto Cate Street is approximately 120 feet, which is only adequate for 20 mph. Applicant should provide a minimum of 155 feet clear sight distance at this location.	Addressed	The suggested change has been made and is depicted on CT-104
5b	The location of the residential units should be adjusted (e.g. it appears that the unit at Station 12+50 would need to move back approximately 8 feet) to provide adequate sight distance.	Addressed	the Curve changes and site distance verifications make this un-necessary
5c	Plans should identify features in front of the town houses and the Applicant shall confirm that any vertical elements within the sight triangles will be low enough to not obstruct sight lines. Also provide note on Roadway Plans and Landscaping Plans indicating that only low height shrubs and ground cover shall be allowed within the sight triangles.	Addressed	There are currently no features other than sidewalks and stoops in front of the Townhouses. The sight lines clear the stoops
5d	Sight distance easement(s) will be needed to ensure that clear sight triangles may be maintained.	Addressed	Sight distance easements will be developed and added to the Subdivision and Easement plans and shown on the Roadway plans
6	A minimum of 13 feet (lane plus outside shoulder) should be provided at the westbound right turn lane on Cate Street at US Route 1 Bypass to accommodate snow storage.	Addressed	The suggested change has been made and is depicted on CS-101

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7	A minimum of 13 feet (lane plus outside shoulder) should be provided for the eastbound lane adjacent to the median island on Cate Street Extension to accommodate snow storage. Note: If the recommendation in Comment #3.b is incorporated, this should provide the minimum 13' width required for snow removal; otherwise, the medium length may need to be reduced.	Addressed	The suggested change has been made and is depicted on CS-101
8	The turning path of a WB-62 appears to encroach on the entire width of the bike lane at the beginning of the multi-use path. A bicyclist could get caught and run over by a truck in this area if it doesn't realize that a truck will be coming into its lane. Truck encroachment into the bike lane will not be allowed. The Applicant should explore all options to provide additional lane widening and/or revised alignment.	Addressed	Bicycled Shared lane markings have been employed in place of "bicycle Lane" markings per MUTCD Section 9C.08 and Figure 9C-9

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9	Please confirm at what speed the truck simulations were made. As currently shown, WB-62 vehicles are using the entire roadway width from curb to curb. If the modeled speed is not reflective of the actual driving conditions, trucks may need more room to navigate the roadway alignment. Note that software simulations typically default to low speeds for presumed intersection turning movements. Revised simulations should be provided for the reverse curve on Cate Street and the turns to/from the south leg of Bartlett Street utilizing the applicable design speed or advisory speed to show an accurate representation of actual driving conditions.	Addressed	The truck turns have been run along the proposed road for 25 mph
10	Please provide a truck turning simulation for the right turn into Ricci Lumber from Bartlett Street. Modifications may be needed to accommodate this turning movement (e.g. shorten the proposed left-turn lane on Bartlett Street).	Addressed	
11	The minimum length of vertical curves should be 3 times the desired design speed (30 mph). Adjust the profile vertical curve lengths accordingly.	Addressed	
12a	The tangent grade of 0.37% should be revised and a minimum grade of 0.5% provided for drainage purposes. It appears that the 50-foot vertical curve at Station 2+25 can be removed by combining the tangents before and after.	Addressed	

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12b	The 50-foot vertical curve at Station 4+82.7 can also be removed by combining the tangents before and after.	Addressed	
13a	Prior to reverse curves in both directions - W1-3R with W13-1P	Addressed	
13b	Prior to horizontal curve at Cate Street/Bartlett Street intersection, in each direction - W1-1R/L with W13-1P.	Addressed	
13c	At mid-point of horizontal curve at Cate Street/Bartlett Street intersection, outside of curve facing each direction - W1-6R/L (as currently proposed).	Addressed	
13d	Eliminate currently proposed W1-6 signs at reverse curves, as these are optional if 25 mph design speed as accommodated.	Addressed	
14a	Station 5+40 RT - R1-1 sign not labeled	Addressed	
14b	Station 10+92 RT - R1-1 sign not shown or labeled	Addressed	
14c	Station 14+50 RT - R1-1 sign not labeled	Addressed	
15	The lane usage sign R3-8(145) at Station 2+60 LT is the appropriate sign; however, this lane use sign should be placed in advance of the lanes in the buffer strip between the roadway and the 10' side path, at approximate Station 3+50 LT.	Addressed	Moved to Station 4+00 in island
16a	Sign at Station 16+65 LT appears to be on other property. Place this pedestrian sign in front of the existing utility pole and within City ROW.	Addressed	
16b	Show new stop sign at Station 23+10 RT outside of the proposed sidewalk.	Addressed	

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16c	Move pedestrian sign at Station 19+26 into the ROW.	Addressed	
17	The W11-1 and W16-5R signs at Station 16+70 should be green bike route signs. Revise signs to D11-1 and M6-2 and update sign summary sheet accordingly.	Addressed	
18	There is a NO LEFT TURN (R3-2) sign proposed on the site development plans at the easternmost site driveway onto Cate Street (approximate Station 14+40 RT); please clarify the purpose of this turn restriction. To effectively prohibit left turns, it should be done physically, with a raised island. Also, the R3-2 sign should be shown on the Roadway Plans and sign summary sheet.	Addressed	Removed
19	The Sign Details, sign summary sheet, CD-551 & CD552 should have the signs in correct order per the MUTCD identification number.	Addressed	
20	A pedestrian curb tip-down should be added at a drive curb return at Station 22+90 LT on Bartlett Street.	Addressed	
21	The warning panel and crosswalk at Station 15+00 LT should line up; please revise accordingly.	Addressed	
22	The flashing beacons for the crosswalks should be rectangular rapid flashing beacons, not the circular style shown in the detail. Revise detail on Sheet CD-551.	Addressed	Changed to Square
23	A STOP AHEAD sign should be provided on Bartlett Street in advance of the reconfigured intersection with Cate Street at approximate Station 20+00 per MUCTD standards.	Addressed	Added

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24a	Add dimensions on Cate Street Extension westbound at changes in width, and label radii of curb.	Change in Progress	A curbing and striping plan is being developed now that the alignment of the road is agreed upon This plan will depict the start and stop of the various pavement markings and curb types
24b	Label location of all shoulder width transitions (e.g. from 4' to 5' near Station 14+25 LT)	Change in Progress	A curbing and striping plan is being developed now that the alignment of the road is agreed upon This plan will depict the start and stop of the various pavement markings and curb types
24c	Label lane widths within the Cate Street and Bartlett Street intersection.	Change in Progress	A curbing and striping plan is being developed now that the alignment of the road is agreed upon This plan will depict the start and stop of the various pavement markings and curb types
25	The proposed drainage modifications in the Cate Street/ Bartlett Street intersection should be shown on the plans.	Addressed	CG Sheets
26	The Bartlett Street intersection is the downstream end of the closed drainage system for Cate Street. More exiting detail, flow arrows etc., should be shown to illustrate where the stormwater is going.	Addressed	CG Sheets
27	The drainage design for the Bartlett Street intersection should seek to reduce the number of drain manholes within the travelled way. The proposed drainage system modifications should remove DMHs and old pipe and construct new CBs along the new curb lines.	Addressed	CG Sheets

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28	The traffic study needs to be updated to reflect the new proposed lane usage on Cate Street Extension at the US Route 1 Bypass intersection.	Update underway	
29	For construction details of drain manholes shown on Sheet CD-530, use NHDOT Standard Details.	Addressed	
30a	Pavement mix designs in the ROW shall be approved by the Department of Public Works.	Addressed	
30b	No wire shall be used in concrete sidewalks. Use 4000 PSI cement concrete with fiber reinforcement.	Addressed	
30c	The bituminous path shall consist of 3" hot bituminous pavement, comprised of two lifts of asphalt; mix design shall be approved by the Department of Public Works.	Addressed	
30d	Truncated domes shall be cast iron; shape and configuration shall be approved by the Department of Public Works.	Addressed	