RESPONSES TO BETA GROUP, INC. TRAFFIC IMPACT ANALYSIS PEER REVIEW COMMENTS DATED AUGUST 30, 2021

TRAFFIC VOLUMES

1. **COMMENT:** BETA concurs with the adjustment of the March 2021 traffic volumes based on the comparison of the March 2020 and March 2021 data along I-90, though conservative, to take into account the lower than typical daily traffic conditions due to the pandemic.

   RESPONSE: Noted.

   BETA2: No further comment.

2. **COMMENT:** A conservative annual growth rate of 0.5% per year was used for the future 2028 traffic conditions based on an average population decrease of approximately -0.01% per year from 2000 to 2010 for the City of Newton. Please verify the population annual growth rate in the past 10 years between 2010 to 2020 in the City of Newton as the past decade would be more applicable in depicting the recent population trend of the area.

   RESPONSE: The 2020 census data results are still not available for comparison. However, based on population estimates (88,414 in 2019), the inflation would still be less than 0.5% per year.

   BETA2: Information provided. Comment resolved.

SAFETY ANALYSIS

3. **COMMENT:** Please clarify the limits of the crash data obtained along Boylston Street (Route 9).

   RESPONSE: Crash data was reviewed for Boylston Street (Route 9) from Woodward Street/Elliott Street to Hartford Street.

   BETA2: Crash data limits are acceptable. Comment resolved.

SITE ACCESS AND CIRCULATION

4. **COMMENT:** Please verify the location of the proposed drive-thru pickup window to show the accurate vehicle queue.

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RESPONSE: The proposed pick-up window is located at the east side of the building as depicted on C1.0 and represents an accurate vehicle queue.

BETA2: Please provide the latest site plan.

PARE2: Latest site plan is provided.

5. **COMMENT:** Please provide information on the number of customers expected to use the drive-thru window versus walk-ins.

RESPONSE: Matching the drive-thru percent provided for the Wellesley site for the morning commuter peak, 75% of sales were assumed to be drive-thru transactions. We note that this percent was up from Q1 2020 (pre-covid) presumably because of the hesitation of some to go inside retail establishments during the pandemic. We believe again that this provides a conservative analysis.

Rt 9 East	
Q1-2021	DT %
5:00	87.57%
6:00	73.56%
7:00	73.46%
8:00	75.18%
9:00	78.71%
10:00	80.29%
11:00	81.09%
12:00	80.68%
13:00	80.42%
14:00	83.42%
15:00	84.51%
16:00	80.12%
17:00	81.65%
18:00	77.06%

Rt 9 East	
Q1-2020	DT %
5:00	75.82%
6:00	66.84%
7:00	66.41%
8:00	71.03%
9:00	73.93%
10:00	71.95%
11:00	70.48%
12:00	68.88%
13:00	74.84%
14:00	73.28%
15:00	75.88%
16:00	77.89%
17:00	76.26%
18:00	70.42%

BETA2: Based on the estimated site trips for the proposed development, where it is anticipated that 75% would be drive-thru transactions, in combination with typical drive-thru transaction times (2 to 2 ½ minutes), it is highly likely that drive-thru queue spill over onto Route 9 will occur consistently during the morning peak hour. Please see comment 6 relating to mitigation measures if drive-thru queue spill over occurs along Route 9. Note that typical drive-thru transaction times of 2 to 2 ½ minutes was stated by the applicant during the Land Use Committee meeting held on July 27, 2021.

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PARE2: The 2-2.5 minutes noted was for a day average. Dunkin' stores generally see higher turnover rates in the morning, with a majority of orders being coffee and quick grab items, while afternoon/dinner-time orders see more meal-type items included. As shown in Table 1 below, the average total process time for local stores is between 120 and 150 seconds. However, with the distance between the order board and the pick-up window, the store is able to be serving more than one customer simultaneously. As shown in Table 2 below, morning peak customers spend no more than 36 seconds at the order board and 41 seconds at the pick-up window in the morning timeframe. This allows a new car to move up every 41 seconds. This is how stores, like the sample in Wellesley, are able to turnover over 80 customers in their morning peak hour.

The presence of the adjacent signal also allows this site to process vehicle turnover in a timely manner. The operating phase length for Route 9 is no more than 95 seconds, which means vehicles exiting the site would not have to wait any longer than that for a distinct break in traffic flow.

Table 1: Order Process Time (Goal and Actual) - Daily (in seconds)

Top 3 Stores			Current Day		
Rank	Number	Goal	Cars	Avg	Goal%
1	332403	150	328	123	75
2	338459	150	360	127	71
3	347207	150	181	134	67

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Table 2: Order Process Time (Actual) Breakdown

Date	Time			Menu Board - incl. Greet (sec)	Window (sec)
10-Oct	5:00AM	-	9:59AM	36	40
10-Oct	10:00AM	-	1:59PM	37	43
10-Oct	2:00PM	-	4:59PM	41	52
10-Oct	5:00PM	-	8:59PM	31	52
11-Oct	5:00AM	-	9:59AM	30	38
11-Oct	10:00AM	-	1:59PM	39	41
11-Oct	2:00PM	-	4:59PM	34	53
11-Oct	5:00PM	-	8:59PM	33	52
12-Oct	5:00AM	-	9:59AM	26	33
12-Oct	10:00AM	-	1:59PM	27	39
12-Oct	2:00PM	-	4:59PM	33	54
12-Oct	5:00PM	-	8:59PM	31	60
13-Oct	5:00AM	-	9:59AM	26	34
13-Oct	10:00AM	-	1:59PM	27	42
13-Oct	2:00PM	-	4:59PM	35	48
13-Oct	5:00PM	-	8:59PM	36	55
14-Oct	5:00AM	-	9:59AM	30	33
14-Oct	10:00AM	-	1:59PM	30	39
14-Oct	2:00PM	-	4:59PM	35	48
14-Oct	5:00PM	-	8:59PM	32	69
15-Oct	5:00AM	-	9:59AM	29	33
15-Oct	10:00AM	-	1:59PM	28	39
15-Oct	2:00PM	-	4:59PM	38	51
15-Oct	5:00PM	-	8:59PM	44	56
16-Oct	5:00AM	-	9:59AM	34	41
16-Oct	10:00AM	-	1:59PM	38	45
16-Oct	2:00PM	-	4:59PM	34	56
16-Oct	5:00PM	-	8:59PM	40	57

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Table 2 (Cont.): Order Process Time (Actual) Summary

Time	Menu Board - incl. Greet (sec)	Window (sec)	
Average - Morning	30	36	DT Vehicles per Hour
Max - Morning	36	41	88
Average - Non-Morning	34	50	DT Vehicles per Hour
Max - Non-Morning	44	69	52

6. **COMMENT:** Please define mitigation measures or operational adjustments available if the drive-through queue spills onto Route 9 (i.e., signage, pavement markings, staffing, etc.).

RESPONSE: Do not block striping could be placed on Route 9 at the entrance driveway. This would need to be approved by MassDOT as part of the permitting process.

BETA2: Do not block striping on Route 9 may not be realistic. Please define a more feasible queue mitigation measure(s).

PARE2: Improvements within the State Right-of-Way will need to be reviewed and approved by MassDOT as part of the access permit process. The design team cannot commit to off-site improvements on behalf of MassDOT prior to their review.

7. **COMMENT:** Please explain why a 10-foot-wide drive-thru lane is provided rather than the 12-foot minimum set forth in the City's Zoning Ordinance.

RESPONSE: Due to the 12.3' distance between the rear property line and the building, the ~2.5' drop in elevation across this pinch point, and unfeasibility of relocating the existing cooler inside the building which creates this pinch point, the drive thru lane was narrowed to 10' wide along the rear portion of the building. The drive thru lane is shown at 12' wide outside of this pinch point and a vehicle turning assessment was completed via AutoCAD to confirm that the drive thru lane is navigable by passenger vehicles.

BETA2: After further coordination with the City, the drive-thru lane width is not subject to the City's Zoning Ordinance driveway entrance/exit width, though the applicant should coordinate with the City's Fire Department to ensure the 10' drive-thru lane width is acceptable to the department.

Relating to the turning assessment completed, please define how the applicant will restrict vehicles larger than a passenger vehicle from the drive-thru lane. In addition, a light pole is shown in the site plan within the drive-thru lane that will further constrain vehicles. Is the proposed light pole

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in question at the correct location and who's maintaining the light poles on site?

PARE2: The proposed drive-thru lane does not change the Fire Department's current access to the site and the development is acceptable to the department. A fire truck has the ability to enter and exit using Boylston Street, as well as enter from Boylston Street and exit via Ramsdell Street.

Signage and a revised light pole location has been incorporated on the plan. Maintenance of the light poles will have to be agreed upon between the Property Owner and Applicant.

8. **COMMENT:** A loading zone/area is not shown on the plans. Please define the loading area and times during the day when deliveries would occur on a typical day.

RESPONSE: Delivery activities will happen along Ramsdell Street as they do today. These typically occur between 4:00 and 5:00 am, outside of peak commuter hours.

BETA2: Though deliveries are proposed outside the peak commuter hours, Ramsdell Street is a dead-end street with no secondary outlet, which is a concern for larger vehicles particularly large trucks (semi-trailer). What is the typical size of a delivery truck for this site? Please provide a turning template of the delivery truck including the dumpster truck that will access Ramsdell Street. It is important to note that we observed a tractor trailer making a delivery at the Wellesley Dunkin' site within the Route 9 westbound shoulder during the morning peak period.

PARE2: A turning assessment for a WB-40 semi-trailer and a SU-30 dumpster truck was performed and is provided. The semi-trailer has adequate space to enter from Boylston Street and exit to either Boylston Street or Ramsdell Street. The dumpster truck appears to be side-loaded and accesses the dumpster in a similar manner as it does today.

SITE – GENERATED TRAFFIC

9. **COMMENT:** Figure 5 seems to depict pass by trips including incorrect distribution of traffic at the intersection of Route 9 with Woodward Street/Elliot Street though it is referenced as site generated traffic volumes. Please clarify Figure 5 in the TIA of its depiction/intent.

RESPONSE: Figure 5 depicts the trips being added to the roadway network due to the reconstruction of the site. The volumes at the Woodward Street/Elliott Street intersection are correct. The through movement at the Dunkin' driveway should be

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-15 (-3) to reflect the portion of trips that will now turn into the site that are already in the Route 9 network.

BETA2: No further comment.

10. **COMMENT:** The site generated trips are based on sales data at the Dunkin' restaurant on 951 Worcester Street in Wellesley, MA. As such, please verify the morning and afternoon peak hour traffic volumes are comparable between Route 9 eastbound along the site frontage (940 Boylston Street in Newton, MA) and Route 9 westbound along the Dunkin' restaurant at 951 Worcester Street in Wellesley, MA to support the trip estimate methodology.

RESPONSE: Reviewing count data available through the MassDOT Transportation Data Management System, the ADT along Route 9 west of I-95 (where the Wellesley stores are) is reported to be 45,643 and the ADT along Route 9 east of I-95 (where the Newton store is) is reported to be 45,509. These are nearly identical.

BETA2: Though the ADT along Route 9 are nearly identical east and west of I-95, directional distribution of commuter traffic along Route 9 varies based on origin/destination in relation to the I-95 corridor. As such, please provide hourly directional volumes along Route 9 in the vicinity of the subject site and the Wellesley store to verify trip generation methodology.

PARE2: The count data for the ATR west of I-95 is not broken down by direction. However, as detailed in response 5 above, the subject store will be able to handle a high turnover rate, accommodating at least 80 vehicles in the peak hour at the drive-thru alone. As noted previously, the subject store would need to see appreciable increase in business to come close to matching that of the current Wellesley store along eastbound Route 9, but should that growth come to fruition, the site is capable of accommodating.

PROPOSED PARKING AND PARKING REQUIREMENTS

11. **COMMENT:** Please clarify why an 18-foot-deep stall is proposed rather the minimum required of 19'.

RESPONSE: The existing site has 18-foot long parking stalls. The plan has been updated to reflect the City requirement of 19'.

BETA2: Please provide an updated site plan showing 19' long stalls.

PARE2: The latest site plan is provided.

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CAPACITY ANALYSIS

12. **COMMENT:** Please clarify how the LOS improved between the future no-build and future build conditions during the afternoon peak hour at the Route 9 intersection with the site driveway, though the site driveway has higher traffic volumes based on the additional trips generated by the proposed development under the future build condition.

RESPONSE: Per MassDOT standards, the future PHF was adjusted to .92 for all approaches in the build condition. This adjustment should also be applied to the no-build.

BETA2: The use of MassDOT standards relating to the PHF for the commercial driveway is acceptable. Comment resolved.

Additional Comments:

13. **COMMENT:** Based on the site plan, no improvements are being proposed within the state right of way including the sidewalk along the property frontage and the existing curb cuts on Route 9. Although both site driveways within the property are proposed to be 24 feet in width and is defined by pavement markings only with no physical barrier, the existing curb cuts along Route 9 at the eastern site driveway (approx. 46 feet wide) and western site driveway (approx. 38 feet wide) are much wider and may lead to uncontrolled entry/exit between the new parking layout and Route 9.

Please clarify: 1.) how the applicant will restrict vehicles from driving and/or parking over the painted median between the site driveways to mitigate conflicts with pedestrians along the sidewalk and/or parking lot; and 2.) if there are any pedestrian accommodation improvements along the site property.

RESPONSE: Both site driveways are proposed to be 20’ wide and one-way, with the entry to the west and exit to the east defined by entry signage. Sufficient on-site parking is provided for non-drive thru users and enforcement of patron parking will be handled by the building management.

A crosswalk is proposed between the building entry and existing ROW sidewalk.

14. **COMMENT:** Based on the proposed site access and circulation, there’s a possibility that if the drive-thru queue reaches the western site driveway limit, vehicles that want to avoid stacking on Route 9 may enter the eastern site driveway and introduce stacking along the northerly side of the property. This potential on-site stacking will restrict vehicles parked along the front of the building from backing out and exiting the property leading to congestion in the parking lot.

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Please define on-site queue management to mitigate parking lot congestion.

RESPONSE: As seen in the updated plan, the western driveway will be an entrance only and the eastern driveway will be an exit only. Vehicles will not be permitted to operate in the manner described. Additionally, with turnover rates at the drive-thru of approximately 45 seconds, the site can accommodate even the hopeful demand/queue that has been analyzed for this location. Finally, with on-site queueing of up to 14 vehicles (including queue to exit after picking up from the window), a person trying to enter the queue after it has extended to Route 9 would likely be accepting over a 10-minute wait. As speed is part of the convenience and therefore the nature of the business, it is reasonable to assume people would bypass this store and head to the next down the road in that event.

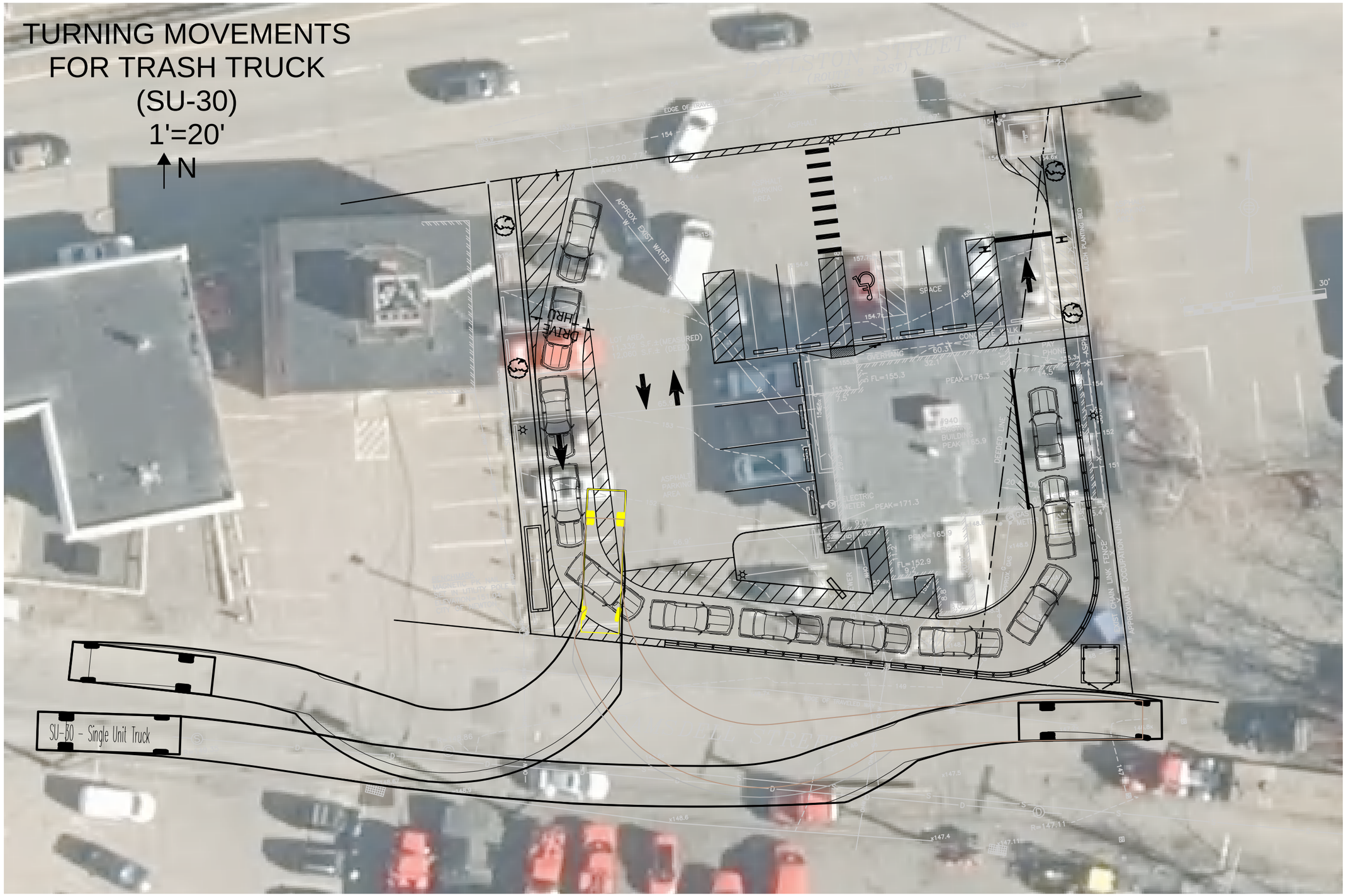
15. **COMMENT:** Based on the future building analysis at the eastern site driveway during the morning peak hour, it is estimated that the maximum queue for right turning exiting traffic is 8 vehicles with a delay of more than 400 seconds. Although the Applicant's traffic engineer states the analysis tool utilized has limitations that does not properly reflect the reality of the driveway's operations, the short distance between the driveway and drive-thru window, which allows a maximum queue of 3 vehicles, in combination of the heavy traffic along Route 9 eastbound during the morning peak hour may exacerbate the drive-thru queue, thus increasing the potential of queue spill over onto Route 9.

Please clarify how queue spill over onto Route 9 will not occur on a consistent basis during the morning peak hour as a result of the effects of the queuing at the eastern site driveway coupled with the estimated drive-thru transaction percentage as stated in comment no. 5.

RESPONSE: See response No. 5 above.

/dp

TURNING MOVEMENTS
FOR TRASH TRUCK
(SU-30)
1'=20'
N



TURNING MOVEMENTS
FOR DELIVERY VEHICLE
(WB-40)
1'=20'
N