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MEMORANDUM

DATE: 1/17/2019

TO: Scott Singleton
 Town of Plainfield - Director of Transportation

FROM: Matt Brown, PE/PTOE
 A&F Engineering Co., LLC

RE: Proposed DRG Facility along Bradford Road

A&F Engineering conducted a traffic study for ARCO Design/Build in December 2018. The Town of Plainfield reviewed the study and requested that A&F Engineering analyze the impacts associated with the proposed development using ITE trip generation data for the “general light industrial” category as opposed to the “warehousing” land use data that was used in the original traffic study. Specifically, the Town is concerned that if the traffic from the proposed use becomes more intense than estimated in the original study, then operations at the DRG employee access drive could potentially have a negative impact on Bradford Road.

A&F Engineering completed a trip calculation using the general light industrial land use in the ITE trip generation manual. The peak hour trips results are shown in the table below.

DEVELOPMENT INFORMATION			GENERATED TRIPS			
LAND USE	ITE CODE	SIZE	AM PEAK		PM PEAK	
			ENTER	EXIT	ENTER	EXIT
GENERAL LIGHT INDUSTRIAL	150	338,520 SF	97	13	11	75
PASSENGER CAR (EMPLOYEE) TRIPS (70%)			68	9	8	53
SEMI-TRUCK TRIPS (30%)			29	4	3	22

A comparison of the trips shown above to those used in the original traffic study show that in general, the light industrial trip data is roughly 1.25 to 1.5 times higher than the warehousing data.

In order to determine the traffic impacts of the proposed development (as light industrial) on the adjacent roadway system, the generated traffic volumes from the proposed DRG facility were added to the existing peak hour traffic data collected by A&F Engineering at the intersection of Bradford Road and the Tempur-Sealy main entrance which will be aligned with the proposed DRG employee access drive. The following table summarizes the traffic volume breakdown at the intersection of Bradford Road & Tempur-Sealy main entrance /Proposed DRG employee access.

TRAFFIC VOLUMES	NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
AM PEAK												
EXISTING	0	-	1	-	-	-	-	484	3	15	194	-
GENERATED	0	0	0	6	0	3	22	6	0	0	1	46
TOTAL	0	0	1	6	0	3	22	490	3	15	195	46
PM PEAK												
EXISTING	6	-	10	-	-	-	-	426	1	0	502	-
GENERATED	0	0	0	36	0	17	3	0	0	0	4	5
TOTAL	6	0	10	36	0	17	3	426	1	0	506	5

A level of service analysis was conducted for the peak hours at the intersection of Bradford Road & Tempur-Sealy main entrance/Proposed DRG employee access using the total traffic volumes shown above. The following table summarizes the level of service results.

MOVEMENT	AM PEAK HOUR	PM PEAK HOUR
Northbound Approach	B	C
Southbound Approach	B	C
Eastbound Left-Turn	A	A
Westbound Left-Turn	A	A

In addition, an eastbound queuing analysis was conducted in order to ensure that as employees enter the DRG facility, vehicular queue lengths along Bradford Road will not interfere with existing or proposed access drives to the west of the DRG drive. This analysis showed that the peak eastbound queue along Bradford Road at the DRG drive should not exceed 50 feet. Thus, operations at adjacent access drives should not be impacted.

Based on the level of service and queue length analysis results, the traffic impacts along Bradford Road and at the proposed DRG access drive will not be significantly impacted when the proposed DRG use is considered a light industrial land use. Therefore, the conclusions and recommendations outlined in the previous traffic study remain valid.