Appendix B

Traffic Memo

HEXAGON TRANSPORTATION CONSULTANTS, INC.

Memorandum

Date: April 26, 2018

To: Ms. Leianne Humble, Denise Duffy & Associates, Inc.

From: Gary Black, Brian Jackson

Subject: Trip Generation and Access Study for a Hazardous Waste Transfer Station at 967 Mabury Road in San Jose, California

Hexagon Transportation Consultants, Inc. has completed a trip generation and access study for a proposed hazardous waste transfer station in San Jose, California. Advanced Chemical Transport, dba ACTenviro, plans to occupy an existing industrial building located at 967 Mabury Road, which was previously occupied by Quest Diagnostics. While ACTenviro plans to renovate the interior of the building to suit its needs, there are no plans to physically expand the existing building. Access to the project site will be provided via existing driveways on Mabury Road and Timothy Drive. This traffic study is intended to satisfy the requirements of the City of San Jose.

Scope of Study

The City of San Jose does not require preparation of a comprehensive Transportation Impact Analysis (TIA), including intersection level of service, for projects that meet the exemption criteria identified in the City's Level-of-Service Policy (Council Policy 5-3). One criterion states that industrial developments of 30,000 square feet (s.f.) or less are exempt from Council Policy 5-3. Since the project is proposing to reoccupy an existing 29,625 s.f. industrial building, the project meets the exemption criterion. The reason the City typically does not require an intersection level of service analysis for "small" projects such as this is because once the project-generated peak hour trips are assigned to the roadway network, the trips disperse, and the number of new trips added to any intersection is effectively negligible. City staff have indicated that a trip generation and site access study will suffice.

Trip Generation

The trip generation of the proposed hazardous waste transfer station was estimated using the Research & Development rates contained in the *San Jose Traffic Impact Analysis Handbook*, *November 2009*, as well as detailed information about the project's planned operation as supplied by the applicant. The trip credits for the previous use that occupied the 29,625 s.f. industrial building also were estimated using the Research & Development rates. Based on ACTenviro's description of the planned station operations, additional truck trips were estimated. Below is a detailed description of the planned operation of the hazardous waste transfer station.

Planned Station Operations

There are two components of the business operation. The project site will house approximately 62 employees, with an overall company employment of about 120. The non-office employees will consist of either truck transport drivers (e.g., box trucks and transfer trucks) or other employees who carry out their daily activities off-site at client locations throughout the Bay Area. The box truck drivers will pick up hazardous materials from various customer locations and transport the material back to the project site each day. There will be no treatment of the hazardous material on the site. The material will be transferred to tractor trailers (i.e., transfer trucks), and the collected material will ultimately be transported to appropriate off-site, approved recycling facilities. The tractor trailers will not leave the site on a daily basis. The maximum amount of time the hazardous material will be held on the project site is 10 days (as governed by State and Federal Agencies).

Box Trucks

The company will have a total of 24 box trucks of various sizes. The box trucks will be deployed to customer locations to pick up materials daily on an as needed basis. It is estimated that 18 of ACTenviro's 24 box trucks will be used each day on average. Most box trucks will be dispatched in the morning, before 7:00 AM, to perform service visits before returning in the afternoon to end their day. Thus, most box trucks will be on the road twice each day: one outbound AM trip and one inbound PM trip. The morning departures for the 18 box trucks could occur at approximately the same time each day, while the return trips will likely be more staggered. Based on ACTenviro's description of the truck operations, it is estimated that 10 percent of the box truck fleet will depart the project site during the AM peak hour of traffic, and 10 percent of the box trucks will return during the PM peak hour of traffic. The AM peak hour typically occurs between 7:00 AM and 9:00 AM and the PM peak hour typically occurs between 4:00 PM and 6:00 PM on a regular weekday.

On occasion, an individual box truck may be dispatched a second time on the same day. It is estimated that multiple trips will occur on a daily basis for approximately 25 percent of the box truck fleet. However, these additional daily trips will occur outside the AM and PM peak hours of traffic.

Transfer Trucks

ACTenviro will operate a total of 5 tractor trailers. These transfer trucks will not leave the site on a daily basis. The transfer of on-site hazardous material to various approved recycling facilities will be very infrequent. Based on the description of operations provided, only 1 or 2 transfer trucks will leave the site on Mondays, Wednesdays and Fridays, and those trips will most likely occur outside the AM and PM peak hours of traffic. Thus, for trip generation purposes it was estimated that transfer trucks will generate zero AM and PM peak hour trips.

Net Project Trips

Since the project will reoccupy the existing 29,625 s.f. industrial building, the project will generate zero net trips associated with the building. The project is expected to generate some additional trips attributable to the box truck operations. Based on the description of truck operations provided by ACTenviro, the project is estimated to generate 45 daily truck trips, with 2 outbound truck trips occurring during the AM peak hour and 2 inbound truck trips occurring during the PM peak hour (see Table 1).

Because the previous use was an industrial use, it is very likely that the former tenant operated trucks as well. For this reason, Hexagon has concluded that the proposed project will not increase truck trips to and from the site beyond what the previous tenant generated.

Table 1
Project Trip Generation Estimates

Land Use/Vehicle Type	Size	Daily Rate	Daily Trips	AM Peak Hour Pk-Hr Rate	AM In	AM Out	AM Total	PM Peak Hour Pk-Hr Rate	PM In	PM Out	PM Total
Proposed Uses											
Research & Development [1]	29,625 SF	8.00	237	1.20	30	6	36	1.04	5	26	31
Box Trucks/Drivers [2]	24 box trucks		45		0	2	2		2	0	2
Project Subtotal:			*282*		*30*	*8*	*38*		*7*	*26*	*33*
Previous Use											
Research & Development [3]	29,625 SF	8.00	(237)	1.20	(30)	(6)	(36)	1.04	(5)	(26)	(31)
Net New Trips:			**45**		**0**	**2**	**2**		**2**	**0**	**2**

Notes:
[1] Trip generation estimates for the project are based on Research and Development rates contained in the *San Jose Traffic Impact Analysis Handbook, November 2009.* Rates are expressed in trips per 1,000 square feet.
[2] An average of 18 box trucks would be in use each day, with approximately 10% of box trucks departing the site during the AM peak hour and 10% of box trucks returning to the site during the PM peak hour. It is also estimated that 25% of box trucks would generate multiple in/out trips on a typical day, but those trips would occur outside the AM and PM peak hours.
[3] Trip generation estimates for the previous use are based on Research and Development rates contained in the *San Jose Traffic Impact Analysis Handbook, November 2009.* Rates are expressed in trips per 1,000 square feet.

Site Access

The site has four driveways: one inbound only driveway on Mabury Road, one southerly inbound only driveway on Timothy Drive, one centrally-located full access driveway on Timothy Drive, and one northerly full access driveway on Timothy Drive. The project plans to make minor changes to the existing parking lot configuration in order to better serve the planned on-site operations (see Figure 1).

Employees (approximately 62 on-site each day) will utilize the southernmost driveway and middle driveway on Timothy Drive. The box trucks used in the collection of hazardous materials from various sites will utilize the middle driveway on Timothy Drive for ingress and egress. The box trucks will access the middle open area of the site and back into the proposed non-permanent dock high platform. The tractor trailer/transfer trucks will utilize the northernmost driveway on Timothy Drive for ingress and egress. The transfer trucks will back into the platform to receive the hazardous material from the box trucks. The material will be transferred by dolly across the platform to the tractor trailer trucks. The driveway on Mabury Road is not planned to be used except for access to the two existing parking spaces.

Although the width of the existing inbound/outbound sliding gates at the full access middle driveway are adequately wide to serve box trucks, the outbound gate does not line up well with the driveway. However, the existing 7-foot offset is not expected to create any significant operational issues for outbound box truck movements.

The site plan was reviewed for truck access by the method of truck turning-movement templates. Access at the northern driveway was reviewed for the truck type WB-50, which represents intermediate semitrailer trucks. Analysis using the appropriate truck turning template shows that the project driveway, drive aisle dimensions, and designated on-site truck turning area will be adequate to accommodate these truck types (see Figure 2).

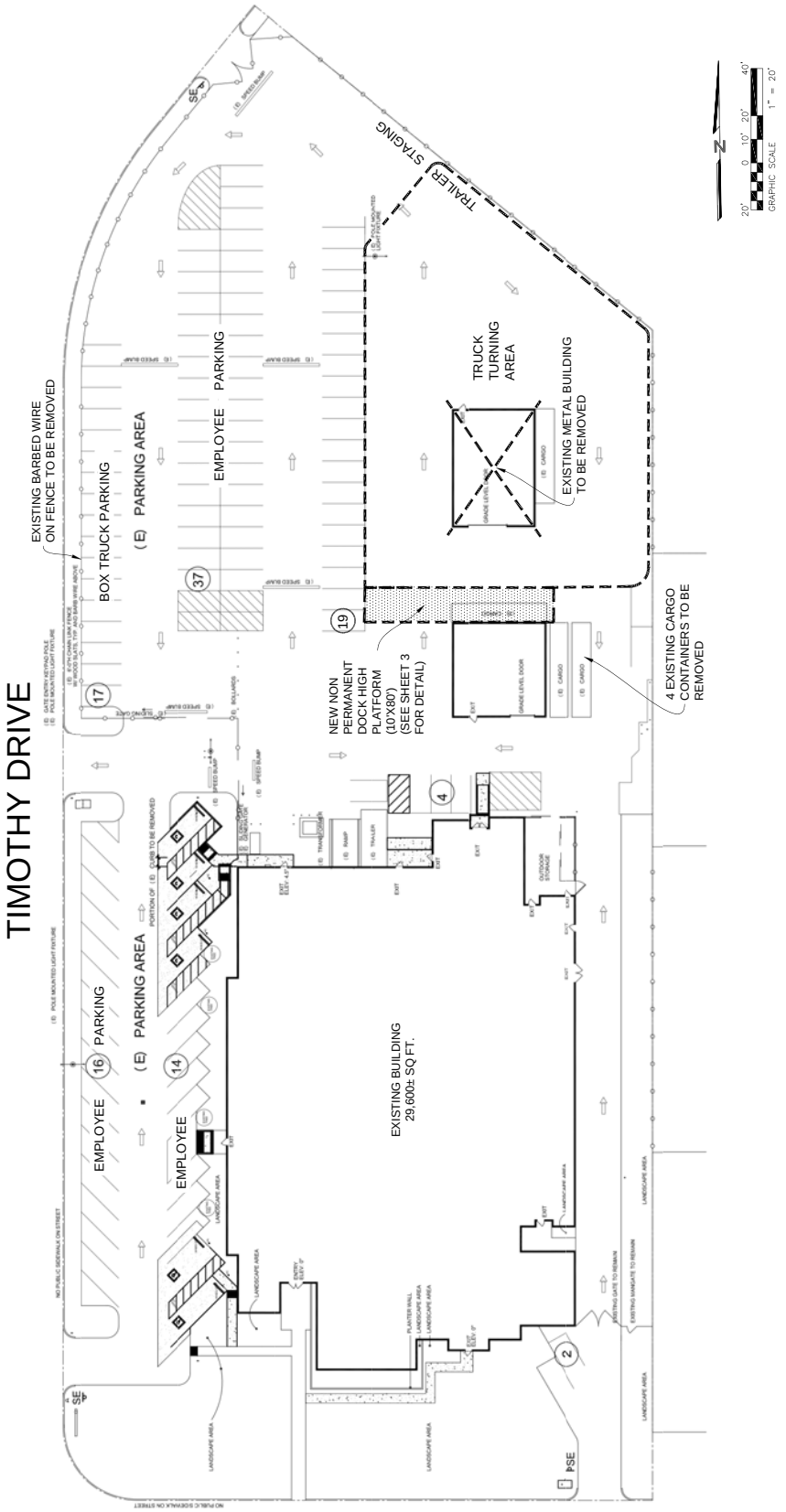

Figure 1
Site Plan

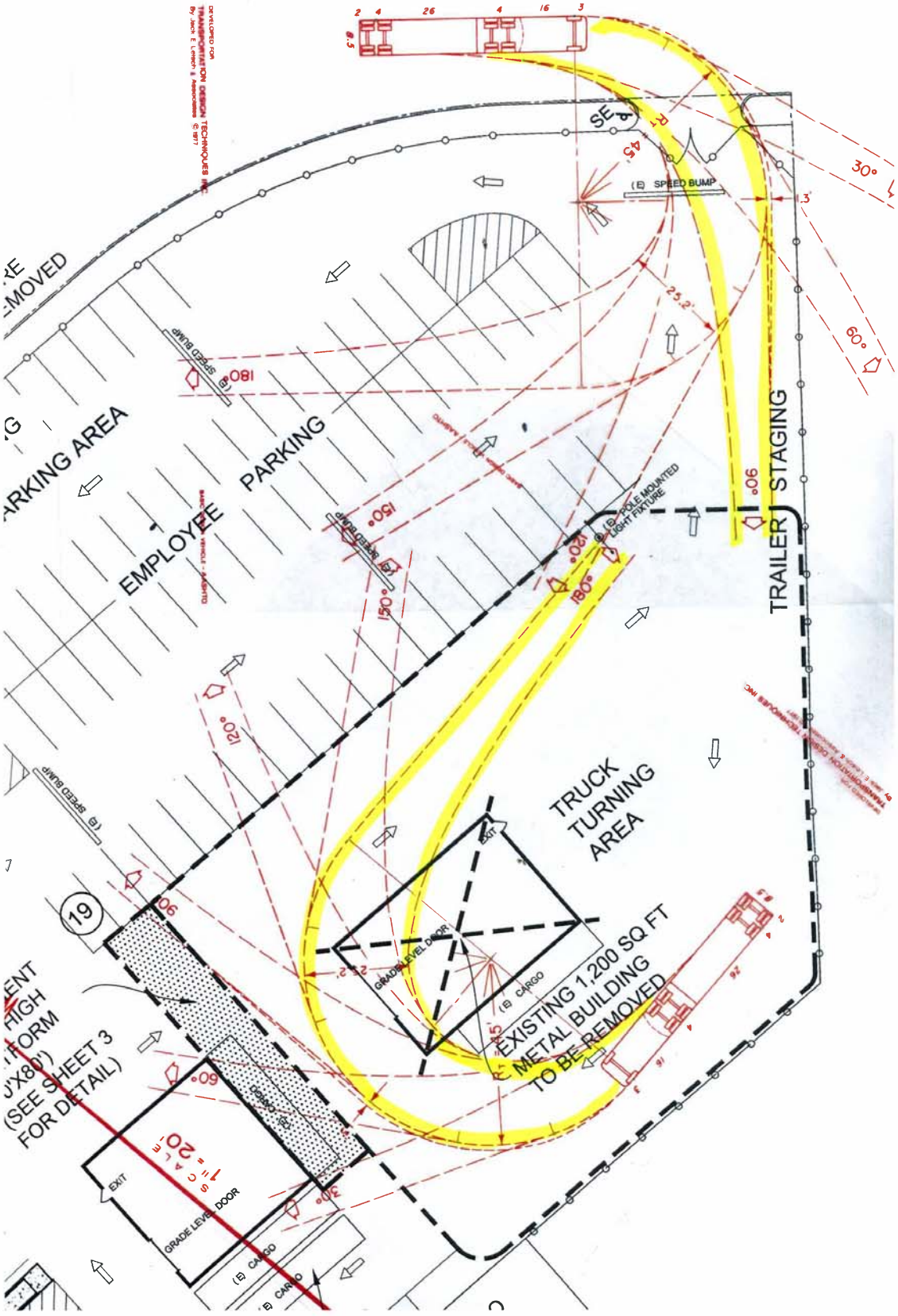

Figure 2
Site Circulation for Intermediate Semitrailer Trucks

Sight Distance at the Northern Project Driveway on Timothy Drive

Providing the appropriate sight distance at a driveway reduces the likelihood of a collision and provides drivers with the ability to exit a driveway or locate sufficient gaps in traffic. Sight distance generally should be provided in accordance with Caltrans standards. The minimum acceptable sight distance is often considered the Caltrans stopping sight distance. Sight distance requirements vary depending on the roadway speeds. For the northern project driveway on Timothy Drive, the Caltrans stopping sight distance requirement is 155 feet based on a design speed of 25 mph. This means that a driver must be able to see 155 feet down Timothy Drive, in both directions, to locate a sufficient gap to turn out of the project driveway. Figure 3 shows the existing sight distance at the northern project driveway on Timothy Drive. The sight distance measurements shown assume that truck drivers will be able to see over parked vehicles on Timothy Drive because of the high sitting position of tractor-trailers. As shown on the figure, the available sight distance is 174 feet to the south and 265 feet to the north. Therefore, adequate sight distance is provided at the northern project driveway for exiting trucks.

Project Trips Through the US 101/Oakland Road Interchange

The City of San Jose has identified operational problems along the Oakland Road corridor at the US 101 interchange, which are due primarily to the capacity constraints of the interchange. As a result, the City has identified two key capital improvement projects: 1) modification of the US 101/Oakland Road interchange, including improvements to the Oakland Road/Commercial Street intersection, and 2) construction of a new US 101/Mabury Road interchange. To fund these interchange improvements, the City has developed the US 101/Oakland/Mabury Transportation Development Policy (TDP).

As part of the Policy, a fee to fund the planned interchange improvements has been adopted. Any project that would add traffic to the US 101/Oakland Road interchange is required to participate in the TDP program. The fee for the US 101/Oakland/Mabury TDP is based on the number of PM peak hour vehicular trips that a project would add to the US 101/Oakland Road interchange. The TDP traffic impact fee currently is approximately $35,000 per each new PM peak hour vehicle trip that would be added to the US 101/Oakland Road interchange. The signalized intersections of Oakland Road/US 101 (South), Oakland Road/US 101 (North), and Oakland Road/Commercial Street make up the US 101/Oakland Road interchange.

Based on the PM peak hour trip generation estimates for the box trucks and the projected box truck travel routes, it is estimated that the proposed project will add 1 truck trip to the US 101/Oakland Road interchange during the PM peak hour. This assumes that half of the box trucks returning to the project site during the PM peak hour will utilize the interchange due to the project site's proximity to the interchange. However, since the previous tenant likely operated trucks as well, it is reasonable to conclude that the proposed project will not increase truck trips at the interchange beyond what the previous tenant generated. Therefore, since the project will not add trips to the interchange, the project will not be required to pay a US 101/Oakland/Mabury TDP traffic impact fee.

Figure 3
Sight Distance

NORTH
Not to Scale