



CREATIVITY BEYOND ENGINEERING

MEMORANDUM

DATE: March 6, 2020

TO: Brad Fry, P.E., Kwik Trip Store Engineering

FR: Justin Schueler, P.E.

CC: Bob Harley, P.E., raSmith

RE: S. West Avenue Kwik Trip Redevelopment (Store #970), Waukesha, WI
Trip Generation Comparison

Kwik Trip, Inc. is planning to replace their existing store located at 2106 S. West Avenue in the City of Waukesha with a new facility. The new facility will include the same features as the existing facility, but will be larger in size. All existing on-site structures will be demolished and the existing parcel will be combined with an undeveloped parcel located immediately to the south to accommodate the larger development. The City of Waukesha has requested a trip generation comparison for the existing and proposed developments. This memo summarizes the methodologies and results of this evaluation.

The redevelopment site is generally located in the southwest quadrant of the WIS 59 (Les Paul Parkway) intersection with S. West Avenue as shown in [Exhibit 1](#). The existing Kwik Trip includes a store (5,880 SF), gasoline fuel pumps (16 vehicle fueling positions), diesel fuel pumps (3 vehicle fueling positions), and a single bay automatic car wash. The proposed new development will include a larger store (9,200 SF) and more gasoline fuel pumps (20 vehicle fueling positions). Diesel fuel pumps (3 vehicle fueling positions) and a single bay automatic car wash will also be provided, matching the existing development. A preliminary site plan is provided in [Exhibit 2](#). Access is proposed with three full movement driveways on S. West Avenue, the same number as existing conditions. The former driveway serving the undeveloped parcel (currently proposed southernmost driveway) will be relocated about 90' to the north to align with Travis Lane. The other two driveways will remain in generally the same location as existing.

The Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 10th Edition, was used to estimate development traffic. Trip generation associated with the diesel pumps and car wash are expected to remain the same and were excluded from the comparison. A trip generation comparison between the existing and proposed Kwik Trips is summarized in Table 1. A full breakdown is provided in [Exhibit 3](#).

Table 1
Trip Generation Comparison

Land Use	Peak Hour New Trips		
	AM	PM	SAT
<i>EXISTING</i> Kwik Trip (16 gasoline fueling positions)	270	215	220
<i>PROPOSED</i> Kwik Trip (20 gasoline fueling positions)	340	280	275
Change in New Trips	+70	+65	+55

As shown in Table 1, the proposed Kwik Trip is expected to result in a small increase of new trips as compared to the existing store. The majority of site traffic is expected to travel through the WIS 59/Les Paul Parkway intersection with S. West Avenue when accessing the site. The redevelopment is estimated to result in a less than 2% increase in daily entering traffic at the intersection. The adjacent public streets are expected to operate similar to today's conditions with the proposed Kwik Trip redevelopment.



Note: Site boundaries are approximate.

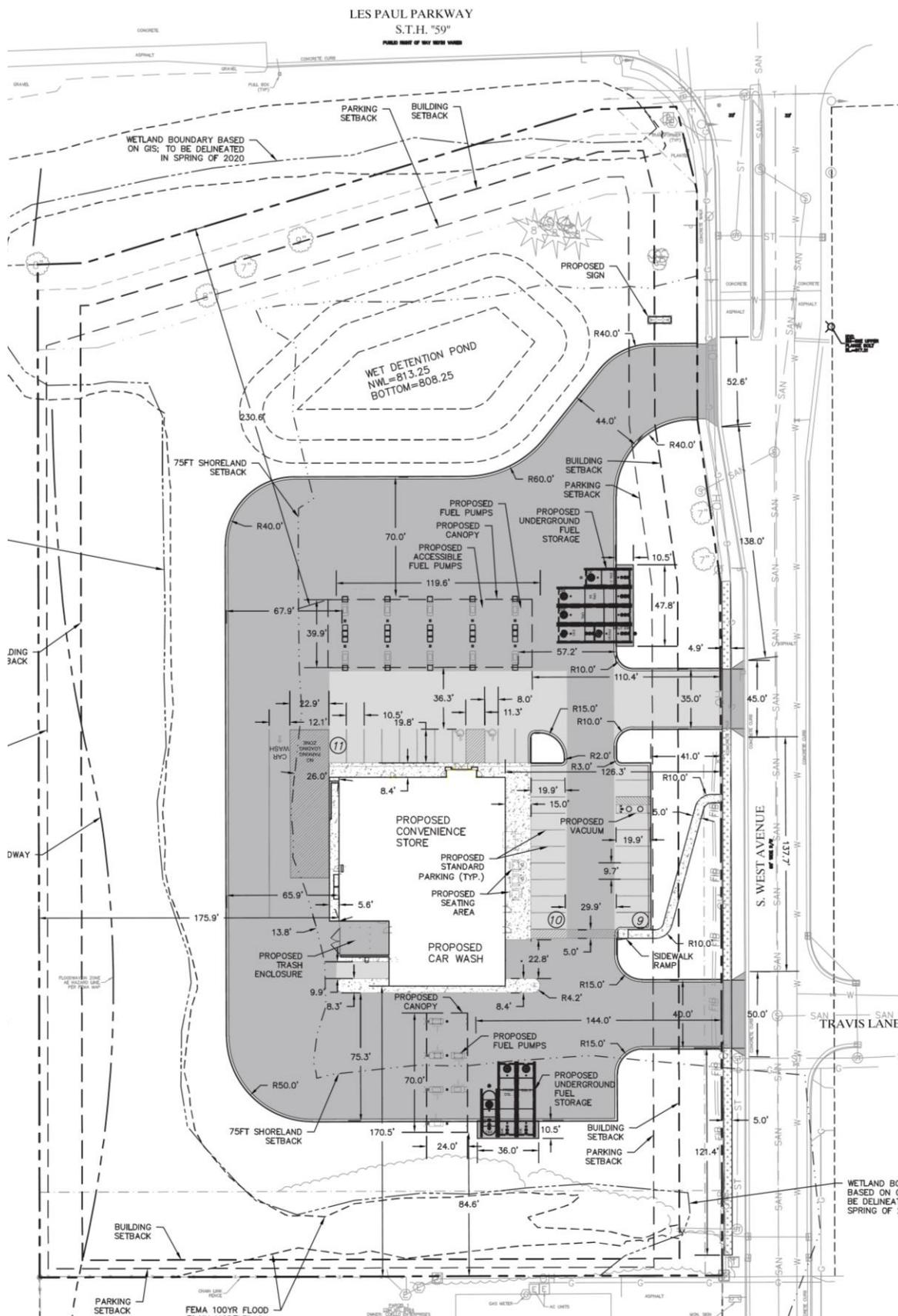
Image Source: Google Earth
Image Date: March, 2018

Legend

 = Proposed Kwik Trip Development Site Boundaries

Recent Site Aerial

Exhibit
1



**S. West Avenue Kwik Trip (Store #970)
Preliminary Redevelopment Site Plan**

Exhibit
2

Existing S. West Avenue Kwik Trip

Land Use	ITE Code	Size, units ¹	Weekday Daily Trips	Weekday AM Peak Hour Trips (rate)			Weekday PM Peak Hour Trips (rate)			Weekend SAT Peak Hour Trips (rate)		
				In	Out	Total	In	Out	Total	In	Out	Total
Super Convenience Market/Gas Station	960	16 VFP	3,690 (230.52)	225 (50%)	225 (50%)	450 (28.08)	185 (50%)	180 (50%)	365 (22.96)	185 (50%)	185 (50%)	370 (23.26)
<i>Pass-by/Diverted Linked Trips (-40%)</i>			<i>(1,475)</i>	<i>(90)</i>	<i>(90)</i>	<i>(180)</i>	<i>(75)</i>	<i>(75)</i>	<i>(150)</i>	<i>(75)</i>	<i>(75)</i>	<i>(150)</i>
New Trips			2,215	135	135	270	110	105	215	110	110	220

1) VFP = Vehicle Fueling Positions

Proposed S. West Avenue Road Kwik Trip

Land Use	ITE Code	Size, units ¹	Weekday Daily Trips	Weekday AM Peak Hour Trips (rate)			Weekday PM Peak Hour Trips (rate)			Weekend SAT Peak Hour Trips (rate)		
				In	Out	Total	In	Out	Total	In	Out	Total
Super Convenience Market/Gas Station	960	20 VFP	4,610 (230.52)	280 (50%)	280 (50%)	560 (28.08)	230 (50%)	230 (50%)	460 (22.96)	235 (50%)	230 (50%)	465 (23.26)
<i>Pass-by/Diverted Linked Trips (-40%)</i>			<i>(1,845)</i>	<i>(110)</i>	<i>(110)</i>	<i>(220)</i>	<i>(90)</i>	<i>(90)</i>	<i>(180)</i>	<i>(95)</i>	<i>(95)</i>	<i>(190)</i>
New Trips			2,765	170	170	340	140	140	280	140	135	275

1) VFP = Vehicle Fueling Positions