Attachment 'X'

FELSBURG HOLT & ULLEVIG
connecting & enhancing communities

MEMORANDUM

TO: Charles D. Huddleston, PE, FACEC, M.ASCE
Schemmer

FROM: Mark Meisinger, PE, PTOE
Felsburg Holt & Ullevig

DATE: April 11, 2022

SUBJECT: Whispering Oaks Mixed Use TIA Update Trip Generation Memo
FHU Reference No. 117181-02

Felsburg Holt & Ullevig (FHU) has evaluated ITE Trip Generation rates for the Whispering Oaks site northwest of the intersection of Franklin Avenue with Greenview Road in Council Bluffs, Iowa. This is an update to the *Whispering Oaks Future Mixed Use TIA* which was completed by FHU on 07.12.2017. An updated site plan for the mixed-use area provided by Studio 951, dated 03.15.2022, indicated one access for the development will be provided onto Greenview Road. No new access points onto Franklin Avenue are proposed.

Trip Generation Estimate

The *Institute of Transportation Engineers' (ITE) Trip Generation, 9th Edition, 2012,* was referenced to estimate trips generated by the proposed mixed use site as it was used in the 2017 analysis. Schemmer provided the updated Site Plan which included the location, size, and land use of each lot (see attached). A description of each phase and land use of the mixed use site is provided below:

Phase 1 Use: Apartment (ITE Land Use Code 220)
Phase 1 includes the construction of 150 multi-family units (apartments) and is estimated to generate 1,032 daily vehicle-trips, 77 vehicle-trips during the AM peak hour, and 100 vehicle-trips during the PM peak hour. Phase 1 of the mixed use site is located to east of the proposed Site Drive and west of Franklin Avenue.

Phase 2 Use: Apartment (ITE Land Use Code 220) & Shopping Center (ITE Land Use Code 820)
Phase 2 is proposed to include an additional 118 multi-family units (apartments) and 12,000 square-feet of commercial / retail space. Phase 2 is estimated to generate 1,350 daily vehicle-trips, 73 vehicle-trips during the AM peak hour, and 127 vehicle-trips during the PM peak hour. This phase of the mixed use site is located along the west side of the proposed Site Drive.

Phase 3 Use: Assisted Living (ITE Land Use Code 254)
Phase 3 is proposed to be a 60-bed assisted living facility and is estimated to generate 160 daily vehicle-trips, 8 vehicle-trips during the AM peak hour, and 13 vehicle-trips during the PM peak hour. Phase 3 is located along the western border of the mixed use site.

The attached **Table 1** summarizes the total estimated vehicle-trips that are generated by Phases 1, 2, and 3 of the Whispering Oaks mixed use site. The total mixed use site is estimated to generate 2,542 daily vehicle-trips, 158 vehicle-trips during the AM peak hour, and 240 vehicle-trips during the PM peak hour.

These trips generated according to the new site plan are less than those generated from the previous 2017 study. As indicated in **Table 2b** from the 2017 study, the mixed use site was estimated to generate 4,749 daily vehicle-trips, 186 vehicle-trips during the AM peak hour, and 427 vehicle-trips during the PM peak hour. This equates to 2,207 less daily vehicle-trips, with 28 less trips in the AM peak hour, and 207 less trips in the PM peak hour.

In the 2017 study, eastbound left-turn lanes were recommended along Greenview Road at the intersections of Melanie Circle, the mixed use Site Access Drive, and Franklin Avenue due to expected 2027 PM peak hour volumes. Although 207 less trips would be expected in the 2027 PM peak hour to the mixed use site, volumes would still be expected to warrant eastbound left-turn lanes.

Table 1. Future mixed use site trip generation - 2022

Land Use Description	ITE Code	Size	Unit	Daily			AM Peak Hour			PM Peak Hour		
				IN	OUT	TOTAL	IN	OUT	TOTAL	IN	OUT	TOTAL
Apartments	220	150	DU	516	516	1032	15	62	77	65	35	100
Apartments	220	118	DU	419	419	838	12	50	62	54	29	83
Commercial/Retail	820	12.0	KSF	256	256	512	7	4	11	21	23	44
Assisted Living	254	60	Beds	80	80	160	5	3	8	6	7	13
				1271	**1271**	**2542**	**39**	**119**	**158**	**146**	**94**	**240**

DU= Dwelling Unit KSF = 1,000 Sq. Ft.

Table 2b. Future Mixed Use Site Trip Generation

Land Use Description	ITE Code	Size	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Assisted Living (Lot 361)	254	60 Beds	160	5	3	8	6	7	13
Apartments (Lot 362, 363, 368, 369)	220	111 DU	796	12	46	58	51	28	79
Retail (Lot 364, 365, 366, 367)	820	30.4 KSF	3,132	47	29	76	130	140	270
Medical Office (Lot 370)	720	18.3 KSF	661	35	9	44	18	47	65
PROJECT TOTAL			**4,749**	**99**	**87**	**186**	**205**	**222**	**427**

DU = Dwelling Unit KSF = 1,000 Square Foot