Kimley»Horn

February 27, 2024

Mr. Edwin Alvarado
Sandstone Care
Via Email: edwin.alvarado@sandstonecare.com

Re: Sandstone Care – Woodlands Boulevard & Stampede Drive
Trip Generation Comparison Letter
Castle Rock, Colorado

Dear Mr. Alvarado:

This traffic study letter documents the results of a trip generation comparison for the proposed Sandstone Care development to replace the existing assisted living facility at 864 Barranca Drive in Castle Rock, Colorado. Specifically, the project is located on the northwest corner of the Stampede Drive and Woodlands Boulevard intersection. Of note, the existing assisted living facility is currently closed. The proposed project includes renovation of the existing approximate 30,000 square foot assisted living building into a short term teenage mental health facility. The project site currently provides and proposes to continue to provide one full movement access along the south side of Barranca Drive and one full movement access along the east side of Stampede Drive. A conceptual site plan of the Sandstone Care project is attached.

SITE INFORMATION AND TRIP GENERATION COMPARISON

The purpose of this traffic letter is to compare the trip generation of the proposed Sandstone Care site to the trip generation of the existing assisted care facility. Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the Trip Generation Manual[1] published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. Trip generation for the existing land use is based on the ITE Trip Generation, 11th Edition average rate equations for Assisted Living (ITE Land Use Code 254). Trip generation for the assisted living facility is attached.

Based on the unique proposed use, trip generation for the proposed \ short term teenage mental health facility is based user-specific trip expectation information. It is believed that the day shift will consist of ten (10) clinical therapists, four (4) behavioral health technicians (BHT), four (4) nurses, two (2) doctors, and two (2) administrative personnel. The night shift will consist of four (4) behavioral health technicians, and four (4) nurses. There will be a maximum of 36 clients with one (1) admitted per day with stays anticipated to range from 45 to 60 days. Nurses and technicians will rotate 12-hour shifts from 7 AM to 7 PM, whereas all other staff will work from 8 AM to 5 PM. To provide a conservative analysis, it was assumed that one (1) client would arrive and depart during both the morning and afternoon peak hours, all 20 day shift staff would arrive in the same morning peak hour, all night shift employees would depart the site during the same morning peak hour, and all staff except for the nurses and technicians would depart the site during the same afternoon peak hour. The following table summarizes the anticipated trip generation from the existing assisted living use compared to the expected trip generation for the proposed Sandstone Care development.

1 Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

Table 1 – Trip Generation Comparison: Original Use vs. Current Proposal

Land Use and Size	Weekday Vehicles Trips					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Original Land Use – Assisted Living (ITE 11th Edition)						
Assisted Living (ITE 254) – 30,000 Square Feet	8	3	11	5	9	14
Current Proposal – Sandstone Care						
Teenage Mental Health Facility (User-Specific Information)	23	9	32	1	15	16
Net Difference in Trips	**+15**	**+6**	**+21**	**-4**	**+6**	**+2**

As summarized in the table above, the currently proposed Sandstone Care facility is anticipated to generate 32 morning peak hour trips and 16 afternoon peak hour trips. The assisted living facility as the original land use would have been expected to generate 11 morning peak hour trips and 14 afternoon peak hour trips. The proposed development is anticipated to account for an increase of approximately 21 trips in the morning peak hour and an increase of approximately two (2) trips in the afternoon peak hour when compared to the existing assisted living use.

CONCLUSIONS

In summary, this traffic study letter provides a trip generation comparison of the proposed Sandstone Care facility to the existing assisted living facility. The proposed Sandstone Care facility is expected to generate approximately 32 morning peak hour trips and 16 afternoon peak hour trips. This results in approximately 21 additional morning peak hour trips and two (2) additional afternoon peak hour trips when compared to the existing use. This equates to approximately one additional trip every 3 minutes during the morning peak hour and one additional trip every 30 minutes for the afternoon peak hour. The slight increase in project trips during the peak hours compared to the existing use is expected to be accommodated within the surrounding street network. Of note, it was conservatively assumed all staff would arrive and depart in the same morning and afternoon peak hour. It should also be noted that intersection improvements are usually controlled by the afternoon peak hour traffic volumes, which only shows an increase of two (2) trips with development of the Sandstone Care facility. Therefore, we believe no further traffic analysis is needed due to this proposal. If you have any questions or require anything further, please feel free to call me at (720) 943-9962.

Sincerely,
KIMLEY-HORN AND ASSOCIATES, INC.

Jeffrey R. Planck

Jeffrey R. Planck, P.E.
Project Traffic Engineer

Conceptual Site Plan

Attachment B

Existing 1.5" water meter and 3/4" irrigation meter

Existing 8" sanitary sewer collector

Existing 6" private sanitary sewer line

Project Site

BARRANCA DRIVE

BRANDING IRON LANE

WOODLANDS BOULEVARD

STAMPEDE DRIVE

DEER WATCH DRIVE

LAZY K DRIVE

PURPLE SAGE LOOP

VICINITY MAP

Legend

- Sanitary Sewer
- Stormwater Conduit
- Fiber
- Raw Water Distribution Main
- Water Distribution Main

CASTLE ROCK Qwater
Securing our future drop by drop

0 40 80 160 240 Feet

1 inch = 80 feet

Date: 5/15/2023

Document Path: J:\GIS\Standard Maps\10.6\11x17 LndScp.mxd

Disclaimer: The data presented has been compiled from various sources, each of which introduces varying degrees of inaccuracies or inconsistencies. Such discrepancies in data are inherent and in supplying this product the Town of Castle Rock assumes no liability for it's use or accuracy. Questions or comments regarding the cartographic composition of this map including, but not limited to, errors, omissions, corrections, and/or updates, should be directed to the Utilities Department, Town of Castle Rock, (720) 733-6056. Copyright 2022, Town of Castle Rock Utilities Mapping.

CASTLE ROCK UTILITIES MAP (INTERNAL USE ONLY)

Trip Generation Calculations – Existing

Kimley»Horn

Project	Sandstone Care Castle Rock - Previous Land Use				
Subject	Trip Generation for Assisted Living				
Designed by	TES	*Date*	February 26, 2024	*Job No.*	196207001
Checked by				*Sheet No.*	*of*

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Assisted Living, (254)

Independent Variable - 1000 Square Feet (X)
SF = 30,000
X = 30
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 446)

Average Weekday
T = 0.38(X)
T = 0.38* 30

Directional Distribution: 75% ent. 25% exit.
T = 11 Average Vehicle Trip Ends
8 entering 3 exiting

8 + 3 = 11

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 447)

Average Weekday
(T) = 0.48 (X)
T = 0.48* 30

Directional Distribution: 39% ent. 61% exit.
T = 14 Average Vehicle Trip Ends
5 entering 9 exiting

5 + 9 = 14

Weekday (200 Series Page 445)

Average Weekday
(T) = 4.19 (X)
T = 4.19* 30

Directional Distribution: 50% ent. 50% exit.
T = 126 Average Vehicle Trip Ends
63 entering 63 exiting

63 + 63 = 126