



ALDRIDGE TRANSPORTATION CONSULTANTS, LLC

Advanced Transportation Planning and Traffic Engineering

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June 8, 2026

Brian Krombein, PE, PLS
Vermilion Peak Engineering
1745 Shea Center Drive, 4th Floor
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RE: Letter of Conformance
Advance Auto – Lagae Family Trust Parcel – City of Castle Pines

Dear Brian:

Aldridge Transportation Consultants (ATC) is pleased to present this letter of conformance for the proposed Advance Auto Parts store in Castle Pines.

ATC is a professional service firm specializing in traffic engineering and transportation planning. ATC's principal, John M.W. Aldridge, is a Colorado licensed professional engineer. In the past 30 years, ATC prepared over 1,200 traffic impact studies, designed over 120 traffic signals, and provided expert witness testimony on engineering design and access issues on multi-million-dollar interchange and highway projects in Kansas and Colorado.

ATC appreciates the opportunity to be of service. Please call if you have any questions. We can be reached at 303-703-9112.

Respectfully submitted,

Aldridge Transportation Consultants, LLC



John M.W. Aldridge, P.E.
Principal



INTRODUCTION/PROJECT DESCRIPTION

This Letter of Conformance reviews the development of a 6,912 sq. ft. Advance Auto Parts store in relation to the Traffic Impact Study for the Lagae Family Trust Parcel prepared in May 2023 by RICK Engineering Company. The Advance Auto store will be located on the southwest corner of Castle Pines Parkway and Lagae Road in Castle Pines. Figure 1 shows the site location and nearby land uses, streets, and intersections. The Advance Auto is shown in red.



Figure 1 Site Location and Surrounding Area

The site plan is shown in Figure Two. On the site there will be a building of 6,912 square feet and 28 parking spaces. Access to the site will be from a private drive that connects to Lagae Road.

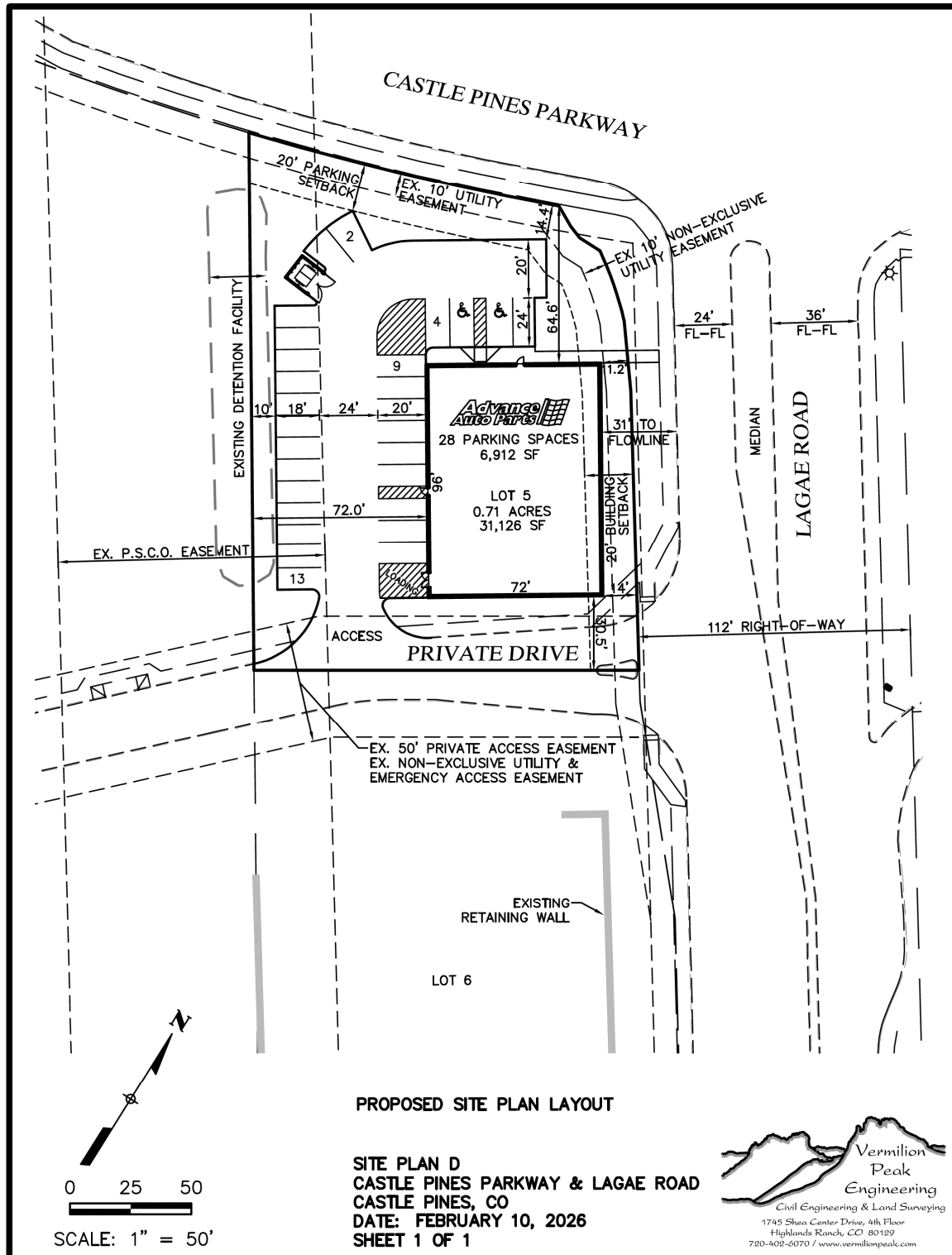


Figure 2 Site Plan



PROPOSED CONDITIONS

The trip generation rates for the Advance Auto store are based on the *ITE Trip Generation Manual, 12th Edition*. The following table provides the ADT and AM/PM Peak Hour traffic volumes for the store.

Trip Generation								
ITE Code	Land Use	Unit	Quantity	ADT	AM		PM	
					In	Out	In	Out
843	Auto Parts Sales	KSF	7	54.57	1.38	1.13	2.33	2.53
				382	10	8	16	18
Total Trips				382	10	8	16	18

The Lagae Family Trust Parcel is a mixed-use project that is proposed to include 15,000 square feet of commercial retail, a 12,500 square foot City Hall building a 20,000 square foot government archives library, and a 40,000 square foot recreation center building. The site plan features 2 pad sites independent of the city hall, library and recreational center. The Advance Auto building will occupy Pad 5. The following table from the RICK TIS identifies the potential trip generation, internal capture, and pass-by trips for the project. The commercial area of 15,000 square feet is expected to generate a total of 1,655 daily trips, 14 AM peak hour trips and 133 PM peak hour trips. Pad 5 with 5,000 square feet would be expected to generate 552 daily trips, 5 in the AM peak hour and 44 PM peak hour trips. The trip generation table from TIS is copied below.

Land Use	Quantity	Daily Rate	ADT	AM Peak Hour						PM Peak Hour								
				Peak Hour Rate	In : Out		Volumes			Peak Hour Rate	In : Out		Volumes					
					Split		In	Out	Total		Split		In	Out	Total			
Trips Generated																		
Commercial Retail ^a	15 KSF	^a	1,655	^a	62%	:	38%	9	5	14	^a	48%	:	52%	64	69	133	
City Hall ^b	42.5 KSF	^b	960	^b	75%	:	25%	106	36	142	^b	25%	:	75%	18	53	71	
Recreation Center ^c	40 KSF	^c	1,136	^c	66%	:	34%	74	38	112	^c	47%	:	53%	58	64	122	
Subtotal			3,751							189	79	268						
Internal Capture Reduction ^d			-128							-4	-4	-8						
NET PROJECT TRIPS			3,623							185	75	260						

In comparison, the daily trip generation of the Advance Auto is less by 170 trips, the AM peak hour trips are higher with 13 more trips and PM peak are trips are less by 10 trips. The difference in number of trips is inconsequential in terms of impact on traffic operations.

CONCLUSIONS/RECOMMENDATIONS

The RICK TIS recommended two new accesses to the project site. One on Castle Pines Parkway, which would be a stop sign controlled 3/4 movement access and a second access on Lagae Road proposed to be a right in/right out only. Note that Castle Pines Parkway access would not provide access to the Advance Auto site. No changes to the recommended improvements are required to



accommodate the Advance Auto store including operational attributes, access locations and type, parcel layout, and development commitments to implementing improvement.

FINDINGS

In my professional opinion, a 7,000 sq. ft. Advance Auto Parts store fits the land use and trip generation at the Lagae Family Trust Parcel and can operate efficiently with nearby streets and intersections.



**LAGAE FAMILY TRUST PARCEL
TRAFFIC IMPACT ANALYSIS
FOURTH SUBMITTAL: MAY 14, 2020
JOB NUMBER: 19030T**

RICK
RICK ENGINEERING COMPANY



Lagae Family Trust Parcel
Traffic Impact Analysis
Fourth Submittal: May 14, 2020

Prepared for:

Castle Pines, LLC
9801 East Easter Avenue
Centennial, CO 80112



Prepared by:



Job Number 19030-T



SUMMARY AND CONCLUSIONS

This traffic impact analysis evaluated the traffic conditions associated with a mixed-use development on a 10.39-acre site that proposes to construct 15,000 square-feet of commercial retail, a 12,500 square-foot City Hall building, a 20,000 square-foot government archives library (not a public library), and a 40,000 square-foot recreation center building. The government archives library will eventually be expanded by an additional 10,000 square-feet, but this expansion is not proposed for the Opening Year and is assumed to be completed by Horizon Year (2040). The site was previously proposed to be developed with 208 multi-family residential units.

Access to the project site is proposed to be provided from one driveway along Castle Pines Parkway and a second driveway along Lagae Road. The proposed driveway on Castle Pines Parkway would provide left-in/right-in and right-out only access. The proposed driveway on Lagae Road would be restricted to right-in/right-out access. Both driveways would be one-way stop controlled on the driveway approaches of the two intersections. Lagae Road would remain uncontrolled through the two proposed project driveway intersections.

At Opening Year (2022), the project is estimated to generate approximately 3,397 trips per day, which include approximately 227 trips during the AM peak hour and approximately 297 trips during the PM peak hour. With the future 10,000 square-foot expansion of the government archives library building by Horizon Year (2040), the project is estimated to generate approximately 3,623 trips per day, which include approximately 260 trips during the AM peak hour and approximately 314 trips during the PM peak hour.

The results of the level of service (LOS) analysis showed that under existing conditions, the existing study intersections currently operate at an acceptable LOS D or better during the peak hours.

The Opening Year (2022) Conditions analysis results showed that the study intersections are forecast to operate at an acceptable LOS D or better except for the intersection of Lagae Road / King Sooper's Full Access Driveway, which is forecast to operate at a deficient LOS (LOS E and F) during the AM and PM peak hours under Opening Year (2022) conditions both without and with the proposed project.

The Horizon Year (2040) Conditions analysis results showed that the following study intersections are forecast to operate at a deficient LOS (LOS E and F) during the peak hours both without and with the proposed project:

- Castle Pines Parkway / Lagae Road (PM: LOS E)
- Lagae Road / King Sooper's Full Access Driveway (AM/PM: LOS F)



Recommended Opening Year (2022) Without Project Improvements

The findings of the Opening Year (2022) Conditions analysis without the project showed that the additional traffic generated by the background projects plus the regional background growth will result in deficient LOS operations at the Lagae Road / King Sooper's Full Access Driveway during the peak hours.

The following improvement is recommended at the Lagae Road / King Sooper's Full Access Driveway intersection to provide acceptable LOS operations under Opening Year (2022) Conditions both without and with the project:

Lagae Road / King Sooper's Full Access Driveway

Westbound Approach

- Restrict access on the westbound approach to right-out only.

If feasible, it is also recommended that the City work with the owner of The Shoppes at Castle Pines retail center to provide a new access driveway along the east side of the retail center property to Hyland Hills Road east of Lagae Road so that left-turn access from the shopping center to southbound Lagae Road can be accommodated at the existing Lagae Road / Hyland Hills Road roundabout.

Recommended Opening Year (2022) With Project Improvements

The following lane configurations are recommended at the Castle Pines Parkway / Lagae Road intersection and the two project access intersections at project completion under Opening Year (2022) conditions:

Castle Pines Parkway / Lagae Road

Eastbound Approach

- Install a 30" x 36" R3-4 sign (U-Turn Prohibited) per MUTCD 2009 Edition (Revision 2, May 2012) to prohibit U-turn movements from the eastbound left-turn lane.

Castle Pines Parkway / Project Driveway #1

Northbound Approach (Driveway)

- One right turn lane
- Stop-controlled with access restricted to right-out only

Westbound Approach (Castle Pines Parkway: posted 40 mph speed)

- One left-turn lane with a total length of 330' (includes 55' for storage, 175' for deceleration, and 100' taper length)
- Two through lanes

Eastbound Approach

- Two through lanes
- One right turn lane with a total length of 275' (includes 175' pocket length for deceleration and 100' taper length)



Lagae Road / Project Driveway #2

Eastbound Approach (Driveway)

- One right turn lane
- Stop-controlled with access restricted to right-out only

Southbound Approach

- One through lane
- One shared through/right-turn lane

Northbound Approach

- Two through lanes

Recommended Horizon Year (2040) Without Project Improvements

Based on the findings of the Horizon Year (2040) analysis without the project, the following improvements are recommended to provide acceptable LOS operations under Horizon Year (2040) conditions both without and with the project:

Lagae Road / King Sooper's Full Access Driveway

The findings of the Horizon Year (2040) analysis without the project show that the long-range future traffic volumes will result in LOS F operations at the Lagae Road / King Sooper's Full Access Driveway intersection during both the AM and PM peak hours. A queuing simulation that was conducted under Horizon Year (2040) conditions had revealed that southbound left-turn lane queues at the Lagae Road / King Sooper's Full Access Driveway intersection would spill back to Castle Pines Parkway and impact the signal operations at the Castle Pines Parkway / Lagae Road intersection. In addition, the queuing analysis results had revealed that a minimum storage length of 360 feet would be needed for the dual northbound left-turn lanes at the Castle Pines Parkway / Lagae Road intersection, which would require removal of the existing southbound left-turn lane at the Lagae Road / King Sooper's Full Access Driveway intersection.

The following improvements are recommended at the Lagae Road / King Sooper's Full Access Driveway intersection to provide acceptable LOS operations under Horizon Year (2040) conditions both without and with the project:

Westbound Approach

- Restrict access on the westbound approach to right-out only (*also recommended under Opening Year 2022 conditions*).

Southbound Approach

- Remove the existing southbound left-turn lane. Access to the King Sooper's supermarket from westbound Castle Pines Parkway can be taken either via a U-turn from the Castle Pines Parkway / Lagae Road intersection to the existing driveway on Castle Pines Parkway east of Lagae Road; OR, by proceeding south on Lagae Road and making a U-turn at the Hyland Hills Road roundabout to the existing driveway on Lagae Road. Access to the King Sooper's supermarket from eastbound Castle Pines Parkway can also be taken at the existing driveway on Castle Pines Parkway east of Lagae Road.



If feasible, it is also recommended that the City work with the owner of The Shoppes at Castle Pines retail center to provide a new access driveway along the east side of the retail center property to Hyland Hills Road east of Lagae Road so that left-turn access from the shopping center to southbound Lagae Road can be accommodated at the existing Lagae Road / Hyland Hills Road roundabout.

Castle Pines Parkway / Lagae Road

Eastbound Approach

- Do not construct a channelized free right-turn as a future improvement and maintain the existing right-turn lane.
- Modify traffic signal to provide a right-turn overlap phase.

Westbound Approach

- Provide a minimum storage length of 510 feet for the two future westbound left-turn lanes.

East Leg of Intersection

- Ensure that the ultimate improvements plan at the intersection will provide the minimum width needed for U-turn maneuvers from the inside left-turn lane on the westbound approach of the intersection (for access to existing King Sooper's driveway on Castle Pines Parkway).

Northbound Approach

- Provide a minimum storage length of 360 feet for the two future northbound left-turn lanes. The recommended storage length would require removal of the existing southbound left-turn lane at the Lagae Road / King Sooper's Full Access Driveway intersection, which is recommended above.

PM Peak Hour Signal Timing

- Increase signal cycle length to 180 seconds during the PM peak period.

Recommended Horizon Year (2040) With Project Improvements

Castle Pines Parkway / Lagae Road

Eastbound Approach

- Increase the storage length of the existing eastbound left-turn lane to 245 feet.
- Install a 30" x 36" R3-4 sign (U-Turn Prohibited) per MUTCD 2009 Edition (Revision 2, May 2012) to prohibit U-turn movements from the eastbound left-turn lane.

Southbound Approach

- Modify traffic signal to provide a right-turn overlap phase.



Castle Pines Parkway / Project Driveway #1 (no change from Opening Year 2022)

Northbound Approach (Driveway)

- One right turn lane
- Stop-controlled with access restricted to right-out only

Westbound Approach (Castle Pines Parkway: posted 40 mph speed)

- One left-turn lane with a total length of 330' (includes 55' for storage, 175' for deceleration, and 100' taper length)
- Two through lanes

Eastbound Approach

- Two through lanes
- One right turn lane with a total length of 275' (includes 175' pocket length for deceleration and 100' taper length)

Lagae Road / Project Driveway #2 (no change from Opening Year 2022)

Eastbound Approach (Driveway)

- One right turn lane
- Stop-controlled with access restricted to right-out only

Southbound Approach

- One through lane
- One shared through/right-turn lane

Northbound Approach

- Two through lanes

