

LEE'S SUMMIT

DEVELOPMENT REVIEW FORM TRANSPORTATION IMPACT

DATE: January 3, 2020 CONDUCTED BY: Michael K Park, PE, PTOE

SUBMITTAL DATE: December 10, 2019 **PHONE:** 816.969.1800

APPLICATION #: PL2019380 EMAIL: Michael.Park@cityofls.net

PROJECT NAME: JOURNEY CHURCH PROJECT TYPE: Prel Dev Plan (PDP)

SURROUNDING ENVIRONMENT (Streets, Developments)

The proposed development project is located along the south side of M-150 Highway near Arboridge Drive. The surrounding area to the south is single family residential (Napa Valley), undeveloped agricultural property to the east and west and planned mixed use to the north across M-150 Highway (Church, single family residential, multi-family residential, undeveloped commercial ground, etc.).

ALLOWABLE ACCESS

The proposed development project will be accessed by a proposed right-in/right-out driveway along M-150 Highway and full access at the existing intersection of Arboridge Drive. The existing driveway to the property will be removed.

EXISTING STREET CHARACTERISTICS (Lanes, Speed limits, Sight Distance, Medians)

M-150 Highway is a MoDOT facility. M-150 Highway is a four lane median divided highway. The existing driveway has adequate sight distance and was granted approval for use to serve the development for an interim period by MoDOT, until a public roadway is extended south of Arboridge Drive, and across the subject property frontage serving adjacent land uses. The proposed development will construct the aforementioned public roadway in alignment with the existing Arboridge Drive intersection and remove the interim right-in/right-out driveway. Arboridge Drive has a full access intersection at M-150 Highway.

Access Management Code Compliance?	YES 🔀	No 🗌
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The proposed access (in consideration of existing driveway removal and median restrictions) along M-150 Highway will comply with intersection spacing requirements of the City (if it were a City roadway) and MoDOT Access Management Guidelines. The existing driveway does not have a right-turn lane as required for any access along a highway. The proposed westerly access, a right-in/right-out by raised median along the highway, would have a right-turn lane as required by MoDOT. If the westerly access were not constructed, the state required right-turn lane would be moved/proposed at the intersection of Arboridge Drive. A left-turn lane at Arboridge Drive is also required by MoDOT. Any access and access management along M-150 Highway is subject to MoDOT approval. City staff supports the proposed plan with MoDOT concurrence.

TRIP GENERATION

Time Period	Total	In	Out
Weekday	654	327	327
A.M. Peak Hour	40	25	15
P.M. Peak Hour	40	19	21

TRANSPORTATION IMPACT STUDY REQUIRED? YES	☐ No 🏻	7
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The proposed development will not likely generate more than 100 vehicle trips to the surrounding street system during any given weekday peak hour. However, the traffic impact during a Sunday and weeknight services/activities will likely generate more than 100 vehicle trips to the surrounding street system in consideration of the 1200 seat auditorium (replaces existing 320 seat auditorium). Due to this significant impact along M-150 Highway, the City and MoDOT requested a traffic impact study be completed to assess improvement needs and evaluate proposed highway access operations.

A traffic impact study, dated December 10^{th} , 2019, has been completed by TranSystems. The traffic study was reviewed by MoDOT. The study concludes adequate operations may be expected with the following recommended transportation improvements during a typical weekday peak hour:

- Construct an eastbound right turn lane with 200 feet of storage (min), plus taper, at the proposed right-in/right-out access along M-150 Highway.
- Construct a westbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.
- Construct a northbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.

Although a commuter peak hour during the week was adequately performing, a Sunday traffic operation will likely experience significant delay at the intersection of Arboridge Drive and M-150 Highway; particularly the northbound and southbound left-turns. This delay and poor level of service can be mitigated with the installation of a traffic signal as noted in the study. However, a traffic signal is not warranted under this projected condition and the study recommends MoDOT monitor the intersection for such warranting conditions as volumes increase during the commuter peak hours. A warranted signal in the future is expected, especially as adjacent land development continues. No other intersections or movements were likely to exhibit inadequate levels of service.

The City and MoDOT concur with the study findings and recommendations.

LIVABLE STREETS (Resolution 10-17)	COMPLIANT 🔀	EXCEPTIONS
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The proposed development plan includes all Livable Streets elements identified in the City's adopted Comprehensive Plan, associated Greenway Master Plan and Bicycle Transportation Plan attachments, and elements otherwise required by ordinances and standards, including but not limited to sidewalk, landscaping, and accessibility. In addition, street connectivity to support adjacent land development in alignment with the City's Thoroughfare Master Plan have been

RECOMMENDATION: APPROVAL DENIAL N/A STIPULATIONS

Recommendations for Approval refer only to the transportation impact and do not constitute an endorsement from

proposed.

City Staff.

included. No exceptions to the Livable Streets Policy adopted by Resolution 10-17 have been

Staff recommends approval of the proposed preliminary development plan as submitted subject to the following transportation improvements that must be substantially completed prior to occupancy:

- Construct an eastbound right turn lane with 200 feet of storage (min), plus taper, at the proposed right-in/right-out access along M-150 Highway.
- Construct a westbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.
- Construct a northbound left turn lane with 250 feet of storage (min), plus taper, at the intersection of Arboridge Drive and M-150 Highway.

If the proposed right-in/right-out access is not constructed, the eastbound right-turn lane improvement shall be constructed at Arboridge Drive.

These improvements may be waived or modified by MoDOT as the owner of M-150 Highway.