

To: Paul Brown
Felsburg Holt & Ullevig

From: Max Rusch, P.E.
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Date: 4/21/2023

Re: **Comment Response to 3/2/2023 Comments**

This memorandum serves as a comment response to the comments provided by the FHU and El Paso County on 3/2/2023 in response to the "Owl Place Storage Traffic Impact Study", submitted on 1/25/2023. The received comments and the accompanying responses are located below.

Comment #1. (FHU Comment Memorandum)

The TIS adequately describes the site, proposed access points, and anticipated site trip generation and distribution. It also includes a county-requested analysis of a maximum development scenario.

Response: Noted. The language in the study has been updated to detail the proposed access points. The maximum development scenario has been updated to account for the southern parcel that has been included the overall site size. This has increased the site acreage, which increases the maximum development size.

Comment #2. (FHU Comment Memorandum)

At the Meridian Road / Eastonville Road intersection, the traffic counts reflect a stop-controlled T intersection condition (per Appendix E), while the TIS evaluates a signalized 4-leg intersection. The study should either evaluate conditions when counts were collected or collect new counts reflecting the recent changes at this intersection. The TIS also needs to include appropriate geometric data for existing and future conditions.

Response: The existing conditions scenario has been updated to analyze Meridian Rd & Eatonville Rd as a three-legged stop-controlled intersection with geometry consistent with what was in place during the time of the counts. The background and total scenarios analyze the intersection as a four-legged signalized intersection.

Comment #3. (FHU Comment Memorandum)

The Meridian Road / Owl Place intersection exists today, and counts are available from previous studies, so an existing conditions analysis is required. This intersection is proposed to be closed in future scenarios. The TIS should evaluate how these existing trips will be served in the future since Owl Place is a cul-de-sac today. This evaluation should indicate when the intersection will be closed (background or total traffic scenarios, year 2024 or year 2040) and how existing trips are forecasted to travel after the closure.

Response: The intersection of Meridian Rd & Owl Place has been included in the existing conditions analysis. The study reroutes the trips for the future scenarios and includes a figure showing the effect of the rerouted trips on the network volumes.

Comment #4. (FHU Comment Memorandum)

The study should document the source of the existing traffic counts at the Meridian Park Drive / Bent Grass Meadow Drive intersection. The geometry included in the TIS also does not match available aerial photographs and should be confirmed.



Response: The geometry along Bent Grass Meadow Dr has been updated to reflect Google Earth Aerials. In addition, the study has been updated to clarify where the volumes for Meridian Park Dr & Bent Grass Meadow Dr were derived from.

Comment #5. (FHU Comment Memorandum)

Although much of the land use adjacent to the site is residential, areas immediately to the south include developing commercial areas. The text should note this.

Response: The text has been revised to discuss the nearby commercial use.

Comment #6. (FHU Comment Memorandum)

The study should include existing and future ADT data and evaluate link threshold capacities per ECM Section B.3.1.C, particularly along Meridian Park Drive.

Response: The link volumes in two locations along Meridian Park Dr have been reported for all scenarios of the updated study. These volumes have been evaluated against the ECM Section B.3.1.C to determine whether the road will continue to operate under capacity in the future.

Comment #7. (FHU Comment Memorandum)

The southerly access to Owl Place is clearly described, but how those trips will circulate past Owl Place is unclear. The site plan shows a future southerly connection to Eastonville Road that is briefly mentioned in Section IV of the TIS, but the timing, operations and responsibility for this connection are not described. This should be clarified.

Response: The study has been updated to contain a more detailed description of the process to close the access between Owl Pl and Meridian Rd.

Comment #8. (FHU Comment Memorandum)

There is no discussion of roadway classification for Meridian Park Drive through the site. Further, site traffic impacts and rerouted traffic impacts on the Meridan Park Drive roadway classification to the north and south are not discussed. These should be included.

Response: Section II of the report states that Meridian Park Dr is a local road. The total future sections of the study have been updated to discuss the impact that the proposed site will have on the roadway classification.

Comment #9. (FHU Comment Memorandum)

Background forecasts are provided for two future years, 2024 and 2040. Cumulative development traffic has been accounted for and it has been adjusted to account for the Owl Place closure. However, the overall background growth rate is low when compared to the studies included in Appendix E. Background growth rates should be revised to match these studies, the 2045 Long Range Transportation Plan, the Major Transportation Corridor Plan, and other regional planning documents.

Response: The background growth rate has been updated from 1% per year to 2% per year in the updated study.

Comment #10. (FHU Comment Memorandum)

The study states that "all planned roadway improvements associated with the [pipeline] developments will be completed by 2024." However, other text, Figure 4-5, and Figure 4-6 show a phasing plan for

Falcon Marketplace. The study should not assume year 2040 Falcon Marketplace improvements are in place in the short-term horizon.

Response: The study has been updated to state that the first stage of Falcon Marketplace will be completed by 2024 and the second (final) stage will be completed prior to 2040.

Comment #11. (FHU Comment Memorandum)

There is no documentation of peak hours used and related volume balancing. This is required since not all counts were acquired from the same source (see comment 2.c).

Response: Additional details of this process have been documented in the “Traffic Volumes” part of Section III of the study.

Comment #12. (FHU Comment Memorandum)

The peak hour factors should be developed and applied in accordance with the ECM.

Response: The peak hours in the analysis have been updated in accordance with the PFH standards required in the ECM.

Comment #13. (FHU Comment Memorandum)

LOS results and queuing for unsignalized intersections should be reported in accordance with HCM Chapter 20 guidance regarding major street and minor street movements.

Response: The LOS tables and figures have been updated to remove the thru movements for the free movements at stop-controlled intersections, in accordance with HCM guidance.

Comment #14. (FHU Comment Memorandum)

The TIS does not include pedestrian or bicycle evaluation per ECM Section B.4.1.C. The planned land use is not expected to be a high pedestrian / bicycle traffic generator, but connectivity along Meridian Park Drive and proposed bicycle route(s) in the MCTP should be addressed.

Response: An analysis of pedestrian and bicycle connectivity has been included in Section VIII of the study.

Comment #15. (FHU Comment Memorandum)

No signal progression analysis along Meridian Road is provided, as required by ECM Section B.4.1.B.

Response: The study has been updated to include a signal progression analysis along Meridian Rd for all scenarios. The Synchro printouts of the progression analysis are included in the appendix.

Comment #16. (FHU Comment Memorandum)

A Recommended Improvements Summary Table and related improvement responsibilities have not been incorporated. These are required per ECM Section B.6, but the current study notes that no improvements are required. These items should be added if study updates result in improvements.

Response: The recommended improvements for the background scenario and total scenario have been included in the study.

Comment #17. (FHU Comment Memorandum)

The Engineer’s Statement and Developer’s Statement have not been provided per ECM Section B.8

Response: These have been included in the study.

Comment #18. (FHU Comment Memorandum)

It would be helpful if the report pages (excluding appendixes) were numbered.

Response: The page numbers have been added to the revised study.

Comment #19. (FHU Comment Memorandum)

The signal timings presented in the appendixes should be refined.

a. Various customary minimums are not maintained in the future year synchro analysis, including minimum green times for left turn phases. The applicant should coordinate with El Paso County to determine appropriate values.

b. Software default Y+AR times have been used for the Meridian Road / Eastonville Road signal. Assuming the signal is now in operation, these values should be updated with data obtained from the County. If County data are not available, appropriate Y+AR times should be calculated and applied.

c. Optimized signal timings should be rounded to the nearest second.

Response: The signal timings have been updated in the Synchro files. The customary minimums have been carried into the future scenarios for the updated analysis. The timings for the intersection of Meridian Rd & Eastonville Rd have been obtained from the County and implemented into the Synchro files. It was ensured that the signal timings were rounded to the nearest second when optimized,

Comment #20. (FHU Comment Memorandum)

There are concerns in the queuing tables (Table 3-2, Table 4-2, Table 6-2) that require updates.

a. Contrary to the text, there are instances where 95th percentile queue lengths exceed the length of storage lanes. These spillbacks are operational concerns and should be addressed.

b. There are multiple instances where long through lane queues block access to turn lanes. These blockages are operational concerns and should be addressed.

c. The spacing along Eastonville Road between Meridian Road and the new roundabout at Meridian Park Drive is very limited, and some eastbound queue lengths presented in Table 4-2 and Table 6-2 exceed the available spacing. This implies queue spillback into the circulating roadway of the roundabout that should be addressed.

Response: The analysis in the updated study now identifies the thru movement queues that extend past the adjacent turn lane storage. The analysis also discusses the possible spillback from the intersection of Meridian Rd & Eastonville Rd into the roundabout to the west.

Comment #21. (Comment by Paul Brown on TIS Page 1)

TIS requires engineer's certification page, including developer's statement, per ECM B.8

Response: This has been included on the page following the title page.

Comment #22. (Comment by Paul Brown on TIS Page 1)

please add PCD File No. CS224

Response: This has been included in the updated study.

Comment #23. (Comment by Paul Brown on TIS Page 5)

Which specific developments? Owl Place will be partially upgraded and and connection made to Meridian Park Drive to the north.

Response: The conclusion that this comment is referencing states that since the traffic operations remain almost exactly the same once the storage facility is built, the developer will not need to implement any roadway improvements outside of what is already planned. This has been reworded to clarify that

the developer is planning on extending Meridian Park Dr but will not need to improve the roadway network to improve the failing traffic operations that have been identified in the future scenarios.

Comment #24. (Comment by Paul Brown on TIS Page 7)

parcel 5301001014 is also proposed to be rezoned per the zoning map. revise accordingly

Response: This has been updated in the revised study.

Comment #25. (Comment by Paul Brown on TIS Page 7)

and to the north with the inclusion of the 3rd parcel. revise accordingly and revise the subsequent statements below

Response: This parcel has been included in the updated figures.

Comment #26. (Comment by Paul Brown on TIS Page 7)

Place

Response: The road name has been updated accordingly.

Comment #27. (Comment by Paul Brown on TIS Page 8)

TIS should mention that existing land uses immediately north of the site are commercial and that proposed land uses immediately south of the site are also commercial.

Response: The text has been revised to discuss the nearby commercial use.

Comment #28. (Comment by Paul Brown on TIS Page 8)

Parcel 5301001015 to the east is also being rezoned to commercial use

Response: This parcel has been included in the revised study.

Comment #29. (Comment by Paul Brown on TIS Page 9)

Please correct map to match zoning map. Missing parcel areas

Response: The zoning map has been updated to show all three parcels.

Comment #30. (Comment by Paul Brown on TIS Page 9)

Please ensure that all 3 parcels are analyzed for highest and best use.

Response: The trip generation analysis has been revised to assume a 15.3-acre site when analyzing the highest and best land use.

Comment #31. (Comment by Paul Brown on TIS Page 10)

Site Plan missing parcel area

Response: The missing parcel has been included in the revised site plan.

Comment #32. (Comment by Paul Brown on TIS Page 11)

include a proposed parcels

Response: The proposed parcel has been included in the revised traffic study.

Comment #33. (Comment by Paul Brown on TIS Page 12)

This background growth rate appears low. It is half of the growth rate shown in one study in Appendix E. Revise or provide justification.

Response: The background growth rate has been changed from 1% per year to 2% per year. The background and total analysis have been updated to include the increased background volume forecasts.

Comment #34. (Comment by Paul Brown on TIS Page 12)

Clarify adjacent land uses along Meridian Road per comment in previous section.

Response: The text has been updated to mention the commercial uses along Meridian Rd.

Comment #35. (Comment by Paul Brown on TIS Page 13)

How is access to these single family homes maintained? How are the trips associated with these homes (shown in Appendix E) redistributed in future scenarios?

Response: Residents on Owl PI will be able to access Meridian Rd by taking a planned extension south to Eastonville Rd and then turning onto Meridian Rd from there. This closure is assumed in all future scenarios analyzed in this study. The trips onto and off of Owl PI have been rerouted to Eastonville Rd in the future scenarios.

Comment #36. (Comment by Paul Brown on TIS Page 14)

Please correct site to match zone map for all Figures throughout report

Response: The site has been updated to include the southern parcel in all figures in the study.

Comment #37. (Comment by Paul Brown on TIS Page 14)

This geometry does not match conditions shown on recent aerials. Confirm geometry.

Response: The intersection geometry at Meridian Rd & Bent Grass Meadows Dr has been revised to reflect the correct geometry.

Comment #38. (Comment by Paul Brown on TIS Page 14)

Existing counts do not reflect this geometry. Refer to comments on Figure 3-1.

Response: At the time of the traffic counts in September 2022, the intersection of Eastonville Rd & Meridian Rd was a three-legged stop-controlled intersection, as the west leg had not been built. The existing conditions analysis has been updated to model this intersection without the left leg, consistent with the intersection geometry at the time of the counts.

Comment #39. (Comment by Paul Brown on TIS Page 15)

Since not all counts were obtained from the same source, need to discuss selection of peak hours and balancing between intersections.

Response: This is discussed in the "Traffic Volumes" part of Section III of the report.

Comment #40. (Comment by Paul Brown on TIS Page 15)

Meridian Park Drive at Bent Grass Meadows Drive is not included in that study. Where were these counts obtained?

Response: The counts for this intersection were taken from the Bent Grass East Commercial Filing No. 3 TIS conducted by LSC Transportation Consultants, Inc. in May 2021.

*Comment #41. (Comment by Paul Brown on TIS Page 15)
This PHF does not meet ECM requirements. Revise accordingly.*

Response: The peak hour factors have been revised in the analysis to meet the ECM requirements.

*Comment #42. (Comment by Paul Brown on TIS Page 15)
Provide a progression analysis along Meridian Road per ECM requirements.*

Response: The progression analysis was conducted using the Synchro time space diagrams. The results are included in the LOS tables and the time space diagram printouts are included in the appendix.

*Comment #43. (Comment by Paul Brown on TIS Page 16)
Provide a source for these counts*

Response: The source of the counts is discussed in the “Traffic Volumes” part of Section III of the study.

*Comment #44. (Comment by Paul Brown on TIS Page 16)
This intersection exists today, An existing conditions analysis is required.*

Response: The intersection of Meridian Rd & Owl Pl has been included in the existing conditions analysis of the study.

*Comment #45. (Comment by Paul Brown on TIS Page 16)
These counts reflect a stop-controlled T intersection, but existing conditions have been evaluated as a 4-leg signalized intersection. Evaluate existing using TWSC methodology or collect new counts that reflect recent improvements.*

Response: This intersection is now analyzed as a three-legged, stop-controlled intersection, consistent with what was in the field at the time of the counts.

*Comment #46. (Comment by Paul Brown on TIS Page 17)
Report unsignalized levels of service in accordance with HCM practices.*

Response: The reporting of the LOS at the unsignalized intersections has been revised to be in accordance with the HCM practices.

*Comment #47. (Comment by Paul Brown on TIS Page 17)
See comments on Figure 3-1*

Response: This intersection is now analyzed as a three-legged, stop-controlled intersection, consistent with what was in the field at the time of the counts.

*Comment #48. (Comment by Paul Brown on TIS Page 17)
See comments on Figure 3-1 and revise accordingly.*

Response: The intersection of Meridian Rd & Eastonville Rd is now analyzed as a three-legged, stop-controlled intersection, consistent with what was in the field at the time of the counts.

*Comment #49. (Comment by Paul Brown on TIS Page 18)
Report unsignalized levels of service in accordance with HCM practices.*

Response: The reporting of the LOS at the unsignalized intersections has been revised to be in accordance with the HCM practices.

Comment #50. (Comment by Paul Brown on TIS Page 19)

Synchro reports this movement as over capacity with unreliable 95th percentile queue length. Flag this result in the table.

Response: The queueing analysis in the study has been updated to state that Synchro queueing results become unreliable once a movement exceeds capacity.

Comment #51. (Comment by Paul Brown on TIS Page 19)

Yellow highlights show through queues that block turn lanes. Green highlights show queues that extend beyond turn pocket lengths. These blockages should be identified in the text and considered for mitigation.

Response: The queueing analysis in the study has been updated to discuss thru movement queues that extend further than the adjacent turn length storages.

Comment #52. (Comment by Paul Brown on TIS Page 19)

Report unsignalized queues in accordance with HCM practices.

Response: The reporting of the queue lengths at the unsignalized intersections has been revised to be in accordance with the HCM practices.

Comment #53. (Comment by Paul Brown on TIS Page 20)

Discuss timing of this new connection versus closure of Owl Place since the Owl Place Storage project will not construct the connection to the south. Also, redistribute existing residential trips from Owl Place to new roadways as appropriate. Will some of these trips travel through the proposed storage facility site?

Response: The timing of the new connection is discussed in Section II of the updated study. A figure has been added showing the effects of the redistribution of existing residential trips from Owl Place on the overall network traffic volumes. It is not expected that the redistributed trips will travel through the proposed storage facility.

Comment #54. (Comment by Paul Brown on TIS Page 20)

The Owl Place Commercial Rezone TIS (see Appendix E) used 2% per year. Either revise or provide justification for using 1% per year.

Response: The annual growth rate has been increased from 1% to 2% in the updated study.

Comment #55. (Comment by Paul Brown on TIS Page 20)

The Owl Place Commercial TIS assumed that Owl Place would remain open. Discuss how the trips in that TIS have been reassigned to reflect the planned roadway closure and what effects the reassignments may have.

Response: The Owl Place trips have been reassigned to Eastonville Rd in the future scenarios. This will have a minimal impact on operations since the trip numbers being reassigned are very low. The effects of the reassignment on network volumes are detailed in the Section IV figures of this report.

Comment #56. (Comment by Paul Brown on TIS Page 20)

Falcon Marketplace is the name of the development. Please update.

Response: The study has been updated to refer to the development as Falcon Marketplace.

Comment #57. (Comment by Paul Brown on TIS Page 20)

Falcon Ranch will not be complete by 2024. The 2024 analysis in the Owl Place TIS should not take advantage of operational benefits provided by long-range improvements in the Falcon Ranch TIS.

Response: The study has been updated to state that phase 1 of Falcon Ranch will be completed by 2024 and phase 2 of Falcon Ranch will be completed by 2040.

*Comment #58. (Comment by Paul Brown on TIS Page 20)
Owl Place Commercial is not on US34. Revise.*

Response: The study has been updated to say that the Owl Place Commercial development will be located on the southwest corner of Meridian Rd & Owl PI

*Comment #59. (Comment by Paul Brown on TIS Page 21)
Carry existing conditions analysis comments into future year analyses as appropriate.*

Response: Noted

*Comment #60. (Comment by Paul Brown on TIS Page 22)
Refer to comments on queuing tables. Mitigations (by others) may be required.*

Response: Noted

*Comment #61. (Comment by Paul Brown on TIS Page 22)
Refer to existing conditions comments and revise future analyses accordingly.*

Response: Noted

*Comment #62. (Comment by Paul Brown on TIS Page 25)
Provide graphic showing redistribution of existing Owl Place trips*

Response: This figure has been provided in the Section IV figures.

*Comment #63. (Comment by Paul Brown on TIS Page 26)
Future volumes at this intersection do not match Appendix E. Revise or provide supporting documentation (assuming this is Owl Place closure redistribution)*

Response: The future volumes do not match because the Owl Place Commercial Study assumed that Owl PI still would have access to Meridian Rd. As such, the trips entering and exiting Owl PI from Meridian Rd have been rerouted to Eastonville Rd in this study.

*Comment #64. (Comment by Paul Brown on TIS Page 35)
Identify and address queue blockages in the text (refer to comment on Figure 3-2)*

Response: The queue blockages have been identified and addressed in the updated study.

*Comment #65. (Comment by Paul Brown on TIS Page 35)
Google Earth shows about 150 feet between the Meridian Park Drive roundabout and the Meridian Road stop bar. The EB queues in background scenarios will extend into the roundabout. Review geometry per Figure 3-1 comment and provide mitigation (by others) if needed.*

Response: This study's analysis report queues in the background scenario extending 254' while the study proposing the roundabout, Owl Place Commercial by SM Rocha, LLC also showed that the eastbound queues will extend over 250'. It would typically be advised not to build a roundabout 150' from a major signal, as queues will almost certainly extend over 150'. As such, short of relocating the

roundabout, it will be difficult to provide mitigation options for this location. One possible solution would be to run the signal on a half cycle length of 60 seconds, which would clear the queue twice as frequently. The mitigation of this roundabout is the responsibility of El Paso County and not of the developer.

Comment #66. (Comment by Paul Brown on TIS Page 36)

the 3 parcels total 15.3 acres. please be sure to account for a 3 parcels developed to highest and best use. Update the analysis accordingly

Response: The acreage and parcels have been updated in the revised study.

Comment #67. (Comment by Paul Brown on TIS Page 36)

although access points are not approved at this stage please also discuss any access on the 3rd southerly parcel proposed with the rezone

Response: The 3rd parcel is expected to have two accesses along Owl Pl. There are no intentions to develop the 3rd parcel at this time.

Comment #68. (Comment by Paul Brown on TIS Page 36)

Refer to previous comments regarding timing of access construction and clarify text here if needed.

Response: This has been included in the TIS.

Comment #69. (Comment by Paul Brown on TIS Page 39)

Please be sure to account for the third southerly parcel included in the zoning map and revise accordingly.

Response: The southern parcel has been added to the zoning map.

Comment #70. (Comment by Paul Brown on TIS Page 40)

The extension of meridian park drive to the south will be required. Revise accordingly.

Response: The study has been updated to clarify this point.

Comment #71. (Comment by Paul Brown on TIS Page 47)

Intentions

Response: This has been updated in the study.

The “Owl Place Storage Traffic Impact Study” has been updated to address the received comments. The findings and recommendations of the report remain the same.

If you have any questions or would like additional information please contact me at maxrusch@gallowayus.com or 303.770.8884