

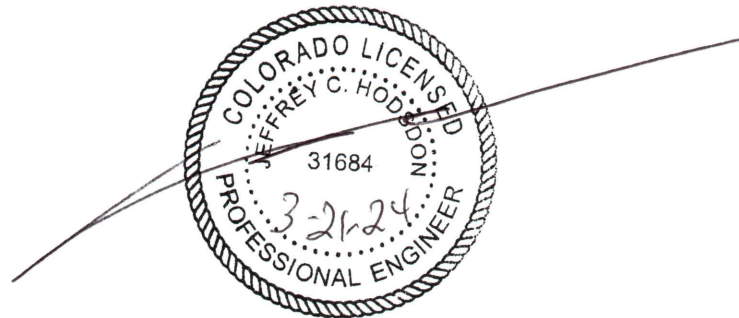


LSC TRANSPORTATION CONSULTANTS, INC.
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Grandview Reserve Filing No. 1 Transportation Memorandum (LSC #S244090) March 21, 2024

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Date

Grandview Reserve Filing No. 1

Transportation Memorandum

Prepared for:
Mr. Phil Stuepfert
HR Green
5619 DTC Parkway – Suite 1150
Greenwood Village, CO 80111

MARCH 19, 2024

LSC Transportation Consultants, Inc.

Prepared by: Jeffrey C. Hodsdon, P.E. and Kirstin D. Ferrin, P.E.

LSC # S244090



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March 19, 2024

Mr. Phil Stuepfert
HR Green
5619 DTC Parkway – Suite 1150
Greenwood Village, CO 80111

RE: Grandview Reserve Filing No. 1
El Paso County, Colorado
Transportation Memorandum
LSC # S234340

Dear Phil:

In response to your request, LSC Transportation Consultants, Inc. has prepared this transportation memorandum for Filing No. 1 of the Grandview Reserve development in El Paso County, Colorado. As shown in Figure 1, the Filing No. 1 area is located just east of Eastonville Road.

REPORT CONTENTS

The report contains the following:

- The projected average weekday and peak-hour vehicle trips to be generated by the site;
- The assignment of the site's projected traffic volumes to the key area streets and intersections; and
- Findings and recommendations.

PREVIOUS TRAFFIC REPORTS

LSC completed a Master Traffic Impact Study (MTIS) for Grandview Reserve (Sketch Plan) dated December 15, 2020 ([SKP201](#)) and a TIS for the Phase 1 PUD and Preliminary Plan dated May 9, 2022 ([PUDSP2110](#)). LSC also recently completed the TIS for phases 2 and 3 of the Grandview Reserve ([PUDSP236](#)).

The original sketch plan report assumed the initial development would occur on the parcels on the east end of the overall development with access to US Highway 24 (US Hwy 24) only. Initial development phases, Phase 1 (approved), Phase 2 (currently under review), and Phase 3 (to be submitted soon), have since been shown to occur on the west side of the master plan area with

access only to Eastonville Road and the initial segment of Rex Road east of Eastonville (i.e., the road connection to US Highway 24 will be implemented later with future phases beyond Phase 3).

A list of other traffic studies in the area of study completed within the past five years (that LSC is aware of) is attached for reference. This study accounts for the land use, trip generation, and roadway network included in these studies. The older previous area studies generally assumed Rex Road would not extend from Eastonville Road to US Hwy 24 in the 20-year horizon, as is now planned and permitted by CDOT (note: NTP outstanding). The older previous studies also assumed fewer dwelling units on this site.

A traffic report, entitled *Eastonville Road Project Conceptual Design Report* was also recently completed for Eastonville Road by Wilson & Company (for El Paso County).

LAND USE AND ACCESS

Land Use

Grandview Reserve Filing No. 1 is planned to include 119 lots for single-family homes. This filing was included as part of the approved Preliminary Plan and PUD for Phase 1 of Grandview Reserve and the land use is consistent with the land use shown in those plans. Figure 2 shows site plan for Phases 1 through 3 of Grandview Reserve and the location of the currently proposed Filing No. 1.

Site Access

A full-movement public-street connection, Brixham Drive, is proposed to Eastonville Road to provide access to the Filing No. 1 subdivision. Based on the criteria contained in the El Paso County *Engineering Criteria Manual (ECM)*, the required intersection spacing for Minor Arterial roadways is ¼ mile (1,320 feet). The location of Brixham Drive meets the intersection spacing criteria. This street-connection intersection spacing along Eastonville Road is in conformance with the *Grandview Reserve Phase 1 Updated Traffic Impact Analysis* and the approved Filing No. 1 PUD/Preliminary Plan.

Pedestrian and Bicycle Accommodations

Please refer to the *Grandview Reserve Phase 1 Updated Traffic Impact Analysis* ([PUDSP2110](#)), dated May 9, 2022 for a discussion of pedestrian and bicycle accommodations.

Sight Distance Analysis

Please refer to the *Grandview Reserve Phase 1 Updated Traffic Impact Analysis* ([PUDSP2110](#)), dated May 9, 2022 for the sight-distance analysis of the intersection of Eastonville/Brixham.

TRIP GENERATION

The Filing No. 1 site-generated vehicle trips were estimated using the nationally-published, trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Table 1 (attached) shows the trip-generation estimates. The trip-generation estimate is consistent with estimates assumed for the same area in the Phase 1 TIS and the Phases 2 and 3 TIS. Studies.

Grandview Reserve Filing No. 1 is expected to generate about 1,122 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour of the adjacent street traffic, which occurs between 6:45 and 7:45 a.m., about 21 vehicles would enter and 62 vehicles would exit the site. During the afternoon peak hour of the adjacent street traffic, which occurs between 4:00 and 5:00 p.m., about 70 vehicles would enter and 41 vehicles would exit the site.

DIRECTIONAL DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the area roadways is an important factor in determining the site's traffic impacts. When the distribution percentages from the previous Grandview Reserve studies were applied to the trip-generation estimates (from Table 1), the short-term, Filing No. 1 site-generated traffic volumes on the area roadways were determined. Figure 3 shows the short-term Filing No.1-only generated traffic volumes.

TOTAL TRAFFIC

Please refer to the *Grandview Reserve Phases 2 & 3 Preliminary Plan & PUD Traffic Impact Analysis* ([PUDSP236](#)), dated March 4, 2024, for a discussion of short-term, intermediate-term, and long-term traffic analysis.

FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Please refer to the *Grandview Reserve Phase 1 Updated Traffic Impact Analysis* ([PUDSP2110](#)), dated May 9, 2022 for a the recommended Functional Classifications and Laneage for key street segments in the vicinity of the site. As shown in that report, **all streets within the currently-proposed Filing No. 1 are proposed to be classified as Urban Local.**

DEVIATONS TO ECM CRITERIA

No additional deviations to the criteria contained in the El Paso County *Engineering Criteria Manual (ECM)* have been submitted as part of this application.

TRANSPORTATION IMPROVEMENT FEE PROGRAM

Project Fees

This project will be required to participate in the El Paso County Road Improvement Fee Program. Grandview Reserve will join the ten-mil PID. The ten-mil PID building-permit fee portion associated with this option is \$1,221 per single-family dwelling unit. The total building-permit fee \$145,299 for the 119 single-family lots within Filing No. 1. Note: The fee rate is subject to change.

ROADWAY IMPROVEMENTS

The attached Table 2 presents recommended roadway improvements for the overall Grandview Reserve development. Although the currently proposed Grandview Reserve Filing No. 1 is within the approved Grandview Reserve Phase 1 ([PUDSP2110](#)) this table was taken from the *Grandview Reserve Phases 2 & 3 Preliminary Plan & PUD Traffic Impact Analysis* ([PUDSP236](#)), dated March 4, 2024 as it includes decisions and changes made since the Phase 1 TIS was approved. The improvements needed with the currently-proposed Filing No. 1 have been highlighted.

- A southbound left-turn lane will be required on Eastonville Road approaching Brixham. The proposed Eastonville Road cross section includes a left-turn lane in the center median. Based on the *ECM* criteria, this lane should be 205 feet long plus a 160-foot taper.
- A northbound right-turn deceleration lane will be required on Eastonville Road approaching Brixham Drive. Based on the *ECM* criteria, these lanes should be 155 feet long plus a 160-foot taper.

* * * * *

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.
Principal

JCH/KDF:jas

Enclosures: Tables 1-2
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Appendix Table 1

Tables 1-2



**Table 1
Trip Generation Estimate
Grandview Reserve Filing 1**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾				Total Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
				In	Out	In	Out		In	Out		
210	Single-Family Detached Housing	119 DU	9.43	0.18	0.53	0.59	0.35	1,122	21	62	70	41

Notes:

(1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE).

(2) DU = dwelling unit

Source: LSC Transportation Consultants, Inc.

Mar-24

Table 2 Grandview Reserve Filing 1 Roadway Improvements				
Item #	Improvement	Trigger	Timing	Responsibility
Roadway Segment Improvements				
1	Eastonville Road: Stapleton to Londonderry final grading and paving	dependent on PPRTA funding priorities	TBD by EPC; PPRTA "A-List" Project	PPRTA
2	Eastonville Road: Londonderry to Rex final grading and paving	With Grandview Reserve development	With Grandview Reserve Filing 1	Grandview Reserve
3	Falcon Regional Trail: Construct east of Eastonville Road along the Filing 1 frontage	With Grandview Reserve development	With Grandview Reserve Filing 1	Grandview Reserve
4	Falcon Regional Trail: Construct east of Eastonville Road along the remaining Phase 1 frontage	With Grandview Reserve development	With future Grandview Reserve Phase 1 filings	Grandview Reserve
4	Eastonville: Road Rex to Latigo initial grading and paving	Average Daily Traffic > 200 vehicles per day (ECM); Average Daily Traffic > 300 vehicles per day (fee study trigger)	Existing Deficiently; TBD by EPC; PPRTA list shows as an "A-List" project, however, this segment is shown as a future "Phase II" in the Wilson Eastonville Study	PPRT and/or with funds from developer escrows, and/or Fee Program funds or bonds
5	Eastonville Road: Rex to Latigo upgrade to an Urban Minor Arterial (per MTCP) (note: 2016 MTCP shows "Rural") Future phase of the PPRTA project	Average Daily Traffic > 600 vehicles per day ⁽¹⁾	TBD by EPC; PPRTA Phase II (Per Wilson Study)	PPRT and/or with funds from developer escrows, and/or Fee Program funds or bonds
6	Eastonville Road: Stapleton to Grandview Reserve south boundary upgrade to 4-Lane Rural Minor Arterial (per MTCP) (Project plan shows a three-lane cross section)	average daily traffic > 20,000 vehicles per day	dependent on PPRTA funding priorities	PPRTA
7	Rex Road: Construct new road segment from Eastonville to first access point east of Eastonville Road (Ivybridge Boulevard)	With Grandview Reserve development	With future Grandview Reserve Phase 1 filings	Grandview Reserve
8	Rex Road: Construct new road segment from Eastonville to first access point Ivybridge Drive to Phase 3 access (Intersection #6)	With Grandview Reserve development	With Grandview Reserve Phases 2 and 3	Grandview Reserve
8	Rex Road: Construct new road segment from Intersection #6 to US Hwy 24 Adequate right-of-way should be reserved to allow for the construction of left-turn and right-turn deceleration lanes at all potential future access points	With Grandview Reserve development	With future Grandview Reserve filings beyond Phases 2 and 3	Grandview Reserve
9	Rex Road: Construct new segment from Estate Ridge to Eastonville	With adjacent Meridian Ranch development	Will be completed late 2023 and open to traffic by spring 2024	Meridian Ranch
10	Stapleton Drive: Meridian Road to Eastonville Road complete southern (eastbound) half	average daily traffic > 18,000 vehicles per day	Shown in 2040 MTCP	El Paso County
11	Stapleton Drive: Eastonville Road to US 24 complete southern (eastbound) half	average daily traffic > 18,000 vehicles per day	Shown in 2040 MTCP	Waterbury Metro District
Intersections Improvements				
Intersection #1 Eastonville Road/Rex Road				
12	Construct as modern one-lane roundabout	With Grandview Reserve Phase 1	With future Grandview Reserve Phase 1 filings	PPRTA/El Paso County ⁽¹⁾
Intersection #2 Rex Road/Ivybridge Boulevard				
13	Construct an eastbound right-turn deceleration lane on Rex Road approaching Ivybridge	eastbound right-turn volume > 50 vph	With future Grandview Reserve Phase 1 filings	Grandview Reserve
14	Stripe the planned center median on Rex Road for a westbound left-turn deceleration lane-approaching Ivybridge	westbound left-turn volume > 25 vph	With future Grandview Reserve Phase 1 filings	Grandview Reserve
Intersection #4 Rex Road/Edenvale Place				
15	Stripe the planned center median on Rex Road for a westbound left-turn deceleration lane-approaching Edenvale Place	westbound left-turn volume > 25 vph	With Grandview Reserve Phase 2	Grandview Reserve
Intersection #5 Rex Road/Grange Trail				
16	Stripe the planned center median on Rex Road for a westbound left-turn deceleration lane on Rex Road approaching Grange Trail	westbound left-turn volume > 25 vph	With Grandview Reserve Phase 2	Grandview Reserve
Intersection #6 Rex Road/Wishaw Place				
17	Construct as a modern one-lane roundabout	With the construction of Rex Road to the Grandview Reserve Phase 3 access	With Grandview Reserve Phase 3	Grandview Reserve
Intersection #9 US Hwy 24/Rex Road Intersection (Per CDOT Access Permit No. 221088)				
18	Construct the intersection of US Hwy 24 as a channelized-T type intersection with a northeastbound left-turn deceleration lane and a northeastbound left-turn acceleration lane on US Hwy 24	With the opening of the access	With future Grandview Reserve filings beyond Phases 2 and 3	Grandview Reserve
19	Construct a second northeastbound left-turn deceleration lane on US Hwy 24 approaching Rex	Once the intersection is traffic signal controlled and level of service and/or queuing issues arise	With future Grandview Reserve filings beyond Phases 2 and 3	Grandview Reserve
20	Construct a southwestbound right-turn deceleration lane on US Hwy 24 approaching Rex	southwestbound right-turn volume > 10 vph	With future Grandview Reserve filings beyond Phases 2 and 3	Grandview Reserve
21	Construct a southwestbound right-turn acceleration lane on US Hwy 24 at Rex	southeastbound right-turn volume > 10 vph	With future Grandview Reserve filings beyond Phases 2 and 3	Grandview Reserve
22	Signalization of the intersection of US Hwy 24/Rex. The channelized-T configuration shall be retained and the signal would be a "directional signal" ⁽²⁾	When Traffic Signal Warrant(s) are met. The decision on timing of traffic signal installation rests with the Colorado Department of Transportation	Long-Term Future (to be evaluated with each filing)	Grandview Reserve
Intersection #10 Eastonville Road/Dawlish Drive				
23	Construct as a modern one-lane roundabout	With Grandview Reserve Phase 1	With future Grandview Reserve Phase 1 filings	Grandview Reserve
Intersection #11 Eastonville Road/Brixham Drive				
24	Construct a northbound right-turn deceleration lane on Eastonville approaching Brixham	northbound right-turn volume > 50 vph	With Grandview Reserve Filing 1	Grandview Reserve
25	Construct a southbound left-turn deceleration lane on Eastonville approaching Brixham	southbound left-turn volume > 25 vph	With Grandview Reserve Filing 1	Grandview Reserve
Intersection #12 Eastonville Road/Londonderry Drive				
26	Reconstruct as modern one-lane roundabout	Short-Term (under design as part of the Eastonville PPRTA Phase 1 project)		PPRTA Eastonville Phase 1 Project/El Paso County
Intersection #13 Eastonville Road/Stapleton Drive				
27	Reconstruct as modern one-lane (expandable) roundabout	Short-Term (under design as part of the Eastonville PPRTA Phase 1 project)		PPRTA Eastonville Phase 1 Project/El Paso County
28	Expand to multi-lane modern roundabout	With Improvement #11: Stapleton Drive - US Hwy 24 to Eastonville Road complete southern (eastbound) half		El Paso County
Intersection #14 Stapleton Drive/US Hwy 24 Intersection				
29	Convert from Two-Way, Stop-Sign Control to Signal Control	When Traffic Signal Warrant(s) are met. The decision on timing of traffic signal installation rests with the Colorado Department of Transportation	Anticipated in the short-term. It is our understanding that this is on the CDOT list of intersections planned for signalization.	CDOT; along with any available escrow collected from area developments through the access permitting process
30	Add northeast-bound dual left-turn lane	As needed with future developments (Will require Stapleton Drive to be widened to two westbound through lanes between US Hwy 24 and Dumont Dr)	Anticipated in the short-term	Area developments as required or potentially escrow participation toward future improvements.
31	Add other dual left-turn lanes	As needed with future developments (Will require Items Stapleton and US Hwy 24 widened to two through lanes in all directions)	Future	Area developments as required
32	Potential long-term capacity upgrades (jughandle, a Jr Interchange, etc.)	When level of service degrades below acceptable levels	Shown in US Highway 24 PEL Study;	CDOT; along with any available escrow collected from area developments-through the access permitting process.
Notes:				
(1) These thresholds are utilized in the Fee Study for determination of inclusion of improvements in the Fee Program costs.				
(2) Signal escrow amounts may be required in lieu of signal installation with future residential filings and/or commercial development applications- this will be determined by future TIS Reports and CDOT requirements from review of those future TIS reports.				
Source: LSC Transportation Consultants, Inc. (March 2024)				

Figures 1-3



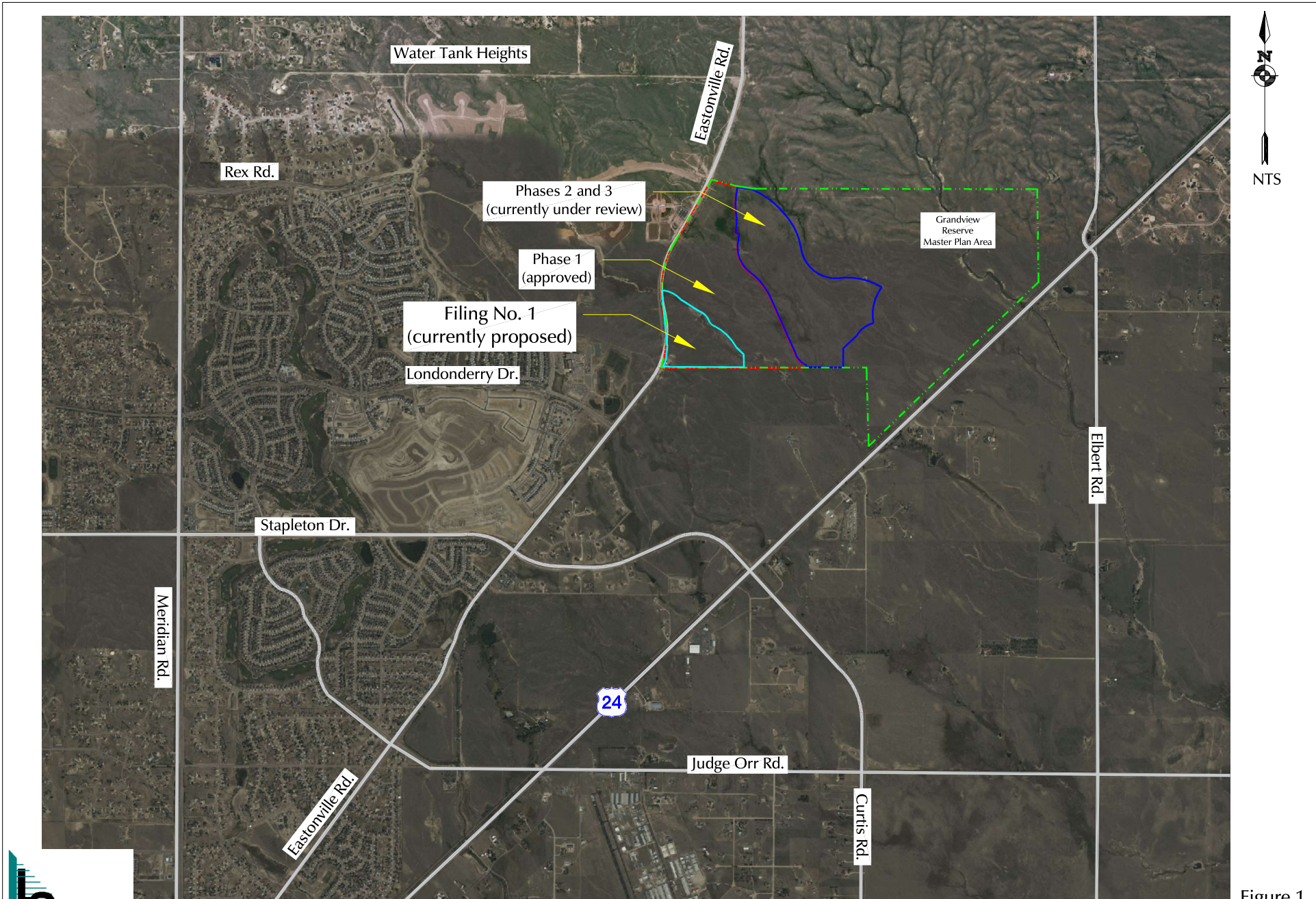
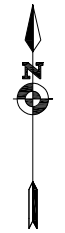




Figure 1

Vicinity Map

Grandview Reserve Filing No. 1 (LSC # S244090)



1" = 200'
scale

 = Trails/Sidewalk
 = Regional Trail

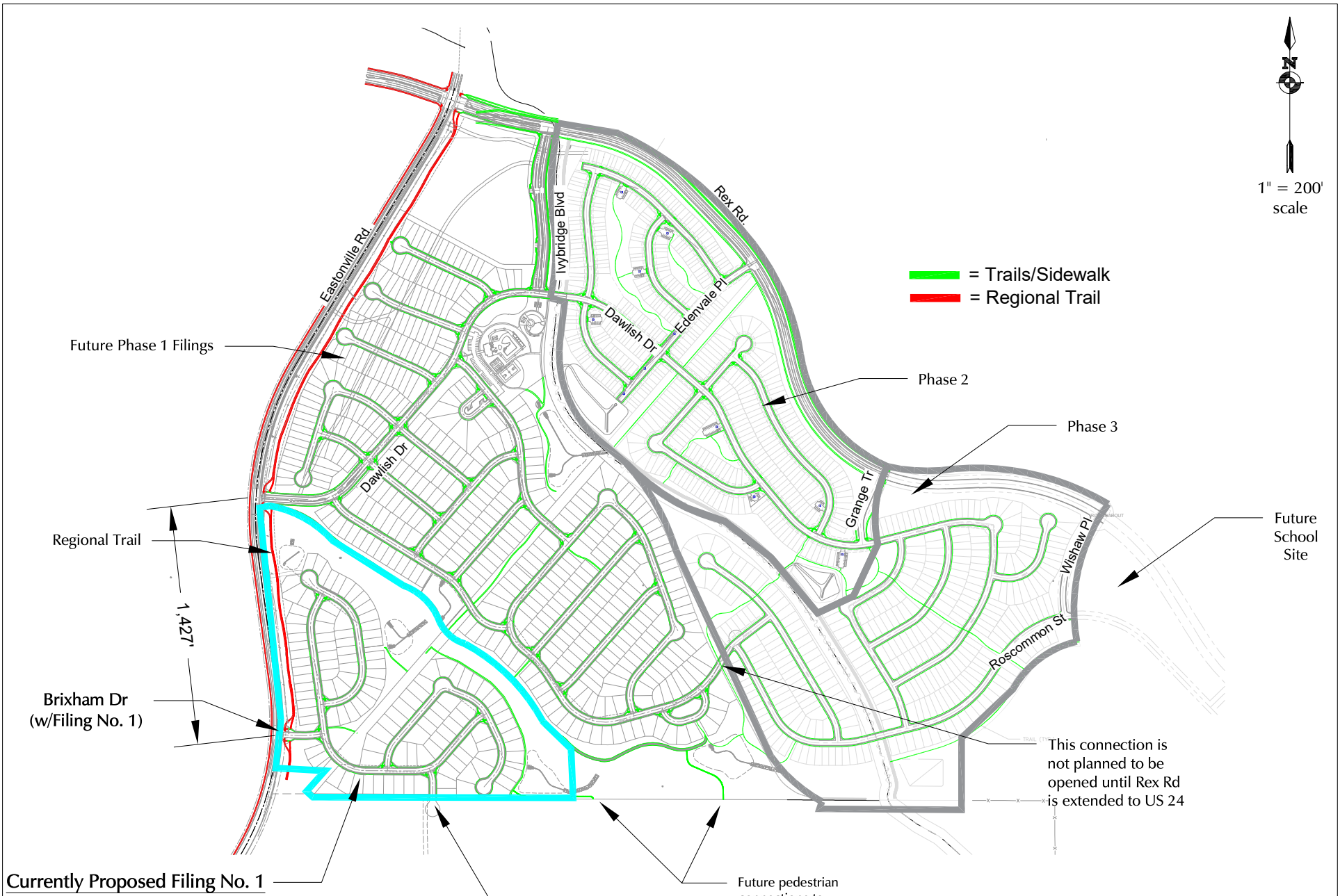
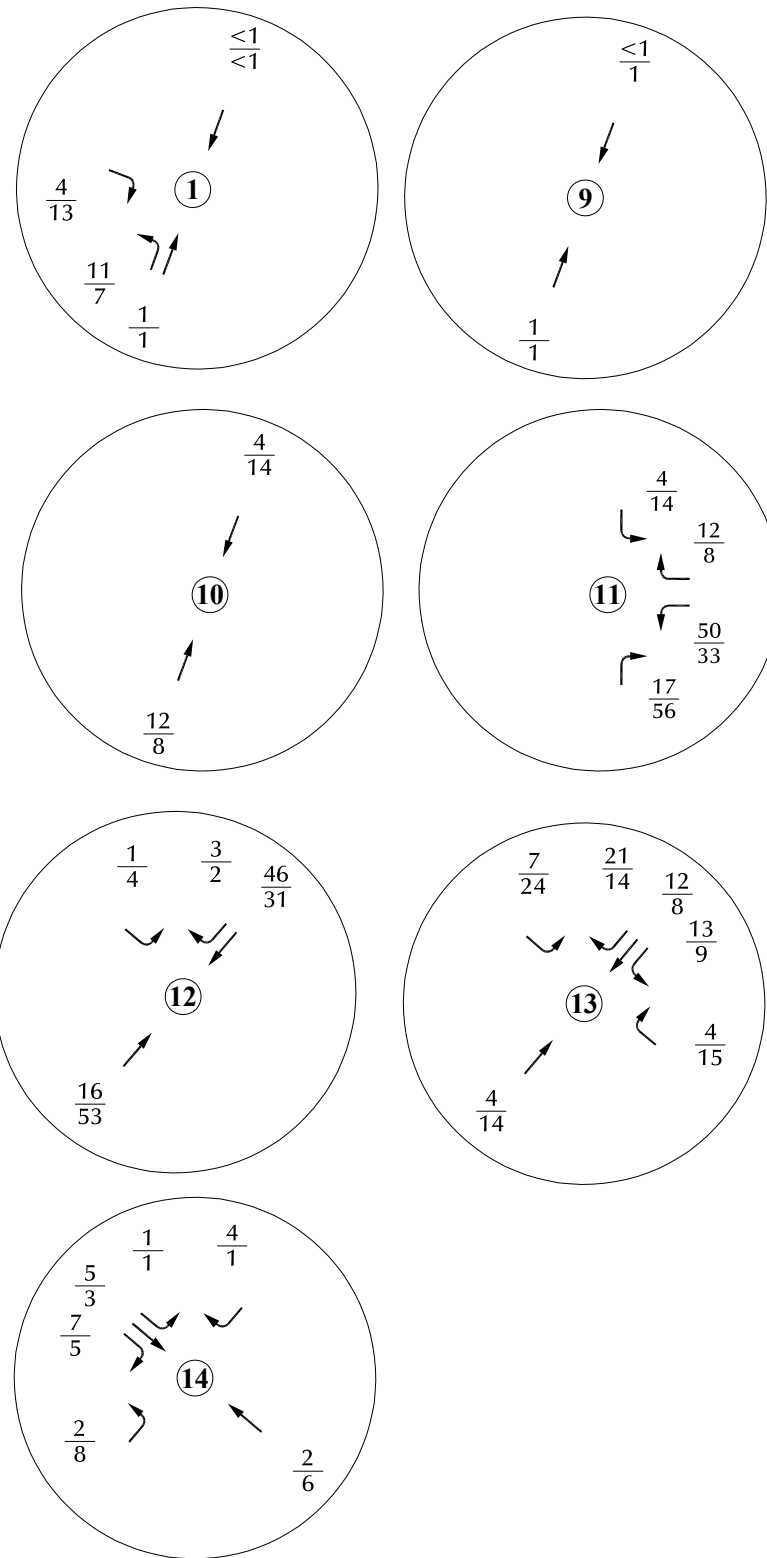


Figure 2
Site Plan

Grandview Reserve Filing No. 1 (LSC # S244090)



LEGEND:
 $\frac{XX}{XX}$ = AM Weekday Peak-Hour Traffic (vehicles per hour)
 $\frac{XX}{XX}$ = PM Weekday Peak-Hour Traffic (vehicles per hour)
 X,XXX = Annual Average Daily Traffic (vehicles per day)

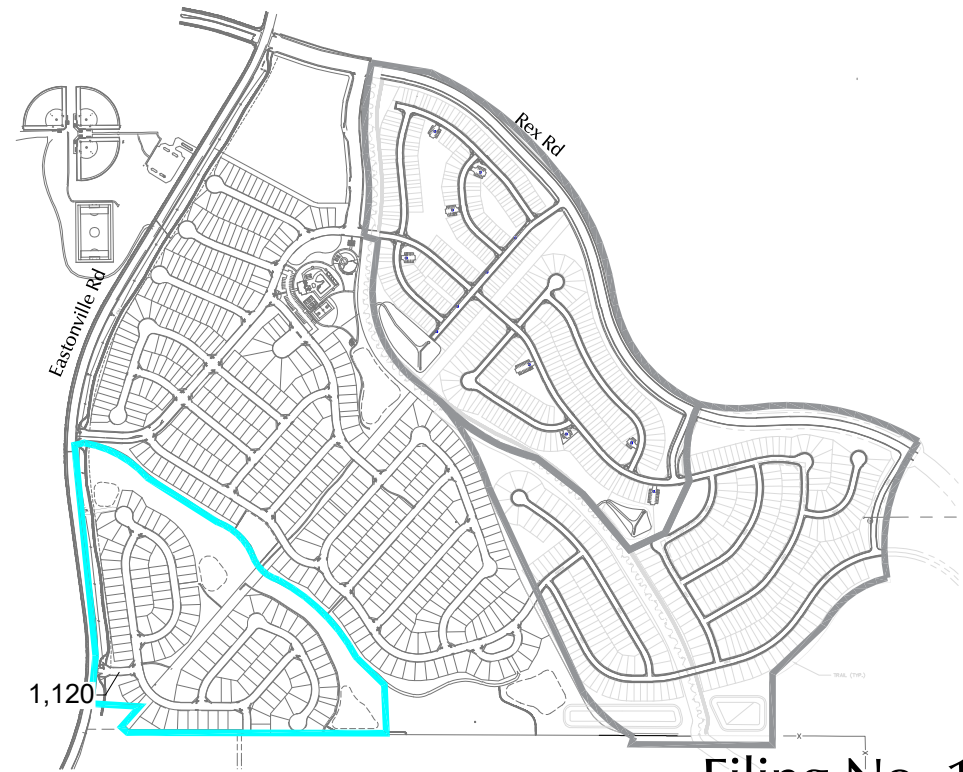
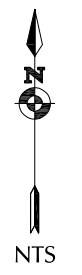
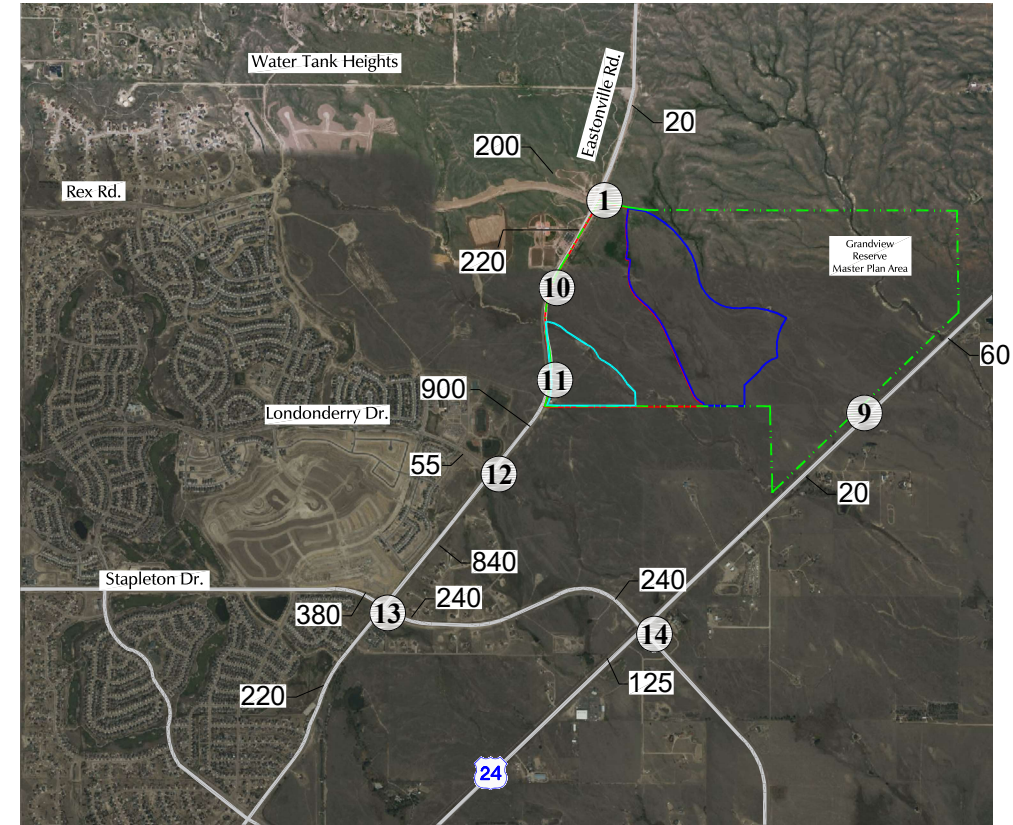


Figure 3
**Filing No. 1 Short-Term
 Site-Generated Traffic**
 Grandview Reserve Filing No. 1 (LSC # S244090)

Appendix Table 1



Appendix Table 1
Area Traffic Impact Studies by LSC
Grandview Reserve Filing No. 1

Study	Date
4-Way Ranch/Waterbury	
4-Way Ranch Updated TIA	January 29, 2009
Waterbury PUD Development Plan Updated TIA	January 10, 2013
Waterbury Filing Nos. 1 and 2 TIA	December 18, 2020
4-Way Ranch Commercial Master Traffic Impact Analysis	December 20, 2022
4-Way Ranch Commercial Phase 1 Traffic Technical Memorandum	November 30, 2023
Meridian Ranch	
Meridian Ranch Sketch Plan TIA	April 11, 2011
Meridian Ranch Filing 11 Updated TIA	November 26, 2013
Stonebridge at Meridian Ranch Filing No. 1 Updated TIA	April 23, 2014
Stonebridge at Meridian Ranch Transportation Memorandum	July 28, 2015
Meridian Ranch Filing 8 Updated TIA	December 23, 2014
Meridian Ranch Filing 9 Updated TIA	May 21, 2015
Meridian Ranch Sketch Plan 2015 Amendment TIA	July 30, 2015
The Vistas at Meridian Ranch TIA	March 24, 2016
Meridian Ranch Estates Filing No. 2 Transportation Memorandum	August 27, 2015
The Vistas at Meridian Ranch Updated Transportation Memorandum	June 20, 2017
Londonderry Drive Pedestrian Operations and Safety Study	February 8, 2017
Stonebridge Filing 3 at Meridian Ranch Updated TIA	March 20, 2017
Meridian Ranch Sketch Plan 2017 Amendment TIA	October 3, 2017
WindingWalk at Meridian Ranch and The Enclave at Stonebridge at Meridian Ranch Updated Traffic Impact Analysis	May 10, 2018
Rolling Hills Ranch at Meridian Ranch PUDSP Traffic Impact Analysis	June 29, 2020
The Estates at Rolling Hills Ranch Filing No. 1 Traffic Impact Analysis	May 13, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 1 Traffic Impact Analysis	July 14, 2020
The Estates at Rolling Hills Ranch Filing No. 2 Traffic Impact Study	October 8, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 2 Transportation Memorandum	December 29, 2020
Rolling Hills Ranch at Meridian Ranch Filing No. 3 Transportation Memorandum	June 29, 2021
Meridian Ranch 2021 Sketch Plan Amendment Traffic Impact Study	June 25, 2021
The Sanctuary at Meridian Ranch Transportation Memorandum	May 3, 2022
Rolling Hills Ranch North PUD Transportation Memorandum	October 30, 2023
Grandview Reserve	
Grandview Reserve Updated Master TIA	December 5, 2020
Grandview Reserve Phase 1 TIA	May 9, 2022
Grandview Reserve Phases 2 & 3 TIA	March 4, 2024
Meadowlake Ranch	
Meadowlake Ranch Traffic Impact Analysis	May 29, 2019
Latigo Preserve	
Latigo Preserve Filing No. 10	March 31, 2022
<i>Source: LSC Transportation Consultants, Inc.</i>	
<i>Mar-24</i>	