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Retreat at TimberRidge Filing No. 1
PCD – SF – 19-009
Traffic Memorandum
(LSC #194280)
April 3, 2020

ACCEPTED for FILE
Engineering Review

11/25/2020 10:51:22 AM
dsdnijkamp

EPC Planning & Community
Development Department

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.

4/8/2020
Date



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April 3, 2020

Loren J. Moreland
Vice President / Project Manager
Classic Homes
6385 Corporate Drive, Suite 200
Colorado Springs, CO

RE: Retreat at TimberRidge Filing No. 1
El Paso County, CO
Traffic Technical Memorandum
LSC #194280

Dear Mr. Moreland:

LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum for the Retreat at TimberRidge Filing No. 1. The Retreat at TimberRidge is located generally east of Vollmer Road and south of Arroya Lane in El Paso County, Colorado. LSC prepared a traffic impact study (TIS) for the entire Retreat at TimberRidge PUD development plan dated January 25, 2018 and a traffic memorandum that addressed phasing of that development dated June 29, 2018. The previous version of this memo is dated August 23, 2019. The lot and street plan has not changed since completion of those reports. This memorandum is intended as a site-specific, final plat traffic report for the currently proposed filing.

REPORT CONTENTS

This report presents:

- A description of Retreat at TimberRidge filings that are currently under review, currently proposed, and planned for the future;
- The current status of other subdivisions shown on the approved PUD plan;
- The recommended street classifications for the internal streets within the currently proposed Retreat at TimberRidge Filing No. 1;
- Improvements needed with Retreat at TimberRidge Filing No. 1; and
- The project's obligation to the County roadway improvement fee program.

LAND USE AND ACCESS

The Retreat at TimberRidge Preliminary Plan area includes the 203 lots for single-family homes located east of Vollmer Road and two lots for single-family homes located west of Vollmer Road and south of

Arroya Lane. The currently proposed Filing 1 is shown in the attached exhibit. This exhibit remains valid as of the date of April 3, 2020. The June 2018 transportation memorandum included analysis of the PUD plan by phase. Figure 1 from that report shows the phasing plan. No changes have been made to the PUD plan since completion of that memorandum. The current status of subdivisions is discussed below.

Current Status of Other Subdivisions Shown on the Approved PUD Plan

The TimberRidge Estates Filing No. 1 (different from “Retreat at TimberRidge” Filing No. 1) was under review by El Paso County. However, it has now been withdrawn. These 10 lots remain part of the approved PUD plan and are shown as part of **Phase 1 of the PUD plan**. With the withdrawal of the subdivision plat, although part of Phase 1 of the PUD, there is now no current plan to develop these lots in the short term. This filing planned 10 lots for single-family homes located east of Vollmer Road and north of Arroya Lane. Access is to Arroya Lane only. LSC completed a transportation memorandum for this filing dated April 19, 2018. As discussed with County staff and Black Forest Fire District (reference revised fire commitment letter dated March 22, 2020), Arroya Lane requires no further improvements at this time.

LSC is not aware of any status updates for the two lots for single-family homes on the west side of Vollmer Road. These two lots were included in **PUD Phase 2** in the June 2018 transportation memorandum.

Currently Proposed Filing No. 1

The Retreat at TimberRidge Filing No. 1 is currently proposed to include 70 lots for single-family homes. The location of the lots within this filing includes the remaining 11 lots assumed in Phase 2 in the June 2018 transportation memorandum plus the 59 lots assumed in Phase 3 of that memorandum. Access is proposed to an extension of Poco Road. The proposed easternmost north/south street segments connecting to Arroya Lane will be constructed initially as a gravel road as part of this filing. This gravel road will be constructed to provide an interim secondary emergency access.

SUBDIVISION STREET CLASSIFICATIONS

Figure 2 from the June 2018 transportation memorandum showed the recommended street classifications for the internal streets within the Retreat at TimberRidge plan. The recommendations within the Filing No. 1 area are still valid.

ROADWAY IMPROVEMENTS

Table 3 from the June 2018 memorandum contained a summary of needed improvements for the entire TimberRidge PUD plan by phase. A copy of this table with markups and notations is attached. The currently proposed TimberRidge Filing No. 1 includes all of the lots identified in that memorandum

as Phases 2 and 3 except for two lots located west of Vollmer Road which are currently under separate review. All recommendations in that table are still valid. However, it is important to note that under the improvement "Arroya Lane Initial/Interim," is no longer necessary with Filing 1 of The Retreat at TimberRidge (this application). Although this improvement is still associated with Phase 1 of the PUD, and this area of PUD Phase 1 will/may occur at a later date, the TimberRidge Estates Filing No. 1 application (and plans for short-term development of 10 lots shown north of Arroya Lane) has been withdrawn. The improvements specially needed with Phases 2 and 3 have been repeated below.

- Extend Poco Road to the east including the creek crossing.
- Construct a gravel road to provide secondary emergency access through the Phase 4 area to Arroya Lane (this gravel road would be replaced with the subdivision streets in Phase 4).

Vollmer Road/Poco Road intersection

As identified in the 2018 memorandum, a northbound right-turn deceleration lane on Vollmer Road at Poco Road is not anticipated to be required until Phase 5. Based on the Filing No. 1 trip generation and the distribution shown in the master TIS, the Filing-one-only northbound right turn volume would be 37 vehicles per hour during the afternoon peak hour. Please refer to the attached copy of the Improvements Table prepared with the Preliminary Plan TIS.

Although the right turn lane is not projected to be warranted with Filing 1, the applicant is proposing to widen the east side of the roadway up to the rural standard (32' wide interim total). Thus, an additional 8' of pavement and 2' gravel shoulder would be added as an interim solution rather than completely building the right turn lane now. Please refer to the attached exhibit.

Vollmer Road (from Poco Road south to future Briargate Parkway)

Vollmer Road adjacent to and south of the site is a two-lane rural roadway (without paved shoulders) with a 60' right-of-way. The section is ultimately planned as a four-lane urban minor arterial. A potential short-term future interim upgrade would likely consist of construction of a half-section of the ultimate four lane Urban Minor Arterial section, similar to the section being constructed adjacent to Sterling Ranch south of Briargate Parkway. Alternatively, upgrade to an ECM-standard Rural Minor Arterial cross section would involve widening to a 40-foot paved width, plus an 8-foot paved shoulder, plus 2-foot gravel shoulder, plus ditch section in a 100-foot ROW. The future northbound right turn lane on Vollmer at Poco would add about 8-12 feet adjacent to the turn lane on the east side.

Improvement to Vollmer from Poco south to the north terminus of the interim improvements planned Sterling Ranch is not required for this Filing 1 development. Please refer to the attached copy of the Improvements Table prepared with the Preliminary Plan TIS. Moreover, currently the MTCP indicates a capacity of existing Vollmer Road to be about 6,000 vehicles per day as a two-lane "unimproved" roadway. The ADT on Vollmer Road shown in the January 2018 TIS was about 2,000 vehicles per day south of Poco Road. The projected 2020 background traffic estimate in that report was 3,715 vehicles

per day. The projected ADT for buildout of Filing 1 is 562 vehicles per day and 1,645 for the buildout of the project. The projected 2020 background traffic plus Filing 1 site traffic plus the 10 lots north of Arroya Lane would total about 4,560 vehicles per day. Based on project buildout, the projected ADT in the short term would be 5,360 vehicles per day.

ROADWAY IMPROVEMENT FEE PROGRAM

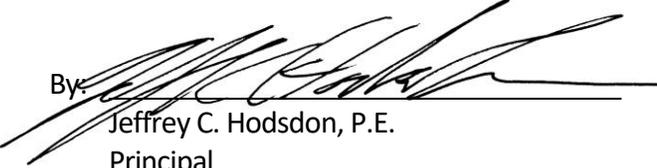
This project will be required to participate in the El Paso County Road Improvement Fee Program. The Retreat at TimberRidge Filing No. 1 will join the ten-mil PID. The 2019 ten-mil PID building permit fee portion associated with this option is \$1,221 per single-family dwelling unit. Based on 70 lots, the total building permit fee would be \$85,470.

* * * * *

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:jas

Enclosures: Improvements Table – w/April 2020 notations
 Filing 1 Exhibit
 Vollmer Road Construction Plans – East side shoulder widening

Improvements Table

From:

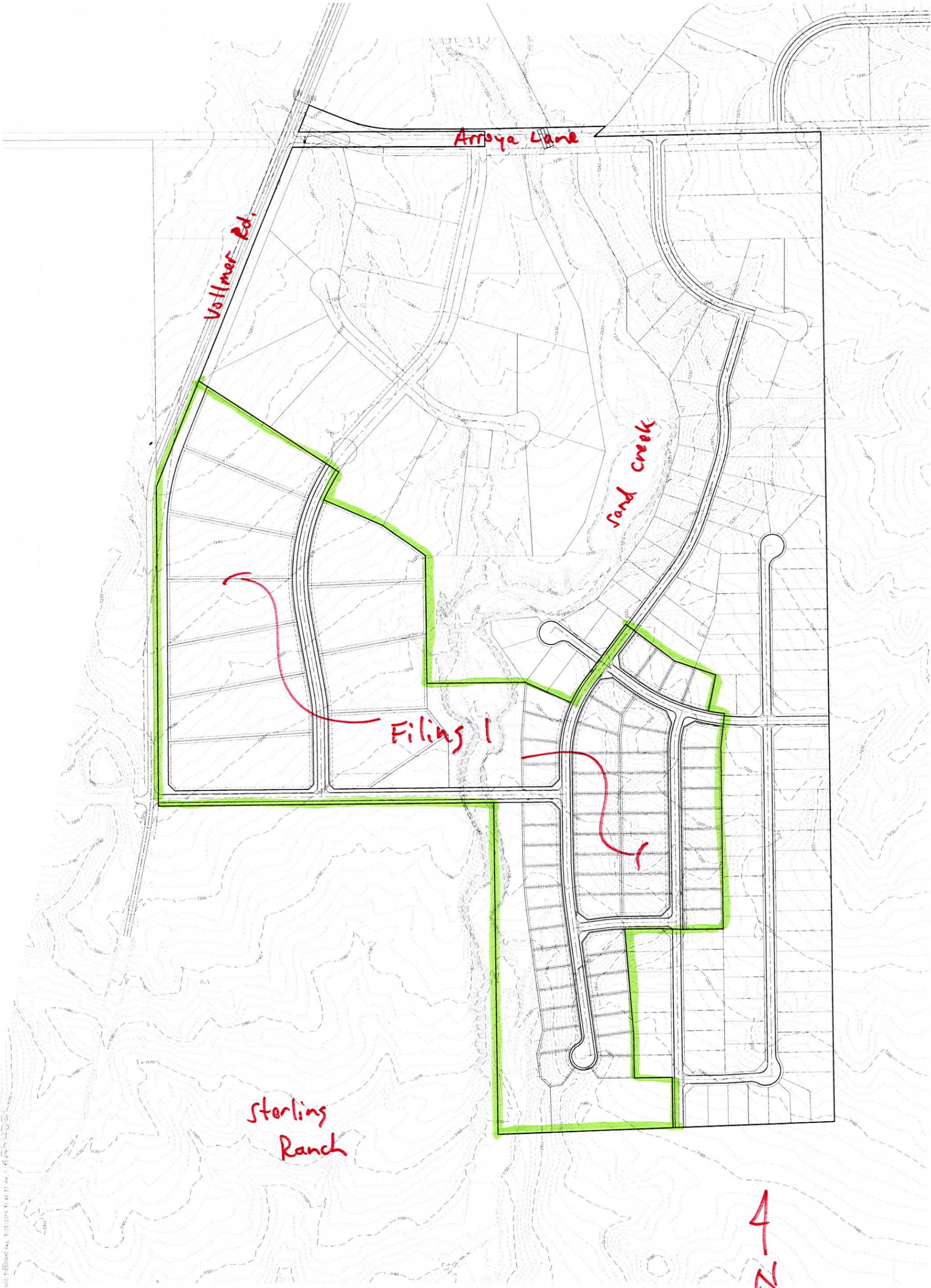
**Table 3
Roadway Improvements
Retreat at Timber Ridge
Preliminary Plan**

Improvement	Timing	Responsibility ⁽¹⁾
<p>Arroyo Lane Initial/Interim: Dedicate 80' of ROW or 40' half ROW where applicable; construct a storm sewer crossing under Arroyo Lane, regrade and improve the roadway to an interim all-weather, gravel cross section for two-way traffic and emergency vehicles suitable to the County and the fire district the from Vollmer to Nature Refuge Road; move the existing temporary turnaround on the east end of Arroyo Lane onsite and construct a 50-foot apron at the tie-in to Vollmer Road.</p>	<p>Note (4/3/2020): The TimberRidge Estates Filing No. 1 plat has been withdrawn. See report narrative for details/explanation.</p> <p>Phase 1</p> <p>Note (4/3/2020): Not necessary with Filing No. 1</p>	The Retreat at Timber Ridge
Upgrade Arroyo Lane to a Rural Local cross section (paved). Along with this improvement, upgrade Nature Refuge Road to a Rural Local Road.	Once the average weekday traffic volume exceeds 200 vehicles per day, this is projected to occur with either Phase 4 or 5	The Retreat at Timber Ridge
Realign Arroyo Lane at the intersection of Vollmer Road/Arroyo Lane so Arroyo intersects Vollmer at a right angle.	Phases 4 or 5	The Retreat at Timber Ridge
Extend Poco Road to the east including the creek crossing	Phases 2 and 3	The Retreat at Timber Ridge
Construct a gravel road to provide secondary emergency access through the Phase 4 area to Arroyo Lane (this gravel road would be replaced with the subdivision streets in Phase 4).	Phases 2 and 3	The Retreat at Timber Ridge
Construct a northbound right-turn deceleration lane on Vollmer Road approaching Poco Road.	Design and installation with the applicable final plat(s) for The Retreat at Timber Ridge. This turn lane is projected to be required with Phase 5.	The Retreat at Timber Ridge
Potential improvement: Southbound left-turn lane at Arroyo	Evaluation with final plats. <i>Although the anticipated traffic counts do not warrant it, the County Engineer may require a southbound left-turn lane at Arroyo based on unanticipated traffic patterns</i> [from Staff Comments]	The Retreat at Timber Ridge and/or possible-but-not-currently-anticipated-future development with access via Arroyo
Possible future modern roundabout intersection control at Poco/Vollmer as an alternative to the two-way, Stop-sign control (TWSC) shown in this TIS	Consideration of roundabout traffic control instead of TWSC could be addressed with the applicable final plat(s) for The Retreat at Timber Ridge and/or Sterling Ranch. Roundabouts would require significant circular right-of-way around the center of the intersection. Currently, additional right-of-way to accommodate a roundabout(s) is not available on the west side of Vollmer. Also, the southeast corner of the intersection is not part of this project and is not owned by this applicant. It is owned by Sterling Ranch. The consideration is that although the TIS shows better side-street level of service with the roundabout, the projected approach traffic volumes are not close to being equal on all the intersection approaches. The northbound and southbound through volumes are significantly higher than the eastbound and westbound volumes. The balance of approach volumes is an element to consider when evaluating a roundabout as a potential traffic control solution.	The Retreat at Timber Ridge and/or Sterling Ranch
As shown on the County MTCP: Vollmer Road upgrade between Poco Road and Shoup Road to a county-standard, two-lane Rural Minor Arterial.	Traffic volume estimates indicate this improvement will not be needed in the short term horizon. The 2040 MTCP indicates the Vollmer project will be needed by 2040. The 2040 MTCP shows the Vollmer upgrade "project" as Project ID U-12.	The Retreat at Timber Ridge will dedicate right-of-way to accommodate the future upgrade to Rural Minor Arterial standards (As shown in the MTCP and the Fee Study). The applicant will be required to participate in the County Road Impact Fee program.
Upgrade Vollmer Road between future Stapleton Drive and Poco Road to an Urban Minor Arterial cross section (five lanes)	Future MTCP Project ID U-12 (Note: MTCP indicates two-lane Rural Minor Arterial.)	(Sterling Ranch Metro District) MTCP Master-Planned MTCP Project ID U-12
Upgrade Vollmer Road generally between the south boundary of Sterling Ranch and future Stapleton Drive to an Urban Minor Arterial cross section (five lanes)	Designed MTCP Project ID C-13	Sterling Ranch Metro District
Upgrade Vollmer Road generally between Cowpoke Road and the south boundary of Sterling Ranch to an Urban Minor Arterial cross section (five lanes)	Designed MTCP Project ID C-13	Woodmen Heights Metro District
Construct section of Stapleton Road half section between Vollmer Road and the first Sterling Ranch access point	With development of Phase 1 of Sterling Ranch - Designed MTCP Project ID N-5	Sterling Ranch Metro District
Construct a northbound right-turn deceleration lane on Vollmer Road approaching Stapleton Road	With development of Phase 1 of Sterling Ranch - Designed MTCP Project ID C-13	Sterling Ranch Metro District
Construct Briargate Parkway (four-lane Principal Arterial) between Black Forest Road and Vollmer Road.	Future - TBD TBD with PPRTA ⁽²⁾ Corridor Study	TBD with PPRTA ⁽²⁾ Corridor Study MTCP Project N-5
Construct Stapleton Drive between Vollmer Road and Towner	Future TBD with PPRTA ⁽²⁾ Corridor Study	TBD with PPRTA ⁽²⁾ Corridor Study MTCP Project N-5
Southbound left-turn lanes on Vollmer Road approaching Burgess Road	Existing Deficiency	Existing Deficiency - Others (This development will not add volume to this turning movement.)
Northbound left-turn lane at Burgess/Vollmer	Projections indicate after 2020 but prior to 2040 the turning volume threshold warranting the turn lane (25 northbound left turns per hour) would be exceeded.	Based on the revised PUD plan, the afternoon peak-hour traffic impact from this project on the northbound approach to this intersection is projected to be below 10 percent. The site volume on the roadway link (both directions of travel) south of the intersection is more than 10 percent, however the turn lane thresholds are shown to be exceeded on the northbound approach during the afternoon peak hour when the impact of this project is below 10 percent on this approach. This project will be participating in the Fee Program and the MTCP Project ID is U-12.
Northbound right-turn lane at Burgess/Vollmer	Projections indicate by 2020 the turning volume threshold warranting the turn lane (50 northbound right turns per hour) would be exceeded.	Based on the revised PUD plan, the afternoon peak-hour traffic impact from this project on the northbound approach to this intersection is projected to be below 10 percent. The site volume on the roadway link (both directions of travel) south of the intersection is more than 10 percent, however the turn lane thresholds are shown to be exceeded on the northbound approach during the afternoon peak hour when the impact of this project is below 10 percent on this approach. This project will be participating in the Fee Program and the MTCP Project ID is U-12.
Future traffic signal at Stapleton/Vollmer	Once warrants are met, analysis to be included with final plat traffic reports; projections indicate by 2040 the intersection would be signalized.	Escrow a fair-share amount toward the cost the signal (to be determined with final plats). Once the signal is constructed, a portion of the escrow amount used to fund the installation of the signal may have become creditable under the Fee Program (if this signal is added to the fee program list of signals eligible for credit (County signals not currently programmed in Fee Program).
<p>Notes:</p> <p>(1) Preliminary concept of responsibility; the actual construction responsibility would be determined through subdivision applications and cost recovery if applicable agreements.</p> <p>(2) PPRTA = Pikes Peak Rural Transportation Authority.</p> <p>Source: LSC Transportation Consultants, Inc.</p>		

Filing 1 Exhibit

With April 2020 notations





Arroya Lane

Vollmer Rd.

Sand Creek

Filing 1

Sterling Ranch

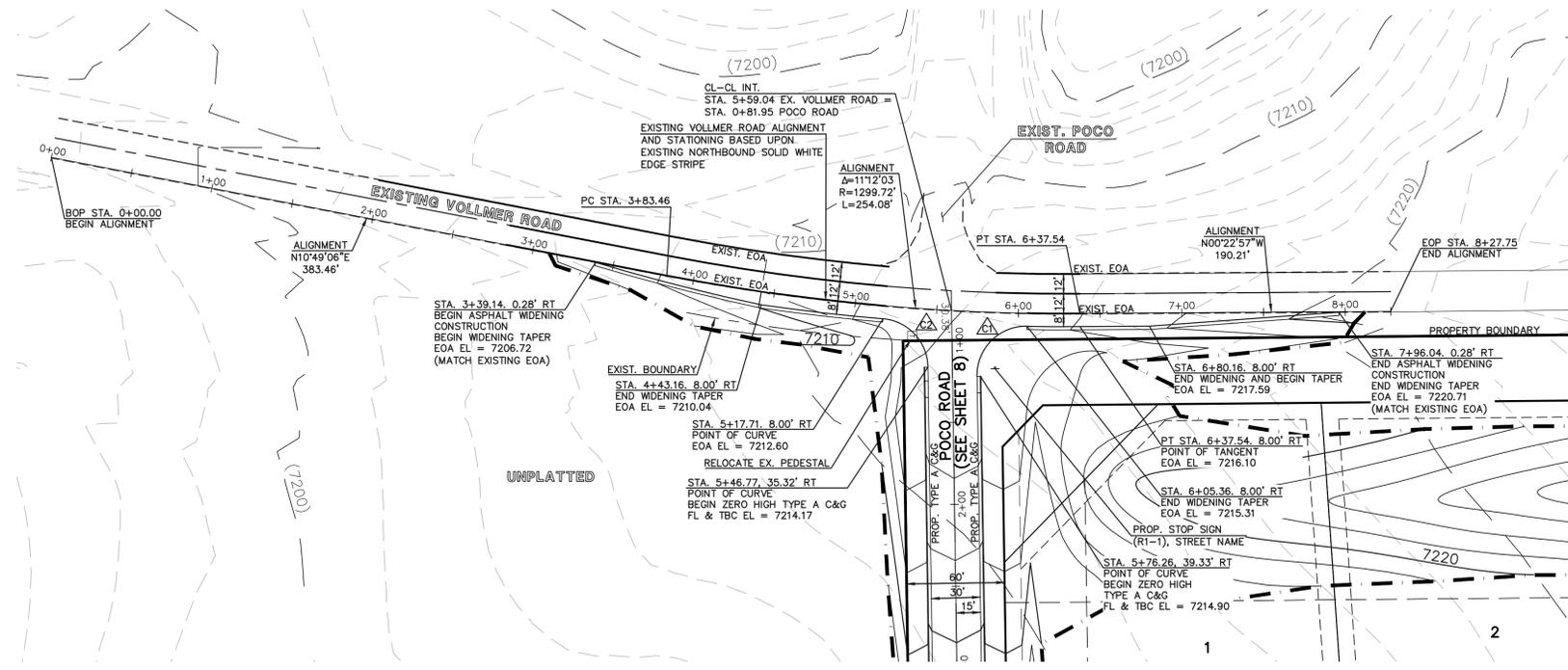
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Vollmer Road Construction Plans

East side shoulder widening





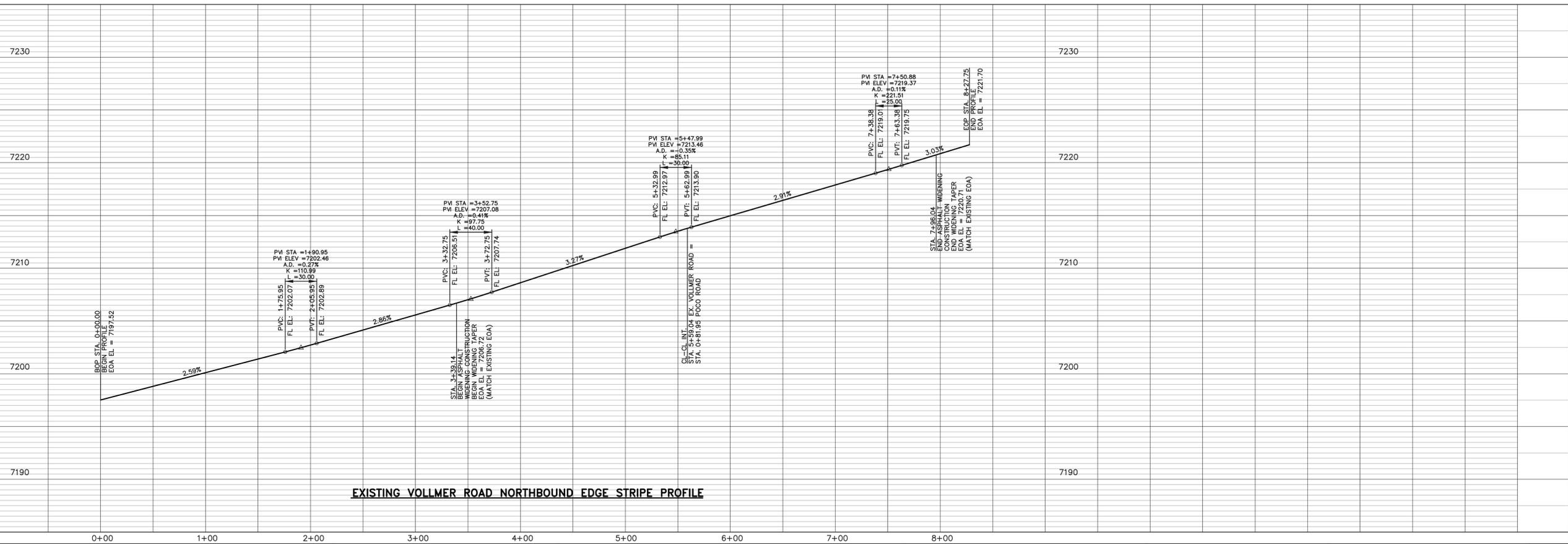
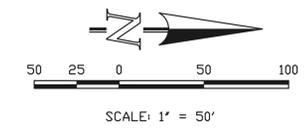
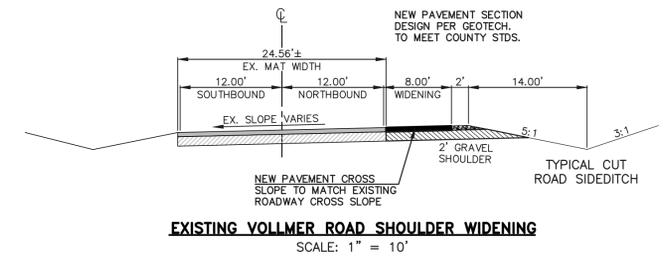
△	EOA RETURN CURVE TABLE
CURVE	LENGTH RADIUS DELTA
C1	48.12' 30.00' 91°53'43"
C2	44.11' 30.00' 84°14'22"

EXISTING VOLLMER ROAD
 (R.O.W. VARIES- RURAL MINOR ARTERIAL)
 POSTED SPEED 45 MPH

NOTE:
 ALL INTERNAL SIGNS SHALL BE 4" FONT LETTER SIZE.
 SIGNS AT VOLLMER INTERSECTION SHALL BE 6" FONT LETTER SIZE.

Street Name
STREET NAME (D-3)

STOP (R1-1)
30"x30"



EXISTING VOLLMER ROAD NORTHBOUND EDGE STRIPE PROFILE

48 HOURS BEFORE YOU DIG,
 CALL UTILITY LOCATORS
811
 UTILITY NOTIFICATION CENTER OF COLORADO
 IT'S THE LAW

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE CAUSED BY HIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

NO.	REVISION	DATE
1	REVISED PER COUNTY COMMENTS	08-13-19

REVIEW:
 PREPARED UNDER MY DIRECT SUPERVISION FOR AND ON BEHALF OF CLASSIC CONSULTING ENGINEERS AND SURVEYORS, LLC

MARC A. WHORTON, COLORADO P.E. #37155



RETREAT AT TIMBERRIDGE FILING NO. 1
CONSTRUCTION PLANS
 STREET IMPROVEMENT PLANS
 VOLLMER ROAD EAST SHOULDER WIDENING

DESIGNED BY	MAW	SCALE	DATE	04-05-19
DRAWN BY	ESO	(H) 1" = 50'	SHEET	15 OF 29
CHECKED BY		(V) 1" = 5'	JOB NO.	1185.00