LSC TRANSPORTATION CONSULTANTS, INC.
2504 East Pikes Peak Avenue, Suite 304
Colorado Springs, CO 80909
(719) 633-2868
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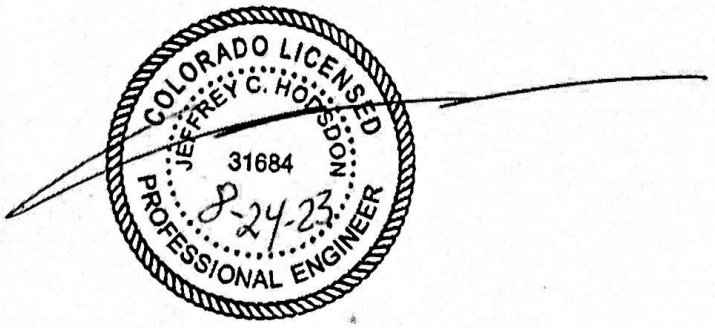
Sterling Recycling Facility
Transportation Memorandum
PCD File No.: PPR2241
(LSC #S224330)
August 24, 2023

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.

8/28/2023
Date

Colorado Concrete Crushing Transportation Memorandum

Prepared for:
Colorado Concrete Crushing, LLC
20 Boulder Crescent, Suite 100
Colorado Springs, CO 80903

Contact: Mr. Eric S. Howard, Manager

AUGUST 24, 2023

LSC Transportation Consultants
Prepared by: Kirstin D. Ferrin, P.E.
Reviewed by: Jeffrey C. Hodsdon, P.E.

PCD FILE NO.: PPR2241
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CONTENTS

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August 24, 2023

Mr. Eric S. Howard, Manager
Colorado Concrete Crushing, LLC
20 Boulder Crescent, Suite 100
Colorado Springs, CO 80903

RE: Sterling Recycling Facility
Transportation Memorandum
El Paso County, Colorado
PCD FILE NO.: PPR2241
LSC #S224330

Dear Mr. Howard:

LSC Transportation Consultants, Inc. has prepared this updated transportation memorandum for the asphalt and concrete recycling operation currently located east of Vollmer Road and south of Marksheffel Road in El Paso County, Colorado. The site location is shown in Figure 1.

REPORT CONTENTS

The preparation of this report included the following:

- A summary of the existing land use and access;
- The existing roadway and traffic conditions in the site's vicinity, including the roadway widths, surface conditions, lane geometries, traffic controls, and posted speed limits; and in-progress changes to the existing conditions, based on the design plans and construction of Vollmer Road improvements, Marksheffel Road and Sterling Ranch Road, as shown on the construction plans by Sterling Ranch;
- Estimates of projected short-term traffic volumes; the projected average weekday and peak-hour vehicle trips generated by the concrete recycling operation during the design hour;
- The assignment of the estimated design-hour site-generated traffic volumes at the intersection of Marksheffel Road/Sterling Ranch Road;
- The projected short-term total design-hour traffic volumes;
- The projected levels of service at the intersection of Marksheffel Road/Sterling Ranch Road/proposed site-access intersection; and
- Recommendations for auxiliary turn lanes at the intersection of Marksheffel Road/Sterling Ranch Road.

LAND USE AND ACCESS

Land Use

The 32.4263-acre parcel (EPC Parcel No. 5300000743) is currently being used for an asphalt and concrete recycling operation. Operating hours are Monday through Friday from 7:00 a.m. to 5:30 p.m. and one Saturday per month from 7:00 a.m. to noon. The operation currently has four employees but that may increase to up to six in the future.

Tandem trucks and semi-trucks that are owned by third parties transport materials on and off the site throughout the operating hours. No trucks are stored on-site overnight, so each truck load results in one entering truck trip and one exiting truck trip.

LSC was provided with information on the truck operations at the current facility from March 1, 2022, to December 31, 2022. The number of truck loads per day varies throughout the year based on construction activity in the Colorado Springs metropolitan area with the heaviest activity occurring from June to September. The applicant has noted a recent slowdown in demand for recycled materials product due to rising interest rates and reduced housing starts. The applicant anticipates that the summer 2022 traffic likely represents peak demand and resulting production with low probability/potential for future increases in production and associated truck traffic in the foreseeable future.

The maximum number of truck loads on a single day during that time period was 135 (127 tandem trucks and seven semi-trucks). The 85th-percentile weekday (Monday through Friday) number of truck loads was 61 loads per day (47 tandem trucks and 15 semi-trucks).

Access

The site is located just north of the Pioneer Landscape Center. The recycling operation currently shares the existing Pioneer access to Vollmer Road located about 905 feet southwest of the future Marksheffel alignment in the jurisdiction of the City of Colorado Springs. Access for the Sterling Recycling Facility is planned to be moved to Marksheffel Road aligning with Sterling Ranch Road. The street improvement plan that shows the proposed access have been attached.

In the long-term, this site is planned to be incorporated into the Rhetoric site. See PCD File Number P2216 for details.

EXISTING ROAD AND TRAFFIC CONDITIONS

The adjacent streets are shown in Figure 1 and are described below. Copies of the *2016 El Paso County Major Transportation Corridors Plan (MTCP), 2040 Roadway Plan, and 2016 MTCP 2060 Corridor Preservation Plan* with the site location identified on them have been attached to this report.

Marksheffel Road is a Principal Arterial extending north from the City of Fountain to about three quarters of a mile north of Woodmen Road. Marksheffel Road is planned ultimately to be widened to six lanes and extended north and west from Woodmen Road to connect to Research Parkway at Black Forest Road. Marksheffel Road is shown as a four-lane Principal Arterial adjacent to the site on the El Paso County *MTCP*. The City of Colorado Springs intends to take ownership and maintenance of Marksheffel Road when it is constructed from Vollmer to the east and south to where it will connect to the segment constructed north of Woodmen Road in the City.

The section of Marksheffel Road adjacent to Sterling Ranch (and this site) is planned to be constructed on 107 feet of right-of-way to the City's required cross section(s) and criteria. The section of Marksheffel Road between Sterling Ranch Road and Vollmer Road was recently finished and the section of Marksheffel Road southeast of Sterling Ranch Road (to connect to the segment recently constructed) will be completed in 2024 and will open the connection to Woodmen Road. Marksheffel will be constructed as a four-lane roadway to the previously-agreed-upon cross section.

Vollmer Road is currently a five-lane urban street within the City of Colorado Springs limits between Black Forest Road and Cowpoke Road; and a two-lane, rural, paved roadway north of Cowpoke Road extending to north of Hodgen Road. In the southbound direction, Vollmer Road has a posted speed limit of 45 mph. South of the existing site access, Vollmer Road is within the City limits and has a 40-mph posted speed limit. The *2040 El Paso County Major Transportation Corridors Plan* (*MTCP*) and the Sterling Ranch master traffic study show Vollmer Road as a four-lane Urban Minor Arterial just north of the existing site access. South of the existing site access, Vollmer is classified as a Minor Arterial (including four through lanes, a center turn lane, bicycle lanes in each direction, and a detached sidewalk). The Sterling Ranch development is currently working on improvements to Vollmer Road north of the existing site access. The section south of the existing site access to Dry Needle Place is a three-lane cross section (two southbound travel lanes and one northbound travel lane) with a striped bicycle lane in the southbound direction. South of Dry Needle Place, the cross section has been completed to the full City cross section.

TRIP GENERATION

LSC conducted the traffic counts at the existing access to Vollmer Road that Colorado Concrete Crushing shares with Pioneer Sand on May 25, 2022. As the count data did not identify the portion related to the site operations, LSC has estimated the number of trips based on the number of employees and operation data provided by Colorado Concrete Crushing. Table 1 shows the trip-generation estimates. The estimated trips on May 24, 2022 due to the employees was based on the number of existing employees and the nationally published trip-generation rates for ITE Land Use 110 – Light Industrial from *Trip Generation, 11th Edition*, 2021 by the Institute of Transportation Engineers (ITE). The number of truck trips during the peak hours was estimated by LSC by assuming that trucks arrive and depart from the site evenly throughout the operating hours.

As shown in Appendix Table 1, the truck activity on the site varies throughout the year with peak activity occurring from July to September. As traffic counts were conducted in May, LSC has selected a "design" day to use for this analysis. The "design" day selected was the 85th percentile from the weekday truck-load data for 2022 provided by Colorado Concrete Crushing. The "design" day also assumes two additional employees in the future. Based on the existing economic conditions, no increases in truck traffic from what was recorded in 2022 are anticipated in the short-term/intermediate-term future. Table 1 shows the projected "design day" traffic volumes and the difference between the May 24, 2022 traffic volumes and the "design day" volumes.

TRIP DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the street and roadway system serving the site is one of the most important factors in determining the site's traffic impacts. Figure 2 shows the estimated directional distribution of the site-generated traffic, as well as the "design day" site-generated traffic volume estimates at the intersection of Marksheffel/Sterling Ranch.

BACKGROUND TRAFFIC

Background traffic is the traffic estimated to be on the adjacent roadways and at adjacent intersections without the proposed development's trip generation of site-generated traffic volumes. Background traffic includes the through traffic and the traffic generated by nearby developments but assumes zero traffic generated by the site.

Figure 3 shows the projected short-term background traffic volumes. The background traffic volumes are estimates by LSC, based on work completed by LSC in the area including Sterling Ranch East Filings 1 and 2, FourSquare at Sterling Ranch, Sterling Ranch Filing 5, and Sterling Ranch East Filing 5. The short-term background traffic volumes assume the section of Marksheffel Road between Sterling Ranch Road and the existing terminus north of Woodmen Road has been constructed.

In the long-term, this site is planned to be incorporated into the Rhetoric site. See PCD File Number P2216 for details.

TOTAL TRAFFIC

Figure 4 shows the sum of the short-term background traffic volumes from Figure 4 plus the site-generated traffic volumes from Figure 3.

LEVEL OF SERVICE ANALYSIS

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections. Table 2 shows the level of service delay ranges.

Table 2: Intersection Levels of Service Delay Ranges

Level of Service	Signalized Intersections Average Control Delay (seconds per vehicle)	Unsignalized Intersections Average Control Delay (seconds per vehicle)(1)
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more

(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.

The intersection of Marksheffel/Sterling Ranch Road has been analyzed to determine the projected short-term total intersection levels of service based on the unsignalized intersection analysis procedures from the *Highway Capacity Manual 6th Edition*. The intersection was also analyzed assuming signal control using Synchro.

Figure 4 shows the level of service analysis results. The level of service reports are attached. The southbound left-turn movement at this intersection is projected to operate at LOS F during the afternoon peak hour, based on projected short-term **background** traffic volumes. This intersection is planned as a future signalized intersection. However, traffic-signal warrant(s) may not be met in the short-term. It is not uncommon for the minor street approach/movements at a stop-sign-controlled intersection to operate at LOS E or F as the traffic volumes approach the levels needed to meet vehicular-volume traffic-signal warrants. The addition of the site-generated traffic is projected to increase the delay for the southbound left-turn movement from 62.3 seconds per vehicle to 88.3 seconds per vehicle. If this intersection is converted to traffic-signal control in the short-term, all movements are projected to operate at LOS D or better.

SIGNAL WARRANT THRESHOLD ANALYSIS – AM AND PM PEAK HOURS

The intersection of Marksheffel/Sterling Ranch was analyzed to determine if the thresholds for Four-Hour and/or Eight-Hour Vehicular-Volume Traffic-Signal Warrant thresholds would be reached or exceeded, based on the projected short-term traffic volumes.

The off-peak-hour volumes are estimates by LSC, based on the peak-hour traffic volumes, 72-hour machine counts conducted by LSC on Vollmer Road in November 2020, and vehicle time-of-day distribution data for single-family homes published by the Institute of Transportation Engineers.

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Table 3 shows the results of the analysis for the intersection of Marksheffel/Sterling Ranch. As shown in Table 3, in the short-term, only four of the hours analyzed are projected to meet the thresholds for an Eight-Hour Vehicular-Volume Traffic-Signal and only three of the hours analyzed are projected to meet the thresholds for a Four-Hour Vehicular-Volume Traffic-Signal Warrant. This analysis indicates that traffic-signal warrant(s) will likely **not** be met at the intersection of Marksheffel/Sterling Ranch in the short-term.

FINDINGS & RECOMMENDATIONS

- Please refer to the trip generation section of this report for details regarding the estimated site trip-generation estimate used in the access design volumes. The trip-generation estimate has been based on actual daily load data for the concrete recycling operation.
- Colorado Concrete Crushing is currently operating on the site (and currently using the Vollmer access). Truck activity on the site varies based on daily demand and overall construction activity in the Colorado Springs metropolitan area. Based on current economic conditions it is not anticipated that activity will increase significantly from the activity levels in 2022 in the foreseeable future. In the long-term, this site is planned to be incorporated into the Rhetoric site. See PCD File Number P2216 for details.
- A northwest-bound left-turn lane on Marksheffel Road approaching Sterling Ranch Road should be included with the design plans for Marksheffel Road currently under review by the City of Colorado Springs. This lane should be designed per the requirements for the Rhetoric site. See PCD File Number P2216 for details.

This application was withdrawn 10/22

Please address access spacing for LOT #1 and proximity to Marksheffel along Sterling Ranch. Dependant on lot use type and traffic generation does this spacing meet requirement or should the access be moved further south close to the temp Cul-de-sac and a possible full movement with Lot #2. Spacing is only ~140ft and inside the transition lane area for EB and SB right turn onto Marksheffel. Left turns into LOT #1 do not seem to be addressed

* * * * *

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: Table 1 and 3
Figures 1-4
Traffic Count Reports
Level of Service Reports
Appendix Table 1
Sterling Recycling Facility Street Improvement Plan
Vollmer Road Approved CD

Ensure all items under Appendix B.2.4.C are addressed within report.

Address road impact fees

Address if there is any proportionality from this development to provide for the future signal at Marksheffel/Sterling Ranch

Tables 1 and 3

TRANSPORTATION
CONSULTANTS, INC.

Table 1
Trip Generation Estimate
Colorado Concrete Crushing

Vehicle Type	Number of Employees or Truck Loads	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	Total	In	Out	In	Out	In	Out	Total	In	Out	In	Out
Estimated site-generated trips on the day traffic counts were conducted at the existing site access (May 24, 2022)															
Passenger Car (employee)	4	1.55	1.55	3.10	0.44	0.09	0.11	0.38	6	6	12	2	0	0	2
Tandem Truck	18	1	1	2	0.10	0.10	0.10	0.10	18	18	36	2	2	2	2
Semi-Truck	6	1	1	2	0.10	0.10	0.10	0.10	6	6	12	1	1	1	1
								Total	**30**	**30**	**60**	**5**	**3**	**3**	**5**
Estimated site-generated trips on the "design" day (Weekday 85th Percentile)															
Passenger Car (employee)	6	1.55	1.55	3.10	0.44	0.09	0.11	0.38	9	9	18	3	1	1	2
Tandem Truck	47	1	1	2	0.10	0.10	0.10	0.10	47	47	94	5	5	5	5
Semi-Truck	15	1	1	2	0.10	0.10	0.10	0.10	15	15	30	2	2	2	2
								Total	**71**	**71**	**142**	**10**	**8**	**8**	**9**
		Difference between the "counted" day and the "design" day							**41**	**41**	**82**	**5**	**5**	**5**	**4**

Notes:
(1) Employee trip generation rates were based on the rates for ITE Land Use 110 - General Light Industrial from "*Trip Generation, 11th Edition, 2021*" by the Institute of Transportation Engineers (ITE)
Truck trip generation rates assume the trucks arrive and exit evenly throughout the operating hours (7:00 am to 5:30 pm)

Source: LSC Transportation Consultants, Inc.

Aug-23

Table 3
Traffic Signal Warrant Analysis
Marksheffel Road/Sterling Ranch Road

Hour	Traffic Volumes[2] Major Marksheffel[3]	Traffic Volumes[2] Minor SB Sterling Ranch[4]	Traffic Volumes[2] Minor SB Sterling Ranch[4]	Warrant Analysis[1] Warrant 1: Eight Hour Vehicular Volume Evaluation — Warrant Thresholds Condition A Major	Condition A Minor	Condition B Major	Condition B Minor	Warrant Threshold Met? SB Approach Condition A	SB Approach Condition B	NB Approach Condition A	NB Approach Condition B	Warrant 2: Four Hour Vehicular Volume Evaluation — Short-Term Background Warrant Threshold Minor Minimum	Warrant Threshold Met? SB	Warrant Threshold Met? NB
Short-Term Background Traffic														
12-1 AM	35	8	0	600	150	900	75	No	No	No	No	Low Volume	No	No
1-2 AM	16	8	0	600	150	900	75	No	No	No	No	Low Volume	No	No
2-3 AM	13	0	0	600	150	900	75	No	No	No	No	Low Volume	No	No
3-4 AM	16	8	0	600	150	900	75	No	No	No	No	Low Volume	No	No
4-5 AM	24	34	0	600	150	900	75	No	No	No	No	Low Volume	No	No
5-6 AM	57	83	0	600	150	900	75	No	No	No	No	Low Volume	No	No
6-7 AM	175	247	0	600	150	900	75	No	No	No	No	Low Volume	No	No
7-8 AM	393	427	0	600	150	900	75	No	No	No	No	Low Volume	No	No
8-9 AM	443	360	0	600	150	900	75	No	No	No	No	369	No	No
9-10 AM	384	226	0	600	150	900	75	No	No	No	No	Low Volume	No	No
10-11 AM	463	226	0	600	150	900	75	No	No	No	No	359	No	No
11-12 PM	548	214	0	600	150	900	75	No	No	No	No	316	No	No
12-1 PM	567	212	0	600	150	900	75	No	No	No	No	307	No	No
1-2 PM	589	224	0	600	150	900	75	No	No	No	No	296	No	No
2-3 PM	683	235	0	600	150	900	75	Yes	No	No	No	257	No	No
3-4 PM	781	227	0	600	150	900	75	Yes	No	No	No	210	Yes	No
4-5 PM	897	284	0	600	150	900	75	Yes	No	No	No	176	Yes	No
5-6 PM	827	280	0	600	150	900	75	Yes	No	No	No	193	Yes	No
6-7 PM	644	224	0	600	150	900	75	Yes	No	No	No	272	No	No
7-8 PM	446	163	0	600	150	900	75	No	No	No	No	367	No	No
8-9 PM	427	117	0	600	150	900	75	No	No	No	No	377	No	No
9-10 PM	298	91	0	600	150	900	75	No	No	No	No	Low Volume	No	No
10-11 PM	149	41	0	600	150	900	75	No	No	No	No	Low Volume	No	No
11-12 AM	86	27	0	600	150	900	75	No	No	No	No	Low Volume	No	No
			Numbers of Hours the Warrant Thresholds Are Met					5	0	0	0		3	0
			Warrant Met?					No					No	
Short-Term Total Traffic														
12-1 AM	35	8	0	600	150	900	75	No	No	No	No	Low Volume	No	No
1-2 AM	16	8	0	600	150	900	75	No	No	No	No	Low Volume	No	No
2-3 AM	13	0	0	600	150	900	75	No	No	No	No	Low Volume	No	No
3-4 AM	16	8	0	600	150	900	75	No	No	No	No	Low Volume	No	No
4-5 AM	25	34	0	600	150	900	75	No	No	No	No	Low Volume	No	No
5-6 AM	59	83	0	600	150	900	75	No	No	No	No	Low Volume	No	No
6-7 AM	180	247	0	600	150	900	75	No	No	No	No	Low Volume	No	No
7-8 AM	403	427	2	600	150	900	75	No	No	No	No	Low Volume	No	No
8-9 AM	450	360	1	600	150	900	75	No	No	No	No	365	No	No
9-10 AM	391	226	1	600	150	900	75	No	No	No	No	Low Volume	No	No
10-11 AM	470	226	1	600	150	900	75	No	No	No	No	355	No	No
11-12 PM	555	214	1	600	150	900	75	No	No	No	No	313	No	No
12-1 PM	574	212	1	600	150	900	75	No	No	No	No	303	No	No
1-2 PM	596	224	1	600	150	900	75	No	No	No	No	292	No	No
2-3 PM	690	235	1	600	150	900	75	Yes	No	No	No	254	No	No
3-4 PM	788	227	1	600	150	900	75	Yes	No	No	No	206	Yes	No
4-5 PM	904	284	1	600	150	900	75	Yes	Yes	No	No	174	Yes	No
5-6 PM	835	280	2	600	150	900	75	Yes	No	No	No	191	Yes	No
6-7 PM	649	224	0	600	150	900	75	Yes	No	No	No	270	No	No
7-8 PM	449	163	0	600	150	900	75	No	No	No	No	366	No	No
8-9 PM	429	117	0	600	150	900	75	No	No	No	No	376	No	No
9-10 PM	300	91	0	600	150	900	75	No	No	No	No	Low Volume	No	No
10-11 PM	150	41	0	600	150	900	75	No	No	No	No	Low Volume	No	No
11-12 AM	87	27	0	600	150	900	75	No	No	No	No	Low Volume	No	No
			Numbers of Hours the Warrant Thresholds Are Met					5	1	0	0		3	0
			Warrant Met?					No					No	

Notes:

(1) Thresholds are based on 2 or more lanes on the major approach and 1 lane on the minor approach (Warrant evaluation assuming the southbound left turn only for the minor street)

(2) Off peak hour traffic volumes are based on the projected peak hour traffic volumes, 72-hour machine counts conducted on Vollmer Road in November 2020 and vehicle time-of-day distribution data published by the Institute of Transportation Engineers

(3) The major street traffic includes all movements (left, through, and right)

(4) The minor street traffic includes only the left turns from the minor street

Source: LSC Transportation Consultants, Inc.

Figures 1-4

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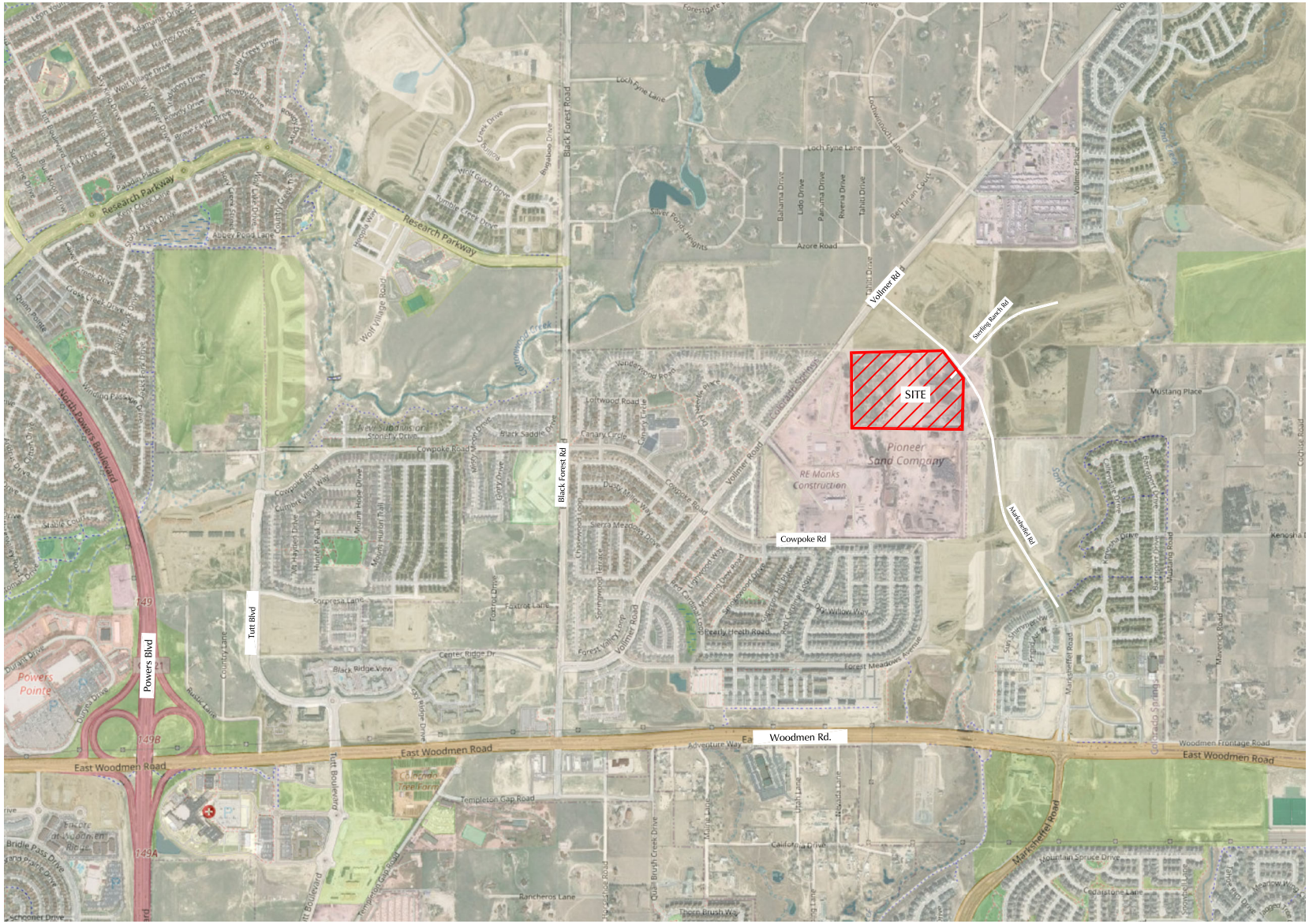

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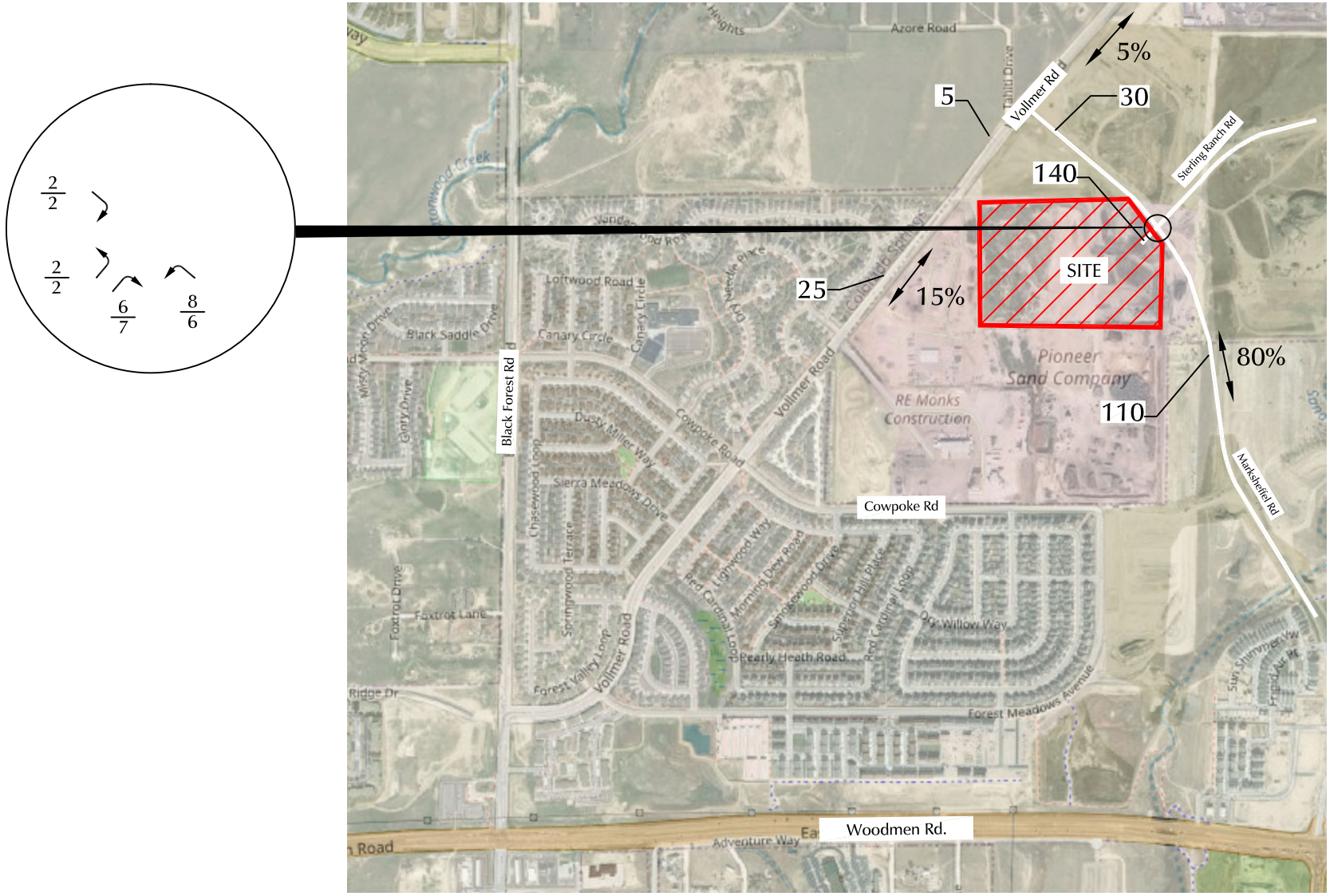
Figure 1

Vicinity Map

Sterling Recycling Facility (LSC# S224330)



LEGEND:

$\frac{XX}{XX} = \frac{\text{AM Peak-Hour Traffic (veh/hr)}}{\text{PM Peak-Hour Traffic (veh/hr)}}$

35% = Percent Directional Distribution

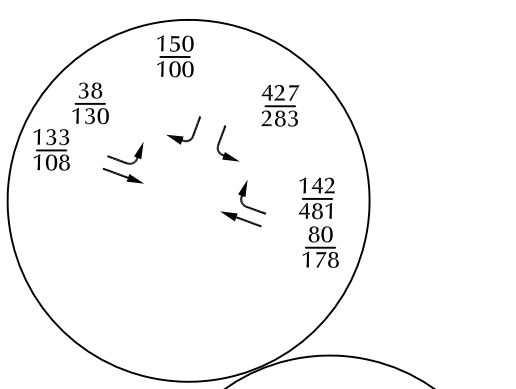
XXX = Average Weekday Traffic (vehicles per day)

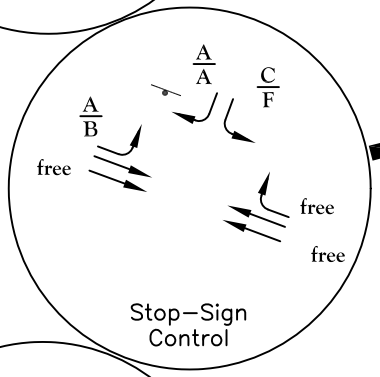
TRANSPORTATION CONSULTANTS, INC.

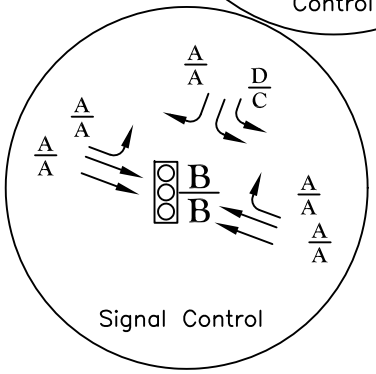
Figure 2

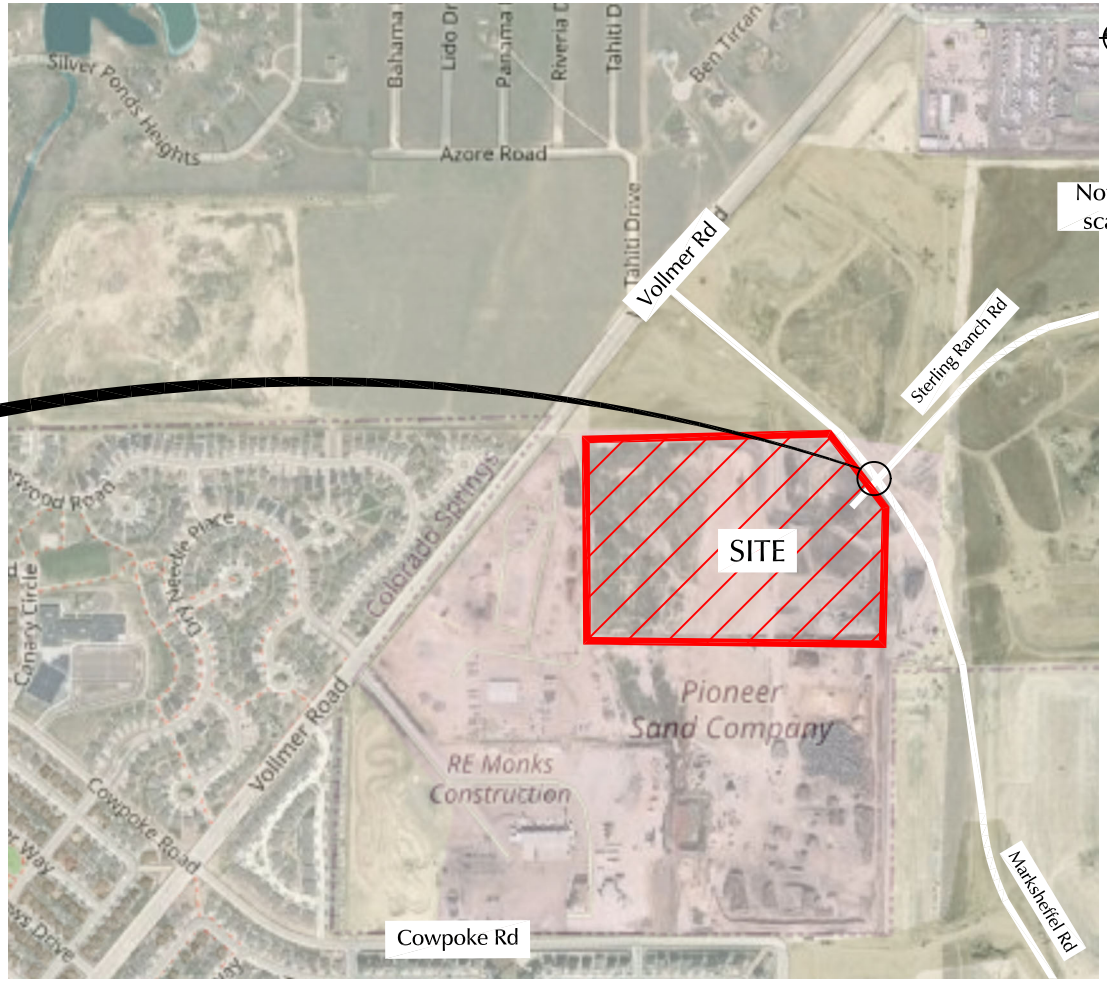
"Design Day" Site-Generated Traffic

Sterling Recycling Facility (LSC# S224330)









Not to scale

LEGEND:

$\frac{XX}{XX}$ = $\frac{\text{AM Peak–Hour Traffic (veh/hr)}}{\text{PM Peak–Hour Traffic (veh/hr)}}$ $\frac{C}{D}$ = $\frac{\text{AM Entire Intersection Peak–Hour Level of Service}}{\text{PM Entire Intersection Peak–Hour Level of Service}}$

$\frac{A}{B}$ = $\frac{\text{AM Individual Movement Peak–Hour Level of Service}}{\text{PM Individual Movement Peak–Hour Level of Service}}$

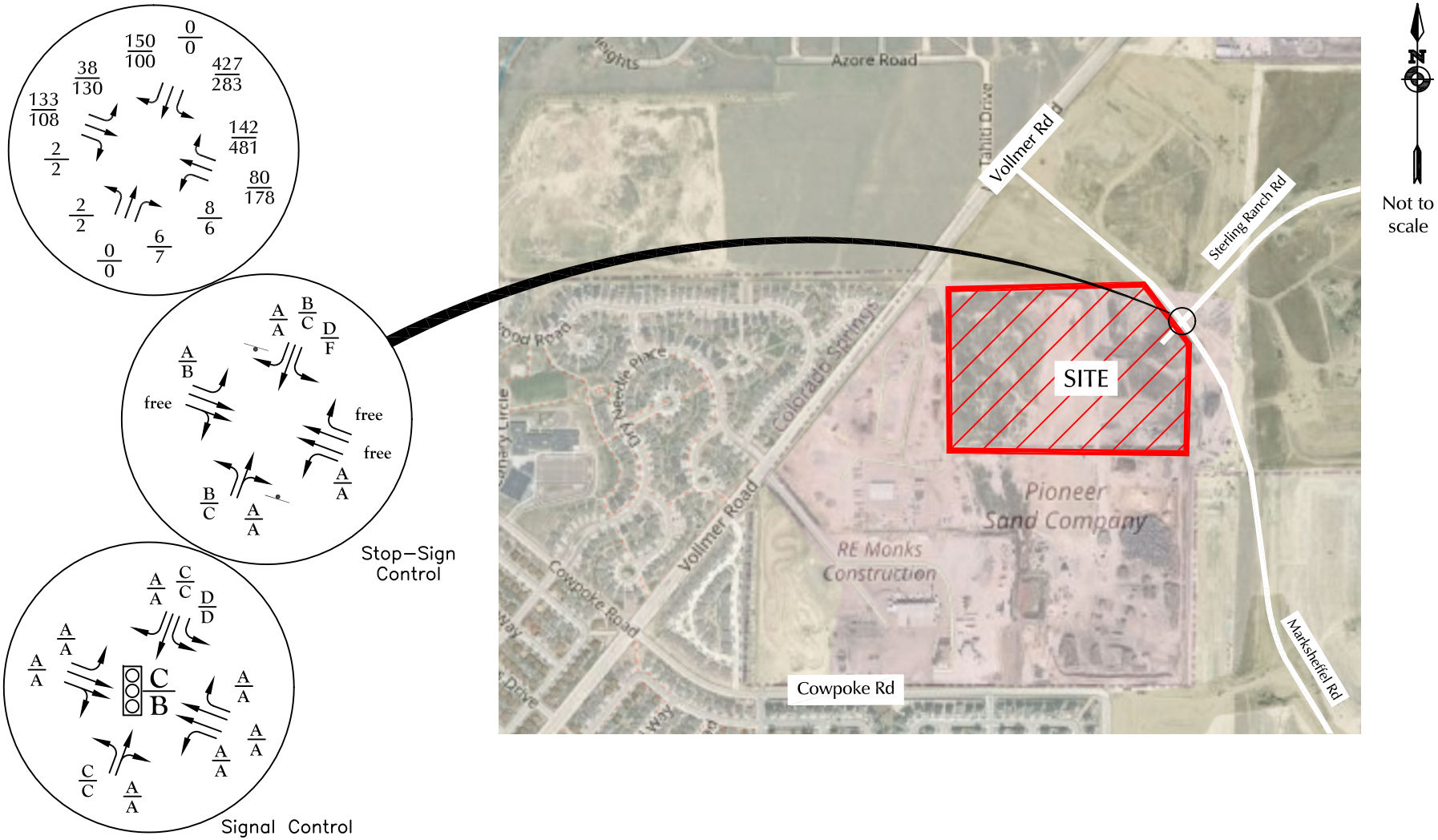
= Stop Sign = Traffic Signal

TRANSPORTATION CONSULTANTS, INC.

Figure 3

Short-Term Background Traffic

Sterling Recycling Facility (LSC# S224330)



LEGEND:

$\frac{XX}{XX}$ = AM Peak–Hour Traffic (veh/hr) / PM Peak–Hour Traffic (veh/hr)

$\frac{C}{D}$ = AM Entire Intersection Peak–Hour Level of Service / PM Entire Intersection Peak–Hour Level of Service

$\frac{A}{B}$ = AM Individual Movement Peak–Hour Level of Service / PM Individual Movement Peak–Hour Level of Service

= Stop Sign

= Traffic Signal

TRANSPORTATION CONSULTANTS, INC.

Figure 4

Short-Term Total Traffic

Sterling Recycling Facility (LSC# S224330)

Traffic Counts

TRANSPORTATION
CONSULTANTS, INC.

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

File Name : Vollmer Rd - Pioneer Sand Trucks AM
Site Code : S22433
Start Date : 5/25/2022
Page No : 1

Passenger Cars/ Pickup-Trucks

Groups Printed- Unshifted

	Vollmer Rd Southbound					Pioneer Sand Acces Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30	0	49	0	0	49	3	0	2	0	5	13	15	0	0	28	0	0	0	0	0	82
06:45	0	49	3	0	52	1	0	0	0	1	14	26	0	0	40	0	0	0	0	0	93
Total	0	98	3	0	101	4	0	2	0	6	27	41	0	0	68	0	0	0	0	0	175
07:00	0	63	1	0	64	2	0	6	0	8	5	38	0	0	43	0	0	0	0	0	115
07:15	0	68	1	0	69	8	0	8	0	16	7	44	0	0	51	0	0	0	0	0	136
07:30	0	82	2	0	84	3	0	8	0	11	9	57	0	0	66	0	0	0	0	0	161
07:45	0	79	1	0	80	2	0	2	0	4	5	68	0	0	73	0	0	0	0	0	157
Total	0	292	5	0	297	15	0	24	0	39	26	207	0	0	233	0	0	0	0	0	569
08:00	0	58	4	0	62	1	0	8	0	9	7	64	0	0	71	0	0	0	0	0	142
08:15	0	57	1	1	59	1	0	7	0	8	3	52	0	0	55	0	0	0	0	0	122
Grand Total	0	505	13	1	519	21	0	41	0	62	63	364	0	0	427	0	0	0	0	0	1008
Apprch %	0	97.3	2.5	0.2		33.9	0	66.1	0		14.8	85.2	0	0		0	0	0	0		
Total %	0	50.1	1.3	0.1	51.5	2.1	0	4.1	0	6.2	6.2	36.1	0	0	42.4	0	0	0	0	0	

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719-633-2868

Passenger Cars/ Pickup-Trucks

File Name : Vollmer Rd - Pioneer Sand Trucks AM
Site Code : S224330
Start Date : 5/25/2022

	Vollmer Rd Southbound					Pioneer Sand Acces Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 6:30:00 AM to 8:15:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 7:15:00 AM																					
7:15:00 AM	0	68	1	0	69	**8**	0	**8**	0	**16**	7	44	0	0	51	0	0	0	0	0	136
7:30:00 AM	0	**82**	2	0	**84**	3	0	8	0	11	**9**	57	0	0	66	0	0	0	0	0	**161**
7:45:00 AM	0	79	1	0	80	2	0	2	0	4	5	**68**	0	0	**73**	0	0	0	0	0	157
8:00:00 AM	0	58	**4**	0	62	1	0	8	0	9	7	64	0	0	71	0	0	0	0	0	142
Total Volume	0	287	8	0	295	14	0	26	0	40	28	233	0	0	261	0	0	0	0	0	596
% App. Total	0	97.3	2.7	0		35	0	65	0		10.7	89.3	0	0		0	0	0	0		
PHF	.000	.875	.500	.000	.878	.438	.000	.813	.000	.625	.778	.857	.000	.000	.894	.000	.000	.000	.000	.000	.925

LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
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719-633-2868

Trucks

File Name : Vollmer Rd - Pioneer Sand Trucks AM
Site Code : S224330
Start Date : 5/25/2022
Page No : 1

Groups Printed- Bank 1

	Vollmer Rd Southbound					Pioneer Sand Acces Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
06:30	0	0	0	0	0	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	5
06:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	3	0	2	0	5	0	0	0	0	0	0	0	0	0	0	6
07:00	0	0	0	0	0	2	0	4	0	6	0	0	0	0	0	0	0	0	0	0	6
07:15	0	0	0	0	0	6	0	7	0	13	1	0	0	0	1	0	0	0	0	0	14
07:30	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2
07:45	0	0	0	0	0	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	2
Total	0	0	0	0	0	9	0	12	0	21	3	0	0	0	3	0	0	0	0	0	24
08:00	0	0	1	0	1	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3
08:15	0	0	1	0	1	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	3
Grand Total	0	0	3	0	3	12	0	16	0	28	5	0	0	0	5	0	0	0	0	0	36
Apprch %	0	0	100	0		42.9	0	57.1	0		100	0	0	0		0	0	0	0		
Total %	0	0	8.3	0	8.3	33.3	0	44.4	0	77.8	13.9	0	0	0	13.9	0	0	0	0	0	

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2504 E. Pikes Peak Ave, Suite 304
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719-633-2868

Passenger Cars/ Pickup-Trucks

File Name : Vollmer Rd - Pioneer Sand Trucks PM
Site Code : S224330
Start Date : 5/24/2022
Page No : 1

Groups Printed- Unshifted

	Vollmer Rd Southbound					Pioneer Sand Accees Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:00	0	72	1	0	73	2	0	8	0	10	6	69	0	0	75	0	0	0	0	0	158
16:15	0	61	2	0	63	1	0	7	0	8	11	69	0	0	80	0	0	0	0	0	151
16:30	0	64	1	0	65	2	0	8	0	10	6	75	0	0	81	0	0	0	0	0	156
16:45	0	54	2	0	56	6	0	8	0	14	2	72	0	0	74	0	0	0	0	0	144
Total	0	251	6	0	257	11	0	31	0	42	25	285	0	0	310	0	0	0	0	0	609
17:00	0	60	1	0	61	1	0	9	0	10	3	58	0	0	61	0	0	0	0	0	132
17:15	0	65	2	0	67	0	0	5	0	5	1	58	0	0	59	0	0	0	0	0	131
17:30	0	50	0	0	50	2	0	21	0	23	2	68	0	0	70	0	0	0	0	0	143
17:45	0	48	1	0	49	0	0	2	0	2	0	77	0	0	77	0	0	0	0	0	128
Total	0	223	4	0	227	3	0	37	0	40	6	261	0	0	267	0	0	0	0	0	534
Grand Total	0	474	10	0	484	14	0	68	0	82	31	546	0	0	577	0	0	0	0	0	1143
Apprch %	0	97.9	2.1	0		17.1	0	82.9	0		5.4	94.6	0	0		0	0	0	0		
Total %	0	41.5	0.9	0	42.3	1.2	0	5.9	0	7.2	2.7	47.8	0	0	50.5	0	0	0	0	0	

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Passenger Cars/ Pickup-Trucks

File Name : Vollmer Rd - Pioneer Sand Trucks PM
Site Code : S224330
Start Date : 5/24/2022

	Vollmer Rd Southbound					Pioneer Sand Accees Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:00:00 PM																					
4:00:00 PM	0	**72**	1	0	**73**	2	0	**8**	0	10	6	69	0	0	75	0	0	0	0	0	**158**
4:15:00 PM	0	61	**2**	0	63	1	0	7	0	8	**11**	69	0	0	80	0	0	0	0	0	151
4:30:00 PM	0	64	1	0	65	2	0	8	0	10	6	**75**	0	0	**81**	0	0	0	0	0	156
4:45:00 PM	0	54	2	0	56	**6**	0	8	0	**14**	2	72	0	0	74	0	0	0	0	0	144
Total Volume	0	251	6	0	257	11	0	31	0	42	25	285	0	0	310	0	0	0	0	0	609
% App. Total	0	97.7	2.3	0		26.2	0	73.8	0		8.1	91.9	0	0		0	0	0	0		
PHF	.000	.872	.750	.000	.880	.458	.000	.969	.000	.750	.568	.950	.000	.000	.957	.000	.000	.000	.000	.000	.964

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2504 E. Pikes Peak Ave, Suite 304
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Trucks

File Name : Vollmer Rd - Pioneer Sand Trucks PM
Site Code : S224330
Start Date : 5/24/2022
Page No : 1

Groups Printed- Bank 1

	Vollmer Rd Southbound					Pioneer Sand Accees Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
16:00	0	0	1	0	1	1	0	2	0	3	3	0	0	0	3	0	0	0	0	0	7
16:15	0	0	1	0	1	0	0	2	0	2	5	0	0	0	5	0	0	0	0	0	8
16:30	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	4
16:45	0	0	2	0	2	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
Total	0	0	4	0	4	1	0	4	0	5	13	0	0	0	13	0	0	0	0	0	22
17:00	0	0	1	0	1	0	0	0	0	0	2	0	0	0	2	0	0	0	0	0	3
17:15	0	0	2	0	2	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	5
17:30	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	1
17:45	0	0	1	0	1	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	4	0	4	0	0	3	0	3	4	0	0	0	4	0	0	0	0	0	11
Grand Total	0	0	8	0	8	1	0	7	0	8	17	0	0	0	17	0	0	0	0	0	33
Apprch %	0	0	100	0		12.5	0	87.5	0		100	0	0	0		0	0	0	0		
Total %	0	0	24.2	0	24.2	3	0	21.2	0	24.2	51.5	0	0	0	51.5	0	0	0	0	0	

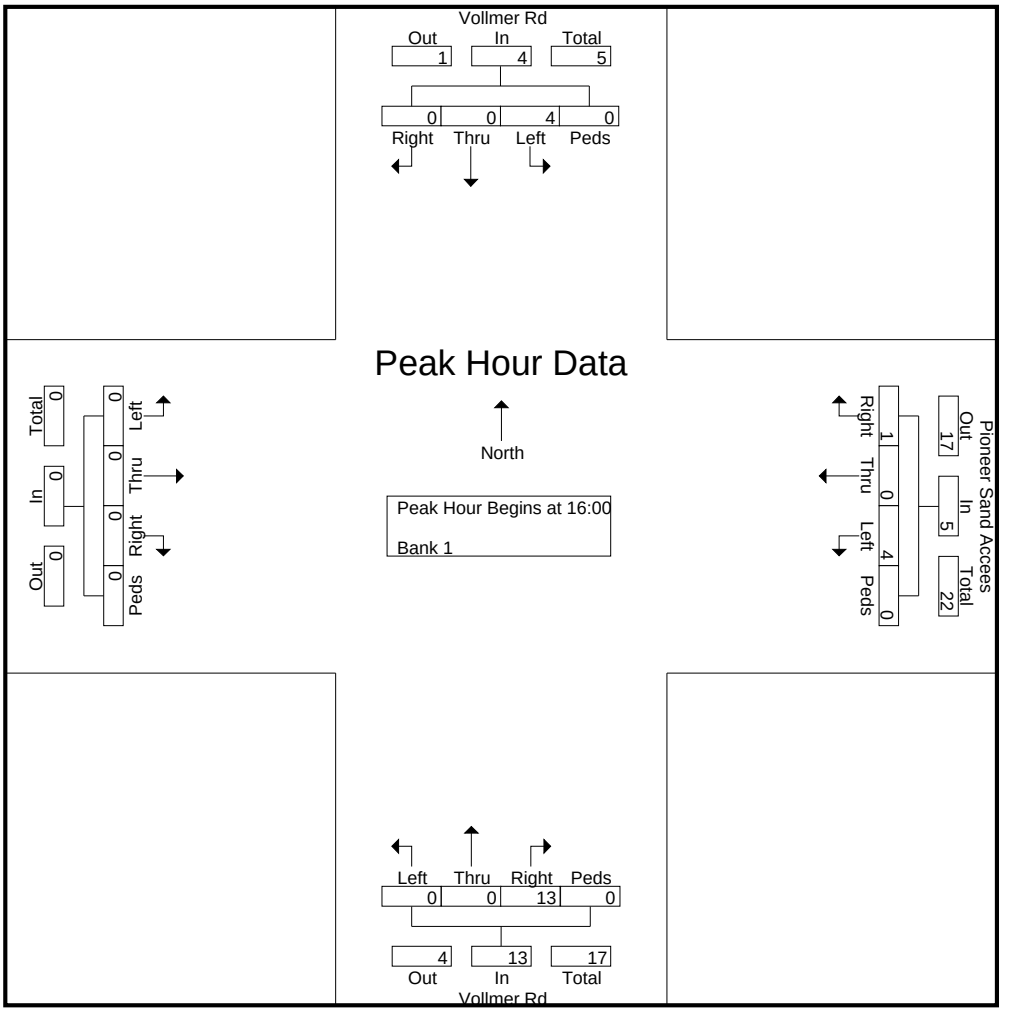
LSC Transportation Consultants, Inc.

2504 E. Pikes Peak Ave, Suite 304
Colorado Springs, CO 80909
719-633-2868

Trucks

File Name : Vollmer Rd - Pioneer Sand Trucks PM
Site Code : S224330
Start Date : 5/24/2022
Page No : 2

	Vollmer Rd Southbound					Pioneer Sand Accees Westbound					Vollmer Rd Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 4:00:00 PM to 5:45:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 4:00:00 PM																					
4:00:00 PM	0	0	1	0	1	**1**	0	**2**	0	**3**	3	0	0	0	3	0	0	0	0	0	7
4:15:00 PM	0	0	1	0	1	0	0	2	0	2	**5**	0	0	0	**5**	0	0	0	0	0	**8**
4:30:00 PM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	4
4:45:00 PM	0	0	**2**	0	**2**	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	3
Total Volume	0	0	4	0	4	1	0	4	0	5	13	0	0	0	13	0	0	0	0	0	22
% App. Total	0	0	100	0		20	0	80	0		100	0	0	0		0	0	0	0		
PHF	.000	.000	.500	.000	.500	.250	.000	.500	.000	.417	.650	.000	.000	.000	.650	.000	.000	.000	.000	.000	.688



Levels of Service

TRANSPORTATION
CONSULTANTS, INC.

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	133	80	142	427	150
Future Vol, veh/h	38	133	80	142	427	150
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	205	155	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	156	94	167	502	176

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	261	0	-	0	262	47
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1300	-	-	-	705	1012
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	844	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1300	-	-	-	680	1012
Mov Cap-2 Maneuver	-	-	-	-	680	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	844	-

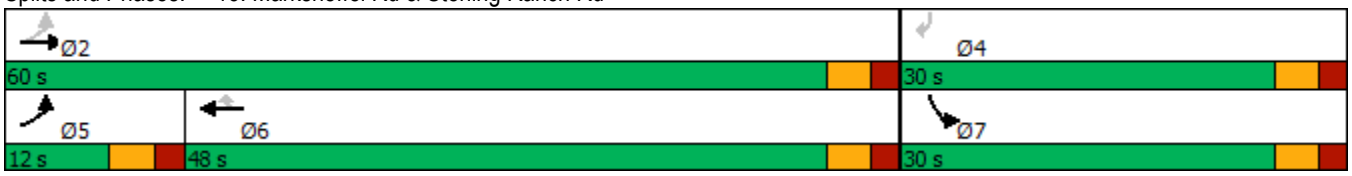
Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	20
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1300	-	-	-	680	1012
HCM Lane V/C Ratio	0.034	-	-	-	0.739	0.174
HCM Control Delay (s)	7.9	-	-	-	23.7	9.3
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	6.6	0.6

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	133	80	142	427	150
Future Volume (vph)	38	133	80	142	427	150
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		7	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0
Total Split (s)	12.0	60.0	48.0	48.0	30.0	30.0
Total Split (%)	13.3%	66.7%	53.3%	53.3%	33.3%	33.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Max	Max	Max	None	None
Act Effct Green (s)	55.1	55.1	48.3	48.3	17.1	17.1
Actuated g/C Ratio	0.67	0.67	0.59	0.59	0.21	0.21
v/c Ratio	0.05	0.07	0.05	0.17	0.71	0.38
Control Delay	5.6	5.3	9.7	2.5	35.9	7.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	5.3	9.7	2.5	35.9	7.0
LOS	A	A	A	A	D	A
Approach Delay		5.4	5.1		28.4	
Approach LOS		A	A		C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 82.2	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 19.0	Intersection LOS: B
Intersection Capacity Utilization 29.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Marksheffel Rd & Sterling Ranch Rd



Intersection	
Int Delay, s/veh	15.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	130	108	178	481	283	100
Future Vol, veh/h	130	108	178	481	283	100
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	300	-	-	205	155	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	153	127	209	566	333	118

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	775	0	-	0	579	105
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	370	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	837	-	-	-	446	929
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	837	-	-	-	364	929
Mov Cap-2 Maneuver	-	-	-	-	364	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	669	-

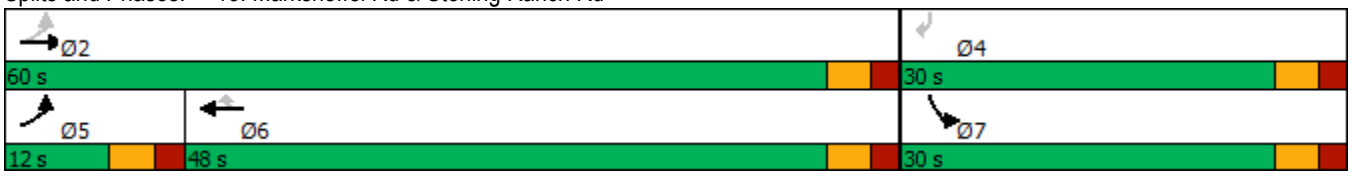
Approach	EB	WB	SB
HCM Control Delay, s	5.6	0	48.5
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	837	-	-	-	364	929
HCM Lane V/C Ratio	0.183	-	-	-	0.915	0.127
HCM Control Delay (s)	10.3	-	-	-	62.3	9.4
HCM Lane LOS	B	-	-	-	F	A
HCM 95th %tile Q(veh)	0.7	-	-	-	9.4	0.4

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	130	108	178	481	283	100
Future Volume (vph)	130	108	178	481	283	100
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		7	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	7	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	23.0	23.0	10.0	23.0
Total Split (s)	12.0	60.0	48.0	48.0	30.0	30.0
Total Split (%)	13.3%	66.7%	53.3%	53.3%	33.3%	33.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	Max	Max	Max	None	None
Act Effct Green (s)	55.1	55.1	43.3	43.3	12.7	12.7
Actuated g/C Ratio	0.71	0.71	0.56	0.56	0.16	0.16
v/c Ratio	0.19	0.05	0.11	0.50	0.59	0.33
Control Delay	4.6	3.9	8.8	2.7	34.7	8.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	4.6	3.9	8.8	2.7	34.7	8.7
LOS	A	A	A	A	C	A
Approach Delay		4.3	4.3		27.9	
Approach LOS		A	A		C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 77.8	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.59	
Intersection Signal Delay: 11.4	Intersection LOS: B
Intersection Capacity Utilization 45.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Marksheffel Rd & Sterling Ranch Rd



Intersection	
Int Delay, s/veh	14.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	133	2	8	80	142	2	0	6	427	1	150
Future Vol, veh/h	38	133	2	8	80	142	2	0	6	427	1	150
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	250	-	205	0	-	-	155	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	156	2	9	94	167	2	0	7	502	1	176

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	261	0	0	158	0	0	313	526	79	280	360	47
Stage 1	-	-	-	-	-	-	247	247	-	112	112	-
Stage 2	-	-	-	-	-	-	66	279	-	168	248	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1300	-	-	1419	-	-	616	455	965	650	565	1012
Stage 1	-	-	-	-	-	-	735	701	-	881	802	-
Stage 2	-	-	-	-	-	-	937	678	-	817	700	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1300	-	-	1419	-	-	492	436	965	625	542	1012
Mov Cap-2 Maneuver	-	-	-	-	-	-	492	436	-	625	542	-
Stage 1	-	-	-	-	-	-	709	676	-	850	797	-
Stage 2	-	-	-	-	-	-	768	674	-	783	676	-

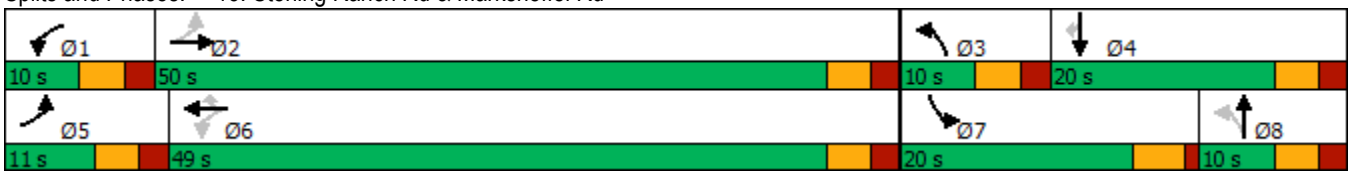
Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.3	9.7	24.7
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	492	965	1300	-	-	1419	-	-	625	542	1012
HCM Lane V/C Ratio	0.005	0.007	0.034	-	-	0.007	-	-	0.804	0.002	0.174
HCM Control Delay (s)	12.4	8.8	7.9	-	-	7.6	-	-	30.1	11.7	9.3
HCM Lane LOS	B	A	A	-	-	A	-	-	D	B	A
HCM 95th %tile Q(veh)	0	0	0.1	-	-	0	-	-	8.1	0	0.6

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	38	133	8	80	142	2	0	427	1	150
Future Volume (vph)	38	133	8	80	142	2	0	427	1	150
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8	7	4	
Permitted Phases	2		6		6	8				4
Detector Phase	5	2	1	6	6	3	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	10.0	23.0	23.0	10.0	10.0	9.5	10.0	10.0
Total Split (s)	11.0	50.0	10.0	49.0	49.0	10.0	10.0	20.0	20.0	20.0
Total Split (%)	12.2%	55.6%	11.1%	54.4%	54.4%	11.1%	11.1%	22.2%	22.2%	22.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	50.4	49.4	47.8	45.0	45.0	5.9	5.1	14.6	14.1	14.1
Actuated g/C Ratio	0.65	0.64	0.62	0.58	0.58	0.08	0.07	0.19	0.18	0.18
v/c Ratio	0.05	0.07	0.01	0.05	0.17	0.01	0.01	0.77	0.00	0.41
Control Delay	5.6	6.8	5.8	9.3	1.6	29.5	0.0	40.2	29.0	8.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	6.8	5.8	9.3	1.6	29.5	0.0	40.2	29.0	8.6
LOS	A	A	A	A	A	C	A	D	C	A
Approach Delay		6.5		4.4			6.6		32.0	
Approach LOS		A		A			A		C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 77.1	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 20.9	Intersection LOS: C
Intersection Capacity Utilization 36.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



Intersection	
Int Delay, s/veh	21.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	130	108	2	6	178	481	2	0	7	283	1	100
Future Vol, veh/h	130	108	2	6	178	481	2	0	7	283	1	100
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	300	-	-	250	-	205	0	-	-	155	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	127	2	7	209	566	2	0	8	333	1	118

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	775	0	0	129	0	0	553	1223	65	593	658	105
Stage 1	-	-	-	-	-	-	434	434	-	223	223	-
Stage 2	-	-	-	-	-	-	119	789	-	370	435	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	837	-	-	1454	-	-	416	178	986	389	383	929
Stage 1	-	-	-	-	-	-	570	579	-	759	718	-
Stage 2	-	-	-	-	-	-	873	400	-	622	579	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	837	-	-	1454	-	-	310	145	986	~ 330	311	929
Mov Cap-2 Maneuver	-	-	-	-	-	-	310	145	-	~ 330	311	-
Stage 1	-	-	-	-	-	-	466	473	-	620	714	-
Stage 2	-	-	-	-	-	-	758	398	-	504	473	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	5.6	0.1	10.5	67.6
HCM LOS			B	F

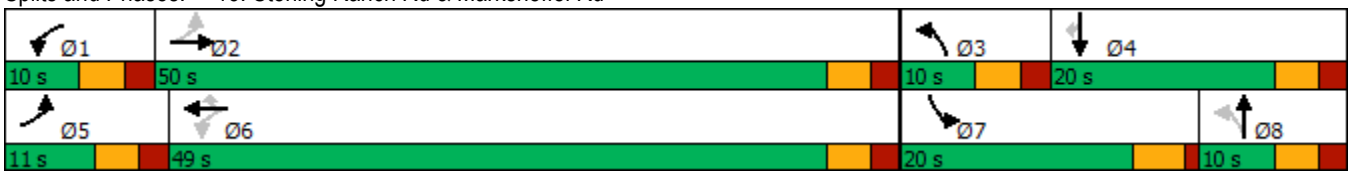
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2	SBLn3
Capacity (veh/h)	310	986	837	-	-	1454	-	-	330	311	929
HCM Lane V/C Ratio	0.008	0.008	0.183	-	-	0.005	-	-	1.009	0.004	0.127
HCM Control Delay (s)	16.7	8.7	10.3	-	-	7.5	-	-	88.3	16.6	9.4
HCM Lane LOS	C	A	B	-	-	A	-	-	F	C	A
HCM 95th %tile Q(veh)	0	0	0.7	-	-	0	-	-	11.4	0	0.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	EBL	EBT	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	130	108	6	178	481	2	0	283	1	100
Future Volume (vph)	130	108	6	178	481	2	0	283	1	100
Turn Type	pm+pt	NA	pm+pt	NA	Perm	pm+pt	NA	Prot	NA	Perm
Protected Phases	5	2	1	6		3	8	7	4	
Permitted Phases	2		6		6	8				4
Detector Phase	5	2	1	6	6	3	8	7	4	4
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	23.0	10.0	23.0	23.0	10.0	10.0	9.5	10.0	10.0
Total Split (s)	11.0	50.0	10.0	49.0	49.0	10.0	10.0	20.0	20.0	20.0
Total Split (%)	12.2%	55.6%	11.1%	54.4%	54.4%	11.1%	11.1%	22.2%	22.2%	22.2%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.5	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	4.5	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lag	Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	Max	None	Max	Max	None	None	None	None	None
Act Effct Green (s)	54.5	53.5	49.2	44.2	44.2	5.9	5.0	12.5	11.3	11.3
Actuated g/C Ratio	0.69	0.68	0.62	0.56	0.56	0.07	0.06	0.16	0.14	0.14
v/c Ratio	0.20	0.05	0.01	0.11	0.50	0.02	0.01	0.62	0.00	0.34
Control Delay	5.6	6.3	5.7	9.3	2.8	29.0	0.0	36.7	30.0	6.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.6	6.3	5.7	9.3	2.8	29.0	0.0	36.7	30.0	6.6
LOS	A	A	A	A	A	C	A	D	C	A
Approach Delay		5.9		4.6			5.8		28.9	
Approach LOS		A		A			A		C	

Intersection Summary	
Cycle Length: 90	
Actuated Cycle Length: 79	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.62	
Intersection Signal Delay: 12.0	Intersection LOS: B
Intersection Capacity Utilization 53.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 13: Sterling Ranch Rd & Marksheffel Rd



Appendix Table 1

TRANSPORTATION
CONSULTANTS, INC.

Appendix Table 1
Existing Truck Operations
Colorado Concrete Crushing

DATE	Day of the Week	Tandem	Semi	TOTAL LOADS	DATE	Day of the Week	Tandem	Semi	TOTAL LOADS
3/6/2022	Sunday	0	0	0	5/23/2022	Monday	19	4	23
3/13/2022	Sunday	0	0	0	10/17/2022	Monday	19	4	23
3/20/2022	Sunday	0	0	0	11/3/2022	Thursday	17	6	23
3/27/2022	Sunday	0	0	0	9/30/2022	Friday	17	6	23
4/3/2022	Sunday	0	0	0	5/24/2022	Tuesday	18	6	24
4/10/2022	Sunday	0	0	0	10/13/2022	Thursday	20	4	24
4/17/2022	Sunday	0	0	0	10/21/2022	Friday	18	6	24
4/24/2022	Sunday	0	0	0	9/17/2022	Saturday	23	1	24
5/1/2022	Sunday	0	0	0	5/2/2022	Monday	25	0	25
5/8/2022	Sunday	0	0	0	11/21/2022	Monday	17	8	25
5/15/2022	Sunday	0	0	0	12/6/2022	Tuesday	23	2	25
6/12/2022	Sunday	0	0	0	10/6/2022	Thursday	12	13	25
6/19/2022	Sunday	0	0	0	10/27/2022	Thursday	21	4	25
6/26/2022	Sunday	0	0	0	12/29/2022	Thursday	25	0	25
7/3/2022	Sunday	0	0	0	5/27/2022	Friday	17	8	25
7/10/2022	Sunday	0	0	0	12/2/2022	Friday	20	5	25
7/17/2022	Sunday	0	0	0	10/31/2022	Monday	18	8	26
7/24/2022	Sunday	0	0	0	8/16/2022	Tuesday	26	0	26
7/31/2022	Sunday	0	0	0	10/12/2022	Wednesday	20	6	26
8/7/2022	Sunday	0	0	0	3/3/2022	Thursday	21	5	26
8/14/2022	Sunday	0	0	0	6/30/2022	Thursday	17	9	26
8/21/2022	Sunday	0	0	0	9/1/2022	Thursday	18	8	26
9/4/2022	Sunday	0	0	0	10/18/2022	Tuesday	21	6	27
9/11/2022	Sunday	0	0	0	10/19/2022	Wednesday	21	6	27
9/18/2022	Sunday	0	0	0	6/16/2022	Thursday	26	1	27
9/25/2022	Sunday	0	0	0	11/9/2022	Wednesday	20	8	28
10/2/2022	Sunday	0	0	0	12/28/2022	Wednesday	24	4	28
10/9/2022	Sunday	0	0	0	11/17/2022	Thursday	13	15	28
10/16/2022	Sunday	0	0	0	12/1/2022	Thursday	18	11	29
10/23/2022	Sunday	0	0	0	6/3/2022	Friday	25	4	29
10/30/2022	Sunday	0	0	0	4/12/2022	Tuesday	15	15	30
11/6/2022	Sunday	0	0	0	5/31/2022	Tuesday	23	7	30
11/13/2022	Sunday	0	0	0	12/14/2022	Wednesday	30	0	30
11/20/2022	Sunday	0	0	0	8/4/2022	Thursday	8	22	30
11/27/2022	Sunday	0	0	0	7/1/2022	Friday	14	16	30
12/4/2022	Sunday	0	0	0	12/20/2022	Tuesday	28	3	31
12/11/2022	Sunday	0	0	0	5/6/2022	Friday	31	0	31
12/18/2022	Sunday	0	0	0	12/5/2022	Monday	28	4	32
12/25/2022	Sunday	0	0	0	12/19/2022	Monday	29	3	32
3/21/2022	Monday	0	0	0	12/7/2022	Wednesday	26	6	32
7/4/2022	Monday	0	0	0	8/25/2022	Thursday	17	15	32
7/11/2022	Monday	0	0	0	6/10/2022	Friday	29	3	32
9/5/2022	Monday	0	0	0	5/17/2022	Tuesday	32	1	33
10/3/2022	Monday	0	0	0	6/15/2022	Wednesday	27	6	33
11/28/2022	Monday	0	0	0	8/30/2022	Tuesday	10	24	34
12/26/2022	Monday	0	0	0	10/25/2022	Tuesday	26	8	34
4/26/2022	Tuesday	0	0	0	12/27/2022	Tuesday	19	15	34
11/29/2022	Tuesday	0	0	0	3/30/2022	Wednesday	20	14	34
8/31/2022	Wednesday	0	0	0	5/18/2022	Wednesday	26	8	34
3/10/2022	Thursday	0	0	0	4/28/2022	Thursday	34	0	34
3/17/2022	Thursday	0	0	0	11/24/2022	Thursday	25	9	34
4/14/2022	Thursday	0	0	0	7/15/2022	Friday	26	8	34
4/21/2022	Thursday	0	0	0	8/26/2022	Friday	18	16	34
12/22/2022	Thursday	0	0	0	5/16/2022	Monday	35	0	35
4/1/2022	Friday	0	0	0	3/15/2022	Tuesday	29	6	35
4/22/2022	Friday	0	0	0	10/4/2022	Tuesday	28	7	35
11/18/2022	Friday	0	0	0	5/20/2022	Friday	27	8	35
11/25/2022	Friday	0	0	0	6/24/2022	Friday	24	11	35
12/23/2022	Friday	0	0	0	5/11/2022	Wednesday	36	0	36
12/30/2022	Friday	0	0	0	6/9/2022	Thursday	34	2	36
3/5/2022	Saturday	0	0	0	3/4/2022	Friday	36	0	36
4/2/2022	Saturday	0	0	0	9/9/2022	Friday	26	10	36
4/9/2022	Saturday	0	0	0	6/6/2022	Monday	24	13	37
4/16/2022	Saturday	0	0	0	10/24/2022	Monday	28	11	39
4/23/2022	Saturday	0	0	0	10/11/2022	Tuesday	31	8	39
4/30/2022	Saturday	0	0	0	3/2/2022	Wednesday	29	10	39
5/7/2022	Saturday	0	0	0	5/25/2022	Wednesday	38	1	39
5/14/2022	Saturday	0	0	0	10/5/2022	Wednesday	35	4	39
6/11/2022	Saturday	0	0	0	7/14/2022	Thursday	30	9	39
6/18/2022	Saturday	0	0	0	9/6/2022	Tuesday	30	10	40
6/25/2022	Saturday	0	0	0	3/14/2022	Monday	36	5	41
7/2/2022	Saturday	0	0	0	6/1/2022	Wednesday	43	0	43
7/16/2022	Saturday	0	0	0	8/17/2022	Wednesday	41	2	43
7/23/2022	Saturday	0	0	0	9/22/2022	Thursday	37	6	43
7/30/2022	Saturday	0	0	0	6/27/2022	Monday	40	4	44
8/13/2022	Saturday	0	0	0	8/12/2022	Friday	30	14	44
9/10/2022	Saturday	0	0	0	7/25/2022	Monday	36	9	45
10/8/2022	Saturday	0	0	0	8/15/2022	Monday	22	23	45
10/15/2022	Saturday	0	0	0	8/2/2022	Tuesday	28	17	45
10/22/2022	Saturday	0	0	0	5/26/2022	Thursday	42	3	45
10/29/2022	Saturday	0	0	0	7/19/2022	Tuesday	34	12	46
11/12/2022	Saturday	0	0	0	7/13/2022	Wednesday	32	14	46
11/19/2022	Saturday	0	0	0	5/12/2022	Thursday	47	0	47
11/26/2022	Saturday	0	0	0	8/8/2022	Monday	28	20	48
12/3/2022	Saturday	0	0	0	10/10/2022	Monday	35	13	48
12/10/2022	Saturday	0	0	0	6/14/2022	Tuesday	39	9	48
12/17/2022	Saturday	0	0	0	7/20/2022	Wednesday	40	8	48
12/24/2022	Saturday	0	0	0	9/16/2022	Friday	40	8	48
12/31/2022	Saturday	0	0	0	9/7/2022	Wednesday	39	10	49
3/7/2022	Monday	1	0	1	9/2/2022	Friday	49	0	49
5/4/2022	Wednesday	3	0	3	8/28/2022	Sunday	43	7	50
11/30/2022	Wednesday	0	3	3	9/12/2022	Monday	50	0	50
10/28/2022	Friday	3	0	3	7/26/2022	Tuesday	25	25	50
5/5/2022	Thursday	4	0	4	6/8/2022	Wednesday	34	16	50
3/19/2022	Saturday	4	0	4	11/2/2022	Wednesday	44	6	50
3/12/2022	Saturday	5	0	5	12/8/2022	Thursday	34	16	50
4/6/2022	Wednesday	6	0	6	11/5/2022	Saturday	34	16	50
11/16/2022	Wednesday	4	3	7	6/29/2022	Wednesday	48	3	51
3/26/2022	Saturday	8	0	8	5/19/2022	Thursday	39	12	51
4/7/2022	Thursday	9	0	9	6/13/2022	Monday	45	7	52
12/9/2022	Friday	7	2	9	9/28/2022	Wednesday	35	17	52
9/3/2022	Saturday	9	0	9	7/21/2022	Thursday	50	2	52
5/30/2022	Monday	10	0	10	7/27/2022	Wednesday	45	8	53
4/19/2022	Tuesday	10	0	10	8/29/2022	Monday	32	22	54
11/22/2022	Tuesday	4	6	10	9/13/2022	Tuesday	46	9	55
12/13/2022	Tuesday	10	0	10	9/23/2022	Friday	47	8	55
3/9/2022	Wednesday	10	0	10	6/20/2022	Monday	56	0	56
11/23/2022	Wednesday	3	7	10	6/22/2022	Wednesday	48	8	56
4/4/2022	Monday	9	2	11	4/8/2022	Friday	11	45	56
3/22/2022	Tuesday	11	0	11	8/6/2022	Saturday	50	7	57
4/27/2022	Wednesday	11	0	11	8/22/2022	Monday	48	10	58
3/11/2022	Friday	11	0	11	9/19/2022	Monday	53	6	59
3/18/2022	Friday	11	0	11	6/23/2022	Thursday	45	14	59
11/11/2022	Friday	3	8	11	6/28/2022	Tuesday	53	7	60
4/18/2022	Monday	12	0	12	8/9/2022	Tuesday	48	12	60
5/3/2022	Tuesday	12	0	12	7/6/2022	Wednesday	38	23	61
10/1/2022	Saturday	3	9	12	8/3/2022	Wednesday	38	23	61
4/25/2022	Monday	13	0	13	9/15/2022	Thursday	54	8	62
6/21/2022	Tuesday	9	4	13	3/25/2022	Friday	4	58	62
4/13/2022	Wednesday	13	0	13	4/11/2022	Monday	17	46	63
12/15/2022	Thursday	13	0	13	8/24/2022	Wednesday	53	10	63
9/27/2022	Tuesday	12	2	14	9/14/2022	Wednesday	56	7	63
3/16/2022	Wednesday	8	6	14	7/22/2022	Friday	53	10	63
4/20/2022	Wednesday	14	0	14	11/8/2022	Tuesday	26	39	65
12/12/2022	Monday	11	4	15	5/10/2022	Tuesday	66	0	66
11/1/2022	Tuesday	15	0	15	7/28/2022	Thursday	51	15	66
3/24/2022	Thursday	15	0	15	8/23/2022	Tuesday	50	18	68
8/20/2022	Saturday	9	6	15	3/1/2022	Tuesday	64	6	70
11/7/2022	Monday	7	9	16	8/18/2022	Thursday	47	23	70
12/21/2022	Wednesday	12	4	16	7/29/2022	Friday	43	27	70
4/15/2022	Friday	16	0	16	11/4/2022	Friday	44	27	71
12/16/2022	Friday	16	0	16	9/26/2022	Monday	67	6	73
11/14/2022	Monday	9	8	17	6/7/2022	Tuesday	65	8	73
11/15/2022	Tuesday	11	6	17	3/28/2022	Monday	13	62	75
10/14/2022	Friday	13	4	17	7/5/2022	Tuesday	65	10	75
3/23/2022	Wednesday	12	6	18	8/10/2022	Wednesday	47	29	76
9/8/2022	Thursday	10	8	18	6/2/2022	Thursday	72	4	76
6/17/2022	Friday	18	0	18	8/19/2022	Friday	59	17	76
9/24/2022	Saturday	13	6	19	3/31/2022	Thursday	16	61	77
3/8/2022	Tuesday	20	0	20	5/9/2022	Monday	79	0	79
9/29/2022	Thursday	20	0	20	7/18/2022	Monday	66	13	79
10/20/2022	Thursday	12	8	20	3/29/2022	Tuesday	17	68	85
11/10/2022	Thursday	12	8	20	8/11/2022	Thursday	81	8	89
4/29/2022	Friday	20	0	20	8/1/2022	Monday	75	24	99
4/5/2022	Tuesday	13	8	21	7/9/2022	Saturday	91	12	103
10/26/2022	Wednesday	14	7	21	7/12/2022	Tuesday	94	12	106
8/27/2022	Saturday	21	0	21	7/7/2022	Thursday	71	37	108
5/13/2022	Friday	22	0	22	9/21/2022	Wednesday	93	17	110
8/5/2022	Friday	4	18	22	9/20/2022	Tuesday	98	13	111
10/7/2022	Friday	18	4	22	7/8/2022	Friday	128	7	135
						Maximum	**128**	**68**	**135**
						85th Percentile (Sun-Sat)	**43**	**13**	**55**
						85th Percentile (Mon-Fri)	**47**	**15**	**61**

Source: LSC Transportation Consultants, Inc.

Jan-23

Sterling Recycling Facility Street Improvement Plan

Water and SS plans can be removed

TRANSPORTATION CONSULTANTS, INC.

STERLING RECYCLING FACILITY

COUNTY OF EL PASO, STATE OF COLORADO

STREET IMPROVEMENT PLAN

GENERAL CONSTRUCTION NOTES:

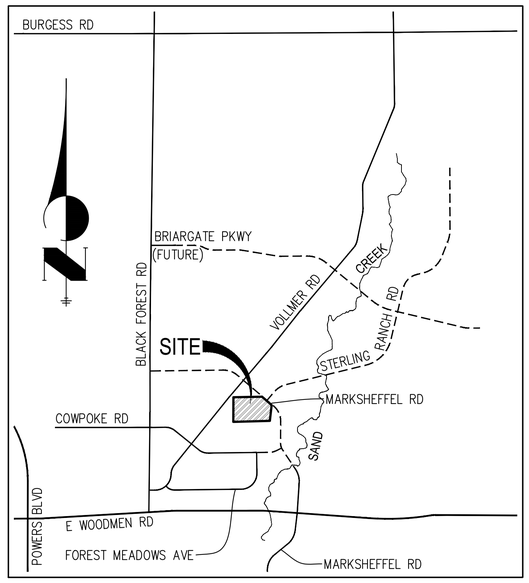
1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
4. ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PCD.
5. ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K – 1.2C.
7. ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" VERTICAL IN THIS AREA.
8. ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 – CULVERTS.
9. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY DEVELOPMENT SERVICES ENGINEERING DIVISION PRIOR TO CONSTRUCTION.

SIGNING AND STRIPING NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT.
4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. ALL STREET NAME SIGNS SHALL HAVE 'D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS (DPW) PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

STANDARD NOTES FOR EL PASO COUNTY CONSTRUCTION PLANS:

1. ALL DRAINAGE AND ROADWAY CONSTRUCTION SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND THE EL PASO COUNTY ENGINEERING CRITERIA MANUAL.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE NOTIFICATION AND FIELD NOTIFICATION OF ALL EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, BEFORE BEGINNING CONSTRUCTION. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. CALL 811 TO CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC).
3. CONTRACTOR SHALL KEEP A COPY OF THESE APPROVED PLANS, THE GRADING AND EROSION CONTROL PLAN, THE STORMWATER MANAGEMENT PLAN (SWMP), THE SOILS AND GEOTECHNICAL REPORT, AND THE APPROPRIATE DESIGN AND CONSTRUCTION STANDARDS AND SPECIFICATIONS AT THE JOB SITE AT ALL TIMES, INCLUDING THE FOLLOWING:
   a. EL PASO COUNTY ENGINEERING CRITERIA MANUAL (ECM)
   b. CITY OF COLORADO SPRINGS/EL PASO COUNTY DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2
   c. COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION
   d. CDOT M & S STANDARDS
4. NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING. ANY MODIFICATIONS NECESSARY TO MEET CRITERIA AFTER-THE-FACT WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
5. IT IS THE DESIGN ENGINEER'S RESPONSIBILITY TO ACCURATELY SHOW EXISTING CONDITIONS, BOTH ONSITE AND OFFSITE, ON THE CONSTRUCTION PLANS. ANY MODIFICATIONS NECESSARY DUE TO CONFLICTS, OMISSIONS, OR CHANGED CONDITIONS WILL BE ENTIRELY THE DEVELOPER'S RESPONSIBILITY TO RECTIFY.
6. CONTRACTOR SHALL SCHEDULE A PRE-CONSTRUCTION MEETING WITH EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (PCD) – INSPECTIONS, PRIOR TO STARTING CONSTRUCTION.
7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO UNDERSTAND THE REQUIREMENTS OF ALL JURISDICTIONAL AGENCIES AND TO OBTAIN ALL REQUIRED PERMITS, INCLUDING BUT NOT LIMITED TO EL PASO COUNTY EROSION AND STORMWATER QUALITY CONTROL PERMIT (ESQCP), REGIONAL BUILDING FLOODPLAIN DEVELOPMENT PERMIT, U.S. ARMY CORPS OF ENGINEERS-ISSUED 401 AND/OR 404 PERMITS, AND COUNTY AND STATE FUGITIVE DUST PERMITS.
8. CONTRACTOR SHALL NOT DEVIATE FROM THE PLANS WITHOUT FIRST OBTAINING WRITTEN APPROVAL FROM THE DESIGN ENGINEER AND PCD. CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER IMMEDIATELY UPON DISCOVERY OF ANY ERRORS OR INCONSISTENCIES.
9. ALL STORM DRAIN PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED AND APPROVED BY PCD.
10. CONTRACTOR SHALL COORDINATE GEOTECHNICAL TESTING PER ECM STANDARDS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PCD PRIOR TO PLACEMENT OF CURB AND GUTTER AND PAVEMENT.
11. ALL CONSTRUCTION TRAFFIC MUST ENTER/EXIT THE SITE AT APPROVED CONSTRUCTION ACCESS POINTS.
12. SIGHT VISIBILITY TRIANGLES AS IDENTIFIED IN THE PLANS SHALL BE PROVIDED AT ALL INTERSECTIONS. OBSTRUCTIONS GREATER THAN 18 INCHES ABOVE FLOWLINE ARE NOT ALLOWED WITHIN SIGHT TRIANGLES.
13. SIGNING AND STRIPING SHALL COMPLY WITH EL PASO COUNTY PCD AND MUTCD CRITERIA. [IF APPLICABLE, ADDITIONAL SIGNING AND STRIPING NOTES WILL BE PROVIDED.]
14. CONTRACTOR SHALL OBTAIN ANY PERMITS REQUIRED BY EL PASO COUNTY DPW, INCLUDING WORK WITHIN THE RIGHT-OF-WAY AND SPECIAL TRANSPORT PERMITS.
15. THE LIMITS OF CONSTRUCTION SHALL REMAIN WITHIN THE PROPERTY LINE UNLESS OTHERWISE NOTED. THE OWNER/DEVELOPER SHALL OBTAIN WRITTEN PERMISSION AND EASEMENTS, WHERE REQUIRED, FROM ADJOINING PROPERTY OWNER(S) PRIOR TO ANY OFF-SITE DISTURBANCE, GRADING, OR CONSTRUCTION.



VICINITY MAP

1"=1000'

BASIS OF BEARINGS

THE NORTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING MONUMENTED AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5 BY A 3-1/4" ALUMINUM CAP STAMPED "LS 10376" AND AT THE NORTH QUARTER CORNER BY A 3-1/4" ALUMINUM CAP STAMPED "LS 4842 1996", BEARING S89°14'13"W.

BENCHMARKS

1.THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42

2.THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40

3.THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

SHEET INDEX

AGENCIES

OWNER/DEVELOPER:	RHETORIC, LLC 20 BOULDER CRESCENT, SUITE 200 COLORADO SPRINGS, CO 80903 ERIC HOWARD (719) 964-0064	FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
CIVIL ENGINEER:	JR ENGINEERING, LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 MIKE BRAMLETT P.E. (303) 267-6240	GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460	ARCHITECT/PLANNER:	NES LANDSCAPE ARCHITECTS 619 N CASCADE AVE COLORADO SPRINGS, CO 80903 JENNIFER SHAGIN (719) 884-1374
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668-8769		

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

COLORADO REGISTERED MIKE V. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. — DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS' DISCRETION.

JOSHUA PALMER, P.E. — DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

DISTRICT APPROVALS

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO DISTRICT — DATE

OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH THE REQUIREMENTS OF THE GRADING AND EROSION CONTROL PLAN.

ERIC HOWARD — DATE

RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO 80903

811 Know what's below. Call before you dig.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO
ATTN: ERIC HOWARD
EHOWARD@GMAIL.COM
(719) 964-0064

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1"=1000'
V-SCALE	N/A
DATE	08/07/23
DESIGNED BY	APL
DRAWN BY	APL
CHECKED BY	

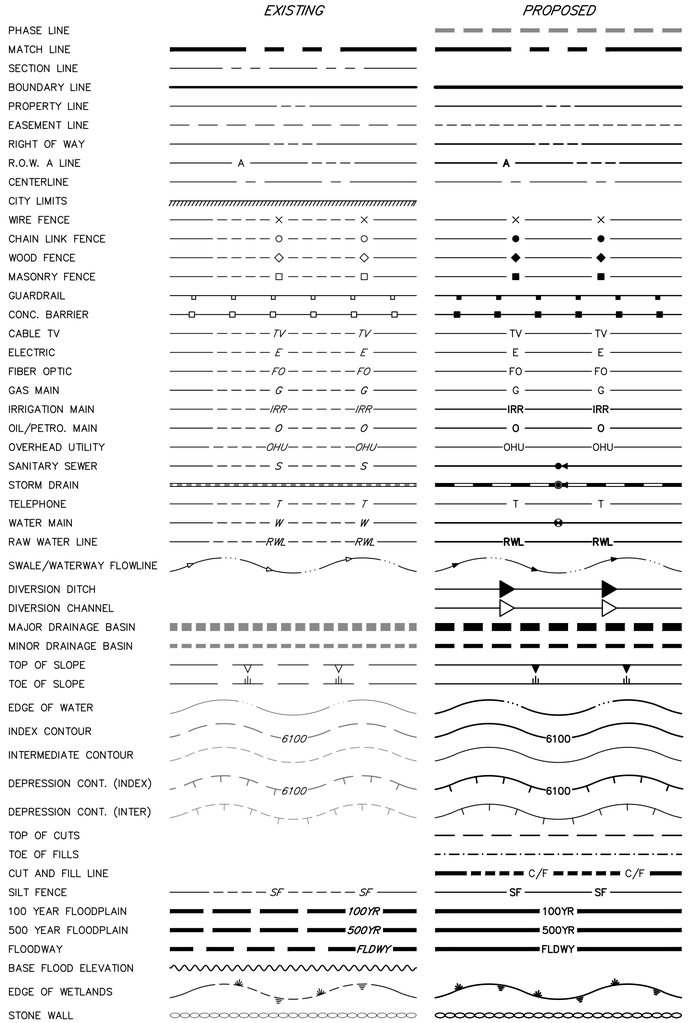
STERLING RECYCLING FACILITY

COVER SHEET

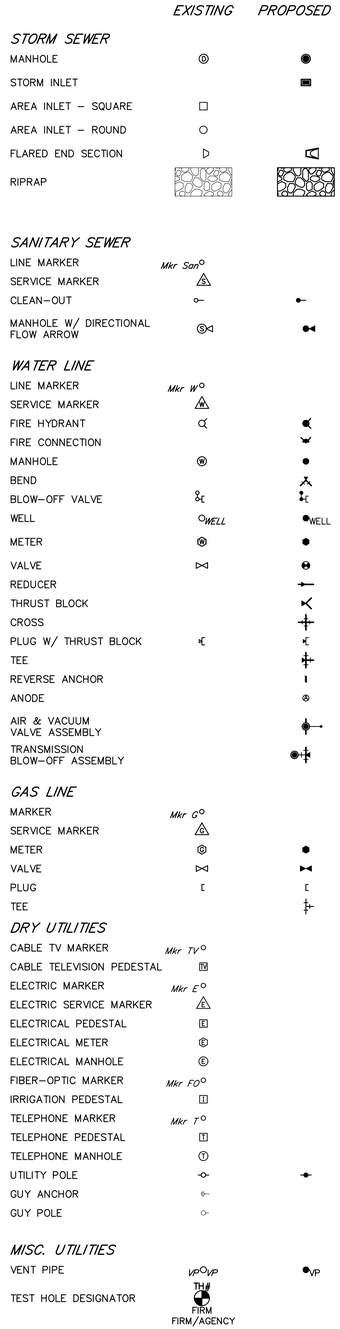
SHEET 1 OF 10

JOB NO. 25188.14

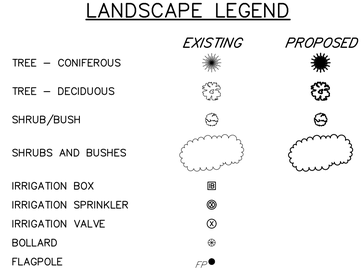
LAYER LINETYPE LEGEND



UTILITIES LEGEND



LANDSCAPE LEGEND



811 Know what's below. Call before you dig.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES SHOWN AND AS NOTED IN WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO
ATTN: ERIC HOWARD
EHOWARD@GMAIL.COM
(719) 964-0064

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	N/A	DESIGNED BY	PAL	CHECKED BY
V-SCALE	N/A	DRAWN BY	PAL	
DATE	08/07/23			

STERLING RECYCLING FACILITY

LEGEND

SHEET 2 OF 10

JOB NO. 25188.14

X:\2510000.all\2518814\Drawings\Sheet Dwgs\Street Improvement Plans\2518814 CV01.dwg, 8/7/2023 11:11:35 AM, _AutoCAD PDF (General Documentation).pc3

N: 410053.68
E: 232267.05

30.00' PROPOSED UTILITY & DRAINAGE EASEMENT

N89°12'38"E 792.39'

UNPLATTED
REC. NO. 217051682

N: 410067.96
E: 233318.69

MARKSHEFFEL ROAD

STERLING RANCH ROAD

20.00' ELECTRIC EASEMENT
REC. NO. 218654783

DRAINAGE EASEMENT
(WIDTH VARIES) REC. NO. 221184762

S49°38'29"E 370.63'

N: 409863.10
E: 233683.29

1+00

S49°38'29"E 80.00'

2+00

160.00' ACCESS & UTILITY EASEMENT
REC. NO. 215051140

S49°38'29"E 187.92'

20.00' ELECTRIC EASEMENT
REC. NO. 218654783

N: 409654.55
E: 233805.16

LOT 2
24.1 AC

N0°43'38"W 1000.44'

S40°21'31"W 1005.32'

STERLING RANCH ROAD

3+00

4+00

S40°21'31"W 970.64'

5+00

S40°21'31"W 935.77'

6+00

80.00' R.O.W.

7+00

N0°22'37"E 586.31'

LOT 1
6.6 AC

STA: 7+80.01 (30.00'LT)
N: 409325.50
E: 233265.79

8+00

9+00

10+00

DETENTION POND EASMENT

TRACT A

30.00' SANITARY EASEMENT
REC. NO. 219058065

N: 409053.33
E: 232279.75

30.00' PROPOSED
UTILITY & DRAINAGE EASEMENT

N: 409062.51
E: 233002.92

11+51

11+00

N: 409071.86
E: 233740.04

LIFT STATION EASEMENT (WIDTH VARIES)
REC. NO. 21501140

S89°16'22"W 670.16'

S89°16'22"W 106.14'

S89°16'22"W 684.10'

50.02' CONSTRUCTION EASEMENT
REC. NO. 219085065

PIONEER LANDSCAPE CENTERS
8335 VOLLMER ROAD
OWNER: 8335 VOLLMER ROAD LLC

811
Know what's **below.**
Call before you dig.

60 30 0 60 120
ORIGINAL SCALE: 1" = 60'

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE

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PREPARED FOR
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No.	REVISION	BY	DATE

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V-SCALE	N/A
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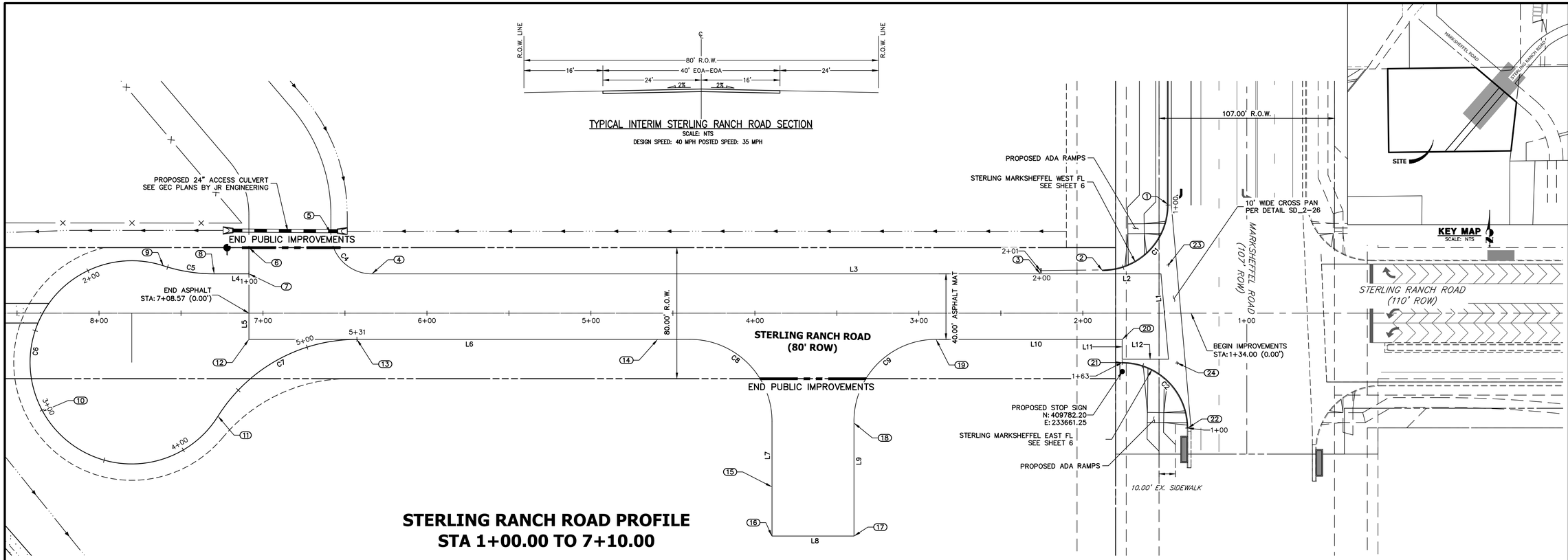
DESIGNED BY	APL
DRAWN BY	APL
CHECKED BY	

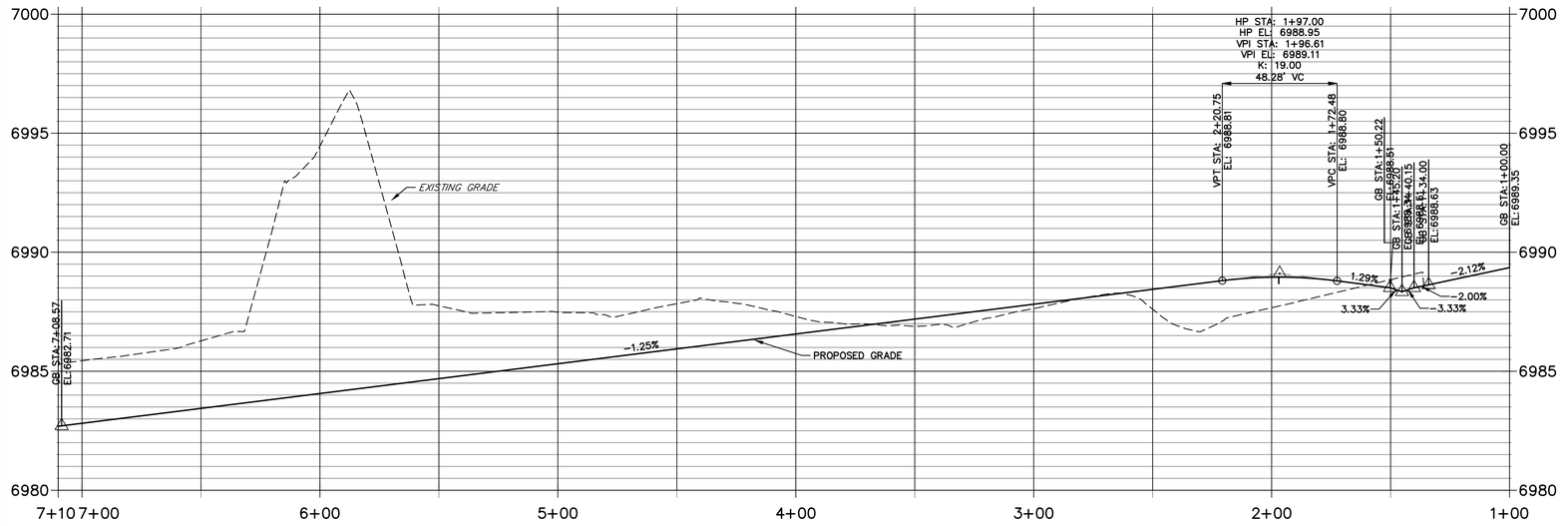
STERLING RECYCLING FACILITY
HORIZONTAL CONTROL PLAN

SHEET 3 OF 10

JOB NO. 25188.14



STERLING RANCH ROAD PROFILE
STA 1+00.00 TO 7+10.00



LINE TABLE		
LINE	BEARING	DISTANCE
L1	N54°40'49"W	52.30'
L2	S40°21'31"W	35.66'
L3	N40°21'31"E	150.37'
L4	S40°21'31"W	21.16'
L5	N49°38'29"W	40.00'
L6	S40°21'31"W	269.01'
L7	N49°38'29"W	70.00'
L8	S40°21'31"W	50.00'
L9	S49°38'29"E	70.00'
L10	S40°21'31"W	113.56'
L11	N49°38'29"W	12.10'
L12	S40°21'31"W	28.26'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	90°36'21"	40.00'	63.25'
C2	90°00'00"	40.00'	62.83'
C4	90°00'00"	25.00'	39.27'
C5	18°04'52"	100.00'	31.56'
C6	256°01'02"	62.00'	277.04'
C7	57°56'10"	100.00'	101.12'
C8	90°00'00"	50.00'	78.54'
C9	90°00'00"	50.00'	78.54'

POINT TABULATION					
POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
1	1+48.00	66.42' (RT)	Sterling Ranch Road	6989.04	PCR/ CONNECT TO EX FL
2	1+88.00	26.00' (RT)	Sterling Ranch Road	6988.97	PCR (FL)
3	2+25.87	24.00' (RT)	Sterling Ranch Road	6988.26	END TRANSTION EOA
4	6+33.60	24.00' (RT)	Sterling Ranch Road	6983.13	PC (EOA)
5	6+58.60	49.00' (RT)	Sterling Ranch Road	6982.55	PT (EOA)
6	7+08.60	40.00' (RT)	Sterling Ranch Road	6981.86	PI (EOA)
7	7+08.57	24.00' (RT)	Sterling Ranch Road	6982.18	BEGIN GRAVEL
8	7+29.73	24.00' (RT)	Sterling Ranch Road	6981.97	PC (GRAVEL)

POINT TABULATION					
POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
9	7+60.77	28.94' (RT)	Sterling Ranch Road	6981.65	PT (GRAVEL)
10	8+34.34	59.87' (LT)	Sterling Ranch Road	6980.41	LP (GRAVEL)
11	7+27.47	62.91' (LT)	Sterling Ranch Road	6981.78	PCC (GRAVEL)
12	7+08.57	16.00' (LT)	Sterling Ranch Road	6982.34	END ASPHALT
13	6+42.72	16.00' (LT)	Sterling Ranch Road	6983.17	PT (GRAVEL)
14	4+59.27	16.00' (LT)	Sterling Ranch Road	6985.48	PC (EOA)
15	3+89.56	106.00' (LT)	Sterling Ranch Road	6984.56	PT (EOA)
16	3+89.56	136.00' (LT)	Sterling Ranch Road	6983.96	END OF ASPHALT

POINT TABULATION					
POINT NUMBER	STATION	OFFSET	ALIGNMENT	ELEVATION	DESCRIPTION
17	3+39.56	136.00' (LT)	Sterling Ranch Road	6984.59	END OF ASPHALT
18	3+39.56	67.06' (LT)	Sterling Ranch Road	6985.97	PT (EOA)
19	2+89.56	16.00' (LT)	Sterling Ranch Road	6987.62	PC (EOA)
20	1+76.00	16.00' (LT)	Sterling Ranch Road	6988.47	PI (EOA)
21	1+76.00	30.10' (LT)	Sterling Ranch Road	6988.11	PCR (FL)
22	1+36.00	70.10' (LT)	Sterling Ranch Road	6987.65	PCR/ CONNECT TO EX. FL
23	1+47.80	29.47' (RT)	Sterling Ranch Road	6988.65	FL-FL INTERCEPT
24	1+42.52	30.35' (LT)	Sterling Ranch Road	6988.02	FL-FL INTERCEPT

Know what's below. Call before you dig.

30 15 0 30 60

HORIZONTAL
ORIGINAL SCALE: 1" = 30'
VERTICAL
ORIGINAL SCALE: 1" = 3'

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE

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PREPARED FOR
RHETORIC, LLC
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COLORADO SPRINGS, CO
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EHOWARD@GMAIL.COM
(719) 964-0064

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Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

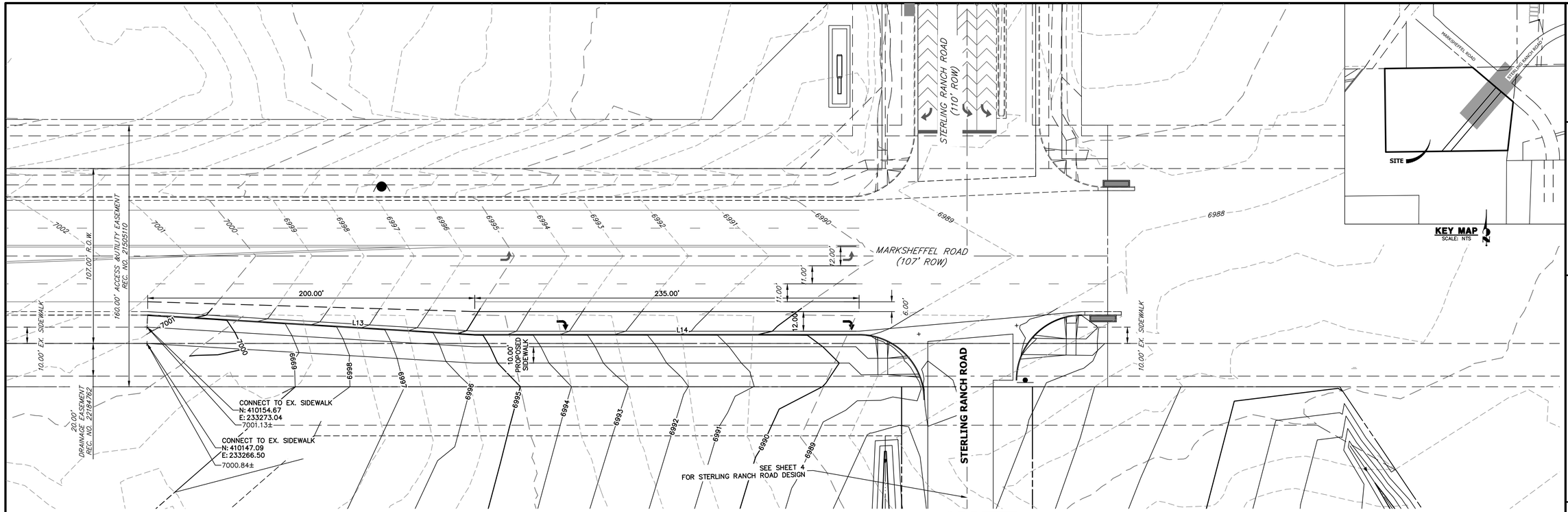
H-SCALE	1" = 30'
V-SCALE	1" = 3'
DATE	08/07/23
DESIGNED BY	APL
DRAWN BY	APL
CHECKED BY	

STERLING RECYCLING FACILITY

STREET PLAN & PROFILE INTERIM

SHEET 4 OF 10

JOB NO. 25188.14



LINE TABLE		
LINE	BEARING	DISTANCE
L13	S46°12'09"E	200.33'
L14	S49°38'27"E	234.58'

Know what's below.
Call before you dig.

30 15 0 30 60

HORIZONTAL
ORIGINAL SCALE: 1" = 30'
VERTICAL
ORIGINAL SCALE: 1" = 3'

ENGINEER'S STATEMENT

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MIKE A. BRAMLETT, P.E. DATE
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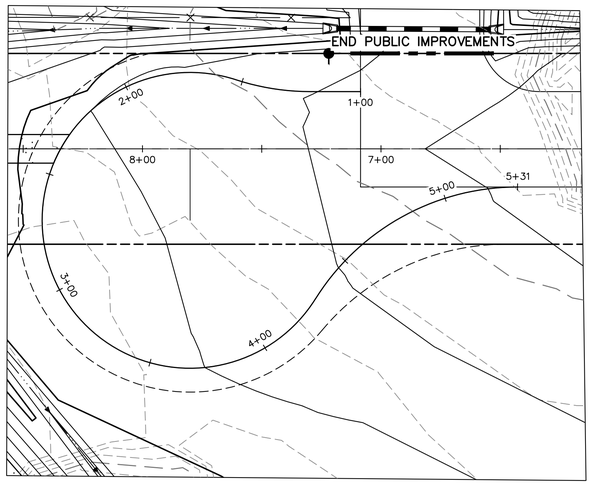
CHECKED BY	

STERLING RECYCLING FACILITY

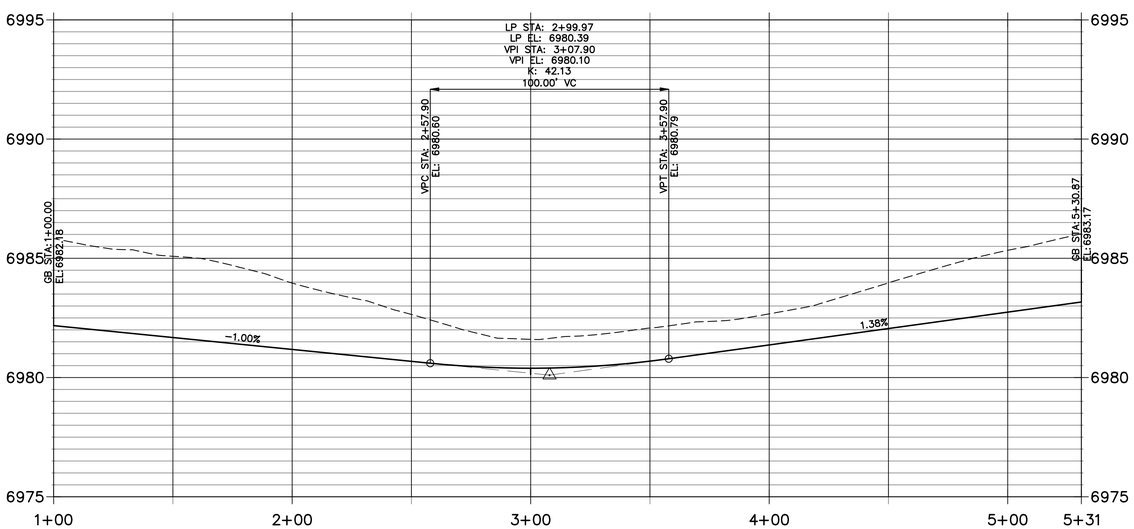
STREET PLAN & PROFILE INTERIM

SHEET 5 OF 10

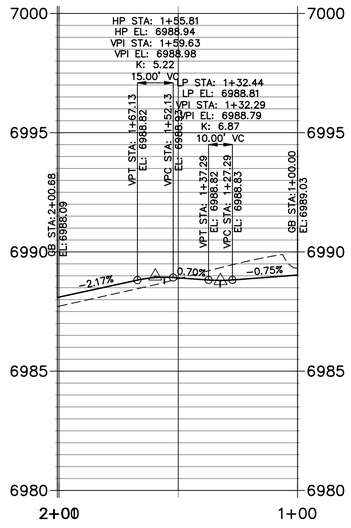
JOB NO. 25188.14

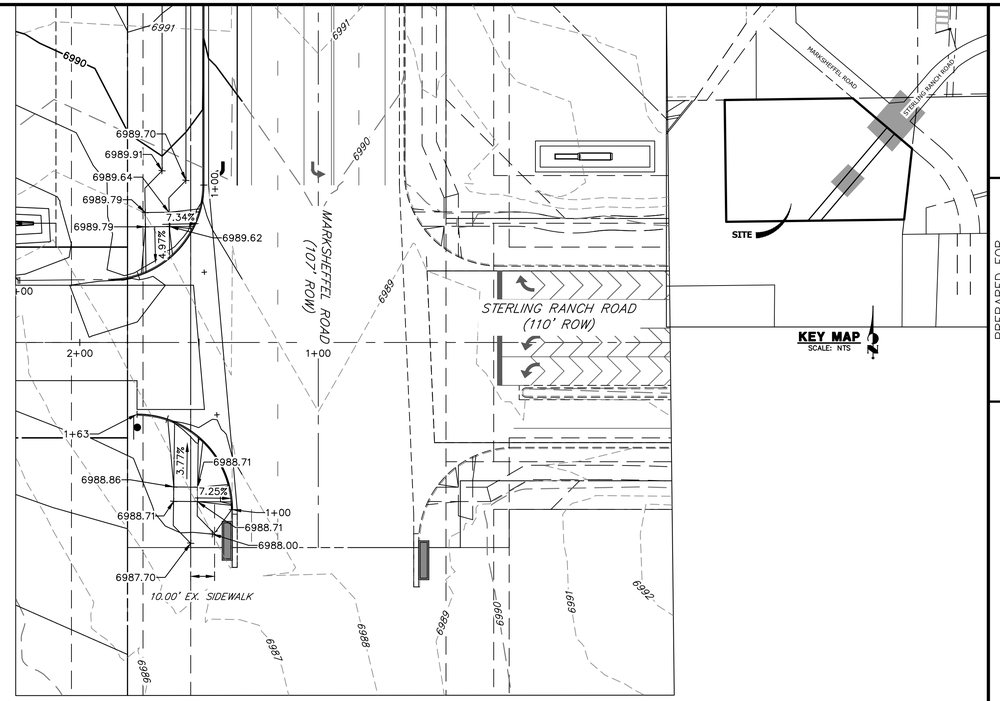


TEMP CUL-DE-SAC PROFILE
STA 1+00.00 TO 5+30.87

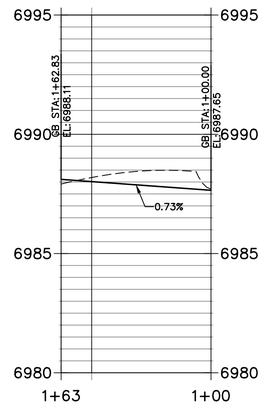


STERLING MARKSHEFFEL WEST FL PROF
STA 1+00.00 TO 2+00.68





STERLING MARKSHEFFEL EAST FL PROFILE PROFILE
STA 1+00.00 TO 1+62.83



Know what's below. Call before you dig.

30 15 0 30 60

HORIZONTAL
ORIGINAL SCALE: 1" = 30'
VERTICAL
ORIGINAL SCALE: 1" = 3'

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DATE

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

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No.	REVISION	BY	DATE

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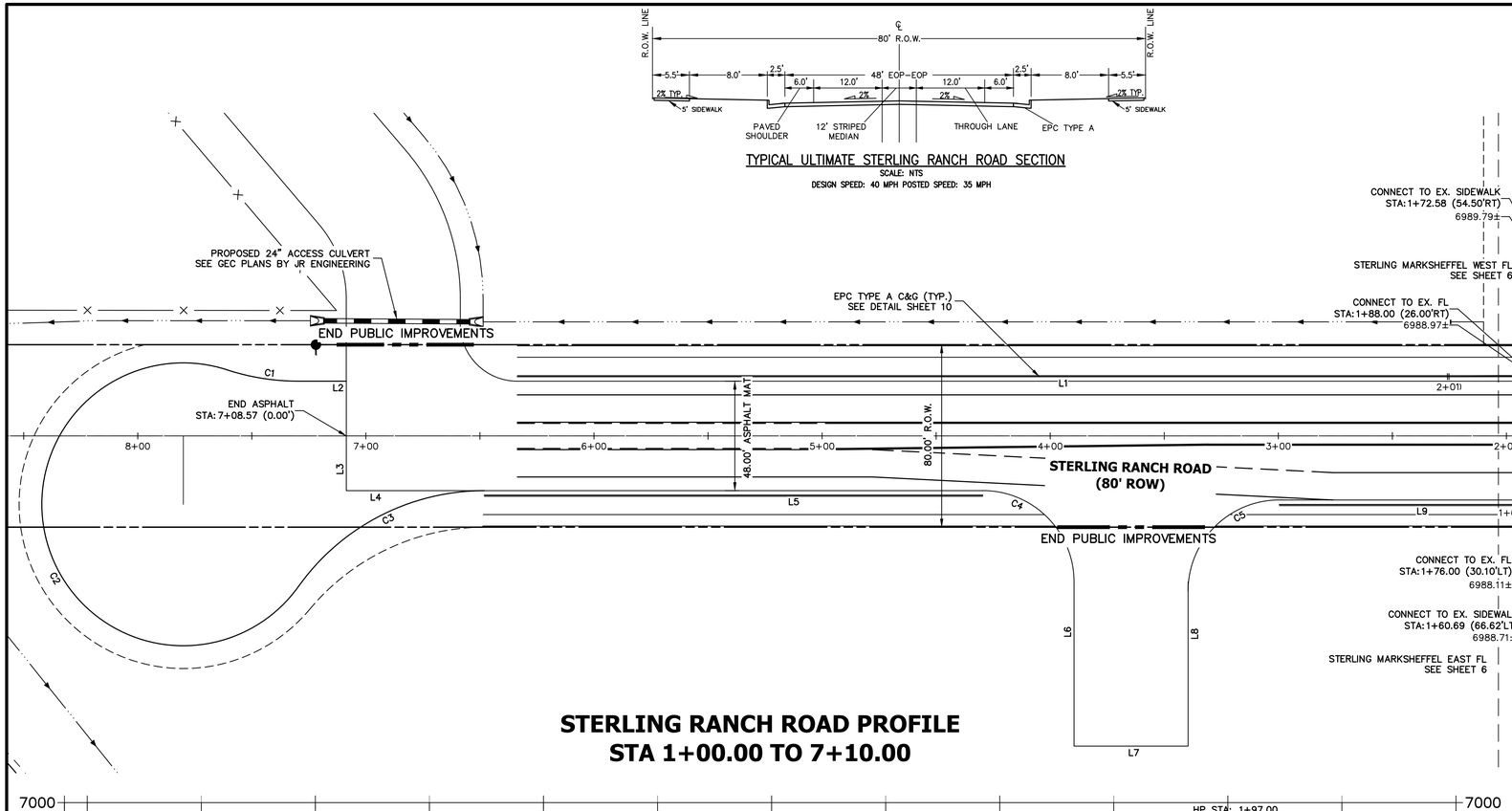
V-SCALE	1"=3'	DRAWN BY	APL
DATE	08/07/23	CHECKED BY	

STERLING RECYCLING FACILITY

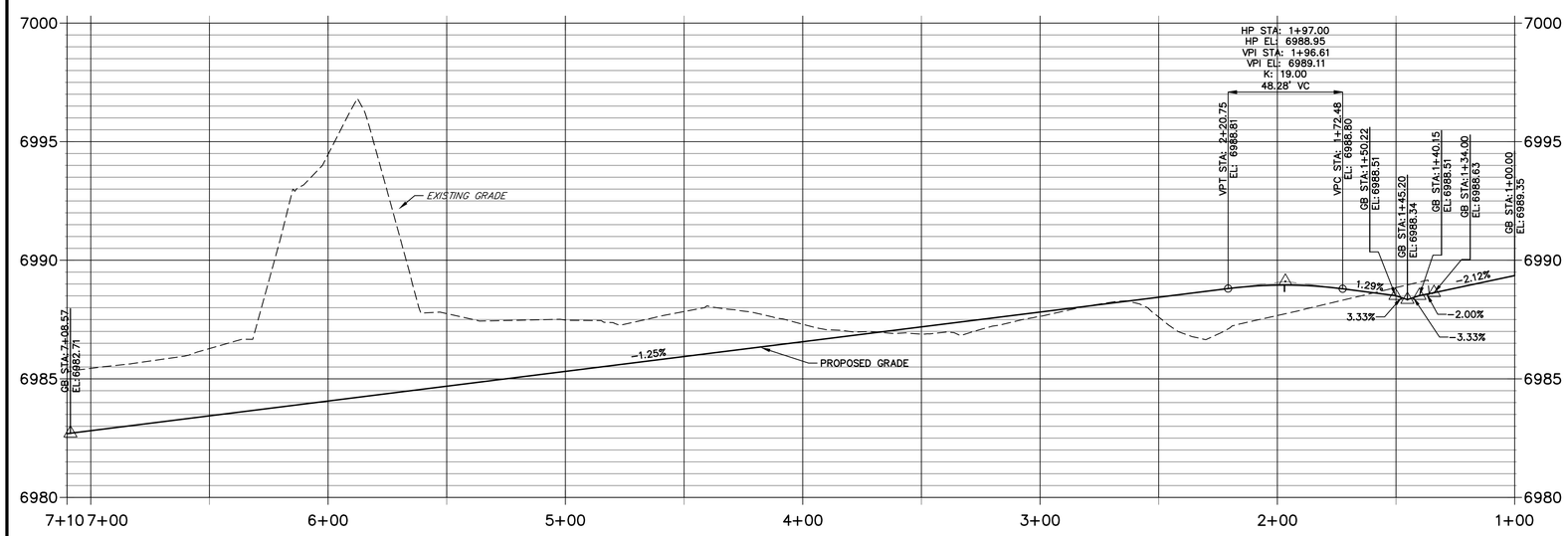
STREET PLAN & PROFILE INTERIM

SHEET 6 OF 10

JOB NO. 25188.14



STERLING RANCH ROAD PROFILE
STA 1+00.00 TO 7+10.00



LINE TABLE		
LINE	BEARING	DISTANCE
L1	S40°21'31"W	445.60'
L2	S40°21'31"W	21.16'
L3	N49°38'29"W	48.00'
L4	S40°21'31"W	60.50'
L5	S40°21'31"W	218.51'
L6	N49°38'29"W	72.00'
L7	S40°21'31"W	50.00'
L8	S49°38'29"E	72.00'
L9	S40°21'31"W	123.56'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	18°04'52"	100.00'	31.56'
C2	252°36'48"	62.00'	273.35'
C3	54°31'56"	100.00'	95.18'
C4	90°00'00"	40.00'	62.83'
C5	83°22'14"	40.41'	58.80'

Know what's below. Call before you dig.

30 15 0 30 60
HORIZONTAL
ORIGINAL SCALE: 1" = 30'
VERTICAL
ORIGINAL SCALE: 1" = 3'

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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DATE	08/07/23
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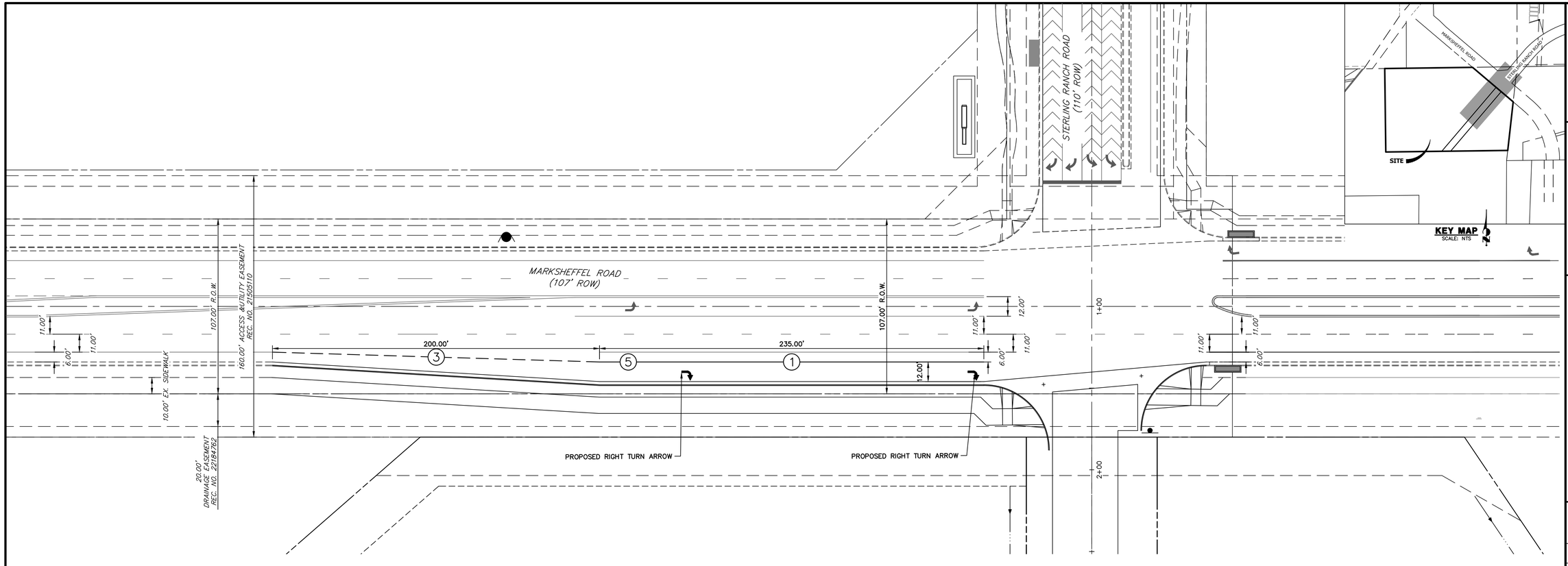
CHECKED BY	

STERLING RECYCLING FACILITY

STREET PLAN & PROFILE ULTIMATE

SHEET 7 OF 10

JOB NO. 25188.14



NOTE TO CONTRACTOR:

1. ALL 4" AND 8" SOLID OR SKIP PAVEMENT MARKINGS ARE TO BE EPOXY.
2. SIGNS AND POLES SHALL BE PER CDOT STANDARDS S-614-8, S-614-2, AND S-614-3, LATEST REVISION.
3. ALL SIGNAGE INSTALLATION IS TO BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

STRIPING LEGEND		
STRIPE	PAVEMENT MARKINGS	MARKING DESCRIPTION
①	DOUBLE CENTERLINE LANE MARKINGS (EPOXY)	PARALLEL SOLID YELLOW, 4" WIDE, 12" APART
②	LANE LANES (EPOXY)	BROKEN WHITE, 4" WIDE, 10' SEGMENTS WITH 30' GAPS
③	LANE DROP LINES (EPOXY)	BROKEN WHITE, 4" WIDE, 3' SEGMENTS WITH 12' GAPS
④	EDGE LINES (EPOXY)	SOLID WHITE, 4" WIDE
⑤	CHANNELIZING LINES (EPOXY)	SOLID WHITE, 8" WIDE
⑥	DOTTED EXTENSION LINES (EPOXY)	BROKEN WHITE, 4" WIDE, 2' SEGMENTS WITH 4' GAPS

NOTE: ALL STRIPING INSTALLATION SHALL BE PER COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "M&S STANDARDS" STANDARD PLAN NO. S-627-1.

Know what's below. Call before you dig.

30 15 0 30 60
ORIGINAL SCALE: 1" = 30'

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
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V-SCALE	N/A
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DRAWN BY	APL
CHECKED BY	

STERLING RECYCLING FACILITY

SIGNAGE & STRIPING INTERIM

SHEET 8 OF 10

JOB NO. 25188.14

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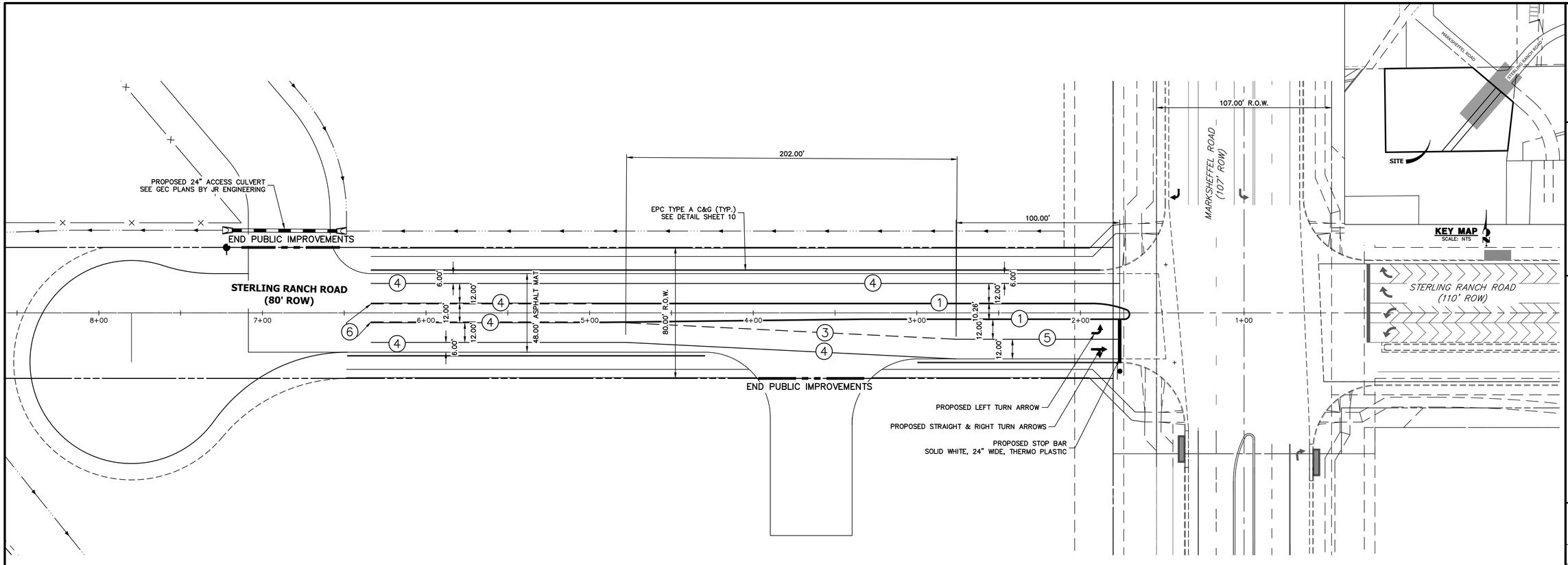
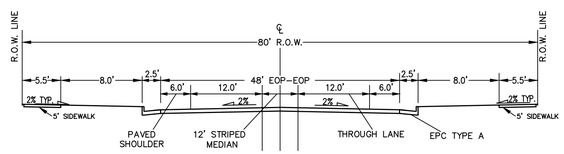


NOTE TO CONTRACTOR:

1. ALL 4" AND 8" SOLID OR SKIP PAVEMENT MARKINGS ARE TO BE EPOXY.
2. SIGNS AND POLES SHALL BE PER CDOT STANDARDS S-614-8, S-614-2, AND S-614-3, LATEST REVISION.
3. ALL SIGNAGE INSTALLATION IS TO BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

STRIPING LEGEND		
STRIPE	PAVEMENT MARKINGS	MARKING DESCRIPTION
①	DOUBLE CENTERLINE LANE MARKINGS (EPOXY)	PARALLEL SOLID YELLOW, 4" WIDE, 12" APART
②	LANE LANES (EPOXY)	BROKEN WHITE, 4" WIDE, 10' SEGMENTS WITH 30' GAPS
③	LANE DROP LINES (EPOXY)	BROKEN WHITE, 4" WIDE, 3' SEGMENTS WITH 12' GAPS
④	EDGE LINES (EPOXY)	SOLID WHITE, 4" WIDE
⑤	CHANNELIZING LINES (EPOXY)	SOLID WHITE, 8" WIDE
⑥	DOTTED EXTENSION LINES (EPOXY)	BROKEN WHITE, 4" WIDE, 2' SEGMENTS WITH 4' GAPS

NOTE: ALL STRIPING INSTALLATION SHALL BE PER COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "M&S STANDARDS" STANDARD PLAN NO. S-627-1.



TYPICAL ULTIMATE STERLING RANCH ROAD SECTION
SCALE: NTS
DESIGN SPEED: 40 MPH POSTED SPEED: 35 MPH

Know what's below. Call before you dig.

30 15 0 30 60
HORIZONTAL
ORIGINAL SCALE: 1" = 30'
VERTICAL
ORIGINAL SCALE: 1" = 3'

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO
ATTN: ERIC HOWARD
EHOWARD@GMAIL.COM
(719) 964-0064

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1"=30'
V-SCALE	1"=3'
DATE	08/07/23
DESIGNED BY	APL
DRAWN BY	APL
CHECKED BY	

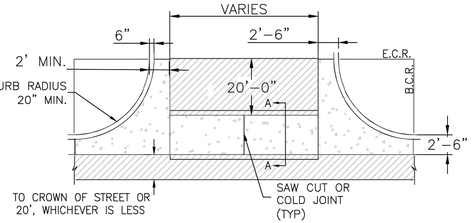
STERLING RECYCLING FACILITY

SIGNAGE & STRIPING ULTIMATE

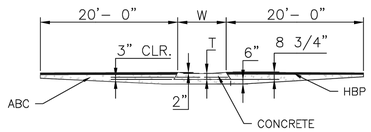
SHEET 9 OF 10

JOB NO. 25188.14

X:\2510000.all\2518814\Drawings\Sheet Dwgs\Street Improvement Plans\2518814SG02.dwg, 8/7/2023 11:14:17 AM, _AutoCAD PDF (General Documentation).pc3



PLAN VIEW



SECTION A-A

NOTES

1. W – WIDTH SHALL BE 6' FOR LOCAL, 8' FOR COLLECTORS, AND 10' FOR ARTERIAL ROADS.

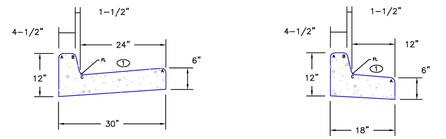
2. T – SQUARED-OFF RETURN TO BE POURED MONOLITHICALLY, 8" PCC FOR LOCAL ROADS, 9" FOR COLLECTORS WITH 6x6 – 4.4 W.W.F. OR #4 REINFORCING BAR @ 18" EACH WAY.

3. ▨ = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).

4. DESIGN TO SPECIFY ELEVATIONS AT PI AND PCR.

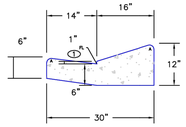
SCALE: NOT TO SCALE

8/11/11 DATE APPROVED: André P. Brackin DEPARTMENT OF TRANSPORTATION	Typical Cross Pan Layout Detail Standard Drawing REVISION DATE: 12/8/15 FILE NAME: SD_2-26	EL PASO COUNTY DEPARTMENT OF TRANSPORTATION

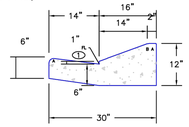


EPC TYPE A
(REVERSE SLOPE OF PAN FOR SPILL CURB)

EPC TYPE B



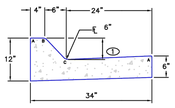
EPC TYPE C
(REVERSE SLOPE OF PAN FOR SPILL CURB)



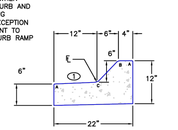
EPC OPTIONAL TYPE C

LEGEND FOR RADII	
A	1/8" TO 1/4"
B	1-1/2"
C	1-1/2" TO 2"

① – GUTTER CROSS SLOPES SHALL BE 1/2 IN./FT. WHEN DRAINING AWAY FROM CURB AND 1 IN./FT. WHEN DRAINING TOWARD CURB (WITH EXCEPTION TO IMMEDIATELY ADJACENT TO CURB RAMPS – SEE CURB RAMP STANDARDS FOR SLOPE REQUIREMENTS).



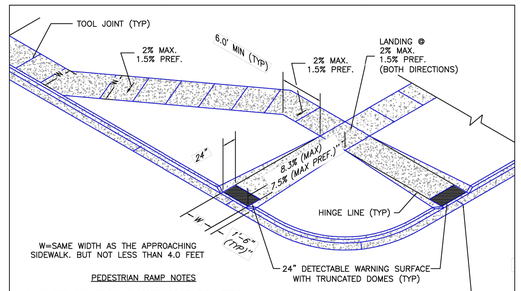
EPC TYPE D
(6" RAMP CURB)



EPC TYPE E
(6" RAMP CURB)

SCALE: NOT TO SCALE

6/23/20 DATE APPROVED: Jennifer E. Irvine DEPARTMENT OF PUBLIC WORKS	Typical Curb and Gutter Details Standard Drawing REVISION DATE: 6/23/20 FILE NAME: SD_2-20	DEPARTMENT OF PUBLIC WORKS



W=SAME WIDTH AS THE APPROACHING SIDEWALK. BUT NOT LESS THAN 4.0 FEET

LAYOUT CURB SECTIONS SO THAT AT LEAST ONE TOOL JOINT IS WITHIN RAMP THROAT

PEDESTRIAN RAMP NOTES

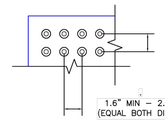
1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ADA REQUIREMENTS.
2. CONTRACTOR TO NOTIFY ENGINEERING DIVISION INSPECTION STAFF 48 HOURS PRIOR TO CONCRETE PLACEMENT.
3. PEDESTRIAN CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4,500 PSI CONCRETE, MINIMUM 4" THICK, NON-COLORED, NON-SCORED, COARSE BROOM FINISH.
4. PEDESTRIAN CURB RAMP LOCATION AND LENGTH MAY REQUIRE MODIFICATION TO MAINTAIN THE 8.3% MAXIMUM RUNNING RAMP SLOPE DUE TO STREET INTERSECTION GRADES AND/OR ALIGNMENTS. SEE ECM SECTION 6.3.6 FOR PEDESTRIAN PUSHBUTTON LOCATION REQUIREMENTS.
5. DETECTABLE WARNING SURFACE SHALL START A MINIMUM OF 6" BUT NOT MORE THAN 8" FROM THE FLOWLINE OF THE CURB AT ANY POINT.
6. DETECTABLE WARNING SURFACE SHALL BE PREFABRICATED, CAST IRON (PATINA NATURAL FINISH) AND IN ACCORDANCE WITH ECM CHAPTER 6 AND SD_2-42. THERMOPLASTIC TRUNCATED DOMES AND PAVERS WILL NOT BE ACCEPTED.
7. THE DETECTABLE WARNING SURFACE SHALL BE 24" IN LENGTH AND THE FULL WIDTH OF THE RAMP.
8. PEDESTRIAN CURB RAMP WIDTH REQUIRED IS SAME AS APPROACHING SIDEWALK; 4' MINIMUM.
9. ALL PEDESTRIAN CURB RAMPS WILL BE PERPENDICULAR TO TRAFFIC WITH THE EXCEPTION OF MID-BLOCK OR TERMINAL RAMPS WHICH MAY BE PARALLEL SUBJECT TO APPROVAL.
10. DRAINAGE STRUCTURES, TRAFFIC SIGNAL/SIGNAGE, UTILITIES/JUNCTION BOXES, OR OTHER OBSTRUCTIONS WITHIN PROPOSED PEDESTRIAN CURB RAMP AREAS AND LANDINGS ARE PROHIBITED.
11. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A RAMP SHALL NOT EXCEED 5%.

GENERAL NOTES

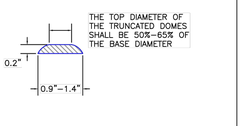
1. WHERE THE 1'-6" FLARED SIDE(S) OF A PERPENDICULAR CURB RAMP IS (ARE) CONTIGUOUS WITH A PEDESTRIAN OR HARD SURFACE AREA (PEDESTRIAN CIRCULATION PATH), THE MAXIMUM FLARE SLOPE SHALL NOT EXCEED 10:1.
2. PEDESTRIAN WALKWAY (PEDESTRIAN ACCESS ROUTE) AND/OR LOCATION OF EXISTING OR FUTURE PEDESTRIAN RAMPS ON OPPOSITE CORNERS SHALL BE REVIEWED BEFORE CONSTRUCTING NEW RAMPS.
3. AT MARKED PEDESTRIAN CROSSINGS, THE BOTTOM OF THE RAMPS, EXCLUSIVE OF THE FLARE SIDES, SHALL BE TOTALLY CONTAINED WITHIN THE MARKINGS.

6/23/20 DATE APPROVED: Jennifer E. Irvine DEPARTMENT OF PUBLIC WORKS	Pedestrian Curb Ramp Detail Standard Drawing REVISION DATE: 6/23/20 FILE NAME: SD_2-41	DEPARTMENT OF PUBLIC WORKS

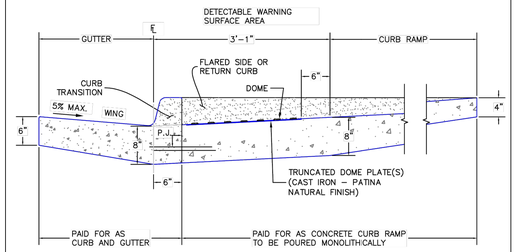
TRUNCATED DOME DETAILS



DOME SPACING



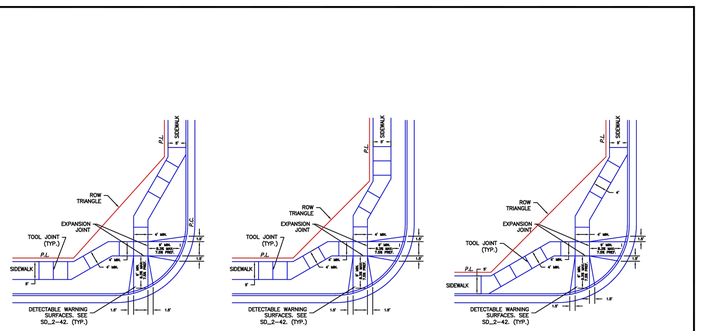
ELEVATION VIEW



P.J.= PERMISSABLE JOINT WITH EPOXY-COATED DEFORMED NO. 4 BARS CONFORMING TO AASHTO M 284 AT 18 IN. SPACING

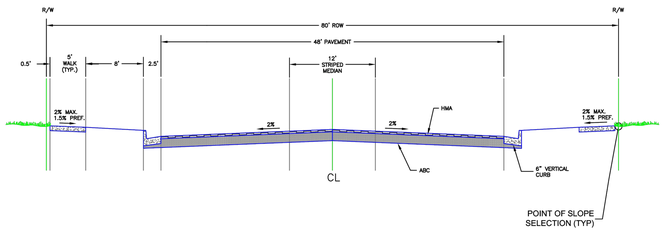
SIDE CROSS SECTION VIEW OF DETECTABLE WARNING SURFACE, CURB AND GUTTER

6/23/20 DATE APPROVED: Jennifer E. Irvine DEPARTMENT OF PUBLIC WORKS	Detectable Warning Surface Details Standard Drawing REVISION DATE: 6/23/20 FILE NAME: SD_2-42	DEPARTMENT OF PUBLIC WORKS



SCALE: NOT TO SCALE

6/23/20 DATE APPROVED: Jennifer E. Irvine DEPARTMENT OF PUBLIC WORKS	Pedestrian Curb Ramp Detail Standard Drawing REVISION DATE: 6/23/20 FILE NAME: SD_2-40	DEPARTMENT OF PUBLIC WORKS



Roadway Design Parameters
Design Speed: 40 mph
Posted Speed: 35 mph
Maximum ADT: 20,000
Design Vehicle: WB-50

SCALE: NOT TO SCALE

6/23/20 DATE APPROVED: Jennifer E. Irvine DEPARTMENT OF PUBLIC WORKS	Urban NonResidential Collector Roadway Standard Cross Section REVISION DATE: 6/23/20 FILE NAME: SD_2-3	DEPARTMENT OF PUBLIC WORKS

Know what's below. Call before you dig.

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
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COLORADO SPRINGS, CO
ATTN: ERIC HOWARD
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(719) 964-0064

J·R ENGINEERING
A Westrian Company
Centennial: 303-740-9393 • Colorado Springs: 719-593-2593
Fort Collins: 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	N/A
V-SCALE	N/A
DATE	08/07/23
DESIGNED BY	APL
DRAWN BY	APL
CHECKED BY	

STERLING RECYCLING FACILITY

DETAIL SHEET

SHEET 10 OF 10

JOB NO. 25188.14

X:\2510000.all\2518814\Drawings\Sheet Dwgs\Street Improvement Plans\2518814DT01.dwg, 8/7/2023 11:14:29 AM, _AutoCAD PDF (General Documentation).pc3

STERLING RECYCLING FACILITY

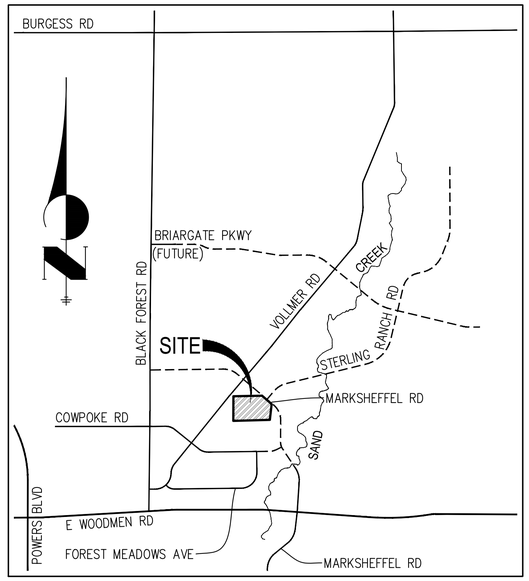
LOCATED IN THE NW1/4 OF THE NW1/4 OF SECTION 4 & THE N1/2 OF SECTION 5,

SANITARY SYSTEM PLAN

COUNTY OF EL PASO, STATE OF COLORADO

GENERAL NOTES

1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT STERLING RANCH METROPOLITAN DISTRICT (SRMD, THE DISTRICT) SPECIFICATIONS.
2. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICT'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID.
3. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE NOTED.
4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
5. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN "S" FOR SEWER AND A "W" FOR WATER.
6. DUCTILE IRON PIPES, INCLUDING FITTINGS, VALVES AND FIRE HYDRANTS, SHALL BE WRAPPED WITH POLYETHYLENE TUBING, DOUBLE BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED. BONDING AND ANODE CONNECTIONS SHALL BE THOROUGHLY COATED WITH BITUMINUOUS COATINGS.
7. ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB MAGNESIUM ANODES EVERY 400 FEET AND 9 LB MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE 12 INCHES AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB MAGNESIUM ANODES EVERY 300 FEET AND 9 LB MAGNESIUM ANODES AT EACH FITTING.
8. ALL PIPE MATERIAL, BACKFILL AND INSTALLATION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS, COLORADO DEPARTMENT OF TRANSPORTATION, EL PASO COUNTY DEPARTMENT OF TRANSPORTATION, COLORADO SPRINGS UTILITIES AND THE GEOTECHNICAL ENGINEER.
9. COMPACTION TESTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
10. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
11. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
12. BENDS, DEFLECTION & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25' INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
13. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.
14. ALL UNUSED SALVAGED WATER UTILITY MATERIAL SHALL BE RETURNED TO THE METROPOLITAN DISTRICT AS REQUESTED.
15. AT THE CONTRACTOR'S EXPENSE, ALL UTILITY MAINS SHALL BE SUPPORTED AND PROTECTED SUCH THAT THEY SHALL FUNCTION CONTINUOUSLY DURING CONSTRUCTION OPERATIONS. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT SHALL BE REPLACED IMMEDIATELY BY THE CONTRACTOR OR BY THE DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR/DEVELOPER.
16. PUMPING OR BYPASS OPERATIONS SHALL BE REVIEWED AND APPROVED BY BOTH THE DISTRICT AND THE DISTRICT ENGINEER PRIOR TO EXECUTION.
17. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
18. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINE) SHALL HAVE LIABILITY INSURANCE NAMING THE DISTRICT AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE DISTRICT. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE.
19. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.
20. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN THE METROPOLITAN DISTRICT:
    a. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING IS REQUIRED A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE-CONSTRUCTION MEETING. NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO FOUR (4) SIGNED/ APPROVED PLAN SETS ARE RECEIVED BY THE DISTRICT.
    b. THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
21. TESTING OF FACILITIES:
    a. THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.
    b. ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS:
        - TEST 100% OF ALL LINES
        - MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).
    c. ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
        - ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
        - ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION.
        - SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
        - ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
22. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
23. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.
24. ACCEPTANCE:
    a. THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.
    b. A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR (THE DISTRICT MAY REQUIRE CLEANING AND RE-VIDEO OF THE SYSTEM, DEPENDING ON THE SEVERITY OF THE CONTAMINATION).
25. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.
26. ALL COMMERCIAL/BUSINESS DEVELOPMENTS SHALL HAVE AN EIGHT INCH (MIN.) WATER MAIN LOOPED THROUGH THE PROPOSED PROPERTY WITH GATE VALVES LOCATED WHERE THE MAIN ENTERS THE PROPERTY LINE. AN EIGHT INCH SEWER MAIN SHALL BE INSTALLED FOR SERVICE TO COMMERCIAL/BUSINESS DEVELOPMENTS, AND A MANHOLE SHALL BE LOCATED WHERE THE MAIN ENTERS THE PROPERTY. THE END OF THE MAINS SHALL BE MARKED WITH THE APPROPRIATE COLORED CARSONITE MARKER ALONG WITH TRACER WIRE.
27. AFTER REVIEW AND APPROVAL OF PLANS FOR THE EXTENSION OF LINES, FACILITIES AND/OR SERVICES, CONSTRUCTION MUST BE COMMENCED WITHIN 18 MONTHS FOR RESIDENTIAL SUBDIVISIONS AND 12 MONTHS FOR ANY COMMERCIAL INSTALLATIONS.
28. INSPECTION FEES: CALL THE DISTRICT (719-495-2500) FOR FEE SCHEDULE.



VICINITY MAP

1"=1000'

BASIS OF BEARINGS

THE NORTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING MONUMENTED AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5 BY A 3-1/4" ALUMINUM CAP STAMPED "LS 10376" AND AT THE NORTH QUARTER CORNER BY A 3-1/4" ALUMINUM CAP STAMPED "LS 4842 1996", BEARING S89°14'13"W.

BENCHMARKS

1.THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42

2.THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40

3.THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

WASTEWATER SYSTEM INSTALLATION NOTES

1. SANITARY SEWER LENGTHS ARE MH CENTER-MH CENTER (OR STRUCTURE CENTER-STRUCTURE CENTER). ALL SANITARY SEWER PIPES SHALL BE SDR 35 PVC OR EQUAL. SEWER LINES MAY NOT EXCEED 7% GRADE FOR ANY SIZE WITHOUT PRIOR APPROVAL OF THE DISTRICT. ALL NEWLY CONSTRUCTED RESIDENTIAL SANITARY SEWER TAPS SHALL USE PRE-MANUFACTURED IN-LINE PVC PUSH-ON WYES. TAPPING SADDLES MAY ONLY BE USED FOR TAPPING PRE-EXISTING MAINS.
2. ALL SANITARY SEWER MANHOLES SHALL BE WRAPPED WITH RU116 – RUBR-NEK JOINT WRAP OR EQUIVALENT AND COATED.
3. COMMENCEMENT OF USE OF SEWER LINES AND/OR SYSTEMS:
    a. NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER THE COMPLETION OF ALL JET CLEANING, PRESSURE TESTING, CCTV INSPECTION, COMPACTION TESTING AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.
    b. NO SANITARY SEWER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, ANY REQUIRED SURFACE SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
    c. ALL NECESSARY EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.
    d. DOWNSTREAM PLUG CAN BE REMOVED ONCE FIRST LIFT OF ASPHALT IS DOWN AND THE ABOVE REQUIREMENTS ARE MET.

AGENCIES

OWNER/DEVELOPER:	RHETORIC, LLC 20 BOULDER CRESCENT, SUITE 200 COLORADO SPRINGS, CO 80903 ERIC HOWARD (719) 964-0064	FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
CIVIL ENGINEER:	JR ENGINEERING, LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 MIKE BRAMLETT P.E. (303) 267-6240	GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460	ARCHITECT/PLANNER:	NES LANDSCAPE ARCHITECTS 619 N CASCADE AVE COLORADO SPRINGS, CO 80903 JENNIFER SHAGIN (719) 884-1374
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668-8769		

SHEET INDEX

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. — DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

WATER & SEWER MAIN EXTENSIONS

ANY CHANGES OR ALTERATIONS AFFECTING THE GRADE, ALIGNMENT, ELEVATION AND/OR DEPTH OF COVER OF ANY WATER OR SEWER MAINS OR OTHER APPURTENANCE SHOWN ON THIS DRAWING SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ALL OPERATIONAL DAMAGES AND DEFECTS IN INSTALLATION AND MATERIAL FOR MAINS AND SERVICES FROM THE DATE OF APPROVAL UNTIL FINAL ACCEPTANCE IS ISSUED.

SIGNED _____ DATE _____
JAMES F. MORLEY

SR LAND, LLC
20 BOULDER CRESCENT, SUITE 201
COLORADO SPRINGS, CO 80903
(719) 471-1742

FALCON AREA WATER & WASTEWATER AUTHORITY ENGINEER

THESE CONSTRUCTION DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR THE SANITARY SEWER, WATER MAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION. RESPONSIBILITY FOR COMPLETENESS AND ACCURACY REMAINS WITH THE DESIGN ENGINEER.

SIGNED _____ DATE _____
FAWWA ENGINEER

ENGINEER'S STATEMENT

THIS WASTEWATER SYSTEM PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR WASTEWATER SYSTEM PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. — DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

PCD FILING NO.:

Know what's **below.**
Call before you dig.

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO
ERIC HOWARD
EHOWARDPC@GMAIL.COM
(719) 964-0064

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1"=1000'
V-SCALE	N/A
DATE	8/1/23
DESIGNED BY	PAL
DRAWN BY	PAL
CHECKED BY	

STERLING RECYCLING FACILITY

COVER

SHEET 1 OF 6

JOB NO. 25188.14

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE		
MATCH LINE		
SECTION LINE		
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
R.O.W. A LINE	A	A
CENTERLINE		
CITY LIMITS		
WIRE FENCE	X	X
CHAIN LINK FENCE	O	●
WOOD FENCE	◇	◆
MASONRY FENCE	□	■
GUARDRAIL		
CONC. BARRIER		
CABLE TV	TV	TV
ELECTRIC	E	E
FIBER OPTIC	FO	FO
GAS MAIN	G	G
IRRIGATION MAIN	IRR	IRR
OIL/PETRO. MAIN	O	O
OVERHEAD UTILITY	OHU	OHU
SANITARY SEWER	S	
STORM DRAIN		
TELEPHONE	T	T
WATER MAIN	W	
RAW WATER LINE	RWL	RWL
SWALE/WATERWAY FLOWLINE		
DIVERSION DITCH		
DIVERSION CHANNEL		
MAJOR DRAINAGE BASIN		
MINOR DRAINAGE BASIN		
TOP OF SLOPE		
TOE OF SLOPE		
EDGE OF WATER		
INDEX CONTOUR	6100	6100
INTERMEDIATE CONTOUR		
DEPRESSION CONT. (INDEX)	6100	6100
DEPRESSION CONT. (INTER)		
TOP OF CUTS		
TOE OF FILLS		
CUT AND FILL LINE		C/F
SILT FENCE	SF	SF
100 YEAR FLOODPLAIN	100YR	100YR
500 YEAR FLOODPLAIN	500YR	500YR
FLOODWAY	FLDWY	FLDWY
BASE FLOOD ELEVATION		
EDGE OF WETLANDS		
STONE WALL		

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE	Ⓓ	●
STORM INLET		■
AREA INLET – SQUARE	□	
AREA INLET – ROUND	○	
FLARED END SECTION	▷	◪
RIPRAP		
SANITARY SEWER		
LINE MARKER	Mkr San	
SERVICE MARKER	S	
CLEAN–OUT		
MANHOLE W/ DIRECTIONAL FLOW ARROW	Ⓢ	
WATER LINE		
LINE MARKER	Mkr W	
SERVICE MARKER	W	
FIRE HYDRANT		
FIRE CONNECTION		
MANHOLE	Ⓦ	●
BEND		
BLOW–OFF VALVE		
WELL	WELL	WELL
METER	Ⓜ	●
VALVE		
REDUCER		
THRUST BLOCK		
CROSS		
PLUG W/ THRUST BLOCK		
TEE		
REVERSE ANCHOR		
ANODE		⊗
AIR & VACUUM VALVE ASSEMBLY		
TRANSMISSION BLOW–OFF ASSEMBLY		
GAS LINE		
MARKER	Mkr G	
SERVICE MARKER	G	
METER	Ⓖ	●
VALVE		
PLUG		
TEE		
DRY UTILITIES		
CABLE TV MARKER	Mkr TV	
CABLE TELEVISION PEDESTAL	TV	
ELECTRIC MARKER	Mkr E	
ELECTRIC SERVICE MARKER	E	
ELECTRICAL PEDESTAL	E	
ELECTRICAL METER	Ⓔ	
ELECTRICAL MANHOLE	Ⓔ	
FIBER–OPTIC MARKER	Mkr FO	
IRRIGATION PEDESTAL	I	
TELEPHONE MARKER	Mkr T	
TELEPHONE PEDESTAL	T	
TELEPHONE MANHOLE	Ⓣ	
UTILITY POLE		
GUY ANCHOR		
GUY POLE		
MISC. UTILITIES		
VENT PIPE	VP	VP
TEST HOLE DESIGNATOR	TH# FIRM FIRM/AGENCY	

LANDSCAPE LEGEND

	EXISTING	PROPOSED
TREE – CONIFEROUS		
TREE – DECIDUOUS		
SHRUB/BUSH		
SHRUBS AND BUSHES		
IRRIGATION BOX	⊞	
IRRIGATION SPRINKLER	⊗	
IRRIGATION VALVE	⊗	
BOLLARD	⊛	
FLAGPOLE	FP	●

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No.	REVISION	BY	DATE

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V–SCALE	N/A
DATE	8/1/23
DESIGNED BY	PAL
DRAWN BY	PAL
CHECKED BY	

STERLING RECYCLING FACILITY
LEGEND

ENGINEER'S STATEMENT

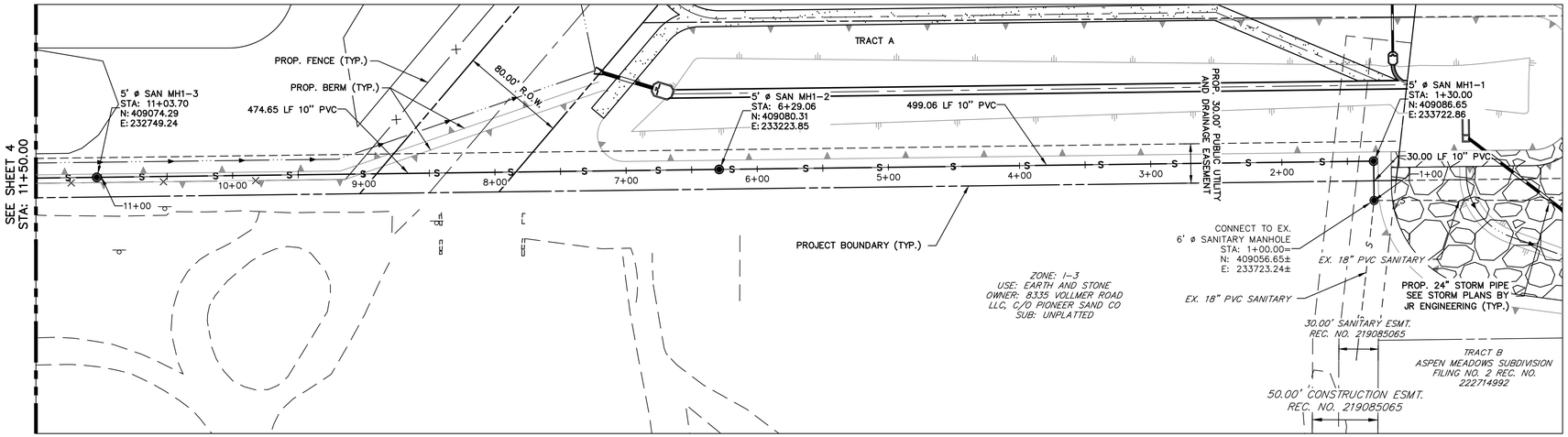
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

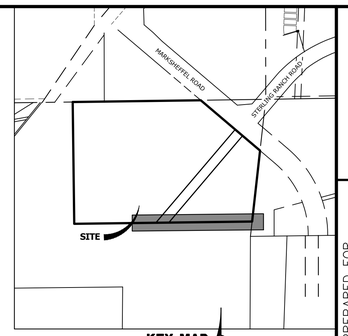
COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

SHEET 2 OF 6

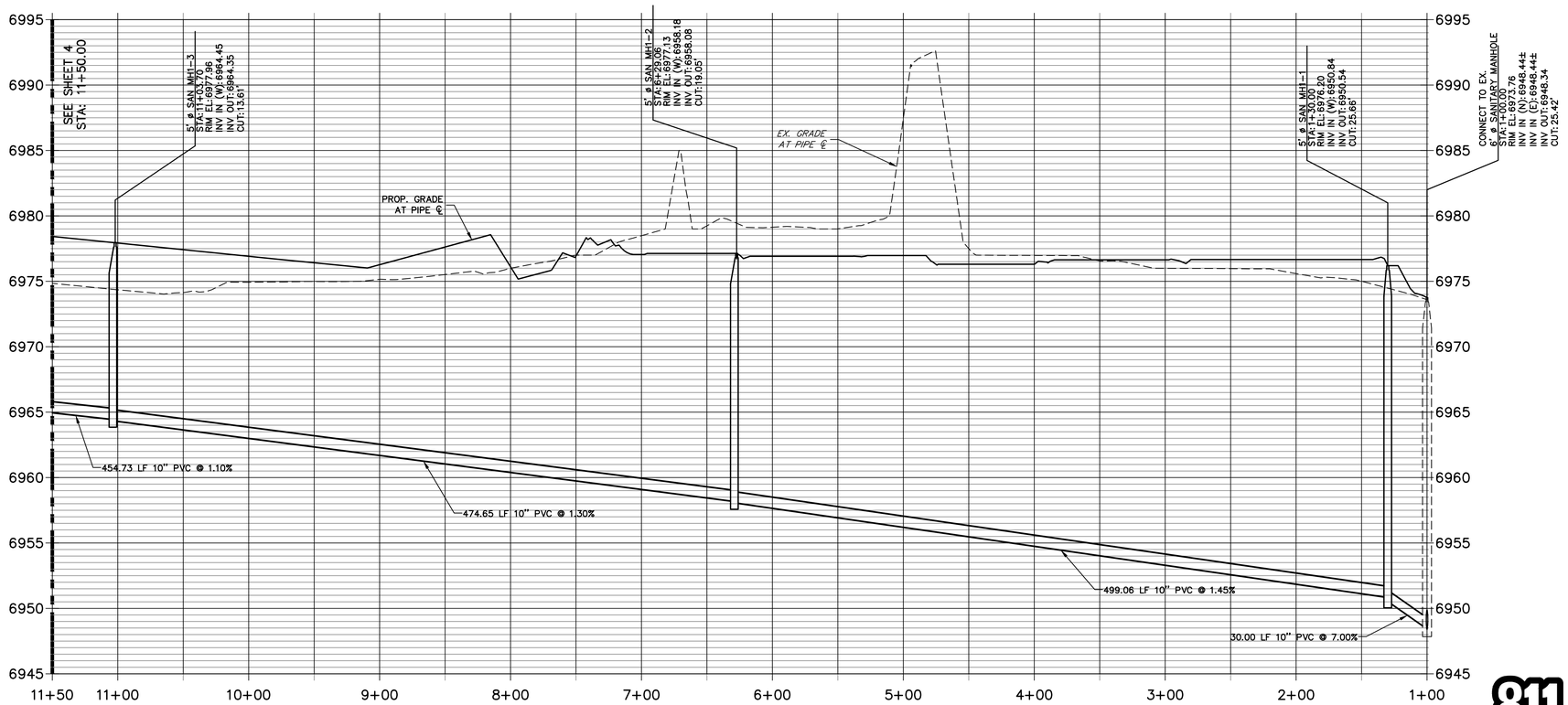
JOB NO. 25188.14

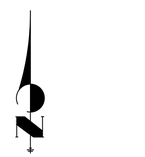




KEY MAP
SCALE: NTS

ALIGNMENT SP01 PROFILE
STA 1+00.00 TO 11+50.00





50 25 0 50 100

HORIZONTAL
ORIGINAL SCALE: 1" = 50'
VERTICAL
ORIGINAL SCALE: 1" = 5'

THE LOCATIONS OF EXISTING ABOVE GROUND AND 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 ABOVE GROUND AND UNDERGROUND UTILITIES.

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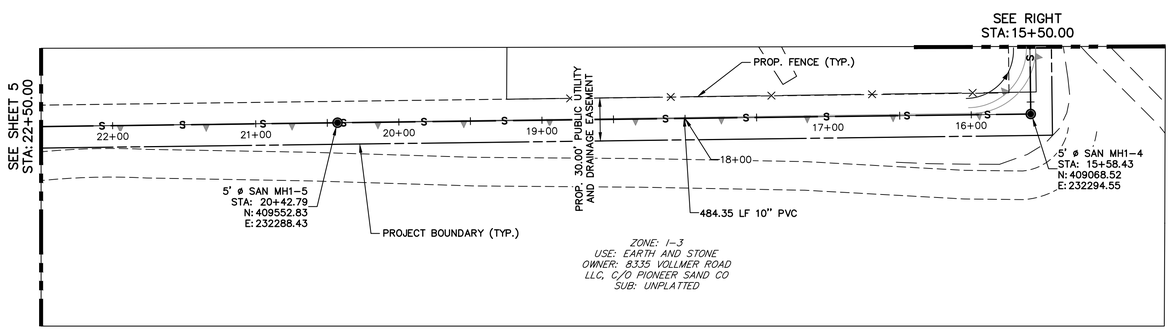
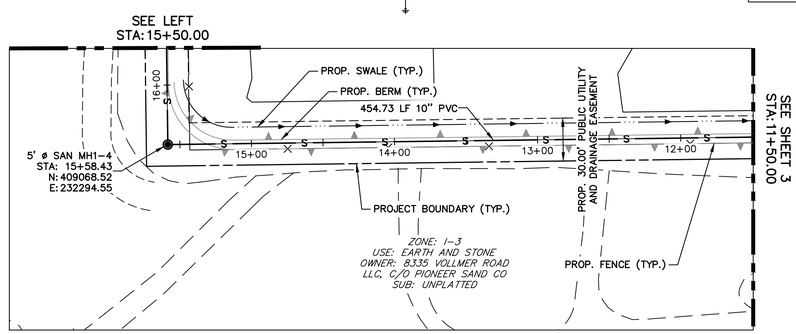
STERLING RECYCLING FACILITY

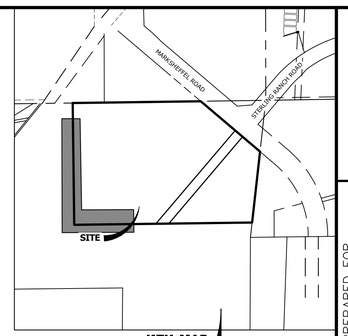
SANITARY SEWER PLANS

SHEET 3 OF 6

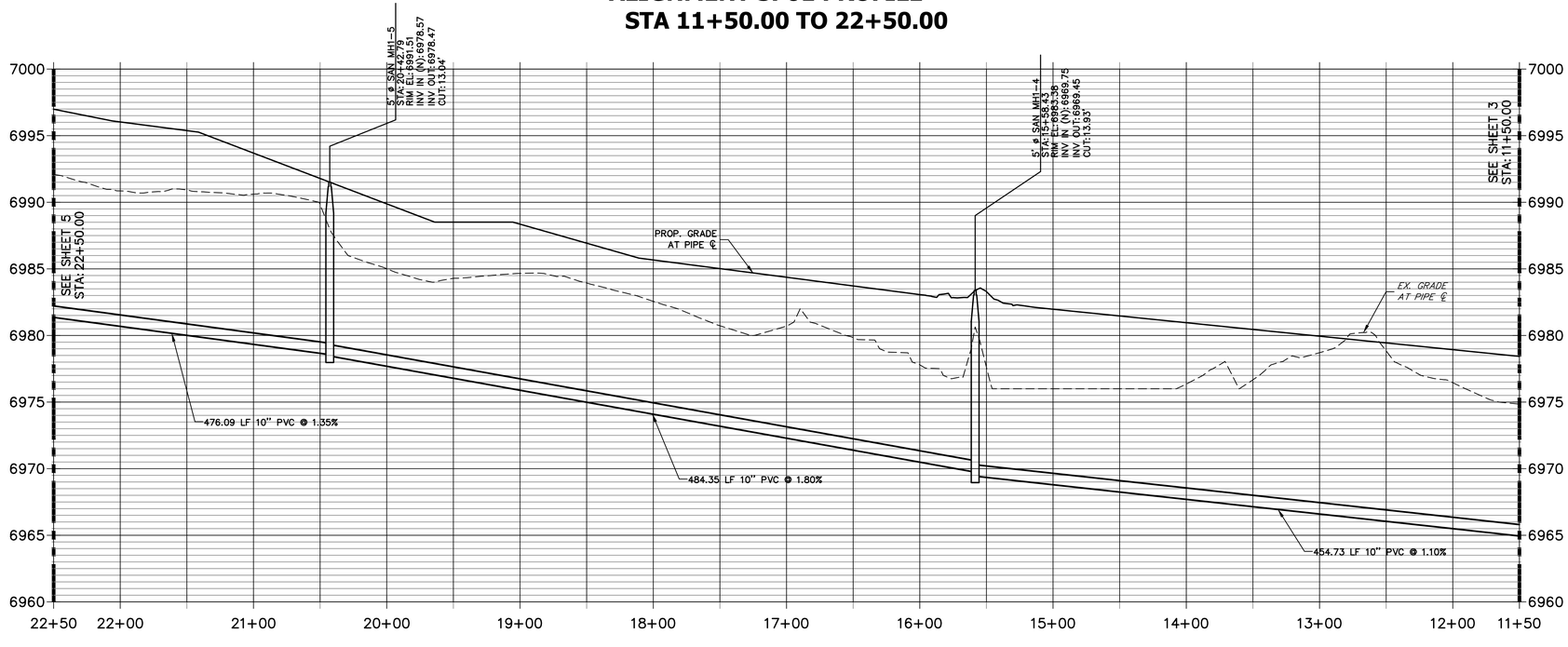
JOB NO. 25188.14







ALIGNMENT SP01 PROFILE
STA 11+50.00 TO 22+50.00



50 25 0 50 100

HORIZONTAL
ORIGINAL SCALE: 1" = 50'
VERTICAL
ORIGINAL SCALE: 1" = 5'

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ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT PROFESSIONAL ENGINEER 32314

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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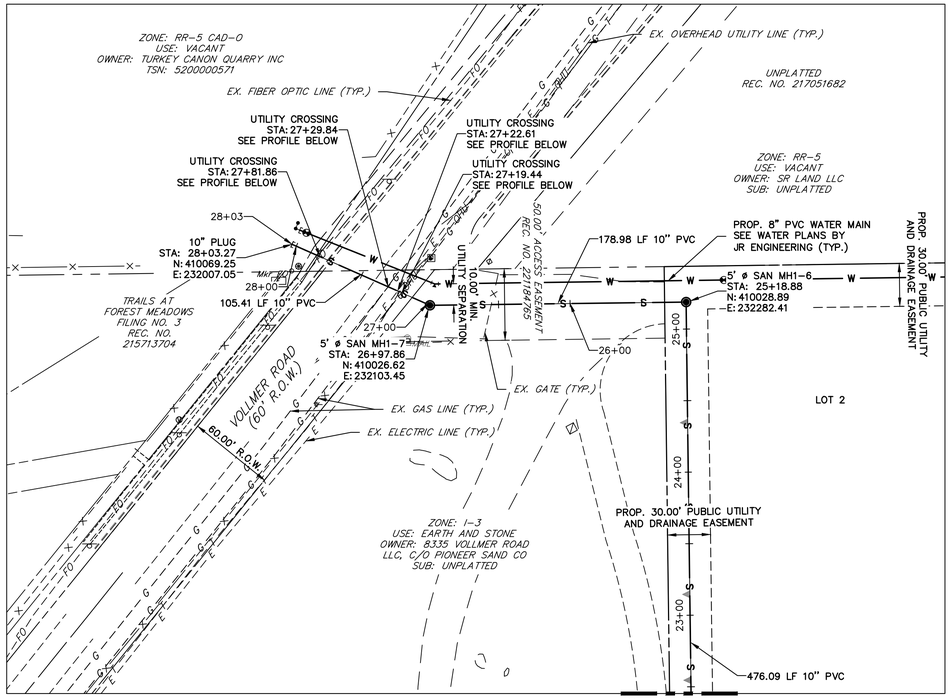
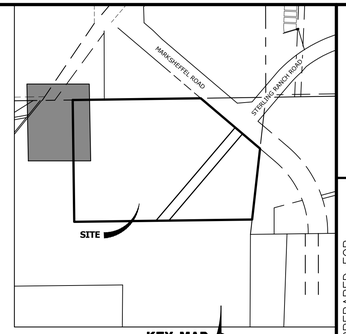
STERLING RECYCLING FACILITY

SANITARY SEWER PLANS

SHEET 4 OF 6

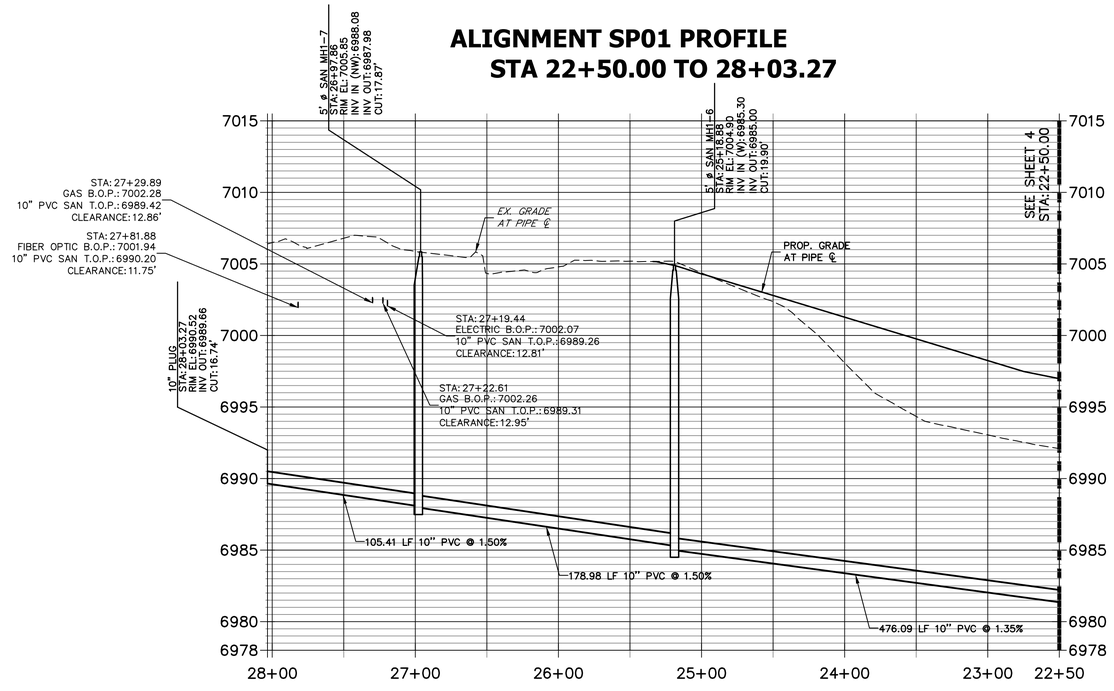
JOB NO. 25188.14

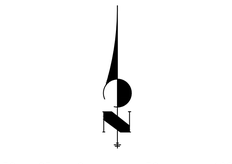




KEY MAP
SCALE: NTS

ALIGNMENT SP01 PROFILE
STA 22+50.00 TO 28+03.27





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PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. — DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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No.	REVISION	BY	DATE

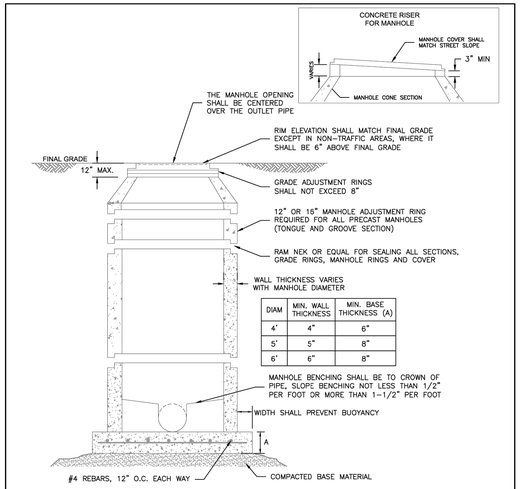
H-SCALE 1"=50' | V-SCALE 1"=5' | DATE 8/1/23 | DESIGNED BY PAL | DRAWN BY PAL | CHECKED BY

STERLING RECYCLING FACILITY

SANITARY SEWER PLANS

SHEET 5 OF 6

JOB NO. 25188.14



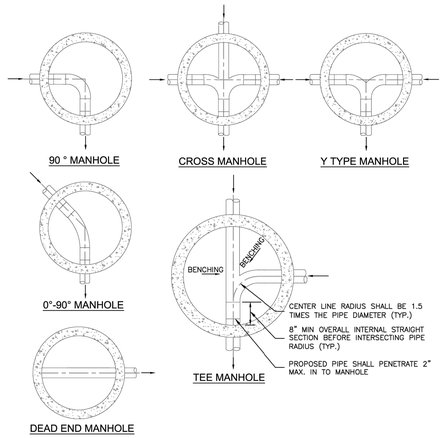
DIAM	MIN. WALL THICKNESS	MIN. BASE THICKNESS (A)
4'	4"	6"
5'	5"	8"
6'	6"	8"

NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF NOT LESS THAN 4000 PSI @ 28 DAYS AND DESIGNED FOR HS-20 LOADING CONDITIONS.
2. ALL CONCRETE SHALL BE MECHANICALLY VIBRATED.
3. FOR CAST IN PLACE MANHOLES, DO NOT DROP CONCRETE A DISTANCE OF MORE THAN 5' UNLESS APPROVED BY COLORADO SPRINGS UTILITIES.
4. 3/4" CRUSHED ROCK REQUIRED UNDER BASE TO A DEPTH OF 6" UP TO SPRINGLINE OF PIPE, 2'-3' RADIUS AROUND BASE.
5. ALL STEPS SHALL BE REMOVED FOLLOWING CONSTRUCTION.
6. STRUCTURAL REINFORCEMENT SHALL COMPLY TO ASTM C-478. ASTM C-478 SHALL BE STAMPED ON THE OUTSIDE OF THE MANHOLE.

Colorado Springs Utilities	STANDARD CONCRETE MANHOLE	C3-1 DATED 5/2015

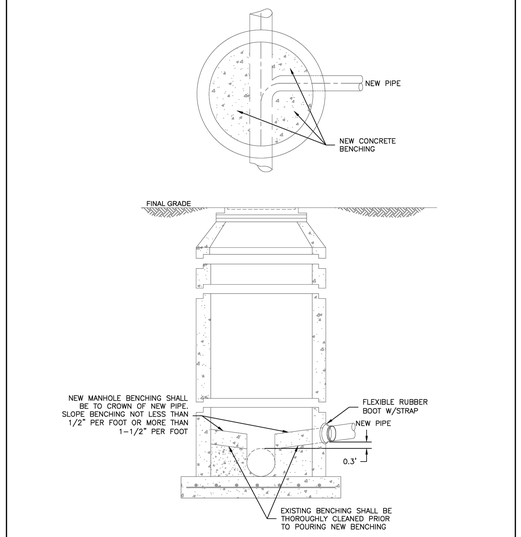
TYPICAL INTERSECTING PIPE MANHOLE LAYOUTS



NOTES:

1. SEE DETAIL DRAWING C3-1 FOR MANHOLE REQUIREMENTS.
2. LAYOUTS SHOWN ARE FOR 8"-12" PIPES; LAYOUTS FOR LARGER DIAMETER PIPELINES AND MANHOLES SHALL BE DESIGNED BY THE DESIGN ENGINEER AND APPROVED BY COLORADO SPRINGS UTILITIES.
3. TO BE READ IN CONJUNCTION WITH CHAPTER 2, MANHOLE SIZES.

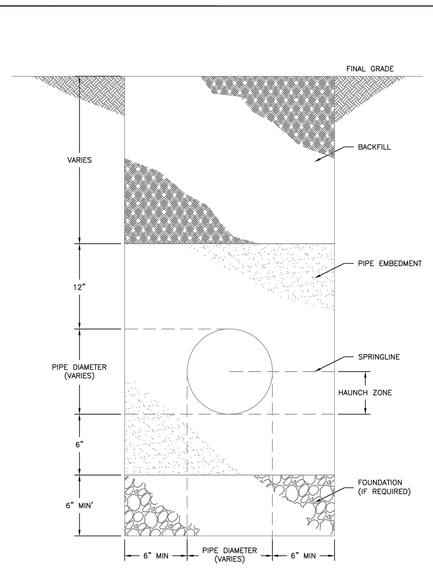
Colorado Springs Utilities	TYPICAL MANHOLE LAYOUTS AND INTERSECTIONS	C3-2 DATED 5/2015



NOTES:

1. SEE DETAIL DRAWING C3-1 FOR MANHOLE REQUIREMENTS.

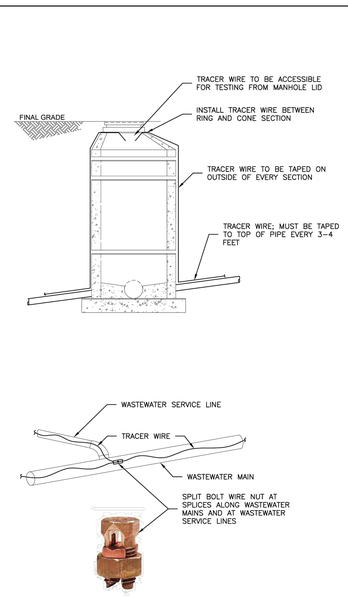
Colorado Springs Utilities	CORE DRILLING INTO AN EXISTING MANHOLE	C3-3 DATED 5/2015



NOTE:

1. TRENCH BACKFILL SHALL CONFORM TO THE SPECIFICATIONS OF THE AUTHORITY HAVING JURISDICTION AND ASTM D2321.

Colorado Springs Utilities	TYPICAL TRENCH SECTION	C2-1 DATED 5/2015



Colorado Springs Utilities	TRACER WIRE ON PVC OR HDPE PIPE	C2-3 DATED 5/2015

Know what's **below.**
Call before you dig.

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

COLORADO REGISTERED MIKE A. BRAMLETT PROFESSIONAL ENGINEER 32314

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO
ERIC HOWARD
EHOWARDPC@GMAIL.COM
(719) 964-0064

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	N/A
V-SCALE	N/A
DATE	8/1/23
DESIGNED BY	PAL
DRAWN BY	PAL
CHECKED BY	

STERLING RECYCLING FACILITY

DETAILS

SHEET 6 OF 6

JOB NO. 25188.14

STERLING RECYCLING FACILITY

LOCATED IN THE NW1/4 OF THE NW1/4 OF SECTION 4 & THE N1/2 OF SECTION 5,

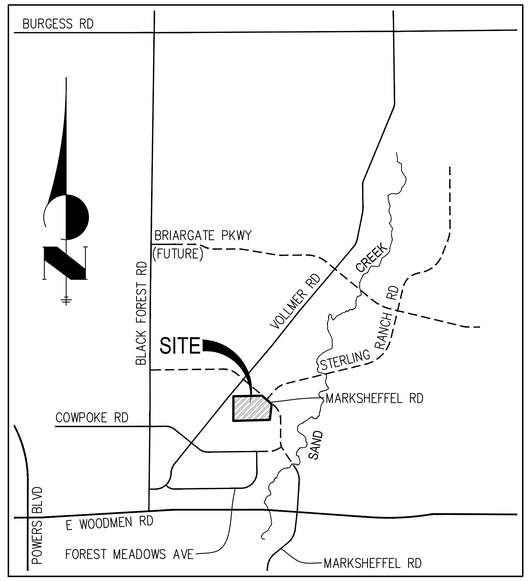
WATER SYSTEM PLAN

COUNTY OF EL PASO, STATE OF COLORADO

GENERAL NOTES

1. ALL UTILITY CONSTRUCTION TO BE CONDUCTED IN CONFORMANCE WITH THE CURRENT STERLING RANCH METROPOLITAN DISTRICT (SRMD, THE DISTRICT) SPECIFICATIONS.
2. ALL PLANS ON THE JOB SITE SHALL BE SIGNED BY THE DISTRICT AND THE DISTRICT'S ENGINEER. ANY REVISION TO THE PLANS SHALL BE SO NOTED WITH THE OLD DRAWING MARKED NOT VALID.
3. ALL STATIONING IS CENTERLINE UNLESS OTHERWISE NOTED. ALL ELEVATIONS ARE CENTERLINE UNLESS OTHERWISE NOTED.
4. ALL MATERIALS AND WORKMANSHIP SHALL BE SUBJECT TO INSPECTION BY THE DISTRICT. THE DISTRICT RESERVES THE RIGHT TO ACCEPT OR REJECT ANY SUCH MATERIALS AND WORKMANSHIP THAT DOES NOT CONFORM TO ITS STANDARDS AND SPECIFICATIONS.
5. ALL WATER AND SEWER SERVICE LOCATIONS SHALL BE CLEARLY MARKED ON EITHER THE CURB HEAD OR THE FACE OF THE CURB, WITH AN "S" FOR SEWER AND A "W" FOR WATER.
6. DUCTILE IRON PIPES, INCLUDING FITTINGS, VALVES AND FIRE HYDRANTS, SHALL BE WRAPPED WITH POLYETHYLENE TUBING, DOUBLE BONDED AT EACH JOINT AND ELECTRICALLY ISOLATED. BONDING AND ANODE CONNECTIONS SHALL BE THOROUGHLY COATED WITH BITUMINUOUS COATINGS.
7. ALL DUCTILE IRON PIPE LESS THAN 12 INCHES AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB MAGNESIUM ANODES EVERY 400 FEET AND 9 LB MAGNESIUM ANODES AT EACH FITTING. ALL DUCTILE IRON PIPE 12 INCHES AND GREATER AND FITTINGS SHALL HAVE CATHODIC PROTECTION USING TWO NO. 6 WIRES WITH 17 LB MAGNESIUM ANODES EVERY 300 FEET AND 9 LB MAGNESIUM ANODES AT EACH FITTING.
8. ALL PIPE MATERIAL, BACKFILL AND INSTALLATION SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS OF THE CITY OF COLORADO SPRINGS, COLORADO DEPARTMENT OF TRANSPORTATION, EL PASO COUNTY DEPARTMENT OF TRANSPORTATION, COLORADO SPRINGS UTILITIES AND THE GEOTECHNICAL ENGINEER.
9. COMPACTION TESTS SHALL BE 95% STANDARD PROCTOR AS DETERMINED BY ASTM D698, UNLESS OTHERWISE APPROVED BY THE DISTRICT OR HIGHER STANDARD AS IMPOSED BY ANOTHER AGENCIES HAVING RIGHT-OF-WAY JURISDICTION. THIS SHALL INCLUDE ALL VALVES, FIRE HYDRANT RUNS, WATER & SEWER SERVICE LINES AND MANHOLES. ALL REPORTS SHALL BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
10. THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE APPROXIMATE ONLY. THE LOCATION OF ALL UTILITIES SHALL BE FIELD VERIFIED PRIOR TO COMMENCING CONSTRUCTION ACTIVITIES. THE DISTRICT SHALL BE NOTIFIED OF ANY DEVIATIONS TO THE LINE AND/OR GRADE AS DEPICTED ON THE PLANS. CONTRACTOR SHALL SUBMIT TO THE DISTRICT AND THE ENGINEER OF RECORD A REPORT OF THE FIELD VERIFIED INFORMATION PRIOR TO THE START OF CONSTRUCTION.
11. ALL BENDS SHALL BE FIELD STAKED PRIOR TO THE START OF CONSTRUCTION.
12. BENDS, DEFLECTION & CUT PIPE LENGTHS SHALL BE USED TO HOLD HORIZONTAL ALIGNMENT OF SEWER AND WATER LINES TO NO MORE THAN 0.5' FROM THE DESIGNED ALIGNMENT. CONSTRUCTION STAKES TO BE AT 25' INTERVALS ALONG CURVES TO ASSURE LOCATION OF PIPE LINE CONSTRUCTION.
13. AT ALL LOCATIONS WHERE CAP AND STUB IS NOTED ON DRAWINGS, PROVIDE A PLUG AT THE END OF THE PIPE JOINT NEAREST THE SPECIFIED STATION. PROVIDE A REVERSE ANCHOR AT ALL WATER LINE PLUGS.
14. ALL UNUSED SALVAGED WATER UTILITY MATERIAL SHALL BE RETURNED TO THE METROPOLITAN DISTRICT AS REQUESTED.
15. AT THE CONTRACTOR'S EXPENSE, ALL UTILITY MAINS SHALL BE SUPPORTED AND PROTECTED SUCH THAT THEY SHALL FUNCTION CONTINUOUSLY DURING CONSTRUCTION OPERATIONS. SHOULD A UTILITY MAIN FAIL AS A RESULT OF THE CONTRACTOR'S OPERATION, IT SHALL BE REPLACED IMMEDIATELY BY THE CONTRACTOR OR BY THE DISTRICT AT FULL COST OF LABOR AND MATERIALS TO THE CONTRACTOR/DEVELOPER.
16. PUMPING OR BYPASS OPERATIONS SHALL BE REVIEWED AND APPROVED BY BOTH THE DISTRICT AND THE DISTRICT ENGINEER PRIOR TO EXECUTION.
17. THE CONTRACTOR SHALL REPLACE OR REPAIR DAMAGE TO ALL SURFACE IMPROVEMENTS, INCLUDING BUT NOT LIMITED TO FENCES, LANDSCAPING, CURB AND GUTTER AND/OR ASPHALT THAT MAY BE CAUSED DURING CONSTRUCTION.
18. ALL CONTRACTORS WORKING ON OR NEAR A WATER OR SEWER FACILITY (TO INCLUDE SERVICE LINE) SHALL HAVE LIABILITY INSURANCE NAMING THE DISTRICT AS AN ADDITIONAL INSURED AND SHALL PROVIDE A CURRENT COPY OF WORKERS COMPENSATION INSURANCE ON FILE WITH THE DISTRICT. NO WORK CAN PROCEED WITHOUT CURRENT CERTIFICATES ON FILE AT THE DISTRICTS' OFFICE.
19. THE CONTRACTOR SHALL NOTIFY THE DISTRICT AND ALL AFFECTED UTILITY COMPANIES ADJACENT TO THE PROPOSED UTILITY CONSTRUCTION A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF CONSTRUCTION. A WEEKLY CONSTRUCTION MEETING SHALL BE REQUIRED WITH THE CONTRACTOR, DISTRICT ENGINEER AND ALL OTHER PARTIES AS DEEMED NECESSARY BY THE DISTRICT.
20. COMMENCEMENT OF CONSTRUCTION OF WATER/SEWER SYSTEMS WITHIN THE METROPOLITAN DISTRICT:
    a. PRIOR TO THE START OF CONSTRUCTION, A PRE-CONSTRUCTION MEETING IS REQUIRED A MINIMUM OF 48 HOURS IN ADVANCE OF COMMENCEMENT OF WORK. A REPRESENTATIVE OF THE OWNER OR DEVELOPER, A REPRESENTATIVE OF THE CONTRACTOR AND DESIGN ENGINEER ARE REQUIRED TO ATTEND. CONTACT THE DISTRICT TO SCHEDULE THE PRE-CONSTRUCTION MEETING. NO PRE-CONSTRUCTION MEETING CAN BE SCHEDULED PRIOR TO FOUR (4) SIGNED/ APPROVED PLAN SETS ARE RECEIVED BY THE DISTRICT.
    b. THE CONTRACTOR IS REQUIRED TO NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 2 WEEKS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO NOTIFY AFFECTED UTILITY COMPANIES AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION ADJACENT TO THE KNOWN UTILITY LINES.
21. TESTING OF FACILITIES:
    a. THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO THE START OF ANY TESTING.
    b. ALL SECTIONS OF WATER LINE ARE TO MEET THE FOLLOWING PRESSURE TESTING REQUIREMENTS:
        - TEST 100% OF ALL LINES
        - MUST PASS PRESSURE TEST TO 200 PSI FOR TWO HOURS (UNLESS OTHERWISE APPROVED ON THE PLANS).

    c. ALL SANITARY SEWER FACILITIES ARE TO MEET THE FOLLOWING TESTING REQUIREMENTS
        - ALL LINES SHALL BE JET CLEANED PRIOR TO VACUUM OR PRESSURE TESTING
        - ALL MANHOLES SHALL BE VACUUM TESTED WITH DISTRICT STAFF PRESENT PRIOR TO CCTV INSPECTION.
        - SEWER MAINS TO BE PRESSURE TEST PRIOR TO CCTV INSPECTION
        - ALL LINES SHALL BE CCTV INSPECTED AND VIDEO SHALL TO BE SUBMITTED TO THE DISTRICT FOR REVIEW AND APPROVAL.
22. PRELIMINARY ACCEPTANCE SHALL BE DEFINED AS THE POINT IN TIME THAT THE DISTRICT ACCEPTS THE FACILITY FOR USE. ALL SURFACE IMPROVEMENTS AND RESTORATION SHALL BE COMPLETED WITHIN 30 DAYS OF COMMENCEMENT. SHOULD THE CONTRACTOR FAIL TO COMPLETE ALL SURFACE IMPROVEMENTS AND RESTORATION WITHIN 30 DAYS OF COMMENCEMENT OF SERVICE, THE DISTRICT, AT THEIR DISCRETION, MAY ELECT TO COMPLETE THE IMPROVEMENTS AT THE CONTRACTORS COST.
23. FINAL ACCEPTANCE BY THE DISTRICT OF ANY LINE OR SYSTEM SHALL NOT OCCUR UNTIL COMPLETION OF FINAL ASPHALT LAYERS AND/OR FINAL COMPLETION AND/OR RESTORATION OF ALL SURFACE IMPROVEMENTS. THE WARRANTY PERIOD FOR ALL FACILITIES PRIOR TO FINAL ACCEPTANCE SHALL BE 24 MONTHS COMMENCING AFTER PRELIMINARY ACCEPTANCE.
24. ACCEPTANCE:
    a. THE DISTRICT MAY GIVE PRELIMINARY ACCEPTANCE ONCE ALL OF THE TESTS ON ALL THE LINES HAVE BEEN COMPLETED AND A WALK-THRU HAS OCCURRED.
    b. A SECOND ACCEPTANCE MAY OCCUR ONCE FIRST LIFT OF ASPHALT GOES DOWN AND A SECOND WALK-THRU OF THE SYSTEM OCCURS. IF ALL FACILITIES ARE CLEAN AND ACCESSIBLE, A FINAL ACCEPTANCE MAY OCCUR (THE DISTRICT MAY REQUIRE CLEANING AND RE-VIDEO OF THE SYSTEM, DEPENDING ON THE SEVERITY OF THE CONTAMINATION).
25. ALL WATER AND SEWER MAINS, INCLUDING SERVICE LINES, SHALL HAVE "AS-BUILT" DRAWINGS PREPARED AND APPROVED PRIOR TO PRELIMINARY ACCEPTANCE BY THE DISTRICT.
26. ALL COMMERCIAL/BUSINESS DEVELOPMENTS SHALL HAVE AN EIGHT INCH (MIN.) WATER MAIN LOOPED THROUGH THE PROPOSED PROPERTY WITH GATE VALVES LOCATED WHERE THE MAIN ENTERS THE PROPERTY LINE. AN EIGHT INCH SEWER MAIN SHALL BE INSTALLED FOR SERVICE TO COMMERCIAL/BUSINESS DEVELOPMENTS, AND A MANHOLE SHALL BE LOCATED WHERE THE MAIN ENTERS THE PROPERTY. THE END OF THE MAINS SHALL BE MARKED WITH THE APPROPRIATE COLORED CARSONITE MARKER ALONG WITH TRACER WIRE.
27. AFTER REVIEW AND APPROVAL OF PLANS FOR THE EXTENSION OF LINES, FACILITIES AND/OR SERVICES, CONSTRUCTION MUST BE COMMENCED WITHIN 18 MONTHS FOR RESIDENTIAL SUBDIVISIONS AND 12 MONTHS FOR ANY COMMERCIAL INSTALLATIONS.
28. INSPECTION FEES: CALL THE DISTRICT (719-495-2500) FOR FEE SCHEDULE.



VICINITY MAP

1"=1000'

BASIS OF BEARINGS

THE NORTH LINE OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING MONUMENTED AT THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF THE NORTHEAST QUARTER OF SECTION 5 BY A 3-1/4" ALUMINUM CAP STAMPED "LS 10376" AND AT THE NORTH QUARTER CORNER BY A 3-1/4" ALUMINUM CAP STAMPED "LS 4842 1996", BEARING S89°14'13"W.

BENCHMARKS

1.THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411416.273
EASTING = 235167.071
ELEVATION = 7023.42

2.THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
NORTHING = 410095.404
EASTING = 235052.131
ELEVATION = 7000.40

3.THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDIVISION
NORTHING = 411399.962
EASTING = 233849.817
ELEVATION = 7030.82

WATER SYSTEM INSTALLATION NOTES

1. ALL WATER AND FORCE MAIN PIPE SHALL BE AWWA C900 PVC, OR EQUAL, PRESSURE CLASS 200. ALL WATER AND FORCE MAIN FITTINGS SHALL HAVE MECHANICAL RESTRAINS AND THRUST BLOCKS. ALL WATER AND FORCE MAIN PIPE SHALL HAVE A MINIMUM COVER DEPTH OF FIVE AND ONE-HALF (5.5) FEET.
2. ALL WATER VALVES ASSOCIATED WITH THE POTABLE WATER SYSTEM SHALL BE OPEN CLOCKWISE. ALL VALVES INSTALLED IN LANDSCAPED AREAS AND/OR NOT WITHIN PAVED STREETS SHALL BE MARKED WITH CARSONITE MARKERS. ALL VALVES ASSOCIATED WITH THE RAW WATER SYSTEM SHALL BE OPEN COUNTERCLOCKWISE AND MARKED WITH CARSONITE MARKERS AS APPLICABLE.
3. THE DEVELOPER OR HIS ENGINEER SHALL LOCATE ALL FIRE HYDRANTS AND SERVCIE STUB-OUTS FOR FUTURE DEVELOPEMENT. ANY REQUIRED REALIGNMENT, (HORIZONTAL OR VERTICAL), SHALL BE AT THE EXPENSE OF THE DEVELOPER. FIRE HYDRANT LOCATION SHALL BE REVIEWED AND APPROVED BY THE APPLICABLE FIRE AUTHORITY.
4. FIRE HYDRANTS SHALL BE OPEN RIGHT WITH 7/8" x 7/8" SQUARE TAPERED ALONG WITH SERVICE CAPS. LUBRICATION TYPE: (GREASE). ACCEPTABLE BRANDS ARE AMERICAN AVK SERIES 2700 (MODERN) AND MUELLER SUPER CENTURION 250.
5. ALL MAIN LINES (PVC & DUCTILE IRON) SHALL BE INSTALLED WITH COATED #12 TRACER WIRE WITH TEST STATIONS AT INTERVALS NO GREATER THAN 500 FT (VALVE BOXES CAN BE USED AT INTERSECTIONS AND SERVICE STUBS).
6. CONTRACTOR SHALL MAKE CONNECTIONS TO EXISTING WATER LINE WITHOUT SHUTDOWN, OR ELSE NOTIFY THE DISTRICT OF ANY SERVICE SHUTDOWNS NECESSARY TO CONNECT TO EXISTING LINES.
7. IRRIGATION SERVICES SHALL HAVE A STOP AND WASTE CURB STOP VALVE INSTALLED ALONG WITH TRACER WIRE EXTENDING BACK TO THE MAIN LINE.
8. COMMENCEMENT OF USE OF WATER LINES AND/OR SYSTEMS:
    a. NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL AFTER THE COMPLETION OF ALL PRESSURE TESTING, FLUSHING, BAC-T TESTING, COMPACTION TESTING, AND AS-BUILT DRAWINGS ARE SUBMITTED AND APPROVED BY THE DISTRICT.
    b. NO WATER FACILITY SHALL BE PLACED IN SERVICE UNTIL ALL SERVICE LINES ARE COMPLETED AND THE FIRST LIFT OF ASPHALT IS COMPLETED OVER THE LINE. IN THE CASE WHERE NO ASPHALT IS TO BE PLACED OVER THE LINE, SURFACE IMPROVEMENTS SHALL BE COMPLETED PRIOR TO USE OF THE FACILITY.
    c. ALL EASEMENTS (PLATTED OR DEEDED) ARE DEDICATED, EXECUTED BY THE DISTRICT, AND RECORDED.

Know what's below. Call before you dig.

PCD FILING NO.:

AGENCIES

OWNER/DEVELOPER:	RHETORIC, LLC 20 BOULDER CRESCENT, SUITE 200 COLORADO SPRINGS, CO 80903 ERIC HOWARD (719) 964-0064	FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
CIVIL ENGINEER:	JR ENGINEERING, LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 MIKE BRAMLETT P.E. (303) 267-6240	GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300	ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460	ARCHITECT/PLANNER:	NES LANDSCAPE ARCHITECTS 619 N CASCADE AVE COLORADO SPRINGS, CO 80903 JENNIFER SHAGIN (719) 884-1374
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668-8769		

SHEET INDEX

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

JOSHUA PALMER, P.E. DATE

COUNTY ENGINEER/ECM ADMINISTRATOR

WATER & SEWER MAIN EXTENSIONS

ANY CHANGES OR ALTERATIONS AFFECTING THE GRADE, ALIGNMENT, ELEVATION AND/OR DEPTH OF COVER OF ANY WATER OR SEWER MAINS OR OTHER APPURTENANCE SHOWN ON THIS DRAWING SHALL BE THE RESPONSIBILITY OF THE OWNER/DEVELOPER. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR ALL OPERATIONAL DAMAGES AND DEFECTS IN INSTALLATION AND MATERIAL FOR MAINS AND SERVICES FROM THE DATE OF APPROVAL UNTIL FINAL ACCEPTANCE IS ISSUED.

SIGNED _____ DATE _____
JAMES F. MORLEY

SR LAND, LLC
20 BOULDER CRESCENT, SUITE 201
COLORADO SPRINGS, CO 80903
(719) 471-1742

FALCON AREA WATER & WASTEWATER AUTHORITY ENGINEER

THESE CONSTRUCTION DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR THE SANITARY SEWER, WATER MAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION. RESPONSIBILITY FOR COMPLETENESS AND ACCURACY REMAINS WITH THE DESIGN ENGINEER.

SIGNED _____ DATE _____
FAWWA ENGINEER

FIRE AUTHORITY APPROVAL

THE NUMBER OF FIRE HYDRANTS AND HYDRANT LOCATIONS SHOWN ON THIS WATER INSTALLATION PLAN ARE CORRECT AND ADEQUATE TO SATISFY THE FIRE PROTECTION REQUIREMENTS AS SPECIFIED BY THE FIRE DISTRICT SERVING THE PROPERTY NOTED ON THE PLANS.

FIRE PROTECTION DISTRICT _____

SIGNED _____ DATE _____
FIRE PROTECTION DISTRICT

ENGINEER'S STATEMENT

THIS WATER SYSTEM PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR WASTEWATER SYSTEM PLANS. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLANS.

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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No.	REVISION	BY	DATE

H-SCALE	1"=1000
V-SCALE	N/A
DATE	8/1/23
DESIGNED BY	PAL
DRAWN BY	PAL
CHECKED BY	

STERLING RECYCLING FACILITY

COVER

SHEET 1 OF 6

JOB NO. 25188.14

X:\25\10000.all\25188\4\Drawings\Sheet Dwgs\CD-Utility\Water Plans\25188 CV01.dwg, Cover, 8/3/2023 8:51:59 AM, CS

LAYER LINETYPE LEGEND

	EXISTING	PROPOSED
PHASE LINE		
MATCH LINE		
SECTION LINE		
BOUNDARY LINE		
PROPERTY LINE		
EASEMENT LINE		
RIGHT OF WAY		
R.O.W. A LINE	A	A
CENTERLINE		
CITY LIMITS		
WIRE FENCE	X	X
CHAIN LINK FENCE	O	●
WOOD FENCE	◇	◆
MASONRY FENCE	□	■
GUARDRAIL		
CONC. BARRIER		
CABLE TV	TV	TV
ELECTRIC	E	E
FIBER OPTIC	FO	FO
GAS MAIN	G	G
IRRIGATION MAIN	IRR	IRR
OIL/PETRO. MAIN	O	O
OVERHEAD UTILITY	OHU	OHU
SANITARY SEWER	S	
STORM DRAIN		
TELEPHONE	T	T
WATER MAIN	W	
RAW WATER LINE	RWL	RWL
SWALE/WATERWAY FLOWLINE		
DIVERSION DITCH		
DIVERSION CHANNEL		
MAJOR DRAINAGE BASIN		
MINOR DRAINAGE BASIN		
TOP OF SLOPE		
TOE OF SLOPE		
EDGE OF WATER		
INDEX CONTOUR	6100	6100
INTERMEDIATE CONTOUR		
DEPRESSION CONT. (INDEX)	6100	6100
DEPRESSION CONT. (INTER)		
TOP OF CUTS		
TOE OF FILLS		
CUT AND FILL LINE		C/F
SILT FENCE	SF	SF
100 YEAR FLOODPLAIN	100YR	100YR
500 YEAR FLOODPLAIN	500YR	500YR
FLOODWAY	FLDWY	FLDWY
BASE FLOOD ELEVATION		
EDGE OF WETLANDS		
STONE WALL		

UTILITIES LEGEND

	EXISTING	PROPOSED
STORM SEWER		
MANHOLE	Ⓓ	●
STORM INLET		▣
AREA INLET – SQUARE	□	
AREA INLET – ROUND	○	
FLARED END SECTION	▷	◪
RIPRAP		
SANITARY SEWER		
LINE MARKER	Mkr San	
SERVICE MARKER	Ⓐ	
CLEAN–OUT	⊶	⊷
MANHOLE W/ DIRECTIONAL FLOW ARROW	Ⓢ◁	●◂
WATER LINE		
LINE MARKER	Mkr W	
SERVICE MARKER	Ⓐ	
FIRE HYDRANT	◖	◖
FIRE CONNECTION		⊻
MANHOLE	Ⓦ	●
BEND		⅄
BLOW–OFF VALVE	⊗⊂	●⊂
WELL	○WELL	●WELL
METER	Ⓜ	●
VALVE	⋈	⊖
REDUCER		⟝
THRUST BLOCK		⊻
CROSS		┼
PLUG W/ THRUST BLOCK	⊢	⊢
TEE		╋
REVERSE ANCHOR		⊢
ANODE		⊗
AIR & VACUUM VALVE ASSEMBLY		●⊣
TRANSMISSION BLOW–OFF ASSEMBLY		◉⊢
GAS LINE		
MARKER	Mkr G	
SERVICE MARKER	Ⓐ	
METER	Ⓖ	●
VALVE	⋈	⋈
PLUG	⊂	⊂
TEE		⊢
DRY UTILITIES		
CABLE TV MARKER	Mkr TV	
CABLE TELEVISION PEDESTAL	Ⓣ	
ELECTRIC MARKER	Mkr E	
ELECTRIC SERVICE MARKER	Ⓐ	
ELECTRICAL PEDESTAL	Ⓔ	
ELECTRICAL METER	Ⓔ	
ELECTRICAL MANHOLE	Ⓔ	
FIBER–OPTIC MARKER	Mkr FO	
IRRIGATION PEDESTAL	Ⓘ	
TELEPHONE MARKER	Mkr T	
TELEPHONE PEDESTAL	Ⓣ	
TELEPHONE MANHOLE	Ⓣ	
UTILITY POLE	-o-	-●-
GUY ANCHOR	⟜	
GUY POLE	○-	
MISC. UTILITIES		
VENT PIPE	VP	●VP
TEST HOLE DESIGNATOR	TH# FIRM FIRM/AGENCY	

LANDSCAPE LEGEND

	EXISTING	PROPOSED
TREE – CONIFEROUS	✹	✹
TREE – DECIDUOUS	❁	❁
SHRUB/BUSH	❁	❁
SHRUBS AND BUSHES	☁	☁
IRRIGATION BOX	▣	
IRRIGATION SPRINKLER	⊗	
IRRIGATION VALVE	Ⓧ	
BOLLARD	⊛	
FLAGPOLE	FP	

Know what's below. Call before you dig.

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
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COLORADO SPRINGS, CO
ERIC HOWARD
EHOWARDPC@GMAIL.COM
(719) 964–0064

J·R ENGINEERING
A Westrian Company
Centennial 303–740–9393 • Colorado Springs 719–593–2593
Fort Collins 970–491–9888 • www.jrengineering.com

No.	REVISION	BY	DATE

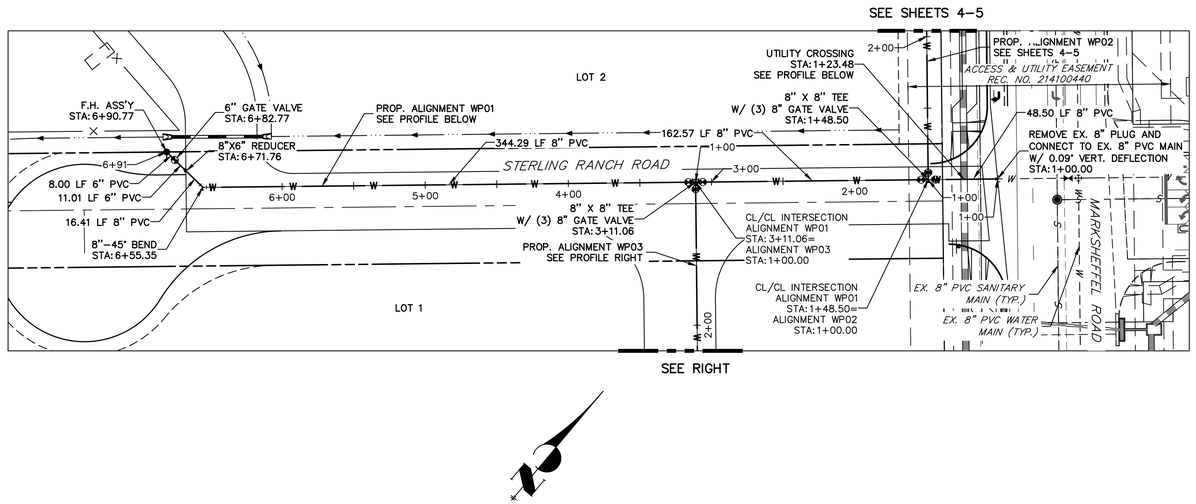
H–SCALE	N/A
V–SCALE	N/A
DATE	8/1/23
DESIGNED BY	PAL
DRAWN BY	PAL
CHECKED BY	

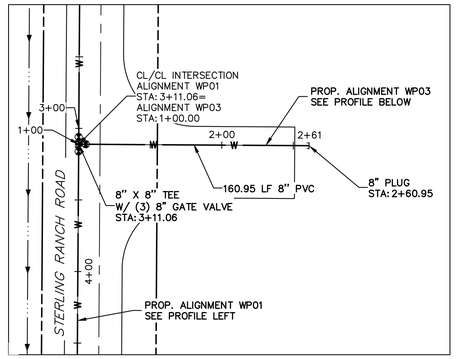
STERLING RECYCLING FACILITY

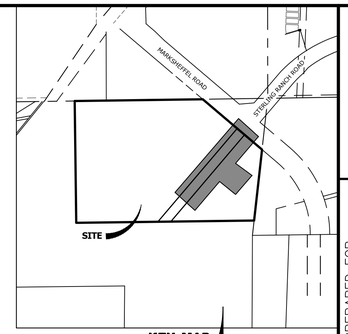
LEGEND

SHEET 2 OF 6

JOB NO. 25188.14

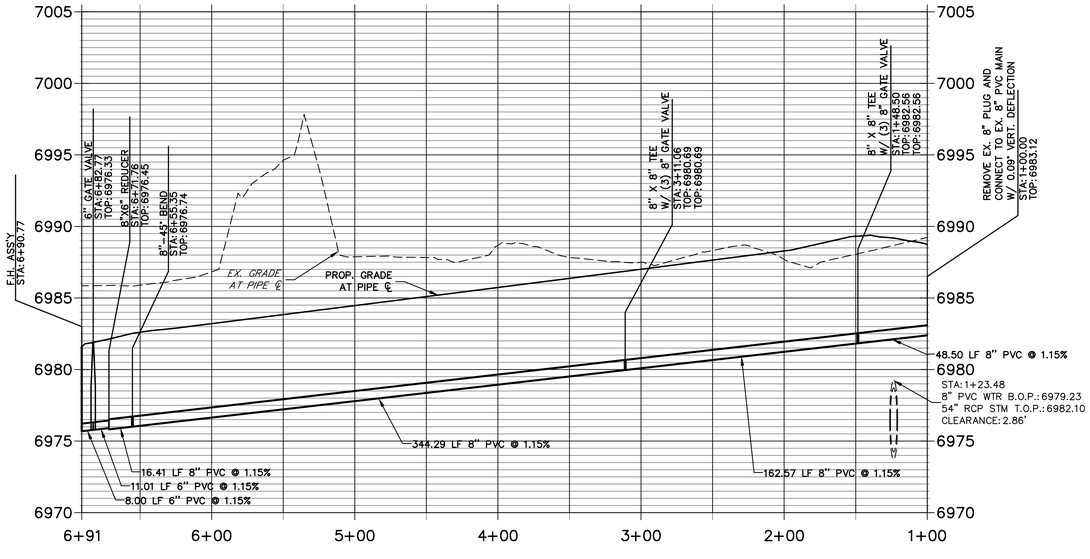






KEY MAP
SCALE: NTS

ALIGNMENT WP01 PROFILE
STA 1+00.00 TO 6+90.77



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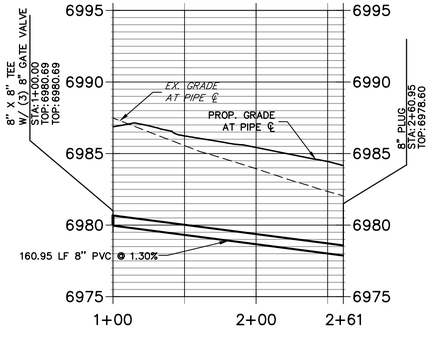

50 25 0 50 100

HORIZONTAL
ORIGINAL SCALE: 1" = 50'
VERTICAL
ORIGINAL SCALE: 1" = 5'

THE LOCATIONS OF EXISTING ABOVE GROUND AND 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 ABOVE GROUND AND UNDERGROUND UTILITIES.

Know what's below. Call before you dig.

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
RHETORIC, LLC
20 BOULDER CRESCENT, SUITE 200
COLORADO SPRINGS, CO
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STERLING RECYCLING FACILITY

WATER PLANS

SHEET 3 OF 6

JOB NO. 25188.14

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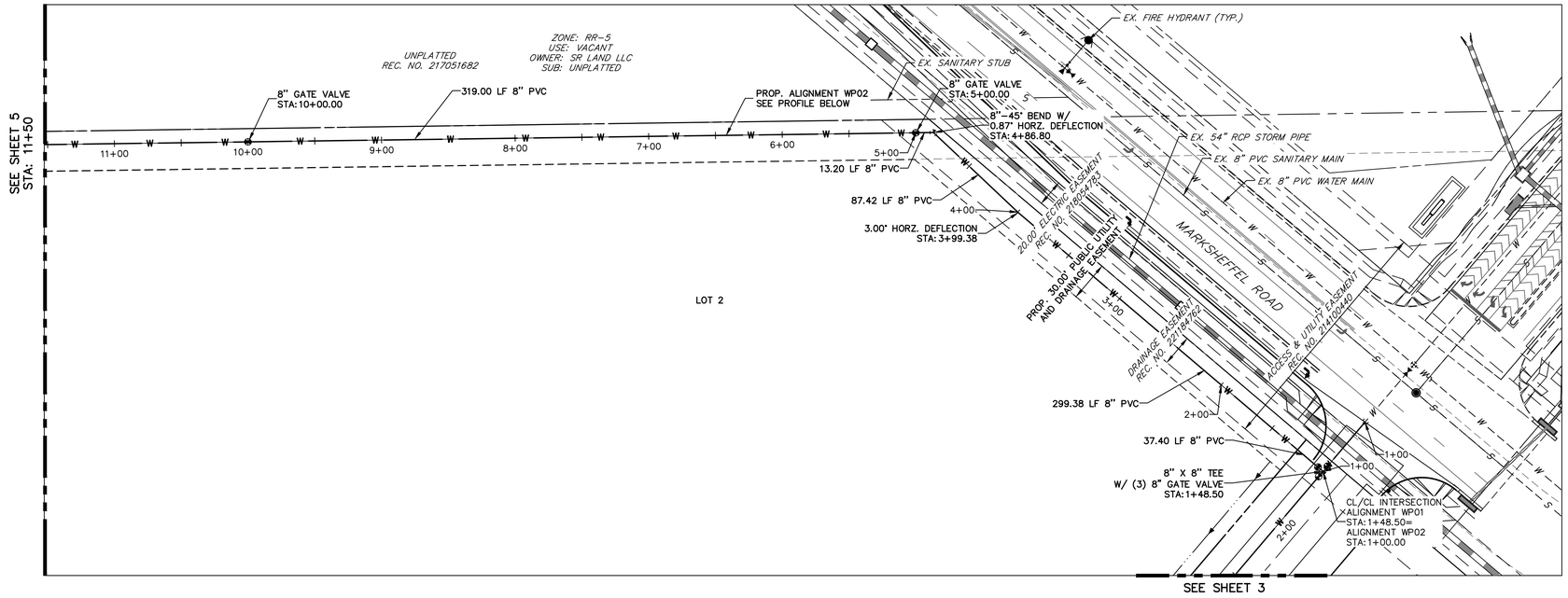

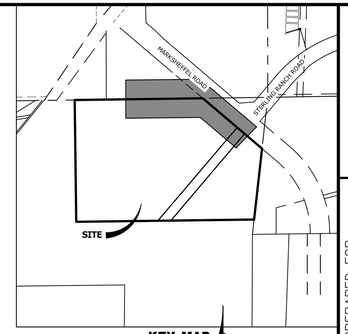

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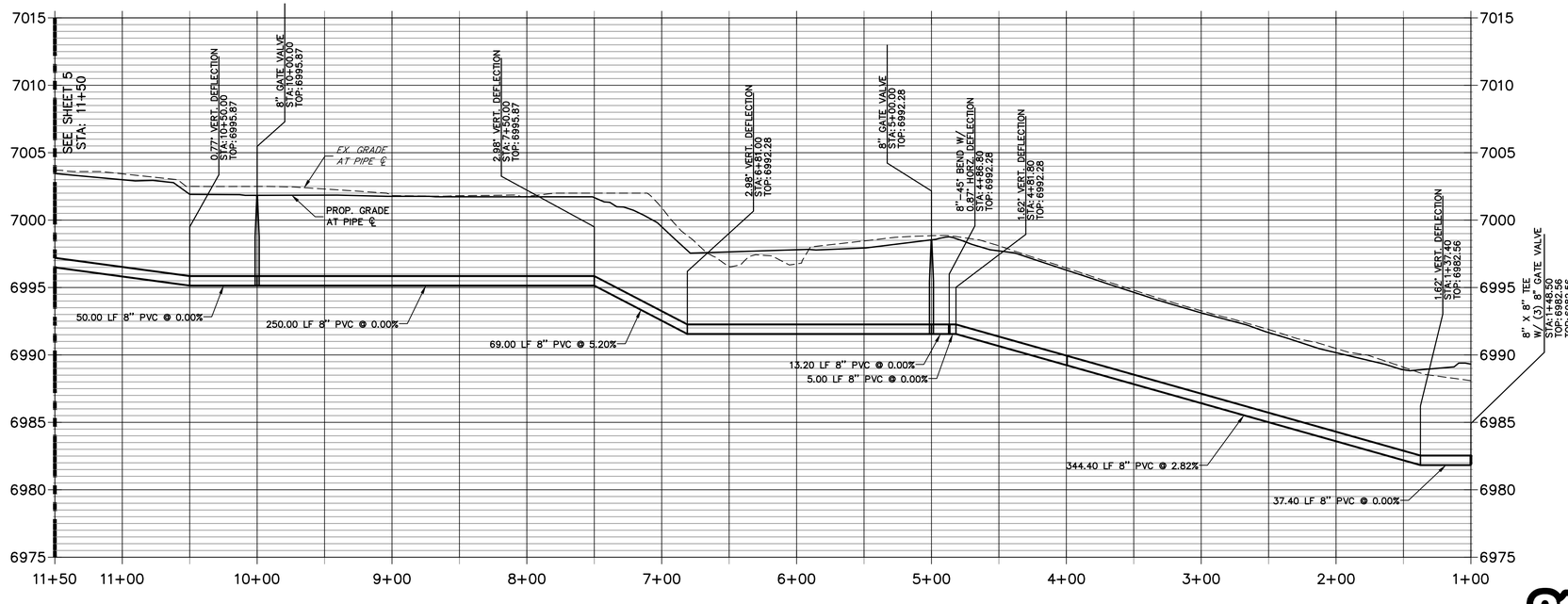

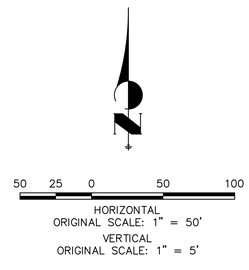

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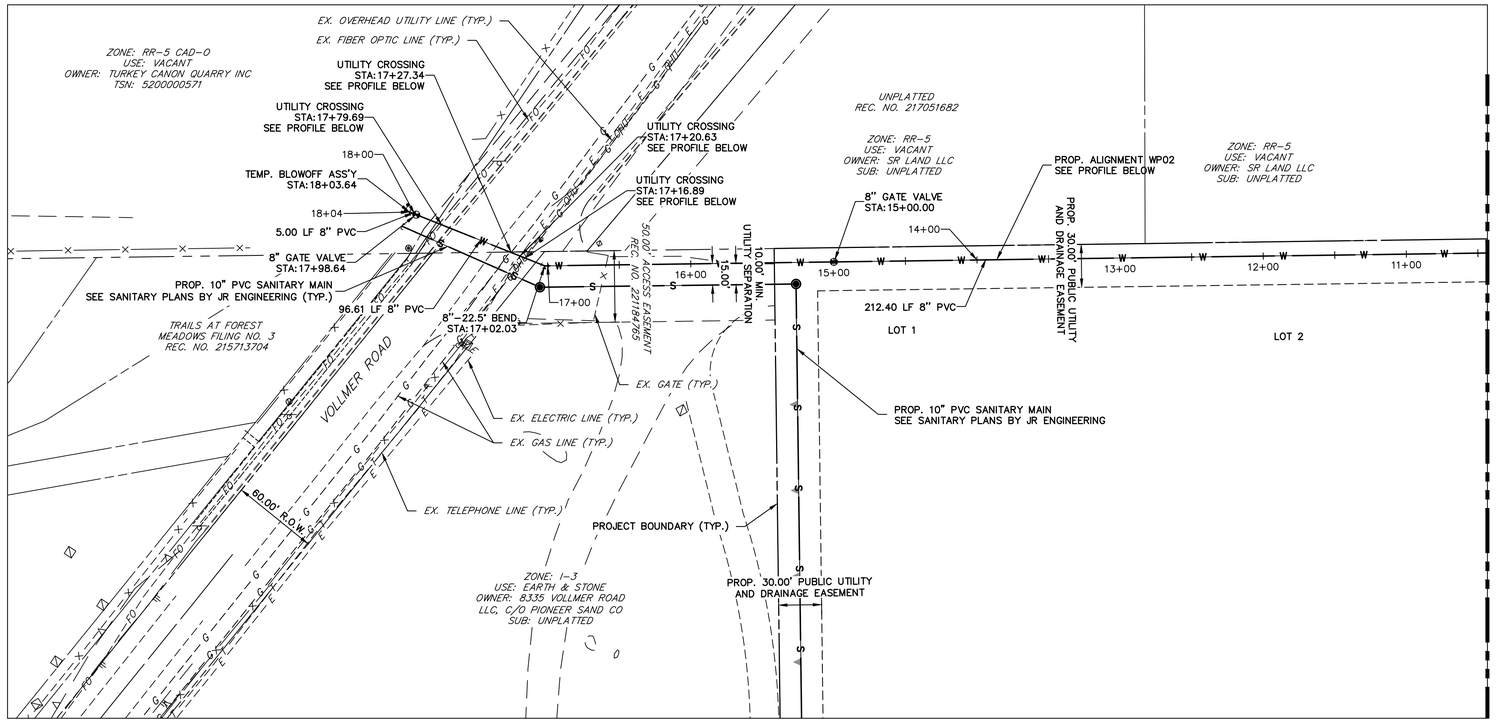
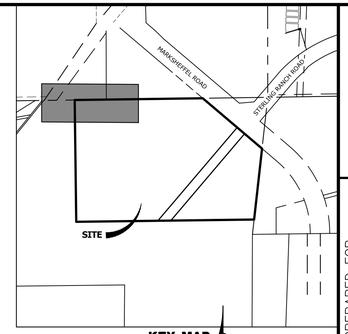
STERLING RECYCLING FACILITY

WATER PLANS

SHEET 4 OF 6

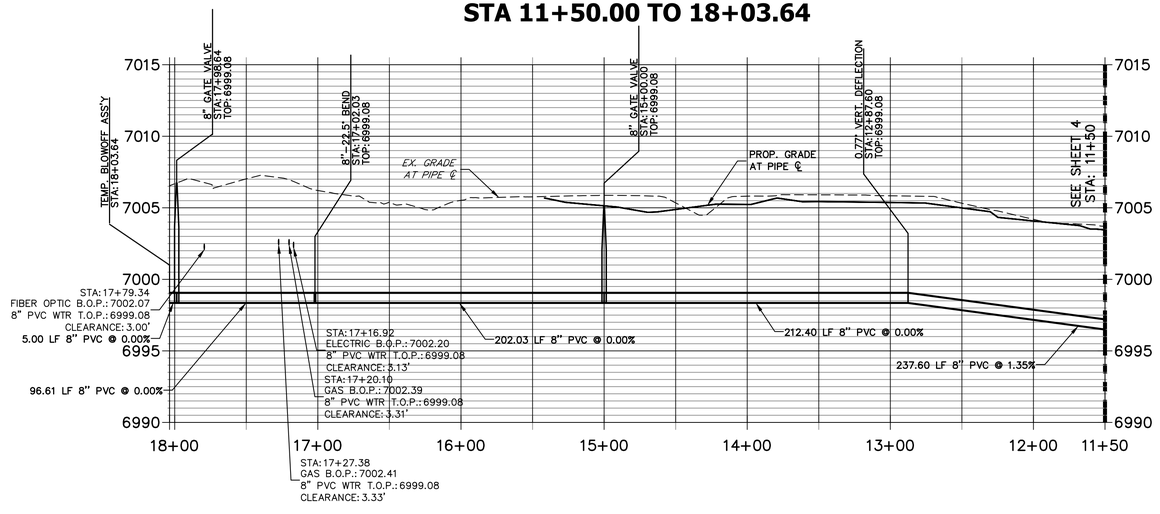
JOB NO. 25188.14

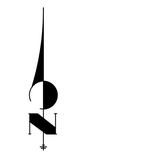




KEY MAP
SCALE: NTS

ALIGNMENT WP02 PROFILE (2)
STA 11+50.00 TO 18+03.64





50 25 0 50 100

HORIZONTAL
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STERLING RECYCLING FACILITY

WATER PLANS

SHEET 5 OF 6

JOB NO. 25188.14

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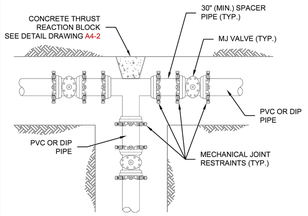
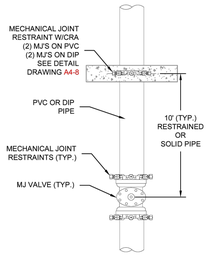
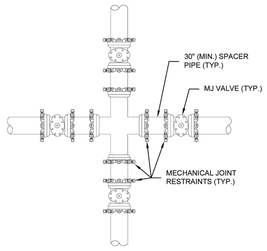


TEE INSTALLATION



IN LINE VALVE INSTALLATION

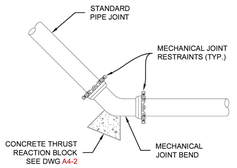


CROSS INSTALLATION

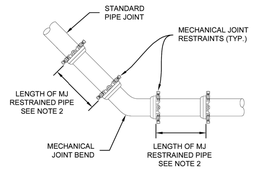
NOTES:

1. MECHANICAL JOINT RESTRAINTS SHALL BE APPROVED ACCORDING TO CHAPTER 4 FOR DIP AND PVC PIPE.
2. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

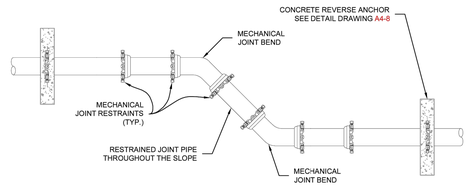
Colorado Springs Utilities	VALVE AND FITTINGS W/ MECHANICAL JOINT RESTRAINTS	A4-5
It's how we're all connected		DATED 06/2015



HORIZONTAL BENDS W/MJ RESTRAINTS AND CTRB



HORIZONTAL BENDS W/MJ RESTRAINTS WITHOUT CTRB

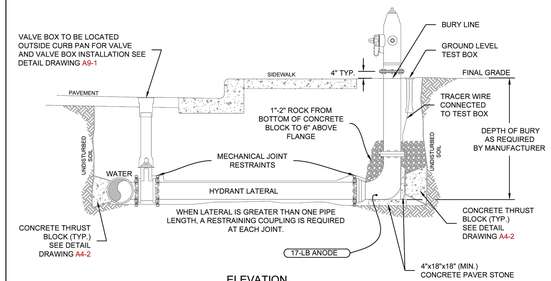


VERTICAL BENDS W/ CONCRETE REVERSE ANCHORS ON SLOPES 10% OR GREATER

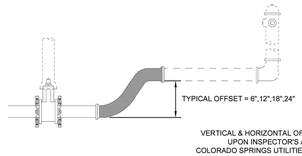
NOTES:

1. MECHANICAL JOINT RESTRAINTS SHALL BE APPROVED ACCORDING TO CHAPTER 4 FOR DIP AND PVC PIPE.
2. LENGTH OF PIPE REQUIRING JOINT RESTRAINT SHALL BE DETERMINED FROM CHART ON DETAIL DRAWING A4-4.
3. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

Colorado Springs Utilities	BEND CONFIGURATIONS AND RESTRAINTS	A4-6
It's how we're all connected		DATED 06/2015



ELEVATION



VERTICAL & HORIZONTAL OFFSET BEND UPON INSPECTOR'S AND COLORADO SPRINGS UTILITIES APPROVAL

ELEVATION

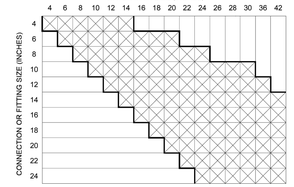
NOTE:
DIP LATERALS AND HYDRANTS SHALL BE POLY WRAPPED AND INCLUDE 1-17lb. ANODE.

NOTES:

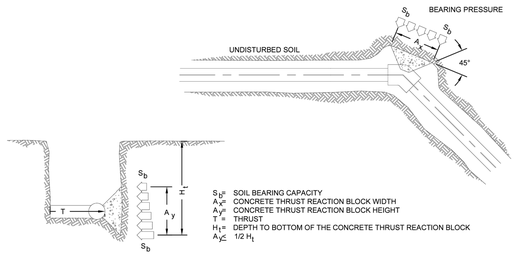
1. MECHANICAL JOINT RESTRAINTS SHALL BE INSTALLED PER DETAIL DRAWINGS A4-4, A4-5, & CHAPTER 5.
2. TRACER WIRE AND GROUND LEVEL TEST BOX TO BE INSTALLED WITH EACH FIRE HYDRANT. PLACE TEST BOX WITHIN 6" FROM THE HYDRANT.
3. REFERENCE DETAIL DRAWINGS A5-1 & A5-2 FOR FIRE HYDRANT LOCATION.
4. INSTALLATION OF A PRIVATE FIRE HYDRANT WILL REQUIRE A SECONDARY VALVE INSTALLED AT THE PROPERTY LINE.
5. HYDRANT BASE BLOCK SHALL BE PLACED ON UNDISTURBED EARTH.
6. DO NOT BLOCK WEEP HOLE WITH POLYWRAP.
7. COVER DRAIN ROCK WITH POLYWRAP PRIOR TO BACKFILL.
8. FOR HDPE HYDRANT CONNECTION SEE DETAIL DRAWING A10-9.
9. FOR PRIVATE FIRE HYDRANTS A SECONDARY VALVE SHALL BE INSTALLED ON THE PROPERTY LINE OR RIGHT-OF WAY LINE.

Colorado Springs Utilities	FIRE HYDRANT INSTALLATION	A5-3
It's how we're all connected		DATED 03/2014

CONCRETE THRUST REACTION BLOCK REQUIREMENTS FOR TEES OR TAPS



INDICATES THAT A CONCRETE THRUST REACTION BLOCK IS REQUIRED



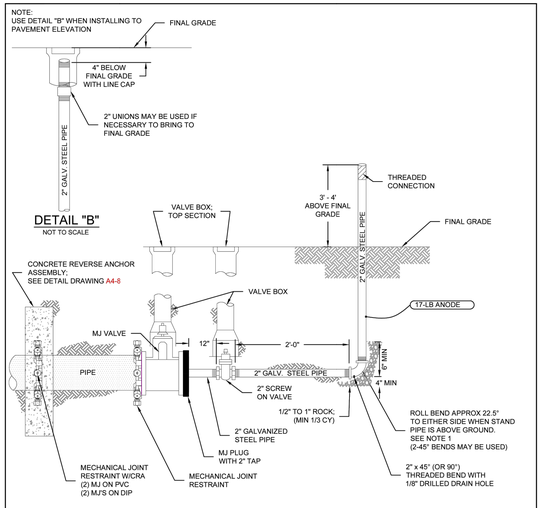
S_b= SOIL BEARING CAPACITY
A_x= CONCRETE THRUST REACTION BLOCK WIDTH
A_y= CONCRETE THRUST REACTION BLOCK HEIGHT
T = THRUST
H_1= DEPTH TO BOTTOM OF THE CONCRETE THRUST REACTION BLOCK
A_y= 1/2 H_1

NOTES:

1. A SITE SPECIFIC DESIGN SHALL BE REQUIRED FOR CONNECTIONS OR FITTING SIZE COMBINATIONS NOT SHOWN ABOVE.
2. THE CONCRETE THRUST REACTION BLOCK SHALL BEAR AGAINST UNDISTURBED SOIL.
3. THE CONCRETE THRUST REACTION BLOCK SHALL BE INSTALLED WITH A 45° ANGLE FROM THE FITTING TO THE UNDISTURBED SOIL AS SHOWN IN THE DRAWING ABOVE.
4. REFER TO DETAIL DRAWING A4-2 FOR STANDARD CONCRETE THRUST REACTION BLOCK DIMENSIONS AND VOLUMES.
5. DUCTILE IRON FITTINGS AND PIPE SHALL BE WRAPPED IN POLYETHYLENE TUBING WHERE ADJACENT TO CONCRETE.

Colorado Springs Utilities	CONCRETE THRUST REACTION BLOCKS	A4-3
It's how we're all connected		DATED 03/2014

NOTE:
USE DETAIL "B" WHEN INSTALLING TO PAVEMENT ELEVATION



NOTES:

1. IF APPROPRIATE LOCATION FOR DISCHARGED WATER CANNOT BE REACHED BY ROLLING THE BEND ADDITIONAL BENDS MAY BE REQUIRED BY THE COLORADO SPRINGS UTILITIES INSPECTOR.
2. COAT TIE RODS, BEAM AND GALVANIZED STEEL PIPE. SEE DETAIL DRAWING A8-11.
3. ENTIRE BLOW-OFF ASSEMBLY MUST BE ADEQUATELY SUPPORTED, CONCRETE PAVER STONES MAY BE REQUIRED.
4. PIPE DOPE APPROVED FOR USE IN POTABLE WATER SYSTEMS MUST BE USED ON ALL THREADED FITTINGS.
5. TEMPORARY BLOW-OFF VALVE ASSEMBLIES SHALL BE INSPECTED BY THE COLORADO SPRINGS UTILITIES INSPECTOR PRIOR TO BACKFILL. BACKFILL COMPACTION TO BE SAME AS AS PIPE COMPACTION SPECIFICATIONS.
6. 2" GALVANIZED PIPE MUST BE RATED TO 250 PSI AND CONFORM TO NSF-61 SPECIFICATIONS.
7 THE COLORADO SPRINGS UTILITIES INSPECTOR MAY REQUIRE TIE-BACK RODS IN ADDITION TO THE MJ RESTRAINTS DEPENDING ON FIELD CONDITIONS AND SYSTEM PRESSURES. SEE TIE-BACK ROD DETAIL DRAWING A2-4.

Colorado Springs Utilities	TEMPORARY BLOW-OFF ASSEMBLIES- 4", 6" & 8" MAINS WITH MECHANICAL JOINT PLUG	A2-5
It's how we're all connected		DATED 01/2017

Know what's **below.**
Call before you dig.

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT

COLORADO PROFESSIONAL ENGINEER — MIKE A. BRAMLETT — 32314

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

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V-SCALE	N/A	DRAWN BY	PAL
DATE	8/1/23	CHECKED BY	

STERLING RECYCLING FACILITY

DETAILS

SHEET 6 OF 6

JOB NO. 25188.14

Vollmer Road Approved CD

TRANSPORTATION
CONSULTANTS, INC.

STERLING RANCH - VOLLMER ROAD FILING 2

COUNTY OF EL PASO, STATE OF COLORADO

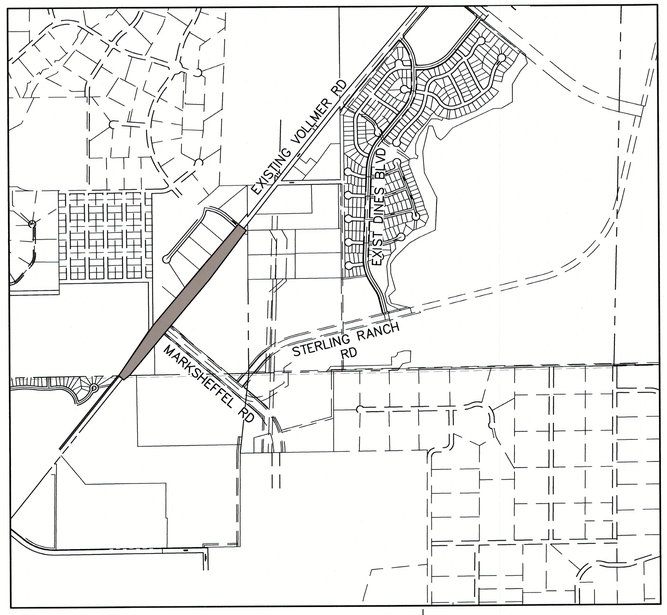
STREET IMPROVEMENT PLAN

MARCH 2022

CDR 20-005

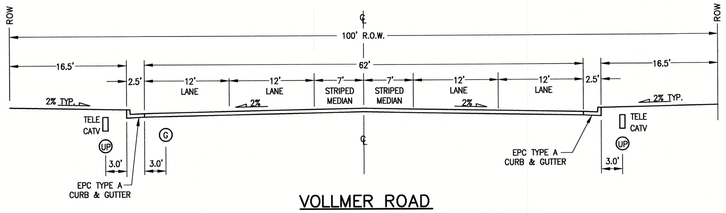
AGENCIES

OWNER/DEVELOPER:	SR LAND, LLC 20 BOULDER CRESCENT, SUITE 201 COLORADO SPRINGS, CO 80903 JAMES F. MORLEY (719) 471-1742
CIVIL ENGINEER:	JR ENGINEERING, LLC 5475 TECH CENTER DRIVE COLORADO SPRINGS, CO 80919 MIKE BRAMLETT P.E. (303) 267-6240
COUNTY ENGINEERING:	EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT 2880 INTERNATIONAL CIRCLE, SUITE 110 COLORADO SPRINGS, CO 80910 JEFF RICE, P.E. (719) 520-6300
TRAFFIC ENGINEERING:	EL PASO COUNTY DEPARTMENT OF PUBLIC WORKS 3275 AKERS DRIVE COLORADO SPRINGS, CO 80922 JENNIFER IRVINE, P.E. (719) 520-6460
WATER RESOURCES:	STERLING RANCH METRO DISTRICT ENGINEERS JDS-HYDRO CONSULTANTS 545 E. PIKES PEAK AVE., SUITE 300 COLORADO SPRINGS, CO 80903 JOHN MCGINN (719) 668-8769
FIRE DISTRICT:	BLACK FOREST FIRE PROTECTION DISTRICT 11445 TEACHOUT ROAD COLORADO SPRINGS, CO 80908 CHIEF BRYAN JACK (719) 495-4300
GAS DEPARTMENT:	COLORADO SPRINGS UTILITIES 7710 DURANT DR. COLORADO SPRINGS, CO 80947 TIM WENDT (719) 668-3556
ELECTRIC DEPARTMENT:	MOUNTAIN VIEW ELECTRIC 11140 E. WOODMEN ROAD FALCON, CO 80831 (719) 495-2283
COMMUNICATIONS:	QWEST COMMUNICATIONS (U.N.C.C. LOCATORS) (800) 922-1987 AT&T (LOCATORS) (719) 635-3674
CITY STORMWATER:	STORMWATER ENTERPRISE 30 S. NEVADA AVENUE, SUITE 401 COLORADO SPRINGS, CO 80903 (719)-385-5918



VICINITY MAP
SCALE : 1"=1,000'

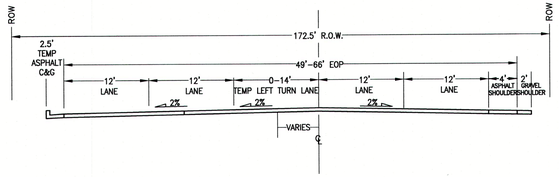
SHEET INDEX



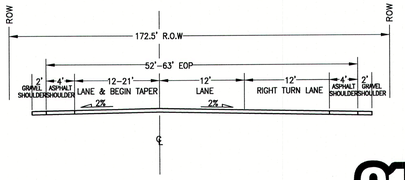
VOLLMER ROAD
(MODIFIED) URBAN MINOR ARTERIAL CROSS SECTION
SCALE: NTS
ULTIMATE STA: 14+00.00 – 34+00.00

BENCHMARKS

1. THE TOP OF AN ALUMINUM SURVEYORS CAP, STAMPED "9853", AT THE SOUTHEAST BOUNDARY CORNER OF BARBARICK SUBDIVISION
   NORTHING = 411416.273
   EASTING = 235167.071
   ELEVATION = 7023.42
2. THE TOP OF A RED PLASTIC SURVEYORS CAP, ILLEGIBLE, AT THE NORTHWEST BOUNDARY CORNER OF PAWNEE RANCHEROS SUBDIVISION
   NORTHING = 410095.404
   EASTING = 235052.131
   ELEVATION = 7000.40
3. THE TOP OF A RED PLASTIC SURVEYORS CAP, STAMPED "38141", AT THE SOUTHWEST BOUNDARY CORNER OF BARBARICK SUBDISION
   NORTHING = 411399.962
   EASTING = 233849.817
   ELEVATION = 7030.82



VOLLMER ROAD
INTERIM CROSS SECTION
SCALE: NTS
INTERIM STA: 29+76.26 – 34+00.93



VOLLMER ROAD
INTERIM CROSS SECTION
SCALE: NTS
INTERIM STA: 34+00.93 – 35+76.70

811 Know what's below. Call before you dig.

OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THESE DETAILED PLANS AND SPECIFICATIONS.

JAMES F. MORLEY — DATE 3/3/22

SR LAND, LLC
20 BOULDER CRESCENT, SUITE 201
COLORADO SPRINGS, CO 80903

EL PASO COUNTY STATEMENT

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, VOLUMES 1 AND 2, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTORS DISCRETION.

APPROVED
Engineering Department
04/05/2022 7:16:30 PM
dsdnjkamp
EPC Planning & Community Development Department

JENNIFER IRVINE, P.E.
COUNTY ENGINEER/ECM ADMINISTRATOR

ENGINEER'S STATEMENT

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECT SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLAN AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR ANY LIABILITY CAUSED BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

COLORADO REGISTERED PROFESSIONAL ENGINEER — MIKE A. BRAMLETT — MB — 32314

MIKE A. BRAMLETT, P.E. — DATE 3/2/22
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

DISTRICT APPROVALS

THESE DOCUMENTS HAVE BEEN REVIEWED AND APPROVED FOR STORM DRAIN AND ASSOCIATED UTILITY SERVICE CONSTRUCTION.

FOR AND ON BEHALF OF THE STERLING RANCH METRO DISTRICT — DATE 3/3/22

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEM FOR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
SUITE 201
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 471-1742

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	N/A
V-SCALE	N/A
DATE	1/26/22
DESIGNED BY	RAB
DRAWN BY	RAB
CHECKED BY	

STERLING RANCH – VOLLMER ROAD FILING 2
COVER SHEET

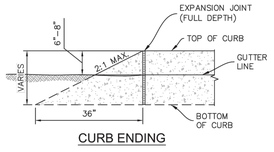
SHEET 1 OF 11
JOB NO. 25188.01

GENERAL CONSTRUCTION NOTES:

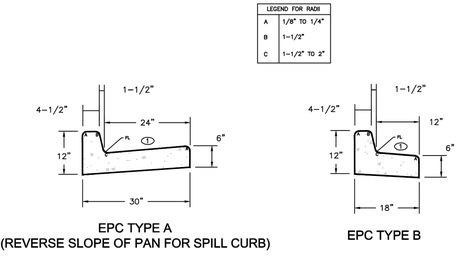
1. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE AND LOCATION OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE WORK. THE OMISSION FROM OR THE INCLUSION OF UTILITY LOCATIONS ON THE PLANS IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. THE CONTRACTOR WILL TAKE THE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES FROM DAMAGE DUE TO THIS OPERATION. ANY DAMAGE TO THE UTILITIES WILL BE REPAIRED AT THE CONTRACTOR'S EXPENSE, AND ANY SERVICE DISRUPTION WILL BE SETTLED BY THE CONTRACTOR.
3. ADDITIONAL EROSION CONTROL STRUCTURES MAY BE REQUIRED AT THE TIME OF CONSTRUCTION.
4. ALL BACKFILL, SUB-BASE, AND/OR BASE COURSE (CLASS 6) MATERIAL SHALL BE COMPACTED PER THE SOILS ENGINEER'S RECOMMENDATIONS, AND APPROVED BY EL PASO COUNTY PCD.
5. ALL STATIONING IS CENTERLINE OF IMPROVEMENTS UNLESS OTHERWISE INDICATED. ALL ELEVATIONS ARE FLOW LINE UNLESS OTHERWISE INDICATED AS TOP BACK OF CURB (TBC), ASPHALT (ASP), OR TOP OF INLET OR BOX (TOB).
6. ALL DISTURBED PAVEMENT EDGES SHALL BE CUT TO NEAT LINES. REPAIR SHALL CONFORM TO EPC ECM APPENDIX K – 1.2C.
7. ALL INTERSECTION ACCESSES TO BE CONSTRUCTED WITH A 25 FOOT SIGHT VISIBILITY TRIANGLES EXCEPT [VOLLMER ROAD, MARKSHEFFEL ROAD, BRAIRGATE PARKWAY] WHICH IS AN ARTERIAL AND A 50 FOOT SIGHT VISIBILITY TRIANGLE IS REQUIRED AND THERE SHALL BE NO OBSTRUCTIONS GREATER THAN 18" IN THIS AREA.
8. ALL CULVERTS AND STORM DRAIN PIPES SHALL BE SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE (HDPE), REINFORCED CONCRETE PIPE (RCP). ALL CULVERTS SHALL BE PLACED COMPLETE WITH FLARED END SECTIONS. ADEQUACY OF MATERIAL THICKNESS FOR ANY CSP INSTALLED SHALL BE VERIFIED BY OWNER'S GEOTECHNICAL ENGINEER TO SUPPORT MINIMUM 50 YEAR DESIGN LIFE. CULVERTS MUST CONFORM TO EPC ECM SECTION 3.32 – CULVERTS.
9. ASPHALT THICKNESS AND BASE COURSE THICKNESS (COMPACTED) FOR ROADS SHALL BE PER DESIGN REPORT BY OWNER'S GEOTECHNICAL ENGINEER. OWNER'S GEOTECHNICAL ENGINEER TO BE ON SITE AT THE TIME OF ROAD CONSTRUCTION TO EVALUATE SOIL CONDITIONS AND DETERMINE IF ADDITIONAL MEASURES ARE NECESSARY TO ASSURE STABILITY OF THE NEW ROADS. PAVEMENT DESIGN SHALL BE APPROVED BY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT ENGINEERING DIVISION PRIOR TO CONSTRUCTION.

SIGNING AND STRIPING NOTES:

1. ALL SIGNS AND PAVEMENT MARKINGS SHALL BE IN COMPLIANCE WITH THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
2. REMOVAL OF EXISTING PAVEMENT MARKINGS SHALL BE ACCOMPLISHED BY A METHOD THAT DOES NOT MATERIALLY DAMAGE THE PAVEMENT. THE PAVEMENT MARKINGS SHALL BE REMOVED TO THE EXTENT THAT THEY WILL NOT BE VISIBLE UNDER DAY OR NIGHT CONDITIONS. AT NO TIME WILL IT BE ACCEPTABLE TO PAINT OVER EXISTING PAVEMENT MARKINGS.
3. ANY DEVIATION FROM THE STRIPING AND SIGNING PLAN SHALL BE APPROVED BY EL PASO COUNTY PCD.
4. ALL SIGNS SHOWN ON THE SIGNING AND STRIPING PLAN SHALL BE NEW SIGNS. EXISTING SIGNS MAY REMAIN OR BE REUSED IF THEY MEET CURRENT EL PASO COUNTY AND MUTCD STANDARDS.
5. STREET NAME AND REGULATORY STOP SIGNS SHALL BE ON THE SAME POST AT INTERSECTIONS.
6. ALL REMOVED SIGNS SHALL BE DISPOSED OF IN A PROPER MANNER BY THE CONTRACTOR.
7. ALL STREET NAME SIGNS SHALL HAVE "D" SERIES LETTERS, WITH LOCAL ROADWAY SIGNS BEING 4" UPPER-LOWER CASE LETTERING ON 8" BLANK AND NON-LOCAL ROADWAY SIGNS BEING 6" LETTERING, UPPER-LOWER CASE ON 12" BLANK, WITH A WHITE BORDER THAT IS NOT RECESSED. MULTI-LANE ROADWAYS WITH SPEED LIMITS OF 40 MPH OR HIGHER SHALL HAVE 8" UPPER-LOWER CASE LETTERING ON 18" BLANK WITH A WHITE BORDER THAT IS NOT RECESSED. THE WIDTH OF THE NON-RECESSED WHITE BORDERS SHALL MATCH PAGE 255 OF THE 2012 MUTCD "STANDARD HIGHWAY SIGNS"
8. ALL TRAFFIC SIGNS SHALL HAVE A MINIMUM HIGH INTENSITY PRISMATIC GRADE SHEETING.
9. ALL LOCAL RESIDENTIAL STREET SIGNS SHALL BE MOUNTED ON A 1.75" X 1.75" SQUARE TUBE SIGN POST AND STUB POST BASE. FOR OTHER APPLICATIONS, REFER TO THE CDOT STANDARD S-614-8 REGARDING USE OF THE P2 TUBULAR STEEL POST SLIPBASE DESIGN.
10. ALL SIGNS SHALL BE SINGLE SHEET ALUMINUM WITH 0.100" MINIMUM THICKNESS.
11. ALL LIMIT LINES/STOP LINES, CROSSWALK LINES, PAVEMENT LEGENDS, AND ARROWS SHALL BE A MINIMUM 125 MIL THICKNESS PREFORMED THERMOPLASTIC PAVEMENT MARKINGS WITH TAPERED LEADING EDGES PER CDOT STANDARD S-627-1. WORD AND SYMBOL MARKINGS SHALL BE THE NARROW TYPE. STOP BARS SHALL BE 24" IN WIDTH. CROSSWALKS LINES SHALL BE 12" WIDE AND 8' LONG PER CDOT S-627-1.
12. ALL LONGITUDINAL LINES SHALL BE A MINIMUM 15MIL THICKNESS EPOXY PAINT. ALL NON-LOCAL RESIDENTIAL ROADWAYS SHALL INCLUDE BOTH RIGHT AND LEFT EDGE LINE STRIPING AND ANY ADDITIONAL STRIPING AS REQUIRED BY CDOT S-627-1.
13. THE CONTRACTOR SHALL NOTIFY EL PASO COUNTY PLANNING AND COMMUNITY DEVELOPMENT (719) 520-6819 PRIOR TO AND UPON COMPLETION OF SIGNING AND STRIPING.
14. THE CONTRACTOR SHALL OBTAIN A WORK IN THE RIGHT OF WAY PERMIT FROM THE EL PASO COUNTY PCD PRIOR TO ANY SIGNAGE OR STRIPING WORK WITHIN AN EXISTING EL PASO COUNTY ROADWAY.

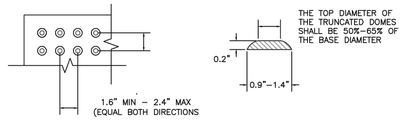


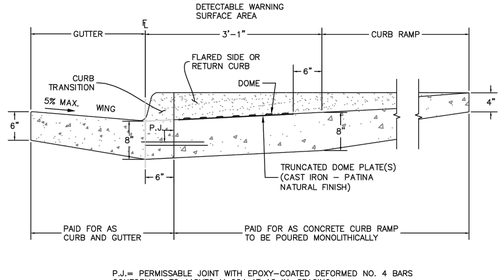
TYPICAL CURB & GUTTER ENDING DETAIL (CS 6B)
SCALE: NTS



TYPICAL CURB & GUTTER DETAILS DETAIL (SD 2-20)
SCALE: NTS

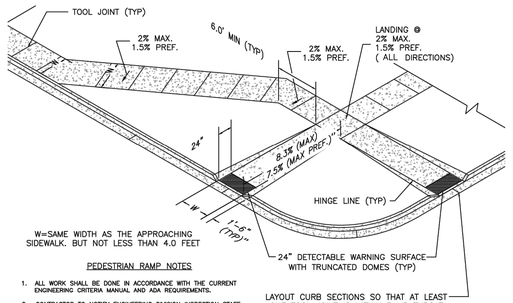
TRUNCATED DOME DETAILS





P.J.= PERMISSABLE JOINT WITH EPOXY-COATED DEFORMED NO. 4 BARS CONFORMING TO AASHTO M 284 AT 18 IN. SPACING

DETECTABLE WARNING SURFACE DETAILS (SD 2-42)
SCALE: NTS



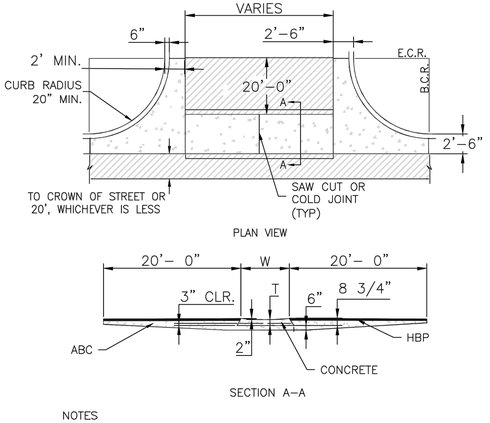
PEDESTRIAN RAMP NOTES

1. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE CURRENT ENGINEERING CRITERIA MANUAL AND ADA REQUIREMENTS.
2. CONTRACTOR TO NOTIFY ENGINEERING DIVISION INSPECTION STAFF 48 HOURS PRIOR TO CONCRETE PLACEMENT.
3. PEDESTRIAN CURB RAMP CONSTRUCTION SHALL BE A MINIMUM 4,500 PSI CONCRETE, MINIMUM 4" THICK, NON-COLORED, NON-SCORED, COARSE BROOM FINISH.
4. PEDESTRIAN CURB RAMP LOCATION AND LENGTH MAY REQUIRE MODIFICATION TO MAINTAIN THE 8.3% MAXIMUM RUNNING RAMP SLOPE DUE TO STREET INTERSECTION GRADES AND/OR ALIGNMENTS. SEE ECM SECTION 6.3.6 FOR PEDESTRIAN PUSHBUTTON LOCATION REQUIREMENTS.
5. DETECTABLE WARNING SURFACE SHALL START A MINIMUM OF 6" BUT NOT MORE THAN 8" FROM THE FLOWLINE OF THE CURB AT ANY POINT.
6. DETECTABLE WARNING SURFACE SHALL BE PREFABRICATED, CAST IRON (PATINA NATURAL FINISH) AND IN ACCORDANCE WITH ECM CHAPTER 6 AND SD_2-42. THERMOPLASTIC TRUNCATED DOMES AND PAVERS WILL NOT BE ACCEPTED.
7. THE DETECTABLE WARNING SURFACE SHALL BE 24" IN LENGTH AND THE FULL WIDTH OF THE RAMP.
8. PEDESTRIAN CURB RAMP WIDTH REQUIRED IS SAME AS APPROACHING SIDEWALK; 4' MINIMUM.
9. ALL PEDESTRIAN CURB RAMPS WILL BE PERPENDICULAR TO TRAFFIC WITH THE EXCEPTION OF MID-BLOCK OR TERMINAL RAMPS WHICH MAY BE PARALLEL SUBJECT TO APPROVAL.
10. DRAINAGE STRUCTURES, TRAFFIC SIGNAL/SIGNAGE, UTILITIES/JUNCTION BOXES, OR OTHER OBSTRUCTIONS WITHIN PROPOSED PEDESTRIAN CURB RAMP AREAS AND LANDINGS ARE PROHIBITED.
11. THE COUNTER SLOPE OF THE GUTTER OR ROAD AT THE FOOT OF A RAMP SHALL NOT EXCEED 5%.

GENERAL NOTES

1. WHERE THE 1'-6" FLARED SIDE(S) OF A PERPENDICULAR CURB RAMP IS (ARE) CONTIGUOUS WITH A PEDESTRIAN OR HARD SURFACE AREA (PEDESTRIAN CIRCULATION PATH), THE MAXIMUM FLARE SLOPE SHALL NOT EXCEED 10:1.
2. PEDESTRIAN WALKWAY (PEDESTRIAN ACCESS ROUTE) AND/OR LOCATION OF EXISTING OR FUTURE PEDESTRIAN RAMPS ON OPPOSITE CORNERS SHALL BE REVIEWED BEFORE CONSTRUCTING NEW RAMPS.
3. AT MARKED PEDESTRIAN CROSSINGS, THE BOTTOM OF THE RAMPS, EXCLUSIVE OF THE FLARE SIDES, SHALL BE TOTALLY CONTAINED WITHIN THE MARKINGS.

PEDESTRIAN INTERSECTION RAMP (SD 2-41)
SCALE: NTS

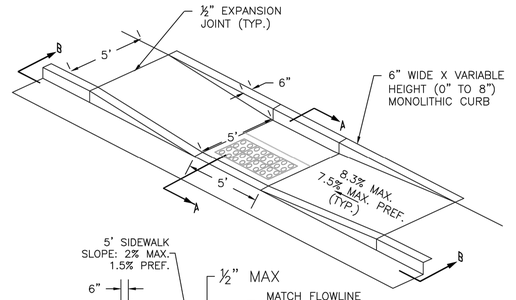


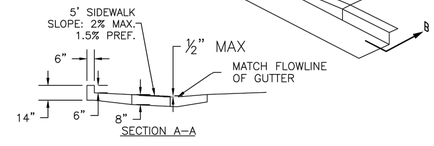
SECTION A-A

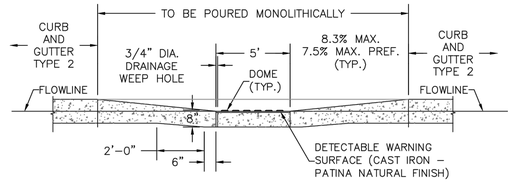
NOTES

1. W – WIDTH SHALL BE 6' FOR LOCAL, 8' FOR COLLECTORS, AND 10' FOR ARTERIAL ROADS.
2. T – SQUARED-OFF RETURN TO BE POURED MONOLITHICALLY, 8" PCC FOR LOCAL ROADS, 9" FOR COLLECTORS WITH 6x6 – 4.4 W.W.F. OR #4 REINFORCING BAR @ 18" EACH WAY.
3. ▨ = 3" MINIMUM ASPHALT DEPTH (2 LIFTS).
4. DESIGN TO SPECIFY ELEVATIONS AT PI AND PCR.

TYPICAL CROSS PAN LAYOUT DETAIL (SD 2-26)
SCALE: NTS







SECTION B-B

SCALE: NOT TO SCALE

PARALLEL PEDESTRIAN RAMP DETAIL (SD 2-50)
SCALE: NTS

EPC 4/5/2022

ENGINEER'S STATEMENT

STANDARD DETAILS SHOWN WERE REVIEWED ONLY AS TO THEIR APPLICATION ON THIS PROJECT.

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

32314 — 3/7/22
DATE

Know what's below. Call before you dig.

UNTIL SUCH TIME AS THESE PLANS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
SUITE 201
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 471-1742

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A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

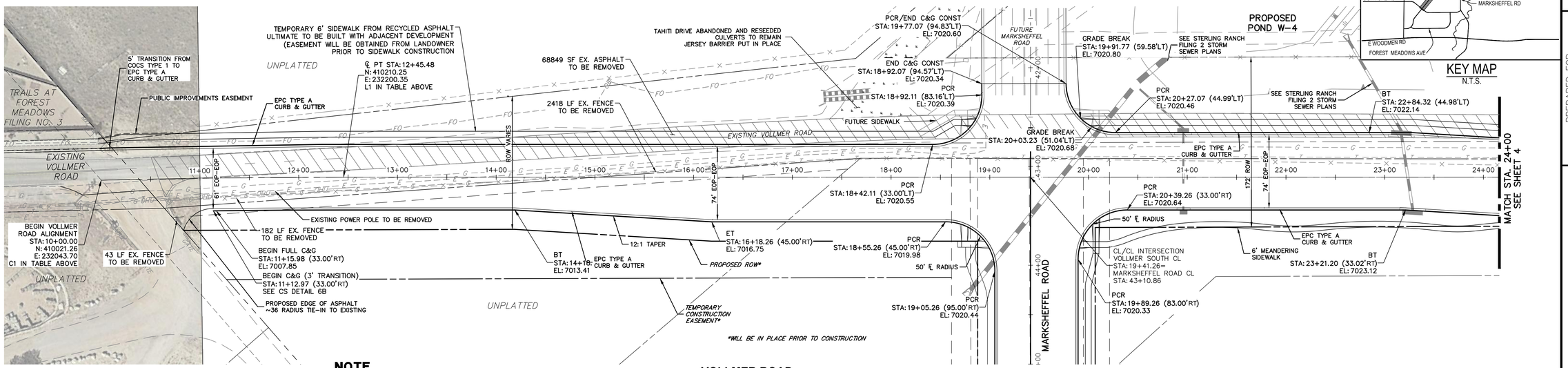
No.	REVISION	BY	DATE

H-SCALE	AS NOTED
V-SCALE	N/A
DATE	3/7/22
DESIGNED BY	RAB
DRAWN BY	KRW
CHECKED BY	

STERLING RANCH – VOLLMER ROAD FILING 2
NOTES AND DETAILS

SHEET 2 OF 11
JOB NO. 25188.01

Vollmer South CL										
Point	Design Pt	Station	Distance	Bearing	Northing	Easting	Radius	Delta	Length	Tangent
C1	PC PI PT	10+00.00 11+22.75 12+45.48			410021.2566 410116.7139 410210.2482	232043.6991 232120.8669 232200.3545	10000	1°24'23"	245.48	122.75
L1	Begin Line End Line	12+45.48 25+49.93	1304.444	N40° 21' 27.79"E	410210.2482 411204.2559	232200.3545 233045.0573				



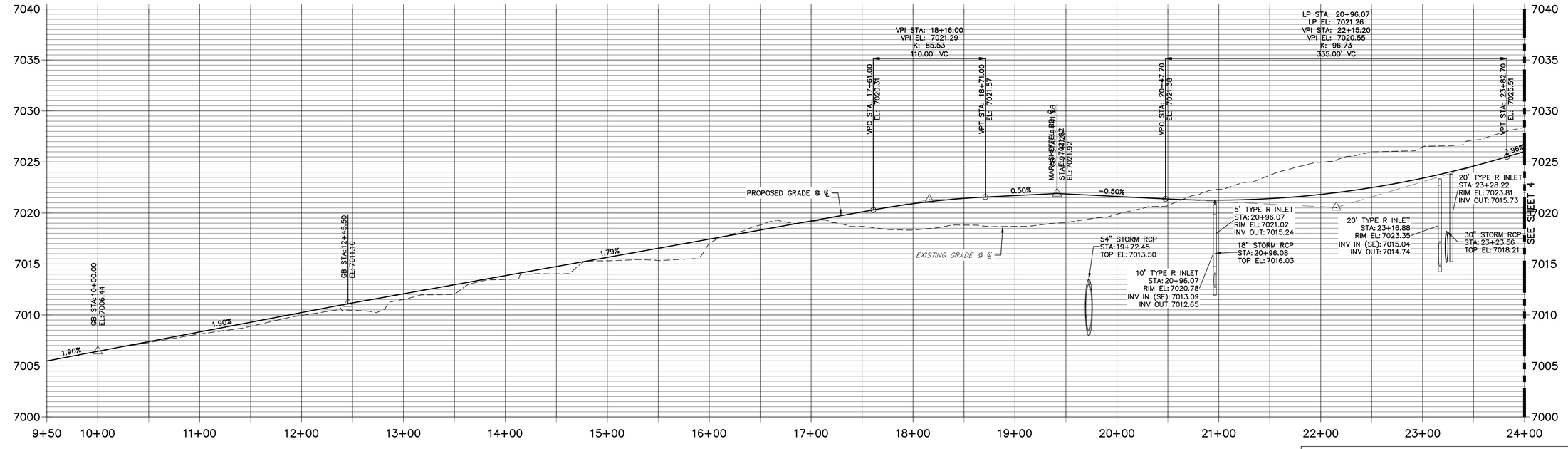
NOTE

OVERHEAD ELECTRIC LINE TO BE PLACED UNDERGROUND AT POLE SOUTH OF PIONEER DRIVE. CONTRACTOR TO COORDINATE WITH MVEA FOR ROUTING.

CONTRACTOR TO COORDINATE WITH BLACK HILLS AND OTHER EXISTING UTILITIES WITHIN PROJECT LIMITS TO COORDINATE RELOCATION IF NECESSARY

VOLLMER ROAD
STA 10+00.00 TO STA 24+00.00

VOLLMER SOUTH CL PROFILE
STA 9+50.00 TO 24+00.00



VOLLMER ROAD
STA 10+00.00 TO STA 23+50.00

EPC 4/5/2022

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

3/7/22
DATE

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
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No.	REVISION	BY	DATE

H-SCALE	1"=50'
V-SCALE	1"=5'
DATE	3/7/22
DESIGNED BY	RAB
DRAWN BY	KRW
CHECKED BY	

STERLING RANCH – VOLLMER ROAD FILING 2
PLAN & PROFILE

SHEET 3 OF 11

JOB NO. 25188.01

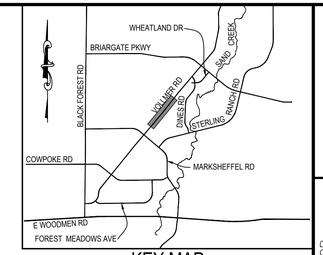
Vollmer South CL										
Point	Design Pt	Station	Distance	Bearing	Northing	Easting	Radius	Delta	Length	Tangent
L2	Begin Line End Line	25+49.93 35+75.83	1025.900	N37° 33' 44.75"E	411204.2559 412017.4765	233045.0573 233670.4724				
L3	Begin Line End Line	35+75.83 37+99.22	223.394	N39° 52' 40.53"E	412017.4765 412188.9114	233670.4724 233813.7020				

— ASPHALT TO BE REMOVED

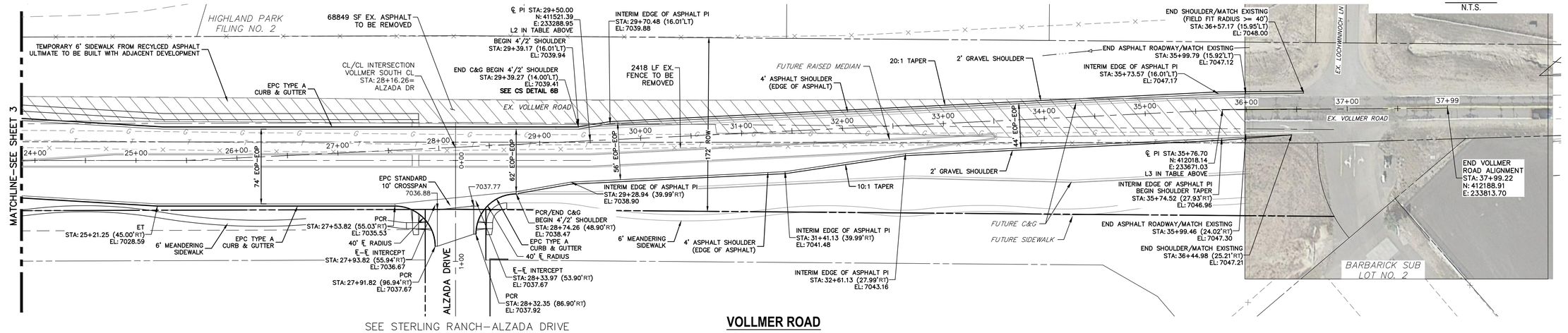
50 25 0 50 100

HORIZONTAL
ORIGINAL SCALE: 1" = 50'
VERTICAL
ORIGINAL SCALE: 1" = 5'

811 Know what's below. Call before you dig.



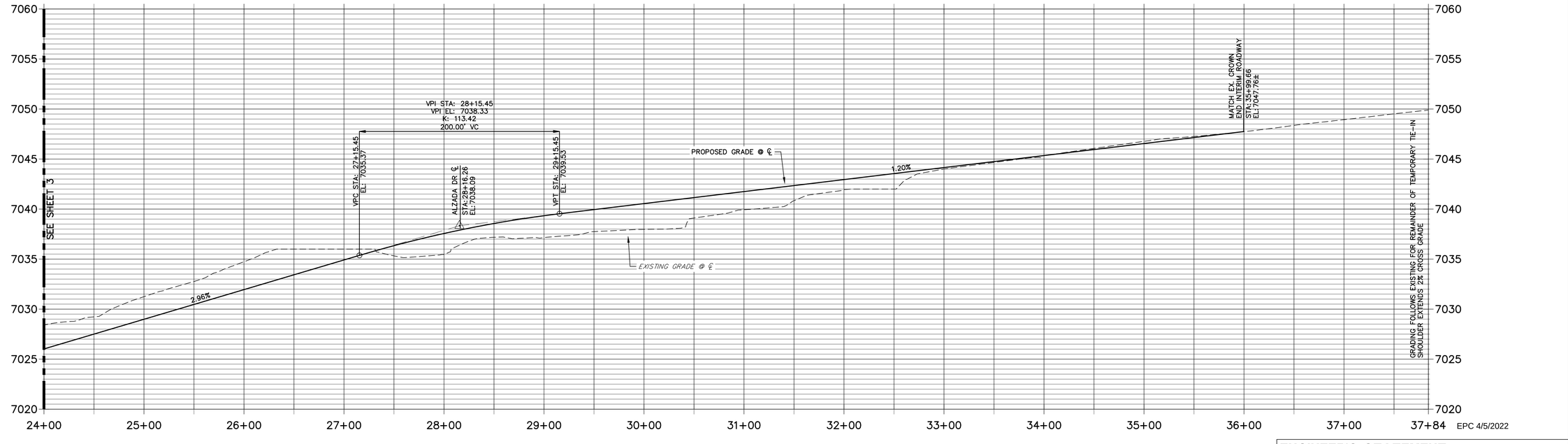
KEY MAP
N.T.S.



SEE STERLING RANCH—ALZADA DRIVE
STREET IMPROVEMENT PLANS

VOLLMER ROAD
STA 24+00.00 TO STA 38+00.00

VOLLMER SOUTH CL PROFILE
STA 24+00.00 TO 37+84.39



ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

Mike A. Bramlett 3/7/22

MIKE A. BRAMLETT, P.E. — DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

UNTIL SUCH TIME AS THESE PLANS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

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No.	REVISION	BY	DATE

H-SCALE	1"=50'	DESIGNED BY	RAB
V-SCALE	1"=5'	DRAWN BY	KRW
DATE	3/7/22	CHECKED BY	

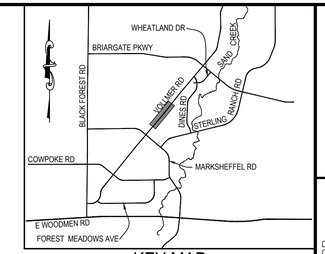
STERLING RANCH — VOLLMER ROAD FILING 2
PLAN & PROFILE

SHEET 4 OF 11

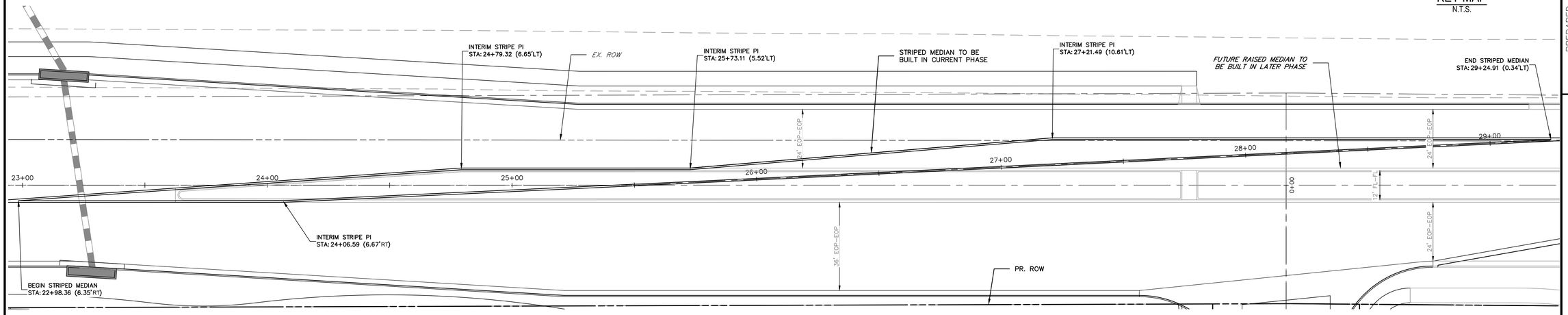
JOB NO. 25188.01

20 10 0 20 40
ORIGINAL SCALE: 1" = 20'

Know what's below.
Call before you dig.



KEY MAP
N.T.S.



VOLLMER ROAD INTERIM STRIPED MEDIAN (AND FUTURE RAISED MEDIAN) STA 22+98.00 TO STA 29+25.00

EPC 4/5/2022

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

Mike A. Bramlett 3/7/22

MIKE A. BRAMLETT, P.E. DATE
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE APPROPRIATE REVIEWING AGENCIES, JR ENGINEERING APPROVES THEIR USE ONLY FOR THE PURPOSES DESIGNATED BY WRITTEN AUTHORIZATION.

PREPARED FOR
SR LAND, LLC
20 BOULDER CRESCENT
SUITE 201
COLORADO SPRINGS, CO 80903
JAMES F. MORLEY
(719) 471-1742

J·R ENGINEERING
A Westrian Company
Centennial 303-740-9393 • Colorado Springs 719-593-2593
Fort Collins 970-491-9888 • www.jrengineering.com

No.	REVISION	BY	DATE

H-SCALE	1"=50'
V-SCALE	1"=5'
DATE	3/7/22
DESIGNED BY	RAB
DRAWN BY	KRW
CHECKED BY	

STERLING RANCH – VOLLMER ROAD FILING 2

MEDIAN DETAILS

SHEET 5 OF 11

JOB NO. 25188.01

STRIPING LEGEND		
STRIPE	PAVEMENT MARKINGS	MARKING DESCRIPTION
②	DOUBLE CENTERLINE LANE MARKINGS (EPOXY)	PARALLEL SOLID YELLOW, 4" WIDE, 12" APART
③	LANE LANES (EPOXY)	BROKEN WHITE, 4" WIDE, 10' SEGMENTS WITH 30" GAPS
④	BROKEN EDGE/BIKE LANE LINES (EPOXY)	BROKEN WHITE, 4" WIDE, 5' SEGMENTS WITH 15" GAPS
⑤	EDGE/BIKE LANE LINES (EPOXY)	SOLID WHITE, 4" WIDE
⑥	CHANNELIZING LINES (EPOXY)	SOLID WHITE, 8" WIDE
⑦	STOP LINES (THERMO PLASTIC)	SOLID WHITE, 24" WIDE

NOTE: ALL STRIPING INSTALLATION SHALL BE PER COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "M&S STANDARDS" STANDARD PLAN NO. S-627-1.

NOTE TO CONTRACTOR:

1. ALL 4" AND 8" SOLID OR SKIP PAVEMENT MARKINGS ARE TO BE EPOXY.
2. SIGNS AND POLES SHALL BE PER CDOT STANDARDS S-614-8, S-1614-2, AND S-614-3, LATEST REVISION.
3. ALL SIGNAGE INSTALLATION IS TO BE IN COMPLIANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

50 25 0 50 100
ORIGINAL SCALE: 1" = 50'

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UNPLATTED
EXISTING TRAILS AT FOREST MEADOWS FILING NO. 3
EXISTING VOLLMER ROAD
EXISTING TAHITI DRIVE
TAHITI DRIVE ABANDONED AND RESEEDED
CULVERTS TO REMAIN
JERSEY BARRIER PUT IN PLACE
JERSEY BARRIERS
FUTURE MARKSHEFFEL ROAD
BARRICADES TO BLOCK ACCESS TO MARKSHEFFEL ROAD UNTIL CONSTRUCTED
EXISTING HIGHLAND PARK FILING NO. 2
RIGHT TURN LANE TO BE HATCHED OFF UNTIL FUTURE MARKSHEFFEL ROAD (WEST LEG) IS CONSTRUCTED
25:1 REDIRECT
445.00'
12:1 TAPER
245.00'
EXISTING SIGN MAY BE RE-USED WITH COUNTY TRAFFIC ENGINEERING APPROVAL
SPEED LIMIT 35
R2-1 (36"x48")
RIGHT LANE MUST TURN RIGHT
R3-7R (36"x36")
VOLLMER ROAD
MARKSHEFFEL ROAD
D-3 (6" FONT)
MARKSHEFFEL ROAD
STOP
R1-1 (36"x36")
BARRICADES TO BLOCK ACCESS TO MARKSHEFFEL ROAD UNTIL CITY AND COUNTY APPROVE
SEE STERLING RANCH-MARKSHEFFEL ROAD PLANS
FUTURE STERLING RANCH SUBDIVISION FILING NO. 2
MATCHLINE - CONTINUED BELOW LEFT

VOLLMER ROAD INTERIM CONDITION

MATCHLINE - CONTINUED ABOVE RIGHT
TEMPORARY STRIPED MEDIAN (TO PROVIDE RIRO MOVEMENT) UNTIL ULTIMATE RAISED MEDIAN IS BUILT IN FUTURE PHASE
EXISTING HIGHLAND PARK FILING NO. 2
R3-2L (30"x30")
VOLLMER ROAD
LOCHWINNOCH LANE
D-3 (6" FONT)
EXISTING LOCHWINNOCH LANE
SPEED LIMIT 35
R2-1 (36"x48")
20:1 REDIRECT
10:1 MERGE TAPER
270.00'
120.00'
RIGHT LANE MUST TURN RIGHT
R3-7R (36"x36")
STERLING RANCH SUBDIVISION FILING NO. 2
ALZADA DRIVE
ROAD CLOSED
TYPE 3 M-C BARRICADE W/ R11-2 ROAD CLOSED SIGN

EPC 4/5/2022

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

32314 — 3/7/22
DATE

No.	REVISION	BY	DATE

H-SCALE	1"=50'
V-SCALE	N/A
DATE	3/7/22
DESIGNED BY	RAB
DRAWN BY	KRW
CHECKED BY	

STERLING RANCH – VOLLMER ROAD FILING 2
SIGNAGE & STRIPING

SHEET 6 OF 11
JOB NO. 25188.01

STRIPING LEGEND		
STRIPE	PAVEMENT MARKINGS	MARKING DESCRIPTION
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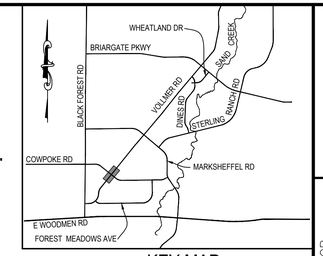
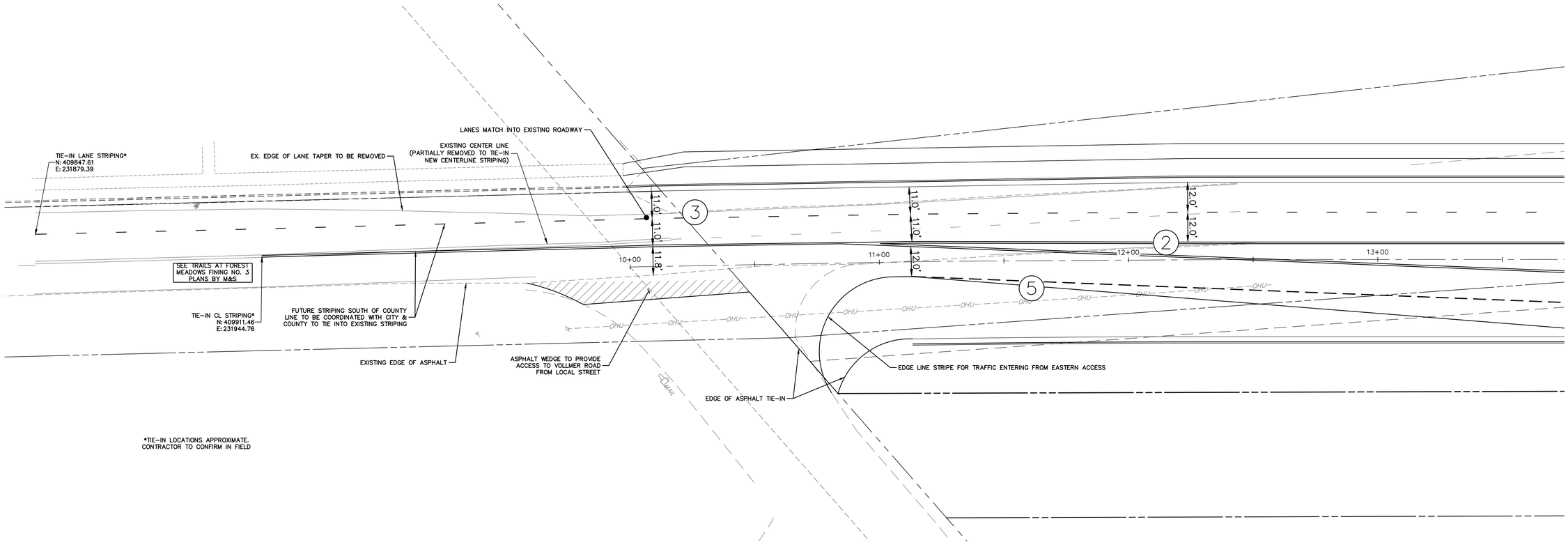


KEY MAP
N.T.S.



*TIE-IN LOCATIONS APPROXIMATE. CONTRACTOR TO CONFIRM IN FIELD

VOLLMER ROAD SOUTHERN TIE-IN TO EXISTING

EPC 4/5/2022

ENGINEER'S STATEMENT

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COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

3/7/22
DATE

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STERLING RANCH – VOLLMER ROAD FILING 2

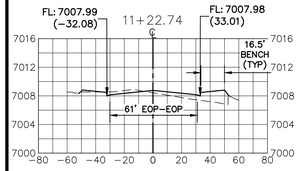
SIGNAGE & STRIPING

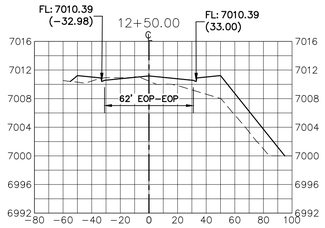
SHEET 7 OF 11

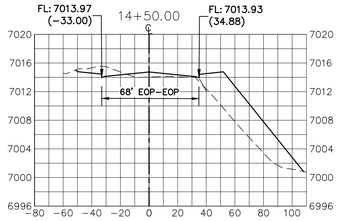
JOB NO. 25188.01

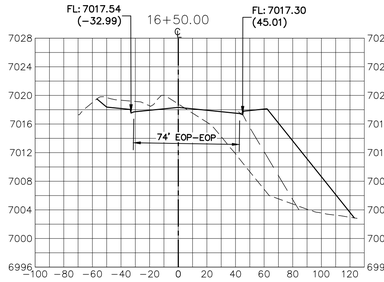
LEGEND

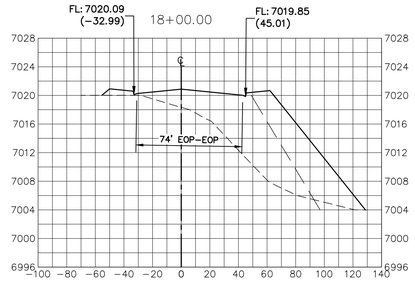
PROPOSED SURFACE
EXISTING SURFACE
FILING NO. 2 SURFACE

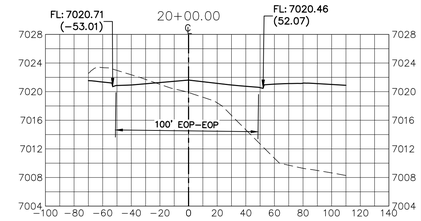


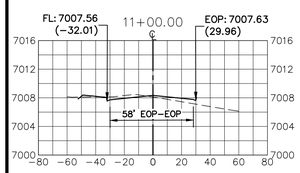


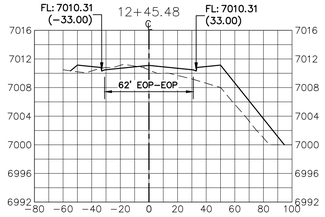


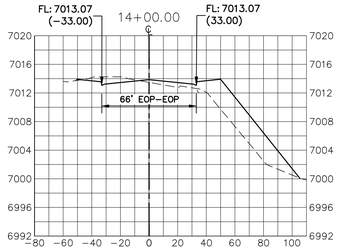


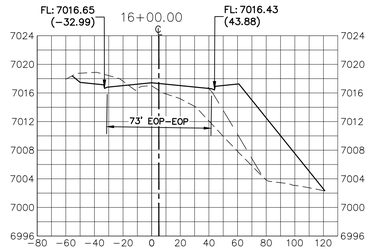


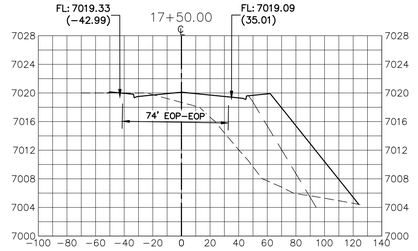


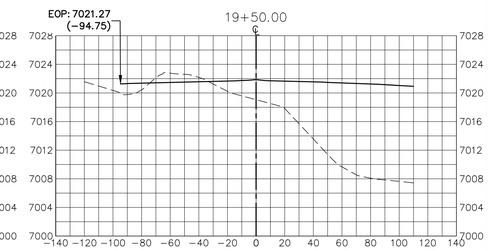


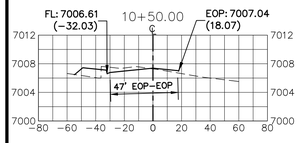


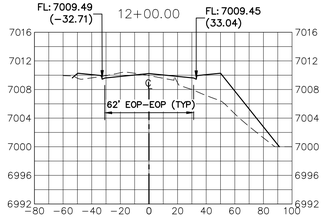


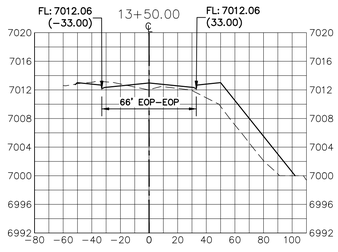


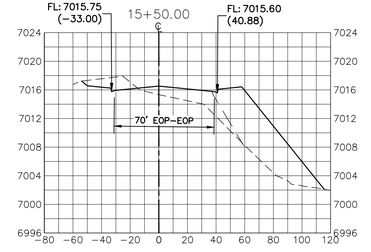


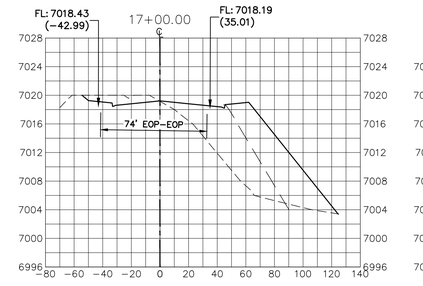


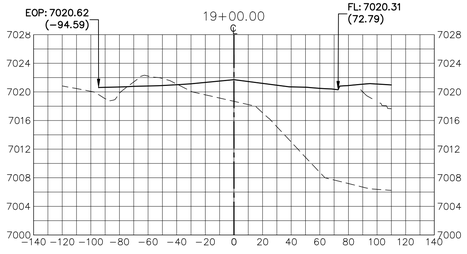


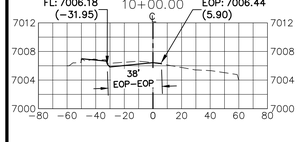


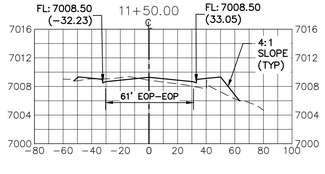


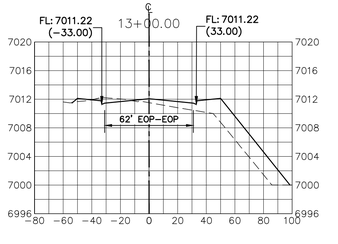


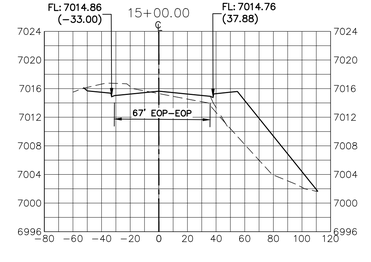


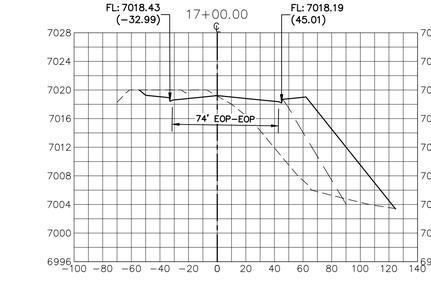


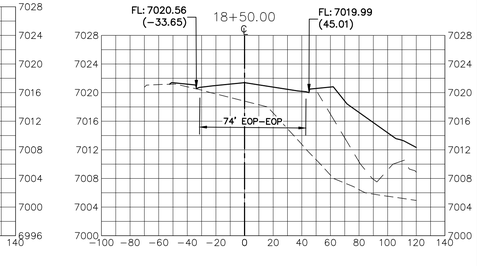












EPC 4/5/2022

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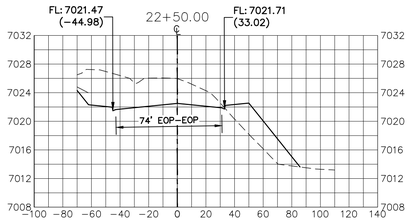
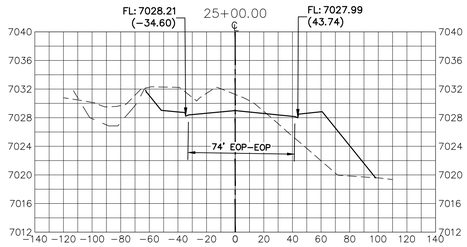
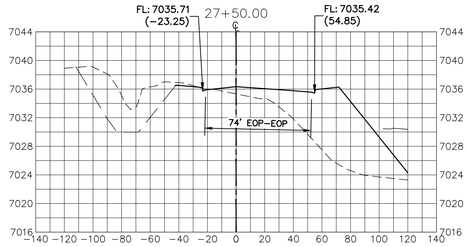
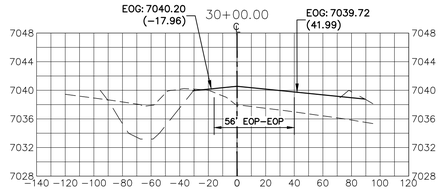
STERLING RANCH – VOLLMER ROAD FILING 2
CROSS SECTIONS

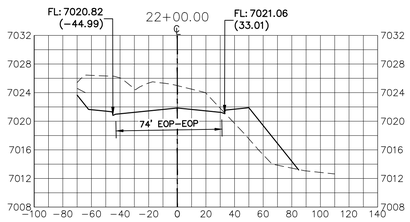
SHEET 8 OF 11
JOB NO. 25188.01

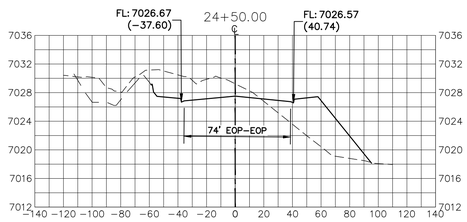


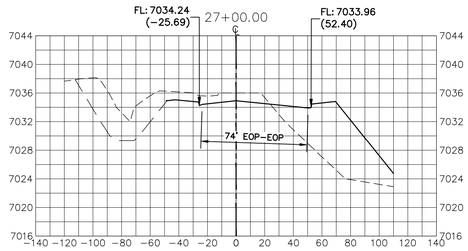


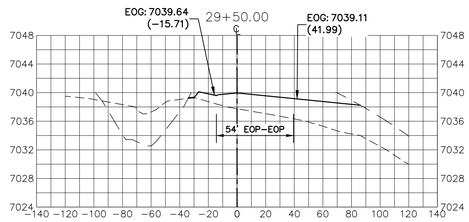


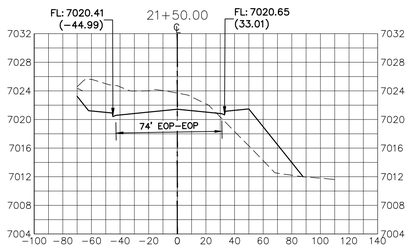


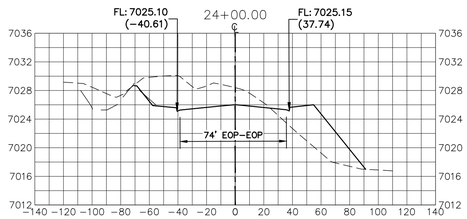


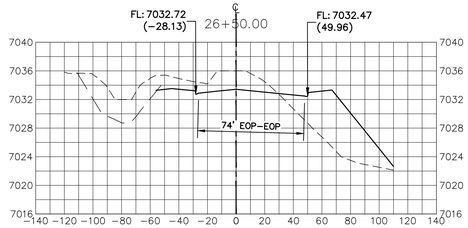


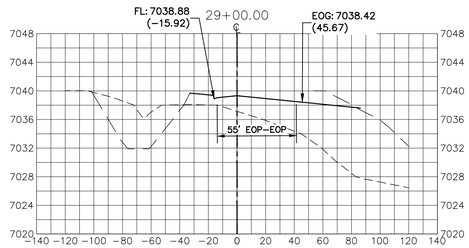


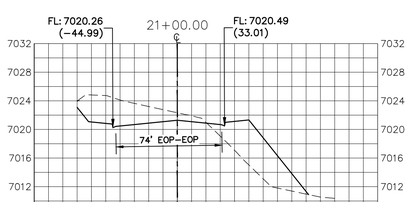


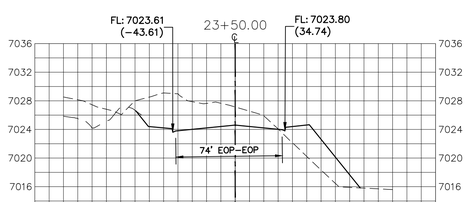


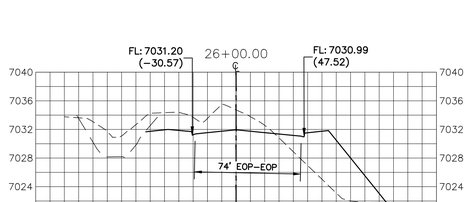


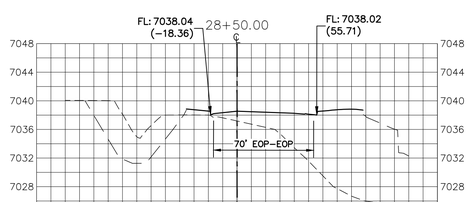


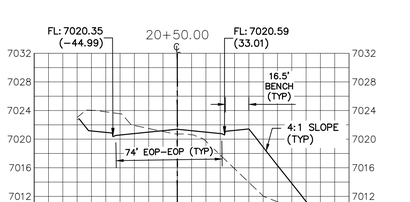


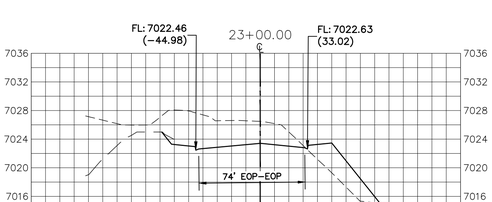


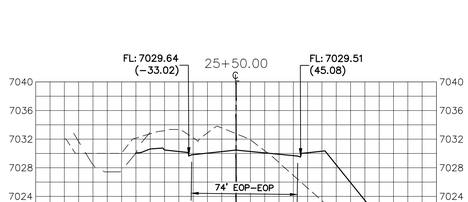


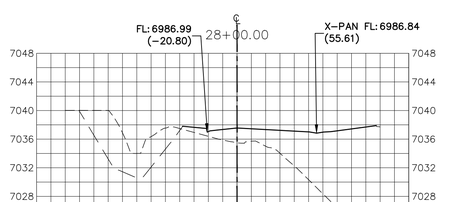












EPC 4/5/2022

LEGEND

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H-SCALE	1"=50'
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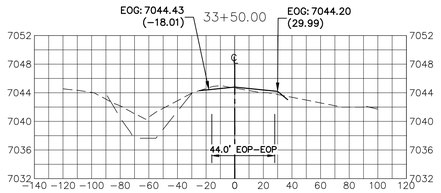
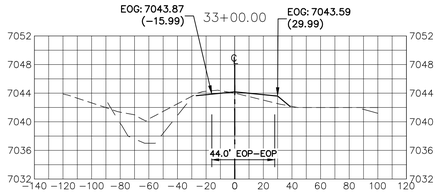
DRAWN BY	KRW
CHECKED BY	

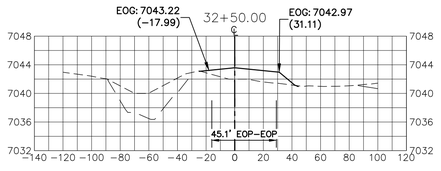
STERLING RANCH – VOLLMER ROAD FILING 2
CROSS SECTIONS

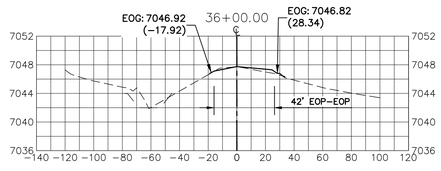
SHEET 9 OF 11

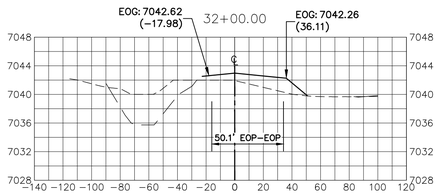
JOB NO. 25188.01

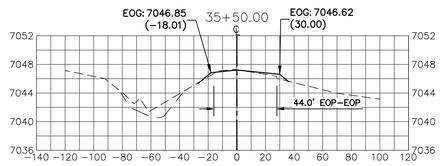


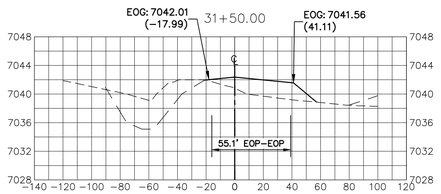


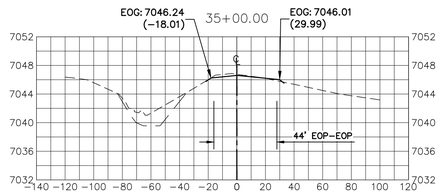


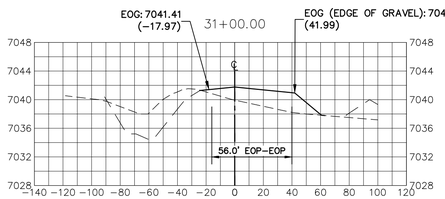


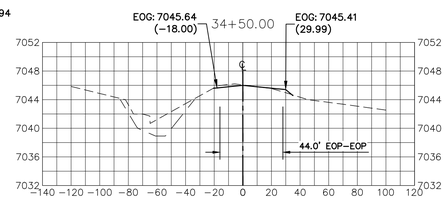


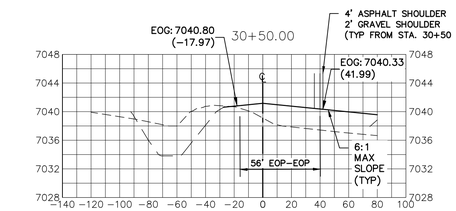


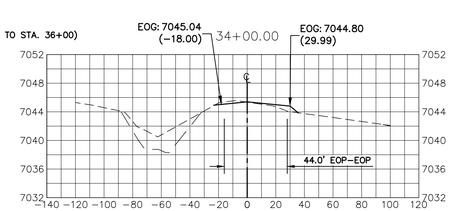












EPC 4/5/2022

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STERLING RANCH – VOLLMER ROAD FILING 2

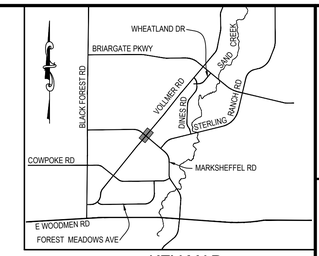
CROSS SECTIONS

SHEET 10 OF 11

JOB NO. 25188.01

20 10 0 20 40
ORIGINAL SCALE: 1" = 20'

811 Know what's below. Call before you dig.



KEY MAP
N.T.S.

PCR/END C&G CONST
STA: 19+77.07 (94.83'LT)
EL: 7020.60

SPOT EL (25' SPACING TYP.)
STA: 19+17.11 (85.99'LT)
N: 410777.72
E: 232569.74
EL: 7021.00

END C&G CONST
STA: 18+92.07 (94.57'LT)
EL: 7020.34

PCR
STA: 18+92.11 (83.16'LT)
EL: 7020.39

GRADE BREAK
STA: 19+91.77 (59.58'LT)
EL: 7020.80

PCR
STA: 20+27.07 (44.99'LT)
EL: 7020.46

SPOT EL (25' SPACING TYP.)
STA: 20+42.11 (35.99'LT)
N: 410840.60
E: 232688.79
EL: 7020.69

GRADE BREAK
STA: 20+03.23 (51.04'LT)
EL: 7020.68

PCR
STA: 18+42.11 (33.00'LT)
EL: 7020.55

SPOT EL (25' SPACING TYP.)
STA: 18+42.11 (39.01'RT)
N: 410639.63
E: 232616.43
EL: 7020.23

PCR
STA: 18+55.26 (45.00'RT)
EL: 7019.98

PCR
STA: 19+05.26 (95.00'RT)
EL: 7020.44

SPOT EL (25' SPACING TYP.)
STA: 19+67.11 (89.01'RT)
N: 410702.50
E: 232735.47
EL: 7020.82

PCR
STA: 20+39.26 (33.00'RT)
EL: 7020.64

CL/CL INTERSECTION
VOLLMER SOUTH CL
STA: 19+41.26=
MARKSHEFFEL ROAD CL
STA: 43+10.86

PCR
STA: 19+89.26 (83.00'RT)
EL: 7020.33

EPC 4/5/2022

VOLLMER ROAD
INTERSECTION AT MARKSHEFFEL ROAD DETAIL

ENGINEER'S STATEMENT

PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING

Mike A. Bramlett 3/7/22

MIKE A. BRAMLETT, P.E.
COLORADO P.E. 32314
FOR AND ON BEHALF OF JR ENGINEERING, LLC

COLORADO REGISTERED MIKE A. BRAMLETT 32314 PROFESSIONAL ENGINEER

DATE

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INTERSECTION DETAIL

SHEET 11 OF 11
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