COMBINED PRELIMINARY AND FINAL DRAINAGE REPORT
for
OHANA SUBDIVISION
EL PASO COUNTY, COLORADO

Prepared for

Gary and Darlene Hammann
17825 Jones Road
Peyton, CO 80831

Prepared by

Allison Engineering
4245 Log Road
Peyton, CO 80831

Design Engineer's Statement: The attached drainage plan and report were prepared under my direction and supervision and are correct to the best of my knowledge and belief. Said drainage report has been prepared according to the criteria established the County for drainage reports and said report is in conformity with the applicable master plan of the drainage basin. I accept responsibility for any liability caused by any negligent acts, errors or omissions on my part in preparing this report.

James L. Allison, P.E. #27338

Owner/Developer's Statement: I, the owner/developer have read and will comply with all of the requirements specified in this drainage report and plan.

Gary and Darlene Hammann

El Paso County Certification: Filed in accordance with the requirements of the Drainage Criteria Manual, Volumes 1 and 2, El Paso County Engineering Criteria Manual & Land Development Code as amended.

Joshua Palmer, P.E.
County Engineer / ECM Administrator

Conditions:

Contents

1 Purpose

This document is intended to serve as the Preliminary and Final Drainage Report for OHANA SUBDIVISION, a rural-residential subdivision of four lots of approximately 5 acres each. Figure 1 is not of sufficient resolution to be used as reference to this report but the accompanying larger print to this report is intended to be used to reference finer details. The purpose of this document is to identify and analyze the on- and off-site drainage patterns and to ensure that post development runoff is routed through the site safely and in a manner that satisfies the requirements set forth by the El Paso County Drainage Criteria Manual and pertinent parts of the Colorado Springs Drainage Criteria Manual. The proposed principal use for the four lots is to be single-family residences and whatever ancillary structures are deemed useful such as detached garages, shops, barns, and other structures common with hobby-farm types of activities. The majority of each lot will remain low, sparse grasses typical of the present condition. This form of use is typical in all four directions from the proposed subdivision.

2 General Location and Description

The proposed OHANA Subdivision is located in the northwest quarter of Section 30, Township 13 South, Range 63 West of the 6th P.M., El Paso County, Colorado. Adjacent roads are Murr Road paralleling the west property line and Jones Road parallel to the north property line. The intersection of these two county roads is shown in the upper left-hand corner of Figure 2. There are no public roads within the boundary of the proposed subdivision. To the east is the eastern dominant drainage channel of the Haegler Ranch drainage basin within which the entirety of the proposed subdivision lies according to the Drainage Basins for El Paso County, Colorado, 2005 copyrighted by the Board of County Commissioners. However, the Haegler Ranch Basin Planning Study of May 2009 for the El Paso County Department of Transportation by URS Corporation indicates the proposed subdivision is in part within the Telephone Exchange drainage basin, CHMS0200 and CHWS0200, respectively. From on-site inspection of the proposed subdivision this office concludes the western edges of the three undeveloped lots are within the delineated Telephone Exchange Drainage Basin and there is presently no means for that drainage to be directed into the Haegler Drainage Basin except by

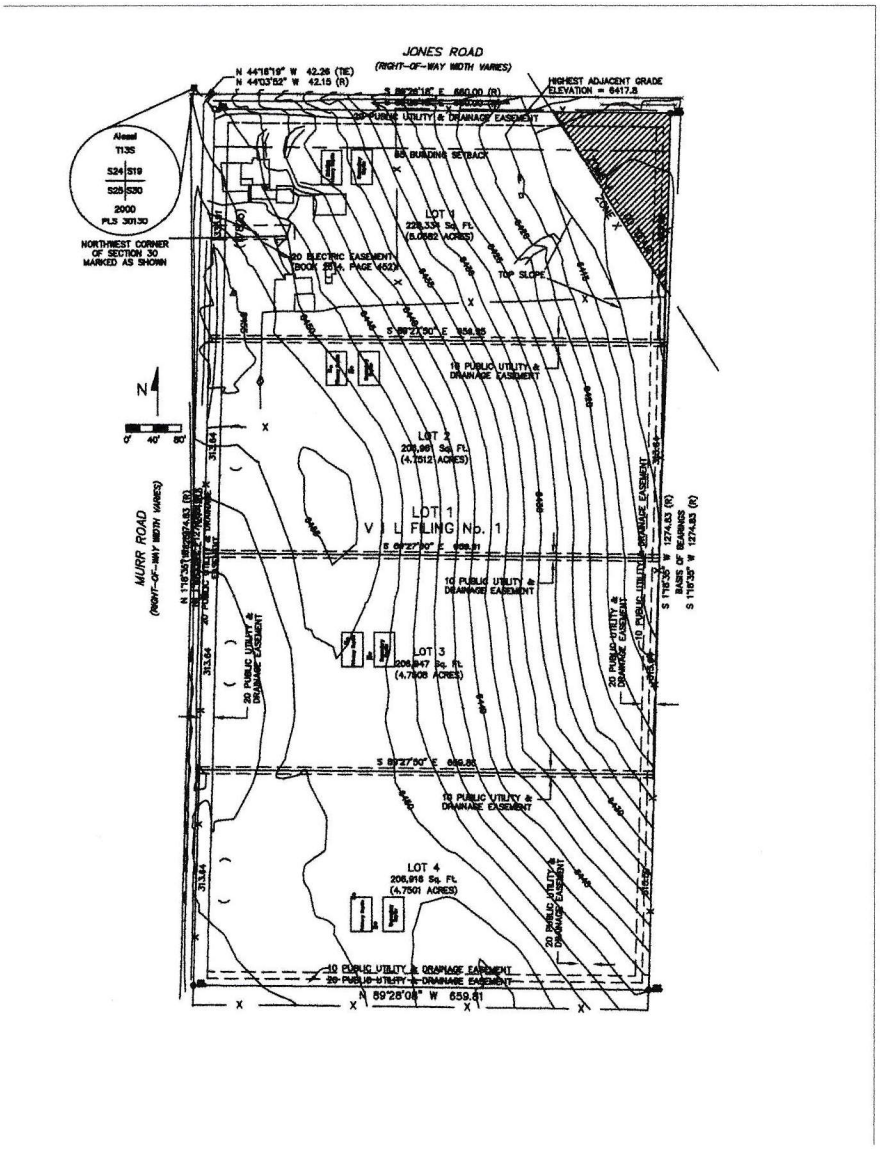


Figure 1: This plat plan is not intended for reference with this report. REFERENCCE THE LARGER PRINT THAT ACCOMPANIES THIS REPORT.

Larger version of this map is missing from appendix. Please provide. Ensure comments from previous submittal have been addressed.

deep grading of the eastern borrow or installation of a culvert. At present the Telephone Exchange drainage path from the proposed subdivision would be westward across Murr Road. The balance of this report will assume drainage will follow the latter path and any future redirection along Murr Road is not considerd. The Haegler Ranch Basin Planning study indicates the delineation between the Haegler and Telephone Exchange basins occurs at the 6450-foot countour. Thus, the proposed subdivision is 95% in the Haegler and 5% in the Telephone Exchange Drainage Basin.

All four of the proposed lots slope downward to the east toward the Haegler Ranch drainage way except a small portion of the three undeveloped lots which slope to the west. The grade in its descent does not exceed 10% and is unbroken by erosion, cliffs, escarpments or any other feature which would indicate recent erosion or lack of conservation care.

The three undeveloped lots have portions that slope downward to the west towards the Telephone Exchange drainage way. The grade in its descent does not exceed 10% and is unbroken by erosion, cliffs, escarpments or any other feature which would indicate recent erosion or lack of conservation care.

The proposed subdivision encompasses 19.3101 acres of undeveloped land aside from the single homesite in the northwest corner closest to the intersection of Jones and Murr Roads. The homesite has been occupied for generations, dating at least to the start of the 20th century. Buildings on this, which is proposed as lot 1 in the plat plan, include a recently remodeled residence with a detached garage, two barns, and small greenhouse not suitable for commercial use but instead for hot-house fruits and vegetables.

The proposed Lot 1 has a current address of 17825 Jones Road, which since the entrance is from Murr Road will be reassigned within the process of subdividing.

Referring to Figure 2, on the north, east, and south sides, the land use is the same as that on this parcel, rural residential of 20 acres or more. Land use to the west across Murr Road is the Blue Sage Subdivision consisting of 2.5-acre lots.

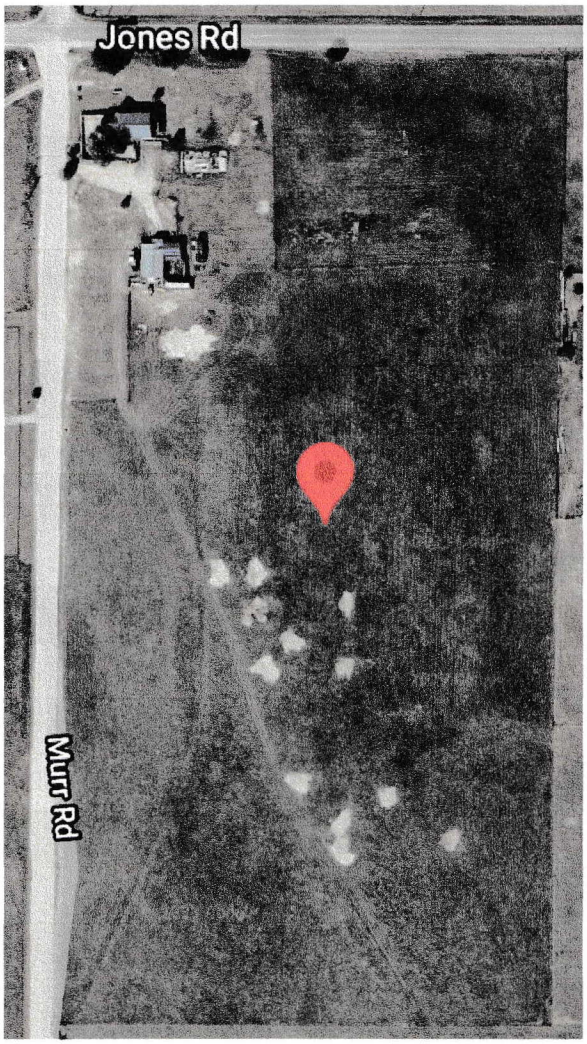


Figure 2: Satellite view of the proposed subdivion, the outlines of which are apparent from mowing and land uses differing from those to the south and east.

3 Soils

The single soil type of this subdivision is Blakeland loamy sand. The description provided in the El Paso County U. S. Department of Agriculture

Figure 3: Context satellite photo showing land uses on the four sides of the proposed subdivision.

Soil Conservation Service Soil Survey is compatible with that observed in the course of the field work for the geological soil report for this subdivision performed by Allison Engineering. The USDA soils map for this proposed subdivision is provided as the first appendix of this report.

Field examination of the area covered by Blakeland loamy sand finds consistent the slopes of "... 1 to 9 percent ... somewhat excessively drained soil ... extending to a depth 60 inches." From the field examination we found the depth of the soil as stated in the U. S. DoA Soil Survey to be shallower than that observed. This is likely owing to the limited depth the survey examined. The "excessively drained" characteristic of this soil is amplified with further Soil Survey comments such as "[p]ermeability of this Blakeland soil is rapid'." With further emphasis the "[a]vailable water capacity is low to moderate." Given the document provides such characterization it is apparent surface runoff will be very low. Noted in Figure 3 there are no surface markings on the eastern slope of the property where the land descends toward the main drainage of the Haegler Ranch defined drainage path. Such, if they existed, would indicate any recent erosion. In fact the Soil Survey gives credence by stating "[s]urface runoff is slow, the hazard of erosion is moderate."

Figure 4: Photo of the east side of the proposed subdivsion showing the absence of any erosion or defined drainage path.

For residential, light agriculture use such as are typical of hobby-farm activities, the Soil Survey warning that the "hazard of soil blowing is severe" is noteworthy. With the survey stating "[m]ost areas of this soil are used for range, homesites and wildlife habitat" it is an easy conclusion that overgrazing or initiated erosion could set in motion wind erosion. The survey substantiates the above by concluding: "Soil blowing is a hazard if protective vegetation is removed. Special erosion control practices must be provided to minimize soil losses." An assignment of capability subclass VIe is made in the survey.

4 Flood Plain Statement

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel No. 08041C0590 G with an effective date of December 7, 2018; encompassing the entirety of the proposed subdivision, Zone A only clips the northeast corner of proposed Lot 1. This is shown in Figure 4, which is a focus on that part of the FIRM encompassing the proposed subdivision. The spatial extent of this zone is a triangular area with dimensions of 170-feet along the north boundary and 256-feet along the east boundary. The total area of zone A in proposed Lot 1 is 21,760 square feet or slightly less than 1/2-acre. This area will be a "no-build area on the plat. No revisions are recorded for his FIRM.

5 Four Step Process

Step 1: Employ Runoff Reduction Practices - Approximately an additional 0.5 acres of the proposed 19.3101-acre subdivision will be impermeable surface once the three proposed and yet-to-be developed lots are fully developed with homes and outbuildings. This additional 0.5 acres of impermeable surface will be distributed across the three undeveloped lots. Among those structures, roof drains will likely only be placed on the homes. Drains therefrom are to be directed away from the home and onto level and stabilized grade a minimum of 10-feet from the residence.

Per ECM I.7.1.b.5, all low density (rural) housing of 2.5 acre or lager lots

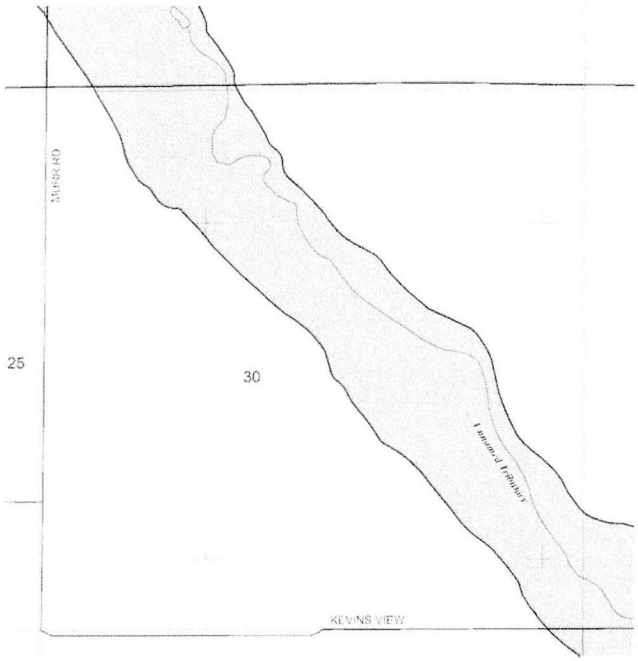


Figure 5: Closeup of the FIRM map which includes the area of the proposed subdivision.

need not consider Water Quality Capture Volume (WQCV), as discussed in DCM2. However, other permanent BMPs may be required as appropriate. Each lot within the proposed subdivision is larger than 2.5 acres.

Step 2: Stabilize Drainage ways - Hay bales and silt fences placed prior to, and maintained during construction are anticipated to lead to stabilized drainage paths adjacent to impervious surfaces.

Step 3: Provide Water Quality Capture Volume - Water capture will not be required as explained in Step 1.

Step 4: Consider Need for Industrial and Commercial BMP's - This site is not being developed for industrial or commercial use and BMP's on that basis are not necessary.

6 Existing Drainage Conditions

The Rational Model calculations are shown in the second appendix, Section 14, Rational Model Calculations, of this report for the existing drainage conditions.

Rational Calculations in appendix need to provide flows for each drainage basin.

Surficial markings do not indicate defined erosion. As explained with reference to the El Paso County Soil Survey in the section of this report titled "Soils," the soil is sufficiently porous, runoff is unlikely. If a surface flow were to develop, the majority of the drainage would be to the east and into the main drainage path of the Haegler drainage basin. A lesser surface area would drain to the west and into the Telephone Exchange drainage basin. The flow into the Telephone Exchange drainage basin would be expected to enter the barrow drainage parallel to Murr Road and then flow north toward Jones Road where any flow in this road barrow ditch makes a right-turn to the east, then downhill to the east channel of the Haegler Drainage channel. Since the drainage path from the proposed subdivision into the Telephone Exchange drainage basin has no outlet to the north towards Jones Road, any such drainage is damed by Murr Road until a sufficient volume of drainage accumulates to allow over-topping of Murr Road. A field inspection following the extraordinary rains of 2023 did not find any evidence this occured.

The only potential drainage into the area of the proposed subdivision would be along the south boundary line which would be sheet flow and of limited extent owing to the porous nature of the soil.

The only existing culvert is that beneath the driveway entrance into the presently developed Lot 1 from Murr Road on the west. That culvert is an 16-inch circular, corrugated metal cuvert. The Rational Method was used in the appendix to calculate the flow into this culvert. The flow was found to be well below the capacity of the 16-inch culvert though the owners are aware of the county requirement for an 18-inch culvert and intend to replace it accordingly. While the north end of the culvert is open, the south end is covered with soil which does not appear to have been deposited by storm flows but likely placed as fill from road maintenance operations.

Flow along Murr Road paralleling the proposed subdivision between the south subdivision property line and the crest 122 feet north of the culvert at

the entance to Lot 1 settles in a flat area centered approximately 473 feet from the south property line. From the crest the flow would proceed 122 feet to the buried culvert inlet, then 40 feet over or through the culvert followed by 123' to the intersection of the Murr and Jones Road's barrows. From that intersection, flow proceeds east for 504 feet to the boundary of Zone 'A' of the 100-year flood plain of the Haegler Ranch basin. Figure 6 diagrams part of the preceding explanation.

There are no previous reports and therefore, none that need to be adhered to.

6.1 Existing Roadside Ditch

As expained in the preceeding paragraph, flows from the south property line to the crest 122 feet north of the culvert all flow into a low area between those two points and would accumulate until sufficient volume is realized to allow over-topping of Murr Road, then flow would continue further into the Telephone Exchange drainage basin.

Provide analysis of existing ditch, showing flow depth, velocity. Do those meet criteria?

From the south ridge of the Telephone Exchange basin to the intersection of the ditch paralleling Jones Road, the distance consists of 122 feet to the buried inlet of the culvert then 40 feet of supposed culvert followed by 123 feet to the Jones Road ditch.

The ditch along the north side of the proposed subdivision extends for 504 feet until entering Zone 'A' of the 100-year flood plain.

7 Proposed Drainage Conditions

The Rational Model calculations are shown in the second appendix, Section 14, Rational Model Calculations, of this report for the proposed drainage conditions.

No alteration of the existing drainage conditions will result from the placement of residences on the three yet undeveloped lots. Each of those lots will have driveways entering from Murr Road with minimum 18-inch culverts. The residential structures and ancillary buildings during construction and

until re-establishment of native grasses and any landscaping could lead to erosion without erosion fences and hay bales; these are required as part of the erosion control plan.

8 Water Quality Provisions and Maintenance

The principal form of water quality runoff enhancement is the use of erosion fences and hay bales to slow or stop water from construction areas developing sufficient volume and speed to result in erosion. The effect of these measures will be to slow runoff, promote infiltration, thus reducing peak volumes. As described above in the 'Soils' section of this document, the soil is very permeable.

9 Erosion Control

Erosion control measures are to be implemented prior to grading or construction and shall be maintained during all subsequent phases of construction. Erosion control measures will consist of silt fencing those portions of the property being developed, tracking control measures at the access points to the site, installation of hay bales at grass swales and re-vegetation with appropriate plant species.

10 Construction Cost Opinion

It is the opinion of the above signed engineer that silt fencing and hay bale placement and maintenance will not exceed $800.00 for each of the three lots yet to be developed within this proposed subdivision.

11 Drainage Fees

For Haegler drainage basin. Also need to include fees for Telephone Exchange basin

Drainage fees for 2023 are $12,985 per impervious acre and bridge fees are $1,916 per impervious acre. Per the ECM Appendix I.7.1.B.5, a 10% imperviousness per lot is to be assumed, unless it can be shown otherwise. As development is only completed on Lot 1, only the percent impervious can be shown on that lot. For the other three lots a 10% imperviousness is assumed.

Final drainage and bridge fees, based on 10% impervious, need to be shown. Below is an example.

14

7. DRAINAGE BASIN FEES

The site is located entirely within the Kettle Creek Drainage Basin. The total amount of new development in the Kettle Creek Drainage Basin is 7.50 acres. The average impervious percentage for single family homes on a 2.5-acre lot is 11%. The lots will all be low density, therefore a 25% reduction is allowed. The 2023 drainage and bridge fees are as shown below.

Drainage Fees: 7.50 acres x 0.11 x 0.75 x $12,463/acre = $7,711.48

Bridge Fees: $0

12 Summary

Development of the OHANA SUBDIVISION FILING NO. 1 (Lots 1, 2, 3, and 4) will not adversely affect the surrounding developments per this the combined preliminary and final drainage report with no negative impact on the existing developments on any side of this project. The proposed drainage facilities will adequately convey, detain and route runoff from the to-be-developed structures within this proposed subdivision. The Haegler Drainage Basin will not be further burdened by the development and erosion to its banks will not occur with reasonable compliance to the drainage plan of this report. There will be no net impact to the Telephone Exchange Drainage Basin.

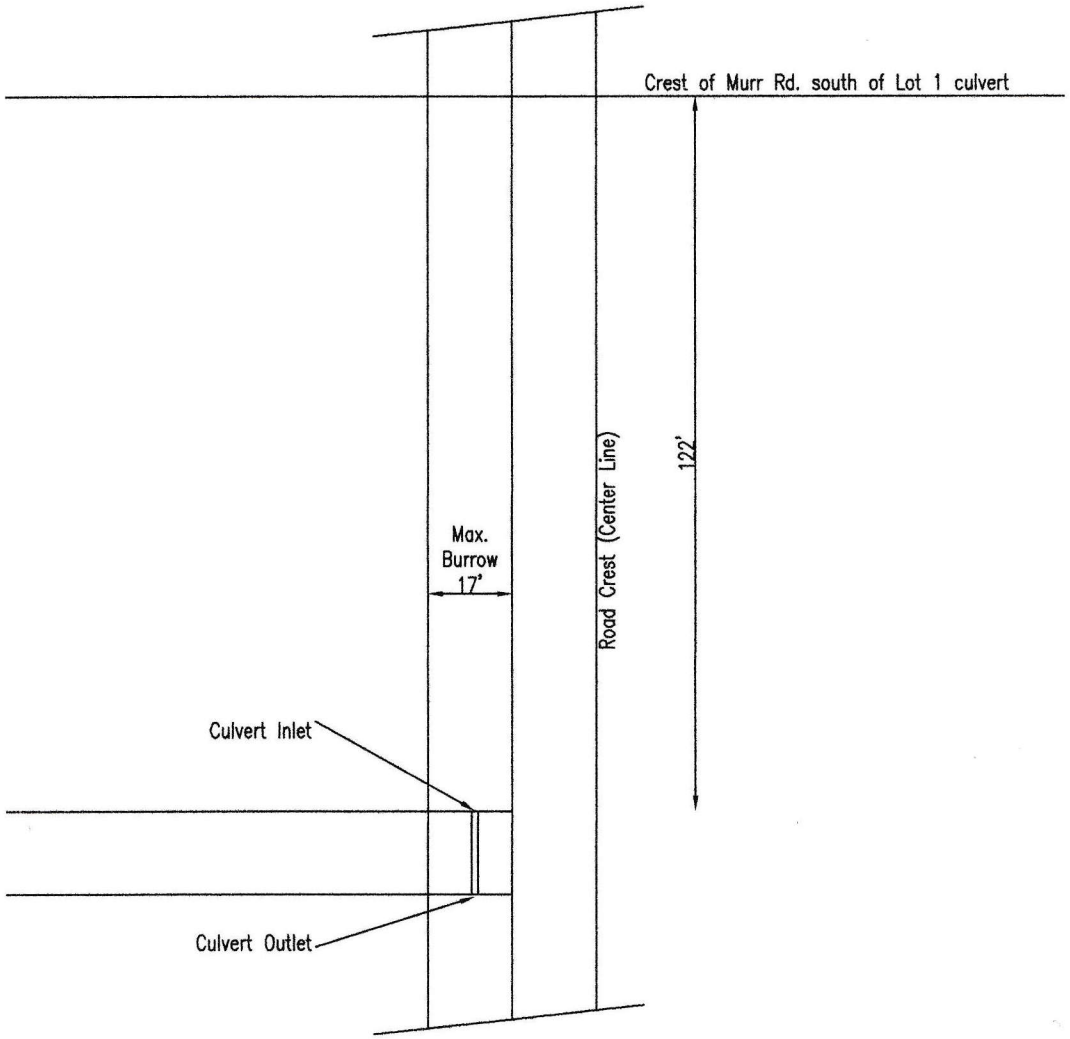
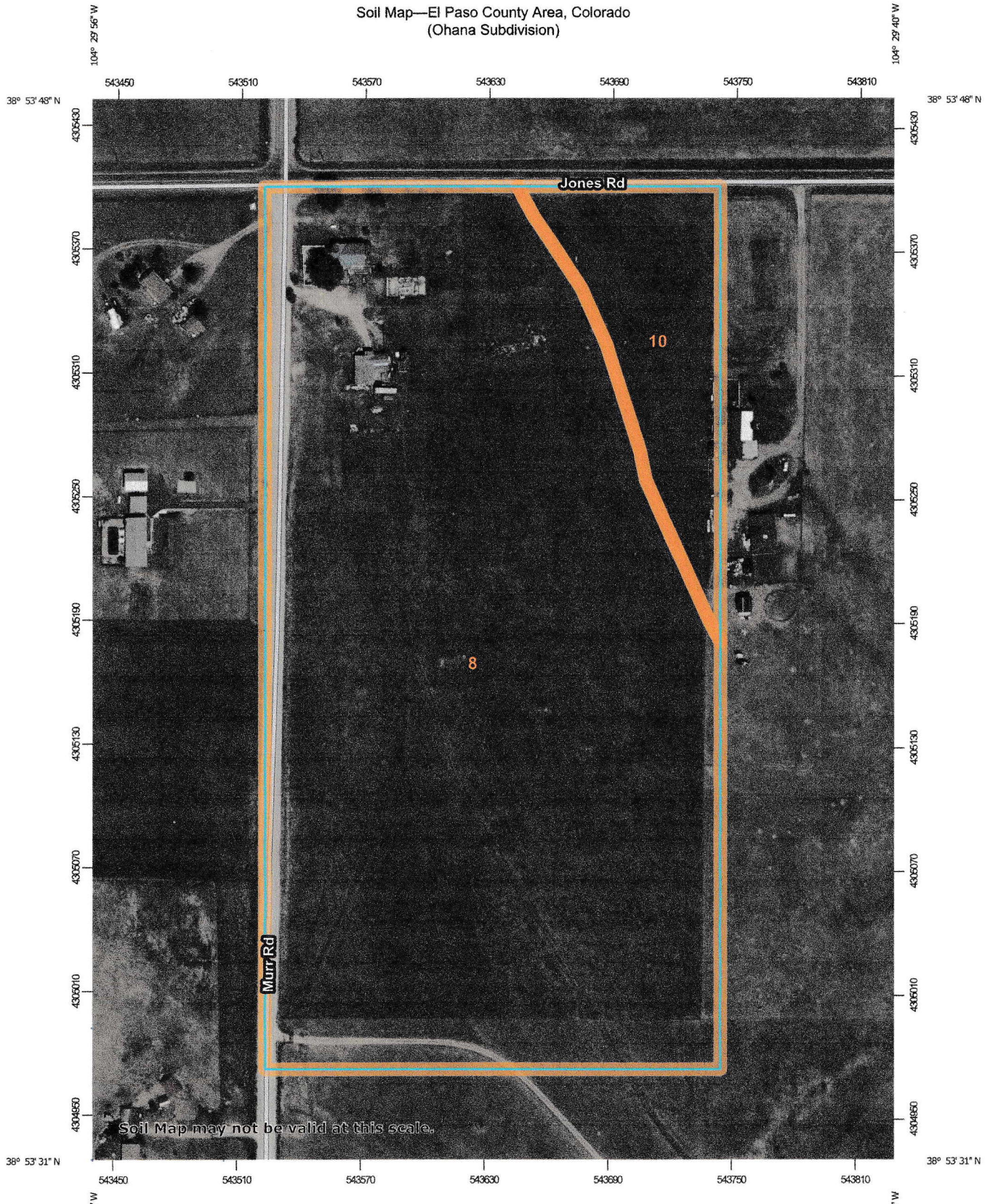


Figure 6: Diagram of the area drained at the existing 16-inch culvert.

13 Appendix
USDA Soils Map



Map Scale: 1:2,510 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 35 70 140 210

Feet: 0 100 200 400 600

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other

Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 21, Aug 24, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	20.9	89.2%
10	Blendon sandy loam, 0 to 3 percent slopes	2.5	10.8%
Totals for Area of Interest		**23.5**	**100.0%**

14 Appendix
Rational Model Calculations

14.1 Culvert

Along the perimeter of the proposed Ohana subdivision, the only existing culvert within the drainage ways of either Jones Road or Murr Road is the one beneath the driveway leading into the developed Lot 1. Being only a 16-inch corrugated metal culvert it does not strictly meet the requirements noted in the El Paso County ECM and DCM as the requirement is for an 18-inch culvert.

The culvert does not have riprap outlet or outlet protection and the inlet end of the culvert is buried from apparent fill from road maintenance operations and not from silting.

For the Rational Method, the runoff coefficient is to be an area weighted average.

Using Table 5-1 from the Drainage Criteria manual and a recognition the hydrologic soil type within the proposed subdivision is A/B, the Murr Road gravel roadway has a C_i of 0.80 and 0.85 for the 10- and 100-year events respectively. The Murr Road burrow area is characterized as pasture/meadow and is assigned 0.15 and 0.35, respectively, for the two event types.

For the single existing culvert, the drainage area is measured from the accompanying proposed subdivsion plot plan to be 0.12 acres of which Murr Road right-of-way is a standard 50 ft. county profile conforming to Figure14.1, the graveled roadway area serviced by the currently installed culvert is 122 ft. by 16 ft. for an area of 0.05 acres. The balance of the 0.12 acres serviced by the subject culvert is 0.07 acres.

The slope of the area serviced by the culvert is generally 2% and the longest reach is 122 feet.

The Rational method for the culvert flow is thus:
The Rational Method coefficients for the area serviced by the culvert are composit and calculated below.

$$C_{10} = (0.63X0.05ac + 0.15X0.07)/0.12acC_{10} = 0.35 \quad (1)$$

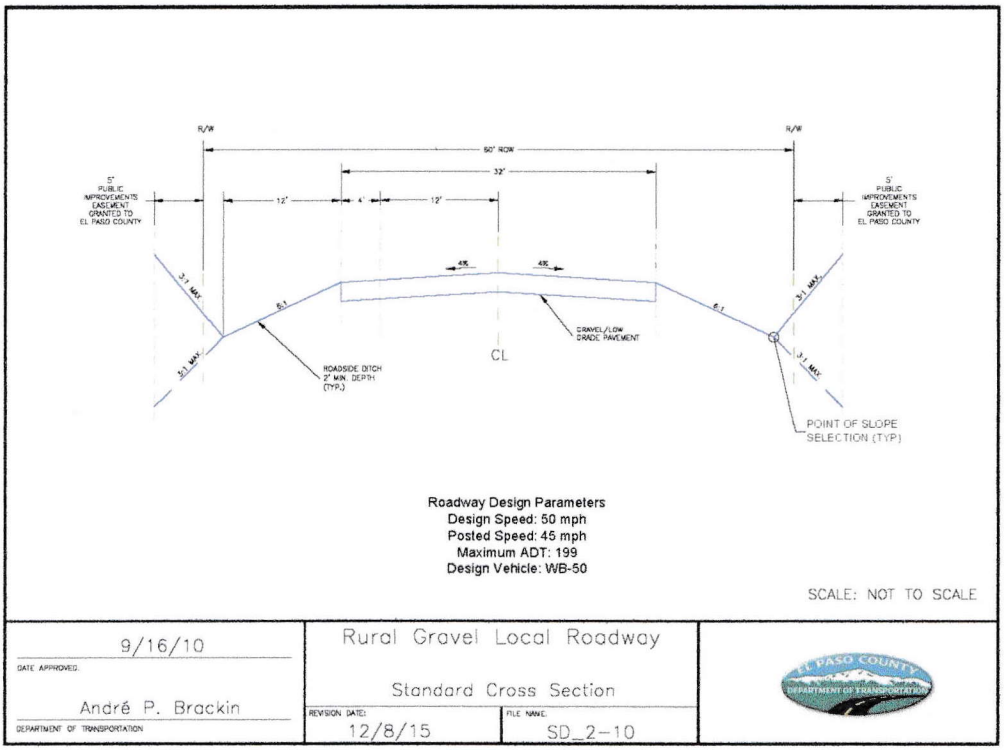


Figure 7: Road profile from the ECM showing assumptions used in the calculation of surface area fed to 16-inch existing culvert.

$$C_{100} = (0.70X0.05ac + 0.35X0.07)/0.12acC_{100} = 0.50 \quad (2)$$

Post development, it is assumed each lot will contribute 6000 square feet of impermeable surface for a total of 24,000 square-feet or 0.55 acres. Of that area none will be in the Telephone Exchange basin. The Rational Method calculations for this reduced permeability are shown in the table below.

The Rational Method coefficients for the post developed Haegler Ranch area are composite and calculated below.

Table 1: Abbreviated Standard Form 1

Area	C_5	A	L	S	t_i	L	C_v	S	V	t_t	t_c
Culvert	0.29	122	2	2.8	0	-	-	-	-	-	2.8
Telephone Exchange	0.08	202	6	3.2	0	-	-	-	-	-	3.2
Haegler Ranch	0.08	300	9	3.4	286	9	10	9	30	9.5	12.9

Table 2: Abbreviated Standard Form 2

Area/Event	A	C	t_c	I	Q
$Culvert_{10}$	0.12	0.35	2.8	7	0.3
$TelephoneExchange_{10}$	4.3	0.15	3.2	6.8	4.4
$HaeglerRanch_{10Pre}$	15.7	0.15	12.9	6.7	15.8
$HaeglerRanch_{10Post}$	15.7	0.18	12.9	6.7	18.9
$Culvert_{100}$	0.12	0.50	2.8	7	0.4
$TelephoneExchange_{100}$	4.3	0.15	3.2	6.8	4.4
$HaeglerRanch_{100Pre}$	15.7	0.35	12.9	6.7	36.8
$HaeglerRanch_{100Post}$	15.7	0.37	12.9	6.7	38.9

Drainage Map needs to show boundary between Telephone Exchange & Haegler Ranch basins.

$$C_{10} = (0.96X0.55 + 0.15X15.1)/15.7acC_{10} = 0.18 \quad (3)$$

$$C_{100} = (0.92X0.55 + 0.35X15.1)/15.7acC_{100} = 0.37$$

Provide analysis showing 16 inch cmp with a 0.4 cfs flow.

14.2 Before and After Drainage Impact

The volumes of water for C_{10} and C_{100} are so small the current 16-in diameter culvert is sufficient though the subdivision owners are not opposed to installing an 18-in culvert. The flow of 0.4 cfs for the 100-year event will not require inlet riprap protection.

The difference between pre- and post-development off-site flows into the Haegler Ranch basin are likewise relatively small for hte 10- and 100-year events being 3.1 and 2.1 cfs, respectively.

Provide flow calculations for 10 & 100 years storms for existing and proposed conditions.

14.3 Outfall Locations

The outfall location for offsite drainage into the lower Telephone Excahange basin is on the west property line 550 feet north of the proposed south property line.

The outfall location for offsite drainage into the lower Haegler Ranch basin is on the east property line 605 feet north of the proposed south property line.

Both outfall locations are shown on the plat plan that accompanies this report. That plat plan is referenced in Figure 1.

15 References

1. "Drainage Basins, El Paso County, Colorado 2005", Copyrighted by Board of County Commissioners

2. "haegler Ranch Basin Drainage Basin Planning Study", May 2009 for County Department of Transportation by URS Corporation, 9960 Federal Drive, Suite 300

3. FEMA FIRM Panel No. 08041C0590 G

4. "El Paso County and City of Colorado Springs Drainage Criteria Manual".

5. "SCS Soils Map for El Paso County"

6. Flood Insurance Rate Map (FIRM), Federal Emergency Management Agency, Effective date March 17, 1097.

FINAL PLAT
OHANA ACRES

A VACATION AND REPLAT OF LOT 1, V I L FILING No. 1
LOCATED IN A PORTION OF THE NORTHWEST QUARTER OF SECTION 30,
TOWNSHIP 13 SOUTH, RANGE 63 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO

KNOW ALL MEN BY THESE PRESENTS:

That the G & D Hammann Ohana Trust dated February 18, 2021, being the owner of the following described tract of land to wit:.

Lot 1, V I L Filing No. 1, County of El Paso, State of Colorado.

Containing a calculated area of 841,158 square feet (19.3101 acres), more or less.

OWNERS CERTIFICATION:

The undersigned, being all the owners, mortgagees, beneficiaries of deeds of trust and holders of other interests in the land described herein, have laid out, subdivided, and platted said lands into a lot and easements as shown hereon under the name and subdivision of **OHANA ACRES**. The utility easements shown hereon are hereby dedicated for public utilities and communication systems and other purposes as shown hereon. The entities responsible for providing the services for which the easements are established are hereby granted the perpetual right of ingress and egress from and to adjacent properties for installation, maintenance, and replacement of utility lines and related facilities.

_____
Date

STATE OF COLORADO }
COUNTY OF EL PASO } SS

Acknowledged before me this _____ day of _____, 20 ____ by

_____

My commission expires _____

Witness my hand and official seal _____
Notary Public

BOARD OF COUNTY COMMISSIONERS CERTIFICATE:

This plat for OHANA ACRES was approved for filing by the El Paso County Board of County Commissioners on the _____ day of _____, 20____, subject to any notes specified hereon and any conditions included in the resolution of approval.

Previous plat name is entirety is vacated and amended for the areas described by this replat subject to all covenants, conditions, and restrictions recorded against and appurtenant to the original plat recorded in the Office of the El Paso County Clerk in Plat Book H–5, Page 115.

_____ _____
Chair, Board of County Commissioners Date

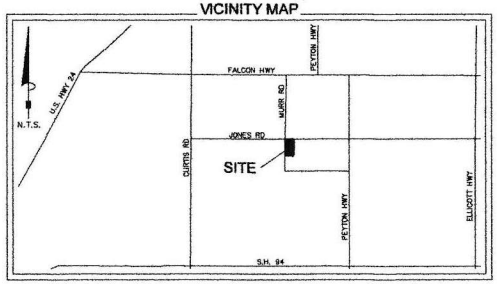
DIRECTOR OF PLANNING AND COMMUNITY DEVELOPMENT CERTIFICATE:

This plat for **OHANA ACRES** was approved for filing by the El Paso County, Colorado Board of County Commissioners on the _____ day of _____, 20____, subject to any notes specified hereon and any conditions included in the resolution of approval. The dedications of land to the public (public utility & drainage easements), are accepted, but the public improvements thereon will not become the maintenance responsibility of El Paso County until preliminary acceptance of the public improvements in accordance with the requirements of the Land Development Code and Engineering Criteria Manual, and the Subdivision Improvements Agreement.

Previous plat name is entirety is vacated and amended for the areas described by this replat subject to all covenants, conditions, and restrictions recorded against and appurtenant to the original plat recorded in the Office of the El Paso County Clerk in Plat Book H–5, Page 115.

_____ _____
Director of Planning and Community Development Date

VICINITY MAP



NOTES:

1) ● – Denotes found #5 rebar and plastic cap marked, PLS 18485
○ – Denotes set #5 rebar and plastic cap marked PLS 32439
(17825) – Denotes street address.

2) This survey does not constitute a title search by Compass Surveying & Mapping, LLC to determine ownership or easements of record. For all information regarding easements, rights of way and title of record, Compass Surveying & Mapping, LLC relied upon a Commitment for Title Insurance prepared by Stewart Title Insurance Company, Commitment No. 1470767 with an effective date of October 25, 2021 at 8:00 AM.

3) Basis of bearings is the east line of the property, monumented as shown and assumed to bear South 1 degree 18 minutes 35 seconds West, 1274.72 feet.

4) This property is located within Zone A (1% annual chance flood (100–year flood), no base flood elevations determined) and Zone X (areas determined to be outside the 0.2% annual chance floodplain) as established by FEMA per FIRM panel 08041C0590G, effective date, December 7, 2018. The approximate flood zone boundary is shown hereon by map measure only. The highest adjacent grade to the floodplain is 6417.8.

5) Notice: According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon.

6) The linear units used in this drawing are U.S. Survey feet.

7) The approval of this replat vacates all prior plats for the area described by this replat.

8) No driveway shall be established unless an access permit has been granted by El Paso County.

9) All structural foundations shall be located and designed by a Professional Engineer, currently registered in the State of Colorado.

10) The following reports have been submitted and are on file at the County Planning Department: Soils and Geological study; Water Availability study: Drainage Report; Wildfire Hazard Report; Natural Features Report: Erosion Control Report.

11) Public drainage easements as specifically noted on the plat shall be maintained by the individual lot owners unless otherwise indicated. Structures, fences, materials or landscaping that could impede the flow of runoff shall not be placed in drainage easements.

12) No lot, or interest therein, shall be sold, conveyed or transferred, whether by deed or by contract, nor shall building permits be issued, until and unless the required public improvements have been constructed and completed in accordance with the subdivision improvements agreement between the applicant and El Paso County as recorded at Reception No. _____ or in the alternative, other collateral is provided which is sufficient in the judgment of the Board of County Commissioners, to make provision for the completion of said improvements.

13) The addresses (17825) exhibited on this plat is for informational purposes only. They are not the legal description and is subject to change.

14) There shall be no direct lot access to Jones Road.

15) Unless otherwise indicated, all side lot lines are hereby platted on each side with a 5 foot public utility and drainage easement. All exterior subdivision boundaries are hereby platted with a 20 foot public utility and drainage easement. The sole responsibility of maintenance is hereby vested in the individual property owners.

16) Developer shall comply with federal and state laws, regulations, ordinances, review and permit requirements, and other agency requirements, if any, of applicable agencies including, but not limited to, the Colorado Division of Wildlife, Colorado Department of Transportation, US Army Corps of Engineers and the US Fish and Wildlife Service regarding the Endangered Species Act, particularly as it relates to the listed species (e.g. Prebles Meadow Jumping Mouse.

NOTES (continued):

17) Mailboxes shall be installed in accordance with all El Paso County and United States Postal Service regulations.

18) The subdividers agree on behalf of him/herself and any developer or builder successors and assigns shall be required to pay traffic impact fees in accordance with the countywide transportation improvement fee (Resolution No. 19–471) as amended at or prior to the time of building permit submittals. The fee obligation, if not paid at final plat recording shall be documented on all sale document's and on plat notes to ensure that a title search would find the fee obligation before sale of the property.

19) Pursuant to Resolution _____, approved by the Board of Directors, El Paso County Public Improvement District _____ and recorded in the records of the El Paso County Clerk and Recorder at Reception Number _____, the parcels within the platted boundaries of (subdivision) are included within the boundaries of the El Paso County Public Improvement District _____ and as such is subject to applicable road impact fees and mill levy.

20) Individual wells are the responsibility of each property owner. Permits for individual wells must be obtained from the State Engineer who by law has the authority to set conditions for the issuance of these permits. Water in the Denver Basin Aquifers is allocated based on a 100–year aquifer life; however, for El Paso County planning purposes, water in the Denver Basin Aquifers is evaluated based on a 300–year aquifer life. Applicants and all future owners in the subdivision should be aware that the economic life of a water supply based on wells in a given Denver Basin Aquifer may be less than either the 100 years or 300 years indicated due to anticipated water level declines. Furthermore, the water supply plan should not rely solely upon non–renewable aquifers. Alternative renewable water resources should be acquired and incorporated in a permanent water supply plan that provides future generations with a water supply. Water withdrawal and wells are subject to limitations, restrictions and augmentation requirements and responsibilities as found within the Covenants for this subdivision recorded in Reception No. _____, of the Office of the El Paso County Clerk and Recorder and the terms of the water court approved water augmentation plan.

SURVEYOR'S CERTIFICATION:

I, Mark S. Johannes, a duly registered Professional Land Surveyor in the State of Colorado, do hereby certify that this plat truly and correctly represents the results of a survey made on the date of survey shown hereon, by me or under my direct supervision and that all monuments exist as shown hereon; that mathematical closure errors are less than 1:10,000; and that said plat has been prepared in full compliance with all applicable laws of the State of Colorado dealing with monuments, subdivision, or surveying of land and all applicable provisions of the El Paso County Land Development Code.

This certification is neither a warranty nor guarantee, either expressed or implied.

Mark S. Johannes
Colorado Professional Land Surveyor No. 32439
For and on behalf of Compass Surveying and Mapping, LLC

FEES:

Drainage Fee: _____ School Fee: _____

Bridge Fee: _____ Park Fee: _____

RECORDING:

STATE OF COLORADO }
COUNTY OF EL PASO } SS

I hereby certify that this instrument was filed for record in my office at _____ o'clock ____M., this____ day of _____, 20____, A.D., and is duly recorded under Reception No. _____ of the records of El Paso County, Colorado.

CHUCK BROERMAN, RECORDER

BY: _____
Deputy

SURCHARGE: _____

FEE: _____

PCD FILE NO.: SF-21-041

REVISIONS:		
1	3/02/22	County comments.
2	8/29/23	County comments.
3	11/09/23	Add basin outfall locations.

PROJECT No. 18196
AUGUST 10, 2021
SHEET 1 OF 2

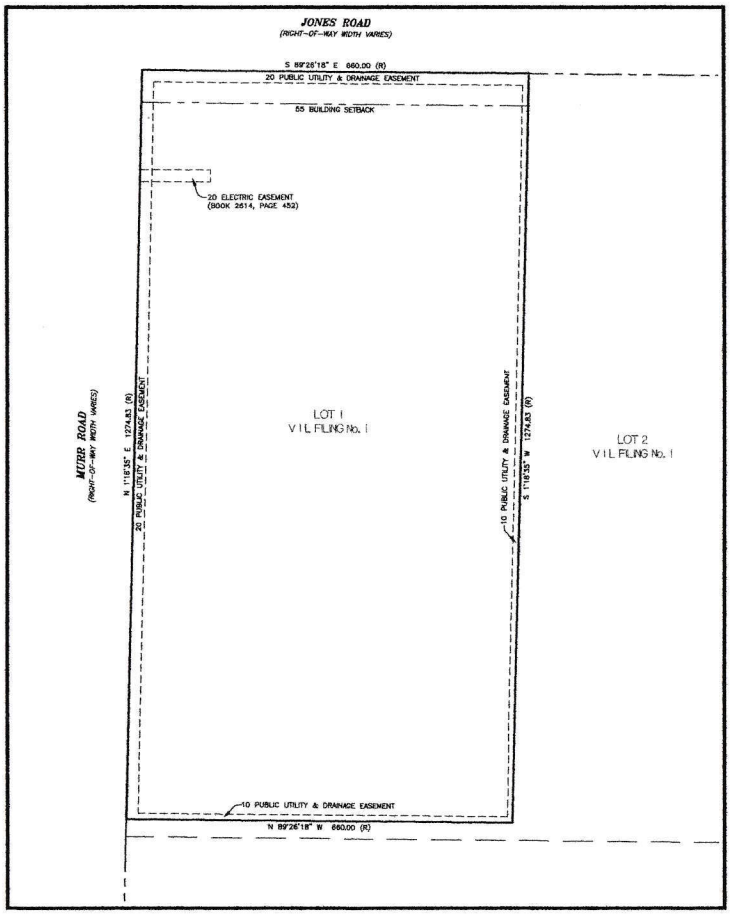
COMPASS SURVEYING & MAPPING, LLC
3253 WEST CAREFREE CIRCLE
COLORADO SPRINGS, CO 80917
719-354-4120
WWW.CSAMLLC.COM

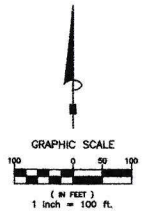
FINAL PLAT

OHANA ACRES

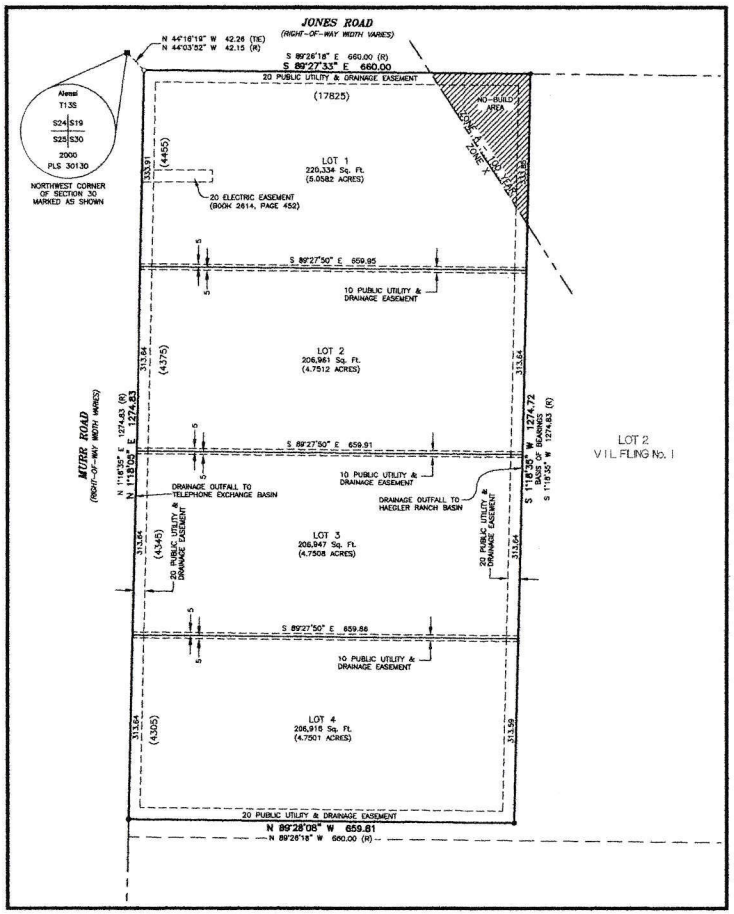
A VACATION AND REPLAT OF LOT 1, V I L FILING No. 1
LOCATED IN A PORTION OF THE NORTHWEST QUARTER OF SECTION 30,
TOWNSHIP 13 SOUTH, RANGE 63 WEST OF THE 6TH P.M., EL PASO COUNTY, COLORADO

AS PLATTED





AS REPLATTED



PCD FILE NO.

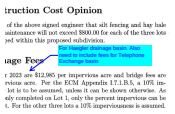
COMPASS SURVEYING & MAPPING, LLC
3253 WEST CAREFREE CIRCLE
COLORADO SPRINGS, CO 80917
719-354-4120
WWW.CSAMLLC.COM

REVISIONS:		
1	3/02/22	County comments.
2	8/29/23	County comments.
3	11/09/23	Add basin outfall locations.

PROJECT
AUGU

V4_Drainage Report Final.pdf Markup Summary

Callout (2)



Subject: Callout
Page Label: 14
Author: CDurham
Date: 12/4/2023 2:46:28 PM
Status:
Color:
Layer:
Space:

For Haegler drainage basin. Also need to include fees for Telephone Exchange basin

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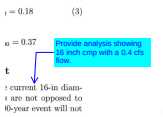


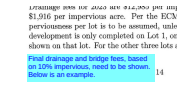
Subject: Callout
Page Label: 24
Author: CDurham
Date: 12/4/2023 2:48:54 PM
Status:
Color:
Layer:
Space:

Provide analysis showing 16 inch cmp with a 0.4 cfs flow.

Image (1)

Subject: Image
Page Label: 14
Author: CDurham
Date: 12/4/2023 2:37:23 PM
Status:
Color:
Layer:
Space:

Text Box (6)



Subject: Text Box
Page Label: 14
Author: CDurham
Date: 12/4/2023 2:37:21 PM
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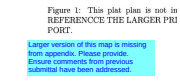
Color:
Layer:
Space:

Final drainage and bridge fees, based on 10% impervious, need to be shown. Below is an example.



Subject: Text Box
Page Label: 5
Author: CDurham
Date: 12/4/2023 2:39:47 PM
Status:
Color:
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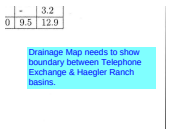
Space:

Larger version of this map is missing from appendix. Please provide. Ensure comments from previous submittal have been addressed.



Subject: Text Box
Page Label: 24
Author: CDurham
Date: 12/4/2023 2:43:49 PM
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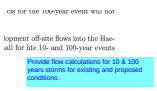
Drainage Map needs to show boundary between Telephone Exchange & Haegler Ranch basins.



Subject: Text Box
Page Label: 24
Author: CDurham
Date: 12/4/2023 2:45:27 PM
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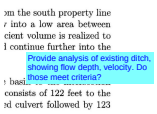
Provide flow calculations for 10 & 100 years storms for existing and proposed conditions.



Subject: Text Box
Page Label: 13
Author: CDurham
Date: 12/4/2023 2:50:20 PM
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Color:
Layer:
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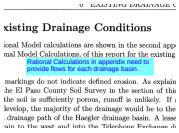
Provide analysis of existing ditch, showing flow depth, velocity. Do those meet criteria?



Subject: Text Box
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Author: CDurham
Date: 12/4/2023 2:51:03 PM
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Color:
Layer:
Space:

Rational Calculations in appendix need to provide flows for each drainage basin.