

LARAMIE COUNTY PLANNING & DEVELOPMENT DEPARTMENT

Planning • Building

MEMORANDUM

TO: Laramie County Board of Commissioners

FROM: Bryce Hamilton, Associate Planner

DATE: May 2nd, 2023

TITLE: PUBLIC HEARING regarding a Vacation and Replat of Tract 16, The Horse

Creek Ranch, Situated on a portion of Section 34, Township 15 North, Range

67 West of the 6th P.M., Laramie County, WY.

EXECUTIVE SUMMARY

Shane Hansen, Steil Surveying, on behalf of Frank Sanchez and Sanchez Land Development LLC, has submitted a vacation for Tract 16, The Horse Creek Ranch, located at Butch Cassidy Trail, Cheyenne, WY 82009. The vacation has been submitted in order to perform an Administrative Plat on Tract 16, The Horse Creek Ranch, to be replatted as The Horse Creek Ranch, Third Filing, with a new drainage easement reflecting the updated FEMA floodplain mapping from 2007.

BACKGROUND

The subject property is residential vacant land currently zoned A-1 - Agricultural. It is currently platted as Tract 16, The Horse Creek Ranch, Laramie County, Wyoming, a subdivision which obtained Board of County Commissioners approval on December 7th, 1998. The property is partially located within a FEMA 100-year floodplain.

Pertinent Statutes and Regulations include:

W.S. § 34-12-101 thru 34-12-115.

LCLUR Section 1-2-100, governing Board Approval Process.

LCLUR Section 1-2-104, governing Public Notice.

LCLUR Section 2-1-101(m), governing Board vacation of a subdivision plat.

LCLUR Section 4-2-101, governing the A-1 Zoning District.

DISCUSSION

The property was originally platted as Tract 16 under the Horse Creek Ranch filing, approved by the Board on December 7th, 1998. At that time, the 100-year FEMA floodplain according to FIRM Map Panel 5600290505D, covered about two-thirds of the subject property. A drainage easement on the property runs concurrently with that FIRM panel, as with every tract in the original filing. That FIRM Map Panel was dated September 27, 1991.

FEMA updated most FIRM Map Panels, including the panel affecting the subject property, most recently in 2007. In the more recent FIRM panel 56021C1080F, the 100-year floodplain covers a significantly smaller area of the property.

The intention of the vacation of Tract 16 of The Horse Creek Ranch is to allow a new Administrative Plat to be approved. This is reflected in the Vacation Statement on the proposed replat, attached as Attachment 5. The old drainage easement to be vacated, as well as the location of the new floodplain that was calculated, are shown therein. The replat will allow a significantly larger buildable area given the updates to the location of the FEMA 100-year floodplain.

Certified letters were mailed to neighboring property owners on February 16, 2023. A legal ad was printed in the local Cheyenne newspaper on March 10, 2023. Staff did not receive any phone calls or written communication from the public about the proposal. Comments were received by county administrative agencies and Staff has determined that all comments have been addressed.

RECOMMENDATION and FINDINGS

Based on evidence provided, staff recommends the Board find that:

- **a.** This application meets the criteria for Board Approval pursuant to **Section 1-2-100** of the Laramie County Land Use Regulations.
- **b.** This application meets the criteria for vacation of a plat pursuant to **Section 2-1-101(m)** of the Laramie County Land Use Regulations.
- c. The application fulfills the intent of **Wyoming State Statute 34-12-108** as it does not abridge any of the rights of properties situated in the same subdivision.

And that the Board approve the Vacation of Tract 16, The Horse Creek Ranch, Laramie County, WY.

PROPOSED MOTION

I move to approve the Vacation of Tract 16, The Horse Creek Ranch, Laramie County, WY, upon approval of the Administrative Plat and adopt the findings of facts a, b, and c of the staff report.

ATTACHMENTS

Attachment 1: Aerial Map Attachment 2: Narrative

Attachment 3: Agency Review Comments

Attachment 4: CivilWorx Report

Attachment 5: Original filing – Horse Creek Ranch Attachment 6: Horse Creek Ranch, Third Filing Plat



Aerial and Location Map

The Horse Creek Ranch, Third Filing
PZ-23-00018

Comprehensive Plan- Rural Metro (RM)

PlanCheyenne- Rural Residential (RR)

Laramie County Fire Authority

AMEC MEMO- ZONE 2

Within SEO Control Area







February 13, 2023

Laramie County Planning & Development Office 3966 Archer Parkway Cheyenne, WY 82007 (307) 633-4303

InRe: LETTER OF JUSTIFICATION - THE HORSE CREEK RANCH THIRD FILING

Steil Surveying Services, agent for the owner, intends to replat TRACT 16, THE HORSE CREEK RANCH, to vacate the drainage easement on Tract 16 from the original plat. The floodplain has been corrected on this tract effectively reducing the floodway.

The overall density of the subdivision is 9.37 acres. The Proposed subdivision will consist of ONE (1) tract of 9.37 acres.

Please contact me with any questions or concerns.

Sincerely,

Shane Hansen

Director Planning and Development Steil Surveying Services, LLC shansen@steilsurvey.com

Michael S. Harom

PZ-23-00018

First Review Combined Comments Report

<u>Planners:</u> Planners, Mason Schuricht Comments Attached 03/08/2023

1. Acres or sq. ft will need to be labeled on the tract itself. Added

- 2. To be more descriptive, ownership labels could be placed on the NE and NW corner properties of the plat. Not needed.
- 3. Book and page for all current easements. Easements are per recorded plat.

<u>County Assessor:</u> County Assessor, Dawn Lanning No Comments 02/21/2023 No Comments

<u>County Attorney:</u> County Attorney, LC Attorney's Office Comments Attached 03/02/2023

If this plat is as a result of a prior vacation, please ensure there are adequate descriptions - meets and bounds - to assist the county assessor.

No additional comments. Not a prior vacation

<u>County Clerk:</u> County Clerk, Dale Davis No Response 03/08/2023 No Comments

<u>County Conservation District:</u> County Conservation District, Shaun Kirkwood No Response 03/08/2023

No Comments

<u>County Engineer:</u> County Engineer, Scott Larson Comments Attached 03/01/2023 Engineer Review

1. The letter report submitted by CivilWorx, on page 3 includes a figure (Figure 2) that labels a floodway and floodplain fringe. I believe it is incorrectly labeled as a floodway and needs to be changed. FEMA has not established a floodway within this floodplain and I do not believe the intent is to create one now. For the plat drawing, it should only show the newly established floodplain which is labeled on Figure 2 as the floodplain fringe and should not show and/or label what is currently referred to as the floodway. It is my understanding that the purpose of the area labeled as the floodway as the area no structures should encroach on in order to have no significant impact on the floodplain

and/or base flood elevation. The other area labeled as the floodplain fringe is an area that could potentially allow a structure and not significantly impact the floodplain or base flood elevation. The current plat also labels the Floodplain and Floodway incorrectly -- they should be reversed in order to line up with Figure 2. However, as previously mentioned, the plat should only show the floodplain area and the letter report should be modified to change the label and any reference to "floodway" to something else. Maybe it could be labeled as "no encroachment area" or something similar but not use FEMA terminology that contradicts existing FEMA designations for this floodplain area. This letter report will be important for any proposed structures within the newly designated floodplain area, which would still require a floodplain development permit application. A copy of this report should be included with any floodplain development application and/or building permit application to the County. Corrected

- 2. If it is the intent of the plat to create a new drainage easement following the newly established floodplain, a mete and bounds description (i.e. bearings, distances, curve data, etc.) of the new easement is required. It would be my suggestion that a new easement be established for the floodplain that generally follows the new floodplain boundary (similar to the existing drainage easement that is being vacated) instead of following it exactly due to all the bend, curves, etc. If the intent is to only create a drainage easement for the area that is currently labeled on Figure 2 as the floodway, then that needs to be clarified on the plat and in the letter report. The letter report should then clearly explain why the easement is not for the entire newly established floodplain. In either case, the proposed drainage easement needs to be clearly labeled on the plat drawing along with bearings and distances for the easement boundary. The easement is being vacated. There will not be a new easement. The easement was created by the floodplain on the original plat. An easement on a floodplain is not necessary.
- 3. The plat refers to the letter report prepared by CivilWorx and it refers to Kelley Hafner which should be spelled Kelly and not Kelley. Based on the statement on the plat, the report will need to be recorded with the plat since it refers to it on the plat. I assume the applicant plans on doing that but wanted to verify. We will record with plat
- 4. The plat title needs to include that it is an Administrative Plat and it needs to include the Township, Range, and Section. Added
- 5. The approvals are incorrect for an Administrative Plat. This is an administrative plat, however it requires board approval for vacation of the drainage easement.
- 6. I concur with the request for a waiver of a detailed Drainage Study and Traffic Study since this development will have negligible impact on both. Thank you.
- 7. Due to the various different line types illustrated and used on the plat drawing to designate various boundaries, it would be beneficial to add the line types to the Legend. Shown

Surveyor Review

- 1. The designation (LOT OR TRACT number) of the re-platted TRACT 16 is not shown on the plat. Added
- 2. The area (i.e. acreage/sq.ft.) of the re-platted TRACT 16 is not shown on the plat. added
- 3. Even though this subdivision is a re-plat of a portion of a previously platted subdivision and shows the roads in the immediate vicinity, the Vicinity Map would be more congruent with the Title Block requirements if one were to add information such as, at a minimum, the Section, Township and Range data with enough detail to indicate the location of the subdivision within the Section. Added

4.

5. There is a label (DRAINAGE EASEMENT PER PLAT), shown just north of the northwest corner of this subdivision, that is not specifically connected to anything. The label is on the easement line shown

<u>County Public Works Department:</u> County Public Works Department, Molly Bennett Comments Attached 03/02/2023

- 1. Any work taking place within the boundaries of the designated floodplain and/or floodway will require an approved "Floodplain Development Permit" through the Laramie County Planning and Development office.
- 2. All comments from the review engineer and surveyor shall be resolved appropriately.
- 3. As an FYI, Public Works processed and approved an Access Permit(#A22120 issued 8/4/2022) for this parcel.

<u>County Real Estate Office:</u> County Real Estate Office, Laura Pate No Comments 02/23/2023

No Comments

<u>County Treasurer:</u> County Treasurer, Tammy Deisch Comments Attached 02/22/2023 02/22/23 - 1st 1/2 2022 taxes are delinquent since 11/10/22 - 2nd 1/2 due by 05/10/23

Emergency Management: Emergency Management, Matt Butler No Comments 02/27/2023

No Comments

<u>High West Energy:</u> High West Energy, David Golden No Comments 02/16/2023 No Comments

<u>Intraoffice:</u> Planners, Cambia McCollom Comments Attached 02/22/2023 Title block should say "Administrative Plat"

The approval signatures are incorrect for an Administrative Plat. This is an administrative plat, however it requires board approval for vacation of the drainage easement.

<u>Laramie County Weed & Pest:</u> Laramie County Weed & Pest, Brett Nelson No Response 03/08/2023

No Comments

RT Communications: RT Communications, Austin Triplett No Response 03/08/2023

No Comments

<u>Sheriff's Office:</u> Sheriff's Office, Amber Shroyer No Response 03/08/2023 No Comments

<u>US Post Office:</u> US Post Office, Denise Null No Response 03/08/2023 No Comments

Environmental Health: Environmental Health Department, Tiffany Gaertner Comments Attached 03/03/2023

Small wastewater permit is required for lot. Small wastewater system must have 50' setback from property lines and intermittent bodies of water i.e. adjusted flood plain/drainage. A signed final plat must be submitted to this office prior to application for any permits.

<u>Black Hills Energy:</u> Black Hills Energy, Eric Underhill No Response 03/08/2023 No Comments

<u>CenturyLink:</u> CenturyLink, Darrin Klawon No Response 03/08/2023 No Comments

<u>Cheyenne MPO:</u> Cheyenne MPO, Christopher Yaney No Comments 02/23/2023 No Comments

<u>Cheyenne Planning:</u> Cheyenne Development Services, Seth Lloyd Comments Attached 02/16/2023

- 1. Plat is over one mile from City limits Official City comment letter is not necessary.
- 2. No other comments.

<u>Laramie County Fire Authority:</u> Laramie County Fire Authority, Manuel Muzquiz No Comments 02/27/2023

No Comments

PZ-23-00018 Second Review Comments Report

<u>County Attorney:</u> County Attorney, LC Attorney's Office No Comments 03/16/2023 No Comments

County Engineer: County Engineer, Scott Larson Comments Attached 03/14/2023 1. The report by CivilWorx needs to be revised to address the previous comments and resubmitted to the County. The plat references the report and the date of the report, so the date of the revised report needs to match the date of the report stated on the plat drawing. Currently the plat drawing has the date of the report as October 17, 2022, but I don't know what the date of the revised report will be and the two will need to match. CORRECTED

2. As mentioned in the first round of comments, this revised letter report by CivilWorx will be important for any future proposed structures within the newly designated floodplain area, which would still require a floodplain development permit application. A copy of this report shall be included with any future floodplain development application and/or building permit application to the County. ACKNOWLEDGED 3. All other previous comments have been adequately addressed.

<u>County Attorney:</u> County Attorney, LC Attorney's Office No Response 03/09/2023 No Comments

<u>Intraoffice:</u> Planners, Cambia McCollom No Comments 03/10/2023 No Comments



October 17, 2022

Molly Bennett Director and Floodplain Administrator Laramie County Public Works Department 13797 Prairie Center Circle Cheyenne, WY 82009 (307) 633.4302

Re: Base Flood Assessment Tract 16 Horse Creek Ranch Laramie County, WY

Dear Molly:

We are submitting our assessment of the floodplain conditions for Tract 16 Horse Creek Ranch located in the SE½ of Sect. 34, T15N, R67W of the 6th PM, Laramie County, WY and as shown in Figure 1. The subject property is located north of Horse Creek Road and west of Interstate 25 northwest of Cheyenne. This parcel is located along a tributary of Ninemile Draw, a subdrainage of Lodgepole Creek.



Figure 1. Vicinity Map

The intent of this letter is the document the floodplain assessment which includes calculations for the Base Flood Elevation (BFE) for the 1% annual chance flood event (i.e. 100-Year). The assessment is for an existing Zone 'A' or approximate zone Special Flood Hazard Area (SFHA) in potentially covering this property. This letter is intended to accompany a request for building permit, a potential Letter of Map Revision based on Fill (LOMR-F) should the site be modified, or elevation certificates submitted to Laramie County and potentially to FEMA to request a determination to confirm or reject the subsequent findings.



The basis for the assessment is as follows:

Project Site: Tract 16 Horse Creek Ranch

Local Drainage: Main Reach of Ninemile Draw (Lodgepole Creek)

(Tributary 820-2)

Drainage Basin: Lodgepole Creek & Tributaries

Tributary Area: 8.117 Sq. Miles

Hydrological Analysis: USGS Regression (current NSS - 2003)

Soils Index 1.8 from NSS Plate Overlay Used 2.1 per calibration of the regression

The property contains a drainageway along the

northern portion of the site.

Hydraulic Analysis HEC-RAS (6.2) – 1-dimensional analysis.

 $Q_{100} = 1,440 \text{ cfs}$ $Q_{500} = 3,180 \text{ cfs}$

Manning's 'n' = 0.030 for defined channel w/ low

impedance and 0.04 for overbank areas.

Datum NAVD 88 based on a site topographic survey

from Steil Surveying Services, LLC.

Analysis and Findings:

The base flood elevation was established using a 1-Dimensional assessment was completed with six (6) cross-sections (Figure 2, next page) representing the upstream and dowstream limits of the property. The estimated 1% annual chance event inundation area is shown on the attached mapping. Per the 'A' Zone requirements, we expanded the assessment to determine an allowable encroachment to maintain the net increase in base flood less than 1'. The results of the assessment show the lot can include a reasonable amount of fill around the main drainage. Base Flood Elevations (BFEs) calculated with this report for are listed with Table 1 along with the encroachment findings. All supporting information is attached to this report.

Table 1. Base Flood Elevations

Cross-Section	River Station	BFE (NAVD 88) No Encroachment	BFE (NAVD 88) w/ Encroachment	Net Surcharge (ft)
Α	733	6304.14	6304.95	0.81
В	599	6302.55	6303.43	0.88
С	483	6301.75	6302.73	0.98
D	372	6300.85	6301.43	0.58
E	251	6300.36	6301.25	0.89
F	5	6299.34	6300.01	0.67



Cross-section A represents the western or upstream downstream limit of the assessment. Cross-section F being downstream the property outfall at the east end of the area of study.

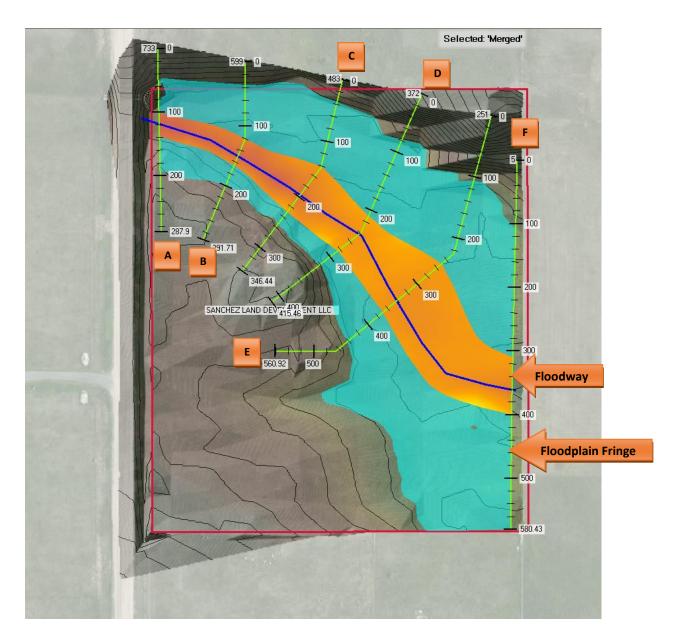


Figure 2. HEC-RAS Model w/Base Flood and Encroachment (Floodway)

Based on this assessment and the topographic data, the Base Flood can pass through this Tract and allow for a reasonable building area. It is our recommendation that the owner and surveyor utilize this assessment for potential building pads and use the BFE w/ encroachment to set the top of foundation for new structures. The area above shown as floodway should not be encroached upon with fill.



"I hereby attest that this report for the Tract 16 Horse Creek Ranch hydrological and hydraulic assessment was prepared by me (or under my direct supervision) for the responsible parties thereof and that I am a duly registered Professional Engineer under the laws of the State of Wyoming. The submitted mapping represents, to the best of my knowledge, true conditions found in the field as of the date of this investigation. The hydrological and hydraulic analysis completed with this report was completed in accordance with sound engineering practices."

Please feel free to contact me if you have any questions or need any additional information.

Respectfully,



Kelly W. Hafner, P.E. Senior Project Engineer CivilWorx, LLC

Encl: 1) NSS Hydrological Assessment

Tributary Area

Topographic Workmap

Manning's 'n'

2) HEC-RAS Output

Reports

Cross-Sections

Profile



NSS Hydrological Assessment National Streamflow Statistics Program Version 6.1

Site: Laramie County, WY, Wyoming

User: KWH

Date: October 6, 2022 04:10 PM

Equations for Wyoming developed using English units

Rural Estimate: Tract 16 Horse Creek Ranch Basin Drainage Area: 8.13 square miles

Region: Region_3_Eastern_Basins_and_Eastern_Plains (Miller, Kirk A., 2003, Peak-flow

Characteristics of Wyoming Streams: U.S. Geological Survey Water-Resources

Investigations Report 03-4107, 79 p.)

Drainage_Area = 8.13 square miles

Mean_Basin_Hydrologic_Soils_Index = 2.1 dimensionless

Crippen & Bue Region 11

Results for: Tract 16 Horse Creek Ranch

Equations used:

PK1_5 = 1.12* (DRNAREA)^(0.401)* (SOILINDEX)^(3.01) PK2 = 2.28* (DRNAREA)^(0.402)* (SOILINDEX)^(2.9) PK2_33 = 3.1* (DRNAREA)^(0.403)* (SOILINDEX)^(2.84) PK5 = 10.1* (DRNAREA)^(0.407)* (SOILINDEX)^(2.6) PK10 = 21.9* (DRNAREA)^(0.41)* (SOILINDEX)^(2.44) PK25 = 48.8* (DRNAREA)^(0.416)* (SOILINDEX)^(2.27) PK50 = 80.9* (DRNAREA)^(0.423)* (SOILINDEX)^(2.16) PK100 = 127* (DRNAREA)^(0.432)* (SOILINDEX)^(2.05)

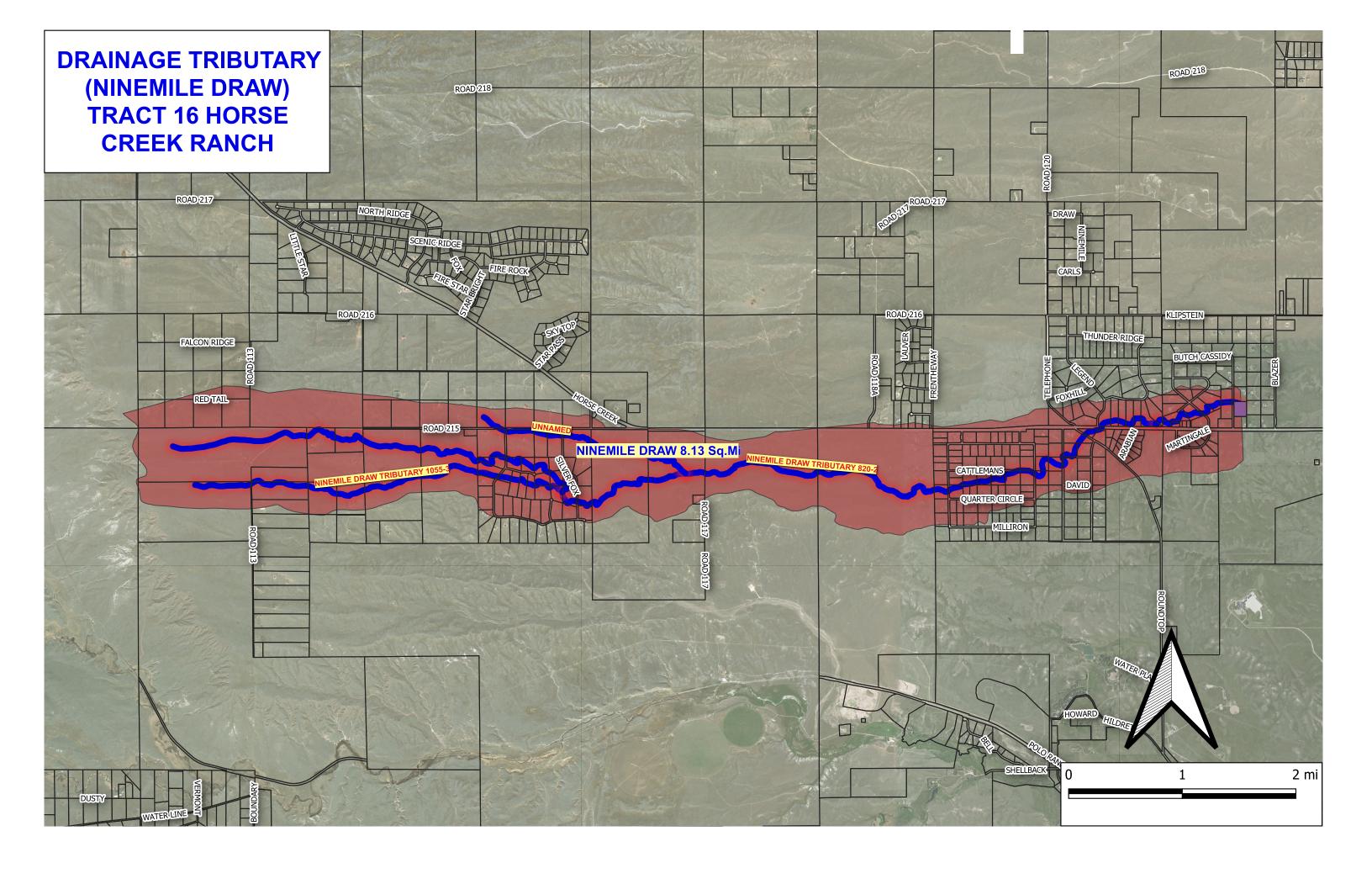
PK200 = 193* (DRNAREA)^(0.441)* (SOILINDEX)^(1.94)

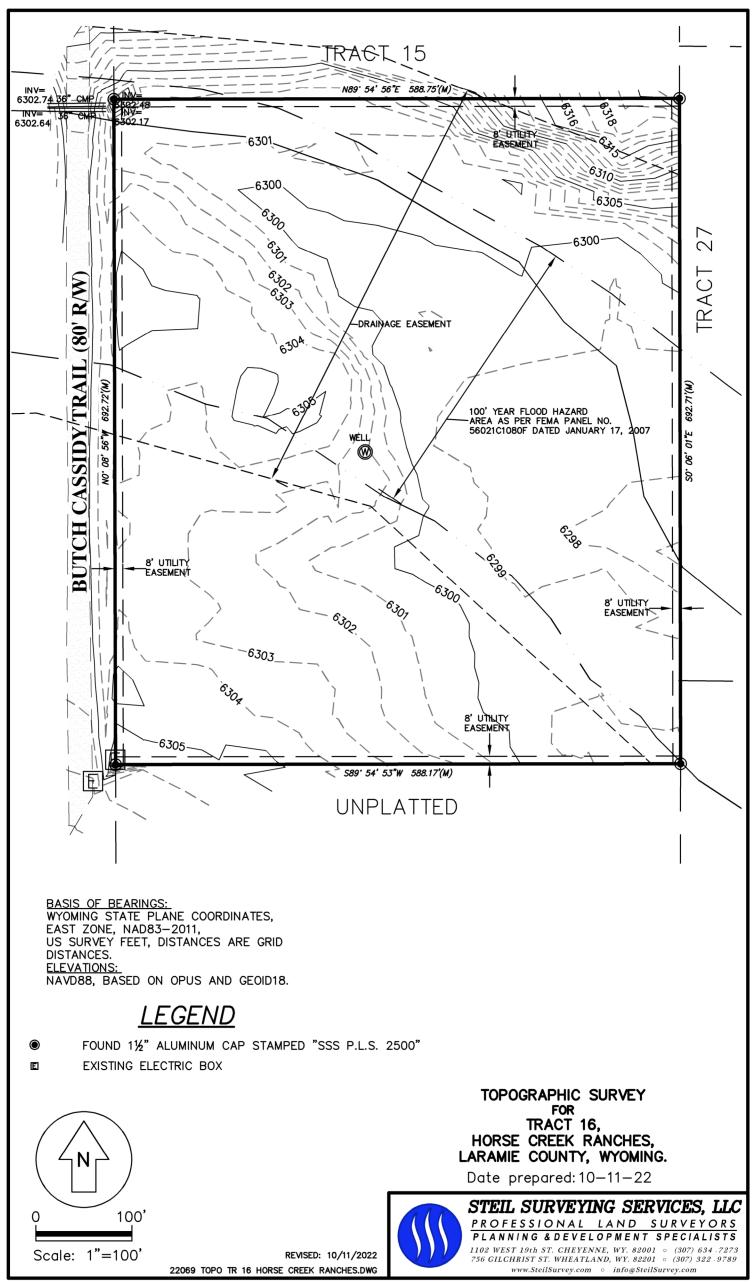
PK500 = 323* (DRNAREA)^(0.454)* (SOILINDEX)^(1.8)

Value, Pred. Intervals Prediction Equivalent

	value, i i	cu. IIII	.Civais i	Cuicui	on Equiv	"
Statistic	ft3/s	Low	High	Error, 9	% Years	
PK1_5	24.2	3.33	176	130	2	
PK2	45.5	8.64	240	98	2.6	
PK2_33	59.3	12.7	276	89	3.1	
PK5	163	52.2	510	61	7.7	
PK10	316	119	837	51	14	
PK25	629	254	1550	46	24	
PK50	975	386	2460	48	28	
PK100	1440	535	3860	51	30	
PK200	2050	698	6030	56	29	
PK500	3180	931	10900) 66	5 27	

maximum: 17300 (for C&B region 11)

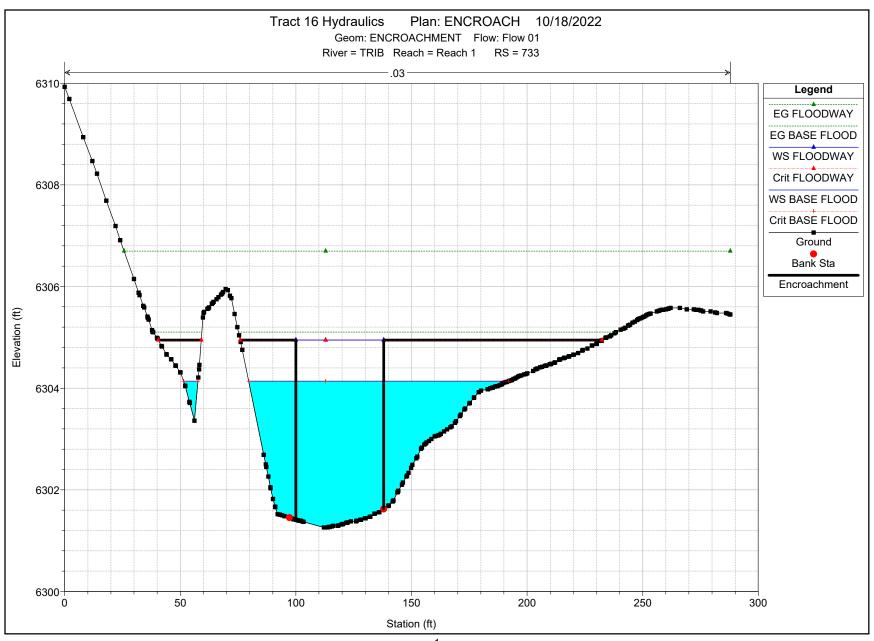


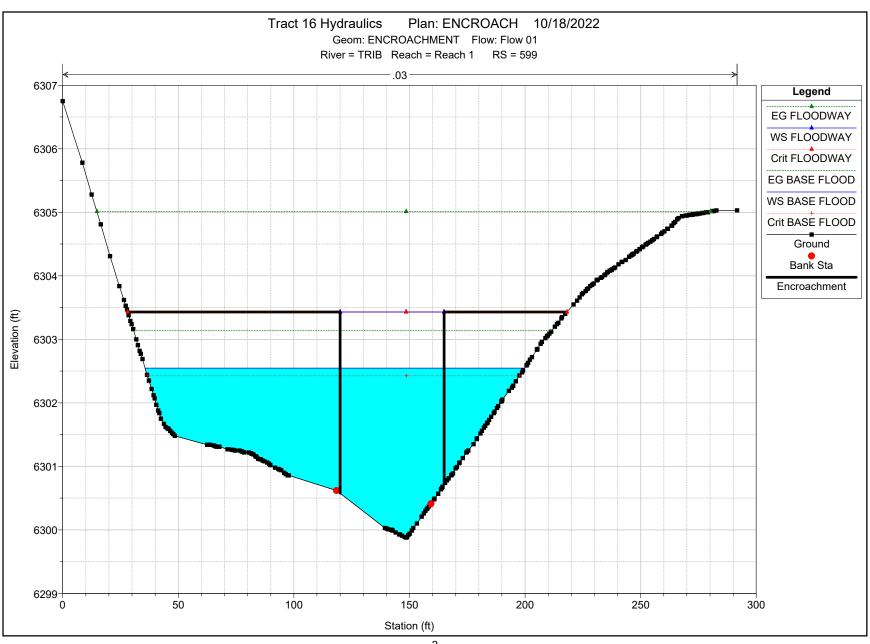


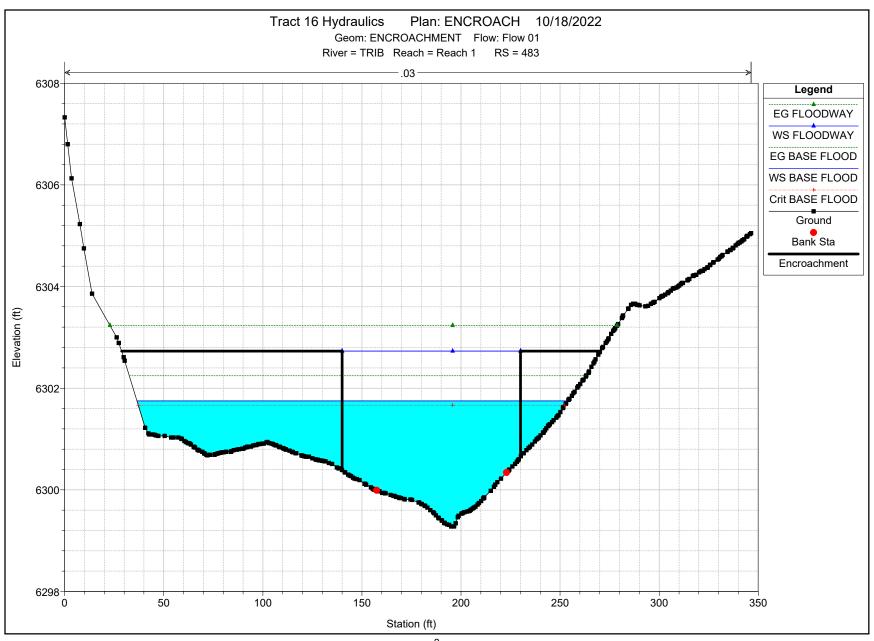
C. Excavated or Dredged Channels 1. Earth, straight and uniform 3. Clean, recently completed 3. Clean, after weathering 4. With short grass, few weeds 5. Capabilities Modeling Bridges Modeling Culverts Modeling Multiple Bridge and Culvert Openings C. Excavated or Dredged Channels 1. Earth, straight and uniform a. Clean, straight and uniform a. Clean, recently completed a. Clean, after weathering b. Clean, after weathering c. Gravel, uniform section, clean b. Clean, after weathering c. Gravel, uniform section, clean d. With short grass, few weeds a. No vegetation a. No vegetation b. Grass, some weeds c. Gravel, uniform section, clean coefficients Table 3-1 Mannings in Value Table 3-3 Subcritical Flow Contraction and Expansion Coefficients Table 3-1 Mannings in Value Table 3-3 Subcritical Flow Contraction and Expansion Coefficients Table 3-1 Mannings in Value Table 3-3 Subcritical Flow Contraction and Expansion Coefficients Table 3-1 Mannings in Value Table 3-1 Mannings in Value Table 3-3 Subcritical Flow Contraction and Expansion Coefficients Table 3-1 Mannings in Value Table 3-1 Mannings in Value Table 3-1 Mannings in Value Table 3-3 Subcritical Flow Contraction and Expansion Coefficients Table 3-1 Mannings in Value Table 3-2 Subcritical Flow Contraction and Expansion Coefficients Table 3-1 Mannings in Value Table 3-1 Manning in Value Table 3-1 Manni	HEC-RAS Hydraulic	Reference	Manual Manual	HEC Home	RAS Doc	s Downloads	6.2 🗸
Stream Junction Data Steady Flow Data Unsteady Flow Data Overview of Optional Capabilities Modeling Bridges Modeling Multiple Bridge and Steady Flow Data a. Clean, recently completed b. Clean, after weathering b. Clean, after weathering c. Gravel, uniform section, clean c.			C. Excavated or Dredged Channels				
Stream Junction Data Steady Flow Data Unsteady Flow Data Unsteady Flow Data Capabilities Modeling Bridges Modeling Multiple Bridge and a. Clean, after weathering b. Clean, after weathering b. Clean, after weathering coefficients Contraction and Expansion Coefficients Coefficients Contraction and Expansion Coefficients Coefficients Contraction and Expansion Coefficients	Energy Loss Coefficients	<	1. Earth, straight and uniform				Table 3-1 Manning's n Values
Steady Flow Data Unsteady Flow Data Coverview of Optional Capabilities Modeling Culverts Modeling Multiple Bridge and Disclean, after weathering D.0.022 D.0.025 D.0.030 D.0.022 D.0.025 D.0.030 D.0.022 D.0.027 D.0.033 D.0.023 D.0.025 D.0.030 D.0.025 D.0.030 D.0.025 D.0.030 D.0.025 D.0.030 D.0.026 D.0.027 D.0.030 D.0.027 D.0.030 D.0.028 D.0.029 D.0.030 D.0.	Stream Junction Data		a. Clean, recently completed	0.016	0.018	0.020	
C. Gravel, uniform section, clean Overview of Optional Capabilities d. With short grass, few weeds 2. Earth, winding and sluggish Modeling Culverts a. No vegetation O.022 O.025 O.030 O.022 O.027 O.033 O.022 O.027 O.033 O.023 O.023 O.025 O.030	Steady Flow Data		b. Clean, after weathering	0.018	0.022	0.025	Coefficients
Capabilities d. With short grass, few weeds 0.022 0.027 0.033 Modeling Bridges > 2. Earth, winding and sluggish a. No vegetation 0.023 0.025 0.030 Modeling Multiple Bridge and > 0.023 0.025 0.030	Unsteady Flow Data	>	c. Gravel, uniform section, clean	0.022	0.025	0.030	
Modeling Culverts > a. No yegetation 0.023 0.025 0.030 Modeling Multiple Bridge and >		>	d. With short grass, few weeds	0.022	0.027	0.033	
a. No vegetation 0.023 0.025 0.030 Modeling Multiple Bridge and >	Modeling Bridges	>	2. Earth, winding and sluggish				
	Modeling Culverts	>	a. No vegetation	0.023	0.025	0.030	
		>	b. Grass, some weeds	0.025	0.030	0.033]
Modeling Gated Spillways, Weirs and Drop Structures c. Dense weeds or aquatic plants in deep channels 0.030 0.035 0.040		>	c. Dense weeds or aquatic plants in deep channels	0.030	0.035	0.040	
Floodplain Encroachment > d. Earth bottom and rubble side 0.028 0.030 0.035	Floodplain Encroachment Calculations	>	d. Earth bottom and rubble side	0.028	0.030	0.035	
Estimating Scour at Bridges > e. Stony bottom and weedy banks 0.025 0.035 0.040		>	e. Stony bottom and weedy banks	0.025	0.035	0.040	
Modeling Ice-covered Rivers > f. Cobble bottom and clean sides 0.030 0.040 0.050	Modeling Ice-covered Rivers	>	f. Cobble bottom and clean sides	0.030	0.040	0.050	

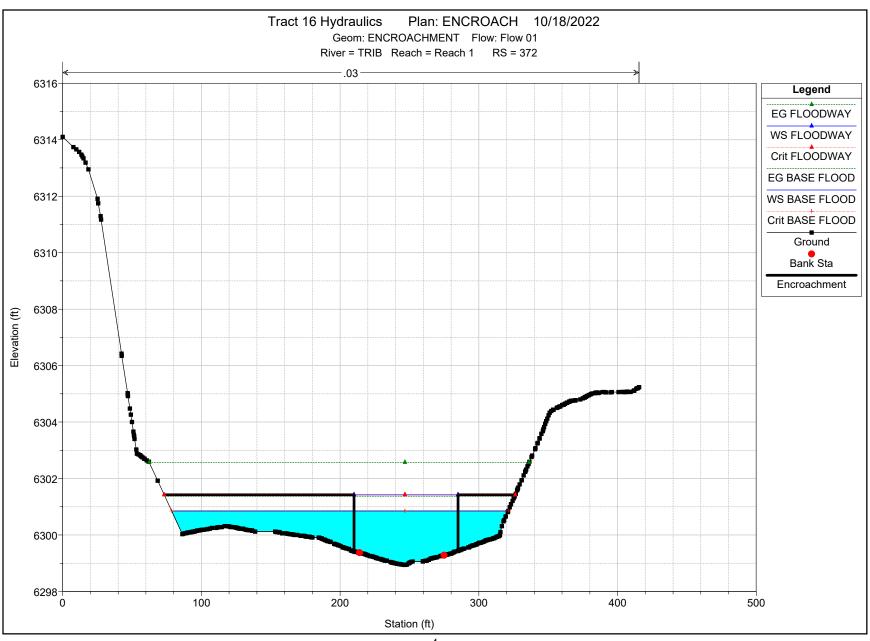
HEC-RAS Plan: ENCROACH River: TRIB Reach: Reach 1

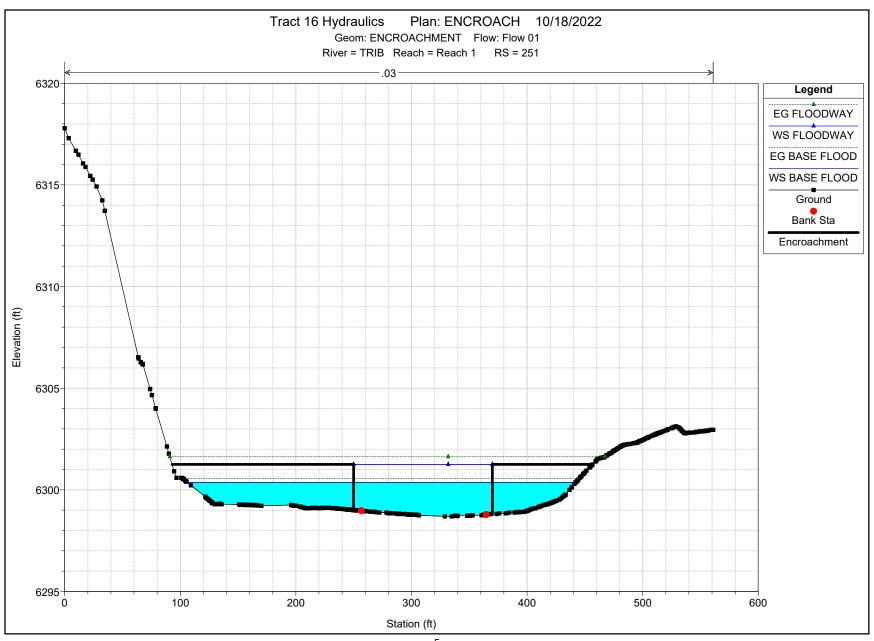
Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
Reach 1	733	BASE FLOOD	1440.00	6301.26	6304.14	6304.14	6305.11	0.008181	8.81	200.17	118.68	0.94
Reach 1	733	FLOODWAY	1440.00	6301.26	6304.95	6304.95	6306.70	0.010511	10.62	135.63	38.00	0.99
Reach 1	599	BASE FLOOD	1440.00	6299.88	6302.55	6302.43	6303.14	0.006912	7.28	250.28	164.18	0.84
Reach 1	599	FLOODWAY	1440.00	6299.88	6303.43	6303.43	6305.01	0.009837	10.29	144.17	45.00	1.01
Reach 1	483	BASE FLOOD	1440.00	6299.28	6301.75	6301.66	6302.25	0.006855	6.52	276.71	217.37	0.81
Reach 1	483	FLOODWAY	1440.00	6299.28	6302.73		6303.24	0.003309	5.91	256.15	90.00	0.60
Reach 1	372	BASE FLOOD	1440.00	6298.94	6300.85	6300.85	6301.37	0.009147	6.82	267.71	242.63	0.91
Reach 1	372	FLOODWAY	1440.00	6298.94	6301.43	6301.43	6302.57	0.010441	8.82	169.27	75.00	1.03
Reach 1	251	BASE FLOOD	1440.00	6298.69	6300.36		6300.55	0.003330	3.87	424.19	335.75	0.54
Reach 1	251	FLOODWAY	1440.00	6298.69	6301.25		6301.63	0.003064	5.00	294.21	120.00	0.56
Reach 1	5	BASE FLOOD	1440.00	6296.94	6299.34	6299.23	6299.65	0.005007	5.49	392.70	472.65	0.69
Reach 1	5	FLOODWAY	1440.00	6296.94	6300.01	6299.50	6300.65	0.005001	6.66	225.92	90.00	0.73

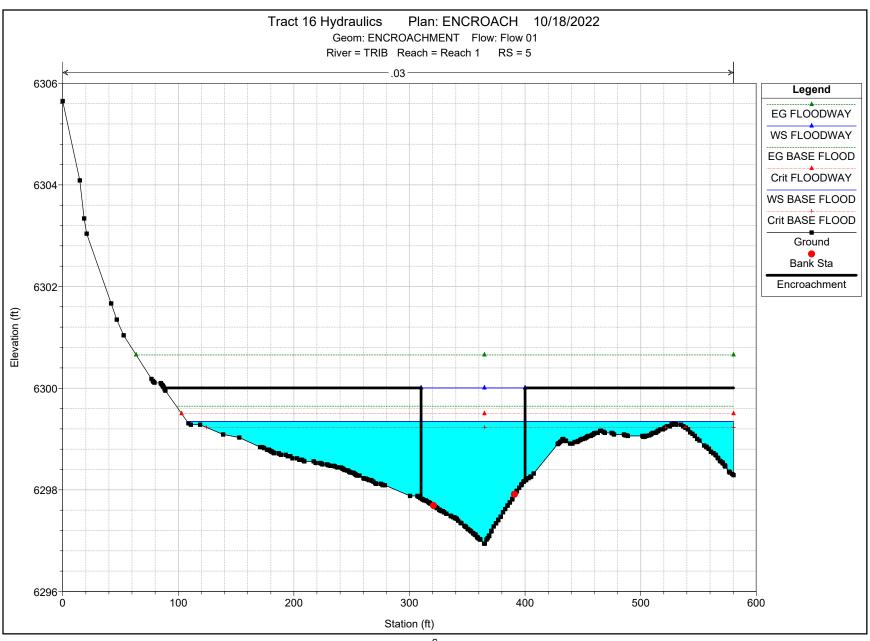


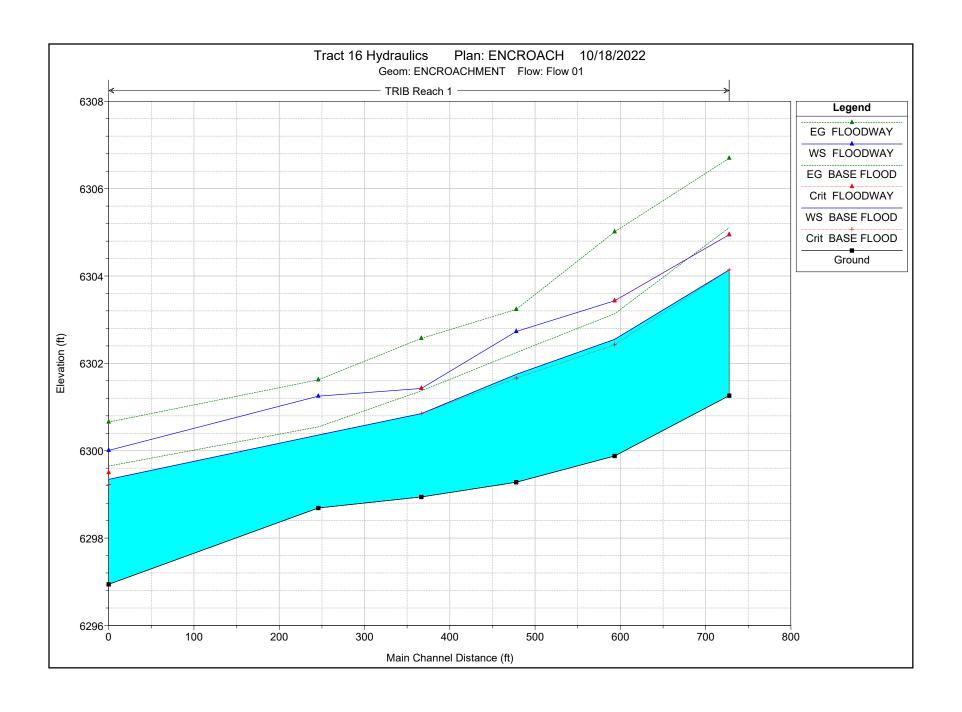


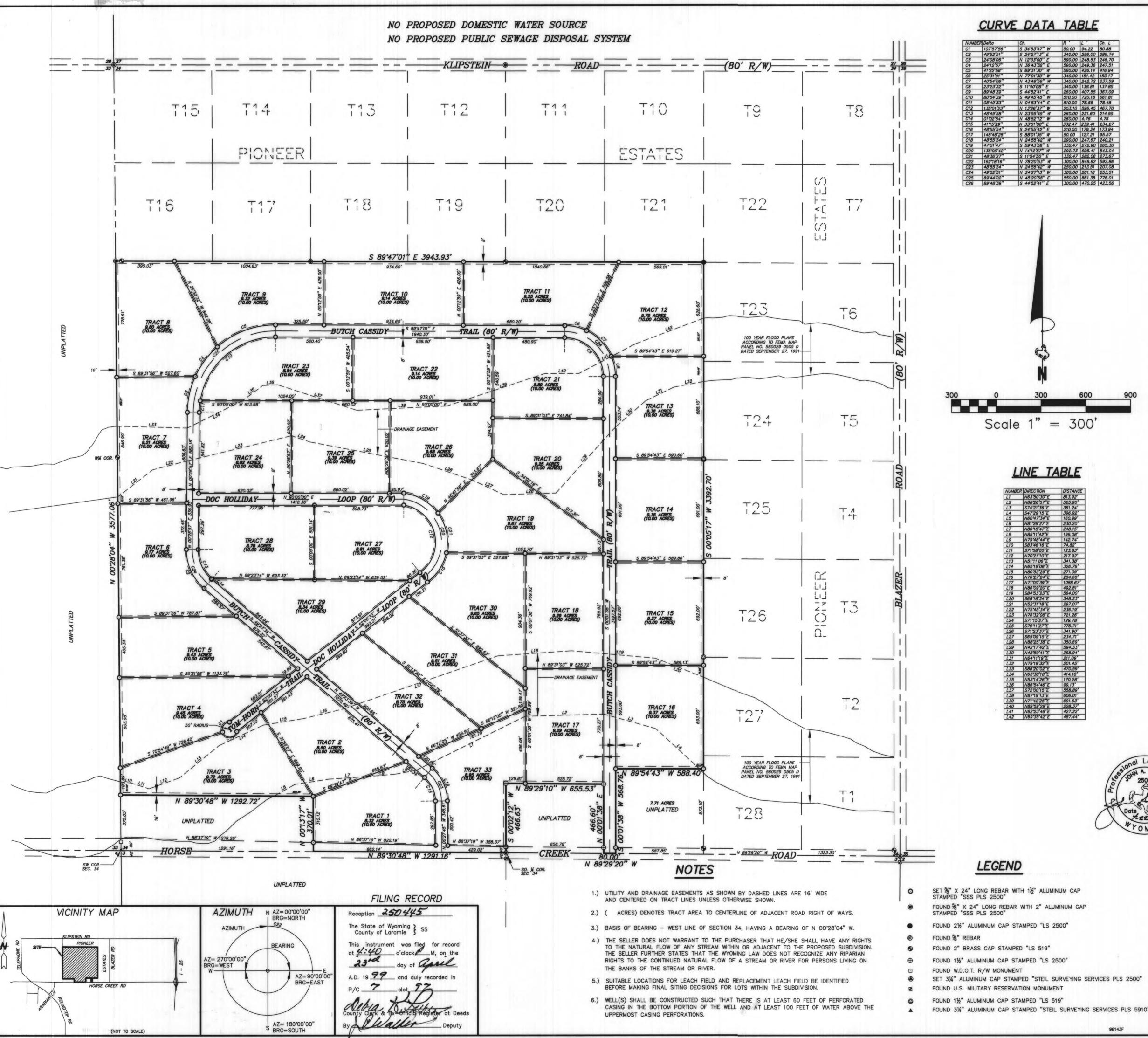




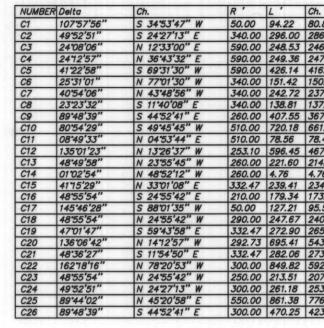


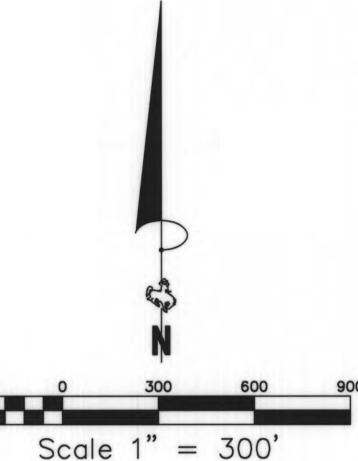




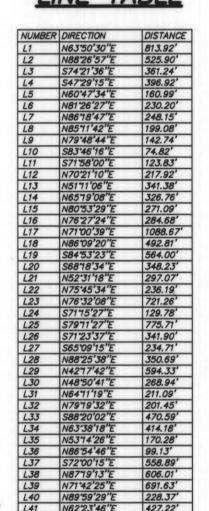


CURVE DATA TABLE





LINE TABLE



DEDICATION

KNOW ALL PERSONS BY THESE PRESENTS THAT: The Horse Creek Ranch, a Wyoming LC, owner in fee simple of a portion of Section 34, Township 15 North, Range 67 West of the 6th P.M., Laramie County, Wyoming, all more particularly described as follows:

Beginning at a point on the west line of said Section 34 from which the southwest corner of said Section 34 bears S.00°28'04"E., a distance of 370.05 feet; thence N.00°28'04"W., along said west line, a distance of 3577.06 feet to the southwest corner of Pioneer Estates Subdivision; thence S.89°47'01"E., along the south line of said Pioneer Estates Subdivision, a distance of 3943.93 feet to the northwest corner of Tract 23 of said Pioneer Estates Subdivision; thence S.00°05'17"W., along the west line of said Pioneer Estates Subdivision, a distance of 3392.70 feet; thence N.89°54'43"W., a distance of 588.40 feet; thence S.00°01'38"W., a distance of 568.76 feet to the south line of said Section 34; thence N.89°29'20"W., along said south line, a distance of 80.00 feet; thence N.00°01'38"E., a distance of 466.60 feet; thence N.89°29'10"W., a distance of 655.53 feet; thence S.00°02'21"W., a distance of 466.63 feet to the south quarter corner of said Section 34; thence N.89°30'48"W., along the south line of said Section 34, a distance of 1291.16 feet; thence N.00°13'17"W., a distance of 370.01 feet; thence N.89°30'50"W., a distance of 1292.72 feet to the point of beginning. Containing 330.741 acres more or less.

Has caused the same to be surveyed, platted and known as THE HORSE CREEK RANCH, does hereby declare the subdivision of said land as it appears on this plat to be their free act and deed and in accordances with their desires, and does hereby dedicate for the use of the public the roads and grant the easements for the purposes indicted hereon.

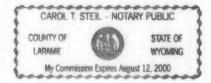
The Horse Creek Ranch, a Wyoming LC

June C. Casey, member

ACKNOWLEDGEMENTS

STATE OF WYOMING COUNTY OF LARAMIE

The dedication instrument was acknowledged before me this 22 mday of Creek Ranch, a Wyoming LC.



Notary Public, Laramie County, Wyoming My Commission Expires 8-12-20-0

APPROVALS

Approved by the Cheyenne-Laramie County Regional Planning Commission this ________, 1998.

Development Director

roved by the County Commissioners of Laramie County, Wyoming, day of <u>December</u>, 1998.

CERTIFICATE OF SURVEYOR

I, John A. Steil, Registered Professional Land Surveyor in the State of Wyoming, hereby certify that this plat of THE HORSE CREEK RANCH, was prepared from official plats and deeds of record and from notes of a field survey conducted by me or under my direct supervision during the month of June, 1998, that the monuments are set or found as shown and that this plat correctly represents said survey of the land depicted hereon to the best of my knowledge.

THE HORSE CREEK RANCH A SUBDIVISION OF

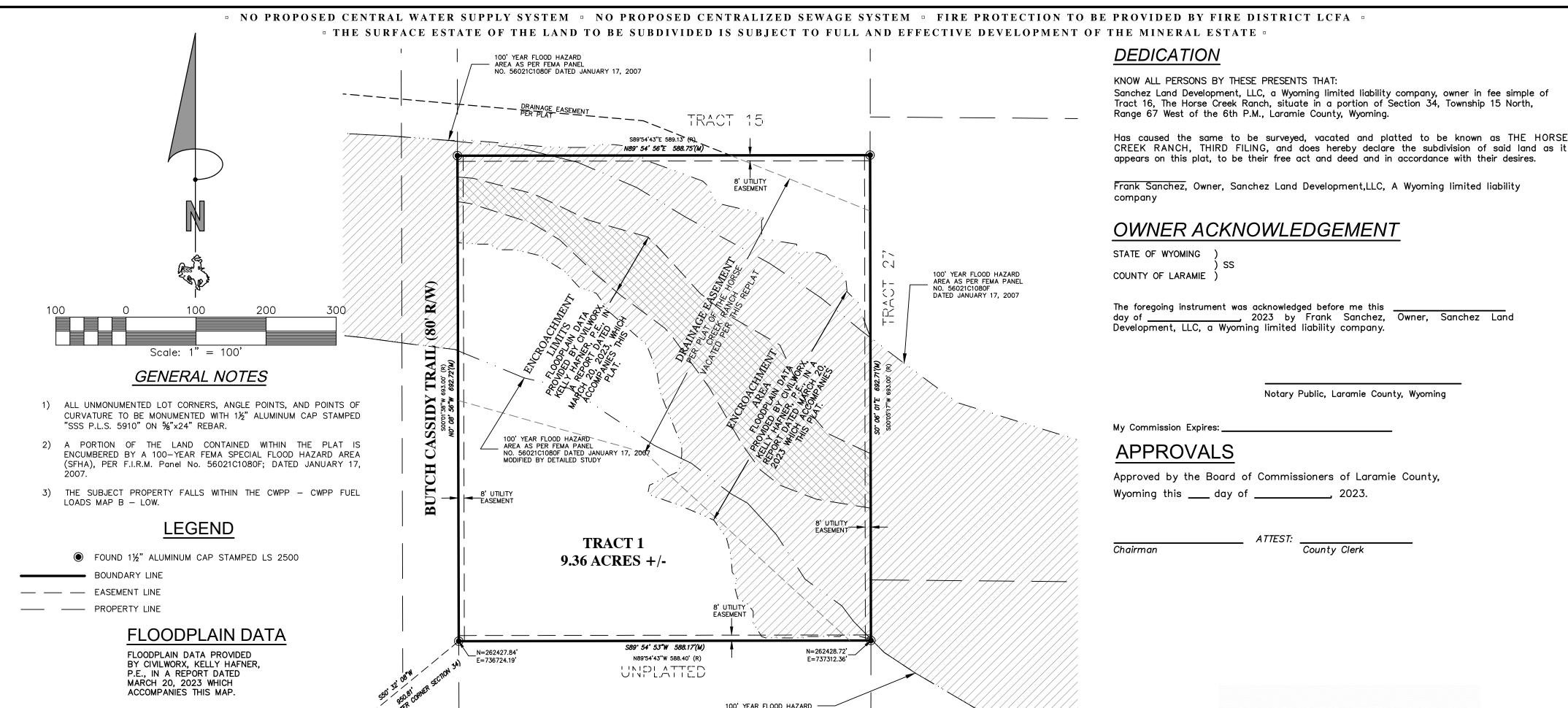
A PORTION OF SECTION 34, TOWNSHIP 15 NORTH, RANGE 67 WEST, OF THE 6TH P.M. LARAMIE COUNTY, WYOMING.

PREPARED NOVEMBER, 1998

STEIL SURVEYING SERVICES, LLC

PROFESSIONAL LAND SURVEYORS 1102 WEST 19th STREET P.O. BOX 2073 PH(307)634-7273 CHEYENNE, WY. 82003

98143F



AREA AS PER FEMA PANEL
NO. 56021C1080F DATED JANUARY 17, 2007

VACATION STATEMENT

IT IS THE INTENT OF THIS REPLAT TO VACATE TRACT 16, THE HORSE CREEK RANCH AND THE DRAINAGE EASEMENT ASSOCIATED WITH SAID TRACT SHOWN HEREON ALL OTHER EASEMENTS TO REMAIN

VICINITY MAP

BASIS OF BEARING

WYOMING STATE PLANE COORDINATES,

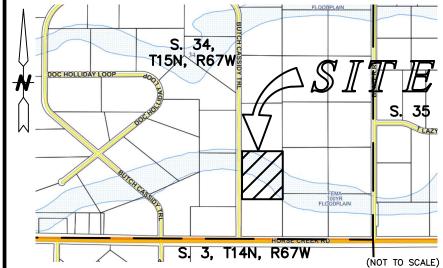
US SURVEY FEET, DISTANCES ARE GRID

COMBINATION FACTOR = 0.999945026

BASIS OF BEARINGS:

DISTANCES.

EAST ZONE, NAD83-2011.



CERTIFICATE OF SURVEYOR

Jeffrey B. Jones, A Professional Land Surveyor in the State of Wyoming, for and on behalf of Steil Surveying Services, LLC, hereby state, to the best of my knowledge, information and belief, that this map was prepared from field notes taken during an actual survey made by me or under my direct supervision; and that this map correctly shows the results of said survey and that the monuments found or set are as shown.

FILING RECORD



CREEK RANCH

AN ADMINISTRATIVE REPLAT OF TRACT 16, THE HORSE CREEK RANCH, SITUATE IN SECTION 34, T15N, R67W, OF THE 6TH P.M., LARAMIE COUNTY, WYOMING. PREPARED FEBRUARY 2023



STEIL SURVEYING SERVICES, LLC PROFESSIONAL LAND SURVEYORS PLANNING & DEVELOPMENT SPECIALISTS

1102 WEST 19th ST. CHEYENNE, WY. 82001 o (307) 634 .7273 756 GILCHRIST ST. WHEATLAND, WY. 82201 o (307) 322 -9789

www.SteilSurvey.com o info@SteilSurvey.com

REVISED: March 21, 2023 23116 T16 HCR FINAL.DWG