

Date: April 3, 2024

Project name: Case 24-04 & 24-05 Hudson Commercial Minor Subdivision and Site Plan

Project address: 91 E Bison Hwy

Review Number: 1

Project Coordinator: Alyssa Rivas

The Hudson Planning Department is issuing the following Referral Response Summary Report as the referral period has expired. All referral materials reviewed are available online at https://bit.ly/Case24-04-05HudsonCommercial_MSSP.

Both internal (Town Staff) and external referral responses received to date can be found in the “Referral Comments” section of this report, as applicable. The “Next Steps” section describes subsequent steps in the development review and approval process. If you have any questions or concerns regarding any comment, contact me or the individual agency contact to clarify the statement and reach an understanding. It is in the applicant’s best interest to contact each internal and external referral agency directly in order to streamline the development review process.

The corrections/revisions required at this time are outlined below. Please address all referral agency comments and revise submittal documents appropriately to address any remaining concerns. All corrections/revisions must be made in order for the review to be undertaken and completed. With each set of comments, please indicate whether the change was made and provide a response as applicable. Please contact me at 719-332-3928 or alyssa.rivas@baselinecorp.com if you have any questions.

The following comments are based on the standards and requirements of [Chapter 16 - Land Development Code](#) of the Hudson Municipal Code (HMC) as well as the Town’s Standards and Specifications for the Construction of Public Improvements (Volumes: [1 Streets](#), [2 Water and Sewer](#) & [3 Storm Drainage](#)). Additional applicable standards may also include, [HMC Ch. 13 Water and Wastewater Utilities](#).

Project Coordinator: Alyssa Rivas, 719-332-3928 alyssa.rivas@baselinecorp.com

NOTE: Reviewer’s comment letter and redlines have been attached to this report.

1. Please see attached redlines.

____ Change Made

____ Change Not Made

Response:

[Enter Here]

NOTE: Reviewer's comment letter and redlines have been attached to this report.

2. Please see attached letters and redlines.

____ Change Made

____ Change Not Made

Response:

[Enter Here]

NOTE: Reviewer's comment letter has been attached to this report.

3. Please see attached letter.

____ Change Made

____ Change Not Made

Response:

[Enter Here]

Next Steps

The Town is committed to assisting applicants through the development review process. We are looking forward to collaborating with the Project Team on how to best address the comments to ensure the purpose of the Land Development Code is captured in the application documents thereby facilitating an efficient public hearing process and ultimate build out of a high-quality development. As such, Town Staff will continue to make themselves available for calls or meetings to collaborate on how to best address comments or issues as they arise.

For formal resubmittals, the Project Team shall address all the Town Staff comments then resubmit a set of submittal documents as referenced in the above comments as digital files. Please complete this form by selecting whether each change was made and adding a brief comment on where to find the change, or why the change was not made. Please then save your changes and return the PDF with your resubmittal.

Once the Town receives your resubmittal and all staff and external agency comments have been addressed, we can begin to schedule the public hearings.

From: [Brad Curtis](#)
To: [Alyssa Rivas](#); [Jennifer Woods](#)
Subject: RE: [ENGINEERING COMMENTS]: Hudson Commercial Minor Subdivision & Site Plan (Case 24-04 & 24-05) - 1st Referral Request
Date: Friday, March 29, 2024 12:48:32 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[HCTS - Drainage Report - 2024-02-28 NE Comments.pdf](#)
[HCTS - Final Plat - 2024-02-26 NE Comments.pdf](#)
[HCTS - Final Site Plan - 2024-02-27 NE Comments.pdf](#)

[EXTERNAL EMAIL] DO NOT CLICK links or attachments unless you recognize the sender and know the content is safe.

Good afternoon Alyssa:

I apologize for the informalities of our comments. If you need a written letter, let me know.

1. We did not heavily review the Traffic Study, as we assume this is under CDOT's prevue first and foremost.
2. It should also be noted the Drainage Report was reviewed against Hudson Standards/Criteria. Due to immediate vicinity, and potential site modification within CDOT ROW, they may have more restrictive requirements. We have added a note for the applicant to confirm coordination with CDOT directly, and for Town to be apprised of said State review.

Have a great weekend!

Bradley A Curtis, PE, CPM, LEED AP

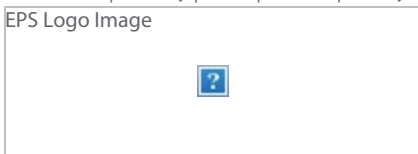
Municipal Services – Senior Project Manager

820 8th Street | Greeley, CO 80631

Direct: 970.488.1119 Mobile: 970.590.0440

Fort Collins | Greeley | Mesa | Tucson | Goodyear | Phoenix | Fort Worth

EPS Logo Image



[Website](#) | [LinkedIn](#) | [Instagram](#) | [Facebook](#)

Note: I have a new email address. Please update your contact list to use this email address for all future correspondence. I will continue to receive emails sent to my old address for a limited time.

From: Alyssa Rivas <alyssa.rivas@baselinecorp.com>

Sent: Thursday, March 28, 2024 12:02 PM

To: Brad Curtis <Brad.Curtis@epsgroupinc.com>; Jennifer Woods <jwoods@hudsoncolorado.org>

Subject: RE: [ENGINEERING COMMENTS]: Hudson Commercial Minor Subdivision & Site Plan (Case 24-04 & 24-05) - 1st Referral Request

HUDSON COMMERCIAL PLAT

LOCATED IN THE SOUTHWEST 1/4, SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN
TOWN OF HUDSON, COUNTY OF WELD, STATE OF COLORADO

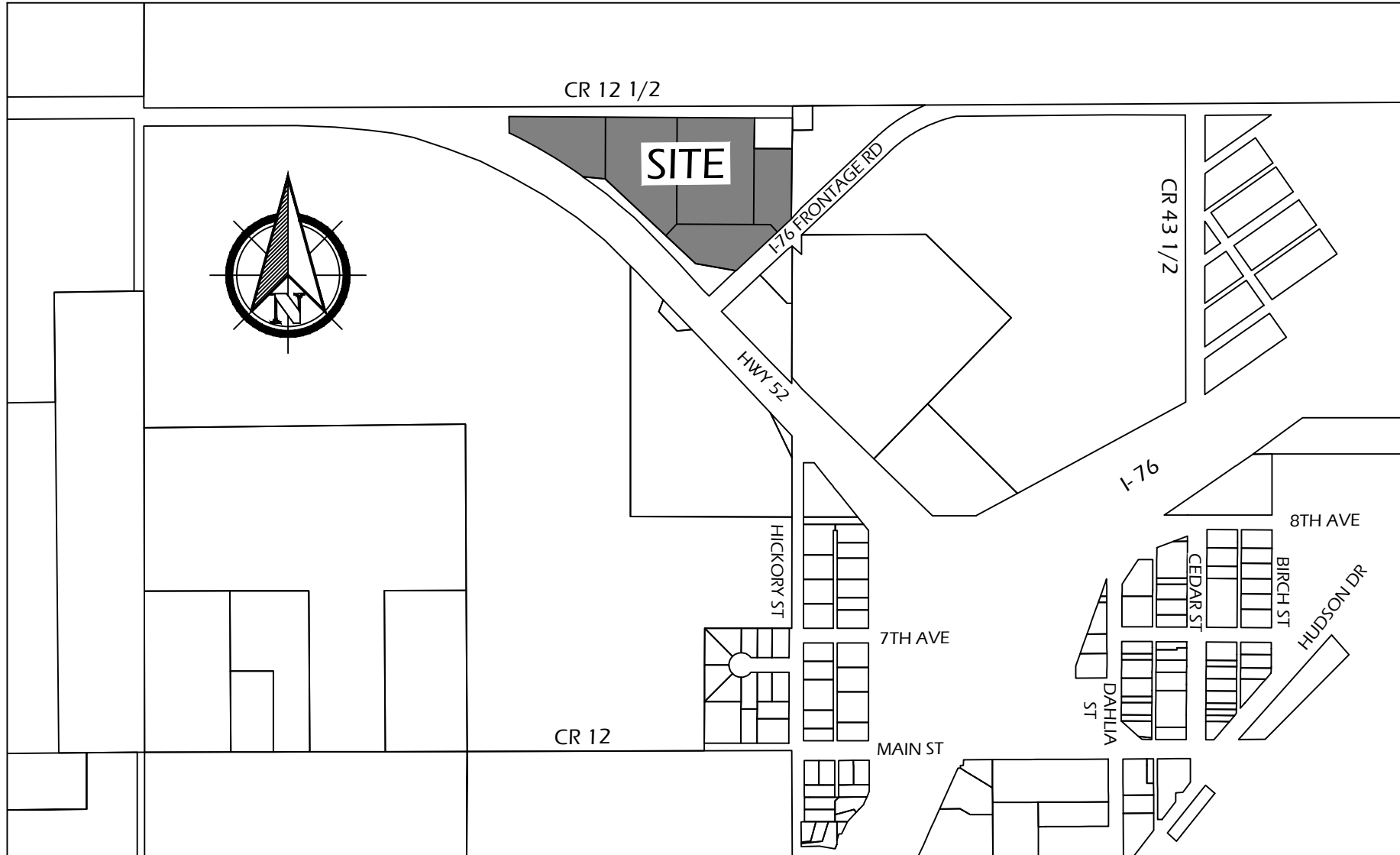
LEGAL DESCRIPTION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED, BEING THE OWNERS OF A PARCEL OF LAND, LOCATED IN THE SOUTHWEST 1/4, SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1, BISON HIGHWAY MINOR SUBDIVISION, ACCORDING TO THE PLAT RECORDED JANUARY 26, 2012 UNDER RECEPTION NO. 3820807 AND THE NOTICE AND AFFIDAVIT OF CORRECTION RECORDED FEBRUARY 22, 2013 UNDER RECEPTION NO. 3912110, TOGETHER WITH THAT PORTION OF VACATED HICKORY STREET, DESCRIBED AS VACATION VESTING PARCEL #8 IN ORDINANCE NO. 15-06, RECORDED JANUARY 5, 2021 UNDER RECEPTION NO. 4668060, EXCEPTING THEREFROM, THE PROPERTY CONVEYED IN BARGAIN AND SALE DEED RECORDED JANUARY 5, 2021 UNDER RECEPTION NO. 4668059, COUNTY OF WELD, STATE OF COLORADO.

HAVE LAID OUT, PLATTED AND SUBDIVIDED THE ABOVE-DESCRIBED LAND, UNDER THE NAME AND STYLE OF HUDSON COMMERCIAL PLAT, AND BY THESE PRESENTS DO DEDICATE TO THE TOWN OF HUDSON IN FEE SIMPLE THE STREETS, PUBLIC WAYS AND [DESCRIBE ANY OTHER LAND BEING DEDICATED TO THE TOWN BY THE PLAT] AS SHOWN ON THE PLAT, AND GRANT TO THE TOWN OF HUDSON SUCH EASEMENTS AS ARE CREATED HEREBY AND DEPICTED OR, BY NOTE, REFERENCED HEREON, ALONG WITH THE RIGHT TO INSTALL, MAINTAIN AND OPERATE MAINS, TRANSMISSION LINES, SERVICE LINES, AND APPURTENANCES, EITHER DIRECTLY OR THROUGH THE VARIOUS PUBLIC UTILITIES, AS MAY BE NECESSARY TO PROVIDE SUCH UTILITY SERVICES WITHIN THIS SUBDIVISION OR OTHER LAND WITHIN THE TOWN OF HUDSON, THROUGH, OVER, UNDER AND ACROSS STREETS, UTILITY AND OTHER EASEMENTS AND OTHER PUBLIC PLACES AS SHOWN HEREON.

HAS LAID OUT, SUBDIVIDED AND PLATTED THE SAME INTO STREETS, AVENUES, LOTS, BLOCKS AND TRACTS AS SHOWN HEREON UNDER THE NAME AND STYLE OF HUDSON COMMERCIAL PLAT, AND DO HEREBY GRANT AND CONVEY TO THE TOWN OF HUDSON FOR PUBLIC USE AND ROADWAY PURPOSES ALL STREETS AND AVENUES, WITH ALL APPURTENANCES AND WARRANTS TITLE TO THE SAME, IN FEE SIMPLE, AND DO FURTHER HEREBY GRANT AND CONVEY ALL DRAINAGE, SIGNAGE AND UTILITY EASEMENTS, WITH ALL APPURTENANCES AND WARRANTS TITLE TO THE SAME, OVER, UPON, UNDER AND ACROSS SAID LOTS AND BLOCKS AT THE LOCATIONS SHOWN ON THE ACCOMPANYING PLAT FOR RECONSTRUCTION, OPERATION AND MAINTENANCE OF DRAINAGE, SIGNAGE AND UTILITY FACILITIES.



VICINITY MAP

SCALE: 1" = 600'

APPROVAL BY THE TOWN

THIS PLAT WAS APPROVED BY THE TOWN COUNCIL OF HUDSON, COLORADO, ON THE _____ DAY OF _____, 20____, AD, FOR FILING, SUBJECT TO THE CONDITIONS SET FORTH BY THE BOARD WHICH ARE RECORDED IN BOOK _____ AT PAGE _____, WELD COUNTY, COLORADO.

MAYOR OF TOWN OF HUDSON

SURVEYOR'S CERTIFICATE

I, MARK A. HALL, PLS NO. 36073, REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY OF THE HUDSON COMMERCIAL PLAT WAS MADE UNDER MY SUPERVISION AND THE ACCOMPANYING PLAT ACCURATELY AND PROPERLY SHOWS SAID SUBDIVISION.

THE FIELD WORK WAS COMPLETED ON: SEPTEMBER 7, 2023

DATE OF PLAT OR MAP: FEBRUARY 14, 2024

MARK A. HALL, PLS NO. 36073
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR
FOR AND ON BEHALF OF LJA SURVEYING

GENERAL NOTES

- 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.
- ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.
- THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY LJA SURVEYING TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS-OF-WAY, AND TITLE OF RECORD, LJA SURVEYING RELIED UPON THE TITLE COMMITMENT PREPARED BY LAND TITLE GUARANTEE COMPANY, ORDER NUMBER ABZ25207086-2 WITH A EFFECTIVE DATE OF AUGUST 10, 2023 AT 5:00 P.M.
- THE LINEAL UNIT USED IN THE PREPARATION OF THIS SURVEY IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.
- BASIS OF BEARINGS: THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN IS ASSUMED TO BEAR NORTH 89°44'38" EAST BASED ON NAD83 (2011) COLORADO STATE PLANE NORTH ZONE (501) COORDINATES, BEING MONUMENTED AT THE WEST QUARTER CORNER OF SAID SECTION BY A 2" ALUMINUM CAP 0.5' BELOW GRAVEL SURFACE, STAMPING ILLEGIBLE AND AT THE CENTER QUARTER CORNER BY A 2.5" ALUMINUM CAP 0.6' BELOW GRAVEL SURFACE, STAMPING ILLEGIBLE.
- FLOODPLAIN: THE SURVEYED PROPERTY IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ON FLOOD INSURANCE RATE MAP (FIRM) - MAP NUMBERS 08123C2135E WITH A MAP EFFECTIVE DATE OF JANUARY 20, 2016. (TABLE A, ITEM NO. 3)

OWNER APPROVAL

ANDREWS FARM HOLDINGS, LLC

BY: _____

AS: _____

STATE OF COLORADO
COUNTY OF _____

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, A.D. 20____, BY _____ AS _____ OF THE TOWN OF HUDSON.

WITNESS MY HAND AND OFFICIAL SEAL,
MY COMMISSION EXPIRES: _____

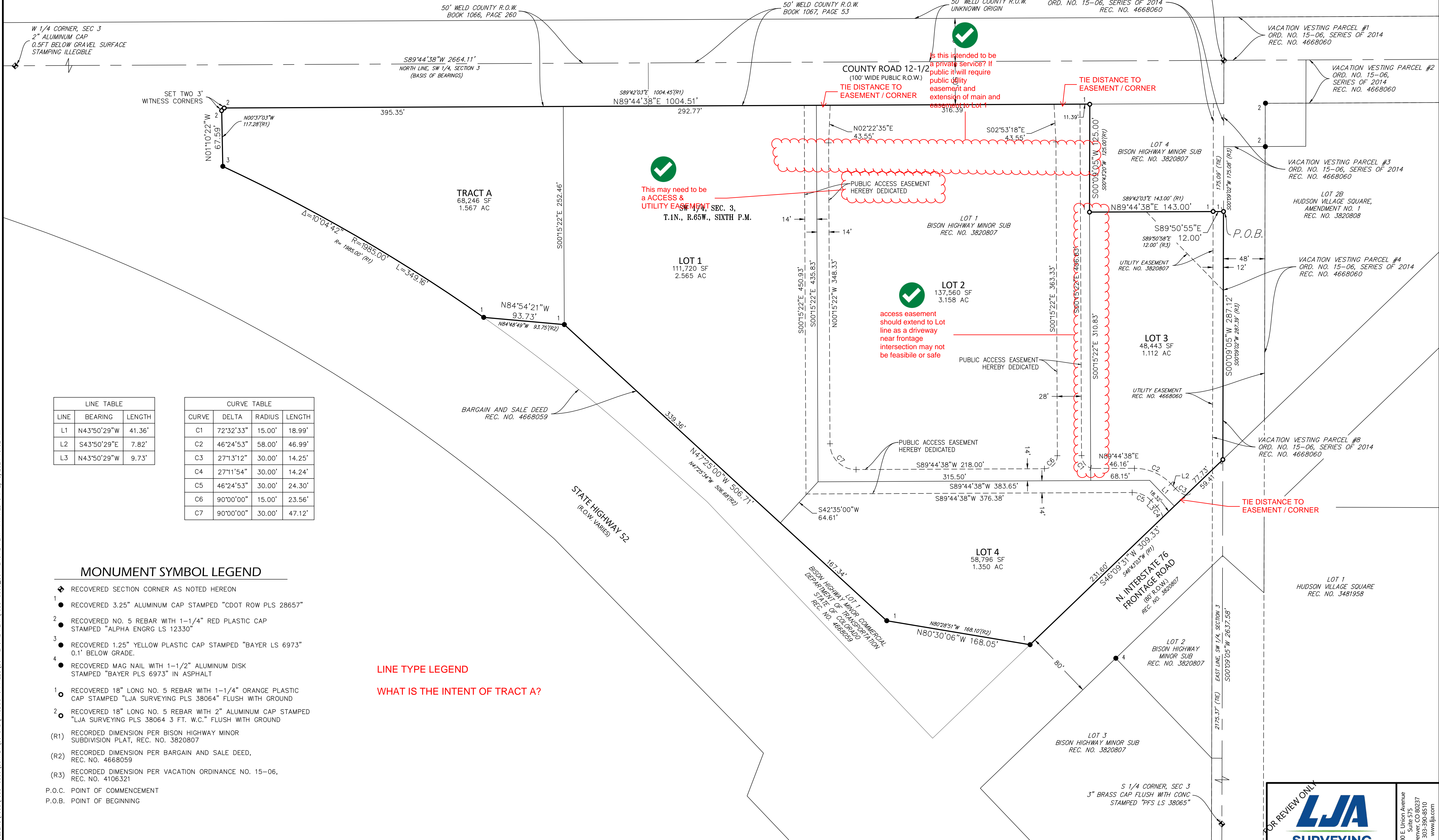
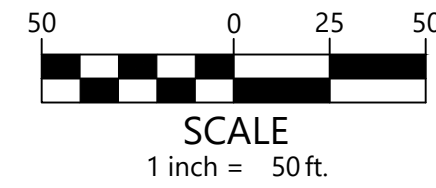
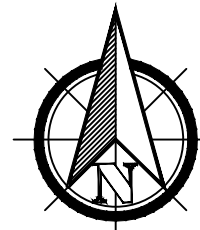
NOTARY PUBLIC

LJA
SURVEYING

7800 E. Union Avenue
Suite 575
Denver, CO 80237
303-390-4510
www.lja.com

HUDSON COMMERCIAL PLAT

LOCATED IN THE SOUTHWEST 1/4, SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN
TOWN OF HUDSON, COUNTY OF WELD, STATE OF COLORADO



LINE TABLE		
LINE	BEARING	LENGTH
L1	N43°50'29"W	41.36'
L2	S43°50'29"E	7.82'
L3	N43°50'29"W	9.73'

CURVE TABLE				
CURVE	DELTA	RADIUS	LENGTH	
C1	72°32'33"	15.00'	18.99'	
C2	46°24'53"	58.00'	46.99'	
C3	27°13'12"	30.00'	14.25'	
C4	27°11'54"	30.00'	14.24'	
C5	46°24'53"	30.00'	24.30'	
C6	90°00'00"	15.00'	23.56'	
C7	90°00'00"	30.00'	47.12'	

MONUMENT SYMBOL LEGEND

- ◆ RECOVERED SECTION CORNER AS NOTED HEREON
- RECOVERED 3.25" ALUMINUM CAP STAMPED "CDOT ROW PLS 28657"
- RECOVERED NO. 5 REBAR WITH 1-1/4" RED PLASTIC CAP STAMPED "ALPHA ENGRG LS 12330"
- RECOVERED 1.25" YELLOW PLASTIC CAP STAMPED "BAYER LS 6973" 0.1' BELOW GRADE.
- RECOVERED MAG NAIL WITH 1-1/2" ALUMINUM DISK STAMPED "BAYER PLS 6973" IN ASPHALT
- RECOVERED 18" LONG NO. 5 REBAR WITH 1-1/4" ORANGE PLASTIC CAP STAMPED "LJA SURVEYING PLS 38064" FLUSH WITH GROUND
- RECOVERED 18" LONG NO. 5 REBAR WITH 2" ALUMINUM CAP STAMPED "LJA SURVEYING PLS 38064 3 FT. W.C." FLUSH WITH GROUND
- (R1) RECORDED DIMENSION PER BISON HIGHWAY MINOR SUBDIVISION PLAT, REC. NO. 3820807
- (R2) RECORDED DIMENSION PER BARGAIN AND SALE DEED, REC. NO. 4668059
- (R3) RECORDED DIMENSION PER VACATION ORDINANCE NO. 15-06, REC. NO. 4106321

P.O.C. POINT OF COMMENCEMENT
P.O.B. POINT OF BEGINNING

LINE TYPE LEGEND

WHAT IS THE INTENT OF TRACT A?

FOR REVIEW ONLY

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Suite 575
Denver, CO 80237
303-390-4510
www.lja.com

Date

2/14/2024

Job No.

1058-0009

Sheet

2 of 2

I:\JOB FOLDERS\1058-0009\1058-0009 SURVEY\106 CAD\PRODUCTION FILES\COMMERCIAL PLAT\1058-0009 COMMERCIAL PLAT PRINTED ON: 2/15/2024 10:02 AM

HUDSON COMMERICAL
FINAL SITE PLAN



1765 W. 121st Avenue
Suite 300
Westminster, CO 80234
303-421-4224 • www.lja.com

Revision Type:		Revision Type:		Revision Type:		Revision Type:		Revision Type:	
No.	Rev. Date:	No.	Rev. Date:	No.	Rev. Date:	No.	Rev. Date:	No.	Rev. Date:
1		2		3		4		5	
6									
Designed: WWB		Job No.: 4569-0001		Sheet: 1 of 5		Date: February 27, 2024			
Prepared: WWB		Scale Horiz: N/A		Scale Vert: N/A					
Approved: KRL									

Proj. Name:	Hudson Commerical
Location:	Hudson, CO
Plan Set:	Final Site Plan
Sheet Name:	Cover Sheet



Know what's below.
Call before you dig.

No. 1

LEGEND	
	Property Line
	Right of Way Line
	Centerline
	Easement Line
	Lot Line
	Site Line
	Sight Distance Line
	100-YR W.S.E.
	Retaining Wall
	Prop. Asphalt Pavement
	Prop. Asphalt Mill & Overlay
	Prop. Concrete Pavement
	Prop. Concrete Walk
	Ex. Concrete Walk
	Ex. Asphalt Pavement
	Sight Distance Area
	Sanitary Sewer Line
	Water Line
	Storm Sewer Line
	Ex. Sanitary Line
	Ex. Water Line
	Ex. Storm Sewer Line
	Ex. Fiber Optic Line
	Sanitary Service Line
	Water Service Line
	Sanitary Sewer Manhole
	Fire Hydrant
	Thrust Block
	Water Valve
	Water Meter
	Storm Manhole
	Ex. Sanitary Sewer Manhole
	Ex. Water Valve
	Ex. Fire Hydrant
	Ex. Storm Manhole
	Ex. Street Light
	Prop. Street Light
	Stop Sign
	Proposed Major Contour
	Proposed Minor Contour
	Existing Major Contour
	Existing Minor Contour

GENERAL ABBREVIATIONS	
A.E.	ACCESS EASEMENT
BKL	BIKE LANE
BL CONST	BASELINE OF CONSTRUCTION
BS	BOTTOM ELEVATION OF RISE
CE	CURB EXTENSION
CL	CENTERLINE
CT	CURB TRANSITION
CWN	CROWN
DBO	DESIGN BY OTHERS
DC	MEDIAN CURB & GUTTER
D.E.	DRAINAGE EASEMENT
D.U.E.	DRAINAGE & UTILITY EASEMENT
EOP	EDGE OF PAVEMENT
FES	FLARED END SECTION
FGB	FINISHED GROUND AT BOTTOM WALL ELEVATION
FGT	FINISHED GROUND AT TOP WALL ELEVATION
FH	FIRE HYDRANT
FL	FLOWLINE
FV	FIELD VERIFY
G	FINISHED GROUND
G.E.	GAS EASEMENT
GV	GATE VALVE
HP	HIGH POINT
IL	IRRIGATION LINE
IV	IRRIGATION VALVE
LL	LOT LINE
LP	LOW POINT
MC	MOUNTABLE CURB & GUTTER
MH	MANHOLE
MSE	MECHANICALLY STABILIZED EARTH
P	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	POINT OF CURB RETURN
PGL	PROFILE GRADE LINE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
R.O.W.	RIGHT OF WAY
RN	RECORDING NUMBER
S.E.	SANITARY EASEMENT
SEC	SECTION LINE
SL	SANITARY LINE
SS	SANITARY SERVICE
SW	SIDEWALK
TB	THRUST BLOCK
TC	TOP OF CURB
TRE.	TRANSPORTATION EASEMENT
TS	TOP ELEVATION OF RISER
U.E.	UTILITY EASEMENT
U.G.E.	UTILITY & GAS EASEMENT
VC	VERTICAL CURB & GUTTER
W.E.	WATER EASEMENT
WL	WATER LINE
WS	WATER SERVICE
WSE	WATER SURFACE ELEVATION
WV	WATER VALVE



VICINITY MAP
SCALE: 1" = 500'

Sheet index has been provided.

Provide a sheet index.

Existing conditions plan has been provided.

Provide an existing conditions drawing.

Information has been provided.

Provide required site plan submittal information from Section 16-77-c of the Town of Hudson Municipal Code. Missing information (but not limited to) include:

- Gross and net acreage of proposed uses
- Number of lots and tracts
- Area of development
- Square footage of building
- Floor area ratio
- Maximum and proposed building height per per zone district
- Number of required and provided parking stalls
- Number of handicap stalls
- Number of compact spaces (if applicable)
- Number of required and provided bicycle spaces
- Current and proposed zoning
- Lot setbacks per zone district
- Proposed area landscaping/open space

Legal description has been provided.

Include legal description and PLSS information as shown on the plat.

Project Contact List has been provided.

Provide a project contact list with contact name, address, and contact information for the following (at minimum):

- Owner/Applicant
- Planner/Architect/Landscape Architect
- Civil Engineer
- Surveyor
- Anyone else from the project team the Owner or Planner decides is critical to the success of the project.

Town of Hudson Approval Blocks have been provided.

Provide Town of Hudson approval blocks.

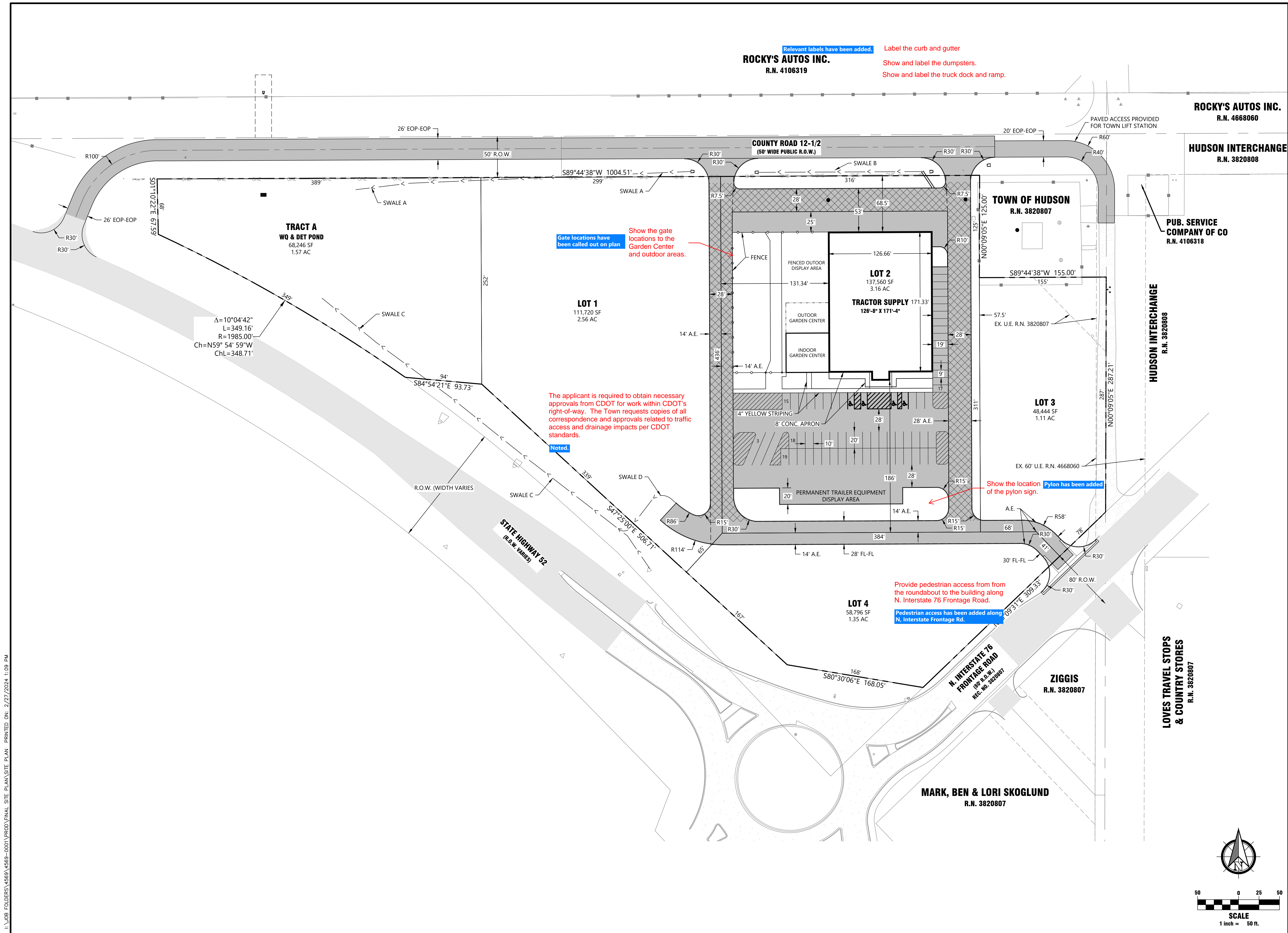
Benchmark has been provided.


Provide a benchmark and basis of bearing. We prefer it's the same benchmark and basis of bearing the surveyor used for the plat.

Landscaping plans have been provided.

Landscaping plans were not provided in the received materials.

I:\JOB FOLDERS\4569\0001\PROD\FINAL SITE PLAN\SITE PLAN PRINTED ON: 2/27/2024 1:09 PM





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No.	Rev.	Date	Revision Type
1			
2			
3			
4			
5			
6			

Designed: WWB
Prepared: WWB
Approved: KRL

Job No.: 4569-0001
Scale Horiz: 1" = 50'
Scale Vert: N/A


Sheet: 2 of 5
Date: February 27, 2024

Proj. Name: Hudson Commerical

Location: Hudson, CO

Plan Set: Final Site Plan

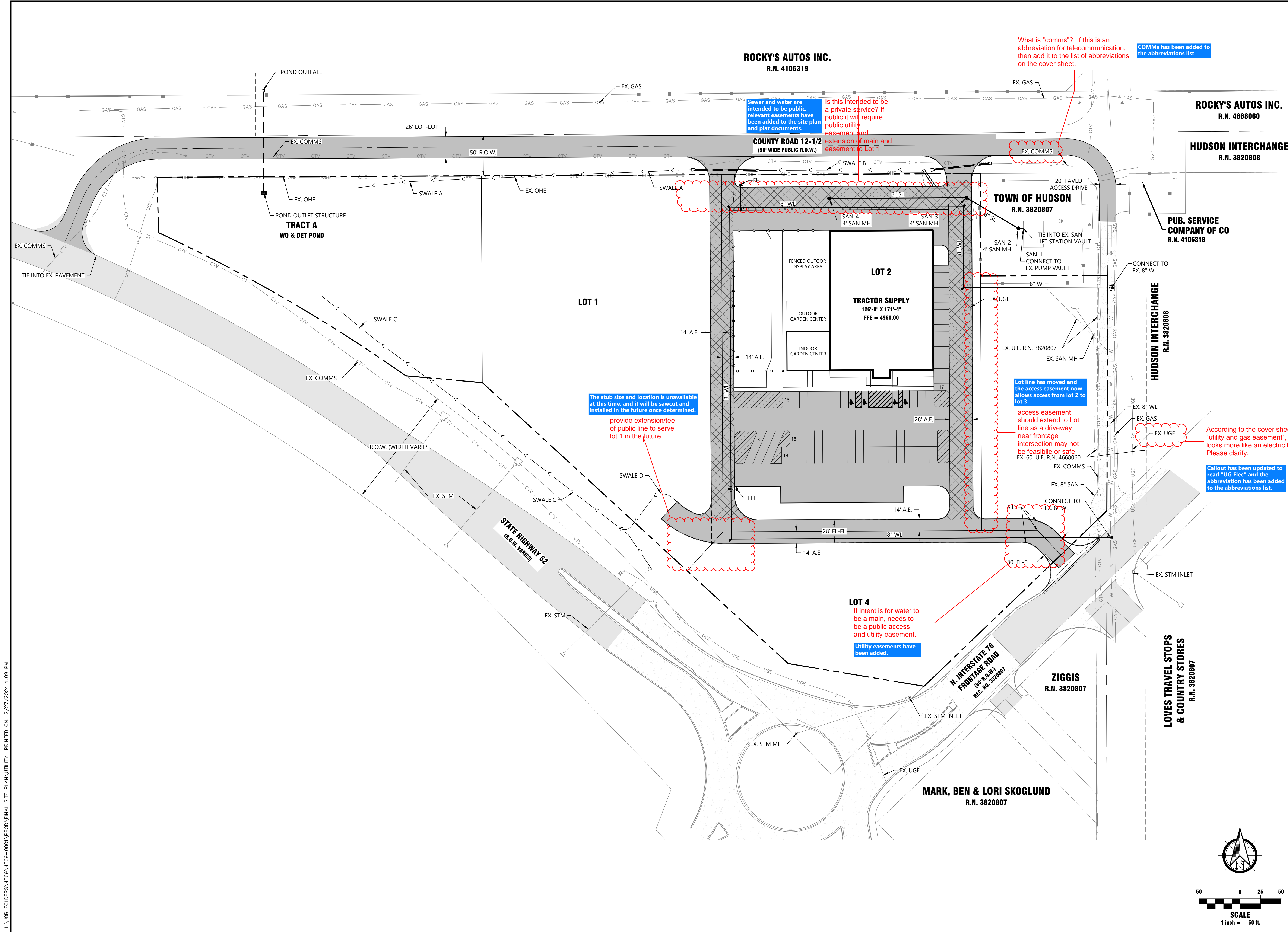
Sheet Name: Site Plan




Know what's below.
Call before you dig.

No. 2

I:\JOB FOLDERS\4569-0001\PROD\FINAL SITE PLAN\UTILITY PRINTED ON: 2/27/2024 1:09 PM





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No.	Rev.	Date:	Revision Type:	Designated:	Job No.:	Scale Horiz:	Scale Vert:	Sheet:	Date:
1				WWB	4569-0001	1" = 50'	N/A	4 of 5	February 27, 2024
2				WWB					
3				WWB					
4				WWB					
5				WWB					
6				WWB					

Proj. Name: Hudson Commerial

Location: Hudson, CO

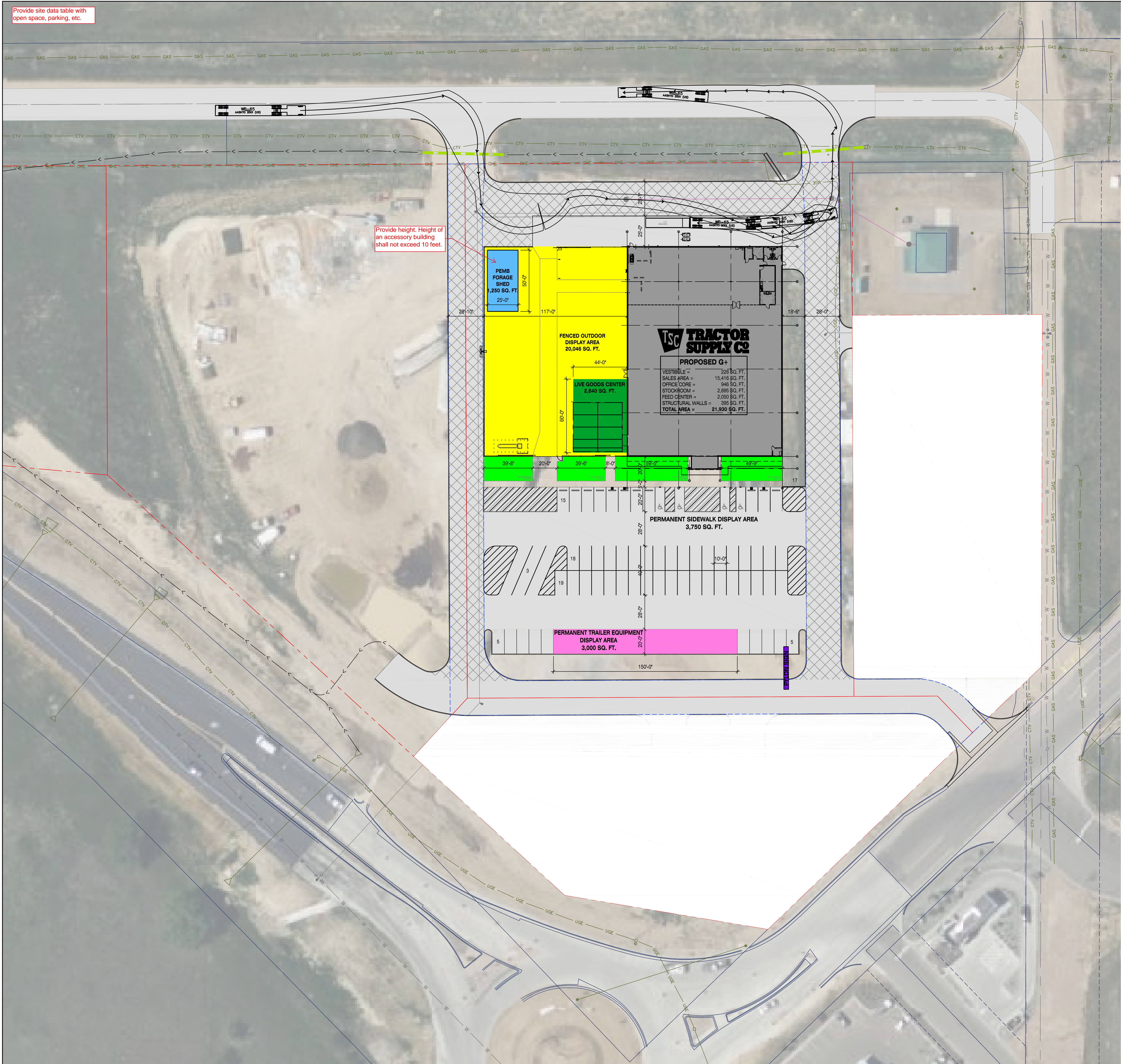
Plan Set: Final Site Plan

Sheet Name: Overall Utility Plan



Know what's below.
Call before you dig.

No. 4



Provide site data table with open space, parking, etc.

Provide height. Height of an accessory building shall not exceed 10 feet.

PEMB FORAGE SHED
1,250 SQ. FT.
25'-0"

FENCED OUTDOOR
DISPLAY AREA
20,046 SQ. FT.

LIVE GOODS CENTER
2,640 SQ. FT.

TSC TRACTOR SUPPLY CO
PROPOSED G+
VESTIBULE = 228 SQ. FT.
SALES AREA = 15,416 SQ. FT.
OFFICE CORE = 946 SQ. FT.
STOCKROOM = 2,896 SQ. FT.
FEED CENTER = 2,050 SQ. FT.
STRUCTURAL WALLS = 396 SQ. FT.
TOTAL AREA = 21,930 SQ. FT.

PERMANENT SIDEWALK DISPLAY AREA
3,750 SQ. FT.

PERMANENT TRAILER EQUIPMENT
DISPLAY AREA
3,000 SQ. FT.

PYLON SIGN

FORAGE SHED

LIVE GOODS CENTER

FENCED OUTDOOR DISPLAY AREA

PERMANENT TRAILER AND EQUIPMENT DISPLAY AREA

PERMANENT SIDEWALK DISPLAY AREA
W/ 5' CLEAR WALKWAY

PYLON SIGN

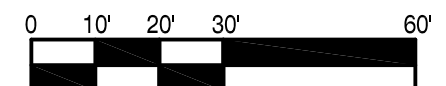
PROPERTY LINE

SITE PLAN

SCALE: 1" = 30'



HUDSON, COLORADO



**OXFORD
ARCHITECTURE**

2934 Sidco Drive
Suite 120
Nashville, TN 37204

Architecture
Planning
Interior Architecture



TRACTOR SUPPLY COMPANY

HUDSON,
COLORADO

This drawing and the design shown is the property of the architect. The reproduction, copying or use of this drawing without their written consent is prohibited and any infringement will be subject to legal action.

Job Number: 2387

Date: 11.08.2023

Revisions:

Revisions:

Revisions:

SITE PLAN

Sheet Number: AS1.0

I:\JOB FOLDERS\4569-0001\PROD\FINAL SITE PLAN COVER PRINTED ON: 2/27/2024 1:09 PM

HUDSON COMMERICAL

FINAL SITE PLAN

LEGEND	
	Property Line
	Right of Way Line
	Centerline
	Easement Line
	Lot Line
	Site Line
	Sight Distance Line
	100-YR W.S.E.
	Retaining Wall
	Prop. Asphalt Pavement
	Prop. Asphalt Mill & Overlay
	Prop. Concrete Pavement
	Prop. Concrete Walk
	Ex. Concrete Walk
	Ex. Asphalt Pavement
	Sight Distance Area
	Sanitary Sewer Line
	Water Line
	Storm Sewer Line
	Ex. Sanitary Line
	Ex. Water Line
	Ex. Storm Sewer Line
	Ex. Fiber Optic Line
	Sanitary Service Line
	Water Service Line
	Sanitary Sewer Manhole
	Fire Hydrant
	Thrust Block
	Water Valve
	Water Meter
	Storm Manhole
	Ex. Sanitary Sewer Manhole
	Ex. Water Valve
	Ex. Fire Hydrant
	Ex. Storm Manhole
	Ex. Street Light
	Prop. Street Light
	Stop Sign
	Proposed Major Contour
	Proposed Minor Contour
	Existing Major Contour
	Existing Minor Contour

GENERAL ABBREVIATIONS	
A.E.	ACCESS EASEMENT
BKL	BIKE LANE
BL CONST	BASELINE OF CONSTRUCTION
BS	BOTTOM ELEVATION OF RISE
CE	CURB EXTENSION
CL	CENTERLINE
CT	CURB TRANSITION
CWN	CROWN
DBO	DESIGN BY OTHERS
DC	MEDIAN CURB & GUTTER
D.E.	DRAINAGE EASEMENT
D.U.E.	DRAINAGE & UTILITY EASEMENT
EOP	EDGE OF PAVEMENT
FES	FLARED END SECTION
FGB	FINISHED GROUND AT BOTTOM WALL ELEVATION
FGT	FINISHED GROUND AT TOP WALL ELEVATION
FH	FIRE HYDRANT
FL	FLOWLINE
FV	FIELD VERIFY
G	FINISHED GROUND
G.E.	GAS EASEMENT
GV	GATE VALVE
HP	HIGH POINT
IL	IRRIGATION LINE
IV	IRRIGATION VALVE
LL	LOT LINE
LP	LOW POINT
MC	MOUNTABLE CURB & GUTTER
MH	MANHOLE
MSE	MECHANICALLY STABILIZED EARTH
P	PAVEMENT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PCR	POINT OF CURB RETURN
PGL	PROFILE GRADE LINE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
R.O.W.	RIGHT OF WAY
RN	RECORDING NUMBER
S.E.	SANITARY EASEMENT
SEC	SECTION LINE
SL	SANITARY LINE
SS	SANITARY SERVICE
SW	SIDEWALK
TB	THRUST BLOCK
TC	TOP OF CURB
TRE.	TRANSPORTATION EASEMENT
TS	TOP ELEVATION OF RISER
U.E.	UTILITY EASEMENT
U.G.E.	UTILITY & GAS EASEMENT
VC	VERTICAL CURB & GUTTER
W.E.	WATER EASEMENT
WL	WATER LINE
WS	WATER SERVICE
WSE	WATER SURFACE ELEVATION
WV	WATER VALVE



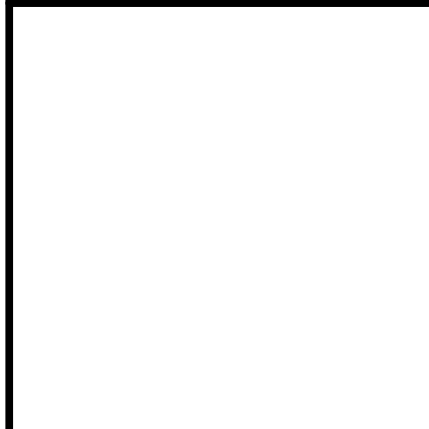
VICINITY MAP
SCALE: 1" = 500'



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Revision Type:		Revision Type:		Revision Type:		Revision Type:		Revision Type:	
No.	Rev. Date:	No.	Rev. Date:	No.	Rev. Date:	No.	Rev. Date:	No.	Rev. Date:
1		2		3		4		5	
6									
Designed: WWB		Job No.: 4569-0001		Sheet: 1 of 5		Date: February 27, 2024			
Prepared: WWB		Scale Horiz: N/A		Scale Vert: N/A					
Approved: KRL									

Proj. Name:	Hudson Commerical
Location:	Hudson, CO
Plan Set:	Final Site Plan
Sheet Name:	Cover Sheet



Know what's below.
Call before you dig.

Provide a lighting plan with specifications on exterior lighting fixtures.

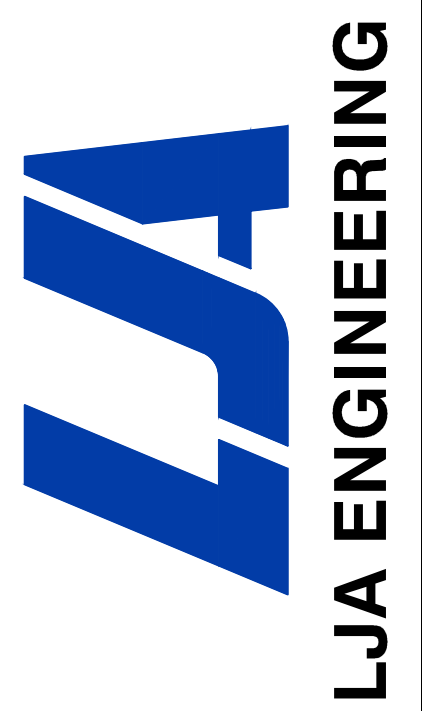
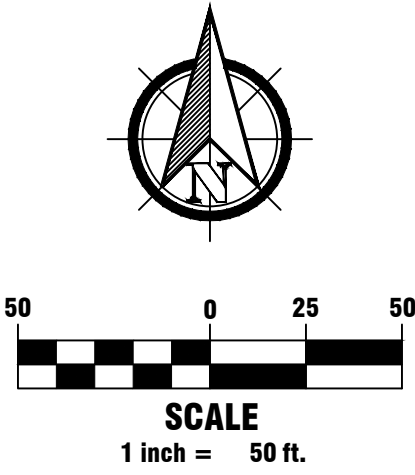
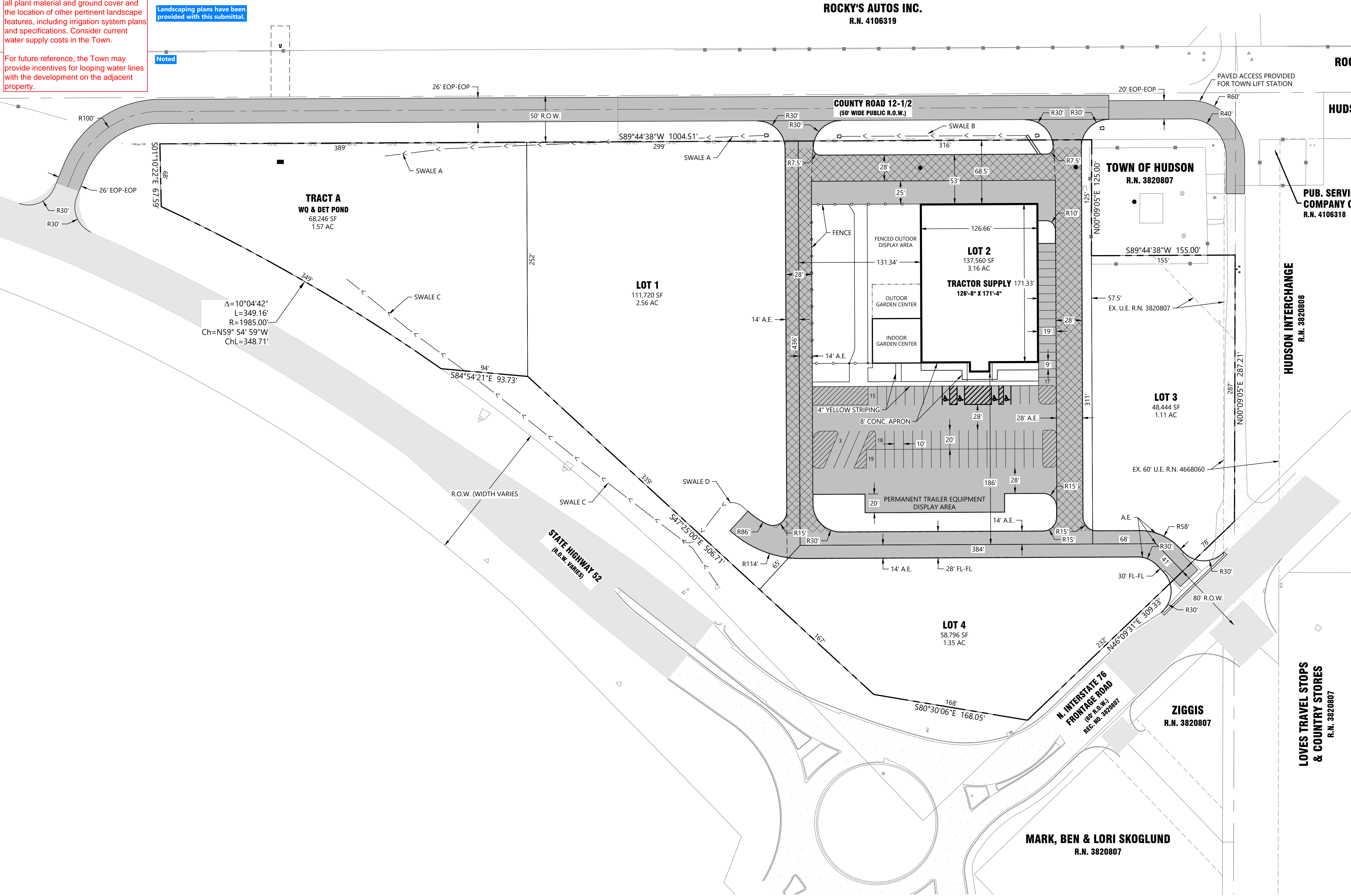
Provide the location and dimensions of landscaped areas, location and names of all plant material and ground cover and the location of other pertinent landscape features, including irrigation system plans and specifications. Consider current water supply costs in the Town.

For future reference, the Town may provide incentives for looping water lines with the development on the adjacent property.

Lighting and photometric plans have been provided.

Landscaping plans have been provided with this submittal.

Noted



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Revision Type:		Revision Type:	
No.	Rev. Date:	No.	Rev. Date:
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Designed: WWB		Job No.: 4569-0001	
Prepared: WWB		Scale Horiz: 1" = 50'	
Approved: KRL		Scale Vert: N/A	
		Sheet: 2 of 5	
		Date: February 27, 2024	

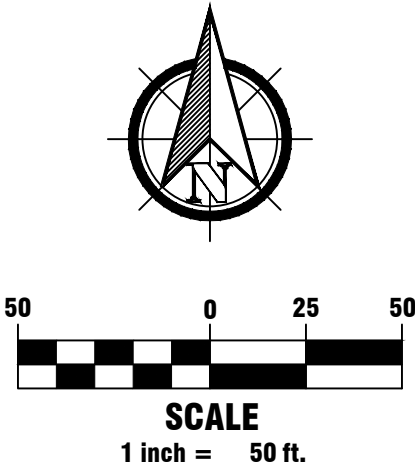
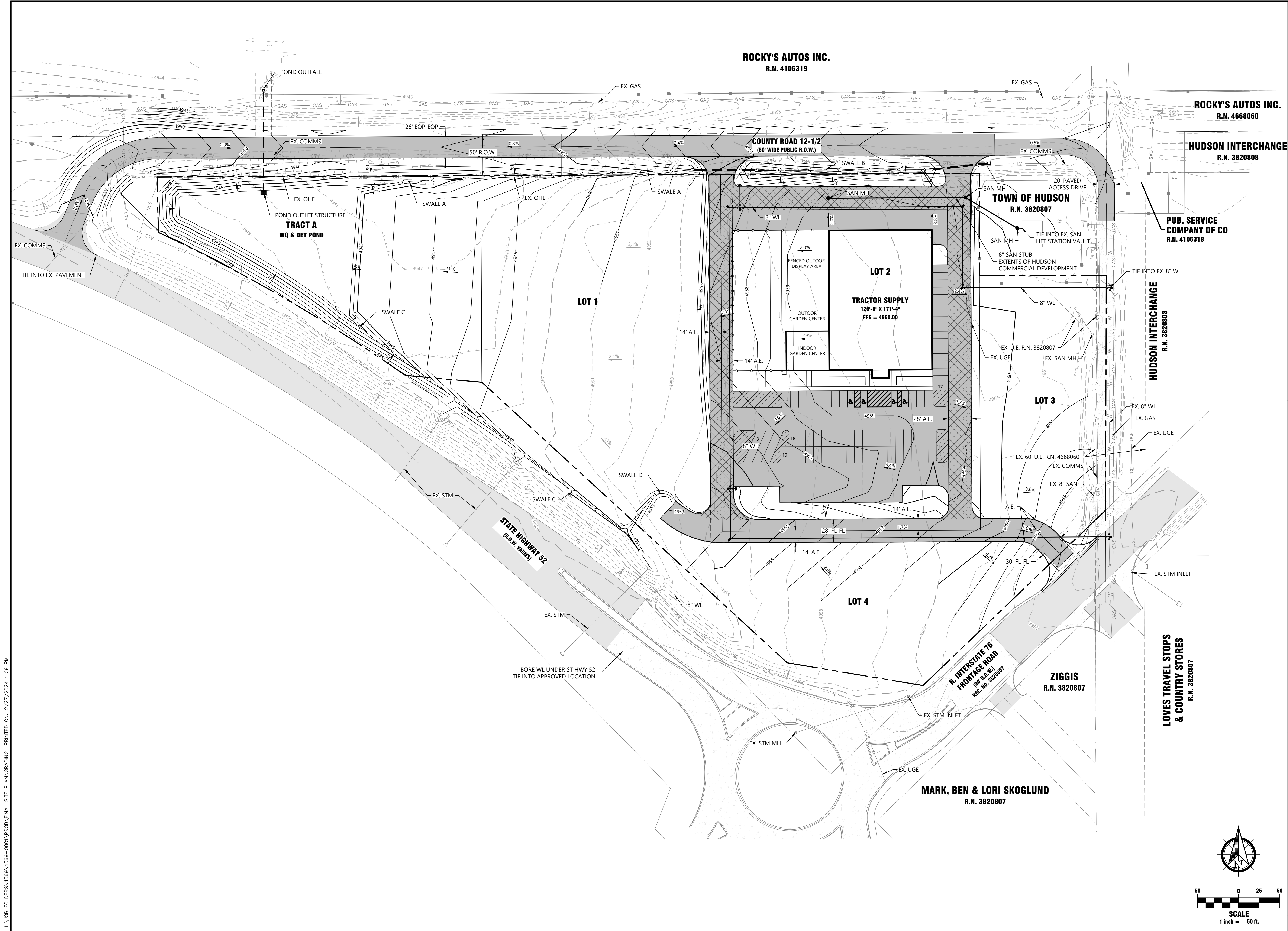
Hudson Commerical		Site Plan	
Hudson, CO			
Final Site Plan			
Proj. Name:			
Location:			
Plan Set:			
Sheet Name:			




Know what's below.
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No.	2
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No.	Rev.	Date	Revision Type
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3			
4			
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6			

Designed: WWB
Prepared: WWB
Approved: KRL

Job No.: 4569-0001
Scale Horiz: 1" = 50'
Scale Vert: N/A

Sheet: 3 of 5
Date: February 27, 2024

Hudson Commerial
Hudson, CO
Final Site Plan

Overall Grading Plan

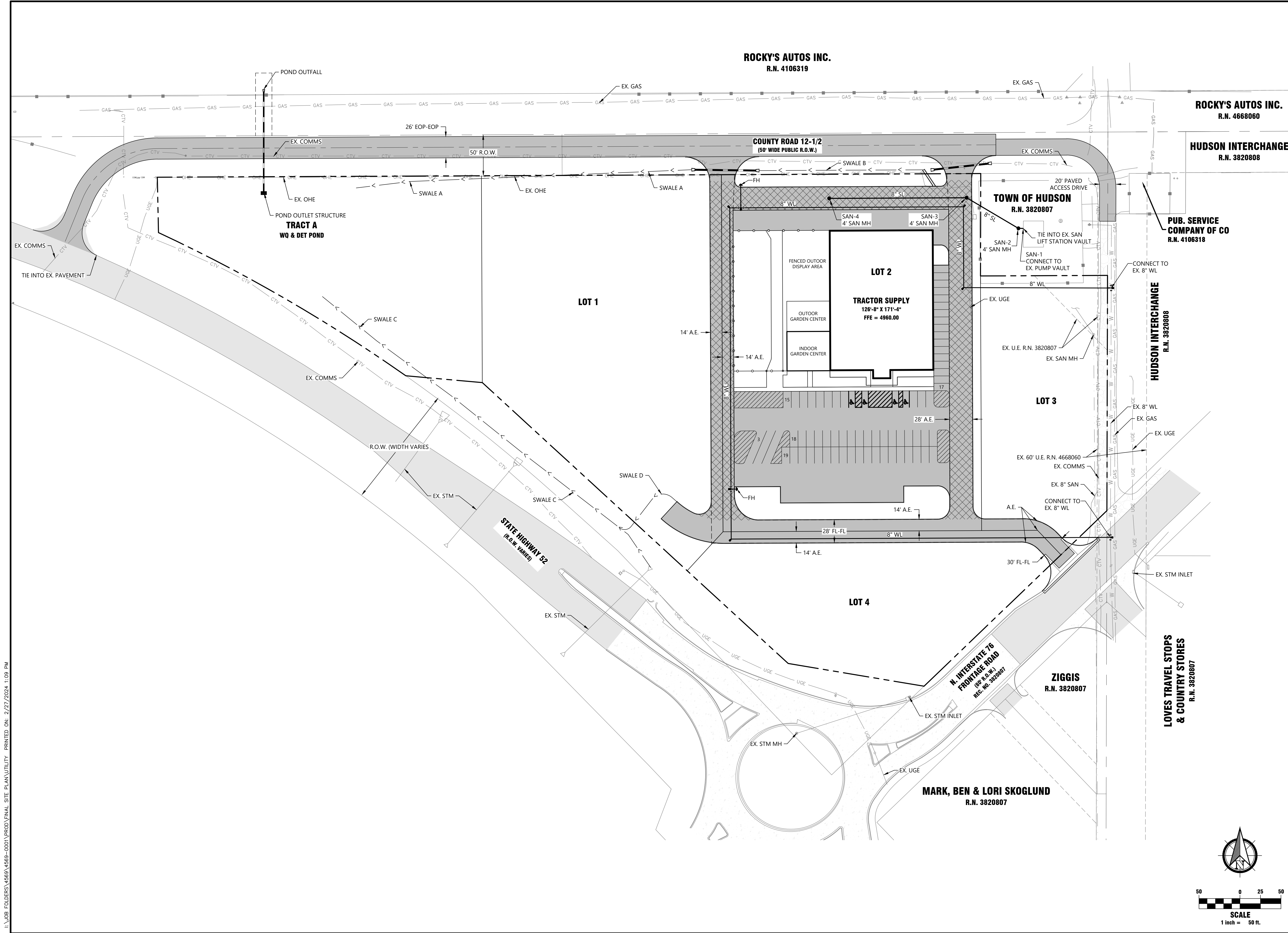
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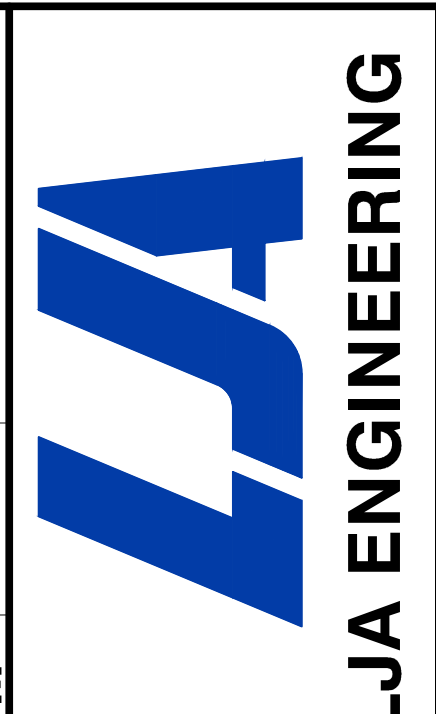
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3

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No.	Rev.	Date	Revision Type
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Designated:	Job No.:	Sheet:	Date:
WWB	4569-0001	4 of 5	February 27, 2024

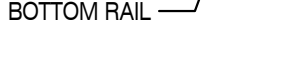
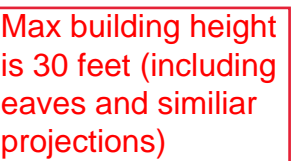
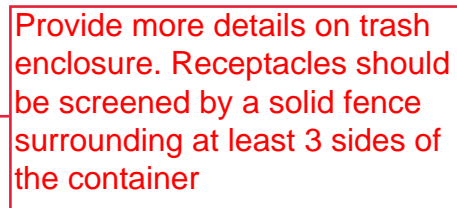
Prepared:	Scale Horiz:	Scale Vert:	Approved:
WWB	1" = 50'	N/A	KRL

Proj. Name:	Location:	Plan Set:	Sheet Name:
Hudson Commerical	Hudson, CO	Final Site Plan	Overall Utility Plan



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No.
4



HUDSON COMMERCIAL PLAT

LOCATED IN THE SOUTHWEST 1/4, SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN
TOWN OF HUDSON, COUNTY OF WELD, STATE OF COLORADO

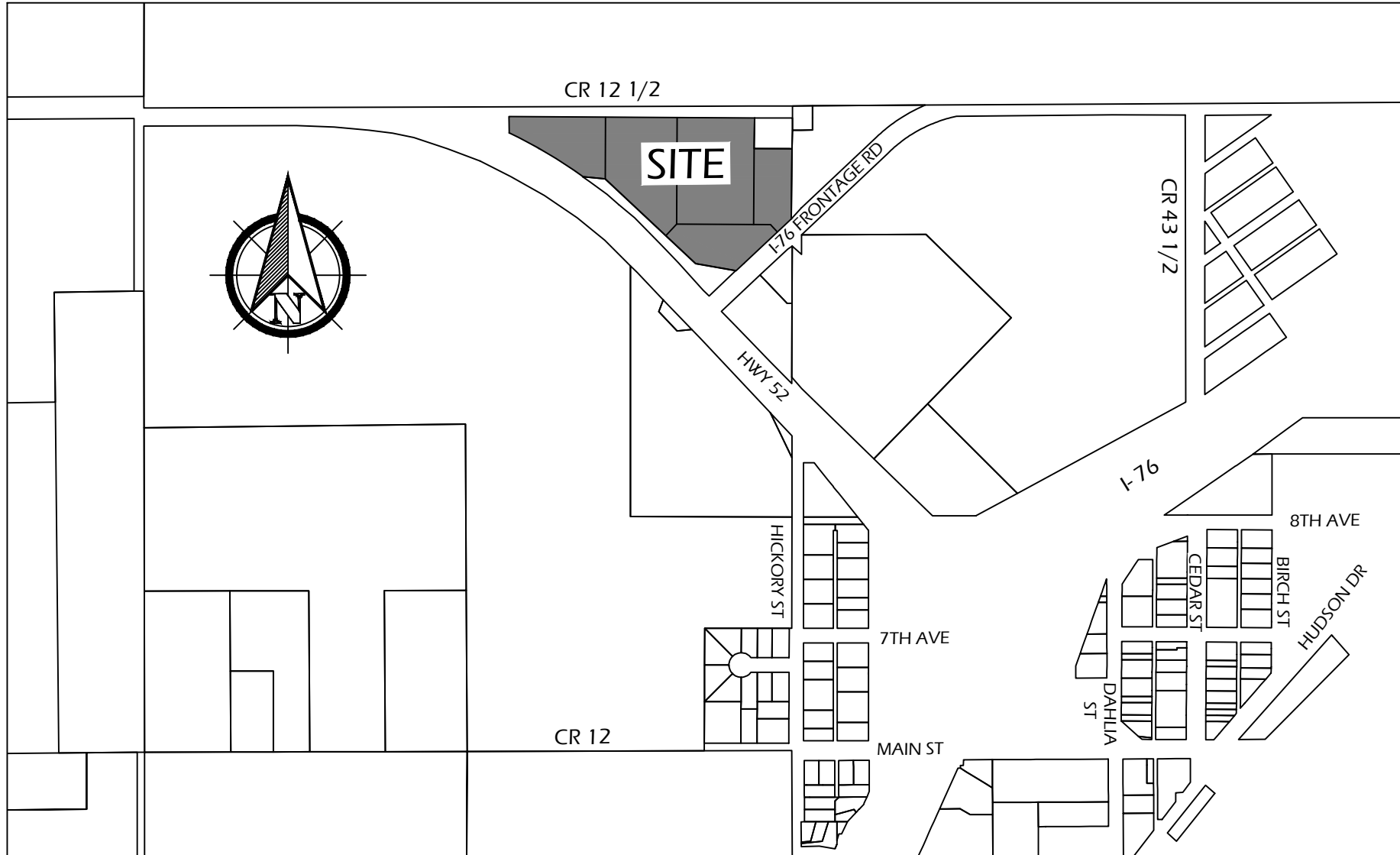
LEGAL DESCRIPTION

KNOW ALL MEN BY THESE PRESENTS THAT THE UNDERSIGNED, BEING THE OWNERS OF A PARCEL OF LAND, LOCATED IN THE SOUTHWEST 1/4, SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1, BISON HIGHWAY MINOR SUBDIVISION, ACCORDING TO THE PLAT RECORDED JANUARY 26, 2012 UNDER RECEPTION NO. 3820807 AND THE NOTICE AND AFFIDAVIT OF CORRECTION RECORDED FEBRUARY 22, 2013 UNDER RECEPTION NO. 3912110, TOGETHER WITH THAT PORTION OF VACATED HICKORY STREET, DESCRIBED AS VACATION VESTING PARCEL #8 IN ORDINANCE NO. 15-06, RECORDED JANUARY 5, 2021 UNDER RECEPTION NO. 4668060, EXCEPTING THEREFROM, THE PROPERTY CONVEYED IN BARGAIN AND SALE DEED RECORDED JANUARY 5, 2021 UNDER RECEPTION NO. 4668059, COUNTY OF WELD, STATE OF COLORADO.

HAVE LAID OUT, PLATTED AND SUBDIVIDED THE ABOVE-DESCRIBED LAND, UNDER THE NAME AND STYLE OF HUDSON COMMERCIAL PLAT, AND BY THESE PRESENTS DO DEDICATE TO THE TOWN OF HUDSON IN FEE SIMPLE THE STREETS, PUBLIC WAYS AND [DESCRIBE ANY OTHER LAND BEING DEDICATED TO THE TOWN BY THE PLAT] AS SHOWN ON THE PLAT, AND GRANT TO THE TOWN OF HUDSON SUCH EASEMENTS AS ARE CREATED HEREBY AND DEPICTED OR, BY NOTE, REFERENCED HEREON, ALONG WITH THE RIGHT TO INSTALL, MAINTAIN AND OPERATE MAINS, TRANSMISSION LINES, SERVICE LINES, AND APPURTENANCES, EITHER DIRECTLY OR THROUGH THE VARIOUS PUBLIC UTILITIES, AS MAY BE NECESSARY TO PROVIDE SUCH UTILITY SERVICES WITHIN THIS SUBDIVISION OR OTHER LAND WITHIN THE TOWN OF HUDSON, THROUGH, OVER, UNDER AND ACROSS STREETS, UTILITY AND OTHER EASEMENTS AND OTHER PUBLIC PLACES AS SHOWN HEREON.

HAS LAID OUT, SUBDIVIDED AND PLATTED THE SAME INTO STREETS, AVENUES, LOTS, BLOCKS AND TRACTS AS SHOWN HEREON UNDER THE NAME AND STYLE OF HUDSON COMMERCIAL PLAT, AND DO HEREBY GRANT AND CONVEY TO THE TOWN OF HUDSON FOR PUBLIC USE AND ROADWAY PURPOSES ALL STREETS AND AVENUES, WITH ALL APPURTENANCES AND WARRANTS TITLE TO THE SAME, IN FEE SIMPLE, AND DO FURTHER HEREBY GRANT AND CONVEY ALL DRAINAGE, SIGNAGE AND UTILITY EASEMENTS, WITH ALL APPURTENANCES AND WARRANTS TITLE TO THE SAME, OVER, UPON, UNDER AND ACROSS SAID LOTS AND BLOCKS AT THE LOCATIONS SHOWN ON THE ACCOMPANYING PLAT FOR RECONSTRUCTION, OPERATION AND MAINTENANCE OF DRAINAGE, SIGNAGE AND UTILITY FACILITIES.



VICINITY MAP

SCALE: 1" = 600'

APPROVAL BY THE TOWN

THIS PLAT WAS APPROVED BY THE TOWN COUNCIL OF HUDSON, COLORADO, ON THE _____ DAY OF _____, 20____, AD, FOR FILING, SUBJECT TO THE CONDITIONS SET FORTH BY THE BOARD WHICH ARE RECORDED IN BOOK _____ AT PAGE _____, WELD COUNTY, COLORADO.

MAYOR OF TOWN OF HUDSON

SURVEYOR'S CERTIFICATE

I, MARK A. HALL, PLS NO. 36073, REGISTERED LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY OF THE HUDSON COMMERCIAL PLAT WAS MADE UNDER MY SUPERVISION AND THE ACCOMPANYING PLAT ACCURATELY AND PROPERLY SHOWS SAID SUBDIVISION.

THE FIELD WORK WAS COMPLETED ON: SEPTEMBER 7, 2023

DATE OF PLAT OR MAP: FEBRUARY 14, 2024

MARK A. HALL, PLS NO. 36073
COLORADO LICENSED PROFESSIONAL LAND SURVEYOR
FOR AND ON BEHALF OF LJA SURVEYING

GENERAL NOTES

- 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.
- ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, C.R.S.
- THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY LJA SURVEYING TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS-OF-WAY, AND TITLE OF RECORD, LJA SURVEYING RELIED UPON THE TITLE COMMITMENT PREPARED BY LAND TITLE GUARANTEE COMPANY, ORDER NUMBER ABZ25207086-2 WITH A EFFECTIVE DATE OF AUGUST 10, 2023 AT 5:00 P.M.
- THE LINEAL UNIT USED IN THE PREPARATION OF THIS SURVEY IS THE U.S. SURVEY FOOT AS DEFINED BY THE UNITED STATES DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY.
- BASIS OF BEARINGS: THE NORTH LINE OF THE SOUTHWEST QUARTER OF SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN IS ASSUMED TO BEAR NORTH 89°44'38" EAST BASED ON NAD83 (2011) COLORADO STATE PLANE NORTH ZONE (501) COORDINATES, BEING MONUMENTED AT THE WEST QUARTER CORNER OF SAID SECTION BY A 2" ALUMINUM CAP 0.5' BELOW GRAVEL SURFACE, STAMPING ILLEGIBLE AND AT THE CENTER QUARTER CORNER BY A 2.5" ALUMINUM CAP 0.6' BELOW GRAVEL SURFACE, STAMPING ILLEGIBLE.
- FLOODPLAIN: THE SURVEYED PROPERTY IS LOCATED WITHIN ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS IDENTIFIED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) ON FLOOD INSURANCE RATE MAP (FIRM) - MAP NUMBERS 08123C2135E WITH A MAP EFFECTIVE DATE OF JANUARY 20, 2016. (TABLE A, ITEM NO. 3)

OWNER APPROVAL

ANDREWS FARM HOLDINGS, LLC

BY: _____

AS: _____

STATE OF COLORADO
COUNTY OF _____

THE FOREGOING INSTRUMENT WAS ACKNOWLEDGED BEFORE ME THIS _____ DAY OF _____, A.D. 20____, BY
_____ AS _____ OF THE TOWN OF HUDSON.

WITNESS MY HAND AND OFFICIAL SEAL,
MY COMMISSION EXPIRES: _____

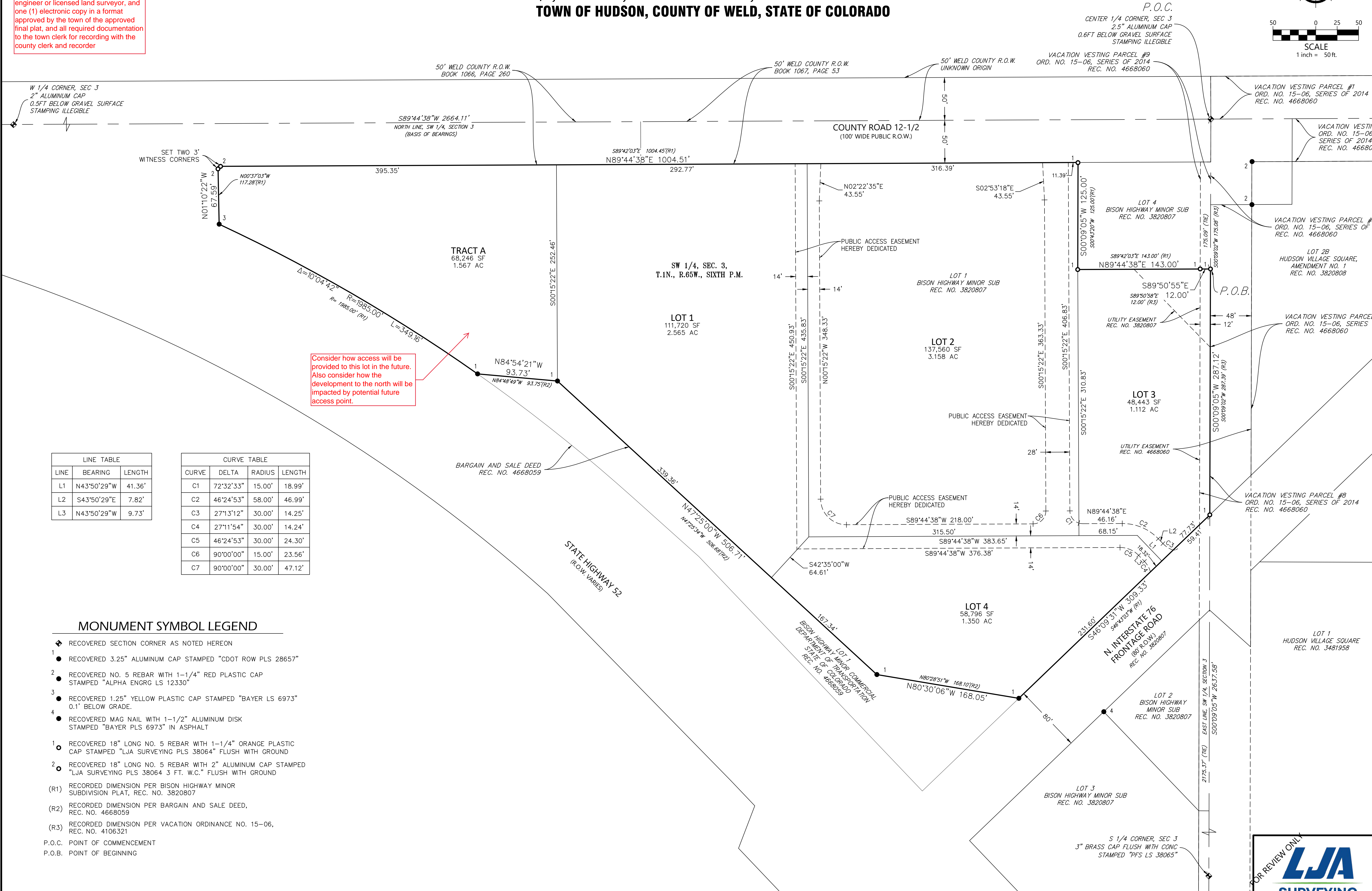
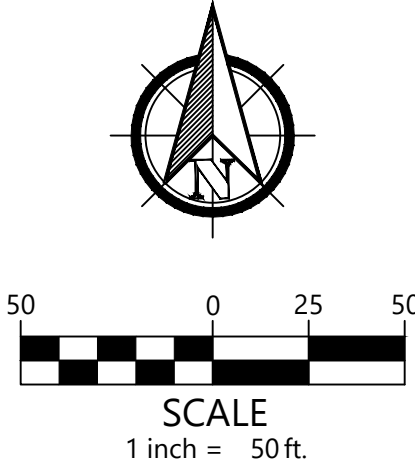
NOTARY PUBLIC

LJA
SURVEYING

7800 E. Union Avenue
Suite 575
Denver, CO 80237
303-390-4510
www.lja.com

FYI: Within fourteen (14) days of approval of the final plat by the town council, the applicant shall submit two (2) 24" x 36" Mylar originals, signed by the owner and by a licensed professional engineer or licensed land surveyor, and one (1) electronic copy in a format approved by the town of the approved final plat, and all required documentation to the town clerk for recording with the county clerk and recorder

HUDSON COMMERCIAL PLAT
LOCATED IN THE SOUTHWEST 1/4, SECTION 3, TOWNSHIP 1 NORTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN
TOWN OF HUDSON, COUNTY OF WELD, STATE OF COLORADO



LINE TABLE		
LINE	BEARING	LENGTH
L1	N43°50'29"W	41.36'
L2	S43°50'29"E	7.82'
L3	N43°50'29"W	9.73'

CURVE TABLE			
CURVE	DELTA	RADIUS	LENGTH
C1	72°32'33"	15.00'	18.99'
C2	46°24'53"	58.00'	46.99'
C3	27°13'12"	30.00'	14.25'
C4	27°11'54"	30.00'	14.24'
C5	46°24'53"	30.00'	24.30'
C6	90°00'00"	15.00'	23.56'
C7	90°00'00"	30.00'	47.12'

MONUMENT SYMBOL LEGEND

- ◆ RECOVERED SECTION CORNER AS NOTED HEREON
- 1 ● RECOVERED 3.25" ALUMINUM CAP STAMPED "CDOT ROW PLS 28657"
- 2 ● RECOVERED NO. 5 REBAR WITH 1-1/4" RED PLASTIC CAP STAMPED "ALPHA ENGRG LS 12330"
- 3 ● RECOVERED 1.25" YELLOW PLASTIC CAP STAMPED "BAYER LS 6973" 0.1" BELOW GRADE.
- 4 ● RECOVERED MAG NAIL WITH 1-1/2" ALUMINUM DISK STAMPED "BAYER PLS 6973" IN ASPHALT
- 1 ○ RECOVERED 18" LONG NO. 5 REBAR WITH 1-1/4" ORANGE PLASTIC CAP STAMPED "LUA SURVEYING PLS 38064" FLUSH WITH GROUND
- 2 ○ RECOVERED 18" LONG NO. 5 REBAR WITH 2" ALUMINUM CAP STAMPED "LUA SURVEYING PLS 38064 3 FT. W.C." FLUSH WITH GROUND
- (R1) RECORDED DIMENSION PER BISON HIGHWAY MINOR SUBDIVISION PLAT, REC. NO. 3820807
- (R2) RECORDED DIMENSION PER BARGAIN AND SALE DEED, REC. NO. 4668059
- (R3) RECORDED DIMENSION PER VACATION ORDINANCE NO. 15-06, REC. NO. 4106321
- O.C. POINT OF COMMENCEMENT
- O.B. POINT OF BEGINNING

<div style="text-align: center;">  <p>LJA SURVEYING</p> </div>			7800 E Union Avenue Suite 575 Denver, CO 80237 303-390-8510 www.lja.com		
Date:	2/14/2024	Job No:	1058-0009	Sheet:	2 of 2



March 27, 2024

Town of Hudson Planning Department
50 Beech Street
P.O. Box 351
Hudson, CO 80642

Re: Case 24-04 & 24-05 Hudson Commercial Minor Subdivision & Site Plan

Dear Alyssa:

On behalf of United Power, Inc., thank you for inviting us to review and comment on the Minor Subdivision and Site Plan for Hudson Commercial. After review of the information, we have the following comments:

- United Power has electrical distribution in the area that may or may not need to be upgraded depending on the requirements of the site, in order to provide safe, reliable power to the area.
- **United Power's Standard Utility Easement Requirements:** United Power requires 8' to 10' continuous utility easement around the perimeter of the Lot/Parcel and 8' along the sides of the lots abutting a road. If streetlight locations are known, we need a 5' wide utility easement along one side of the lot closest to the streetlight location. We request blanket utility easement use within tracts be dedicated as this gives us the opportunity to set above ground equipment if needed and coordinated with the developer. **Please call out all dry utility easements in all areas of the plat clearly.**
- Easements utilized by United Power cannot be encumbered by any hard surfaces such as streets or sidewalks. Although the roadways/tracts on the plat are dedicated to utilities, we have above ground equipment that cannot be placed within these areas. In addition, sidewalks take away from the use of the easement & reduces the area, limiting where our equipment can be placed.

Please have the property owner/developer/contractor submit an application for new electric service, any modification to existing facilities including relocation and/or removal along with CAD data via <https://www.unitedpower.com/construction>. United Power would like to work early with the applicant in the construction process to get an electric design prepared so that we can request any additional easements. When possible, we prefer these easements are dedicated on the plat rather than obtaining by separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wing walls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions can be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We would like to remind the developer to call the Utility Notification Center by dialing 811 to have all utilities located prior to construction. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,

A handwritten signature in black ink that reads "Emily Fore". The signature is written in a cursive, flowing style.

Emily Fore
United Power, Inc.
Right of Way Agent
M: 970-515-0128 | Email: platreferral@unitedpower.com

Drainage Report

for

Hudson Commercial - Tractor Supply

Town of Hudson

Weld County, Colorado

Prepared for:

Atwater Group
Kunal Relwani
National Retail Development, LLC
162 West Grand, Suite 300
Chicago, Illinois 60654



February 28, 2024

PRELIMINARY DRAINAGE REPORT

HUDSON COMMERCIAL - TRACTOR SUPPLY

Hudson Commercial - Tractor Supply

Project No.: CO4569-0001
Document Title: Preliminary Drainage Report
Document No.: 1
Revision:
Date: 02/28/2024
Client name:
Client No: 4569-0001
Project manager: Kevin Lovelace
Author: Doron Levary, EI
QAQC manager: Alaina Marler
File name: CO4569-0001 Preliminary Drainage Report.docx

LJA Engineering
1765 West 121st Ave, Suite 300
Westminster, CO 80234
303.421.4224
www.lja.com

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Document history and status

Revision	Date	Description	By	Review	Approved

PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY

Engineer's Certification Statement

I hereby attest that this report for the Preliminary drainage design of Hudson Commercial – Tractor Supply was prepared by me, or under my direct supervision, in accordance with the provisions of the Town of Hudson Storm Drainage Design Criteria for the responsible parties thereof. I understand that the Town of Hudson does not and shall not assume liability for drainage facilities designed by others.

Kevin R. Lovelace, PE
Registered Professional Engineer
State of Colorado No. 54415

Date

PRELIMINARY DRAINAGE REPORT

HUDSON COMMERCIAL - TRACTOR SUPPLY

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Appendix

A1 – Runoff Calculations
B1 – Extended Detention Pond Calculations
C1 – Soils Map
C2 – FEMA FIRM Panel
D1 – Offsite Drainage Map Exhibit
D2 – Historic Drainage Map
D3 – Preliminary Drainage Map
D4 – Town of Hudson Submittal Checklist

PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY

1. General Location and Description

1.1 Location

Hudson Commercial Tractor Supply is a proposed commercial building and retail sales location in the Town of Hudson, Colorado. The project site is in the northeast quarter of Section 03, Township 1 North, Range 65 West of the 6th Principal Meridian, Town of Hudson, Weld County Colorado.



Figure 1 - Vicinity Map

The site is located approximately 0.4 miles northwest of Interstate 76. It is directly adjacent to and is located immediately north of the intersection of Colorado State Highway 50 and North Interstate 76 Frontage Road. It is directly adjacent to and south of Weld County Road 12 ½ (also known as State Highway 52). Please see the Vicinity Map below for project location reference.

The Site is northwest of both the Bison Highway Minor Subdivision L2, L3 and Hudson Village Square Minor Subdivision B1 L1 subdivision developments. The site is immediately west of the Hudson Village Square AM No. 1 Subdivision, which is currently undeveloped. The proposed Tractor Supply Hudson Commercial development is immediately south of undeveloped Parcel 147303000035. Undeveloped Parcel 147303000026 owned by Rocky's Auto and the Warner Joan L Trust lies to the southwest across Highway 52. Ziggi's Coffee lies directly southeast of the project.

PRELIMINARY DRAINAGE REPORT

HUDSON COMMERCIAL - TRACTOR SUPPLY

1.2 Description of Property

The proposed project site consists of approximately 14.41 acres. Previously undeveloped, the Site contains two 36-in. corrugated metal pipes, one 36-in. RCP at the southwest perimeter, and one 24-in. RCP at the southern tip.

There are no major drainageways in or adjacent to the property. An irrigation ditch, Beebe Seep Canal, lies approximately 2,500 feet to the west, while the irrigation ditch that flows from Ireland Reservoir Number 6 is 2,500 feet directly east of the project site.

The project proposes an approximately 21,000 sf retail space with parking and a garden center. The property generally drains to the north/northwest towards a proposed extended detention pond in the west half of the property.

The existing topography of the proposed site consists of slopes around 1%-20% and slightly steeper slopes at the perimeter along roadway berms. The eastern half of the site is sloped primarily towards the west, and the western half slopes towards the north and northwest. Runoff flows along the sloped areas from east to west and outlets at the northwest corner of the site.

Per the NRCS Soils Survey Map provided in Appendix C, the site consists primarily of Type B Hydrologic Soil Group. The remaining approximately 30% of the site consisting of Type D Hydrologic Soils. A composite soils analysis has been utilized to account for both soil types found on the site.

2. Drainage Basins & Sub-Basins

2.1 Major Basin Description

Basin A comprises the entire property and is serviced by the proposed Pond A. This Basin is located fully within the historic drainage basin and the site shall be graded to drain runoff in the same direction before being conveyed to proposed Pond A. This Basin will also receive offsite flows conveyed via culverts from the areas directly south of the project site, as described above.

Basin A is approximately 14.41 acres that will consist of commercial buildings, landscaping, and the proposed extended detention basin.

The project site is not within a FEMA regulated floodplain. It is located within unshaded Zone X as shown on FEMA FIRM panel No. 08123C2135E, effective 1/20/2016. A FIRMette of the project showing that the land is located outside of the flood hazard zone is included in Appendix C.

The existing topography of the site consists of slopes between 1%-20%, with the eastern portion of the site sloped towards the west and northwest. The surrounding roadways slope towards the middle of the property and to the west.

Off-site drainage south of State Highway 52 is tributary to the proposed site and enters through two existing 36-in. CMP and one 36-in. RCP. The relatively flat areas south of the site generally slope towards the project area at about 1% until they reach the road's berm. There are three existing culverts on the southwest side of the project area that direct flows towards the location of the proposed pond from offsite areas. Once the site is fully developed, the building and surrounding paved areas will convey flows to the west and into the water quality and detention Pond A.

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3. Drainage Criteria

3.1 Development Criteria Reference and Constraints

To satisfy Section 4.4.2 of the Town of Hudson Storm Drainage Criteria Manual, the proposed development was designed with drainage facilities to pass a 100-year storm event undeveloped from the offsite area.

Existing drainage reports for the area were not available at the time this preliminary report was prepared. GIS was used to size the large offsite basin E-1, and Google Earth was used to estimate the area's impervious properties. Basin E-1 is composed of farmland, residential development, and paved streets. The impervious value was estimated to be approximately 20%.

3.2 Hydrological Criteria

Per the Town of Hudson Storm Drainage Criteria Manual Section 3.4, one-hour design point rainfall values obtained from the NOAA Atlas for Colorado are required for the development of the Intensity-Duration-Frequency curves. The one-hour point rainfall values applicable for the Town of Hudson used in the project are the 5-year minor storm and 100-year major storm event.

5-year $P_1 = 1.11$ in

100-year $P_1 = 2.63$ in

The rational method was utilized to calculate peak runoff values for drainage basins. Impervious coefficients were determined for each basin based on land use. Time of concentrations were calculated by combining the initial time or overland flow time with the travel time in the swale, gutter, and storm sewer. The one-hour rainfall and time of concentrations were used to calculate rainfall intensities. Basin peak runoff calculations can be found in Appendix A of this report.

Detention will be provided by a proposed extended detention basin (EDB) in the western half of the property. The required volume for the pond was calculated using the MHFD-Detention Version 4.06 (July 2022). MHFD-Detention uses Colorado Urban Hydrograph Procedure CUHP for pond sizing. The provided calculations are preliminary and the actual pond detention volumes shall be calculated in the Final Drainage report for this project.

3.3 Hydraulic Criteria

The design seeks to release flows no greater than the 5-year historical peak runoff during the 100-year storm, per Section 11.4.2 of Volume III of the Hudson Storm Drainage Standards and Specifications. The design will adhere to Town of Hudson drainage design specifications, and no criteria outside of the Town and Mile High Flood District is anticipated to influence the project. No other drainage facility design criteria are proposed. Pond release rates were also calculated using MHFD-Detention Version 4.06. Relevant excerpts from this Plan, used for the criteria used in the design of this project, are included in Appendix C.

The outlet structure and extended detention pond are designed to release flows that do not exceed the 5-year historic peak runoff during the 100-year storm event. Pond A's 5-year CUHP pre-development peak inflow volume is equal to 0.7 cfs, and 100-year peak outflow is equal to 0.6 cfs.

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To satisfy the requirements of Hudson Storm Drainage Criteria Manual Section 6.3, storm drains for the project are designed to convey initial storm peaks without surcharging the pipe. Hydraulic grade line is calculated by accounting for storm sewer pipe friction losses and pipe form losses. Further, the final energy grade line is at or below the proposed ground surface.

3.4 Waiver/Variance from Criteria

A variance is requested to meet the requirements of Section 11.3.3 of the Hudson storm drainage criteria to allow a total pond outflow greater than the 5-year onsite runoff. This is due to a large tributary offsite area OS-1 that will be routed through the pond without detention.

3.5 Stormwater Quality Considerations

The following principles and objectives for stormwater quality shall be used during design and development.

1. Minimize, to the maximum extent practicable, impacts of stormwater on receiving waters and accomplish an effective level of urban pollutant removal with BMPs.
2. Consider the site's physical constraints by selecting and designing BMPs to work within the conditions of the project site.
3. Evaluate the economic impacts of the selected BMPs for installation costs and for future operation and/or maintenance costs.
4. Recognize and incorporate multi-use benefits within stormwater quality features whenever possible. This is accomplished by designing land-intensive BMPs such as the extended detention basin to incorporate recreational and aesthetic features such as open space and landscape values whenever possible.

Further, it is noted the following BMPs or their equivalent are required, as presented in the USDCM Vol. 3 "Best Management Practices:"

- Minimize directly connected impervious areas
- Irrigated grass buffer strips
- Grass-lined swales
- Extended detention basins

**PRELIMINARY DRAINAGE REPORT
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4. Drainage Facility Design

4.1 General Concept

4.1.1 Facility design concept and typical drainage patterns

Existing topography of the site is primarily sloped to the west and northwest. The site is generally located within berms and downslope of the surrounding roadways. The area south of County Rd 12 ½ gently slopes to the north, towards the site.

Historic basins have been created to compare the existing topography to that of the fully developed parcel and proposed location of proposed extended detention basin Pond A. The historic basins were named E-1, E-2 and E-3 to represent the location of the areas draining in the direction of the proposed pond. The historic drainage map depicting the location of said basins is included in Appendix B of this report.

The proposed drainage concept for Hudson Commercial will approximately follow this basin division by maintaining historic drainage patterns as flows travel from east to west, finally exiting the site at the northwest edge.

Basin A, approximately 9.71 acres, comprises the entire property and is serviced by the proposed Pond A. This Basin is located fully within the historic drainage basin and the site shall be graded to drain runoff in the same direction before being treated and detained by proposed Pond A. This Basin will also receive offsite flows conveyed via culverts from the areas directly south of the project site, as described above.

4.1.2 Basin Descriptions

The total area of the basin draining to extended detention basin Pond A in the proposed condition is approximately 84.4 acres. Water quality and detention for the Site developed conditions is provided by Pond A. MHFD detention spreadsheets were used to size the extended detention basin. A storm system is proposed to collect the minor storm flows accumulating within Basin A and convey flows from the paved commercial area into Pond A. Flows will also be collected from portions of State Highway 52 and Interstate 76 to the south, County Road 43 ½ from the west, and County Rd 12 ½ from the north.

Basin A-1

Basin A-1 is a 1.57-acre portion of the Site composed of open-space, native grasses, and partially bare ground with slope of about 0.7%. It is situated in the northwest corner where proposed Pond A will be constructed. The major storm flows shall be directed to Pond A by means of the proposed storm system in combination with overland flows through the on-site developed area. Detained runoff will exit the pond at Design Point 1 (DP-1).

Basin A-2

The Basin A-2 area is 2.10 acres and divides the commercial building and paved area in the north half of the project site. It will contain a paved roadway, parking and the 21,000 square-foot Tractor Supply building. Flows are directed to Pond A via a concrete rundown that outlets into a proposed swale, and finally reaching a 24-in. RCP culvert at Design Point 2 (DP-2).

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Basin A-3

Basin A-3's total area is equal to 6.05 acres. It is composed of the southern half of the commercial building and paved areas, as well as open space the drains to a graded swale that begins at Design Point 3 (DP-3).

Basin OS-1

Offsite Basin OS-1 is a nearly 71-acre area of land directly south and southwest of the project site, on the south side of State Highway 52. OS-1 was analyzed using Weld County GIS and topographic data. It contains roughly 15 acres of residential development, 3 acres of paved roadways, and almost 53 acres of undeveloped open space. Flows enter the Site by means of overland flows and the existing CMP and RCP culverts under Highway 52 before reaching Pond A at DP-1. These flows will be routed over the Pond A spillway undetained. See Appendix B for spillway calculations.

Basin OS-2

Offsite Basin OS-2 is a 0.37-acre segment of the northern portion of County Road 12-½. The entire basin is a paved area in the northern-most edge of the project site.

Basin OS-3

Basin OS-3 runs along the west and southwest perimeter of the project site, containing an area of 2.31 acres composed of native grasses, nearly bare ground, and paved areas. Grades in sloped areas are roughly 25% towards the site interior, and there is a high-point approximately midway along the road's alignment. Overland flows along the paved and open space are directed to Pond A at Design Point 4 (DP-4).

Basin OS-4

Basin OS-4 is a 0.67-acre portion of paved street, curb, and gutter at the southern tip of the project area. Approximately 1% slopes convey flows over the northern half of the paved roadway towards the center of the property, eventually flowing towards Design Point 4 (DP-4).

Basin OS-5

Offsite Basin OS-5 is a small, 0.28-acre basin dividing the southern portion of County Road 12-½ at the road crown and the northern half of a proposed swale. The basin is mostly paved, with open space composing the graded swale area between two 24-in. RCP culverts. The culverts in this basin at the northern edge of the site direct flows to Pond A from where the flows converge at Design Point 5 (DP-5).

Basin OS-6

Basin OS-6 is located at the northeast corner of the project site and includes an area of 0.55 acres. The basin divides the paved roadway at the crown and conveys flows towards a 24-in. RCP culvert at Design Point 8 (DP-8), which outlets to a second culvert and ultimately Pond A.

Basin OS-7

Basin OS-7 lies just outside the eastern edge of the property and is primarily open space, with a small portion of paved roadway. The 0.13-acre area gently slopes towards the site and conveys flows overland into Basin A-3, which directs flows to Design Point 6 (DP-6) before being conveyed through Basin A-3 and eventually reaching Pond A.

Basin OS-8

Basin OS-8 is a narrow basin dividing N. Interstate 76 Frontage Road at the crown in the southeast edge of the site's perimeter. The total area is 0.30 acres and will be primarily paved roadway surface. Flows travel towards basin A-3 and DP-7, ultimately reaching Pond A in the fully developed condition.

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The on-site contributing area to the pond is approximately 10 acres, and the offsite tributary area to Pond B is approximately 71 acres. Management of the offsite flow will be addressed by conveying the offsite flow through the outlet structure. The provided calculations are preliminary.

The major storm flows shall be directed to the pond by means of the proposed storm system in combination with overland flows through the street Right-of-Ways where applicable. Refer to Appendix B of this report for the maximum allowable release rates and anticipated release rates for Pond A. Preliminary pond sizing is illustrated in the table below:

Preliminary Pond Sizing					
Basin	Basin Area (ac.)	Basin Imp (%)	Vol. Req. (ac-ft)	Vol. Provided (ac-ft)	Release Rate
Basin A - Pond A	14.36	81%	1.745	2.279	1.59 cfs (outlet structure)
Offsite Basin OS-1	70.92	18%	Undetained	Undetained	95.9 cfs (spillway)
TOTAL	85.28	49%			

Peak basin runoff calculations are provided in Appendix A. Major basins may be further subdivided in the Final Drainage Report for stormwater routing and hydraulic analysis. Please refer to the Preliminary Drainage Map provided in Appendix D for the described basin locations.

Mile High Flood District detention spreadsheets were used in the preliminary sizing of these ponds, and they use a CUHP analysis for determining flow to the pond. The Spreadsheets are included in Appendix B. The final pond volume and outlet structure shall be sized in the Final Drainage Report of this project.

To maintain consistency with the existing drainage patterns, the proposed site storm flows shall be conveyed to the proposed detention ponds. The site Water Quality, EURV, and 100-year Detention are provided within the proposed pond. The pond provides the detention for Basin A.

Pond A provides the detention for the project site's Basin A. About 70% of the site consists of Hydrologic Soils Type B. The pond will be designed to outfall into the existing drainage way north of the property. The pond outfall has been designed to release the historical 5-yr flow from Basin E-1. The southwestern offsite Basin OS-1 runoff will be conveyed over the spillway.

4.1.3 Proposed Drainage Facilities

Drainage facilities proposed with this project include 24-in. RCP culverts between low points, Type-C Inlets for landscape sump conditions, Type R Inlets for street capture, HDPE, and Nyloplast inlets. Inlets are proposed at low points and on-grade where minor storm street capacity is exceeded. As mentioned previously, one on-site detention pond will be constructed with this development and will provide water quality and detention.

All inlets and swales will need to be kept free from debris and trash. All inlets and swales will need to have periodic maintenance to keep debris and trash from clogging up inlets and reducing capacity of swales. The detention pond outlet structure trash racks, and outlet pipes will also require regular maintenance to ensure proper drainage. An Operations and Maintenance manual will be provided with the final pond design. Maintenance access to each pond will be provided. The proposed onsite drainage facilities shall be owned and maintained by the Metro District associated with this development.

According to the detention volume (ac-ft) is a. However, release volume is v4.06 shown on MHE

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5. Conclusions

5.1 Compliance with Standards

The drainage concept for Hudson Commercial Tractor Supply was derived from the Storm Water Master Plan for the Town of Hudson, as laid out for project site's drainage basin within the report. The proposed site drainage patterns are in conformance with the existing topography and surrounding developments. There are no expected negative impacts to the surrounding developments downstream conveyances, or existing streets.

This preliminary drainage report is in conformance with Vol. III of the *Town of Hudson Standards and Specifications for the Construction of Public Improvements, Storm Drainage Criteria*, the *Storm Water Master Plan for the Town of Hudson*, and *Mile High Flood District Storm Drainage Criteria Manuals*.

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6. References

- ◆ Town of Hudson Standards and Specifications for the Construction of Public Improvements, Volume III, Storm Drainage. Revised July 2017
- ◆ Town of Hudson 2035 Comprehensive Plan. Revised March 2018
- ◆ Mile High Flood District Drainage Criteria Manual Volumes 1, 2, & 3, current version.
- ◆ Natural Resources Conservation Service Web Soil Survey, United States Department of Agriculture
- ◆ Federal Emergency Management Agency Flood Insurance Rate Map, Community-Panel Number 08123C2135E; dated January 20, 2016

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Appendices

**PRELIMINARY DRAINAGE REPORT
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Appendix A. Hydrologic Calculations

A1 Runoff Calculations

Hudson Commercial - Tractor Supply

Basin Weighted Runoff Coefficient Calculations

Land Use Is Comprised of 3 Surface Characteristics:				
NRCS Soil Group		Imperviousness	C ₅	C ₁₀₀
A	Single Family	45%	0.36	0.64
B	Commercial	95%	0.81	0.87
C	Pavement	100%	0.86	0.90
D	Concrete Walk/Alley	90%	0.77	0.85
E	Open Space	5%	0.03	0.45

Project No: 4569-0001
Date: 02/26/24

Basin ID	Total Area (Ac.)	A Area (Ac.)	B Area (Ac.)	C Area (Ac.)	D Area (Ac.)	E Area (Ac.)	Weighted Imp. I (%)	Weighted Runoff Coefficients	
								C ₅	C ₁₀₀
Developed									
A-1	1.57	0.00	0.00	0.00	0.00	1.57	5%	0.03	0.45
A-2	2.14	0.00	2.14	0.00	0.00	0.00	95%	0.81	0.87
A-3	6.05	0.00	6.05	0.00	0.00	0.00	95%	0.81	0.87
Basin A	9.75	0.00	8.18	0.00	0.00	1.57	81%	0.69	0.80
OS-2	0.37	0.00	0.00	0.37	0.00	0.00	100%	0.86	0.90
OS-3	2.31	0.00	0.00	0.24	0.00	2.07	15%	0.12	0.50
OS-4	0.67	0.00	0.00	0.67	0.00	0.00	100%	0.86	0.90
OS-5	0.28	0.00	0.28	0.00	0.00	0.00	95%	0.81	0.87
OS-6	0.55	0.00	0.00	0.00	0.55	0.00	90%	0.77	0.85
OS-7	0.13	0.00	0.00	0.07	0.00	0.06	54%	0.46	0.68
OS-8	0.30	0.00	0.00	0.23	0.00	0.07	77%	0.66	0.79
Pond A	14.36	0.00	8.47	1.57	0.55	2.21	71%	0.61	0.71
Historic/Existing									
OS-1	70.92	14.94	0.00	3.11	0.00	52.87	18%	0.14	0.51
E-1	13.90	0.00	0.00	0.32	0.00	13.58	7%	0.05	0.46
E-2	0.38	0.00	0.00	0.38	0.00	0.00	100%	0.86	0.90

Time of Concentration																
																Project No.: 4569-0001
																02/26/24
Basin ID	C ₅	Initial Flow Time T _i			Travel Time T _t							T _c Check				Final T _c
		Length	Slope	T _i	Length	Slope	Convey. Element	Convey. Coeff. K	Vel. (fps)	T _t (min)	Total T _c (min)	Imp. (dec)	Travel Length (ft)	Avg. Travel Slope (%)	T _c = 26 - 17i + [L/{60*(14i+9)*(S ^{0.5})}]	
		(ft)	(%)	(min)	(ft)	(%)									(min)	
Developed																
A-1	0.03	150	2.10	18.5	180	1.40	Open Space	2.5	0.3	10.1	28.6	0.1	330	0.8	31.6	28.6
A-2	0.81	80	0.60	5.5	315	3.90	Commercial	20.0	3.9	1.3	6.8	1.0	395	3.1	11.5	6.8
A-3	0.81	230	0.50	9.9	554	2.00	Commercial	7.0	1.0	9.3	19.2	1.0	784	1.4	14.8	14.8
OS-2	0.86	68	2.20	2.7	370	1.90	Paved Road	20.0	2.8	2.2	5.0	1.0	438	1.6	11.5	5.0
OS-3	0.12	135	1.00	20.6	142	1.00	Bare Ground	7.0	0.7	3.4	24.0	0.1	277	3.1	25.9	24.0
OS-4	0.86	100	1.10	4.2	312	1.80	Paved Road	20.0	2.7	1.9	6.1	1.0	412	1.7	11.3	6.1
OS-5	0.81	80	0.60	5.5	227	2.20	Commercial	20.0	3.0	1.3	6.8	1.0	307	3.5	11.1	6.8
OS-6	0.77	80	2.50	4.0	120	2.90	Commercial	18.5	3.2	0.6	4.6	0.9	200	4.2	11.4	5.0
OS-7	0.46	55	2.50	6.4	268	1.50	Concrete Walk	18.5	2.3	2.0	8.3	0.5	323	2.3	19.0	8.3
OS-8	0.66	40	2.50	3.7	360	1.60	Paved Road	20.0	2.5	2.4	6.1	0.8	400	2.4	15.0	6.1
Existing																
OS-1	0.14	500	2.00	30.9	2140	1.40	Open Space	5.0	0.6	60.3	91.2	0.2	2640	1.1	59.0	59.0
E-1	0.05	231	1.50	25.1	172	0.60	Bare Ground	7.0	0.5	5.3	30.4	0.1	403	7.7	27.2	27.2
E-2	0.86	300	0.50	9.4	794	1.80	Paved and Undeveloped	15.0	2.0	6.6	16.0	1.0	1094	1.4	15.7	15.7

Table 6-2. NRCS Conveyance factors, K

Type of Land Surface	Conveyance Factor, K
Heavy meadow	2.5
Tillage/field	5
Short pasture and lawns	7
Nearly bare ground	10
Grassed waterway	15
Paved areas and shallow paved swales	20

Basin Runoff Calculations - Direct Runoff

Project No.: 4569-0001

02/26/24

Basin ID	Design Point	Total Area (Ac.)	Imp (%)	Tc (min)	Runoff Coeff.		Peak Flow (cfs)	
					C ₅	C ₁₀₀	Q ₅	Q ₁₀₀
Developed								
A-1	4	1.57	5%	28.00	0.03	0.45	0.00	0.04
A-2	2	2.14	95%	7.00	0.81	0.87	1.65	1.77
A-3	3	6.05	95%	13.00	0.81	0.87	4.67	5.01
OS-2	4	0.37	100%	5.00	0.86	0.90	0.32	0.34
OS-3	4	2.31	15%	22.00	0.12	0.50	0.04	0.17
OS-4	4	0.67	100%	8.00	0.86	0.90	0.57	0.60
OS-5	7	0.28	95%	7.00	0.81	0.87	0.22	0.23
OS-6	8	0.55	90%	5.00	0.77	0.85	0.38	0.42
OS-7	6	0.13	54%	10.00	0.46	0.68	0.03	0.05
OS-8	7	0.30	77%	5.00	0.66	0.79	0.15	0.18
Onsite Total		14.36	73%		0.62	0.77	8.04	8.80
Pond A		14.36	71%		0.61	0.71	0.94	8.80
Existing								
OS-1		70.92	18%	60.00	0.14	0.51	11.01	95.90
E-1		13.90	7%	20.00	0.05	0.46	1.59	33.07
E-2		0.38	100%	20.00	0.86	0.90	0.71	1.74
Intensity = $\frac{28.5 * P_1}{(10 + T_c)^{0.786}}$							2 Year P ₁ =	0.84
							5 Year P ₁ =	1.11
							100 Year P ₁ =	2.63

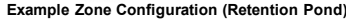
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Appendix B. Hydraulic Calculations

B1 Extended Detention Pond Calculations

MHFD-Detention, Version 4.06 (July 2022)

Basin ID: Pond A

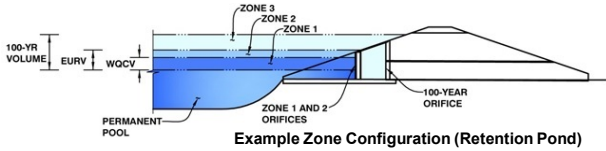
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DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

Project: Hudson Commercial - Tractor Supply

Basin ID: Pond A CONCEPT OUTLET DESIGN



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	0.59	0.247	Orifice Plate
Zone 2 (EURV)	1.58	0.485	Orifice Plate
Zone 3 (User)	3.03	1.013	Weir&Pipe (Restrict)
Total (all zones)		1.745	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth = N/A ft (distance below the filtration media surface)
Underdrain Orifice Diameter = N/A inches

Calculated Parameters for Underdrain
Underdrain Orifice Area = N/A ft²
Underdrain Orifice Centroid = N/A feet

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Centroid of Lowest Orifice = 0.00 ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate = 1.58 ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing = 6.30 inches
Orifice Plate: Orifice Area per Row = N/A sq. inches

Calculated Parameters for Plate
WQ Orifice Area per Row = N/A ft²
Elliptical Half-Width = N/A feet
Elliptical Slot Centroid = N/A feet
Elliptical Slot Area = N/A ft²

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.53	1.05					
Orifice Area (sq. inches)	4.75	5.16	5.16					

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)								
Orifice Area (sq. inches)								

User Input: Vertical Orifice (Circular or Rectangular)

Invert of Vertical Orifice = Not Selected N/A ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice = Not Selected N/A ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Diameter = Not Selected N/A inches

Calculated Parameters for Vertical Orifice
Vertical Orifice Area = Not Selected N/A ft²
Vertical Orifice Centroid = Not Selected N/A feet

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir and No Outlet Pipe)

Overflow Weir Front Edge Height, H_o = Zone 3 Weir 1.58 ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length = Not Selected N/A feet
Overflow Weir Grate Slope = Not Selected N/A H:V
Horiz. Length of Weir Sides = Not Selected N/A feet
Overflow Grate Type = Close Mesh Grate N/A
Debris Clogging % = 50% N/A %

Calculated Parameters for Overflow Weir
Height of Grate Upper Edge, H_u = Zone 3 Weir 3.00 feet
Overflow Weir Slope Length = Not Selected N/A feet
Grate Open Area / 100-yr Orifice Area = Not Selected N/A
Overflow Grate Open Area w/o Debris = Not Selected N/A ft²
Overflow Grate Open Area w/ Debris = Not Selected N/A ft²

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

Depth to Invert of Outlet Pipe = Zone 3 Restrictor 0.00 ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter = Not Selected N/A inches
Restrictor Plate Height Above Pipe Invert = Not Selected N/A inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate
Outlet Orifice Area = Zone 3 Restrictor 0.18 ft²
Outlet Orifice Centroid = Not Selected N/A feet
Half-Central Angle of Restrictor Plate on Pipe = Not Selected N/A radians

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage = 4.00 ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length = 105.00 feet
Spillway End Slopes = 4.00 H:V
Freeboard above Max Water Surface = 1.00 feet

Calculated Parameters for Spillway
Spillway Design Flow Depth = 0.24 feet
Stage at Top of Freeboard = 5.24 feet
Basin Area at Top of Freeboard = 1.35 acres
Basin Volume at Top of Freeboard = 3.64 acre-ft

Routed Hydrograph Results

The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
Design Storm Return Period	N/A	N/A	0.84	1.11	1.39	1.69	2.20	2.63	3.14
One-Hour Rainfall Depth (in)	N/A	N/A	0.444	0.646	0.928	1.339	1.943	2.512	3.147
CUHP Runoff Volume (acre-ft)	N/A	N/A	0.444	0.646	0.928	1.339	1.943	2.512	3.147
Inflow Hydrograph Volume (acre-ft)	N/A	N/A	0.1	0.7	3.2	8.3	14.1	19.9	26.0
CUHP Predevelopment Peak Q (cfs)	N/A	N/A	0.01	0.05	0.22	0.58	0.98	1.39	1.81
OPTIONAL Override Predevelopment Peak Q (cfs)	N/A	N/A	0.01	0.05	0.22	0.58	0.98	1.39	1.81
Predevelopment Unit Peak Flow, q (cfs/acre)	N/A	N/A	6.5	9.5	14.1	21.0	30.7	39.6	49.2
Peak Inflow Q (cfs)	N/A	N/A	0.2	0.5	0.8	1.3	1.5	1.6	5.6
Peak Outflow Q (cfs)	N/A	N/A	0.3	0.4	0.6	1.0	1.5	1.6	5.6
Ratio Peak Outflow to Predevelopment Q	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Structure Controlling Flow	Plate	Overflow Weir 1	Plate	Plate	Overflow Weir 1	Outlet Plate 1	Outlet Plate 1	Outlet Plate 1	Spillway
Max Velocity through Grate 1 (fps)	N/A	N/A	N/A	N/A	0.0	0.0	0.1	0.1	0.1
Max Velocity through Grate 2 (fps)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours)	40	53	48	53	56	56	57	58	58
Time to Drain 99% of Inflow Volume (hours)	44	59	53	58	63	64	67	69	71
Maximum Ponding Depth (ft)	0.59	1.58	0.94	1.30	1.76	2.30	3.02	3.60	4.05
Area at Maximum Ponding Depth (acres)	0.44	0.55	0.47	0.52	0.57	0.70	0.87	1.01	1.14
Maximum Volume Stored (acre-ft)	0.249	0.736	0.403	0.587	0.832	1.174	1.735	2.289	2.773

5 Yr Historical Release Rate

Weir Report

Hudson Commercial - Tractor Supply - Pond A Spillway

Trapezoidal Weir

Crest = Broad
Bottom Length (ft) = 105.00
Total Depth (ft) = 1.50
Side Slope (z:1) = 4.00

Highlighted

Depth (ft) = 0.61
Q (cfs) = 135.50
Area (sqft) = 65.54
Velocity (ft/s) = 2.07
Top Width (ft) = 109.88

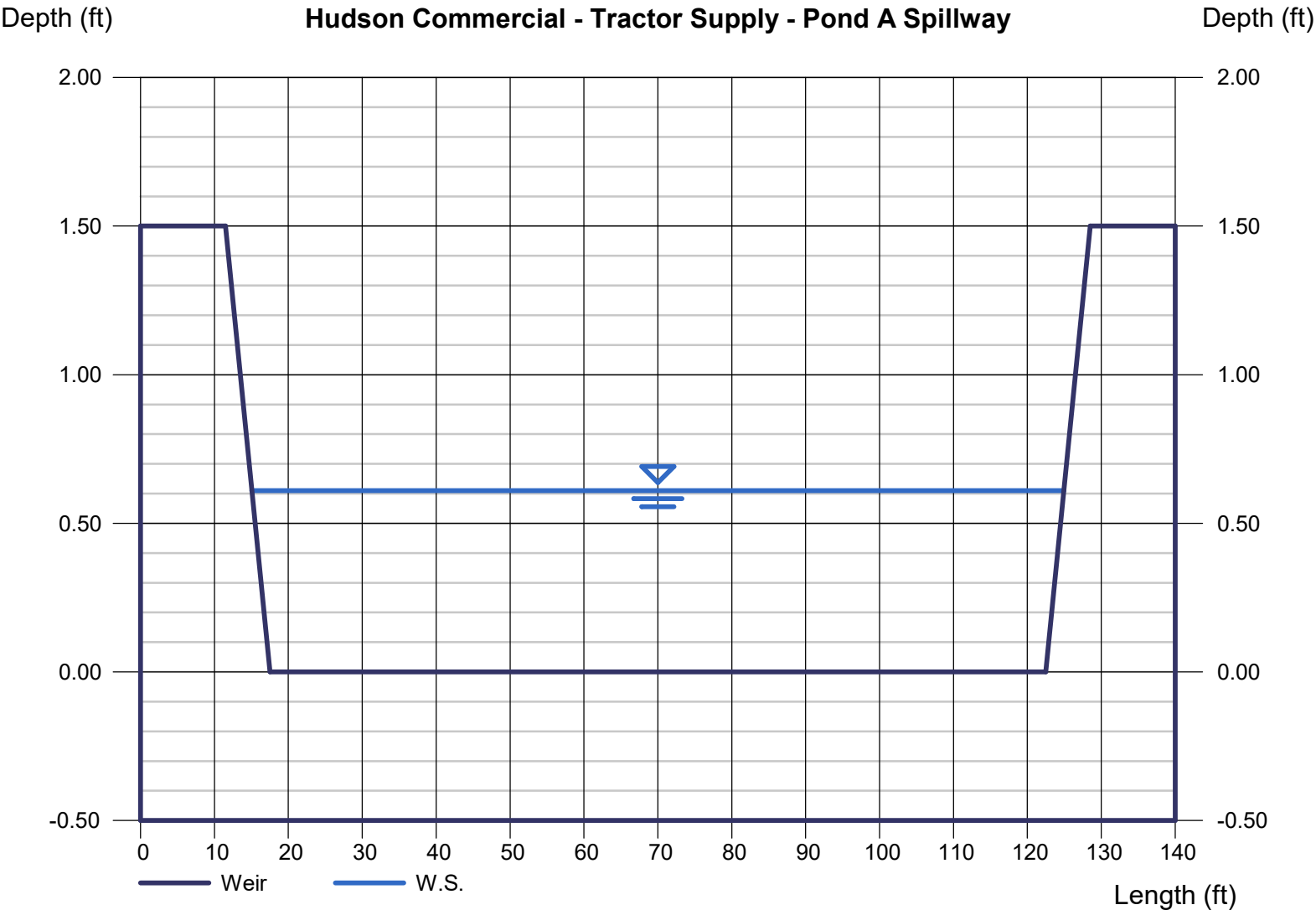
Calculations

Weir Coeff. Cw = 2.69 Broad Crested Coef
Compute by: Known Q
Known Q (cfs) = 135.50

Flow over Spillway =
Qp Developed for Site (39.6cfs
+ OS1 100 (95.9 cfs)=1355 cfs

1355 cfs!!!! There is a typo in the calculation

Agreed. This value has been corrected.



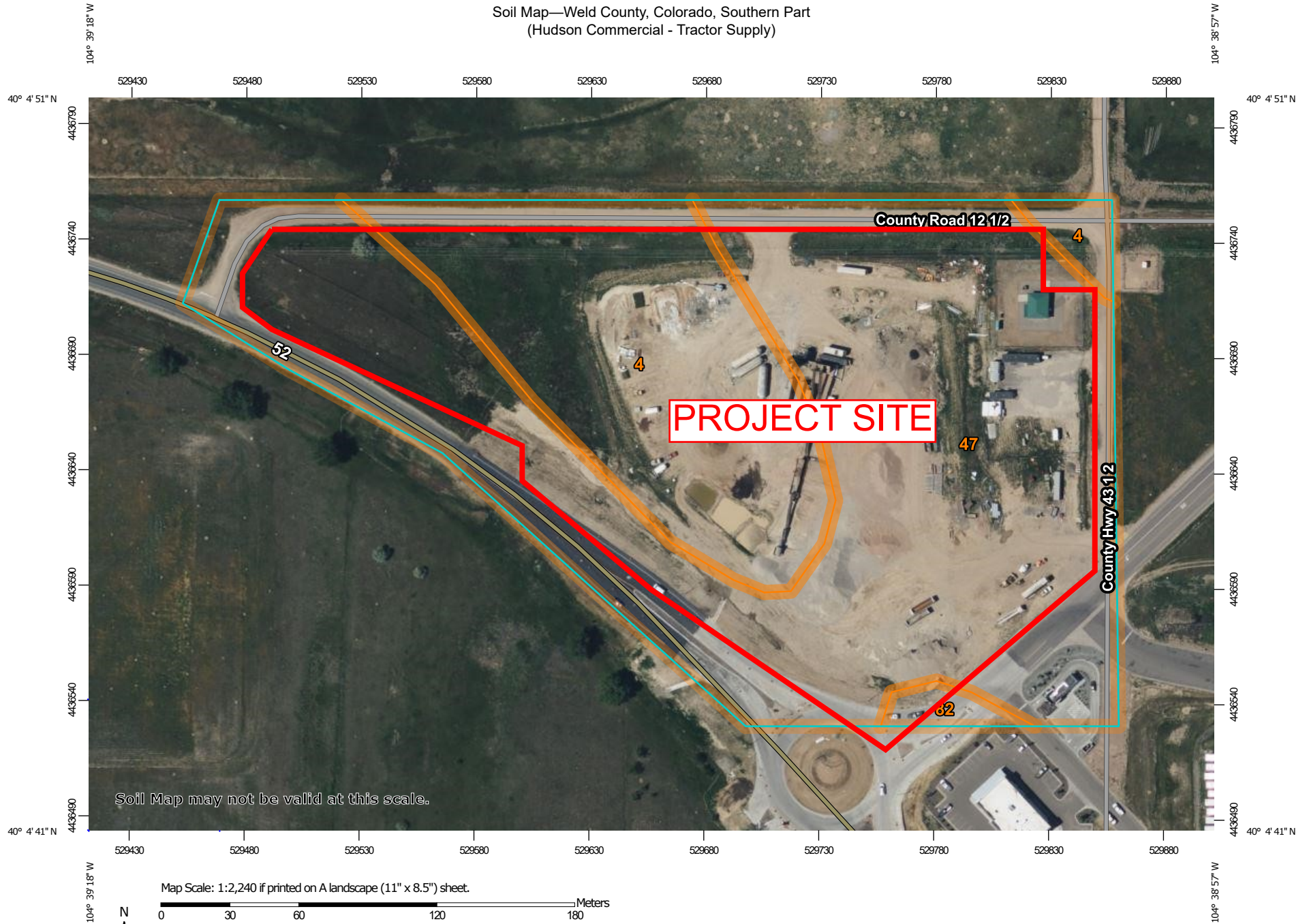
**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

Appendix C. Referenced Information

PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY

C1 Soil Map

Soil Map—Weld County, Colorado, Southern Part
(Hudson Commercial - Tractor Supply)




Soil Map—Weld County, Colorado, Southern Part
(Hudson Commercial - Tractor Supply)


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: Weld County, Colorado, Southern Part

Survey Area Data: Version 22, 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: Jun 8, 2021—Jun 12, 2021

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
4	Aquolls and Aquepts, flooded	4.8	28.9%
47	Olney fine sandy loam, 1 to 3 percent slopes	11.7	69.9%
82	Wiley-Colby complex, 1 to 3 percent slopes	0.2	1.2%
Totals for Area of Interest		16.7	100.0%

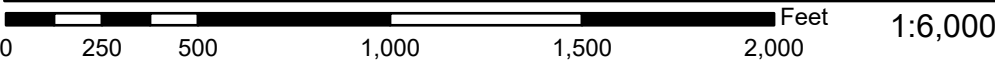
**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

C2 FEMA FIRM Panel

National Flood Hazard Layer FIRMMette



104°39'24"W 40°5'1"N



Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **1/22/2024 at 5:05 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

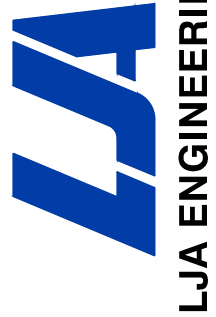
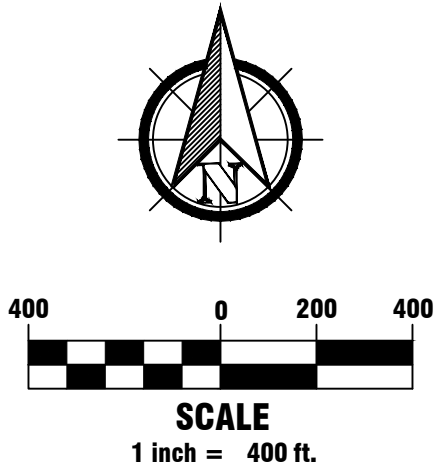
**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

Appendix D. Drainage Maps

**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

D1 Offsite Drainage Basin Exhibit

I:\JOB FOLDERS\4569-0001\PROD\DRAINAGE\OFFSITE DRAINAGE EXHIBIT PRINTED ON: 2/28/2024 11:49 AM



1765 W. 121st Avenue
Suite 300
Westminster, CO 80234
303-421-4224 • www.lja.com

Proj. Name:	Hudson Commercial
Location:	Hudson, CO
Plan Set:	Drainage Map
Sheet Name:	Off-site Drainage Exhibit

Date: February 28, 2024
Job No.: 4569-0001

Scale H: 1" = 400'
Scale V: n/a

Prepared: WWB
Approved: DKH

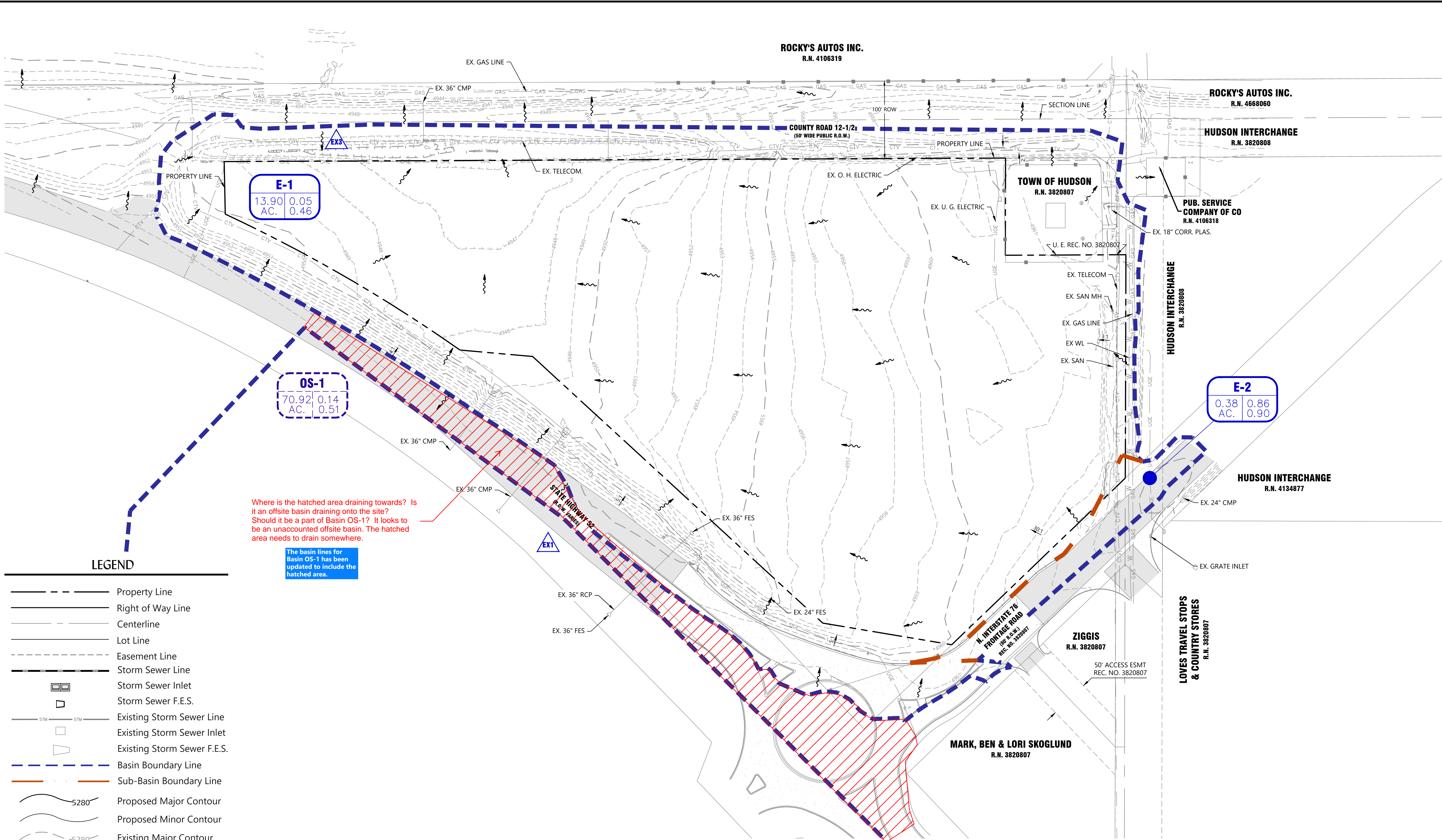


No.	3
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**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

D2 Historic Drainage Map

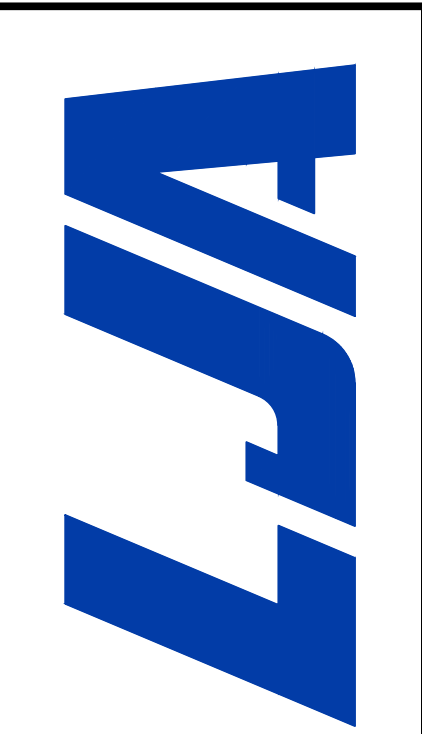
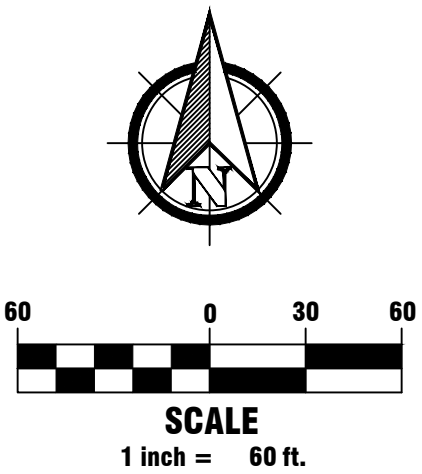
I:\JOB FOLDERS\4569-0001\PROD\UR\UR\HISTORIC DRAINAGE MAP - PRINTED ON: 2/28/2024 11:49 AM



PROJECT BENCHMARK:
NGS CONTROL MONUMENT "N 62" BEING A STANDARD DISK, STAMPED "N 62 1934" AND SET IN THE TOP OF A CONCRETE POST. MONUMENT IS LOCATED 1.2 MILES SOUTH ALONG THE CHICAGO, BURLINGTON AND QUINCY RAILROAD FROM HUDSON, WELD COUNTY, 0.1 MILE SOUTH OF MILEPOST 514, AT A ROAD CROSSING, 104 FEET WEST OF THE CENTERLINE OF THE TRACK, 34 FEET NORTH OF THE CENTERLINE OF THE ROAD, AND 34 FEET EAST OF THE CENTERLINE OF STATE HIGHWAY 2.

DATUM ELEV. = 4985.64' (NAVD 88)

STATEMENT:
ALL WORK MUST BE IN ACCORDANCE WITH APPLICABLE TOWN OF HUDSON CONSTRUCTION STANDARDS. THE TOWN'S ACCEPTANCE ALLOWS FOR PLAN DISTRIBUTION AND PERMIT APPLICATION. THE TOWN'S ACCEPTANCE SHALL NOT RELIEVE THE DESIGN ENGINEER'S RESPONSIBILITY FOR ERRORS, OMISSIONS, OR DESIGN DEFICIENCIES FOR WHICH THE TOWN IS HELD HARMLESS.



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Suite 300
Westminster, CO 80234
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Revision Type:		Revision Type:	
No.	Rev. Date:	No.	Rev. Date:
1		1	
2		2	
3		3	
4		4	
5		5	
6		6	
Designed: TBS		Job No.: 4569-0001	
Prepared: DXL		Scale Horiz: 1" = 60'	
Approved: DKH		Scale Vert: N/A	
		Sheet: 1 of 2	
		Date: February 28, 2024	

Proj. Name: Hudson Commercial - Tractor Supply

Location: Town of Hudson, Colorado

Plan Set: Preliminary Drainage Basin Maps

Sheet Name: Historic Drainage Map

811

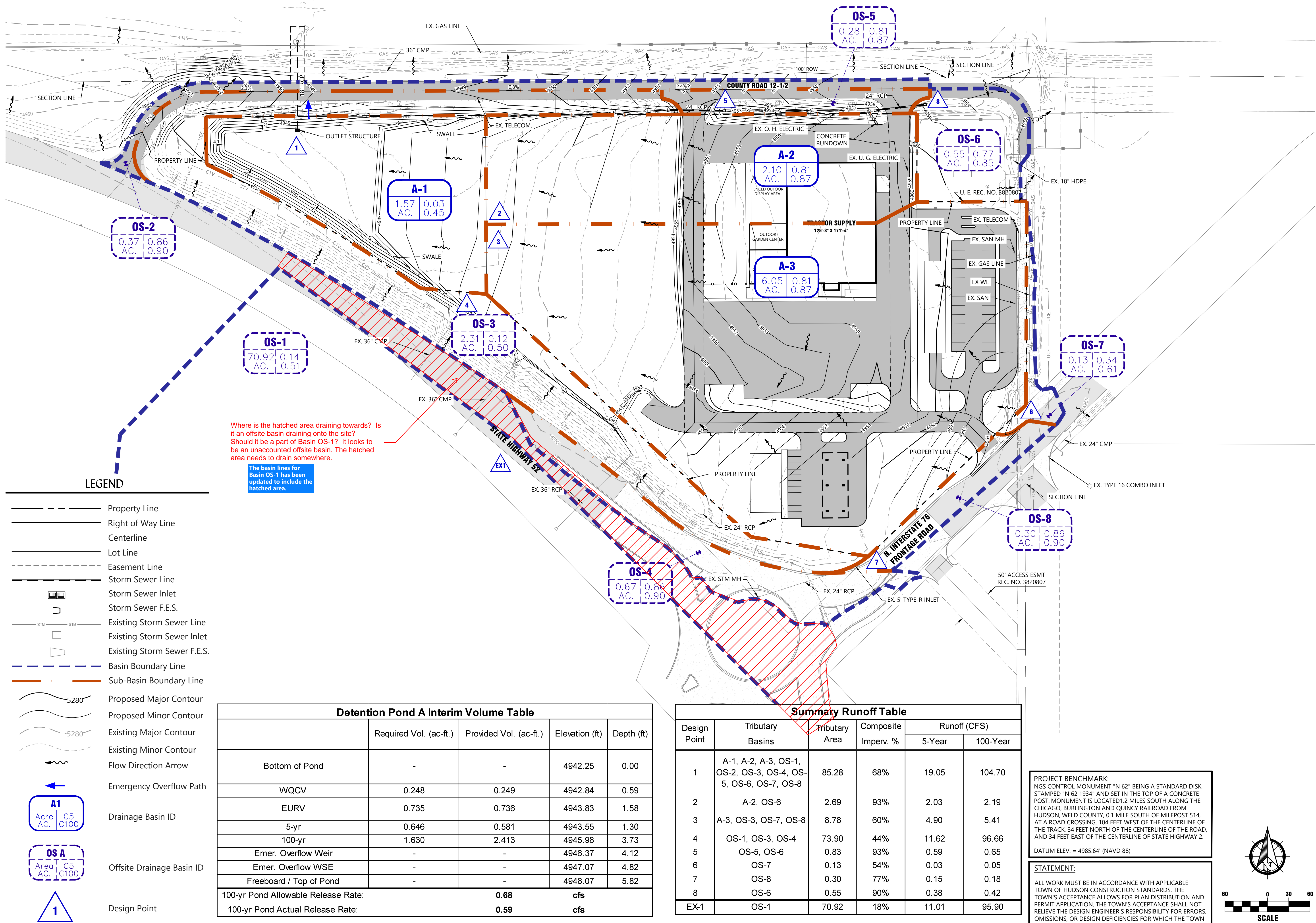
Know what's below.
Call before you dig.

No.	1
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**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

D3 Preliminary Drainage Map

L:\JOB FOLDERS\4569-0001\PROD\URAINAGE\PRELIMINARY DRAINAGE MAP PRINTED ON: 2/28/2024 11:49 AM



LEGEND

- Property Line
- Right of Way Line
- Centerline
- Lot Line
- Easement Line
- Storm Sewer Line
- Storm Sewer Inlet
- Storm Sewer F.E.S.
- Existing Storm Sewer Line
- Existing Storm Sewer Inlet
- Existing Storm Sewer F.E.S.
- Basin Boundary Line
- Sub-Basin Boundary Line
- Proposed Major Contour
- Proposed Minor Contour
- Existing Major Contour
- Existing Minor Contour
- Flow Direction Arrow
- Emergency Overflow Path
- Drainage Basin ID
- Offsite Drainage Basin ID
- Design Point

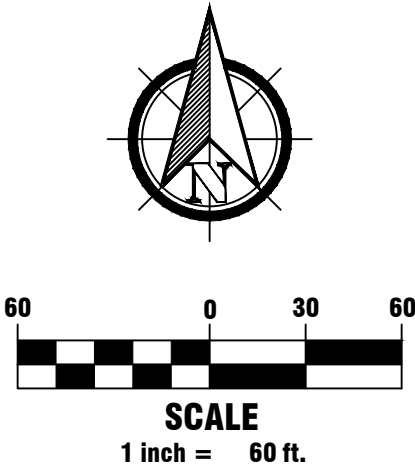
Detention Pond A Interim Volume Table				
	Required Vol. (ac-ft.)	Provided Vol. (ac-ft.)	Elevation (ft)	Depth (ft)
Bottom of Pond	-	-	4942.25	0.00
WQCV	0.248	0.249	4942.84	0.59
EURV	0.735	0.736	4943.83	1.58
5-yr	0.646	0.581	4943.55	1.30
100-yr	1.630	2.413	4945.98	3.73
Emer. Overflow Weir	-	-	4946.37	4.12
Emer. Overflow WSE	-	-	4947.07	4.82
Freeboard / Top of Pond	-	-	4948.07	5.82
100-yr Pond Allowable Release Rate:		0.68	cfs	
100-yr Pond Actual Release Rate:		0.59	cfs	

Summary Runoff Table					
Design Point	Tributary Basins	Tributary Area	Composite Imperv. %	Runoff (CFS)	
				5-Year	100-Year
1	A-1, A-2, A-3, OS-1, OS-2, OS-3, OS-4, OS-5, OS-6, OS-7, OS-8	85.28	68%	19.05	104.70
2	A-2, OS-6	2.69	93%	2.03	2.19
3	A-3, OS-3, OS-7, OS-8	8.78	60%	4.90	5.41
4	OS-1, OS-3, OS-4	73.90	44%	11.62	96.66
5	OS-5, OS-6	0.83	93%	0.59	0.65
6	OS-7	0.13	54%	0.03	0.05
7	OS-8	0.30	77%	0.15	0.18
8	OS-6	0.55	90%	0.38	0.42
EX-1	OS-1	70.92	18%	11.01	95.90

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No.	Rev.	Date:	Revision Type:
1			
2			
3			
4			
5			
6			

Designed: TBS
Prepared: DXL
Approved: DKH

Job No.: 4569-0001
Scale Horiz: 1" = 60'
Scale Vert: N/A

Sheet: 2 of 2
Date: February 28, 2024

Proj. Name: Hudson Commercial - Tractor Supply

Location: Town of Hudson, Colorado

Plan Set: Preliminary Drainage Basin Maps

Sheet Name: Preliminary Drainage Map

Know what's below.
Call before you dig.

No. 2

**PRELIMINARY DRAINAGE REPORT
HUDSON COMMERCIAL - TRACTOR SUPPLY**

D4 Town of Hudson Submittal Checklist

2.3.2

PRELIMINARY DRAINAGE REPORT CHECKLIST

Project: Hudson Commercial - Tractor Supply Date: 02/27/2024

Refer to Town of Hudson Storm Drainage Criteria (SDC) Manual for requirements.

Note: Include Checklist as part of Preliminary Report

	<u>YES</u>	<u>NO</u>
Is general location and description in accordance with SDC Manual?	<u>✓</u>	<u> </u>
Are existing contours based on DAVD 88 datum?	<u>✓</u>	<u> </u>
Do contours extend a minimum of 100 feet outside Property and are they labeled as to elevation?	<u>✓</u>	<u> </u>
Are basin boundaries to centerline of adjacent streets surrounding the development?	<u>✓</u>	<u> </u>
Is offsite water safely passed through the site?	<u>✓</u>	<u> </u>
Are drainage design criteria in accordance with SDC manual?	<u>✓</u>	<u> </u>
If over five acres, have CUHP and SWMM hydraulic analysis been used to size the detention pond?	<u>✓</u>	<u> </u>
Are runoff coefficients reasonable? I.E., 5-year historic Average = 0.08, 100-year historic = 0.35	<u>✓</u>	<u> </u>
Has Water Quality Capture Volume (WQCV) been determined and added to total detention pond volume?	<u>✓</u>	<u> </u>
Is detention pond release rate equal to 5-year historic flow?	<u>✓</u>	<u> </u>
Are pond side slopes no greater than 4H:1V?	<u>✓</u>	<u> </u>
Does volume calculated from pond contours approximately equal designer's volume?	<u>✓</u>	<u> </u>
Is wetland preservation and mitigation required and if so have provisions been made to address these issues?	<u> </u>	<u> </u>



TOWN OF HUDSON

50 South Beech Street, P.O. Box 351, Hudson, CO 80642

Phone: (303)536-9311 Fax: (303)536-4753

www.hudsoncolorado.org

RE: Case 24-04 & 24-05 Hudson Commercial Minor Subdivision & Site Plan

Dear Referral Agency:

This notice is to advise you of a submittal for an application for a Minor Subdivision and Site Plan for the property located at 91 E Bison Highway, near the intersection of east of Highway 52/Bison Highway and I-76 Frontage Road. The subject property is approximately 9.9 acres in area. The property is zoned Commercial One (C-1). The application includes a site plan for a Tractor Supply store and a subdivision of the property for potential future retailers. There are no proposed or required changes to the zoning with this request.

Application materials can be found at the following link (refer to the folder labeled 'R1'):

https://bit.ly/Case24-04-05HudsonCommercial_MSSP

Please review the information and forward any comments to me by the end of business **Wednesday, March 27, 2024**. We will compile all reviewer comments into one report to send to the applicant and will include any comment letters you may provide. Please email your responses to Alyssa Rivas, Contract Planner on behalf of the Town of Hudson, at alyssa.rivas@baselinecorp.com

Reviewer & Agency Name: (Jose Gonzalez, ProCode Inc.)

3/26/2024

☐ No Comments.

☒ Agency Comments Below: (add additional pages if necessary)

No concerns. Building permit required for new structures. All new work must comply with adopted codes at time of permit application.



TOWN OF HUDSON

50 South Beech Street, P.O. Box 351, Hudson, CO 80642

Phone: (303)536-9311 Fax: (303)536-4753

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Reviewer & Agency Name: (Enter here...)

Click or tap to enter a date.

☐ No Comments.

☐ Agency Comments Below: (add additional pages if necessary)

(Enter here...)

Plans Reviewed. No Problems NOTED
AT THIS TIME.

Douglas Myers

[Signature]

3-8-24



**HUDSON FIRE
PROTECTION DISTRICT**

**Douglas Myers
Battalion Chief**

Office: 303-536-0161
Cell: 303-990-4271
Fax: 303-536-0162
dmyers@hfpdco.org

702 Cedar St.
P.O. Box 7
Hudson, Co 80642