Community & Economic
Development Department
adcogov.org

ADAMS COUNTY
COLORADO

4430 South Adams County Parkway
1st Floor, Suite W2000B
Brighton, CO 80601-8218
PHONE 720.523.6800
EMAIL epermitcenter@adcogov.org

Request for Comments

Case Name: Berkeley Center Subdivision

Case Number: PLT2023-00056

January 5, 2024

The Adams County Planning Commission is requesting comments on the following application: **Final Plat for minor subdivision to create four lots in the Commercial-5, Industrial-1, Industrial-2 zone districts. The Mineral Conservation Overlay and Natural Resources Conservation Overlay Districts also affect portions of the subdivision boundaries.** This request is located at 6350 FEDERAL BLVD. The Assessor's Parcel Number is 0182508101002.

Applicant Information: QUIK TRIP
BRITTANY SIKARSKI
12000 WASHINGTON ST SUITE
THORNTON, CO 80241

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216 or call (720) 523-6800 by **01/26/24** in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim please send your response by way of e-mail to DDeBoskey@adcogov.org.

Once comments have been received and the staff report written, the staff report and notice of public hearing dates may be forwarded to you upon request. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at www.adcogov.org/current-land-use-cases.

Thank you for your review of this case.

David DeBoskey
Planner II

Community & Economic
Development Department
www.adcogov.org

ADAMS COUNTY
COLORADO

4430 South Adams County Parkway
1st Floor, Suite W2000B
Brighton, CO 80601-8218
PHONE 720.523.6880
FAX 720.523.6967
EMAIL: epermitcenter@adcogov.org

Development Review Team Comments

Date: 2/2/2024

Project Number: PLT2023-00056

Project Name: Berkeley Center Subdivision

Commenting Division: Planner Review

Name of Reviewer: David DeBoskey

Date: 02/02/2024

Email:

Resubmittal Required

PLN1: No action: Application for final plat minor subdivision to create four lots. Response: Noted.

PLN2: On submitted project page, it states "Building Permit drawings will be submitted and processed in support of the Project." Can you explain this? We discourage the filing of building permits prior to completion of a subdivision on the same lot. We suggest you wait to file building permits until after the subdivision process is over.

We highly recommend this order of operations for this site: Subdivision, THEN Building permits/Change-In-Use permits. We can talk about this in the RCC meeting.

Response: Building Permit drawings not to be submitted until subdivision approval.

PLN3: As noted in the previous Conceptual Review Meeting (PRE2023-00049) "the industrially zoned property on the Northeast of the property has a split zoning of Industrial-1(I-1) and Industrial-2 (I-2) zoned property. Sec. 3-07-02 Summary of Dimensional Requirements requires that I-1 properties have at minimum lot size of 1 acre, I-2 properties require a minimum lot size of 2
acres. Additionally, staff would not be supportive of replating a lot with split zoning. Staff recommends rezoning the portion of land zoned I-2 into I-1 to be more in line with the adjacent properties fronting W. 64th Avenue".. to improve the conformance of the subdivision recommend the following that standad

This will require a Zoning Map Amendment (Rezoning) application, separate from this application but can be 1. processed as this application (once you submit a complete application for that rezoning application) and 2. Can go to hearings simultaneously.

A rezoning is not required, but it is a component of the criteria of the subdvision approval process.

Response: Rezoning application to be submitted for I-1.

PLN4: The minimum lot size and lot minimums for C-5 (Proposed lots 1,2,3) are 0ft for size and 100 ft for width. Meets standard.
The minimum lot size and lot minimums for I-1 (Proposed lot 4) are 0ft for size and 100 ft for width. Meets standard. Response: Noted.

PLN5: Why is the zig zag the lot line?

Response: New property line.

PLN6: This standard is met:
5-03-03-06 LOT DEPTH TO WIDTH RATIO
No lot shall have an average depth greater than three times the average width unless the lot width is a minimum of four-hundred-twenty-five (425) feet.

Response: Noted.

PLN7: The signature block on plat should be in this order, top to bottom:
OWNER
SURVEYOR
PLANNNING COMMISSION
BOARD OF COUNTY COMMISSIONERS
COUNTY ATTORNEY
CLERK AND RECORDER

Response: Signature Blocks have been arranged in the requested order.

PLN8: The submitted plat indicates the city of Denver multiple times. This is not Denver. Change this all throughout the plat document.

Response: All references to the City of Denver, have been removed, as requested

PLN9: Per Sec. 5-02-04 Subdivision Improvement agreement (SIA) will be required at resubmittal

Response: Resubmitted.

PLN10: Public Land Dedication fees are required in the amount of $XX.XX. See attached spreadsheet. Do not pay these fees until you are scheduled for public hearing _____7.65 acres but I-2 size is undetermined so PLD fees are uncertain.

Response: Noted.

PLN11: Crestview Water & Sanitation District has a sanitary sewer main situated on the east property line of the part of the property facing Federal. This sanitary sewer main runs north-south. There is also a meter vault providing water to Pioneer Village Mobile Home Park located in the northeast corner of 63rd and Federal. Potholing will be required for this water service.

Response: Noted.

We reccomend that you connect with CDOT about your development plans. We have contacted them and they have a letter below of comments but it would help even more if you engaged with them as well.

Response: Noted, coordination with CDOT occurred. No implications to site anticipated in next few years.

Commenting Division: Planner Review

Name of Reviewer: David DeBoskey

Date: 02/02/2024

Email:

Comment

For Future Development NOT for this subdivision.
PLN12: A fuel station is proposed for future development on the south east parcel. What is happening on the other proposed parcels? Response: Other proposed parcels are to be in line with zoning allowed uses.

PLN13: W. 64th Avenue is a section line, Per section 3-24-07-03-07 Minimum setback from Section line for Commercial-5 zoned lots will require a setback of 100 feet as part of any development on the northern properties. Per section 3-25-07-03-07 & 3-26-07-03-07 Minimum setback from Section line for the industrially zoned lots will require a setback of 145 feet from the section line. Response: Noted.

PLN14: When developing the site, look at 4-09-02-04 Automobile Service stations for design standards specific for fuel stations. Response: Noted.

PLN15: Per Section 4-19-06-01, All Commercially zoned areas on the site abut a residential neighborhood on the east of the subject property, therefore applicant will need to provide a landscape buffer in order to provide separation between the non-compatible uses. Response: Noted.

Additionally, per section 4-19-07-01 Street Frontage Landscaping, applicant will need to landscape the areas along properly lines abutting public road right-of-way using one or a combination of the following landscape options:
1. Option 1: Install a twenty-five (25) foot wide area along the road right-of-way. Within the landscape area, one (1) tree and two (2) shrubs shall be planted per forty (40) linear feet of frontage. Drive aisles shall be counted as zero (0) feet in depth.
2. Option 2: Install a twenty (20) foot landscape area along the road right-of-way. Within the landscape area, one (1) tree and two (2) shrubs shall be planted per forty (40) linear feet of frontage. Drive aisles shall be counted as zero (0) feet in depth.
3. Option 3: Install a ten (10) foot landscape area along the road right-of-way. Within the landscape area, two (2) trees and five (5) shrubs shall be planted per forty (40) linear feet of frontage. Drive aisles shall be counted as zero (0) feet in depth.
4. Option 4: Install a five (5) foot landscape area along the road right-of-way. Within the landscape area, one (1) tree and two (2) shrubs shall be placed per forty (40) linear feet of frontage. A thirty (30) inch high decorative wall or the building shall be located between the parking area and the road frontage. Drive aisles shall be counted as zero (0) feet in depth.
5. Option 5: Install a landscape berm with a two (2) foot minimum average height. The berm shall have a slope of no greater than one (1) foot of rise to every four (4) feet of run. Within the landscape area, one (1) tree and five (5) shrubs shall be planted per sixty (60) linear feet of frontage. Response: Noted, see updated landscape plan.

PLN16: Per Section 4-19-07 Minimum Landscape Area: All developments shall be required to landscape a minimum of ten (10) percent of the lot area. At least fifty (50) percent of the required landscape area shall be placed so it abuts adjoining public rights-of-way, excluding alleys and drives. Response: Noted for future applications.

PLN17: Per Sec. 4-11-01-04 Operational/ Physical compatibility standards, conditions may be imposed upon the approval of development applications when industrial uses are proposed adjacent to residentially zoned or used property to ensure new development will be compatible with existing neighborhood and uses, including, but not limited to, restrictions on:
1. Hours of operations and deliveries;
2. Location of activities generating potential adverse impacts on adjacent uses such as noise and glare;
3. Placement of trash receptacles;
4. Location and screening of loading and delivery zones;
5. Light intensity and hours of full illumination; and
6. Placement and illumination of outdoor vending machines.

Response: Noted.

Commenting Division: Development Engineering Review

Name of Reviewer: Laurie Clark

Date: 02/01/2024

Email:

Resubmittal Required

ENG1: According to the Federal Emergency Management Agency's January 20, 2016 Flood Insurance Rate Maps (FIRM Panels #08001C0584H and #08001C0592H), the project site is not located within a regulated 100-yr floodplain. A Floodplain Use Permit will not be required. Response: Noted.

ENG2: A drainage report and drainage plans in accordance to Chapter 9 of the Adams County Development Review Manual are required to be completed by a registered professional engineer and submitted to Adams County for review and final approval. Drainage design shall have no adverse off-site impacts on neighboring properties or the public ROW. Response: Noted, see resubmittal package.

ENG3: LOW IMPACT DEVELOPMENT (LID) STANDARDS AND REQUIREMENTS Section 9-01-03-14:
All construction projects shall reduce drainage impacts to the maximum extent practicable, and implement practices such as:

1. On-site structural and non-structural BMPs to promote infiltration, evapo-transpiration or use of stormwater,
2. Minimization of Directly Connected Impervious Area (MDCIA),
3. Green Infrastructure (GI),
4. Preservation of natural drainage systems that result in the infiltration, evapo-transpiration or use of stormwater in order to protect water quality and aquatic habitat.
5. Use of vegetation, soils, and roots to slow and filter stormwater runoff.
6. Management of stormwater as a resource rather than a waste product by creating functional, attractive, and environmentally friendly developments.
7. Treatment of stormwater flows as close to the impervious area as possible.

LID shall be designed and maintained to meet the standards of these Regulations and the Urban Drainage and Flood Control District's Urban Storm Drainage Criteria Manual, Volume 3. Response: Noted, LID to be provided with individual lot applications.

ENG4: The applicant is required to complete a traffic trip generation analysis signed and stamped by a professional engineer. If the proposed scope of work shows the use of the site will generate over 20 vehicles per day, then a traffic impact study signed and stamped by a professional engineer will be required. Response: Provided in resubmittal package.

ENG5: The proposed site improvements are required to go through an engineering review process through the Subdivision application. The developer is required to submit for review and receive approval of all civil site construction plans and reports. Construction documents shall include, at a minimum, onsite and public improvements construction plans, drainage report, traffic impact study. All construction documents must meet the requirements of the Adams County Development Standards and Regulations. The developer shall submit to the Adams County One Stop Customer Center the following: Engineering Review Application, Engineering Review Fee, a copy of all construction documents, plans and reports in PDF format.

Response: Provided in resubmittal package.

Commenting Division: Development Engineering Review

Name of Reviewer: Laurie Clark

Date: 02/01/2024

Email:

Comment

ENG6: Property IS in Adams County MS4 Stormwater Permit area. Because the proposed improvements disturb more than one (1) acre of land, OR are part of a larger development that disturbs over one (1) acre, a Stormwater Quality (SWQ) Permit WILL be required and the applicant would be required to prepare a Stormwater Management Plan (SWMP) using the Adams County ESC Template, and obtain both a County SWQ Permit and a State Permit COR400000. Builder/developer is responsible for adhering to all the regulations of Adams County Ordinance 11 regarding illicit discharge. Applicant is responsible for installation and maintenance of Erosion and Sediment Control BMPs. Response: Noted.

ENG7: If the applicant proposes to import greater than 10 CY of soil to this site, additional permitting is required. Per Section 4-04-02-02, of the Adams County Development Standards and Regulations, a Temporary or Special Use Permit is required to ensure that only clean, inert soil is imported into any site within un-incorporated Adams County. A Conditional Use Permit will be required if the importation exceeds 500,000 CY. Response: Noted.

ENG8: The developer is required to construct roadway improvements adjacent to the proposed site such as curb, gutter, and sidewalks. Additional roadway improvements will be determined based on the Traffic Impact Study and applicant is required to coordinate with CDOT. Response: Noted.

ENG9: A Subdivision Improvements Agreement (SIA) will be required for all public improvements. Response: Provided.

ENG10: No building permits will be issued until all public improvements have been constructed, inspected, and preliminarily accepted by the Adams County Public Works Department. Response: Noted.

ENG11: The developer is responsible for the repair or replacement of any broken or damaged public infrastructure. Response: Noted.

ENG12: All proposed drainage facilities with maintenance access shall be within dedicated easements. Response: Provided with Tract A.

ENG13: The engineering documents for the subdivision must be approved before development of individual lots within the proposed subdivision. Response: Noted.

ENG14: Applicant is responsible for additional coordination with CDOT concerning bus corridor requirements for Federal Blvd. Response: Noted, additional coordination has taken place.

Commenting Division: ROW Review

Name of Reviewer: David Dittmer

Date: 02/01/2024

Email:

Resubmittal Required

ROW1: Remove superfluous information in the Title Response: Updated.

ROW2: Add the case number to top right-hand corner of all sheets (PLT2023-00056) Response: Updated.

ROW3: Opening statement must be: OWNERSHIP AND DEDICATION CERTIFICATE, followed by the legal as provided, then the new m/b legal for the boundary of the new subdivision. Response: Updated.

ROW4: Remove all mention of The City and County of Denver. We are not Denver. Revise all of the dedication statements, execution blocks, etc. Response: Updated.

ROW5: Note 4 for the title commitment appears to be in error. The commitment provided is dated 10/12/2023 not 7/17/2023 and do not find the earlier date stated as effective as of that date. Response: Updated.

ROW6: Must provide the approved Storm Water Facilities Statement as contained in the application guidelines and checklist. Response: Updated.

ROW7: You must have CDOT approval of all access points from Federal Blvd. and county approved access permits on county ROW. If additional ROW dedication is required for either road pending engineering review of the traffic impact to the surrounding infrastructure, it can be dedicated by this plat to the county, and the county will deed to CDOT for anything along Federal. Response: Noted.

ROW7: The order of appearance of signature/approval blocks:

OWNER

LIEN HOLDER ACCEPTANCE - If property is under a deed of trust the lien holder must approve the plat.

SURVEYOR

PLANNING COMMISSION

BOARD OF COUNTY COMMISSIONERS

COUNTY ATTORNEY'S OFFICE - Approved as to form

Response: Revised the signature/acceptance blocks to be in the order per the Adams County checklist & guidelines, as requested.

ROW8: Must provide an approved dedication statement. See application guidelines and checklist.

ROW9: Revise all dates to current year. Response: Updated.

ROW10: Note 4 - Define a US foot per C.R.S. and PLS Bylaws Response: Updated.

ROW11: Provide a copy of a recorded Statement of Authority for QuikTrip Corporation or a copy of the operating agreement to verify signatories ability to encumber the corporation. Response: Not a survey related matter.

ROW12: Review line weights. It may be the copy but there appear to be signature lines that are heavier than others.

SHEET 2: Response: Revised the Clerk & Recorder's Certificate to match Adams County checklist and guidelines, as requested.

ROW13: Sheet 2 is the existing conditions and parcel lines. Do not provide where the new lots are to be located on this sheet. These parcel lines must be vacated. The parcels must be referenced as to the legal descriptions provided on sheet 1. You must state parcel lines being vacated by this plat. Response: Updated.

ROW14: Stay consistent with document citations. See 20' easement citation for book 454, page 55. Name the type of easement. This easement cannot be vacated.

Response: Revised labels of the portions of this easement, as requested.

Commenting Division: ROW Review

Name of Reviewer: David Dittmer

Date: 02/01/2024

Email:

Comment

SHEET 3

ROW15: The easements that appear to be missing cannot be vacated by this plat and must remain in place. If needing to vacate these easements, it will be an agreement between the property owner and the owner of the utility easement. Once the vacation has been completed and recorded, cite the vacation reception number. If utilities are installed it will be at the owners expense to move these utilities and provide a new easement. The easement/ROW document cited above is exclusively for sanitary sewer. It can be crossed, but nothing can share the trench. Does the 9' wide drainage easement being dedicated abut the 5' wide utility easement as recorded at B1009567? The new one cannot lay on top of the existing. Response: Easement to not be vacated. Drainage easement crosses utility easement.

ROW16: Use a heavy pen weight to draw attention to vacation and dedication statements. Response: Updated.

ROW17: Pending access review and approvals from CDOT, it does not appear each lot will be allowed a separate access. Due to this, an access easement located within a TRACT will be required. This Tract will be owned and maintained by the owners or owners association due to individual ownership of the lots. Any Storm Water Quality facilities, detention area, must be located within a TRACT to be owned and maintained by the owners, or owners association, and dedicated to the county. Access to the detention area must be provided by an access easement. Due to individual ownership of the lots, utility easements must be provided for utilities to serve the individual lots. These should be along the front and rear lot lines, and pending comments from PSCO, side lot line easements may be necessary.

ROW

Response: Tract provided for detention facilities. No additional utilities provided with subdivision outside of storm infrastructure.

Commenting Division: Environmental Analyst Review

Name of Reviewer: Megan Grant

Date: 02/01/2024

Email:

Complete

ENV1.The subject parcel is located within the Adams County Mineral Conservation Overlay (MCO) district, the purpose of which is to establish reasonable and uniform limitations, safeguards, and controls for the conservation and wise utilization of natural resources and for rehabilitation of excavated land. Land within this classification is designated as containing commercial mineral deposits in sufficient size parcels and in areas where extraction and rehabilitation can be undertaken while still protecting the health, safety, and welfare of the inhabitants of the area and the County. Although this parcel is located within the MCO district and the parcel is greater than 5 acres, the parcel is previously developed and unlikely to provide a mineral resource of commercial quantity and quality; therefore, the MCO restrictions are exempted in this case.

Response: Noted.

Commenting Division: Neighborhood Services Review

Name of Reviewer: Cornelia Warnke

Date: 01/24/2024

Email:

Complete

There are no open violations at this location at this time. No comment. Response: Noted.

Commenting Division: Addressing Review

Name of Reviewer: David Dittmer

Date: 01/11/2024

Email:

Complete

Response: Noted.

From: Aaron Eyl - CDOT
To: David DeBoskey
Cc: steven.loeffler
Subject: Re: For Review: PLT2023-00056
Date: Wednesday, January 10, 2024 8:30:45 AM

David,

CDOT has reviewed the request for comments for case number PLT2023-00056, Berkeley Center Subdivision and has no objection to the subdivision. Please keep the following in mind as this project progresses:

- Any work form or within CDOT ROW requires a Special Use/Utility Permit.
- With work being adjacent to the CDOT ROW we would like to review a Drainage Study.
- We request to review a Traffic Study with a turn lane analysis and an AM/PM peak hour traffic volume analysis.
- Please provide a Site Plan for review.
- Any signing that will be visible to a CDOT Highway must comply with all applicable State rules governing outdoor advertising per 2 CCR 601-3. All signing must be on private property.
- Access to this site from Federal Boulevard (SH 287) will be granted per the State Highway Access Code.
- Access Permits will be required for the closures at this location. I am counting 8 curb cuts that are accessing Federal Boulevard (SH 287).

Thank you for the opportunity to review this referral. Response: Noted.

On Fri, Jan 5, 2024 at 10:25 AM 'David DeBoskey' via CDOT_R1_AccessPermitting_GroupF <cdot_r1access_groupf@state.co.us> wrote:

> The Adams County Planning Commission is requesting comments on the following application: Final Plat for minor subdivision to create four lots in the Commercial-5, Industrial-1, Industrial-2 zone districts. The Mineral Conservation Overlay and Natural Resources Conservation Overlay Districts also affect portions of the subdivision boundaries. This request is located at 6350 FEDERAL BLVD. The Assessor's Parcel Number is 0182508101002.
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>
> Once comments have been received and the staff report written, the staff report and notice of public hearing dates may be forwarded to you upon request. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at www.adcogov.org/current-land-use-cases.
>
> Thank you for your review of this case.
>
> **David DeBoskey, AICP** Pronouns: he/him/his
>
> Planner II, *Community & Economic Development*
>
> ADAMS COUNTY, COLORADO
>
> 4430 South Adams County Parkway, 1st Floor, Suite W2000A
>
> Brighton, CO 80601
>
> **O:** 720.523.6847 *ddeboskey@adcogov.org* | *www.adcogov.org*
>
> My current work schedule is Tuesday – Friday 7:30 - 5PM
>
> Alternating Mondays 7:30 - 4
>
> --
> You received this message because you are subscribed to the Google Groups "CDOT_R1_AccessPermitting_GroupF" group.
> To unsubscribe from this group and stop receiving emails from it, send an email to cdot_r1access_groupf+unsubscribe@state.co.us.
> To view this discussion on the web visit
> https://groups.google.com/a/state.co.us/d/msgid/cdot_r1access_groupf/PH0PR09MB8684E5466DCCE21EE81F36C2B5662%40PH0PR09MB8684.namprd09.prod.outlook.com.
>
> For more options, visit https://groups.google.com/a/state.co.us/d/optout.

--
Aaron Eyl
Permit Unit - Region 1

P 720.703.5737
2829 W. Howard Place, Denver CO 80204
aaron.eyl@state.co.us | codot.gov | cotrip.org

From: Courtney Salazar
To: David DeBoskey
Cc: manager; Clarice O"Hanlon
Subject: RE: For Review: PLT2023-00056
Date: Wednesday, January 24, 2024 3:16:36 PM

Hi David –

Crestview Water & Sanitation District has a sanitary sewer main situated on the east property line of the part of the property facing Federal. This sanitary sewer main runs north-south. There is also a meter vault providing water to Pioneer Village Mobile Home Park located in the northeast corner of 63rd and Federal. Potholing will be required for this water service.

Please let us know if you have any questions. Response: Noted.

Thank you!

Courtney Salazar
Developer/Project Coordinator
Crestview Water & Sanitation District
7145 Mariposa Street
Denver, CO 80221
Office 303-429-1881

CRESTVIEW WATER & SANITATION DISTRICT

From: David DeBoskey <DDeboskey@adcogov.org>
Sent: Friday, January 5, 2024 10:26 AM
To: David DeBoskey <DDeboskey@adcogov.org>
Subject: For Review: PLT2023-00056

The Adams County Planning Commission is requesting comments on the following application: Final Plat for minor subdivision to create four lots in the Commercial-5, Industrial-1, Industrial-2 zone districts. The Mineral Conservation Overlay and Natural Resources Conservation Overlay Districts also affect portions of the subdivision boundaries. This request is located at 6350 FEDERAL BLVD. The Assessor's Parcel Number is 0182508101002.

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216 or call (720) 523-6800 by **01/26/24** in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim please

send your response by way of e-mail to DDeBoskey@adcogov.org.

Once comments have been received and the staff report written, the staff report and notice of public hearing dates may be forwarded to you upon request. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at www.adcogov.org/current-land-use-cases.

Thank you for your review of this case.

David DeBoskey, AICP Pronouns: he/him/his
Planner II, *Community & Economic Development*
ADAMS COUNTY, COLORADO
4430 South Adams County Parkway, 1st Floor, Suite W2000A
Brighton, CO 80601
O: 720.523.6847 *ddeboskey@adcogov.org* | *www.adcogov.org*

My current work schedule is Tuesday – Friday 7:30 - 5PM
Alternating Mondays 7:30 - 4

BERKLEY CENTER SUBDIVIS

Response: This is the quarter section all of the parcels are within and needs to be part of the title. Added "All" before lying within.... for clarity.

A REPLAT OF LOT 1, BLOCK 1, ELLETT SUBDIVISION, LOT 1 BLOCK 1, LEXI PAPP A PORTION OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, ~~LYING WITHIN THE NORTHEAST 1/4 SECTION 8,~~ TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, ~~CITY OF DENVER~~, COUNTY OF ADAMS, STATE OF COLORADO

F 3

Response: Removed "City of Denver" from the subdivision title as requested.

OWNERSHIP AND DEDICATION CERTIFICATE
-SEE APPLICATION CHECKLIST AND GUIDELINES
FOR PROPER STATEMENT

OWNER(S) OF THE REAL PROPERTY

Response: Revised the the ownership and dedication certificate to match the County of Adams Checklist and Guidelines, as requested.

F COLORADO.

EXCEPT THE NORTH 10 FEET THEREOF CONVEYED TO THE COUNTY OF ADAMS DESCRIBED IN RESOLUTION AND DEED RECORDED NOVEMBER 25, 1969 IN BOOK 1561 AT PAGE 44.

PARCEL B:
LOT 1, BLOCK 1, LEXI PAPPAGEORGE SUBDIVISION, COUNTY OF ADAMS, STATE OF COLORADO.

PARCEL C:
A PARCEL OF LAND LOCATED IN THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT THE NORTH LINE OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, SAID POINT BEING 345.38 FEET EAST OF THE N1/4 CORNER OF SECTION 8 AND 320.00 FEET WEST OF THE NORTHEAST CORNER OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8; THENCE S 0°03'30" E DISTANCE OF 20.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE; THENCE S 90°00'00" W ALONG THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, A DISTANCE OF 270.38 FEET TO A POINT, SAID POINT BEING 75.00 FEET EAST OF 20.00 FEET SOUTH OF THE N1/4 CORNER OF SECTION 8; THENCE S 44°58'15" W A DISTANCE OF 28.28 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF FEDERAL BOULEVARD, SAID POINT BEING 55.00 FEET EAST AND 40.00 FEET SOUTH OF THE N1/4 CORNER OF SECTION 8; THENCE S 0°03'30" E ALONG THE EAST RIGHT-OF-WAY LINE OF FEDERAL BOULEVARD, A DISTANCE OF 289.80 FEET TO THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8; THENCE N 90°00'00" E ALONG THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4, OF SECTION 8, A DISTANCE OF 141.89 FEET; THENCE N 0°31'25" W A DISTANCE OF 166.68 FEET; THENCE N 89°28'25" E DISTANCE OF 149.85 FEET; THENCE N 0°03'30" W A DISTANCE OF 141.76 FEET TO A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, AND 20.00 FEET SOUTH OF THE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

EXCEPT THAT PORTION CONVEYED TO THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF ADAMS, STATE OF COLORADO, AS DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 6, 1907 IN BOOK 33 AT PAGE 220.

AND EXCEPT THAT PORTION TAKEN IN RULE AND ORDER RECORDED OCTOBER 15, 1971 IN BOOK 1745 AT PAGE 484.

ALSO EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE DEPARTMENT OF HIGHWAYS, DIVISION OF HIGHWAYS, STATE OF COLORADO DESCRIBED IN DEED RECORDED DECEMBER 11, 1984 IN BOOK 2945 AT PAGE 579.

AND FURTHER EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 7, 2005 AT RECEPTION NO. 20051107001229480.

PARCEL D:
A PARCEL OF LAND LOCATED IN THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT THE NORTH LINE OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, SAID POINT BEING 345.38 FEET EAST OF THE N1/4 CORNER OF SECTION 8, AND 320.00 FEET WEST OF THE NORTHEAST CORNER OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8; THENCE S 0°03'30" E DISTANCE OF 20.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE AND THE POINT OF BEGINNING; THENCE S 90°00'00" E A DISTANCE OF 30.00 FEET; THENCE S 0°03'30" W A DISTANCE OF 309.80 FEET TO A POINT ON THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4, OF SECTION 8; THENCE S 90°00'00" W ALONG THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4, OF SECTION 8, A DISTANCE OF 178.49 FEET; THENCE N 0°31'25" W A DISTANCE OF 166.68 FEET; THENCE N 89°28'25" E A DISTANCE OF 149.85 FEET; THENCE N 0°03'30" W A DISTANCE OF 141.76 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVE., AND THE TRUE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

AFTER PROVIDING THE CURRENT OWNERSHIP LEGAL DESCRIPTION, IT MUST THEN BE FOLLOWED BY A NEW M/B LEGAL DESCRIPTION OF THE ENTIRE SUBDIVISION AND THE LOTS WITHIN WILL BE A LOT OF THE SUBDIVISION. IT MUST CONTAIN A POC AND POB

F COLORADO DESCRIBED IN 7001229480.

NW1/4, NE1/4 OF SECTION 8, DESCRIBED AS FOLLOWS:

Response: Added metes and bounds description of the subdivision boundary, as requested.

E1/4 OF SECTION 8, THENCE SOUTH ALONG THE EAST LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 A DISTANCE OF 20.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, WHICH IS THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH ALONG THE EAST LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 A DISTANCE OF 309.80 FEET TO THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4; THENCE WEST ALONG THE SOUTH LINE A DISTANCE OF 290.00 FEET; THENCE NORTH AND PARALLEL TO THE EAST LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 A DISTANCE OF 309.80 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE; THENCE EAST ALONG THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, A DISTANCE OF 290.00 FEET TO THE TRUE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

EXCEPT THAT PORTION CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 7, 2005 AT RECEPTION NO. 20051107001229480.

CONTAINS 322,192 SQUARE FEET OR 7.397 ACRES, MORE OR LESS.

SURVEYOR'S CERTIFICATE:

I, JESUS A. LUGO, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THE SURVEY OF THE BOUNDARY OF BERKLEY CENTER SUBDIVISION WAS MADE UNDER MY SUPERVISION AND THE ACCOMPANYING PLAT ACCURATELY REPRESENTS SAID SURVEY AND THAT ALL MONUMENTS EXIST AS SHOWN HEREON.

____
JESUS A. LUGO
COLORADO LICENSED PROFESSIONAL
LAND SURVEYOR NO. 38081

Response: Removed the City of Denver Standard Notes, as this property is not located within city and county of Denver, as requested.

CIT

1. STREET MAINTENANCE: IT IS MUTUALLY AGREED BY THE SUBDIVIDER AND THE CITY THAT THE DEDICATED PUBLIC WA TO STREETS, ROADS, DRIVES AND ALLEYS, SHOWN ON THIS PLAT, FOR MAINTENANCE BY THE CITY UNTIL AND UNLESS THE SUBDIVIDER CONSTRUCTS THE SAME IN ACCORDANCE WITH THE SUBDIVISION IMPROVEMENT AGREEMENT AND SUBDIVISION REGULATIONS IN EFFECT AT THE DATE OF RECORDING THIS PLAT AND APPROVAL OF THE CITY HAS ISSUED TO THAT EFFECT.

WE ARE NOT DENVER!

2. DRAINAGE MAINTENANCE: THE OWNER, ITS LEGAL REPRESENTATIVES, HEIRS, EXECUTORS, ADMINISTRAT JOINTLY AND SEVERALLY LIABLE AND EGRITY AND OPERATIONAL FUNCTIONS O SHOWN HEREON UNLESS OTHERWISE S DRAINAGE FACILITIES AND PUBLIC AND P ARE SUBJECT TO SECTION 16-17-13. POST-CONSTRUCTION REQUIREMENT OF PERMANENT BMPS. AS AMENDED.

SEE APPROVED STORM DRAINAGE FACILITIES STATEMENT IN THE GUIDELINES AND CHECKLIST FOR THE APPROVED STATEMENT

Response: Added the storm drainage facilities statement, as requested.

3. VEHICULAR AC IN THIS SUBDIVISION SHALL BE SOLELY BY OF DENVER.

4. UNDERGROUND UTILITIES. ALL TELEPHONE LINES, ELECTRIC LINES, CABLE TELEVISION LINES AND OTHER LIKE UTILITY SERVICES SHALL BE PLACED UNDERGROUND. TRANSFORMER, SWITCHING BOXES, TERMINAL BOXES, METER CABINETS, PEDESTALS, DUCTS AND OTHER FACILITIES NECESSARILY APPURTENANT TO SUCH UNDERGROUND UTILITIES MAY BE PLACED ABOVE GROUND.

GENERAL NOTES:

1. BEARIN ABLISHED FOR THE COLOR ES SHOWN HEREON ARE G ON 8, TOWNSHIP 3 SOUTH RTH 89°49'13" EAST BETWE
2. THIS F WN ON THE FLOOD INSURA 01C0592H, REVISED DATE M
3. NOTICE TION BASED UPON ANY DE UCH DEFECT. IN NO EVENT ED MORE THAN TEN YEARS

ORDER OF APPEARANCE FOR SIGNATURE / ACCEPTANCE BLOCKS
OWNER
SURVEYOR
LIEN HOLDER - IF APPLICABLE
PLANNING COMMISSION
BOARD OF COUNTY COMMISSIONERS
COUNTY ATTORNEY'S APPROVED AS TO FORM
CLERK AND RECORDER

Revised the signature/acceptance blocks to be in the order per the Adams County checklist & guidelines, as requested.

4. THIS S ISULTANTS, LLC TO DETERM ATION REGARDING EASEMENTS, RIGHTS OF WAY AND TITLE OF RECORDS, ALTURA LAND CONSULTANTS, LLC RELIED UPON TITLE COMMITMENT NO. NCS-1180566-CO, WITH AN EFFECTIVE DATE OF JULY 17, 2023 AS PREPARED BY FIRST AMERICAN, TO DELINEATE THE AFORESAID INFORMATION.
5. THE LINEAL UNITS OF MEASURE SHOWN ON THIS PLAT ARE BASED UPON THE U.S. SURVEY FOOT.
6. THE FIELD WORK FOR THIS SURVEY WAS PERFORMED BY ALTURA LAND CONSULTANTS, LLC ON JULY 14, 2023.

MUST DEFINE A US FOOT

Response: added the definition of a U.S. Survey Foot, as requested.

OWNERSHIP AND DEDICATION:

THE UNDERSIGNED CERTIFIES TO AND FOR THE BENEFIT OF THE CITY COUNCIL OF DENVER CITY, COLORADO, THAT AS OF THE DATE SET FORTH BELOW, WE, QUIKTRIP CORPORATION, BEING THE OWNER(S) OF THE L POWER TO CONVEY, ENCUMBER AND S CLEAR OF ALL LIENS, ENCUMBRANCES, S AND RIGHTS-OF-WAY DEPICTED ON THIS CHES THE WARRANTIES IN THIS CERTIFICA (S) TO REMEDY SUCH DEFECT UPON DEM EXCLUSIVE.

SEE APPROVED DEDICATION AND OWNERSHIP STATEMENTS IN THE GUIDELINES AND CHECK LIST
WE ARE NOT DENVER!

KNOW ALL ME RS, MORTGAGEES OR LIEN HOLDER ID OUT AND PLATTED UNDER THE AND GRANT TO THE PUBLIC FORE AND LANDS SHOWN HEREON, AND DO HEREBY DEDICATE TO DENVER CITY, AND APPROPRIATE UTILITY COMPANIES AND EMERGENCY ASSISTANCE ENTITIES, THE EASEMENTS AS SHOWN HEREON FOR THE PURPOSES STATED IN COMPLIANCE WITH THE CITY OF DENVER SUBDIVISION REGULATIONS AND THE LANDOWNERS SHALL BEAR ALL EXPENSE INVOLVED IN PLANNING, DESIGN, AND CONSTRUCTION OF ALL PUBLIC IMPROVEMENTS EXCEPT TO THE EXTENT EXPRESSLY STATED IN ANY CITY-APPROVED AND RECORDED SUBDIVISION IMPROVEMENT AGREEMENT. DEDICATION SHALL BE FINAL UPON ADOPTION BY THE CITY COUNCIL ACCEPTING THE PROPERTY DEDICATED BY THIS PLAT. EXCEPT AS OTHERWISE STATED ON THIS PLAT, THERE SHALL BE NO LIMITATION OR RESTRICTION UPON THE PURPOSE OR PUBLIC USE OF PROPERTY DEDICATED BY THIS PLAT.

Response: Revised the the ownership and dedication certificate to match the County of Adams Checklist and Guidelines, as requested.

IN WITNESS WHEREOF; WE DO HEREUNTO SET OUR HANDS AND SEALS THIS ______ DAY OF ______________________________, 2023.

2024

Response: Revised year to 2024, as requested.

OWNER: QUIKTRIP CORPORATION

BY: ______________________________ ~~AS: DIRECTOR OF REAL ESTATE~~
JASON ACORD

CITY APPROVA

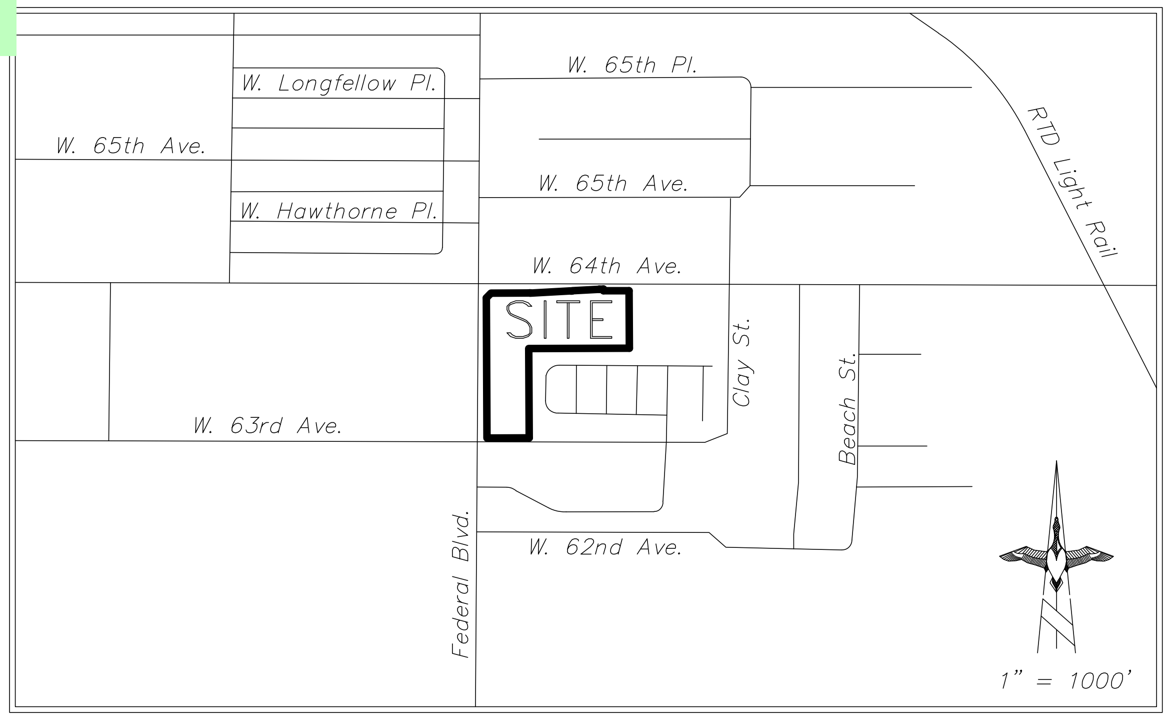
THIS IS TO HE ENVER, COLORADO, H TH THE ORDINANCES C
BY:

PROVIDE THE:
PLANNING COMISSION RECOMENDATION FOR APPROVAL
BOARD OF COUNTY COMISSIONERS APPROVAL
COUNTY ATTORNEY' APPROVED AS TO FORM
CLERK AND RECORDER
SIGNATURE BLOCKS

Response: Replaced all signature blocks with Adams County signature blocks per the checklist and guidelines, as requested.

DIRECTOR, PLAN

____
DIRECTOR, PUBLIC WORKS



VICINITY MAP

LAND USE TABLE:

GROSS ACREAGE	7.397±
NUMBER OF LOTS	4

SHEET INDEX:

SHEET 1	COVER SHEET
SHEET 2	BOUNDARY DETAIL
SHEET 3	EASEMENT DETAIL

PURPOSE STATEMENT:

THE PURPOSE OF THIS PLAT IS TO REPLACE PARCELS A-E TO CREATE LOTS 1-4 OF THE BERKLEY CENTER SUBDIVISION

ACKNOWLEDGEMENT:

STATE OF COLORADO)
)SS
COUNTY OF ADAMS)

MUST PROVIDE A COPY OF A RECORDED STATEMENT OF AUTHORITY FOR JASON ACORD TO HAVE SIGNATORY ABILITY OR A COPY OF THE OPERATING AGREEMENT

Response: Not a survey related matter.

ACKNOWLEDGED BEFORE ME THIS _______ DAY OF ____________________, 2023, BY JASON ACORD AS DIRECTOR OF REAL ESTATE OF QUIKTRIP CORPORATION.

WITNESS MY HAND AND OFFICIAL SEAL.

____
NOTARY PUBLIC

MY COMMISSION EXPIRES: ______________________________

Response: Revised the Clerk & Recorder's Certificate to match Adams County checklist and guidelines, as requested.

RECORDER'S CERTIFICATE:

STATE OF COLORADO)
)SS
COUNTY OF ADAMS)

LINE WEIGHT

I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED OF RECORD AT MY OFFICE AT ________ O'CLOCK __.M., THIS ______ DAY OF ________________, 2023.

RECEPTION NO. ____________________, FILE ____________, MAP ______________.

BY______________________________
CLERK AND RECORDER

ALTURA
LAND CONSULTANTS
6950 South Tucson Way, Unit C
Centennial, Colorado 80112
Phone: (720) 488-1303

SUBMITTAL	12/12/23

SHEET 1 OF 3

JOB NO. 23092

CASE NUMBER

Response: Added the case no. to all sheets, as requested.

BERKLEY CENTER SUBDIVIS

Response: This is the quarter section all of the parcels are within and needs to be part of the title. Added "All" before lying within.... for clarity.

A REPLAT OF LOT 1, BLOCK 1, ELLETT SUBDIVISION, LOT 1 BLOCK 1, LEXI PAP PORTION OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, ~~LYING WITHIN THE NORTHEAST 1/4 SECTION 8,~~ TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, ~~CITY OF DENVER,~~ COUNTY OF ADAMS, STATE OF COLORADO

SHEET 2 OF 3

Response: Removed "City of Denver" from the subdivision title as requested.

North 1/4 Corner Section 8
Found 3.25" Aluminum Cap
Stamped "PLS 26588"
Per Monument Record Accepted
6/30/2010, **Held & Accepted**

Northeast Corner Section 8
Found 3.25" Aluminum Cap
Stamped "PLS 24673"
Per Monument Record Accepted
6/30/2021, **Held & Accepted**

W. 64th AVENUE
(R.O.W. Varies)

S89°49'13"W — North Line of the Northeast 1/4 of Section 8 (Basis of Bearings) — 2662.48'

798.74' | 1863.74'

S00°10'47"E 30.00' (TIE)

R.O.W. Exception (Bk. 2945, Pg. 579)

See Detail "A"

See Detail "B"

See Detail "C"

L1 L2 L3 L4 L5 L6 L7 C1 L8

195.35' | 210.82' | 118.50' | 92.32' | 141.57' | 133.05'

N44°45'13"E 35.17'

N89°49'13"E

N86°54'56"E

N86°54'49"E

N89°49'13"E

26.35.88' | 65.02'

N89°41'04"E 55.00' (TIE)

729.93'

Found Yellow Plastic Cap
Illegible, 0.2' Below Surface
Held & Accepted

15' PSCO Easement (Bk.

R.O.W. Exception (Rec. No. 20051107001229480)

R.O.W. Exception (Bk. 1561, Pg. 44)

299.70'

108.34'

N00°18'56"W

Response: Revised parcel labels, as requested.

PARCEL _ OF LEGAL DESCRIPTION

Response: Revised parcel labels, as requested.

PARCEL _ OF LEGAL DESCRIPTION

55' | 55'

20' Water & Sewer Easement (Bk. 454, Pg. 54)

N89°41'04"E 46.84'

R.O.W. Exception (Bk. 1745, Pg. 484)

291.46'

185.17'

~~LOT 3~~
89,767 Square Feet
2.061 Acres

~~LOT 4~~
135,939 Square Feet
3.121 Acres

Response: Revised sheet 2 to show the boundary, existing parcels and existing easements, as requested.

PARCEL _ OF LEGAL DESCRIPTION

Response: Revised parcel labels, as requested.

UNPLATTED
(APN: 0182508100004)
Special Warranty Deed
Rec. No. 2023000038899

UNPLATTED
(APN: 0182508100004)
Quit Claim
Rec. No. 2019000090249

DETAIL "A"

DETAIL "B"

DETAIL "C"

Response: Revised labels of the portions of this easement, as requested.

CONSISTANCY

Response: Revised parcel labels, as requested.

BLOCK 1

PARCEL _ OF LEGAL DESCRIPTION

SHEET 2 MUST PROVIDE THE CURRENT LOT/PARCEL LINES AS DESCRIBED BY THE TITLE COMMITMENT WITH "PARCEL LINE VACATED BY THIS PLAT"

53.49' | 470.11'

S89°50'23"W

523.60'

S00°18'09"E

N89°41'04"E | 220.00' | 26.31'

464.98'

N. FEDERAL BOULEVARD
(110' R.O.W.)

729.93'

West Line of the Northeast 1/4 of Section 8

PARCEL LINE VACATED BY THIS PLAT

Response: Added the existing parcel lines with label "Lot line hereby vacated by this plat", as requested

NW1/4,N... T3S, R68W, ... 8

LOT 2, BLOCK 1
LEXI PAPPAGEORGE SUBDIVISION
(Rec. No. B1009567)

~~LOT 2~~
52,690 Square Feet
1.210 Acres

239.50'

20' Easement (Bk. 454, Pg. 55)

PARCEL _ OF LEGAL DESCRIPTION

Response: Revised parcel labels, as requested.

Easement B1009567)

THIS IS AN EXCLUSIVE SEWER EASEMENT AND NOTHING BUT THE DISTRICTS PIPE MAY BE WITHIN THE TRENCH. OTHER UTILITIES CAN CROSS IT, BUT CANNOT USE IT. IT APPEARS BY LINE WORK THAT THIS EASEMENT EXTENDS INTO THE UTILILTY EASEMENT AS DEDICATED AT B1009567 OR DOES IT ABUT IT?

Response: Revised easement per the description within the instrument, being the 20 feet east of the property line, does not appear to overlap the 5' utility easement.

N89°41'04"E | 220.00'

~~LOT 1~~
43,799 Square Feet
1.005 Acres

198.97'

199.17'

55' | 55'

N00°18'56"W

S00°18'56"E

N89°41'04"E 55.00' (TIE)

S89°44'10"W | 220.00'

N00°18'56"W 1840.93'

60'

Center 1/4 Corner Section 8
Found 3.25" Aluminum Cap
Stamped "PLS 23519"
Per Monument Record Accepted
6/30/2010, **Held & Accepted**

W. 63rd AVENUE
(60' R.O.W.)

60'

LINE TABLE		
		LENGTH
		7.84'
		1.00'
		1.95'
		5.90'
		1.96'
		1.00'
L7	N86°52'59"E	0.79'
		9.60'
		8.50'
		9.66'
		10.00'
		8.16'
L13	S89°41'04"W	10.00'
L14	N00°18'56"W	8.18'

CURVE TABLE					
CURVE	RADIUS	DELTA	LENGTH	CH BEARING	CHORD
C1	970.00'	01°14'55"	21.14'	N87°32'22"E	21.14'

GRAPHIC SCALE
60 0 30 60
FEET

Scale: 1" = 60'

LINE LEGEND

- = SUBJECT PARCEL BOUNDARY LINES
- = SECTION LINES
- = ADJOINING PARCEL BOUNDARY LINES
- = LOT LINES CREATED BY THIS PLAT
- = EXISTING EASEMENT LINES
- = EASEMENT LINES CREATED BY THIS PLAT

SYMBOL & ABBREVIATION LEGEND

R.O.W.	RIGHT OF WAY		RIGHT OF WAY EXCEPTION
REC. NO.	RECEPTION NUMBER	APN	ASSESSOR PARCEL NUMBER
BK./PG.	BOOK/PAGE		

MONUMENT NOTES

- INDICATES FOUND SECTION MONUMENT AS NOTED
- INDICATES FOUND MONUMENT AS NOTED
- INDICATES SET MONUMENT BEING AN 18" LONG #5 REBAR WITH AN 1.25" GREEN PLASTIC CAP STAMPED "ALTURA LAND PLS 38081"

BASIS OF BEARINGS

BEARINGS ARE BASED ON THE THE STATE PLANE COORDINATE SYSTEM ESTABLISHED FOR THE COLORADO NORTH ZONE 0502, NORTH AMERICAN DATUM (NAD) OF 1983. DISTANCES SHOWN HEREON ARE GROUND UNITS, BEING THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, WHICH BEARS NORTH 89°49'13" EAST BETWEEN THE FOUND MONUMENTS SHOWN AND DESCRIBED HEREON.

ALTURA LAND CONSULTANTS
6950 South Tucson Way, Unit C
Centennial, Colorado 80112
Phone: (720) 488-1303

SUBMITTAL	12/12/23

SHEET 2 OF 3
JOB NO. 23092

CASE NUMBER

Response: Added the case no. to all sheets, as requested.

BERKLEY CENTER SUBDIVIS

Response: This is the quarter section all of the parcels are within and needs to be part of the title. Added "All" before lying within.... for clarity.

A REPLAT OF LOT 1, BLOCK 1, ELLETT SUBDIVISION, LOT 1 BLOCK 1, LEXI PAP PORTION OF TH
NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, ~~LYING WITHIN THE NORTHEAST 1/4 SECTION 8~~,
TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, ~~CITY OF DENVER,~~ COUNTY OF ADAMS, STATE OF COLORADO

SHEET 3 OF 3

Response: Removed "City of Denver" from the subdivision title as requested.

North 1/4 Corner Section 8
Found 3.25" Aluminum Cap
Stamped "PLS 26588"
Per Monument Record Accepted
6/30/2010, **Held & Accepted**

W. 64th AVENUE
(R.O.W. Varies)

Northeast Corner Section 8
Found 3.25" Aluminum Cap
Stamped "PLS 24673"
Per Monument Record Accepted
6/30/2021, **Held & Accepted**

North Line of the Northeast 1/4 of Section 8 (Basis of Bearings)

S89°49'13"W — 2662.48'

N44°45'13"E 35.17' — N89°49'13"E 167.71' — 195.35' — L1 L2 — N86°54'49"E 141.57' — L6 L7 C1 L8 — N89°49'13"E 42.05' — 133.05' — 84.00' — 7.00'

Utility Easement to be Dedicated by this Plat See Detail "D"

Response. The Baker Metro Water & Sanitation District easements will not be vacated at this time. Easements are shown with labels, as requested.

Response. The Baker Metro Water & Sanitation District easements will not be vacated at this time. Easements are shown with labels, as requested.

THIS EASEMENT CANNOT BE VACATED BY THIS PLAT. THE OWNERS OF THIS EASEMENT MUST VACATE THIS AND IT MUST BE RECORDED AND CITED ON THIS SURVEY OR IT MUST REMAIN AS RECORDED IN BOOK 454, PAGE 55

YOU CANNOT VACATE A DEDICATED WATER AND SANITARY SEWER EASEMENT IN THIS MANNER. YOU MUST HAVE THE OWNER OF THE EASEMENT APPROVE THE VACATION, RECORD IT, AND CITE THE DOCUMENTS RECEPTION NUMBER. IF UTILITIES ARE IN THE GROUND YOU MUST RE-LOCATE THEM AT YOUR COST INTO THE NEW EASEMENT. iF PRIVATE IT CANNOT BE DEDICATED BY THIS PLAT UNLESS THE OWNER EXECUTES IT.

Response: Added Tract for drainage facilities, as requested.

DRAINAGE EASEMENT DEDICATED BY THIS PLAT MUST BE LOCATED WITHIN A TRACT.

LOT 4

279.89' — 293.69' — 299.70'

DETAIL "D"
L11
L14 L12
L13

UNPLATTED — UNPLATTED

N65°12'30"E 9.05' — 441.87' — N00°18'09"W — S00°18'09"E — S00°18'09"E

N89°50'23"E — S89°50'23"W — 525.60' — S89°50'23"W — 523.60'

477.51' — 467.50' — 464.98'

CDOT OWNS FEDERAL BLVD. APPROVED ACCESS PERMITS MUST BE SUBMITTED WITH BUILDING PERMITS FOR REVIEW PENDING REVIEW OF THE THIS ADDITIONAL ROW MAY NEEED TO BE DECIATED TO THE COUNTY AND CDOT. IT WILL BE DEDICATED TO THE COUNTY AND THE COUNTY WILL DEED IT TO CDOT

N. FEDERAL BO (110' R.O.W.)

NE 1/4 SECTION 8
T3S, R68W, 6TH P.M.

LOT 2, BLOCK 1
LEXI PAPPAGEORGE
SUBDIVISION

LOT 2

Response: The 5" utility easement has been added to this sheet and the drainage easement removed, as requested.

NEED TO SHOW THE 5' UTILITY EASEMENT AND DOES THIS 9' DRAINAGE EASEMENT ABUT IT? IT CANNOT BE PLACED ON TOP OF A DEDICATED UTILITY EASEMENT

to

LOT 1

55' — 55'

N00°18'56"W — N00°18'56"W — S00°18'56"E — S00°18'56"E

L9 — L10

S89°44'10"W — 220.00'

60'

Center 1/4 Corner Section 8
Found 3.25" Aluminum Cap
Stamped "PLS 23519"
Per Monument Record Accepted
6/30/2010, **Held & Accepted**

W. 63rd AVENUE
(60' R.O.W.)

60'

LINE TABLE

LINE	BEARING	LENGTH
L1	N86°54'53"E	7.84'
L2	S03°05'07"E	1.00'
L3	S41°52'59"E	1.95'
L4	N86°52'59"E	5.90'
L5	N48°07'00"E	1.96'
L6	N03°05'11"W	1.00'
L7	N86°52'59"E	0.79'
L8	S00°18'56"E	9.60'
L9	S89°44'10"W	8.50'
L10	N69°01'12"W	9.66'
L11	N89°49'13"E	10.00'
L12	S00°18'56"E	8.16'
L13	S89°41'04"W	10.00'
L14	N00°18'56"W	8.18'

CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH	CH BEARING	CHORD
C1	970.00'	01°14'55"	21.14'	N87°32'22"E	21.14'

GRAPHIC SCALE
60 0 30 60
FEET

Scale: 1" = 60'

LINE LEGEND

- = SUBJECT PARCEL BOUNDARY LINES
- = SECTION LINES
- = ADJOINING PARCEL BOUNDARY LINES
- = LOT LINES CREATED BY THIS PLAT
- = EXISTING EASEMENT LINES
- = EASEMENT LINES CREATED BY THIS PLAT

MONUMENT NOTES

- INDICATES FOUND SECTION MONUMENT AS NOTED
- INDICATES FOUND MONUMENT AS NOTED
- INDICATES SET MONUMENT BEING AN 18" LONG #5 REBAR WITH AN 1.25" GREEN PLASTIC CAP STAMPED "ALTURA LAND PLS 38081"

BASIS OF BEARINGS

BEARINGS ARE BASED ON THE THE STATE PLANE COORDINATE SYSTEM ESTABLISHED FOR THE COLORADO NORTH ZONE 0502, NORTH AMERICAN DATUM (NAD) OF 1983. DISTANCES SHOWN HEREON ARE GROUND UNITS, BEING THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, WHICH BEARS NORTH 89°49'13" EAST BETWEEN THE FOUND MONUMENTS SHOWN AND DESCRIBED HEREON.

ALTURA
LAND CONSULTANTS
6950 South Tucson Way, Unit C
Centennial, Colorado 80112
Phone: (720) 488-1303

SUBMITTAL	12/12/23

SHEET 3 OF 3

JOB NO. 23092

BERKLEY CENTER SUBDIVISION

CASE NO. PLT2023-00056

A REPLAT OF LOT 1, BLOCK 1, ELLETT SUBDIVISION, LOT 1 BLOCK 1, LEXI PAPPAGEORGE SUBDIVISION AND A PORTION OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, ALL LYING WITHIN THE NORTHEAST 1/4 SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF ADAMS, STATE OF COLORADO

SHEET 1 OF 3

PURPOSE STATEMENT:

THE PURPOSE OF THIS SUBDIVISION REPLAT IS TO COMBINE FIVE (5) INDIVIDUAL PARCELS INTO ONE SUBDIVISION AND CREATE 4 NEW LOTS AND 1 TRACT FOR COMMERCIAL DEVELOPMENT.

CERTIFICATE OF DEDICATION AND OWNERSHIP:

KNOW ALL MEN BY THESE PRESENTS THAT QUIKTRIP CORPORATION, AN OKLAHOMA CORPORATION, BEING THE SOLE OWNER OF THE FOLLOWING DESCRIBED TRACT OF LAND:

PARCEL A:

LOT 1, BLOCK 1, ELLETT SUBDIVISION, COUNTY OF ADAMS, STATE OF COLORADO.

EXCEPT THE NORTH 10 FEET THEREOF CONVEYED TO THE COUNTY OF ADAMS DESCRIBED IN RESOLUTION AND DEED RECORDED NOVEMBER 25, 1969 IN BOOK 1561 AT PAGE 44.

PARCEL B:

LOT 1, BLOCK 1, LEXI PAPPAGEORGE SUBDIVISION, COUNTY OF ADAMS, STATE OF COLORADO.

PARCEL C:

A PARCEL OF LAND LOCATED IN THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT THE NORTH LINE OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, SAID POINT BEING 345.38 FEET EAST OF THE N1/4 CORNER OF SECTION 8 AND 320.00 FEET WEST OF THE NORTHEAST CORNER OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8; THENCE S 0°03'30" E DISTANCE OF 20.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE; THENCE S 90°00'00" W ALONG THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, A DISTANCE OF 270.38 FEET TO A POINT, SAID POINT BEING 75.00 FEET EAST OF 20.00 FEET SOUTH OF THE N1/4 CORNER OF SECTION 8; THENCE S 44°58'15" W A DISTANCE OF 28.28 FEET TO A POINT ON THE EAST RIGHT-OF-WAY LINE OF FEDERAL BOULEVARD, SAID POINT BEING 55.00 FEET EAST AND 40.00 FEET SOUTH OF THE N1/4 CORNER OF SECTION 8; THENCE S 0°03'30" E ALONG THE EAST RIGHT-OF-WAY LINE OF FEDERAL BOULEVARD, A DISTANCE OF 289.80 FEET TO THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8; THENCE N 90°00'00" E ALONG THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4, OF SECTION 8, A DISTANCE OF 141.89 FEET; THENCE N 0°31'25" W A DISTANCE OF 166.68 FEET; THENCE N 89°28'25" E DISTANCE OF 149.85 FEET; THENCE N 0°03'30" W A DISTANCE OF 141.76 FEET TO A POINT ON THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, AND 20.00 FEET SOUTH OF THE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

EXCEPT THAT PORTION CONVEYED TO THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF ADAMS, STATE OF COLORADO, AS DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 6, 1907 IN BOOK 33 AT PAGE 220.

AND EXCEPT THAT PORTION TAKEN IN RULE AND ORDER RECORDED OCTOBER 15, 1971 IN BOOK 1745 AT PAGE 484.

ALSO EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE STATE DEPARTMENT OF HIGHWAYS, DIVISION OF HIGHWAYS, STATE OF COLORADO DESCRIBED IN DEED RECORDED DECEMBER 11, 1984 IN BOOK 2945 AT PAGE 579.

AND FURTHER EXCEPTING THEREFROM THAT PORTION CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 7, 2005 AT RECEPTION NO. 20051107001229480.

PARCEL D:

A PARCEL OF LAND LOCATED IN THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT THE NORTH LINE OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, SAID POINT BEING 345.38 FEET EAST OF THE N1/4 CORNER OF SECTION 8, AND 320.00 FEET WEST OF THE NORTHEAST CORNER OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8; THENCE S 0°03'30" E DISTANCE OF 20.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE AND THE POINT OF BEGINNING; THENCE S 90°00'00" E A DISTANCE OF 30.00 FEET; THENCE S 0°03'30" W A DISTANCE OF 309.80 FEET TO A POINT ON THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4, OF SECTION 8; THENCE S 90°00'00" W ALONG THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4, OF SECTION 8, A DISTANCE OF 178.49 FEET; THENCE N 0°31'25" W A DISTANCE OF 166.68 FEET; THENCE N 89°28'25" E A DISTANCE OF 149.85 FEET; THENCE N 0°03'30" W A DISTANCE OF 141.76 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVE., AND THE TRUE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

EXCEPT THAT PORTION CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 7, 2005 AT RECEPTION NO. 20051107001229480.

PARCEL E:

A PARCEL OF LAND BEING A PORTION OF THE EAST 290.00 FEET OF THE N1/2, NW1/4, NE1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST, OF THE 6TH P.M., MORE PARTICULARLY DESCRIBED AS FOLLOWS:

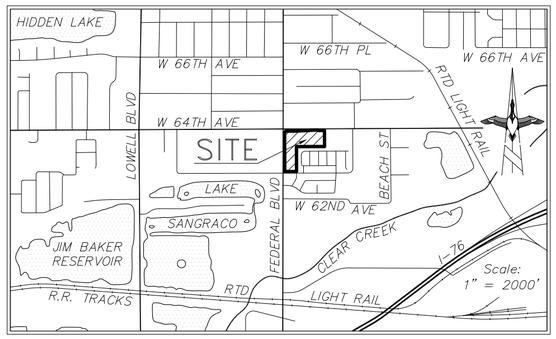
BEGINNING AT THE NORTHEAST CORNER OF THE N1/2, NW1/4, NW1/4, NE1/4 OF SECTION 8, THENCE SOUTH ALONG THE EAST LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 A DISTANCE OF 20.00 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, WHICH IS THE TRUE POINT OF BEGINNING; THENCE CONTINUING SOUTH ALONG THE EAST LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 A DISTANCE OF 309.80 FEET TO THE SOUTH LINE OF THE N1/2, NW1/4, NW1/4, NE1/4; THENCE WEST ALONG THE SOUTH LINE A DISTANCE OF 290.00 FEET; THENCE NORTH AND PARALLEL TO THE EAST LINE OF THE N1/2, NW1/4, NW1/4, NE1/4 A DISTANCE OF 309.80 FEET TO THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE; THENCE EAST ALONG THE SOUTH RIGHT-OF-WAY LINE OF 64TH AVENUE, A DISTANCE OF 290.00 FEET TO THE TRUE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO.

EXCEPT THAT PORTION CONVEYED TO THE COUNTY OF ADAMS, STATE OF COLORADO DESCRIBED IN WARRANTY DEED RECORDED NOVEMBER 7, 2005 AT RECEPTION NO. 20051107001229480.

ALL OF WHICH BEING DESCRIBED BY METES AND BOUNDS AS FOLLOWS:

A PARCEL OF LAND LYING WITHIN THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF ADAMS, STATE OF COLORADO, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 8, FROM WHICH THE NORTH LINE OF THE NORTHEAST 1/4 OF SAID SECTION 8 BEARS NORTH 89°49'13" EAST, WITH ALL BEARINGS CONTAINED HEREIN BEING REFERENCED TO SAID NORTH LINE; THENCE ALONG THE WEST LINE OF SAID NORTHEAST 1/4, SOUTH 00°18'56" EAST, A DISTANCE OF 65.02 FEET; THENCE DEPARTING SAID WEST LINE, NORTH 89°41'04" EAST, A DISTANCE OF 55.00 FEET TO THE EASTERLY RIGHT-OF-WAY OF NORTH FEDERAL BOULEVARD, A 110.00-FOOT-WIDE PUBLIC RIGHT-OF-WAY, BEING THE EAST LINE OF THE PARCEL OF LAND DESCRIBED IN THE RULE AND ORDER RECORDED OCTOBER 15, 1971 IN BOOK 1745, PAGE 484 IN THE OFFICE OF THE CLERK AND RECORDER FOR SAID COUNTY AND THE POINT OF BEGINNING; THENCE ALONG THE SOUTHERLY RIGHT-OF-WAY OF WEST 64TH AVENUE, A PUBLIC RIGHT-OF-WAY WITH A WIDTH THAT VARIES, THE FOLLOWING FOURTEEN (14) COURSES: 1) NORTH 44°45'13" EAST, A DISTANCE OF 35.17 FEET;



VICINITY MAP

SHEET INDEX:

CERTIFICATE OF DEDICATION AND OWNERSHIP (continued):

2) NORTH 89°49'13" EAST, A DISTANCE OF 195.35 FEET; 3) NORTH 86°54'53" EAST, A DISTANCE OF 7.84 FEET; 4) SOUTH 03°05'07" EAST, A DISTANCE OF 1.00 FEET; 5) NORTH 86°54'56" EAST, A DISTANCE OF 210.82 FEET; 6) SOUTH 48°07'00" EAST, A DISTANCE OF 1.95 FEET; 7) NORTH 86°52'59" EAST, A DISTANCE OF 5.90 FEET; 8) NORTH 41°52'59" EAST, A DISTANCE OF 1.96 FEET; 9) NORTH 86°54'49" EAST, A DISTANCE OF 141.57 FEET; 10) NORTH 03°05'11" WEST, A DISTANCE OF 1.00 FEET; 11) NORTH 86°54'53" EAST, A DISTANCE OF 0.79 FEET TO THE BEGINNING OF A TANGENT CURVE CONCAVE SOUTHERLY, HAVING A RADIUS OF 970.00 FEET; 12) EASTERLY ALONG SAID TANGENT CURVE THROUGH A CENTRAL ANGLE OF 01°14'55", AN ARC LENGTH OF 21.14 FEET; 13) SOUTH 00°18'56" EAST, A DISTANCE OF 9.60 FEET; 14) NORTH 89°49'13" EAST, A DISTANCE OF 133.05 FEET TO THE EAST LINE OF LOT 1, BLOCK 1, ELLETT SUBDIVISION PER THE PLAT RECORDED NOVEMBER 17, 1969 AT RECEPTION NO. 878049 IN SAID OFFICE OF THE CLERK AND RECORDER, BEING 10.00 FEET SOUTH OF THE NORTHEAST CORNER OF SAID LOT 1, BEING THE SOUTHEAST CORNER OF THE PARCEL DESCRIBED IN THE RESOLUTION AND DEED RECORDED NOVEMBER 25, 1969 IN BOOK 1561, PAGE 44 IN SAID OFFICE OF THE CLERK AND RECORDER; THENCE ALONG SAID EAST LINE OF LOT 1, SOUTH 00°18'09" EAST, A DISTANCE OF 299.70 FEET TO THE SOUTHEAST CORNER OF SAID LOT 1; THENCE ALONG THE SOUTH LINE OF SAID LOT 1 AND THE WESTERLY PROLONGATION THEREOF, BEING THE NORTH LINE OF LOT 2, BLOCK 1, LEXI PAPPAGEORGE SUBDIVISION PER THE PLAT RECORDED JULY 2, 1991 AT RECEPTION NO. B1009567 IN SAID OFFICE OF THE CLERK AND RECORDER, SOUTH 89°50'23" WEST, A DISTANCE OF 523.60 FEET TO THE NORTHWEST CORNER OF SAID LOT 2, BEING THE NORTHEAST CORNER OF LOT 1, BLOCK 1, SAID LEXI PAPPAGEORGE SUBDIVISION; THENCE ALONG THE WEST LINE OF SAID LOT 2, BEING THE EAST LINE OF LOT 1, SOUTH 00°18'56" EAST, A DISTANCE OF 464.98 FEET TO THE SOUTHWEST CORNER OF LOT 2, BEING THE SOUTHEAST CORNER OF LOT 1; THENCE ALONG THE SOUTH LINE OF SAID LOT 1, BEING THE NORTHERLY RIGHT-OF-WAY OF WEST 63RD AVENUE, A 60.00-FOOT-WIDE PUBLIC RIGHT-OF-WAY, SOUTH 89°44'10" WEST, A DISTANCE OF 220.00 FEET TO THE SOUTHWEST CORNER OF LOT 1, BEING THE INTERSECTION OF THE NORTHERLY RIGHT-OF-WAY OF WEST 63RD AVENUE AND THE EASTERLY RIGHT-OF-WAY OF NORTH FEDERAL BOULEVARD; THENCE ALONG THE WEST LINE OF SAID LOT 1 AND THE NORTHERLY PROLONGATION THEREOF, BEING THE EASTERLY RIGHT-OF-WAY OF NORTH FEDERAL BOULEVARD, A 110.00-FOOT-WIDE PUBLIC RIGHT-OF-WAY, NORTH 00°18'56" WEST, A DISTANCE OF 729.93 FEET TO THE POINT OF BEGINNING.

CONTAINS 322,193 SQUARE FEET OR 7.397 ACRES, MORE OR LESS.

HAVE BY THESE PRESENTS LAID OUT, PLATTED AND SUBDIVIDED THE SAME INTO FOUR LOTS AND ONE TRACT AS SHOWN ON THIS PLAT UNDER THE NAME AND STYLE OF BERKLEY CENTER SUBDIVISION AND THE UNDERSIGNED DOES HEREBY DEDICATE, GRANT AND CONVEY TO ADAMS COUNTY THOSE DRAINAGE AND ACCESS EASEMENTS AS SHOWN ON THE PLAT; AND FURTHER RESTRICTS THE USE OF ALL PUBLIC EASEMENTS TO ADAMS COUNTY AND/OR ITS ASSIGNS, PROVIDED HOWEVER, THAT THE SOLE RIGHT AND AUTHORITY TO RELEASE OR QUIT CLAIM ALL OR ANY SUCH PUBLIC EASEMENTS SHALL REMAIN EXCLUSIVELY VESTED IN ADAMS COUNTY.

GENERAL NOTES:

1. BEARINGS ARE BASED ON THE THE STATE PLANE COORDINATE SYSTEM ESTABLISHED FOR THE COLORADO NORTH ZONE 0502, NORTH AMERICAN DATUM (NAD) OF 1983. DISTANCES SHOWN HEREON ARE GROUND UNITS, BEING THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, WHICH BEARS NORTH 89°49'13" EAST BETWEEN THE FOUND MONUMENTS SHOWN AND DESCRIBED HEREON.
2. THIS PROPERTY IS NOT LOCATED WITHIN THE 100-YEAR FLOODPLAIN AS SHOWN ON THE FLOOD INSURANCE RATE MAP (FIRM) FOR ADAMS COUNTY COLORADO MAP NUMBER 08001C0592H, REVISED DATE MARCH 5, 2007.
3. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY ALTURA LAND CONSULTANTS, LLC TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. FOR ALL INFORMATION REGARDING EASEMENTS, RIGHTS OF WAY AND TITLE OF RECORDS, ALTURA LAND CONSULTANTS, LLC RELIED UPON TITLE COMMITMENT NO. NCS-1180566-CO, WITH AN EFFECTIVE DATE OF JULY 17, 2023 AS PREPARED BY FIRST AMERICAN, TO DELINEATE THE AFORESAID INFORMATION.
4. PER C.R.S. 38-51-106, "ALL LINEAL UNITS DEPICTED ON THIS LAND SURVEY PLAT ARE U.S. SURVEY FEET. ONE METER EQUALS 39.37/12 U.S. SURVEY FEET, EXACTLY, ACCORDING TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY."
5. THE FIELD WORK FOR THIS SURVEY WAS PERFORMED BY ALTURA LAND CONSULTANTS, LLC ON JULY 14, 2023.
6. 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 CERTIFICATION SHOWN HEREON.

GENERAL NOTES (continued):

7. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OF LAND MONUMENT OR ACCESSORY, COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUE 18-4-508, C.R.S.
8. PER THE STATE OF COLORADO BOARD OF LICENSURE FOR ARCHITECTS, PROFESSIONAL ENGINEERS, AND PROFESSIONAL LAND SURVEYORS RULE 1.6.B.2 THE WORD "CERTIFY"AS USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED. THE SURVEY REPRESENTED HAS BEEN PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE AND IS BASED UPON MY KNOWLEDGE, INFORMATION AND BELIEF.

STORM DRAINAGE FACILITIES STATEMENT:

THE POLICY OF THE COUNTY REQUIRES THAT MAINTENANCE ACCESS SHELL BE PROVIDED TO ALL STORM DRAINAGE FACILITIES TO ASSURE CONTINUOUS CAPABILITY OF THE SYSTEM. THE PROPERTY OWNERS SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE FACILITIES INCLUDING INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, AND DETENTION BASINS LOCATED ON THEIR LAND UNLESS MODIFIED BY THE SUBDIVISION DEVELOPMENT AGREEMENT. SHOULD THE OWNER FAIL TO MAINTAIN SAID FACILITIES, THE COUNTY SHALL HAVE THE RIGHT TO ENTER SAID LAND FOR THE SOLE PURPOSE OF OPERATIONS AND MAINTENANCE. ALL SUCH MAINTENANCE COST WILL BE ASSESSED TO THE PROPERTY OWNERS.

CERTIFICATE OF OWNERSHIP:

IN WITNESS THEREOF, QUIKTRIP CORPORATION, AN OKLAHOMA CORPORATION, HAS CAUSED THESE PRESENTS TO BE EXECUTED THIS ___ DAY OF _____, 2024

OWNER: QUIKTRIP CORPORATION, AN OKLAHOMA CORPORATION

BY:_____
JASON ACORD

TITLE: REGIONAL DIRECTOR OF REAL ESTATE / ASSISTANT SECRETARY

STATE OF KANSAS)
)SS
COUNTY OF JOHNSON)

THE FOREGOING PLAT AND DEDICATION WAS ACKNOWLEDGED BEFORE ME THIS ___ DAY OF _____ A.D. 2024, BY JASON ACORD AS DIRECTOR OR REAL ESTATE / ASSISTANT SECRETARY FOR QUICK TRIP CORPORATION, AN OKLAHOMA CORPORATION.

WITNESS MY HAND AND OFFICIAL SEAL.

_____
NOTARY PUBLIC

MY COMMISSION EXPIRES: _____

SURVEYOR'S CERTIFICATE:

I, JESUS A. LUGO, A LICENSED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, DO HEREBY CERTIFY THAT THIS PLAT WAS MADE BY ME OR UNDER MY DIRECT SUPERVISION ON THE 12TH DAY OF DECEMBER, 2023, AND THAT THE ACCOMPANYING MAP ACCURATELY AND PROPERLY SHOWS SAID SUBDIVISION.

SIGNED THIS __ DAY OF _____, 2024.

_____
LICENSED PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER 38081

PLANNING COMMISSION APPROVAL:

RECOMMENDED FOR APPROVAL BY THE ADAMS COUNTY PLANNING COMMISSION THIS ___ DAY OF _____, 2024.

_____
CHAIR

BOARD OF COUNTY COMMISSIONERS' APPROVAL:

APPROVED BY THE ADAMS COUNTY BOARD OF COMMISSIONERS THIS ___ DAY OF _____, 2024.

_____
CHAIR

ADAMS COUNTY ATTORNEY'S OFFICE:

_____
APPROVED AS TO FORM

CLERK AND RECORDER'S CERTIFICATE:

THIS FINAL PLAT WAS FILED FOR RECORD IN THE OFFICE OF THE ADAMS COUNTY CLERK AND RECORDER, IN THE STATE OF COLORADO, AT _____M., ON THIS ___ DAY OF _____, A.D. 2024.

_____ _____
DEPUTY CLERK AND RECORDER RECEPTION NUMBER

COVER SHEET

ALTURA
LAND CONSULTANTS
6950 South Tucson Way, Unit C
Centennial, Colorado 80112
Phone: (720) 488-1303

PREPARED	12/12/23
1ST SUBMITTAL	4/1/24

SHEET 1 OF 3

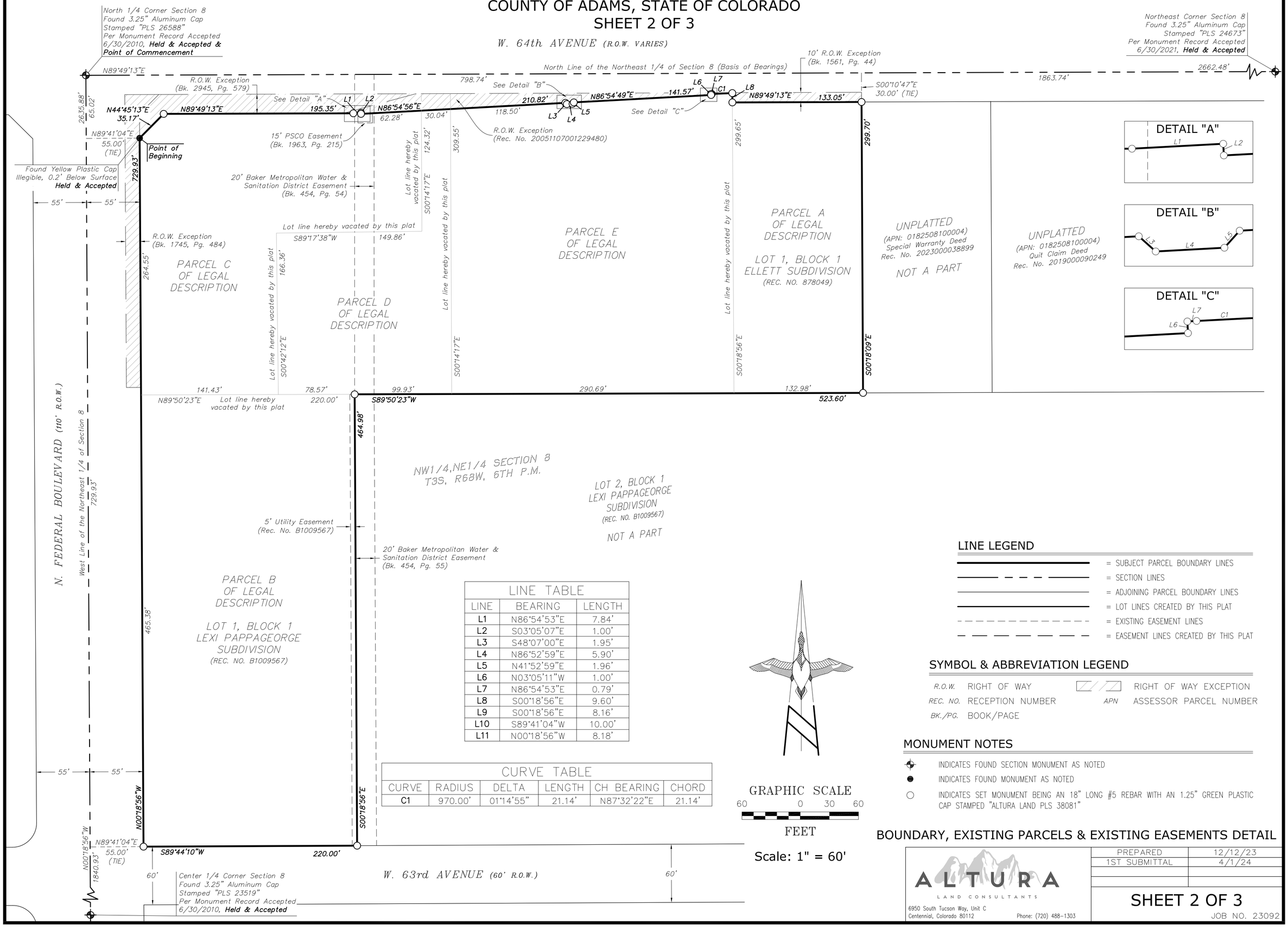
JOB NO. 23092

BERKLEY CENTER SUBDIVISION

CASE NO. PLT2023-00056

A REPLAT OF LOT 1, BLOCK 1, ELLETT SUBDIVISION, LOT 1 BLOCK 1, LEXI PAPPAGEORGE SUBDIVISION AND A PORTION OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, ALL LYING WITHIN THE NORTHEAST 1/4 SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF ADAMS, STATE OF COLORADO

SHEET 2 OF 3



LINE TABLE		
LINE	BEARING	LENGTH
L1	N86°54'53"E	7.84'
L2	S03°05'07"E	1.00'
L3	S48°07'00"E	1.95'
L4	N86°52'59"E	5.90'
L5	N41°52'59"E	1.96'
L6	N03°05'11"W	1.00'
L7	N86°54'53"E	0.79'
L8	S00°18'56"E	9.60'
L9	S00°18'56"E	8.16'
L10	S89°41'04"W	10.00'
L11	N00°18'56"W	8.18'

CURVE TABLE					
CURVE	RADIUS	DELTA	LENGTH	CH BEARING	CHORD
C1	970.00'	01°14'55"	21.14'	N87°32'22"E	21.14'

GRAPHIC SCALE

60 0 30 60

FEET

Scale: 1" = 60'

LINE LEGEND

- = SUBJECT PARCEL BOUNDARY LINES
- = SECTION LINES
- = ADJOINING PARCEL BOUNDARY LINES
- = LOT LINES CREATED BY THIS PLAT
- = EXISTING EASEMENT LINES
- = EASEMENT LINES CREATED BY THIS PLAT

SYMBOL & ABBREVIATION LEGEND

R.O.W.	RIGHT OF WAY		RIGHT OF WAY EXCEPTION
REC. NO.	RECEPTION NUMBER	APN	ASSESSOR PARCEL NUMBER
BK./PG.	BOOK/PAGE		

MONUMENT NOTES

- INDICATES FOUND SECTION MONUMENT AS NOTED
- INDICATES FOUND MONUMENT AS NOTED
- INDICATES SET MONUMENT BEING AN 18" LONG #5 REBAR WITH AN 1.25" GREEN PLASTIC CAP STAMPED "ALTURA LAND PLS 38081"

BOUNDARY, EXISTING PARCELS & EXISTING EASEMENTS DETAIL

ALTURA
LAND CONSULTANTS
6950 South Tucson Way, Unit C
Centennial, Colorado 80112
Phone: (720) 488-1303

PREPARED	12/12/23
1ST SUBMITTAL	4/1/24

SHEET 2 OF 3

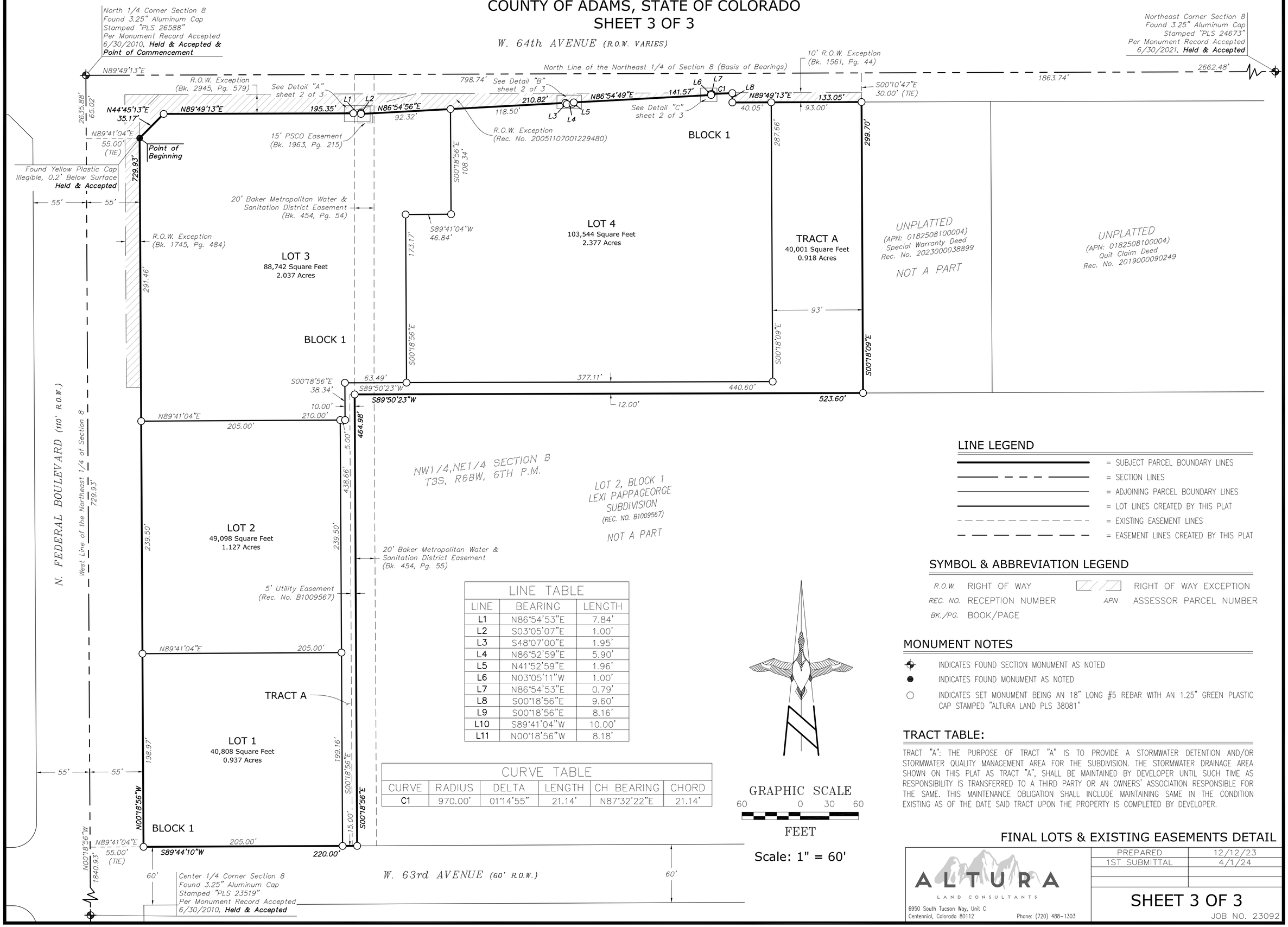
JOB NO. 23092

BERKLEY CENTER SUBDIVISION

CASE NO. PLT2023-00056

A REPLAT OF LOT 1, BLOCK 1, ELLETT SUBDIVISION, LOT 1 BLOCK 1, LEXI PAPPAGEORGE SUBDIVISION AND A PORTION OF THE NORTHWEST 1/4 OF THE NORTHEAST 1/4 OF SECTION 8, ALL LYING WITHIN THE NORTHEAST 1/4 SECTION 8, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, COUNTY OF ADAMS, STATE OF COLORADO

SHEET 3 OF 3



LINE TABLE		
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L5	N41°52'59"E	1.96'
L6	N03°05'11"W	1.00'
L7	N86°54'53"E	0.79'
L8	S00°18'56"E	9.60'
L9	S00°18'56"E	8.16'
L10	S89°41'04"W	10.00'
L11	N00°18'56"W	8.18'

CURVE TABLE					
CURVE	RADIUS	DELTA	LENGTH	CH BEARING	CHORD
C1	970.00'	01°14'55"	21.14'	N87°32'22"E	21.14'

GRAPHIC SCALE

60 0 30 60

FEET

Scale: 1" = 60'

LINE LEGEND

- = SUBJECT PARCEL BOUNDARY LINES
- = SECTION LINES
- = ADJOINING PARCEL BOUNDARY LINES
- = LOT LINES CREATED BY THIS PLAT
- = EXISTING EASEMENT LINES
- = EASEMENT LINES CREATED BY THIS PLAT

SYMBOL & ABBREVIATION LEGEND

R.O.W.	RIGHT OF WAY		RIGHT OF WAY EXCEPTION
REC. NO.	RECEPTION NUMBER	APN	ASSESSOR PARCEL NUMBER
BK./PG.	BOOK/PAGE		

MONUMENT NOTES

- INDICATES FOUND SECTION MONUMENT AS NOTED
- INDICATES FOUND MONUMENT AS NOTED
- INDICATES SET MONUMENT BEING AN 18" LONG #5 REBAR WITH AN 1.25" GREEN PLASTIC CAP STAMPED "ALTURA LAND PLS 38081"

TRACT TABLE:

TRACT "A": THE PURPOSE OF TRACT "A" IS TO PROVIDE A STORMWATER DETENTION AND/OR STORMWATER QUALITY MANAGEMENT AREA FOR THE SUBDIVISION. THE STORMWATER DRAINAGE AREA SHOWN ON THIS PLAT AS TRACT "A", SHALL BE MAINTAINED BY DEVELOPER UNTIL SUCH TIME AS RESPONSIBILITY IS TRANSFERRED TO A THIRD PARTY OR AN OWNERS' ASSOCIATION RESPONSIBLE FOR THE SAME. THIS MAINTENANCE OBLIGATION SHALL INCLUDE MAINTAINING SAME IN THE CONDITION EXISTING AS OF THE DATE SAID TRACT UPON THE PROPERTY IS COMPLETED BY DEVELOPER.

FINAL LOTS & EXISTING EASEMENTS DETAIL

ALTURA
LAND CONSULTANTS
6950 South Tucson Way, Unit C
Centennial, Colorado 80112
Phone: (720) 488-1303

PREPARED	12/12/23
1ST SUBMITTAL	4/1/24

SHEET 3 OF 3

JOB NO. 23092

Name: Subdivision Boundary_2nd Submittal_R1_04.15.2024

North: 1174162.6634' East: 3138697.5328'

Segment #1 : Line

Course: N44.4513E (dms) Length: 35.17'
North: 1174187.6391' East: 3138722.2945'

Segment #2 : Line

Course: N89.4913E (dms) Length: 195.35'
North: 1174188.2518' East: 3138917.6436'

Segment #3 : Line

Course: N86.5453E (dms) Length: 7.84'
North: 1174188.6738' East: 3138925.4722'

Segment #4 : Line

Course: S03.0507E (dms) Length: 1.00'
North: 1174187.6752' East: 3138925.5260'

Segment #5 : Line

Course: N86.5456E (dms) Length: 210.82'
North: 1174199.0190' East: 3139136.0406'

Segment #6 : Line

Course: S48.0700E (dms) Length: 1.95'
North: 1174197.7171' East: 3139137.4924'

Segment #7 : Line

Course: N86.5259E (dms) Length: 5.90'
North: 1174198.0379' East: 3139143.3837'

Segment #8 : Line

Course: N41.5259E (dms) Length: 1.96'
North: 1174199.4972' East: 3139144.6922'

Name: Tract A_2nd Submittal_R1_04.15.2024

North: 1173238.1062' East: 3139264.3154'

Segment #1 : Line

Course: N89.4913E (dms) Length: 93.00'
North: 1173238.3979' East: 3139357.3149'

Segment #2 : Line

Course: S00.1809E (dms) Length: 299.70'
North: 1172938.7021' East: 3139358.8972'

Segment #3 : Line

Course: S89.5023W (dms) Length: 523.60'
North: 1172937.2374' East: 3138835.2993'

Segment #4 : Line

Course: S00.1856E (dms) Length: 464.98'
North: 1172472.2644' East: 3138837.8601'

Segment #5 : Line

Course: S89.4410W (dms) Length: 15.00'
North: 1172472.1953' East: 3138822.8603'

Segment #6 : Line

Course: N00.1856W (dms) Length: 438.66'
North: 1172910.8487' East: 3138820.4444'

Segment #7 : Line

Course: N89.4104E (dms) Length: 5.00'
North: 1172910.8762' East: 3138825.4443'

Segment #8 : Line

Course: N00.1856W (dms) Length: 38.34'
North: 1172949.2156' East: 3138825.2332'

Segment #9 : Line

Course: N89.5023E (dms) Length: 440.60'
North: 1172950.4482' East: 3139265.8314'

Segment #10 : Line

Course: N00.1809W (dms) Length: 287.66'
North: 1173238.1042' East: 3139264.3127'

Perimeter: 2606.54' Area: 40001 Sq. Ft.
Error Closure: 0.0034 Course: S52.5449W (dms)
Error North: -0.00203 East: -0.00268

Precision 1: 766629.41

Segment #9 : Line

Course: N86.5449E (dms) Length: 141.57'
North: 1174207.1195' East: 3139286.0569'

Segment #10 : Line

Course: N03.0511W (dms) Length: 1.00'
North: 1174208.1181' East: 3139286.0030'

Segment #11 : Line

Course: N86.5453E (dms) Length: 0.79'
North: 1174208.1606' East: 3139286.7919'

Segment #12 : Curve

Length: 21.14' Radius: 970.00'
Delta: 001 14'55" Tangent: 10.57'
Chord: 21.14' Course: N87.3222E (dms)
Course In: S03.0506E (dms) Course Out: N01.5011W (dms)
RP North: 1173239.5663' East: 3139338.9947'
End North: 1174209.0682' East: 3139307.9124'

Segment #13 : Line

Course: S00.1856E (dms) Length: 9.60'
North: 1174199.4683' East: 3139307.9652'

Segment #14 : Line

Course: N89.4913E (dms) Length: 133.05'
North: 1174199.8857' East: 3139441.0146'

Segment #15 : Line

Course: S00.1809E (dms) Length: 299.70'
North: 1173900.1898' East: 3139442.5969'

Segment #16 : Line

Course: S89.5023W (dms) Length: 523.60'
North: 1173898.7251' East: 3138918.9989'

Segment #17 : Line

Course: S00.1856E (dms) Length: 464.98'
North: 1173433.7522' East: 3138921.5598'

Segment #18 : Line

Course: S89.4410W (dms) Length: 220.00'
North: 1173432.7389' East: 3138701.5621'

Segment #19 : Line

Course: N00.1856W (dms) Length: 729.93'
North: 1174162.6579' East: 3138697.5421'

Perimeter: 3005.34' Area: 322192 Sq. Ft.
Error Closure: 0.0108 Course: S59.1303E (dms)
Error North: -0.00554 East: 0.00930

Precision 1: 278273.15

Name: Lot 1_2nd Submittal_R1_04.15.2024

North: 1172444.3188' East: 3138557.8182'

Segment #1 : Line

Course: N00.1856W (dms) Length: 198.97'
North: 1172643.2858' East: 3138556.7224'

Segment #2 : Line

Course: N89.4104E (dms) Length: 205.00'
North: 1172644.4149' East: 3138761.7193'

Segment #3 : Line

Course: S00.1856E (dms) Length: 199.16'
North: 1172445.2579' East: 3138762.8162'

Segment #4 : Line

Course: S89.4410W (dms) Length: 205.00'
North: 1172444.3137' East: 3138557.8183'

Perimeter: 808.13' Area: 40808 Sq. Ft.
Error Closure: 0.0051 Course: S01.1440E (dms)
Error North: -0.00514 East: 0.00011

Precision 1: 158456.86

****
Name: Lot 2_2nd Submittal_R1_04.15.2024

North: 1172668.3113' East: 3138564.4101'

Segment #1 : Line

Course: N00.1856W (dms) Length: 239.50'
North: 1172907.8077' East: 3138563.0911'

Segment #2 : Line

Course: N89.4104E (dms) Length: 205.00'
North: 1172908.9367' East: 3138768.0880'

Segment #3 : Line

Course: S00.1856E (dms)   Length: 239.50'
North: 1172669.4404'   East: 3138769.4070'

Segment #4 : Line

Course: S89.4104W (dms)   Length: 205.00'
North: 1172668.3113'   East: 3138564.4101'

Perimeter: 889.00'   Area: 49098 Sq. Ft.
Error Closure: 0.0000   Course: N00.0000E (dms)
Error North: 0.00000   East: 0.00000

Precision 1: 889000000.00

****
Name: Lot 3_2nd Submittal_R1_04.15.2024

North: 1173228.0948'   East: 3138559.7543'

Segment #1 : Line

Course: N44.4513E (dms)   Length: 35.17'
North: 1173253.0705'   East: 3138584.5161'

Segment #2 : Line

Course: N89.4913E (dms)   Length: 195.35'
North: 1173253.6832'   East: 3138779.8651'

Segment #3 : Line

Course: N86.5453E (dms)   Length: 7.84'
North: 1173254.1052'   East: 3138787.6938'

Segment #4 : Line

Course: S03.0507E (dms)   Length: 1.00'
North: 1173253.1066'   East: 3138787.7476'

Segment #5 : Line

Course: N86.5456E (dms) Length: 92.32'
North: 1173258.0742' East: 3138879.9338'

Segment #6 : Line

Course: S00.1856E (dms) Length: 108.34'
North: 1173149.7358' East: 3138880.5305'

Segment #7 : Line

Course: S89.4104W (dms) Length: 46.84'
North: 1173149.4779' East: 3138833.6912'

Segment #8 : Line

Course: S00.1856E (dms) Length: 173.17'
North: 1172976.3105' East: 3138834.6450'

Segment #9 : Line

Course: S89.5023W (dms) Length: 63.49'
North: 1172976.1329' East: 3138771.1552'

Segment #10 : Line

Course: S00.1856E (dms) Length: 38.34'
North: 1172937.7935' East: 3138771.3664'

Segment #11 : Line

Course: S89.4104W (dms) Length: 210.00'
North: 1172936.6369' East: 3138561.3695'

Segment #12 : Line

Course: N00.1856W (dms) Length: 291.46'
North: 1173228.0925' East: 3138559.7643'

Perimeter: 1263.31' Area: 88742 Sq. Ft.
Error Closure: 0.0103 Course: S76.5024E (dms)
Error North: -0.00234 East: 0.01003

Precision 1: 122652.43

****
Name: Lot 4_2nd Submittal_04.15.2024

North: 1173243.9894'   East: 3138910.7812'

Segment #1 : Line

Course: N86.5456E (dms)   Length: 118.51'
North: 1173250.3662'   East: 3139029.1196'

Segment #2 : Line

Course: S48.0700E (dms)   Length: 1.95'
North: 1173249.0643'   East: 3139030.5714'

Segment #3 : Line

Course: N86.5259E (dms)   Length: 5.90'
North: 1173249.3851'   East: 3139036.4626'

Segment #4 : Line

Course: N41.5259E (dms)   Length: 1.96'
North: 1173250.8444'   East: 3139037.7711'

Segment #5 : Line

Course: N86.5449E (dms)   Length: 141.57'
North: 1173258.4667'   East: 3139179.1358'

Segment #6 : Line

Course: N03.0511W (dms)   Length: 1.00'
North: 1173259.4653'   East: 3139179.0820'

Segment #7 : Line

Course: N86.5453E (dms)   Length: 0.79'
North: 1173259.5078'   East: 3139179.8708'

Segment #8 : Curve

Length: 21.14' Radius: 970.00'
Delta: 001 14'55" Tangent: 10.57'
Chord: 21.14' Course: N87.3222E (dms)
Course In: S03.0506E (dms) Course Out: N01.5011W (dms)
RP North: 1172290.9135' East: 3139232.0737'
End North: 1173260.4154' East: 3139200.9913'

Segment #9 : Line

Course: S00.1856E (dms) Length: 9.60'
North: 1173250.8155' East: 3139201.0442'

Segment #10 : Line

Course: N89.4913E (dms) Length: 40.05'
North: 1173250.9411' East: 3139241.0940'

Segment #11 : Line

Course: S00.1809E (dms) Length: 287.66'
North: 1172963.2852' East: 3139242.6127'

Segment #12 : Line

Course: S89.5023W (dms) Length: 377.11'
North: 1172962.2302' East: 3138865.5042'

Segment #13 : Line

Course: N00.1856W (dms) Length: 173.17'
North: 1173135.3976' East: 3138864.5505'

Segment #14 : Line

Course: N89.4104E (dms) Length: 46.84'
North: 1173135.6556' East: 3138911.3898'

Segment #15 : Line

Course: N00.1856W (dms) Length: 108.34'
North: 1173243.9939' East: 3138910.7931'

Perimeter: 1335.57' Area: 103544 Sq. Ft.
Error Closure: 0.0127 Course: N69.0835E (dms)
Error North: 0.00451 East: 0.01183

Precision 1: 105164.57

LEVEL 3 STORM DRAINAGE STUDY

Berkely Center Subdivision
(64th & Federal)
Adams County

Prepared for:

QuikTrip Corporation
4705 South 129th East Ave
Tulsa, OK 74134-7008
(918) 615-7685

Prepared by:

Kimley-Horn and Associates, Inc.
3801 Automation Way, Suite 210
Fort Collins, CO 80525
(970) 822-7911

Project #: 096888037

Prepared: April 15, 2024

Kimley»Horn

CERTIFICATION

ENGINEER'S STATEMENT

"I hereby certify that this report for the Preliminary Drainage design of Berkely Center Subdivision was prepared by me or under my direct supervision in accordance with the provisions of Adams County Storm Drainage Design and Technical Criteria for the owners thereof. I understand that Adams County does not and will not assume liability for drainage facilities designed by others."

_____ _____

James Waller , P.E.
Colorado Registered PE #60876

Date

OWNER STATEMENT

"QuikTrip Corporation hereby certifies that the drainage facilities for Berkley Center Subdivision shall be constructed according to the design presented in this report. I understand that Adams County does not and will not assume liability for the drainage facilities designed and/ or certified by my engineer. I understand that Adams County reviews drainage plans pursuant to Colorado Revised Statues Title 30, Article 28; but cannot, on behalf of Berkley Center Subdivision, guarantee that final drainage design review will absolve QuikTrip Corporation and/ or their successors and/ or assigns the future liability for improper design. I further understand that approval of the Final Plat and/ or Final Development Plan does not imply approval of my engineer's drainage design."

_____ _____

(Property Owner Signature) Date

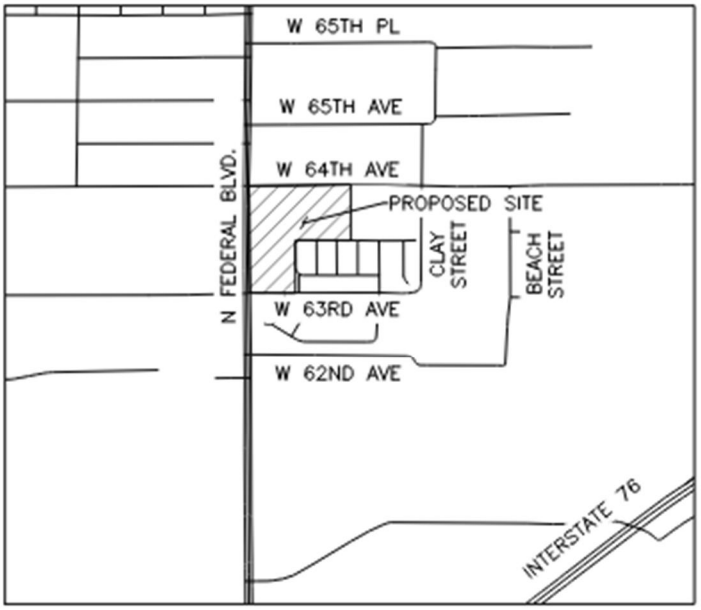
Name:	QuikTrip Corporation
Address:	12000 Washington Street, Suite 175
	Thornton, CO 80241
Phone:	(303) 248-0436
Contact:	Brittany Sikorski

CONTENTS

GENERAL LOCATION AND PROJECT DESCRIPTION

LOCATION

The Site is located at the at Southeast corner of Federal Boulevard and West 64th Avenue in Adams County, Colorado. The Site totals approximately 7.41 acres. The site is bounded by Federal Boulevard to the west, West 64th Avenue to the north, commercial development to the east, West 63rd Avenue to the south, and mobile residential community to the southeast. A vicinity map has been included below for reference.



VICINITY MAP
Not to Scale

PROJECT DESCRIPTION

The existing site is planned to be subdivided into five (5) lots totaling 7.41 acres, with a total disturbed area of 7.68 acres. The lot on the corner of Federal Blvd. and 64th Avenue will be a subdivision with five (5) proposed lots to be developed at a future date. The site is zoned Commercial-5 (C-5) and the proposed lots will include business suburban, and light industrial.

EXISTING CONDITIONS

The existing site is currently a vacant used car sales lot. The majority of the site is covered with asphalt pavement, ~90% of the total area. The remaining site area is classified as roofed area with minimal landscaping onsite. The existing drainage pattern generally sheet flows from the northwest to the southeast with slopes ranging from 1%-8%. Along the Project frontage, Federal Blvd slopes to the south at 1%-3% and 64th Ave slopes to the east around 1%-5%. There are no existing onsite detention or water quality facilities, and all drainage patterns flow offsite. The historic runoff pattern within the adjacent rights-of-way will be maintained and will not be negatively the proposed Project.

FLOOD STUDIES

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panel 08001C0584H (effective March 5, 2007) and C0592H, the Site is entirely located in "Zone X", which is considered an area of minimal flood hazard, outside of the regulatory floodplain. The FEMA FIRM associated with the Site is included in **Appendix A**. A portion of the offsite area south of the site is located within zone AE and no construction is proposed within this area.

SOIL REPORT

An NRCS soil study for the project was obtained to determine the soil characteristics of the site. The result of this study shows that the majority of the site is Wet alluvial land at approximately 78%, 22% Loamy alluvial land which are classified as hydraulic soil groups D, C respectively. The NRCS soil report can be found in **Appendix B** of this report.

MAJOR DRAINAGE BASIN DESCRIPTION

According to the Mile High Flood District (MHFD), this project is located within the Clear Creek Watershed (Basin ID 4300). This basin is a tributary of First Creek. The overall drainage basin is generally undeveloped and drainage facilities immediately downstream of this site are in place.

EXISTING SUB-BASIN DESCRIPTION

For more detailed information on the sub-basins, please reference the *Existing Drainage Plan* in **Appendix E.** In addition, **Table 2** following this section provides additional detail for rational calculation summaries and outfalls. With no existing onsite detention and water quality, all basins in the existing sub-basins outfall offsite. Existing hydrologic calculations are included in **Appendix C**.

Sub-Basin EX-1

Sub-basin EX-1 is a 7.26-acre area that contains the majority of the existing site. This area is comprised of minimal to no vegetation and asphalt paving. There are three (3) existing buildings onsite providing 0.53 acres of roof coverage. Runoff from subbasin EX-1 sheet flows southeast across the site and outfalls into the residential community.

Sub-Basin EX-2
Sub-basin EX-2 is a 0.28-acre area that consists of asphalt paving along the western portion of the site. Runoff from Basin EX-2 sheet flows west offsite onto Federal Blvd. and is conveyed south along Federal Blvd. via curb and gutter to an existing Denver 13 Combination inlet (Design Point 1).

Sub-Basin EX-3
Sub-basin EX-3 is a 0.07-acre area that consists of asphalt paving along the northern portion of the site. Runoff from Basin EX-3 sheet flows North offsite onto 64th Ave. and is conveyed east along 64th Ave. via curb and gutter to an existing Denver 13 Combination inlet (Design Point 2).

Sub-Basin EX-4
Sub-basin EX-4 is a 0.05-acre area that consists of native vegetation along the northern portion of the site. Runoff from basin EX-3 sheet flows north offsite onto 64th Avenue and is conveyed east along 64th Avenue via curb and gutter to existing Denver 13 Combination inlet (Design Point 2).

Table 2: Existing Rational Calcs Summary

RATIONAL CALCULATIONS SUMMARY					
DESIGN POINT	TRIBUTARY BASINS	TRIBUTARY AREA (AC)	IMPERVIOUSNESS %	PEAK FLOWS (CFS)	
				Q5	Q100
On-Site Basins					
	EX-1	7.26	98%	28.48	58.71
1	EX-2	0.28	100%	1.12	2.30
2	EX-3	0.07	100%	0.21	0.43
2	EX-4	0.05	2%	0.00	0.15

DEVELOPED SITE DRAINAGE CONDITIONS
The proposed drainage design will incorporate the use of drainage swales and/or concrete pans to convey runoff to a local inlet. Once the flows have been captured by the inlet, the runoff will be routed via underground storm pipe to the proposed regional extended detention basin (EDB) for treatment.

The site has been divided into seven (7) onsite basins and three (3) offsite subbasins. All of the onsite subbasins will be captured and conveyed to the proposed EDB with the exception of subbasins OF-E1 and OF-AB1. After runoff is released from the EDB, runoff will outfall to the existing storm system in 64th Avenue. For more detailed information on the sub-basins, please reference the *Proposed Drainage Plan* in **Appendix A. Table 3** following this section provides additional detail for rational calculation summaries and outfalls. Proposed hydrologic calculations are included in **Appendix D.**

PROPOSED SUB-BASIN DESCRIPTION

ONSITE

Sub-Basin A-1
Sub-basin A-1 is a 0.89-acre area that is designed for future development consistent with allowed uses in applicable zoning. Subbasin A-1 has an assumed imperviousness of 75% based on **Table 6.3** in Adams County Stormwater Drainage Design and Stormwater Quality Control Regulations manual ("the Manual"). Runoff will be conveyed via overland flows into a concrete pan on the eastern side of the site and routed north through B-1 to design point C in Basin C-1. A temporary swale will be installed to convey all runoff from A-1 to the pan.

Sub-Basin B-1
Sub-basin B-1 is a 1.12-acre area that is designed for future development consistent with allowed uses in applicable zoning. Subbasin B-1 has an assumed imperviousness of 75% based on **Table 6.3** in The Manual. Runoff will be conveyed via overland flows into a concrete pan on the eastern side of the site and routed north through to design point C in Basin C-1. A temporary swale will be installed to convey all runoff from B-1 to the pan.

Sub-Basin C-1
Sub-basin C-1 is a 2.04-acre area that is designed for future development consistent with allowed uses in applicable zoning. Subbasin C-1 has an assumed imperviousness of 75% based on **Table 6.3** in the manual. Runoff will be conveyed via overland flows to design point C in Basin C-1. A temporary swale will be installed to convey all runoff from C-1 to the pan. During the 100-year event, inlet A-4 will overtop and follow drainage patterns east across basin D-1 into basin E-1.

Sub-Basin D-1
Sub-basin D-1 is a 2.37-acre area that is designed for future development consistent with allowed uses in applicable zoning. Subbasin D-1 has an assumed imperviousness of 80% based on **Table 6.3** in the Manual. The runoff will be conveyed via sheet flow to the proposed EDB at the east side of the site.

Sub-Basin OF-AB1
Sub-basin OF-AB1 is a 0.13-acre area that is comprised of landscaping and pavement along the western portion of the site. Flows on the surface will not be captured by proposed storm infrastructure and will be routed offsite to Federal Blvd. where it will be routed via curb and gutter to EX Design Point 1.

Sub-Basin E-1
Sub-basin E-1 is a 0.76-acre area that is comprised of the proposed EDB that will serve future development sites. Flows will be conveyed to the concrete pan in the previous basins and then into the proposed EDB and treated for water quality and detention (Design Point 1). Flows will then be released at historic flow rates to the existing storm system at Existing Design point 2.

Sub-Basin OF-E1

Sub-basin OF-E1 is a 0.10-acre area that is comprised of landscaping along the eastern portion of the site. Flows on the surface will not be captured by proposed storm infrastructure and will be routed offsite to the existing residential community following existing drainage patterns.

OFFSITE

Sub-Basin OS-C1

Sub-basin OS-C1 is a 0.10-acre offsite area that is comprised of landscaping and pavement along the west side of the site. Flows on the surface will be conveyed by overland flows into proposed Basin C-1 and follow the respective drainage patterns of each basin. See Basin C-1 for proposed drainage patterns.

Sub-Basin OF-AB2

Sub-basin OF-AB3 is a 0.10-acre offsite area that is comprised of landscaping and pavement along the eastern side of the site. Flows on the surface will not be captured by proposed storm infrastructure and will be routed offsite east to Federal Blvd. where they will be routed via curb and gutter to EX Design Point 1.

Sub-Basin OS-D1

Sub-basin OS-D1 is a 0.06-acre offsite area that is comprised of landscaping and pavement along the northern side of the site. Flows on the surface will be conveyed by overland flows into proposed Basin D-1 and follow the respective drainage patterns of the basin.

Table 3: Proposed Rational Calcs Summary Table

Kimley»Horn

PROJECT NAME: QuikTrip #4270 DATE: 3/6/2024
PROJECT NUMBER: 0968888037
CALCULATED BY: AIA
CHECKED BY: JPW

PROPOSED RATIONAL CALCULATIONS SUMMARY

DESIGN POINT	TRIBUTARY BASINS	TRIBUTARY AREA (AC)	IMPERVIOUSNESS %	PEAK FLOWS (CFS)	
				Q5	Q100
On-Site Basins					
	A1	0.89	75%	2.55	4.87
	B1	1.12	75%	3.10	5.92
	C1	2.04	75%	6.03	11.51
	D1	2.37	80%	8.07	15.40
	E1	0.76	2%	0.03	2.56
	OF-E1	0.10	2%	0.00	0.46
	OF-AB1	0.13	22%	0.12	0.69
TOTAL		7.41	67%	**19.90**	41.40
Off-Site Basins					
OS-C1	OS-C1	0.10	47%	0.20	0.65
OF-AB2	OF-AB2	0.10	53%	0.23	0.67
OS-D1	OS-D1	0.06	16%	0.04	0.29
TOTAL		**0.26**	**43%**	**0.47**	**1.61**

The total tributary area to the Pond is 7.34 acres. The total runoff to the Pond from these basins is 17.14 cfs in the 5-year storm event and 36.72 in the 100-year storm event.

Table 4: Pond Tributary Areas

	Tributary Basins	Tributary Area (ac)	Imperviousness	Q_5 (cfs)	Q_{100} (cfs)
Tributary to Pond	A-E1,OS-C1,OS-D1	7.34	68%	20.02	41.20
Tributary Offsite	OF-E1,OF-AB1,OF-AB2	0.33	25%	0.35	1.82

DRAINAGE FACILITY DESIGN

GENERAL CONCEPT

Stormwater runoff will be conveyed in conformance with historic drainage patterns, flowing into the storm sewer systems on site, and ultimately into Clear Creek. Developed runoff will be collected via curb and gutter, concrete pans, and storm sewer inlets. The onsite storm system will convey to the EDB located at the eastern edge of the site for water quality and detention storage of the excess urban runoff volume (EURV) and 100-yr event.

OFFSITE FEDERAL BLVD.

In the existing condition, the tributary area outfalling to Design Point 1 along Federal Blvd. is 0.28 acres with a runoff of 1.12 cfs in the 5-year storm event and 2.30 in the 100-year storm event. In the proposed condition, the tributary area (OF-AB1,OF-AB2) outfalling to Design Point 1 is 0.23 acres with a runoff of 0.35 cfs for the 5-year storm event and 1.36 cfs in the 100-year storm event discharges. The proposed condition decreases flow from the existing condition, therefore the proposed improvements will not negatively impact the downstream storm infrastructure at Design Point 1.

OFFSITE 64TH AVE

In the existing condition, the tributary area outfalling to Design Point 1 along 64th Avenue is 0.12 acres with a runoff of 0.21 cfs in the 5-year storm event and 0.58 in the 100-year storm event. In the proposed condition, there are no proposed areas outfalling to 64th Avenue The proposed condition decreases flow from the existing condition, therefore the proposed improvements will not negatively impact the downstream storm infrastructure at Design Point 1.

OFFSITE SOUTHEAST (RESIDENTIAL SUBDIVISION)

In the existing condition, the tributary area outfalling to Design Point 1 along Federal Blvd. is 7.26 acres with a runoff of 28.48 cfs in the 5-year storm event and 58.71 in the 100-year storm event. In the proposed condition, the tributary area (OF-E1) outfalling to offsite is 0.10 acres with a runoff of 0.00 cfs for the 5-year storm event and 0.46 cfs in the 100-year storm event discharges. The proposed condition decreases flow from the existing condition; therefore the proposed improvements will not negatively impact the downstream storm infrastructure.

ONSITE

In the existing condition, there are no means for onsite detention or water quality. All stormwater sheet flows southeast across the site to the residential subdivision with a totaling flow of 28.48 cfs in the 5-year storm event and 58.71 cfs in the 100-year storm event. In the proposed condition, the flows will be redirected to the EDB on the eastern side of the site through curb and gutters, concrete pans, and proposed storm pipe. The areas tributary to the EDB (A1-E1, OS-C1, OS-D1) are 7.34 acres with a total flow of 20.02 cfs in the 5-year storm event and 41.20 cfs in the 100-year storm event. A minimum of 1’ of freeboard is provided in the pond from the 100-year water surface elevation (WSE) and the top of pond. Detention calculations are provided in **Appendix D**. The pond will have a controlled release that will discharge flows at historic rates via outlet structures to the public storm sewer systems. This

pond outfall pipe will also be sized to provide capacity for the 100-year storm event. Clear Creek is the ultimate tributary for the site. An emergency overflow path is also provided for runoff to convey flows from the pond to the 64th Avenue right-of-way.

DETENTION POND DESIGN

According to adams county Drainage Manual, Detention of flood flows is required for all development and redevelopment projects and should be designed to control the 5-year and 100-year recurrence interval floods. The total tributary area to the proposed detention pond is 7.34-acres including Sub-basins A1, B1, C1, D1, E1, Pond,OS-C1,OS-D1, with a weighted imperviousness of 68%. The 100-year detention volume required for the pond is 0.396 acre-feet with proposed conditions of the site, as calculated by the MHFD detention spreadsheet included in **Appendix C**. 8

The proposed detention pond is designed to have a bottom elevation of 5209.00 and a top spillway elevation of 5212.00. The pond is a Swirl-Bay design per City and County of Denver Detail Figure 13.1S. The proposed pond will provide a total volume of 0.904 acre-feet. The outlet structure has been designed to meet the Water Quality Capture Volume (WQCV) and drain time requirements in conformance with the Manual. The proposed orifice plate provides a WQCV release rate of 0.10 cfs and a drain time of 40 hours. The 5-year flows are controlled by the orifice plate with a release rate of 0.60 cfs. The 100-year flows are controlled by the overflow weir structure and restrictor plate on the outlet pipe providing a release rate of 8.40 cfs. The release rates with the proposed development are less than those in the existing condition and drain times are in conformance with those in the Manual. Orifice plate and outlet sizing calculations are provided in **Appendix D**.

PERMANENT STORMWATER QUALITY

Permanent water quality will be provided in the on-site surface water quality and detention pond in accordance Mile High Flood District and Adams County code. Each detention facility is sized adequately to treat and release the water quality capture volume (WQCV) in at least 40 hours per the adams county Drainage Manual. The total WQCV for the disturbed Project area is 0.16 acre-feet. The owner will provide long term operation and maintenance of the detention and water quality facilities. Approximately 4.5% of the total disturbed area is discharging without being treated, which is in compliance with the 20% maximum requirement, see **Appendix C** for PSC calculations.

CONCLUSIONS

The stormwater drainage design for the project has been done in accordance with the standards set forth in the Adams County Storm Drainage Design and Stormwater Quality Control Regulations and the Urban Storm Drainage Criteria Manual. Stormwater runoff will be safely conveyed through a series of private storm sewer networks without negatively impacting adjacent properties or the existing infrastructure.

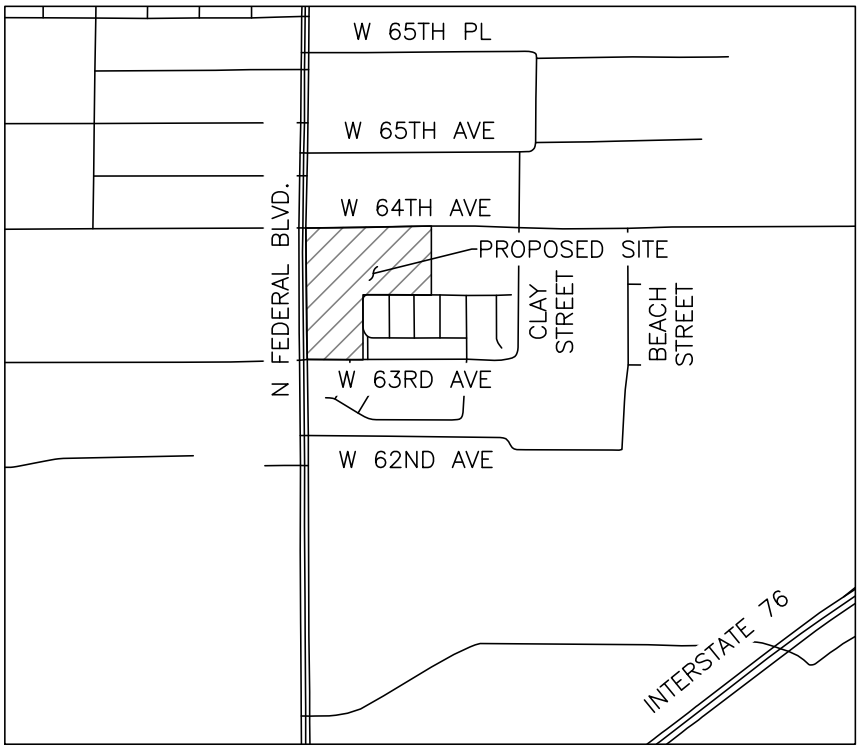
REFERENCES

1. Storm Water Drainage Design and Stormwater Quality Control Regulations, Dated December, 8 2020, prepared by Adams County.
2. Urban Storm Drainage Criteria Manual, Volumes 1-3, prepared by Mile High Flood District, Updated October 2019.
3. Flood Insurance Rate Map, Adams County, Colorado and Incorporated Areas, Map Number 08001C0592H, Revised March 5, 2007, prepared by the Federal Emergency Management Agency (FEMA)

APPENDIX A – MAP

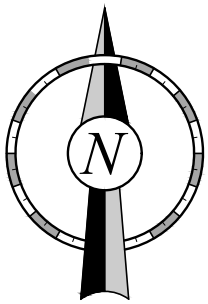
Kimley»Horn

Vicinity Map QuikTrip 4270



VICINITY MAP

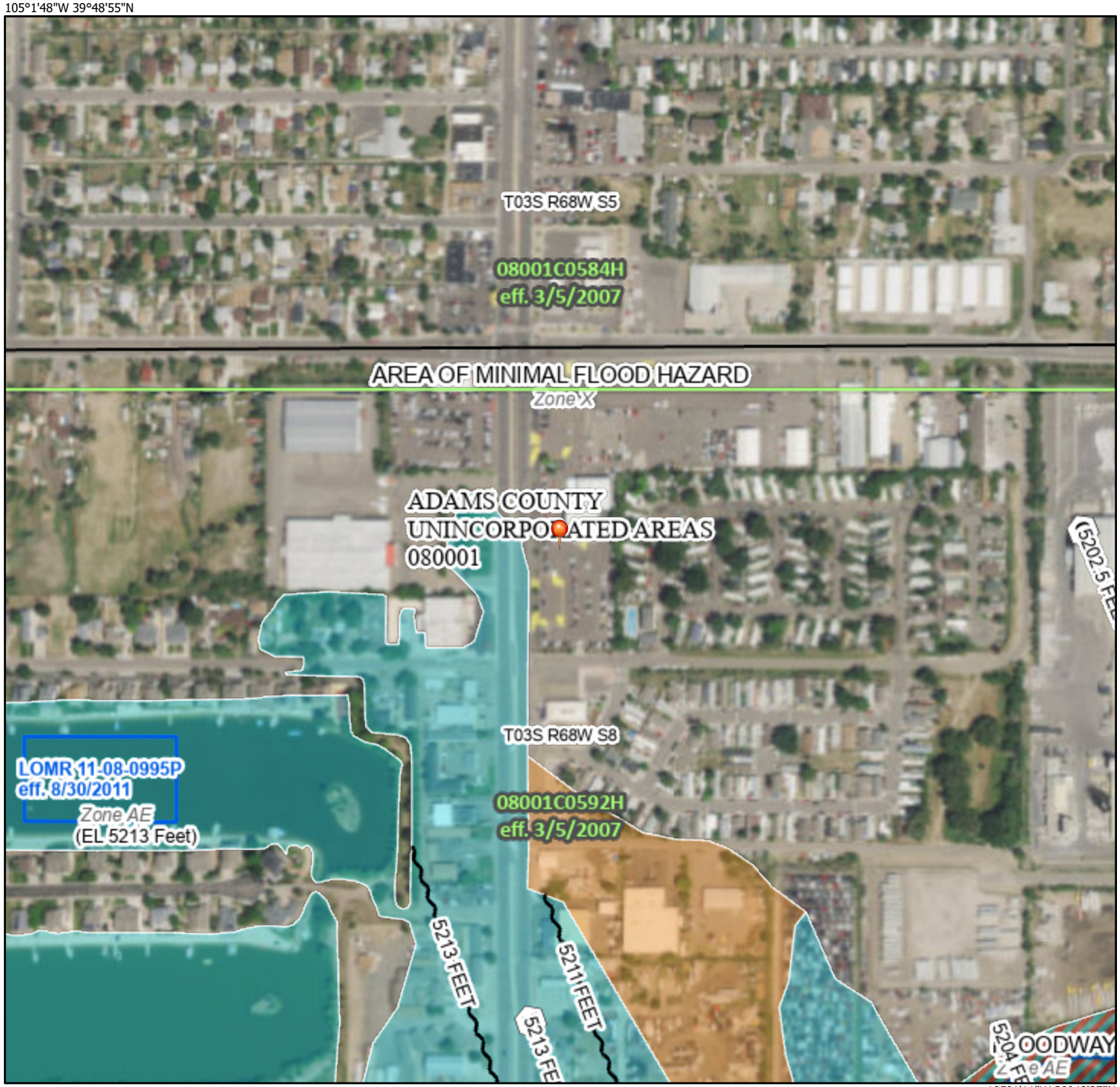
Not to Scale



National Flood Hazard Layer FIRMette

FEMA

105°1'48"W 39°48'55"N



105°1'11"W 39°48'27"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

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
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

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 11/20/2023 at 6:44 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.

APPENDIX B – SOILS INFORMATION

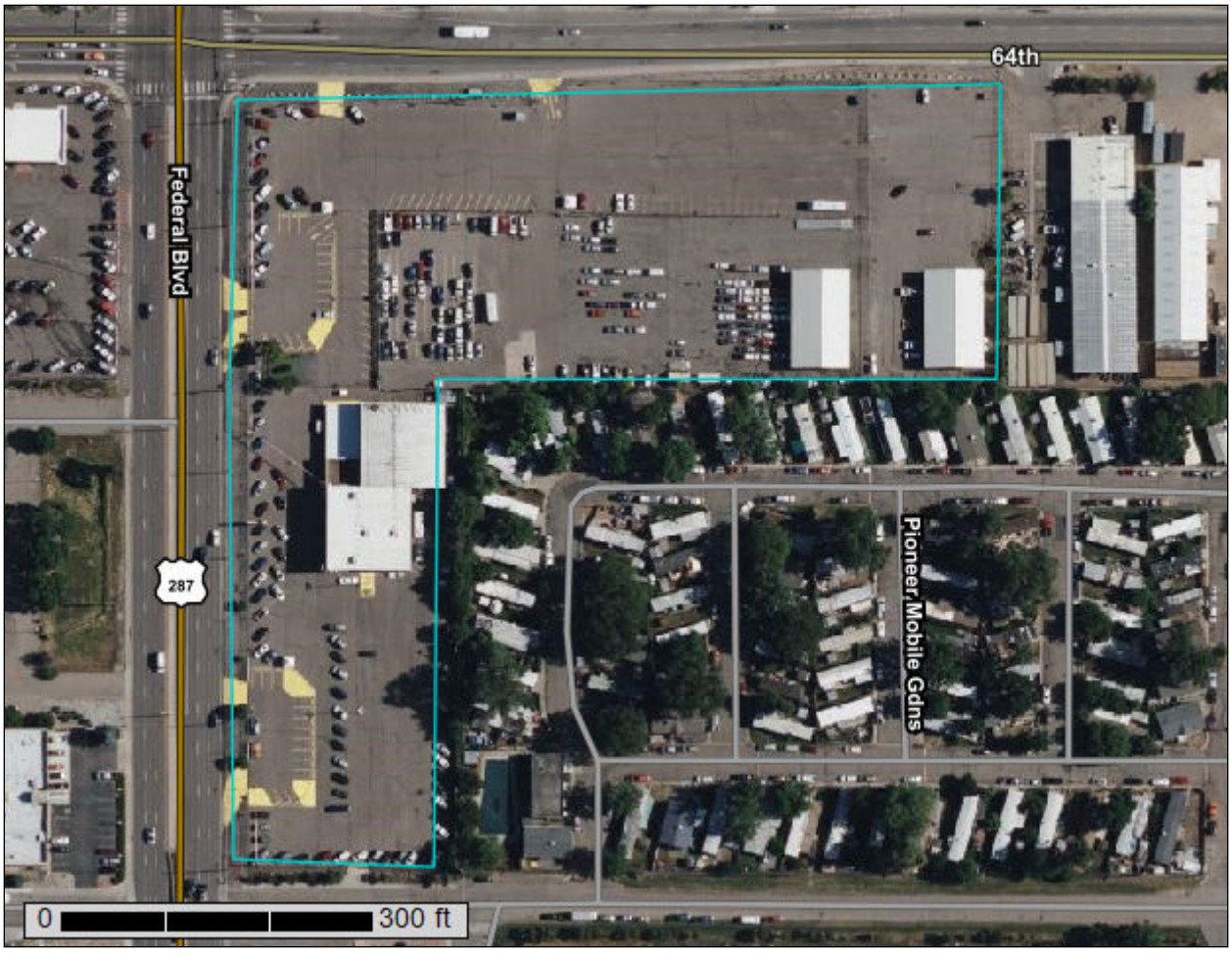
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Adams County Area, Parts of Adams and Denver Counties, Colorado



August 31, 2023

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

Map Scale: 1:1,750 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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

MAP LEGEND

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

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

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

Water Features
- Streams and Canals

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

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

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: Adams County Area, Parts of Adams and Denver Counties, Colorado
Survey Area Data: Version 19, Sep 1, 2022

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

Date(s) aerial images were photographed: Jul 1, 2020—Jul 2, 2020

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

MAP LEGEND

MAP INFORMATION

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
Gr	Gravelly land-Shale outcrop complex	0.0	0.2%
Lw	Loamy alluvial land, moderately wet	1.5	21.6%
Wt	Wet alluvial land	5.3	78.2%
Totals for Area of Interest		**6.8**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The

delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Adams County Area, Parts of Adams and Denver Counties, Colorado

Gr—Gravelly land-Shale outcrop complex

Map Unit Setting

National map unit symbol: 34vy
Elevation: 4,400 to 5,500 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 46 to 54 degrees F
Frost-free period: 120 to 160 days

Map Unit Composition

Gravelly land: 65 percent
Shale outcrop: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gravelly Land

Setting

Landform: Hillslopes
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from mixed and/or slope alluvium derived from mixed

Typical profile

H1 - 0 to 3 inches: gravelly sand
H2 - 3 to 60 inches: gravelly sand

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: A
Ecological site: R067BY063CO - Gravel Breaks
Hydric soil rating: No

Description of Shale Outcrop

Typical profile

H1 - 0 to 60 inches: unweathered bedrock

Properties and qualities

Slope: 15 to 45 percent
Depth to restrictive feature: 0 inches to paralithic bedrock
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Available water supply, 0 to 60 inches: Very low (about 0.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 8s
Hydrologic Soil Group: D
Ecological site: R067BY045CO - Shaly Plains
Hydric soil rating: No

Lw—Loamy alluvial land, moderately wet

Map Unit Setting

National map unit symbol: 34w5
Elevation: 4,000 to 5,500 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 135 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition

Loamy alluvial land: 70 percent
Minor components: 30 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Loamy Alluvial Land

Setting

Landform: Drainageways
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile

H1 - 0 to 6 inches: variable
H2 - 6 to 36 inches: stratified loam to clay loam
H3 - 36 to 60 inches: sand

Properties and qualities

Slope: 0 to 1 percent
Drainage class: Somewhat poorly drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 18 to 36 inches
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Nunn

Percent of map unit: 12 percent
Hydric soil rating: No

Satanta
Percent of map unit: 12 percent
Landform: Paleoterraces
Hydric soil rating: No

Fluvaquentic haplustolls
Percent of map unit: 6 percent
Landform: Sloughs
Hydric soil rating: Yes

Wt—Wet alluvial land

Map Unit Setting
National map unit symbol: 34xj
Elevation: 4,000 to 5,600 feet
Mean annual precipitation: 12 to 14 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 125 to 155 days
Farmland classification: Not prime farmland

Map Unit Composition
Wet alluvial land: 100 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wet Alluvial Land

Setting
Landform: Flood plains
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from mixed

Typical profile
H1 - 0 to 8 inches: variable
H2 - 8 to 36 inches: stratified sandy loam to clay
H3 - 36 to 60 inches: sand

Properties and qualities
Slope: 0 to 1 percent
Drainage class: Poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to high (0.06 to 6.00 in/hr)
Depth to water table: About 6 to 24 inches
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Low (about 4.8 inches)

Interpretive groups
Land capability classification (irrigated): 5w

Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: D
Ecological site: R067BY038CO - Wet Meadow
Hydric soil rating: Yes

APPENDIX C – HYDROLOGY

Kimley»Horn

STANDARD FORM SF-1
EXISTING RUNOFF COEFFICIENTS - IMPERVIOUS CALCULATION

PROJECT NAME: Berkely Center Subdivision
PROJECT NUMBER: 096888037
CALCULATED BY: AIA
CHECKED BY: JPW

DATE: 3/29/2024

SOIL: Hydrologic Soil Group D

LAND USE:	LANDSCAPE AREA	ROOF AREA	ASPHALT AREA	CONCRETE AREA	BUSINESS SUBURBAN	INDUSTRIAL LIGHT
2-YEAR COEFF.	0.01	0.79	0.83	0.79	0.79	0.79
5-YEAR COEFF.	0.05	0.81	0.85	0.81	0.81	0.81
10-YEAR COEFF.	0.15	0.83	0.87	0.83	0.83	0.83
100-YEAR COEFF.	0.49	0.87	0.89	0.87	0.87	0.87
IMPERVIOUS %	2%	90%	100%	90%	75%	80%

DESIGN BASIN	DESIGN POINT	LANDSCAPE AREA (AC)	ROOF AREA (AC)	ASPHALT AREA (AC)	CONCRETE AREA (AC)	BUSINESS AREA (AC)	INDUSTRIAL AREA (AC)	TOTAL AREA (AC)	C(2)	C(5)	C(10)	C(100)	Imp %
On-Site Basins													
EX-1		0.07	0.53	6.66	0.05	0.00	0.00	**7.29**	0.82	0.84	0.86	0.89	98%
EX-2	1	0.00	0.00	0.28	0.00	0.00	0.00	**0.28**	0.83	0.85	0.87	0.89	100%
EX-3	2	0.00	0.00	0.07	0.00	0.00	0.00	**0.07**	0.83	0.85	0.87	0.89	100%
EX-4	2	0.05	0.00	0.00	0.00	0.00	0.00	**0.05**	0.01	0.05	0.15	0.49	2%
		0.12	**0.53**	**7.01**	**0.05**	**0.00**	**0.00**	7.68	**0.82**	**0.84**	**0.86**	**0.88**	98%
BASIN SUBTOTAL		**2%**	**7%**	**91%**	**1%**	**0%**	**0%**	**100%**					

Kimley»Horn

STANDARD FORM SF-2
Existing Time of Concentration

PROJECT NAME: **Berkely Center Subdivision**
PROJECT NUMBER: **096888037**
CALCULATED BY: **AIA**
CHECKED BY: **JPW**

DATE: 3/29/2024

SUB-BASIN DATA			INITIAL TIME (T_i)			TRAVEL TIME (T_t)					Tc CHECK (URBANIZED BASINS)					FINAL Tc
DESIGN BASIN (1)	AREA Ac (2)	C5 (3)	LENGTH Ft (4)	SLOPE % (5)	T_i Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	C_v (9)	VEL fps (11)	T_t Min. (12)	COMP. tc (13)	TOTAL LENGTH (14)	TOTAL SLOPE (15)	TOTAL IMP. (16)	Tc Min. (17)	Min.
On-Site Basins																
EX-1	7.29	0.84	200	0.5%	8.5		0.5%	20.0	1.4		8.5	200	0.5%	98%	11.3	8.5
EX-2	0.28	0.85	20	0.5%	2.6		0.5%	20.0	1.4		2.6	20	0.5%	100%	9.2	5.0
EX-3	0.07	0.85	10	1.0%	1.4		1.0%	20.0	2.0		1.4	10	1.0%	100%	9.1	5.0
EX-4	0.05	0.05	10	2.0%	4.8		2.0%	20.0	2.8		4.8	10	2.0%	2%	25.8	5.0

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_o^{0.33}} \qquad t_t = \frac{L_t}{60K\sqrt{S_o}} = \frac{L_t}{60V_t} \qquad t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$$

Kimley»Horn

STANDARD FORM SF-3
EXISTING STORM DRAINAGE DESIGN - RATIONAL METHOD 5 YEAR EVENT

PROJECT NAME: Berkely Center Subdivision
PROJECT NUMBER: 096888037
CALCULATED BY: AIA
CHECKED BY: JPW

DATE: 3/29/2024

P_1 (1-Hour Rainfall) = **1.42**

STORM LINE	DESIGN POINT	DIRECT RUNOFF							TOTAL RUNOFF				STREET		PIPE			TRAVEL TIME			REMARKS
		DESIGN BASIN	AREA (AC)	RUNOFF COEFF	tc (min)	C*A(ac)	I (in/hr)	Q (cfs)	tc(max)	S(C*A) (ac)	I (in/hr)	Q (cfs)	SLOPE (%)	STREET FLOW(cfs	DESIGN FLOW(cfs)	SLOPE (%)	PIPE SIZE (in)	LENGTH (ft)	VELOCITY	tt (min)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
On-Site Basins																					
		EX-1	7.29	0.82	8.46	5.98	4.09	24.48													
		1	EX-2	0.28	0.83	5.00	0.23	4.82	1.12													
		2	EX-3	0.07	0.83	5.00	0.06	4.82	0.27													
		2	EX-4	0.05	0.01	5.00	0.00	4.82	0.00													

Kimley»Horn

STANDARD FORM SF-3
EXISTING STORM DRAINAGE DESIGN - RATIONAL METHOD 100 YEAR EVENT

PROJECT NAME: Berkely Center Subdivision
PROJECT NUMBER: 096888037
CALCULATED BY: AIA
CHECKED BY: JPW

DATE: 3/29/2024

P_1 (1-Hour Rainfall) = **2.71**

STORM LINE	DESIGN POINT	DIRECT RUNOFF							TOTAL RUNOFF				STREET		PIPE			TRAVEL TIME			REMARKS
		DESIGN BASIN	AREA (AC)	RUNOFF COEFF	tc (min)	C*A(ac)	I (in/hr)	Q (cfs)	tc(max)	S(C*A) (ac)	I (in/hr)	Q (cfs)	SLOPE (%)	STREET FLOW(cfs	DESIGN FLOW(cfs)	SLOPE (%)	PIPE SIZE (in)	LENGTH (ft)	VELOCITY	tt (min)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
On-Site Basins																					
			EX-1	7.29	0.89	8.46	6.46	7.81	50.47												
		1	EX-2	0.28	0.89	5.00	0.25	9.19	2.30												
		2	EX-3	0.07	0.89	5.00	0.06	9.19	0.55												
		2	EX-4	0.05	0.49	5.00	0.02	9.19	0.21												

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PROJECT NAME: Berkely Center Subdivision DATE: 3/29/2024
PROJECT NUMBER: 096888037
CALCULATED BY: AIA
CHECKED BY: JPW

EXISTING RATIONAL CALCULATIONS SUMMARY

DESIGN POINT	TRIBUTARY BASINS	TRIBUTARY AREA (AC)	IMPERVIOUSNESS %	PEAK FLOWS (CFS)	
				Q5	Q100
On-Site Basins					
	EX-1	7.29	98%	24.48	50.47
1	EX-2	0.28	100%	1.12	2.30
2	EX-3	0.07	100%	0.27	0.55
2	EX-4	0.05	2%	0.00	0.21

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STANDARD FORM SF-1
PROPOSED RUNOFF COEFFICIENTS - IMPERVIOUS CALCULATION

PROJECT NAME: Berkely Center Subdivision
PROJECT NUMBER: 0968888037
CALCULATED BY: AIA
CHECKED BY: JPW

DATE: 3/8/2024

SOIL: Hydrologic Soil Group D

LAND USE:	LANDSCAPE AREA	ROOF AREA	ASPHALT AREA	CONCRETE AREA	BUSINESS SUBURBAN	INDUSTRIAL LIGHT
2-YEAR COEFF.	0.01	0.79	0.83	0.79	0.79	0.79
5-YEAR COEFF.	0.05	0.81	0.85	0.81	0.81	0.81
10-YEAR COEFF.	0.15	0.83	0.87	0.83	0.83	0.83
100-YEAR COEFF.	0.49	0.87	0.89	0.87	0.87	0.87
IMPERVIOUS %	2%	90%	100%	90%	75%	80%

DESIGN BASIN	DESIGN POINT	LANDSCAPE AREA (AC)	ROOF AREA (AC)	ASPHALT AREA (AC)	CONCRETE AREA (AC)	BUSINESS AREA (AC)	INDUSTRIAL AREA (AC)	TOTAL AREA (AC)	C(2)	C(5)	C(10)	C(100)	Imp %
On-Site Basins													
A1	C	0.00	0.00	0.00	0.00	0.89	0.00	**0.89**	0.75	0.75	0.75	0.75	75%
B1	C	0.00	0.00	0.00	0.00	1.12	0.00	**1.12**	0.75	0.75	0.75	0.75	75%
C1	C	0.00	0.00	0.00	0.00	2.04	0.00	**2.04**	0.75	0.75	0.75	0.75	75%
D1		0.00	0.00	0.00	0.00	0.00	2.37	**2.37**	0.80	0.80	0.80	0.80	80%
E1		0.76	0.00	0.00	0.00	0.00	0.00	**0.76**	0.01	0.05	0.15	0.49	2%
OF-E1		0.10	0.00	0.00	0.00	0.00	0.00	**0.10**	0.01	0.05	0.15	0.49	2%
OF-AB1		0.10	0.00	0.00	0.03	0.00	0.00	**0.13**	0.19	0.23	0.31	0.58	22%
		0.96	**0.00**	**0.00**	**0.03**	**4.05**	**2.37**	**7.42**	0.67	0.67	0.69	0.73	67%
BASIN SUBTOTAL		**13%**	**0%**	**0%**	**0%**	**55%**	**32%**	**1.00**					
Off-Site Basins													
OS-C1		0.05	0.00	0.00	0.05	0.00	0.00	**0.10**	0.41	0.44	0.31	0.68	47%
OF-AB2		0.04	0.00	0.00	0.06	0.00	0.00	**0.10**	0.46	0.49	0.29	0.71	53%
OS-D1		0.05	0.00	0.00	0.01	0.00	0.00	**0.06**	0.13	0.17	0.41	0.55	16%
		0.14	**0.00**	**0.00**	**0.12**	**0.00**	**0.00**	**0.26**	**0.37**	**0.40**	**0.86**	**0.67**	**43%**
BASIN SUBTOTAL		**54%**	**0%**	**0%**	**46%**	**0%**	**0%**	**100%**					

STANDARD FORM SF-2
Proposed Time of Concentration

PROJECT NAME: **Berkely Center Subdivision**
PROJECT NUMBER: **0968888037**
CALCULATED BY: **AIA**
CHECKED BY: **JPW**

DATE: 3/8/2024

SUB-BASIN DATA			INITIAL TIME (T_i)			TRAVEL TIME (T_t)					T_c CHECK (URBANIZED BASINS)					FINAL T_c
DESIGN BASIN (1)	AREA Ac (2)	C5 (3)	LENGTH Ft (4)	SLOPE % (5)	T_i Min. (6)	LENGTH Ft. (7)	SLOPE % (8)	C_v (9)	VEL fps (11)	T_t Min. (12)	COMP. t_c (13)	TOTAL LENGTH (14)	TOTAL SLOPE (15)	TOTAL IMP. (16)	T_c Min. (17)	Min.
On-Site Basins																
A1	0.89	0.75	250	2.0%	8.1	175	0.5%	20.0	1.4	2.1	10.1	425	1.4%	75%	16.3	10.1
B1	1.12	0.75	275	2.0%	8.4	230	0.5%	21.0	1.5	2.6	11.0	505	1.3%	75%	17.0	11.0
C1	2.04	0.75	300	2.0%	8.8	50	0.5%	22.0	1.6	0.5	9.4	350	1.8%	75%	15.5	9.4
D1	2.37	0.80	300	2.0%	7.6		50.0%	23.0	16.3		7.6	300	2.0%	80%	14.2	7.6
E1	0.76	0.05	75	5.0%	9.7	200	0.5%	24.0	1.7	2.0	11.7	275	1.7%	2%	29.4	11.7
OF-E1	0.10	0.05	5	2.0%	3.4		50.0%	25.0	17.7		3.4	5	2.0%	2%	25.7	5.0
OF-AB1	0.13	0.23	10	2.0%	4.0		50.0%	26.0	18.4		4.0	10	2.0%	22%	22.3	5.0
Off-Site Basins																
OS-C1	0.10	0.44	10	2.0%	3.0		2.0%	15.0	2.1		3.0	10	2.0%	47%	18.1	5.0
OF-AB2	0.10	0.49	10	102.0%	0.8		2.0%	16.0	2.3		0.8	10	102.0%	53%	17.0	5.0
OS-D1	0.06	0.17	10	202.0%	0.9		2.0%	17.0	2.4		0.9	10	202.0%	16%	23.3	5.0

$$t_i = \frac{0.395(1.1 - C_5)\sqrt{L_i}}{S_o^{0.33}}$$

$$t_t = \frac{L_t}{60K\sqrt{S_o}} = \frac{L_t}{60V_t}$$

$$t_c = (26 - 17i) + \frac{L_t}{60(14i + 9)\sqrt{S_t}}$$

STANDARD FORM SF-3
PROPOSED STORM DRAINAGE DESIGN - RATIONAL METHOD X YEAR EVENT

PROJECT NAME: Berkely Center Subdivision
PROJECT NUMBER: 0968888037
CALCULATED BY: AIA
CHECKED BY: JPW

DATE: 3/8/2024

P_1 (1-Hour Rainfall) = 1.42

STORM LINE	DESIGN POINT	DIRECT RUNOFF							TOTAL RUNOFF				STREET		PIPE			TRAVEL TIME			REMARKS
		DESIGN BASIN	AREA (AC)	RUNOFF COEFF	tc (min)	C*A(ac)	I (in/hr)	Q (cfs)	tc(max)	S(C*A) (ac)	I (in/hr)	Q (cfs)	SLOPE (%)	STREET FLOW(cfs	DESIGN FLOW(cfs)	SLOPE (%)	PIPE SIZE (in)	LENGTH (ft)	VELOCITY	tt (min)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
On-Site Basins																					
		A1	0.89	0.75	10.12	0.67	3.82	2.55													
		B1	1.12	0.75	11.03	0.84	3.69	3.10													
		C1	2.04	0.75	9.36	1.53	3.94	6.03													
		D1	2.37	0.80	7.56	1.90	4.26	8.07													
		E1	0.76	0.01	11.71	0.01	3.60	0.03													
		OF-E1	0.10	0.01	5.00	0.00	4.82	0.00													
		OF-AB1	0.13	0.19	5.00	0.02	4.82	0.12													
Off-Site Basins																					
		OS-C1	0.10	0.41	5.00	0.04	4.82	0.20													
		OF-AB2	0.10	0.46	5.00	0.05	4.82	0.23													
		OS-D1	0.06	0.13	5.00	0.01	4.82	0.04													

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STANDARD FORM SF-3
PROPOSED STORM DRAINAGE DESIGN - RATIONAL METHOD 100 YEAR EVENT

PROJECT NAME: Berkely Center Subdivision
PROJECT NUMBER: 0968888037
CALCULATED BY: AIA
CHECKED BY: JPW

DATE: 3/8/2024

P_1 (1-Hour Rainfall) = 2.71

STORM LINE	DESIGN POINT	DIRECT RUNOFF							TOTAL RUNOFF				STREET		PIPE			TRAVEL TIME			REMARKS
		DESIGN BASIN	AREA (AC)	RUNOFF COEFF	t_c (min)	C*A(ac)	I (in/hr)	Q (cfs)	tc(max)	S(C*A) (ac)	I (in/hr)	Q (cfs)	SLOPE (%)	STREET FLOW(cfs	DESIGN FLOW(cfs)	SLOPE (%)	PIPE SIZE (in)	LENGTH (ft)	VELOCITY	tt (min)	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
On-Site Basins																					
		A1	0.89	0.75	10.12	0.67	7.30	4.87													
		B1	1.12	0.75	11.03	0.84	7.05	5.92													
		C1	2.04	0.75	9.36	1.53	7.52	11.51													
		D1	2.37	0.80	7.56	1.90	8.12	15.40													
		E1	0.76	0.49	11.71	0.37	6.87	2.56													
		OF-E1	0.10	0.49	5.00	0.05	9.19	0.46													
		OF-AB1	0.13	0.58	5.00	0.07	9.19	0.69													
Off-Site Basins																					
		OS-C1	0.10	0.68	5.00	0.07	9.19	0.65													
		OF-AB2	0.10	0.71	5.00	0.07	9.19	0.67													
		OS-D1	0.06	0.55	5.00	0.03	9.19	0.29													

Kimley»Horn

PROJECT NAME: Berkely Center Subdivision DATE: 3/29/2024
PROJECT NUMBER: 0968888037
CALCULATED BY: AIA
CHECKED BY: JPW

PROPOSED RATIONAL CALCULATIONS SUMMARY

DESIGN POINT	TRIBUTARY BASINS	TRIBUTARY AREA (AC)	IMPERVIOUSNESS %	PEAK FLOWS (CFS)	
				Q5	Q100
On-Site Basins					
	A1	0.89	75%	2.55	4.87
	B1	1.12	75%	3.10	5.92
	C1	2.04	75%	6.03	11.51
	D1	2.37	80%	8.07	15.40
	E1	0.76	2%	0.03	2.56
	OF-E1	0.10	2%	0.00	0.46
	OF-AB1	0.13	22%	0.12	0.69
TOTAL		7.41	67%	**19.90**	41.40
Off-Site Basins					
OS-C1	OS-C1	0.10	47%	0.20	0.65
OF-AB2	OF-AB2	0.10	53%	0.23	0.67
OS-D1	OS-D1	0.06	16%	0.04	0.29
TOTAL		**0.26**	**43%**	**0.47**	**1.61**

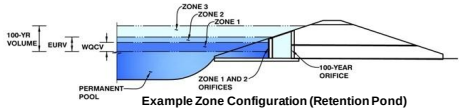
APPENDIX D – HYDRAULICS

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)

Project: QT 4270

Basin ID: PROPOSED POND



Example Zone Configuration (Retention Pond)

Watershed Information

Selected BMP Type =	EDB	
Watershed Area =	7.34	acres
Watershed Length =	1,000	ft
Watershed Length to Centroid =	630	ft
Watershed Slope =	0.015	ft/ft
Watershed Imperviousness =	67.00%	percent
Percentage Hydrologic Soil Group A =	2.0%	percent
Percentage Hydrologic Soil Group B =	36.0%	percent
Percentage Hydrologic Soil Groups C/D =	62.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

			Optional User Overrides	
Water Quality Capture Volume (WQCV) =	0.160	acre-feet		acre-feet
Excess Urban Runoff Volume (EURV) =	0.501	acre-feet		acre-feet
2-yr Runoff Volume (P1 = 1 in.) =	0.391	acre-feet	1.00	inches
5-yr Runoff Volume (P1 = 1.42 in.) =	0.631	acre-feet	1.42	inches
10-yr Runoff Volume (P1 = 1.68 in.) =	0.788	acre-feet	1.68	inches
25-yr Runoff Volume (P1 = 1.69 in.) =	0.813	acre-feet		inches
50-yr Runoff Volume (P1 = 2.35 in.) =	1.227	acre-feet	2.35	inches
100-yr Runoff Volume (P1 = 2.71 in.) =	1.473	acre-feet	2.71	inches
500-yr Runoff Volume (P1 = 3.14 in.) =	1.751	acre-feet		inches
Approximate 2-yr Detention Volume =	0.356	acre-feet		
Approximate 5-yr Detention Volume =	0.553	acre-feet		
Approximate 10-yr Detention Volume =	0.667	acre-feet		
Approximate 25-yr Detention Volume =	0.629	acre-feet		
Approximate 50-yr Detention Volume =	0.805	acre-feet		
Approximate 100-yr Detention Volume =	0.898	acre-feet		

Define Zones and Basin Geometry

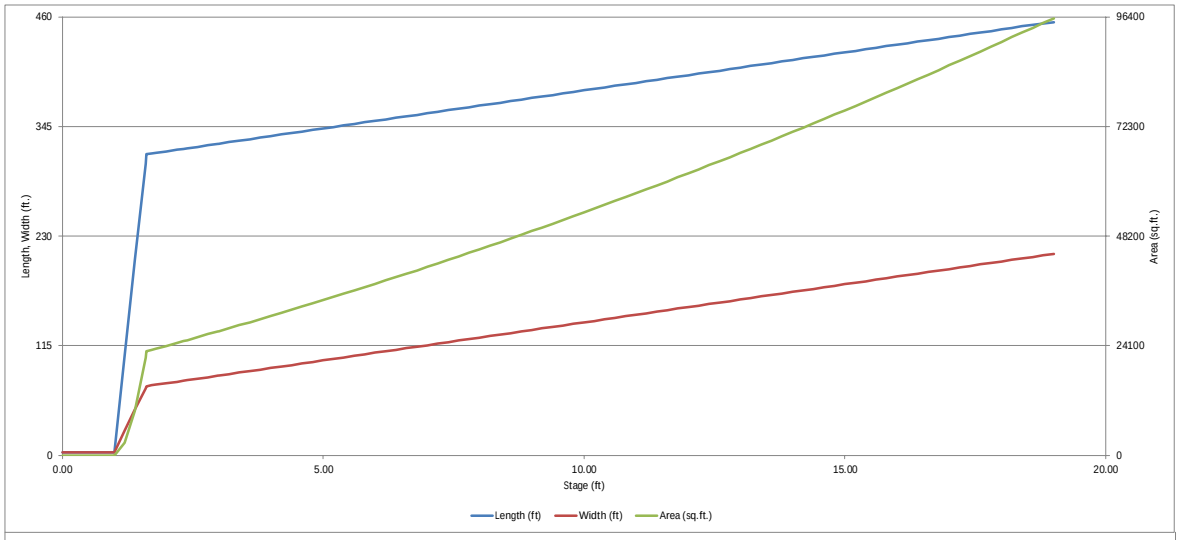
Zone 1 Volume (WQCV) =	0.160	acre-feet
Zone 2 Volume (EURV - Zone 1) =	0.341	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.396	acre-feet
Total Detention Basin Volume =	0.898	acre-feet
Initial Surcharge Volume (ISV) =	6	ft^3
Initial Surcharge Depth (ISD) =	0.50	ft
Total Available Detention Depth (H_{total}) =	3.00	ft
Depth of Trickle Channel (H_{TC}) =	0.50	ft
Slope of Trickle Channel (S_{TC}) =	0.002	ft/ft
Slopes of Main Basin Sides (S_{main}) =	4	H:V
Basin Length-to-Width Ratio (R_{LW}) =	4.5	
Initial Surcharge Area (A_{ISV}) =	12	ft^2
Surcharge Volume Length (L_{ISV}) =	3.5	ft
Surcharge Volume Width (W_{ISV}) =	3.5	ft
Depth of Basin Floor (H_{FLOOR}) =	0.62	ft
Length of Basin Floor (L_{FLOOR}) =	315.9	ft
Width of Basin Floor (W_{FLOOR}) =	72.4	ft
Area of Basin Floor (A_{FLOOR}) =	22,860	ft^2
Volume of Basin Floor (V_{FLOOR}) =	4,835	ft^3
Depth of Main Basin (H_{MAIN}) =	1.38	ft
Length of Main Basin (L_{MAIN}) =	327.0	ft
Width of Main Basin (W_{MAIN}) =	83.4	ft
Area of Main Basin (A_{MAIN}) =	27,268	ft^2
Volume of Main Basin (V_{MAIN}) =	34,543	ft^3
Calculated Total Basin Volume (V_{total}) =	0.904	acre-feet

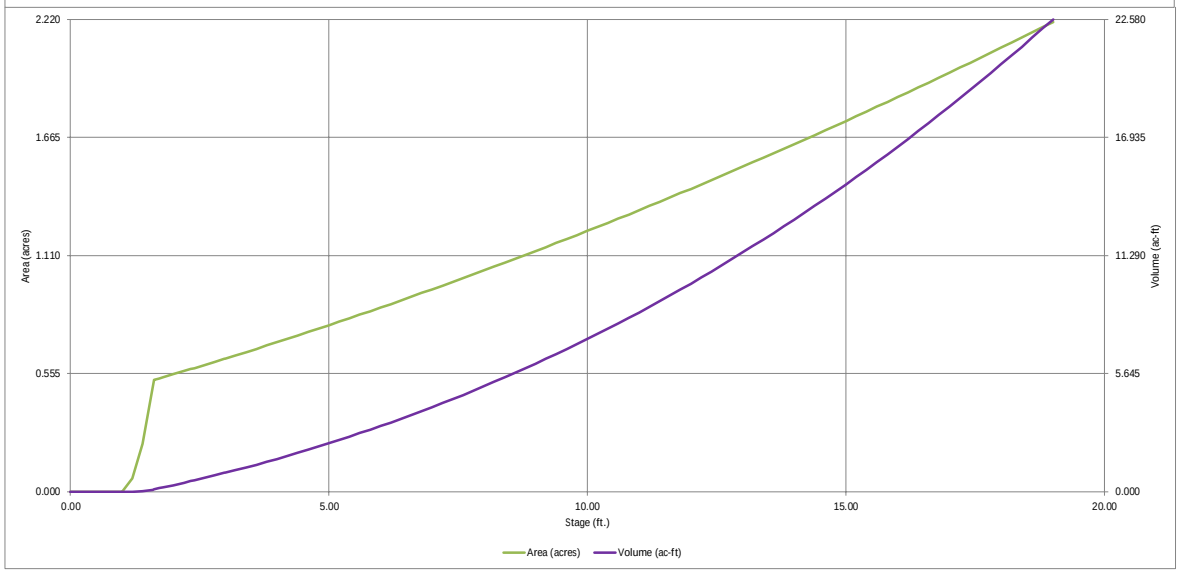
Depth Increment = 0.20 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	0.00		3.5	3.5	12		0.000		
ISV	0.50		3.5	3.5	12		0.000	6	0.000
	0.60		3.5	3.5	12		0.000	7	0.000
	0.80		3.5	3.5	12		0.000	10	0.000
	1.00		3.5	3.5	12		0.000	12	0.000
	1.20		104.3	25.7	2,678		0.061	206	0.005
	1.40		205.1	47.9	9,824		0.226	1,382	0.032
	1.60		305.9	70.1	21,450		0.492	4,435	0.102
Floor	1.62		315.9	72.4	22,860		0.525	4,878	0.112
Zone 1 (WQCV)	1.72		316.7	73.2	23,171		0.532	7,179	0.165
	1.80		317.4	73.8	23,421		0.538	9,043	0.208
	2.00		319.0	75.4	24,049		0.552	13,790	0.317
	2.20		320.6	77.0	24,683		0.567	18,663	0.428
Zone 2 (EURV)	2.33		321.6	78.0	25,097		0.576	21,899	0.503
	2.40		322.2	78.6	25,321		0.581	23,663	0.543
	2.60		323.8	80.2	25,965		0.596	28,792	0.661
	2.80		325.4	81.8	26,614		0.611	34,050	0.782
Zone 3 (100-year)	2.99		326.9	83.3	27,235		0.625	39,165	0.899
	3.00		327.0	83.4	27,268		0.626	39,438	0.905
	3.20		328.6	85.0	27,927		0.641	44,957	1.032
	3.40		330.2	86.6	28,592		0.656	50,609	1.162
	3.60		331.8	88.2	29,261		0.672	56,394	1.295
	3.80		333.4	89.8	29,936		0.687	62,314	1.431
	4.00		335.0	91.4	30,615		0.703	68,369	1.570
	4.20		336.6	93.0	31,300		0.719	74,560	1.712
	4.40		338.2	94.6	31,990		0.734	80,889	1.857
	4.60		339.8	96.2	32,685		0.750	87,357	2.005
	4.80		341.4	97.8	33,385		0.766	93,963	2.157
	5.00		343.0	99.4	34,090		0.783	100,711	2.312
	5.20		344.6	101.0	34,801		0.799	107,600	2.470
	5.40		346.2	102.6	35,516		0.815	114,631	2.632
	5.60		347.8	104.2	36,237		0.832	121,807	2.796
	5.80		349.4	105.8	36,962		0.849	129,126	2.964
	6.00		351.0	107.4	37,693		0.865	136,592	3.136
	6.20		352.6	109.0	38,429		0.882	144,204	3.310
	6.40		354.2	110.6	39,170		0.899	151,964	3.489
	6.60		355.8	112.2	39,916		0.916	159,873	3.670
	6.80		357.4	113.8	40,668		0.934	167,931	3.855
	7.00		359.0	115.4	41,424		0.951	176,140	4.044
	7.20		360.6	117.0	42,186		0.968	184,501	4.236
	7.40		362.2	118.6	42,952		0.986	193,015	4.431
	7.60		363.8	120.2	43,724		1.004	201,682	4.630
	7.80		365.4	121.8	44,501		1.022	210,505	4.833
	8.00		367.0	123.4	45,283		1.040	219,483	5.039
	8.20		368.6	125.0	46,070		1.058	228,618	5.248
	8.40		370.2	126.6	46,863		1.076	237,912	5.462
	8.60		371.8	128.2	47,660		1.094	247,364	5.679
	8.80		373.4	129.8	48,463		1.113	256,976	5.899
	9.00		375.0	131.4	49,270		1.131	266,749	6.124
	9.20		376.6	133.0	50,083		1.150	276,684	6.352
	9.40		378.2	134.6	50,901		1.169	286,783	6.584
	9.60		379.8	136.2	51,724		1.187	297,045	6.819
	9.80		381.4	137.8	52,552		1.206	307,473	7.059
	10.00		383.0	139.4	53,385		1.226	318,066	7.302
	10.20		384.6	141.0	54,224		1.245	328,827	7.549
	10.40		386.2	142.6	55,067		1.264	339,756	7.800
	10.60		387.8	144.2	55,916		1.284	350,854	8.055
	10.80		389.4	145.8	56,769		1.303	362,123	8.313
	11.00		391.0	147.4	57,628		1.323	373,562	8.576
	11.20		392.6	149.0	58,492		1.343	385,174	8.842
	11.40		394.2	150.6	59,361		1.363	396,960	9.113
	11.60		395.8	152.2	60,236		1.383	408,919	9.387
	11.80		397.4	153.8	61,115		1.403	421,054	9.666
	12.00		399.0	155.4	61,999		1.423	433,366	9.949
	12.20		400.6	157.0	62,889		1.444	445,854	10.235
	12.40		402.2	158.6	63,784		1.464	458,522	10.526
	12.60		403.8	160.2	64,683		1.485	471,368	10.821
	12.80		405.4	161.8	65,588		1.506	484,395	11.120
	13.00		407.0	163.4	66,498		1.527	497,604	11.423
	13.20		408.6	165.0	67,414		1.548	510,995	11.731
	13.40		410.2	166.6	68,334		1.569	524,570	12.042
	13.60		411.8	168.2	69,259		1.590	538,329	12.358
	13.80		413.4	169.8	70,190		1.611	552,274	12.678
	14.00		415.0	171.4	71,125		1.633	566,405	13.003
	14.20		416.6	173.0	72,066		1.654	580,724	13.332
	14.40		418.2	174.6	73,012		1.676	595,232	13.665
	14.60		419.8	176.2	73,963		1.698	609,929	14.002
	14.80		421.4	177.8	74,919		1.720	624,817	14.344
	15.00		423.0	179.4	75,880		1.742	639,897	14.690
	15.20		424.6	181.0	76,847		1.764	655,170	15.041
	15.40		426.2	182.6	77,818		1.786	670,636	15.396
	15.60		427.8	184.2	78,795		1.809	686,297	15.755
	15.80		429.4	185.8	79,777		1.831	702,155	16.119
	16.00		431.0	187.4	80,763		1.854	718,208	16.488
	16.20		432.6	189.0	81,755		1.877	734,460	16.861
	16.40		434.2	190.6	82,752		1.900	750,911	17.239
	16.60		435.8	192.2	83,755		1.923	767,562	17.621
	16.80		437.4	193.8	84,762		1.946	784,413	18.008
	17.00		439.0	195.4	85,774		1.969	801,467	18.399
	17.20		440.6	197.0	86,792		1.992	818,723	18.795
	17.40		442.2	198.6	87,815		2.016	836,184	19.196
	17.60		443.8	200.2	88,842		2.040	853,849	19.602
	17.80		445.4	201.8	89,875		2.063	871,721	20.012
	18.00		447.0	203.4	90,913		2.087	889,800	20.427
	18.20		448.6	205.0	91,957		2.111	908,087	20.847
	18.40		450.2	206.6	93,005		2.135	926,583	21.271
	18.60		451.8	208.2	94,058		2.159	945,289	21.701
	18.80		453.4	209.8	95,117		2.184	964,207	22.135
	19.00		455.0	211.4	96,180		2.208	983,336	22.574

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.04 (February 2021)



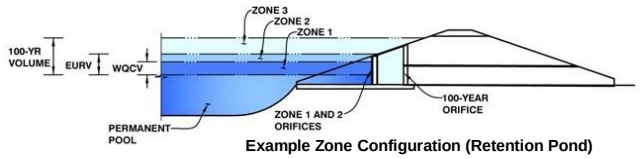


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

Project: QT 4270

Basin ID: PROPOSED POND



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	1.72	0.160	Orifice Plate
Zone 2 (EURV)	2.33	0.341	Orifice Plate
Zone 3 (100-year)	2.99	0.396	Weir&Pipe (Restrict)
Total (all zones)		0.898	

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 Area =	N/A	ft^2
Underdrain Orifice Diameter =	N/A	inches	Underdrain Orifice Centroid =	N/A	feet

Calculated Parameters for Underdrain

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)

Invert of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	N/A	ft^2
Depth at top of Zone using Orifice Plate =	2.40	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	9.60	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	N/A	inches	Elliptical Slot Area =	N/A	ft^2

Calculated Parameters for Plate

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	0.80	1.60					
Orifice Area (sq. inches)	0.44	0.78	4.90					

	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)

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

Calculated Parameters for Vertical Orific

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

	Zone 3 Weir	Not Selected				
Overflow Weir Front Edge Height, Ho =	2.40	N/A	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	2.40	N/A
Overflow Weir Front Edge Length =	3.00	N/A	feet	Overflow Weir Slope Length =	4.00	N/A
Overflow Weir Grate Slope =	0.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	8.28	N/A
Horiz. Length of Weir Sides =	4.00	N/A	feet	Overflow Grate Open Area w/o Debris =	8.35	N/A
Overflow Grate Type =	Type C Grate	N/A		Overflow Grate Open Area w/ Debris =	4.18	N/A
Debris Clogging % =	50%	N/A	%			

Calculated Parameters for Overflow Wei

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

	Zone 3 Restrictor	Not Selected				
Depth to Invert of Outlet Pipe =	0.50	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	1.01	N/A
Outlet Pipe Diameter =	18.00	N/A	inches	Outlet Orifice Centroid =	0.48	N/A
Restrictor Plate Height Above Pipe Invert =	10.00		inches	Half-Central Angle of Restrictor Plate on Pipe =	1.68	N/A

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plat

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	3.00	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	0.38	feet
Spillway Crest Length =	25.00	feet	Stage at Top of Freeboard =	4.38	feet
Spillway End Slopes =	5.00	H:V	Basin Area at Top of Freeboard =	0.73	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	1.84	acre-ft

Calculated Parameters for Spillway

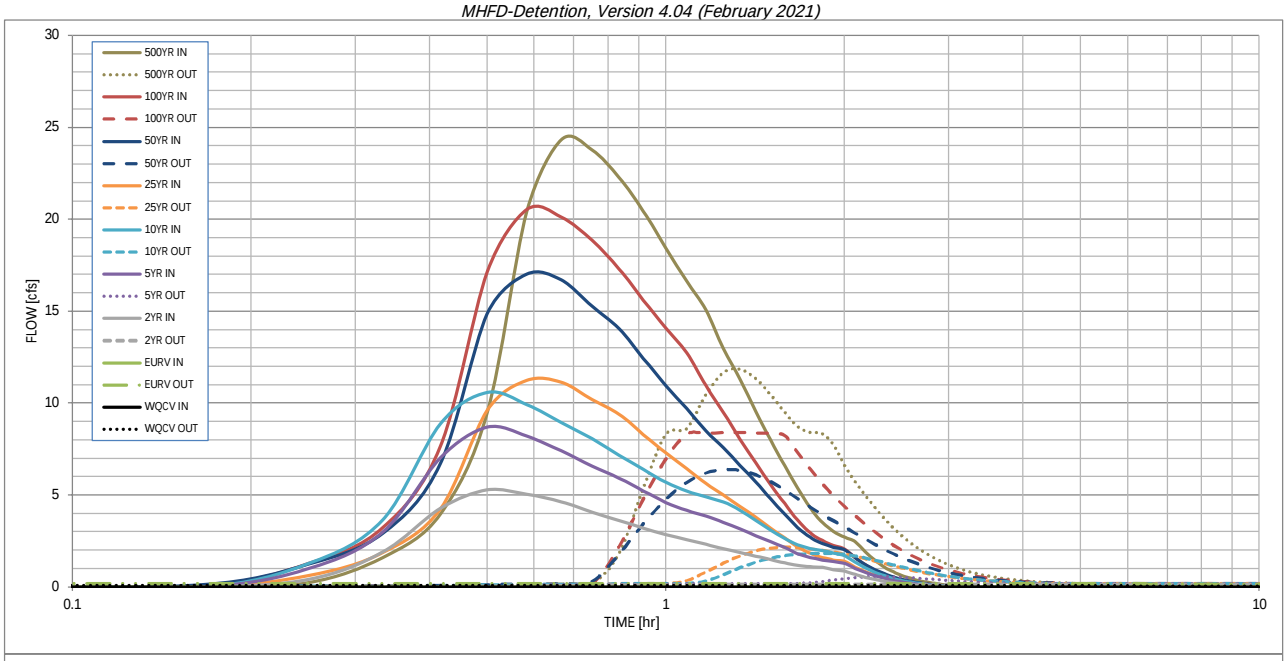
Routed Hydrograph Results

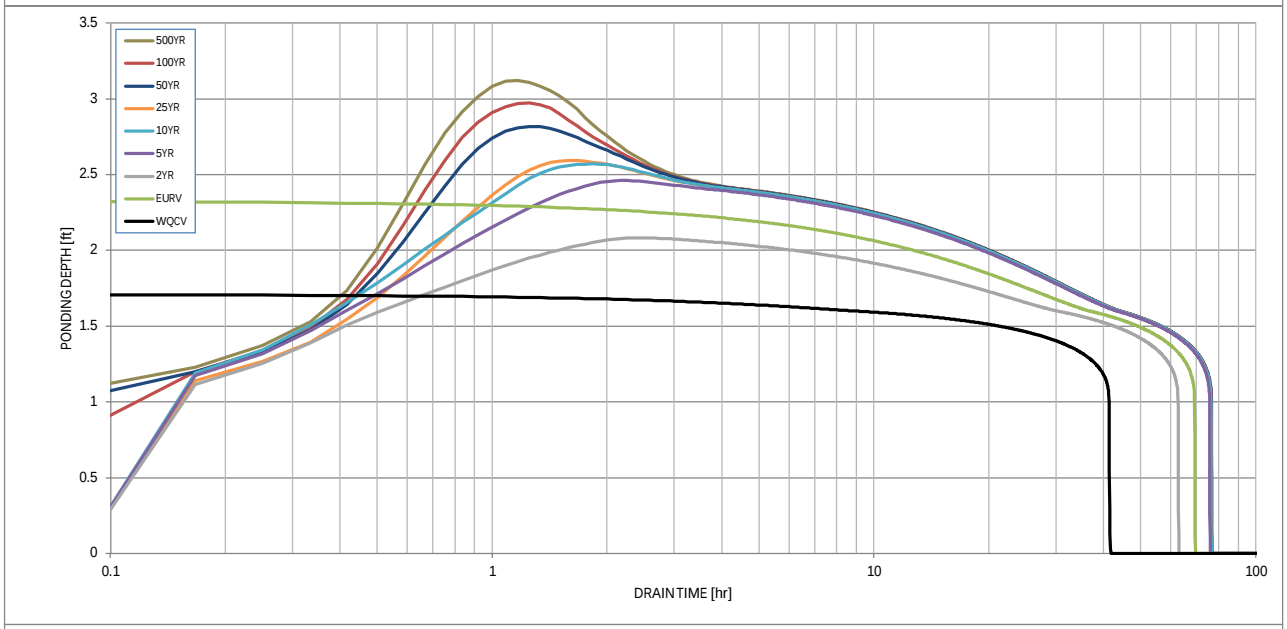
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

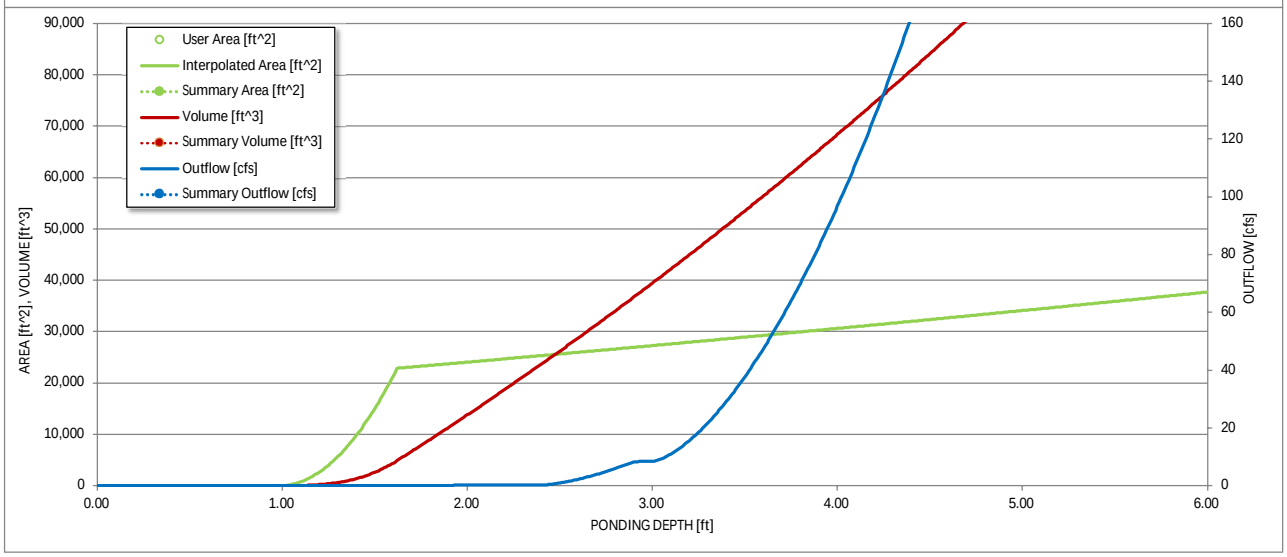
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	1.00	1.42	1.68	1.69	2.35	2.71
CUHP Runoff Volume (acre-ft) =	0.160	0.501	0.391	0.631	0.788	0.813	1.227	1.473
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.391	0.631	0.788	0.813	1.227	1.473
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	0.1	1.6	2.6	3.4	6.4	8.5
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A						
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.01	0.22	0.35	0.46	0.88	1.16
Peak Inflow Q (cfs) =	N/A	N/A	5.3	8.7	10.6	11.3	17.0	20.6
Peak Outflow Q (cfs) =	0.1	0.2	0.2	0.6	1.8	2.2	6.4	8.4
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.4	0.7	0.6	1.0	1.0
Structure Controlling Flow =	Plate	Plate	Plate	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	0.0	0.2	0.2	0.7	1.0
Max Velocity through Grate 2 (fps) =	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	64	58	69	68	68	64	62
Time to Drain 99% of Inflow Volume (hours) =	41	67	61	73	73	73	72	71
Maximum Ponding Depth (ft) =	1.72	2.33	2.08	2.46	2.57	2.60	2.82	2.97
Area at Maximum Ponding Depth (acres) =	0.53	0.58	0.56	0.59	0.59	0.60	0.61	0.62
Maximum Volume Stored (acre-ft) =	0.165	0.503	0.361	0.578	0.643	0.655	0.794	0.887

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)







S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename:

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.08	0.25
	0:15:00	0.00	0.00	0.42	1.00	1.28	0.63	1.24	1.27	1.62
	0:20:00	0.00	0.00	1.91	2.99	3.67	1.87	2.92	3.23	3.97
	0:25:00	0.00	0.00	4.29	7.02	8.89	4.24	6.71	7.65	9.49
	0:30:00	0.00	0.00	5.29	8.69	10.59	9.61	14.86	17.13	20.45
	0:35:00	0.00	0.00	5.05	8.20	9.92	11.25	17.03	20.55	24.35
	0:40:00	0.00	0.00	4.64	7.40	8.96	11.13	16.70	20.12	23.79
	0:45:00	0.00	0.00	4.09	6.60	8.07	10.21	15.28	18.86	22.28
	0:50:00	0.00	0.00	3.62	5.93	7.18	9.40	14.06	17.32	20.45
	0:55:00	0.00	0.00	3.21	5.24	6.39	8.30	12.45	15.62	18.45
	1:00:00	0.00	0.00	2.85	4.61	5.70	7.30	10.96	14.09	16.64
	1:05:00	0.00	0.00	2.59	4.17	5.23	6.44	9.70	12.76	15.08
	1:10:00	0.00	0.00	2.32	3.87	4.91	5.63	8.51	10.97	12.99
	1:15:00	0.00	0.00	2.09	3.53	4.63	5.01	7.59	9.52	11.30
	1:20:00	0.00	0.00	1.88	3.15	4.19	4.37	6.61	8.05	9.55
	1:25:00	0.00	0.00	1.69	2.80	3.63	3.80	5.72	6.74	7.99
	1:30:00	0.00	0.00	1.49	2.46	3.11	3.21	4.81	5.59	6.62
	1:35:00	0.00	0.00	1.31	2.16	2.66	2.67	3.98	4.55	5.39
	1:40:00	0.00	0.00	1.18	1.83	2.31	2.20	3.25	3.64	4.32
	1:45:00	0.00	0.00	1.11	1.61	2.11	1.83	2.70	2.95	3.51
	1:50:00	0.00	0.00	1.07	1.48	1.98	1.62	2.38	2.53	3.02
	1:55:00	0.00	0.00	0.96	1.38	1.86	1.48	2.17	2.26	2.70
	2:00:00	0.00	0.00	0.86	1.28	1.70	1.39	2.02	2.07	2.47
	2:05:00	0.00	0.00	0.68	1.02	1.35	1.10	1.60	1.61	1.92
	2:10:00	0.00	0.00	0.53	0.79	1.05	0.85	1.23	1.21	1.45
	2:15:00	0.00	0.00	0.42	0.62	0.81	0.65	0.94	0.91	1.09
	2:20:00	0.00	0.00	0.32	0.47	0.62	0.50	0.72	0.69	0.82
	2:25:00	0.00	0.00	0.25	0.36	0.47	0.38	0.55	0.53	0.63
	2:30:00	0.00	0.00	0.19	0.27	0.35	0.29	0.41	0.40	0.47
	2:35:00	0.00	0.00	0.14	0.20	0.26	0.21	0.31	0.30	0.36
	2:40:00	0.00	0.00	0.11	0.15	0.20	0.16	0.23	0.23	0.27
	2:45:00	0.00	0.00	0.08	0.11	0.15	0.12	0.17	0.17	0.20
	2:50:00	0.00	0.00	0.05	0.07	0.10	0.09	0.12	0.12	0.14
	2:55:00	0.00	0.00	0.03	0.05	0.06	0.06	0.08	0.08	0.09
	3:00:00	0.00	0.00	0.02	0.03	0.04	0.03	0.05	0.05	0.05
	3:05:00	0.00	0.00	0.01	0.01	0.02	0.02	0.02	0.02	0.03
	3:10:00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
	3:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.04 (February 2021)

Summary Stage-Area-Volume-Discharge Relationships

The user can create a summary S-A-V-D by entering the desired stage increments and the remainder of the table will populate automatically.

The user should graphically compare the summary S-A-V-D table to the full S-A-V-D table in the chart to confirm it captures all key transition points.

Stage - Storage Description	Stage [ft]	Area [ft ^{2}]	Area [acres]	Volume [ft ^{3}]	Volume [ac-ft]	Total Outflow [cfs]

For best results, include the stages of all grade slope changes (e.g. ISV and Floor) from the S-A-V table on Sheet 'Basin'.

Also include the inverts of all outlets (e.g. vertical orifice, overflow grate, and spillway, where applicable).

MHFD-Inlet, Version 5.03 (August 2023)

INLET MANAGEMENT

Worksheet Protected

INLET NAME	Inlet A-4	Inlet A-5
Site Type (Urban or Rural)	URBAN	URBAN
Inlet Application (Street or Area)	AREA	AREA
Hydraulic Condition	Swale	Swale
Inlet Type	CDOT Type C (Depressed)	CDOT Type C (Depressed)

USER-DEFINED INPUT

User-Defined Design Flows

Minor Q_{known} (cfs)	6.2	5.7
Major Q_{known} (cfs)	12.2	10.8

Bypass (Carry-Over) Flow from Upstream — Inlets must be organized from upstream (left) to downstream (right) in order for by

Receive Bypass Flow from:	No Bypass Flow Received	No Bypass Flow Received
Minor Bypass Flow Received, Q_b (cfs)	0.0	0.0
Major Bypass Flow Received, Q_b (cfs)	0.0	0.0

Watershed Characteristics

Subcatchment Area (acres)		
Percent Impervious		
NRCS Soil Type		

Watershed Profile

Overland Slope (ft/ft)		
Overland Length (ft)		
Channel Slope (ft/ft)		
Channel Length (ft)		

Minor Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		
C_1		
C_2		
C_3		
User-defined C		
User-defined 5-yr C_5		
User-defined T_c		

Major Storm Rainfall Input

Design Storm Return Period, T_r (years)		
One-Hour Precipitation, P_1 (inches)		
C_1		
C_2		
C_3		
User-defined C		
User-defined 5-yr C_5		
User-defined T_c		

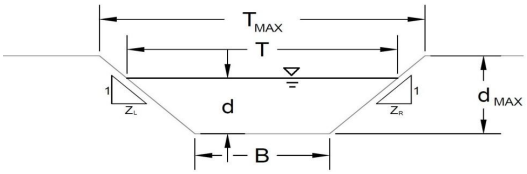
CALCULATED OUTPUT

Minor Total Design Peak Flow, Q (cfs)	6.2	5.7
Major Total Design Peak Flow, Q (cfs)	12.2	10.8
Minor Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0
Major Flow Bypassed Downstream, Q_b (cfs)	0.0	0.0

AREA INLET IN A SWALE

QT 4270

Inlet A-4



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.013	
Channel Invert Slope	S_O =	0.0050	ft/ft
Bottom Width	B =	3.42	ft
Left Side Slope	Z1 =	12.50	ft/ft
Right Side Sloe	Z2 =	12.50	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- Non-Cohesive
- Cohesive
- Paved

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	15.00	15.00	ft
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	0.90	0.90	ft

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Top Width Criterion	Q_{allow} =	14.9	14.9	cfs
MAJOR STORM Allowable Capacity is based on Top Width Criterion	d_{allow} =	0.46	0.46	ft

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	6.2	12.2	cfs
Water Depth	d =	0.31	0.42	ft

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

AREA INLET IN A SWALE

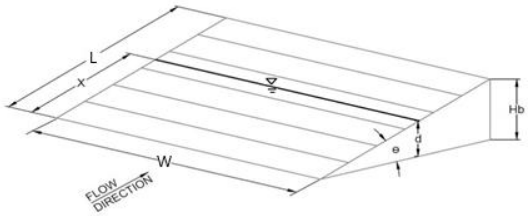
QT 4270

Inlet A-4

Inlet Design Information (Input)

Type of Inlet: CDOT Type C (Depresse

Inlet Type = CDOT Type C (Depressed)



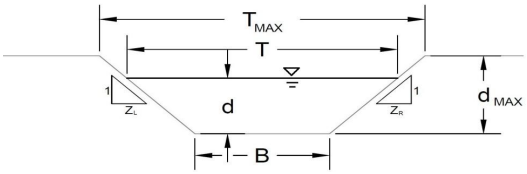
Angle of Inclined Grade (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	3.00	ft
Length of Grate	L =	3.00	ft
Open Area Ratio	A_{RATIO} =	0.70	
Height of Inclined Grate	H_B =	0.00	ft
Clogging Factor	C_f =	0.50	
Grate Discharge Coefficient	C_d =	0.84	
Orifice Coefficient	C_o =	0.56	
Weir Coefficient	C_w =	1.81	

		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.31	1.42	
Total Inlet Interception Capacity (assumes clogged condition)	Q_a =	16.3	17.0	cfs
Bypassed Flow	Q_b =	0.0	0.0	cfs
Capture Percentage = Qa/Qo	C% =	100	100	%

AREA INLET IN A SWALE

QT 4270

Inlet A-5



This worksheet uses the NRCS vegetal retardance method to determine Manning's n for grass-lined channels.

An override Manning's n can be entered for other channel materials.

Analysis of Trapezoidal Channel (Grass-Lined uses SCS Method)

NRCS Vegetal Retardance (A, B, C, D, or E)	A, B, C, D, or E =		
Manning's n (Leave cell D16 blank to manually enter an n value)	n =	0.013	
Channel Invert Slope	S_O =	0.0050	ft/ft
Bottom Width	B =	3.42	ft
Left Side Slope	Z1 =	12.50	ft/ft
Right Side Sloe	Z2 =	12.50	ft/ft

Check one of the following soil types:

Soil Type:	Max. Velocity (V_{MAX})	Max Froude No. (F_{MAX})
Non-Cohesive	5.0 fps	0.60
Cohesive	7.0 fps	0.80
Paved	N/A	N/A

Choose One:
- ○ Non-Cohesive
- ○ Cohesive
- ◉ Paved

		Minor Storm	Major Storm	
Maximum Allowable Top Width of Channel for Minor & Major Storm	T_{MAX} =	15.00	15.00	ft
Maximum Allowable Water Depth in Channel for Minor & Major Storm	d_{MAX} =	0.50	0.50	ft

Allowable Channel Capacity Based On Channel Geometry

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Top Width Criterion	Q_{allow} =	14.9	14.9	cfs
MAJOR STORM Allowable Capacity is based on Top Width Criterion	d_{allow} =	0.46	0.46	ft

Water Depth in Channel Based On Design Peak Flow

Design Peak Flow	Q_o =	5.7	10.8	cfs
Water Depth	d =	0.29	0.40	ft

Minor storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

Major storm max. allowable capacity GOOD - greater than the design flow given on sheet 'Inlet Management'

AREA INLET IN A SWALE

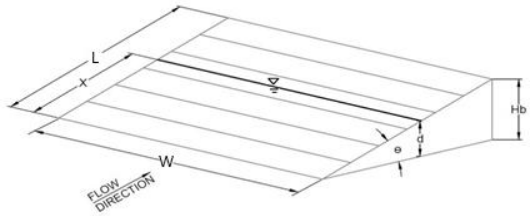
QT 4270

Inlet A-5

Inlet Design Information (Input)

Type of Inlet: CDOT Type C (Depresse

Inlet Type = CDOT Type C (Depressed)

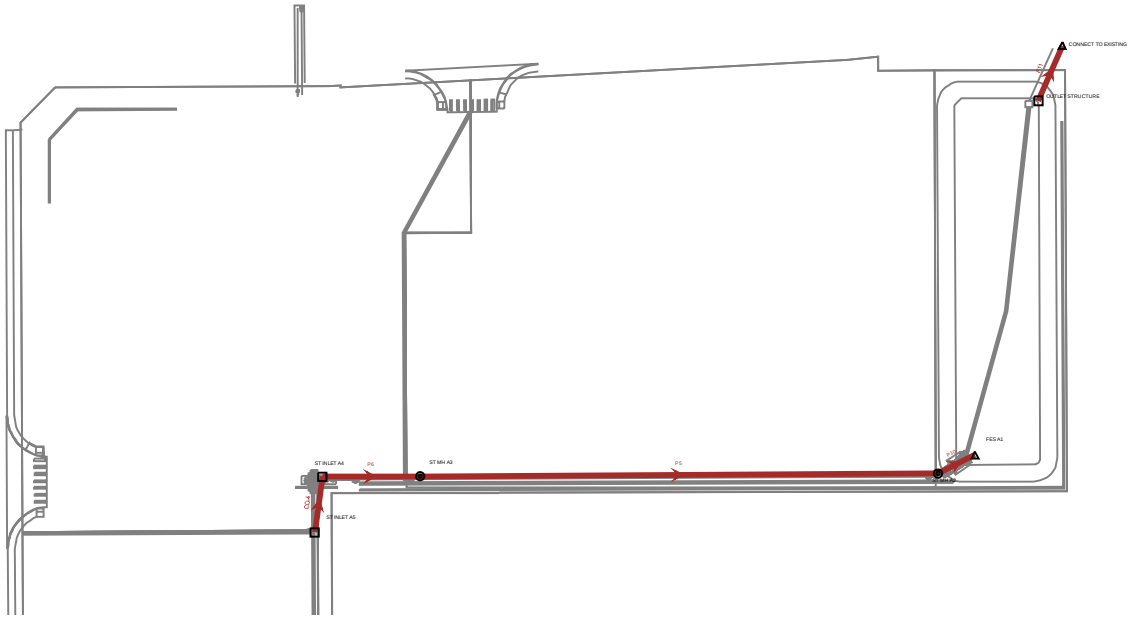


Angle of Inclined Grade (must be <= 30 degrees)	θ =	0.00	degrees
Width of Grate	W =	3.00	ft
Length of Grate	L =	3.00	ft
Open Area Ratio	A_{RATIO} =	0.70	
Height of Inclined Grate	H_B =	0.00	ft
Clogging Factor	C_f =	0.50	
Grate Discharge Coefficient	C_d =	0.84	
Orifice Coefficient	C_o =	0.56	
Weir Coefficient	C_w =	1.81	

		MINOR	MAJOR	
Water Depth at Inlet (for depressed inlets, 1 foot is added for depression)	d =	1.29	1.40	
Total Inlet Interception Capacity (assumes clogged condition)	Q_a =	16.2	16.8	cfs
Bypassed Flow	Q_b =	0.0	0.0	cfs
Capture Percentage = Qa/Qo	C% =	100	100	%

Berkley Center Subdivision

Overall view



Berkley Center Subdivision

5-Year Storm Event

Catch Basin Table - Time: 0.00 hours

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Inlet Location	Headloss Coefficient (Standard)	Flow (Total Out) (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
ST INLET A4	5,214.79	5,211.38	In Sag	0.700	11.89	5,213.13	5,212.90
OUTLET STRUCTURE	5,210.00	5,208.50	In Sag	0.000	0.60	5,208.80	5,208.80

Berkley Center Subdivision

5-Year Storm Event

Conduit Table - Time: 0.00 hours

Label	Material	Diameter (in)	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Velocity (ft/s)	Flow (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
P5	PVC	24.0	5,210.18	368.7	0.002	5.21	11.89	5,212.47	5,211.68
P6	PVC	24.0	5,211.21	69.5	0.002	5.21	11.89	5,212.90	5,212.81
P10	PVC	24.0	5,210.01	29.4	0.002	5.21	11.89	5,211.41	5,211.25
P11	PVC	18.0	5,208.30	42.9	0.005	3.04	0.60	5,208.80	5,208.55

Berkley Center Subdivision

5-Year Storm Event

Manhole Table - Time: 0.00 hours

Label	Elevation (Rim) (ft)	Elevation (Invert in 1) (ft)	Elevation (Invert) (ft)	Elevation (Invert Out) (ft)	Headloss Coefficient (Standard)	Flow (Total Out) (cfs)	Depth (Out) (ft)	Hydraulic Grade Line (Out) (ft)	Hydraulic Grade Line (In) (ft)
ST MH A3	5,215.38	5,211.21	5,211.11	5,211.11	0.800	11.89	1.36	5,212.47	5,212.81
ST MH A2	5,213.34	5,210.18	5,210.08	5,210.08	0.600	11.89	1.33	5,211.41	5,211.68

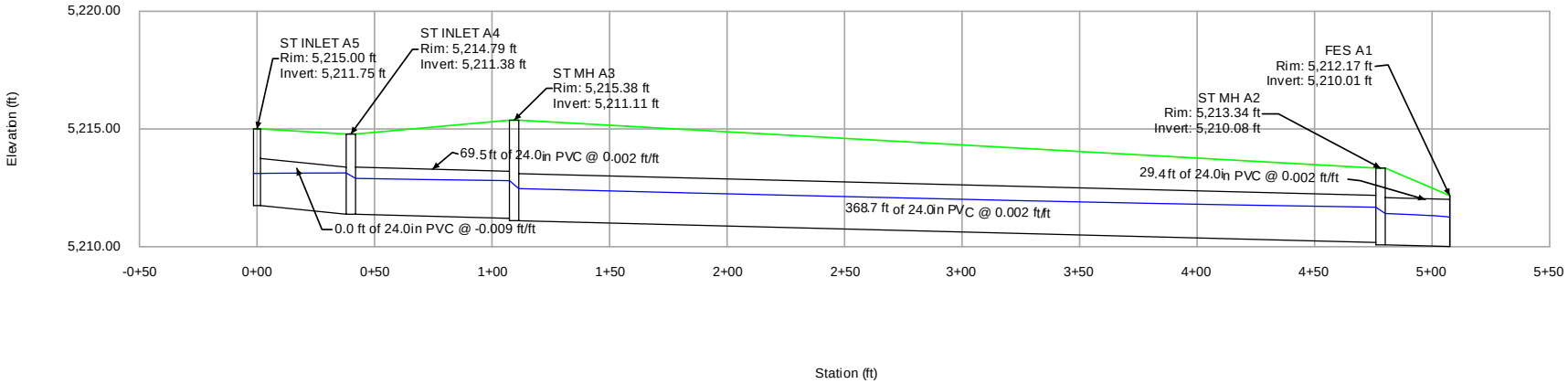
Berkley Center Subdivision

5-Year Storm Event

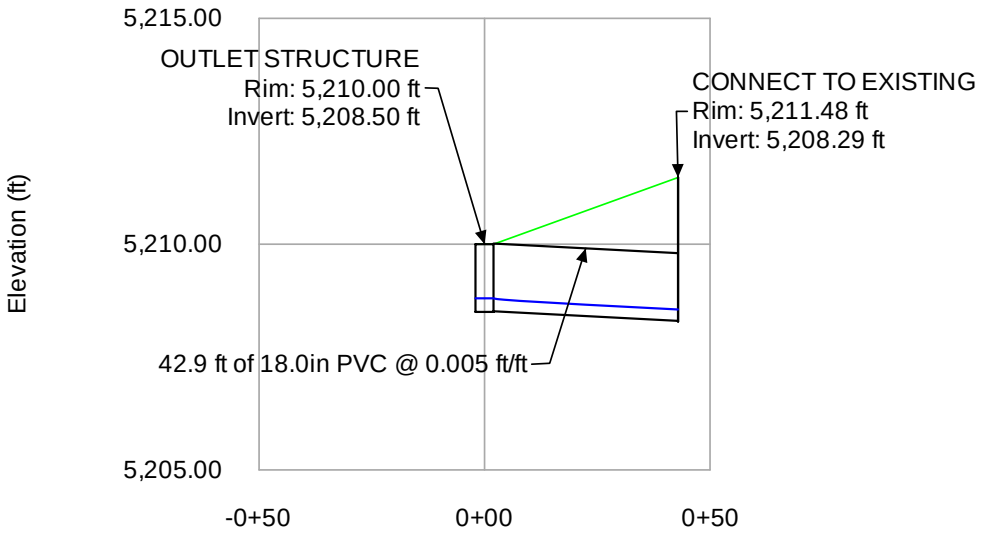
Outfall Table - Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Elevation (User Defined Tailwater) (ft)	Hydraulic Grade (ft)	Flow (Total Out) (cfs)
FES A1	5,212.17	5,210.01	User Defined Tailwater	5,210.96	5,211.25	11.89
CONNECT TO EXISTING	5,211.48	5,208.29	Free Outfall	0.00	5,208.55	0.60

Berkley Center Subdivision
STORM LINE A1 PROFILE (5-Year Storm Event)



Berkley Center Subdivision
OUTLET PROFILE (5-Year Storm Event)



Berkley Center Subdivision

100-Year Storm Event

Catch Basin Table - Time: 0.00 hours

Label	Elevation (Rim) (ft)	Elevation (Invert) (ft)	Inlet Location	Headloss Coefficient (Standard)	Flow (Total Out) (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
ST INLET A4	5,214.79	5,211.38	In Sag	0.700	22.95	5,215.37	5,214.79
OUTLET STRUCTURE	5,210.00	5,208.50	In Sag	0.000	20.50	5,210.00	5,210.00

Berkley Center Subdivision

100-Year Storm Event

Conduit Table - Time: 0.00 hours

Label	Material	Diameter (in)	Invert (Stop) (ft)	Length (Scaled) (ft)	Slope (Calculated) (ft/ft)	Velocity (ft/s)	Flow (cfs)	Hydraulic Grade Line (In) (ft)	Hydraulic Grade Line (Out) (ft)
P5	PVC	24.0	5,210.18	368.7	0.002	7.31	22.95	5,214.79	5,212.54
P6	PVC	24.0	5,211.21	69.5	0.002	7.31	22.95	5,215.80	5,215.38
P10	PVC	24.0	5,210.01	29.4	0.002	7.31	22.95	5,212.04	5,211.72
P11	PVC	18.0	5,208.30	42.9	0.005	11.60	20.50	5,210.77	5,209.80

Berkley Center Subdivision

100-Year Storm Event

Manhole Table - Time: 0.00 hours

Label	Elevation (Rim) (ft)	Elevation (Invert in 1) (ft)	Elevation (Invert) (ft)	Elevation (Invert Out) (ft)	Headloss Coefficient (Standard)	Flow (Total Out) (cfs)	Depth (Out) (ft)	Hydraulic Grade Line (Out) (ft)	Hydraulic Grade Line (In) (ft)
ST MH A3	5,215.38	5,211.21	5,211.11	5,211.11	0.800	22.95	3.68	5,214.79	5,215.45
ST MH A2	5,213.34	5,210.18	5,210.08	5,210.08	0.600	22.95	1.96	5,212.04	5,212.54

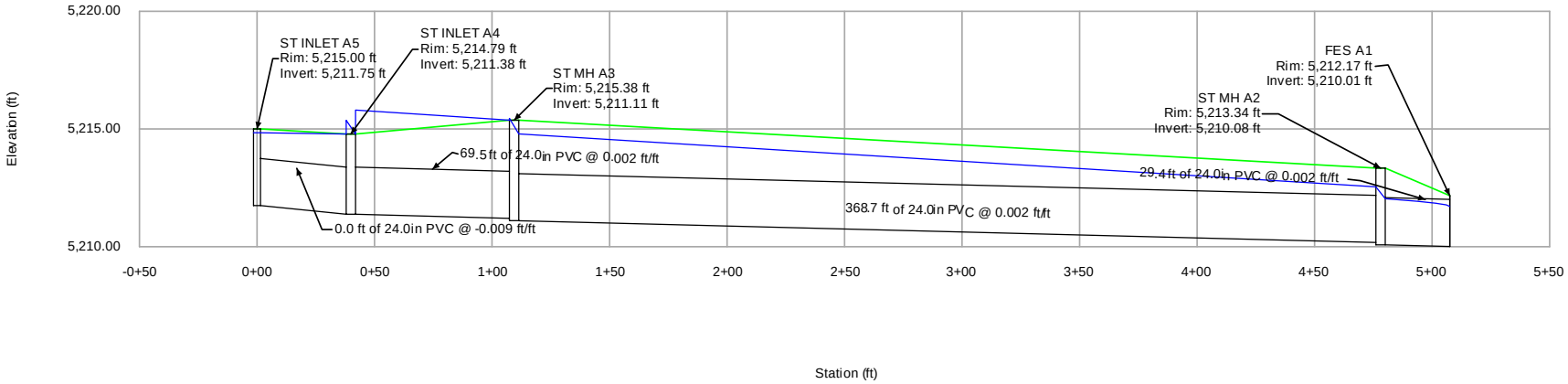
Berkley Center Subdivision

100-Year Storm Event

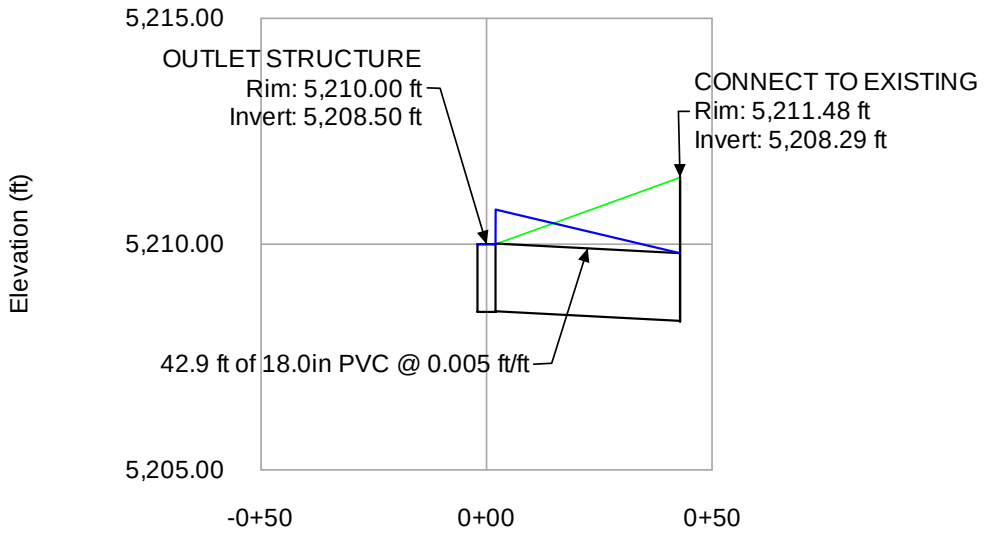
Outfall Table - Time: 0.00 hours

Label	Elevation (Ground) (ft)	Elevation (Invert) (ft)	Boundary Condition Type	Elevation (User Defined Tailwater) (ft)	Hydraulic Grade (ft)	Flow (Total Out) (cfs)
FES A1	5,212.17	5,210.01	User Defined Tailwater	5,211.47	5,211.72	22.95
CONNECT TO EXISTING	5,211.48	5,208.29	Crown	0.00	5,209.80	20.50

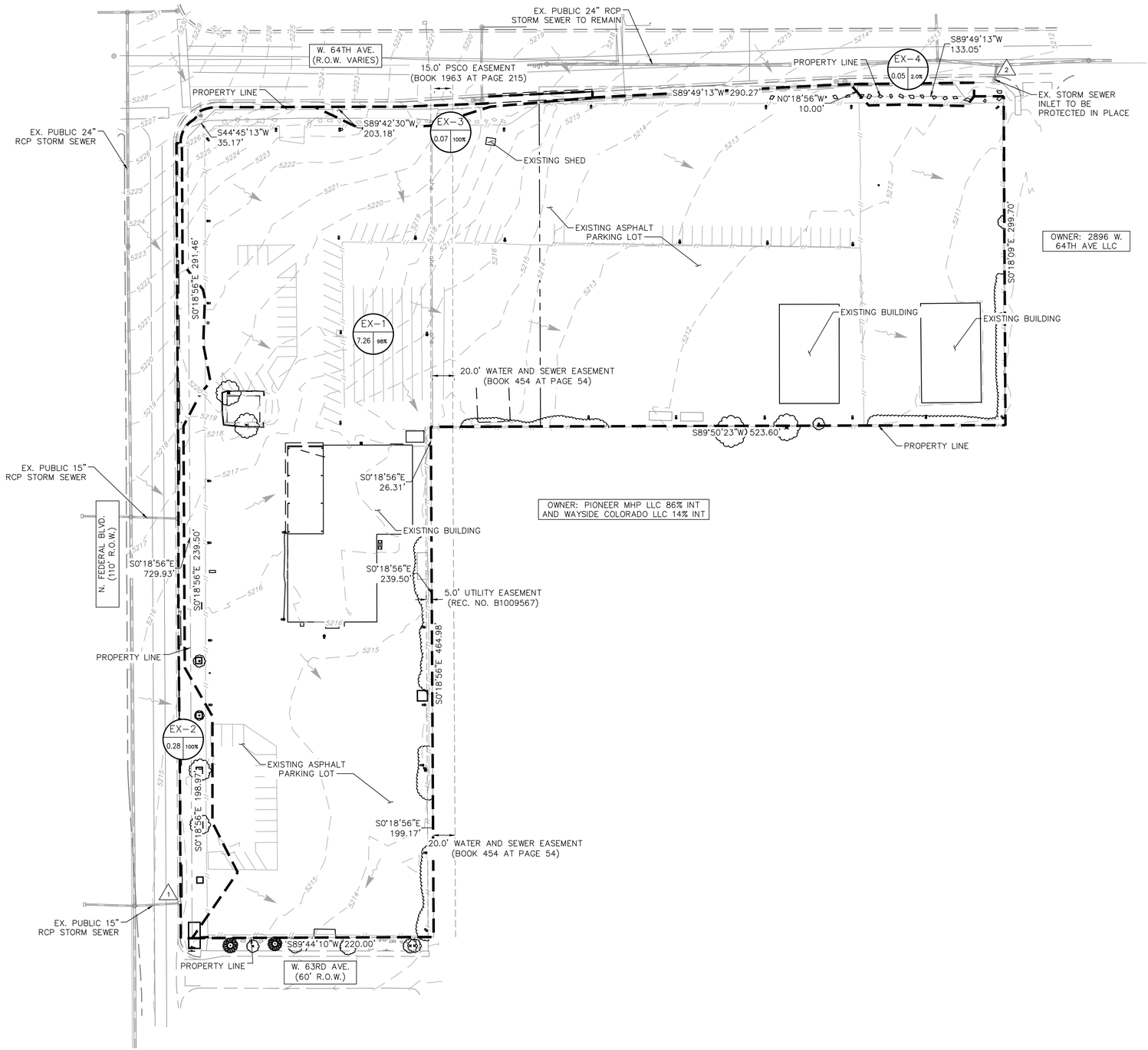
Berkley Center Subdivision
STORM LINE A1 PROFILE (100-Year Storm Event)



Berkley Center Subdivision
STORM LINE A1 PROFILE (100-Year Storm Event)



APPENDIX E – DRAINAGE MAPS



PROPOSED DRAINAGE LEGEND

# = BASIN DESIGNATION
AC = AREA IN ACRES
I = % IMPERVIOUSNESS
# = DESIGN POINT
EXISTING BASIN BOUNDARY
EXISTING FLOW DIRECTION

DRAINAGE NOTES

1. NO BUILDING, STRUCTURE FENCE, OR FILL WILL BE CONSTRUCTED IN THE DETENTION AREAS. NO CHANGES OR ALTERATIONS AFFECTING THE HYDRAULIC CHARACTERISTICS OF THE DETENTION AREAS OR AFFECTING WATER QUALITY FEATURES WILL BE MADE WITHOUT APPROVAL OF THE CITY ENGINEER.
2. MAINTENANCE AND OPERATION OF THE DETENTION AREAS AND WATER QUALITY FEATURES WILL REMAIN THE RESPONSIBILITY OF THE PROPERTY OWNER. IF THE PROPERTY OWNER FAILS IN THIS RESPONSIBILITY, THE CITY HAS THE RIGHT TO ENTER THE PROPERTY, MAINTAIN THE DETENTION AREAS AND WATER QUALITY FEATURES, AND OBTAIN REIMBURSEMENT FOR THE COSTS THAT ARE INCURRED.
3. THE DETENTION POND VOLUMES, WATER QUALITY FEATURES, AND ALL RELATED DRAINAGE APPURTENANCES (INCLUDING BASIN BOUNDARIES) SHALL BE CERTIFIED BY A COLORADO REGISTERED PROFESSIONAL ENGINEER PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY STRUCTURE ON THE SITE OR IN THE DEVELOPMENT.

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

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

NO.	REVISION	BY	DATE	APPR

Kimley»Horn

DESIGNED BY: AIA
DRAWN BY: AIA
CHECKED BY: JPW
04/15/2024

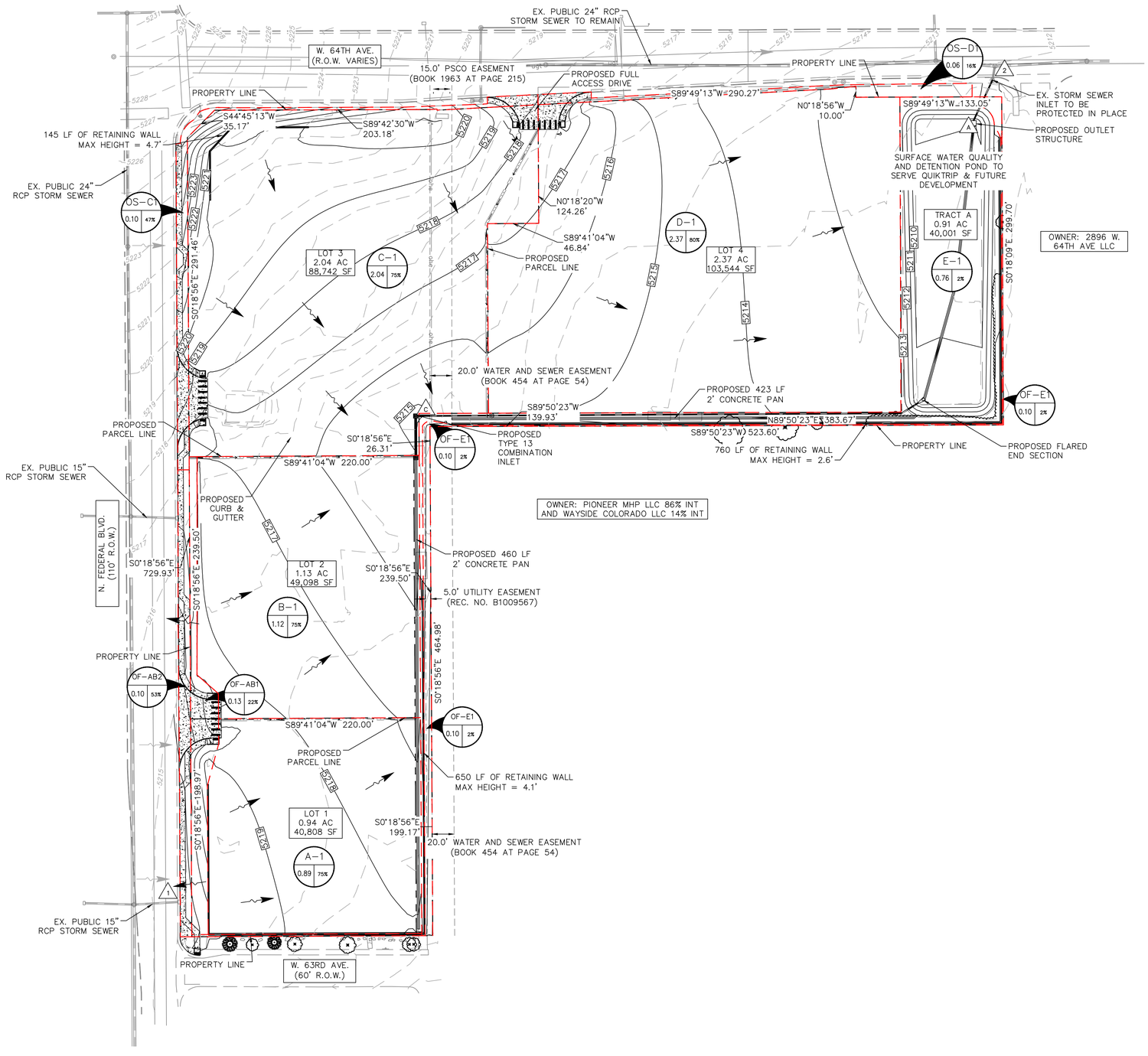
BERKELY CENTER SUBDIVISION
CONSTRUCTION DOCUMENTS
FEDERAL BLVD. & W. 64TH AVE.

EXISTING DRAINAGE MAP

PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PROJECT NO.
096888037

SHEET
1



PROPOSED DRAINAGE LEGEND

- # = BASIN DESIGNATION
- AC = AREA IN ACRES
- I = % IMPERVIOUSNESS
- # = DESIGN POINT
- PROPOSED BASIN BOUNDARY
- EXISTING FLOW DIRECTION
- PROPOSED FLOW DIRECTION

DRAINAGE NOTES

1. NO BUILDING, STRUCTURE FENCE, OR FILL WILL BE CONSTRUCTED IN THE DETENTION AREAS. NO CHANGES OR ALTERATIONS AFFECTING THE HYDRAULIC CHARACTERISTICS OF THE DETENTION AREAS OR AFFECTING WATER QUALITY FEATURES WILL BE MADE WITHOUT APPROVAL OF THE CITY ENGINEER.
2. MAINTENANCE AND OPERATION OF THE DETENTION AREAS AND WATER QUALITY FEATURES WILL REMAIN THE RESPONSIBILITY OF THE PROPERTY OWNER. IF THE PROPERTY OWNER FAILS IN THIS RESPONSIBILITY, THE CITY HAS THE RIGHT TO ENTER THE PROPERTY, MAINTAIN THE DETENTION AREAS AND WATER QUALITY FEATURES, AND OBTAIN REIMBURSEMENT FOR THE COSTS THAT ARE INCURRED.
3. THE DETENTION POND VOLUMES, WATER QUALITY FEATURES, AND ALL RELATED DRAINAGE APPURTENANCES (INCLUDING BASIN BOUNDARIES) SHALL BE CERTIFIED BY A COLORADO REGISTERED PROFESSIONAL ENGINEER PRIOR TO ISSUANCE OF A CERTIFICATE OF OCCUPANCY FOR ANY STRUCTURE ON THE SITE OR IN THE DEVELOPMENT.

NORTH

GRAPHIC SCALE IN FEET
0 25 50 100

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

NO.	REVISION	BY	DATE	APPR

Kimley»Horn

© 2024 KIMLEY-HORN AND ASSOCIATES, INC.
3325 SOUTH TIMBERLINE ROAD, SUITE 130
FORT COLLINS, COLORADO 80525 (970)-822-7911

DESIGNED BY: AIA
DRAWN BY: AIA
CHECKED BY: JPW
04/15/2024

BERKELY CENTER SUBDIVISION
CONSTRUCTION DOCUMENTS
FEDERAL BLVD. & W. 64TH AVE.

PROPOSED DRAINAGE MAP

PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION
Kimley»Horn
Kimley-Horn and Associates, Inc.

PROJECT NO.
096888037

SHEET
2

APPENDIX F – LEVEL 3 REPORT CHECKLIST

Level 3 – Storm Drainage Study Report				
Item No.	Submitted[1]	County Use Only		
		Rejected	N/A	
1.	☑	☐	☐	Cover sheet – Including project name, proponent's name, address, and telephone number, Project Engineer, and date of submittal.
2.	☑	☐	☐	Table of contents - Show the page numbers for each section of the report, including appendices.
3.	☑	☐	☐	Project Description – • Describe the type of permit(s) for which the applicant is applying, the size and location of the project site, address or parcel number, and legal description of the property, property zoning, etc. • Describe other permits required. • Describe the project, including proposed land use, site improvements, construction of impervious surfaces, and landscaping.
4.	☑	☐	☐	Existing Conditions - include references to relevant reports such as basin plans, flood studies, groundwater studies, wetland designation, sensitive area designation, environmental impact statements, water quality report, etc.
5.	☑	☐	☐	Existing Conditions - where such reports impose additional conditions on the applicant, those conditions shall be included in the report. In addition, an existing drainage report or master plan (County approved source) may be used as a baseline and updated with the proposed information.
6.	☑	☐	☐	Developed site drainage conditions - describe the land cover resulting from the proposed project; describe the potential stormwater quantity and quality impacts resulting from the proposed project; describe the proposal for the collection and conveyance of site runoff from the project site, for the control of any increase in stormwater quantity resulting from the project , and for the control of stormwater quality.
7.	☑	☐	☐	Hydrological Analysis – including assumptions, computations, and results.
8.	☑	☐	☐	Describe the drainage basin(s) to which the project site contributes runoff, and identify the receiving waters for each of these drainage basins.
9.	☑	☐	☐	Soils hydrological group(s)
10.	☑	☐	☐	Description of upstream basins - identify any sources of runoff to the project site. This should be based on a field investigation. Any existing drainage or erosion problems upstream which may have an impact on the proposed development should be noted.
11.	☐	☐	☐	Downstream Drainage Analysis – the initial drainage report submittal shall include a Level 1 Downstream Drainage Analysis. Any further analysis of downstream conditions required beyond the Level 1 analysis shall be submitted as part of this Drainage Report.

ATTACHMENT #7 CONTINUED

12.	☐	☐	☐	Geotechnical Report - either supervised or prepared by a registered professional engineer (sealed, signed and dated).
13.	☑	☐	☐	Basin map(s) – showing boundaries of project, any offsite contributing drainage basins, onsite drainage basins, approximate locations of all major drainage structures within the basins, and depict the course of stormwater origination from the subject property and extending all the way to the closest receiving body of water. Reference the source of the topographic base map, the scale of the map, and include a north arrow.
14.	☑	☐	☐	Hydraulic design computations - supporting the design of proposed conveyance, quantity and quality control facilities, and verifying the capacity of existing drainage facilities. These computations may include capacity and backwater analysis required either as part of the proposed drainage design or as a part of the downstream drainage investigation, and flood routing computations required for the design of detention/retention storage facilities, for wetland impact analysis, or for flood plain analysis.
15.	☐	☐	☐	Erosion and Sedimentation Control - include a description of proposed erosion control objectives and strategies; a description of erosion control facilities and other temporary water quality facilities proposed; a description of the revegetation plan for the project site; identification of areas of concern regarding soil stability and/or water quality impacts; computations for the sizing of temporary stormwater conveyance and quantity control facilities; computations for the design and sizing of proposed sediment containment facilities, etc.
16.	☑	☐	☐	Appendices – include copies of any additional relevant reports, prepared by others, which support or corroborate the findings, conclusions, or assumptions contained in the Drainage Report; copies of any additional permits (or completed permit applications) required for the project.
				Vicinity Map
17.	☑	☐	☐	Sheet Size – 11" x 17" or 8½" x 11"
18.	☑	☐	☐	Project Title Sheet
19.	☑	☐	☐	Project Site Plan
20.	☑	☐	☐	Title Block – include name and address of proposed project/development, submittal date, title of drawing, and page number.
21.	☑	☐	☐	Drawing Information – • North arrow indicator • Section-Township-Range • Drawing Scale • Symbol Legend
22.	☑	☐	☐	Drawing Scale – as necessary to clearly present details.

ATTACHMENT #7 CONTINUED

23.	☑	☐	☐	Project site topography, land cover and land use; abutting property land cover and land use.
24.	☑	☐	☐	Offsite drainage to the property; creeks, lakes, ponds, wetlands, ravines, gullies, steep slopes, springs, and other environmentally sensitive areas on or adjacent to the project site.
25.	☑	☐	☐	General soils conditions present within the project site.
26.	☑	☐	☐	Existing natural and manmade drainage facilities within and immediately adjacent to the project site.
27.	☑	☐	☐	Points of discharge for drainage from the project site.
28.	☑	☐	☐	Impact on adjacent properties. Location(s) of downstream outfall points.
29.	☐	☐	☐	Signed statement from engineer, developer

Developer's Comments (please reference the item number for each comment)

County's Comments

[1] To be checked by the Developer. If a "submitted" box is not checked, the Applicant must explain (in comment box above) or the application may be rejected for insufficient information.