MEETING OF THE TOWN BOARD
Town Board Room
807 Mountain Avenue
Town of Berthoud, Colorado
Tuesday, July 11, 2023, 6:30 p.m.

This is an IN-PERSON meeting at the location and time noted above.
You may also join virtually using Zoom: Phone: 1-346-248-7799 or 301-715-8592
Web: www.zoom.us/join Use this Meeting ID: 210 035 9423

The Town Board may take action on any of the following agenda items as presented or modified prior to or during the meeting and items necessary or convenient to effectuate the agenda items.

1. Meeting Called To Order - Mayor William Karspeck
2. Pledge Of Allegiance - Mayor William Karspeck
3. Roll Call - Mayor William Karspeck
4. Citizen Participation
5. Scheduled Items And Estimated Time For Discussion

5.I. Consent Agenda
Introduction By: Christian Samora

Documents:

MEMO RE CONSENT AGENDA.PDF
A. JULY 11 2023 MEETING AGENDA.PDF
B. JUNE 13, 2023 MEETING MINUTES.PDF
C. TRANSFORT FLEX AGREEMENT.PDF
D. LITTLE THOMPSON DARK SKY MOU.PDF
E. 348 MASSACHUSETTS AVENUE.PDF
F. MAY 2023 FINANCIAL INFORMATION.PDF

5.II. Mountain States Childrens Home Presentation
Introduction By: Walter Williams

Documents:

MEMO RE MOUNTAIN STATES CHILDRENS HOME PRESENTATION.PDF

5.III. Sidewalk Cost Share Program Update
Introduction By: Keith Knoll

Documents:

MEMO RE SIDEWALK COST SHARE UPDATE.PDF

5.IV. Vantage 7th Filing Preliminary Plat - Public Hearing
Introduction By: Anne Johnson

Documents:

MEMO RE VANTAGE 7TH FILING PRELIMINARY PLAT.PDF
STAFF REPORT VANTAGE 7TH FILING PC PRELIMINARY PLAT.PDF
RESOLUTION 15 SERIES 2023 VANTAGE 7TH PRELIM PLAT.PDF
DEVELOPMENT REVIEW APPLICATION.PDF
MAPS AND PLANS FOR VANTAGE 7TH FILING.PDF

5.V. Oil And Gas Tranche 2 - Continued
Introduction By: Mike Foote

Documents:

MEMO RE OIL AND GAS TRANCHE 2.PDF
TRANCHE 2 PRELIMINARY DRAFT.PDF

5.VI. Water Policy Update
Introduction By: Pete Johnson

Documents:

MEMO RE WATER POLICY UPDATE.PDF
DRAFT TOWN OF BERTHOUD WATER RIGHTS PRESENTATION (WATER DEDICATION POLICY OPTIONS) 07112023.PDF

6. Elected Official Reports

1. Town Board - Tim Hardy, May Soricelli, Mike Grace, Sean Murphy, Karl Ayers, and Jeff Butler.
    - Establish Interview Committee to fill vacancy on Planning Commission
2. Mayor - William Karspeck
3. Staff - Town Administrator, Attorney

7. Adjourn

The order of agenda items listed above is approximate and intended as a guideline for the

Town Board. Individuals needing special accommodation may request assistance by *contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.*

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Consent Agenda**
Type of Item:	**Regular Item**
Purpose:	**The Consent Agenda contains routine items that can be approved with a single action by the Board.**
Presented by:	**Christian Samora**

ATTACHMENTS:

a) July 11, 2023, Meeting Agenda
b) June 13, 2023, Meeting Minutes
c) TransFort FLEX Agreement
d) Little Thompson Dark Sky MOU
e) 348 Massachusetts Avenue Alteration Application
f) May 2023 Financial Information

BACKGROUND:

"Consent Agenda" is a group of routine matters to be acted on with a single motion and vote. The mayor will ask if any Board Member wishes to remove an item for separate discussion. Items removed from the consent agenda should be considered immediately following adoption of the amended Consent Agenda.

UPDATE/NEXT STEPS:

Any updates or next steps for the items on the Consent Agenda will be articulated in the information sheet provided for each item on the Consent Agenda.

FISCAL IMPACT AND FUND SOURCE:

Any fiscal information for the items on the Consent Agenda will be articulated in the information sheet provided for each item on the Consent Agenda.

COMMUNITY TOUCHSTONES:

Any Community Touchstones for the items on the Consent Agenda will be articulated in the information sheet provided for each item on the Consent Agenda.

RECOMMENDED ACTION(S):

“Move to combine and approve the items on the Consent Agenda.”

Followed by a second and a vote.

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Web: www.zoom.us/join **Use this Meeting ID: 210 035 9423**

Please note that you will need to call into the meeting if you wish to speak and do not have a microphone on your computer. If you are using a mobile device, it is highly recommended that you download the Zoom app.

The Town Board may take action on any of the following agenda items as presented or modified prior to or during the meeting and items necessary or convenient to effectuate the agenda items.

I. REGULAR MEETING CALLED TO ORDER – Mayor William Karspeck

II. PLEDGE OF ALLEGIANCE – Mayor William Karspeck

III. ROLL CALL – Mayor William Karspeck

IV. CITIZEN PARTICIPATION

V. SCHEDULED ITEMS and ESTIMATED TIMES FOR DISCUSSION

1. **Consent Agenda** **(Christian Samora)** **(5 Min)**
   Consent Agenda items are considered to be routine by the Town Board and will be enacted with a single vote. There will be no separate discussion of these items. If discussion is deemed necessary, that item should be removed from the Consent Agenda and considered separately.
   - **a)** July 11, 2023, Meeting Agenda
   - **b)** June 13, 2023, Meeting Minutes
   - **c)** TransFort FLEX Agreement
   - **d)** Little Thompson Dark Sky MOU
   - **e)** 348 Massachusetts Avenue Alteration Application
   - **f)** May 2023 Financial Information

2. **Mountain States Childrens Home Presentation** **(Walter Williams)** **(15 Min)**

3. **Sidewalk Cost Share Program Update** **(Keith Knoll)** **(15 Min)**

4. **Vantage 7th Filing Preliminary Plat** **(Anne Johnson)** **(30 Min)**
   Resolution 2023-14 – A resolution approving the preliminary plat for the Vantage subdivision, 7th Filing in the Town of Berthoud

5. **Oil and Gas Tranche 2 - Continued** **(Mike Foote)** **(60 Min)**

6. **Water Policy Update** **(Pete Johnson)** **(30 Min)**

The order of agenda items listed above is approximate and intended as a guideline for the Town Board. Individuals needing special accommodation may request assistance by contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.

VI. ELECTED OFFICIAL REPORTS (10 Min)

1. Town Board – Tim Hardy, May Soricelli, Mike Grace, Sean Murphy, Karl Ayers, and Jeff Butler.
    a. Establish Interview Committee for Planning Commission
2. Mayor – William Karspeck
3. Staff – Town Administrator, Attorney

VII. ADJOURN

_____ _____

Town Clerk or Deputy Town Clerk William Karspeck, Mayor

July 11, 2023, Meeting Agenda
The order of agenda items listed above is approximate and intended as a guideline for the Town Board. Individuals needing special accommodation may request assistance by contacting the Town Clerk 807 Mountain Avenue, Berthoud, Colorado 80513, 970-532-2643 at least 24 hours in advance.

MEETING MINUTES OF THE TOWN BOARD

6/13/2023 - Minutes

1. Meeting Called To Order - Mayor William Karspeck

   Mayor Pro-Tem Grace called the meeting to order at 6:30 PM.

2. Pledge Of Allegiance - Mayor William Karspeck

   Mayor Pro-Tem Grace led the Pledge of Allegiance.

3. Roll Call - Mayor William Karspeck

   The following Board Members were present:

   Mike Grace, Mayor Pro-Tem

   Sean Murphy, Trustee

   Jeff Butler, Trustee

   May Albrecht, Trustee

   Karl Ayers, Trustee

   The following Board Members were Absent:

   William Karspeck, Mayor

   Tim Hardy, Trustee

4. Citizen Participation

   Herb Hergott, Lauren Bowling, Richard Alexander, and Gerri Terrisi spoke during Citizen Participation.

5. Scheduled Items And Estimated Time For Discussion

   5.I. Consent Agenda

   Trustee Ayers moved to combine and approve the items on the Consent Agenda. Trustee Murphy seconded the motion. In a 5-0 roll call vote, THE MOTION CARRIED.

   5.II. 2022 Audit Presentation

   Leach gave an introduction and provided background information.

Timothy Ahopelto, representing Hinkle & Co PC, provided an overview along with background information regarding the audit.

Trustee Butler moved to accept the Audited Financial Statement for the year ending December 31, 2022. Trustee Ayers seconded the motion. In a 5-0 roll call vote, THE MOTION CARRIED.

5.III. Caring Pathways Special Use Permit - Public Hearing

Johnson gave an introduction and provided background information. Jeff Lewis, the applicant, provided an additional presentation regarding the Special Use Request.

Mayor Karspeck opened the Public Hearing.

Leslie Tasse, Richard Bassett, Debbie Bassett, Gerri Terrisi, and Ladella Deere spoke during the Public Hearing.

Mayor Karspeck closed the public hearing.

Trustee Murphy moved to approve Resolution 2023-14, approving the Special Use Permit for Caring Pathways located at 502 N 2nd Street in the Town of Berthoud with the following conditions added to the resolution:
1. The facility shall have discrete signage
2. Operations are limited to Monday through Friday, unless otherwise approved by the Town Board.

Trustee Butler seconded the motion. In a 5-0 roll call vote, THE MOTION CARRIED.

5.IV. Town Park Bid Award

Deputy Administrator Olinger provided an introduction and background information.

Bob Barkeen, Herb Hergott, Richard Alexander, and Lauren Bowling spoke during public participation.

Trustee Murphy moved to extend the meeting to 10:30 PM. Trustee Ayers seconded the motion. In a voice vote, THE MOTION CARRIED.

Trustee Ayers moved to award the Town Park Phase I project to KCI and authorize the Town Administrator to work within the requested budget amount of $6.25M by coordinating with contractors and staff to modify and reduce project costs through value engineering and alternate sections to complete the park projects in its entirety. Trustee Murphy seconded the motion. In a 5-0 roll call vote, THE MOTION CARRIED.

5.V. Business Licensing - Introduction

Samora gave an introduction and provided background information.

The Board was supportive of bringing the ordinance back at a future meeting for consideration.

6. Elected Official Reports

Administrator Kirk Reported:

Reminder that there is a Study Session on June 20th.

Kirk will send a complete update by email.

Trustee Butler Reported:

Trustee Butler stated it was nice to see Berthoud Day being well attended.

Trustee Ayers Reported:

Ayers agreed and continued to indicate that PORT met and visited several locations, including the Rookery and I-25 interchange.

Trustee Murphy Reported:

Trustee Murphy attended Berthoud Day with members of the Tree Committee. Murphy asked about crosswalk lights. Kirk will provide detailed locations in the written report.

Mayor Pro-Tem Grace Reported:

Mayor Pro-Tem Grace reported that Scorch Fest was very fun and was well-attended. Grace will be meeting with the Youth Advisory Committee for a wrap-up meeting. Grace asked if there were any updates regarding the railroad crossings. Kirk indicated that the submittal is complete for Spartan and the Town is waiting for a response. Grace asked for an update on project tracking. Kirk indicated that staff has been trying out Smart Sheet as a possible solution.

7. Adjourn

The meeting adjourned at 9:56 PM.

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**City of Fort Collins FLEX IGA**
Type of Item:	**Consent Agenda**
Purpose:	**Approve IGA between the City of Fort Collins and the Town of Berthoud**
Presented by:	**Brian Dubois**

ATTACHMENTS:

- 2024 City of Fort Collins FLEX Intergovernmental Agreement

BACKGROUND:

On an annual basis, the Town enters into an agreement with the City of Fort Collins to provide regional connector bus service. More specifically, the “FLEX” bus service is operated by the City of Fort Collins bus system (Transfort), and the FLEX service operates along the Hwy 287 Corridor between Fort Collins and Boulder. One of the FLEX bus stops is in Downtown Berthoud, allowing residents to utilize this regional bus service.

In exchange for the service being provided to Berthoud, the Town agrees to contribute to the direct and indirect costs of operating FLEX. Using ridership data, Transfort calculates the cost share for each entity served by the system, including Berthoud. For 2024, the Town’s portion of the cost for the FLEX service is $45,225. To offset this cost, the Town also allows Transfort to withhold $15,901 of Federal transit funding from Urbanized Area Formula grant funding that the Town would otherwise receive. This leaves the Town responsible for $29,324 of the costs for FLEX in 2024.

UPDATE/NEXT STEPS:

- No additional steps are needed if approved.

FISCAL IMPACT AND FUND SOURCE:

5307 Funds from yearly FTA Funds

COMMUNITY TOUCHSTONES:

Most pertinent to *Resiliency*

RECOMMENDED ACTION(S):

Approve the Intergovernmental Agreement as part of the Consent Agenda.

INTERGOVERNMENTAL AGREEMENT
FOR BUS SERVICE BETWEEN THE CITY OF FORT COLLINS AND
THE TOWN OF BERTHOUD

This Agreement is made this _____ day of _____, 2024, between the **City of Fort Collins, Colorado**, a municipal corporation (hereinafter "Fort Collins"), and the **Town of Berthoud**, a public body corporate and politic (hereinafter "Berthoud") (Fort Collins and Berthoud collectively may be referred to as the "Parties" or, individually, as a "Party").

RECITALS

WHEREAS, the Parties desire to provide regional connector bus service between Fort Collins and Berthoud; and

WHEREAS, Fort Collins has its own fixed-route bus system (hereinafter "Transfort");

WHEREAS, FLEX is a regional connector bus service operated by Transfort in partnership with Loveland, Berthoud, Longmont, City of Boulder, and Boulder County (hereinafter "Partners") to provide services to said communities pursuant to separate Intergovernmental Agreements; and

WHEREAS, Transfort is willing and able to extend FLEX services along the U.S. Highway 287 and Highway 119 corridors between Fort Collins and Boulder (hereinafter "FLEX") with stops in Fort Collins, Loveland, Berthoud, Longmont, and Boulder; and

WHEREAS, the Parties have determined that significant economic and efficiency benefits result for each Party through the provision of FLEX by Transfort.

NOW, THEREFORE, in consideration of the mutual promises herein and other good and valuable consideration, receipt and adequacy of which is acknowledged, the Parties agree as follows:

AGREEMENT

1. The foregoing recitals are hereby incorporated as though fully set forth herein.

2. Fort Collins shall provide connector bus service, FLEX, in accordance with the terms of this Agreement and as specifically identified and described in **Exhibit A**, attached hereto and incorporated herein by this reference, throughout the term of this Agreement. The services identified and described in **Exhibit A** are subject to increase, modification, reduction, termination, and pursuant to this **Section 2** and **Section 4** of this Agreement.

    a. Increased service beyond that described in **Exhibit A** may be provided by Fort Collins, at its sole discretion, to the extent Fort Collins determines appropriate given the demand for service and available resources. Prior to providing additional service at Fort Collins' expense, Fort Collins shall provide advance written notice to the Partners. Prior to providing additional service with Partner

contribution, Fort Collins and the Partners will amend Exhibit A and the respective cost share associated with the change. If the Partners and Fort Collins cannot agree to amend Exhibit A for the additional service then any such additional service that exceeds the services described in **Exhibit A** may be reduced or stopped by Fort Collins, at its sole discretion. Prior to reducing or stopping any such additional service, Fort Collins will make reasonable efforts to provide 30 days of advance written notice to the Partners.

b. In the event Fort Collins determines that circumstances require modification of FLEX services as described in **Exhibit A** to better accommodate the demand for service or the efficient provision of service, Fort Collins shall be entitled to implement such modification at its sole discretion. Fort Collins will make reasonable efforts to provide 30 days of advance written notice of any such modification to the Partners.

3. This Agreement shall commence on January 1, 2024 and shall continue in full force and effect until December 31, 2024 unless sooner terminated as herein provided.

4. Fort Collins agrees that all services provided under this Agreement shall be consistent with Transfort system operating policies and procedures, as the same may be amended, from time to time, in Fort Collins' sole discretion, and that all such services shall be consistent with the Transfort operation schedule.

5. In consideration of the services provided by Fort Collins under this Agreement, and the mutual financial commitments herein made, Town of Berthoud agrees to contribute to the direct and indirect costs of operating FLEX, as supplemented by such additional federal or state grant funds as may be available therefor. The Parties agree to use ridership data to formulate the cost share associated with each Partner. Based on average ridership data from 2019, 2021 and 2022 for each term of this Agreement, Berthoud shall pay to Fort Collins the amount of $45,225 for the year 2024 for its share of direct and indirect costs of operating FLEX subject to any cost share adjustment pursuant to **Section 7** or need for additional service pursuant to Section 1. Fort Collins currently maintains and administers Berthoud's portion of the Urbanized Area Formula Funding (49 U.S.C. § 5307) grant funds (the "5307 Funds"). Berthoud will allow Fort Collins to withhold $15,901 from its balance of 5307 Funds from the Fiscal Year 2024. Town of Berthoud will remain responsible for the remaining amounts owed under this IGA after deduction of the 5307 Funds, in the amount of $29,324. Fort Collins will invoice Partners in the first quarter of 2024 for the FLEX service provided in 2024. Such payment shall be made within 60 days after receipt of an invoice.

6. Any additional revenues collected by Berthoud from the operation of FLEX, shall be remitted to Fort Collins. Such revenue, and any additional revenues collected by Fort Collins from the operation of FLEX, shall be used to supplement FLEX operation expenses to equally benefit the Parties.

7. The Parties agree to run a ridership analysis on a triennial basis and adjust cost shares according to ridership quantities relative to each Partner. Ridership data will be an average of the previous year of service.

8. The Parties acknowledge and agree that the budget proposal for operation of FLEX for 2024 (or any subsequent term of this Agreement if extended pursuant to **Section 2**) includes projected FLEX Revenue and anticipated revenues from bus fares pursuant to **Section 10** ("FLEX Fare Revenue"). If FLEX Revenue

and FLEX Fare Revenue for 2024 (or any subsequent term of this Agreement if extended pursuant to **Section 2**) is insufficient to meet the budget for operation of FLEX, the Parties may elect to appropriate and pay their pro rata share of any shortage. If either Party does not appropriate and pay its pro rata share of the shortage in FLEX Revenue and FLEX Fare Revenue, Fort Collins in its sole discretion may reduce FLEX services as necessary to reduce operating expenses in an amount sufficient to address such a shortage or terminate FLEX service. Prior to any reduction in service or termination, Fort Collins shall provide advance written notice to the Partners.

9. Fort Collins Transfort buses will utilize Regional Transportation District (hereafter "RTD") stops in Boulder, or as otherwise agreed upon by the Parties.

10. The basic cash fare to be charged for FLEX shall be One Dollar and Twenty-Five Cents ($1.25) per ride; however, Fort Collins currently is not charging fares for the Transfort bus system. Notwithstanding, Fort Collins in its sole discretion shall be entitled to modify the fare to be charged as necessary for the efficient and cost-effective operation of FLEX, provided that advance written notice of any such modification is provided to the Partners. All Fort Collins discounted fare categories for Transfort bus service will apply to FLEX. Fort Collins shall collect any fares due from passengers and accurately record and account for such fare receipts and ridership levels. Fort Collins shall prepare quarterly reports of such receipts and ridership levels and shall provide such quarterly reports to the Partners.

11. All Fort Collins and City of Loveland bus pass programs will be accepted as full fare to ride FLEX. Transfers from FLEX to the Transfort or COLT bus systems will be honored. RTD Eco Pass will be accepted as full fare to ride FLEX; however, free transfers from FLEX to RTD will not be honored.

12. Each Party shall designate a representative, who shall be responsible for managing such Party's performance of the terms of this Agreement and shall provide the other Party with written notice thereof, along with address, telephone, and email information. All notices to be provided under this Agreement shall be provided to such designated representatives. Any notice pursuant to this Agreement shall be hand-delivered or sent by certified mail, return receipt requested, and addressed to the designated representative. Any such notice shall be deemed given upon hand-delivery to the designated representative or their address, or three (3) days after mailing.

    If to Fort Collins:

    City of Fort Collins

    Transfort & Parking Services Director
    City of Fort Collins
    250 N. Mason Street
    Fort Collins, CO 80522

    With a copy to:

City Attorney
City of Fort Collins
P.O. Box 580
Fort Collins, CO 80522

If to Berthoud:

Town of Berthoud
Assistant to the Town Administrator
807 Mountain Ave
Berthoud, CO 80513

13. The Parties agree to cooperate fully, to a reasonable extent, in the development and implementation of any surveys or studies undertaken by the other Party to evaluate demand, usage, cost, effectiveness, efficiency, or any other factor relating to the success or performance of FLEX or the need for such service. Such cooperation shall not require the expenditure of funds more than the specific amounts set forth in **Section 5** and **Exhibit B**, however, unless approved in writing and duly appropriated by the Parties.

14. The Parties acknowledge that their obligations under this Agreement are subject to annual appropriation by the governing body of each respective Party and shall not constitute or give rise to a general obligation or other indebtedness of either Party within the meaning of any constitutional or statutory provision or limitation of the State of Colorado, nor a mandatory charge or requirement against either Party in any ensuing fiscal year beyond the current fiscal year. If the governing body of either Party shall fail to budget and appropriate funds for its share of expenses as described in this Agreement, then this Agreement shall terminate as of the end of the fiscal year for which such funds were last budgeted and appropriated.

15. In the event a Party has been declared in default, such defaulting Party shall be allowed notice thereof from the Party declaring default and a period of thirty (30) days within which to cure said default. In the event the default remains uncorrected, the Party declaring default may elect to terminate the Agreement and so notify the defaulting Party in writing. Any amounts due to the non-defaulting Party shall be paid within fifteen (15) days of the date of notice of termination is received.

16. Liability of the Parties shall be apportioned as follows:

    a. Fort Collins shall be responsible for all claims, damages, liability and court awards, including costs, expenses, and attorney fees incurred, should Fort Collins be found liable as a result of any action or omission of Fort Collins or its officers, employees, and agents, in connection with the performance of this Agreement.

    b. Berthoud shall be responsible for all claims, damages, liability and court awards, including costs, expenses, and attorney fees incurred, should Berthoud be found liable as a result of any action or omission of Berthoud or its officers, employees, and agents, in connection with the performance of this Agreement.

c. Nothing in this **Section 16** or any other provision of this Agreement shall be construed as a waiver of the notice requirements, defenses, immunities, and limitations the Parties may have under the Colorado Governmental Immunity Act (Section 24-10-101, *et seq.*, C.R.S.) or any other defenses, immunities, or limitations of liability available to any Party by law.

d. Any liability of the Parties under this Agreement shall be subject to appropriation of funds by their respective governing bodies.

e. No elected official, director, officer, agent or employee of the Parties shall be charged personally or held contractually liable under any term or provision of this Agreement, or because of any breach thereof or because of its or their execution, approval or attempted execution of this Agreement.

17. This Agreement embodies the entire agreement of the Parties about the FLEX program. The Parties shall not be bound by or be liable for any statement, representation, promise, inducement or understanding of any kind or nature not set forth herein.

18. The Parties hereto may not assign this Agreement or parts hereof or its rights hereunder without the express written consent of all of the Parties. Any attempt to assign this Agreement in the absence of such written consent shall be null and void *ab initio*.

19. No changes, amendments or modifications of any of the terms or conditions of this Agreement shall be valid unless reduced to writing and signed by the Parties, except as provided herein.

20. The laws of the State of Colorado shall be applied to the interpretation, execution and enforcement of this Agreement. The Parties recognize the legal constraints imposed upon them by the constitutions, statutes, and regulations of the State of Colorado and the United States, and imposed upon the Parties by their respective charters, municipal codes and other similar documents and, subject to such constraints, the Parties intend to carry out the terms and conditions of this Agreement. Notwithstanding any other provision in this Agreement to the contrary, in no event shall any party exercise any power or take any action which shall be prohibited by applicable law.

21. Any provision rendered null and void by operation of law shall not invalidate the remainder of this Agreement to the extent that this Agreement is capable of execution.

22. Either Party's failure to enforce any provision of this Agreement shall not in any way be construed as a waiver of any such provision or prevent that Party thereafter from enforcing each and every other provision of this Agreement.

23. This Agreement does not and is not intended to confer any rights or remedies upon any entity or person other than the Parties.

24. This Agreement may be executed in multiple counterparts; all counterparts so executed shall constitute one agreement binding upon all parties, notwithstanding that all parties are not signatories to the original or the same counterpart.

25. This Agreement may be executed by electronic signature in accordance with C.R.S. § 24-71.3-101, et seq. Documents executed, scanned and transmitted electronically and electronic signatures shall be deemed original signatures for purposes of this Agreement and all matters related thereto, with such scanned and electronic signatures having the same legal effect as original signatures

26. IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first above written. By the signature of its representative below, each Party affirms that it has taken all necessary action to authorize said representative to execute this Agreement.

CITY OF FORT COLLINS, COLORADO
a municipal corporation

By: _____
Kelly DiMartino, City Manager

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

_____
Assistant City Attorney

TOWN OF BERTHOUD, COLORADO

By: _____
Town Administrator

ATTEST:

_____
Town Clerk

APPROVED AS TO FORM:

_____
Town Attorney

EXHIBIT A

FLEX service will be provided within the following parameters:

- Days of Service: Monday – Friday (between the cities of Fort Collins and Boulder) and Monday
- Saturday (between the cities of Fort Collins and Longmont). No service is provided on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day.
- Hours of Service: 5AM – 8 PM
- Frequency of Service: 60 Minutes

Service Area Maps:

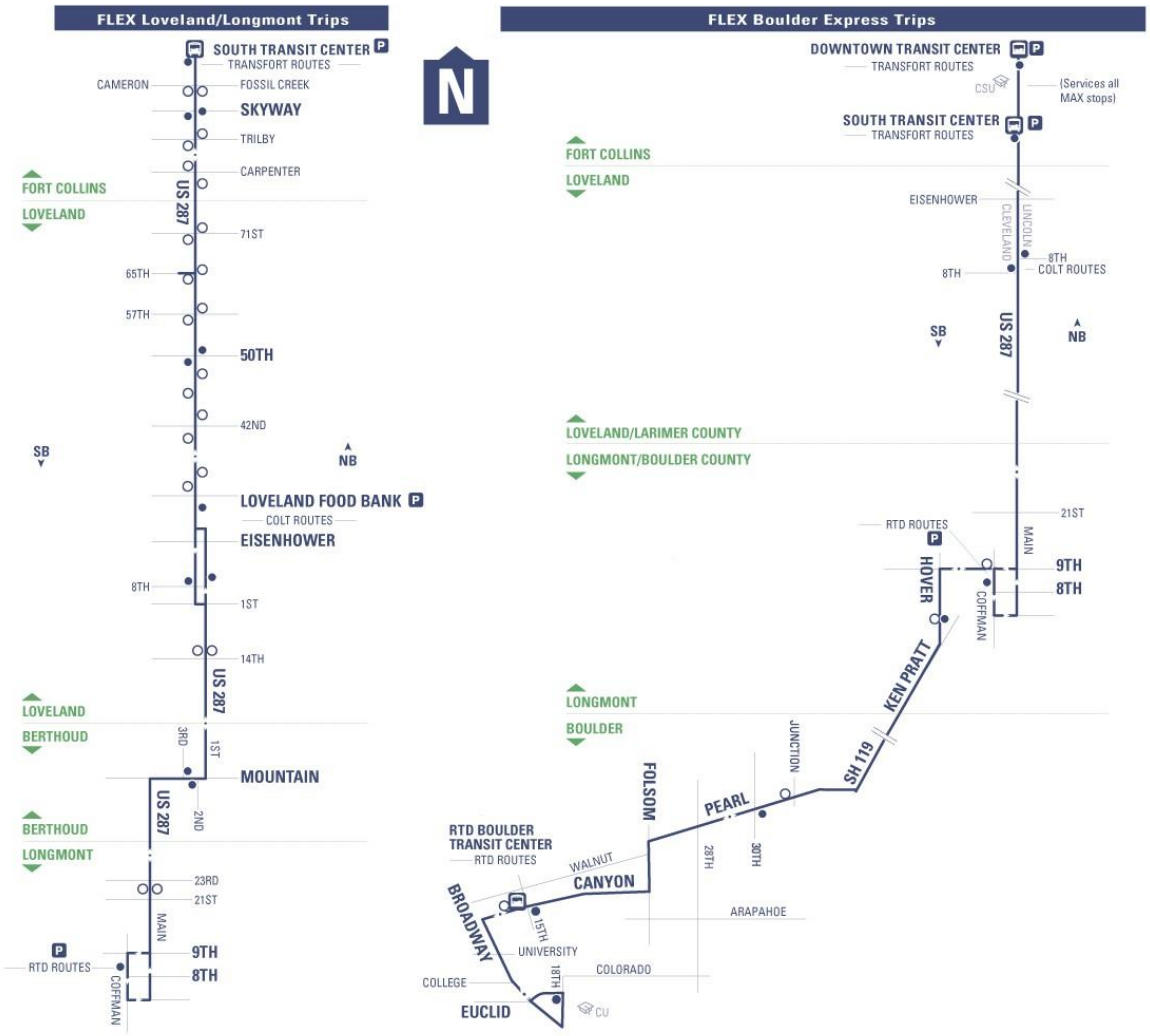


EXHIBIT B

	2022	2023	2024
Operating Cost	$ 2,001,672	$ 2,161,806	$ 2,248,278
Fares	$ 40,000	N/A	N/A
CMAQ Flex to Boulder Enhancement	$ 218,545	$ 225,102	$ 146,000
EcoPass Reimbursement	$ 5,000	$ 5,000	N/A
FASTER Funding	$ 200,000	$ 200,000	TBD
CSU Contribution	$ 63,193	$ 63,193	$ 65,089
Remainder to be split among partners	**$ 1,474,934**	**$ 1,668,511**	**$ 2,037,189**

	% Passenger Activity (2019, 2021, 2022)	Amount Owed	Less 5307 Contribution	Loveland's Additional 5307 Withheld Amount	Loveland's Amount Owed
Fort Collins	46.69%	$ 951,216	$ 720,769		
Loveland	32.32%	$ 658,485	$ 554,833	$ 277,417	$ 277,416
Longmont	7.28%	$ 148,372			
Boulder County	6.25%	$ 127,421			
City of Boulder	5.23%	$ 106,470			
Berthoud	2.22%	$ 45,225	$ 29,324		
Total		**$ 2,037,189**			

Fort Collins UZA 5307 Breakdown	**% TMA Service Area Population**	$ 350,000
Fort Collins	65.84%	$ 230,447
Loveland	29.61%	$ 103,652
Berthoud	4.54%	$ 15,901
***Highlighted = total owed by partner**		

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Little Thompson Observatory MOU**
Type of Item:	**Regular Item**
Purpose:	**Approve Memorandum of Understanding between the Town of Berthoud and Little Thompson Observatory**
Presented by:	**Brian Dubois**

ATTACHMENTS:

- Memorandum of Understanding

BACKGROUND:

The Town Board aimed to become an International Dark Sky Community through the International Dark Sky Association. As part of this goal, Town staff has been working through the various steps to become the first Dark Sky Community along the Front Range over the last year. A few major process components include sky measurements, hosting community awareness events, and showing community support.

Town staff seeks to enter into a memorandum of understanding with the Little Thompson Observatory to fulfill these major components previously mentioned; in return, the Town will provide any necessary resources. The Town shall render and provide the following services that include, but are not limited to providing Town resources such as support from staff, financing access to facilities and parks, and other reasonable resources needed to accomplish certification. Likewise, Little Thompson Observatory shall render and provide the following services, including establishing and maintaining a sky brightness measurement program, hosting at least two community dark sky awareness events annually, and providing the necessary support for the Town's certification application.

This agreement will enhance the existing ties between the Town and Observatory while expanding both parties' commitments to protecting the dark skies for all residents and visitors of Berthoud.

UPDATE/NEXT STEPS:

- No further steps will be needed

FISCAL IMPACT AND FUND SOURCE:

Fiscal impacts include costs incurred by dedicated time from Town staff and expenses from fulfilling party responsibilities and obligations.

COMMUNITY TOUCHSTONES:

This MOU will help to increase Berthoud's Community Identity as it will strengthen ties between the two organizations while working to become the first Dark Sky Community along the Front Range.

RECOMMENDED ACTION(S):

Town staff recommends the Town Board approve this memorandum of understanding with Little Thompson Observatory as part of the process to become an International Dark Sky Community.

MEMORANDUM OF UNDERSTANDING

This Memorandum of Understanding (the "MOU" or "Memorandum"), is entered into on July 12, 2023 (the "Effective Date"), by and between the Town of Berthoud located at 807 Mountain Ave, Berthoud, CO 80513 (the "Town"), and Little Thompson Observatory located at 850 Spartan Ave (PO Box 930), Berthoud, CO 80513 (the "LTO"). The Town and LTO may be referred to individually as the "Party", or collectively, the "Parties".

1. **GOAL**

   The partnership on which the Parties intend to collaborate has the following intended goal in mind:

   Create a beneficial partnership between the Town and LTO to fulfill the requirements for the certification while creating long-term benefits for both parties, residents and visitors.

2. **PURPOSE AND SCOPE**

   The Parties intend for this Memorandum to provide the cornerstone and structure for any and all future contracts being considered by the Parties, and which may be related to the partnership.

3. **OBJECTIVES**

   The Parties shall endeavor to work together to develop and establish policies and procedures that will promote and sustain a market for the Town becoming a certified Dark Sky Community through the International Dark Sky Association and intend to maintain all standards.

4. **RESPONSIBILITIES AND OBLIGATIONS OF THE PARTIES**

   Any Party may decide not to proceed with the partnership contemplated herein for any reason. A binding commitment with respect to the partnership described herein will result only from the execution of definitive agreements, subject to the conditions contained therein. Notwithstanding the two preceding sentences of this paragraph, the provisions under the headings Governing Law and Confidentiality are agreed to be fully binding on and enforceable against the Parties.

   The following are the individual services the Parties contemplate providing for the partnership.

   The Town of Berthoud shall render and provide the following services that include, but are not limited to:

   Provide Town resources such as support from staff, financing access to facilities and parks, and other reasonable resources needed to accomplish certification.

Little Thompson Observatory shall render and provide the following services that include, but are not limited to:

Establish and maintain a sky brightness measurement program, host at least two community dark sky awareness events annually, and provide the necessary support for the Town's certification application.

Provide development review comments when requested by the Town to ensure new development is Dark Sky compliant.

5. TERMS OF UNDERSTANDING

The term of this Memorandum shall not exist as long as the Town maintains its certification with International Dark Sky Association unless both Parties consent to terminate.

6. LEGAL COMPLIANCE

The Parties acknowledge and understand that they must be able to fulfill their responsibilities under this Memorandum per the provisions of the law and regulations governing their activities. Nothing in the Memorandum is intended to negate or otherwise render any such provisions or operating procedures ineffective. The parties assume full responsibility for their performance under the terms of this Memorandum.

If at any time either Party is unable to perform their duties or responsibilities under this Memorandum consistent with such Party's statutory and regulatory mandates, the affected Party shall immediately provide a written notice to the other Party to establish a date for resolution of the matter.

7. LIMITATION OF LIABILITY

No rights or limitations of rights shall arise or be assumed between the Parties as a result of the terms of this Memorandum.

8. NOTICE

Any notice or communication required or permitted under this Memorandum shall be sufficiently given if delivered in person or by certified mail, return receipt requested, to the address set forth in the opening paragraph or to such address as one may have furnished to the other in writing.

9. GOVERNING LAW

This Memorandum shall be governed by and construed in accordance with the laws of the State of Colorado.

10. **AUTHORIZATION AND EXECUTION**

The signing of this Memorandum does not constitute a formal undertaking, and as such, it simply intends that the signatories shall strive to reach, to the best of their abilities, the goals and objectives stated in this MOU.

This agreement shall be signed by the Town of Berthoud and Little Thompson Observatory and shall be effective as of the date first written above.

Signature: Date:

Town of Berthoud

Signature: Date:

Little Thompson Observatory

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**348 Massachusetts Ave Historic Alteration Application**
Type of Item:	**Consent Agenda**
Purpose:	**Approve the Alteration Application submitted for Historic Property at 348 Massachusetts Avenue.**
Presented by:	**Brian Dubois**

ATTACHMENTS:

- Alteration Application
- Site and Floor Plans

BACKGROUND:

Town staff has received an alteration application on behalf of 348 Mountain Avenue, which is listed as a historic property in Berthoud. Per the Town code, Authorization for major exterior alternations, relocation, or demolition of a designated Local Historic Landmark shall be given by the Town Board of Trustees with a recommendation by the Committee (30-9-111.2). Under the code, major alterations include window or door replacement, which will occur under described work by the applicant.

Town staff has reviewed the application and recommends the Town Board approve the welcomed improvements as this will enhance the historic property and bring additional housing to the downtown area.

UPDATE/NEXT STEPS:

- No further steps will need to be taken.

FISCAL IMPACT AND FUND SOURCE:

None

COMMUNITY TOUCHSTONES:

Community Identity as this is a centrally located historic property that has been in rough shape for many years. The improvement of historic properties throughout the town

RECOMMENDED ACTION(S):

Recommending the Town Board approve the application, thus allowing Town staff

to authorize the continued planned work on the property.

Town of Berthoud
807 Mountain Ave
P.O. Box 1229
Berthoud, CO 80513-2229
Ph. 970-532-2643 Fax 970-532-0640

APPLICATION FOR ALTERATIONS TO HISTORIC LANDMARKS

The Town of Berthoud Historic Resources Ordinance requires that exterior alterations to a designated historic property, or to a property within a designated historic district must receive a Certificate of Approval issued by the Town of Berthoud. The following information is needed to consider this request:

PROPERTY OWNER(S)

Name: Federal Real Estate Holdings LLC

Address: 5023 W 120th Ave #235
Broomfield CO 80020

Phone: 720-643-8301

E-mail: kfgllc.team@gmail.com

APPLICANT (if different from owners)

Name: Beth Foster

Address: same

Phone: same

E-mail: same

Certification: I certify that the information and exhibits submitted are true and correct to the best of my knowledge.

Applicant (print): Beth Foster Phone: 720-643-8301

Signature: [signature] Date: 6/1/23

Owner (print): Micah Kohls Phone: 720-299-4852

Signature: [signature] Date: 6/1/23

Updated 4/23

SUBMITTAL CHECKLIST FOR ALTERATIONS TO HISTORIC LANDMARKS

Alterations to a designated historic landmark, a contributing structure in an approved historic district, or the major alteration of a historic landmark of statewide significance may include painting, staining, window or door replacement, additions, removal of architectural elements or other similar work, landscaping, relocation, or demolition. (*Note*: The ordinary repair or maintenance of these structures that does not involve a change in design, materials or appearance does not require review and approval under the Historic Resources Ordinance). Alterations to designated historic landmarks shall be done in conformance with the *Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings* as published by the U. S. Department of the Interior, National Park Service. The following submittal information is required:

Date Submitted: June 1, 2023

. Completed Application Form

$100.00 Application Fee

Site plan, drawn to scale, showing:

- [x] Name, date, project address, north arrow, graphic scale, date of drawings, and name
- [x] Location of existing and proposed structures
- [x] Dimensions, height, and materials of all proposed structure(s)
- [x] Location of existing landscaping, parking areas, and utilities
- [x] If the project involves new construction, a scale drawing (character sketches or architectural elevations) showing openings (windows, doors), materials, and proposed colors
- [ ] If the project involves replacement of historic elements (windows, doors) product literature, as available
- [x] Digital photos showing the existing exterior of the structure on all visible sides (date photos and indicate the view the photo was taken from)

☒ **Narrative of the proposed project, addressing the following items** (attach additional pages if needed):

A. **Describe the proposed work:**

To repair the exterior masonry that was failing and replace the lower stone veneer to protect the foundation from water damage and to deter pests.

To paint the exterior of the building to protect and seal the brick from any further weather damage and general deterioration.

To replace the exterior doors to the apartments for security.

To replace the front steps and porch overhang.

Replace the back deck for fire egress from the 2nd floor.

B. **Provide details about proposed materials and colors**:

All old, deteriorated bricks are being replaced, then sealed with paint.

The exterior color of the building is Aesthetic White with Hematite Grey accent on the windowsills and arches of the windows and doors.

The front door and outside apartment doors for #3,4,5 & 6 will be 6 panel glass doors painted a dark grey called Raven. The 2 lower back doors of #3 & 5, that open into the back patio area, are full window with blinds inside for privacy. All nonfunctioning transom windows above doors will be replaced where applicable.

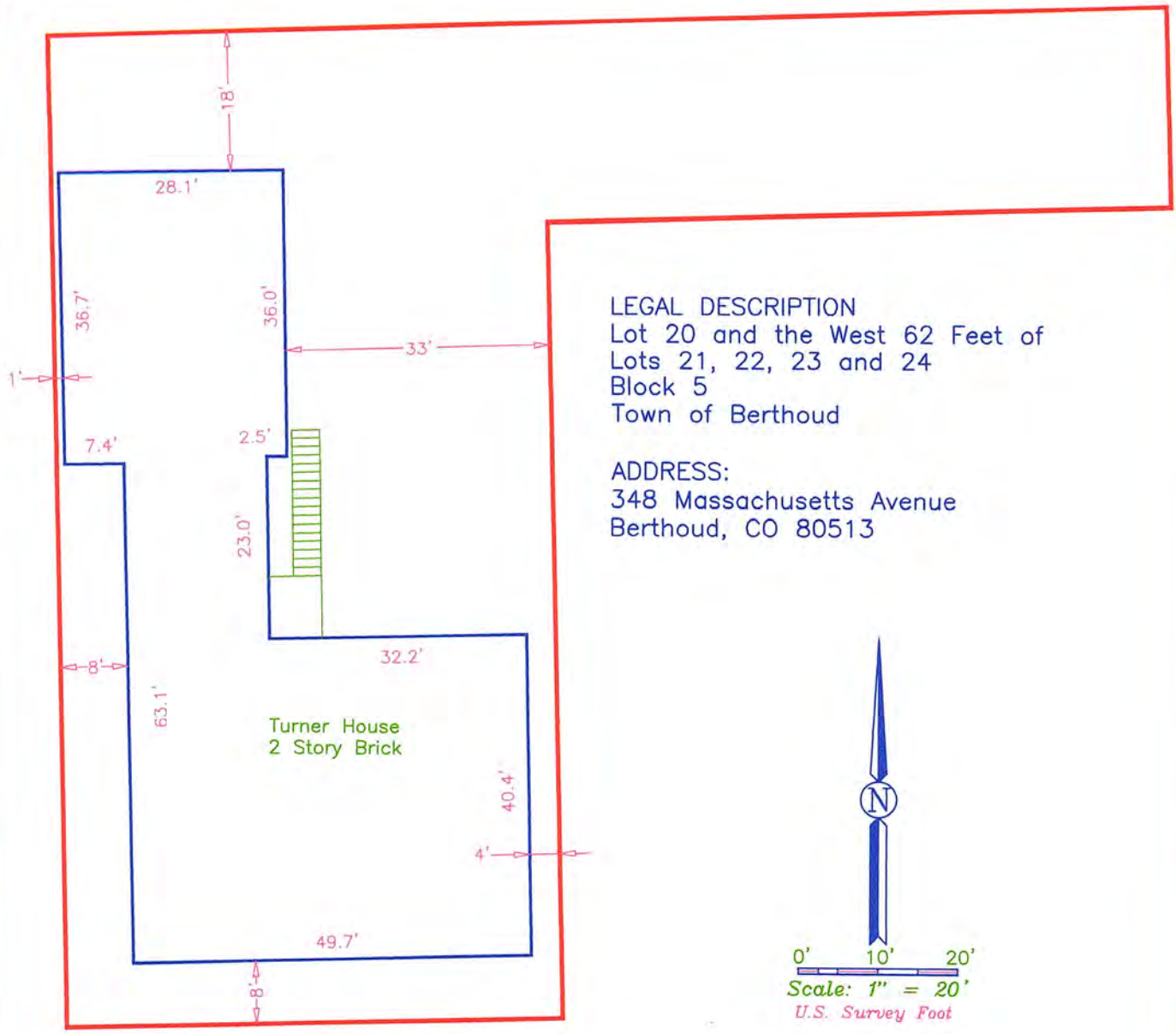
Window replacements were installed for security and safety reasons. Numerous windows were broken and vandalized and none of the old windows opened to allow egress or air movement throughout the apartments.

The exterior stone veneer is called Chardonnay Dressed Fieldstone.

C. **How does the proposed project address the applicable Town of Berthoud's review standards** (see Section 30-9-111.5. of the Berthoud Municipal Code (available online at www.berthoud.org)

Minor alterations:
Replacing the front steps and porch overhang. This will be a scaled down replacement of the original front porch that was torn down many years ago.

No other additions or changes are being made to the architectural features of the building.



LEGAL DESCRIPTION
Lot 20 and the West 62 Feet of
Lots 21, 22, 23 and 24
Block 5
Town of Berthoud

ADDRESS:
348 Massachusetts Avenue
Berthoud, CO 80513

COLORADO REGISTERED
CHARLES H. RUSSELL
23519
Charles H. Russell
7-15-21
PROFESSIONAL LAND SURVEYOR

IMPROVEMENT LOCATION CERTIFICATE

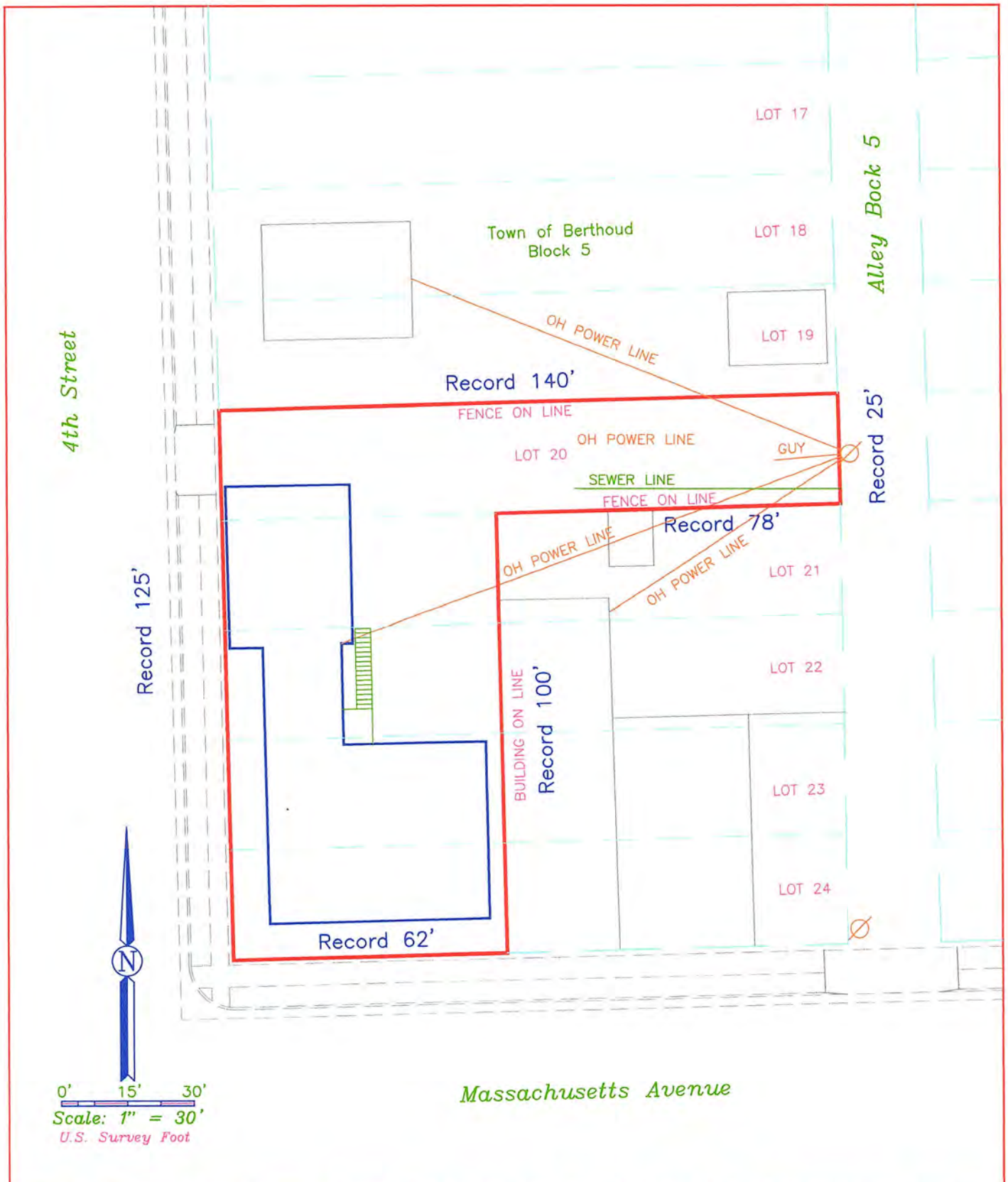
I hereby certify that this improvement location certificate was prepared for: Micah Kohls and Stewart Title Guaranty Company that it is not a land survey plat or improvement survey plat, and that is not to be relied upon for the establishment of fence, building or other future improvement lines. This cerificate is valid only for the use by: Micah Kohls and Stewart Title Guaranty Company and describes the parcel's appearance on July 15, 2021, I further certify that the improvements on the above described parcel on this date July 15, 2021, except utility connections, are entirely within the boundaries of the parcel, except as shown, that there are no encroachments upon the described premises by improvements on any adjoining premises, except as indicated, and that there is no apparent evidence or sign of any easement crossing or burdening any part of said parcel, except as noted.

RUSSELL SURVEYING
Have Gun Will Travel
Charles H. Russell, PLS
P.O. Box 746588
Arvada, CO 80006
(720) 308-4453

IMPROVEMENT LOCATION CERTIFICATE

Lot 20 and the West 62 Feet of Lots 21, 22, 23 and 24
Block 5, Town of Berthoud, S.E.1/4 Section 14
T.4N., R.69W., 6th P.M.,Larimer County, Colorado

CLIENT		DATE	JOB NUMBER	PAGE
Micah Kohls		07-15-21	21418A	1 OF 2



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CLIENT		DATE	JOB NUMBER	PAGE
Micah Kohls		07-15-21	21418A	2 OF 2

CITY
APTS

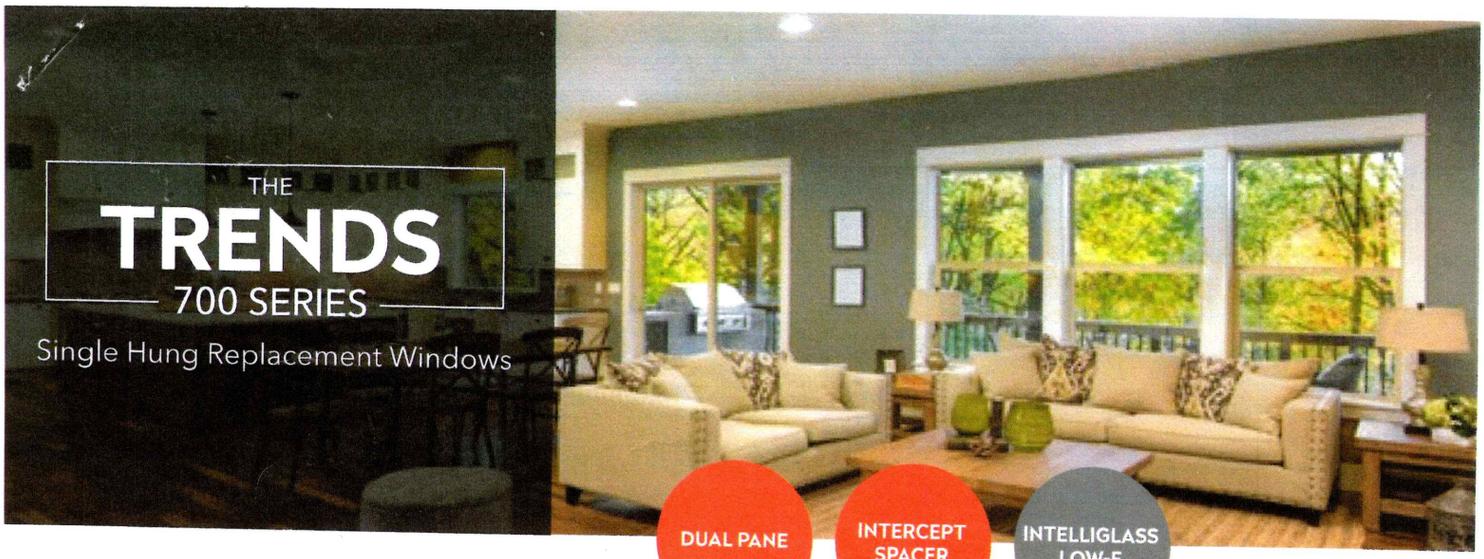
DO IT
RIGHT

Keep
OUT !!

Veneer
REFINED
TO NO END
CULTURED STONE.
Chardonnay Dressed Fieldstone

Front Door
w/ cut glass

3, 4, 5 & 6
w/ satin etched glass



THE TRENDS 700 SERIES

Single Hung Replacement Windows

DUAL PANE | INTERCEPT SPACER | INTELLIGLASS LOW-E

Standard Option

STANDARD FEATURES

- **Multi-Chambered 2-7/8" beveled fusion welded PVC frame and sash** provide lasting, low-maintenance beauty.
- **3/4" Intercept warm-edge insulating glass** is the foundation of thermal performance and comfort.
- **BioMaxx composite sweep locks** are lead free and nest securely into the tamperproof retainer.
- **Full overlap interlock and mylar fin synthetic weatherstripping** at meeting rail keep out drafts.
- **Sloped sill** efficiently diverts water away from the interior.
- **Integral extruded lift rail** will never pull loose for assured confidence in operation and function.
- **Steel reinforced lock rail** adds extra stability and structure to the multi-chambered vinyl.
- **Stainless steel constant force balance system** and metal on metal pivot bar system keeps the sash aligned and moves with minimal force.
- **Recessed tilt latches** release the sash for trouble-free cleaning of both sides of the glass.
- **Included half screen** features BetterVue mesh.
- **Optional IntelliGlass Low E glass** with argon gas fill heightens energy efficiency.
- **Non-Prorated Limited Lifetime Warranty** covers vinyl, glass, screens and hardware for as long as you live in your home and is transferable.

SIZE LIMITS

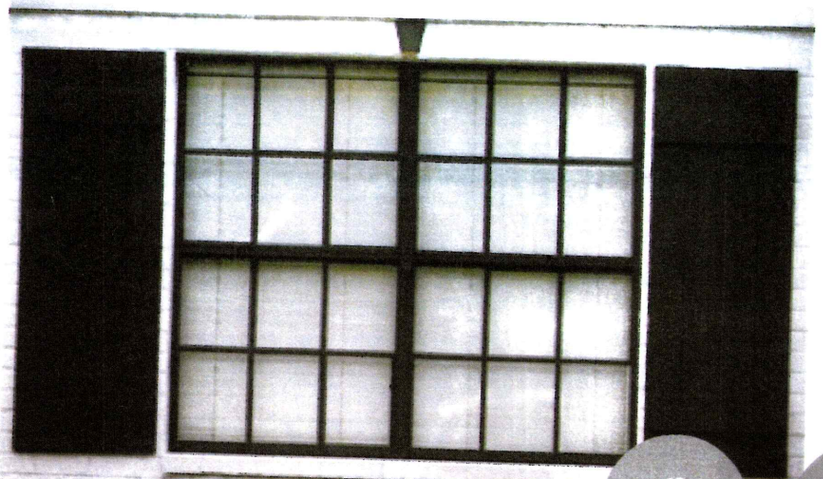
	Width	Height	UI*
Minimum	12"	22"	34
Maximum	52"	98"	150

*United Inches = Width + Height

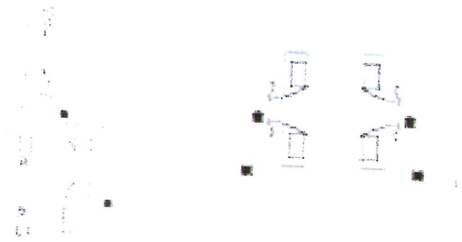
vinylmax windows

Passion for Homes and Families

info@vinylmax.com
(800) 847-3736
www.vinylmax.com



CROSS SECTIONS



CHOOSE YOUR PERFECT LOOK

13 EXTERIOR COLORS

BLACK LAMINATE

ENDLESS STYLE OPTIONS

VINYL COLORS

White, Tan, White/Black

MATCHING STYLES

2 Lite Slider, 3 Lite Sliders, Fixed, Geometrics, Patio Door

GRIDS

Colonial, Perimeter

EXTERIOR FINISHES

Butter, Tan, Clay, Pebble, Silver, Terra, Cocoa, Chocolate, Bronze, Black, Forest, Brick

PROVEN PERFORMANCE

THERMAL

TC700 Single Hung	No Grids U-Value	No Grids SHGC	No Grids VLT	With Grids U-Value	With Grids SHGC	With Grids VLT
Clear Glass	.49	.65	.66	.49	.58	.59
IntelliGlass Low E / Argon	.31	.30	.54	.31	.27	.48
IntelliGlass X Low E / Argon	.30	.23	.51	.30	.21	.46

TC750/TC753 Trends Slider	U-Value	SHGC	VLT	U-Value	SHGC	VLT
Clear Glass	.48	.65	.66	.48	.58	.59
IntelliGlass Low E / Argon	.30	.30	.54	.30	.27	.48
IntelliGlass X Low E / Argon	.30	.23	.51	.30	.21	.46

TC770 Trends Picture Window	U-Value	SHGC	VLT	U-Value	SHGC	VLT
Clear Glass	.47	.67	.69	.47	.61	.62
IntelliGlass Low E / Argon	.28	.31	.56	.28	.28	.51
IntelliGlass X Low E / Argon	.28	.24	.54	.28	.22	.48

A9904.02-116-45

The lower the **U-value**, the greater a window's resistance to heat flow and the better its insulating value

The lower the **SHGC**, the more a product is blocking solar heat from coming through the window.

VLT - Visible Light Transmittance - lower values mean less light passing through the window.

*windows outside these size limits have not been structurally tested

STRUCTURAL

Product Rating	Up to this size window*	Design Pressure PSF	Glass Strength	Reinforcement Configuration
Single Hung	44" x 72"	25	SS	None
	48" x 60"	30	SS	Lock and Meeting Rail
	40" x 63"	50	DS	Full
Slider	72" x 48"	30	SS	Lock and Meeting Rail
	71" x 55"	30	DS	Lock and Meeting Rail
	72" x 48"	50	DS	Full
PW	48" x 72"	50	DS	None
	60" x 84"	50	3/16"	None

83327.01-501.-47

Window Styles

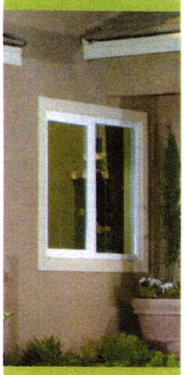
Single Hung | Horizontal Slider | Picture | Specialty

vinylmax windows

info@vinylmax.com
(800) 847-3736
www.vinylmax.com

 Information accurate at time of printing. Product subject to change. ©2020 Vinylmax LLC

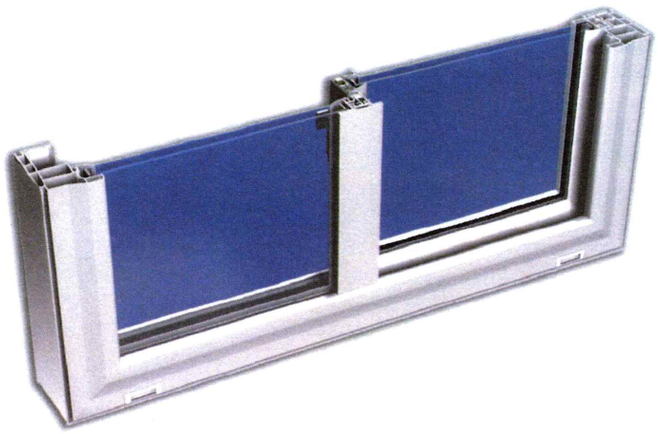
TRENDS

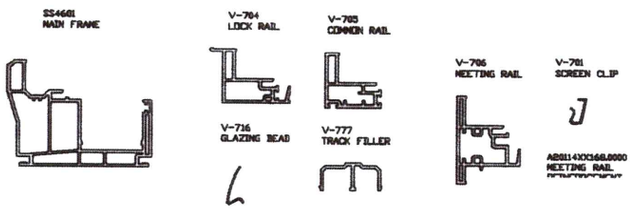


700 Series Replacement Windows

Single Slider
TC750

Vinylmax WINDOWS





Product Features

- Fusion welded frame and sash corners
- 2 ⅞" Frame with beveled exterior
- Maintenance-free multi-chambered vinyl
- Internal water management system
- Full width interlock
- Multiple rows of mylar fin weatherstrip
- Integral pull rail
- Bio-Maxx composite sweep locks
- Lift out sash
- Self-leveling synthetic non-metal rollers
- Aluminum screen frame
- BetterVue screen mesh
- ¾" Insulated glass unit
- Intercept Spacer system
- Tape Glazed
- Limited Lifetime Warranty
- White or Tan Vinyl
- Made in USA with more than 90% domestic content

Made in USA

Size Limits

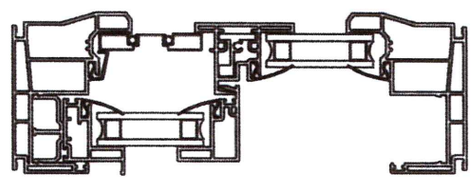
	Width	Height	UI*
Minimum	21 ¼"	11 ⅞"	34
Maximum	124"	72"	150

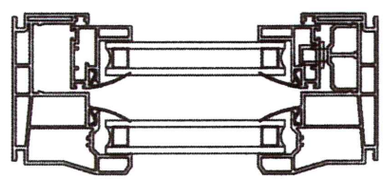
*United Inches = Width + Height

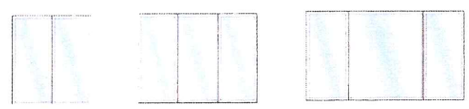
Performance

Thermal Performance	NFRC	A9906.02-116-45		
(no grids/ grids)	U-value	SHGC	VT	CR
Clear/Clear	.48	.66/.59	.67/.60	43
IntelliGlass 7036 LE/Argon	.30	.31/.28	.56/.50	57
IntelliGlass X Solar LE/Argon	.29	.27/.24	.51/.46	56

Cross Sections



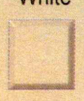




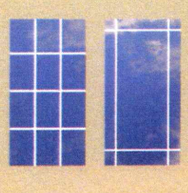
2 Lite Slider — 3 Lite Sliders

Optional Features

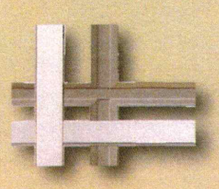
White



Tan



Grid Patterns
Colonial, Prairie

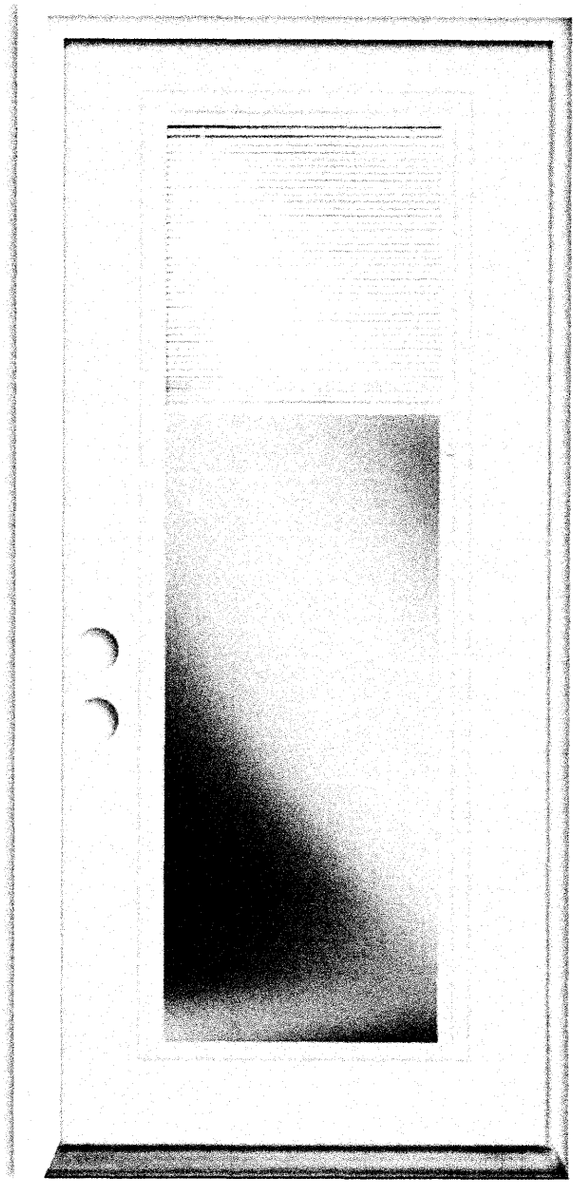


Color Matched Material
Flat, Georgian

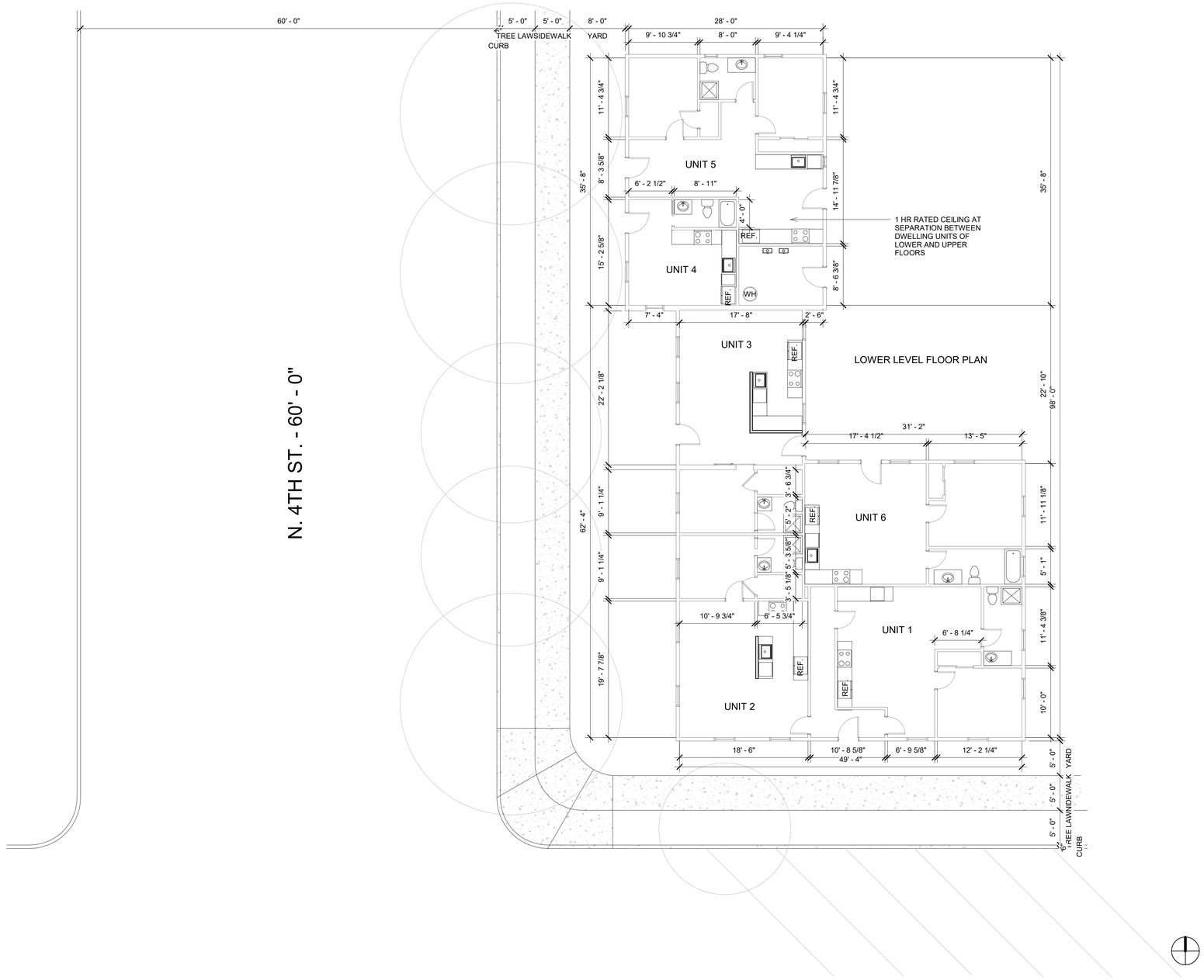
Pencil grids
Brass, Pewter

Vinylmax WINDOWS

2921 McBride Ct
Hamilton, OH 45011
1-800-847-3736
www.vinylmax.com



Backdoors
For
#3 & 5



1 **SITE PLAN**
1/8" = 1'-0"

C:\Users\makearch44\Dropbox\2023 PROJECTS\348 Massachusetts Ave\MODEL\348 Massachusetts Ave. - 06.15.rvt
6/15/2023 2:11:18 PM

MA+KE ARCHITECTURE

3264 LARIMER SUITE D
DENVER, CO 80205
P 303.618.9923
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE DENVER

ISSUE:

03/23/23 ISSUED FOR PERMIT

FOR PERMIT

DRAWING INFORMATION:

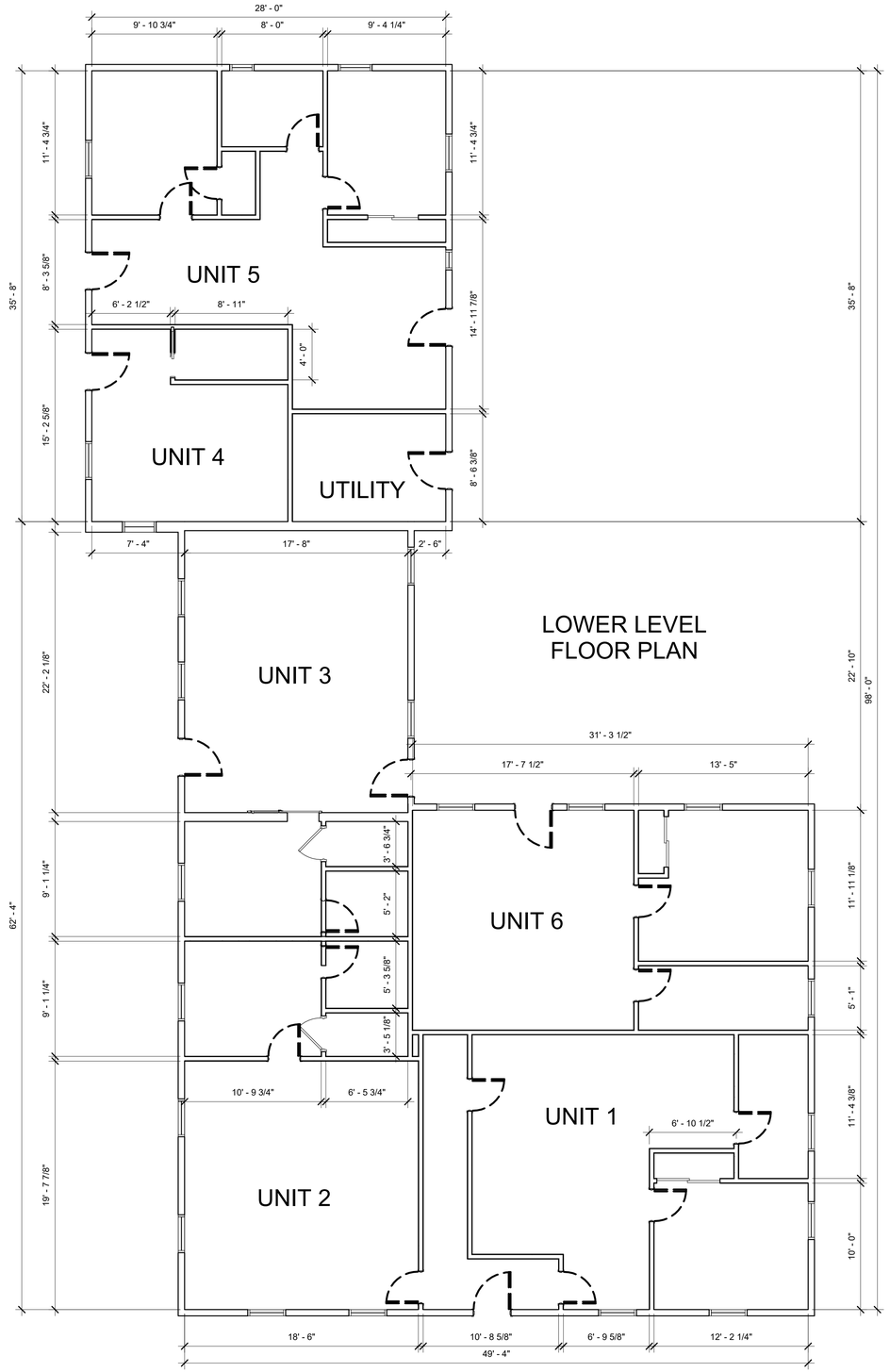
PROJECT NO:	Project Number
DRAWN BY:	Author
CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

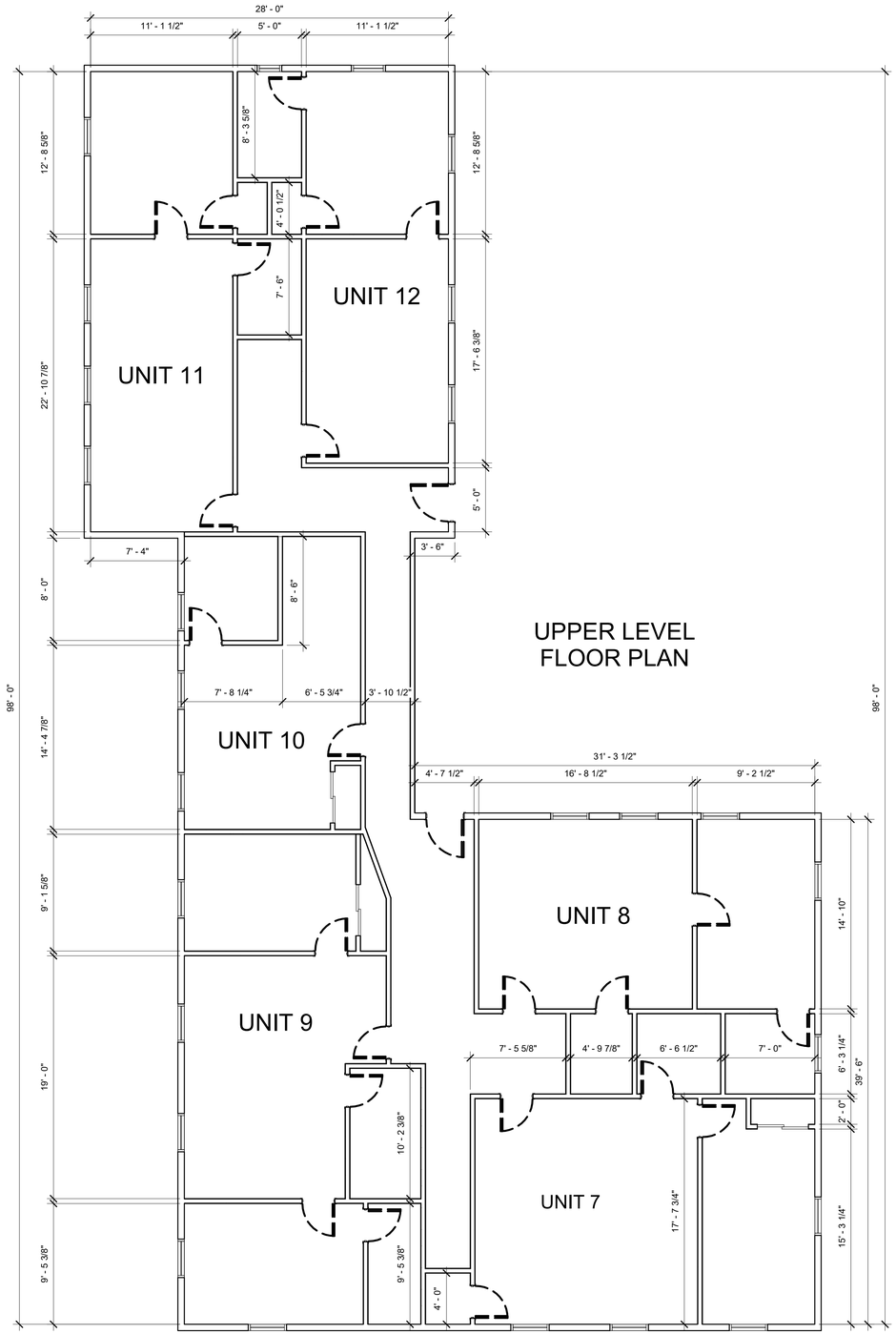
SITE PLAN

A1.0

SHEET OF



1 **EXISTING FLOOR PLAN**
3/16" = 1'-0"



=== DASHED LINES INDICATE EXISTING WALLS TO BE DEMOLISHED

FOR PERMIT

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

ISSUE:

03/23/23 ISSUED FOR PERMIT

DRAWING INFORMATION:

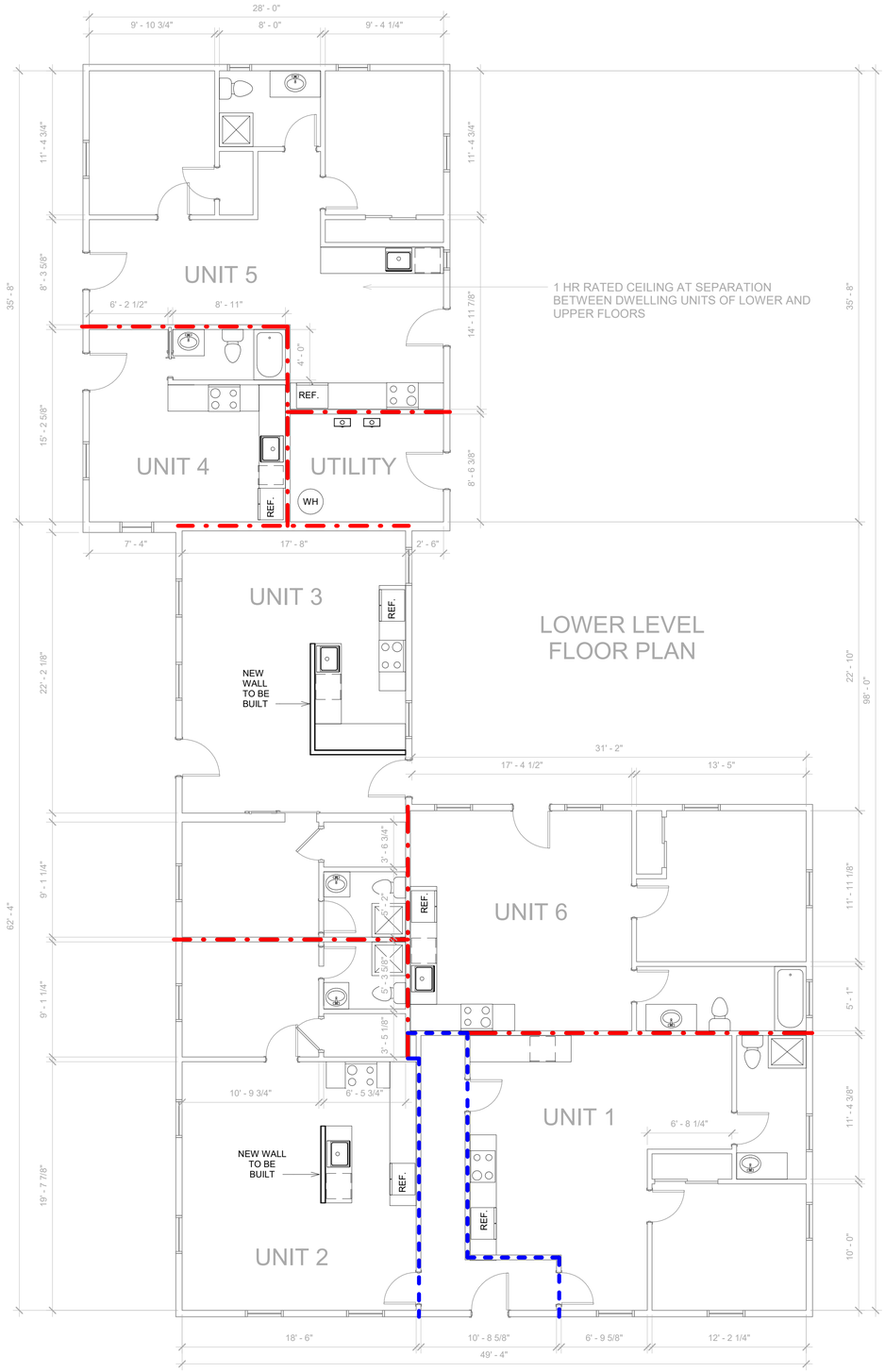
PROJECT NO:	Project Number
DRAWN BY:	Author
CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

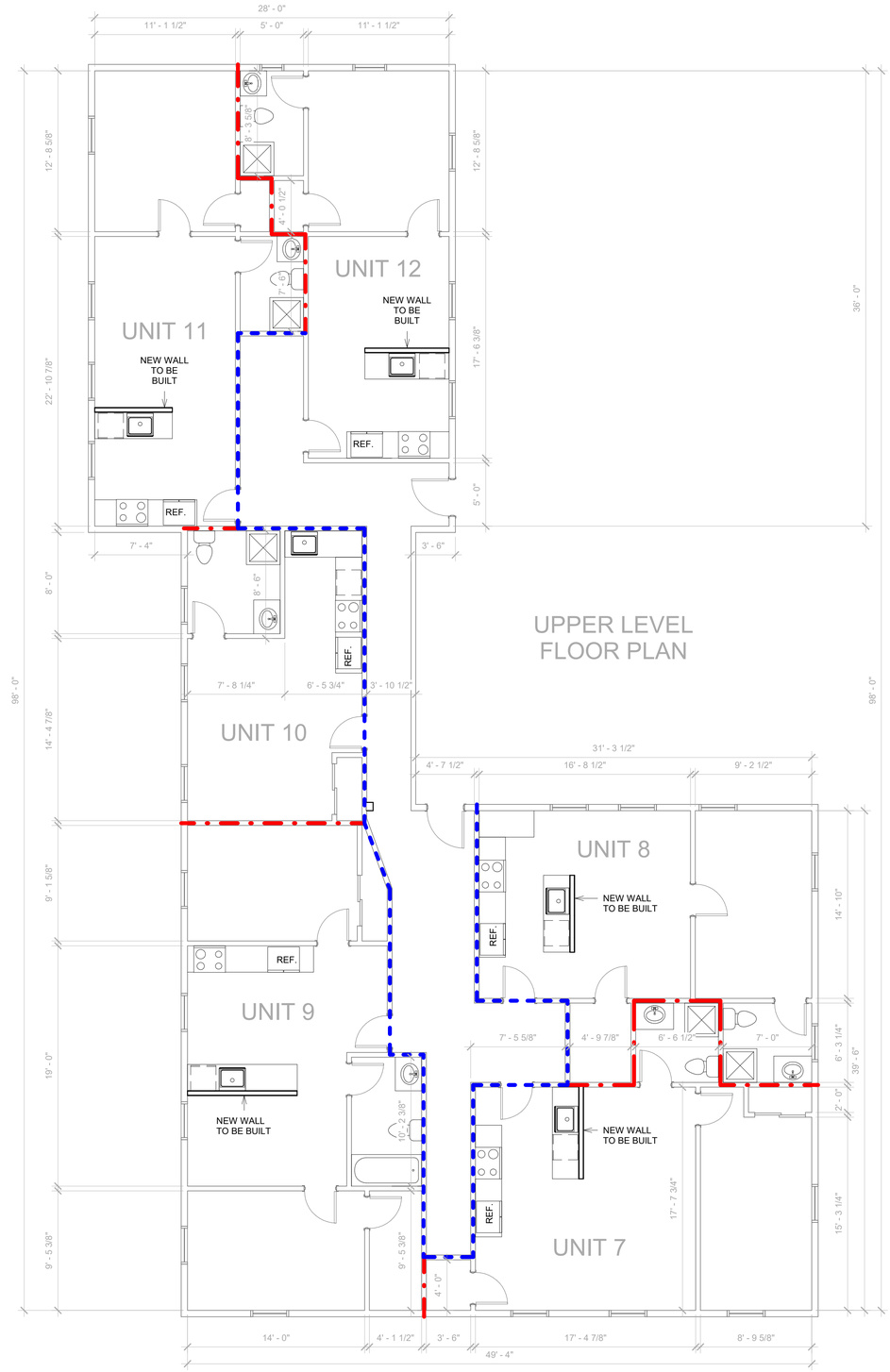
EXISTING FLOOR PLANS

A1.1

SHEET OF



1 **NEW FLOOR PLANS**
3/16" = 1'-0"



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)
30-MIN. RATED CORRIDOR PARTITION

FOR PERMIT

MA+KE ARCHITECTURE

3264 LARIMER SUITE D
DENVER, CO 80205
P 303.618.9923
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE DENVER

ISSUE:

03/23/23	ISSUED FOR PERMIT

DRAWING INFORMATION:

PROJECT NO:	Project Number
DRAWN BY:	Author
CHECKED BY:	Checker
APPROVED BY:	Approver

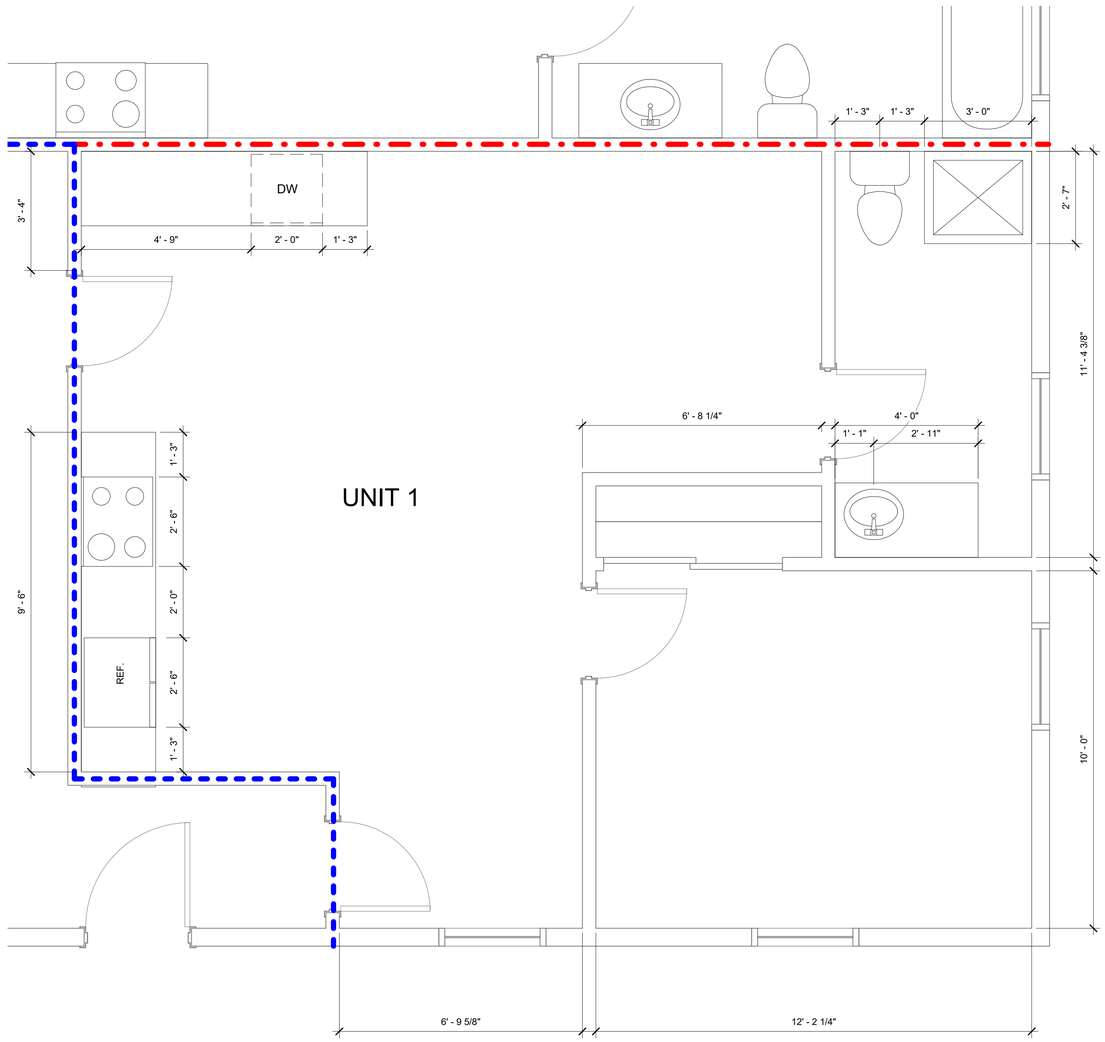
SHEET TITLE:

NEW FLOOR PLANS

A1.2

SHEET OF

C:\Users\makearch44\Dropbox\2023 PROJECTS\348 Massachusetts Ave\MODEL\348 Massachusetts Ave. - 06.15.rvt
6/15/2023 2:11:19 PM



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 1**
1/2" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

ISSUE:

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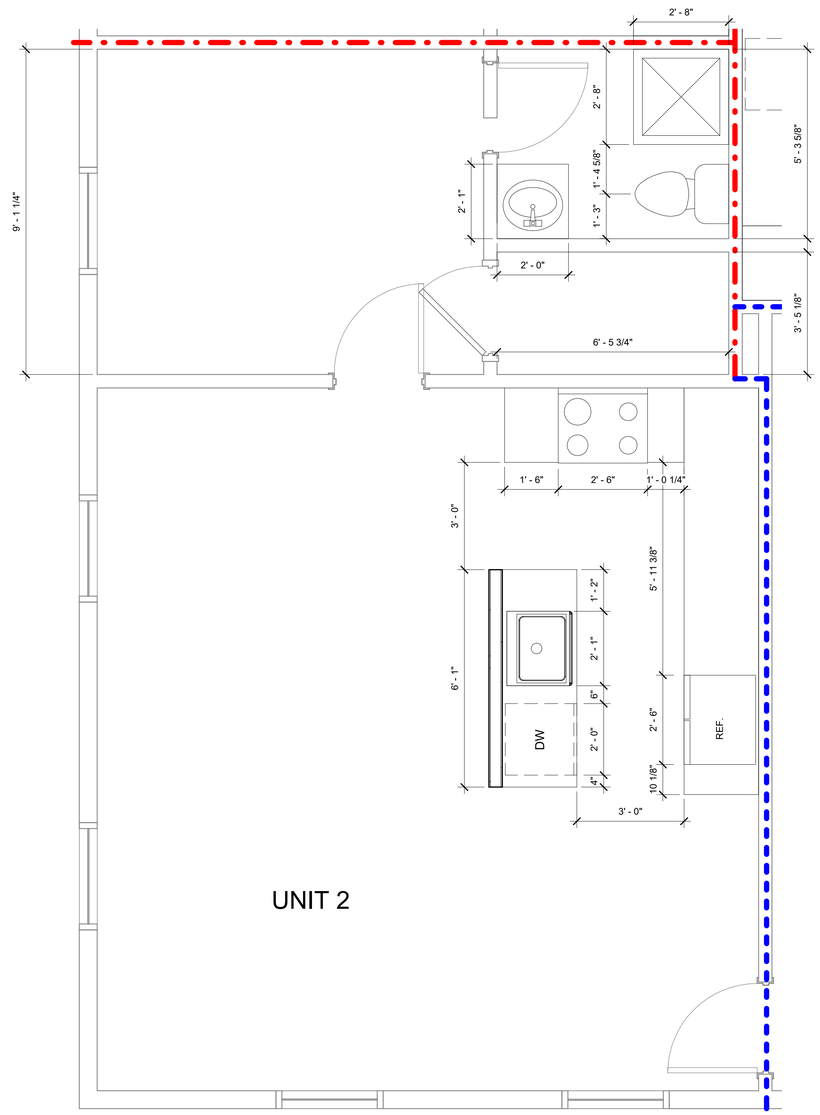
APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOW PLAN - UNIT 1

A1.201

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 2**
1/2" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

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FIRST LINE
DENVER

ISSUE:

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APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 2

FOR PERMIT

A1.202

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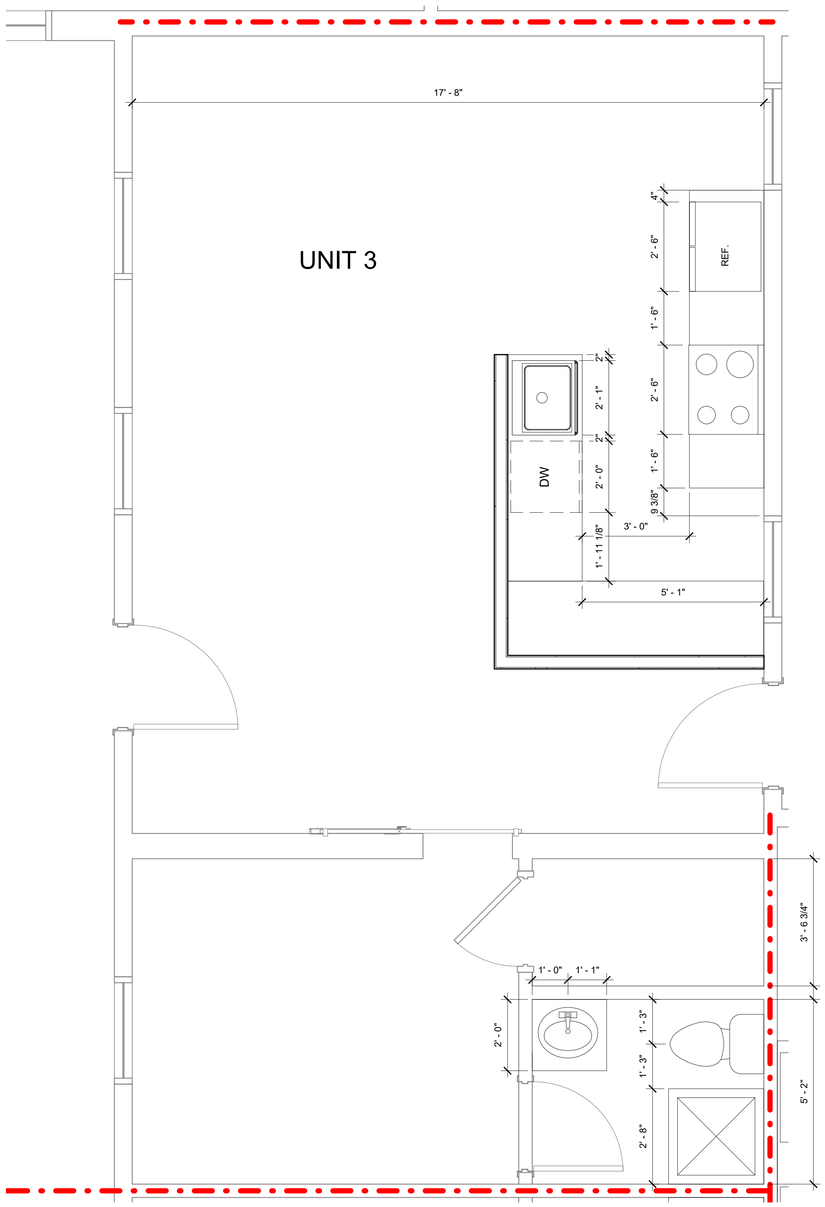

1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 3**
1/2" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

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DENVER

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PROJECT NO: Project Number
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APPROVED BY: Approver

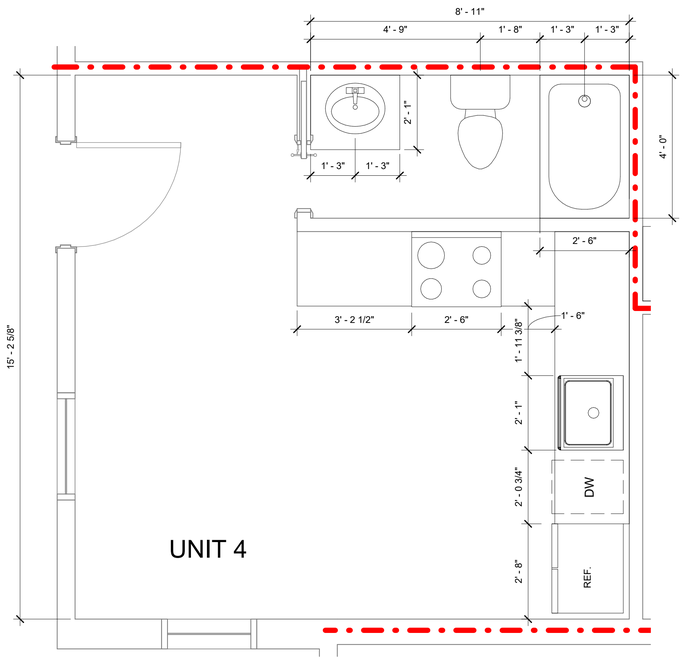
SHEET TITLE:

NEW FLOOR PLAN - UNIT 3

FOR PERMIT

A1.203

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 4**
1/2" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
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CONSULTANT:

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348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

ISSUE:

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CHECKED BY:	Checker
APPROVED BY:	Approver

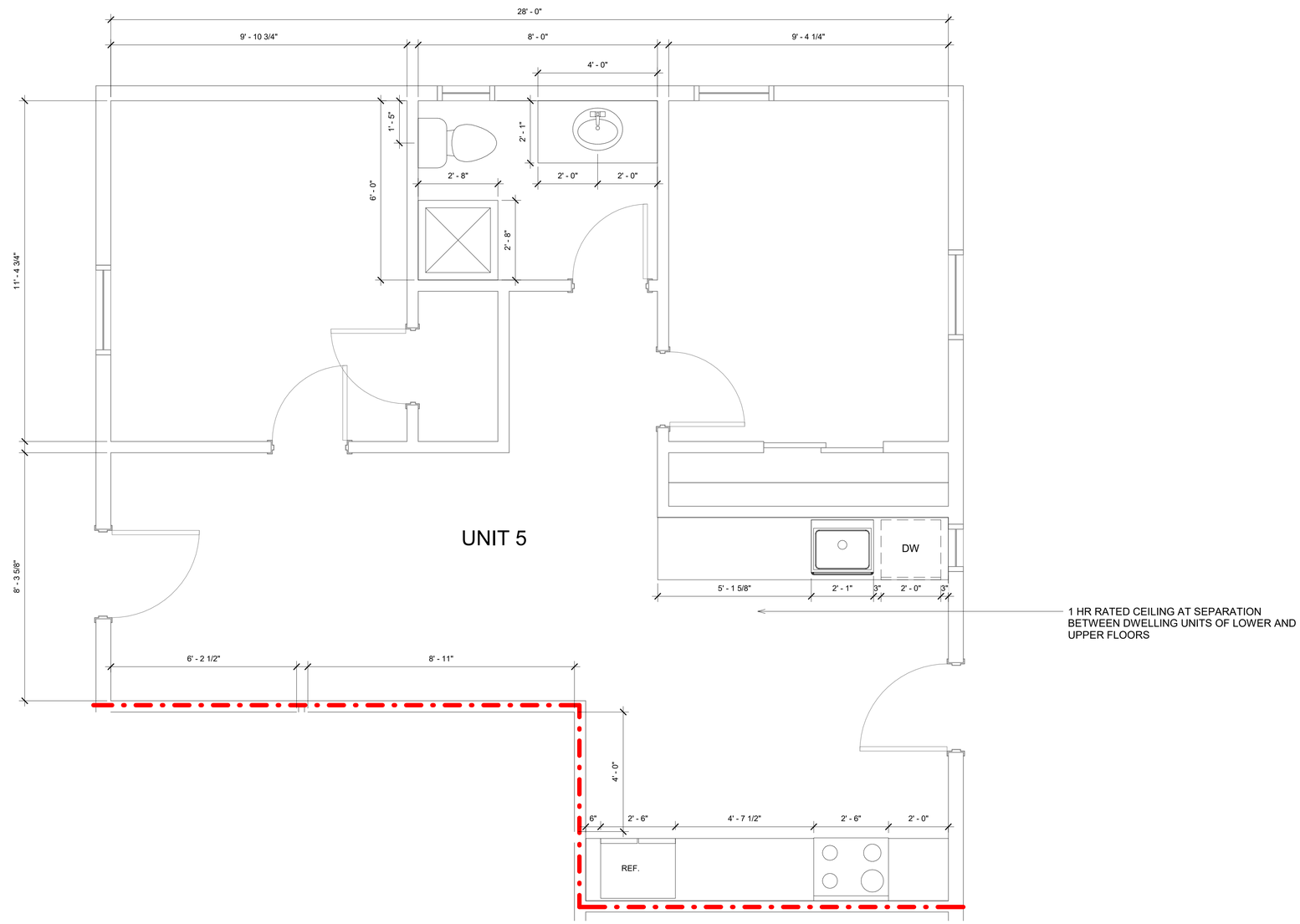
SHEET TITLE:

NEW FLOOR PLAN - UNIT 4

FOR PERMIT

A1.204

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 5**
1/2" = 1'-0"

FOR PERMIT

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

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FIRST LINE
DENVER

ISSUE:

03/23/23 ISSUED FOR PERMIT

DRAWING INFORMATION:

PROJECT NO:	Project Number
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CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 5

A1.205

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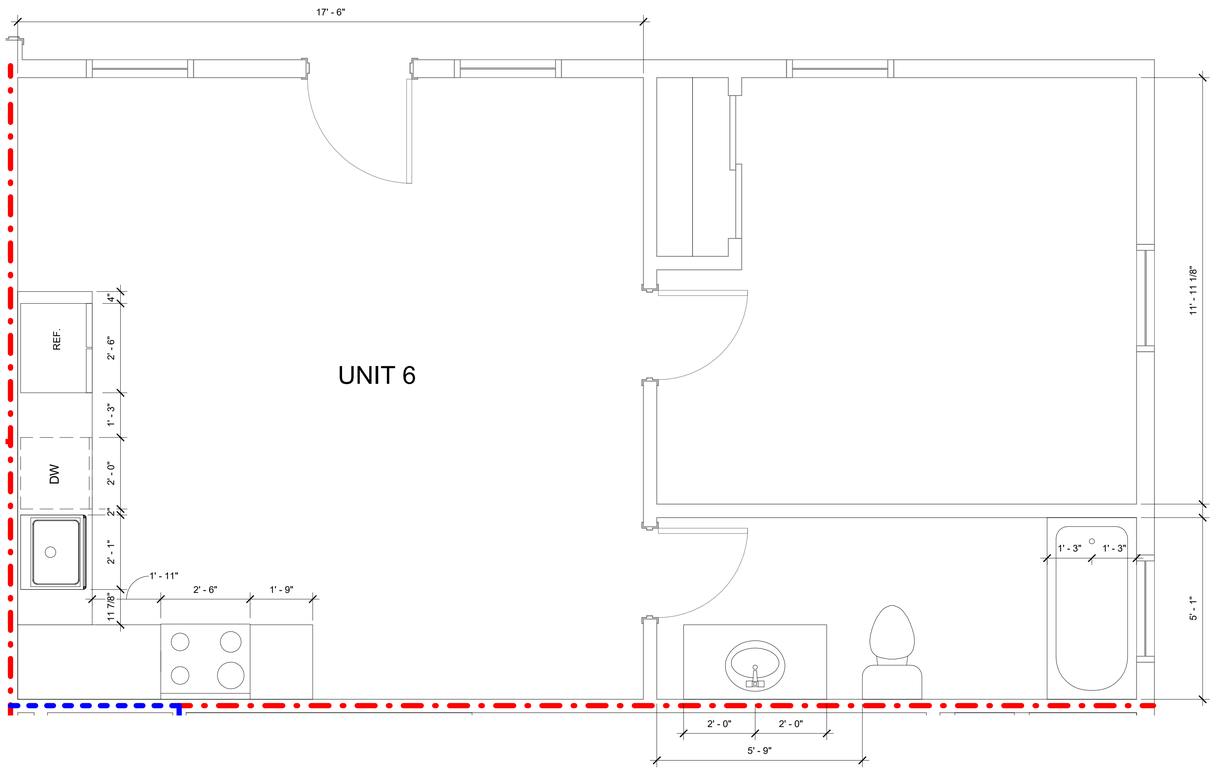

1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 6**
1/2" = 1'-0"

FOR PERMIT

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

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FIRST LINE
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ISSUE:

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APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 6

A1.206

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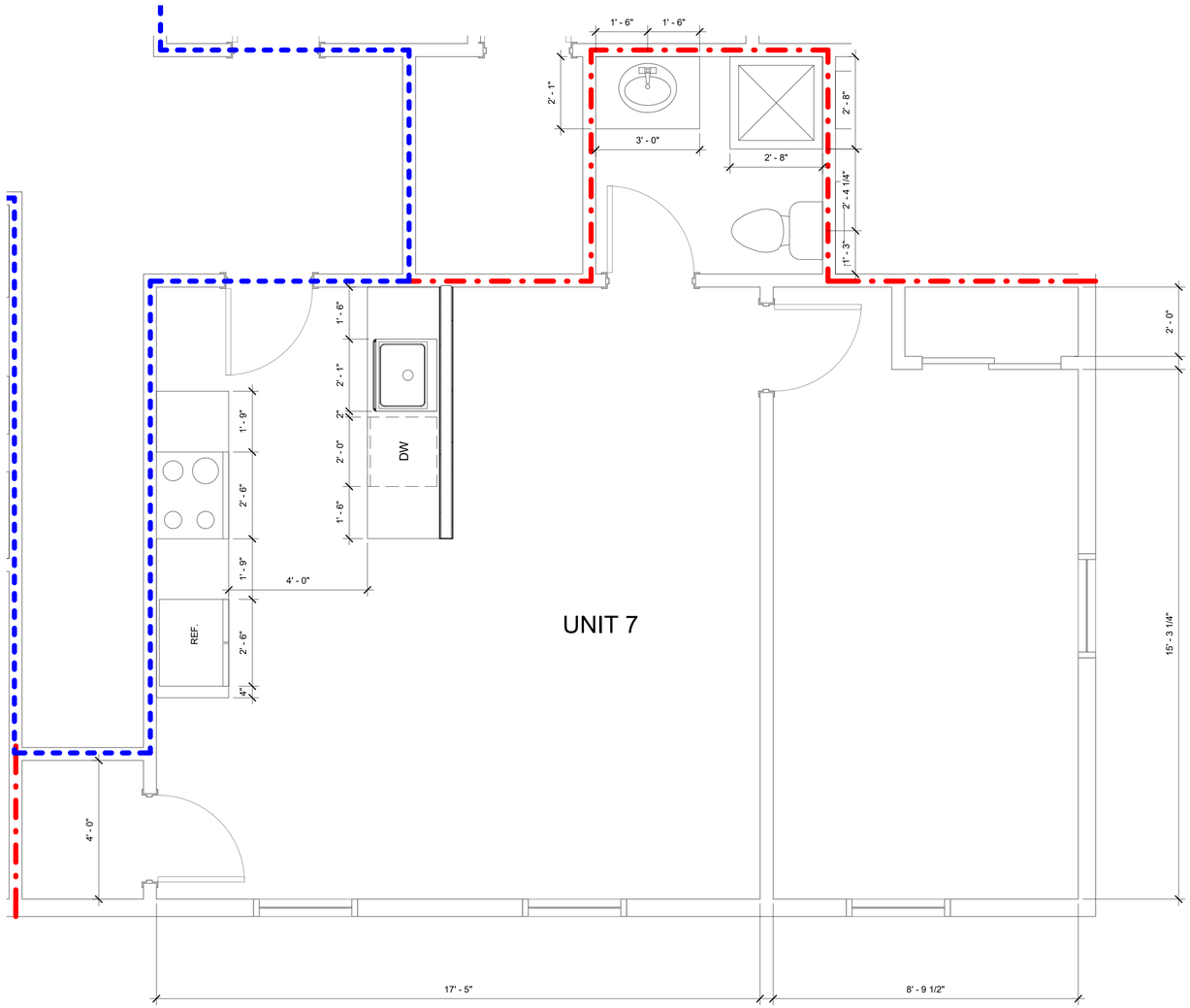

1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 7**
1/2" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

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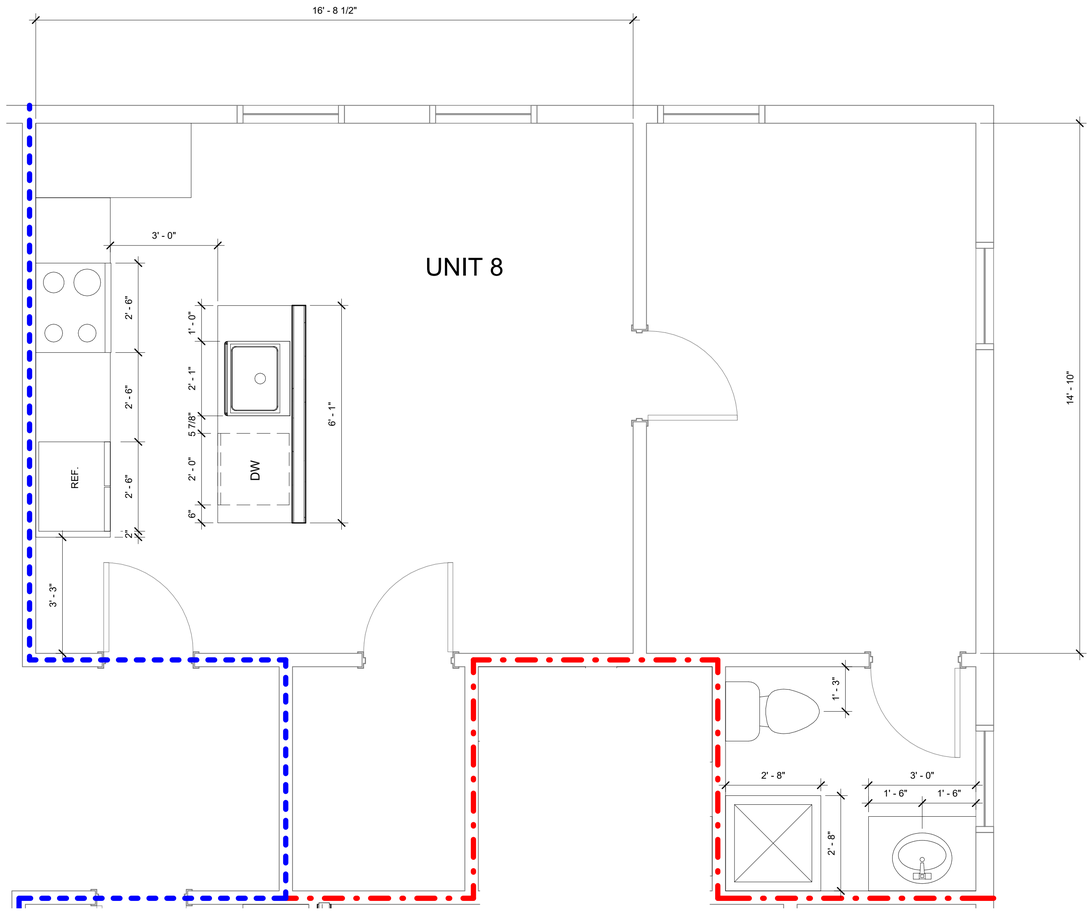
CHECKED BY: Checker
APPROVED BY: Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 7

FOR PERMIT

A1.207
SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 8**
1/2" = 1'-0"

FOR PERMIT

MA+KE ARCHITECTURE

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P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

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FIRST LINE
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ISSUE:

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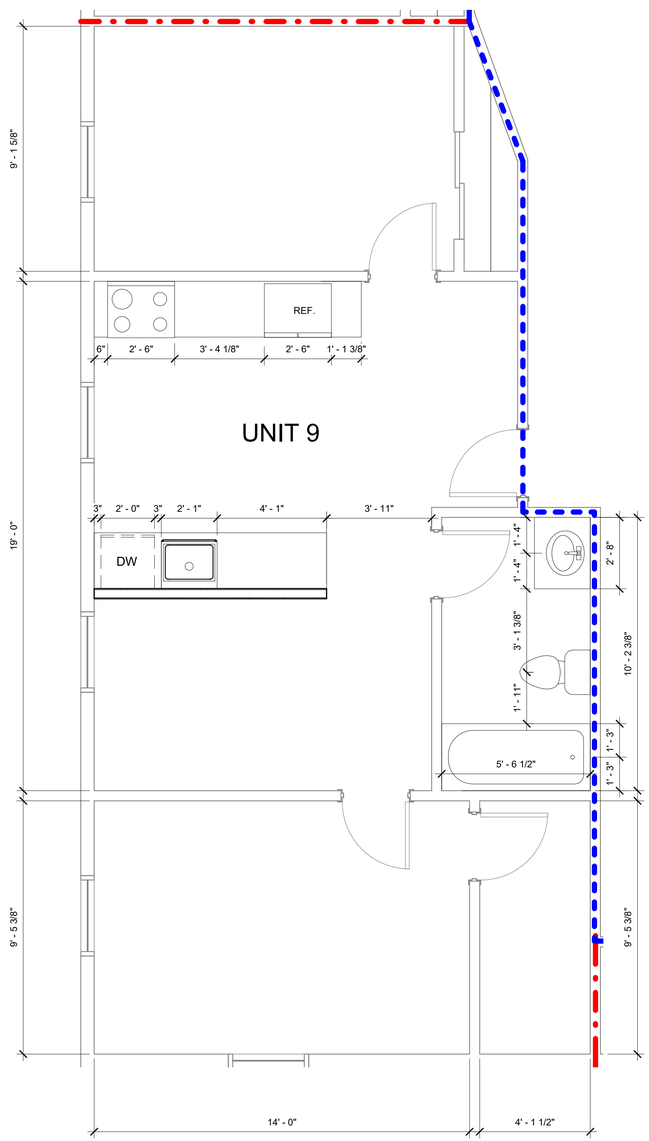
CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 8

A1.208

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 9**
3/8" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

ISSUE:

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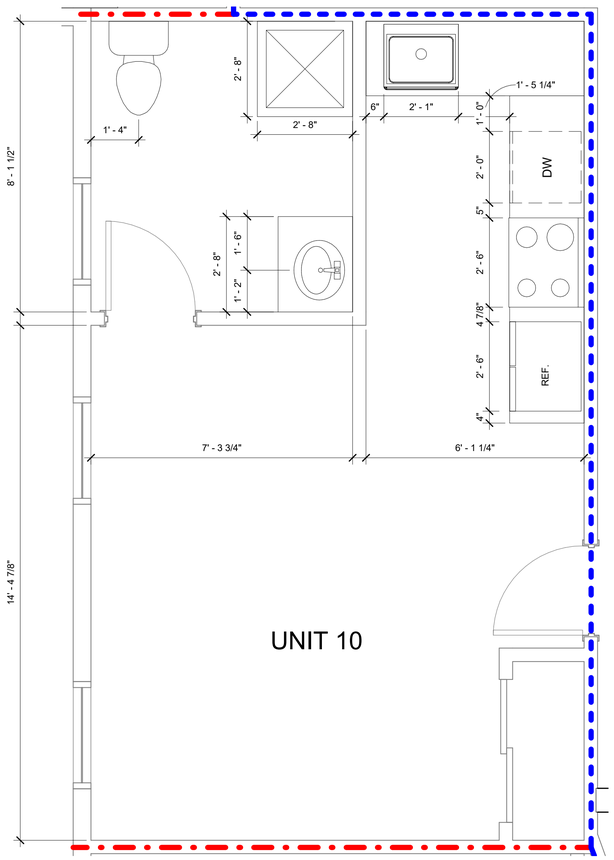
CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 9

A1.209

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 10**
1/2" = 1'-0"

FOR PERMIT

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

ISSUE:

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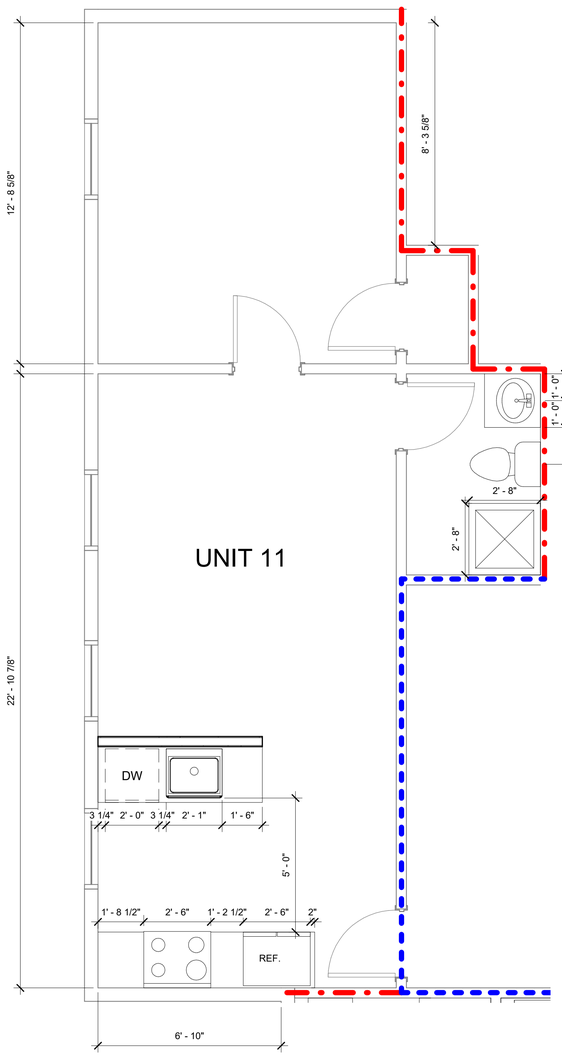
CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 10

A1.210

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 11**
3/8" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

KOHLS FINANCIAL GROUP, LLC

FIRST LINE
DENVER

ISSUE:

03/23/23	ISSUED FOR PERMIT

FOR PERMIT

DRAWING INFORMATION:

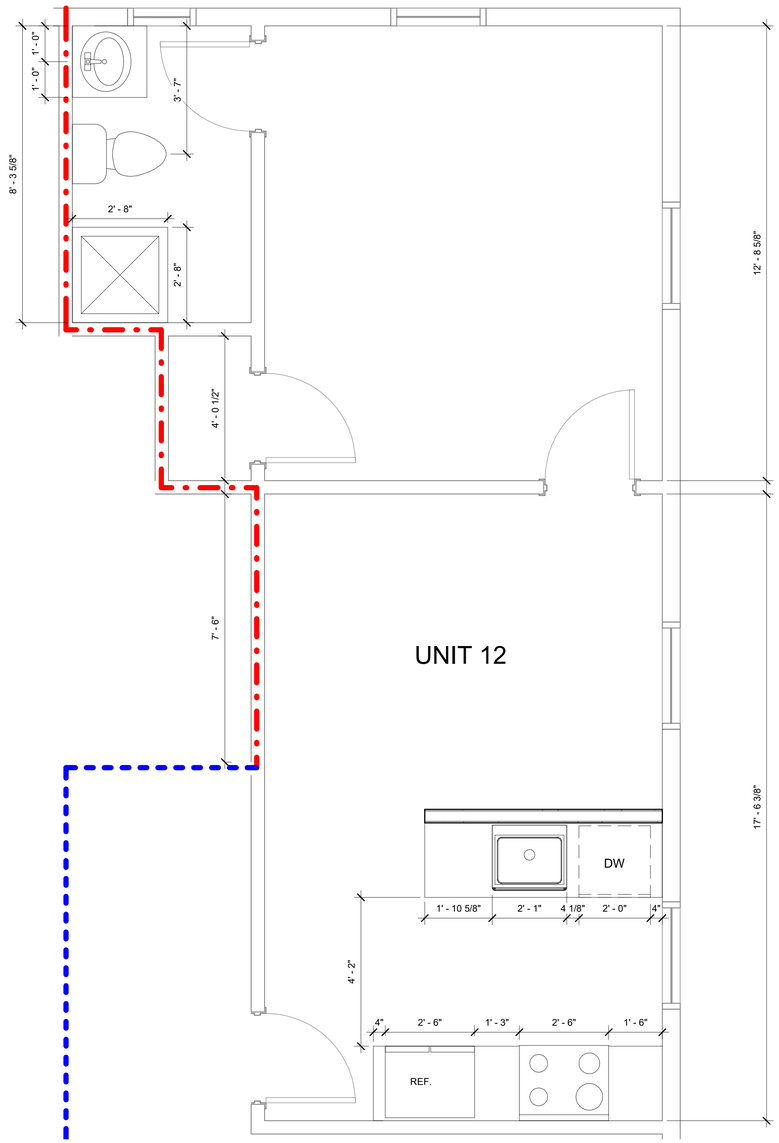
PROJECT NO:	Project Number
DRAWN BY:	Author
CHECKED BY:	Checker
APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 11

A1.211

SHEET OF



1-HR. RATED PARTITION (SEPARATION BETWEEN DWELLING UNITS)

30-MIN. RATED CORRIDOR PARTITION

1 **NEW FLOOR PLAN - UNIT 12**
1/2" = 1'-0"

MA+KE ARCHITECTURE

3095 W 38th Ave Denver CO
P 303.618.9923
dma@make-denver.com
www.make-denver.com

CONSULTANT:

PROJECT:

348 MASSACHUSETTS AVE.

OWNER:

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FIRST LINE
DENVER

ISSUE:

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APPROVED BY:	Approver

SHEET TITLE:

NEW FLOOR PLAN - UNIT 12

FOR PERMIT

A1.212

SHEET OF

TOWN OF BERTHOUD AT A GLANCE

Monthly Report
MAY 2023

- Sales & Use Tax revenue is 41% **over** budget for the month of May; $1,040,208 was received and $739,250 was budgeted.

- Town Revenue through May including transfers between funds is 17% **over** budget for 2023.

- Town Expenditures through May are 43% **under** budget for 2023.

Sales Tax Review

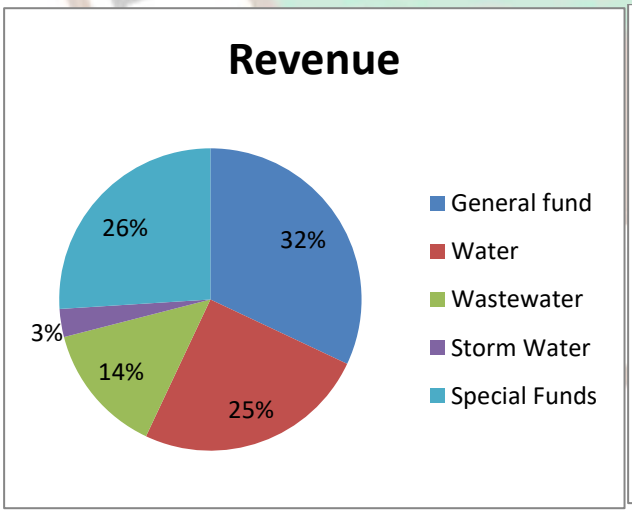
MAY	Berthoud Sales Tax	Motor Vehicle Use Tax	Building Materials Use Tax	Combined Total
2023	716,053.00	161,645.00	162,509.92	1,040,207.92
2022	715,514.17	137,058.99	231,907.87	1,084,481.03
2021	494,084.25	128,208.70	706,117.47	1,328,410.42
2020	403,298.08	48,537.67	133,902.45	585,738.20

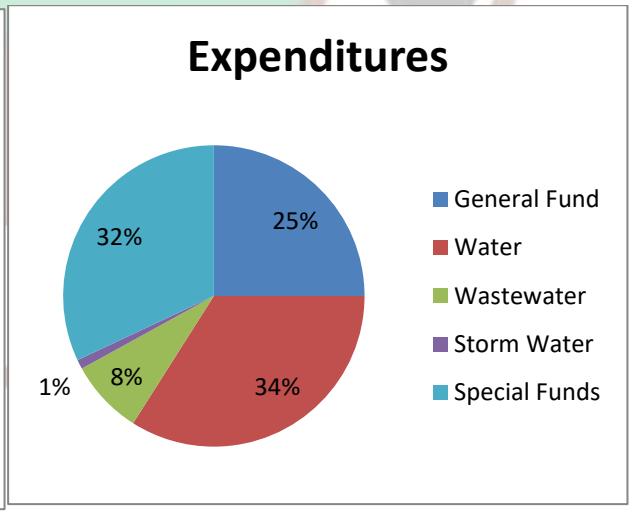
SALES TAX YEAR-TO-DATE FOR 2023 $ 4,939,282.26

COMBINED STATEMENT OF REVENUES AND EXPENDITURES
MAY 2023

REVENUE	Current Month	YTD Actual	YTD Budget	% of YTD Budget	% of Annual Budget
General Fund	1,645,500	5,239,907	4,297,734	122%	51%
Water	552,577	4,087,432	3,493,706	117%	49%
Wastewater	485,313	2,350,749	2,054,379	114%	48%
Storm Water	105,842	506,611	390,667	130%	54%
Special Funds	1,027,229	4,285,767	3,888,937	110%	46%
TOTAL REVENUE	**3,816,461**	**16,470,466**	**14,125,423**	**117%**	**49%**

EXPENDITURES	Current Month	YTD Actual	YTD Budget	% of YTD Budget	% of Annual Budget
General Fund	612,067	3,571,859	7,408,877	48%	20%
Water	3,543,098	5,067,275	6,162,565	82%	34%
Wastewater	274,020	1,077,182	3,641,702	30%	12%
Storm Water	875	53,072	286,821	19%	8%
Special Funds	1,048,358	4,521,604	7,435,364	61%	25%
TOTAL EXPENDITURES	**5,478,418**	**14,290,992**	**24,935,329**	**57%**	**24%**





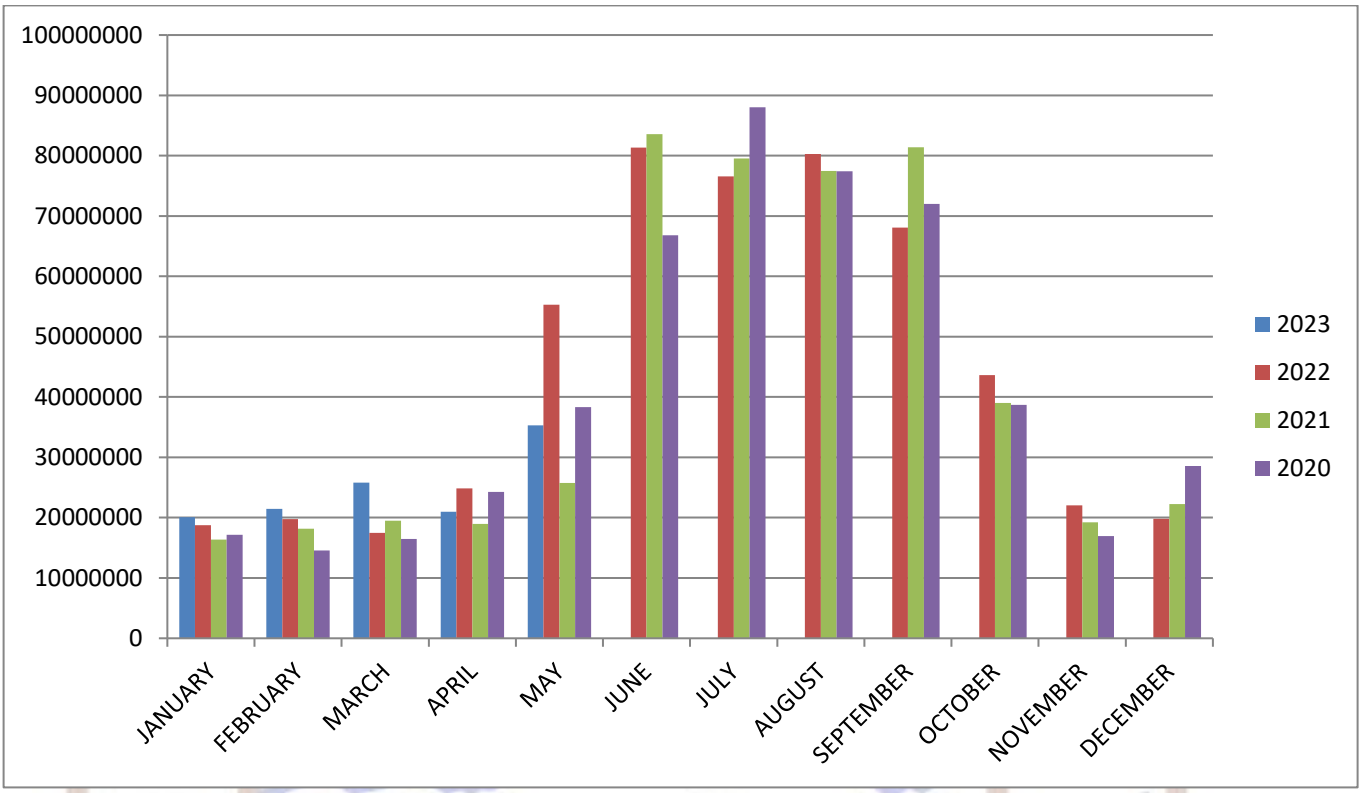
2023

	YEAR TO DATE TOTALS THRU MAY 2023
Single Family Permits	57
Overall Permit Total	243
Water Gallons Billed	123,584,000
Passports	679
Cemetery	10 Funerals

Building Permit & Permit Valuation by Year & 2023 YTD

	2019	2020	2021	2022	2023 YTD
Single-Family home permits	341	499	511	215	57
All permits (roofing, decks, additions, etc.)	752	934	1110	809	243
Total Permit Value	$124,840,545	$119,451,932	$238,661,288	$164,526,847	$46,524,689

BERTHOUD WATER USAGE



Personnel Summary

	Full-time	Part-time	Seasonal
Administration	13		
Code Enforcement	1		
Economic Development	1		
Planning-Building	3		
Streets	5		
Recreation	4		
Rec Center	7	80	
Parks-Forestry	10		
BATS	1	1	
Water-Wastewater	5		

Town of Berthoud
807 Mountain Ave
PO Box 1229
Berthoud, CO 80513-1229
Phone 970.532.2643 Fax 970.532.0640

BILLS SUMMARY
MAY 2023 FINAL

BILLS ALLOWED

TOTAL BILLS	$	2,329,734
NET PAYROLL	$	252,690

Mayor William Karspeck _____

Mayor Pro-Tem Mike Grace _____

Trustee Karl Ayers _____

Trustee Jeff Butler _____

Trustee Tim Hardy _____

Trustee Sean Murphy _____

Trustee May Soricelli _____

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1100200400							
50123400							
05/23	05/01/2023	501234	Allstate	MAY 2023	11-00-200400	Insurance Payable	848.04
50123402							
05/23	05/01/2023	501234	Guardian	MAY 2023	11-00-200400	Insurance Payable	4,982.71
Total 1100200400:							5,830.75
1101500914							
73970							
05/23	05/02/2023	73970	Express Toll	2081214473	11-01-5009.14	Travel/Training-Administrator	22.25
Total 1101500914:							22.25
1101501001							
73949							
05/23	05/02/2023	73949	Quadient Finance USA, Inc	04252023	11-01-5010.01	Office Supplies-General Office	1,450.00
73951							
05/23	05/04/2023	73951	Quadient Finance USA, Inc	05022023	11-01-5010.01	Office Supplies-General Office	1,450.00
73961							
05/23	05/02/2023	73961	Digital Print Resources Inc	21447	11-01-5010.01	Office Supplies-General Office	1,157.75
74062							
05/23	05/16/2023	74062	Culligan of Cheyenne	44443	11-01-5010.01	Office Supplies-General Office	82.00
74083							
05/23	05/18/2023	74083	Xerox Business Solutions	4447680	11-01-5010.01	Office Supplies-General Office	811.54
Total 1101501001:							4,951.29
1101501101							
74082							
05/23	05/18/2023	74082	CenturyLink Business Serv	640646614	11-01-5011.01	Telephone-General Office	50.00
74128							
05/23	05/18/2023	74128	Voice Exchange (Paragon	60405-45787	11-01-5011.01	Telephone-General Office	38.00
Total 1101501101:							88.00
1101501501							
74046							
05/23	05/09/2023	74046	Healthiest You	2023053574	11-01-5015.01	Insurance	672.00
Total 1101501501:							672.00
1101501707							
73994							
05/23	05/02/2023	73994	Terminix	432464547	11-01-5017.07	Building Maintenance-Town Hall	106.92
74068							
05/23	05/16/2023	74068	Jones Excavating & Plumbi	2598	11-01-5017.07	Building Maintenance-Town Hall	471.98
Total 1101501707:							578.90
1101502103							
74038							
05/23	05/09/2023	74038	March, Olive & Sapienza, L	Multiple	11-01-5021.03	Municipal Judge	1,367.46
Total 1101502103:							1,367.46

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1101502801							
73977							
05/23	05/02/2023	73977	Shred Vault Colorado	1310405	11-01-5028.01	Records Management	45.00
74154							
05/23	05/31/2023	74154	Synapse Technologies Inc	1818	11-01-5028.01	Records Management	7,900.00
Total 1101502801:							7,945.00
1101503800							
74079							
05/23	05/16/2023	74079	Cintas First Aid & Safety	Multiple	11-01-5038.00	Administrative Expenses	387.00
74140							
05/23	05/31/2023	74140	Hays Market	MAY 2023	11-01-5038.00	Administrative Expenses	59.27
Total 1101503800:							446.27
1101504003							
74057							
05/23	05/16/2023	74057	Bell Gould Linder & Scott P	35025	11-01-5040.03	Attorney-Municipal Court	1,493.32
Total 1101504003:							1,493.32
1101504801							
51023300							
05/23	05/10/2023	510233	CIGNA	MAY 2023	11-01-5048.01	Wellness Committee	35,575.14
Total 1101504801:							35,575.14
1101508907							
74022							
05/23	05/09/2023	74022	C&B Cleaning Services	Multiple	11-01-5089.07	Janitorial Service & Supplies	6,620.00
Total 1101508907:							6,620.00
1101509501							
73980							
05/23	05/02/2023	73980	Insight Public Sector, Inc.	11101048755	11-01-5095.01	Computer Maintenance/Replace	2,203.20
73981							
05/23	05/02/2023	73981	Anchor Network Solutions	Multiple	11-01-5095.01	Computer Maintenance/Replace	14,978.94
Total 1101509501:							17,182.14
1101509601							
73985							
05/23	05/02/2023	73985	Comcast	MAY23	11-01-5096.01	Internet	20.60
Total 1101509601:							20.60
1101509701							
74023							
05/23	05/09/2023	74023	CivicPlus	260255	11-01-5097.01	Webpage	7,383.00
Total 1101509701:							7,383.00
1101525607							
74033							
05/23	05/09/2023	74033	Larimer Co Solid Waste	04302023	11-01-5256.07	Clean Up Day	594.54

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1101525607:							594.54
1102500904							
74091							
05/23	05/31/2023	74091	Express Toll	2081993577	11-02-5009.04	Travel/Training-Code Enf	4.41
Total 1102500904:							4.41
1102503404							
73986							
05/23	05/02/2023	73986	Larimer Humane Society	1027	11-02-5034.04	Animal Control	3,826.83
Total 1102503404:							3,826.83
1103501101							
74102							
05/23	05/16/2023	74102	Complete Wireless Technol	103196	11-03-5011.01	Telephone	165.00
Total 1103501101:							165.00
1103501406							
74069							
05/23	05/16/2023	74069	Kwik Korner	APRIL 2023	11-03-5014.06	Gas & Oil	1,585.51
Total 1103501406:							1,585.51
1103502106							
74036							
05/23	05/09/2023	74036	MAC Equipment INC	430968	11-03-5021.06	Light Duty Veh/Eqiup Maint	100.86
Total 1103502106:							100.86
1103503602							
74108							
05/23	05/16/2023	74108	Mobile Wrench	Multiple	11-03-5036.02	Heavy Duty Veh/Equip Maint	3,735.25
74149							
05/23	05/31/2023	74149	O. J. Watson Equipment	160570	11-03-5036.02	Heavy Duty Veh/Equip Maint	1,276.00
Total 1103503602:							5,011.25
1103503702							
73968							
05/23	05/02/2023	73968	Colorado Barricade Co	Multiple	11-03-5037.02	Materials for Maintenance	1,084.96
Total 1103503702:							1,084.96
1103504007							
74073							
05/23	05/16/2023	74073	Paratex Weed Control Inc.	Multiple	11-03-5040.07	Contract Services	3,375.00
Total 1103504007:							3,375.00
1103504601							
73956							
05/23	05/18/2023	73956	Barr, Garrett	05092023	11-03-5046.01	Uniforms	223.60

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1103504601:							223.60
1103504704							
74144							
05/23	05/31/2023	74144	J & A Traffic Products	35951	11-03-5047.04	Signs & Signage	262.40
Total 1103504704:							262.40
1103504802							
74027							
05/23	05/09/2023	74027	Fastenal Company	COGRRE183	11-03-5048.02	Safety Equipment	171.18
Total 1103504802:							171.18
1103509501							
74064							
05/23	05/16/2023	74064	Dell Marketing LP	1066930485	11-03-5095.01	Computer Maintenance/Replace	1,475.17
Total 1103509501:							1,475.17
1103525106							
74032							
05/23	05/09/2023	74032	J & A Traffic Products	Multiple	11-03-5251.06	Tools	725.00
Total 1103525106:							725.00
1104445023							
74004							
05/23	05/24/2023	74004	PALMER, MARCUS	5/24/23	11-04-4450-23	Fees-Youth Softball	180.00
Total 1104445023:							180.00
1104502023							
74125							
05/23	05/18/2023	74125	Northern Colorado Sports	9586	11-04-5020.23	Officials-Youth Softball	675.00
Total 1104502023:							675.00
1104504622							
74152							
05/23	05/31/2023	74152	Scheels	TSA045	11-04-5046.22	Uniforms-Youth Baseball	1,687.50
Total 1104504622:							1,687.50
1104504623							
74121							
05/23	05/18/2023	74121	Scheels	TSA039	11-04-5046.23	Uniforms-Youth Softball	420.00
Total 1104504623:							420.00
1104504650							
73993							
05/23	05/02/2023	73993	Scheels	TSA040	11-04-5046.50	Uniforms-Soccer	109.80
Total 1104504650:							109.80

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1104504823							
74105							
05/23	05/16/2023	74105	IPGSA	2023	11-04-5048.23	Team Fees-Youth Softball	645.00
Total 1104504823:							645.00
1104504850							
74103							
05/23	05/16/2023	74103	Fort Collins Soccer Club	05102023	11-04-5048.50	Soccer-Dues/Team Fees	212.50
Total 1104504850:							212.50
1106510206							
74150							
05/23	05/31/2023	74150	Office Depot	Multiple	11-06-5102.06	Office Supplies	1,033.96
Total 1106510206:							1,033.96
1106510606							
74045							
05/23	05/09/2023	74045	Brewhop Trolley	05/2023	11-06-5106.06	Travel-Business Prospecting	5,085.00
74136							
05/23	05/31/2023	74136	Elish, Walt	05212023	11-06-5106.06	Travel-Business Prospecting	150.09
Total 1106510606:							5,235.09
1106510806							
74050							
05/23	05/09/2023	74050	Root Source Digital	1406	11-06-5108.06	Business Relations-Development	350.00
74051							
05/23	05/09/2023	74051	TPC Colorado	05102023	11-06-5108.06	Business Relations-Development	3,843.96
74112							
05/23	05/16/2023	74112	TPC Colorado	05052023	11-06-5108.06	Business Relations-Development	.00
Total 1106510806:							4,193.96
1106511006							
74098							
05/23	05/16/2023	74098	AdSortium, LLC	5222	11-06-5110.06	Professional Serv-Consultants	5,000.00
Total 1106511006:							5,000.00
1107500801							
74086							
05/23	05/31/2023	74086	Banner Occupational Healt	808866	11-07-5008.01	Physicals/Background	60.00
Total 1107500801:							60.00
1107501101							
73971							
05/23	05/02/2023	73971	Hilltop Broadband	1489-202304	11-07-5011.01	Telephone	261.56
74142							
05/23	05/31/2023	74142	Hilltop Broadband	1489-202305	11-07-5011.01	Telephone	261.56
Total 1107501101:							523.12

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
1107501209							
74048							
05/23	05/09/2023	74048	Poudre Valley REA	MAY23	11-07-5012.09	Utilities-facilities/gen parks	1,404.68
Total 1107501209:							1,404.68
1107501309							
73978							
05/23	05/02/2023	73978	University Auto Parts-NAP	APRIL23	11-07-5013.09	Vehicle Maint-General Park	143.59
74111							
05/23	05/16/2023	74111	T & T OK Tire	1140954	11-07-5013.09	Vehicle Maint-General Park	851.20
Total 1107501309:							994.79
1107504601							
74030							
05/23	05/09/2023	74030	Gonzo Screen Printing	839	11-07-5046.01	Uniforms	324.00
Total 1107504601:							324.00
1107504909							
74060							
05/23	05/16/2023	74060	Colorado Water Well	23-0140	11-07-5049.09	Irrigation-general parks	880.00
74134							
05/23	05/31/2023	74134	DBC Irrigation Supply	Multiple	11-07-5049.09	Irrigation-general parks	953.23
Total 1107504909:							1,833.23
1107505503							
74071							
05/23	05/16/2023	74071	Mountain View Commercial	Multiple	11-07-5055.03	Restroom Maintenance	441.24
Total 1107505503:							441.24
1107505704							
74074							
05/23	05/16/2023	74074	Pioneer Mfg. Co / Poineer	871945	11-07-5057.04	Repair/Supplies-Ball Fields	2,052.38
Total 1107505704:							2,052.38
1107505709							
73973							
05/23	05/02/2023	73973	K-D Flags, LLC	30935	11-07-5057.09	Repair/Supplies-General Park	494.30
74076							
05/23	05/16/2023	74076	The Sherwin-Williams CO	1711-5	11-07-5057.09	Repair/Supplies-General Park	267.67
74104							
05/23	05/16/2023	74104	Gulley Greenhouse & Gard	Multiple	11-07-5057.09	Repair/Supplies-General Park	4,838.30
Total 1107505709:							5,600.27
1107505806							
74058							
05/23	05/16/2023	74058	Bobcat Of The Rockies	15252213	11-07-5058.06	Equipment Maint-Fleet	1,871.48
74089							
05/23	05/31/2023	74089	Dan's Small Engine	112353	11-07-5058.06	Equipment Maint-Fleet	221.95

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 1107505806:							2,093.43
1107505902							
74127							
05/23	05/18/2023	74127	Vector Disease Control Inte	PL-A000122	11-07-5059.02	Insect Control	5,527.83
Total 1107505902:							5,527.83
1108521502							
74042							
05/23	05/09/2023	74042	ProCode, Inc.	0098147	11-08-5215.02	Contract Inspections	28,537.55
Total 1108521502:							28,537.55
1111502501							
74044							
05/23	05/09/2023	74044	Awards Unlimited	36820	11-11-5025.01	PORT Committee	25.04
Total 1111502501:							25.04
1111518603							
74122							
05/23	05/18/2023	74122	Sopher Sparn Architects	05152023	11-11-5186.03	Zoning Code update	2,200.00
Total 1111518603:							2,200.00
1111518803							
74081							
05/23	05/16/2023	74081	Plan Tools LLC	23-19	11-11-5188.03	Comp Plan	4,348.75
Total 1111518803:							4,348.75
1111518902							
74115							
05/23	05/18/2023	74115	Baseline Engineering Corp.	Multiple	11-11-5189.02	DEVELOPMENT REVIEW	68,452.07
74116							
05/23	05/18/2023	74116	Berthoud Weekly Surveyor	37695	11-11-5189.02	DEVELOPMENT REVIEW	150.67
74120							
05/23	05/18/2023	74120	Norton & Smith, P.C.	APRIL2023	11-11-5189.02	DEVELOPMENT REVIEW	15,993.31
Total 1111518902:							84,596.05
1112503901							
73982							
05/23	05/02/2023	73982	Berthoud Village Shopping	MAY23	11-12-5039.01	HOA Fees	3,860.86
Total 1112503901:							3,860.86
1113502001							
73987							
05/23	05/02/2023	73987	Picture This Creative Servi	241-R-0002	11-13-5020.01	Prof Services-Community	300.00
Total 1113502001:							300.00
2000510302							

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
74087							
05/23	05/31/2023	74087	Baseline Engineering Corp.	27997	20-00-5103.02	Consultant Fees	132.00
Total 2000510302:							132.00
2000510402							
74095							
05/23	05/31/2023	74095	Leonard Rice Engineers In	22995	20-00-5104.02	Water Resource Master Plan	32,592.37
Total 2000510402:							32,592.37
2000510602							
73990							
05/23	05/02/2023	73990	Handy Ditch Company	Multiple	20-00-5106.02	Ditchwide Study	69,582.86
74139							
05/23	05/31/2023	74139	Handy Ditch Company	1258	20-00-5106.02	Ditchwide Study	102.50
Total 2000510602:							69,685.36
2000512302							
73865							
05/23	05/01/2023	73865	Northern Water	BOWER FAM	20-00-5123.02	Water Purchase	500.00
73952							
05/23	05/04/2023	73952	Stewart Title	2002437	20-00-5123.02	Water Purchase	150.00
Total 2000512302:							650.00
2000520802							
73964							
05/23	05/02/2023	73964	Baseline Engineering Corp.	27628	20-00-5208.02	Raw Line Maintenance	330.00
Total 2000520802:							330.00
2100441000							
73526							
05/23	05/02/2023	73526	Coyote Ridge Residential,	HM0728	21-00-4410-00	Sale of Water	2,500.00
73527							
05/23	05/02/2023	73527	Coyote Ridge Residential,	HM0727	21-00-4410-00	Sale of Water	849.84
73528							
05/23	05/02/2023	73528	DUNRITE EXCAVATION	HM0729	21-00-4410-00	Sale of Water	1,000.00
73529							
05/23	05/08/2023	73529	KINDT, MELISSA	10940.2	21-00-4410-00	Sale of Water	21.83
73996							
05/23	05/08/2023	73996	GONZALES, BRYAN & BO	10452.3	21-00-4410-00	Sale of Water	96.17
73997							
05/23	05/08/2023	73997	DWL PROPERTIES	1069.4	21-00-4410-00	Sale of Water	220.39
73998							
05/23	05/08/2023	73998	Custom On-Site Builders	12206.1	21-00-4410-00	Sale of Water	524.90
73999							
05/23	05/09/2023	73999	POE, SHAWNALEA &ANG	11181.2	21-00-4410-00	Sale of Water	91.12
74000							
05/23	05/16/2023	74000	PARGOE, JILL	2206.2	21-00-4410-00	Sale of Water	59.44
74003							
05/23	05/17/2023	74003	FOX PROPERTY MANAG	9202.4	21-00-4410-00	Sale of Water	261.38
74005							
05/23	05/30/2023	74005	DIRECTIONAL TRACE LL	HM0735	21-00-4410-00	Sale of Water	2,282.88

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
74006							
05/23	05/31/2023	74006	BEBO, JUSTUS	2517.2	21-00-4410-00	Sale of Water	56.48
Total 2100441000:							7,964.43
2100501001							
73995							
05/23	05/03/2023	73995	USPS-Berthoud	MAY23	21-00-5010.01	Office Supplies	2,344.38
74085							
05/23	05/30/2023	74085	Digital Print Resources Inc	21482	21-00-5010.01	Office Supplies	1,932.00
Total 2100501001:							4,276.38
2100501101							
74047							
05/23	05/09/2023	74047	Hilltop Broadband	3582-202304	21-00-5011.01	Telephone	194.70
Total 2100501101:							194.70
2100501203							
74156							
05/23	05/31/2023	74156	XCEL Energy	MAY 2023	21-00-5012.03	Utilities-Treatment	8,690.84
Total 2100501203:							8,690.84
2100502004							
74132							
05/23	05/31/2023	74132	Aqua Backflow, Inc	2023-0136	21-00-5020.04	Prof. Fees-Operator	360.00
Total 2100502004:							360.00
2100504601							
74158							
05/23	05/31/2023	74158	Steuben, Cody	UNIFORM 05	21-00-5046.01	Uniforms	289.42
Total 2100504601:							289.42
2100504802							
74137							
05/23	05/31/2023	74137	Grainger	9694410193	21-00-5048.02	Safety Equipment	1,065.87
Total 2100504802:							1,065.87
2100505702							
74075							
05/23	05/16/2023	74075	Ramey Environmental	Multiple	21-00-5057.02	Repair, Maint, Supp Dist	99,716.65
74106							
05/23	05/16/2023	74106	Jones Excavating & Plumbi	5167	21-00-5057.02	Repair, Maint, Supp Dist	11,500.00
Total 2100505702:							111,216.65
2100505703							
74138							
05/23	05/31/2023	74138	Hach Co.	13580052	21-00-5057.03	Repair, Maint, Supp Treat	1,471.36
Total 2100505703:							1,471.36

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
2100506003							
74067							
05/23	05/16/2023	74067	DPC Industries Inc.	737001395-2	21-00-5060.03	Chemicals-Treatment	3,097.82
Total 2100506003:							3,097.82
2100510802							
74024							
05/23	05/09/2023	74024	Colorado Analytical Labs, I	Multiple	21-00-5108.02	Lab Testing	5,685.40
Total 2100510802:							5,685.40
2100510902							
74088							
05/23	05/31/2023	74088	City of Fort Collins	97150	21-00-5109.02	Meters-repairs	50.00
Total 2100510902:							50.00
2100512401							
74031							
05/23	05/09/2023	74031	Handy Ditch Company	1257	21-00-5124.01	Water Assessments	1,050.00
74148							
05/23	05/31/2023	74148	Northern Water	SWSPW 202	21-00-5124.01	Water Assessments	40,652.31
Total 2100512401:							41,702.31
2100527702							
74066							
05/23	05/16/2023	74066	Distribution System Resour	6354	21-00-5277.02	Distribution System Improve	9,093.50
Total 2100527702:							9,093.50
2200541000							
73967							
05/23	05/02/2023	73967	CDM Smith	90176532	22-00-5410.00	Treatment Plant Backwash Imp	2,029.72
74020							
05/23	05/09/2023	74020	Aslan Construction	Multiple	22-00-5410.00	Treatment Plant Backwash Imp	121,627.66
Total 2200541000:							123,657.38
2300441000							
74001							
05/23	05/16/2023	74001	3985 LINCOLN LLC	8732.1	23-00-4410-00	Wastewater Charges	.00
74002							
05/23	05/16/2023	74002	3985 LINCOLN LLC	8732.1	23-00-4410-00	Wastewater Charges	175.12
Total 2300441000:							175.12
2300501004							
74113							
05/23	05/17/2023	74113	Cardmember Service	APRIL23	23-00-5010.04	Office Supplies	19,855.92
Total 2300501004:							19,855.92
2300501101							
73983							
05/23	05/02/2023	73983	CenturyLink	MAY23	23-00-5011.01	Telephone	405.93

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
73984							
05/23	05/02/2023	73984	Comcast	MAY23-2	23-00-5011.01	Telephone	1,585.87
74133							
05/23	05/31/2023	74133	AT&T Mobility	MAY 2023	23-00-5011.01	Telephone	681.32
Total 2300501101:							2,673.12
2300501201							
73976							
05/23	05/02/2023	73976	Poudre Valley REA	APRIL23-3	23-00-5012.01	Utilities	15,443.25
74055							
05/23	05/16/2023	74055	AGFINITY INC	Multiple	23-00-5012.01	Utilities	794.24
74119							
05/23	05/18/2023	74119	Little Thompson Water Dist	APRIL2023	23-00-5012.01	Utilities	150.89
74126							
05/23	05/18/2023	74126	Poudre Valley REA	MAY2023	23-00-5012.01	Utilities	260.24
74151							
05/23	05/31/2023	74151	Poudre Valley REA	MAY 2023	23-00-5012.01	Utilities	19,848.46
Total 2300501201:							36,497.08
2300501203							
74035							
05/23	05/09/2023	74035	Little Thompson Water Dist	APRIL23	23-00-5012.03	Utilities	31.84
74070							
05/23	05/16/2023	74070	Little Thompson Water Dist	APRIL23-2	23-00-5012.03	Utilities	1,507.63
74146							
05/23	05/31/2023	74146	Little Thompson Water Dist	WCR 44 052	23-00-5012.03	Utilities	33.03
Total 2300501203:							1,572.50
2300502004							
74021							
05/23	05/09/2023	74021	Brooks Applied Labs	2301287	23-00-5020.04	Professional Fees	1,780.00
Total 2300502004:							1,780.00
2300504004							
74097							
05/23	05/31/2023	74097	Vranesh & Raisch	Multiple	23-00-5040.04	Attorney	18,598.64
Total 2300504004:							18,598.64
2300505701							
74028							
05/23	05/09/2023	74028	Foley Boyz Lawn Care LLC	4110917	23-00-5057.01	Repair, Maint. & Supplies	1,500.00
Total 2300505701:							1,500.00
2300505703							
74043							
05/23	05/09/2023	74043	UNCC	223040176	23-00-5057.03	Repair, Maint. & Supplies	536.64
Total 2300505703:							536.64
2300509004							

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
73972							
05/23	05/02/2023	73972	Hinkle & Company	12630	23-00-5090.04	Audit	8,300.00
Total 2300509004:							8,300.00
2300511401							
74026							
05/23	05/09/2023	74026	Denali Water Solutions	466727	23-00-5114.01	Sludge Hauling	2,154.69
74039							
05/23	05/09/2023	74039	McDonald Farms	Multiple	23-00-5114.01	Sludge Hauling	5,001.75
74065							
05/23	05/16/2023	74065	Denali Water Solutions	469710	23-00-5114.01	Sludge Hauling	2,533.92
74135							
05/23	05/31/2023	74135	Denali Water Solutions	484990	23-00-5114.01	Sludge Hauling	2,725.04
Total 2300511401:							12,415.40
2300521405							
50123401							
05/23	05/01/2023	501234	Caselle Inc	MAY 2023	23-00-5214.05	Computer Maint/Replacement	1,728.00
Total 2300521405:							1,728.00
2400501900							
53123315							
05/23	05/31/2023	531233	Alfa Construction LLC	MAY 2023	24-00-5019.00	ALFA Line Reimbursement	8,800.00
Total 2400501900:							8,800.00
2400527300							
74096							
05/23	05/31/2023	74096	TETRA TECH, INC.	52068165	24-00-5273.00	WW Master Plan	59,400.21
Total 2400527300:							59,400.21
2900526102							
74072							
05/23	05/16/2023	74072	O. J. Watson Equipment	Multiple	29-00-5261.02	Sweeper Parts	1,188.77
Total 2900526102:							1,188.77
3100502202							
74056							
05/23	05/16/2023	74056	American Ramp Company	1	31-00-5022.02	Bike Park plan	891,812.50
74063							
05/23	05/16/2023	74063	DeFalco Construction Com	5	31-00-5022.02	Bike Park plan	80,311.39
Total 3100502202:							972,123.89
3100525100							
74090							
05/23	05/31/2023	74090	DTJ Design	66198	31-00-5251.00	Richardson Park	106,981.20
Total 3100525100:							106,981.20
3200504100							

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
73979							
05/23	05/02/2023	73979	Welborn Sullivan Meck & T	127463	32-00-5041.00	Welch Trail Easement	287.50
74093							
05/23	05/31/2023	74093	HDR Engineering	1200452846	32-00-5041.00	Welch Trail Easement	818.75
	Total 3200504100:						1,106.25
3400500901							
73963							
05/23	05/02/2023	73963	Banner Occupational Healt	802890	34-00-5009.01	Travel, Education	60.00
	Total 3400500901:						60.00
3400504601							
74084							
05/23	05/18/2023	74084	Miller, Austin	04242023	34-00-5046.01	Uniforms	53.51
	Total 3400504601:						53.51
3400505801							
74155							
05/23	05/31/2023	74155	T & T OK Tire	1141049	34-00-5058.01	Equipment Maintenance	277.50
	Total 3400505801:						277.50
3400507202							
74110							
05/23	05/16/2023	74110	Schra Tree Care	21896	34-00-5072.02	Tree Maint.-Parks	6,305.00
	Total 3400507202:						6,305.00
3400507703							
73989							
05/23	05/02/2023	73989	Fort Collins Wholesale Nur	175539	34-00-5077.03	Tree Replacement	275.50
	Total 3400507703:						275.50
3400514001							
74099							
05/23	05/16/2023	74099	Advanced Engineering	11929	34-00-5140.01	Park Bldg & Grounds	870.00
	Total 3400514001:						870.00
3400526600							
74077							
05/23	05/16/2023	74077	Wenk Associates, Inc.	Multiple	34-00-5266.00	Arboretum at Waggener Farm	1,918.75
	Total 3400526600:						1,918.75
3600430600							
73957							
05/23	05/18/2023	73957	Lifestyle Custom Homes of	22BRD-0086	36-00-4306-00	County Open Space Revenue	17,685.00
74153							
05/23	05/31/2023	74153	Stinger Electric, LLC	23BRD-0019	36-00-4306-00	County Open Space Revenue	480.00
74209							
05/23	05/31/2023	74209	Larimer County Sales Tax	MAY 2023	36-00-4306-00	County Open Space Revenue	31,419.65

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 3600430600:							49,584.65
3600525900							
73969							
05/23	05/02/2023	73969	Colorado Materials Inc	Multiple	36-00-5259.00	Hillsdale	1,126.02
74059							
05/23	05/16/2023	74059	Colorado Materials Inc	142167	36-00-5259.00	Hillsdale	595.74
Total 3600525900:							1,721.76
3600526500							
74123							
05/23	05/18/2023	74123	XCEL Energy	APRIL2023	36-00-5265.00	Jaskowski Property Maint.	194.56
74141							
05/23	05/31/2023	74141	Helena Agri-Enterprises, L	140510506	36-00-5265.00	Jaskowski Property Maint.	228.63
Total 3600526500:							423.19
3600526800							
73988							
05/23	05/02/2023	73988	Eggers Electric Inc.	19286	36-00-5268.00	Berthoud Reservoir park Maint	125.00
73991							
05/23	05/02/2023	73991	Hoff Construction	23192-1	36-00-5268.00	Berthoud Reservoir park Maint	343.75
74100							
05/23	05/16/2023	74100	Blood Hound	Multiple	36-00-5268.00	Berthoud Reservoir park Maint	1,030.00
74145							
05/23	05/31/2023	74145	Jones Excavating & Plumbi	2652	36-00-5268.00	Berthoud Reservoir park Maint	533.01
Total 3600526800:							2,031.76
3700471100							
73950							
05/23	05/02/2023	73950	Viegut Funeral Home	101000132	37-00-4711-00	Opening & Closing	200.00
Total 3700471100:							200.00
3700505702							
73974							
05/23	05/02/2023	73974	Pawnee Butte Seed Inc.	Multiple	37-00-5057.02	Repair & Maintenance	2,975.00
73975							
05/23	05/02/2023	73975	PIONEER	Multiple	37-00-5057.02	Repair & Maintenance	438.55
74037							
05/23	05/09/2023	74037	Mainstreet Car Care & Qui	Multiple	37-00-5057.02	Repair & Maintenance	1,079.44
74143							
05/23	05/31/2023	74143	Hydropoint Data Systems	142034	37-00-5057.02	Repair & Maintenance	2,289.18
Total 3700505702:							6,782.17
3700508200							
73962							
05/23	05/02/2023	73962	Anchor Roofing	4402	37-00-5082.00	Maint Building	776.00
Total 3700508200:							776.00
3900502000							

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
74092							
05/23	05/31/2023	74092	Felsburg Holt & Ullevig	37371	39-00-5020.00	Professional Services	1,680.00
Total 3900502000:							1,680.00
3900511402							
43023300							
05/23	05/02/2023	430233	WEX BANK	APRIL 2023	39-00-5114.02	Gas & Oil	3,075.40
53123300							
05/23	05/31/2023	531233	WEX BANK	MAY 2023	39-00-5114.02	Gas & Oil	3,373.66
Total 3900511402:							6,449.06
4100520100							
74159							
05/23	05/31/2023	74159	All Pro Pavement Services	1099	41-00-5201.00	Bike Lane Striping	188,363.77
Total 4100520100:							188,363.77
4100521100							
74107							
05/23	05/16/2023	74107	Lefthand Printworks	3013	41-00-5211.00	Carnival	76.50
Total 4100521100:							76.50
4100522100							
73965							
05/23	05/02/2023	73965	BHA Design, Inc.	2209-13	41-00-5221.00	Downtown Sidewalk Replacement	900.00
Total 4100522100:							900.00
5100461000							
73992							
05/23	05/02/2023	73992	Lightfoot, LLC	05022023	51-00-4610-00	Sales Tax Revenue	55,060.62
74208							
05/23	05/31/2023	74208	Town of Johnstown	MAY 2023	51-00-4610-00	Sales Tax Revenue	7,041.60
Total 5100461000:							62,102.22
5100523900							
74118							
05/23	05/18/2023	74118	Ground Engineering Consu	220622.0-2	51-00-5239.00	Street Improvements	940.00
Total 5100523900:							940.00
5100524400							
74117							
05/23	05/18/2023	74117	BHA Design, Inc.	2203-12	51-00-5244.00	I-25 Design	2,400.00
Total 5100524400:							2,400.00
5201500801							
74019							
05/23	05/09/2023	74019	American DataBank LLC	2304288	52-01-5008.01	Background/Physicals	98.00
Total 5201500801:							98.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5201501201							
74078							
05/23	05/16/2023	74078	XCEL Energy	APRIL23	52-01-5012.01	Utilities	18,852.49
Total 5201501201:							18,852.49
5201502004							
74080							
05/23	05/16/2023	74080	Lewan & Associates	4404868	52-01-5020.04	Purchased Services	25.90
Total 5201502004:							25.90
5201504001							
74041							
05/23	05/09/2023	74041	Norton & Smith, P.C.	DEC22	52-01-5040.01	Attorney Fees	9,820.74
Total 5201504001:							9,820.74
5201504601							
74157							
05/23	05/31/2023	74157	Cuba, Jacquelyn	UNIFORM 05	52-01-5046.01	Uniforms	276.19
Total 5201504601:							276.19
5201505404							
74049							
05/23	05/09/2023	74049	Republic Services	MAY23	52-01-5054.04	Trash Service	2,438.33
Total 5201505404:							2,438.33
5201505601							
74018							
05/23	05/09/2023	74018	AdSortium, LLC	5219	52-01-5056.01	Brochures/Advertising/Printing	475.00
74034							
05/23	05/09/2023	74034	Lefthand Printworks	2996	52-01-5056.01	Brochures/Advertising/Printing	38.25
Total 5201505601:							513.25
5201524701							
74025							
05/23	05/09/2023	74025	DaySmart Recreation	934212	52-01-5247.01	Computer Software	1,642.90
Total 5201524701:							1,642.90
5202510201							
74124							
05/23	05/18/2023	74124	Lefthand Printworks	3020	52-02-5102.01	Supplies/Equipment	399.00
Total 5202510201:							399.00
5203501701							
74029							
05/23	05/09/2023	74029	Front Range Plumbing	38236	52-03-5017.01	Building Maintenance/Repair	165.00
Total 5203501701:							165.00

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
5203505701							
74094							
05/23	05/31/2023	74094	Holbrook Service	Multiple	52-03-5057.01	Equipment Maintenance/Repair	2,922.00
Total 5203505701:							2,922.00
5203510201							
73953							
05/23	05/09/2023	73953	Home Depot Pro	Multiple	52-03-5102.01	Supplies/Equipment	1,348.92
Total 5203510201:							1,348.92
5205505701							
74114							
05/23	05/18/2023	74114	Associated Supply Compa	A102126	52-05-5057.01	Equipment Maintenance/Repair	920.63
Total 5205505701:							920.63
5206502004							
74052							
05/23	05/09/2023	74052	Wellbeats	71343	52-06-5020.04	Purchased Services	249.00
Total 5206502004:							249.00
5206510201							
74061							
05/23	05/16/2023	74061	Commercial Fitness Solutio	9243	52-06-5102.01	Supplies/Equipment	159.25
Total 5206510201:							159.25
5207502004							
74017							
05/23	05/09/2023	74017	101 Sports	1359	52-07-5020.04	Purchased Services	997.50
74101							
05/23	05/16/2023	74101	Choose Well Nutrition, LLC	APRIL2023	52-07-5020.04	Purchased Services	259.00
Total 5207502004:							1,256.50
5208502031							
74109							
05/23	05/16/2023	74109	Northern Colorado Sports	9560	52-08-5020.31	Officials-Adult Volleyball	1,175.00
74147							
05/23	05/31/2023	74147	Northern Colorado Sports	9611	52-08-5020.31	Officials-Adult Volleyball	625.00
Total 5208502031:							1,800.00
5209502032							
74040							
05/23	05/09/2023	74040	Northern Colorado Sports	9531	52-09-5020.32	Officials-Youth Volleyball	1,140.00
Total 5209502032:							1,140.00
5209505012							
73966							
05/23	05/02/2023	73966	BSN Sports, LLC	Multiple	52-09-5050.12	Equipment-Youth Basketball	1,177.74

GL Period	Check Issue Date	Check Number	Payee	Invoice Number	Invoice GL Account	Invoice GL Account Title	Check Amount
Total 5209505012:							1,177.74
Grand Totals:							2,329,733.57

May 2023

Beginning and ending fund balances are not included in YTD and TOTAL Budget columns.

GENERAL FUND

REVENUE

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TAXES	$ 1,171,541.29	$ 3,196,071.14	$ 3,119,000.00	$ 7,485,600.00	102.5%
LICENSES & PERMITS	$ 15,110.30	$ 121,539.85	$ 101,666.67	$ 244,000.00	119.5%
INTERGOVERNMENTAL REVENUE	$ 81,169.22	$ 203,069.18	$ 162,951.67	$ 391,084.00	124.6%
FINES	$ 1,965.00	$ 9,607.00	$ 6,458.33	$ 15,500.00	148.8%
MISCELLANEOUS	$ 320,563.61	$ 1,418,166.93	$ 653,333.33	$ 1,568,000.00	217.1%
TRANSFERS	$ 29,414.68	$ 148,100.87	$ 148,463.75	$ 356,313.00	99.8%
PROPERTY SALES & DONATIONS & INS CLAIM	$ -	$ -	$ -	$ -	0.0%
RECREATION	$ 13,899.75	$ 94,727.35	$ 64,939.58	$ 155,855.00	145.9%
PARKS	$ 2,377.00	$ 5,669.00	$ 3,208.33	$ 7,700.00	176.7%
LEASE REVENUE	$ 9,459.30	$ 42,955.34	$ 37,712.50	$ 90,510.00	113.9%
TOTAL REVENUE GENERAL FUND	**$ 1,645,500.15**	**$ 5,239,906.66**	**$ 4,297,734.17**	**$ 10,314,562.00**	121.9%

ADMINISTRATION

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
ADMIN SALARIES/TAXES/BENEFITS	$ 113,580.04	$ 516,517.75	$ 607,357.92	$ 1,457,659.00	85.0%
GENERAL OFFICE OTHER	$ 47,498.85	$ 353,471.84	$ 275,564.58	$ 661,355.00	128.3%
ELECTIONS	$ -	$ -	$ 2,500.00	$ 6,000.00	0.0%
MUNICIPAL COURT	$ 4,202.15	$ 15,590.95	$ 18,250.00	$ 43,800.00	85.4%
BOARD & BOARD MEETINGS	$ 5,220.51	$ 43,670.05	$ 26,708.33	$ 64,100.00	163.5%
FINANCE	$ 68.07	$ 9,158.48	$ 8,333.33	$ 20,000.00	109.9%
BUILDING MAINTENANCE	$ 2,219.54	$ 23,338.79	$ 44,166.67	$ 106,000.00	52.8%
COMMUNITY SUPPORT	$ 7,564.20	$ 35,600.45	$ 2,916.67	$ 7,000.00	1220.6%
NON-ENTITLEMENT FUNDS	$ -	$ -	$ 952,406.25	$ 2,285,775.00	0.0%
TRANSFERS	$ 1,666.67	$ 8,333.35	$ 8,333.33	$ 20,000.00	100.0%
TOTAL ADMIN EXPENDITURES	$ 182,020.03	$ 1,005,681.66	$ 1,946,537.08	$ 4,671,689.00	51.7%

PUBLIC SAFETY DEPARTMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
CODE ENFORCEMENT (INCLUDES SALARY)	$ 4,248.36	$ 22,976.46	$ 36,090.00	$ 86,616.00	63.7%
TELEPHONE/OFFICE SUPPLIES/ADMIN	$ -	$ 276.55	$ 3,125.00	$ 7,500.00	8.8%
ANIMAL CONTROL	$ 3,826.83	$ 19,134.15	$ 19,166.67	$ 46,000.00	99.8%
TRAFFIC CONTROL/PEDESTRIAN SAFETY	$ -	$ -	$ 416.67	$ 1,000.00	0.0%
DRUG EDUCATION	$ -	$ -	$ 7,083.33	$ 17,000.00	0.0%
LARIMER COUNTY SHERIFF	$ -	$ 565,086.00	$ 943,750.00	$ 2,265,000.00	59.9%
TOTAL PUBLIC SAFETY EXPENDITURES	$ 8,075.19	$ 607,473.16	$ 1,009,631.67	$ 2,423,116.00	60.2%

STREETS DEPARTMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	$ 33,304.55	$ 147,751.33	$ 208,652.50	$ 500,766.00	70.8%
ADMINISTRATION OTHER	$ 5,225.06	$ 12,527.87	$ 20,000.00	$ 48,000.00	62.6%
STREET REPAIR/MAINTENANCE	$ 31,826.91	$ 92,030.16	$ 93,541.67	$ 224,500.00	98.4%
WEED CONTROL	$ 846.42	$ 2,658.42	$ 1,250.00	$ 3,000.00	212.7%
SIGNAGE	$ 3,133.48	$ 9,698.69	$ 16,666.67	$ 40,000.00	58.2%
SNOW REMOVAL	$ -	$ 37,044.00	$ 47,916.67	$ 115,000.00	77.3%
SHOP & VEHICLE MAINTENANCE	$ 8,249.23	$ 42,265.01	$ 61,250.00	$ 147,000.00	69.0%
TOTAL STREETS EXPENDITURES	$ 82,585.65	$ 343,975.48	$ 449,277.50	$ 1,078,266.00	76.6%

RECREATION DEPARTMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
ADMIN SALARIES/TAXES/BENEFITS	$ 25,287.48	$ 114,679.74	$ 144,595.42	$ 347,029.00	79.3%
ADMINISTRATION (SUPPLIES,CONCESSIONS)	$ 1,136.49	$ 14,821.31	$ 29,200.00	$ 70,080.00	50.8%
FLAG FOOTBALL	$ 872.86	$ 1,947.00	$ 5,229.17	$ 12,550.00	37.2%
TRACK	$ -	$ -	$ 2,004.17	$ 4,810.00	0.0%
TENNIS	$ -	$ -	$ 3,575.00	$ 8,580.00	0.0%
ADULT SOFTBALL	$ -	$ -	$ 2,141.67	$ 5,140.00	0.0%
YOUTH BASEBALL	$ 1,687.50	$ 4,251.43	$ 7,375.00	$ 17,700.00	57.6%
YOUTH SOFTBALL	$ 1,103.61	$ 1,523.61	$ 4,440.83	$ 10,658.00	34.3%
ADULT KICKBALL	$ 237.21	$ 900.71	$ 1,591.67	$ 3,820.00	56.6%
SOCCER	$ 1,279.41	$ 6,252.30	$ 8,983.33	$ 21,560.00	69.6%
CAMPS/TOURNAMENTS	$ -	$ -	$ 2,625.00	$ 6,300.00	0.0%
ADDITIONAL PROGRAMS	$ -	$ -	$ 3,012.50	$ 7,230.00	0.0%
TOTAL RECREATION EXPENDITURES	$ 31,604.56	$ 144,376.10	$ 214,773.75	$ 515,457.00	67.2%

PARKS DEPARTMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	$ 32,765.64	$ 128,546.73	$ 260,465.42	$ 625,117.00	49.4%
ADMINISTRATION OTHER	$ 1,494.46	$ 6,799.86	$ 15,645.83	$ 37,550.00	43.5%
INSECT CONTROL	$ 5,527.83	$ 11,055.66	$ 18,750.00	$ 45,000.00	59.0%
FACILITIES MAINTENANCE	$ 7,781.96	$ 27,431.30	$ 15,625.00	$ 37,500.00	175.6%
TURF/BALLFIELDS	$ 3,723.67	$ 25,342.74	$ 36,250.00	$ 87,000.00	69.9%
GENERAL PARKS	$ 7,239.94	$ 32,533.61	$ 36,041.67	$ 86,500.00	90.3%
FLEET MAINTENANCE	$ 221.95	$ 8,813.67	$ 9,583.33	$ 23,000.00	92.0%
SEASONAL DECORATIONS/BANNERS	$ -	$ 1,951.70	$ 9,166.67	$ 22,000.00	21.3%
TRANSFER TO FORESTRY	$ 41,666.67	$ 208,333.35	$ 208,333.33	$ 500,000.00	100.0%
TOTAL PARKS EXPENDITURES	$ 100,422.12	$ 450,808.62	$ 609,861.25	$ 1,463,667.00	73.9%

ECONOMIC DEVELOPMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	$ 11,377.62	$ 56,372.62	$ 64,444.17	$ 154,666.00	87.5%
ADMINISTRATION OTHER	$ 2,447.27	$ 3,254.52	$ 4,079.17	$ 9,790.00	79.8%
BUSINESS DEVELOPMENT/MARKETING	$ 15,611.68	$ 39,267.52	$ 40,295.83	$ 96,710.00	97.4%
GRANTS - MARKET STUDY & FAÇADE/SIGN	$ -	$ -	$ 20,833.33	$ 50,000.00	0.0%
TOTAL ECONOMIC DEV EXPENDITURES	$ 29,436.57	$ 98,894.66	$ 129,652.50	$ 311,166.00	76.3%

BUILDING DEPARTMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	$ 10,979.58	$ 76,985.62	$ 92,180.83	$ 221,234.00	83.5%
ADMINISTRATION OTHER	$ 236.64	$ 1,496.51	$ 5,306.25	$ 12,735.00	28.2%
INSPECTIONS	$ 47,398.41	$ 202,442.98	$ 220,000.00	$ 528,000.00	92.0%
TOTAL BUILDING DEPARMENT EXPENDITURES	$ 58,614.63	$ 280,925.11	$ 317,487.08	$ 761,969.00	88.5%

PLANNING DEPARTMENT

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	$ 11,017.47	$ 45,862.95	$ 111,620.00	$ 267,888.00	41.1%
ADMINISTRATION OTHER	$ 370.81	$ 5,194.34	$ 8,787.50	$ 21,090.00	59.1%
COMMISSION SUPPORT	$ 809.29	$ 840.49	$ 4,791.67	$ 11,500.00	17.5%
DEVELOPMENT REVIEW	$ 61,296.63	$ 311,797.80	$ 25,000.00	$ 60,000.00	0.0%
COMPREHENSIVE PLANNING	$ 10,057.28	$ 56,340.85	$ 38,750.00	$ 93,000.00	145.4%
TOTAL PLANNING DEPARTMENT EXPENDITURES	$ 83,551.48	$ 420,036.43	$ 188,949.17	$ 453,478.00	222.3%

COMMUNITY OUTREACH

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
SALARIES/TAXES/BENEFITS	$ 5,936.15	$ 28,215.15	$ 26,521.25	$ 63,651.00	106.4%
ADMINISTRATION OTHER	$ 376.89	$ 2,496.78	$ 1,852.08	$ 4,445.00	134.8%
COMMUNITY SUPPORT	$ 60.00	$ 2,949.75	$ 15,791.67	$ 37,900.00	18.7%
TOTAL ECONOMIC DEV EXPENDITURES	$ 6,373.04	$ 33,661.68	$ 44,165.00	$ 105,996.00	76.2%

TOWN HALL-MOUNTAIN AVE

EXPENDITURES	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
INSURANCE AND TAXES	$ -	$ -	$ 11,666.67	$ 28,000.00	0.0%
BUILDING MAINTENANCE	$ 748.47	$ 5,761.73	$ 2,958.33	$ 7,100.00	194.8%
BUILDING REPAIRS	$ -	$ 485.00	$ -	$ -	0.0%
HOA FEES	$ 3,860.86	$ 19,304.30	$ 20,000.00	$ 48,000.00	96.5%
PURCHASE/DEVELOPMENT EXPENSE	$ -	$ -	$ -	$ -	0.0%
ADMINISTRATION FEES	$ -	$ -	$ -	$ -	0.0%
TOTAL MOUNTAIN AVE EXPENDITURES	**$ 4,609.33**	**$ 25,551.03**	**$ 34,625.00**	**$ 83,100.00**	73.8%

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL G.F.C.I. EXPENDITURES	$ 19,568.04	$ 122,005.49	$ 2,407,500.00	$ 5,778,000.00	5.1%
REMOVE OLD POOL	$ -	$ (75.27)	$ -	$ -	0.0%
TOTAL CONTRIBUTION EXPENDITURES	$ 5,206.79	$ 38,544.64	$ 56,416.65	$ 135,400.00	68.3%
TOTAL EXPENDITURES GENERAL FUND	**$ 612,067.43**	**$ 3,571,858.79**	**$ 7,408,876.65**	**$ 17,781,304.00**	
TOTAL REVENUE OVER EXPENDITURES	**$ 1,033,432.72**	**$ 1,668,047.87**	**$ (3,111,142.48)**	**$ (7,466,742.00)**	

WATER FUND

SOURCE OF SUPPLY

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL SOURCE OF SUPPLY REVENUE	$ 182,232.85	$ 2,224,037.74	$ 872,291.65	$ 2,093,500.00	255.0%
TOTAL SOURCE OF SUPPLY EXPENDITURES	$ 3,356,305.04	$ 3,752,356.41	$ 3,547,687.50	$ 8,514,450.00	105.8%
NET REVENUE OVER EXPENDITURES	**$ (3,174,072.19)**	**$ (1,528,318.67)**	**$ (2,675,395.85)**	**$ (6,420,950.00)**	

WATER OPERATIONS & MAINTENANCE

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL WATER OPERATING REVENUE	$ 222,219.70	$ 1,182,982.54	$ 1,642,500.00	$ 3,942,000.00	72.0%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	$ 31,097.72	$ 151,400.10	$ 313,400.42	$ 752,161.00	48.3%
ADMINISTRATION OTHER	$ 47,445.58	$ 377,357.54	$ 179,500.00	$ 430,800.00	210.2%
DISTRIBUTION	$ 17,815.96	$ 71,868.31	$ 200,666.67	$ 481,600.00	35.8%
TREATMENT	$ 17,190.63	$ 134,389.45	$ 330,416.67	$ 793,000.00	40.7%
PROFESSIONAL SERVICES	$ 36,530.04	$ 194,575.74	$ 247,916.67	$ 595,000.00	78.5%
UTILITY BILLING	$ 621.06	$ 2,652.01	$ 5,500.00	$ 13,200.00	48.2%
IMPROVEMENTS	$ 500.00	$ 77,898.50	$ 562,500.00	$ 1,350,000.00	13.8%
TRANSFER	$ 18,375.00	$ 91,875.00	$ 274,951.67	$ 659,884.00	33.4%
TOTAL WATER OPERATING EXPENDITURES	$ 169,575.99	$ 1,102,016.65	$ 2,114,852.08	$ 5,075,645.00	52.1%
NET REVENUE OVER EXPENDITURES	**$ 52,643.71**	**$ 80,965.89**	**$ (472,352.08)**	**$ (1,133,645.00)**	

WATER PLANT CAPITAL IMPROVEMENTS

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL WATER PLANT CAPITAL REVENUE	$ 148,124.65	$ 680,411.46	$ 978,914.15	$ 2,349,394.00	69.5%
TOTAL WATER PLANT CAPITAL EXPENDITURES	$ 17,216.50	$ 212,901.88	$ 500,025.00	$ 1,200,060.00	42.6%
NET REVENUE OVER EXPENDITURES	**$ 130,908.15**	**$ 467,509.58**	**$ 478,889.15**	**$ 1,149,334.00**	
TOTAL WATER FUND REVENUE	$ 552,577.20	$ 4,087,431.74	$ 3,493,705.80	$ 8,384,894.00	117.0%
TOTAL WATER FUND EXPENDITURES	$ 3,543,097.53	$ 5,067,274.94	$ 6,162,564.58	$ 14,790,155.00	82.2%
NET REVENUE OVER EXPENDITURES	**$ (2,990,520.33)**	**$ (979,843.20)**	**$ (2,668,858.78)**	**$ (6,405,261.00)**	

WASTEWATER FUND

WASTEWATER OPERATIONS & MAINTENANCE

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL WASTEWATER REVENUE	$ 320,442.98	$ 1,583,203.90	$ 1,262,708.35	$ 3,030,500.00	125.4%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	$ 11,226.71	$ 51,141.33	$ 71,643.75	$ 171,945.00	71.4%
ADMINISTRATION OTHER	$ 3,141.14	$ 131,933.78	$ 77,512.50	$ 186,030.00	170.2%
MAIN WASTEWATER TREATMENT PLANT	$ 42,489.16	$ 188,505.66	$ 227,395.83	$ 545,750.00	82.9%
REGIONAL I-25 TREATMENT PLAN	$ 1,305.33	$ 7,525.64	$ 35,937.50	$ 86,250.00	20.9%
COLLECTION SYSTEM	$ 3,938.40	$ 29,270.89	$ 84,375.00	$ 202,500.00	34.7%
PROFESSIONAL SERVICES	$ 72,549.73	$ 265,198.06	$ 229,583.33	$ 551,000.00	115.5%
UTILITY BILLING	$ 621.06	$ 2,468.01	$ 5,500.00	$ 13,200.00	44.9%
TRANSFER	$ 8,750.00	$ 43,750.00	$ 43,750.00	$ 105,000.00	100.0%
IMPROVEMENTS	$ 7,620.00	$ 15,240.00	$ 710,416.67	$ 1,705,000.00	2.1%
BOND	$ -	$ 96,731.99	$ 378,479.17	$ 908,350.00	25.6%
TOTAL WASTEWATER EXPENDITURES	$ 151,641.53	$ 831,765.36	$ 1,864,593.75	$ 4,475,025.00	44.6%
NET REVENUE OVER EXPENDITURES	**$ 168,801.45**	**$ 751,438.54**	**$ (601,885.40)**	**$ (1,444,525.00)**	

WASTEWATER CAPITAL IMPROVEMENTS

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL WASTEWATER CAPITAL REVENUE	$ 164,870.16	$ 767,545.42	$ 791,670.85	$ 1,900,010.00	97.0%
TOTAL WASTEWATER CAPITAL EXPENDITURES	$ 122,378.58	$ 245,416.33	$ 1,777,108.35	$ 4,265,060.00	13.8%
NET REVENUE OVER EXPENDITURES	**$ 42,491.58**	**$ 522,129.09**	**$ (985,437.50)**	**$ (2,365,050.00)**	
TOTAL WASTEWATER FUND REVENUE	$ 485,313.14	$ 2,350,749.32	$ 2,054,379.20	$ 4,930,510.00	114.4%
TOTAL WASTEWATER FUND EXPENDITURES	$ 274,020.11	$ 1,077,181.69	$ 3,641,702.10	$ 8,740,085.00	29.6%
TOTAL REVENUE OVER EXPENDITURES	**$ 211,293.03**	**$ 1,273,567.63**	**$ (1,587,322.90)**	**$ (3,809,575.00)**	

STORM WATER FACILITIES FUND

STORM WATER OPERATIONS & MAINTENANCE

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL STORM WATER REVENUE	$ 62,696.09	$ 302,708.99	$ 200,416.65	$ 481,000.00	151.0%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	$ -	$ 361.05	$ -	$ -	#DIV/0!
ADMINISTRATION OTHER	$ 875.00	$ 4,375.00	$ 9,712.50	$ 23,310.00	45.0%
STREET CLEANING	$ -	$ 44,778.56	$ 35,416.67	$ 85,000.00	126.4%
PROFESSIONAL SERVICES	$ -	$ 3,557.50	$ 33,333.33	$ 80,000.00	10.7%
IMPROVEMENTS	$ -	$ -	$ -	$ -	#DIV/0!
TOTAL STORM WATER EXPENDITURES	$ 875.00	$ 53,072.11	$ 78,462.50	$ 188,310.00	67.6%
NET REVENUE OVER EXPENDITURES	**$ 61,821.09**	**$ 249,636.88**	**$ 121,954.15**	**$ 292,690.00**	

STORM WATER CAPITAL IMPROVEMENTS

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL STORM WATER CAPITAL REVENUE	$ 43,145.94	$ 203,901.92	$ 190,250.00	$ 456,600.00	107.2%
TOTAL STORM WATER CAPITAL EXPENDITURES	$ -	$ -	$ 208,358.35	$ 500,060.00	0.0%
NET REVENUE OVER EXPENDITURES	**$ 43,145.94**	**$ 203,901.92**	**$ (18,108.35)**	**$ (43,460.00)**	
TOTAL STORM WATER FUND REVENUE	$ 105,842.03	$ 506,610.91	$ 390,666.65	$ 937,600.00	129.7%
TOTAL STORM WATER FUND EXPENDITURES	$ 875.00	$ 53,072.11	$ 286,820.85	$ 688,370.00	18.5%
TOTAL REVENUE OVER EXPENDITURES	**$ 104,967.03**	**$ 453,538.80**	**$ 103,845.80**	**$ 249,230.00**	

SPECIAL REVENUE FUNDS

PARK DEVELOPMENT

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL PARK DEVELOPMENT REVENUE	$ 66,684.49	$ 263,397.18	$ 274,333.35	$ 658,400.00	96.0%
TOTAL PARK DEVELOPMENT EXPENDITURES	$ 603,462.96	$ 2,021,323.19	$ 500,025.00	$ 1,200,060.00	404.2%
NET REVENUE OVER EXPENDITURES	**$ (536,778.47)**	**$ (1,757,926.01)**	**$ (225,691.65)**	**$ (541,660.00)**	

PARK DEDICATION

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL PARK DEDICATION REVENUE	$ 18,225.33	$ 68,151.22	$ 83,333.35	$ 200,000.00	81.8%
TOTAL PARK DEDICATION EXPENDITURES	$ -	$ (1,323.75)	$ 641,900.00	$ 1,540,560.00	-0.2%
NET REVENUE OVER EXPENDITURES	**$ 18,225.33**	**$ 69,474.97**	**$ (558,566.65)**	**$ (1,340,560.00)**	

PUBLIC FACILITIES

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL PUBLIC FACILITIES REVENUE	$ 24,837.45	$ 279,984.82	$ 192,583.35	$ 462,200.00	145.4%
TOTAL PUBLIC FACILITIES EXPENDITURES	$ -	$ -	$ 145,858.35	$ 350,060.00	0.0%
NET REVENUE OVER EXPENDITURES	**$ 24,837.45**	**$ 279,984.82**	**$ 46,725.00**	**$ 112,140.00**	

CONSERVATION TRUST/FORESTRY

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL CONSERVATION TRUST REVENUE	$ 43,629.58	$ 261,616.43	$ 246,041.65	$ 590,500.00	106.3%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	$ 22,073.43	$ 107,793.83	$ 138,732.50	$ 332,958.00	77.7%
ADMINISTRATION OTHER	$ 5,324.68	$ 12,475.87	$ 10,754.17	$ 25,810.00	116.0%
PARK MAINTENANCE & IMPROVEMENTS	$ 969.42	$ 4,579.92	$ 37,083.33	$ 89,000.00	12.4%
TREE MAINTENANCE	$ 8,044.80	$ 27,315.34	$ 28,958.33	$ 69,500.00	94.3%
EAB RESPONSE	$ -	$ -	$ 18,750.00	$ 45,000.00	0.0%
TOTAL CONSERVATION TRUST EXPENDITURES	$ 36,412.33	$ 152,164.96	$ 234,278.33	$ 562,268.00	65.0%
NET REVENUE OVER EXPENDITURES	**$ 7,217.25**	**$ 109,451.47**	**$ 11,763.32**	**$ 28,232.00**	

LARIMER COUNTY OPEN SPACE TAX

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL LARIMER COUNTY REVENUE	$ 37,818.74	$ 207,796.48	$ 217,916.65	$ 523,000.00	95.4%
TOTAL LARIMER COUNTY EXPENDITURES	$ 5,010.49	$ 265,829.73	$ 468,775.00	$ 1,125,060.00	56.7%
NET REVENUE OVER EXPENDITURES	**$ 32,808.25**	**$ (58,033.25)**	**$ (250,858.35)**	**$ (602,060.00)**	

CEMETERY ENDOWMENT

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL CEMETERY ENDOWMENT REVENUE	$ 4,206.68	$ 38,076.91	$ 29,375.00	$ 70,500.00	129.6%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	$ 3,843.18	$ 17,935.49	$ 26,913.33	$ 64,592.00	66.6%
FUNERALS	$ -	$ 930.00	$ 1,250.00	$ 3,000.00	0.0%
MAINTENANCE	$ 1,132.77	$ 7,928.71	$ 11,504.17	$ 27,610.00	68.9%
IMPROVEMENTS	$ -	$ 972.00	$ 14,583.33	$ 35,000.00	0.0%
TOTAL CEMETERY ENDOWMENT EXPENDITURES	$ 4,975.95	$ 27,766.20	$ 54,250.83	$ 130,202.00	51.2%
NET REVENUE OVER EXPENDITURES	**$ (769.27)**	**$ 10,310.71**	**$ (24,875.83)**	**$ (59,702.00)**	

BATS

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL BATS REVENUE	$ 8,115.20	$ 49,098.02	$ 31,041.65	$ 74,500.00	158.2%
EXPENDITURES					
SALARIES/TAXES/BENEFITS	$ 6,769.98	$ 37,484.82	$ 42,429.17	$ 101,830.00	88.3%
ADMINISTRATION OTHER	$ -	$ 709.99	$ 2,106.25	$ 5,055.00	33.7%
DRIVING	$ 1,465.51	$ 12,712.42	$ 12,375.00	$ 29,700.00	102.7%
SERVICES	$ 2,392.50	$ 45,072.50	$ 35,833.33	$ 86,000.00	125.8%
TOTAL BATS EXPENDITURES	$ 10,627.99	$ 95,979.73	$ 92,743.75	$ 222,585.00	103.5%
NET REVENUE OVER EXPENDITURES	**$ (2,512.79)**	**$ (46,881.71)**	**$ (61,702.10)**	**$ (148,085.00)**	

ROAD IMPACT FEES

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL ROAD IMPACT REVENUE	$ 67,678.52	$ 359,077.18	$ 285,458.33	$ 685,100.00	125.8%
TOTAL ROAD IMPACT EXPENDITURES	$ 1,414.68	$ 229,270.82	$ 531,405.42	$ 1,275,373.00	43.1%
NET REVENUE OVER EXPENDITURES	**$ 66,263.84**	**$ 129,806.36**	**$ (245,947.09)**	**$ (590,273.00)**	

RECREATIONAL MMJ

	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL RECREATIONAL MMJ REVENUES	$ 59,726.20	$ 244,951.62	$ 167,500.00	$ 402,000.00	146.2%
TOTAL RECREATIONAL MMJ EXPENDITURES	$ 2,753.00	$ 281,220.27	$ 529,191.67	$ 1,270,060.00	53.1%
NET REVENUE OVER EXPENDITURES	**$ 56,973.20**	**$ (36,268.65)**	**$ (361,691.67)**	**$ (868,060.00)**	

1998 1% SALES TAX	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
TOTAL 1998 1% REVENUE	$ 280,859.04	$ 884,499.59	$ 927,395.83	$ 2,225,750.00	95.4%
TOTAL 1998 1% EXPENDITURES	$ 259,799.96	$ 357,908.82	$ 1,645,858.33	$ 3,950,060.00	21.7%
NET REVENUE OVER EXPENDITURES	**$ 21,059.08**	**$ 526,590.77**	**$ (718,462.50)**	**$ (1,724,310.00)**	

2019 1% SALES TAX	CURRENT MONTH	YTD ACTUAL	YTD BUDGET	TOTAL 2023 BUDGET	PERCENTAGE YTD ACTUAL vs YTD BUDGET
RECREATION CENTER REVENUE	$ 126,577.91	$ 670,809.05	$ 509,062.50	$ 1,221,750.00	131.8%
SALES TAX REVENUE/INTEREST	$ 288,869.56	$ 958,308.30	$ 924,895.83	$ 2,219,750.00	103.6%
TOTAL 2019 1% REVENUE	$ 415,447.47	$ 1,629,117.35	$ 1,433,958.33	$ 3,441,500.00	113.6%
RECREATION CENTER OPERATING EXPENSES	$ 123,900.65	$ 698,240.95	$ 868,577.50	$ 2,084,586.00	80.4%
COP PAYMENT AND OTHER EXPENSES	$ -	$ 393,223.50	$ 1,722,500.00	$ 4,134,000.00	22.8%
TOTAL 2019 1% EXPENDITURES	$ 123,900.65	$ 1,091,464.45	$ 2,591,077.50	$ 6,218,586.00	42.1%
NET REVENUE OVER EXPENDITURES	**$ 291,546.82**	**$ 537,652.90**	**$ (1,157,119.17)**	**$ (2,777,086.00)**	
TOTAL SPECIAL FUNDS REVENUE	$ 1,027,228.70	$ 4,285,766.80	$ 3,888,937.49	$ 9,333,450.00	
TOTAL SPECIAL FUNDS EXPENDITURES	$ 1,048,358.01	$ 4,521,604.42	$ 7,435,364.19	$ 17,844,874.00	
TOTAL REVENUE OVER EXPENDITURES	**$ (21,129.31)**	**$ (235,837.62)**	**$ (3,546,426.70)**	**$ (8,511,424.00)**	

TOTAL REVENUE	$ 3,816,461.22	$ 16,470,465.43	$ 14,125,423.31	$ 33,901,016.00
TOTAL EXPENDITURES	$ 5,478,418.08	$ 14,290,991.95	$ 24,935,328.37	$ 59,844,788.00

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Mountain States Childrens Home**
Type of Item:	**Presentation**
Purpose:	**Informational Presentation**
Presented by:	**Walter Williams**

BACKGROUND:

This item will be an informational presentation. There may be additional information distributed during the presentation.

BOARD OF TRUSTEES INFORMATION

PUBLIC WORKS DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Sidewalk Cost Share Program Update**
Type of Item:	**Consent Agenda**
Purpose:	**Board approval to add flagstone or stone sidewalks to the Sidewalk Cost Share Program**
Presented by:	**Keith Knoll – Public Works Operations Manager**

ATTACHMENTS:

- Sidewalk Cost Share Program Flyer
- Sidewalk Cost Share Program Application

BACKGROUND:

Berthoud Municipal Code states homeowners are responsible for the repair and maintenance of the sidewalk adjacent to their property necessary to maintain a safe pedestrian right-of-way walkway. Approved July 2020, to assist residents with necessary repairs, the Town of Berthoud offers a Sidewalk Cost Share Program that covers up to 50% of the costs for sidewalk repairs that include trip hazards, major cracks, and drainage issues for concrete sidewalks.

Flagstone or stone sidewalk repairs do not qualify for reimbursement under the original Sidewalk Cost Share Program. This update to the Sidewalk Cost Share Program will allow residents to apply and seek reimbursement from the town, up to $3,000.00 for approved repair projects.

COMMUNITY TOUCHSTONES:

Flagstone sidewalks make up over 6300 LF of our public sidewalks and are part of Berthoud's Old Town **Community Identity**. Updating the Sidewalk Cost Share Program will help residents with costly repairs and help maintain the historic walkways, while at the same time making the sidewalks safer for pedestrian travel.

FISCAL IMPACT AND FUND SOURCE:

51-00-5223.00 – Sidewalk Maintenance Plan- $30,000.00

RECOMMENDED ACTION(S):

Board Approval for Town Staff to update current Sidewalk Cost-Share Plan to include flagstone (stone) walkways, with a maximum reimbursement of $3,000.00 per home.

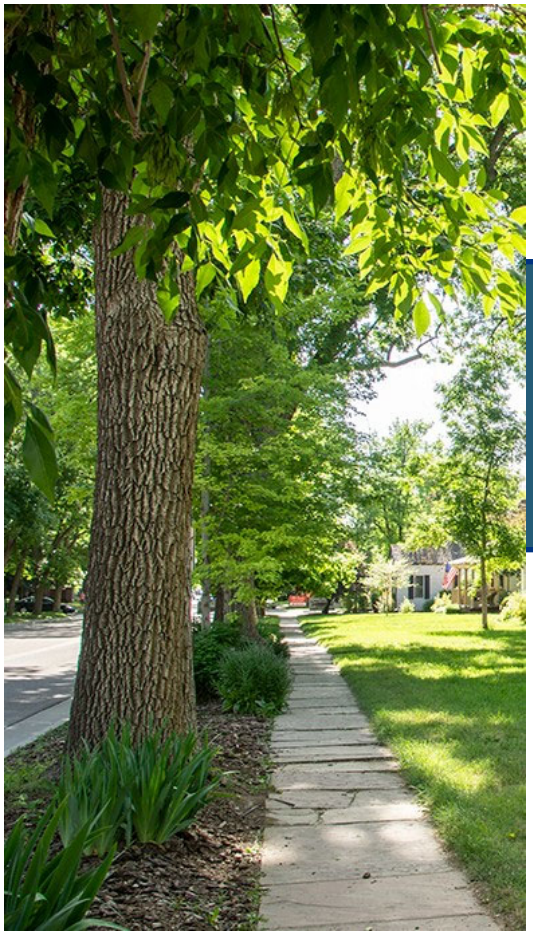
Sidewalk Replacement Cost Share Program

Did you know….

- Property owners are responsible for the repair and maintenance of the sidewalks adjacent to their properties.
- The Town of Berthoud has a Sidewalk Replacement Cost Share Program to help assist with the cost of the repairs related to safety issues.

Who is Eligible?

- Single family homeowners within the Town of Berthoud. Multi-Family, commercial, and industrial properties are not eligible.
- The sidewalk damage must be a drainage or safety issue, such as a tripping hazard or settled curb and gutter. Aesthetic issues do not qualify for these repairs.



Please Note:

- Claims are paid on a first-come, first-served basis.
- If work is completed prior to the Town's approval, the applicant will not be reimbursed.

How The Program Works:

1. Property owner submits application.
2. Town staff will inspect the sidewalk to determine eligibility.
3. Property owner submits three bids from contractors to the Town prior to beginning the work. Homeowner selects any contractor they want to perform the work.
4. The contractor requests a free Right-of-Way permit from the Town.
5. **<u>If your sidewalk is concrete...</u>**
   The Town will reimburse the property owner for 50% of the lowest bid received. The cost to replace or repair accessible curb ramps should be itemized separately in the bid and will receive 100% reimbursement.
6. Upon completion, Town staff will inspect the work to ensure it is up to code.
7. Submit invoice and proof of payment to the Town within 30 days after completion of the project for reimbursement.

OR

<u>If your sidewalk is made of stone or flagstone...</u>

The Town will reimburse the property owner for 50% of the lowest bid received, with a maximum reimbursement of $3,000.00.

- Stones must be leveled on a compacted base with a maximum cross slope of 2%.
- Stones with multiple cracks must be replaced.
- Trip hazards of 1/4 inch or greater removed.
- Gaps must be filled with material that will prevent grass and weeds from growing.

For More Information:

Website: berthoud.org

Call: 970.532.2210

APPLICATION FOR SIDEWALK REPLACEMENT COST SHARE PROGRAM

Town of Berthoud
807 Mountain Ave.
P.O. Box 1229
Berthoud, CO 80513
970.532.2643

Name: _____

Address: _____

Phone Number: _____

E-mail Address: _____

Description of Sidewalk: _____

_____

_____

Eligibility/Conditions:

- Per Town ordinance, property owners are responsible for the repair and maintenance of the sidewalks adjacent to their properties. This program is intended to assist with the cost of the repairs related to safety issues.
- The damage must be a drainage or safety issue, such as a tripping hazard or settled curb and gutter. Aesthetic issues do not qualify for these repairs.
- This program is only available to single family homeowners. Rentals, HOA's, and commercial businesses are not eligible.
- Funding for this program is limited, claims are paid on a first-come, first-served basis.
- If work is completed prior to the City's approval, the applicant will not be reimbursed.
- Current flagstone sidewalks can be replaced with concrete or re-leveled according to the town's requirements. If the homeowner replaces flagstone with concrete and would like to keep the existing flagstone, they may request it to be set aside. Due to the high percentage of flagstone damaged during the removal process, the Town does not guarantee the condition of the removed flagstone.

Program Process:

1. Submit Application.
2. Town staff will inspect the sidewalk to determine eligibility.
3. Submit three bids from contractors to the Town prior to beginning the work. Contractors must meet the Town's insurance requirements and all work must meet the standards outlined in Chapters 7 & 16 of the Larimer County Urban Area Street Standards. Flagstone requirements are found on the program flyer.
4. The contractor is required to obtain a free Right-of-Way permit from the Town in order to perform the concrete repairs.
5. The Town will reimburse the property owner for 50% of the lowest bid received. Aspects of the project involving ADA compliance for ramps will be fully covered by the Town. Flagstone (stone) sidewalk repairs may earn a maximum reimbursement of $3,000.00.
6. Upon completion, Town staff will inspect the work to ensure it is up to code.
7. Invoices must be submitted to the Town within four weeks after completion of the project for reimbursement.

By signing below, I certify that I understand and acknowledge the conditions and process outlined above.

Signature: _____ Date: _____

For Town Use:

Eligibility Determination:

Inspector Name: _____ Approved: ☐ Yes ☑ No

Signature: _____ Date: _____

Project Notes/Requirements:

_____

_____

_____

Contractor Bid Details:

Contractor Name	Total Cost of Repairs	Notes	Selected
			☐
			☐
			☐

Total Amount to be Reimbursed: _____

Final Inspection:

Inspector Name: _____ Passed: ☐ Yes ☑ No

Signature: _____ Date: _____

Notes:

_____

_____

Date Reimbursement Issued: _____ **Check #:** _____

PLANNING COMMISSION INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Public Hearing to consider a request for a Preliminary Plat known as Vantage 7th Filing located south of Water Avenue and west of Vantage Parkway**
Type of Item:	**Public Hearing**
Purpose:	**Request for approval of a Preliminary Plat for Vantage 7th Filing**
Presented by:	**Anne Johnson, Community Development Director**

ATTACHMENTS:

- Staff Report
- Resolution
- Application materials

BACKGROUND:

The 8.31-acre property is zoned R-3 for Multi-Family uses. The location of this 7th Filing is within the Vantage development and more specifically located south of Water Avenue and west of Vantage Parkway. The applicants are proposing 60 attached single-family units on individual lots.

UPDATE/NEXT STEPS:

Planning Commission heard the request at their June 8, 2023 public hearing and voted to send the request to the Town Board of Trustees for approval. The Board of Trustees will hear the request in a public hearing. If approved, any Conditions of Approval will need to be met, the mapping/plat products will need to be recorded, and the Final Plat materials will need to be reviewed and then presented to the Planning Commission in a public hearing.

FISCAL IMPACT AND FUND SOURCE:

There is no negative impact to the Town in consideration of this request.

COMMUNITY TOUCHSTONES:

Consideration of this request does not negatively impact community touchstones. The property is within an existing development and this 7th Filing in essence is “in-fill” development completing the final stages of the overall Vantage development.

RECOMMENDED ACTION(S):

Planning Commission recommends approval of the request. There are suggested motions included in the Staff Report.

807 Mountain Avenue | PO Box 1229 | Berthoud, CO 80513 | O: 970.532.2643 | F: 970.532.0640 | **Berthoud.org**

STAFF REPORT: VANTAGE 7TH FILING PRELIMINARY PLAT

DATE: July 11, 2023

GENERAL INFORMATION		
Applicant:	**DR Horton d/b/a Melody Homes Inc.**	**Size: 8.31 acres**
Site Location:	**The property is centrally located within the Vantage subdivision, south of Water Avenue and west of Vantage Parkway**	
Applicant's Request:	**The Applicant is requesting approval of a Preliminary Plat for the creation of 60 residential lots intended for single family attached (duplexes) residential and will yield 60 individual units.**	
Current Zoning:	**R3 – Multi-Family**	

ZONING DISTRICT INFORMATION	
	R3
Max Density	**20 per acre**
Min. Lot Area	**1,400 sq.ft.**
Min. Lot Width	**16'**
Front Setback	**10' with rear loaded garages**
Side Setback	**5' side**
Rear Setback	**5' with rear loaded garages.**
Building Height:	**40'**

SURROUNDING ZONING, LAND USE AND REQUIRED BUFFERS			
	Adjacent Zoning	**Adjacent Land Uses**	**Setbacks for Adjacent Zoning/ Buffer required if rezoned**
North	**R1**	**Single-Family / Future Club House**	**N/A**
South	**R1**	**Single-Family**	**N/A**
East	**R1**	**Single-Family**	**N/A**
West	**R1**	**Single-Family**	**N/A**

Proposal

The applicant proposes to subdivide the existing parcel known as Tract A on the attached Neighborhood Master Plan into 60 lots and 6 tracts. The preliminary plat, if approved, would allow the applicant to apply for a final plat that would formally subdivide the lots.

Background

This property is part of the overall Vantage development. In February of 2022 the Vantage development received neighborhood master plan approval for the remaining infill portions of the neighborhood totaling approximately 34.9 acres. The portion shown in this preliminary plat is consistent with what was proposed during the neighborhood master plan phase.

Preliminary Plat Review Criteria

In addition to all provisions of this Code, the Town shall use the following criteria to evaluate the applicant's request:

30-6-107(B) Review Criteria	Finding	Rationale
1. The preliminary plat represents a functional system of land use and is consistent with the rationale and criteria set forth in this Code.	Yes	The preliminary plat is a functional system of land use that connects with the existing portions of the Vantage development. Additionally, it is consistent with the standards of the code.
2. The application is consistent with the approved concept plan and incorporates the Town's recommendations and any conditions of approval.	Yes	The plan is consistent with the approved neighborhood master plan. The neighborhood master plan calls out attached single family residential (duplexes) in this area consistent with what is shown.
3. The land use mix within the project conforms to Berthoud's Zoning District Map and Preferred Land Use Map and furthers the goals and policies of the Comprehensive Plan and PORT Plan.	Yes	The land use mix is consistent with the current R-3 Zone District. The future land use map lists this area as parks, recreation, and trails. The discrepancy between these two visions was discussed during the NMP phase. At the time it was determined that the higher density and alley loaded product was an adequate blend of the zoning district's requirements and the comprehensive plan's vision. Additionally, it was also noted that the zoning has been in place since 2016, and the applicant will be constructing a community park/pool directly to the north.
4. The utility and transportation design is adequate, given existing and planned capacities of those systems.	Yes	Plans were reviewed by Town Staff as well as outside referral agencies. The applicant has provided adequate plans for utilities and transportation systems.
5. Negative impacts on adjacent land uses including, but not limited to: solar access, heat, dust, glare, traffic and noise have been identified and satisfactorily mitigated.	Yes	The application is consistent with the overall plan for the area. The plat would fill a gap within the neighborhood network that currently exists.

30-6-107(B) Review Criteria	Finding	Rationale
6. There is a need or desirability within the community for the applicant's development and the development will help achieve a balance of land use and/or housing types within Berthoud.	Yes	Zoning for this area was approved for R-3 development in 2016. Additionally, the slightly higher density that duplexes provide will allow for a less utilized development style with alley loaded garages, and more front yard open spaces.
7. How the applicant has addressed comments received from the public, during the Public Comment portion of the process.	Yes	Notice was sent to neighboring property owners in September of 2022. No responses were received. An additional notice was sent out on June 1, 2023.

PUBLIC NOTICE AND COMMENT

Notice of the Public Hearings were mailed to property owners within 500 feet of the subject property on June 1, 2023, a legal ad published on May 25, 2023, and the property was posted as required by the Development Code on June 1, 2023. In addition, the application was sent out to all property owners within 500 feet when the project was originally submitted, with an invitation to comment on the request within three weeks of receipt. No responses were received.

FINDINGS AND RECOMMENDATIONS
On June 8, Planning Commission made a motion to recommend approval of the Preliminary Plat due to the findings in this Staff Report, the Criteria for Approval of a Preliminary Plat, and the proposal's adherence to the approved Neighborhood Master Plan and 2021 Comprehensive Plan for the Town of Berthoud.

Attachments

1. Application form
2. Preliminary Plat
3. Approved Neighborhood Master Plan
4. Utility Plans
5. Landscape Plans

RESOLUTION NUMBER 15

(SERIES 2023)

A RESOLUTION APPROVING THE PRELIINARY PLAT FOR THE VANTAGE SUBDIVISION, 7th FILING IN THE TOWN OF BERTHOUD, LARIMER AND WELD COUNTIES, COLORADO.

WHEREAS, the Town of Berthoud, Colorado is a statutory municipality duly organized and existing as a body corporate and politic on the laws of the State of Colorado; and

WHEREAS, the Town of Berthoud, Colorado has established procedures and criteria to approve requests for Minor Subdivisions as found in Section 6, Chapter 30 of the Municipal Code; and

WHEREAS, the Neighborhood Master Plan was approved in 2002 and serves as the neighborhood vision document to guide future applications for filings and phases; and

WHEREAS, the applicant has submitted an application to subdivide Tract A into 60 lots and 6 Tracts in through the Preliminary Plat process consistent with the processes and procedures found in Section 6, Chapter 30 of the Municipal Code for consideration and paid the applicable land use fees; and

WHEREAS, the Berthoud Planning Commission, at their June 8, 2023 public hearing found the request to be consistent with the criteria for approval found in the land use code, and voted unanimously to forward their recommendation to the Town Board of Trustees; and

WHEREAS, the Town Board of Trustees considered the applicant's request at their July 11, 2023 public hearing.

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF TRUSTEES OF THE TOWN OF BERTHOUD, COLORADO:

Section 1. Plan Approval. The Preliminary Plat for the 7th Filing of the Vantage Subdivision is hereby approved as shown in Exhibit A attached hereto.

Section 2. Interpretation: This Resolution shall be so interpreted and construed to effectuate its general purpose.

Section 3. Effective Date: The provisions of this Resolution shall take effect when the Preliminary Plat has been recorded.

INTRODUCED, READ, ADOPTED, AND APPROVED on this 11th day of July, 2023.

TOWN OF BERTHOUD

By _____

William Karspeck, Mayor

ATTEST:

By: _____

Christian Samora, Town Clerk

Exhibit A: Vantage 7th Filing Preliminary Plat

DocuSign Envelope ID: 1B4F2C5D-057B-4D2D-B8BD-1C8961A48E8F

DEVELOPMENT REVIEW APPLICATION

All required information must be provided before submittal will be accepted. Use appropriate submittal checklist to determine application requirements. Complete both sides of application form.

Project Name: Vantage 7th Filing		
Brief description of project: Preliminary plat for Tract A		
Legal Description of Property (lots, blocks, tracts, subdivision name, or metes & bounds): See attached.		
APPLICATION TYPE *(Check as appropriate)*:		
☐ Annexation	X☐ Preliminary Subdivision Plat	☐ Final Site Plan
☐ Rezoning	☐ Final Subdivision Plat	☐ PUD Amendment
☐ Concept Plan	☐ Plat Amendment	☐ PUD Preliminary Development Plan
☐ Minor Subdivision	☐ Oil and Gas	☐ PUD Final Development Plan
☐ Special Use Review	☐ ROW Vacation	☐ Other: Neighborhood Master Plan
Pre-application Date *(if applicable)*: 8.26.21		
APPLICANT		
Company Name:DR Horton d/b/a Melody Homes Inc.		
Contact Person:Ron Mullenbach E-mail: ramullenbach@drhorton.com Phone:303.488.0061	Address: 9555 S. Kingston Street City: Englewood State: CO Zip: 80112	
OWNER *(If different than applicant)*		
Company Name: ALC V-Berthoud, LLC		
Contact Person:Bill Zech E-mail: william.r.zech@gmail.com Phone:	Address: 8678 Carey Court City: Stockton State: CA Zip: 95212	
CONSULTANT *(Engineer, Surveyor, or Planner)*		
Company Name:TB Group		
Contact Person:Kristin Turner E-mail:kristin@tbgroup.us Phone:970532.5891	Address: 444 Mountain Ave City: Berthoud State: CO Zip: 80513	

DocuSign Envelope ID: 1B4F2C5D-057B-4D2D-B8BD-1C8961A48E8F

LAND USE INFORMATION

Existing Use: Agriculture

Proposed Use: Residential

Existing Zoning: R3

Proposed Zoning: (if applicable): N/A

Number of acres: 8.31 AC

Adjacent zoning / land use:	
East Side: R1	North Side: R1
West Side: R1	South Side: R1

UTILITY SERVICE INFORMATION

Water: Town of Berthoud	Sewer: Town of Berthoud	Other:

PROJECT INFORMATION

Number of proposed units:60

Number of phases: 1

Number of Units per phase: 60

Number of lots proposed: 60

Lot size minimum:

Lot size maximum:

Lot size average: 50x98

Gross density (units/acre): 7.2du/ac

Net density (units/acre): 8.4 du/ac

Area and percent open space: 3.27 AC/39% OS

Non-Residential Building Area (Sq. Ft.)

Proposed: N/A

Non-Residential construction Floor Area Ratio Proposed: N/A

Total Number of Parking Spaces: NA

Acreage of Site:

a. Gross: 8.31

b. Right-of-Way: 1.23

c. Net (a-b) 7.08

Type of Housing Proposed (*please check*):

☐ Future Single Family

X☐ Duplex

☐ Multi-family

(# of units:)

☐ Townhouse

☐ Condominium

DESIGNATION OF REPRESENTATIVE:

The undersigned owner(s) and lienholder(s) agree that _____, represents the undersigned in all matters pertaining to this project, including subsequent modification to the application.

Owner: DocuSigned by: Bill Zech 2A8AE47E8E9B443... Date: 8/23/2022

Lienholder: _____ Date: _____

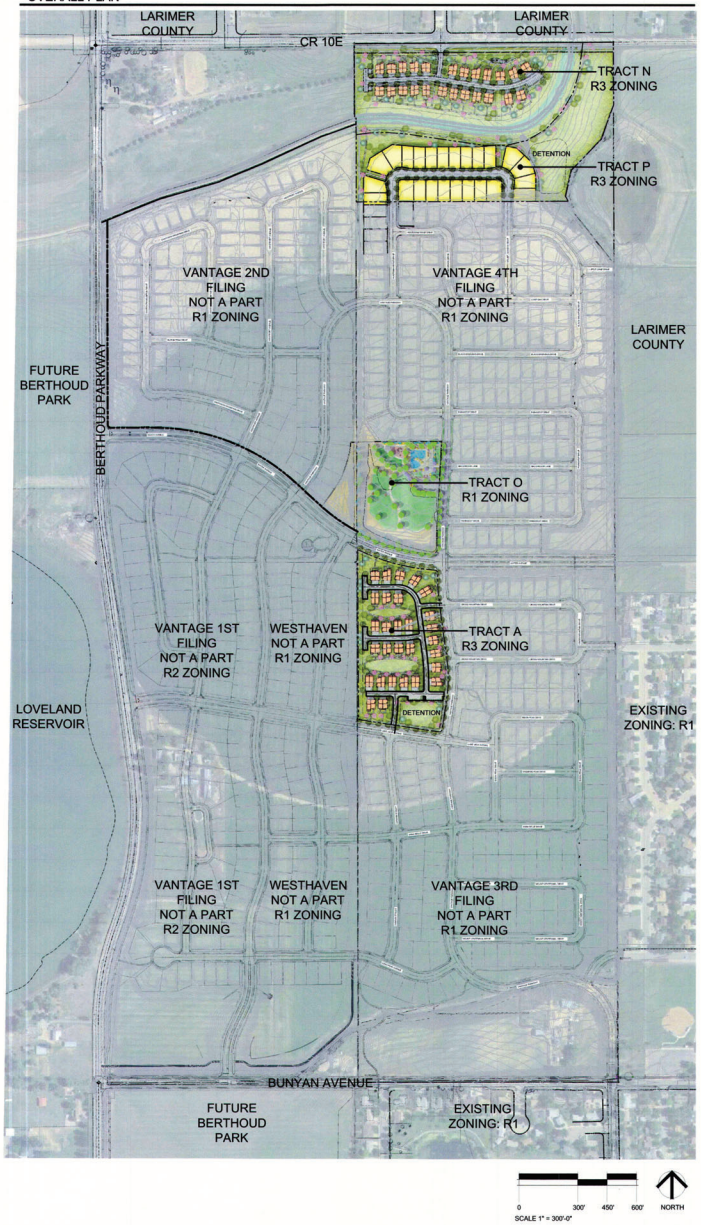
ACKNOWLEDGMENTS:

I, THE APPLICANT or designated representative of the applicant, hereby acknowledge that the information on this application is accurate and complete as per the attached checklist(s) and specification of the Town of Berthoud Development Code.

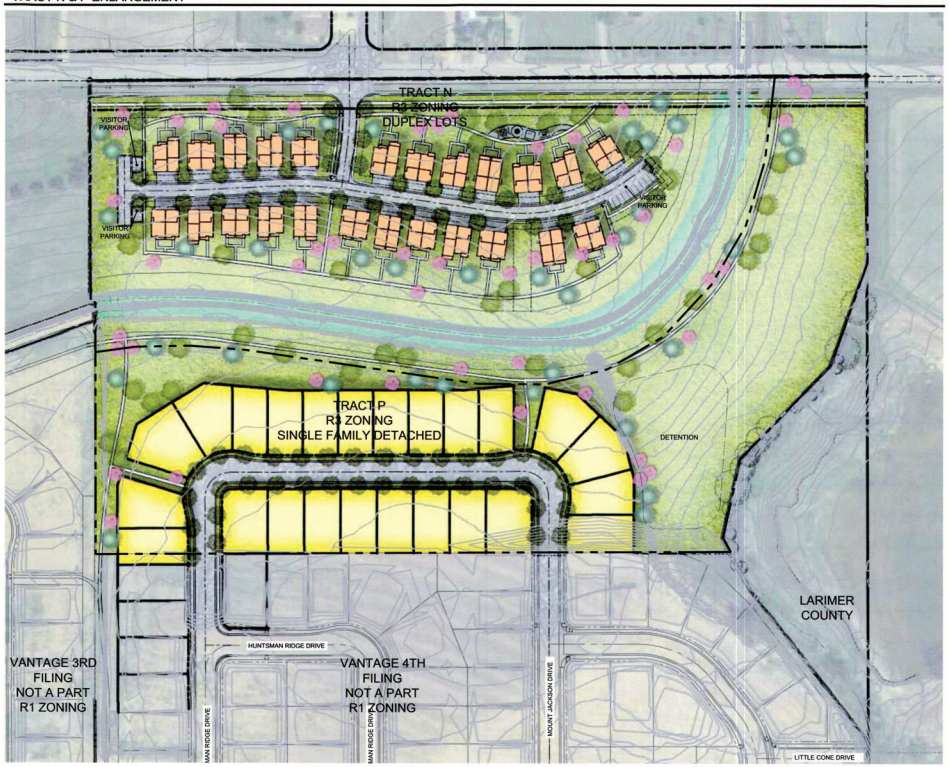
Applicant or representative: DocuSigned by: Ron Mullenbach 7AD492032D8A43A...

FOR OFFICE USE ONLY	*Received By:*	*Date:*

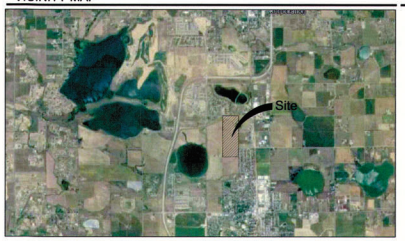
OVERALL PLAN



TRACT N & P ENLARGEMENT



VICINITY MAP



LEGAL DESCRIPTION

PARCELS OF LAND BEING A PART OF VANTAGE SUBDIVISION SECOND FILING, VANTAGE SUBDIVISION THIRD FILING AND VANTAGE SUBDIVISION FOURTH FILING SITUATE WITHIN THE SECTION ELEVEN (11) AND SECTION FOURTEEN (14), TOWNSHIP FOUR NORTH (T.4N.), RANGE SIXTY-NINE WEST (R.69W.) OF THE SIXTH PRINCIPAL MERIDIAN (6TH P.M.), TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

LAND USE STATISTICS

TOTAL ACREAGE =	~34.9 ACRES
ROW ACREAGE =	~ 1.17 ACRES
DRIVE AND PARKING ACREAGE =	~1.93 ACRES
R1 ACREAGE	~5.11 ACRES
R1 PROPOSED DENSITY	N/A
R3 ACREAGE =	~29.8 ACRES
R3 PROPOSED DENSITY	4.3 DU/AC
OVERALL OPEN SPACE ACREAGE =	~23.0 ACRES
% OF SITE AS OPEN SPACE =	66.0%

NOTES:
1. THIS CALCULATION INCLUDES TRACTS A, O, N AND P.
2. OPEN SPACE CALCULATIONS IN THE R3 TRACTS MAY ADJUST SLIGHTLY, AT THE TIME OF PLAT, ONCE FINAL LOT LINES ARE DEFINED.

REFER TO COMMUNITY POOL & PARK EXHIBIT FOR PARK REQUIREMENTS.

LAND USE SUMMARY

SINGLE FAMILY (60' X 110')....24 LOTS

DUPLEX LOTS....(53 BUILDINGS) 106 LOTS

PROJECT TOTAL....130 LOTS

SUBDIVISION IDENTITY

SUBDIVISION IDENTITY ELEMENTS POINTS REQUIRED: 6

THE SUBDIVISION IDENTITY ELEMENTS TO BE PROVIDED WILL BE DETERMINED AT THE TIME OF PLAT. A MINIMUM OF 6 ELEMENT POINTS WILL BE PROVIDED. THE FOLLOWING IS A LIST OF ELEMENTS THAT IS BEING EVALUATED FOR THIS SITE, BUT IS SUBJECT TO CHANGE, SO LONG AS THE REQUIRED ELEMENT POINTS ARE ACHIEVED AT THE TIME OF PLAT:

1. POCKET PARK	1
2. PLAYGROUND	1
3. POOL	2
4. COMMUNITY BUILDING	2
5. ALLEY LOADED STREETS	2
6. POLLINATOR GARDEN	1
TOTAL :	9

SHEET INDEX

SHEET 1 - NEIGHBORHOOD MASTER PLAN & ENLARGEMENT
SHEET 2 - NEIGHBORHOOD MASTER PLAN & ENLARGEMENT
SHEET 3 - COMMUNITY POOL & PARK EXHIBIT
SHEET 4 - CONCEPTUAL UTILITIES

TB GROUP
landscape architecture | planning | illustration
444 Mountain Ave.
Berthoud, CO 80513
TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

VANTAGE

Neighborhood Master Plan

Berthoud, Colorado

PREPARED FOR

D.R. HORTON d/b/a MELODY HOMES INC.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

APPROVED

Curtis
3-21-22

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISION	DATE
REVISIONS	12.8.21

DATE

OCTOBER 8, 2021

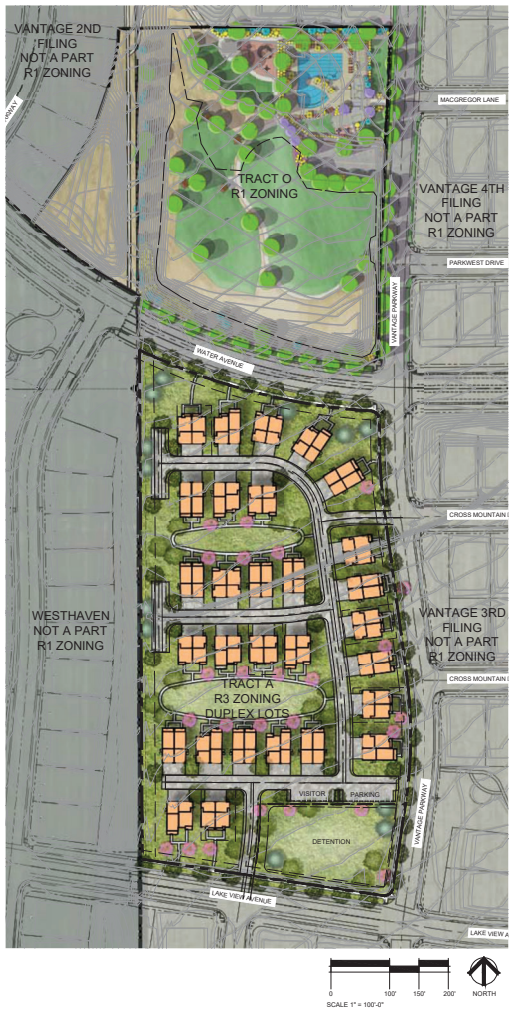
SHEET TITLE

SHEET INFORMATION

SHEET 1

OVERALL PLAN

TRACT A & O ENLARGEMENT



TB GROUP
landscape architecture | planning | elevation

444 Mountain Ave.
Berthoud, CO 80513
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SEAL

PROJECT TITLE

VANTAGE

Neighborhood Master Plan

Berthoud, Colorado

PREPARED FOR

D.R. HORTON d/b/a MELODY HOMES INC.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811
Know what's below.
Call before you dig.
CALL UTILITY NOTIFICATION CENTER OF COLORADO AT 811 TWO WORKING DAYS IN ADVANCE BEFORE YOU DIG, GRADE OR EXCAVATE FOR THE PLACEMENT OF UNDERGROUND MEMBER UTILITIES

REVISIONS	DATE
REVISIONS	12.8.21

DATE

OCTOBER 8, 2021

SHEET TITLE

SHEET INFORMATION

SHEET 2

Vantage 5 acre Park - Required Site & Amenity Elements			
		Required	Provided
Parking Calculation			
	Pool & Pool Deck = 6,964 s.f. (6964 / 3) * 1000	21 spaces	21 Off-street 2 Van ADA 40 Street Parking
Neighborhood Park Development Required Elements			
LIST A - REQUIRED COMPONENTS		**PROVIDED**	
	Electricity	Provided	
	Irrigation	Provided	
	Security Lighting	Mix of Architectural, Bollard, and Pedestal Lighting	
	Trash Receptacles (min. 2 per acre)	5.11 Acres = 11 Trash Receptacles	
	Water Services	Provided	
	Bike Racks	2 Bike Racks	
	Landscaping	Provided	
LIST B - (3) PRE-SELECTED COMPONENTS		**PROVIDED**	
#3	15,000 sf turf min. play area	42,098 SF	
#4	10,000 sf min. natural area	63,396 SF	
#5	Loop walk (min. 2000 lf)	2,144 LF	
LIST D - (2) SPECIALTY COMPONENTS		**PROVIDED**	
#1	Commercial Grade Playground	Provided	
#2	Outdoor Pool	Provided	
#9*	Community Building	Provided	
LIST E - (3) COMFORT & CONVENIENCE FEATURES		**PROVIDED**	
#1*	BBQ Grills (min. one per every 2 tables)	(2) Picnic Tables / (2) BBQ grills	
#2*	Benches (min. 1 per half acre)	5.11 Acres = 11 Benches	
#5	Restrooms with plumbing (Counts as 3)	Provided	
#6*	Shade Structure for Components from List D	(1) for Playground (1) for Pool Area	
Outdoor Showers			
	(1) Outdoor Shower Required/Provided		

1. Parking Requirement: 3 spaces per 1,000 s.f. of Pool & Pool Deck (@5' min) Area
2. (*) Extra Components, above required # of elements

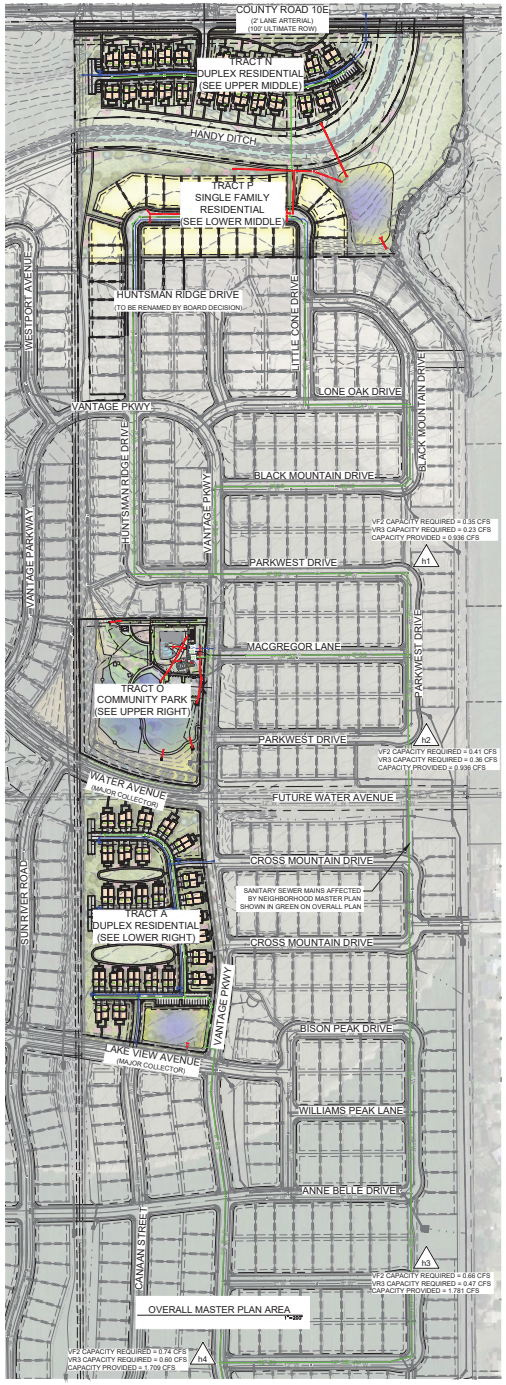
Open Space / Detention Calculations			
Total Site Acreage	5.11	AC	100%
Open Space	0.96	AC	18.8%
Detention	2.48	AC	48.5%
Total Open Space Provided	3.44	AC	67.3%
Total Open Space Required	0.51	AC	10.0%
Open Space / Parks / Detention Summary			
Park Space Provided	0.41	AC	8.0%
Open Space Provided	0.96	AC	18.8%
Detention Provided	2.48	AC	48.5%
Total	**3.85**	**AC**	**75.3%**
Open Space Elements			
2 Elements Required			
2+ Elements Provided			
Usable Detention Area (2.48 acres)			
Dog Park, Landscape areas, Benches, Permanent Irrigation, Open Lawn, Shade Shelters			

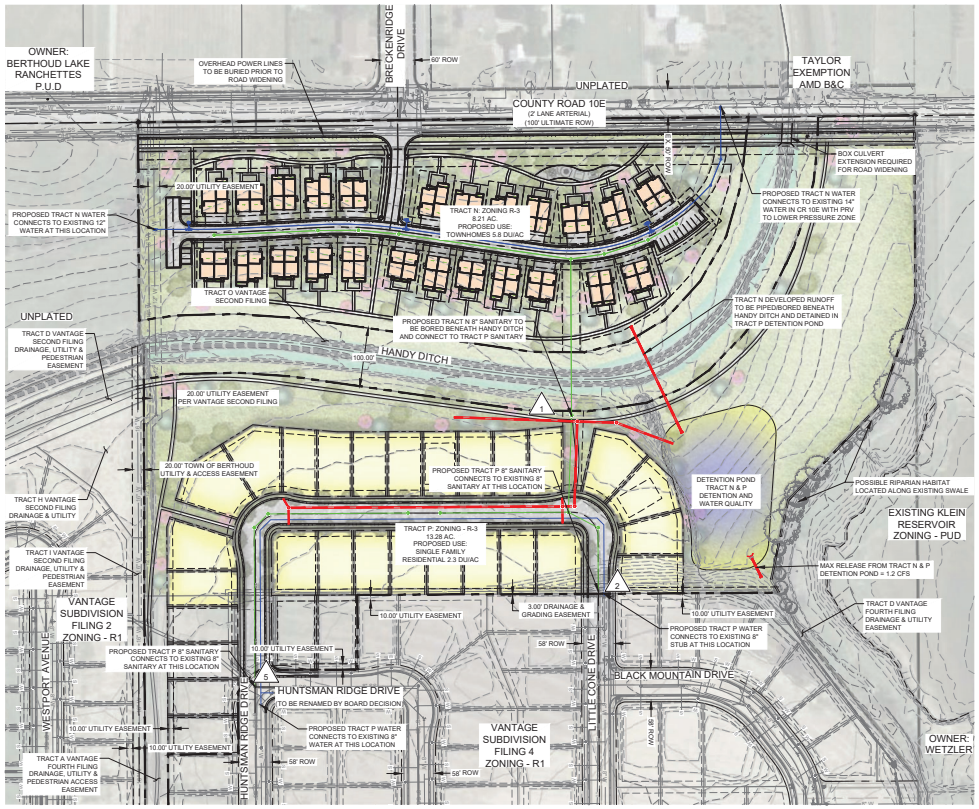
20' 40'
0' 80'

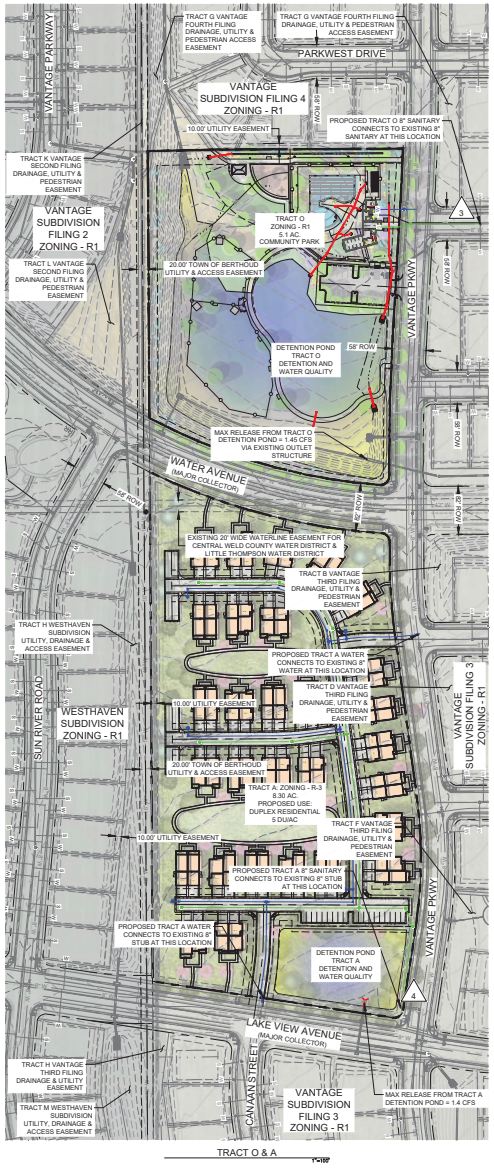
Community Pool & Park Berthoud, Colorado

Vantage - Neighborhood Master Plan, 12.08.2021

pcs group







SANITARY SEWER PROJECTED FLOW DETERMINATION

Design Point Location	Design Point	Residential: Zoning or Land Use	Area (acres)	Equivalent Dwelling Units	Capita Per Unit	Per Capita Flow Rate (GPD)	Equivalent Population	Average Flow (cfs)	Peak Flow Factor	Peak Flow (cfs)	Infiltration: Flow Factor (GPM/ac)	Infiltration (cfs)	Sewer Design: Total Peak Sewage Flow (cfs)	Pipe Size (in)	Pipe Slope (ft / 100 ft)	Required Capacity (cfs)	Capacity Provided (cfs)
Tract N	1	R3	8.2	48	2.66	95	128	0.02	3.00	0.06	500	0.002	0.06	8	0.5	0.068	0.854
Tract P East	2	R3	7.4	12	2.66	95	32	0.00	3.00	0.01	500	0.000	0.07	8	0.5	0.085	0.854
Tract O*	3	R1	5.1	N/A	N/A	N/A	N/A	0.02	3.00	0.07	500	0.003	0.07	8	0.5	0.086	0.854
Tract A	4	R3	7.3	58	2.66	95	154	0.02	3.00	0.07	500	0.002	0.07	8	0.5	0.082	0.854
Tract P West	5	R3	5.9	18	2.66	95	48	0.01	3.00	0.02	500	0.001	0.02	8	0.5	0.025	0.854

*Clubhouse & pool usage 1 gpm/1000 sf
Clubhouse & pool area 22,100 sq.ft.
Max. pool drain rate 12.00 gpm
[1]Assumptions based on Berthoud County Road 17 Sanitary Sewer Sizing and Planning Memorandum to Town of Berthoud by JVA, February 27, 2015
[2]Assumptions based of City and County of Denver Department of Public Works, Infiltration/Inflow = 500 Gallons per Net Acre per Day
[3]Historic design points shown on the Overall Master Plan Area, VF2 = Vantage Subdivision 2nd Filing Utility Capacity Report, VR3 = Vantage R3 capacities have been recalculated with projected flows for Neighborhood Master Plan Areas.

WATER IMPACTS

Description/ Land Use	Acres	Estimated Number of Water Taps Needed	Equivalent Dwelling Units	Assumed Demand[3] (gal /day /person)	Assumed F.A.R.	Total Area, asf	People per Unit[3]	Assumptions: Average Day[3] Residential (gpm/ac)	Average Day[3] Non-Residential (gpm/asf)	Max Day[3] Residential (gpm/ac)	Max Day[3] Non-Residential (gpm/asf)	Max Hour[3] Residential (gpm/ac)	Max Hour[3] Non-Residential (gpm/asf)	Calculations: Average Day Residential (gpm)	Average Day Non-Residential (gpm)	Max Day Residential (gpm)	Max Day Non-Residential (gpm)	Max Hour Residential (gpm/ac)	Max Hour Non-Residential (gpm/asf)
Tract N Duplex Residential	8.2	48	48	145	N/A	N/A	2.66	0.10	N/A	0.28	N/A	0.45	N/A	13	N/A	36	N/A	57	N/A
Tract P Single Family Residential	13.3	30	12	145	N/A	N/A	2.66	0.10	N/A	0.28	N/A	0.45	N/A	3	N/A	9	N/A	14	N/A
Tract O Community Park[1]	5.1	1	N/A	N/A	N/A	22	N/A	0.10	0.14	N/A	N/A	N/A	1.00	N/A	3	N/A	N/A	N/A	40
Tract A Duplex Residential	8.3	58	18	145	N/A	N/A	2.66	0.10	N/A	0.28	N/A	0.45	N/A	5	N/A	13	N/A	22	N/A
Irrigated Open Space[2]	7.9		N/A	N/A	N/A	345	N/A	N/A	0.50	N/A	N/A	N/A	0.50	N/A	173	N/A	N/A	N/A	173
SUB-TOTAL														*21*	*176*	*58*	*0*	*93*	*213*
TOTAL	**34.9**													**197**		**58**		**306**	

[1]Pool Fill Demand 18 GPM
[2]Irrigation Demand within Tracts N, P & A 24 GPM/ACRE for Turf Areas
16 GPM/ACRE for Trees and Shrubs
[3]Assumptions based on Denver Water Standards, asf = 1,000 square feet

Allowable release rates for detention ponds is per "Final Drainage Report for Vantage Subdivision, 2nd Filing" by Northern Engineering dated December 6, 2018

DECEMBER 7, 2021

NORTHERN ENGINEERING

P:\167-023\DWG\EXHIBITS\NEIGHBORHOOD MASTER PLAN\VANTAGE R3 - NEIGHBORHOOD MASTER PLAN.DWG

VANTAGE R3
BERTHOUD, CO
NEIGHBORHOOD MASTER PLAN
SHEET 4 - CONCEPTUAL UTILITIES

PRELIMINARY PLAT OF

VANTAGE SUBDIVISION SEVENTH FILING

A REPLAT OF TRACT A, VANTAGE SUBDIVISION THIRD FILING, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 11, AND THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

LEGAL DESCRIPTION AND DEDICATION:

KNOW ALL MEN BY THESE PRESENTS: That the undersigned, being the owners of VANTAGE SUBDIVISION SEVENTH FILING, located in the Southwest Quarter of Section 11 and the Northwest Quarter of Section 14, Township 4 North, Range 69 West of the 6th Principal Meridian, Town of Berthoud, County of Larimer, State of Colorado, more particularly described as follows:

Tract A, Vantage Subdivision Third Filing

The above described tracts contain 361,773 square feet or 8.305 acres more or less.

Have laid out, platted, and subdivided the above described land, under the name and style of VANTAGE SUBDIVISION SEVENTH FILING, and by these presents do dedicate to the Town of Berthoud in fee simple the street and public "rights-of-way" as shown on the plats, and grant to the Town of Berthoud such easements and rights-of-way, and all right, title and interest in real property to the above described lands, including all surface interests and all minerals within or underlying said lands, as are created hereby and depicted or, by note, referenced hereon, along with the right to install, maintain, replace and operate mains, transmission lines, service lines, and appurtenances, either directly or through the various public utilities, as may be necessary to provide such utility, cable television, water, electric, natural gas and sanitary services within this subdivision or property contiguous thereto, through, over, under, and across streets, utility and other easements, and other public places shown on the plat.

OWNER: ALC V-BERTHOUD, LLC
a Colorado limited liability company,

BY: Access Land Colorado, LLC, a Colorado
limited liability company, Manager

BY: _____
William R. Zech, General Manager

STATE OF COLORADO)
)SS
COUNTY OF LARIMER)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by William R. Zech as General Manager of Access Land Colorado, LLC, a Colorado limited liability company.

Witness my hand and official seal

My commission expires: _____

_____
Notary Public

LIENHOLDER: Great Western Bank

BY: _____

STATE OF COLORADO)
)SS
COUNTY OF LARIMER)

The foregoing instrument was acknowledged before me this _____ day of _____, 20____, by

_____ as _____ of Great Western Bank.

Witness my hand and official seal

My commission expires: _____

_____
Notary Public

RIGHT TO FARM STATEMENT

The Town of Berthoud has adopted a "Right to Farm" policy. All new and existing residents are expected to read and understand the policy. For a copy of the policy, please contact the Town of Berthoud.

SITE SPECIFIC DEVELOPMENT PLAN:

This plan constitutes a site specific development plan as defined in Article 68 of Title 24, C.R.S., as amended, and Chapter 30 of the Berthoud Development Code available at the Berthoud Town Hall, 807 Mountain Ave., Berthoud, Colorado 80513.

APPROVAL CERTIFICATES:

Approved by the Planning Commission of the Town of Berthoud, Colorado this _____day of _____ , 20_____.

_____
Chairman

Approved by the Town of Berthoud, Colorado this _____day of _____ , 20_____.

_____
Mayor

The foregoing plat is approved for filing and accepted by the Town of Berthoud, Colorado this _____day of _____ , 20_____.

ATTEST: _____
Town Clerk

NOTES:

1) The Basis of Bearings is the South line of the Southwest Quarter of Section 11, Township 4 North, Range 69 West of the 6th P.M. as bearing North 89° 41' 08" East, with the West ¼th corner of Section 11&14 being a 3 ¼" aluminum cap on #6 rebar, stamped LS 32825 and the South Quarter corner of Section 11 being a 2 ½" aluminum cap, stamped LS 23500.

2) All information regarding easements, right-of-way or title of record, Northern Engineering relied upon Commitment Order No. F25192180-2, dated April 24, 2023, prepared by Land Title Guarantee Company.

3) The lineal unit of measurement for this plat is U. S. Survey Feet.

4) All previous lot lines, rights-of-way and easements as shown and dedicated on Tract A, Vantage Subdivision Third Filing recorded at Reception Number 20190024429 at the Larimer County Clerk and Recorder which are located within the boundary lines of this plat are hereby vacated upon recordation of this plat and dedicated as shown hereon.

5) The word "certify" or "certification" as shown and used hereon is an expression of professional opinion regarding the facts of the survey, and does not constitute a warranty or guaranty, expressed or implied.

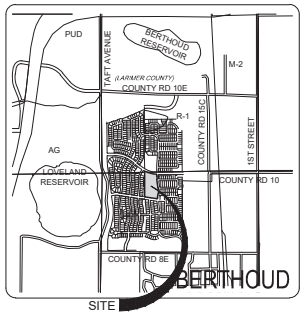
6) Any easements created by separate document and shown hereon are for reference purposes only. Refer to recorded document for specific location and terms.

7) A copy of the title commitment and the documents contained therein were provided to the owner and client for their use and review. It is the surveyor's understanding that said owner and client have reviewed said documents and understand their impact, if any, on the subject property.

8) Northern Engineering or the Professional Land Surveyor listed hereon, does not have the expertise to address mineral rights, and recommends the owner retain an expert to address these matters. Northern Engineering or the Professional Land Surveyor listed heron assumes no responsibility for the mineral rights upon the subject property.

9) Not all documents listed in title commitment are plottable or definable. Owner, Client and others should refer to the title commitment and those documents listed therein for a true understanding of all rights of way, easements, encumbrances, interests and title of record concerning the subject property.

10) Subject property is zoned R3.



NORTH

VICINITY MAP
1"=2000'

DEVELOPER/CLIENT
William Zech
ALC V-Berthoud, LLC
8678 Carey Court
Stockton, CA 95212
(209) 405-1259

SITE ENGINEER
Stephanie Thomas, PE
Northern Engineering Services, Inc.
301 N. Howes Street, Suite 100
Fort Collins, CO 80521
(970) 568-5412

PLANNER/
LANDSCAPE ARCHITECT
Kristen Turner
TB Group
444 Mountain Avenue
Berthoud, Colorado 80513
(970) 532-5891

SITE SURVEYOR
Northern Engineering Services, Inc.
Bob Tessely, PLS
301 North Howes Street, Suite 100
Fort Collins, Colorado 80521
(970) 221-4158

SURVEYOR'S STATEMENT

I, Robert C. Tessely, a Registered Professional Land Surveyor in the State of Colorado, do hereby certify that the survey of VANTAGE SUBDIVISION SEVENTH FILING was made under my supervision and the accompanying plat accurately and properly shows said subdivision and is in compliance with the Subdivision Regulations of the Town of Berthoud.

DRAFT
4-26-23
PRELIMINARY - NOT FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

For and on behalf of Northern Engineering Services, Inc.
Robert C. Tessely
Colorado Registered Professional Land Surveyor No. 38470

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

SECTION: 11 & 14
TOWNSHIP: 4N
RANGE: 69 W of the 6th PM

NORTHERN ENGINEERING
SURVEY | MUNICIPAL | LAND DEVELOPMENT
www.northernengineering.com

DATE: 4/26/23
SCALE: As shown
REVIEWED BY: B. Tessely
PROJECT: 21-0500
CLIENT: DR HORTON
DRAWN BY: L. Smith

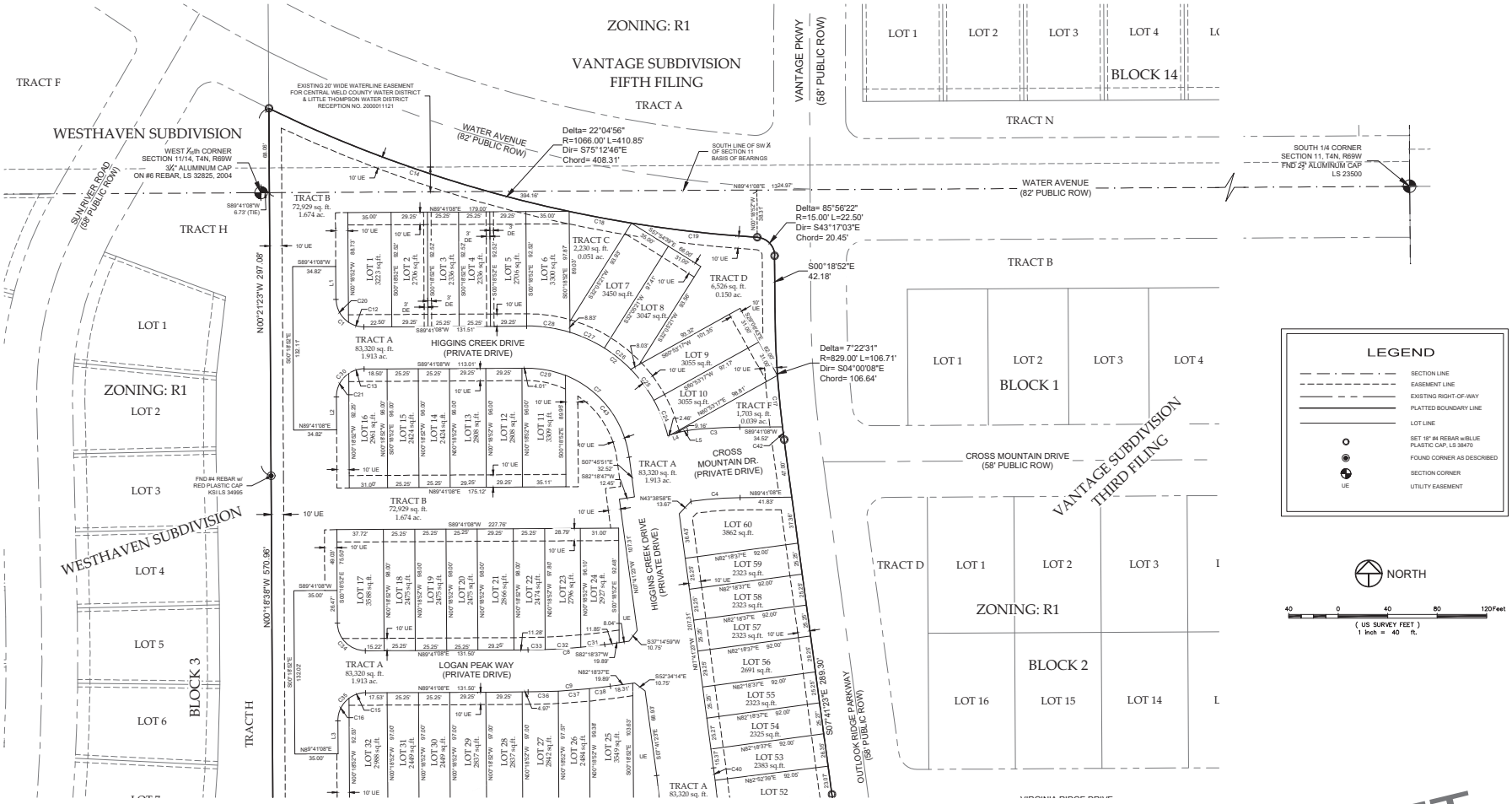
PRELIMINARY PLAT OF
VANTAGE SUBDIVISION SEVENTH FILING
TOWN OF BERTHOUD
STATE OF COLORADO

Sheet
1
Of 3 Sheets

PRELIMINARY PLAT OF

VANTAGE SUBDIVISION SEVENTH FILING

A REPLAT OF TRACT A, VANTAGE SUBDIVISION THIRD FILING, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 11, AND THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO



LAND USE TABLE								
PARCEL	DESCRIPTION/LAND USE	AREA				PERCENT	ENCUMBRANCES	INTENDED OWNERSHIP & MAINTAINANCE BY
TRACT A	ACCESS, DRIVE ACCESS & UTILITIES	83,320	S.F.	1.91	AC.	23.03%	Utility, Drainage & Access Easement	HOA
TRACT B	OPEN SPACE	72,929	S.F.	1.67	AC.	20.16%	Access & Drainage Easement	Metro District
TRACT C	OPEN SPACE	2,230	S.F.	0.05	AC.	0.62%	Utility Easement	Metro District
TRACT D	OPEN SPACE	6,526	S.F.	0.15	AC.	1.80%	Utility Easement	Metro District
TRACT E	OPEN SPACE	30,350	S.F.	0.70	AC.	8.39%	Drainage Easement	Metro District
TRACT F	OPEN SPACE	1,703	S.F.	0.04	AC.	0.47%	Utility Easement	Metro District
LOTS (60)	PRIVATE RESIDENCE	164,715	S.F.	3.78	AC.	45.53%	Residential	Property Owner
TOTAL		361,773	S.F.	8.31	AC.	100.00%		

DRAFT
4-26-23
PRELIMINARY - NOT FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

PRELIMINARY
For and on behalf of Northern Engineering Services, Inc.
Robert C. Tessely
Colorado Registered Professional Land Surveyor No. 38470

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SECTION: 11 & 14
TOWNSHIP: 4N
RANGE: 69 W of the 6th PM

NORTHERN ENGINEERING
SURVEY | MUNICIPAL | LAND DEVELOPMENT
970.481.2185 | 970.481.2189 | www.northernengineering.com

DATE: 4/26/23
SCALE: 1"=40'
REVIEWED BY: B. Tessely
PROJECT: 19-0500
CLIENT: DR HORTON
DRAWN BY: L. Smith

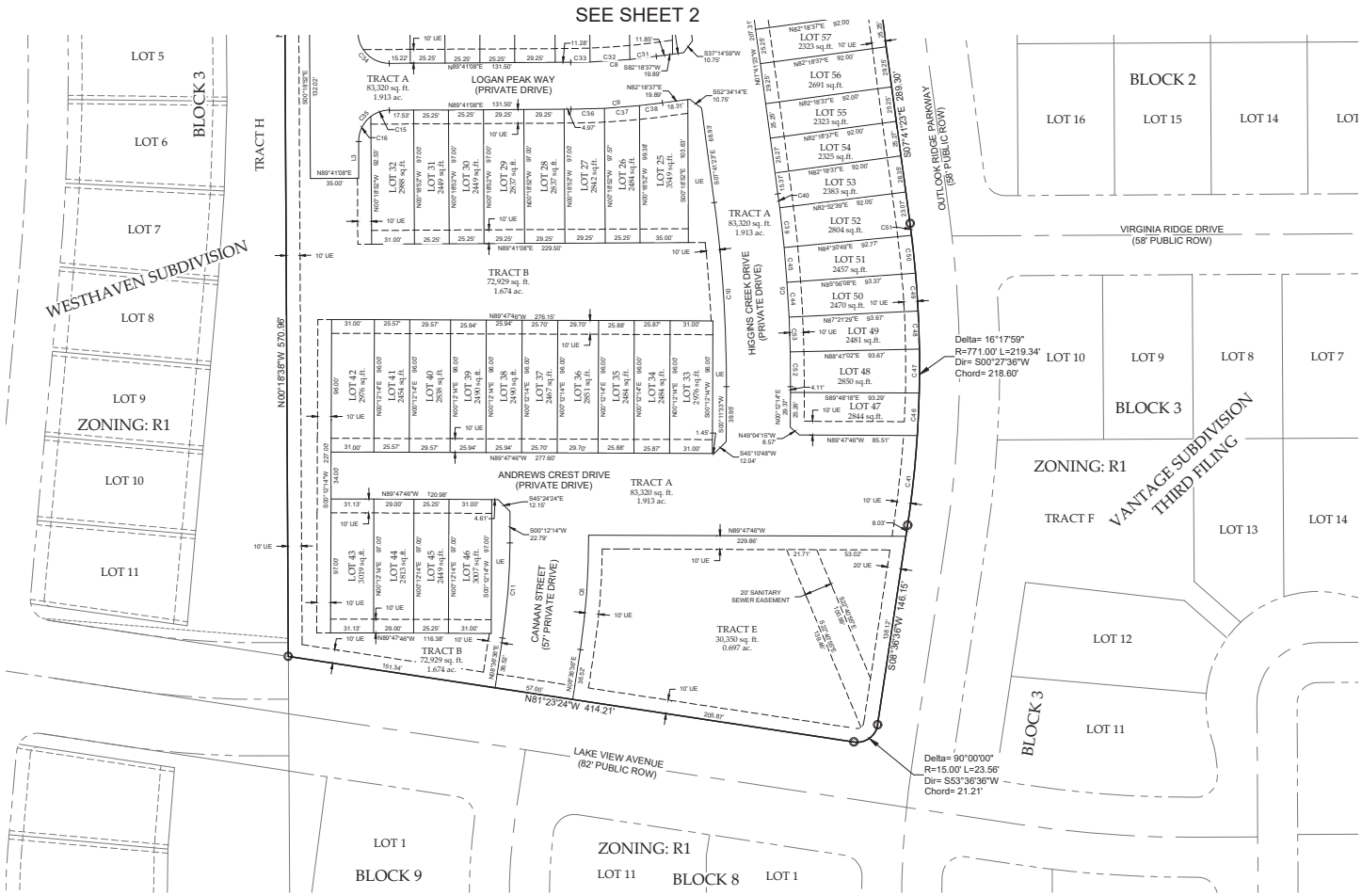
PRELIMINARY PLAT OF
VANTAGE SUBDIVISION SEVENTH FILING
TOWN OF BERTHOUD
STATE OF COLORADO

Sheet
2
Of 3 Sheets

PRELIMINARY PLAT OF

VANTAGE SUBDIVISION SEVENTH FILING

A REPLAT OF TRACT A, VANTAGE SUBDIVISION THIRD FILING, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 11, AND THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO



LINE TABLE		
LINE	LENGTH	BEARING
L1	26.62'	N00° 18' 52"W
L2	26.50'	S00° 18' 52"E
L3	26.55'	S00° 18' 52"E
L4	11.62'	S72° 38' 35"W
L5	4.98'	S82° 18' 37"W

CURVE TABLE					
CURVE	DELTA	RADIUS	LENGTH	BEARING	CHORD
C1	56°13'07"	22.51'	22.09'	N28°26'41"W	21.21'
C2	76°21'03"	116.88'	155.75'	N52°09'31"W	144.48'
C3	7°22'31"	328.50'	42.29'	S85°59'52"W	42.26'
C4	8°25'42"	271.50'	39.94'	N85°31'22"E	39.90'
C5	7°53'37"	1017.00'	140.11'	N03°44'35"W	140.00'
C6	8°56'20"	534.14'	83.33'	N04°06'50"E	83.25'
C7	82°37'29"	83.00'	119.69'	N49°00'08"W	109.59'
C8	7°22'31"	483.00'	62.17'	N85°59'52"E	62.13'
C9	7°22'31"	517.00'	66.55'	N85°59'52"E	66.50'
C10	7°53'37"	970.58'	133.72'	S03°44'35"E	133.61'
C11	8°24'22"	471.50'	69.18'	N04°24'25"E	69.11'
C12	33°44'21"	22.51'	13.25'	N73°25'25"W	13.06'
C13	33°51'53"	22.40'	13.24'	N73°00'09"E	51.67'
C14	13°49'48"	1066.00'	257.31'	S71°05'11"E	256.69'
C15	36°46'00"	22.50'	14.44'	N71°18'08"E	17.36'
C16	53°14'00"	22.50'	20.90'	N26°18'08"E	22.50'
C17	2°53'04"	829.00'	41.73'	S05°31'27"E	41.73'
C18	2°45'21"	1066.00'	51.27'	S79°22'46"E	51.27'
C19	5°29'48"	1066.00'	102.26'	S83°30'20"E	102.22'
C20	56°13'07"	22.51'	22.09'	S28°26'41"E	21.21'
C21	56°08'07"	22.40'	21.95'	S28°00'09"W	54.26'
C24	15°07'32"	116.88'	30.86'	N21°32'46"W	58.71'
C25	15°22'45"	116.88'	31.37'	N36°47'54"W	58.98'
C26	13°25'23"	116.88'	27.38'	N51°11'58"W	27.32'
C27	15°00'26"	116.88'	30.61'	N65°24'52"W	30.53'
C28	17°24'57"	116.88'	35.53'	N81°37'34"W	35.39'
C29	22°00'31"	83.00'	31.88'	S79°18'36"E	31.69'
C30	58°08'07"	22.40'	21.95'	N28°00'09"E	54.26'
C31	2°17'48"	483.00'	19.38'	S83°27'31"W	63.05'
C32	3°25'19"	483.00'	28.85'	S86°19'04"W	49.31'
C33	1°39'25"	483.00'	13.97'	S88°51'28"W	24.39'
C34	89°58'59"	22.50'	35.34'	N45°18'52"W	31.82'
C35	90°00'00"	22.50'	35.34'	N44°41'08"E	31.82'
C36	2°41'31"	517.00'	24.29'	N88°20'23"E	24.29'
C37	2°48'21"	517.00'	25.32'	N85°35'27"E	25.31'
C38	1°52'40"	517.00'	16.94'	N83°14'57"E	16.94'
C39	1°38'10"	1017.00'	29.04'	N06°18'16"W	29.04'
C40	0°34'02"	1017.00'	10.07'	N07°24'22"W	10.07'
C41	4°51'45"	771.00'	65.43'	S06°10'44"W	65.41'
C42	0°43'24"	829.00'	10.47'	S07°19'41"E	10.47'
C43	60°36'58"	83.00'	87.81'	S37°59'52"E	83.77'
C44	1°25'21"	1017.00'	25.25'	N03°21'11"W	74.41'
C45	1°25'19"	1017.00'	25.24'	N04°46'31"W	25.24'
C46	2°17'45"	771.00'	30.89'	S02°35'59"W	30.89'
C47	2°21'01"	771.00'	31.63'	S00°16'36"W	31.62'
C48	2°03'15"	771.00'	27.64'	S01°55'32"E	75.26'
C49	2°02'56"	771.00'	27.57'	S03°58'37"E	75.23'
C50	2°02'52"	771.00'	27.56'	S06°01'32"E	27.56'
C51	0°38'25"	771.00'	8.62'	S07°22'11"E	8.62'
C52	1°25'12"	1017.00'	25.20'	N00°30'22"W	25.20'
C53	1°25'33"	1017.00'	25.31'	N01°55'45"W	74.43'

LEGEND

- SECTION LINE
- EASEMENT LINE
- EXISTING RIGHT-OF-WAY
- PLATTED BOUNDARY LINE
- LOT LINE
- SET 18" #4 REBAR w/BLUE PLASTIC CAP, LS 38470
- FOUND CORNER AS DESCRIBED
- SECTION CORNER
- UE — UTILITY EASEMENT

NORTH

40 0 40 80 120 Feet

(US SURVEY FEET)
1 inch = 40 ft.

DRAFT
4-26-23
PRELIMINARY - NOT FOR CONSTRUCTION, RECORDING PURPOSES OR IMPLEMENTATION

PRELIMINARY

For and on behalf of Northern Engineering Services, Inc.
Robert C. Tessely
Colorado Registered Professional Land Surveyor No. 38470

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

SECTION: 11 & 14
TOWNSHIP: 4N
RANGE: 69 W of the 6th PM

NORTHERN ENGINEERING
SURVEY | MUNICIPAL | LAND DEVELOPMENT
970-481-2185 | 970-481-2264 www.northernengineering.com

DATE: 4/26/23
SCALE: 1"=40'
REVIEWED BY: B. Tasely
PROJECT: 2019-0250
CLIENT: DR HORTON
DRAWN BY: L. smith

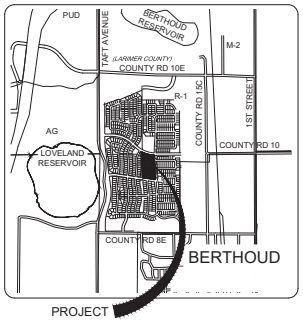
PRELIMINARY PLAT OF
VANTAGE SUBDIVISION SEVENTH FILING
TOWN OF BERTHOUD
STATE OF COLORADO

Sheet 3 Of 3 Sheets

PRELIMINARY UTILITY PLANS FOR
VANTAGE SUBDIVISION 7TH FILING

A REPLAT OF TRACT A, VANTAGE SUBDIVISION THIRD FILING, LOCATED IN THE SOUTHWEST QUARTER OF SECTION 11, AND THE NORTHWEST QUARTER OF SECTION 14, TOWNSHIP 4 NORTH, RANGE 69 WEST OF THE 6TH P.M., TOWN OF BERTHOUD, COUNTY OF LARIMER, STATE OF COLORADO

APRIL 2023



NORTH

VICINITY MAP
1"=2000'

PROJECT BENCHMARKS:

Benchmark #1
NGS designation "K 410", a steel rod, ½ mile South of junction of hwy 287 and 56, on the West side of hwy 287, 6 feet North of the power pole with North, South, and East running utility lines.
Elevation = 5066.70 (NAVD 88)

Basis of Bearings
West line of the Southwest Quarter of said Section 11, bearing North 00°15'09" West, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North America Datum 1983/92, a distance of 2649.26 feet.

ORIGINAL FIELD SURVEY BY:

King Surveyors, Inc.
9299 Eastman Park Dr.
Windsor, CO 80550
(970) 686-5011
Project No. 2005504
Date: December 7, 2005

SUPPLEMENTAL FIELD SURVEY BY:

NORTHERN ENGINEERING
Northern Engineering Services, Inc.
301 N. Howes Street, Suite 100
Fort Collins, CO 80521
(970) 221-4158
Project No. 103-034
Date: September 26, 2013

DISCLAIMER STATEMENT:

These plans have been reviewed by the Town of Berthoud for concept only. The review does not imply responsibility by the reviewing department, the Town of Berthoud Engineer, or the Town of Berthoud for accuracy and correctness of the calculations. Furthermore, the review does not imply that quantities of items on the plans are the final quantities required. The review shall not be construed for any reason as acceptance of financial responsibility by the Town of Berthoud for additional quantities of items shown that may be required during the construction phase.

CERTIFICATION STATEMENT:

I hereby affirm that these final construction plans were prepared under my direct supervision, in accordance with all applicable Town of Berthoud and State of Colorado standards and statutes, respectively; and that I am fully responsible for the accuracy of all design, revisions, and record conditions that I have noted on these plans.

CONTACT INFORMATION

PROJECT TEAM:

DEVELOPER/CLIENT
William Zech
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Fort Collins, Colorado 80521
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UTILITY CONTACT LIST: *

UTILITY COMPANY	PHONE NUMBER
Comcast Communications	(970) 663-2000
Xcel Energy	800-772-7858
Poudre Valley REA	800-432-1012
Xcel Energy Natural Gas	800-772-7858
Qwest Communications	800-244-1111
Town of Berthoud	(970) 532-2643
Town of Berthoud Electric & Water	(970) 962-3581
Platte River Power Authority	(970) 229-5220
Little Thompson Water District	(970) 532-2096

* This list is provided as a courtesy reference only. Northern Engineering Services assumes no responsibility for the accuracy or completeness of this list. In no way shall this list relinquish the Contractor's responsibility for locating all utilities prior to commencing any construction activity. Please contact the Utility Notification Center of Colorado (UNCC) at 811 for additional information.

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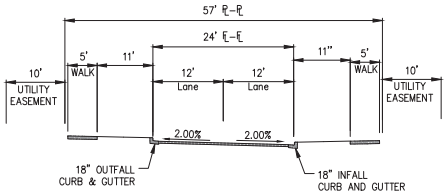
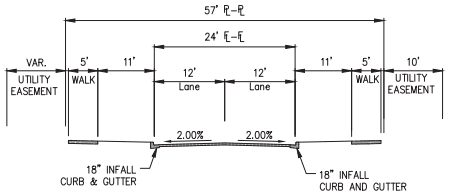
ABBREVIATIONS:

ABC	=	AGGREGATE BASE COURSE
ACP	=	ASBESTOS-CEMENT PIPE
BLDG	=	BUILDING
BP	=	BEGINNING POINT
CL	=	CENTERLINE
CMP	=	CORRUGATED METAL PIPE
C.O.	=	CLEAN OUT
DIP	=	DUCTILE IRON PIPE
DE	=	DRAINAGE EASEMENT
D, U & AE	=	DRAINAGE, UTILITY & ACCESS EASEMENT
D, U & PAE	=	DRAINAGE, UTILITY & PEDESTRIAN ACCESS EASEMENT
D & E	=	DRAINAGE & UTILITY EASEMENT
EAE	=	EMERGENCY ACCESS EASEMENT
EL or ELEV	=	ELEVATION
EOA	=	EDGE OF ASPHALT
EP	=	ENDING POINT
UE	=	UTILITY EASEMENT
FES	=	FLARED END SECTION
FFE	=	FINISHED FLOOR ELEVATION
FL	=	FLOWLINE
FH	=	FIRE HYDRANT
FG	=	FINISHED GRADE
GB	=	GRADE BREAK
GV	=	GATE VALVE
HC	=	HANDICAP
HP	=	HIGH POINT
INV	=	INVERT
LF	=	LINEAR FEET
LP	=	LOW POINT
MAX	=	MAXIMUM
MH or M.H.	=	MANHOLE
MIN	=	MINIMUM
PC	=	POINT OF CURVATURE
PCR	=	POINT OF CURVE RETURN
PERF	=	PERFORATED
PRC	=	POINT OF REVERSE CURVE
PT	=	POINT OF TANGENCY
PVC	=	POLYVINYL CHLORIDE
PVI	=	POINT OF VERTICAL INTERSECTION
PVMT	=	PAVEMENT
RCP	=	REINFORCED CONCRETE PIPE
RD	=	ROOF DRAIN
ROW	=	RIGHT OF WAY
STA	=	STATION
STD	=	STANDARD
SQ FT	=	SQUARE FOOT / FEET
SW	=	STEEL WATERLINE
TB	=	THRUST BLOCK
TBC	=	TOP BACK OF CURB
TYP	=	TYPICAL
UE	=	UTILITY EASEMENT
U & AE	=	UTILITY & ACCESS EASEMENT
WSEL	=	WATER SURFACE ELEVATION

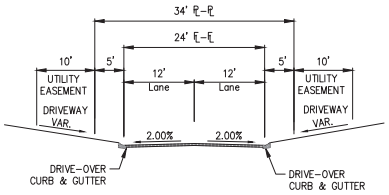
TYPICAL SECTIONS



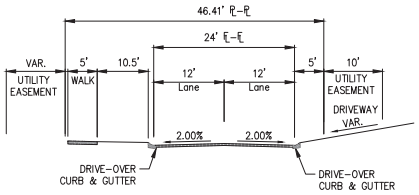
CROSS MOUNTAIN DRIVE - STREET SECTION
(SUPERELEVATED - DETACHED WALK BOTH SIDES) NTS



CANAAN STREET - STREET SECTION
(CENTERLINE CROWN - DETACHED WALK BOTH SIDES) NTS



EAST/WEST HIGGINS CREEK DRIVE, LOGAN PEAK WAY & WEST END OF ANDREWS CREST DRIVE - STREET SECTION
(CENTERLINE CROWN - NO SIDEWALK) NTS



NORTH/SOUTH HIGGINS CREEK DRIVE STREET SECTION NTS
(CENTERLINE CROWN - SIDEWALK WEST SIDE)

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below. Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

TOWN OF BERTHOUD APPROVAL

ALL WORK SHALL BE CONSTRUCTED TO THE TOWN STANDARDS AND SPECIFICATIONS. THESE PLANS HAVE BEEN REVIEWED BY THE TOWN OF BERTHOUD FOR CONCEPT ONLY AND GENERAL CONFORMANCE WITH THE TOWN'S STANDARDS AND SPECIFICATIONS. THE REVIEW BY THE TOWN OF BERTHOUD DOES NOT IMPLY RESPONSIBILITY BY THE TOWN OF BERTHOUD OR THE TOWN ENGINEER FOR ACCURACY AND CORRECTNESS OF THE PLANS OR CALCULATIONS.

THESE PLANS ARE HEREBY APPROVED FOR ONE YEAR FROM DATE OF THE TOWN ENGINEER'S APPROVAL.

APPROVED BY:

Town Engineer — Date

No. | Revisions: | Date
REVIEW SET
NOT FOR CONSTRUCTION
04/28/23

These drawings are instruments of service provided by Northern Engineering Services, Inc. and are not to be used for any purpose other than as agreed and stated by contract between the owner and the employer of Northern Engineering Services, Inc.

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PROJECT: 197-025
DATE: 04/28/23
DESIGNED BY: N/A
SCALE: N/A
DRAWN BY: C. Pape
P. MANAGER: T. Thorne

VANTAGE SUBDIVISION 7TH FILING
COVER SHEET

Sheet
CS1
1 of 27

DRAWING FILENAME: P:\197-025\Civil\197-025_COVER.dwg LAYOUT NAME: CS1 DATE: Apr 28, 2023 - 10:34am CAD VERSION: AutoCAD-18.1s (LMS Tech) LIST OF XREFS: [NONE]

GENERAL NOTES

1. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS, COLORADO DEPARTMENT OF TRANSPORTATION, MOUNTAIN VIEW FIRE PROTECTION DISTRICT REQUIREMENTS, AND ALL APPLICABLE STATE AND LOCAL STANDARDS AND SPECIFICATIONS.

2. THE CONTRACTOR SHALL HAVE IN POSSESSION AT THE JOB SITE AT ALL TIMES ONE (1) SIGNED COPY OF APPROVED PLANS, STANDARDS AND SPECIFICATIONS, AND PERMITS. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN EMERGENCY ACCESS ROUTES TO THE SITE AND STRUCTURE AT ALL TIMES PER THE APPLICABLE MOUNTAIN VIEW FIRE PROTECTION DISTRICT REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN WRITTEN APPROVAL FOR ANY VARIANCE TO THE ABOVE DOCUMENTS. THE CONTRACTOR SHALL NOTIFY THE TOWN ENGINEER OF ANY CONFLICTING STANDARDS OR SPECIFICATIONS. IN THE EVENT OF ANY CONFLICTING STANDARD OR SPECIFICATION, THE MORE STRINGENT OR HIGHER QUALITY STANDARD, DETAIL OR SPECIFICATION SHALL APPLY.

3. THE CONTRACTOR SHALL OBTAIN, AT HIS OWN EXPENSE, ALL APPLICABLE CODES, LICENSES, STANDARD SPECIFICATIONS, PERMITS, BONDS, ETC., WHICH ARE NECESSARY TO PERFORM THE PROPOSED WORK, INCLUDING, BUT NOT LIMITED TO A LOCAL AND STATE GROUNDWATER DISCHARGE AND COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT (CDPHE) STORMWATER DISCHARGE PERMIT ASSOCIATED WITH CONSTRUCTION ACTIVITY.

4. ALL WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORIZED TOWN OF BERTHOUD PERSONNEL.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE TOWN ENGINEER, GEOTECHNICAL ENGINEER, AND ALL UTILITY OWNERS, AT LEAST 48 HOURS PRIOR TO START OF ANY CONSTRUCTION, PRIOR TO BACKFILLING, AND AS REQUIRED BY JURISDICTIONAL AUTHORITY AND/OR PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL CONTINUE WITH NOTIFICATIONS THROUGHOUT THE PROJECT AS REQUIRED BY THE STANDARDS AND SPECIFICATIONS.

6. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT AND ADJACENT TO THE JOB SITE; INCLUDING, SAFETY OF PERSONS AND PROPERTY DURING THE PERFORMANCE OF WORK. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE TOWN CONSTRUCTION REVIEW OF THE CONTRACTOR'S PERFORMANCE IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES IN, ON, OR NEAR THE CONSTRUCTION

7. THE CONTRACTOR SHALL PREPARE A TRAFFIC CONTROL PLAN FOR TOWN APPROVAL BY THE TOWN OF BERTHOUD PRIOR TO CONSTRUCTION AND PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FENCING, FLAGMEN OR OTHER DEVICES NECESSARY TO PROVIDE FOR PUBLIC SAFETY. THE CONTRACTOR AGREES TO COMPLY WITH THE PROVISIONS OF THE TRAFFIC CONTROL PLAN AND THE LATEST EDITION OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)," PART VI, FOR CONSTRUCTION SIGNAGE AND TRAFFIC CONTROL. ALL TEMPORARY AND PERMANENT TRAFFIC SIGNS SHALL COMPLY TO THE MUTCD WITH REGARD TO SIGN SHAPE, COLOR, SIZE, LETTERING, ETC. UNLESS OTHERWISE SPECIFIED. IF APPLICABLE, PART NUMBERS ON SIGNAGE DETAILS REFER TO MUTCD SIGN NUMBERS.

8. THE TYPE, SIZE, LOCATION, AND NUMBER OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE AS SHOWN ON THE DRAWINGS BASED ON INFORMATION BY OTHERS. NOT ALL UTILITIES ARE SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE, SIZE, TYPE, AND LOCATION OF ALL UNDERGROUND UTILITIES WHETHER SHOWN OR NOT ALONG THE ROUTE OF THE WORK. LOCATION OF EXISTING UTILITIES SHALL BE VERIFIED BY CONTRACTOR PRIOR TO DATE OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY SIZE AND HORIZONTAL AND VERTICAL LOCATIONS OF EXISTING FACILITIES PRIOR TO CONSTRUCTION AND NOTIFY THE TOWN OF ANY DISCREPANCIES. THE ENGINEER AND/OR OWNER ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS SHOWN ON THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ANY AND ALL DAMAGES AND COSTS WHICH MIGHT OCCUR BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UTILITIES. THE CONTRACTOR SHALL NOTIFY ALL PUBLIC AND PRIVATE UTILITY COMPANIES AND DETERMINE THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO PROCEEDING WITH GRADING AND CONSTRUCTION. ALL WORK PERFORMED IN THE AREA OF UTILITIES SHALL BE PERFORMED AND INSPECTED ACCORDING TO THE REQUIREMENTS OF THE UTILITY OWNER. LIKEWISE, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING AND MAPPING ANY EXISTING UTILITY (INCLUDING WHICH MAY CONFLICT WITH THE PROPOSED CONSTRUCTION, AND FOR RELOCATING ENCOUNTERED UTILITIES AS DIRECTED BY THE ENGINEER. CONTRACTOR SHALL CONTACT AND RECEIVE APPROVAL FROM TOWN ENGINEER AND THE UTILITY OWNER BEFORE RELOCATING ANY ENCOUNTERED UTILITIES. CONTRACTOR RESPONSIBLE FOR SERVICE CONNECTIONS, AND RELOCATING AND RECONNECTING AFFECTED UTILITIES AS COORDINATED WITH UTILITY OWNER AND/OR ENGINEER, INCLUDING NON-MUNICIPAL UTILITIES (TELEPHONE, GAS, CABLE, ETC., WHICH SHALL BE COORDINATED WITH THE UTILITY OWNER). THE CONTRACTOR SHALL IMMEDIATELY CONTACT THE TOWN ENGINEER UPON DISCOVERY OF A UTILITY DISCREPANCY OR CONFLICT. AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE UTILITY NOTIFICATION CENTER OF COLORADO (1-800-922-1987, WWW.UNCC.ORG).

9. ALL TRENCHES SHALL BE ADEQUATELY SUPPORTED AND THE SAFETY OF WORKERS PROVIDED FOR AS REQUIRED BY THE MOST RECENT OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) "SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION." THESE REGULATIONS ARE DESCRIBED IN SUBPART P, PART 1926 OF THE CODE OF FEDERAL REGULATIONS. SHEETING AND SHORING SHALL BE UTILIZED WHERE NECESSARY TO PREVENT ANY EXCESSIVE WIDENING OR SLOUGHING OF THE TRENCH WHICH MAY BE DETRIMENTAL TO HUMAN SAFETY, TO THE PIPE BEING PLACED, TO TREES, OR TO ANY EXISTING STRUCTURE WHERE EXCAVATIONS ARE MADE UNDER SEVERE WATER CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO USE AN APPROVED PILING INSTEAD OF SHEETING AND SHORING.

10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CLEANING NEARBY PUBLIC STREETS OF MUD OR DEBRIS DUE TO CONSTRUCTION ACTIVITY INITIATED BY SAID CONTRACTOR ON A DAILY BASIS OR AS OTHERWISE DIRECTED BY AUTHORIZED TOWN PERSONNEL.

12. ALL SURPLUS MATERIALS, TOOLS, AND TEMPORARY STRUCTURES, FURNISHED BY THE CONTRACTOR, SHALL BE REMOVED FROM THE PROJECT SITE BY THE CONTRACTOR. ALL DEBRIS AND RUBBISH CAUSED BY THE OPERATIONS OF THE CONTRACTOR SHALL BE REMOVED, AND THE AREA OCCUPIED DURING CONSTRUCTION ACTIVITIES SHALL BE RESTORED TO ITS ORIGINAL CONDITION OR BETTER, WITHIN 48 HOURS OF PROJECT COMPLETION.

13. PRIOR TO THE BEGINNING OF WORK, A PRECONSTRUCTION CONFERENCE SHALL BE HELD BETWEEN THE TOWN, THE RESPONSIBLE PARTY WHO IS SCHEDULED TO PERFORM THE WORK, THE DESIGNATED ON-SITE FIELD REPRESENTATIVE, THE CONSULTING ENGINEER OR LANDSCAPE PROFESSIONAL, AND ANY OTHER ENTITIES INVOLVED IN THE CONSTRUCTION.

14. THE CONTRACTOR IS REQUIRED TO PROVIDE AND MAINTAIN EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATION, THE STATE OF COLORADO, MILE HIGH FLOOD DISTRICT "URBAN STORM DRAINAGE CRITERIA MANUAL VOLUME 3", THE M-STANDARD PLANS OF THE COLORADO DEPARTMENT OF TRANSPORTATION, AND THE APPROVED EROSION CONTROL PLAN. THE TOWN OF BERTHOUD MAY REQUIRE THE CONTRACTOR TO PROVIDE ADDITIONAL EROSION CONTROL MEASURES AT THE CONTRACTOR'S EXPENSE DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE PLANS DO NOT FUNCTION AS INTENDED. THE CONTRACTOR IS RESPONSIBLE FOR PROHIBITING SILT AND DEBRIS LADEN RUNOFF FROM LEAVING THE SITE, AND FOR KEEPING ALL PUBLIC AREAS FREE OF MUD AND DEBRIS. THE CONTRACTOR IS RESPONSIBLE FOR RE- ESTABLISHING FINAL GRADES AND FOR REMOVING ACCUMULATED SEDIMENTATION FROM ALL AREAS INCLUDING SWALES AND DETENTION/WATER QUALITY AREAS. CONTRACTOR SHALL REMOVE TEMPORARY EROSION CONTROL MEASURES AND REPAIR AREAS AS REQUIRED AFTER VEGETATION IS ESTABLISHED AND ACCEPTED BY THE TOWN OF BERTHOUD.

15. DEVELOPMENT PHASING OF ANY PROJECT MUST BE SHOWN ON THE CONSTRUCTION PLANS, APPROVED BY THE TOWN ENGINEER AND MADE A PART OF THE APPLICATION PROCEDURE. NO PHASING SHALL BE PERMITTED UNLESS THIS REQUIREMENT HAS BEEN ADHERED TO.

16. NO WORK SHALL BEGIN UNTIL THE STALLING RESPONSIBLE PARTY IS IN POSSESSION OF AN APPROVED SET OF PLANS AND THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS, AND ALL NECESSARY PERMITS FOR THE IMPROVEMENTS HAS BEEN ISSUED BY THE TOWN. TOWN ENGINEERING'S APPROVAL SHALL BE FOR GENERAL CONFORMITY TO THE UTILITY SPECIFICATIONS AND SHALL NOT CONSTITUTE BLANKET APPROVAL OF ALL DIMENSIONS, QUANTITIES AND DETAILS OF THE MATERIAL OR EQUIPMENT NOR SHALL SUCH APPROVAL RELIEVE THE RESPONSIBLE PARTY, CONSULTING ENGINEER, OR LANDSCAPE ARCHITECT OF THEIR RESPONSIBILITY FOR ERRORS CONTAINED IN THE DRAWINGS.

17. THE RESPONSIBLE PARTY SHALL FURNISH REASONABLE AID AND ASSISTANCE REQUIRED BY THE TOWN ENGINEER FOR THE PROPER EXAMINATION OF THE MATERIALS AND WORK. WORK SHALL BE PERFORMED IN ACCORDANCE WITH ACCEPTED WORKMANSHIP PRACTICES AND THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS. ANY WORK NOT ACCEPTED BY THE TOWN ENGINEER SHALL BE REDONE UNTIL COMPLIANCE WITH THESE STANDARDS IS ACHIEVED. INSTRUCTIONS GIVEN BY THE TOWN ENGINEER RELATING TO QUALITY OF MATERIALS AND WORKMANSHIP MUST BE OBEYED AT ONCE BY THE RESPONSIBLE PARTY. THE TOWN SHALL NOT SUPERVISE SET OUT WORK, OR GIVE LINE AND GRADE STAKES.

18. THE MATERIALS USED IN PROJECTS SHALL BE NEW AND SUBJECT TO THE INSPECTION AND APPROVAL OF THE INSPECTOR AT ALL TIMES. THE INSPECTOR HAS THE RIGHT TO PERFORM ANY TESTING DEEMED NECESSARY TO ENSURE COMPLIANCE OF THE MATERIAL WITH THESE STANDARDS. NO MATERIAL SHALL BE USED BEFORE BEING INSPECTED AND APPROVED BY THE INSPECTOR. FAILURE OR NEGLECT ON THE PART OF THE INSPECTOR TO CONDEMN OR REJECT INFERIOR MATERIALS OR WORK SHALL NOT BE CONSTRUED TO IMPLY THEIR ACCEPTANCE SHOULD THEIR INFERIORITY BECOME EVIDENT AT ANY TIME PRIOR TO FINAL ACCEPTANCE OF THE WORK. INSPECTORS HAVE THE AUTHORITY TO REJECT DEFECTIVE OR INFERIOR MATERIALS AND/OR DEFECTIVE WORKMANSHIP AND TO SUSPEND WORK UNTIL SUCH TIME AS THE RESPONSIBLE PARTY SHALL CORRECT THE DISCREPANCIES IN QUESTION.

19. WHENEVER DEFECTIVE MATERIALS AND WORK ARE REJECTED, THE RESPONSIBLE PARTY SHALL PROMPTLY REMOVE SUCH DEFECTIVE MATERIALS AND CONSTRUCTION FROM THE JOB SITE AND REPLACE ALL DEFECTIVE PORTIONS TO THE SATISFACTION OF THE TOWN ENGINEER. IN THE EVENT THE RESPONSIBLE PARTY FAILS TO REMOVE REJECTED ITEMS FROM THE JOB SITE WITHIN A REASONABLE LENGTH OF TIME, THE TOWN ENGINEER MAY ARRANGE FOR SUCH REMOVAL AT THE EXPENSE OF THE RESPONSIBLE PARTY.

20. INSPECTION SHALL NOT RELIEVE THE RESPONSIBLE PARTY FROM ANY OBLIGATION TO PERFORM THE WORK STRICTLY IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS OR ANY MODIFICATIONS THEREOF. WORK NOT SO CONSTRUCTED SHALL BE REMOVED AND CORRECTED BY THE RESPONSIBLE PARTY AT HIS SOLE EXPENSE, WHENEVER SO ORDERED BY THE TOWN ENGINEER, WITHOUT REFERENCE TO ANY PREVIOUS ERROR OR OVERSIGHT IN INSPECTION.

21. EXCEPT IN CASES OF EMERGENCY, MAINTENANCE, OR PROTECTION OF WORK ALREADY COMPLETED, NO WORK SHALL BE ALLOWED BETWEEN THE HOURS OF 7 P.M. AND 7 A.M.; NOR ON SATURDAY, SUNDAY, OR LEGAL HOLIDAYS UNLESS APPROVED BY THE TOWN ENGINEER IN EACH CASE. WHEN ANY INSPECTOR IS REQUIRED TO WORK OUTSIDE THE HOURS OF 7 A.M. TO 4 P.M. ON REGULAR TOWN BUSINESS DAYS, OVERTIME SHALL BE CHARGED TO THE RESPONSIBLE PARTY. HOWEVER, SUCH INSPECTORS SHALL REMAIN EMPLOYEES OF THE TOWN FOR ALL PURPOSES. REQUESTS FOR OVERTIME SHALL BE MADE TO THE TOWN ENGINEER AT LEAST 48 HOURS IN ADVANCE. PAYMENT FOR SUCH OVERTIME WORK SHALL BE MADE TO THE TOWN PRIOR TO FINAL ACCEPTANCE.

22. IN THE EVENT ONE OR MORE INSPECTORS REPRESENTING PRIVATE CONSULTING ENGINEERING FIRMS ARE ALSO INSPECTING A PROJECT ALONG WITH THE TOWN ENGINEER, THE INSTRUCTIONS GIVEN BY THE TOWN ENGINEER SHALL PREVAIL IN THE EVENT OF CONFLICTING INSTRUCTIONS.

23. PROTECT ALL TREES AND VEGETATION. PLACE CONSTRUCTION FENCING AT DRIP LINE OF TREES AND PLANTS NEAR THE WORK ZONE. DEEP WATER TREES WEEKLY. HAND EXCAVATION REQUIRED AT ROOT ZONES WHERE PROPOSED PAVING OR UTILITY WORK IS WITHIN DRIPLINE OF TREES. REPAIR OF ANY DAMAGE TO EXISTING IMPROVEMENTS OR LANDSCAPING IS THE RESPONSIBILITY OF THE CONTRACTOR.

24. THE WORK SHALL BE SURVEYED AND STAKED UNDER THE SUPERVISION OF A LICENSED LAND SURVEYOR IN ACCORDANCE WITH THE APPROVED PLANS.

25. RIM AND GRATE ELEVATIONS SHOWN ON PLANS ARE APPROXIMATE ONLY AND ARE NOT TO BE TAKEN AS FINAL ELEVATIONS. THE CONTRACTOR SHALL ADJUST RIMS AND OTHER IMPROVEMENTS TO MATCH FINAL PAVEMENT AND FINISHED GRADE ELEVATIONS.

26. THE CONTRACTOR SHALL FURNISH THE ENGINEER OF RECORD A COMPLETE SET OF CONSTRUCTION RECORD DRAWINGS ("AS-BUILTS"), FOR THE CONSTRUCTED IMPROVEMENTS. THE PLANS SHALL SHOW SUFFICIENT DIMENSION TIES TO PERMANENT SURFACE FEATURES FOR ALL BURIED FACILITIES TO ALLOW FOR FUTURE LOCATING. THE PLANS SHALL SHOW FINAL PAVEMENT, FLOW LINE ELEVATIONS, CONTOURS AT POND/DRAINAGE FEATURES (AS SURVEYED AND CERTIFIED BY A COLORADO P.L.S.), MANHOLE, PIPE, AND INLET LOCATIONS, INVERTS, GRATE ELEVATIONS, SIZES OF ALL UTILITIES, AND ANY VARIATIONS FROM THE APPROVED PLAN. FINAL AS-BUILT PLANS PREPARED BY THE ENGINEER OF RECORD SHALL BE PROVIDED TO THE TOWN OF BERTHOUD.

27. IF A FOUNDATION UNDERDRAIN SYSTEM IS INSTALLED IN THE PUBLIC RIGHT-OF- WAY, THE FOLLOWING STATEMENT SHALL BE INCLUDED IN THE DRAWINGS:

    a. "THE FOUNDATION UNDERDRAIN SYSTEM IS THE RESPONSIBILITY OF THE OWNER/DEVELOPER OR ITS ASSIGNS. THE TOWN IS NOT RESPONSIBLE FOR THE MAINTENANCE OR REPAIR OF SAID SYSTEM."

B. GRADING NOTES

1. CONSTRUCTION SHALL ADHERE TO THE FOLLOWING SEQUENCE UNLESS OTHERWISE SPECIFIED BY THE TOWN ENGINEER: SANITARY SEWER INSTALLATION, WATER MAIN INSTALLATION, CURB AND GUTTER INSTALLATION, WATER SERVICE INSTALLATION.

2. COMPACTION OF ALL TRENCHES MUST BE ATTAINED AND COMPACTION TEST RESULTS SUBMITTED TO THE ENGINEER AND THE TOWN OF BERTHOUD PRIOR TO FINAL ACCEPTANCE.

3. ALL WORK, INCLUDING CORRECTION WORK, SHALL BE INSPECTED BY A TOWN REPRESENTATIVE WHO SHALL HAVE THE AUTHORITY TO HALT CONSTRUCTION WHEN STANDARD CONSTRUCTION PRACTICES ARE NOT BEING ADHERED TO.

4. DEVELOPER AND BUILDER SHALL REGULARLY PATROL THE PUBLIC LANDS ADJACENT TO THE DEVELOPMENT TO REMOVE CONSTRUCTION DEBRIS AND KEEP THE SITE CLEAN AND SAFE.

5. ALL SITE GRADING (EXCAVATION, EMBANKMENT, AND COMPACTION) SHALL CONFORM TO THE RECOMMENDATIONS OF THE LATEST SOILS INVESTIGATION FOR THIS PROPERTY AND SHALL FURTHER BE IN CONFORMANCE WITH THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF PUBLIC AND PRIVATE IMPROVEMENTS", LATEST EDITION. A CDPS GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES SHALL BE OBTAINED PRIOR TO ANY GRADING BEING PERFORMED ON SITES ONE (1) ACRE OR LARGER IN SIZE. THESE PERMITS CAN BE OBTAINED FROM THE STATE WATER QUALITY CONTROL DIVISION.

6. NATURAL VEGETATION SHALL BE RETAINED AND PROTECTED WHEREVER POSSIBLE. EXPOSURE OF SOIL TO EROSION BY REMOVAL OR DISTURBANCE OF VEGETATION SHALL BE LIMITED TO THE AREA REQUIRED FOR IMMEDIATE CONSTRUCTION OPERATION AND FOR THE SHORTEST PRACTICAL PERIOD OF

7. TOPSOIL SHALL BE STOCKPILED TO THE EXTENT PRACTICABLE ON THE SITE FOR USE ON AREAS TO BE REVEGETATED. ANY AND ALL STOCKPILES SHALL BE LOCATED AND PROPER MEASURES TAKEN TO CONTROL EROSION AND SEDIMENT MOVEMENT.

8. AT ALL TIMES, THE PROPERTY SHALL BE MAINTAINED AND/OR WATERED TO PREVENT WIND-CAUSED EROSION. EARTHWORK OPERATIONS SHALL BE DISCONTINUED WHEN DUST SIGNIFICANTLY IMPACTS ADJACENT PROPERTY. IF EARTHWORK IS COMPLETE OR DISCONTINUED AND DUST FROM THE SITE CONTINUES TO CREATE PROBLEMS, THE OWNER/DEVELOPER SHALL IMMEDIATELY INSTITUTE MITIGATIVE MEASURES AND SHALL CORRECT DAMAGE TO ADJACENT PROPERTY.

9. PERMANENT SLOPES SHALL NOT EXCEED 4:1 (H:V) IN AREAS TO BE SEEDED OR RETAINING WALLS SHALL BE REVIEWED AND APPROVED BY SEPARATE APPLICATION TO THE TOWN OF BERTHOUD.

10. THIS EROSION AND SEDIMENT CONTROL PLAN HAS BEEN SUBMITTED TO THE TOWN OF BERTHOUD AND IS IN GENERAL CONFORMANCE WITH THE TOWN'S EROSION CONTROL STANDARDS. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURE MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEM OR IF THE PROPOSED EROSION CONTROL MEASURES DO NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS EROSION CONTROL PLAN AND THE OBLIGATION OF THE LANDOWNER SHALL RUN WITH THE LAND UNTIL SUCH TIME AS THE EROSION CONTROL PLAN IS PROPERLY COMPLETED, OFFICIALLY MODIFIED, OR VOIDED.

C. WATER NOTES:

1. ALL WATER MATERIALS, CONSTRUCTION, AND TESTING SHALL MEET THE REQUIREMENTS OF BERTHOUD STANDARDS AND SPECIFICATIONS AND THE BERTHOUD FIRE PROTECTION DISTRICT SPECIFICATIONS.

2. FIRE HYDRANT SPECIFICATIONS:
    a. ALL FIRE HYDRANTS WILL BE MUELLER.
    b. ALL HYDRANTS WILL HAVE A FIVE AND ONE-QUARTER (5-1/4) INCH OR LARGER VALVE OPENING, TWO (2) TWO AND ONE-HALF (2-1/2) INCH HOSE NOZZLES, ONE (1) PUMPER NOZZLE AND SIX (6) INCH OR LARGER MECHANICAL JOINT INLET.
    c. ALL NOZZLES SHALL HAVE NATIONAL STANDARD THREADS.
    d. THE HYDRANT SHALL BE OF TRAFFIC HAZARD TYPE WITH SAFETY FEATURES WHICH WILL PREVENT BARREL BREAKAGE.
    e. SPECIFICATIONS FOR THE OPERATING NUT AND STUBS AND CUPS SHALL BE ONE (1) INCH SQUARE OR PENTAGON AND OPEN RIGHT.

3. WATER SERVICE LINE SPECIFICATIONS:
    a. CORPORATION STOPS SHALL HAVE INLET THREADED CC TYPE, OUTLET COPPER COMPRESSION OR FLARE, NO SOLDERING WILL BE ALLOWED.
    b. SERVICE SADDLES SHALL BE "O" RING GASKET, DOUBLE BAND, OR HINGE PIN CC THREAD, ¾ INCH – 2 INCH COPPER.
    c. CURB STOP STYLE SHALL BE COMPRESSION OR FLARED COPPER BOTH ENDS, MINNEAPOLIS PATTERN VALVE-THREADS AROUND TO ALLOW MINNEAPOLIS STYLE CURB BOX.
    d. CURB BOX SHALL HAVE MINNEAPOLIS BASE EXTENSION TYPE CURB BOXES, CAST IRON LID AND BASE WITH BRASS PENTAGON HEAD PLUG USING A 1 ½ INCH UPPER SECTION.

4. ALL WATER VALVES SHALL OPEN LEFT.

5. THE MINIMUM COVER OVER THE WATER LINE IS 5 FEET AND THE MAXIMUM COVER IS 6 FEET UNLESS OTHERWISE NOTED IN THE PLANS AND APPROVED BY THE TOWN.

6. PRIOR TO INSTALLATION OF WATER MAINS, ROAD/DRIVE CONSTRUCTION MUST HAVE PROGRESSED TO AT LEAST THE "SUB-GRADE" STATE. SUB-GRADE IS DEFINED AS AN ELEVATION OF NO MORE THAN SEVEN (7) INCHES BELOW THE FINISHED STREET GRADE. ALL VALVE BOXES AND FIRE HYDRANTS WILL BE ADJUSTED TO THE FINAL FINISHED GRADE BY THE CONTRACTOR.

7. BEFORE ANY TAPS ARE MADE FROM MAINS, APPLICATIONS FOR THE TAPS MUST BE RECEIVED AND APPROVED BY THE TOWN.

8. TRACER WIRE SHALL BE USED FOR ALL NON-METALLIC WATER MAINS. TRACER WIRE SHALL BE BROUGHT UP TO TEST STATIONS AT ALL FIRE HYDRANTS.

9. PVC WATER MAINS SHALL BE AWWA C900, DR 18

10. ALL WATER SERVICES SHALL BE TYPE K COPPER.

11. CONTRACTOR TO CONTACT BUILDING DEPARTMENT PRIOR TO INSTALLATION OF METER SETTER.

D. SANITARY NOTES

1. MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF THE TOWN OF BERTHOUD STANDARDS AND SPECIFICATIONS AND WORK SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY AUTHORIZED TOWN OF BERTHOUD PERSONNEL.

2. NEW SEWER MAINS SHALL BE POLYVINYL CHLORIDE (PVC) ASTM D3034 SDR-35 PIPE AND IN ACCORDANCE WITH THE ABOVE REFERENCED SPECIFICATIONS.

3. CONTRACTOR TO VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES PRIOR TO COMMENCING ANY CONSTRUCTION.

4. THE CONTRACTOR SHALL NOTIFY THE TOWN A MINIMUM OF 48 HOURS AND A MAXIMUM OF 96 HOURS PRIOR TO STARTING CONSTRUCTION OR PRIOR TO RESUMING CONSTRUCTION AFTER A BREAK.

5. MAINTAIN A MINIMUM OF 10 FEET HORIZONTAL SEPARATION OUTSIDE DIAMETER TO OUTSIDE DIAMETER BETWEEN WATER MAINS AND ALL SEWER MAINS AND MANHOLES.

6. ALL SEWER MAINS CROSSING WATER MAINS WITH LESS THAN 18 INCHES OF SEPARATION SHALL BE ENCASED IN CONCRETE.

7. RIM ELEVATIONS SHOWN ARE APPROXIMATE AND SHOULD NOT BE TAKEN AS ALL MANHOLES SHALL BE FINAL ADJUSTED AFTER PAVING SUCH THAT THE RIM IS ¼ TO ½ INCH BELOW FINISHED ASPHALT. MANHOLES IN UNPAVED AREAS SHALL BE SET SO THAT THE RIM IS 0.5' ABOVE FINISHED GRADE. BURIED MANHOLES ALLOWED IN CULTIVATED FIELDS AS APPROVED BY TOWN ENGINEER. AS-BUILTS SHALL ALLOW FINAL NORTHING/EASTING AND RIM ELEVATION OF ALL BURIED MANHOLES.

8. INVERT (AS-BUILT) DATA SHALL BE COLLECTED BY A LICENSED SURVEYOR ON EACH PIPE INVERT IN A MANHOLE. CENTER OF MANHOLE SURVEYING IS NOT ACCEPTABLE FOR SLOPE CALCULATIONS. RECORD DRAWINGS (AS-BUILTS) MUST DEMONSTRATE CONFORMANCE TO TOWN STANDARDS.

9. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS ON SITE AT ALL THE CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING ACTUAL RECORD DRAWING DIMENSIONS AND DISTANCES AS WELL AS SERVICE LOCATIONS ON THESE PLANS AND SUBMITTING THEM TO THE ENGINEER FOR PREPARATION OF RECORD DRAWINGS. THESE DRAWINGS SHALL BE KEPT CURRENT AT ALL TIMES.

10. BEFORE ANY CONSTRUCTION COMMENCES, A PLUG SHALL BE INSTALLED TO PREVENT DRAINAGE THROUGH THE NEW SEWER LINE FROM ENTERING THE EXISTING SEWER LINE. THIS PLUG WILL BE INSTALLED IN THE MANHOLE, WHICH CONNECTS NEW WORK WITH THE EXISTING AND MAY NOT BE REMOVED UNTIL SUBSTANTIAL ACCEPTANCE.

11. UNDERDRAINS, IF INSTALLED, ARE THE RESPONSIBILITY OF THE DEVELOPER. THE TOWN ASSUMES NO LIABILITY FOR ANY PORTION OF OR ANY DAMAGE CAUSED BY UNDERDRAINS. ABSOLUTELY NO PART OF AN UNDERDRAIN SYSTEM, INCLUDING CLEAN OUTS, WILL BE ALLOWED INSIDE OF SANITARY SEWER MANHOLES. ALL UNDERDRAINS SHALL BE INSTALLED BELOW THE SANITARY SEWER AND OFFSET TO THE SIDE. PIPE MATERIAL SHALL BE DIFFERENT COLOR THAN SANITARY SEWER.

12. NO SERVICE LATERALS SMALLER THAN 8-INCH IN DIAMETER SHALL ENTER MANHOLES.

13. SERVICE CROSSINGS OF CURB SHALL BE MARKED WITH A CUT "S" IN CURB FACE. PAINT IS NOT ACCEPTABLE. SERVICE SHALL BE EXTENDED INTO THE LOT A MINIMUM OF 10 FEET.

14. CONTRACTOR SHALL MARK THE END OF ALL SEWER SERVICES AND MAIN STUBS WITH A CARBONITE COMPOSITE UTILITY MARKER WITH MINIMUM OF FOUR FEET ABOVE GRADE, PAINTED GREEN.

15. ALL 8-INCH PIPES SHALL HAVE SQUEEGEE (CDOT #8 BEDDING) UNLESS OTHERWISE SHOWN OR THE TOWN MAY APPROVE AN ALTERNATE BEDDING IN SPECIAL CASES.LARGER PIPES REQUIRE WASHED OR CRUSED ROCK AS SHOWN IN THE CONSTRUCTION SPECIFICATIONS

16. PRIOR TO APPROVAL, ALL SANITARY SEWER PIPES SHALL BE PRESSURE- TESTED PER ASTM C924. ALL MANHOLES SHALL BE VACUUM-TESTED PER UNI- B-98.

17. PRIOR TO REMOVAL OF PLUGS AT MANHOLES, PIPE SHALL BE JET-CLEANED AND VACUUMED TO REMOVE DEBRIS AND VIDEOED. NOTICE SHALL BE GIVEN TO THE TOWN INSPECTOR ONE (1) WEEK PRIOR TO CLEANING. INSPECTOR MUST BE PRESENT DURING THE OPERATION. ONCE APPROVAL HAS BEEN GIVEN BY INSPECTOR, PLUGS MAY ONLY BE REMOVED AFTER CONDITIONAL ACCEPTANCE BY THE TOWN.

18. THE FINAL RECORDED PLAT AND RECORDED ADDRESS PLAT SHALL BE PROVIDED TO THE TOWN FOR CONDITIONAL ACCEPTANCE.

19. TWENTY (20) MONTHS AFTER CONSTRUCTION AND PRIOR TO THE EXPIRATION OF WARRANTY, THE DEVELOPER SHALL CAMERA/VIDEO THE SANITARY SEWER LINES AND PROVIDE A DVD TO THE TOWN FOR REVIEW.

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LIST OF XREFS: [NES-xborder]

No.	Revisions:	By:	Date:

REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

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NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
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PROJECT: 167-025	DESIGNED BY: C. Pape	DRAWN BY: C. Pape
DATE: 04/26/23	SCALE: N/A	P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

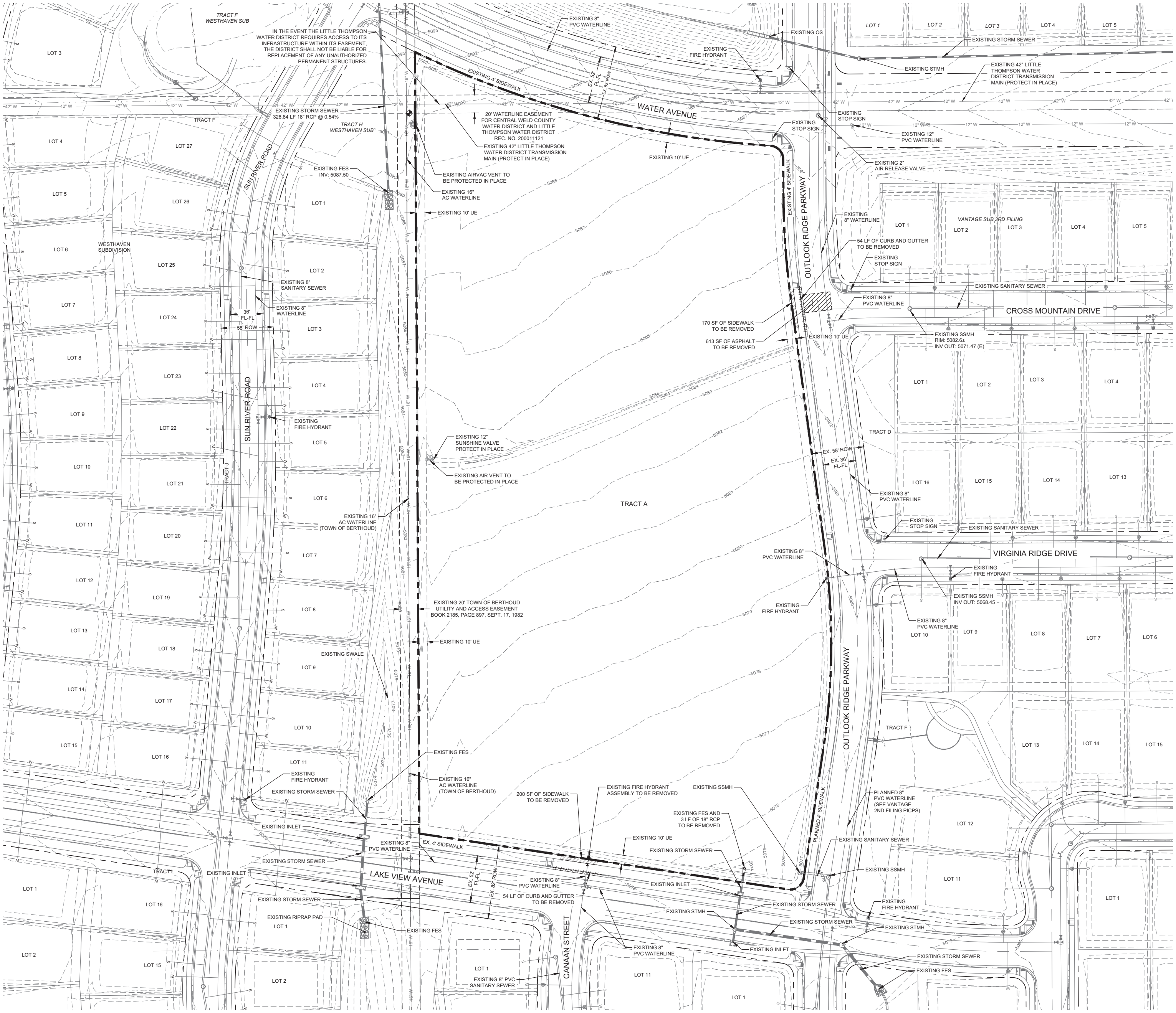
GENERAL & CONSTRUCTION NOTES

Sheet
CS2

NORTH

50 0 50 100 150 Feet

(IN FEET)
1 inch = 50 ft.



KEYMAP

LEGEND:

- PROJECT BOUNDARY
- EXISTING RIGHT-OF-WAY
- EXISTING MAJOR CONTOUR (5015)
- EXISTING MINOR CONTOUR (5013)
- EXISTING STORM SEWER
- EXISTING TELEPHONE (T)
- EXISTING GAS (G)
- EXISTING SANITARY SEWER (SS)
- EXISTING WATER (W)
- EXISTING ELECTRIC (E)
- EXISTING FIBER OPTIC (FO)
- EXISTING CABLE (CTV)
- EXISTING OVERHEAD UTILITY (OHE)
- EXISTING FENCE (X)
- EXISTING ELECTRIC VAULT
- EXISTING FIRE HYDRANT
- EXISTING IRRIGATION BOX
- EXISTING WATER METER
- EXISTING GAS METER
- EXISTING TELEPHONE PEDESTAL
- APPROXIMATE LIMITS OF CONCRETE/ ASPHALT REMOVAL
- CURB & GUTTER TO BE REMOVED
- SAWCUT

NOTES:

1. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL UNKNOWN UNDERGROUND UTILITIES.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING DEMOLITION, REMOVAL, REPLACEMENT, AND DISPOSAL OF ALL FACILITIES AND MATERIAL.
3. CONTRACTOR IS ENCOURAGED TO PERFORM DEMOLITION IN A MANNER THAT MAXIMIZES SALVAGE, RE-USE, AND RECYCLING OF MATERIALS. THIS INCLUDES APPROPRIATE SORTING AND STORING. IN PARTICULAR, DEMOLISHED CONCRETE, ASPHALT, AND BASE COURSE SHOULD BE RECYCLED IF POSSIBLE.
4. ALL SYMBOLS ARE ONLY GRAPHICALLY REPRESENTED AND ARE NOT TO SCALE.
5. CONTACT THE PROJECT SURVEYOR FOR ANY INQUIRIES RELATED TO THE EXISTING SITE SURVEY.

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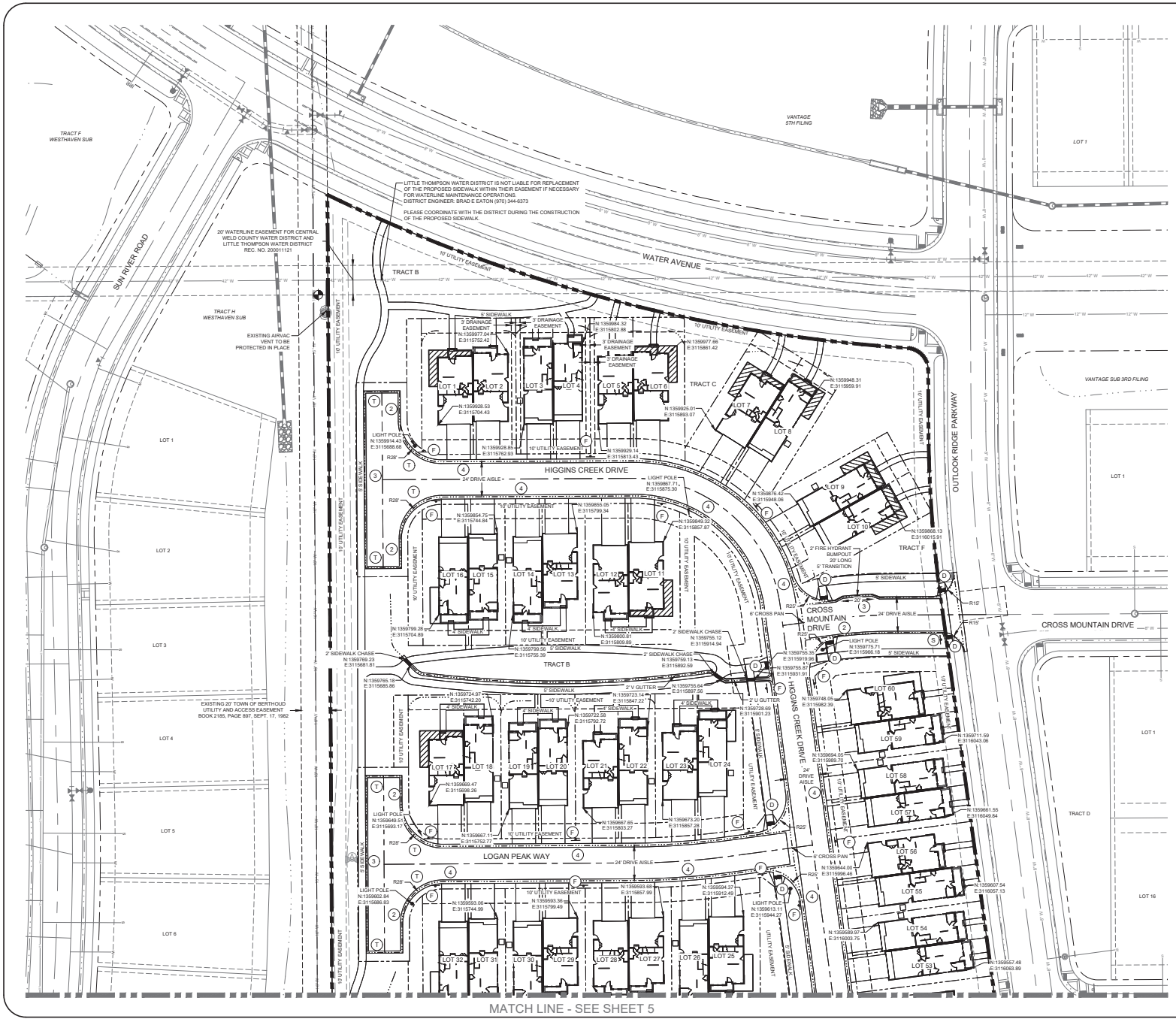
PROJECT: 167-025
DATE: 04/26/23
DESIGNED BY: C. Pope
SCALE: 1" = 50'
DRAWN BY: S. Rzeszut
P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING
EXISTING CONDITIONS & DEMOLITION PLAN

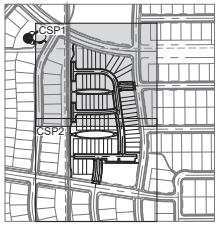
Sheet
EX1



NORTH

30 0 30 60 90 Feet

(IN FEET)
1 inch = 30 ft.



KEYMAP

LEGEND:

- PROPOSED INFLOW CURB & GUTTER
- PROPOSED OUTFALL CURB & GUTTER
- PROPOSED EDGE OF PAVEMENT
- PROPERTY BOUNDARY
- PROPOSED ROW
- EXISTING ROW
- PROPOSED LOT LINE
- EXISTING LOT LINE
- EASEMENTS
- LIGHT POLE
- CURB TRANSITION (T)
- DIRECTIONAL ACCESS RAMP (D)
- VERTICAL CURB & GUTTER (V)
- 18" VERTICAL INFLOW CURB & GUTTER (2)
- 18" VERTICAL OUTFALL CURB & GUTTER (3)
- 31" INFLOW DRIVE-OVER CURB & GUTTER (4)

NOTES:

1. CURVES AND LINES ARE MEASURED AT FLOWLINE, CENTERLINE OR EDGE OF WALK.
2. ATTACHED WALK WIDTHS ARE FROM BACK OF CURB.
3. SINGLE POINT CURB TRANSITIONS ARE 6'.
4. SIGN PLACEMENT SHALL BE PER THE LATEST EDITION OF MUTCD REGARDLESS OF PLAN LOCATION.
5. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
6. NORTHING AND EASTING CALLOUTS REFER TO OUTSIDE FACE OF WALL. PLOT PLAN TO CONFIRM ENCROACHMENTS AND SETBACKS PRIOR TO APPROVAL AND CONSTRUCTION.

PROPOSED SIGNS:

(F) NO PARKING FIRE LANE — R8-3i 12"x18"

(S) STOP — R1-1

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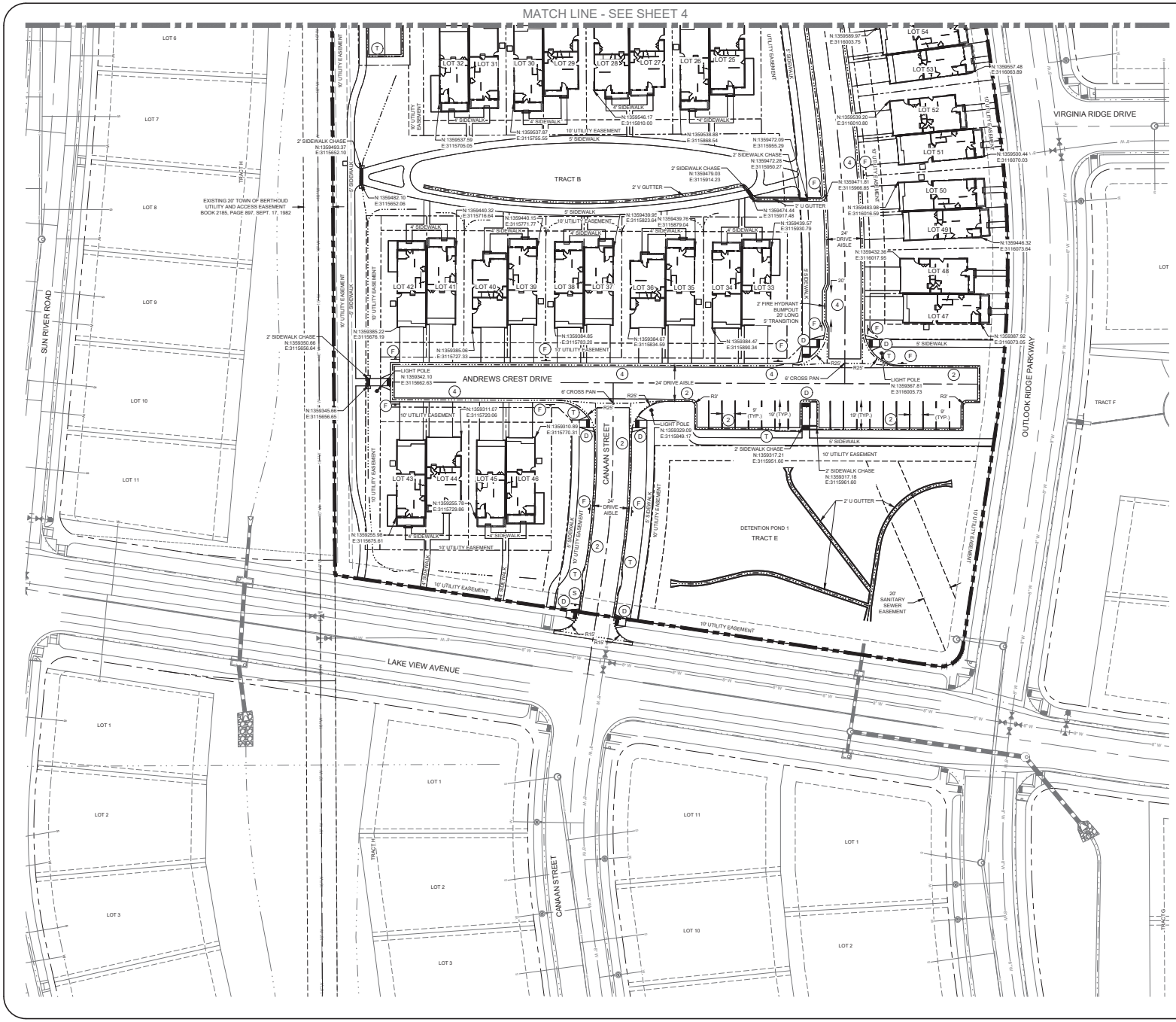
PROJECT: 187-025
DATE: 04/28/23
SCALE: 1"=30'
DESIGNED BY: C.P. Rowe
DRAWN BY: C. Pickett
P. MANAGER: T. Thorpe

VANTAGE SUBDIVISION 7TH FILING

CIVIL SITE PLAN

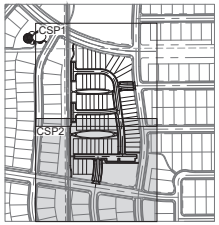
Sheet
CSP1
4 of 27



NORTH

30 0 30 60 90 Feet

(IN FEET)
1 inch = 30 ft.



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6. NORTHING AND EASTING CALLOUTS REFER TO OUTSIDE FACE OF WALL. PLOT PLAN TO CONFIRM ENCROACHMENTS AND SETBACKS PRIOR TO APPROVAL AND CONSTRUCTION.

PROPOSED SIGNS:

(F) NO PARKING FIRE LANE — R8-31 12"x18"

(S) STOP — R1-1

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No.	Revisions:	Date:
	REVIEW SET NOT FOR CONSTRUCTION	04/28/23

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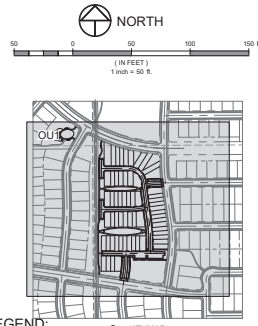
DATE: 04/28/23
SCALE: 1"=30'
PROJECT: 187-025
DESIGNED BY: C. Spurgin
DRAWN BY: A. Vincent
P. MANAGER: T. Thorpe

VANTAGE SUBDIVISION 7TH FILING

CIVIL SITE PLAN

Sheet
CSP2
5 of 27



LEGEND:

- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED SEWER SERVICE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING CABLE
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED ROW
- EXISTING ROW
- EASEMENT LINE
- PROPOSED STORM INLET
- PROPOSED STREET LIGHT
- EXISTING TELEPHONE PEDESTAL

NOTES:

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12. ALL WATER CONSTRUCTION SHALL BE PER TOWN OF BERTHOUD ENGINEERING AND INFRASTRUCTURE DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION.

22. ALL SEWER CONSTRUCTION SHALL BE PER TOWN OF BERTHOUD ENGINEERING AND INFRASTRUCTURE DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION.

23. ALL WATER FITTINGS AND VALVES ARE ONLY GRAPHICALLY REPRESENTED AND ARE NOT TO SCALE.

24. ALL WATERLINES SHALL HAVE A 5' FROM FINISHED GRADE TO TOP OF PIPE.

31. UTILITY SERVICES ARE SHOWN IN A SCHEMATIC FASHION ONLY. EXACT LOCATIONS SHALL BE PER THE REQUIREMENTS OF THE RESPECTIVE UTILITY PROVIDERS, AND ARE SUBJECT TO CHANGE IN THE FIELD. IT IS RECOMMENDED THAT FINAL PLOT PLANS BE APPROVED PRIOR TO INSTALLATION TO AVOID CONFLICTS WITH DRIVEWAYS.

32. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.

33. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.

34. LIMITS OF STREET CUT ARE APPROXIMATE. FINAL LIMITS ARE TO BE DETERMINED IN THE FIELD BY THE TOWN OF BERTHOUD ENGINEERING INSPECTOR. ALL REPAIRS TO BE IN ACCORDANCE WITH TOWN OF BERTHOUD STREET REPAIR STANDARDS.

35. ALL MANHOLE RIM ELEVATIONS (EXISTING & PROPOSED) ARE TO BE ADJUSTED TO ¼" BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.

36. ALL WATER SERVICES SHALL BE ¾" UNLESS OTHERWISE NOTED.

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PROJECT: 197-025
DATE: 04/28/23
SCALE: 1"=50'
DESIGNED BY: C.P. Bair
DRAWN BY: C. Hoge
P. MANAGER: T. Thomas

VANTAGE SUBDIVISION 7TH FILING

OVERALL UTILITY PLAN

Sheet
OU1
6 of 27

DRAWING FILENAME: G:\LAT-CAD\Civil\LAT-025-197\Plans\Utility\Utility Plan\197-025-UTILITY PLAN.dwg [Plot]
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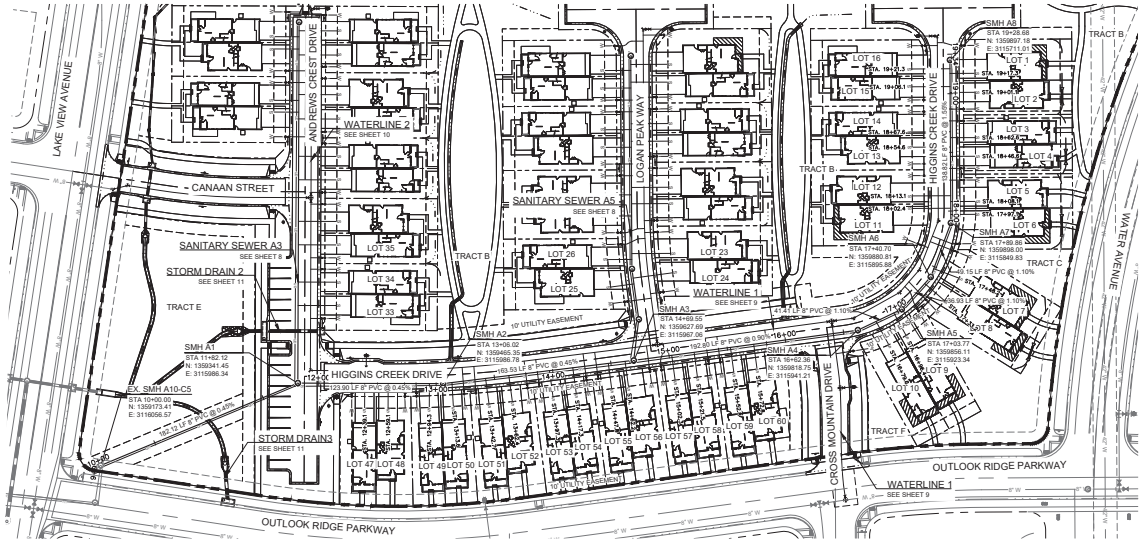
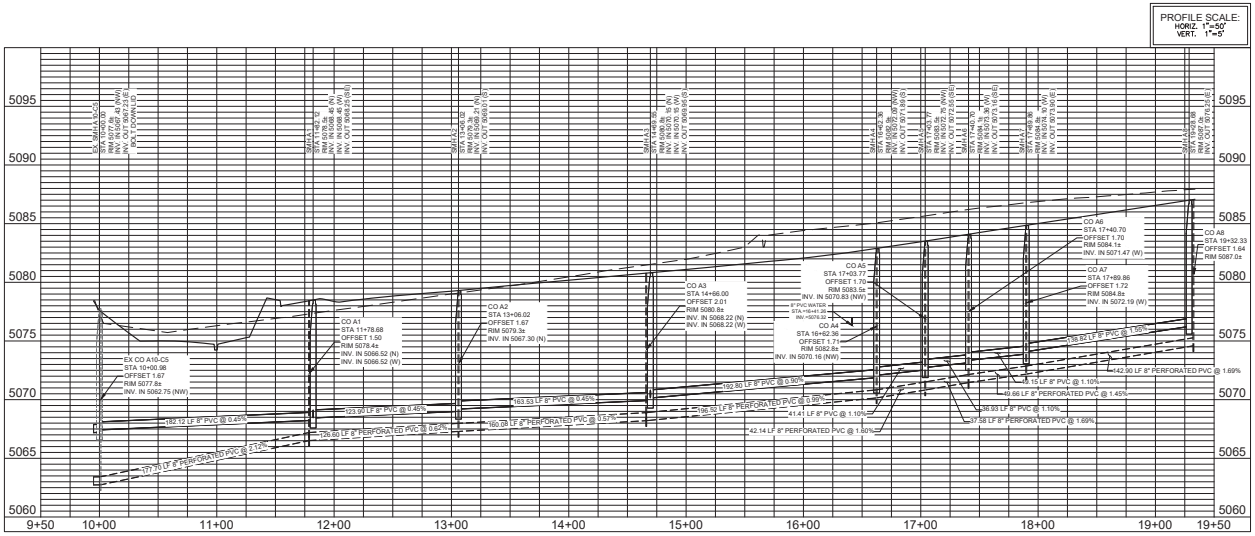
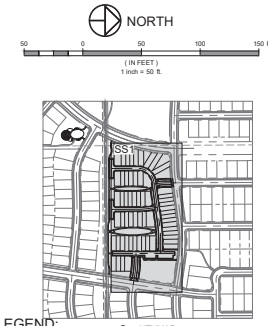


SANITARY LINE A





LEGEND:

KEYMAP

- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED SEWER SERVICE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING RIGHT OF WAY
- PROPOSED CURB & GUTTER
- PROJECT BOUNDARY
- PROPOSED RIGHT OF WAY
- PROPOSED LOT LINE
- EASEMENT LINE
- PROPOSED TYPE-R STORM INLET

NOTES:

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2. ALL SANITARY CONSTRUCTION SHALL BE TOWN OF BERTHOUD ENGINEERING AND INFRASTRUCTURE DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION.
3. MANHOLE RIM ELEVATIONS ARE TO BE ADJUSTED TO 0.4' BELOW FINISHED GRADE. IF NECESSARY, CONE SECTIONS SHALL BE ROTATED TO PREVENT LIDS BEING LOCATED WITHIN VEHICLE OR BICYCLE WHEEL PATHS.
4. UTILITY SERVICES ARE SHOWN IN A SCHEMATIC FASHION ONLY. EXACT LOCATIONS SHALL BE PER THE REQUIREMENTS OF THE RESPECTIVE UTILITY PROVIDERS, AND ARE SUBJECT TO CHANGE IN THE FIELD.
5. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL STROM DRAINS, SANITARY SEWER MAINS, WATER MAINS, AND SERVICES.
6. ALL SINGLE-FAMILY SANITARY SEWER SERVICES TO BE 4" PVC.
7. ALL SANITARY MANHOLES TO BE 4'Ø UNLESS NOTED OTHERWISE.
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CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

Know what's below. Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No. | Revisions: | Date
REVIEW SET
NOT FOR CONSTRUCTION
04/28/23

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NORTHERN ENGINEERING
FORT COLLINS, 970 Northern Innovation Drive, Suite 100, 80521
GREELEY, 822 8th Street, 80631
970.221.4158
northernengineering.com

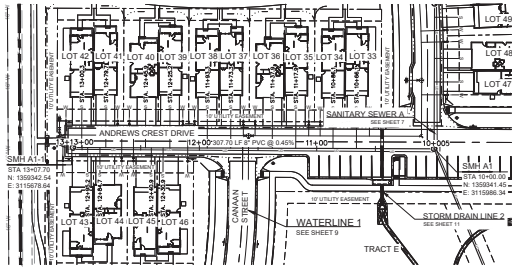
PROJECT: 197-025
DESIGNED BY: C. Pinkerton
DRAWN BY: C. Pinkerton
DATE: 04/28/23
SCALE: 1"=50'
P. MANAGER: S. Thorpe

VANTAGE SUBDIVISION 7TH FILING

SANITARY LINE A
PLAN & PROFILE

Sheet
SS1
7 of 27

DRAWING FILENAME: P:\197-025\DWG\SP\197-025_SS9_Plan_LAYOUT NAME: SS1 DATE: Apr 28, 2023 - 10:27am USER: CD OPERATOR: steve



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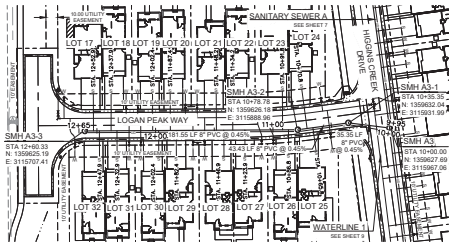

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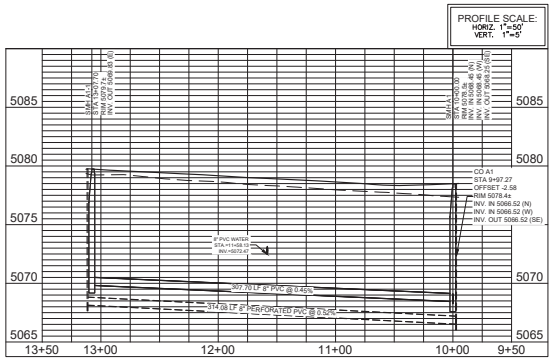

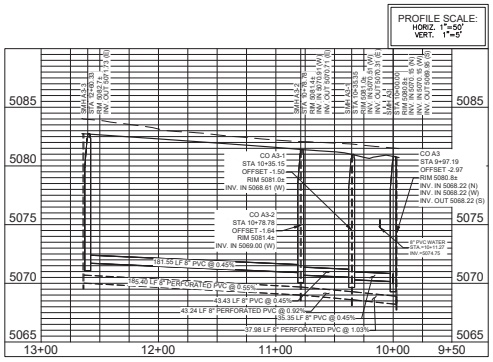

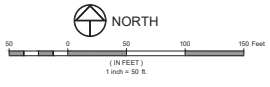

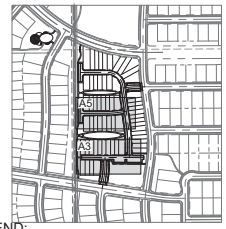

LEGEND:

KEYMAP

- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED SEWER SERVICE
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No.	Revisions:	Date:
	REVIEW SET NOT FOR CONSTRUCTION 04/28/23	

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NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

PROJECT: 187-025
DATE: 04/28/23
SCALE: 1"=50'
DESIGNED BY: L.C. Hughes
P. MANAGER: S. Thorpe
DRAWN BY: A. Vincent

VANTAGE SUBDIVISION 7TH FILING

SANITARY LINE A PLAN & PROFILE

Sheet
SS2
8 of 27

DRAWING FILENAME: P:\187-025\DWG\UR\187-025_UR_C3_D_ALong_ LAYOUT NAME: SS2 DATE: Apr 28, 2023 - 11:23am USD OPERATOR: dpeterm
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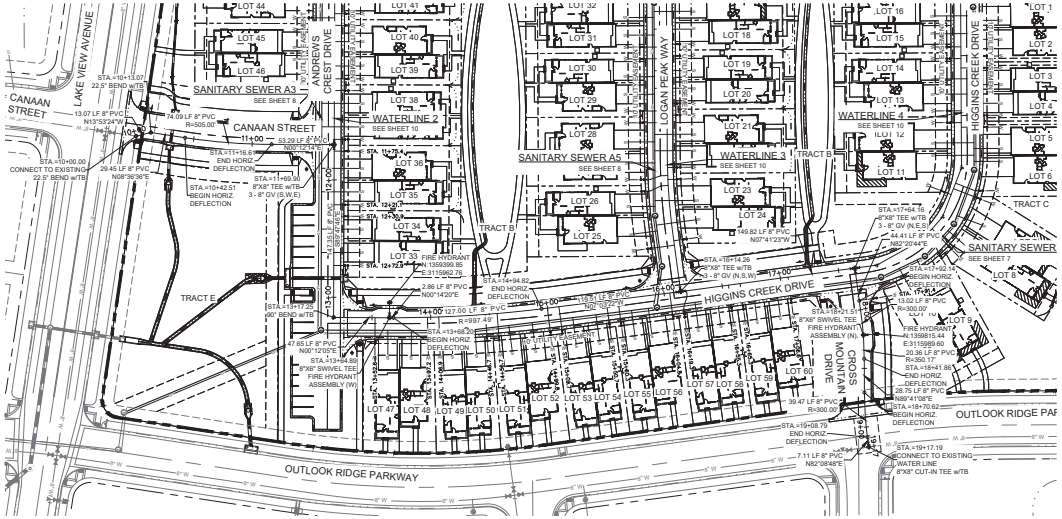

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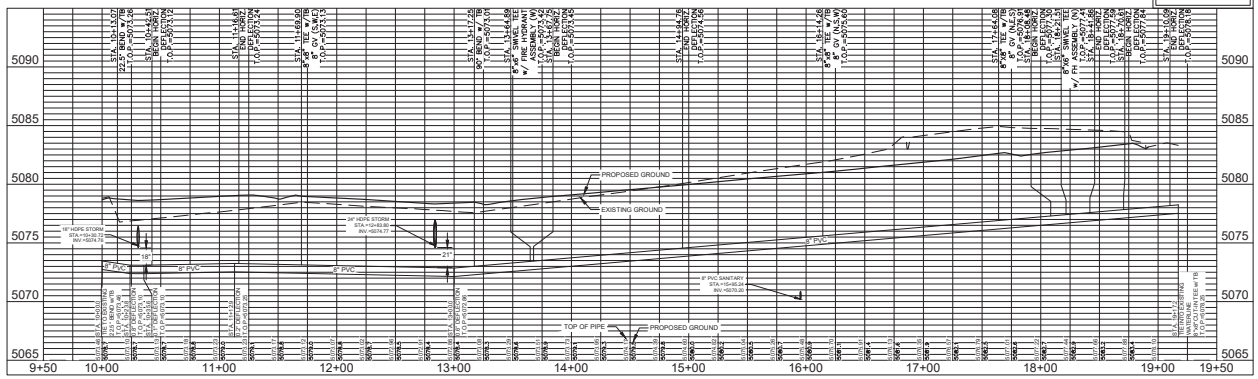

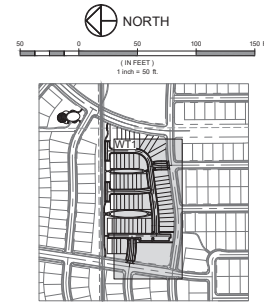

LEGEND:

- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED SEWER SERVICE
- PROPOSED WATER SERVICE
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING TELEPHONE
- EXISTING GAS
- EXISTING CABLE
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- PROPOSED LOT LINE
- EXISTING LOT LINE
- PROPOSED ROW
- EXISTING ROW
- EASEMENT LINE
- PROPOSED STORM INLET
- PROPOSED STREET LIGHT
- EXISTING TELEPHONE PEDESTAL

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3. ALL WATER FITTINGS AND VALVES ARE ONLY GRAPHICALLY REPRESENTED AND ARE NOT TO SCALE.
4. ALL WATERLINES SHALL HAVE A MINIMUM OF 5' OF COVER FROM FINISHED GRADE TO TOP OF PIPE.
5. PIPE LENGTH LABELS SHOWN IN PLAN VIEW DENOTE THE HORIZONTAL DISTANCE BETWEEN HORIZONTAL FITTINGS, AND DO NOT ACCOUNT FOR VERTICAL BENDS OR DEFLECTIONS.
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9. LIMITS OF STREET CUT ARE APPROXIMATE. FINAL LIMITS ARE TO BE DETERMINED IN THE FIELD BY THE TOWN OF BERTHOUD ENGINEERING INSPECTOR. ALL REPAIRS TO BE IN ACCORDANCE WITH TOWN OF BERTHOUD STREET REPAIR STANDARDS.
10. ALL WATER SERVICES SHALL BE 1" UNLESS OTHERWISE NOTED.
11. TOP OF WATER METER TO BE PLACED AT A GRADE OF 4% FROM TOP BACK OF CURB.

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No.	Revisions:	Date:
	REVIEW SET NOT FOR CONSTRUCTION 04/28/23	

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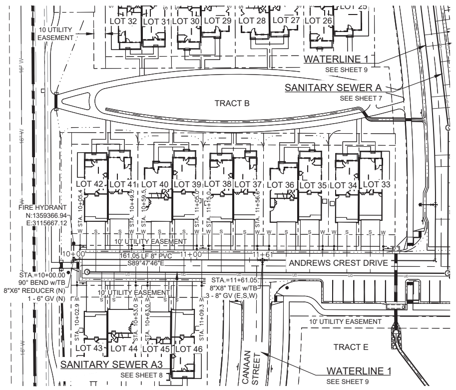
NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

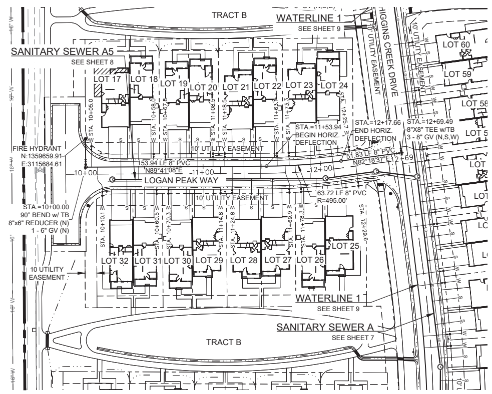
DATE: 04/28/23
SCALE: 1"=50'
PROJECT: 187-025
DESIGNED BY: C. Shaw
DRAWN BY: A. Vincent
P. MANAGER: T. Thorne

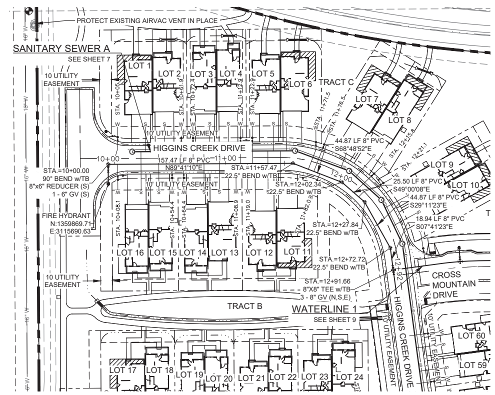
VANTAGE SUBDIVISION 7TH FILING

WATER LINE 1 PLAN & PROFILE

Sheet
WT1







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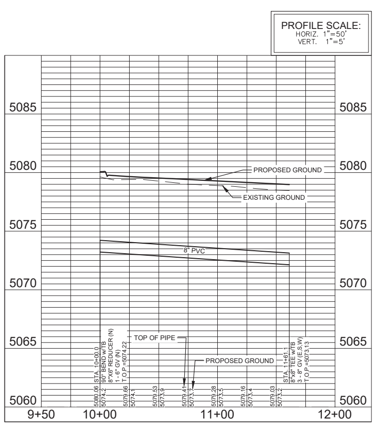

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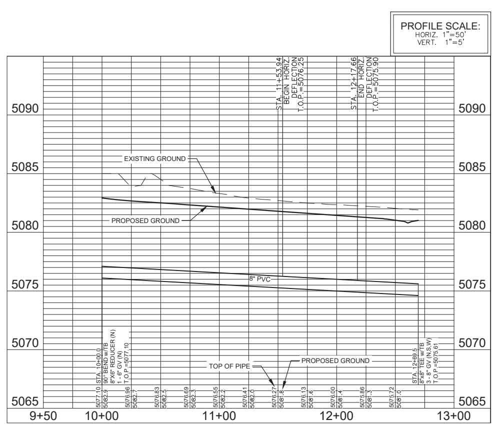

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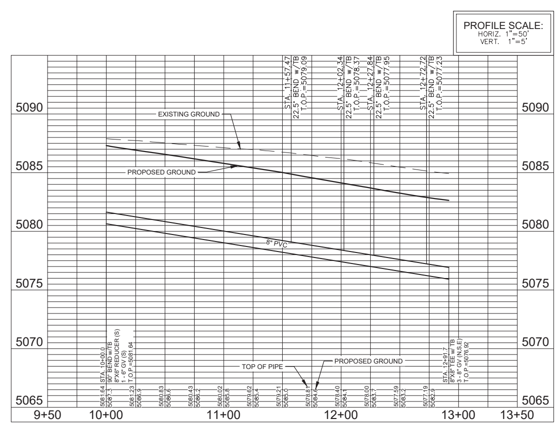
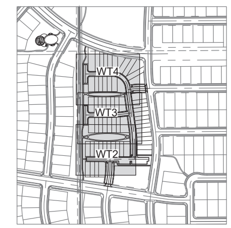


NORTH

50 0 50 100 150 Feet

(IN FEET)
1 inch = 50 ft.



KEYMAP

LEGEND:

- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED SEWER SERVICE
- PROPOSED WATER SERVICE
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- EXISTING GAS
- EXISTING CABLE
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3. ALL WATER FITTINGS AND VALVES ARE ONLY GRAPHICALLY REPRESENTED AND ARE NOT TO SCALE.
4. ALL WATERLINES SHALL HAVE A MINIMUM OF 5' OF COVER FROM FINISHED GRADE TO TOP OF PIPE.
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REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

No. | Revisions: | By: | Date:

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NORTHERN ENGINEERING

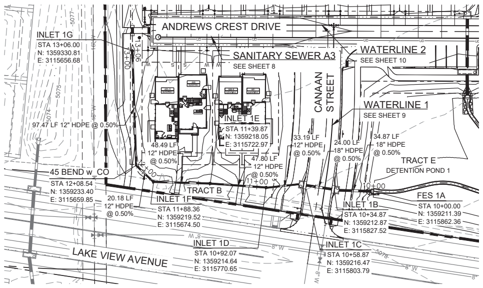
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

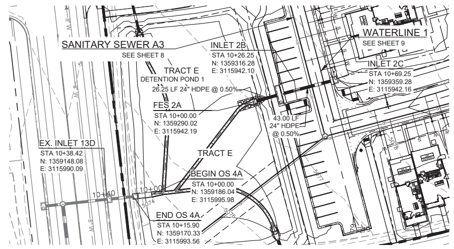
DATE: 04/26/23
SCALE: 1" = 50'
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: C. Pope
DRAWN BY: S. Rzeszut

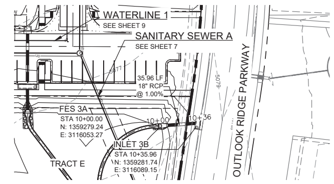
VANTAGE SUBDIVISION 7TH FILING

WATER LINE PLAN & PROFILE

Sheet
WT2
10 of 27

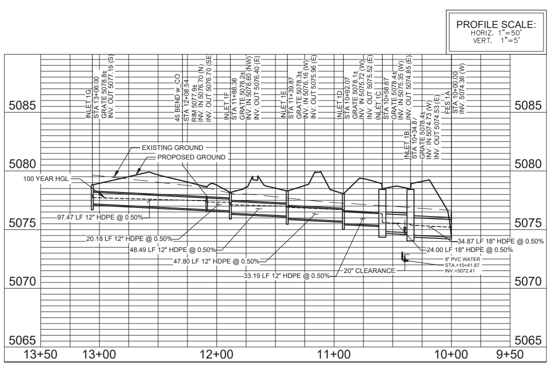




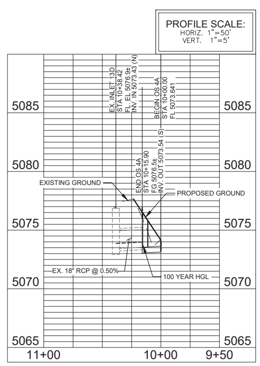


NORTH

STORM DRAIN 1

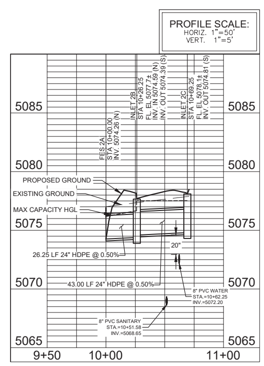


STORM DRAIN 4



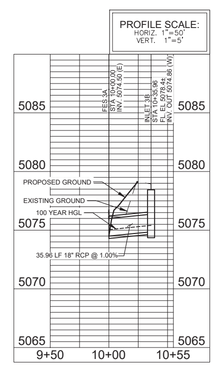
NORTH

STORM DRAIN 2



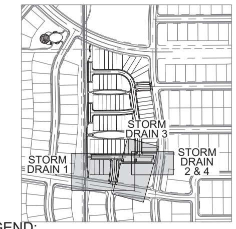
NORTH

STORM DRAIN 3



NORTH

50 0 50 100 150 Feet
(IN FEET)
1 inch = 50 ft.



KEYMAP

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- EXISTING SANITARY SEWER
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2. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL STORM DRAINS, SANITARY SEWER MAINS, WATER MAINS, AND SERVICES.
3. PIPE LENGTHS ARE CALCULATED FROM THE CENTER OF MANHOLES AND STRUCTURES. SPECIFIED LENGTH OF PIPE INCLUDES THE LAYING LENGTH OF FLARED END SECTIONS.
4. ALL RCP SHALL BE CLASS III OR GREATER. PIPE MATERIAL, BEDDING, AND INSTALLATION WITHIN PUBLIC RIGHTS-OF-WAY SHALL BE GOVERNED BY TOWN OF BERTHOUD. ALTERNATES (SUCH AS ADS N-12 OR HP SANITITE) OUTSIDE OF THE R.O.W. SHALL BE APPROVED IN ADVANCE BY THE ENGINEER. ALL JOINTS SHALL BE 'WATERTIGHT' USING APPROPRIATE GASKETS OR JOINT WRAPS (PER ASTM C443 FOR RCP AND PER ASTM F477 / D3212 FOR PLASTIC PIPE).
5. CONTRACTOR SHALL SHALL CONFIRM THAT MANHOLE DIAMETERS ARE SUFFICIENT FOR THEIR PROPOSED METHODS OF INSTALLATION (i.e., WITHIN PRE-CASTER'S TOLERANCES, ETC.).
6. SEE DETAIL SHEET 26 FOR RIP-RAP SCHEDULE.

INLET SCHEDULE:

Inlet Name	Inlet Type	Inlet Size
Inlet 1B	Type R	5'
Inlet 1C	Type R	5'
Inlet 1D	ADS Drain Basin	18" Domed
Inlet 1E	ADS Drain Basin	18" Domed
Inlet 1F	ADS Drain Basin	18" Domed
Inlet 1G	ADS Drain Basin	18" Domed
Inlet 2B	Type R	15'
Inlet 2C	Type R	5'
Inlet 3A	Type R	10'

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No. Revisions: By: Date:

REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

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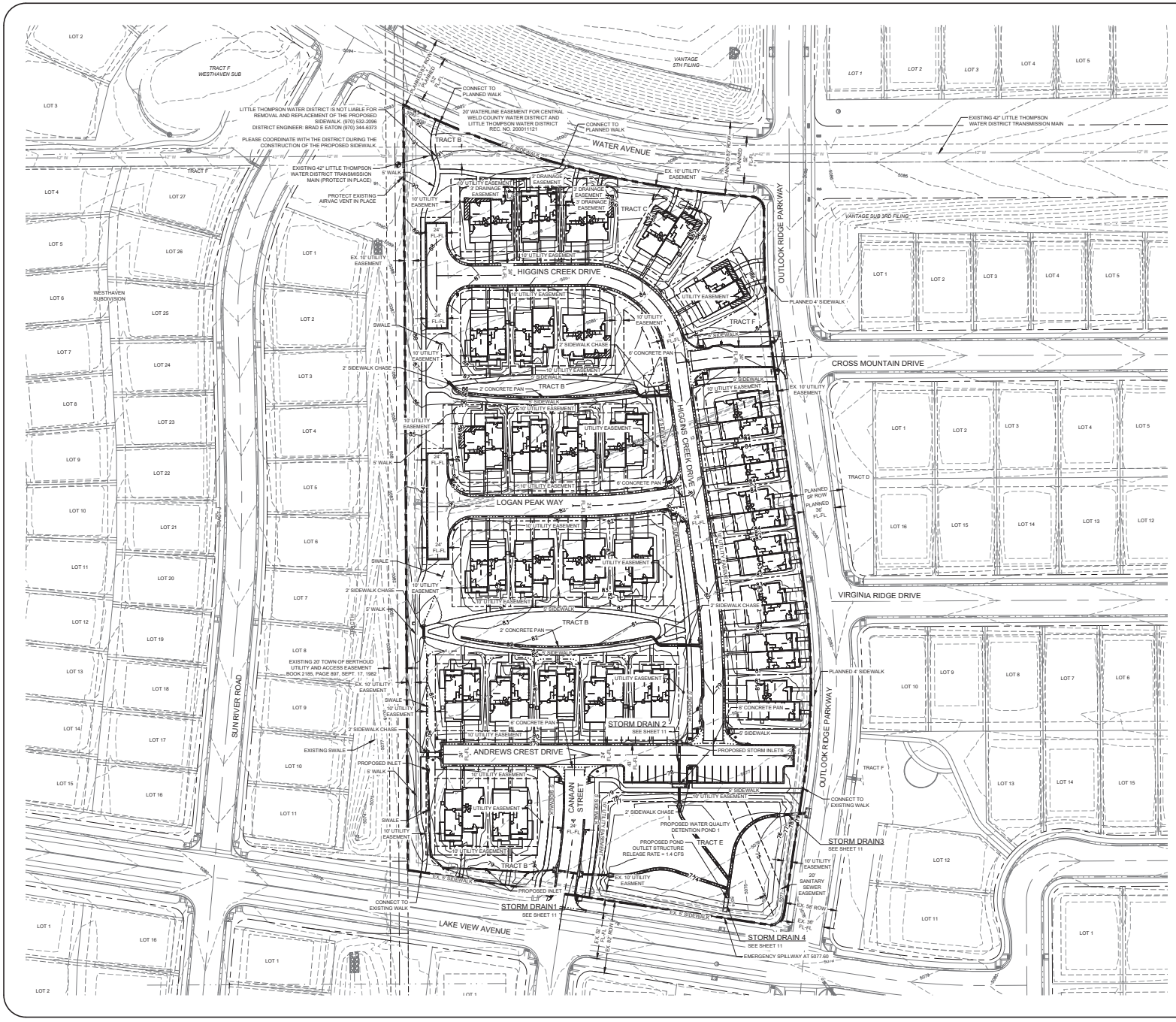
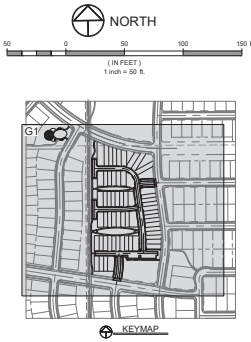
NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

DATE: 04/26/23
SCALE: 1" = 50'
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: C. Pape
DRAWN BY: S. Rzeszut

VANTAGE SUBDIVISION 7TH FILING
STORM DRAIN 1, 2, 3 & 4 PLAN & PROFILE

DRAWING FILENAME: P:\167-025\Dwg\Strm\167-025_STRM.dwg LAYOUT NAME: ST1 DATE: Apr 25, 2023 - 11:44am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-xborder] [167-025_xSTRM_leg] [167-025_xUTIL] [167-025_xEXST] [167-025_xGRAD] [167-025_xSITE] [167-025_xTOPO] [167-025_Keymap] [167-025_xADJ] [167-025_xPARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filing]





LEGEND:

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET
- PROPOSED CONTOUR — 95
- EXISTING CONTOUR — 5013
- PROPOSED SWALE
- PROPOSED GRADE BREAK
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- EXISTING LOT LINE
- EXISTING RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PROPOSED SPOT ELEVATION — 53.83
- EXISTING SPOT ELEVATION — (47.40)
- PROPOSED SLOPES — 2.0%
- PROPOSED CONCRETE CROSS PAN (TYP.)
- LOT TYPE — A

NOTES:

1. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR FOR ALL UNKNOWN UNDERGROUND UTILITIES.
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3. ALL PROJECT DATA IS ON VERTICAL DATUM; NAVD88. SEE COVER SHEET FOR BENCHMARK REFERENCES.
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7. ALL ACCESS WALKS TO INDIVIDUAL HOMES ARE 4' IN WIDTH.

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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No.	Revisions:	Date:
	REVIEW SET NOT FOR CONSTRUCTION 04/28/23	

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NORTHERN ENGINEERING
FORT COLLINS, 3202 North Timnath Street, Suite 100, 80521
GREELEY, 820 8th Street, 80631
970.221.4158
northernengineering.com

PROJECT: 197-025
DATE: 04/28/23
SCALE: 1"=50'
DESIGNED BY: C.P. Bair
DRAWN BY: C. Hoge
P. MANAGER: T. Thomas

VANTAGE SUBDIVISION 7TH FILING

OVERALL GRADING PLAN

Sheet
OG1

DRAWING FILENAME: P:\197-025\DWG\PLAN\197-025_OGRADE.dwg LAYOUT NAME: OG1 DATE: Apr 28, 2023 - 11:03am USR: CPBAIR
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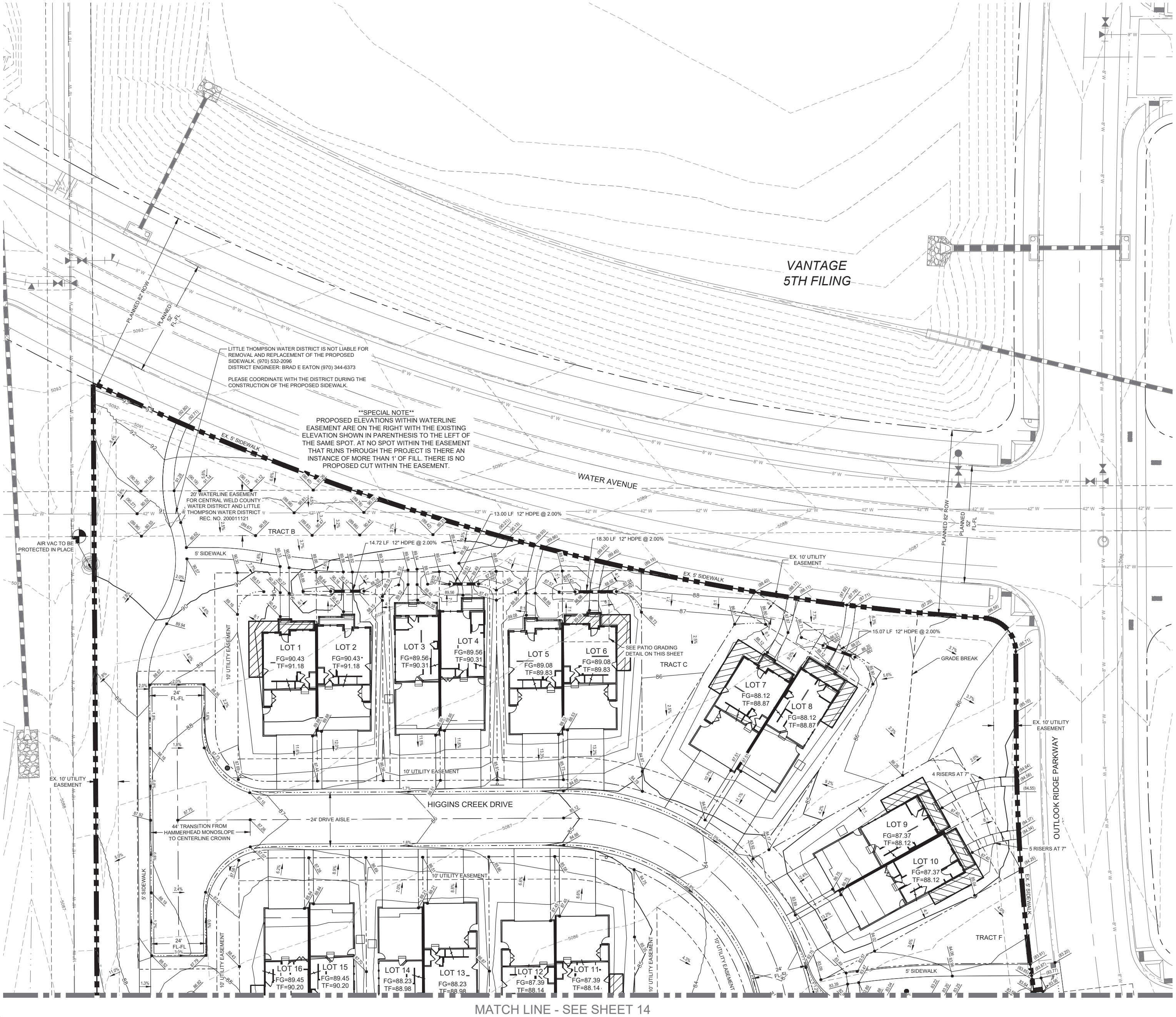

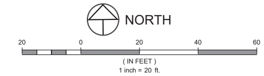

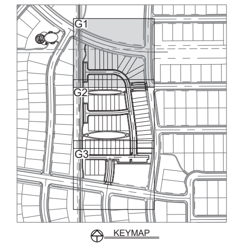

LEGEND:

EXISTING STORM SEWER	
PROPOSED STORM SEWER	
PROPOSED STORM INLET	
PROPOSED CONTOUR	95
EXISTING CONTOUR	5013
PROPOSED SWALE	
PROPOSED GRADE BREAK	
PROPOSED CURB & GUTTER	
PROPERTY BOUNDARY	
EXISTING LOT LINE	
EXISTING RIGHT OF WAY	
PROPOSED LOT LINE	
PROPOSED RIGHT OF WAY	
PROPOSED SPOT ELEVATION	33.45
EXISTING SPOT ELEVATION	(47.45)
PROPOSED SLOPES	2.0%
PROPOSED CONCRETE CROSS PAN (TYP.)	
LOT TYPE	Ⓐ

NOTES:

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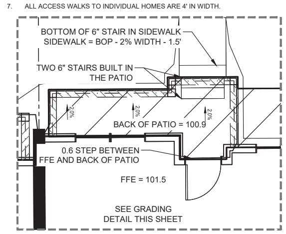

PATIO GRADING DETAIL

1"=10'

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Revisions: No. | By: | Date:

REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

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NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

PROJECT: 167-025	DESIGNED BY: C. Pape	DRAWN BY: S. Rzeszut
DATE: 04/26/23	SCALE: 1" = 20'	P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING
GRADING PLAN

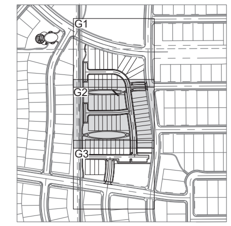
MATCH LINE - SEE SHEET 13

MATCH LINE - SEE SHEET 15

NORTH

20 0 20 40 60 Feet

(IN FEET)
1 inch = 20 ft.



KEYMAP

LEGEND:

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET
- PROPOSED CONTOUR (95)
- EXISTING CONTOUR (5013)
- PROPOSED SWALE
- PROPOSED GRADE BREAK
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- EXISTING LOT LINE
- EXISTING RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PROPOSED SPOT ELEVATION (33.45)
- EXISTING SPOT ELEVATION ((47.45))
- PROPOSED SLOPES (2.0%)
- PROPOSED CONCRETE CROSS PAN (TYP.)
- LOT TYPE (A)

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No.	Revisions:	By:	Date:

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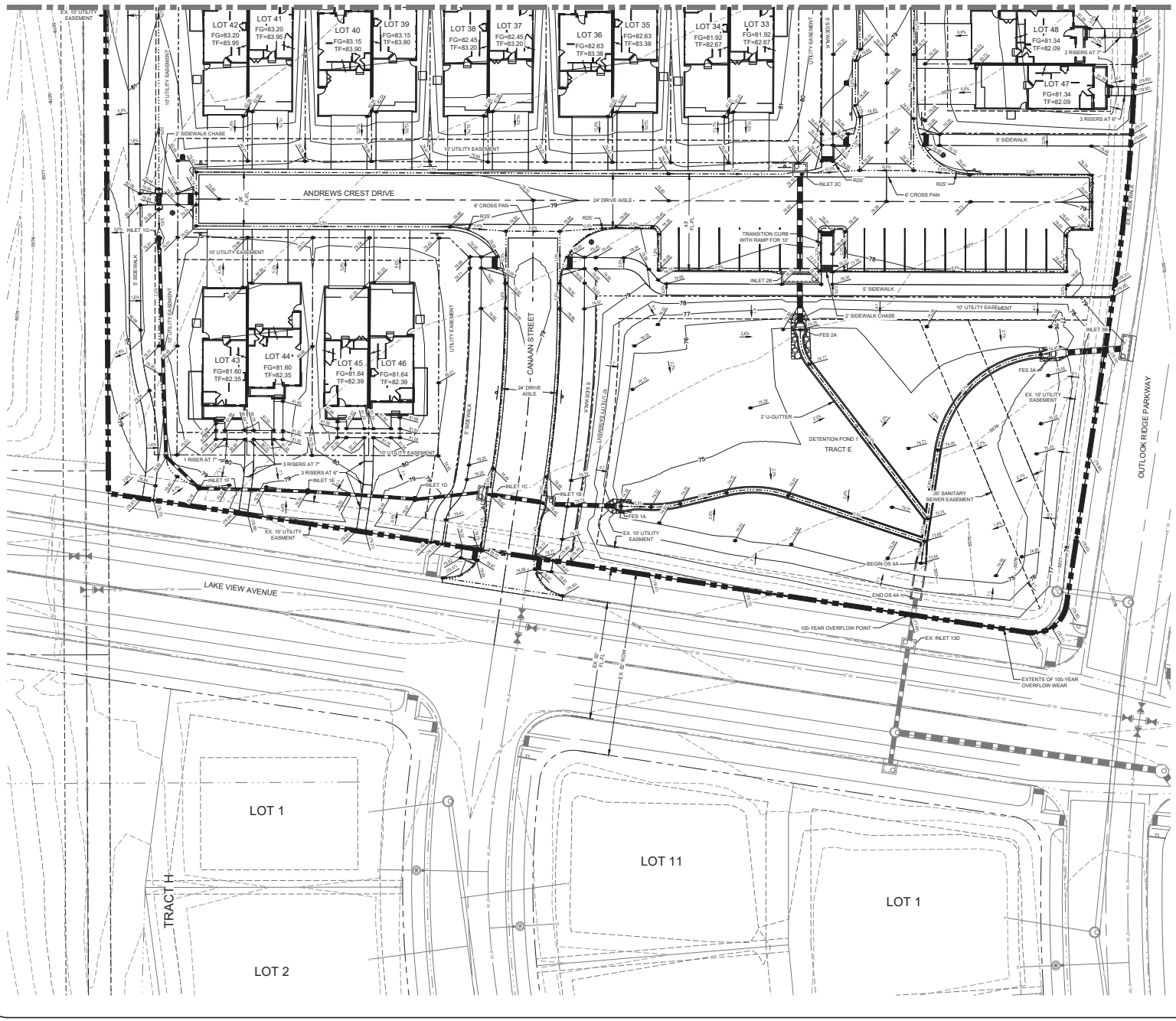
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

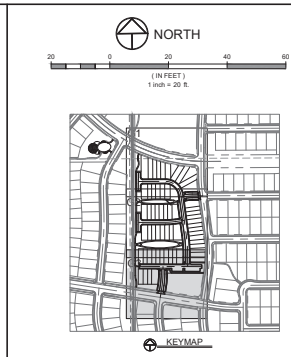
PROJECT: 167-025	DATE: 04/26/23
DESIGNED BY: C. Pope	SCALE: 1" = 20'
DRAWN BY: S. Rzeszut	P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

GRADING PLAN

Sheet
G2





LEGEND:

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET
- PROPOSED CONTOUR — 95
- EXISTING CONTOUR — 5013
- PROPOSED SWALE
- PROPOSED GRADE BREAK
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- EXISTING LOT LINE
- EXISTING RIGHT OF WAY
- PROPOSED LOT LINE
- PROPOSED RIGHT OF WAY
- PROPOSED SPOT ELEVATION — 93.43
- EXISTING SPOT ELEVATION — (67.40)
- PROPOSED SLOPES — 2.0%
- PROPOSED CONCRETE CROSS PAN (TYP.)
- LOT TYPE — A

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No.	Revisions:	Date:
	REVIEW SET NOT FOR CONSTRUCTION	04/28/23

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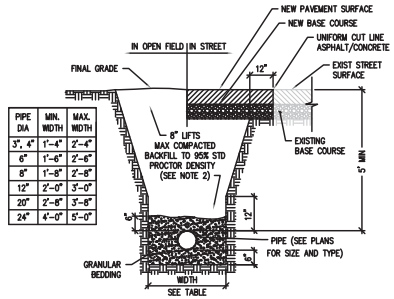
NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
LIVELY: 902 8th Street, 80521
970.221.4158
northernengineering.com

DATE: 04/28/23
SCALE: 1"=20'
PROJECT: 197-025
DESIGNED BY: C.P. Bowe
DRAWN BY: C.Vincent
P. MANAGER: T. Thorpe

VANTAGE SUBDIVISION 7TH FILING

GRADING PLAN

Sheet G3



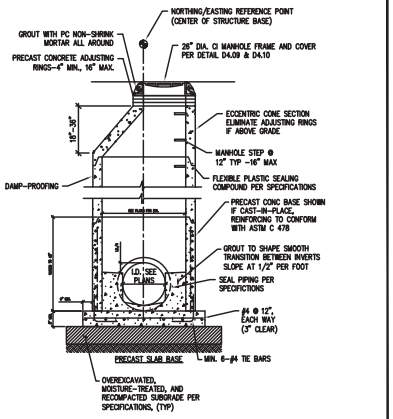
PIPE DIA	MIN. WIDTH	MAX. WIDTH
3", 4"	1'–4"	2'–4"
6"	1'–6"	2'–6"
8"	1'–8"	2'–8"
12"	2'–0"	3'–0"
20"	2'–8"	3'–8"
24"	4'–0"	5'–0"

NOTES:
1. MINIMUM COVER 5' FOR WATER AND SANITARY SEWER
2. COMPACTED BACKFILL TO 90% STD PROCTOR DENSITY IN NON–DRIVING SURFACES AND 95% UNDER PAVEMENT
3. SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500PSI CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE.
4. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH LOCAL, STATE, FEDERAL, & OSHA SAFETY REGULATIONS
5. PAVING SHALL COMPLY WITH LOCAL AUTHORITY JURISDICTION

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
GENERAL DETAILS
TYPICAL TRENCH DETAIL
D0.01
DATE:12/2020

100 / D1 TYPICAL TRENCH DETAIL — NOT TO SCALE

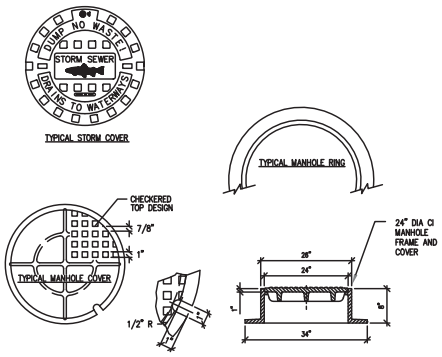


NOTES:
1. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING OR SHAPING BASE CONCRETE.
2. BLOCK–OUTS WHEN APPROVED SHALL EXTEND A MAX OF 6" PAST MANHOLE OD AND BE SATISFACTORILY PLUGGED AND SEALED.
3. CONCRETE MANHOLE BASES MAY BE POURED IN PLACE ONLY WITH PRIOR APPROVAL.
4. ALL MORTAR SHALL BE MIXED WITH A TYPE II CEMENT.
5. BENCH MUST HAVE A BRUSHED, NON–SKID SURFACE.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
GENERAL DETAILS
STANDARD MANHOLE
D0.03
DATE: 12/2020

101 / D1 STANDARD MANHOLE — NOT TO SCALE

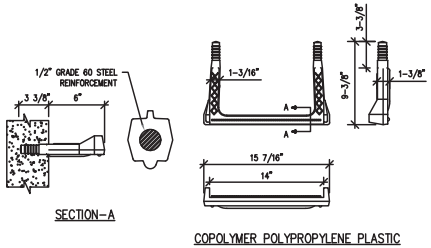


NOTES:
1. ASTM DESIGNATION A–48 CLASS 35B (UNPAINTED) W/ MIN TENSILE STRENGTH KSI (CLASS 25)
2. 1–1/2" LETTERING ON COVER AS REQUIRED (WATER, SEWER, OR STORM). SEE STORM COVER DETAIL ABOVE FOR ADDITIONAL REQUIREMENTS
3. ALL BEARING SURFACES TO BE MATCHED
4. TOTAL MINIMUM WEIGHT APPROXIMATELY 400 LBS CAST IRON ONLY
5. LIFTING NOTCH SHALL NOT EXTEND PAST INSIDE FACE OF RING SEAT
6. MIN FRAME WEIGHT 235 LBS, MIN LID WEIGHT 165 LBS

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
GENERAL DETAILS
MANHOLE RING AND COVER – NON–BOLTED
D0.04
DATE: 12/2020

102 / D1 MANHOLE RING AND COVER - NON-BOLTED — NOT TO SCALE

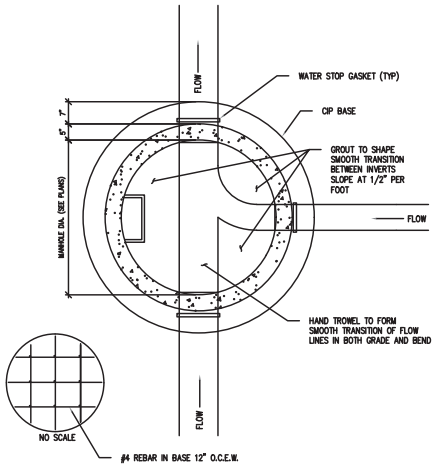


NOTES:
1. AS MANUFACTURED BY M.A. INDUSTRIES (MODEL NO. PS2–PF) OR APPROVED SUBSTITUTION SPACED AT 12" NOT GREATER THAN 16"

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
GENERAL DETAILS
PLASTIC MANHOLE STEP
D0.06
DATE: 12/2020

103 / D1 PLASTIC MANHOLE STEP

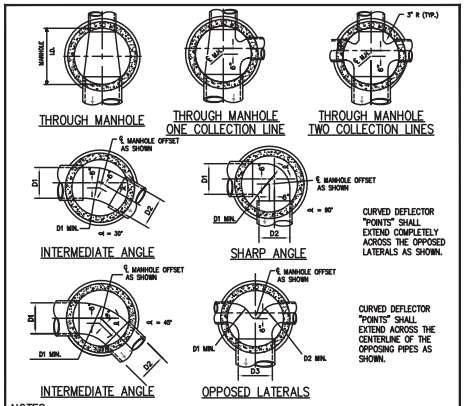


NOTES:
1. FLOW DIRECTION CHANGE 90 DEGREES, MINIMUM

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
GENERAL DETAILS
MANHOLE BASE
D0.07
DATE: 12/2020

104 / D1 MANHOLE BASE — NOT TO SCALE

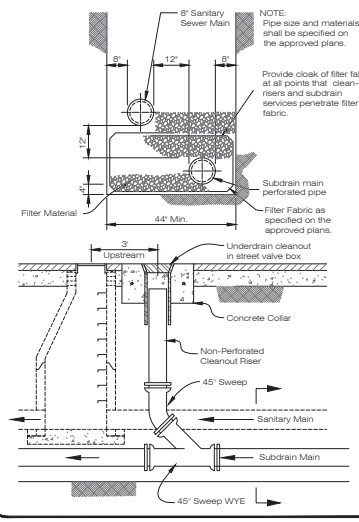


NOTES:
1. PIPE INVERT ELEVATION AND DROP THROUGH MANHOLES SHALL BE IN CONFORMANCE WITH THE REVIEW AND SIGNED CONSTRUCTION PLANS. THE INTENTION IS TO PROMOTE SMOOTH, NON–TURBULANT FLOW THROUGH THE MANHOLES BY KEEPING THE LARGER LINES LOWER IN THE MANHOLE AND BRINGING THE SMALLER LINES IN SLIGHTLY HIGHER.
2. MAX INSIDE DROP THROUGH ANY MANHOLE SHALL BE 18 INCHES
3. MIN DROP THROUGH ANY MANHOLE SHALL BE 0.2 FEET FOR STRAIGHT RUNS AND 0.2 FEET FOR CHANGES IN DIRECTION
4. ALL INVERT DEFLECTORS SHALL BE CURVED IN SHAPE TO PROVIDE SMOOTH FLOW TRANSITIONS AS SHOWN IN THIS DETAIL
5. MINIMUM ANGLE BETWEEN THE CENTERLINE OF ANY INCOMING PIPE AND THE CENTER OF THE OUTGOING PIPE SHALL BE 90 DEGREES
6. GROUT TO SHAPE SMOOTH TRANSITION BETWEEN INVERTS. SLOPE AT 1/2" PER FOOT.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
GENERAL DETAILS
MANHOLE BASE AND DEFLECTOR
D0.08
DATE: 12/2020

105 / D1 MANHOLE BASE AND DEFLECTOR — NOT TO SCALE



106 / D1 SUBDRAIN — NOT TO SCALE

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NORTHERN ENGINEERING
970.221.4158
northernengineering.com
FORT COLLINS 301 North Howes Street, Suite 100, 80521
GREELEY 820 8th Street, 80631

PROJECT: 187–025
DATE: 04/28/23
SCALE: N/A
DESIGNED BY: C. Hall
DRAWN BY: Drawn By
P. MANAGER: T. Thorne

VANTAGE SUBDIVISION 7TH FILING
SANITARY LINE DETAILS

Sheet D1
16 of 27

DRAWING FILENAME: P:\187-025\Dwg\Sanitary\187-025_SAN.dwg LAYOUT NAME: D1 DATE: Apr 28, 2023 – 10:17am CAD DESIGNER: stephanie
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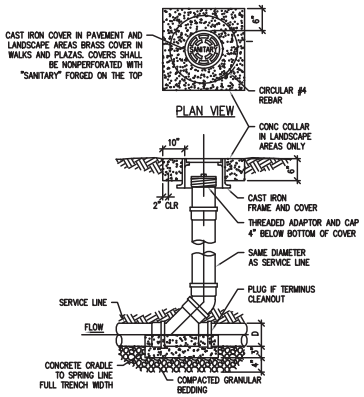


NOTES:

1. CLEANOUT SHALL BE CONSTRUCTED SO THAT SURFACE LOAD WILL NOT BE TRANSFERRED TO MAIN.
2. SERVICE LINE CLEANOUT MAY BE INSTALLED APPROXIMATELY 5 FEET OUTSIDE THE BUILDING FOUNDATION.
3. A CLEANOUT IS REQUIRED ON ALL SERVICE LINES EVERY 100 FEET, AT EVERY "Y" OR AFTER A COMBINED TOTAL 135 DEGREES OF BEND.

SCALE: NTS

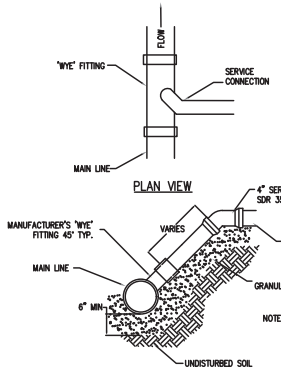
TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
SANITARY SEWER DETAILS

D4.04

SANITARY CLEANOUT

DATE: 12/2020

200 / 02 SANITARY CLEANOUT NOT TO SCALE



PIPE SIZE (INCHES)	MINIMUM SLOPE (INCH PER FOOT)
2 1/2 OR LESS	1/4
3 TO 6	1/8
8 OR LARGER	1/16

NOTES:

1. SANITARY SEWER SERVICE TAPS SHALL BE LOCATED ON THE MAIN AT 2'OCLOCK OR 10 O'CLOCK POSITION
2. THE MINIMUM DISTANCE BETWEEN ANY TWO CONSECUTIVE FITTINGS SHALL BE 3 FEET, MEASURED BETWEEN FITTING CENTERLINES
3. SANITARY SEWER SERVICE TAPS SHALL NOT BE MADE WITHIN 3 FEET OF A PIPE JOINT, OR 5 FEET FROM EDGE OF MANHOLE BASE.
4. A MAXIMUM OF FOUR SERVICE TAPS ARE ALLOWED PER 20-FOOT LENGTH OF PIPE
5. USE SDR 35 "WYE". "TEE"S NOT ALLOWED.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
SANITARY SEWER DETAILS

D4.05

TYPICAL SERVICE CONNECTION

DATE: 12/2020

201 / 02 TYPICAL SERVICE CONNECTION NOT TO SCALE

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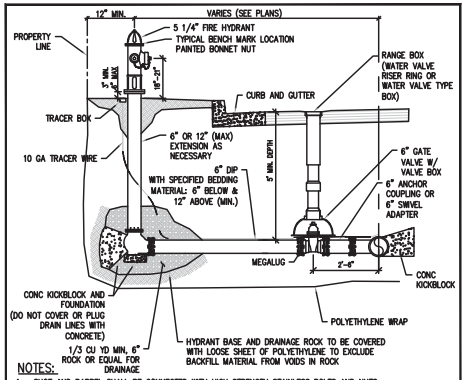
PROJECT: 187-025
DATE: 04/28/23
DESIGNED BY: C. Cole
SCALE: N/A
DRAWN BY: Drawn By
P. MANAGER: S. Thorne

VANTAGE SUBDIVISION 7TH FILING

SANITARY LINE DETAILS

Sheet
D2



NOTES:

1. SHOE AND BARREL SHALL BE CONNECTED WITH HIGH STRENGTH STAINLESS BOLTS AND NUTS
2. HYDRANT SHALL HAVE A FIVE (5') FOOT CLEAR ZONE ON EACH SIDE OF HYDRANT (TEN (10') FOOT EASEMENT AROUND).
3. PUMPER NOZZLE SHALL FACE THE PUBLIC RIGHT-OF-WAY OR REQUIRED FIRE ACCESS ROADWAY.
4. MINIMUM DISTANCE FROM DRIVEWAYS SHALL BE SIX (6) FEET.
5. HYDRANTS SHALL CONFORM TO AND BE TESTED IN ACCORDANCE WITH AWWA SPECIFICATIONS.
6. HYDRANTS SHALL BE MADE OF CAST IRON WITH FULL BRONZE MOUNTINGS.
7. INLET SHALL FIT SIX (6) INCH PIPE WITH BARREL LENGTH SUFFICIENT FOR A FIVE (5) FOOT TRENCH.
8. ONLY TWO (2) HEIGHT EXTENSIONS MAY BE USED PER HYDRANT.
9. HYDRANT BASES SHOULD NOT BE ANY DEEPER THAN SIX (6) FEET FROM THE TOP OF FINISHED GRADE.
10. MAIN VALVE OPENING IN THE HYDRANT SHALL BE NO LESS THAN FIVE (5) INCHES IN DIAMETER.
11. HYDRANTS SHALL BE PLUMBED VERTICALLY WITH PUMPER NOZZLE FACING STREET.
12. NO WATER SERVICE MAIN TAPS SHALL BE MADE TO A DISTRIBUTION MAIN WITHIN FIVE (5) FEET OF A FIRE HYDRANT BRANCH MAIN.
13. NO HORIZONTAL BENDS OR OFFSETS SHALL BE USED IN INSTALLING FIRE HYDRANT BRANCH MAINS.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

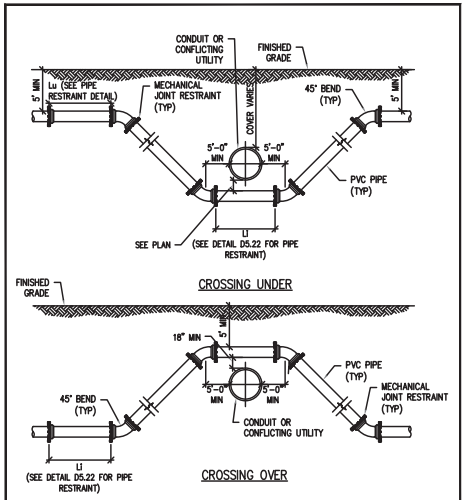
FIRE HYDRANT PROFILE

D5.02

DATE: 12/2020

300 / D3 FIRE HYDRANT PROFILE

NOT TO SCALE



NOTES:

1. CENTER WATER MAIN AT CROSSING TO POSITION JOINTS AS FAR FROM CROSSING AS POSSIBLE.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

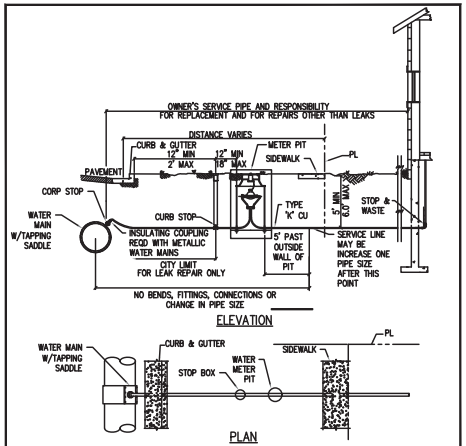
CROSSING OVER OR UNDER CONFLICTING UTILITY

D5.11

DATE: 12/2020

301 / D3 CROSSING OVER OR UNDER CONFLICTING UTILITY

NOT TO SCALE



NOTES:

1. IF THERE IS A TREE LAWN, BOTH CURB STOP AND METER PIT MUST BE LOCATED BETWEEN CURB AND SIDEWALK
2. STOP BOX SHALL BE LOCATED IN A PUBLIC RIGHT-OF-WAY AS CLOSE TO CURB AS POSSIBLE, IN A LANDSCAPED AREA 24" FROM THE INLET SIDE OF THE METER PIT UNLESS PRIOR APPROVAL IS OBTAINED FROM THE TOWN. FOR A CURB STOP LOCATED BENEATH PAVEMENT, USE A ROADWAY BOX OVER STANDARD STOP BOX WITH A BOND BREAKER. THE CURB STOP CANNOT BE LOCATED BENEATH PARKING AREAS.
3. 2 FT CLEAR FROM THE WATER METER PIT AND STOP BOX LID FOR PLANTINGS, SHRUBS, AND BUSHES
4. 7 FT CLEAR FROM WATER METER PIT AND STOP BOX LID TO PROPERTY LINE

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

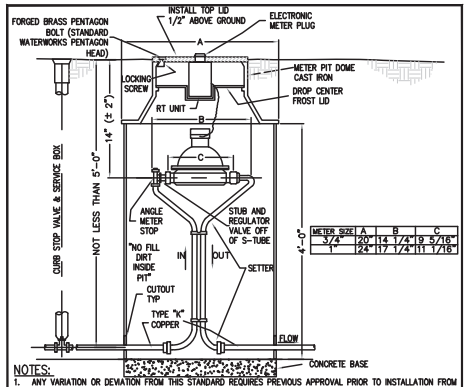
SERVICE LINE, STOP BOX, OUTSIDE METER INSTALLATION

D5.13

DATE: 12/2020

302 / D3 OUTSIDE SETTING FOR 0.75-INCH AND 1-INCH METER

NOT TO SCALE



METER SIZE	A	B	C
3/4"	20"	14 1/4"	9 5/16"
1"	24"	17 1/4"	11 1/16"

NOTES:

1. ANY VARIATION OR DEVIATION FROM THIS STANDARD REQUIRES PREVIOUS APPROVAL PRIOR TO INSTALLATION FROM METER INSPECTOR
2. METER PIT MUST BE INSTALLED IN LANDSCAPED AREA. PRIOR APPROVAL REQD FOR INSTALLATIONS IN ROADWAYS, DRIVEWAYS, OR SIDEWALKS, ROAD LIDS, OR OTHER SPECIAL MODIFICATIONS MAY BE REQD.
3. NO SHRUBS, BUSHES, OR PLANTS WITHIN 2 FT OF PIT LID AND STOP BOX. NO FENCES, WALLS, TREES, WITHIN 5 FT OF PIT WALL AND STOP BOX. STOP BOX AND METER MUST NOT BE BEHIND WALL OR FENCE.
4. ALL METER PITS SHALL BE FURNISHED WITH PLASTIC FROST LID WITH 3 INCH DEEP PAN, FIVE DRAIN HOLES, LIFTING HANDL, AND SLOT FOR AMR WIRE RUNNING FULL DEPTH OF LIP.
5. METER PIT SHALL BE CONSTRICTED IN ACCORDANCE WITH STANDARDS. TOTAL DEPTH OF PIT MUST BE AT LEAST 48" WITH ADJUSTMENT RINGS USED BETWEEN PIT TOP RING AND DOME SO PIT LID IS 1/2" TO 1" ABOVE FINISHED GRAD. TOP OF PIT RING SHALL NOT EXCEED 12" HEIGHT.
6. IN MOST CASES AMR DEVICE WILL MOUNT THROUGH CAST IRON LID OR UNDER COMPOSITE LID. IN SOME CASES REMOTE AMR DEVICE WILL BE NEEDED.
7. BENDING COPPER RISERS FOR GRAD ADJUSTMENT OF THE METER YOKE WILL NOT BE PERMITTED.
8. COPPER PIPE SHALL SHOW NO VISIBLE CRIMPING.
9. NO CONNECTIONS, BENDS, OR PIPE SIZE CHANGE.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

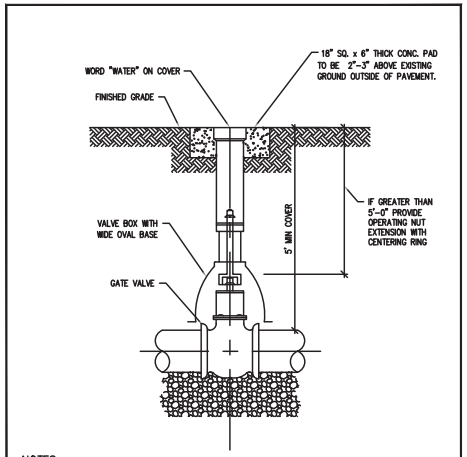
OUTSIDE SETTING FOR 0.75-INCH AND 1-INCH METER

D5.14

DATE: 12/2020

303 / D3 OUTSIDE SETTING FOR 0.75-INCH AND 1-INCH METER

NOT TO SCALE



NOTES:

1. CARE SHALL BE TAKEN WHEN INSTALLING VALVES ON' LINES TO ASSURE PROPER SUPPORT OF THE VALVES.
2. WOOD BLOCKS OR 3/4" WASHED ROCK TO BE INSTALLED UNDER THE VALVE TO PROVIDE PROPER SUPPORT WHERE REQUIRED.
3. VALVES SHALL NOT BE PLACED IN CONCRETE CROSS PANS.
4. ELEVATION FOR TOP OF COVER, PLACED IN PAVEMENT, SHALL BE SET IN ACCORDANCE WITH PAVING REQUIREMENTS OF LOCAL JURISDICTION.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

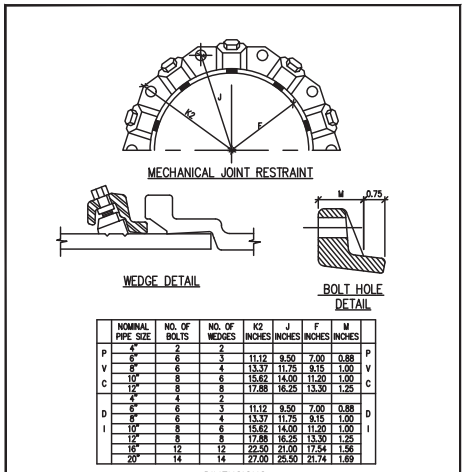
GATE VALVE

D5.17

DATE: 12/2020

304 / D3 GATE VALVE

NOT TO SCALE



	NOMINAL PIPE SIZE	NO. OF BOLTS	NO. OF WEDGES	K2 INCHES	J INCHES	F INCHES	M INCHES	
	4"	2	2					
P	6"	6	3	11.12	9.50	7.00	0.88	P
V	8"	6	4	13.37	11.75	9.15	1.00	V
C	10"	8	6	15.62	14.00	11.20	1.00	C
	12"	8	8	17.88	16.25	13.30	1.25	
	4"	4	2					
D	6"	6	3	11.12	9.50	7.00	0.88	D
I	8"	6	4	13.37	11.75	9.15	1.00	I
	10"	8	6	15.62	14.00	11.20	1.00	
	12"	8	8	17.88	16.25	13.30	1.25	
	16"	12	12	22.50	21.00	17.54	1.56	
	20"	14	14	27.00	25.50	21.74	1.69	

DIMENSIONS

NOTE:

1. BASED ON "MEGA LUG" PIPE RESTRAINT SYSTEM BY EBAA IRON
2. OTHER MECHANICAL JOINT RESTRAINT DEVICES MUST BE APPROVED BY TOWN ENGINEER BEFORE INSTALLATION.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

MECHANICAL JOINT RESTRAINT

D5.22

DATE: 12/2020

305 / D3 MECHANICAL JOINT RESTRAINT

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GREELEY: 820 8th Street, 80631

PROJECT: 187-025
DATE: 04/28/23
SCALE: N/A
DESIGNED BY:
DRAWN BY: Drawn By
P. MANAGER: T. Thorpe

VANTAGE SUBDIVISION 7TH FILING

WATERLINE DETAILS

Sheet D3

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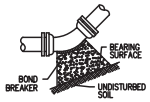
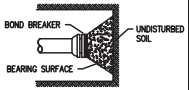
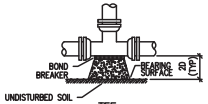


90° BENDS ONLY



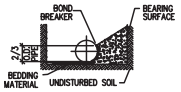
DEAD END



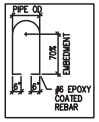
TEE

SIZE OF PIPE	SURFACE AREA (SQ FT)	
	TEE OR DEAD END	90° BENDS
4"	1.50	2.0
6"	3.00	4.5
8"	5.25	8.0
12"	11.25	17.0
16"	19.00	27.00
20"	25.00	35.50
24"	36.00	51.00

MINIMUM BEARING SURFACE AREA
(IN SQUARE FEET)



TYPICAL CROSS SECTION



NOTES:
1. BEARING SURFACES SHOWN IN CHART ARE MINIMUM
2. BASED ON 150 PSI INTERNAL PIPE PRESSURE PLUS WATER HAMMER
3. 6", 8", &12" WATER HAMMER = 110 PSI
4. 16", 20" AND 24" WATER HAMMER = 70 PSI
5. BASED ON 3000 PSI SOIL BEARING CAPACITY
6. THRUST BLOCK SHALL NOT INTERFERE W/MECHANICAL JOINT BOLT OPERATOIN

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

CONCRETE THRUST BLOCKS 1 OF 2

D5.23

DATE: 12/2020

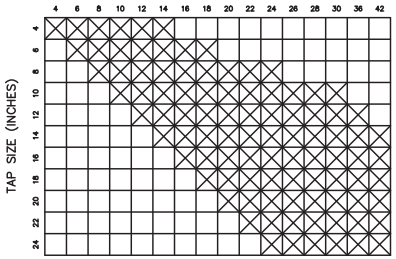
400 / D4 CONCRETE THRUST BLOCKS 1 OF 2 NOT TO SCALE

CONCRETE THRUST BLOCKS

WATER MAIN AND TAP SIZE COMBINATIONS WHICH REQUIRE A CONC THRUST BLOCK BEHIND THE MAIN AT THE TAPPING SLEEVE OR SADDLE

ALL WATER MAINS

☒ INDICATED CONC THRUST BLOCK REQD
MAIN SIZE (INCHES)



NOTES:
1. ANY THRUST BLOCK REQUIREMENTS FOR WATER MAIN AND TAP SIZED COMBINATIONS OTHER THAN THOSE SHOWN ABOVE WILL REQUIRE SPECIAL DESIGN APPROVAL BY THE TOWN ENGINEER

SCALE: NTS

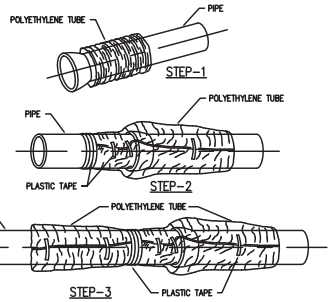
TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

CONCRETE THRUST BLOCKS 2 OF 2

D5.24

DATE: 12/2020

401 / D4 CONCRETE THRUST BLOCKS 2 OF 2 NOT TO SCALE



FIELD INSTALLATION-POLYETHYLENE WRAP

STEP-1 PLACE TUBE OF POLYETHYLENE MATERIAL AROUND PIPE PRIOR TO LOWERING PIPE INTO TRENCH

STEP-2 PULL THE TUBE OVER THE LENGTH OF THE PIPE. TAPE TUBE TO PIPE AT JOINT FOLD MATERIAL AROUND THE ADJACENT SPIGOT END AND WRAP WITH THREE CIRCUMFERENTIAL TURNS OF TWO-INCH WIDE PLASTIC TAPE TO HOLD PLASTIC TUBE AROUND SPIGOT END

STEP-3 ADJACENT TUBE OVERLAPS FIRST TUBE AND IS SECURED WITH PLASTIC ADHESIVE TAPE. THE POLYETHYLENE TUBE MATERIAL COVERING THE PIPE WILL BE LOOSE. EXCESS MATERIAL AND SHOULD BE NEATLY DRAWN UP AROUND THE PIPE BARREL, FOLDED INTO AN OVERLAP ON TOP OF THE PIPE AND HELD IN PLACE BY MEANS OF PIECES OF THE PLASTIC TAPE AT APPROXIMATELY THREE TO FIVE FOOT INTERVALS

NOTE:
1. ALL RODDING TO BE ENCASED IN POLYETHYLENE SEPARATED FROM THE PIPE

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
WATER DETAILS

POLYETHYLENE WRAP

D5.27

DATE: 12/2020

402 / D4 POLYETHYLENE WRAP NOT TO SCALE

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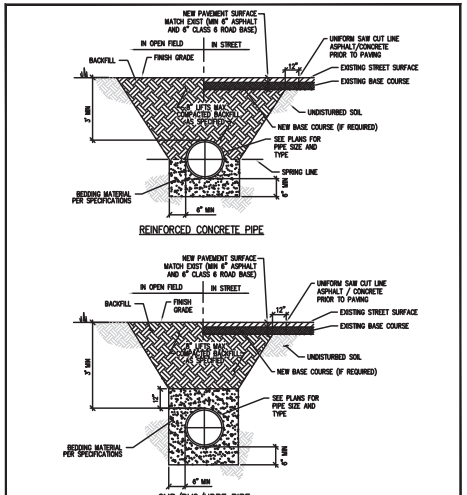
DATE: 04/28/23
SCALE: N/A
DESIGNED BY: Designed By
DRAWN BY: Drawn By
P. MANAGER: P. Thorne

VANTAGE SUBDIVISION 7TH FILING

WATERLINE DETAILS

Sheet
D4

DRAWING FILENAME: P:\167-025\dwg\details\167-025_DET_WT.dwg LAYOUT NAME: D4 DATE: Apr 28, 2023 - 11:48am USE OPERATOR: stephanie
LIST OF WORK [NO]--save--[]

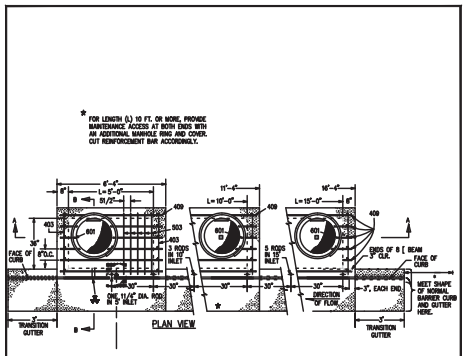


NOTES:
1. IF UNSTABLE MATERIALS ARE FOUND IN TRENCH, OVERECAVATE PER SPECIFICATIONS OR AS REQUIRED.
2. TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKERS AND THE PROTECTION OF OTHER UTILITIES.

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
STORM SEWER DETAILS
STORM SEWER BEDDING DETAIL
D6.02
DATE: 12/2020

500 / D5 STORM SEWER BEDDING DETAIL — NOT TO SCALE

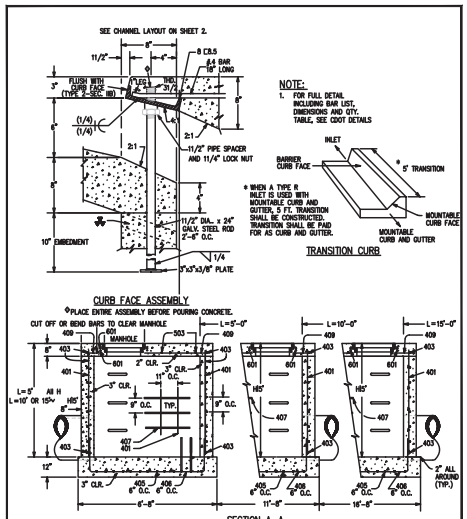


NOTES:
1. USE OF A TYPE R INLET MUST BE APPROVED BY THE TOWN.
2. CONCRETE SHALL BE CLASS B, INLET MAY BE CAST-IN-PLACE OR PRECAST.
3. CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES AND SHALL BE 8 IN. THICK.
4. INLET STEPS SHALL BE IN CONFORMANCE WITH AASHTO M 199.
5. CURB FACE ASSEMBLY SHALL BE GALVANIZED AFTER WELDING. 5. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4 IN. CURB AND GUTTER CORNERS SHALL BE FINISHED TO MATCH THE EXISTING CURB AND GUTTER BEYOND THE TRANSITION GUTTER.
6. REINFORCING BARS SHALL BE DEFORMED AND SHALL HAVE A 2 IN. MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE EPOXY COATED.
7. DIMENSIONS AND WEIGHTS OF TYPICAL MANHOLE RING AND COVER ARE NOMINAL.
8. MATERIAL FOR MANHOLE RINGS AND COVERS SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.08.
9. SINCE PIPE ENTRIES INTO THE INLET ARE VARIABLE, THE DIMENSIONS SHOWN ARE TYPICAL. ACTUAL DIMENSIONS AND QUANTITIES FOR CONCRETE AND REINFORCEMENT BARS SHALL BE AS REQUIRED IN THE WORK. QUANTITIES INCLUDE VOLUMES OCCUPIED BY PIPES.
10. STRUCTURAL STEEL SHALL BE GALVANIZED AND SHALL BE IN ACCORDANCE WITH SUBSECTION 712.06.
11. ALL MANHOLE COVERS SHALL BE CAST WITH A "NO DUMPING DRAINS TO STREAM" MESSAGE AND A FISH SYMBOL. THE SURFACE OF THE MANHOLE COVER SHALL HAVE A NON-SLIP PATTERN.
12. FOR FULL DETAIL INCLUDING BAR LIST AND DIMENSION TABLE, SEE CDOT DETAIL M-604-12 SHEETS 1 AND 2

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
STORM SEWER DETAILS
TYPE R CURB INLET (1 OF 3)
D6.09A
DATE: 12/2020

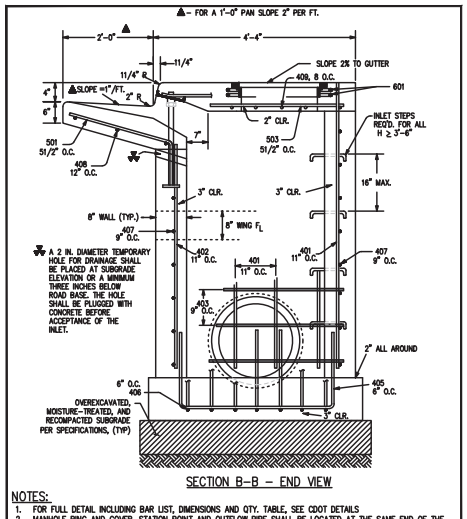
501 / D5 TYPE R CURB INLET (1 OF 3) — NOT TO SCALE



SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
STORM SEWER DETAILS
TYPE R CURB INLET (2 OF 3)
D6.09B
DATE:12/2020

502 / D5 TYPE R CURB INLET (2 OF 3) — NOT TO SCALE

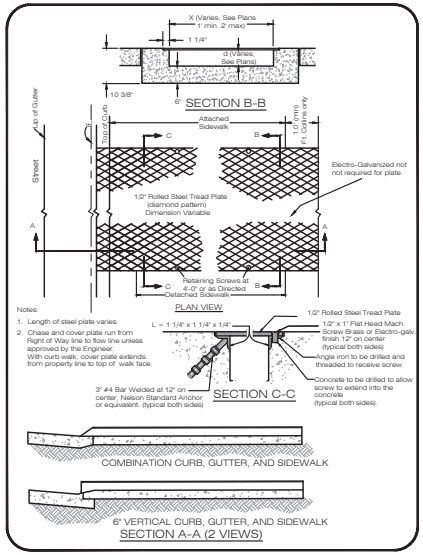


NOTES:
1. FOR FULL DETAIL INCLUDING BAR LIST, DIMENSIONS AND QTY. TABLE, SEE CDOT DETAILS
2. MANHOLE RING AND COVER, STATION POINT AND OUTFLOW PIPE SHALL BE LOCATED AT THE SAME END OF THE INLET

SCALE: NTS

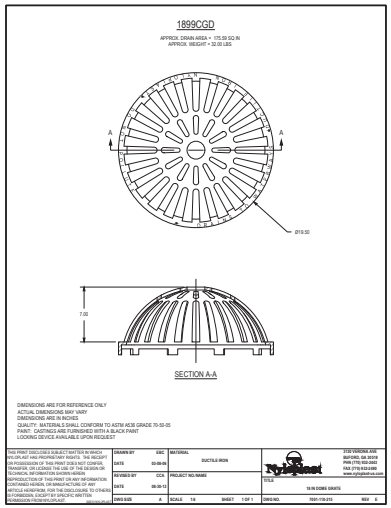
TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
STORM SEWER DETAILS
TYPE R CURB INLET (3 OF 3)
D6.09C
DATE: 12/2020

503 / D5 TYPE R CURB INLET (3 OF 3) — NOT TO SCALE

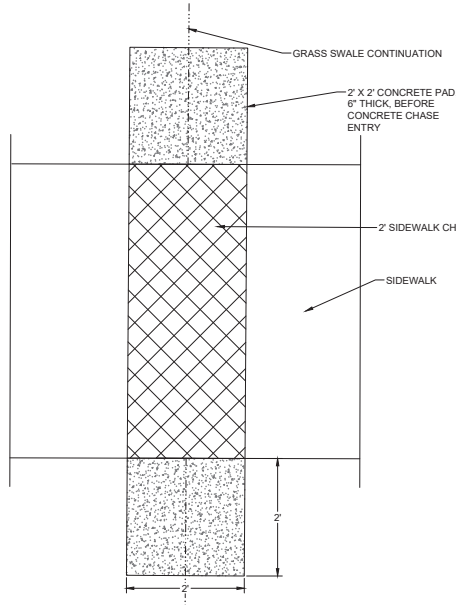


STANDARD DETAILS FOR DRAINAGE UNDER SIDEWALK			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING
		DATE: 08/01/21	709

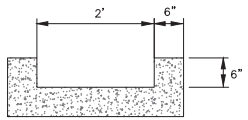
504 / D5 METAL SIDEWALK CHASE — NOT TO SCALE



505 / D5 NYLOPLAST GRATE — NOT TO SCALE



506 / D5 2' SIDEWALK CHASE CONCRETE PADS — NOT TO SCALE



507 / D5 POND 2' U-GUTTER TRICKLE PAN — NOT TO SCALE

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below. Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No. | Revisions: | Date
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04/28/23

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NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
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DATE: 04/28/23
SCALE: N/A
PROJECT: 187-025
DESIGNED BY: C. SPIRE
P. MANAGER: T. TUTOR
DRAWN BY: C. PAGE

VANTAGE SUBDIVISION 7TH FILING
DRAINAGE DETAILS

Sheet
D5
20 of 27

DRAWING FILENAME: P:\187-025\Dwg\Details\187-025_STD_DRWG.dwg LAYOUT NAME: D5 DATE: Apr 28, 2023 - 10:48am CAD OPERATOR: stephanie
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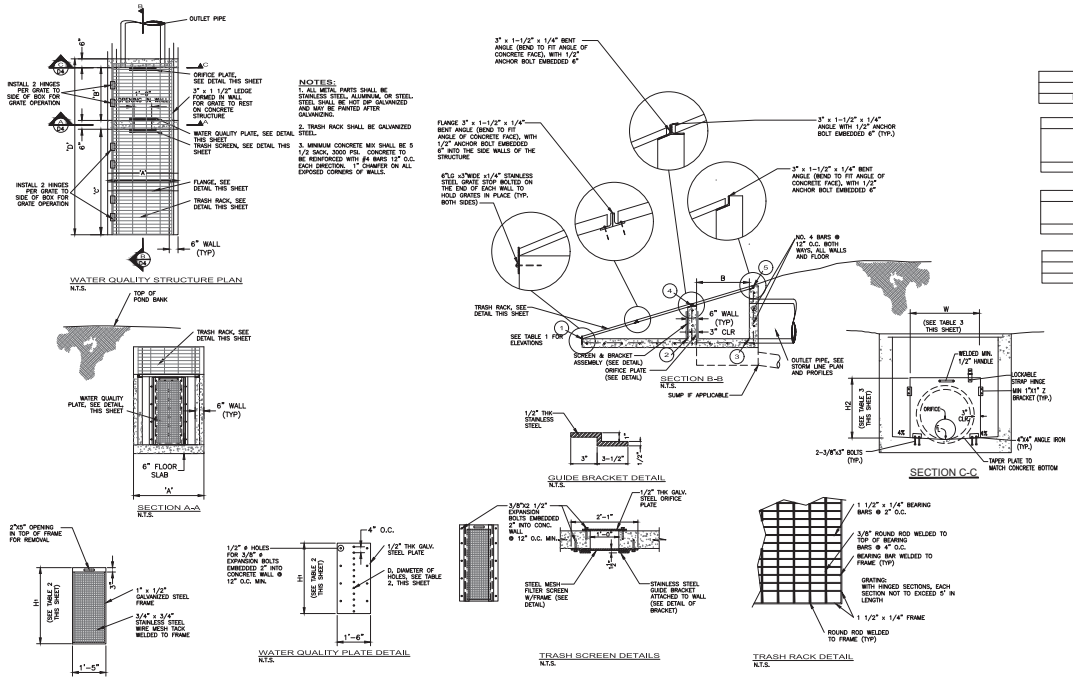


NOTES:

1. ALL METAL PARTS SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL SHALL BE HOT DIP GALVANIZED AND MAY BE PAINTED AFTER GALVANIZING.

2. TRASH RACK SHALL BE GALVANIZED STEEL.

3. MINIMUM CONCRETE MIX SHALL BE 5 1/2 SACK, 3000 PSI. CONCRETE TO BE REINFORCED WITH #4 BARS 12" O.C. EACH DIRECTION. 1" CHAMFER ON ALL EXPOSED CORNERS OF WALLS.

Table 1

Pond	Elev 1	Elev 2	Elev 3	Elev 4	Elev 5
Pond I	5073.64	5073.58	5073.56	5075.88	5076.50

Table 2

Pond	No. of Rows	No. of Colums	Plate Width, P (inch)	Concrete Opening Width, Q (inch)	WQ Hole Dia., DWQ (inch)	Plate Height , H1 (ft)	Plate Thickness (in)
Pond I	3	1	18	12	0.92	1.83	0.50

Table 3

Pond	Plate Width, W (inch)	Plate Height, H2 (inch)	Orifice Dia (inch)
Pond I	29.0	23.5	5.0

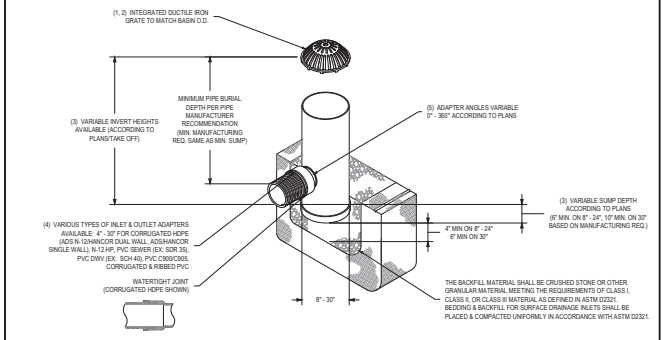
Table 4

Pond	Dimension A (ft)	Dimension B (ft)	Dimension C (ft)	Dimension D (ft)
Pond I	5.00	4.00	11.50	16.00

600 / D6 OUTLET STRUCTURES DETAILS

NOT TO SCALE

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 24").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

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DRAWN BY	EBC	MATERIAL	
DATE	03-25-10		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:40	SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE, BUFORD, GA 30518, PHN (770) 932-2443, FAX (770) 932-2488, www.nyloplast-us.com

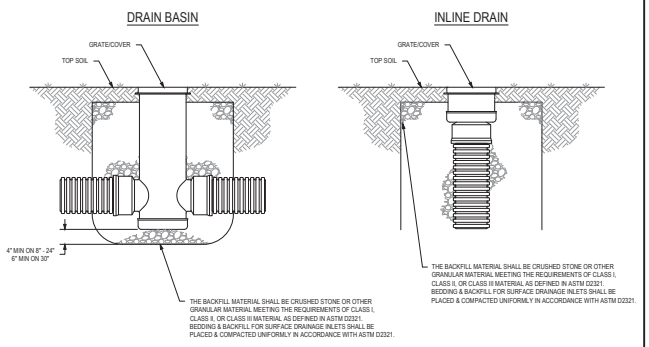
TITLE: DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-397 REV D

601 / D6 24" NYLOPLAST DRAINAGE BASIN

NOT TO SCALE

NON TRAFFIC INSTALLATION



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DRAWN BY	CJA	MATERIAL	
DATE	9-30-09		
REVISED BY	NMH	PROJECT NO./NAME	
DATE	03-11-16		
DWG SIZE	A	SCALE 1:25	SHEET 1 OF 1

Nyloplast — 3130 VERONA AVE, BUFORD, GA 30518, PHN (770) 932-2443, FAX (770) 932-2488, www.nyloplast-us.com

TITLE: DRAIN BASIN & INLINE DRAIN NON TRAFFIC INSTALLATION

DWG NO. 7001-110-111 REV E

602 / D6 NYLOPLAST NON TRAFFIC INSTALLATION

NOT TO SCALE

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No. | Revisions: | Date

REVIEW SET NOT FOR CONSTRUCTION 04/28/23

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NORTHERN ENGINEERING
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970.221.4158
northernengineering.com

DATE: 04/28/23 | SCALE: N/A | P. MANAGER: T. TUPOW
PROJECT: 187-025 | DESIGNED BY: C. SPIRE | DRAWN BY: C. VAN

VANTAGE SUBDIVISION 7TH FILING

DRAINAGE DETAILS

Sheet D6

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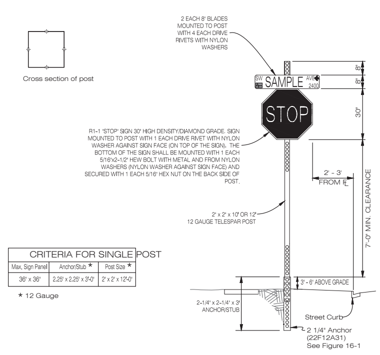


CRITERIA FOR SINGLE POST		
Max. Sign Panel	Anchor/Stub *	Post Size *
36" x 36"	2.25" x 2.25" x 3'-0"	2" x 2" x 12'-0"

* 12 Gauge

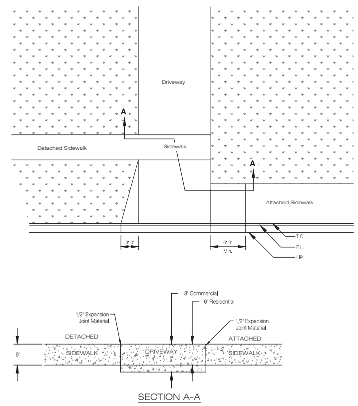
NOTES:

1. Attach the sign panels tightly to the post and use oversized washers to keep the sign from breaking loose from the post when hit by a vehicle.
2. Sign panels should be mounted a minimum of 7 feet above the pavement or ground.
3. Signs larger than 36 inches in length or width require wind bracing and special post design.
4. Anchor Stub and post are square steel tube (perforated).
5. All "No Parking" signs shall be installed at 45° from Flow Line.

SIGN POST

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 / DATE: 04/01/07	DRAWING 1401

700 / D7 — SIGN POST — NOT TO SCALE



All Sidewalk Thickness Shall Be 6" minimum.

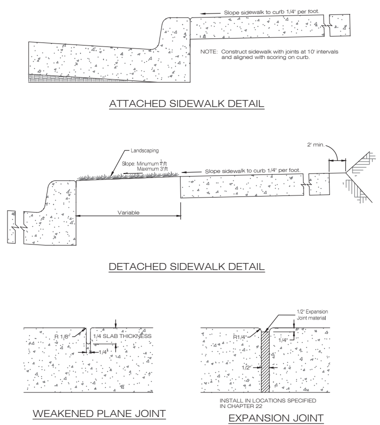
NOTE:

1. Sidewalk grade shall remain consistent across driveway
2. For driveway design requirements, see **CONST. DWG. 706 & 707.**
3. This detail applies to Residential & Commercial driveways.

STANDARD SIDEWALK

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 / DATE: 04/01/07	DRAWING 1601

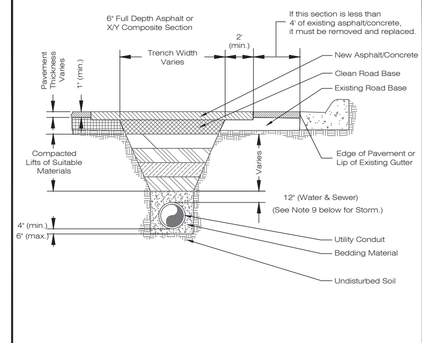
702 / D7 — STANDARD SIDEWALK — NOT TO SCALE



SIDEWALK DETAIL

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 2 / DATE: 04/01/07	DRAWING 1602

703 / D7 — SIDEWALK DETAIL — NOT TO SCALE



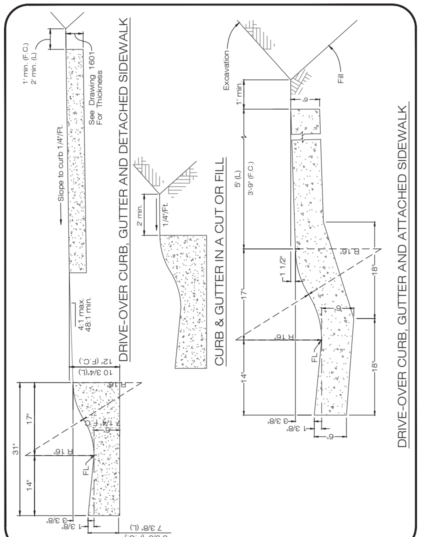
NOTES:

1. All trenches shall be backfilled in accordance with the above detail unless otherwise specified by the Local Entity Engineer.
2. Prior to placement of asphalt/concrete, pavement edge shall be saw cut to a clean, vertical, and straight edge.
3. Where the surrounding soils are non-expansive, a sand/cement slurry (1 sack mix) may be substituted for backfill material.
4. Trench width shall not be more than 16" nor less than 12" wider than the outside diameter of the pipe.
5. Use a #4 rebar at centers along the perimeter of concrete replacement sections.
6. Refer to Chapter 22, Materials & Construction Specifications for compaction and testing requirements.
7. In unimproved areas, all disturbed areas shall be regraded, seeded & mulched.
8. In concrete roadways, a minimum of one entire concrete panel must be replaced.
9. Bedding material depth when installing storm sewer shall be up to spring line, except in areas of unsuitable backfill; then, bedding material shall be placed to a level 12" above pipe.

TRENCH DETAIL

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 / DATE: 08/07/00	DRAWING 2201

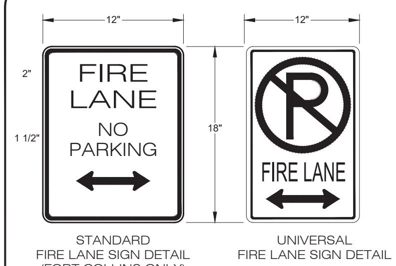
704 / D7 — TRENCH DETAIL — NOT TO SCALE



CURB AND GUTTER/SIDEWALK

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 / DATE: 03/01/02	DRAWING 702

705 / D7 — 31" DRIVE-OVER INFLOW CURB AND GUTTER / SIDEWALK — NOT TO SCALE



COLOR SCHEDULE	
LEGEND, CIRCLE DIAGONAL, BORDER, "ARROW", "FIRE LANE"	RED
BACKGROUND	WHITE
"P"	BLACK

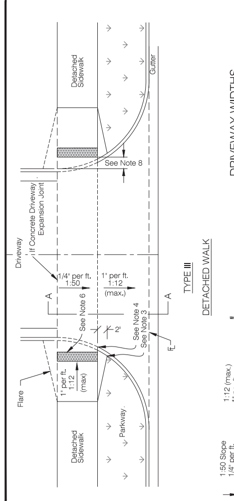
NOTES:

1. THE SIGN PLATE SHALL BE A MINIMUM OF 12"X18" WITH A THICKNESS OF .080 ALUMINUM CONSTRUCTION.
2. THE SIGN FACE SHALL HAVE A WHITE REFLECTIVE BACKGROUND WITH A RED LEGEND. USE THE STANDARD 3M SCOTCHLITE SIGN FACE NUMBER R7-32 OR EQUIVALENT, WITH RED LETTERING AS SHOWN ABOVE.
3. ARROWS MAY BE NEEDED (LEFT, RIGHT OR DOUBLE), TO DESIGNATE BEGIN AND END OF NO PARKING AREA.

FIRE ACCESS ROAD SIGNS

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 2 / DATE: 04/01/07	DRAWING 1418

706 / D7 — FIRE ACCESS ROAD SIGN — NOT TO SCALE



DRIVEWAY WIDTHS

CLASSIFICATION	APPROACH TYPE	MINIMUM WIDTH	MAXIMUM WIDTH
RESIDENTIAL:			
Single Family ●	I or II	12'	24' *
Multi Family ●	I, II, III, or IV	24'	36' * *
Commercial	I, II, III, or IV	24'	36' * *
Industrial	I, II, III, or IV	24'	36'

● High volume driveways (Type III or IV) allowed for 350 or greater trip ends/day.
* 30' maximum for 3 car garages.
* * No single opening shall exceed 36'. Wider driveways shall be divided w/a median not less than 6' wide.

NOTES:

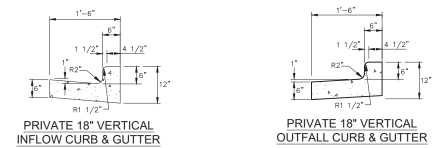
1. 6' wide pan for residential streets.
2. All intersections to have access ramps.
3. Standard Curb and Gutter Section, See Standard Drawing 701
4. 0" Curb Height, See Section A-A
5. All of these pedestrian improvements shall be in ROW or a pedestrian or public access easement.
6. Detectable Warning to extend the full width of the ramp and be 2'-0" in the direction of travel. Maximum slope in the direction of travel shall be no more than 5.0 percent (1:20). Material to be approved by local engineer
7. T = 6" for residential and 8" for commercial.
8. Distance from back of curb to the beginning of Detectable Warning cannot be greater than 5'-0"

NOT TO SCALE

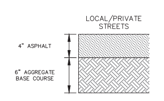
STANDARD DRIVEWAY APPROACH (HIGH VOLUME DRIVE TYPE III)

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 / DATE: 02/17/15	DRAWING 707.1

707 / D7 — STANDARD DRIVEWAY APPROACH (HIGH VOLUME DRIVE TYPE III) — NOT TO SCALE

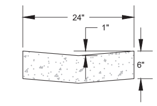


708 / D7 — PRIVATE 18" VERTICAL INFLOW/OUTFLOW CURB & GUTTER — NOT TO SCALE



*FOR REFERENCE ONLY. PAVEMENT SECTION SHALL BE DESIGN BY GEOTECH PRIOR TO CONSTRUCTION.

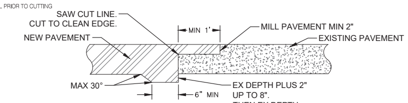
709 / D7 — PRELIMINARY PAVEMENT DETAIL — NOT TO SCALE



NOTE FOR CONCRETE PAN:
1. PROVIDE CONTRACTION JOINT EVERY TEN (10) FEET.
2. 6 IN x 6 IN x 10/10 WWF SHALL BE INSTALLED.

710 / D7 — 2' CONCRETE PAN — NOT TO SCALE

NOTE:
1. TO BE USED AT ALL PAVEMENT EXPANSIONS AND CONTINUATIONS
2. MIL PRIOR TO CUTTING



711 / D7 — Z-CUT DETAIL — NOT TO SCALE

No. | Revisions: | By: | Date:

REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

These drawings are instruments of service provided by Northern Engineering Services, Inc. and are not to be used for any type of construction unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

NORTHERN ENGINEERING
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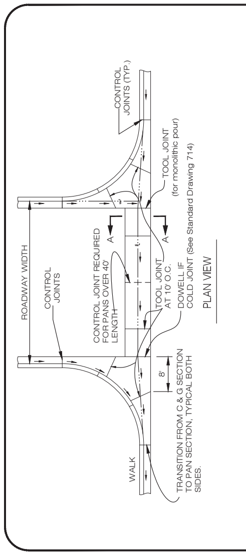
PROJECT: 167-025 | DATE: 04/26/23
DESIGNED BY: Designed By | SCALE: N/A
DRAWN BY: Drawn By | P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

SITE DETAILS

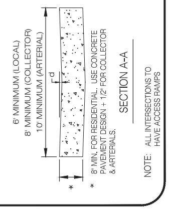
Sheet D7

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_SITE.dwg LAYOUT NAME: D7 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-xborder]



PARALLEL STREET CLASSIFICATION	W CROSS PAN WIDTH	LOVELAND DEPTH OF INVERT d (MIN.)	LOVELAND DEPTH OF INVERT d (MAX.)	FT. COLLINS DEPTH OF INVERT d
Arterial	10'	1 1/4"	2 1/2"	1 1/2"
Collector	8'	1"	2"	1 1/8"
Local	6' **	3/4"	1 1/2"	7/8"

** 8' MIN. WIDTH WHERE CROSSING A COLLECTOR ROADWAY.



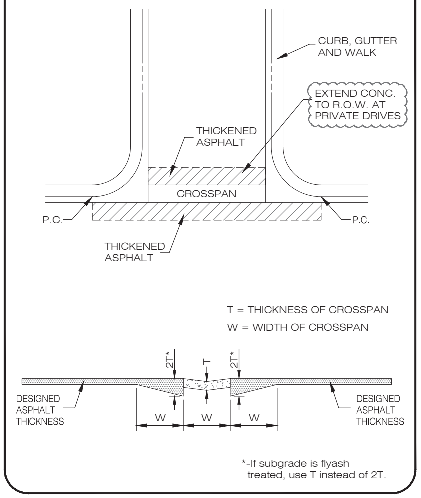
* 8" MIN. FOR RESIDENTIAL. USE CONCRETE PAVEMENT DESIGN + 1/2" FOR COLLECTOR & ARTERIALS.

NOTE: ALL INTERSECTIONS TO HAVE ACCESS RAMPS

STREET INTERSECTION CROSSPAN

LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 2	DRAWING
		DATE: 04/01/07	708

800 / D8 — STREET INTERSECTION CROSSPAN — NOT TO SCALE



*-If subgrade is flyash treated, use T instead of 2T.

ASPHALT PAVING DETAIL (CROSSPAN)

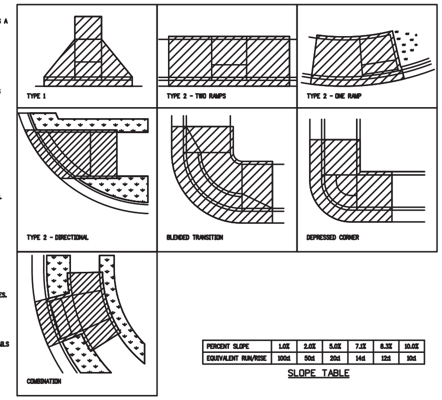
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING
		DATE: 04/01/07	710

801 / D8 — ASPHALT PAVING DETAIL (CROSSPAN) — NOT TO SCALE

CURB RAMP GENERAL NOTES:

1. IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION, PROVIDE A SEPARATE CURB RAMP FOR EACH MARKED OR UNMARKED PEDESTRIAN STREET CROSSING. CURB RAMPS SHALL BE CONTAINED WHOLLY WITHIN THE WIDTH OF THE PEDESTRIAN STREET CROSSING OR CROSSWALK THEY SERVE, OR AS SHOWN ON THE CONTRACT PLANS.
2. ALTERATIONS ARE DEFINED AS CHANGES TO AN EXISTING HIGHWAY THAT AFFECT PEDESTRIAN ACCESS, CIRCULATION, OR USE. ALTERATIONS INCLUDE, BUT ARE NOT LIMITED TO, RESURFACING, REHABILITATION, RECONSTRUCTION, CURB RAMP RETROFITS, HISTORIC RESTORATION, OR CHANGES OR REARRANGEMENT TO STRUCTURAL PARTS OR ELEMENTS OF A PEDESTRIAN FACILITY.
3. A WALKABLE SURFACE IS DEFINED AS A PAVED SURFACE ADJACENT TO A CURB RAMP OR TURNING SPACE, WITHOUT RAISED OBSTACLES, THAT COULD BE MISTAKENLY TRAVERSED BY A USER WHO IS VISUALLY IMPAIRED.
4. IN ALTERATIONS, WHERE AN EXISTING PHYSICAL CONSTRAINT PREVENTS PROVIDING A SEPARATE CURB RAMP FOR EACH PEDESTRIAN STREET CROSSING, A SINGLE DIAGONAL RAMP (ON THE APEX) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. THE USE OF A SINGLE DIAGONAL RAMP SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION OR FULL-DEPTH RECONSTRUCTION.
5. DETECTABLE WARNINGS SURFACES (DWS) ARE INTENDED TO INDICATE THE BOUNDARY BETWEEN A PEDESTRIAN ROUTE AND VEHICULAR ROUTE WHERE THERE IS A FLUSH RATHER THAN CURBED CONNECTION. DWS ARE NOT INTENDED TO PROVIDE WAYFINDING. DWS SHALL BE PROVIDED AT THE FOLLOWING LOCATIONS;
   1. CURB RAMPS, BLENDED TRANSITIONS, AND DEPRESSED CORNERS AT PEDESTRIAN STREET CROSSINGS;
   2. PEDESTRIAN REFUGE ISLANDS (6 FEET IN WIDTH OR GREATER);
   3. BOARDING PLATFORMS AT TRANSIT STOPS WHERE THE EDGE OF THE PLATFORM IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC; AND
   4. BOARDING AREAS AT SIDEWALK OR STREET LEVEL TRANSIT STOPS WHERE THE AREA IS NOT PROTECTED TO PEDESTRIAN CROSS TRAFFIC.
6. DETECTABLE WARNING SURFACES SHALL CONTRAST VISUALLY WITH THE ADJACENT GUTTER, HIGHWAY, OR PEDESTRIAN ACCESS ROUTE SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. FEDERAL YELLOW COLOR IS PREFERRED, HOWEVER, OTHER COLORS MAY BE USED IF APPROVED BY THE ENGINEER.
7. IN ALTERATIONS, TO AVOID CHASING GRADE INDEFINITELY ON STEEP ROADWAYS, A CURB RAMPS LENGTH IS NOT REQUIRED TO EXCEED 15 FEET REGARDLESS OF THE RESULTING RAMP RUNNING SLOPE.
8. ALL SLOPES ARE MEASURED WITH RESPECT TO A LEVEL PLANE.
9. DRAINAGE STRUCTURES, TRAFFIC SIGNAL EQUIPMENT, OR OTHER OBSTRUCTIONS SHALL NOT BE INSTALLED ON THE CURB RAMP, OR TURNING SPACE AREAS.
10. IN NEW CONSTRUCTION, PULL BOXES, METER BOXES, MAINTENANCE HOLE COVERS, VAULT LIDS, OR SIMILAR, SHALL NOT BE CONSTRUCTED WITHIN ANY PART OF CURB RAMP OR TURNING SPACE. IN ALTERATIONS, WHERE THESE ITEMS CANNOT BE RELOCATED OUTSIDE OF THE CURB RAMP OR TURNING SPACE, THEY MUST NOT CREATE A VERTICAL DISCONTINUITY GRATER THAN 1/2 INCH. ANY VERTICAL DISCONTINUITY BETWEEN 1/4 INCH AND 1/2 INCH SHALL BE BEVELED WITH A SLOPE NOT STEEPER THAN 1V:2H. THE BEVEL SHALL BE APPLIED ACROSS THE ENTIRE SURFACE DISCONTINUITY.
11. CONSTRUCTION OF ANY REQUIRED PEDESTRIAN CURB SHALL BE INCLUDED IN THE BID PRICE OF THE CONCRETE CURB RAMP AND WILL NOT BE PAID FOR SEPARATELY.
12. ALL CURB RAMP JOINTS AND GRADE BREAKS SHALL BE FLUSH (0"-1/8"). THE JOINT BETWEEN THE ROADWAY SURFACE AND THE GUTTER PAN SHALL BE FLUSH.
13. THE CONTRACTOR SHALL VERIFY REMOVAL LIMITS ARE SUFFICIENT TO PROVIDE POSITIVE DRAINAGE, MAINTAIN EXISTING DRAINAGE PATTERNS, AND AVOID PONDING IN THE FINAL CONFIGURATION.
14. FLARED SIDE SLOPES MAY EXCEED 10.0% ONLY WHERE THEY ABUT A NON-WALKABLE SURFACE, OR WHERE THE ADJACENT RAMP SURFACE IS BLOCKED TO PEDESTRIAN TRAFFIC.
15. THE CHANGE IN GRADE AT THE BOTTOM OF THE CURB RAMP SHALL NOT EXCEED AN ALGEBRAIC DIFFERENCE OF 13.33%. THE COUNTER SLOPE OF THE GUTTER AT THE FOOT OF A RAMP, TURNING SPACE, OR BLENDED TRANSITION SHALL NOT EXCEED 5.0%.
16. GRADE BREAKS AT THE TOP AND BOTTOM OF RAMP RUNS SHALL BE PERPENDICULAR TO THE DIRECTION OF THE RAMP RUN. GRADE BREAKS SHALL NOT BE PERMITTED ON THE SURFACE OF THE RAMP RUN OR TURNING SPACE. SURFACE SLOPES THAT MEET AT GRADE BREAKS SHALL BE FLUSH.
17. A BROOM FINISH, WITH SWEEPS PERPENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAFFIC, SHALL BE APPLIED TO ALL RAMP AND TURNING SPACE SURFACES.
18. IN ALTERATIONS, WHERE A RAMP OR TURNING SPACE MUST TIE INTO AN EXISTING GRADE THAT CANNOT BE ALTERED, THE RAMP OR TURNING SPACE MAY BE WARPED TO TRANSITION TO THE REQUIRED CROSS SLOPE. THE TRANSITION TO THE REQUIRED CROSS SLOPE SHALL BE SPREAD EVENLY OVER THE LENGTH OF THE RAMP OR TURNING SPACE TO MINIMIZE THE DEGREE OF WARPING. THE RATE OF CHANGE ON A RAMP OR TURNING SPACE SHALL NOT EXCEED 3% PER LINEAR FOOT.
19. DESIGN AND CONSTRUCT CURB RAMPS, TURNING SPACES, AND FLARE SLOPES WITH THE FLATTEST SLOPES POSSIBLE. THE SLOPES INDICATED IN THESE DETAILS SHOW THE MAXIMUM SLOPES ALLOWABLE. PREFERRED VALUES TO BE USED DURING DESIGN, LAYOUT, AND CONSTRUCTION ARE:
   - RAMP RUNNING SLOPE 7.5%
   - RAMP CROSS SLOPE 1.5%
   - TURNING SPACE RUNNING SLOPE 1.5%
   - TURNING SPACE CROSS SLOPE 1.5%
   - FLARE SLOPE 8.0-9.0%
20. WHERE SNOW REMOVAL EQUIPMENT WILL BE USED TO CLEAR THE PEDESTRIAN ACCESS ROUTE, CONSULT THE ENGINEER PRIOR TO CONSTRUCTION TO ENSURE THE WIDTH AND THICKNESS OF CURB RAMPS IS SUFFICIENT TO ACCOMODATE SUCH EQUIPMENT.
21. PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMPS ADJOIN ANY RIGID PAVEMENT, OR STRUCTURE. THE TOP OF THE JOINT FILLER MATERIAL SHALL BE FLUSH WITH ADJOINING CONCRETE SURFACES. THE EXPANSION JOINT MATERIAL SHALL EXTEND FOR THE FULL DEPTH OF THE CONCRETE SURFACE.
22. PROVIDE TIE BAR REINFORCING BETWEEN INDEPEDENTLY POURED CONCRETE CURB RAMPS OR TURNING SPACES AND CURB AND GUTTER. DRILL AND GROUT NO. 4 12 INCH LONG REINFORCEMENT BARS (EPOXY COATED) AT 18 INCHES CENTER TO CENTER MINIMUM.

CURB RAMP PAY AREAS



PERCENT SLOPE	1.0%	2.0%	5.0%	7.1%	8.3%	10.0%
EQUIVALENT RUN/RISE	100:1	50:1	20:1	14:1	12:1	10:1

SLOPE TABLE

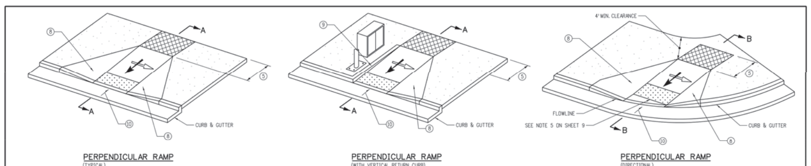
GENERAL NOTES & PAY AREAS

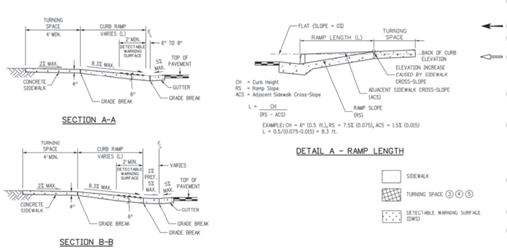
Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 05/03/19 Initials: LTA	(R-X)	05/03/19	Completely revised every sheet.
Full Path: www.codot.gov/business/designsupport	(R-X)		
Drawing File Name: 6080101010.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

Colorado Department of Transportation, 2829 West Howard Place, CDOT HQ, 3rd Floor, Denver, CO 80204, Phone: 303-757-9021 FAX: 303-757-9868, Division of Project Support JBK/LTA

CURB RAMPS — Issued By: Project Development Branch July 4, 2012 — STANDARD PLAN NO. M-608-1 — Sheet No. 1 of 10

802 / D8 — CURB RAMP STANDARD DETAIL — NOT TO SCALE





PERPENDICULAR RAMP NOTES

1. RAMP WIDTH - PROVIDE 5 FT. OR GREATER WHERE POSSIBLE. IF SITE CONSTRAINTS DO NOT PERMIT, PROVIDE 4 FT. MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
2. RAMP RUNNING SLOPE - 8.3% MAX.
3. TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED IN THE SAME DIRECTION AS THE RAMP RUNNING SLOPE.
4. RAMP AND TURNING SPACE CROSS SLOPE - 2.0% TYPICAL. AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF RAMPS AND TURNING SPACES MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE RAMP AND TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE.
5. TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE TOP OF PERPENDICULAR RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. TURNING SPACE LENGTH MUST BE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. WHEN A TURNING SPACE IS CONSTRAINED AT THE BACK OF SIDEWALK, INCREASE LENGTH TO 5 FT. MINIMUM IN THE DIRECTION OF THE RAMP RUN.
6. RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED TO BE FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. IF A DIAGONAL RAMP IS USED, A CLEAR SPACE 4 FT. X 4FT. MUST BE PROVIDED AT THE BASE OF THE RAMP. THE CLEAR SPACE MUST BE WITHIN BOTH CROSSWALKS AND WHOLLY OUTSIDE OF ANY ADJACENT VEHICULAR TRAVEL LANES. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.
7. RAMP LENGTH - PERPENDICULAR RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE, HEIGHT OF CURB, AND ADJACENT SIDEWALK CROSS-SLOPE WHICH MUST BE INTERCEPTED. SEE DETAIL A FOR CALCULATING RAMP LENGTH WHEN CHASING SIDEWALK CROSS-SLOPE. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
8. RAMP FLARES - WHERE A RAMP EDGE ABUTS A WALKABLE SURFACE, A FLARED SIDE SHALL BE PROVIDED. RAMP FLARE SLOPES SHALL NOT EXCEED 10.0%.
9. VERTICAL CURB RETURNS - VERTICAL CURB RETURNS MAY BE USED ONLY WHERE A RAMP ABUTS A NON-WALKABLE SURFACE, OR WHERE A RAMP IS PROTECTED FROM PEDESTRIAN CROSS TRAFFIC (FOR EXAMPLE BY A SIGNAL CABINET OR UTILITY POLE WHICH BLOCKS PASSAGE).
10. GUTTER COUNTER SLOPE - 5.0% MAX.

TYPE 1 PERPENDICULAR CURB RAMPS

Computer File Information		Sheet Revisions	
Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 05/03/19 Initials: LTA	(R-X)	05/03/19	Completely revised every sheet.
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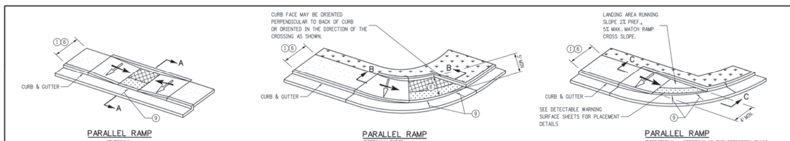
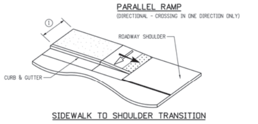
Drawing File Name: 6080102010.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

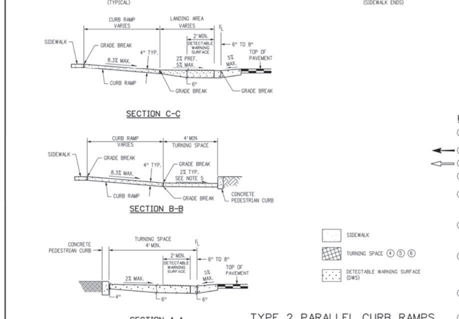
Colorado Department of Transportation, 2829 West Howard Place, CDOT HQ, 3rd Floor, Denver, CO 80204, Phone: 303-757-9021 FAX: 303-757-9868, Division of Project Support JBK/LTA

CURB RAMPS — Issued By: Project Development Branch July 4, 2012 — STANDARD PLAN NO. M-608-1 — Sheet No. 2 of 10

803 / D8 — CURB RAMP STANDARD DETAIL — NOT TO SCALE







PARALLEL RAMP NOTES

1. RAMP WIDTH - PROVIDE A RAMP WIDTH EQUAL TO THE ADJOINING SIDEWALK, PROVIDE 4 FT. WIDTH MINIMUM. RAMPS SERVICING SHARED USE PATHS SHALL MATCH THE WIDTH OF THE PATH.
2. RAMP RUNNING SLOPE - 8.3% MAX.
3. RAMP CROSS SLOPE - 2.0% MAX.
4. TURNING SPACE RUNNING SLOPE - 2.0% MAX. TURNING SPACE RUNNING SLOPE IS MEASURED PERPENDICULAR TO THE BACK OF CURB.
5. TURNING SPACE CROSS SLOPE - 2.0% TYPICAL, AT CROSSINGS WITHOUT YIELD OR STOP CONTROL, OR WITH A SIGNAL WHERE VEHICLES CAN PROCEED THROUGH THE INTERSECTION WITHOUT SLOWING OR STOPPING, THE CROSS SLOPE OF THE TURNING SPACE MAY EQUAL THE HIGHWAY GRADE. AT MIDBLOCK PEDESTRIAN STREET CROSSINGS THE TURNING SPACE CROSS SLOPE MAY EQUAL THE HIGHWAY GRADE. TURNING SPACE CROSS SLOPE IS MEASURED IN THE DIRECTION OF THE RAMP RUN.
6. TURNING SPACE DIMENSIONS - PROVIDE A TURNING SPACE AT THE BOTTOM OF PARALLEL RAMPS WITH A WIDTH EQUAL TO THE WIDTH OF THE CURB RAMP. PROVIDE 4 FT. MINIMUM, MEASURED IN THE DIRECTION OF THE RAMP RUN. IF THE TURNING SPACE IS CONSTRAINED ON TWO SIDES, PROVIDE 5 FT. MEASURED IN THE DIRECTION OF PEDESTRIAN STREET CROSSING. THE TURNING SPACE MAY CONTAIN THE DETECTABLE WARNING SURFACE.
7. RAMP ALIGNMENT - RAMPS SHALL BE ALIGNED SO THE TURNING SPACE IS FULLY CONTAINED WITHIN THE CROSSWALK OR STREET CROSSING THEY SERVE. PROVIDE ONE RAMP FOR EACH STREET CROSSING DIRECTION. IN ALTERATIONS, WHERE EXISTING PHYSICAL CONSTRAINTS PREVENT PROVIDING ONE CURB RAMP FOR EACH CROSSING DIRECTION, A SINGLE DIAGONAL CURB RAMP (ON THE APEX OF A CORNER) SHALL BE PERMITTED TO SERVE BOTH PEDESTRIAN STREET CROSSINGS. DIAGONAL RAMPS ARE NOT ACCEPTABLE IN NEW CONSTRUCTION, OR FULL-DEPTH RECONSTRUCTION.
8. RAMP LENGTH - PARALLEL RAMP LENGTH IS DEPENDENT UPON THE RAMP SLOPE AND THE CHANGE OF ELEVATION FROM THE TURNING SPACE TO THE SIDEWALK. WHERE TERRAIN IS SLOPING A RAMP IS NOT REQUIRED TO CHASE GRADE MORE THAN 15 FT. REGARDLESS OF THE RESULTING RAMP SLOPE.
9. GUTTER COUNTER SLOPE - 5.0% MAX.

TYPE 2 PARALLEL CURB RAMPS

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Creation Date: 07/04/12 Initials: JBK		Date:	Comments
Last Modification Date: 05/03/19 Initials: LTA	(R-X)	05/03/19	Completely revised every sheet.
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Drawing File Name: 6080104010.dgn	(R-X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R-X)		

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CURB RAMPS — Issued By: Project Development Branch July 4, 2012 — STANDARD PLAN NO. M-608-1 — Sheet No. 4 of 10

804 / D8 — CURB RAMP STANDARD DETAIL — NOT TO SCALE

CALL UTILITY NOTIFICATION CENTER OF COLORADO

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

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No. | Revisions: | By: | Date:

REVIEW SET NOT FOR CONSTRUCTION 04/26/23

These drawings are instruments of service provided by Northern Engineering Services, Inc. and are not to be used for any type of construction unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

DATE: 04/26/23	SCALE: N/A	P. MANAGER: S. Thomas
PROJECT: 167-025	DESIGNED BY: Designed By	DRAWN BY: Drawn By

VANTAGE SUBDIVISION 7TH FILING

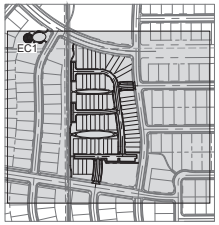
SITE DETAILS

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_SITE.dwg LAYOUT NAME: D8 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-xborder]

NORTH

50 0 50 100 150 Feet

(IN FEET)
1 inch = 50 ft.



KEYMAP

LEGEND:

PROPOSED STORM SEWER	
PROPOSED CONTOUR	93
EXISTING CONTOUR	4953
PROPOSED SWALE	
PROPOSED CURB & GUTTER	
PROPERTY BOUNDARY	
SILT FENCE	SF
WATTLE DIKE	WD
ROCK SOCK	RS
RIPRAP	RP
CONCRETE WASH AREA	CWA
VEHICLE TRACKING CONTROL PAD	VTC
INLET PROTECTION	IP
OUTLET PROTECTION	OP
EROSION CONTROL FABRIC	EF

BENCHMARK/BASIS OF BEARING:

Benchmark #1
NGS designation "K 410", a steel rod, ¼ mile South of junction of hwy 287 and 56, on the West side of hwy 287, 6 feet North of the power pole with North, South, and East running utility lines.
Elevation = 5066.70 (NAVD 88)

Basis of Bearings
West line of the Southwest Quarter of said Section 11, bearing North 00°15'09" West, being a grid bearing of the Colorado State Plane Coordinate System, North Zone, North America Datum 1983/92, a distance of 2649.26 feet.

GENERAL NOTES:

1. CONTRACTOR SHALL IMMEDIATELY STABILIZE ALL DISTURBED SLOPES BY CRIMP MULCHING OR SIMILAR METHODS.
2. SWMP ADMINISTRATOR:
   Contact _____
   Company _____
   Address _____
   Phone _____
3. CONTRACTOR TO PROVIDE VEHICLE TRACKING CONTROL FOR CONCRETE WASHOUT AREA IF ACCESS IS OFF PAVEMENT.
4. REFER TO THE Drainage Report for Vantage Subdivision 7th Filing, dated April 24, 2023 BY NORTHERN ENGINEERING FOR ADDITIONAL INFORMATION.

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

Know what's below.
Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No.	Revisions:	Date:
	REVIEW SET NOT FOR CONSTRUCTION	04/28/23

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NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
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northernengineering.com

PROJECT: 197-025
DATE: 04/28/23
DESIGNED BY: C. PIPER
SCALE: 1"=50'
DRAWN BY: C. PIPER
P. MANAGER: T. TUPOW

VANTAGE SUBDIVISION 7TH FILING

EROSION CONTROL PLAN

Sheet
EC1
24 of 27

DRAWING FILENAME: P:\167-025\Dwg\Drng\167-025_EROS.dwg LAYOUT NAME: EC2 DATE: Apr 25, 2023 - 11:49am CAD OPERATOR: stephanie
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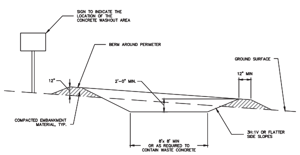


NOTES:

1. CONCRETE WASHOUT AREA SHALL BE INSTALLED PRIOR TO ANY CONCRETE PLACEMENT ON SITE.
2. VEHICLE TRACKING CONTROL IS REQUIRED IF ACCESS TO CONCRETE WASHOUT AREA IS OFF PAVEMENT.
3. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE WASHOUT AREA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CONCRETE WASHOUT AREA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
4. THE CONCRETE WASHOUT AREA SHALL BE REPAIRED AND ENLARGED OR CLEANED OUT AS NECESSARY TO MAINTAIN CAPACITY FOR WASTED CONCRETE.
5. AT THE END OF CONSTRUCTION, ALL CONCRETE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT AN ACCEPTED WASTE SITE.
6. WHEN THE CONCRETE WASHOUT AREA IS REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.
7. LOCATION OF CONCRETE WASHOUT AREA ON SHEET EC1 IS CONCEPTUAL ONLY. FINAL LOCATION TO BE DETERMINED IN THE FIELD AT CONTRACTOR'S DISCRETION.

CWA

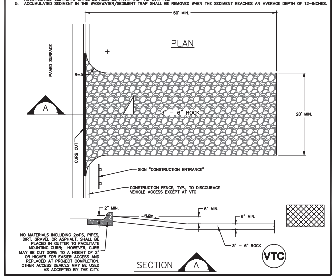
001 EC2 — CONCRETE WASHOUT AREA
NOT TO SCALE

INSTALLATION NOTES:

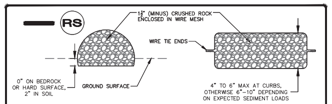
1. VEHICLE TRACKING CONTROL PAD SHALL BE LOCATED AT EVERY ACCESS POINT TO THE CONSTRUCTION SITE.
2. A SIGN SHALL BE PLACED NEXT TO THE VEHICLE TRACKING CONTROL PAD TO DESIGNATE THE LOCATION AS THE CONSTRUCTION ENTRANCE/EXIT.
3. VEHICLE TRACKING CONTROL PADS SHALL CONSIST OF HARD, DENSE, DURABLE STONE, ANGULAR IN SHAPE AND RESISTANT TO WEATHERING. ROUNDED STONE (i.e. RIVER ROCK AND COBBLES) SHALL NOT BE USED. THE STONES SHALL BE A MINIMUM OF 3" AND A MAXIMUM OF 6" DIAMETER. THE STONES SHALL HAVE A SPECIFIC GRAVITY OF AT LEAST 2.6. CONTROL OF GRADATION WILL BE BY VISUAL INSPECTION.
4. ANY CRACKED OR DAMAGED CURB AND GUTTER AND SIDEWALK SHALL BE REPLACED BY CONTRACTOR.
5. ALTHOUGH NOT NORMALLY USED, THE CITY RESERVES THE RIGHT TO REQUIRE VEHICLE TRACKING CONTROL WITH A TEMPORARY CATTLE GUARD AND/OR WHEEL WASH FACILITIES AT SITES WHERE TRACKING ONTO PAVED AREAS BECOMES A SIGNIFICANT PROBLEM AS DETERMINED BY THE CITY INSPECTOR.
6. IF VEHICLE TRACKING CONTROL WITH WHEEL WASH FACILITIES ARE REQUIRED, ALL WHEELS ON EVERY VEHICLE LEAVING THE SITE SHALL BE CLEANED OF MUD USING A PRESSURE-WASHER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A WATER SOURCE AND CONSTRUCTING A WASHWATER SEDIMENT TRAP.

MAINTENANCE NOTES:

1. CONTRACTOR SHALL INSPECT VEHICLE TRACKING CONTROL PAD DAILY. ROCK SURFACE SHALL BE CLEAN AND LOOSE ENOUGH TO RUT SLIGHTLY UNDER WHEEL LOADS AND CAUSE LOOSE ROCK TO DISLODGE MUD FROM TIRES. WHEN ROCK BECOMES COMPACTED OR FILLED WITH SEDIMENT SO THAT THE EFFECTIVENESS OF THE PAD IS DIMINISHED, CONTRACTOR SHALL RIP, TURN OVER, OR OTHERWISE LOOSEN ROCK, PLACE ADDITIONAL NEW ROCK, OR REPLACE WITH NEW ROCK AS NECESSARY TO RESTORE EFFECTIVENESS.
2. SEDIMENT AND OTHER MATERIAL SPILLED, DROPPED OR TRACKED ONTO PAVED SURFACES SHALL BE REMOVED IMMEDIATELY OR BY THE END OF EACH WORKING DAY.
3. VEHICLE TRACKING CONTROL PAD SHALL BE REMOVED AT THE END OF CONSTRUCTION. THE AREA SHOULD BE TOPSOILED, SEEDED, CRIMPED, AND MULCHED OR OTHERWISE STABILIZED.
4. IF VEHICLE WHEEL WASH FACILITIES ARE REQUIRED, CONTRACTOR SHALL INSPECT VEHICLE TRACKING CONTROL AND WHEEL WASH FACILITIES DAILY. ACCUMULATED SEDIMENTS SHALL BE REMOVED FROM THE PAD SURFACE.
5. ACCUMULATED SEDIMENT IN THE WASHWATER/SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT REACHES AN AVERAGE DEPTH OF 12-INCHES.



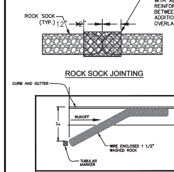
002 EC2 — VEHICLE CONTROL TRACKING PAD
NOT TO SCALE



ROCK SOCK SECTION

ROCK SOCK PLAN

ANY GAP AT JOINT SHALL BE FILLED WITH AN ADEQUATE AMOUNT OF 1½" (MINUS) CRUSHED ROCK AND WRAPPED WITH ADDITIONAL WIRE MESH SECURED TO ENDS OF ROCK REINFORCED SOCK. AS AN ALTERNATIVE TO FILLING JOINTS BETWEEN ADJOINING ROCK SOCKS WITH CRUSHED ROCK AND ADDITIONAL WIRE WRAPPING, ROCK SOCKS CAN BE OVERLAPPED (TYPICALLY 12-INCH OVERLAP) TO AVOID GAPS.



ROCK SOCK JOINTING

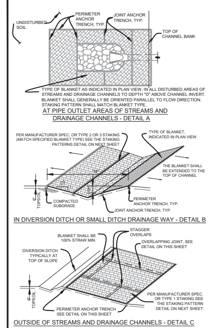
GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1-1/2"	90-100
1"	20-55
3/4"	0-15
3/8"	0-5

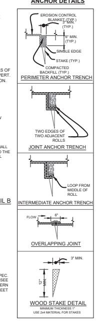
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES

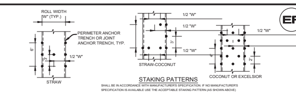
ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION (S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 1½" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (1½" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF ½", RECOMMENDED MINIMUM ROLL WIDTH OF 48".
4. WIRE MESH SHALL BE SECURED USING "HOG RINGS" OR WIRE TIES AT 6" CENTERS ALONG ALL JOINTS AND AT 2" CENTERS ON ENDS OF SOCKS.
5. SOME MUNICIPALITIES MAY ALLOW THE USE OF FILTER FABRIC AS AN ALTERNATIVE TO WIRE MESH FOR THE ROCK ENCLOSURE.

003 EC2 — ROCK SOCK DETAIL
NOT TO SCALE







STAKING PATTERNS

SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATION. IF NO MANUFACTURER'S SPECIFICATION IS AVAILABLE USE THE ACCEPTABLE STAKING PATTERN (AS SHOWN ABOVE)

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION OF PERIMETER OF EROSION CONTROL BLANKET.
   - TYPE OF BLANKET (STRAW, STRAW-COCO NUT, COCONUT, OR EXCELSIOR).
   - AREA "A" IN SQUARE YARDS OF EACH TYPE OF BLANKET.
2. ALL EROSION CONTROL BLANKETS AND NETTING SHALL BE MADE OF 100% NATURAL AND BIODEGRADABLE MATERIAL; NO PLASTIC OR OTHER SYNTHETIC MATERIAL, EVEN IF PHOTO DEGRADABLE, SHALL BE ALLOWED.
3. IN AREAS WHERE EROSION CONTROL BLANKET IS SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING BELOW THE SEEDING AND MULCHING, SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO BLANKET INSTALLATION AND THE BLANKET SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED AT OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL BLANKETS EXCEPT STRAW, WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF THE ROLL LENGTH FOR COCONUT AND EXCELSIOR BLANKETS.
7. THE OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF BLANKETS TOGETHER FOR BLANKETS ON SLOPES.
8. MATERIAL SPECIFICATIONS OF EROSION CONTROL BLANKET SHALL CONFORM TO TABLE BELOW.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING EROSION CONTROL BLANKET SHALL BE RE-SEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGE-WAY STABILIZATION WILL GOVERN IF DIFFERENT FROM ONES SHOWN HERE.

EROSION CONTROL BLANKET TYPE

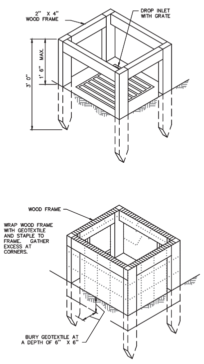
TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN.	70% MAX.	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

* FOR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS

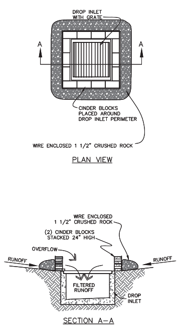
EROSION CONTROL BLANKET MAINTENANCE NOTES

1. THE CONSTRUCTION SITE OPERATOR SHALL INSPECT EROSION CONTROL BLANKETS WEEKLY, DURING AND AFTER ANY STORM EVENT AND MAKE REPAIRS AS NECESSARY.
2. EROSION CONTROL BLANKET IS TO BE LEFT IN PLACE UNLESS REQUESTED TO BE REMOVED BY THE TOWN.
3. ANY EROSION CONTROL BLANKET PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE RE-INSTALLED. ANY SUBGRADE AREAS BELOW THE BLANKET THAT HAVE ERODED TO CREATE A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RE-SEEDED AND MULCHED AND THE EROSION CONTROL BLANKET REINSTALLED.

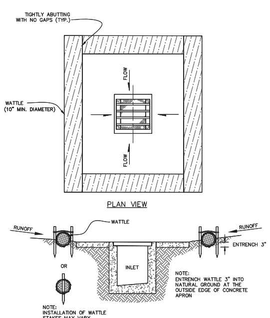
004 EC2 — EROSION CONTROL BLANKET
NOT TO SCALE



DROP INLET SILT FENCE BOX



DROP INLET BLOCK AND GRAVEL FILTER



DROP INLET WATTLE FILTER

GENERAL NOTES:

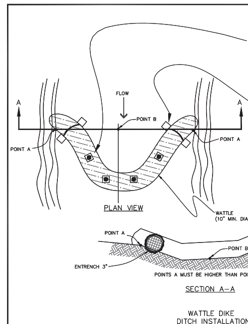
1. INLET PROTECTION AT AREA INLETS SHALL BE INSTALLED WITHIN 48 HOURS OF POURING INLET.
2. CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH A 1-1/2" MINUS GRADATION. RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
3. WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO A MESH WITH A MAXIMUM OPENING OF 1" (COMMONLY TERMED "CHICKEN WIRE"). ROLL WIDTH SHALL BE 48".
4. IT IS RECOMMENDED THAT FILTER FABRIC, SUCH AS GRATE MATES OR EQUIVALENT, OR OTHER TEMPORARY BMP BE PLACED BENEATH THE INLET GRATE AND MAINTAINED UNTIL THE SURROUNDING AREA DRAINING TO THE INLET IS SUFFICIENTLY STABILIZED.
5. OTHER AREA INLET PROTECTION METHODS WILL BE ALLOWED IF ACCEPTED BY THE CITY.

MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL INSPECT INLET PROTECTION EVERY TWO WEEKS AND AFTER SIGNIFICANT STORM EVENTS AND MAKE REPAIRS OR CLEAN OUT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED WHEN THE SEDIMENT DEPTH REACHES 1/2 OF THE DESIGN DEPTH.
3. TO PREVENT CLOGGING, INLET GRATE FILTER FABRIC SHOULD BE CLEANED OR REPLACED PERIODICALLY.
4. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED.
5. WHEN INLET PROTECTION AT AREA INLETS ARE REMOVED, THE DISTURBED AREA SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

IP

005 EC2 — DROP INLET PROTECTION
NOT TO SCALE



STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE. LEAVING 2 - 3 INCHES OF THE STAKE PROTRUDING ABOVE THE WATTLE. A HEAVY SEDIMENT LOAD WILL TEND TO PICK THE WATTLE UP AND COULD PULL IT OFF THE STAKES IF THEY ARE DRIVEN DOWN TOO LOW. IT MAY BE NECESSARY TO MAKE A HOLE IN THE WATTLE WITH A PICK END OF YOUR MADDOX IN ORDER TO GET THE STAKE THROUGH THE STRAW. WHEN STRAW WATTLES ARE USED FOR FLAT GROUND APPLICATIONS, DRIVE THE STAKES STRAIGHT DOWN; WHEN INSTALLING WATTLES ON SLOPES, DRIVE THE STAKES PERPENDICULAR TO THE SLOPE.

OR

STAKES SHOULD BE DRIVEN ACROSS FROM EACH OTHER AND ON EACH SIDE OF THE WATTLE. LEAVING 4"-6" OF STAKE PROTRUDING ABOVE THE WATTLE. BAILING WIRE OR NYLON ROPE SHOULD BE TIED TO THE STAKES ACROSS THE WATTLE. STAKES SHOULD THEN BE DRIVEN UNTIL THE BAILING WIRE OR NYLON ROPE IS SUFFICIENTLY SNUG TO THE WATTLE.

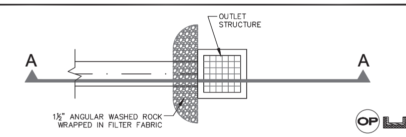
WATTLE DIKE
DITCH INSTALLATION

WD

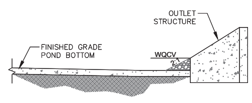
MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL INSPECT DIKES EVERY TWO WEEKS AND AFTER SIGNIFICANT STORM EVENTS AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF DIKES SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES 1/2 OF THE DESIGN DEPTH.
3. DIKES ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE CITY.
4. WHEN REINFORCED ROCK BERMS ARE REMOVED, ANY DISTURBED AREA SHALL BE SEEDED, CRIMPED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

006 EC2 — SWALE WATTLE DIKE
NOT TO SCALE

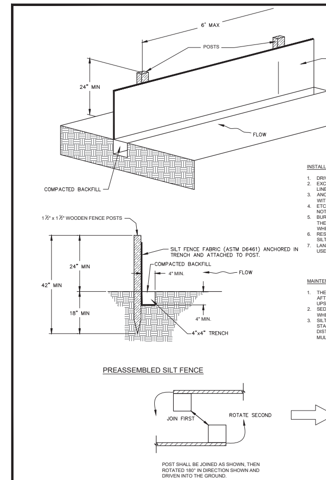


PLAN VIEW



SECTION A-A

007 EC2 — OUTLET PROTECTION
NOT TO SCALE



SILT FENCE JOINTS

INSTALLATION NOTES:

1. DRIVE POSTS VERTICALLY INTO THE GROUND TO A MINIMUM DEPTH OF 18".
2. EXCAVATE A TRENCH APPROXIMATELY 4" WIDE AND 4" DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
3. ANCHOR TRENCH SHALL BE EXCAVATED BY HAND, WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE. NO ROAD GRADERS, BACKHOES,
4. ETC. SHALL BE USED.
   NOT LESS THAN THE BOTTOM 1' OF THE SILT FENCE FABRIC SHALL BE
5. BURIED IN THE TRENCH.
   THE TRENCH SHALL BE COMPACTED BY HAND, WITH "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT THE SILT FENCE
6. RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
   SILT FENCE INDICATED IN THE PLANS SHALL BE INSTALLED PRIOR TO ANY
7. LAND-DISTURBING ACTIVITIES.
   USE WOOD POSTS OR OTHER MATERIAL AS ACCEPTED BY THE CITY.

MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL INSPECT SILT FENCE EVERY TWO WEEKS AND AFTER SIGNIFICANT STORM EVENTS AND MAKE REPAIRS OR CLEAN OUT UPSTREAM SEDIMENT AS NECESSARY.
2. SEDIMENT ACCUMULATED UPSTREAM OF SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM SEDIMENT REACHES A DEPTH OF 6".
3. SILT FENCE SHALL BE REMOVED WHEN THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE CITY. IF ANY DISTURBED AREA EXISTS AFTER REMOVAL, IT SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER ACCEPTED BY THE CITY.

008 EC2 — SILT FENCE/PERIMETER PROTECTION
NOT TO SCALE

CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

Know what's below.
Call before you dig.

CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No.	Revisions:	By:	Date:

REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

These drawings are instruments of service provided by Northern Engineering Services, Inc. and are not to be used for any type of construction unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

NORTHERN ENGINEERING
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DATE: 04/26/23	SCALE: N/A	P. MANAGER: S. Thomas
PROJECT: 167-025	DESIGNED BY: C. PAPE	DRAWN BY: C. PAPE

VANTAGE SUBDIVISION 7TH FILING
EROSION CONTROL DETAILS

DRAWING FILENAME: P:\167-025\Dwg\Drng\167-025_EROS.dwg LAYOUT NAME: EC3 DATE: Apr 25, 2023 - 11:49am CAD OPERATOR: stephanie
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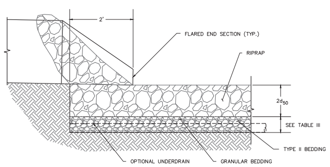
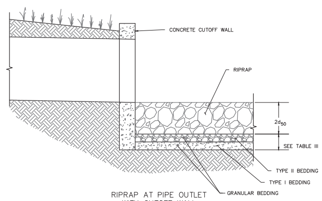
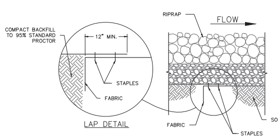


RIPRAP AT PIPE OUTLET
WITHOUT CUTOFF WALL



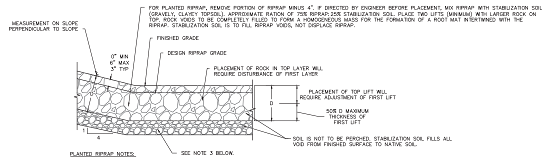
RIPRAP AT PIPE OUTLET
WITH CUTOFF WALL



FILTER FABRIC PLACEMENT AND LAP DETAIL

FILTER FABRIC NOTES:

1. FILTER FABRIC MAY BE USED IN COMBINATION WITH TYPE II BEDDING AT DROP STRUCTURES AS AN ALTERNATIVE TO A TWO LAYER FILTER.
2. FILTER FABRIC SHALL CONFORM TO CDOT SPECIFICATIONS FOR CLASS A DRAINAGE GEOTEXTILES – SECTION 712.



PLANTED RIPRAP NOTES:

1. GENERAL PLACEMENT TECHNIQUES SHOULD RESULT IN LARGER ROCK AT THE SURFACE WITH ROCK SECURELY INTERLOCKED AT THE DESIGN THICKNESS AND GRADE. COMPACTION AND LEVELING SHOULD RESULT IN MINIMAL VOIDS AND PROJECTIONS ABOVE GRADE. TYPICAL FOR BOTH BURIED AND EXPOSED RIPRAP.
2. FOR PLANTED RIPRAP: FINAL RIPRAP TO BE COMPACTED BY FULL LOADING OF BACKHOE BUCKET, AS APPROVED. ANY SOFT, YIELDING OR PACKETS OF SMALL ROCK WILL BE REWORKED. PLACE STABILIZATION SOIL SO NO MORE THAN 3 INCHES THICK OVER ROCK AND 25 TO 50 PERCENT OF ROCK EXPOSED AS DIRECTED. COORDINATE ROCK PLACEMENT TO PROVIDE TREE OR SHRUB PLANTING PITS AS INDICATED ON PLANNING PLANS.
3. 4" TO 6" TYPE I OR TYPE II GRANULAR BEDDING, PER TABLE III, FOR RIPRAP VL AND L. 18" THICK LAYER OF TYPE L RIPRAP FOR TYPES M, V, AND VH RIPRAP.

TYPICAL PLANTED RIPRAP PLACEMENT

TABLE I
CLASSIFICATION AND GRADATION OF ORDINARY RIPRAP

RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSIONS (INCHES)	d_{50} (INCHES)*
TYPE VL	70–100	12	6**
	50–70	9	
	35–50	6	
	2–10	2	
TYPE L	70–100	15	9**
	50–70	12	
	35–50	9	
	2–10	3	
TYPE M	70–100	21	12
	50–70	18	
	35–50	12	
	2–10	4	
TYPE H	70–100	30	18
	50–70	24	
	35–50	18	
	2–10	6	
TYPE VH	70–100	42	24
	50–70	33	
	35–50	24	
	2–10	9	

* d_{50} = MEAN PARTICAL SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.
** MIX VL AND L RIPRAP WITH 30% (BY VOLUME) TOPSOIL AND BURY IT WITH 6+ INCHES OF TOP SOIL, ALL VIBRATION COMPACTED, AND REVEGETATED.

GENERAL NOTES:

1. FOR CHANNEL APPLICATIONS REFER TO THE MAJOR DRAINAGE CHAPTER OF THE URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 1, FOR RIPRAP SIZING.
2. FOR CULVERT/STORM SEWER OUTLET APPLICATIONS REFER TO THE HYDRAULIC STRUCTURES CHAPTER OF THE URBAN STORM DRAINAGE CRITERIA MANUAL, VOLUME 2, FOR RIPRAP SIZE, RIPRAP DEPTH, BASIN LENGTH, AND BASIN WIDTH.
3. COORDINATE THE COLOR OF ALL EXPOSED RIPRAP WITH THE OWNER AND PROJECT LANDSCAPE ARCHITECT.
4. FINISHED GRADE DEPICTED ABOVE SHALL BE FINISHED GRADE SPECIFIED ON GRADING PLANS.

TABLE II
GRADATION FOR GRANULAR BEDDING

U.S. STANDARD SIEVE SIZE	PERCENT WEIGHT BY PASSING SQUARE-MESH SIEVES	
	TYPE I CDOT SECT. 703.01	TYPE II CDOT SECT. 703.09 CLASS A
3 INCHES	----	90–100
1 1/2 INCHES	----	----
3/4 INCHES	----	20–90
3/8 INCHES	100	----
#4	95–100	0–20
#16	45–80	----
#50	10–30	----
#100	2–10	----
#200	0–2	0–3

TABLE III
THICKNESS REQUIREMENTS FOR GRANULAR BEDDING

U.S. STANDARD SIEVE SIZE	PERCENT WEIGHT BY PASSING SQUARE-MESH SIEVES		
	FINE-GRAINED SOILS*		COURSE-GRAINED SOILS**
	TYPE I	TYPE II	TYPE II
VL(d_{50}= 6IN.), L(d_{50}= 9 IN.)	4	4	6
M(d_{50}= 12 IN.)	4	4	6
H(d_{50}= 18 IN.)	4	6	8
VH(d_{50}= 24 IN.)	4	6	8

* MAY SUBSTITUTE ONE 12-INCH LAYER OF TYPE II BEDDING. THE SUBSTITUTE OF ONE LAYER OF TYPE II BEDDING SHALL NOT BE PERMITTED AT DROP STRUCTURES. THE USE OF A COMBINATION OF FILTER FABRIC AND TYPE II BEDDING AT DROP STRUCTURES IS ACCEPTABLE.

** FIFTY PERCENT OR MORE BY WEIGHT RETAINED ON THE #40 SIEVE.

RR

001
EC3
PLANTED RIPRAP INSTALLATION

NOT TO SCALE

RIPRAP SCHEDULE					
Storm Line	Pipe Diameter (ft)	Ordinary Riprap Type	Length of Riprap (ft)	Width of Riprap (ft)	2*d50, Depth of Riprap (ft)
Storm Line 1	1.50	Type L	4.50	6.00	1.5
Storm Line 2	2.00	Type L	13.00	8.00	1.5
Storm Line 3	1.50	Type L	4.50	6.00	1.5

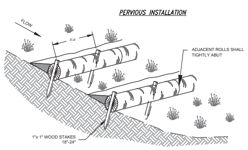
W1 NOTES:

INSTALLATION:
WHEN INSTALLING RUNNING LENGTHS OF WATTLES, BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST, DO NOT OVERLAP THE ENDS. STAKE THE WATTLES AT EACH END AND FOUR FOOT ON CENTER. FOR EXAMPLE:

A 25 FOOT WATTLE USES 6 STAKES
A 20 FOOT WATTLE USES 5 STAKES
A 12 FOOT WATTLE USES 4 STAKES

STAKES SHOULD BE DRIVEN THROUGH THE MIDDLE OF THE WATTLE LEAVING 2 - 3 INCHES OF THE STAKE PROTRUDING ABOVE THE WATTLE. A HEAVY SEDIMENT LOAD WILL TEND TO PICK THE WATTLE UP AND COULD PULL IT OFF THE STAKES IF THEY ARE DRIVEN DOWN TOO LOW. IT MAY BE NECESSARY TO MAKE A HOLE IN THE WATTLE WITH A PICK END OF YOUR MADDOX IN ORDER TO GET THE STAKE THROUGH THE STRAW. WHEN STRAW WATTLES ARE USED FOR FLAT GROUND APPLICATIONS, DRIVE THE STAKES STRAIGHT DOWN; WHEN INSTALLING WATTLES ON SLOPES, DRIVE THE STAKES PERPENDICULAR TO THE SLOPE.

DRIVE THE FIRST END STAKE OF THE SECOND WATTLE AT AN ANGLE TOWARD THE FIRST WATTLE IN ORDER TO HELP ABUT THEM TIGHTLY TOGETHER. IF YOU HAVE DIFFICULTY DRIVING THE STAKE INTO EXTREMELY HARD OR ROCKY SLOPES, A PILOT BAR MAY BE NEEDED TO BEGIN THE STAKE HOLE.

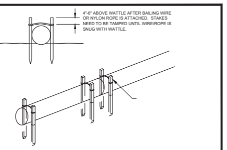


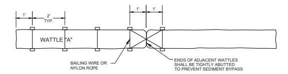
WATTLES – DETAIL A

W2 NOTES:

INSTALLATION:
STAKES SHOULD BE DRIVEN ACROSS FROM EACH OTHER AND ON EACH SIDE OF THE WATTLE. LEAVING 4"-6" OF STAKE PROTRUDING ABOVE THE WATTLE. BAILING WIRE OR NYLON ROPE SHOULD BE TIED TO THE STAKES ACROSS THE WATTLE. STAKES SHOULD THEN BE DRIVEN UNTIL THE BAILING WIRE OR NYLON ROPE IS SUFFICIENTLY SNUG TO THE WATTLE.

WHEN INSTALLING RUNNING LENGTHS OF WATTLES, TO PREVENT SHIFTING, BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST. DO NOT OVERLAP THE ENDS. STAKES SHOULD BE DRIVEN 1 FT. FROM END, ACROSS FROM AND ON EACH SIDE OF WATTLE LEAVING 4"-6" OF STAKE PROTRUDING ABOVE THE WATTLE. BAILING WIRE OR NYLON ROPE SHOULD BE TIED TO STAKES IN AN HOUR GLASS FORMATION (FRONT TO BACK OF WATTLE "A", ACROSS TO FRONT OF WATTLE "B", ACROSS TO BACK AND BACK TO FRONT OF WATTLE "A"). STAKES SHOULD THEN BE DRIVEN IN UNTIL BAILING WIRE OR NYLON ROPE IS SUFFICIENTLY SNUG TO THE WATTLE.





WATTLES – DETAIL B

WD

W1 & W2 INSTALLATION NOTES:

1. THE LOCATION AND LENGTH OF WATTLE IS DEPENDENT ON THE CONDITIONS OF EACH SITE.
2. WATTLES SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
3. WATTLES SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR, OR COCONUT FIBER.
4. NOT FOR USE IN CONCENTRATED FLOW AREAS.
5. THE WATTLES SHALL BE TRENCHED INTO THE GROUND A MINIMUM OF TWO (2) INCHES.
6. WATTLES SHALL BE INSTALLED PER MANUFACTURERS SPECIFICATIONS.
7. ON SLOPES, WATTLES SHOULD BE INSTALLED ON CONTOUR WITH A SLIGHT DOWNWARD ANGLE AT THE END OF THE ROW IN ORDER TO PREVENT PONDING AT THE MID SECTION.
8. RUNNING LENGTHS OF WATTLES SHOULD BE ABUTTED FIRMLY TO ENSURE NO LEAKAGE AT THE ABUTMENTS.
9. SPACING - DOWNSLOPE:
10. VERTICAL SPACING FOR SLOPE INSTALLATIONS SHOULD BE DETERMINED BY SITE CONDITIONS. SLOPE GRADIENT AND SOIL TYPE ARE THE MAIN FACTORS. A GOOD RULE OF THUMB IS:

    1:1 SLOPES = 10 FEET APART
    2:1 SLOPES = 20 FEET APART
    3:1 SLOPES = 30 FEET APART
    4:1 SLOPES = 40 FEET APART, ETC.

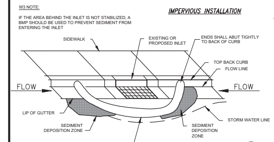
11. HOWEVER, ADJUSTMENTS MAY HAVE TO BE MADE FOR THE SOIL TYPE: FOR SOFT, LOAMY SOILS - ADJUST THE ROWS CLOSER TOGETHER; FOR HARD, ROCKY SOILS - ADJUST THE ROWS FURTHER APART. A SECONDARY WATTLE PLACED BEHIND THE ABUTMENT OF TWO WATTLES IS ENCOURAGED ON STEEP SLOPES OR WHERE JOINTS HAVE FAILED IN THE PAST.
12. STAKING: THE CITY RECOMMENDS USING WOOD STAKES TO SECURE THE WATTLES. 1/2" TO 5/8" REBAR IS ALSO ACCEPTABLE. BE SURE TO USE A STAKE THAT IS LONG ENOUGH TO PROTRUDE SEVERAL INCHES ABOVE THE WATTLE: 18" IS A GOOD LENGTH FOR HARD, ROCKY SOIL. FOR SOFT LOAMY SOIL USE A 24" STAKE.

W3, W4 & W5 NOTES:

1. WHEN USING STRAW WATTLE, THE STRAW WATTLE MUST HAVE A WEIGHTED CORE.
2. ALL PRODUCTS SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.
3. OTHER PRODUCTS MAY BE USED IN PLACE OF WEIGHTED WATTLES UPON WRITTEN APPROVAL FROM THE CITY. NOTE: A COPY OF DETAILS AND SPECIFICATIONS WILL NEED TO BE INCORPORATED INTO THE SWMP.

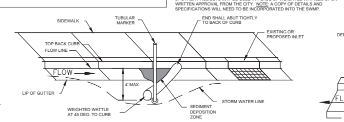
W3 NOTE:

IF THE AREA BEHIND THE INLET IS NOT STABILIZED, A BMP SHOULD BE USED TO PREVENT SEDIMENT FROM ENTERING THE INLET



IP

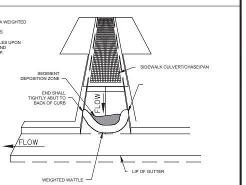
CURB INLET WATTLE PROTECTION SETUP



W4 NOTES:
1. NUMBER OF WATTLES AND SPACING SHOULD BE DETERMINED BY THE SLOPE AND SITE CONDITIONS.
2. TUBULAR MARKERS SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
3. CITY RECOMMENDS INSTALLING AT LEAST 3 CHECKDAMS WHEN USING THIS SETUP.

CURBSIDE CHECKDAMS SETUP

RS



CONCRETE CHASE/TRICKLE CHANNEL SETUP

WATTLE MAINTENANCE NOTES:

1. THE CONTRACTOR SHALL INSPECT WATTLES EVERY TWO WEEKS AND AFTER ANY SIGNIFICANT STORM EVENT AND MAKE REPAIRS OR REMOVE SEDIMENT ACCUMULATED BEHIND WATTLE AS NECESSARY.
2. SEDIMENT ACCUMULATED BEHIND WATTLE SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DIAMETER OF THE WATTLE.
3. WATTLES SHALL REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND IS ACCEPTED BY THE CITY.

002
EC3
CURB INLET AND WATTLE INSTALLATION

EROSION CONTROL NOTES:

1. IT SHOULD BE NOTED THAT ANY EROSION CONTROL PLAN SERVES ONLY AS A GUIDELINE TO THE CONTRACTOR. STAGING AND/OR PHASING OF BEST MANAGEMENT PRACTICES (BMPs) IS EXPECTED. ADDITIONAL AND/OR DIFFERENT BMPs FROM THOSE ORIGINALLY DEPICTED MAY BE NECESSARY DURING CONSTRUCTION DUE TO CHANGING SITE CONDITIONS OR AS REQUIRED BY LOCAL AUTHORITIES.
2. THIS EROSION CONTROL PLAN IS SCHEMATIC IN NATURE. AS SUCH, GRAPHICAL SYMBOLS MAY NOT BE TO SCALE, NOR ARE THEY NECESSARILY SHOWN IN THEIR EXACT LOCATION.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITTING (CITY, STATE DISCHARGE PERMIT, ETC.) AND COMPLIANCE WITH GOVERNING AUTHORITIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR (OR PERMIT HOLDER) TO ENSURE EROSION CONTROL MEASURES ARE PROPERLY MAINTAINED AND FOLLOWED.
4. CONTRACTOR SHALL IMPLEMENT THE APPROPRIATE EROSION CONTROL MEASURES ACCORDING THE THE CONSTRUCTION SEQUENCING AND LEVEL OF SITE STABILIZATION.
5. CONTRACTOR SHALL IMPLEMENT APPROPRIATE INLET PROTECTION FOR ALL STORM DRAINS, SWALES, PONDS AND RAIN GARDENS UNTIL SITE IS FULLY STABILIZED.
6. CONTRACTOR SHALL IMPLEMENT APPROPRIATE INLET PROTECTION FOR DOWNSPOUT CONNECTIONS, TO THE STORM DRAIN SYSTEM, UNTIL CONNECTION IS ESTABLISHED WITH DOWNSPOUT.
7. INLET PROTECTION SHALL BE ADAPTED, AS NECESSARY, TO THE SURROUNDING SURFACE TYPE AND CONDITION (i.e., STAKE-DRIVEN WATTLES FOR BARE SOIL, SAND BAGS OR GRAVEL SOCKS FOR PAVEMENT, ETC.)
8. CONTRACTOR IS RESPONSIBLE FOR STABILIZING ALL SLOPES, PARTICULARLY THOSE STEEPER THAN 6:1. CRIMP MULCHING, HYDRO MULCHING, EROSION MATS, TEMPORARY IRRIGATION, AND ADDITIONAL WATTLES OR SILT FENCING MAY BE NECESSARY TO ESTABLISH VEGETATIVE COVER AND STABILIZE THE SLOPE.
9. CONTRACTOR IS RESPONSIBLE FOR PREVENTING SEDIMENT FROM UNSTABILIZED LANDSCAPE AREAS FROM MIGRATING ONTO AND ENTERING THE PERMEABLE PAVER SYSTEMS UNTIL UPGRADIENT TRIBUTARY AREAS ARE FULLY STABILIZED.
10. ADDITIONAL WATTLES, SILT FENCE, OR OTHER MEASURES, MAY BE NECESSARY TO INSURE THAT EACH BUILDING PAD IS STABILIZED THROUGHOUT CONSTRUCTION. AT NO TIME SHALL SEDIMENT BE ALLOWED TO CROSS THE PUBLIC SIDEWALKS.
11. CONTRACTOR SHALL IMPLEMENT APPROPRIATE PERIMETER PROTECTION FOR AREAS DIRECTING DRAINAGE OFFSITE. PERIMETER PROTECTION SHALL BE ADAPTED, AS NECESSARY, TO THE SURROUNDING SURFACE TYPE AND CONDITION (i.e., STAKE-DRIVEN SEDIMENT CONTROL LOGS OR SILT FENCE FOR BARE SOIL, SAND BAGS OR GRAVEL SOCKS FOR PAVEMENT, ETC.)
12. FUELING FACILITIES SHALL BE LOCATED AT LEAST ONE HUNDRED (100) FEET FROM NATURAL BODY OF WATER, WETLAND, NATURAL DRAINAGE WAY OR MANMADE DRAINAGE WAY. THE FUEL TANKS AND FUELING AREA MUST BE SET IN A CONTAINMENT AREA THAT WILL NOT ALLOW A FUEL SPILL TO DIRECTLY FLOW, SEEP, RUN OFF, OR BE WASHED INTO A BODY OF WATER, WETLAND OR DRAINAGE WAY.
13. CONSTRUCTION WASTE STORAGE (DUMPSTERS) AND PORTABLE SANITATION UNITS (CONSTRUCTION TOILETS) SHALL BE LOCATED AT LEAST FIFTY (50) FEET FROM ANY STORMWATER INLET, WETLAND, OR DRAINAGE WAY. SAID FACILITIES MUST BE SET IN A CONTAINMENT AREA THAT WILL NOT ALLOW POLLUTANTS TO DIRECTLY FLOW, SEEP, RUN OFF, OR BE WASHED INTO A BODY OF WATER, WETLAND OR DRAINAGE WAY. DUMPSTERS SHALL BE LOCATED ON FLAT, STABLE GROUND, AND CONSTRUCTION TOILETS SHALL BE STAKED DOWN.
14. THE CONTRACTOR AND ALL SUBCONTRACTORS WILL COOPERATE WITH THE TOWN'S CONSTRUCTION INSPECTORS BY CEASING OPERATIONS WHEN WINDS ARE OF SUFFICIENT VELOCITY TO CREATE BLOWING DUST WHICH, IN THE INSPECTOR'S OPINION, IS HAZARDOUS TO THE PUBLIC HEALTH AND WELFARE.
15. WHERE SEASONAL CONSTRAINTS (E.G., DURING SUMMER AND WINTER MONTHS) INHIBIT PERMANENT SEEDING OPERATIONS, DISTURBED AREAS WILL BE TREATED WITH MULCH AND MULCH TACKIFIER OR OTHER MATERIALS APPROVED BY EROSION CONTROL STAFF TO PREVENT EROSION.
16. SEE LANDSCAPE PLANS FOR ADDITIONAL INFORMATION ON PLANTING, REVEGETATION, HARDSCAPE AND OTHER PERMANENT SITE STABILIZATION METHODS.

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below. Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

No. | Revisions: | By: | Date:

REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

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GREELEY: 820 8th Street, 80631
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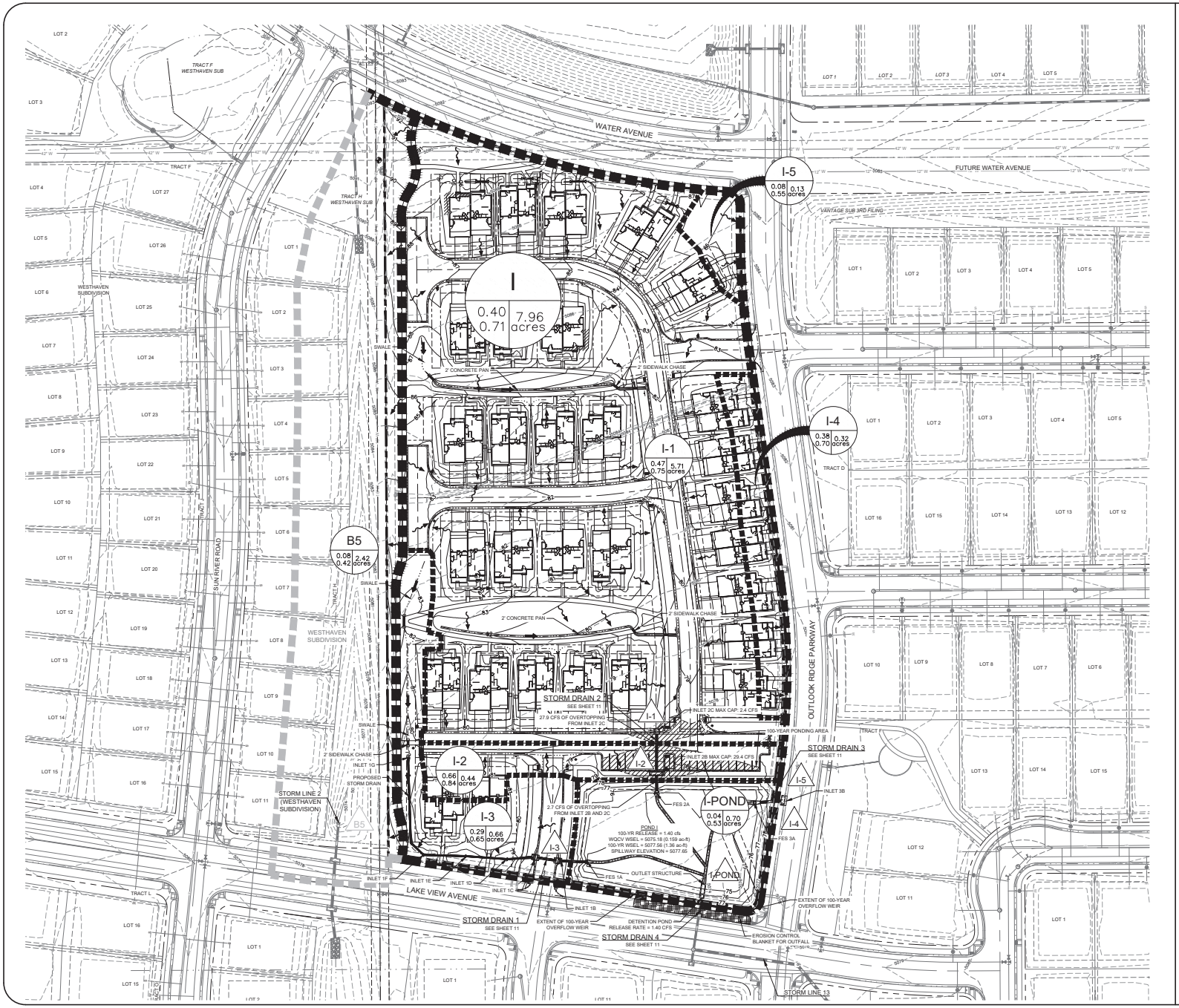
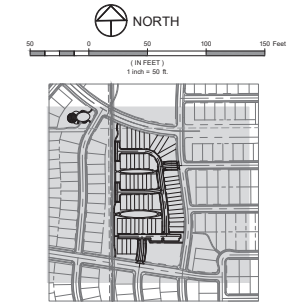
PROJECT: 167-025
DATE: 04/26/23
DESIGNED BY: C. PAPE
SCALE: N/A
DRAWN BY: C. PAPE
P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING
EROSION CONTROL DETAILS

Sheet
EC3





LEGEND:

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED INLET
- PROPOSED CONTOUR
- EXISTING CONTOUR — 4953 —
- PROPOSED SWALE
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- DESIGN POINT
- FLOW ARROW
- DRAINAGE BASIN LABEL (BASIN DESIGNATION; MINOR "C2" / MAJOR "C100"; BASIN AREA (AC))
- DRAINAGE BASIN BOUNDARY
- 100-YEAR INUNDATION AREA

NOTES:

1. REFER TO THE "Drainage Report for Vantage Subdivision 7th Filing, dated April 24, 2023" FOR ADDITIONAL INFORMATION.

Rational Flow Summary | Developed Basin Flow Rates

Basin	TOTAL AREA (acres)	Tc (min)	C2	C100	Q2 (cfs)	Q100 (cfs)
I-1	5.71	13.8	0.47	0.75	5.82	30.34
I-2	0.44	5.0	0.66	0.84	0.97	4.19
I-3	0.66	5.0	0.29	0.65	0.63	4.87
I-4	0.32	12.5	0.38	0.70	0.26	1.63
I-5	0.13	14.0	0.08	0.55	0.02	0.52
I-Pond	0.70	5.8	0.04	0.53	0.09	4.20
B5	2.42	14.6	0.08	0.42	0.45	6.33

FOR DRAINAGE REVIEW ONLY
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Know what's below, Call before you dig.
CALL 2 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

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04/28/23

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NORTHERN ENGINEERING
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FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631

DATE: 04/28/23
SCALE: 1"=50'
PROJECT: 187-025
DESIGNED BY: C. PIPER
DRAWN BY: C. PIPER
P. MANAGER: L. TUTTOR

VANTAGE SUBDIVISION 7TH FILING
DRAINAGE EXHIBIT

Sheet
DR1
27 of 27

DRAWING FILENAME: P:\187-025\Dwg\dr\187-025_DRNG.dwg LAYOUT NAME: DR1 DATE: Apr 28, 2023 - 10:03am USE: DRAWING

Vicinity Map:

General Notes:

1. ALL SIGNS SHALL BE REQUIRED TO APPLY FOR SIGN PERMIT.
2. PROPOSED GRADES SHALL MATCH OR IMPROVE EXISTING GRADES TO PROVIDE POSITIVE DRAINAGE AWAY FROM BUILDING WHILE PROVIDING A SMOOTH TRANSITION BETWEEN ALL ADJACENT UNDISTURBED GRADES AND PROPOSED GRADES.
3. JOB SITE TO BE KEPT CLEAN AT ALL TIMES AND CONSTRUCTION AREAS ARE TO BE MAINTAINED FOR SAFETY.
4. ALL SOILS DISTURBED ADJACENT TO WORK AREA, INCLUDING AREAS OUTSIDE OF CONSTRUCTION LIMITS, DUE TO NEW CONSTRUCTION ARE TO BE REGRADED AND SURFACE CONDITIONS REPAIRED EQUIVALENT TO THAT CONDITION PRIOR TO START OF WORK PER THE NATIVE SEED MIX NOTES THIS SHEET.
5. PROTECT EXISTING SURFACES AND SOILS, BOTH INSIDE AND OUTSIDE OF CONSTRUCTION LIMITS, DURING CONSTRUCTION. IF GRADES, CONCRETE OR ASPHALT ARE DAMAGED DUE TO CONSTRUCTION OPERATIONS OR WEATHER THE CONTRACTOR IS RESPONSIBLE FOR REPAIR TO THAT EQUIVALENT TO EXISTING CONDITIONS AT NO EXPENSE TO THE OWNER / TOWN.
6. CONTRACTOR IS RESPONSIBLE FOR SETUP OF BARRICADES, WARNING SIGNAGE, OR OTHER PROTECTIVE DEVICES IF ANY EXCAVATIONS ARE LEFT EXPOSED AFTER ON-SITE WORK HOURS.
7. THE CONTRACTOR SHALL NOT PURPOSEFULLY PROCEED WITH ANY CONSTRUCTION PER PLANS PROVIDED WHEN OBSTRUCTIONS AND/OR GRADE DIFFERENCES EXIST THAT WERE NOT CONSIDERED OR CHANGED AFTER PLANS WERE SUBMITTED. CONTRACTOR SHALL NOTIFY OWNER OR OWNER'S REPRESENTATIVE IF SITUATION ARISES AND REVISIONS ARE NECESSARY. OWNER WILL COORDINATE ANY REQUIRED REVISIONS WITH TOWN.
8. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND OTHER POLLUTANTS FROM ENTERING ANY STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, ETC., DURING THE DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE AND EXPENSE FOR THE CORRECTION OF ANY ADVERSE IMPACTS TO THE STORM WATER SEWER SYSTEM OR, ADJACENT WATER WAYS, WETLANDS ETC., RESULTING FROM THE WORK DONE AS PART OF THIS PROJECT/CONTRACT.
9. THE CONTRACTOR SHALL BE RESPONSIBLE PRIOR TO BIDDING AND CONSTRUCTION, OF BECOMING AWARE OF ALL EXISTING AND PROPOSED UTILITIES, PIPES, STRUCTURES, ETC. CALL UNCC THREE DAYS BEFORE SCHEDULED WORK AT 811 OR 1-800-922-1987.

Landscape Notes

1. LANDSCAPE AREAS SHALL BE MAINTAINED, INCLUDING MOWING, WATERING AND FERTILIZING BY CONTRACTOR, UP TO FINAL ACCEPTANCE. AT SUCH TIME OWNER WILL BE RESPONSIBLE FOR ALL MAINTENANCE. LANDSCAPE AND IRRIGATION WILL BE WARRANTED FOR ONE (1) FULL YEAR AFTER FINAL ACCEPTANCE. ALL NATIVE GRASS AREAS MAY NOT EXCEED 8" IN HEIGHT.
2. ANY DISCREPANCIES WITH THE DRAWINGS AND SITE CONDITIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNERS REPRESENTATIVE PRIOR TO PROCEEDING WITH CONSTRUCTION.
3. CONTRACTOR TO VERIFY ALL FIELD CONDITIONS, EASEMENTS, PROPERTY LINES, ETC. PRIOR TO STARTING WORK. SHOULD ANY DISCREPANCIES, OMISSIONS, OR ERRORS OCCUR, NOTIFY THE OWNER'S REPRESENTATIVE IMMEDIATELY.
4. CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES 48 HRS. PRIOR TO ANY EXCAVATION OR PLANTING.
5. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY COORDINATION WITH SUBCONTRACTORS AS REQUIRED TO ACCOMPLISH PLANTING OPERATIONS.
6. STREET AND ORNAMENTAL TREES SHALL BE PLANTED NO CLOSER THAN FORTY (40) FEET AND FIFTEEN (15) FEET RESPECTIVELY FROM STREET LIGHTS. NO TREES SHALL BE PLANTED WITHIN TEN (10) FEET FROM WATER AND SEWER LINES, FOUR (4) FEET FROM GAS, TELEPHONE AND ELECTRIC UTILITIES, FIVE (5) FEET FROM STORM SEWER LINES, AND TEN (10) FEET FROM ANY DRIVEWAY. CONTRACTOR TO NOTIFY OWNER OF ANY CONFLICTS. OWNER TO COORDINATE ANY NECESSARY PLAN REVISIONS.
7. MINIMUM CLEARANCE OF THREE (3) FEET ON EACH SIDE OF FIRE DEPARTMENT CONNECTION (FDC). NO VEGETATION OTHER THAN TURF OR GROUND COVERS PLANTED IN FRONT OF FDC.
8. ANY OBJECT WITHIN THE SIGHT DISTANCE EASEMENT MORE THAN 30 INCHES ABOVE THE FLOWLINE ELEVATION OF THE ADJACENT STREET SHALL CONSTITUTE A SIGHT OBSTRUCTION, AND SHALL BE REMOVED OR LOWERED. SUCH OBJECTS INCLUDE BUT ARE NOT LIMITED TO BERMS, BUILDINGS, PARKED VEHICLES ON PRIVATE PROPERTY, CUT SLOPES, HEDGES, TREES, BUSHES, UTILITY CABINETS, OR TALL CROPS. MAILBOX CLUSTERS MUST BE INSTALLED A MINIMUM OF 2 FEET FROM BACK OF WALK AND NOT CAUSE ANY SIGHT OBSTRUCTION. IN NO CASE SHALL ANY PERMANENT OBJECT ENCROACH INTO THE LINE-OF-SIGHT OF ANY PART OF THE SIGHT-DISTANCE TRIANGLE. STREET TREES REQUIRED ARE EXCEPTED FROM THIS REQUIREMENT. TREES ARE PERMITTED IF PRUNED UP TO 8 FEET. IN ADDITION TO THE SIGHT DISTANCE TRIANGLE REQUIREMENTS, A CLEAR SPACE ZONE IS REQUIRED WITHIN ALL CURB RETURNS (MEASURED FROM POINT OF CURB TO POINT OF CURB RETURN) WHERE NO TREES, SHRUBS, AESTHETIC STRUCTURES/FEATURES, MONUMENT SIGNS, OR OBJECTS THAT HAVE THE POTENTIAL TO HINDER DRIVER VISIBILITY, AND/OR PEDESTRIAN AND BICYCLE SAFETY, ARE ALLOWED. SEE LARIMER COUNTY URBAN AREA STREET STANDARDS SECTION 7.4.1.C. FOR ADDITIONAL INFORMATION.
9. IF TREES OR SHRUBS ARE LOCATED ON TOP OF FIELD VERIFIED UTILITIES, CONTRACTOR SHALL NOTIFY OWNER BEFORE ANY DIGGING HAS COMMENCED. VERIFY WITH OWNER IF AND WHICH SHRUBS/TREES SHALL BE TAKEN OUT OF PROJECT/CONTRACT.
10. TO THE MAXIMUM EXTENT FEASIBLE, TOPSOIL THAT IS REMOVED DURING CONSTRUCTION ACTIVITY SHALL BE CONSERVED FOR LATER USE ON AREAS REQUIRING REVEGETATION AND LANDSCAPING.
11. EXCAVATED MATERIAL TO BE USED AS FILL WILL HAVE ALL ROCKS, DEBRIS, WASTE MATERIAL, FROZEN MATERIAL, VEGETATION LARGER THAN 3" IN ANY DIMENSION REMOVED BEFORE PLACEMENT AND COMPACTION OF SOIL.
12. PRIOR TO FINE GRADING, DURA-TURF TALL FESCUE SOD OR DURA-TURF TALL FESCUE SEEDED AREAS AND PLANTING BEDS, SHALL BE THOROUGHLY LOOSENED AND TILLED TO A 6" DEPTH. REMOVE ALL UNSUITABLE TOPSOIL, INCLUDING ALL ROCKS LARGER THAN 3 INCHES IN ANY DIRECTION, ALL CONCRETE, TRASH, DEBRIS, WEEDS, ROOTS AND OTHER WASTE MATERIALS. AFTER THAT TIME CLASS I OR II, EXCLUDING MANURE, SHALL THEN BE THOROUGHLY TILLED AND INCORPORATED TO A MINIMUM 6" DEPTH IN THESE AREAS AT THE MINIMUM OF RATE OF 3 CU. YDS. / 1,000 SQ.FT.
13. UNIFORMLY COMPACT AND FINE GRADE THESE SOD / GRASS AREAS AND PLANTING BEDS TO A SMOOTH SURFACE, FREE FROM IRREGULAR SURFACE CHANGES. CUT OUT SOFT SPOTS, FILL IN LOW SPOTS AND TRIM HIGH SPOTS TO COMPLY WITH REQUIRED GRADE TOLERANCES.
14. ONCE COMPACTED AND FINE GRADED ALL ROCKS, DEBRIS, WASTE MATERIAL AND VEGETATION MATERIAL LARGER THAN 1/2" WILL BE RAKED FROM THE SURFACE AND REMOVED FROM SITE.
15. SOD TO BE 100% COLORADO GROWN DURA-TURF TALL FESCUE BLEND SPECIFICALLY GROWN FOR LOW WATER LAWN APPLICATIONS WITH MINIMUM THREE (3) IMPROVED VARIETIES, HAVING A HEALTHY VIGOROUS ROOT SYSTEM. ONCE TURF IS LAID IT SHALL BE PROPERLY ROLLED, COMPACTED AND PUSHED TOGETHER TO ELIMINATE ANY GAPS BETWEEN ROLL EDGES. APPLY FERTILIZER IN THESE AREAS PER SOD FARM'S RECOMMENDATIONS.
16. ALL PLANT MATERIALS ARE SIZED AND OUTLINED IN PLANT LIST. ALL PLANTS TO BE PLANTED IN AMENDED SOIL AND STAKED AS SHOWN IN DETAILS. ALL PLANT MATERIAL SHALL MEET OR EXCEED THE CODE OF STANDARDS CURRENTLY RECOMMENDED BY THE COLORADO NURSERY ACT FOR NUMBER ONE GRADE.
17. IF PLANTS ARE IN NEED OF REPLACEMENT DUE TO DECLINING HEALTH, DISEASE, OR DEATH, CONTRACTOR MUST NOTIFY OWNER AND THE PLANT MUST BE REPLACED WITH THE ORIGINAL SPECIES UNLESS OWNER RECEIVES APPROVAL FOR REPLACEMENT SPECIES BY TOWN.
18. CHANGES IN PLANT SPECIES OF PLANT LOCATIONS FROM WHAT IS LISTED ON THE LANDSCAPE PLAN WILL REQUIRE THE APPROVAL OF THE TOWN PRIOR TO INSTALLATION OF REPLACEMENT. OVERALL QUANTITY AND QUALITY TO BE CONSISTENT WITH THE APPROVED PLANS. IN THE EVENT OF CONFLICT WITH THE QUANTITIES INCLUDED IN THE PLANT LIST, SPECIES AND QUANTITIES SHALL BE PROVIDED.
19. ALL TREES AND SHRUBS TO BE BALLED AND BURLAPPED, OR CONTAINERIZED.
20. ALL EXISTING TREES TO REMAIN UNLESS OTHERWISE NOTED.
21. ALL PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, BASKETS, BURLAP, AND ALL OTHER NON-BIODEGRADABLE CONTAINMENT MATERIAL REMOVED FROM THE TRUNK AND/OR ROOT BALL OF THE PLANT, PRIOR TO PLANTING.
22. ALL SHRUB BEDS SHALL HAVE MINIMUM 4" DEPTH SHREDDED CEDAR MULCH - NATURAL COLOR AND/OR WASHED SMOOTH COBBLE. A CONTINUOUS LAYER OF TYPAR LANDSCAPE FABRIC OR APPROVED EQUAL SHALL BE INSTALLED IN ALL COBBLE AREA WITH 6" OVERLAP AT SEAMS WITH 4" STAPLES 4' O.C. IN ALL DIRECTIONS.
23. EDGING BETWEEN GRASS TYPES AND SHRUB BEDS / ROCK COBBLE SHALL BE HEAVY DUTY STEEL EDGER MIN. $\frac{1}{8}$" x 4" WITH ROUNDED TOP AND PLASTIC CAP AND SHALL BE SET LEVEL WITH THE TOP OF THE ADJACENT SOD. NO EDGING SHALL BE USED BETWEEN CEDAR MULCH AND COBBLE TRANSITIONS.
24. LANDSCAPING WITHIN THE FRONT YARD SETBACK OF RESIDENTIAL PROPERTIES MUST BE INSTALLED WITHIN ONE (1) YEAR OF CERTIFICATION OF OCCUPANCY.
25. MAINTENANCE OF ALL COMMON AREAS AND PUBLIC R.O.W. LANDSCAPING IS THE RESPONSIBILITY OF THE METRO DISTRICT.
26. ALL TURF GRASSES PLANTED IN PUBLIC R.O.W. MUST BE SOD
27. STREET TREES WILL BE PLANTED AT LEAST 5' FROM ANY SERVICE LINE AND DRIVEWAY.
28. TURF (SOD) IS REQUIRED IN ALL TREE LAWNS. THE INSTALLATION RESPONSIBILITY IS THE BUILDER/HOMEOWNER IN FRONT OF INDIVIDUAL LOTS.
29. IN ANY CIRCUMSTANCE WHERE PLANT LIST QUANTITIES OR SPECIES DO NOT MATCH THE PLAN LAYOUT, THE LANDSCAPE INSTALLATION SHALL MATCH THE PLAN LAYOUT.
30. WEED CONTROL SHALL BE A CONTINUAL RESPONSIBILITY OF THE OWNER DURING ALL PHASES OF LAND CLEARING AND CONSTRUCTION, AND OPERATION. EVERY EFFORT SHALL BE MADE TO PREVENT THE SPREAD OF NOXIOUS WEEDS.
31. APPROVAL OF SEEDED TURF AREAS SHALL BE BASED UPON THE SEED PRODUCERS GUARANTEED SEEDING GERMINATION RATE FOR A ONE SQUARE FOOT AREA. IF GUARANTEED GERMINATION RATE IS NOT ACHIEVED, THE CONTRACTOR SHALL OVERSEED UNTIL THE GERMINATION RATE IS ACHIEVED. REVEGETATION SHALL HAVE AT LEAST 3 NATIVE GRASS SEEDLINGS/SQUARE FOOT AND NO BARE AREAS EXCEEDING ONE SQUARE METER AFTER THE SECOND GROWING SEASON. FOR DRILL SEEDED AREAS, PLANTING ROWS SHALL BE NOTICEABLE BY THE END OF THE FIRST FULL GROWING SEASON. IF A PARTIAL OR TOTAL SEEDING FAILURE IS APPARENT AFTER THE SECOND GROWING SEASON, POORLY VEGETATED AREAS SHALL BE RESEEDED IN THE SAME MANNER DESCRIBED ABOVE. APPROPRIATE SITE PREPARATION PRACTICES SHALL BE USED TO CREATE A SUITABLE SEEDBED FOR PLANTING, BUT ANY ESTABLISHED NATIVE VEGETATION SHALL BE UNDISTURBED TO THE EXTENT POSSIBLE. AREAS THAT ERODE BEFORE GERMINATION AND ESTABLISHMENT CAN OCCUR SHALL BE REPAIRED AND IMMEDIATELY RESEEDED DURING THE SAME SEASON.

Irrigation Notes

1. ENTIRE IRRIGATION SYSTEM AND ASSOCIATED IRRIGATION TAP(S) TO BE SIZED, DESIGNED AND BUILT BY CONTRACTOR. IRRIGATION CONTRACTOR SHALL VERIFY P.S.I. AND GPM AVAILABLE. SYSTEM SHALL BE DESIGNED TO MEET THE AVAILABLE P.S.I. AND GPM. IF NECESSARY CONTACT THE WATER DISTRICT PRIOR TO BEGINNING DESIGN TO OBTAIN AVAILABLE PRESSURES.
2. ALL INDICATED TURF GRASS AREAS ARE TO BE IRRIGATED BY A PERMANENT UNDERGROUND AUTOMATIC IRRIGATION SYSTEM. TURF AREAS LESS THAN 25 FEET IN WIDTH ARE TO BE IRRIGATED WITH POP-UP SPRAY HEADS AND AREAS GREATER THAN 25 FEET SHALL USE A ROTOR POP-UP SPRAY SYSTEM.
3. ALL TREES, SHRUBS AND PERENNIALS OUTSIDE OF IRRIGATED TURF GRASS AREAS, ARE TO BE IRRIGATED WITH A PERMANENT DRIP IRRIGATION SYSTEM.
4. IRRIGATION SYSTEM WITH SMART CONTROLLER, RAIN SENSOR AND NECESSARY SLEEVING WILL BE DESIGNED AND BUILT BY CONTRACTOR AND ADJUSTED TO A LOW WATER REQUIREMENT, BASED ON THE NEEDS OF SELECTED PLANT MATERIAL.
5. QUICK COUPLERS SHALL BE PROVIDED AT EACH POINT OF CONNECTION AND AT REGULAR SPACING ALONG THE IRRIGATION MAINLINE. SPACING OF QUICK COUPLES SHALL NOT EXCEED 200 FEET. LOCATE QUICK COUPLING VALVE AT A POINT OF EASY ACCESS.
6. FINAL LOCATION OF IRRIGATION HEADS MUST BE APPROVED BY OWNER'S REPRESENTATIVE PRIOR TO PLANTING. HEAD LOCATION SHALL BE COORDINATED IN THE FIELD WITH EXISTING SITE CONDITIONS AND PLANT MATERIAL.
7. ALL IRRIGATION TRENCHES SHALL BE PROPERLY WATERED AND COMPACTED TO AVOID FUTURE SETTLING. ANY SETTLING DURING WARRANTY PERIOD WILL BE REPAIRED BY THE CONTRACTOR AT NO COST TO THE OWNER.
8. COORDINATE ALL IRRIGATION WORK WITH EXISTING UTILITIES AND RESPECTIVE TRADES.
9. ALL IRRIGATION SLEEVING SHALL BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR. IRRIGATION CONTRACTOR SHALL COORDINATE SLEEVING LOCATIONS WITH GENERAL CONTRACTOR. ALL IRRIGATION SLEEVING TO BE STAKED IN THE FIELD OR LOCATED ON DIMENSIONED "AS-BUILT" DRAWING BY THE GENERAL CONTRACTOR TO ALLOW FUTURE USE AND LOCATION.

Native Grass Seed Mix

1. SEED SHALL BE AS MANUFACTURED BY ARKANSAS VALLEY SEED SOLUTIONS, 4625 COLORADO BOULEVARD, DENVER, CO 80216, (877) 957-3337 OR APPROVED EQUAL.
2. SEED SHALL BE A MIXTURE THAT MATCHES THE FOLLOWING:

IRRIGATED FOOTHILLS MIX

COMMON NAME	%	LBS.P.L.S./ACRE
ANNUAL RYEGRASS	20%	
SLENDER WHEATGRASS	15%	
CRESTED WHEATGRASS	12%	
MOUTAIN BROME	10%	
HARD FESCUE	10%	
CANADA BLUEGRASS	10%	
SIDEOATS GRAMA	6%	
BIG BLUESTEM	5%	
BLUE GRAMA (COATED)	5%	
SAND DROPSEED	1%	

3. DRILLED APPLICATION RATE: 25.0 LBS (PLS) PER ACRE (0.57 LBS / 1000 SF)
4. ADEQUATE TEMPORARY IRRIGATION OR BY WATER TRUCK, OR BY OTHER ACCEPTABLE MEANS, WILL BE PROVIDED BY CONTRACTOR FOR THE WATERING , ESTABLISHMENT AND MAINTENANCE OF THESE SEEDED AREAS, AND THAT NATIVE GRASSES SHALL BE MAINTAINED IN A CONDITION OF ACCEPTABLE HEIGHT, FREE OF WEEDS, TRASH AND DEBRIS, AND SHALL NOT REPRESENT A FIRE HAZARD NOR BECOME A NUISANCE SITE FOR WATER OR WIND EROSION.
5. FOR ALL NATIVE GRASS MIX AREAS, THE DEVELOPER SHALL BE RESPONSIBLE FOR ESTABLISHMENT OF A COMPLETE, WEED FREE STAND OF GRASS PRIOR TO TURNING OVER MAINTENANCE TO THE BERTHOUD HERITAGE METRO DISTRICT.

MULCH IN ALL NATIVE SEED AREAS:

3. IMMEDIATELY FOLLOWING THE RAKING OPERATION, ADD STRAW MULCH TO THE SEEDED AREAS.
4. APPLY STRAW MULCH AT A MINIMUM OF 1.5 TONS PER ACRE OF AIR DRY MATERIAL. SPREAD STRAW MULCH UNIFORMLY OVER THE AREA WITH MECHANICAL MULCH SPREADER / CRIMPER. DO NOT MULCH WHEN WIND VELOCITY EXCEEDS 10 MPH.
5. WHEREVER THE USE OF CRIMPING EQUIPMENT IS PRACTICAL, PLACE MULCH IN THE MANNER NOTED ABOVE AND ANCHOR IT INTO THE SOIL. USE A DISC SUCH AS A MULCH TILLER, WITH A FLAT SERRATED DISC AT LEAST ¼ INCH IN THICKNESS, HAVING DULL EDGES, AND SPACE NO MORE THAN 9 INCHES APART, WITH DISCS OF SUFFICIENT DIAMETER TO PREVENT THE FRAME OF THE EQUIPMENT FROM DRAGGING THE MULCH. ANCHOR MULCH A MINIMUM DEPTH OF 2 INCHES AND ACROSS THE SLOPE WHERE PRACTICAL WITH NO MORE THAN TWO PASSES OF THE ANCHORING EQUIPMENT.
6. IMMEDIATELY UPON COMPLETION OF THE MULCHING AND BINDING OPERATION, THE SEEDED AREAS SHALL BE IRRIGATED, KEEPING THE TOP 2 INCHES OF SOIL EVENLY MOIST UNTIL SEED HAS UNIFORMLY GERMINATED AND GROWN TO A HEIGHT OF 2-INCHES.
7. WATERING APPLICATION SHALL BE DONE IN A MANNER WHICH WILL PROVIDE UNIFORM COVERAGE BUT WHICH WILL NOT CAUSE EROSION, MOVEMENT, OR DAMAGE TO THE FINISHED SURFACE.

Landscape Sheet Index:

SHEET 1	COVER SHEET AND NOTES
SHEET 2	OVERALL LANDSCAPE PLAN
SHEET 3	LANDSCAPE PLAN
SHEET 4	LANDSCAPE PLAN
SHEET 5	LANDSCAPE PLAN
SHEET 6	HYDROZONE PLAN
SHEET 7	DETAILS

SITE FURNISHING SCHEDULE

DESCRIPTION	MANUFACTURER	MODEL	QUANTITY	COLOR	MOUNT TYPE
TRASH RECEPTACLE	MyTCoat - OUTDOOR FURNITURE	LTPQL32	2	BLACK	SURFACE
DOG WASTE STATION	DOG WASTE DEPOT	006-B-BLK	3	MATTE BLACK	IN-GROUND
NOTE: ALL SITE FURNISHINGS AS SPECIFIED OR APPROVED EQUAL					

TOWN OF BERTHOUD, COLORADO
FINAL APPROVAL

Town Planner ______________________ Date

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SEAL

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REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

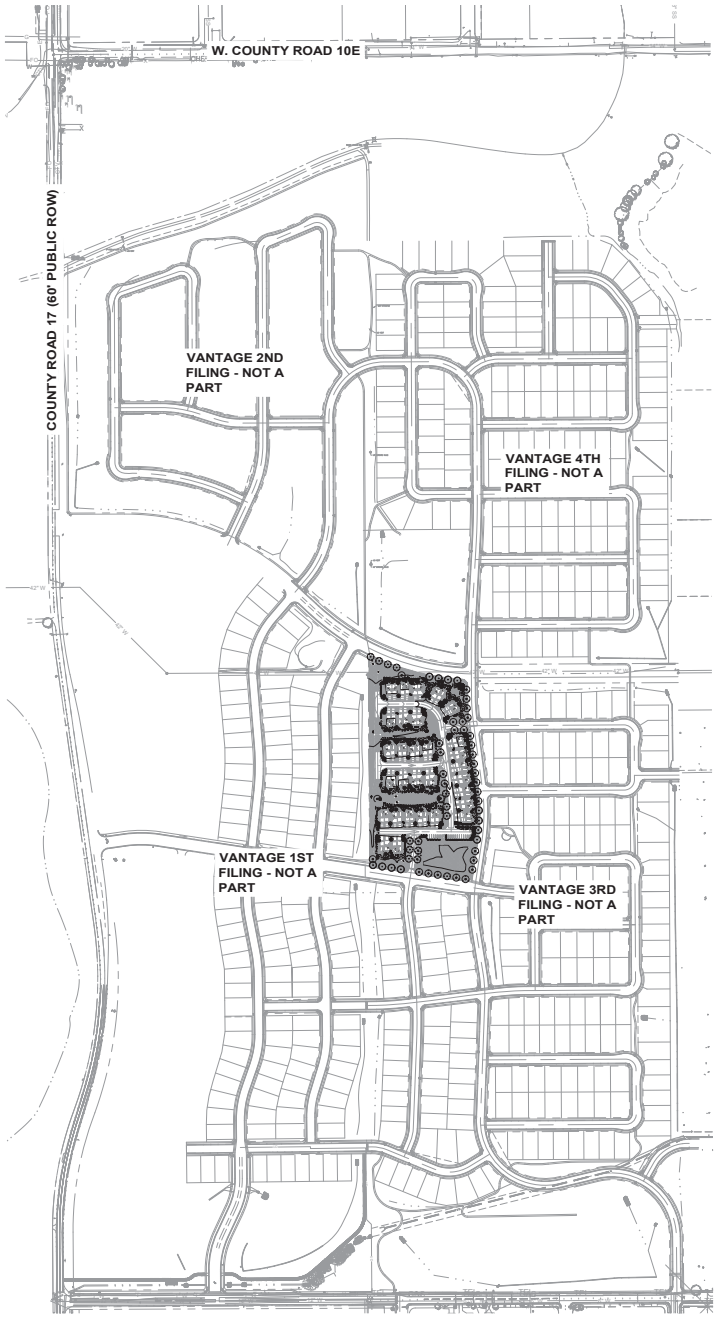
AUGUST 31, 2022

SHEET TITLE

Cover Sheet & Notes

SHEET INFORMATION

SHEET 1



Materials Legend

	01 GENERAL
SYMBOL	DESCRIPTION
	IRRIGATED TURF DURATURF FESCUE BLEND OR APPROVED EQUAL
	NON-IRRIGATED NATIVE SEED SEE DETAILS FOR SEED MIX
	WOOD MULCH ALL SHRUB BEDS TO RECEIVE A MINIMUM 4" DEPTH SHREDDED CEDAR MULCH
	1.5" WASHED RIVER ROCK COBBLE ALL SHRUB BEDS TO RECEIVE A MINIMUM 2"-3" DEPTH ROCK COBBLE

Plan Legend

- PROPERTY BOUNDARY
- LOT LINE
- EASEMENTS
- LANDSCAPE EDGING
- POTENTIAL FENCE LOCATIONS (REFERENCE DETAIL A ON SHEET 7)
- LIGHT POLE TYP.

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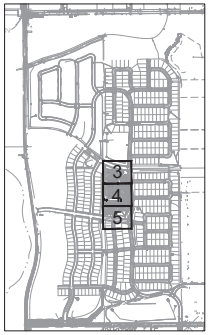

0 250' 375' 500'
SCALE 1" = 250'-0"
NORTH

Plant List

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH	BIODIVERSITY		REMARKS
	6	Catalpa speciosa Western Catalpa	2.0" cal. BB	50'	40'	4.4%		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	12	Celtis occidentalis Western Hackberry	2.0" cal. BB	60'	40'	8.8%		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	11	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree	2.0" cal. BB	60'	40'	8.1%		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	6	Quercus buckleyi Texas Red Oak	2.0" cal. BB	30'	30'	4.4%		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	3	Quercus macrocarpa Bur Oak	2.0" cal. BB	80'	70'	2.2%		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
	16	Quercus robur English Oak	2.0" cal. BB	60'	40'	11.8%		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	4	Tilia americana `Redmond` Redmond American Linden	2.0" cal. BB	50'	40'	2.9%		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
EVERGREEN TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH	BIODIVERSITY		REMARKS
	5	Picea pungens Colorado Spruce	12'-14' B&B	40'	20'	3.7%		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	14	Picea pungens `Baby Blue Eyes` Baby Blue Eyes Spruce	6' B&B	30'	15'	10.3%		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	6	Pinus leucodermis `Emerald Arrow` Emerald Arrow Bosnian Pine	6' B&B	25'	12'	4.4%		FULL SPECIMEN, EVENLY AND WELL BRANCHED
	2	Pinus strobiformis Southwestern White Pine	6' B&B	50'	30'	1.5%		FULL SPECIMEN, EVENLY AND WELL BRANCHED
ORNAMENTAL TREES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH	BIODIVERSITY		REMARKS
	16	Acer ginnala `Flame` Amur Maple	2.0" cal. BB	15'	15'	11.8%		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	11	Acer tataricum `GarAnn` Hot Wings Tatarian Maple	1.5" cal. BB	20'	20'	8%		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	10	Pyrus calleryana `Chanticleer` Chanticleer Pear	1.5" cal. BB	35'	25'	7.4%		WELL BRANCHED W/ STRAIGHT TRUNK & CENTRAL LEADER
	14	Syringa reticulata Japanese Tree Lilac	1.5" cal. BB	25'	20'	10.3%		WELL BRANCHED W/ STRAIGHT TRUNK AND CENTRAL LEADER
DECIDUOUS SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH			
	15	Amelanchier alnifolia `Regent` Regent Serviceberry	10 gal.	8'	8			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	11	Amelanchier canadensis Canadian Serviceberry	5 gal.	20'	15'			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	63	Arctostaphylos x coloradoensis Panchito Manzanita	1 gal.	15"	3'			12" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	95	Caryopteris x clandonensis `Blue Mist` Blue Mist Spirea	5 gal.	4'	4'			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	102	Rhus aromatica `Gro-Low` Gro-Low Fragrant Sumac	5 gal.	3'	6'			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	98	Rosa x `Meineble` Red Meidiland® Rose	5 gal.	2'	6'			12" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	14	Syringa vulgaris Common Lilac	5 gal.	15'	10'			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
EVERGREEN SHRUBS	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH			
	64	Arctostaphylos uva-ursi Kinnikinnick	5 gal.	6"	6'			3"(h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	70	Chamaebatiaria millefolium Fernbush	5 gal.	4'	5'			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	35	Picea abies `Nidiformis` Bird`s Nest Norway Spruce	5 gal.	3'	5'			24" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
	31	Pinus sylvestris 'Albyn Prostrata' Albyn Prostrata Scotch Pine	5 gal.	2'	8'			12" (h) FULL SPECIMEN, EVENLY AND WELL BRANCHED
GRASSES	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH			
	84	Bouteloua gracilis `Blonde Ambition` Blonde Ambition Blue Grama	1 gal.	2'	2'			WELL ROOTED AND ESTABLISHED
	75	Miscanthus sinensis `Purpurescens` Flame (Purple Maiden) Grass	1 gal.	4'	3'			WELL ROOTED AND ESTABLISHED
	90	Muhlenbergia reverchonii 'PUND01S' Undaunted® Ruby Muhly	1 gal.	2'	1.5'			WELL ROOTED AND ESTABLISHED
	34	Panicum virgatum `Heavy Metal` Heavy Metal Switch Grass	1 gal.	4'	1.5'			WELL ROOTED AND ESTABLISHED
	120	Sorghastrum nutans Indian Grass	5 gal.	5'	3'			WELL ROOTED AND ESTABLISHED
PERENNIALS	QTY	BOTANICAL / COMMON NAME	SIZE	HEIGHT	WIDTH			
	36	Oenothera lindheimeri 'Whirling Butterflies' Whirling Butterflies Gaura	5 gal.	2'	3'			WELL ROOTED AND ESTABLISHED
	55	Penstemon pinifolius 'P019S' TM SteppeSuns Sunset Glow Penstemon	1 gal.	18"	18"			WELL ROOTED AND ESTABLISHED
	49	Rudbeckia hirta fulgida Black-eyed Susan	1 gal.	2'	2'			WELL ROOTED AND ESTABLISHED

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REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

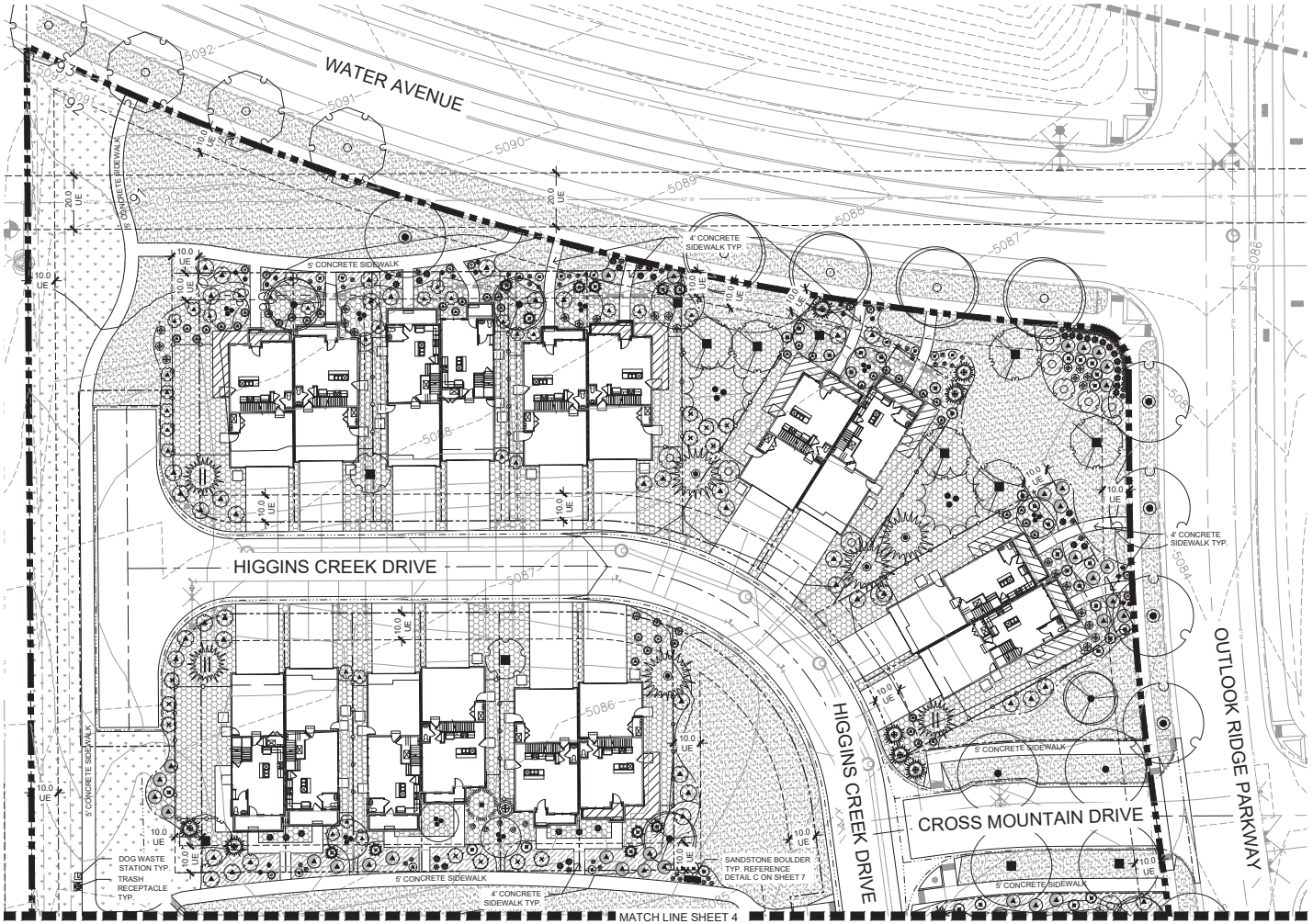
AUGUST 31, 2022

SHEET TITLE

Overall Site & Landscape Plan

SHEET INFORMATION

SHEET 2



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	NON-IRRIGATED NATIVE SEED SEE DETAILS FOR SEED MIX	52,511 sf
	WOOD MULCH ALL SHRUB BEDS TO RECEIVE A MINIMUM 4" DEPTH SHREDDED CEDAR MULCH	21,810 sf
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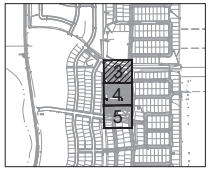

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PREPARED FOR

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9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL UNITED 811 AT LEAST TWO WORKING DAYS BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISION	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

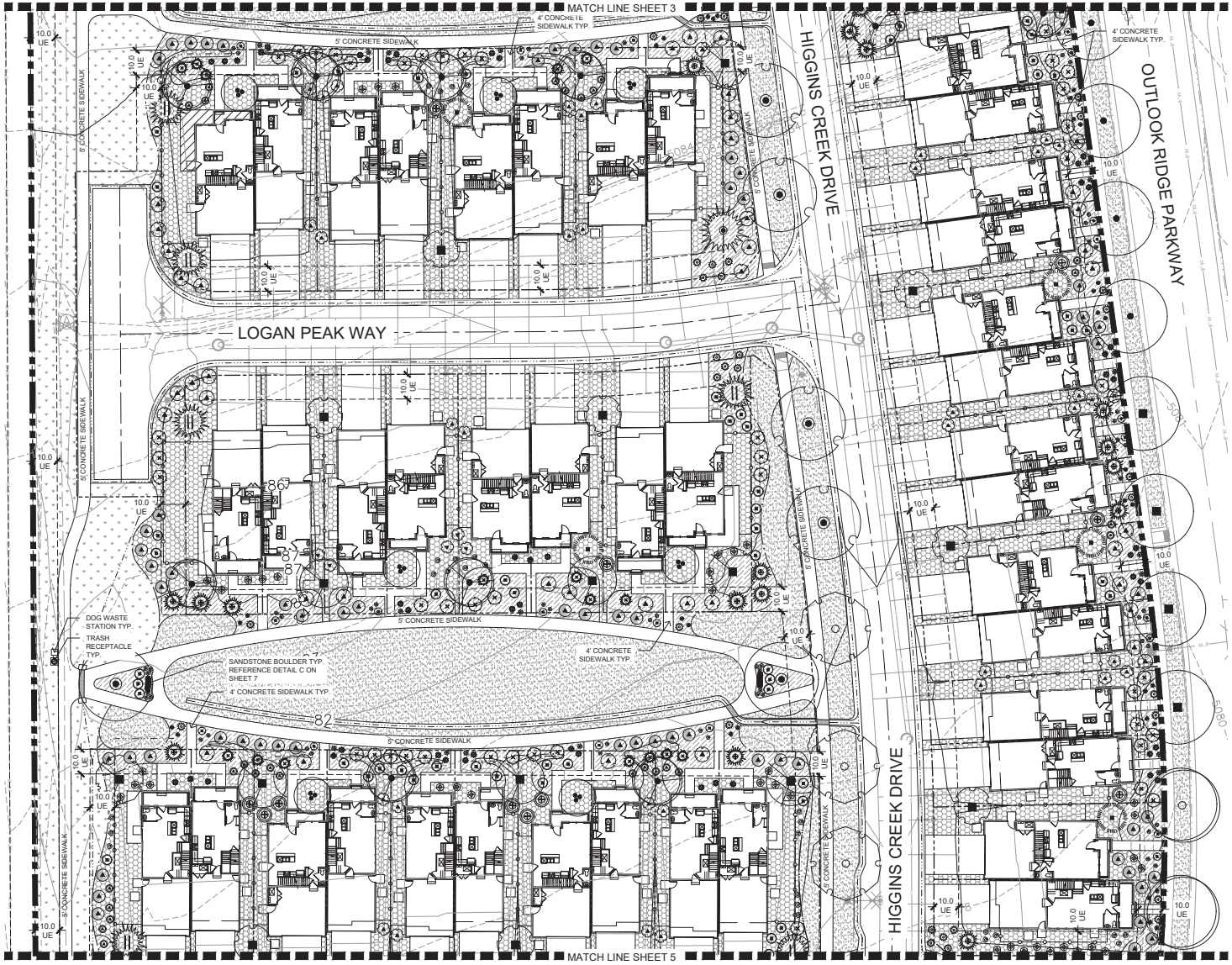
AUGUST 31, 2022

SHEET TITLE

Landscape Plan

SHEET INFORMATION

SHEET 3



Plant List

DECIDUOUS TREES	QTY	BOTANICAL / COMMON NAME
	6	Catalpa speciosa Western Catalpa
	12	Celtis occidentalis Western Hackberry
	11	Gymnocladus dioica `Espresso` Seedless Kentucky Coffeetree
	6	Quercus buckleyi Texas Red Oak
	3	Quercus macrocarpa Bur Oak
	16	Quercus robur English Oak
	4	Tilia americana `Redmond` Redmond American Linden
EVERGREEN TREES	**QTY**	**BOTANICAL / COMMON NAME**
	5	Picea pungens Colorado Spruce
	14	Picea pungens `Baby Blue Eyes` Baby Blue Eyes Spruce
	6	Pinus leucodermis `Emerald Arrow` Emerald Arrow Bosnian Pine
	2	Pinus strobiformis Southwestern White Pine
ORNAMENTAL TREES	**QTY**	**BOTANICAL / COMMON NAME**
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	11	Acer tataricum `GarAnn` Hot Wings Tatarian Maple
	10	Pyrus calleryana `Chanticleer` Chanticleer Pear
	14	Syringa reticulata Japanese Tree Lilac
DECIDUOUS SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**
	15	Amelanchier alnifolia `Regent` Regent Serviceberry
	11	Amelanchier canadensis Canadian Serviceberry
	63	Arctostaphylos x coloradoensis Panchito Manzanita
	95	Caryopteris x clandonensis `Blue Mist` Blue Mist Spirea
	102	Rhus aromatica `Gro-Low` Gro-Low Fragrant Sumac
	98	Rosa x `Meineble` Red Meidiland® Rose
	14	Syringa vulgaris Common Lilac
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	35	Picea abies `Nidiformis` Bird`s Nest Norway Spruce
	31	Pinus sylvestris `Albyn Prostrata` Albyn Prostrata Scotch Pine
GRASSES	**QTY**	**BOTANICAL / COMMON NAME**
	84	Bouteloua gracilis `Blonde Ambition` Blonde Ambition Blue Grama
	75	Miscanthus sinensis `Purpurescens` Flame (Purple Maiden) Grass
	90	Muhlenbergia reverchonii 'PUND01S' Undaunted® Ruby Muhly
	34	Panicum virgatum `Heavy Metal` Heavy Metal Switch Grass
	120	Sorghastrum nutans Indian Grass
PERENNIALS	**QTY**	**BOTANICAL / COMMON NAME**
	36	Oenothera lindheimeri 'Whirling Butterflies' Whirling Butterflies Gaura
	55	Penstemon pinifolius 'P019S' TM SteppeSuns Sunset Glow Penstemon
	49	Rudbeckia hirta fulgida Black-eyed Susan

Materials Legend

SYMBOL	DESCRIPTION	QTY
	IRRIGATED TURF DURATURF FESCUE BLEND OR APPROVED EQUAL	55,343 sf
	NON-IRRIGATED NATIVE SEED SEE DETAILS FOR SEED MIX	52,511 sf
	WOOD MULCH ALL SHRUB BEDS TO RECEIVE A MINIMUM 4" DEPTH SHREDDED CEDAR MULCH	21,810 sf
	1.5" WASHED RIVER ROCK COBBLE ALL SHRUB BEDS TO RECEIVE A MINIMUM 2"-3" DEPTH ROCK COBBLE	64,090 sf

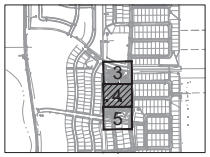
Plan Legend

- PROPERTY BOUNDARY
- LOT LINE
- EASEMENTS
- LANDSCAPE EDGING
- POTENTIAL FENCE LOCATIONS (REFERENCE DETAIL A ON SHEET 7)
- LIGHT POLE TYP.

FENCING NOTE:

FENCING WILL BE OPTIONAL AND INSTALLED BY PROPERTY OWNER. POTENTIAL FENCE LOCATIONS ARE SHOWN FOR REFERENCE ONLY.

Sheet Key



0 20' 30' 40'
SCALE 1" = 20'-0"
NORTH

TB GROUP
landscape architecture | planning | administration
444 Mountain Ave.
Berthoud, CO 80513
TEL 970.532.5891
WEB TBGroup.us

SEAL

PROJECT TITLE

VANTAGE

7th Filing
Preliminary Plat

Berthoud, Colorado

PREPARED FOR

D.R. HORTON d/b/a MELODY HOMES INC.

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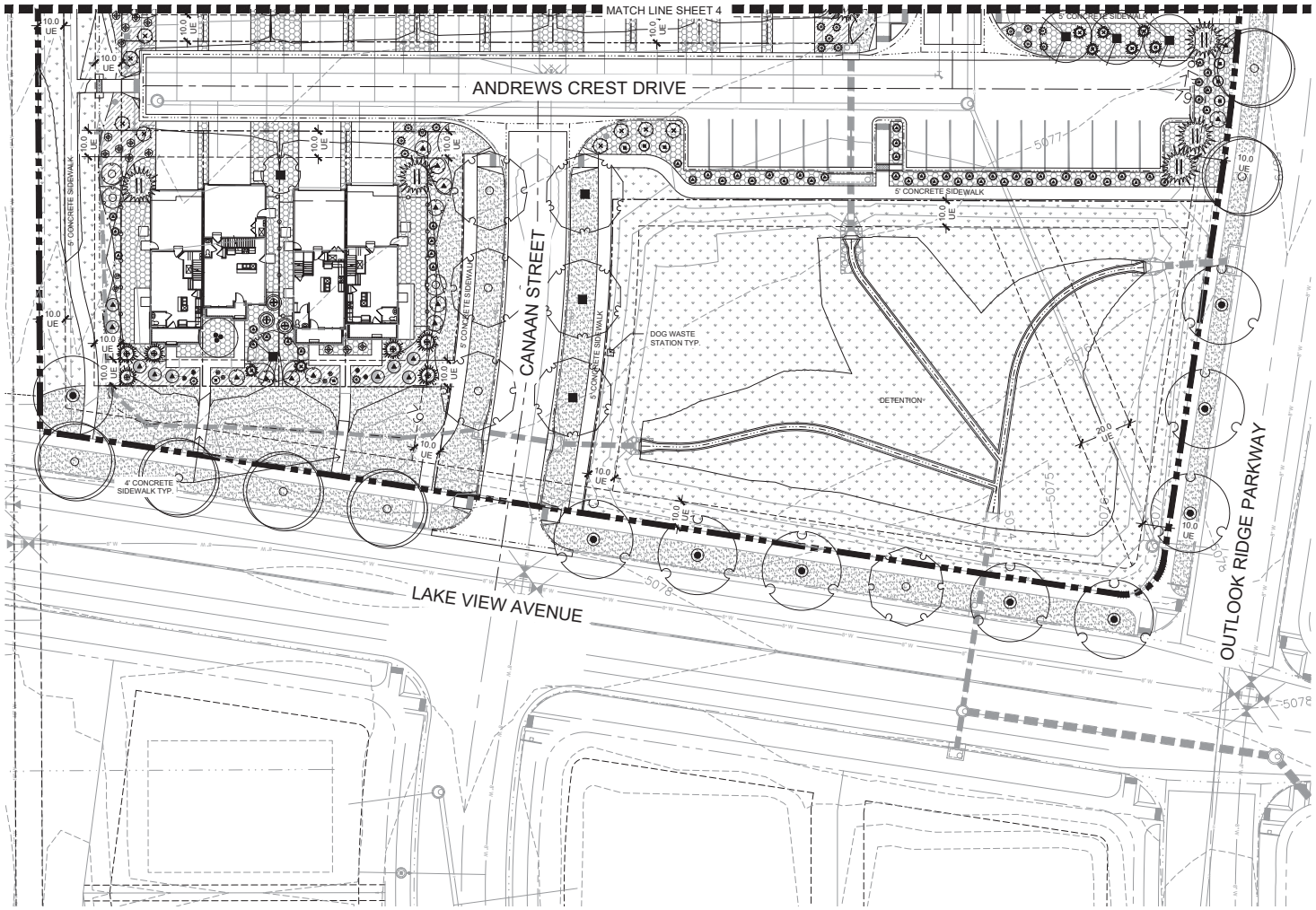
SHEET TITLE

Landscape Plan

SHEET INFORMATION

SHEET 4



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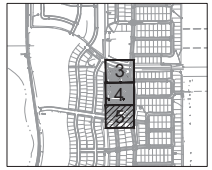

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0 20' 30' 40'

NORTH

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SHEET TITLE

Landscape Plan

SHEET INFORMATION

SHEET 5

Hydrozone Budget

SF	Acre (AC)	Landscape Type	Water Requirement ft/acre
TOWNHOMES, DUPLEX OR SMALL SFD LOTS			
55,343	1.27	Irrigated Turf	3
55,268	1.27	Shrub Beds	1.33
52,511	1.21	Irrigated Native Foothills Grass Mix	0.8
1,550	0.04	Shrubs in non-irrigated areas	1.33

Hydrozone Legend

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	SHRUB BEDS	55,268 sf
	IRRIGATED NATIVE SEED MIX	52,511 sf
	AREAS NEEDING NO IRRIGATION	20,034 sf
	SHRUBS IN AREAS NOT NEEDING IRRIGATION	1,550 sf

0 50' 75' 100'
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NORTH

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STAFF COMMENTS	04.20.23

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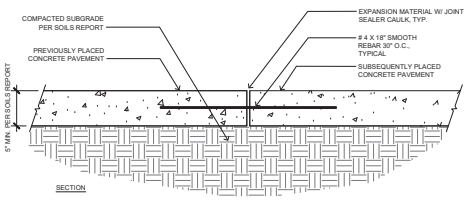
AUGUST 31, 2022

SHEET TITLE

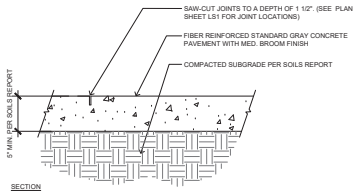
Hydrozone Plan

SHEET INFORMATION

SHEET 6



A 7 TYPICAL CONCRETE COLD JOINT



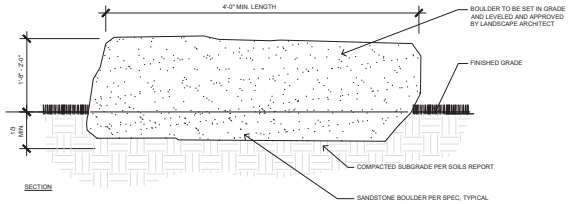
NOTES

1. APPLY MEDIUM BROOM FINISH PERPENDICULAR TO DIRECTION OF WALKS.
2. PROVIDE 1/4" RADIUS EDGE AT OUTSIDE EDGES
3. APPLY BROOM FINISH SO THAT NO TROWEL LINES REMAIN AT OUTSIDE EDGES
4. MATERIAL IS STANDARD GRAY CONCRETE PER SITE PLAN
5. CONCRETE PAVEMENT SHALL SLOPE TO DRAIN(S) UNLESS OTHERWISE NOTED. PROVIDE 2% CROSS SLOPE IN DIRECTION OF DRAINAGE, UNLESS OTHERWISE NOTED, TYP.

B 7 TYPICAL CONCRETE SAW CUT

General Concrete Notes:

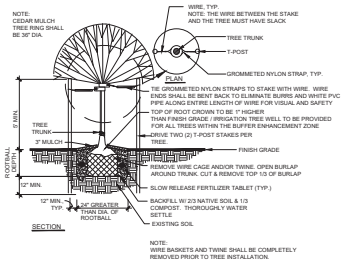
1. ALL CONCRETE TO BE FORMED-IN-PLACE TO CREATE CONSISTENT SLOPE TOWARDS GENERAL DIRECTION OF EXISTING GRADES, SLOPES AND DRAINAGE PATTERNS / SYSTEMS.
2. CONCRETE TO BE AT A MINIMUM 4500 PSI AT 28 DAYS WITH AIR ENTRAINMENT AT 5% TO 7% (ABSOLUTE 8% MAX) FOR MINIMUM ½" AGGREGATE WITH FIBER REINFORCEMENT OF100 PERCENT VIRGIN HOMOPOLYMER POLYPROPYLENE MULTIFILAMENT FIBERS, CONTAINING NO REPROCESSED OLEFIN MATERIALS, COMPLYING WITH ASTM C 1116 - TYPE III AT 1.5 POUNDS PER CUBIC YARD (0.90 KG/M3) OF CONCRETE.
3. ALL NEW CONCRETE POURS ADJACENT TO EXISTING CONCRETE SHALL BE DOWELED, HAVE EXPANSION MATERIAL AND CAULKED ALONG THESE TRANSITIONS.
4. EXPANSION JOINTS SHALL BE CAULKED AND LOCATED AT ALL NEW POURS OR EVERY 100'.
5. ALL CONCRETE EDGES TO BE TOOLED ROUND UNLESS OTHERWISE NOTED DIFFERENTLY.
6. ALL CONCRETE SUB-GRADES ARE TO BE PROPERLY BACKFILLED AND COMPACTED. EXPOSED SOILS TO BE SCARIFIED TO A MINIMUM DEPTH OF 9 INCHES, ADJUSTED IN MOISTURE CONTENT TO WITHIN -1 TO +3% OF STANDARD PROCTOR OPTIMUM MOISTURE CONTENT AND COMPACTED TO BETWEEN 94 TO 98% OF THE MATERIAL'S STANDARD PROCTOR MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM SPECIFICATION D698
7. CONTRACTOR TO SURVEY OR VERIFY POSITIVE DRAINAGE OF ALL FORMED IN PLACE CONCRETE PER NOTE 1 ABOVE PRIOR TO POURING OR BACKFILLING.
8. CONTRACTOR TO PROPERLY DISPOSE OF ALL EXCAVATED AND WASTE MATERIALS OFF-SITE PER LOCAL REGULATIONS AND CODES.
9. ALL CONCRETE FLATWORK TO BE MINIMUM 6" THICK W/ MEDIUM BROOM PERPENDICULAR TO GENERAL PEDESTRIAN MOVEMENT.
10. IF NOT SHOWN PROVIDE CONTROL JOINTS IN A GENERAL SQUARE AND EQUAL (MAX. 8' x 8') PATTERN STARTING AT POINTS OF GREATEST PROBABILITY OF CRACKING.
11. CONCRETE TO BE UNDER FULL WARRANTY FOR 2 YEARS.



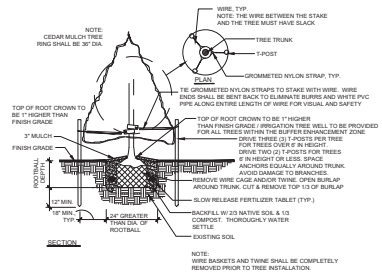
NOTES:

1. STONES SHALL BE PLACED AND BACKFILLED SO THERE IS NO TIPPING / SHIFTING, TYPICAL
2. STONES TO BE ANGULAR, BUFF COLORED, MASONVILLE SANDSTONE FROM CARTER LAKE INDUSTRIES, SIZE AND LOCATION PER PLAN AND DETAILS

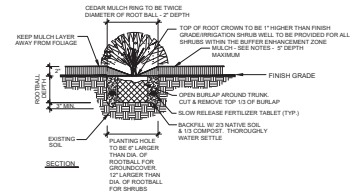
C 7 SANDSTONE BOULDER



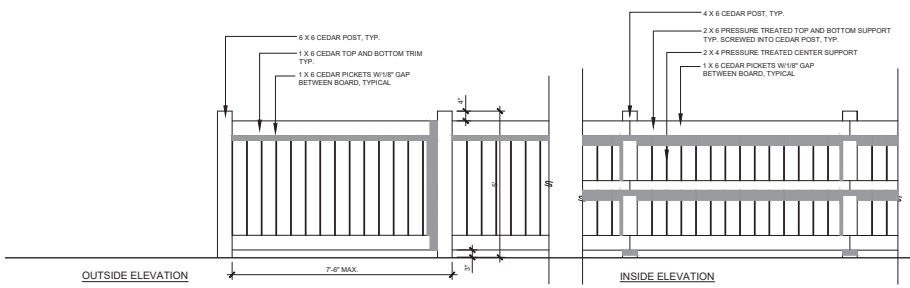
D 7 DECIDUOUS TREE PLANTING DETAIL



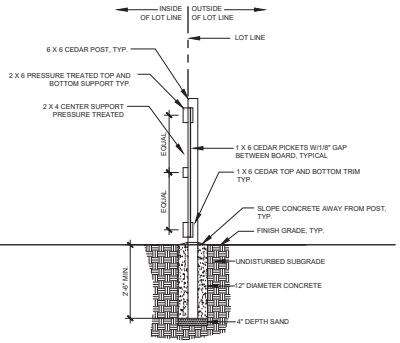
E 7 CONIFEROUS TREE PLANTING DETAIL



F 7 GROUND COVER AND SHRUB PLANTING DETAIL



NOTES:
1. ALL FENCING SHALL BE STAINED WITH THE FOLLOWING:
SHERWIN WILLIAMS SUPERDECK
SOLID COLOR DECK STAIN
RIVER BIRCH SW3024



G 7 5' PRIVACY FENCE

SCALE 3/4" = 1'-0"

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SHEET TITLE

Details

SHEET INFORMATION

SHEET 7

BOARD OF TRUSTEES INFORMATION

ADMINISTRATION DEPARTMENT

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Oil and Gas Tranche 2 – Continued**
Type of Item:	**Presentation**
Purpose:	**Informational Presentation**
Presented by:	**Mike Foote**

BACKGROUND:

This item will be an informational presentation. There may be additional information distributed during the presentation. Direction may be needed.

Tranche 2 staff preliminary draft (as of June 29, 2023)

BMC § 30-11-105. New facility application requirements. The following reports shall accompany any Application for a new Facility. The reports and plans shall indicate how the Operator plans to comply with the Town's regulations and protect health, safety, welfare, the environment, and wildlife. The reports will include measures outlined in the Town's regulations; however, an approved Application may require industry recognized Best Management Practices, or state or federal rules, whichever is most protective of public health, safety, welfare, the environment and wildlife. The Town Administrator may submit all or parts of the Application for review and recommendation by consultants retained by the Town with the necessary expertise to review technical or other aspects of the Application. Among other consultant reviews, third party consultant review may be required to evaluate the risks and impacts of oil and gas development. The Operator will be notified if the Town Administrator decides to retain consultants, and the Operator will escrow funds sufficient to cover the anticipated cost of the consultants' review. The Operator will be responsible for the actual costs associated with this consultant review and will be refunded any excess escrowed funds.

1. Air Quality Protection Plan. An Air Quality Protection Plan shall be submitted with all applications to demonstrate how the development and operation of the facility will avoid, or minimize and mitigate adverse impacts to air quality if those adverse effects cannot be avoided, and will demonstrate compliance with and implementation of standards in Section 30-11-108(1) of this Code.

a. The Air Quality Protection Plan shall include modeling to be conducted by a third-party consultant approved by the Town that provides for facility emissions inventories and air quality impact studies for drilling, completions and operations based upon proposed equipment use and operational phases, and any emissions reductions associated with plugging and abandonment.

b. The Air Quality Protection Plan will include a section on air quality monitoring that describes how the Operator will conduct baseline monitoring prior to construction of the facility and continuous air sampling and monitoring during all phases of the operation.

(1) Baseline monitoring shall be conducted within 500 feet of a proposed Facility and near any receptors within 1 kilometer (3,280 feet) as required by the Town over a 30- day period. Baseline monitoring shall track levels and changes in monitored air pollutant concentrations during that time period.

(2) The Plan shall describe how the Operator will conduct high frequency monitoring and collect periodic canister samples (or equivalent method capable of speciating air samples) during the drilling, completion, and production phases of development.

(3) In the event a speciated sample is triggered, the Plan shall describe Town and CDPHE notification processes. The third-party monitor consultant must report any exceedance of the National Ambient Air Quality Standards to the CDPHE and

the Town. Depending on the circumstances, expedited lab analyses may be required by the Town.

(4) The Plan shall include provisions for continuous monitoring up to 1 kilometer (3,280 feet) from the Facility for all potential emissions, including but not limited to, Volatile Organic Compounds (VOCs), Hazardous Air Pollutants (HAPs), Benzene, Toluene, Ethylbenzene, and Xylene (BTEX), Hydrogen Sulfide, Oxides of Nitrogen (NOx), Particulate Matter (PM), Fine Particulate Matter (PM 2.5), Carbon Monoxide (CO) and methane (CH4), carbon dioxide (CO2).

(5) The Plan shall include provisions for high frequency monitoring for hydrocarbons at frequencies of no less than once per hour during drilling and completion activities. Each hydrocarbon monitor shall include a sampling device to automatically collect a speciated air sample when the monitor levels reach a threshold concentration level defined by the third-party consultant or in response to a request by the Town. Meteorological monitoring is also required during the time period that air quality monitoring is conducted. High frequency monitoring of production operations will continue until three years have passed from the date the last well drilled, unless the Town Administrator directs otherwise in response to the detection of repeated emissions at threshold concentrations or repeated odor violations.

(6) The Plan shall meet the minimum requirements of AQCC Regulation 7 section VI.C., and any successor sections, and receive approval from the Air Pollution Control Division (APCD) prior to beginning air quality monitoring at the permitted site of the Facility. When submitting the air quality monitoring plan to APCD, the operator shall submit at least 90 days in advance of the pre-drilling monitoring to account for the Town's 30-days of pre-drilling air quality monitoring requirement.

(7) In addition to all federal and state laws, rules and regulations, applications for new Facilities shall demonstrate how exploration, construction, and standard operations of the Facility will comply with the rules and regulations of the AQCC. Information to be provided shall include all appropriate applications of notifications and permits for sources of emissions.

(8) The Plan must consider the cumulative impacts to existing air quality including ambient air quality standards for ground-level ozone, meeting oil and gas sector greenhouse gas reduction targets, and the cumulative impacts of all approved and existing oil and gas operations within a ten-mile radius of the proposed new Facility.

(9) The following Best Management Practices shall be required and included in the Plan unless an equal or better system exists:

A. Zero emission desiccant dehydrators;

B. Emission controls of 98% or better for glycol dehydrators;

C. Pressure-suitable separator and vapor recovery units;

D. Zero emission pneumatic devices;

E. Automated tank gauging;

F. Require dry seals on centrifugal compressors;

G. Routing of emissions from rod-packing and other components on reciprocating compressors to vapor collection systems;

H. Control emissions by 98% during storage tank hydrocarbon liquids loadout (i.e. loading out liquids from storage tanks to trucks); and

I. Reduction or elimination of emissions from flowline maintenance activities such as pigging, including routing emissions to a vapor collection system, with at least 98% control of emissions from pigging operations.

2. Chemical and Hazardous Materials Use, Disclosure, and Handling Plan. Operator shall submit a Chemical and Hazardous Materials Plan to demonstrate how the Operator will comply with reporting and handling requirements outlined in Section 30-11-108(2). The plan shall disclose all the hazardous and non-hazardous materials and chemicals that will be used on the site of the proposed facility, including chemicals to be used in fracking fluid, and how of the chemicals used on the facility will be handled to prevent spills.

3. Emergency Response Plan. Operator shall submit an Emergency Response Plan with its Application. In preparation of the Emergency Response Plan, Operator shall engage with emergency responders and prepare a plan that includes, but not necessarily be limited to documentation of the communications and coordination with the Town and plans for the evacuation of buildings and any person within a 1-kilometer (3,280 feet) radius from the oil and gas location. The Emergency Response Plan must detail all criteria for persons to be notified in the event of an emergency and training and necessary equipment for first responders. The Emergency Response Plan shall also include:

a. Name, address and phone number, including 24-hour numbers for at least two (2) persons responsible for field operations, at least one of which can be on the site of any emergency within 15 minutes, as well as the contact information for any subcontractor of Operator engaged for well-control emergencies, which shall be updated with the Town if the names of responsible personnel change;

b. A process by which the Operator will notify neighboring residents and businesses within 1 kilometer (3,280 feet) to inform them about the on-site operations and emergencies and to provide sufficient contact information for surrounding neighbors to communicate with the Operator;

c. An emergency evacuation plan for the working pad surface and a plan to evacuate any person up to 1 kilometer (3,280 feet) of the working pad surface;

d. Emergency shutdown protocols and procedures to promptly notify the Town of any shutdowns that would have an impact to any area beyond the confines of the working pad surface;

e. A process by which the Operator will notify the Town and any other applicable governing bodies as soon as practicable but no later than 24 hours after the incident;

f. Detailed information addressing each category of emergency that has a reasonable potential to occur at the operation and to be severe enough to present an immediate danger to public health, safety or welfare, including without limitation: explosions; fires; gas; oil or water pipeline leaks or ruptures; well integrity issues, hydrogen sulfide or other toxic gas emissions; hazardous material vehicle accidents or spills; vandalism, and natural disasters. Examples of the most likely and worst-case scenarios should be provided, including information on the potential response scenarios;

g. A provision that any spill outside of the containment area, that has the potential to leave the facility or to threaten waters of the state, or as required by the Town-approved plan shall be reported to the local dispatch and the ECMC Director in accordance with ECMC regulations;

h. Detailed information identifying emergency access, transportation routes to and from oil and gas facilities for emergency response, and health care facilities anticipated to be used if necessary;

i. A project-specific plan for any project that involves drilling or penetrating through known zones of hydrogen sulfide gas;

j. A provision obligating the Operator to reimburse the appropriate agencies for their expenses incurred in connection to any emergency response in connection to an oil and gas facility;

k. A statement and detailed information indicating that the Operator has adequate personnel, supplies, and training to implement the plan immediately at all times during construction and operations;

l. A process by which the community can submit concerns and complaints and be assured of timely responses;

m. Details regarding coordination methods and training between the Operator and the first responders within or outside of the Town; and

n. Provisions for cooperation with first-responder agencies in training, drills, exercises, and development of after-action reports.

4. Flow lines, Transfer Lines, Gathering Lines, and other pipelines. Operator shall submit a Pipeline Plan detailing how it will comply with Section 30-11-108[subsection] and include:

a. A map at a scale of one inch equals 250 feet or such scale as required by the ECMC that shows the specific location and route of each flowline, and fresh, produced, or waste water pipeline and any other transport pipeline necessary for the oil and gas facilities and operations, through the lifetime of the oil and gas facilities and operations, and their distances from: existing or proposed residential, commercial, or industrial buildings; places of public assembly; surface water bodies; geologic hazards, agricultural lands; and public or private roads;

b. The size, operating pressure, material, and locations of each line and what materials they will carry;

c. Whether pipelines will be co-located with proposed or existing lines;

d. Identification of all pipeline segments that will be constructed by boring and the location of the boring operation;

e. Description of how the Operator intends to adhere to the integrity management procedures listed in ECMC Rule 1104.c-f, or any successor rules;

f. A copy of the leak protection and monitoring plan required by ECMC Rule 1104.g, or any successor rules; and

g. Description of the measures planned to minimize land disturbance and impacts to vegetation.

5. Fugitive Dust Control Plan. A Fugitive Dust Control Plan shall be submitted with all facility applications. The plan shall disclose techniques and methods to be utilized at the proposed facility to prevent or mitigate fugitive dust generated by the construction and operations of the proposed facility and the traffic associated therewith. The plan shall demonstrate compliance with and implementation of standards in Section 30-11-108[subsection].

6. Historical and Cultural Resources Plan. Operator shall assess historical and cultural resources in and around the proposed oil and gas facility and share such information and proposed mitigation measures with the Town for advance approval prior to start of site construction. If a significant surface or sub-surface archeological site is discovered during

construction, the operator shall be responsible for immediately contacting the city to report the discovery. If any disturbance of a site deemed by the State Historic Preservation Office to be a historical or cultural resource occurs, the operator shall be responsible for mitigating the disturbance to the cultural or historical property through a data recovery plan in consultation with the city's historic landmark board and the State Historic Preservation Office.

7. Leak Detection and Repair Plan. A Leak Detection and Repair Plan shall disclose techniques, methods and protocols that will be utilized at the proposed Facility to identify, prevent, contain, document, repair, and report leaks, and shall demonstrate how it will comply with and implement the standards in § 30-11-108(1)(n) *et seq*.

8. Lighting and Visual Impacts Plan. Operator shall complete a plan indicating the location of all outdoor lighting on the site and structures, including cut sheets (manufacturer's specifications with picture or diagram) of all proposed fixtures. The plan should include the location and type of any emergency lighting and description of situations in which it will be used. A photometric study conducted by an independent consultant to measure the lumens emitted by the oil and gas facilities or operations and evaluate lighting impact on surrounding properties must also be included as part of the plan.

9. Noise and Vibration Mitigation Plan. A Noise and Vibration Mitigation Plan shall demonstrate how the facility will mitigate noise and vibration impacts to comply with the noise standards contained in Section 30-11-108[subsection]. The plan shall include the following:

a. A minimum one-week (168 consecutive hours) baseline noise analysis. The baseline analysis must include wind speed, direction, rainfall data, season conducted, and any other relevant conditions.

b. Noise Modeling. Using industry-recognized noise modeling software, modeling of expected dBA and dBC noise levels from the proposed oil and gas facilities and oil and gas operations during all phases of development and operation, assuming use of and identifying all noise-mitigating equipment and measures intended for use at the proposed oil and gas facilities or oil and gas operations. All Noise Modeling must include a list of all noise sources, reference noise data used in the model for each source, noise attenuation specifications for any proposed noise walls, and a scaled map showing predicted noise levels.

c. Modeled maximum A- and C-weighted decibel levels for all phases of development shall be presented using contour maps from the facility (combining noise sources) at 350 feet, 500 feet, 1000 feet, 2,000 feet, and to the property line of the adjacent properties. Contour maps shall be provided that demonstrate both unmitigated and mitigated decibel levels.

d. A plan of proposed mitigation measures to be implemented by the facility during each phase of development shall be provided to ensure compliance with the maximum permissible noise levels as listed in Section 30-11-108[subsection].

10. Odor Mitigation Plan. The Applicant shall submit an Odor Mitigation Plan indicating how the operations will prevent odors from adversely impacting the public and wildlife and further demonstrating compliance with the standards in this Code. The Odor Mitigation Plan shall include investigation and control strategies which shall be implemented upon receipt of odor complaint(s), the determination that the facility is causing the odor, or as required by the Town. These odor control strategies shall include at least the following:

a. Odorants, that are not a masking agent, shall be added to chillers and/or mud systems;

b. Additives to minimize odors from drilling and fracturing fluids except that Operators shall not mask odors by using masking fragrances;

c. The utilization of filtration systems and/or additives to minimize, not mask, odors from drilling and fracturing fluids in the drilling and flowback processes;

d. Increasing additive concentration during peak hours provided additive does not create a separate odor. Additives must be used per the manufacturer's recommended level;

e. The utilization of enclosed shale shakers to contain fumes from exposed mud where safe and feasible;

f. Drilling activities shall utilize minimum low odor Category IV or better drilling fluid or non-diesel-based drilling muds that do not contain benzene, toluene, ethylbenzene, or xylene (BTEX). Operator will employ the use of drilling fluid with low to negligible aromatic content during drilling operations after surface casing is set;

g. Removing drilling mud from drill pipe each time it is removed from the well and wiping down drill pipes as they exit the well bore each time;

h. Drill cuttings shall be covered to prevent odor while being transported by truck; and

i. A prohibition of the use of D-822 drilling mud unless its use is required by ECMC.

11. Reclamation Plans. The Applicant shall submit an Interim Reclamation Plan and a Final Reclamation Plan. Both plans shall outline how the Applicant will comply with Berthoud Municipal Code and ECMC rules related to reclamation.

a. The Interim Reclamation Plan shall also, at a minimum, include:

(1) A site plan that defines the "working pad surface" limited to those areas necessary for
production;

(2) A written description of existing vegetation in the area; and

(3) A plan for revegetation and any landscaping outside of working pad surface, or for reclaiming to the final land use as designated by the surface owner, and how it will be watered and maintained.

b. The Final Reclamation Plan shall also, at a minimum, include:

(1) A timeline for the removal of all equipment from the site; and

(2) A detailed demonstration of how the Applicant will restore the site surface area to the condition it was prior to the oil and gas operation.

12. Risk Management Plan. The Applicant shall submit a Risk Management Plan. The plan shall include risk identification, frequency, responsibilities, assessment, response, planning mitigation, and methods of risk avoidance and control that implement techniques to prevent the accident/loss and reduce the impact after an accident/loss occurs. Operators shall periodically update and revise the plan, but at least every three years and after any incident listed in Section 30-11-108 [subsection].

13. Spill Prevention and Containment Plan. The Applicant shall submit a Spill Prevention and Containment Plan with all facility applications. The plan shall outline techniques, methods, and protocols to be utilized at the proposed facility to prevent, contain, clean up, document, and report any spills or releases, and shall demonstrate compliance with and implementation of the standards in Section 30-11-108[subsection].

14. Traffic Impact Analysis and Routing Plan. A Traffic Impact Analysis and Routing Plan shall be submitted with all applications. The plan shall disclose routing alternatives and transportation infrastructure improvements proposed for the proposed facility to mitigate projected transportation impacts and demonstrate compliance with and implementation of the standards in Section 30-11-108[subsection]. The Traffic Impact Analysis and Routing Plan will be prepared by a third-party vendor approved by the Town. The Traffic Impact Analysis and Routing Plan shall include:

a. The proposed haul routes to and from the site, and public and private roads that traverse or provide access to the proposed operation;

b. The estimated number of vehicle trips per day for each type of vehicle, estimated weights of vehicles when loaded, a description of the vehicles, including the number of wheels and axles of such vehicles and trips per day;

c. The identification of impacts to Town roads and bridges related to facility construction, operations, and ongoing new traffic generation.

d. A plan to mitigate transportation impacts that will typically include, but not be limited to, a plan for traffic control, ongoing roadway maintenance, and improving or reconstructing Town roads;

e. Detail of access locations for each well site including sight distance, turning radius of vehicles and a template indicating this is feasible, sight distance, turning volumes in and out of each site for an average day and what to expect during the peak hour;

f. Truck routing map and truck turning radius templates with a listing of required and determined that certain improvements are necessary at intersections along the route;

g. Restriction of non-essential traffic and prohibition of any class 7 vehicles and above to and from any Well Site to periods outside of peak morning and afternoon traffic periods during weekdays (7:00-8:00 a.m. and 3:00-6:00 p.m.); and

h. Identification of need for any additional traffic lanes, which would be subject to the final approval of the Town.

15. Water Quality Control Plan. Applicant shall submit a Water Quality Control Plan that details practices that will avoid impacts to water quality, comply with Section 30-11-108[subsection], and comply with all applicable state and federal water quality rules. The Plan shall include, but not necessarily be limited to plans for water quality testing, the prevention of illicit or inadvertent discharges and containment of pollutants in case of a discharge, and stormwater discharge management.

16. Water Supply Plan. Applicant shall submit a Water Supply Plan prepared by a certified professional engineer that demonstrates compliance with the applicable standards in Section 30-11-108[subsection] and includes:

a. A description of the physical source of the water that the operator proposes to use to serve each phase of the operation;

b. A list of all available physical sources of water other than Erie municipal water for the operation, and if multiple sources are available, analysis to determine which source is least detrimental to the environment;

c. The amount of water needed for each phase of the operation;

d. Proof that the source of water supply is physically and legally available and dependable for each phase of the operation;

e. A description of how water will be delivered to the site for each phase of the operation;

f. A description of water efficiency methods;

g. The amount of produced water expected to be recycled or reused; and

h. The amount of wastewater produced, and disposal plans for wastewater.

17. Waste Management Plan. The Applicant must submit a plan for disposal of all waste generated by the oil and gas facilities or oil and gas operations, including use of truck or pipeline transport with details of anticipated truck trips. The plan shall include provisions for the recycling or drilling, completion, and flowback fluids unless technically infeasible. The plan will identify whether waste materials will be stored on site and, if so, how such storage will avoid adverse impacts to the oil and gas facility parcel(s), surrounding lands, water, natural resources, wildlife, air quality, and public health, safety, and welfare. The plan must specify whether on-site storage of drilling mud is contemplated and, if so, how the applicant will eliminate odors leaving the site. The plan must also include a description of any sources of technically enhanced naturally occurring radioactive material used in or generated by the oil and gas operations and oil and gas facilities and how those materials will be disposed.

18. Well Liquids Unloading Plan. The Applicant shall submit a plan for well liquids unloading, if applicable. The Plan shall include Best Management Practices, including artificial lift, automated plunger lifts and at least 98% emission reductions when utilizing combustion to control venting shall be employed unless technically infeasible. The Plan shall also include a provision to avoid well liquids unloading during CDPHE ozone alert days unless required for safety reasons.

19. Wildlife Conservation Plan. The Applicant must submit a Wildlife Conservation Plan that demonstrates compliance with ECMC provisions related to wildlife. In addition, the Plan must contain a map of ecologically important areas including critical wildlife habitat areas, riparian areas, rivers, water bodies, wetlands, potential conservation areas as identified by the Colorado Natural Heritage Program Species of Concern listing, Tier 1 and Tier 2 species as identified by the Colorado Parks and Wildlife, and of federally-designated threatened or endangered species, as mapped by other applicable federal and state governmental agencies or discovered upon inspection, on and within one mile of the parcel(s) on which the oil and gas facilities are proposed to be located. It shall also include, at a minimum, the following:

a. A description of the ownership, location, type, size, and other attributes of the wildlife habitat on the site;

b. A description of the populations of wildlife species that inhabit or use the site including a qualitative description of their spatial distribution and abundance;

c. An analysis of the potential adverse impacts of the proposed development on wildlife and wildlife habitat on or off-site;

d. A list of proposed mitigation measures and an analysis of the probability of success of such measures;

e. A plan for implementation, maintenance, and monitoring of mitigation measures;

f. A plan for any relevant enhancement or restoration measures; and

g. A demonstration of fiscal, administrative, and technical competence of the applicant or other relevant entity to successfully execute the plan.

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<u>BMC § 30-11-108. Conditions of approval</u>. After Special Review, the Board will deny the Application if the proposed oil and gas facilities or operations cannot be conducted in a manner that protects public health, safety, and welfare, the environment and wildlife. If the Application can be approved, it will be subject to conditions that ensure compliance with the standards listed in this section 30-11-108. An approved Application will incorporate the plans submitted by the Operator pursuant to 30-11-105, unless the Town requires additional industry recognized Best Management Practices or compliance with ECMC, CDPHE, and / or EPA rules, whichever is most protective of public health, safety, welfare, the environment and wildlife. Conditions will include at least the following:

1. **Air Quality.** Operator shall comply with the Air Quality Protection Plan as outlined in Section 30-11-105(1) and all applicable state and federal laws. In addition:

a. A third-party consultant approved by the Town shall conduct baseline and continuous air sampling and monitoring at Operator's cost.

b. Reduced Emission (Green) Completions, as defined in COGCC Rule 903.c.1, as may be amended, shall be used for all completions and well workovers.

c. *Venting and flaring.* Venting and flaring shall be eliminated other than during emergencies or upset conditions. Operator shall report all venting and flaring to the Town and the reason(s) for its necessity within 24 hours. To the extent used, all flares, thermal oxidizers, or combustion devices shall be designed and operated as follows:

(1) Any flaring or combustion shall utilize a flare that has a manufacturer specification of 98% destruction removal efficiency or better;

(2) The flare and/or combustor shall be designed and operated in a manner that will ensure no visible emissions during normal operation. Visible emissions means observations of smoke for any period or periods of duration greater than or equal to one minute in any fifteen-minute period during normal operation, pursuant to EPA Method 22. Visible emissions do not include radiant energy or water vapor;

(3) The flare and or combustor shall be operated with a flame present at all times when emissions are vented to it;

(4) All combustion devices shall be equipped with an operating auto-igniter;

(5) If using a pilot flame ignition system, the presence of a pilot flame shall be monitored using a thermocouple or other equivalent device to detect the presence of a flame. A pilot flame shall be maintained in the flare's pilot light burner at all times when emissions are routed to the flare. A surveillance system shall be in place to monitor the pilot flame and shall activate a visible and audible alarm in the case that the pilot goes out;

(6) If using an electric arc ignition system, the arcing of the electric arc ignition system shall pulse continually and a device shall be installed and used to continuously monitor the electric arc ignition system; and

(7) Any flare, auto ignition system, recorder, vapor recovery device or other equipment used to meet the hydrocarbon destruction or control efficiency requirement shall be installed, calibrated, operated, and maintained in accordance with the manufacturer's recommendations, instructions, and operating manuals.

l. Electrification. [facilities shall be equipped with electric-powered engines for motors, compressors, drilling and production equipment, and pumping systems unless no adequate electricity source is available, or it is technically infeasible.]

m. *Air Quality Action Advisory Days*. Facilities may be subject to timing restrictions in order to reduce emissions on Air Quality Action Advisory Days as designated by the CDPHE in the Denver Metro / North Front Range Ozone Non-Attainment Area. Operators shall include provisions in Air Quality Plans to avoid operations during Air Quality Action Advisory Days, or, if technically infeasible, incorporate the following measures to minimize pollution on those days:

(1) Minimizing vehicle traffic and engine idling;

(2) Reducing truck and worker traffic;

(3) Delaying vehicle refueling;

(4) Suspending or delaying use of fossil fuel powered equipment;

(5) Postponing construction and maintenance activities unless repairing identified leaks or releases;

(6) Postponing well maintenance and liquid unloading that would result in emission releases to the atmosphere; and

(7) Postponing or reducing operations with high potential to emit VOCs and/or NOx.

n. *Leak Detection and Repair*. Operators shall comply with the provisions in its Leak Detection Plan as outlined in Section 30-11-105(7). Operator shall conduct leak detection and repair inspections at every facility monthly or at greater frequencies if required by the APCD for the emission source using best available leak detection technologies and equipment, such as infra-red cameras and hydrocarbon analyzers.

(1) If an infrared camera is used, operator shall retain an infrared image or video of all leaking components before and after repair. Records and results of those

inspections, including all corrective actions taken, shall be maintained for three years and shall be made available to the Town upon request. Operator shall also retain a copy of all reports submitted to the APCD, including monthly downtime reports and semi-annual control equipment status reports for production facilities, and make those reports available to the Town upon request.

(2) Operator shall immediately report to the Town any leaks discovered by the Operator, including any leaks that are reported to the Operator by a member of the public.

(3) Repair of leaks shall occur within 48 hours of detection. If a leak is not repaired within 48- hours, the Operator must use other means to stop the leak including, but not limited to, isolating the component or shutting in the well, unless such other means will cause greater emissions. If it is anticipated that a repair will take longer than 48 hours, the Operator shall provide a written explanation to the Town as to why more time is required and how the leak will be contained.

(4) If the Town determines that the leak presents an imminent threat to public health, safety, welfare, the environment or wildlife, the operator shall notify residents within 1 kilometer (3,280 feet) of the leak and may not operate the affected component, equipment or flowline segment until the operator has corrected the problem and the Town agrees that the affected component, equipment or flowline segment no longer poses a hazard to public health, safety, welfare, the environment or wildlife.

2. Chemical and hazardous material use, disclosure, and handling. Operator shall disclose its expected use of chemicals during all phases of the oil and gas operation consistent with its Chemical and Hazardous Materials Plan in Section 30-11-105(2) and applicable state and federal laws.

a. The Town may limit or prohibit toxic chemicals in hydraulic fracturing fluids. Prohibition of chemicals dangerous to human health. To prevent harm to human health and prevent odors, operators shall be prohibited from using any toxic, including orally toxic, chemical additives in hydraulic fracturing fluids including but not limited to, the following:

(1) All chemicals listed in ECMC Table 437-1 or any successor regulation;

(2) Polysorbate 80; and

(3) Perfluoroalkyl and polyfluoroalkyl substances or "PFAS chemicals," defined as a class of fluorinated organic chemicals containing at least one fully fluorinated carbon atom.

b. Drilling and completion chemicals shall be removed from the site within sixty (60) days of the drilling completion.

3. Emergency response. Operator shall complete and implement all components of its Emergency Response Plan pursuant to Section 30-11-105(3) subject to the approval of the Town Administrator and [applicable Fire District] before the Drilling Phase commences. In addition:

a. Operator shall review the plan annually and file any updates with the Town Administrator and the applicable fire district. If no updates to the Plan are made then Operator shall provide notice of "No Change" in the filing required under this subsection.

b. Within 60 days of the start of production, Operator will provide an as-built facilities map in a format suitable for input into the Town's GIS system depicting the locations and type of above and below ground facilities, including sizes and depths below grade of all oil and gas flow lines and associated equipment, isolation valves, surface operations and their functions. The information concerning flowlines and isolation valves shall be marked and treated as confidential and shall only be disclosed in the event of an emergency or to emergency responders or for the training of emergency responders.

c. The Operator shall have current Safety Data Sheets (SDS) for all chemicals used or stored on a Well Site. The SDS sheets shall be provided immediately upon request to Town officials, a public safety officer, or a health professional as required by ECMC Rules.

Flood control (?)

#. **Flow lines, Transfer Lines, Gathering Lines, and other pipelines.** Operator must comply with the Pipeline Plan as outlined in Section 30-11-105(4) and all applicable state and federal laws. Off-location flow lines and crude oil transfer lines shall be sited to avoid areas containing existing or proposed residential, commercial, and industrial buildings; places of public assembly; surface water bodies; and Town open space. Any newly constructed or substantially modified oil and gas pipelines (excluding temporary water lines) shall meet the following requirements:

a. The use of pipelines to transport liquid production wastes and product is required unless technically infeasible;

b. All off-site pipelines transporting process materials, production wastes, product, and any other items used or generated by the facility shall be located to avoid existing or proposed residential, commercial, and industrial buildings, places of assembly, surface

waterbodies and designated open spaces. Buried pipelines shall be a minimum of four (4)-feet deep and shall be of detectable material which could include the addition of tracer wire to ensure detection during buried utility locating.

c. All oil and gas pipelines shall be sited at a minimum of 50 feet away from residential and other occupied buildings, as well as the highwater mark of any surface water body. This distance shall be measured from the nearest edge of the pipeline. Increased setbacks shall be evaluated and required on a case-by-case basis, with the determining locational factor being the size, pressure, and type of pipeline being proposed.

d. Pipelines that pass within 150 feet of residential or other occupied building or the high-water mark of any surface water body shall incorporate leak detection or other mitigation, as appropriate.

e. Pipelines shall be aligned with established roads in order to minimize surface impacts and reduce habitat fragmentation and disturbance unless technically infeasible.

f. Operators shall share existing pipeline rights-of-way and consolidate new corridors for pipeline rights-of-way to minimize surface impacts unless technically infeasible.

g. Operators shall use boring technology when crossing streams, rivers, irrigation ditches or wetlands with a pipeline to minimize negative impacts to the channel, bank, and riparian areas, except that open cuts may be used across irrigation ditches if the affected ditch company approves the technique.

h. As-built reporting, including the location (with GPS coordinates), materials and operating pressures of all flowlines, pipelines, gathering lines, and fresh water pipelines and depicting the locations of other subsurface features or improvements crossed by such lines shall be provided to the Town in a format suitable for input into the Town's GIS system.

i. Temporary water lines, or other means rather than truck, will be used to transport water to the site for hydraulic fracturing and other purposes to the extent practical. Temporary water lines shall be buried at all existing driveway and road crossings, or utilize existing culverts, if available.

#. **Fugitive Dust.** The Operator must comply with the Fugitive Dust Control Plan as outlined in Section 30-11-105(5) and all applicable state and federal laws. All fugitive dust shall be contained to the maximum extent practicable. Operators must prevent dust from leaving their property. In addition:

a. No produced water or other process fluids shall be used for dust suppression. Safety Data Sheets (SDS) for any chemical-based dust suppressant shall be submitted to the city prior to use.

b. The operator will avoid creating dust or dust suppression activities within 300 feet of the ordinary high-water mark of any water body, unless the dust suppressant is water.

c. Sand, silica and similar materials must be properly stored to prevent fugitive particulates. Measures shall be used to control particulates, including proof of compliance with State-required dust control measures and imposition of an opacity requirement as tested using EPA Method 9.

d. Operations shall be conducted in such a manner that dust does not constitute a nuisance pursuant to Section 17.21 or hazard to public health, safety, welfare or the environment.

(1) If there is a complaint of dust by a nearby resident or business (including agriculture) that is made directly to the Operator, to the ECMC, or to the Town, the Operator shall determine whether the dust is caused by Operator's operations. Operator will provide a complete description of all activities occurring at the oil and facility at the time of the complaint. Operator shall report its conclusions, including the factual basis for the conclusions, to the Town and the complainant within 48 hours of the complaint. If the Operator or Town determines that the dust is caused by Operator's operations, Operator shall resolve the dust concern to the maximum extent practicable within 24 hours.

#. **Lighting and Visual Impacts.** The Operator's lighting and visual impacts mitigation must comply with the Lighting and Visual Impacts Plan as outlined in Section 30-11-105(8) and all applicable state and federal laws. In addition:

a. Oil and gas facilities and operations will avoid or sufficiently minimize and mitigate adverse impacts associated with lighting on public health, safety, and welfare, the environment and wildlife. Lighting associated with oil and gas facilities or operations will be designed to protect surrounding properties, roadways, livestock, and wildlife from light pollution and glare. All permanent lighting or lighting higher than a perimeter wall must be downward facing.

b. Lighting at a facility must include:

(1) the use of timers or motion sensing lighting;

(2) the use of full cut-off lighting; and

(3) the use of reduced light intensity colors and low-glare or no-glare lighting.

c. The location of all outdoor lighting shall be designed to minimize off-site light spillage and glare using best practices recognized by the International Dark-Sky Association.

d. For all phases of the development of the site, the application shall demonstrate

compliance with the visual and aesthetic rules of ECMC and this Code for landscaping, fencing, and lighting.

e. All facilities shall be painted with colors that are matched to or slightly darker than the surrounding landscape, and shall utilize paint with uniform, non-contrasting, nonreflective color tones based upon the Munsell Soil Color Coding System.

f. For all phases of site development, fencing shall be installed for security and visual aesthetics of the use.

g. Oil and gas operations shall minimize removal of trees and vegetation on the site.

h. Landscaping and/or fencing for screening and visual quality as viewed from public rights-of-way and neighboring residential areas shall be required within 6 months from the time of well completion and in accordance with requirements for the zoning district.

i. Facility applications shall demonstrate compliance with weed control requirements of Section [existing BMC weed control section] and Forestry Services Department, including for access roads serving the facility.

#. **Incident and Accident Reporting.** The Operator's shall adhere to the Incident and Accident Reporting Plan as outlined in Section 30-11-105[subsection] and all applicable state and federal laws. In addition:

a. Emergency reporting: If public health, safety, welfare, the environment, or wildlife resources are threatened, the Operator responsible for the operation causing such threat will immediately notify the appropriate emergency responders, the Town, the ECMC, and the surface owner orally.

b. Safety Event reporting: Within twenty-four (24) hours of the cessation of any reportable safety event, as defined by the ECMC in Rule 602(g), or any successor rules, or any accident or natural event involving a fire, explosion or detonation requiring emergency services or completion of a ECMC Form 22, Operator shall submit a report to the Town administrator that includes at least the following information, to the extent available and relevant: fuel source, location, proximity to residences and other occupied buildings, cause, duration, intensity, volume, specifics and degree of damage to properties, if any beyond the Well Site, injuries to persons, emergency response, and remedial and preventative measures to be taken within a specified amount of time.

c. The Town may require Operator to conduct a root cause analysis of any reportable safety events or Grade 1 gas leaks, each as defined by the ECMC. The root cause analysis shall be prepared and submitted to the Town no later than 30 days of the request.

d. Any spill or release of unrefined and refined petroleum products, hazardous substances, fracking fluids, E&P waste, or produced fluids of greater than 25 gallons

outside of secondary containment areas on a facility, including those thresholds reportable to the ECMC and CDPHE, shall upon discovery, be immediately reported to the National Response Center, ECMC, and CDPHE as well as County Sheriff, County Department of Health and Environment, and the local Fire Department / District.

#. Noise and Vibrations.

a. Operator shall comply with the Noise and Vibration Mitigation Plan as outlined in Section 30-11-105(9) and all applicable state and federal laws.

(1) Oil and gas operations may not exceed the ambient noise level by more than five decibels during daytime hours (7:00 a.m. through 7:00 p.m.) and more than three decibels during nighttime hours (7:00 p.m. through 7:00 a.m.);

(2) Oil and gas operations may not exceed the ambient noise level by more than ten decibels over the daytime average ambient noise level during fracturing operations during daytime hours. No fracturing shall be allowed during nighttime hours except for flowback operations related to fracturing as provided in subsection (3).

(3) Oil and gas operations may not exceed the ambient noise level by more than three decibels during flowback operations during nighttime hours;

(4) Adjustments to the noise standards as set forth above in subsections (1), (2), and (3) of this section may be permitted intermittently in accordance with the following:

Permitted Increase (dBA)	**Duration of Increase (minutes)***
10	5
15	1
20	Less than 1
* Cumulative minutes during any one hour	

(5) The point of compliance for noise shall be the property line of the protected use or no less than 25 feet from the exterior wall of any protected use structure closest to the working pad surface.

(6) In no instance may an oil and gas operation produce dBA or dbC noise exceeding limits set by the ECMC Rule 423 or any successor rule.

(7) During construction, drilling, and completion activities, the Operator must conduct continuous noise monitoring by an approved third-party consultant for all oil and gas facilities located with 1 kilometer (3,280 feet) of any residential or occupied building.

(8) To reasonably ensure the Operator controls noise to the allowable levels set forth above, one or more of the following may be required based on the location, nature, and size of the facility and technical feasibility:

A. Quiet design mufflers (i.e., hospital grade or dual dissipative) or equal to or better than noise mitigation technologies shall be utilized for non-electrically operated equipment.

B. Motors, Generators, and engines shall be enclosed in acoustically insulated housings or covers.

C. Obtain all power from utility line power or renewable sources;

D. Utilize best practices to minimize noise impact during drilling, completions, and all phases of operation including the use of "quiet fleet" noise mitigation measures for completions;

E. Acoustical blankets, sound walls, mufflers or other alternative methods around well drilling and completion activities to mitigate noise impacts;

F. Restrictions on workover operations and/or the unloading of pipe or other tubular goods between 7:00 p.m. and 7:00 a.m.;

G. The use of electric drill rigs;

H. The use of Tier 4 or better diesel engines, diesel and natural gas co-fired Tier 2 or Tier 3 engines, natural gas fired spark ignition engines, or electric line power for hydraulic fracturing pumps; and

(9) If the operator is in compliance with the approved noise mitigation and monitoring plan and a violation still occurs, the operator shall be notified of noncompliance and given 24 hours to correct the violation. Additional extensions of the 24-hour period may be granted in the event that the source of the violation cannot be identified after reasonable diligence by the operator.

(10) In response to a noise complaint, the Town may at any time require continuous noise monitoring, conducted by an approved third-party consultant, until noise concerns are abated.

(11) *Vibrations*.

A. No vibration shall be transmitted thru the ground that is discernible without the aid of instruments measured at 500 feet from the abutting residential or commercial development.

B. No vibration shall exceed 0.002g peak at up to 50 cps frequency measured at 500 feet from the abutting residential or commercial development. Vibrations recurring at higher than 50 cps frequency or a periodic vibrator shall not induce accelerations exceeding 0.001g.

C. Single impulse period vibrations occurring at an average interval greater than five minutes shall not induce accelerations exceeding .01g.

D. Operator shall conduct continuous seismic monitoring during fracking operations.

E. Seismic events greater than 2.0 on Richter scale shall be reported to the Town Administrator and to ECMC.

F. If a seismic event occurs, the Town may stop operations immediately and operator can only resume work once the town is satisfied with the actions taken to reduce the likelihood of further seismicity.

G. Operations shall be immediately suspended for any seismic event measuring 4.0 or above on the Richter scale. Operator may only resume work once the town is satisfied with the actions taken to reduce the likelihood of further seismicity.

#. **Odor.** The Operator's odor mitigation measures must comply with the Odor Mitigation Plan as outlined in Section 30-11-105(10) and all applicable state and federal laws. In addition, the Operator shall implement the following measures:

a. Oil and gas facilities must not emit odor detectable after dilution with one or more volumes of odor free air to four volumes of clean air at any occupied residence.

b. If a resident within 1 kilometer (3,280 feet) of a facility complains of odor (either directly to the Operator, to the ECMC, or to the Town) the Operator shall determine whether the odor is caused by Operator's operations, by, at a minimum, conducting two odor measurements within a period of one hour – these measurements being separated by at least fifteen (15) minutes and taken 25 feet from the exterior wall of the residence. Operator will also provide a complete description of all activities occurring at the oil and

gas facility at the time of the complaint to the Town. Operator shall report its conclusions, including the factual basis for the conclusions, to the Town and the complainant within 48 hours of the complaint. If the Operator or Town determines that the odor is caused by Operator's operations, Operator shall resolve the odor concern within 24 hours of receiving the complaint.

c. If it is determined that the operator caused odors in violation of the odor requirements outlined in this Code, Operators may be required to cease or change operations, notify affected residents, and/or temporarily relocate residents until the facility is no longer causing a violation.

d. If odor persists after an Operator complies with this Code, and there are reasonable grounds to believe the facility continues to cause the odor, the Town may require the Operator to conduct additional investigation, which may include audio, visual, and olfactory inspections or instrument-based leak inspections, and take appropriate corrective action based on the results of investigation and the severity of the odor.

e. In response to odor complaints the Town may require an Operator to collect and analyze a speciated air sample to measure for volatile organic compounds or hazardous air pollutants known to cause potential health risks and have acute health guideline values identified by the Agency for Toxic Substances and Disease Registry and/or CDPHE to further evaluate the risk of the odor. Speciated air sample collection shall be done utilizing a third-party vendor approved by the Town.

#. **Reclamation.** Reclamation of the oil and gas operation must comply with the Reclamation Plans as outlined in Section 30-11-105(11) and all applicable state and federal laws.

a. *Interim Reclamation*. In addition to following the ECMC rules related to interim reclamation, the Operator shall:

(1) There shall be no permanent storage of equipment (i.e., vehicles, trailers, commercial products, chemicals, drums, totes, containers, materials, and all other supplies not necessary for uses on an oil and gas location) on the site of an oil and gas facility.

(2) When not in use, or if no longer needed for on-site operations, all equipment not being used on the site shall be removed from the site within thirty (30) days of completion of the work, weather condition permitting.

b. *Final Reclamation*. In addition to following the ECMC rules related to final reclamation, the Operator shall:

(1) Give notice to the Town Administrator of the commencement and completion of final reclamation activity;

(2) Provide coordinates for the location of the decommissioned well(s), and any associated gathering or flow lines in a format suitable for input into the Town's GIS system; and

(3) Permanently mark the plugged and abandoned well with a brass plaque set in concrete similar to a permanent bench-mark to monument its existence and location. Such plaque shall contain all information required on a dry hole marker by the ECMC. The exact location will be recorded at the county clerk and recorder.

c. Plugging and Abandonment notice is required to ensure adequate public notice and traffic management, and review of final reclamation plans. At least 72 hours prior to commencing plugging and abandonment operations, Operator will provide to the Town:

(1) A timeline for work to be accomplished;

(2) Notice that has been submitted to the surface owner and all residents within 1 kilometer (3,280 feet);

(3) The Form 4 Sundry Notice supplied to the ECMC to notify state of the plugging and abandonment; and

(4) A Final Reclamation Plan in accordance with Section 30-11-105[subsection] and approved by the surface owner.

(5) Pipeline abandonment provisions here?

#. **Spill Prevention, Containment, and Reporting.** The Operator's must comply with the provisions in its Spill Prevention and Containment Plan as outlined in Section 30-11-105(13) and all applicable state and federal laws. In addition:

a. Unloading areas shall be designed to contain potential spills or direct spills into other secondary containment areas.

b. Containment systems constructed of steel rimmed berms, or similar impervious surfaces that are equal to or better, shall be used for all secondary containment areas. Berms or other secondary containment devices around crude oil, condensate, and produced water storage tanks enclosing an area sufficient to contain and provide secondary containment for 150% of the largest single tank. Berms or other secondary containment devices shall be sufficiently impervious to contain any spilled or released material. Inspection of all berms and containment devices at regular intervals, but not less than monthly. Maintenance of all berms and containment devices in good condition.

c. All spills or releases, whether reportable or not, shall be cleaned up immediately and to the satisfaction of the local emergency response authorities, listed in the Spill Prevention and Containment Plan. Any leak, release, or spill will be cleaned up according to applicable town, county, state and federal laws. Operators will notify the Town immediately upon completion of clean-up activities.

d. A root cause analysis of any spill, leak, or release of any substance other than fresh water that resulted in serious bodily injury or fatality, serious environmental harm, was a Grade 1 gas leak as defined by the ECMC, or is otherwise requested by the Town must be submitted to the Town within 30 days of the leak, spill, or release.

Transportation Impacts. Operator shall adhere to the provisions in the Traffic Impact Analysis and Routing Plan as detailed in Section 30-11-105(14). Additionally:

a. All private roads used to maintain access to the tank batteries or the well site shall be improved and maintained according to the following standards:

b. *Tank battery access roads*. Access roads to tank batteries shall be subject to review by the Town Engineer in accordance with the following minimum standards:

(1) A graded gravel roadway having a prepared subgrade and an aggregate base course surface a minimum of six inches thick compacted to a minimum density of 95 percent of the maximum density determined in accordance with generally accepted engineering sampling and testing procedures. The aggregate material, at a minimum, shall meet the requirements for Class 3, Aggregate Base Course as specified for aggregate base course materials in the Colorado Department of Transportation's "Standard Specifications for Road and Bridge Construction," latest edition.

(2) Graded so as to provide drainage from the roadway surface and constructed to allow for cross-drainage of waterways (such as roadside swales, gulches, rivers, creeks and the like) by means of an adequate culvert pipe. Adequacy of the pipe is subject to approval of the Town Engineer.

(3) Maintained so as to provide a passable roadway free of ruts at all times.

c. *Wellhead access roads*. Access roads to wellheads shall be subject to review by the Town Engineer in accordance with the following minimum standards:

(1) A graded, dirt roadway compacted to a minimum density of 95 percent of the maximum density determined in accordance with generally accepted engineering sampling and testing procedures and approved by the Town Engineer.

(2) Graded so as to provide drainage from the roadway surface and constructed to allow for cross-drainage of waterways by means of an adequate culvert pipe. Adequacy of the pipe shall be subject to approval by the Town Engineer.

(3) Maintained so as to provide a passable roadway generally free of ruts.

d. *Public access roads*. An extra-legal vehicle or load permit shall be required for all extralegal vehicles or loads as defined in Sections 42-4-401 through 42-4-414, C.R.S., as amended, which use Town streets. Said permit, if required, shall be obtained from the Town Clerk prior to such use. The applicant shall comply with all Town and state regulations regarding weight limitations on streets within the Town, and the applicant shall minimize extralegal truck traffic on streets within the Town.

e. Every permit issued by the Town shall require the applicant or operator to pay a fee that is sufficient to pay the estimated cost for all impacts which the proposed operation may cause to facilities owned or operated by the Town or used by the general public, including, but not limited to:

(1) Repair and maintenance of roads,

(2) Bridges and other transportation infrastructure;

(3) Improvements made or to be made by the Town to accommodate the operations and to protect public health, safety and welfare; and

(4) Costs incurred to process and analyze the application, including the reasonable expenses paid to independent experts or consultants.

f. The Town shall establish a mechanism to assess and obtain payment of such fees, subject to the right of the Town to request additional funds if the fees prove to be insufficient, or to refund surplus funds to the operator if the fees paid exceed the true cost of the impacts.

g. The Town may further require that the applicant or operator, or both, post a bond in an amount to be set during the site plan phase, as security in the event additional damages occur to facilities owned or operated by the Town or used by the general public.

h. As a condition of issuance of the permit and on an as-needed basis, the Town may require that additional site-specific measures be undertaken by the applicant or operator in order to protect and preserve facilities owned or operated by the Town or used by the general public.

#. **Water quality protection.** Water quality protection and sampling must comply with the Water Quality Control Plan as outlined in Section 30-11-105(15) and all applicable state and federal laws. To avoid or minimize adverse impacts to surface and sub-surface water bodies from oil and gas facilities, the following measures will be required:

a. *Water source sampling and testing.* Using records of the Colorado Division of Water Resources, the applicant will be required to identify and offer to sample all available

water sources located within one-half mile of the projected track of the borehole of a proposed well and within one-half mile of the radius of the proposed well or facility. All sampling must be conducted by a third-party consultant approved of by the Town. The owner or operator shall provide all water source test results to the Town and maintain records of such results. Sampling requirements include:

b. Initial baseline samples and subsequent monitoring samples shall be collected from all available water sources within one-half mile of the projected track of the borehole of a proposed well and one-half mile radius of the facility or multi-facility;

c. Initial collection and testing of baseline samples from available water sources shall occur within twelve months prior to the commencement of drilling a well, or within twelve months prior to the re-stimulation of an existing well for which no samples were collected and tested during the previous twelve months;

d. Post-stimulation samples of available water sources shall be collected and tested pursuant to the following time frame:

(1) One sample within six months after completion;

(2) One sample between twelve and eighteen months after completion; and

(3) One sample between sixty and seventy-two months after completion;

e. For multi-well pads, collection shall occur annually during active drilling and completion;

f. Operator shall collect a sample from at least one up-gradient and two down-gradient water sources within a one-half mile radius of the facility. If no such water sources are available, operator shall collect samples from additional water sources within a radius of up to one mile from the facility until samples from a total of at least one up-gradient and two down-gradient water sources are collected. Operators should give priority to the selection of water sources closest to the facility;

g. An operator may rely on existing groundwater sampling data collected from any water source within the radii described above, provided the data was collected within the twelve months preceding the commencement of drilling the well, the data includes measurement of all of the constituents measured in Table 1, and there has been no significant oil and gas activity within a one-mile radius in the time period between the original sampling and the commencement of drilling the well;

h. The operator shall make reasonable efforts to obtain the consent of the owner of the water source. If the operator is unable to locate and obtain permission from the surface owner of the Water Source, the operator shall advise the Town administrator that the applicant could not obtain access to the water source from the surface owner;

i. Testing for the analytes listed in Table 1, and subsequent testing as necessary or appropriate;

j. Operator shall follow standard industry procedures in collecting samples, consistent with the ECMC model Sampling and Analysis Plan;

k. Reporting the location of the water source using a GPS with sub-meter resolution;

l. Field observations. Reporting on damaged or unsanitary well conditions, adjacent potential pollution sources, odor, water color, sediment, bubbles, and effervescence;

m. Test results. Provide copies of all test results described above to the Town administrator, the ECMC, and the water source owners within three months after collecting the samples;

n. *Subsequent sampling*. If sampling shows water contamination, additional measures may be required including the following:

(1) If free gas or a dissolved methane concentration level greater than one milligram per liter (mg/l) is detected in a water source, determination of the gas type using gas compositional analysis and stable isotope analysis of the methane (carbon and hydrogen);

(2)If the test results indicate thermogenic or a mixture of thermogenic and biogenic gas, an action plan to determine the source of the gas;

(3) Immediate notification to the Town Administrator, the ECMC, and the owner of the water source if the methane concentration increases by more than five mg/l between sampling periods, or increases to more than ten mg/l;

(4) Immediate notification to the Town Administrator, the ECMC and the owner of the water source if BTEX and/or TPH are detected as a result of testing. Such detections may result in required subsequent sampling for additional analytes;

(5) Further water source sampling in response to complaints from water source owners; and

(6) Timely production and distribution of test results, well location, and analytical data in electronic deliverable format to the Town Administrator, the ECMC and the water source owners.

o. All water source testing shall be conducted by the Operator or, if requested by a surface owner or Town, by a qualified independent professional consultant approved by the Town Administrator at the operator's expense.

EXPAND

Table 1. Water Quality Analytes	
GENERAL WATER QUALITY	Alkalinity Conductivity & TDS Ph Dissolved Organic Carbon

	(or Total Organic Carbon)Bacteria Hydrogen Sulphide
MAJOR IONS	Bromide Chloride Fluoride Magnesium Potassium Sodium Sulfate Nitrate + Nitrite as N (total)
METALS	Arsenic Barium Boron Chromium Copper Iron Lead Manganese Selenium Strontium
DISSOLVED GASES AND VOLATILE ORGANIC COMPOUNDS	Methane Ethane Propane BTEX as Benzene, Toluene, Ethylbenzene, Xylenes Total Petroleum Hydrocarbons (TPH)
OTHER	Water Level Stable isotopes of water (Oxygen, Hydrogen, Carbon) Phosphorus

#. **Water supply.** The Operator's acquisition and use of water must comply with the Water Supply Plan as outlined in Section 30-11-105(16) and all applicable state and federal laws. In addition:

a. The water supply used must be the least detrimental to the environment among the available sources and adequate to meet the needs of the oil and gas operation.

b. The water supply is legally and physically available, dependable, and sustainable. Operator will implement reuse and recycling to the greatest extent practicable.

c. The operation shall not use water from the town's municipal water supply unless approved by the Board of Trustees.

d. Any necessary water agreements must be secured prior to any oil and gas operations commencing.

Wildlife. Oil and gas facilities and operations must comply with ECMC wildlife provisions and the Wildlife Conservation Plan as outlined in Section 30-11-105(18).

BOARD OF TRUSTEES INFORMATION

UTILITIES

Meeting Date:	**July 11, 2023**
Agenda Title/Subject:	**Water Policy Changes**
Type of Item:	**Regular Item**
Purpose:	**Follow-Up to Recent Water Policy Study Session**
Presented by:	**Pete Johnson**

ATTACHMENTS:

- Draft Presentation re: Water Policy Options

BACKGROUND:

At a recent Board Study session, the Town's Water Dedication Policy was discussed and as a follow-up to that discussion, staff has prepared options for the Board to consider regarding how the Town accepts water resources to support new development. More specifically, Staff believes that a change to the Water Dedication Ordinance is not necessary but rather the implementation of the ordinance can be changed via Resolution to require water dedication when certain criteria are met.

Peter Johnson, the Town's Water Attorney, will present these options to the Board.

UPDATE/NEXT STEPS:

Staff will take direction from the board about the preferred option and develop a resolution for the Board to approve at the July 25 meeting.

FISCAL IMPACT AND FUND SOURCE:

There is no fiscal impact associated with this item.

COMMUNITY TOUCHSTONES:

Ensuring a robust and sustainable water supply is critical to the *Resiliency* and *Sustainability* of the Town.

RECOMMENDED ACTION(S):

DIRECT STAFF TO PREPARE A RESOLUTION FOR CONSIDERATION AT THE JULY 25, 2023 BOARD MEETING THAT IMPLEMENTS THE BOARD'S PREFERRED WATER DEDCICATION POLICY OPTION

Water Dedication Policy - Options

July 11, 2023

Water Dedication Policy

March 21, 2023 Work Session

- Water Dedication Policy and Ordinance Overview
- Regional Comparison
- Discussion of Various Approaches and Options
- Board direction was to develop policy options for consideration

Terminology

- Acre-Foot (AF): 325,800 gallons of water. Enough for approximately 2.5 average single-family homes
- Cash In Lieu Payment: Payment to Town for water demand associated with new development.
- SFE: Single Family Equivalent (0.4 AF/SFE per Town Code)
- Water Dedication: Transfer of water rights to Town
- Firm Yield: The reliable annual yield of Town's water rights portfolio under challenging conditions (such as multi-year drought).
- Commitment: Town's agreement to provide water service (based on Cash in Lieu payment or Water Dedication)

Option #1: Require Dedication of Historical Water Rights

- New Annexations
  - Condition of annexation
  - Dedicated before final plat approval

- New Developments within Town
  - Must be dedicated before final plat approval

- Requires a change in Town Code
- Prevents removal of historical water rights

Option #2: "Tiered" Cash-in-Lieu Payments

- General Concept
  - Availability of Cash In Lieu changes by "tier"
  - As Town water supplies decrease, dedication requirement increases

- Eligibility is based on several factors:
  - Town approval of final plat
  - Water Credits already held by developer for subject development
  - Percentage of Town's Firm Yield already committed
  - Ability to dedicate water rights (market conditions)

- Every 6 months – Review of % of Firm Yield Committed
- Change in "Tier" by Board Resolution
- Does not require a change in Town Code (Resolutions only)

Option #2: "Tiered" Cash-in-Lieu Payments

- Tier 1 (Current Policy)
  - Cash In Lieu Payments are allowed:
    - If final plat has been approved
    - If payment is to satisfy water demand for approved plat in excess of water credits already issued by Town for the development.

Option #2: "Tiered" Cash-in-Lieu Payments

- Tier 2 (No Bulk Sales)
  - Implemented upon Town's commitment of 92% of firm yield water supply
  - Tier 1 Conditions still apply
  - Cash In Lieu Payments are allowed only for individual building permits
    - No bulk sales of water credits

Option #2: "Tiered" Cash-in-Lieu Payments

- Tier 3 ("Hybrid" Payment/Dedication)
  - Implemented upon Town's commitment of 95% of firm yield water supply
  - Tier 1 Conditions still apply
  - Tier 2 Conditions still apply
  - Water Dedication is required for 50% of water demand for final platted development
  - Upon 50% water dedication, Cash In Lieu Payments are allowed for up to 50% of water demand

Option #2: "Tiered" Cash-in-Lieu Payments

- Tier 4 ("Hybrid" Payment/Dedication)
  - Implemented upon Town's commitment of 98% of firm yield water supply
  - Tier 1-3 Conditions no longer apply
  - Cash In Lieu Payments are no longer allowed
  - Water Dedication is required for 100% of water demand for final platted development
    - Dedication must be satisfied prior to building permit.

Summary

- Option 1: Require Dedication of Historical Water Rights

- Option 2: Tiered Cash In Lieu Payments

- Other Options & Considerations?