Town of Berthoud Planning Commission
Town Hall
807 Mountain Avenue
Thursday, June 8, 2023, at 6:00 p.m.

1. Call Meeting To Order
2. Pledge Of Allegiance
3. Roll Call
4. Approval Of Minutes

   Documents:

   2023.05.25 PLANNING COMMISSION MINUTES DRAFT.PDF

5. Public Hearing: Preliminary Plat For Vantage 7th Filing

   Documents:

   01 PC INFORMATION FORM.PDF
   02 VANTAGE 7TH FILING PC PRELIMINARY PLAT STAFF REPORT.PDF
   03 APPLICATION FORM.PDF
   04 PRELIMINARY PLAT.PDF
   05 APPROVED NEIGHBORHOOD MASTER PLAN.PDF
   06 UTILITY PLANS.PDF
   07 LANDSCAPE PLANS.PDF

6. Report By Staff
   Work Session: Comprehensive Plan

7. Adjourn

Join Zoom Meeting https://us02web.zoom.us/j/86049631362 Meeting ID: 860 4963 1362
One tap mobile +17193594580,,86049631362# US

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

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

Planning Commission Minutes – May 25, 2023

1. **Call to Order** – The Planning Commission convened a regular meeting on May 25, 2023. Commissioner Anderson called the meeting to order at 6:00 p.m.

2. **Roll Call** – Members present:

	Karen Anderson	(Chairperson)
	Chris Kurtz	(Vice Chairperson)
	John Van Benthem	(Secretary)
	Melissa Feldbush	(Commissioner)
	Abigail Smith	(Commissioner)
	Brett Wing	(Commissioner)
Staff present:	Anne Johnson	(Community Development Director)
	Michelle Tovar	(Deputy Town Clerk)
	Jonathan Mitchell	(Permit Technician)

3. **Consent Agenda** – Minutes from the May 11, 2023 Planning Commission Meeting.

MOTION made by Commissioner Wing to APPROVE the Minutes for May 11, 2022.

SECONDED by Commissioner Van Benthem.

With those all in favor, THE MOTION CARRIED.

4. Public Hearing: Caring Pathways Pet Crematorium Conditional Use Permit

Director Johnson presented the request for approval of a conditional use permit for a veterinary and pet crematorium facility.

Public Comment was opened at 6:31 p.m.

Jim Cummings asked about the frequency of equipment inspections and was concerned about ash.

Public Comment was closed at 6:33 p.m.

MOTION made by Commissioner Smith to RECOMMEND APPROVAL of the Conditional Use Permit to the Town Board of Trustees due to the findings in the Staff Report including compliance with the Land Use Code, the Criteria for Approval found in Section 30-3-106, and the Comprehensive Plan to the Town Trustees for consideration, subject to the Conditions of Approval found in the Staff Report.

SECONDED by Commissioner Wing.

With all in favor, THE MOTION CARRIED.

5. Work Session: Anatomy of a Staff Report.

6. Reports –

23 May – Town Board discussed the Landscaping Guidelines, including the replacement of dying trees.

23 May – Bader Amendment to PUD was approved; Berthoud Self-Storage was approved by the Town Board.

30 May – Town Board – Special Meeting.

June – A new Senior Planner for the Town's Community Development Department has been chosen and will start at the end of June.

13 July – No Planning Commission meeting.

August – Elections for Planning Commission.

Commissioner Kurtz was interested in learning more about the 3rd Street Plan.

7. Adjourn –

The meeting was adjourned at 7:44 p.m.

_____ _____

CHAIRPERSON SECRETARY

PLANNING COMMISSION INFORMATION

COMMUNITY DEVELOPMENT DEPARTMENT

Meeting Date:	**June 8, 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
- Application materials
- Presentation 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.

UPDATE/NEXT STEPS:

After the Planning Commission public hearing, the Board of Trustees will hear the request in a public hearing on June 27, 2023. 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):

Staff 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: June 8, 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 a preliminary plat for the creation of 60 residential lots intended for single family attached (duplexes) residential. This would create 60 units total.**	
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 Planning Commission Public Hearing has been 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

- **Staff recommends Planning Commission make a motion to recommend approval of the Preliminary Plat to the Board of Trustees 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
6. Presentation from Staff

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:***

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 $\frac{1}{16}$th corner of Section 11&14 being a 3 $\frac{1}{4}$" aluminum cap on #6 rebar, stamped LS 32825 and the South Quarter corner of Section 11 being a 2 $\frac{1}{2}$" 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.

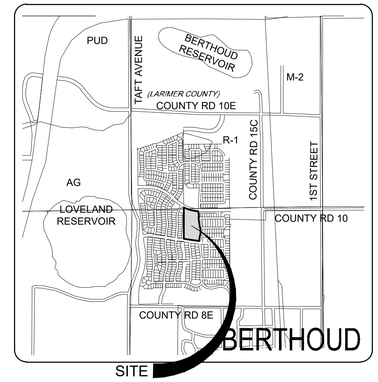
6) Any easements created by separate document and shown hereon are for reference purposes only. Refer to recorded document for specific location and terms.

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
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
FORT COLLINS | GREELEY 970.221.4158 NORTHERNENGINEERING.COM

DATE: 4/26/23
SCALE: As shown
REVIEWED BY: B. Tessely
PROJECT: 167-025
CLIENT: DR HORTON
DRAWN BY: L. Smith

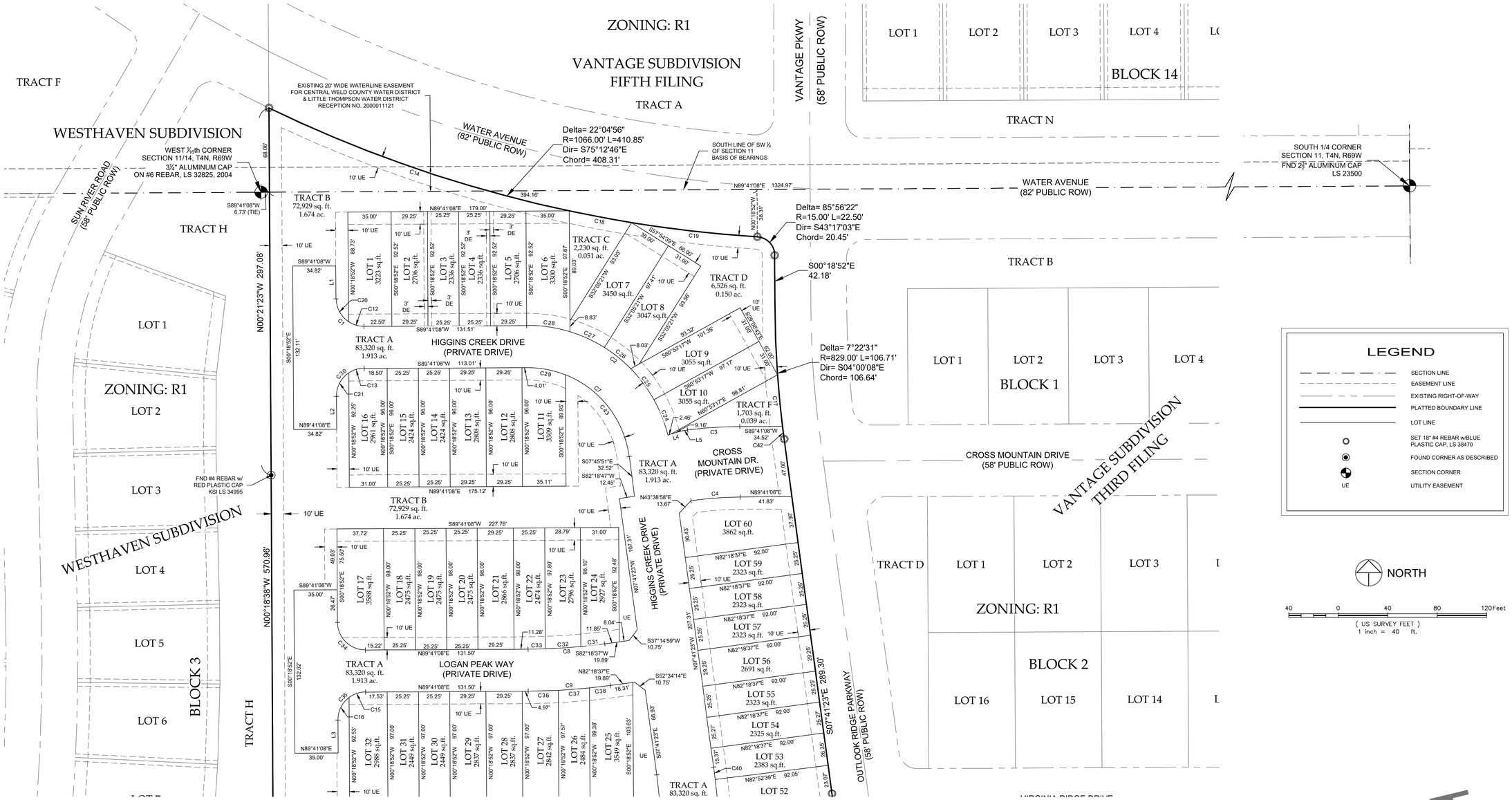
PRELIMINARY PLAT OF
VANTAGE SUBDIVISION SEVENTH FILING
TOWN OF BERTHOUD
STATE OF COLORADO

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



SEE SHEET 3

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

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
FORT COLLINS | GREELEY 970.221.4158 NORTHERNENGINEERING.COM

DATE: 4/26/23
SCALE: 1"=40'
REVIEWED BY: B. Tessely
PROJECT: 167-025
CLIENT: DR HORTON
DRAWN BY: L. Smith

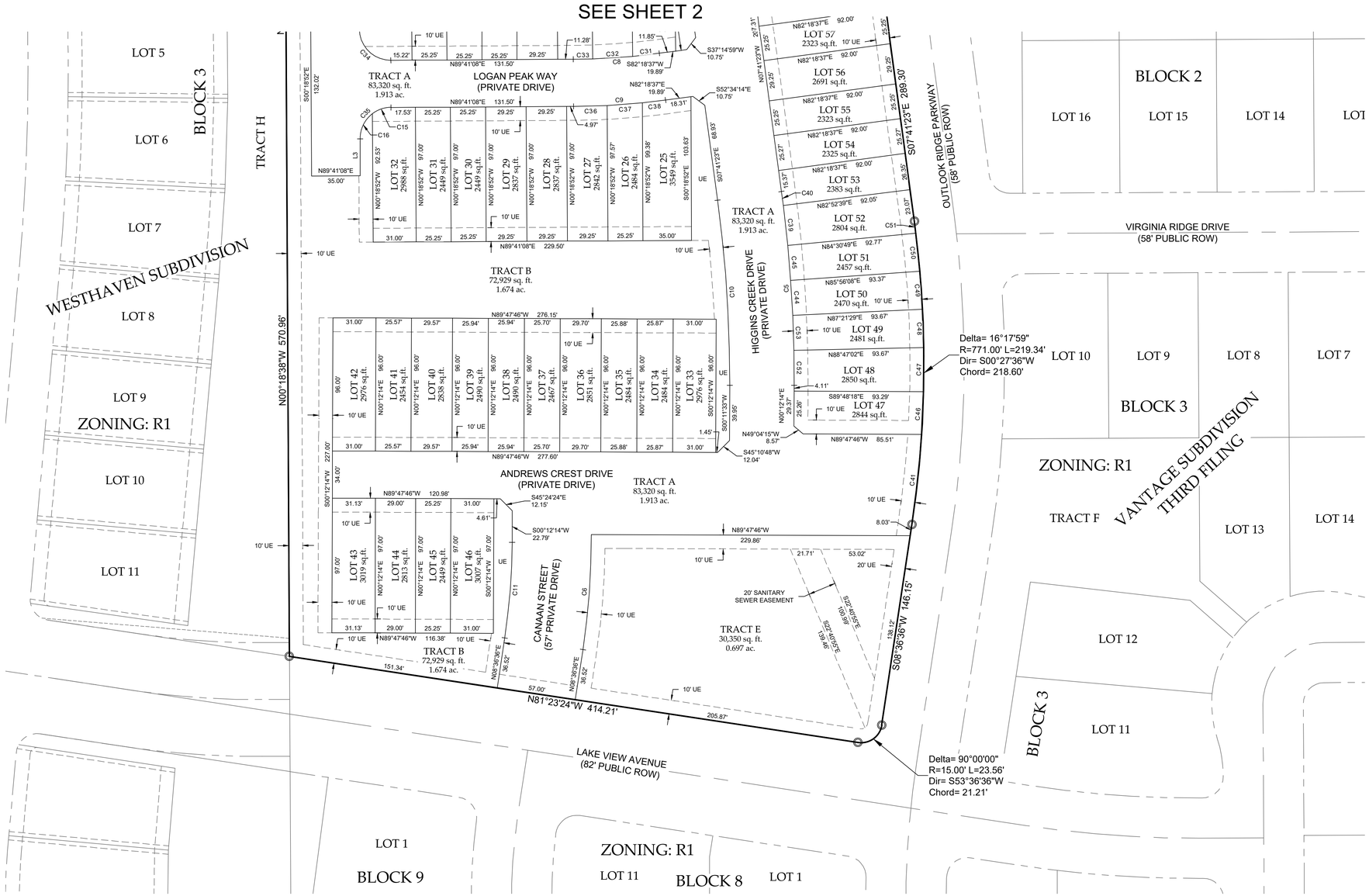
PRELIMINARY PLAT OF
VANTAGE SUBDIVISION SEVENTH FILING
TOWN OF BERTHOUD
STATE OF COLORADO

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	56°08'07"	22.40'	21.95'	N28°00'09"E	54.26'
C31	2°17'48"	483.00'	19.36'	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°51'26"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

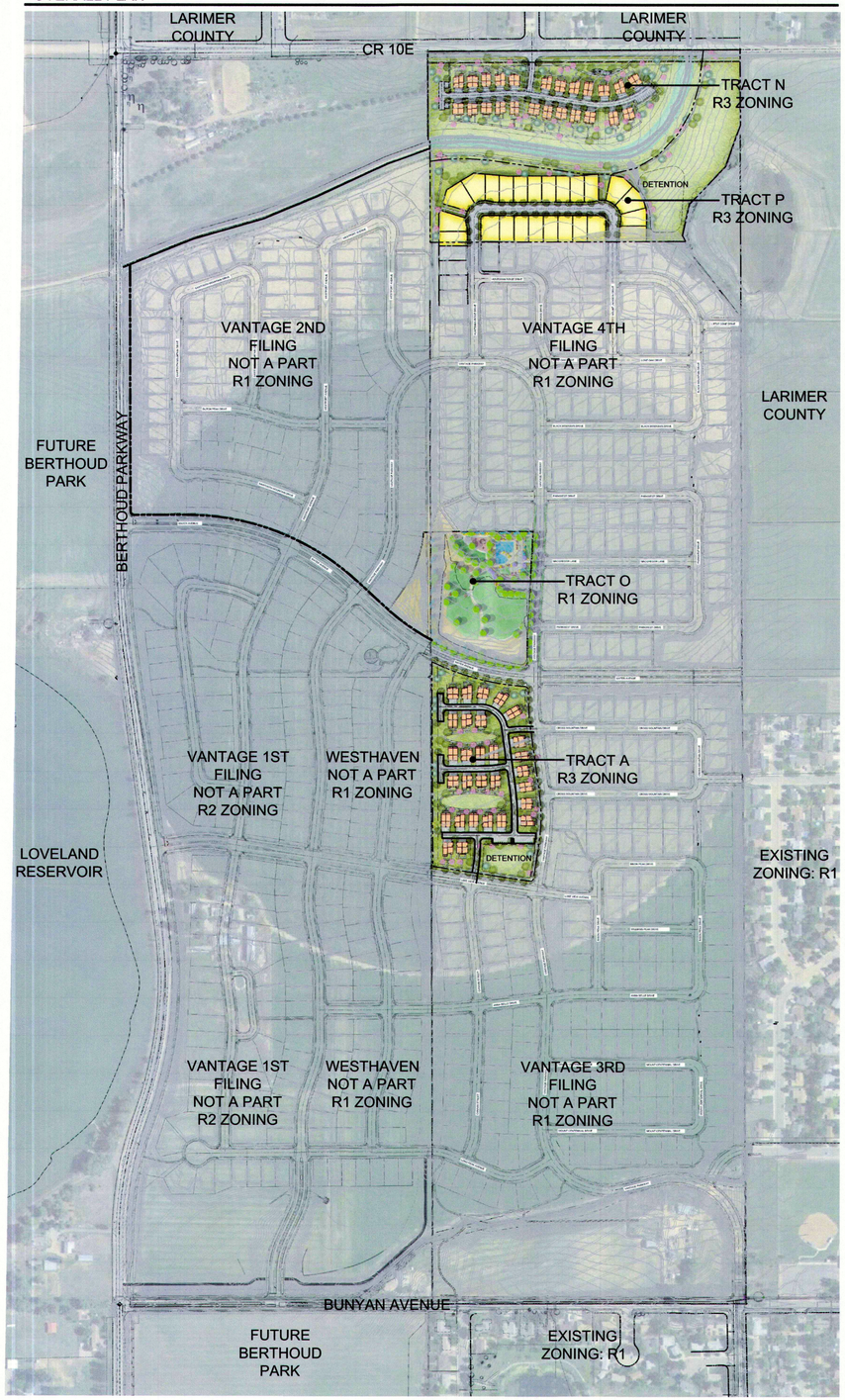
NORTHERN ENGINEERING
SURVEY | MUNICIPAL | LAND DEVELOPMENT
FORT COLLINS | GREELEY 970.221.4158 NORTHERNENGINEERING.COM

DATE: 4/26/23
SCALE: 1"=40'
DRAWN BY: B. Tessely
PROJECT: 167-025
CLIENT: DR HORTON
DRAWN BY: L. Smith

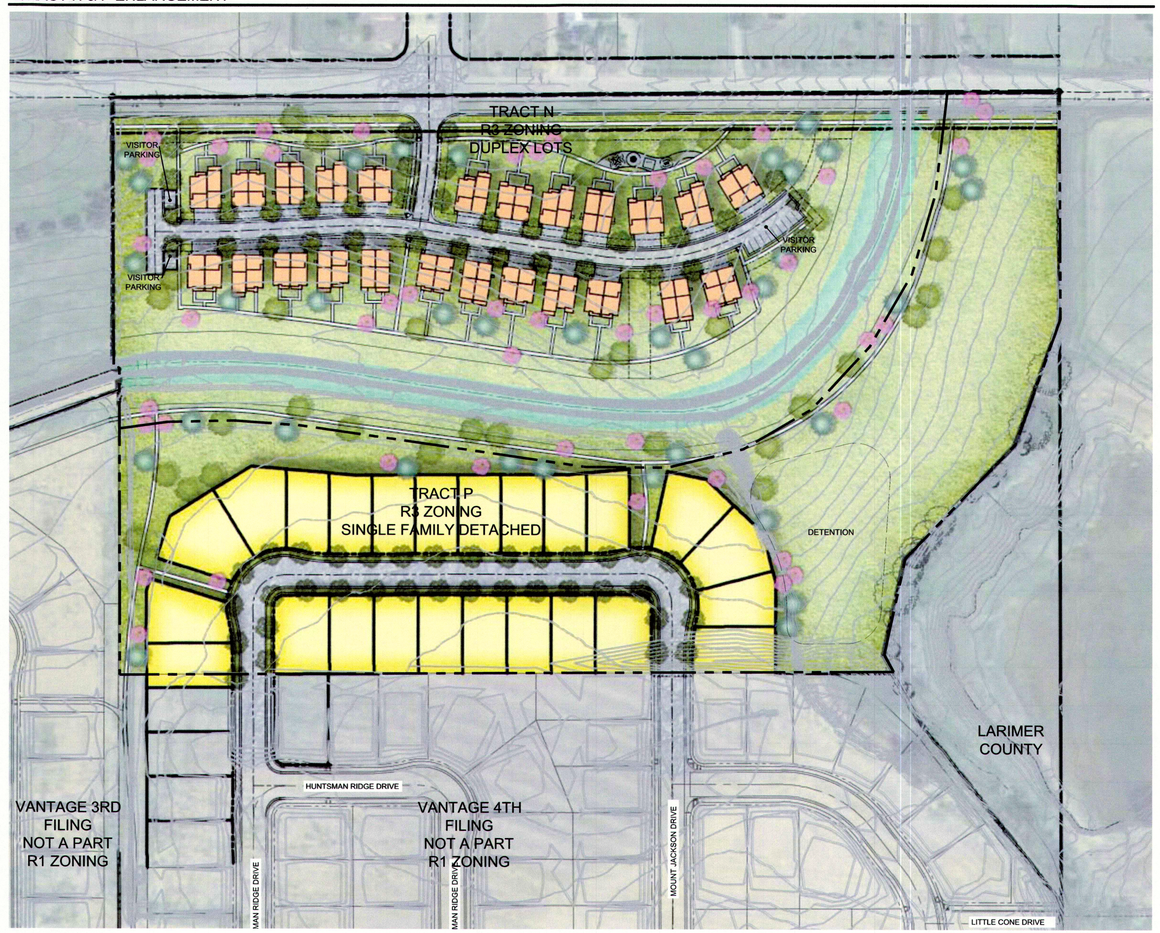
PRELIMINARY PLAT OF
VANTAGE SUBDIVISION SEVENTH FILING
TOWN OF BERTHOUD
STATE OF COLORADO

Sheet
3
Of 3 Sheets

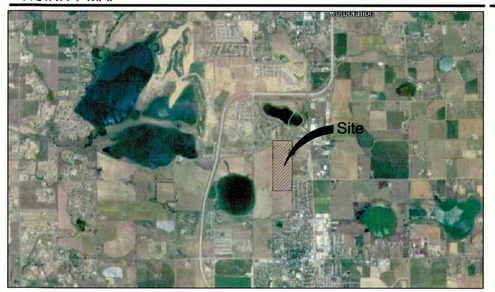
OVERALL PLAN



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

3-21-22

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS	DATE
REVISIONS	12.8.21

DATE

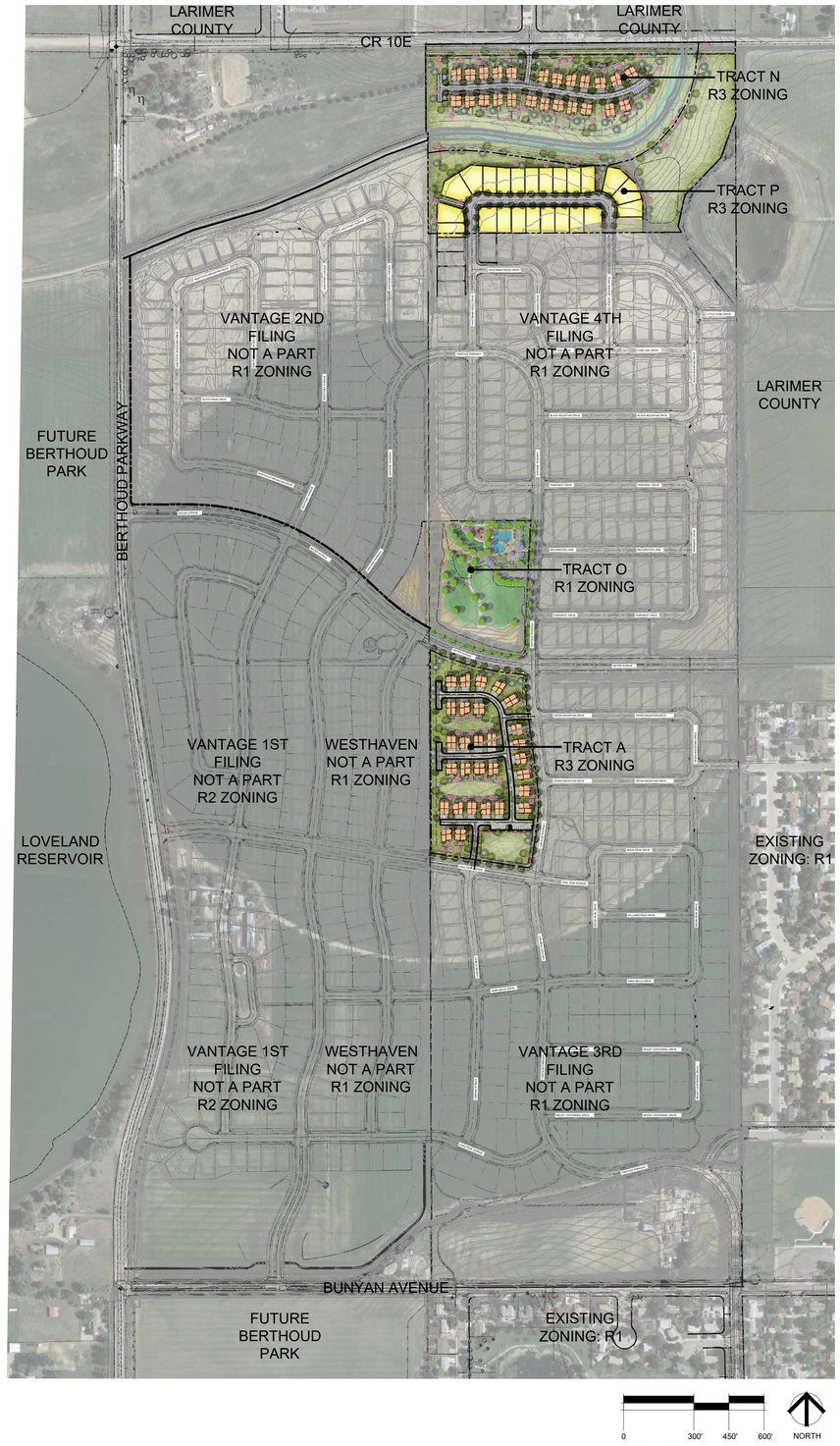
OCTOBER 8, 2021

SHEET TITLE

SHEET INFORMATION

SHEET 1

OVERALL PLAN



TRACT A & O ENLARGEMENT

TB GROUP
landscape architecture | planning | 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

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS	DATE
REVISIONS	12.8.21

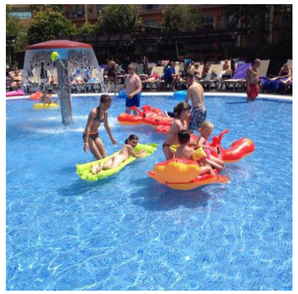
DATE

OCTOBER 8, 2021

SHEET TITLE

SHEET INFORMATION

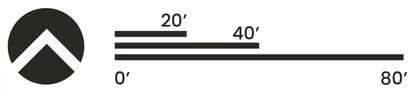
SHEET 2



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

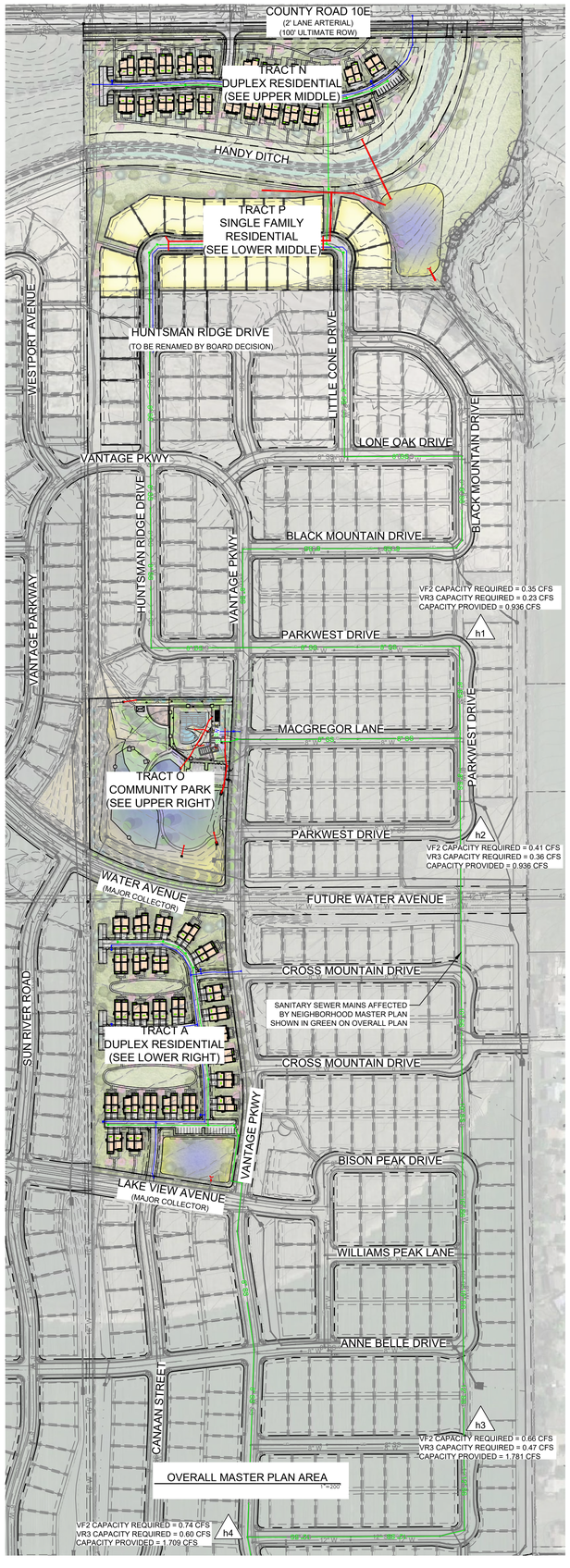
Open Space / Detention Calculations			
Total Site Acreage	5.11	AC	100%
Open Space	0.96	AC	18.8%
Detention	2.48	AC	48.5%
Total Open Space Provided	3.44	AC	67.3%
Total Open Space Required	0.51	AC	10.0%
Open Space / Parks / Detention Summary			
Park Space Provided	0.41	AC	8.0%
Open Space Provided	0.96	AC	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			

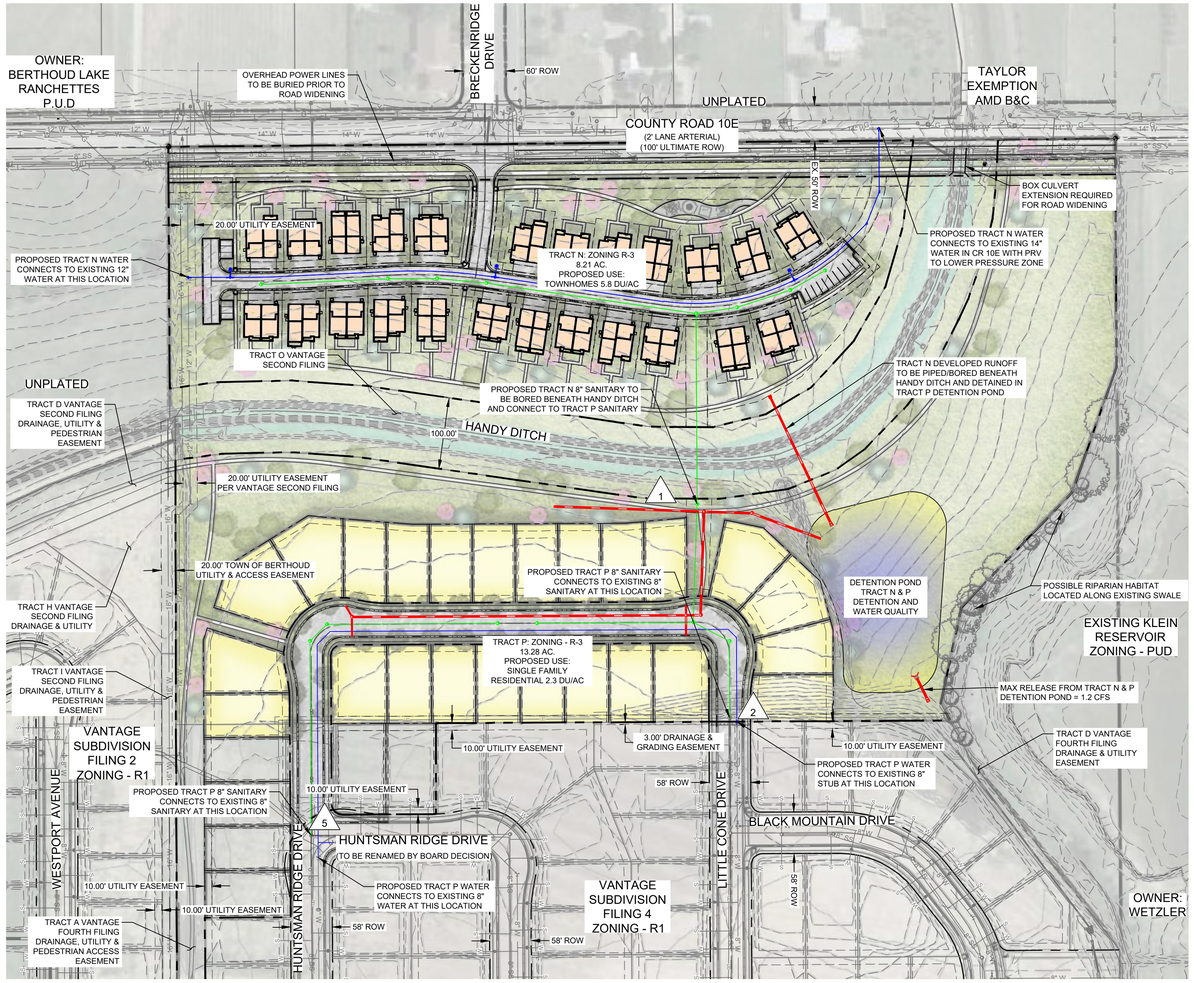


Community Pool & Park Berthoud, Colorado

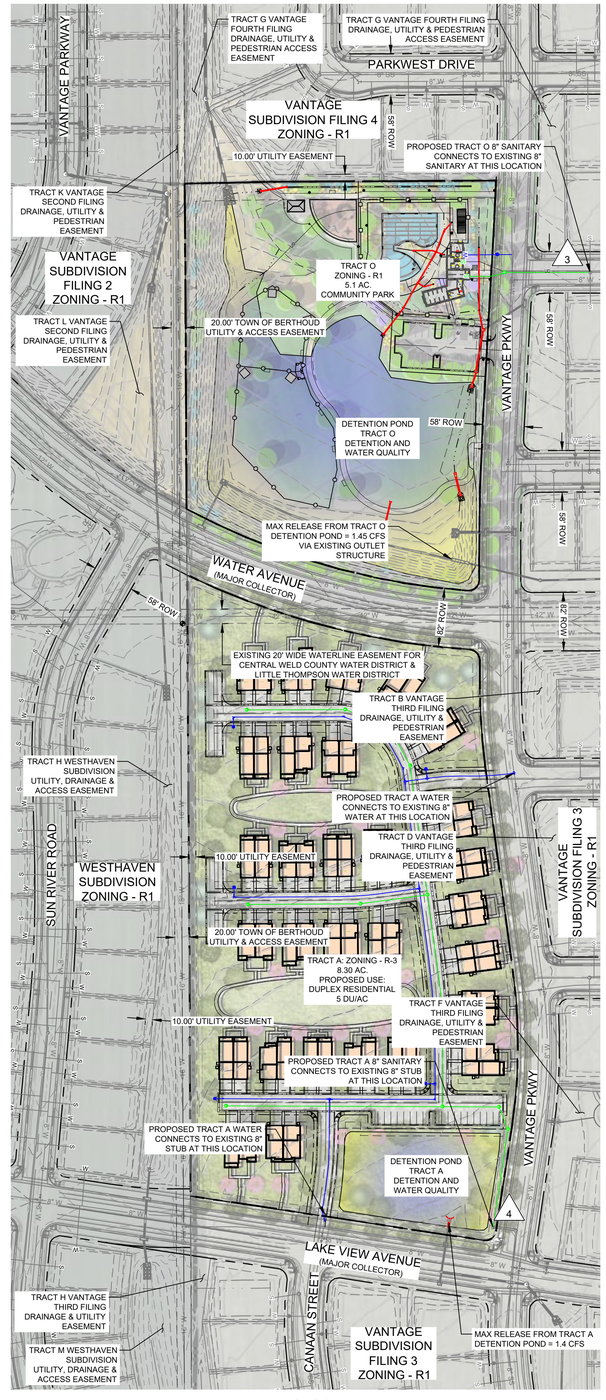
Vantage - Neighborhood Master Plan, 12.08.2021

pcs group





TRACT N & P
1"=100'



TRACT O & A
1"=100'

SANITARY SEWER PROJECTED FLOW DETERMINATION

Design Point Location	Design Point	Residential									Infiltration		Sewer Design			
		Zoning or Land Use	Area (acres)	Equivalent Dwelling Units	Capita Per Unit[1]	Per Capita Flow Rate (GPD)[1]	Equivalent Population	Average Flow (cfs)	Peak Flow Factor[1]	Peak Flow (cfs)	Flow Factor (GPAD)[2]	Infiltration (cfs)	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 usage1 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	Assumptions: Assumed Demand[3] (gal /day /person)	Assumed F.A.R.	Total Area, asf	People per Unit[3]	Average Day[3] Residential (gpm/cap)	Average Day[3] Non-Residential (gpm/asf)	Max Day[3] Residential (gpm/cap)	Max Day[3] Non-Residential (gpm/asf)	Max Hour[3] Residential (gpm/cap)	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/cap)	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

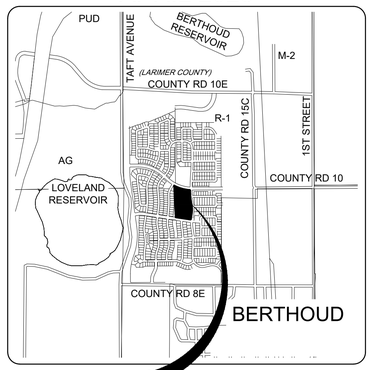
VANTAGE R3
BERTHOUD, CO
NEIGHBORHOOD MASTER PLAN
SHEET 4 - CONCEPTUAL UTILITIES

PRELIMINARY 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



VICINITY MAP
1"=2000'

PROJECT BENCHMARKS:

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.

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
ALC V-Berthoud, LLC
8678 Carey Court
Stockton, CA 95212
(209) 405-1259

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

PLANNER/ LANDSCAPE ARCHITECT
TB GROUP landscape architecture | planning | illustration
Kristin Turner
TB Group
444 Mountain Avenue
Berthoud, Colorado 80513
(970) 532-5891

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

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.

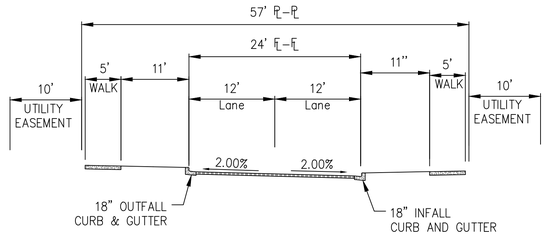
SHEET INDEX

1	COVER SHEET	**DETAIL SHEETS**	
2	GENERAL & CONSTRUCTION NOTES	16-17	SANITARY SEWER DETAILS
3	EXISTING CONDITIONS & DEMOLITION PLAN	18-19	WATER DETAILS
4-5	CIVIL SITE PLAN	20-21	DRAINAGE DETAILS
UTILITY SHEETS		22-23	SITE DETAILS
6	OVERALL UTILITY PLAN	**EROSION CONTROL SHEETS**	
SANITARY SEWER SHEETS		24	EROSION CONTROL PLAN
7	SANITARY A SEWER PLAN & PROFILE	25-26	EROSION CONTROL DETAILS
8	SANITARY A3 & A5 SEWER PLAN & PROFILE	**DRAINAGE SHEETS**	
WATERLINE SHEETS		27	DRAINAGE EXHIBIT
9	WATERLINE 1 PLAN AND PROFILE		
10	WATERLINE 2, 3 & 4 PLAN AND PROFILE		
STORM DRAIN SHEETS			
11	STORM DRAIN PLAN AND PROFILE		
GRADING SHEETS			
12	OVERALL GRADING PLAN		
13-15	GRADING PLAN		

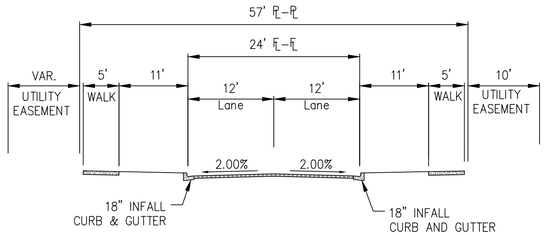
ABBREVIATIONS:

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

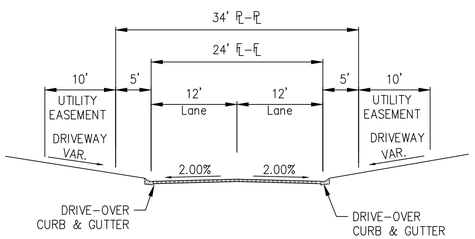
TYPICAL SECTIONS



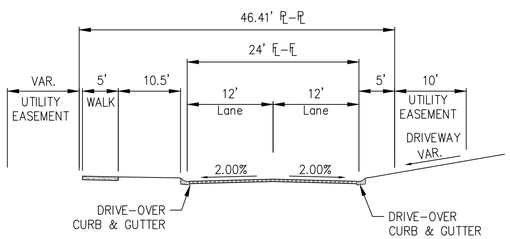
CROSS MOUNTAIN DRIVE - STREET SECTION
(SUPERELEVATED - DETACHED WALK BOTH SIDES) NTS



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

Revisions:
No. 1 — 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 work 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

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

VANTAGE SUBDIVISION 7TH FILING

COVER SHEET

Sheet CS1
1 of 27

DRAWING FILENAME: P:\167-025\Dwg\167-025_COVR.dwg LAYOUT NAME: CS1 DATE: Apr 25, 2023 - 11:34am CAD OPERATOR: stephanie
LIST OF SHEETS: [MES-delete]

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.

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.

Revisions: No. | By | Date:
REVIEW SET NOT FOR CONSTRUCTION 04/26/23

These drawings are protected by NORTHERN Engineering Services, Inc. and are not to be used for any purpose whatsoever 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: C. Pape
DRAWN BY: C. Pape

VANTA

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.

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.

Revisions: No. 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 purpose whatsoever 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

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

VANTAGE SUBDIVISION 7TH FILING
EXISTING CONDITIONS & DEMOLITION PLAN

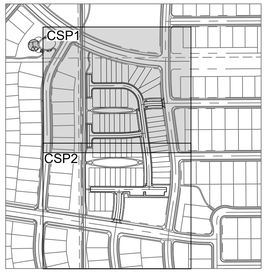
Sheet
EX1
3 of 27

DRAWING FILENAME: P:\167-025\Eng\Civil\167-025_ECON.dwg LAYOUT NAME: EX1 DATE: Apr 25, 2023 - 11:34am CAD OPERATOR: stephanie
LIST OF XREFS: [167-025_XTOPO] [167-025_ACAD] [NES-doonan] [167-025_xAD1] [167-025_Xsymbol]

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 (1)
- 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 — R8-31 "NO PARKING FIRE LANE" 12"x18"

S — R1-1 "STOP"

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.

Revisions:

No.	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 purpose whatsoever unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

PROJECT: 167-025
DESIGNED BY: C. Page
DRAWN BY: S. Rzeszut
DATE: 04/26/23
SCALE: 1" = 30'
P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

CIVIL SITE PLAN

Sheet
CSP1
4 of 27

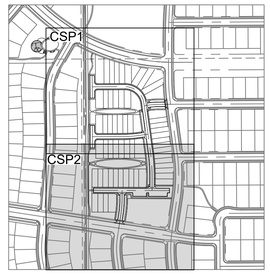
DRAWING FILENAME: P:\167-025\Dwg\Sht\167-025_CSP.dwg LAYOUT NAME: CSP1 DATE: Apr 25, 2023 - 11:35am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-divider] [167-025_ACC_Adj] [167-025_GRID] [167-025_Hyprop] [167-025_LOT] [167-025_APARCEL] [100-002_PHB_xPLAT] [100-002_PHB_xPLAT 2nd Filng] [167-025_xCRST] [167-025_xAVC]

MATCH LINE - SEE SHEET 4

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 (1)
- 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 — R8-31 12"x18"

S — STOP — R1-1

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	04/26/23

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

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

PROJECT: 167-025	DATE: 04/26/23
DESIGNED BY: C. Pope	SCALE: 1" = 30'
DRAWN BY: S. Rzeszut	P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

CIVIL SITE PLAN

Sheet
CSP2
5 of 27

DRAWING FILENAME: P:\167-025\Dwg\Shts\167-025_ATC.dwg LAYOUT NAME: CSP2 DATE: Apr 25, 2023 - 11:35am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-Xbinded] [167-025_XHC.dwg] [167-025_Keymap] [167-025_ADPE] [167-025_APARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filing] [167-025_xDEST] [167-025_xAU]

DRAWING FILENAME: P:\167-025\Dwg\Utl\167-025_OUTL.dwg LAYOUT NAME: OU1 DATE: Apr 25, 2023 - 11:36am CAD OPERATOR: Stephanie
LIST OF XREFS: [167-025_ATTR][167-025_ASOF][167-025_GRID-Above][167-025_Keymap][167-025_UTIL.dwg][167-025_xAVG][167-025_xPAVEOL][1100-002_PHB_xPLAT 2nd Filing][1100-002_PHB_xPLAT]

Revisions:

No.	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 purpose or project 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

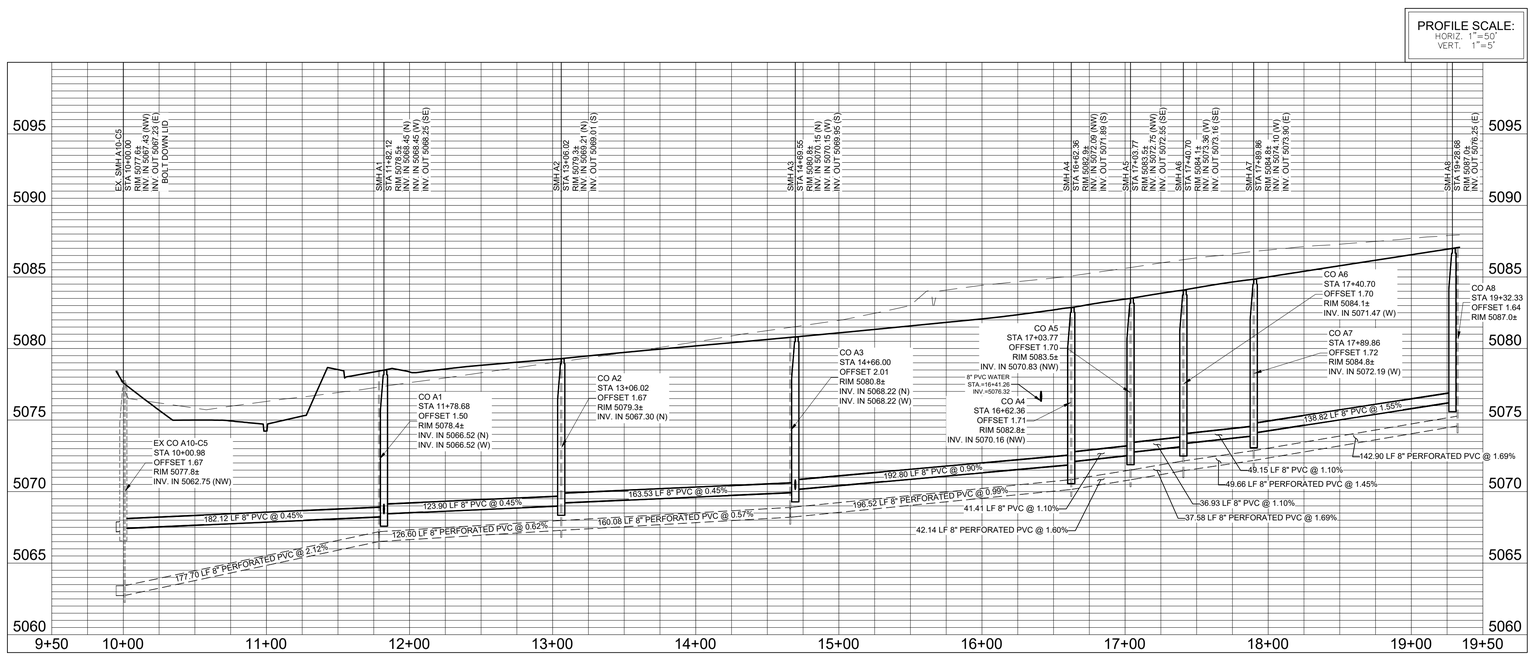
DATE: 04/26/23
SCALE: 1" = 50'
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: C. Pope
DRAWN BY: C. Pope

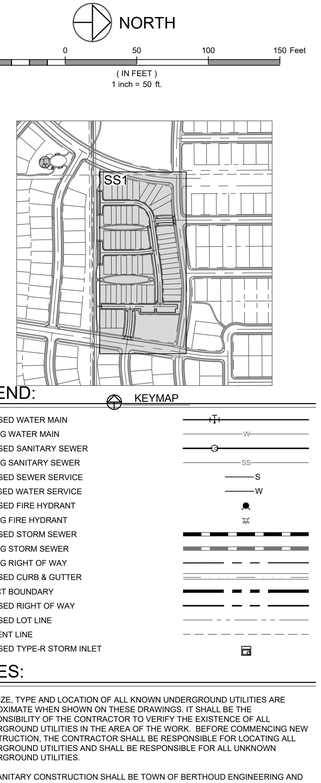
VANTAGE SUBDIVISION 7TH FILING

OVERALL UTILITY PLAN

Sheet
OU1
6 of 27

SANITARY LINE 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 ALL UNKNOWN UNDERGROUND UTILITIES.
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 ½" 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.
8. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY 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
04/26/23

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

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

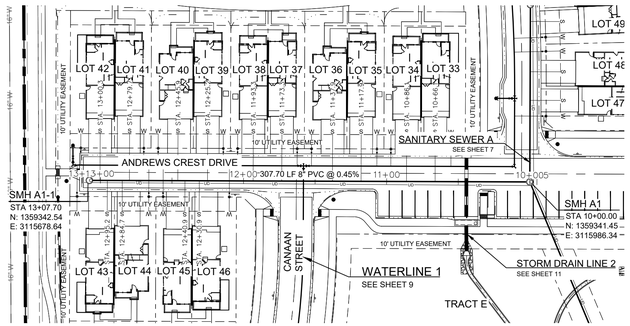
DATE: 04/26/23
SCALE: 1" = 50'
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: C. Pope
DRAWN BY: S. Rzeszut

VANTAGE SUBDIVISION 7TH FILING

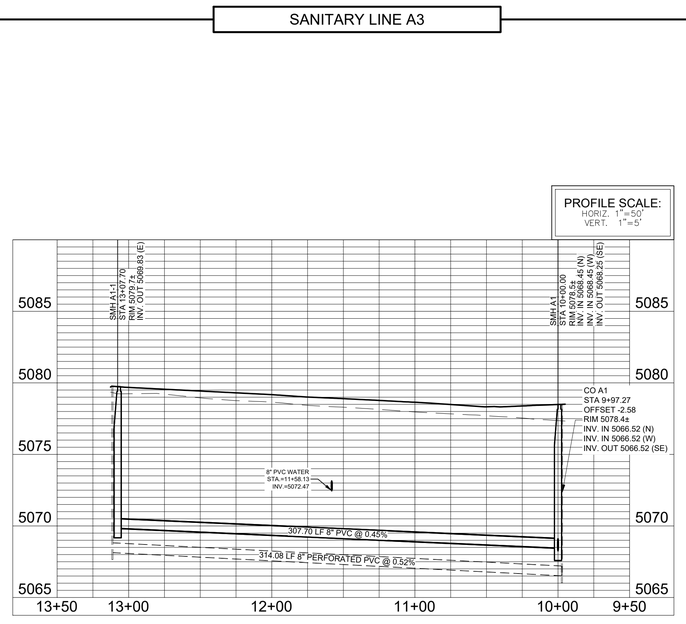
SANITARY LINE A PLAN & PROFILE

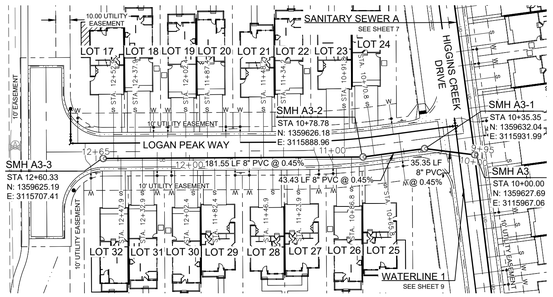
Sheet
SS1
7 of 27

DRAWING FILENAME: P:\167-025\Dwg\Civ\167-025_SAN A.dwg LAYOUT NAME: SS1 DATE: Apr 25, 2023 - 11:37am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-Xbinded] [167-025_Xsymbol] [167-025_XSAN_Lay] [167-025_XUTIL] [167-025_XGRD] [167-025_XCIV] [167-025_XPARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filng]

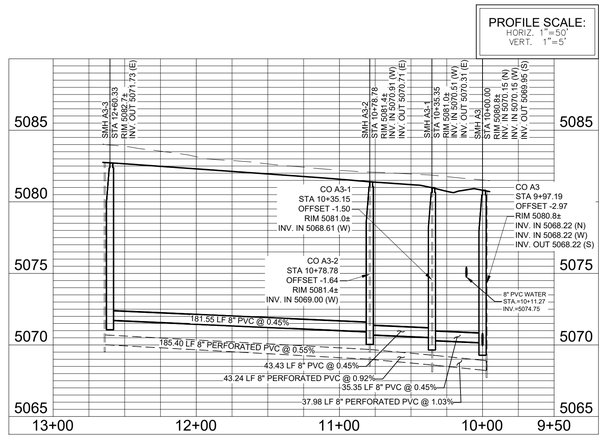


SANITARY LINE A3

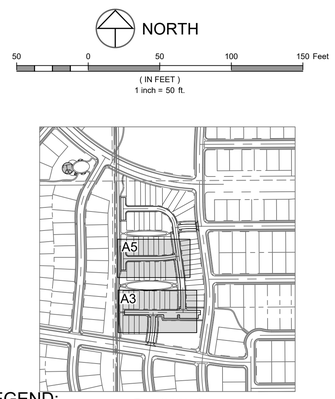




SANITARY LINE A5



SANITARY LINE A5



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:

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. 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 ½" 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.
8. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY 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.

Revisions: No. Date:
REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

These drawings are prepared by Northern Engineering Services, Inc. and are not to be used for any purpose whatsoever unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

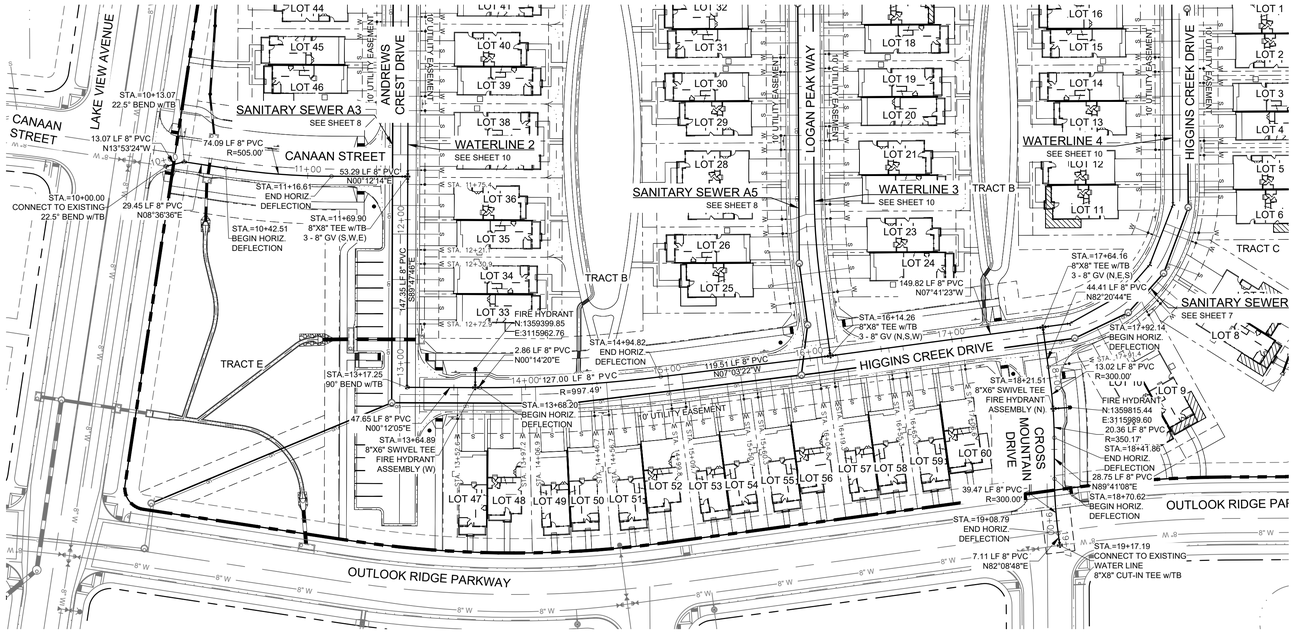
PROJECT: 167-025
DESIGNED BY: C. Pope
DRAWN BY: S. Rzeszut
DATE: 04/26/23
SCALE: 1" = 50'
P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

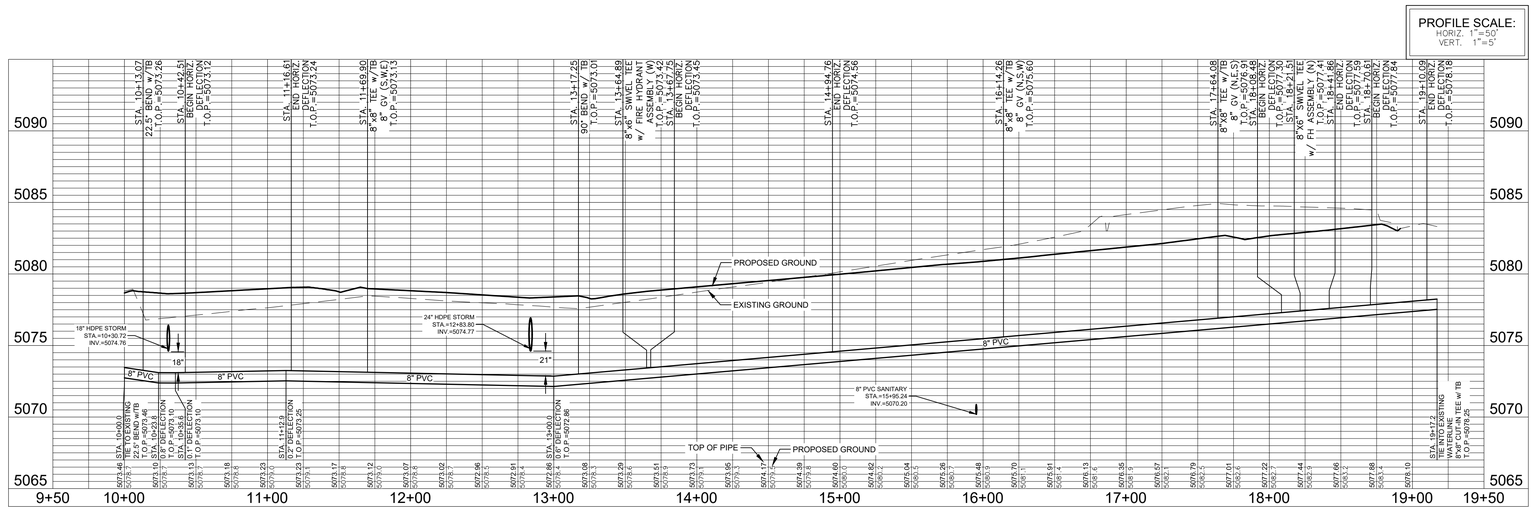
SANITARY LINE A PLAN & PROFILE

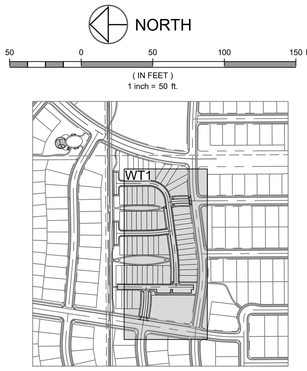
Sheet
SS2
8 of 27

DRAWING FILENAME: P:\167-025\Dwg\Plot\167-025_SAN A3 & A5.dwg LAYOUT NAME: SS2 DATE: Apr 25, 2023 - 11:38am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-Xbinded][167-025_Xbinded][167-025_Xref].[167-025_ALTA][167-025_ALTA].[167-025_GRID][167-025_xAOI][167-025_xPARCEL][1100-002_PHB_xPLAT][1100-002_PHB_xPLAT 2nd Film]
[167-025_SAN.dwg][167-025_Xref.dwg][167-025_xTRACT][167-025_xUTIL][167-025_xWATER][1100-002_PHB_xPLAT]



WATERLINE 1





KEYMAP

NORTH

50 0 50 100 150 Feet

(IN FEET)
1 inch = 50 ft.

LEGEND:

- PROPOSED WATER MAIN
- EXISTING WATER MAIN — W
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER — SS
- PROPOSED SEWER SERVICE — S
- PROPOSED WATER SERVICE — W
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING TELEPHONE — T
- EXISTING GAS — G
- EXISTING CABLE — CTV
- 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:

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. ALL WATER CONSTRUCTION SHALL BE PER TOWN OF BERTHOUD ENGINEERING AND INFRASTRUCTURE DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION, EXCEPT FOR THE STANDARDS RELATED TO THE WATER SERVICES, WHICH SHALL BE PER TOWN STANDARDS, EXCEPT THAT NO MECHANICAL JOINT RESTRAINTS ARE REQUIRED BETWEEN FITTINGS UNLESS SPECIFICALLY SHOWN ON THE PLAN OR AS REQUIRED FOR ABNORMAL DEFLECTIONS.
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.
6. 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.
7. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.
8. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
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 3/4" UNLESS OTHERWISE NOTED.
11. TOP OF WATER METER TO BE PLACED AT A GRADE OF 4% FROM TOP BACK OF CURB.

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.

Revisions: No. 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 purpose or project 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

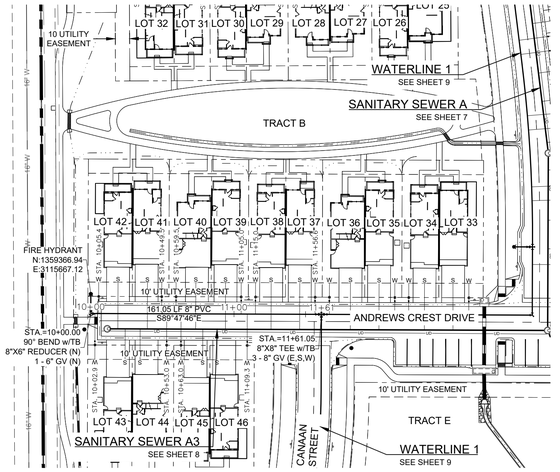
PROJECT: 167-025
DESIGNED BY: C. Pape
DRAWN BY: S. Rzeszut
DATE: 04/26/23
SCALE: 1" = 50'
P. MANAGER: S. Thomas

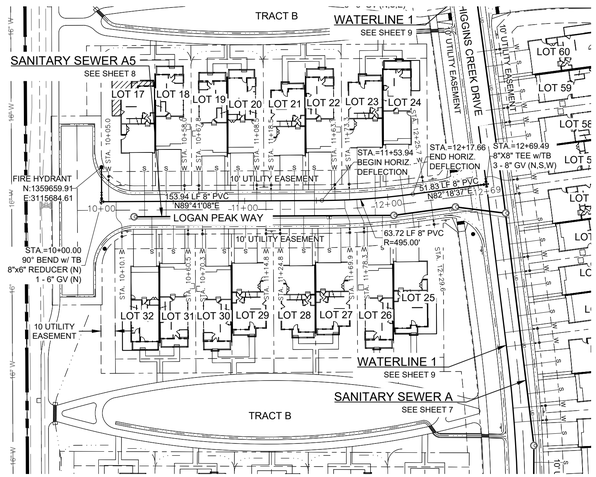
VANTAGE SUBDIVISION 7TH FILING

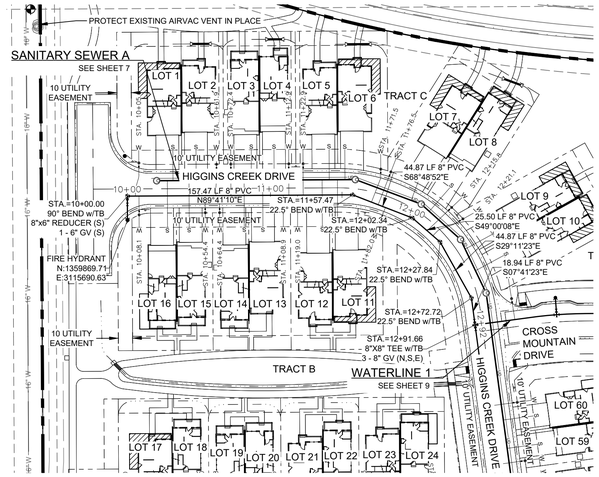
WATER LINE 1 PLAN & PROFILE

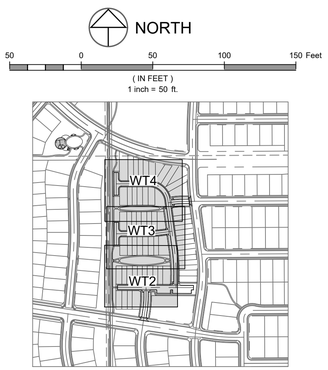
Sheet
WT1
9 of 27

DRAWING FILENAME: P:\167-025\Civil\167-025_WT01_1.dwg LAYOUT NAME: WT1 DATE: Apr 25, 2023 - 11:36am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-Absolute] [167-025_WWTR_1.dwg] [167-025_UTIL] [167-025_ADS] [167-025_WT01] [167-025_KEYMAP] [167-025_APARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filng]









LEGEND:

- PROPOSED WATER MAIN
- EXISTING WATER MAIN — W
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER — SS
- PROPOSED SEWER SERVICE — S
- PROPOSED WATER SERVICE — W
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- EXISTING TELEPHONE — T
- EXISTING GAS — G
- EXISTING CABLE — CTV
- 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:

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. ALL WATER CONSTRUCTION SHALL BE PER TOWN OF BERTHOUD ENGINEERING AND INFRASTRUCTURE DESIGN STANDARDS AND CONSTRUCTION SPECIFICATIONS, LATEST EDITION, EXCEPT FOR THE STANDARDS RELATED TO THE WATER SERVICES, WHICH SHALL BE PER TOWN STANDARDS, EXCEPT THAT NO MECHANICAL JOINT RESTRAINTS ARE REQUIRED BETWEEN FITTINGS UNLESS SPECIFICALLY SHOWN ON THE PLAN OR AS REQUIRED FOR ABNORMAL DEFLECTIONS.
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.
6. 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.
7. MAINTAIN 10' HORIZONTAL AND 18" VERTICAL MINIMUM SEPARATION BETWEEN ALL SANITARY SEWER MAINS, WATER MAINS & SERVICES.
8. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
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.

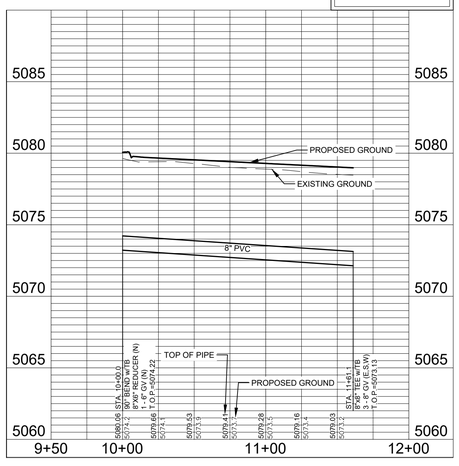
CALL UTILITY NOTIFICATION CENTER OF COLORADO

811

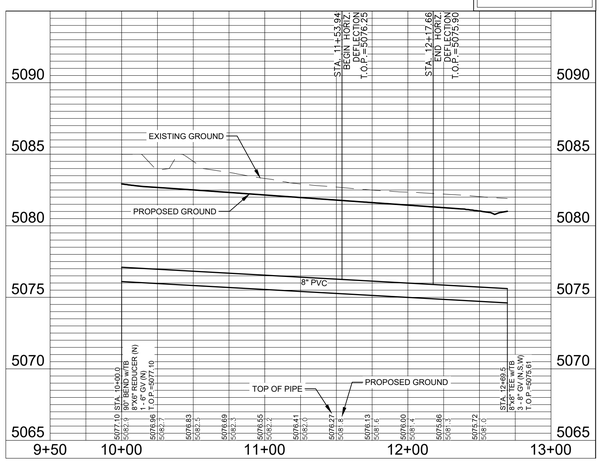
Know what's below.
Call before you dig.

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

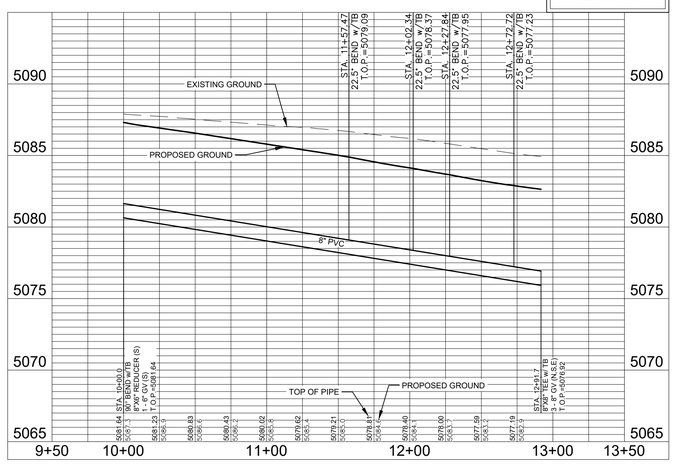
WATERLINE 2



WATERLINE 3



WATERLINE 4



DRAWING FILENAME: P:\167-025\Dwg\Util\167-025_WATR _2_3_4.dwg LAYOUT NAME: WT2 DATE: Apr 25, 2023 - 11:41am CAD OPERATOR: stephanie
LIST OF XREFS: [XES-xbase] [167-025_xWATR_bg] [167-025_xSTR] [167-025_xAD] [167-025_xDST] [167-025_Xwprop] [167-025_xPARCEL] [100-002_PRE_xPLAT] [100-002_PRE_xPLAT 2nd Filng]

Revisions:

No.	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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

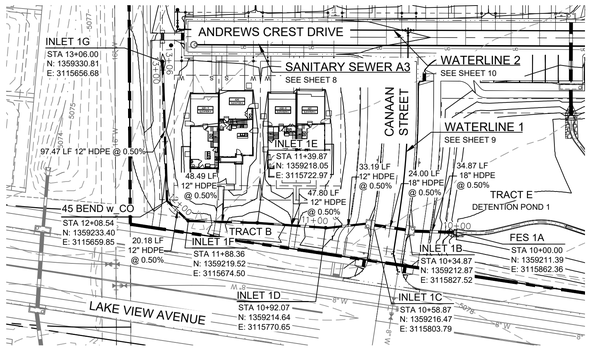
NORTHERN ENGINEERING
970.221.4158
northernengineering.com
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631

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

VANTAGE SUBDIVISION 7TH FILING

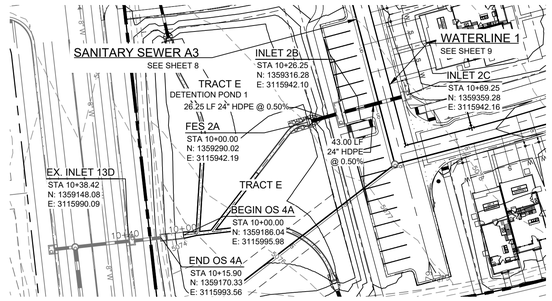
WATER LINE PLAN & PROFILE

Sheet
WT2
10 of 27



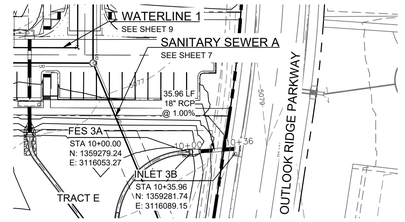
NORTH

STORM DRAIN 1



NORTH

STORM DRAIN 4

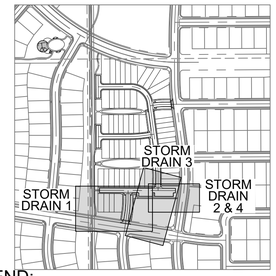


NORTH

STORM DRAIN 2

NORTH

STORM DRAIN 3



LEGEND:

KEYMAP

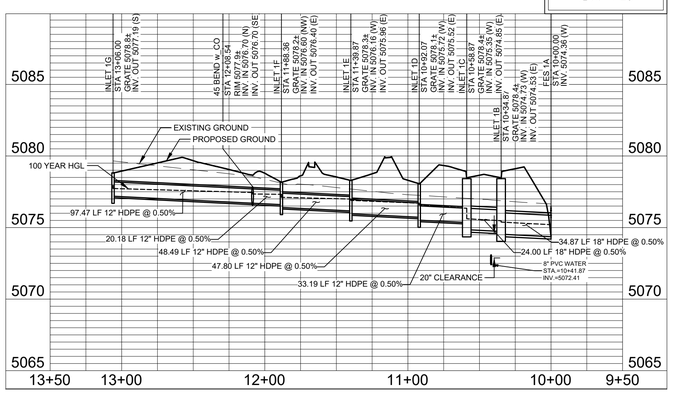
- PROPOSED WATER MAIN
- EXISTING WATER MAIN
- PROPOSED SANITARY SEWER
- EXISTING SANITARY SEWER
- PROPOSED FIRE HYDRANT
- EXISTING FIRE HYDRANT
- PROPOSED STORM SEWER
- EXISTING STORM SEWER
- PROPOSED RIGHT OF WAY
- EXISTING RIGHT OF WAY
- PROPOSED CURB & GUTTER
- PROJECT BOUNDARY
- PROPOSED LOT LINE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

NOTES:

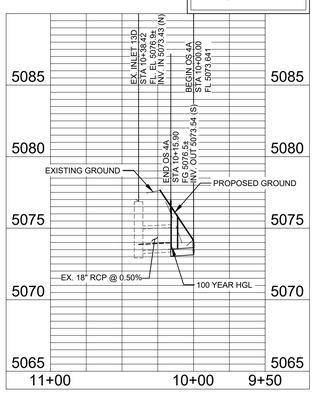
1. THE SIZE, TYPE AND LOCATION OF ALL KNOWN UNDERGROUND UTILITIES ARE APPROXIMATE WHEN SHOWN ON THESE DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF ALL UNDERGROUND UTILITIES IN THE AREA OF THE WORK. BEFORE COMMENCING NEW CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL BE RESPONSIBLE FOR ALL UNKNOWN UNDERGROUND UTILITIES.
2. 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:

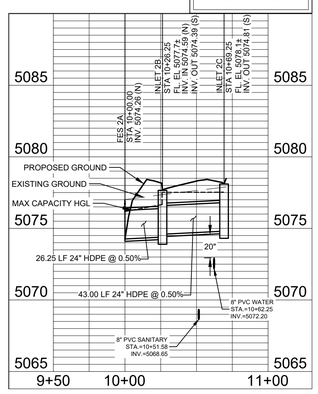
Inlet Name	Inlet Type	Inlet Size
Inlet 1B	Type R	5'
Inlet 1C	Type R	5'
Inlet 1D	ADS Drain Basin	18" Domed
Inlet 1E	ADS Drain Basin	18" Domed
Inlet 1F	ADS Drain Basin	18" Domed
Inlet 1G	ADS Drain Basin	18" Domed
Inlet 2B	Type R	15'
Inlet 2C	Type R	5'
Inlet 3A	Type R	10'



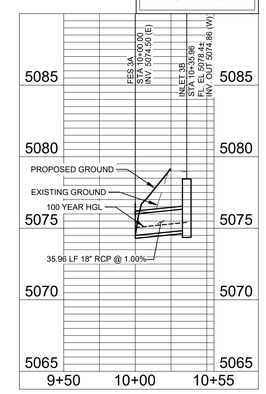
STORM DRAIN 1



STORM DRAIN 4



STORM DRAIN 2



STORM DRAIN 3

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.

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

Revisions: No. Date:
REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

These drawings are prepared by Northern Engineering Services, Inc. and are not to be used for any purpose by others unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

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

STORM DRAIN 1, 2, 3 & 4
PLAN & PROFILE

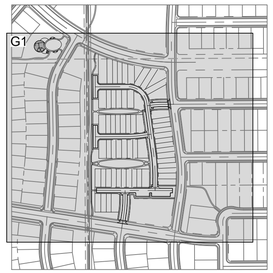
Sheet
ST1
11 of 27

DRAWING FILENAME: P:\167-025\Dwg\Sheets\167-025_STRM.dwg LAYOUT NAME: ST1 DATE: Apr 25, 2023 - 11:44am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-Above][167-025_ATTR][167-025_ATTR_Dwg][167-025_GRID][167-025_GRID][167-025_PLOT][167-025_PLOT][167-025_Xrefs][167-025_xAAG][167-025_xPAVE1][100-002_PRE_xPLAT][100-002_PRE_xPLAT 2nd Plng]

NORTH

50 0 50 100 150 Feet

(IN FEET)
1 inch = 50 ft.



KEYMAP

LEGEND:

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED STORM INLET
- PROPOSED CONTOUR — 25
- 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 — 33.43
- EXISTING SPOT ELEVATION — (47.45)
- 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.
2. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
3. ALL PROJECT DATA IS ON VERTICAL DATUM; NAVD88. SEE COVER SHEET FOR BENCHMARK REFERENCES.
4. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.
5. ALL GARAGE PADS/TOP OF DRIVEWAY ELEVATIONS ARE BASED ON EITHER TWO OR THREE STEPS IN THE GARAGE AND A 2% SLOPE GARAGE PAD. MINIMUM BACK OF GARAGE PAD TO BE 0.3' BELOW TOP OF FOUNDATION FOR 2 STEPS AND 0.9' BELOW TOP OF FOUNDATION FOR 3 STEPS. IF MODIFICATIONS TO THESE ASSUMPTIONS ARE MADE, THEY MUST BE SHOWN ON THE PLOT PLAN AND APPROVED BY THE GOVERNING AGENCY.
6. ALL STAIRS CALLED OUT ON PLANS ARE SPACED EVENLY ALONG STRAIGHT SECTIONS. NO STAIRS SHALL BE WITHIN 1' OF PUBLIC ROW. STAIRS CALLED OUT AT TURNING POINTS ARE THE REQUIRED TREAD LENGTH BASED ON RISE, BEYOND THE LANDING. ALL PATIOS HAVE BEEN GRADED WITH THE SAME ASSUMPTIONS WITH TWO 6" STAIRS WITHIN THE PATIO AND ONE ADDITIONAL 6" STAIR AT THE SIDEWALK CONNECTION POINT TO THE PATIO. SEE DETAIL BELOW FOR MORE INFORMATION.
7. ALL ACCESS WALKS TO INDIVIDUAL HOMES ARE 4' IN WIDTH.

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.

Revisions: No. 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

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

VANTAGE SUBDIVISION 7TH FILING

OVERALL GRADING PLAN

Sheet
OG1
12 of 27

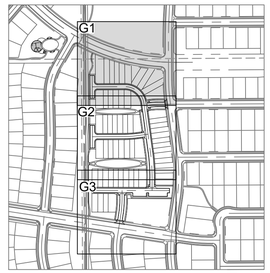
DRAWING FILENAME: P:\167-025\Dwg\Grad\167-025_OGRAD.dwg LAYOUT NAME: OG1 DATE: Apr 25, 2023 - 11:45am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-divider] [167-025_UTIL] [167-025_GCROT] [167-025_PSPOO] [167-025_KeyMap] [167-025_SAU] [167-025_GSTE] [167-025_GGRAD-Tmp] [167-025_APARCEL] [1100-002_PRB_aPLAT] [1100-002_PRB_aPLAT 2nd Filng]

MATCH LINE - SEE SHEET 14

NORTH

20 0 20 40 60 Feet

(IN FEET)
1 inch = 20 ft.



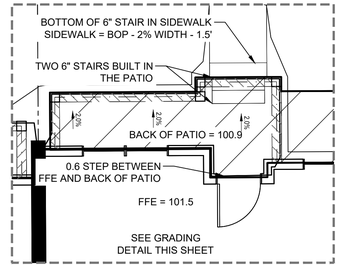
KEYMAP

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 — 33.43
- EXISTING SPOT ELEVATION — (47.45)
- 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.
2. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
3. ALL PROJECT DATA IS ON VERTICAL DATUM; NAVD88. SEE COVER SHEET FOR BENCHMARK REFERENCES.
4. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.
5. ALL GARAGE PADS/TOP OF DRIVEWAY ELEVATIONS ARE BASED ON EITHER TWO OR THREE STEPS IN THE GARAGE AND A 2% SLOPE GARAGE PAD. MINIMUM BACK OF GARAGE PAD TO BE 0.3' BELOW TOP OF FOUNDATION FOR 2 STEPS AND 0.9' BELOW TOP OF FOUNDATION FOR 3 STEPS. IF MODIFICATIONS TO THESE ASSUMPTIONS ARE MADE, THEY MUST BE SHOWN ON THE PLOT PLAN AND APPROVED BY THE GOVERNING AGENCY.
6. ALL STAIRS CALLED OUT ON PLANS ARE SPACED EVENLY ALONG STRAIGHT SECTIONS. NO STAIRS SHALL BE WITHIN 1' OF PUBLIC ROW. STAIRS CALLED OUT AT TURNING POINTS ARE THE REQUIRED TREAD LENGTH BASED ON RISE, BEYOND THE LANDING. ALL PATIOS HAVE BEEN GRADED WITH THE SAME ASSUMPTIONS WITH TWO 6" STAIRS WITHIN THE PATIO AND ONE ADDITIONAL 6" STAIR AT THE SIDEWALK CONNECTION POINT TO THE PATIO. SEE DETAIL BELOW FOR MORE INFORMATION.
7. ALL ACCESS WALKS TO INDIVIDUAL HOMES ARE 4' IN WIDTH.



PATIO GRADING DETAIL

1"=10'

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.

Revisions:

No.	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 work or purpose unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

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

VANTAGE SUBDIVISION 7TH FILING

GRADING PLAN

Sheet G1

13 of 27

DRAWING FILENAME: P:\167-025\Dwg\Grad\167-025_GRAD.dwg LAYOUT NAME: G1 DATE: Apr 25, 2023 - 11:46am CAD OPERATOR: stephanie
LIST OF REFS: [AEC--standard] [167-025_UTIL] [167-025_ARCH] [167-025_GRAD] [167-025_XTOP] [167-025_GRID] [167-025_GRAD-Tmp] [167-025_Keymap] [167-025_APARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd FINAL]

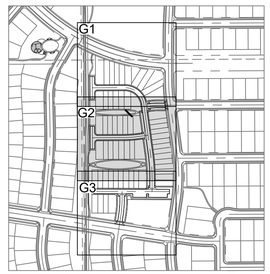
MATCH LINE - SEE SHEET 13

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 — 33.43
- EXISTING SPOT ELEVATION — (47.45)
- 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.
2. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
3. ALL PROJECT DATA IS ON VERTICAL DATUM; NAVD88. SEE COVER SHEET FOR BENCHMARK REFERENCES.
4. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.
5. ALL GARAGE PADS/TOP OF DRIVEWAY ELEVATIONS ARE BASED ON EITHER TWO OR THREE STEPS IN THE GARAGE AND A 2% SLOPE GARAGE PAD. MINIMUM BACK OF GARAGE PAD TO BE 0.3' BELOW TOP OF FOUNDATION FOR 2 STEPS AND 0.9' BELOW TOP OF FOUNDATION FOR 3 STEPS. IF MODIFICATIONS TO THESE ASSUMPTIONS ARE MADE, THEY MUST BE SHOWN ON THE PLOT PLAN AND APPROVED BY THE GOVERNING AGENCY.
6. ALL STAIRS CALLED OUT ON PLANS ARE SPACED EVENLY ALONG STRAIGHT SECTIONS. NO STAIRS SHALL BE WITHIN 1' OF PUBLIC ROW. STAIRS CALLED OUT AT TURNING POINTS ARE THE REQUIRED TREAD LENGTH BASED ON RISE, BEYOND THE LANDING. ALL PATIOS HAVE BEEN GRADED WITH THE SAME ASSUMPTIONS WITH TWO 6" STAIRS WITHIN THE PATIO AND ONE ADDITIONAL 6" STAIR AT THE SIDEWALK CONNECTION POINT TO THE PATIO. SEE DETAIL BELOW FOR MORE INFORMATION.
7. ALL ACCESS WALKS TO INDIVIDUAL HOMES ARE 4' IN WIDTH.

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 04/26/23

These drawings are instruments of service provided by Northern Engineering Services, Inc. and are not to be used for any purpose or project 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

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

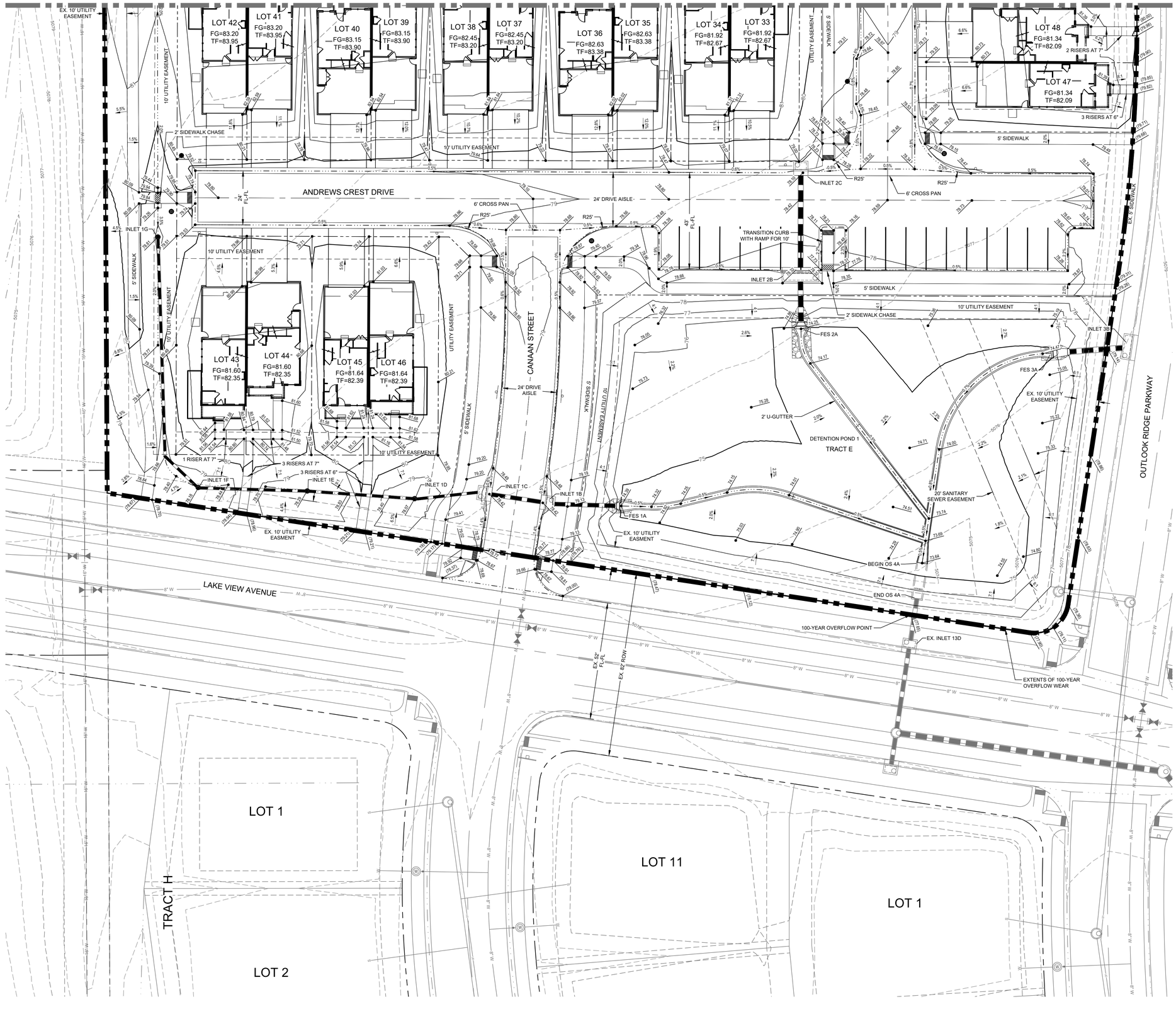
VANTAGE SUBDIVISION 7TH FILING

GRADING PLAN

Sheet G2
14 of 27

DRAWING FILENAME: P:\167-025\dwg\Grad\167-025_GRAD.dwg LAYOUT NAME: G2 DATE: Apr 25, 2023 - 11:45am CAD OPERATOR: stephanie
LIST OF XREFS: [NCS-Xname] [167-025_Utl%] [167-025_ACS] [167-025_GRAD] [167-025_XTOP] [167-025_GTB2] [167-025_GRAD-Imp] [167-025_Keymap] [167-025_xPARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filng]

MATCH LINE - SEE SHEET 14



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 — 33.43
- EXISTING SPOT ELEVATION — (47.45)
- 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.
2. REFER TO THE PLAT FOR LOT AREAS, TRACT SIZES, EASEMENTS, LOT DIMENSIONS, UTILITY EASEMENTS, OTHER EASEMENTS, AND OTHER SURVEY INFORMATION.
3. ALL PROJECT DATA IS ON VERTICAL DATUM; NAVD88. SEE COVER SHEET FOR BENCHMARK REFERENCES.
4. ALL CURB SPOTS SHOWN ARE FLOWLINE ELEVATIONS. ALL OTHER SPOTS ARE FINISHED GRADE ELEVATIONS.
5. ALL GARAGE PADS/TOP OF DRIVEWAY ELEVATIONS ARE BASED ON EITHER TWO OR THREE STEPS IN THE GARAGE AND A 2% SLOPE GARAGE PAD. MINIMUM BACK OF GARAGE PAD TO BE 0.3' BELOW TOP OF FOUNDATION FOR 2 STEPS AND 0.9' BELOW TOP OF FOUNDATION FOR 3 STEPS. IF MODIFICATIONS TO THESE ASSUMPTIONS ARE MADE, THEY MUST BE SHOWN ON THE PLOT PLAN AND APPROVED BY THE GOVERNING AGENCY.
6. ALL STAIRS CALLED OUT ON PLANS ARE SPACED EVENLY ALONG STRAIGHT SECTIONS. NO STAIRS SHALL BE WITHIN 1' OF PUBLIC ROW. STAIRS CALLED OUT AT TURNING POINTS ARE THE REQUIRED TREAD LENGTH BASED ON RISE, BEYOND THE LANDING. ALL PATIOS HAVE BEEN GRADED WITH THE SAME ASSUMPTIONS WITH TWO 6" STAIRS WITHIN THE PATIO AND ONE ADDITIONAL 6" STAIR AT THE SIDEWALK CONNECTION POINT TO THE PATIO. SEE DETAIL BELOW FOR MORE INFORMATION.
7. ALL ACCESS WALKS TO INDIVIDUAL HOMES ARE 4' IN WIDTH.

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.

Revisions: No. — 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

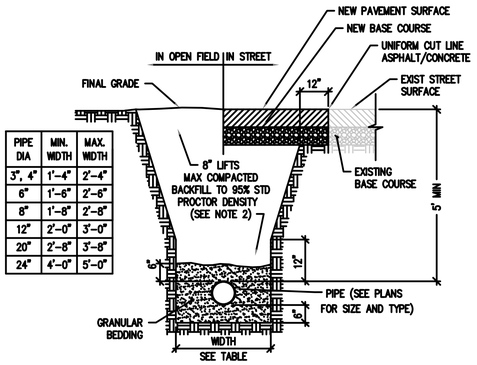
DATE: 04/26/23
SCALE: 1" = 20'
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: C. Pope
DRAWN BY: S. Rzeszut

VANTAGE SUBDIVISION 7TH FILING

GRADING PLAN

Sheet G3
15 of 27

DRAWING FILENAME: P:\167-025\Dwg\Grad\167-025_GRAD.dwg LAYOUT NAME: G3 DATE: Apr 25, 2023 - 11:47am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-xbanner] [167-025_ALTB] [167-025_LAG] [167-025_xGRAD] [167-025_xTOPO] [167-025_xUTIL] [167-025_xBASE-Hwy] [167-025_xPARCEL] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filng]



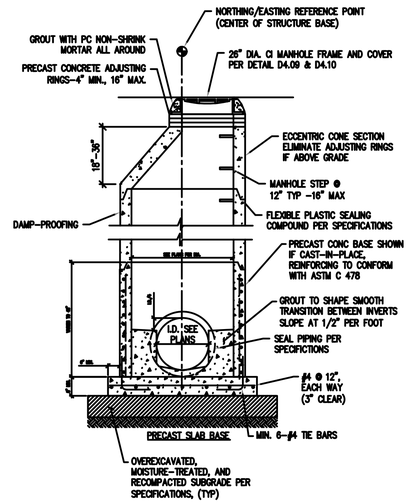
PIPE DIA	MIN. WIDTH	MAX. WIDTH
3", 4"	1'-4"	2'-4"
6"	1'-6"	2'-6"
8"	1'-8"	2'-8"
12"	2'-0"	3'-0"
20"	2'-8"	3'-8"
24"	4'-0"	5'-0"

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

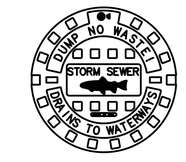


NOTES:
1. SHAPING FOR SMOOTH MANHOLE INVERTS MUST BE DONE BY FORMING OR SHAPING BASE CONCRETE.
2. BLOCK-OUTS WHEN APPROVED SHALL EXTEND A MAX OF 6" PAST MANHOLE OD AND BE SATISFACTORILY PLUGGED AND SEALED.
3. CONCRETE MANHOLE BASES MAY BE POURED IN PLACE ONLY WITH PRIOR APPROVAL.
4. ALL MORTAR SHALL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

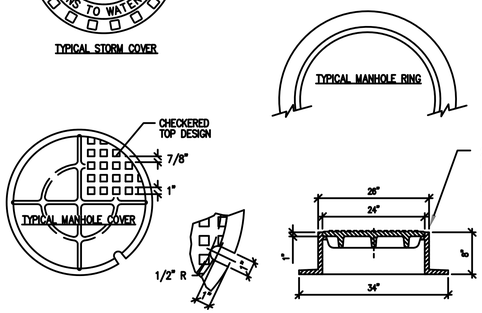
SCALE: NTS

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

101 / D1 STANDARD MANHOLE NOT TO SCALE



TYPICAL STORM COVER

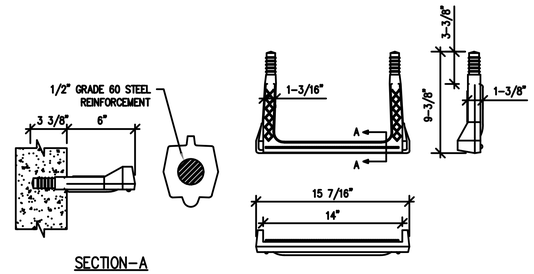


NOTES:
1. ASTM DESIGNATION A-48 CLASS 35B (UNPAINTED) W/ MIN TENSILE STRENGTH KSI (CLASS 25)
2. 1-1/2" LETTERING ON COVER AS REQUIRED (WATER, SEWER, OR STORM). SEE STORM COVER DETAIL ABOVE FOR ADDITIONAL REQUIREMENTS
3. ALL BEARING SURFACES TO BE MATCHED
4. TOTAL MINIMUM WEIGHT APPROXIMATELY 400 LBS 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



SECTION-A

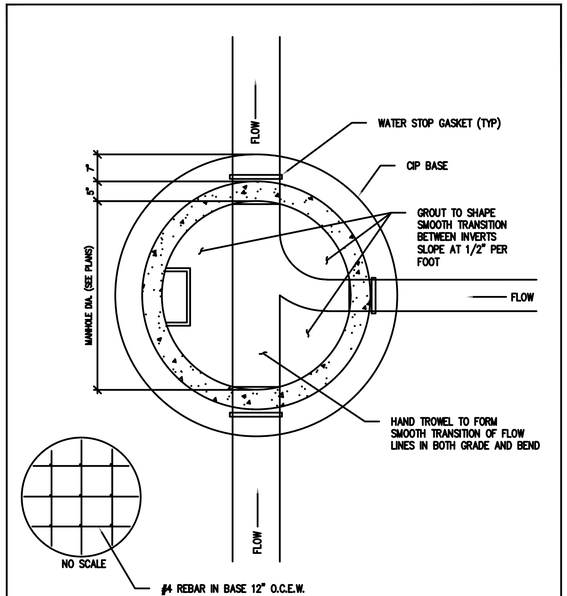
COPOLYMER POLYPROPYLENE PLASTIC

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

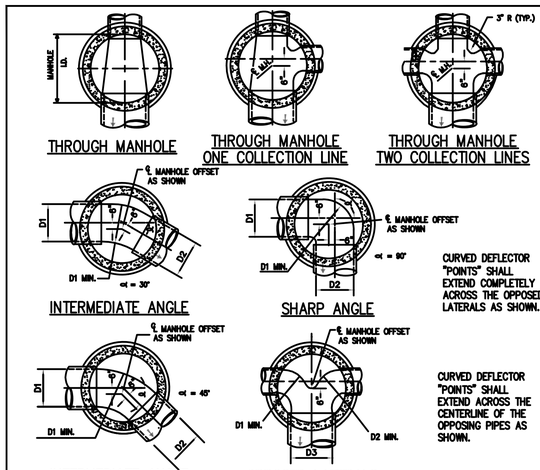


NOTES:
1. FLOW DIRECTION CHANGE 90 DEGREES, MINIMUM

SCALE: NTS

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

104 / D1 MANHOLE BASE NOT TO SCALE

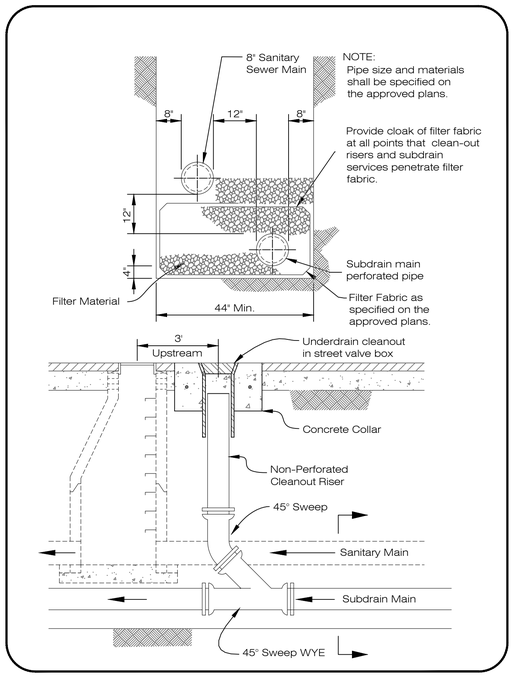


NOTES:
1. PIPE INVERT ELEVATION AND DROP THROUGH MANHOLES SHALL BE IN CONFORMANCE WITH THE REVIEW AND SIGNED CONSTRUCTION PLANS. THE INTENTION IS TO PROMOTE SMOOTH, NON-TURBULANT FLOW THROUGH THE MANHOLES BY KEEPING THE LARGER LINES LOWER IN THE MANHOLE AND BRINGING THE SMALLER LINES IN SLIGHTLY HIGHER.
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

DRAWING FILENAME: P:\167-025\Dwg\Detail\167-025_DET_SAN.dwg LAYOUT NAME: D1 DATE: Apr 25, 2023 - 11:47am CAD OPERATOR: stephanie
LIST OF XREFS: [NOT-Xbinded]

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

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

No. Revisions: Date:
REVIEW SET
NOT FOR CONSTRUCTION
04/26/23

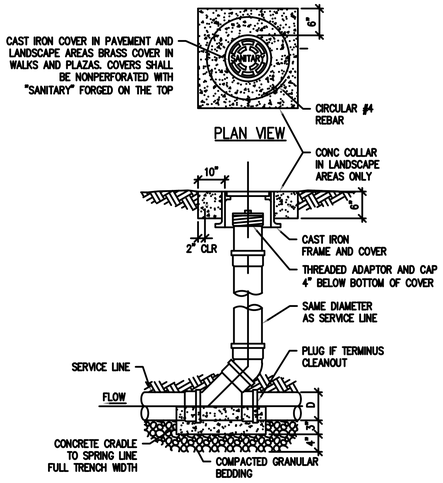
PROJECT: 167-025
DESIGNED BY: C. Pate
DRAWN BY: Drawn By
DATE: 04/26/23
SCALE: N/A
P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

SANITARY LINE DETAILS

Sheet
D1
16 of 27

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.



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

SANITARY CLEANOUT

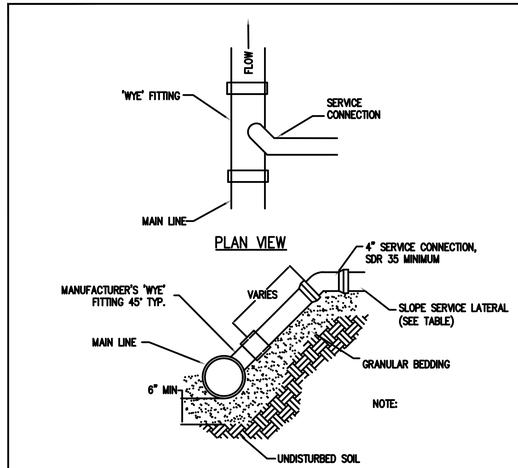
D4.04

DATE: 12/2020

200
D2

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

TYPICAL SERVICE CONNECTION

D4.05

DATE: 12/2020

201
D2

TYPICAL SERVICE CONNECTION

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.

Revisions:

No.	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

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

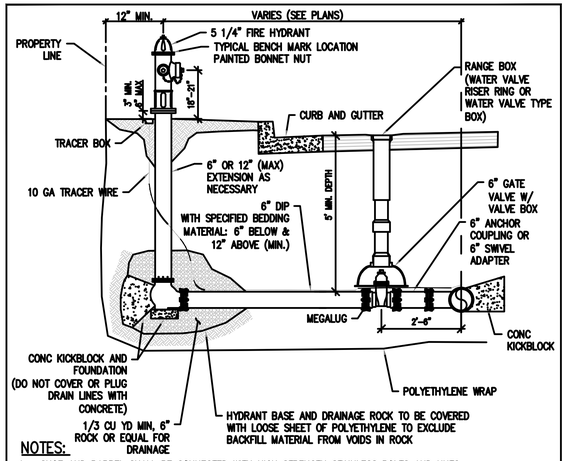
VANTAGE SUBDIVISION 7TH FILING

SANITARY LINE DETAILS

Sheet
D2

17 of 27

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_SAN.dwg LAYOUT NAME: D2 DATE: Apr 25, 2023 - 11:47am CAD OPERATOR: Stephanie
LIST OF XREFS: [NES-Xborder]



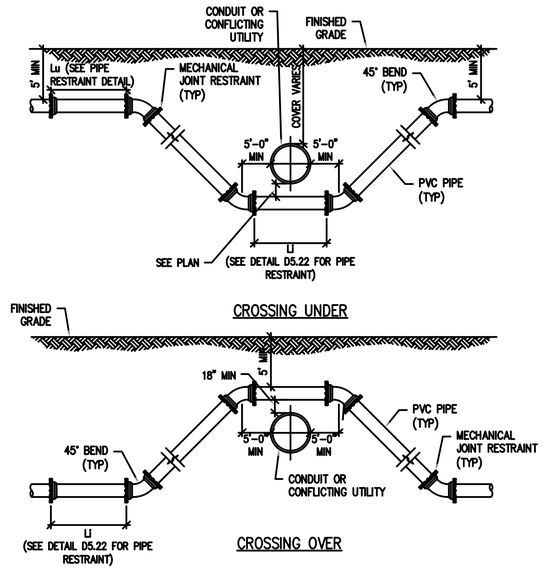
NOTES:

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



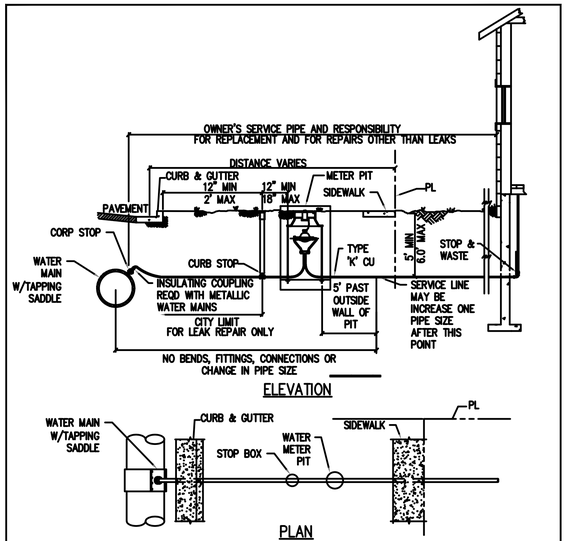
NOTES:

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



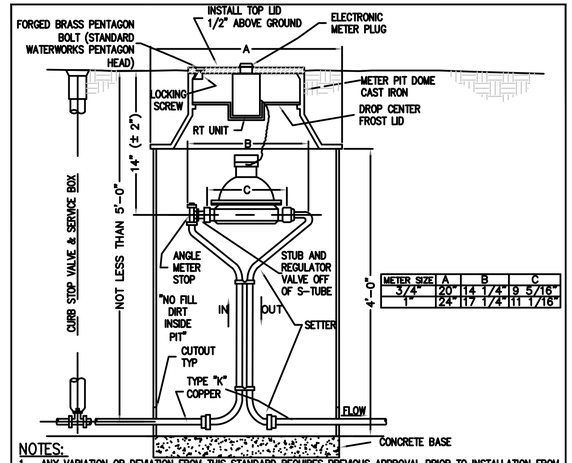
NOTES:

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"

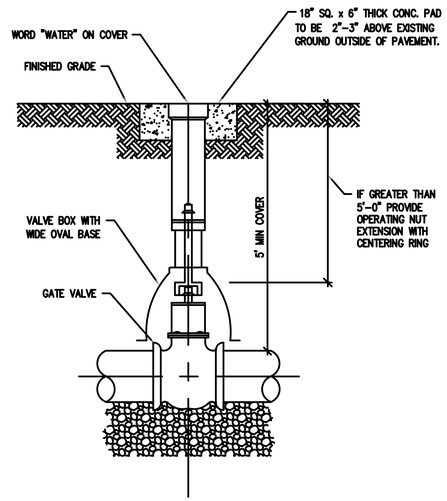
NOTES:

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 HANDLE, 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



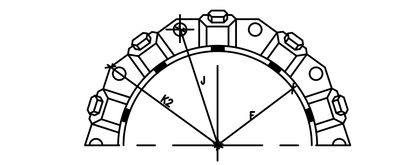
NOTES:

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	
PVC	4"	2	2					PVC
	6"	6	3	11.12	9.50	7.00	0.88	
	8"	6	4	13.37	11.75	9.15	1.00	
	10"	8	6	15.62	14.00	11.20	1.00	
	12"	8	8	17.88	16.25	13.30	1.25	
DI	4"	4	2					DI
	6"	6	3	11.12	9.50	7.00	0.88	
	8"	6	4	13.37	11.75	9.15	1.00	
	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 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
04/26/23

These drawings are preliminary plans provided by Northern Engineering Services, Inc. and are not to be used for construction purposes 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

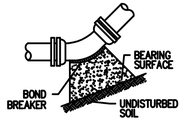
DATE: 04/26/23
SCALE: N/A
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: Designed By
DRAWN BY: Drawn By

VANTAGE SUBDIVISION 7TH FILING

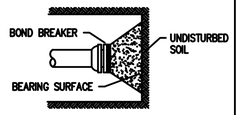
WATERLINE DETAILS

Sheet
D3
18 of 27

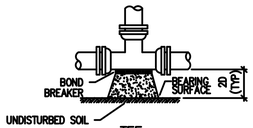
DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_WAT.dwg LAYOUT NAME: D3 DATE: Apr 25, 2023 - 11:47am CAD OPERATOR: stephanie
LIST OF XREFS: [NES-Border]



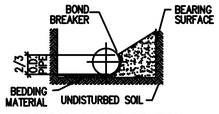
90° BENDS ONLY



DEAD END



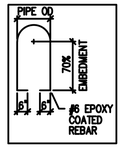
TEE



TYPICAL CROSS SECTION

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)



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	D5.23
WATER DETAILS	
CONCRETE THRUST BLOCKS 1 OF 2	DATE: 12/2020

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

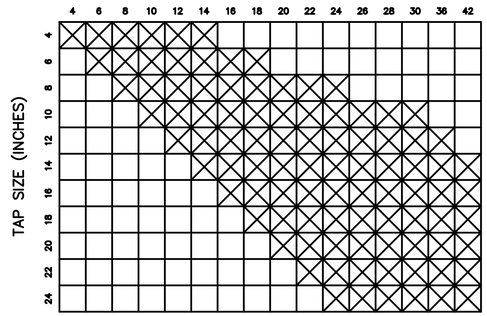
CONCRETE THRUST BLOCKS

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)

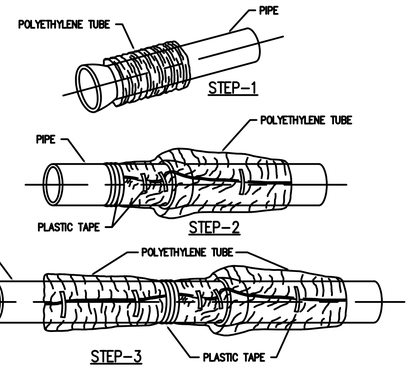


NOTES:
1. ANY THRUST BLOCK REQUIREMENTS FOR WATER MAIN AND TAP SIZED COMBINATIONS OTHER THAN THOSE SHOWN ABOVE WILL REQUIRE SPECIAL DESIGN APPROVAL BY THE TOWN ENGINEER

SCALE: NTS

TOWN OF BERTHOUD STANDARD DESIGN CRITERIA	D5.24
WATER DETAILS	
CONCRETE THRUST BLOCKS 2 OF 2	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	D5.27
WATER DETAILS	
POLYETHYLENE WRAP	DATE: 12/2020

402 / D4 POLYETHYLENE WRAP 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.

Revisions: No. 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 purpose or project 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

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

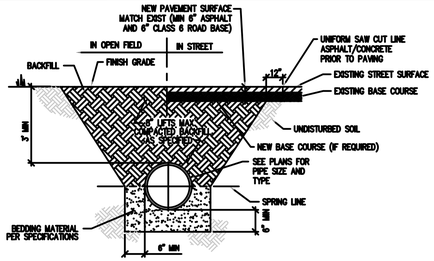
VANTAGE SUBDIVISION 7TH FILING

WATERLINE DETAILS

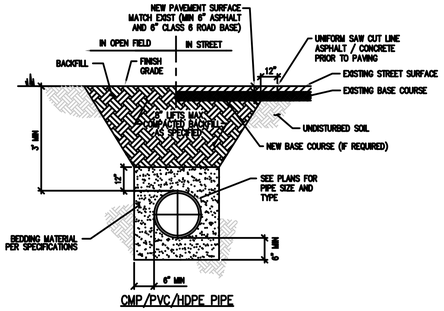
Sheet D4

19 of 27

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_WAT.dwg LAYOUT NAME: D4 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: Stephanie
LIST OF XREFS: [NES-Xbase]



REINFORCED CONCRETE PIPE



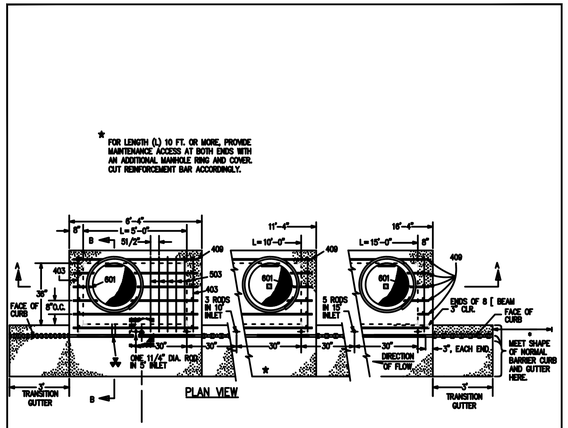
CMP/PVC/HDPE PIPE

NOTES:
1. IF UNSTABLE MATERIALS ARE FOUND IN TRENCH, OVEREXCAVATE 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



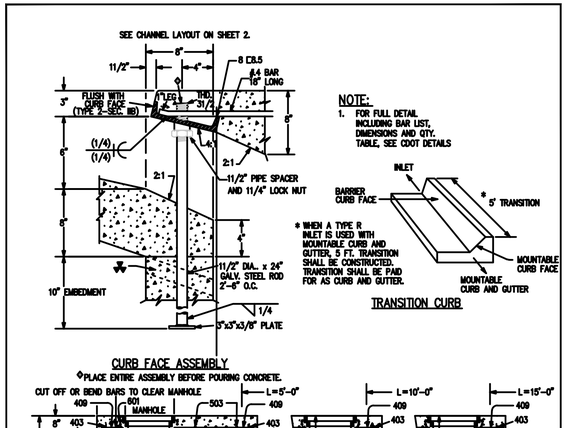
PLAN VIEW

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 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 712.08.
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



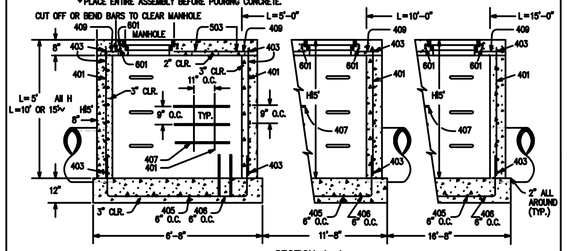
CURB FACE ASSEMBLY

◆PLACE ENTIRE ASSEMBLY BEFORE POURING CONCRETE.

NOTE:
1. FOR FULL DETAIL INCLUDING BAR LIST, DIMENSIONS AND QTY. TABLE, SEE CDOT DETAILS

TRANSITION CURB

★ WHEN A TYPE R INLET IS USED WITH MOUNTABLE CURB AND GUTTER, 5 FT. TRANSITION SHALL BE CONSTRUCTED. TRANSITION SHALL BE PAID FOR AS CURB AND GUTTER.



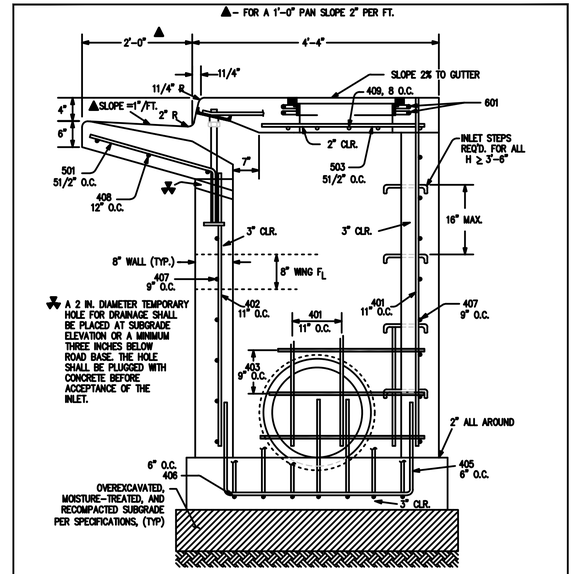
SECTION A–A

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

▲– FOR A 1'–0" PAN SLOPE 2" PER FT.



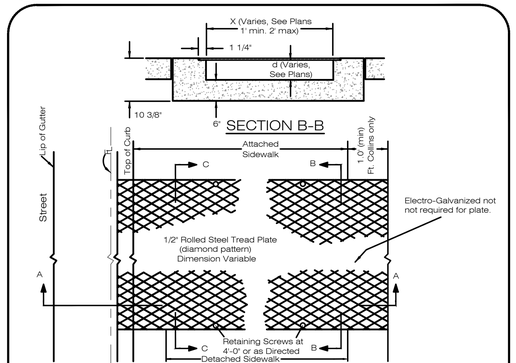
SECTION B–B – END VIEW

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

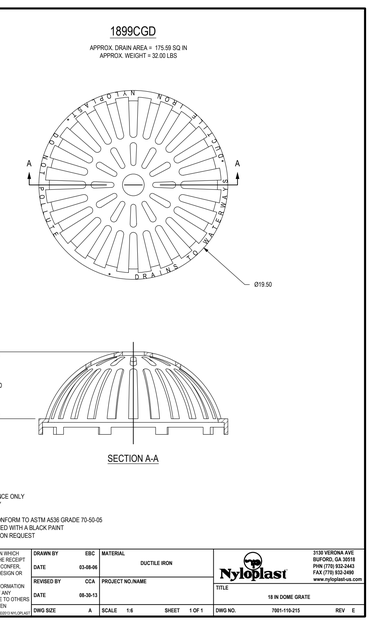
TOWN OF BERTHOUD STANDARD DESIGN CRITERIA
STORM SEWER DETAILS
TYPE R CURB INLET (3 OF 3)
D6.09C
DATE: 12/2020

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

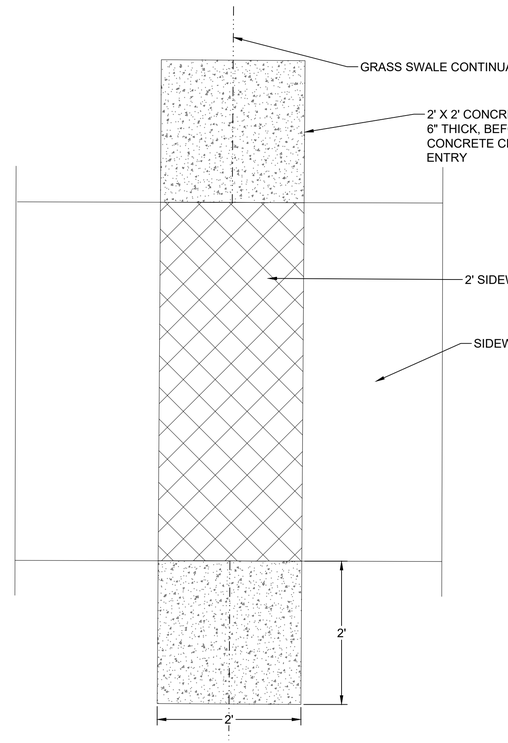


STANDARD DETAILS FOR DRAINAGE UNDER SIDEWALK			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1	DRAWING
		DATE: 08/01/21	709

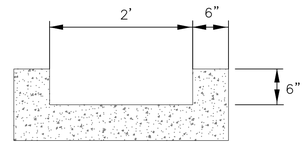
504 / D5 METAL SIDEWALK CHASE NOT TO SCALE



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.

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_LGPKG.dwg LAYOUT NAME: D5 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: stephanie
LIST OF XREFS: [NOT-Anchor]

Revisions: No. 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

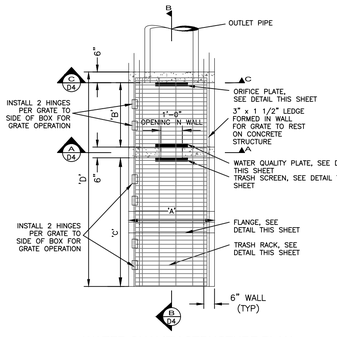
NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

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

VANTAGE SUBDIVISION 7TH FILING

DRAINAGE DETAILS

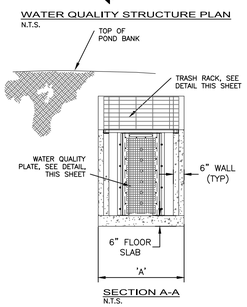
Sheet D5
20 of 27



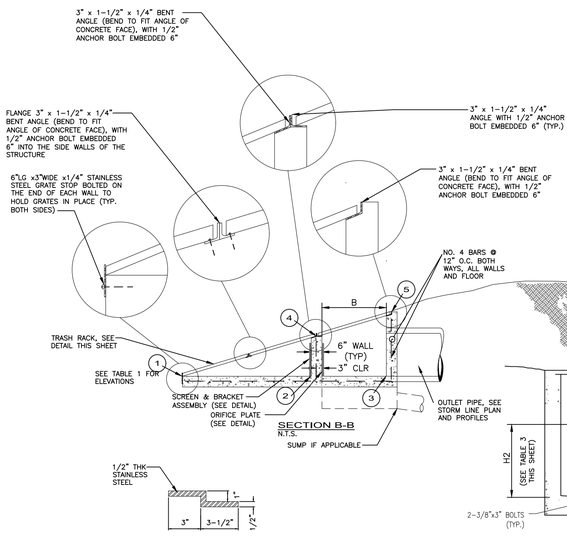
WATER QUALITY STRUCTURE PLAN
N.T.S.

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.

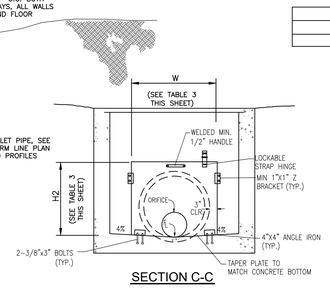


SECTION A-A
N.T.S.



SECTION B-B
N.T.S.

GUIDE BRACKET DETAIL
N.T.S.



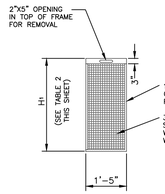
SECTION C-C

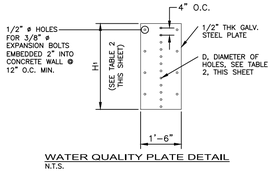
Table 1					
Pond	Elev 1	Elev 2	Elev 3	Elev 4	Elev 5
Pond I	5073.64	5073.58	5073.56	5075.88	5076.50

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	1.63	0.50

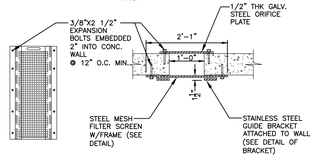
Table 3			
Pond	Plate Width, W (inch)	Plate Height, H2 (inch)	Orifice Dia (inch)
Pond I	29.0	23.5	5.0

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

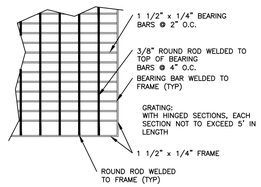




WATER QUALITY PLATE DETAIL
N.T.S.



TRASH SCREEN DETAILS
N.T.S.



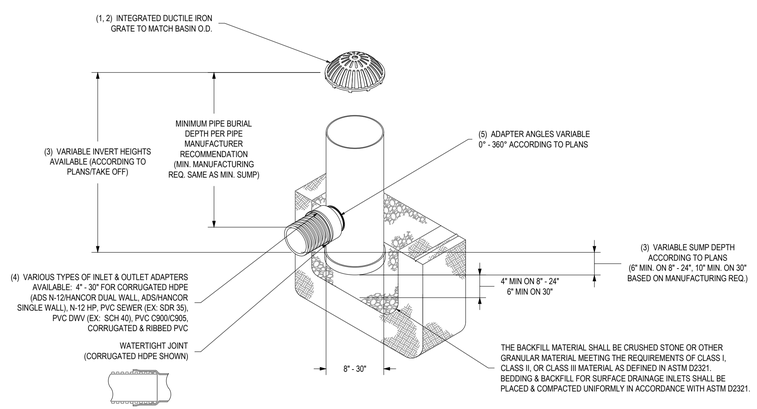
TRASH RACK DETAIL
N.T.S.

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 70-60-05.
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.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2013 NYLOPLAST

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) 932-2490
www.nyloplast-us.com

TITLE: DRAIN BASIN WITH DOME GRATE
QUICK SPEC INSTALLATION DETAIL

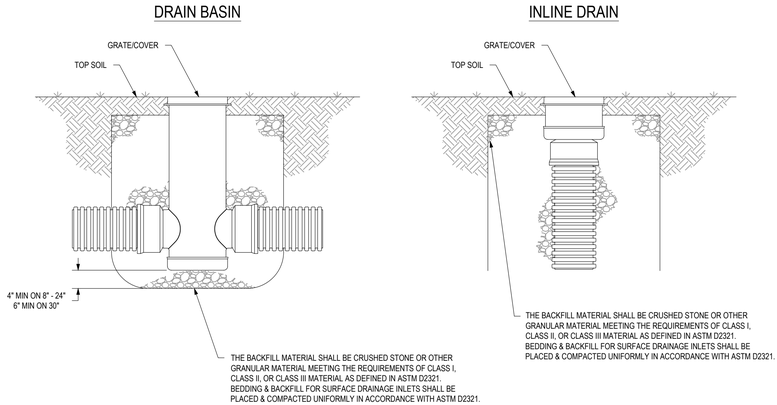
DWG NO. 7001-110-397 REV D

601
D6

24" NYLOPLAST DRAINAGE BASIN

NOT TO SCALE

NON TRAFFIC INSTALLATION



THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2011 NYLOPLAST

DRAWN BY	CJA	MATERIAL	
DATE	9-30-99		
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) 932-2490
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
04/26/23

These drawings are prepared by Northern Engineering Services, Inc. and are not to be used for any work 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

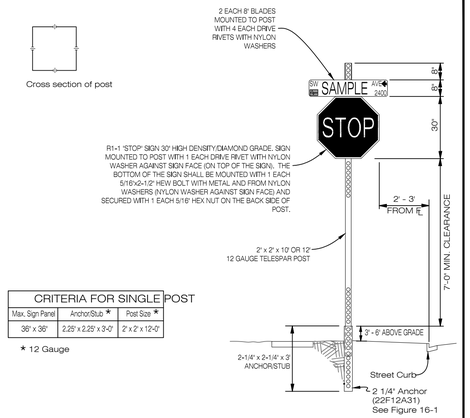
PROJECT: 167-025
DESIGNED BY: C. PAPE
DRAWN BY: C. PAPE
DATE: 04/26/23
SCALE: N/A
P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

DRAINAGE DETAILS

Sheet D6
21 of 27

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_DRNG.dwg LAYOUT NAME: D6 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: stephanie
LIST OF SHEETS: [SHEET=Above]



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"

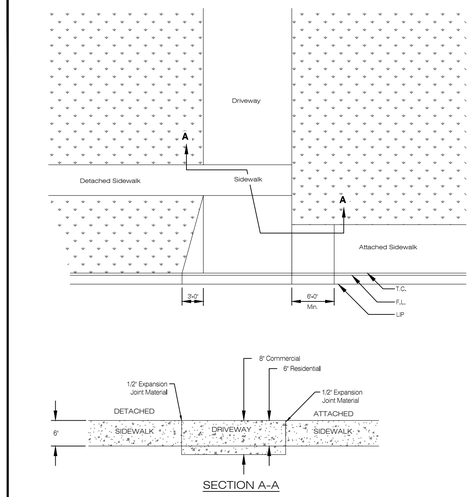
★ 12 Gauge

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



SECTION A-A

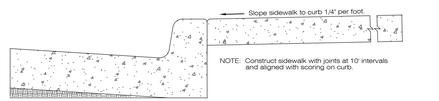
All Sidewalk Thickness Shall Be 6" minimum.

NOTE:

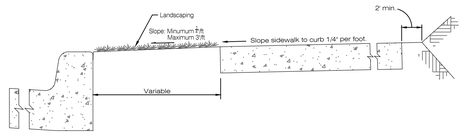
1. Sidewalk grade shall remain consistent across driveway
2. For driveway design requirements, see **CONST. DWG. 706 & 707.**
3. This detail applies to Residential & Commercial driveways.

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

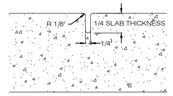
702 D7 STANDARD SIDEWALK NOT TO SCALE



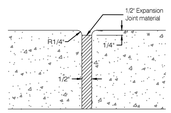
ATTACHED SIDEWALK DETAIL



DETACHED SIDEWALK DETAIL



WEAKENED PLANE JOINT

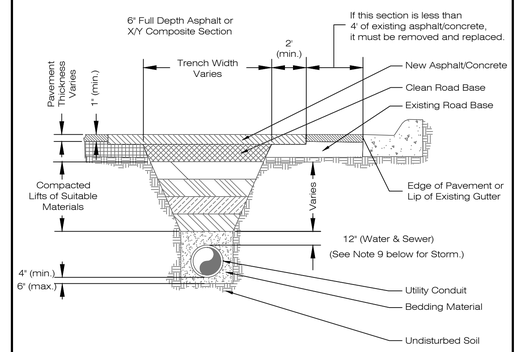


INSTALL IN LOCATIONS SPECIFIED IN CHAPTER 22

EXPANSION JOINT

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

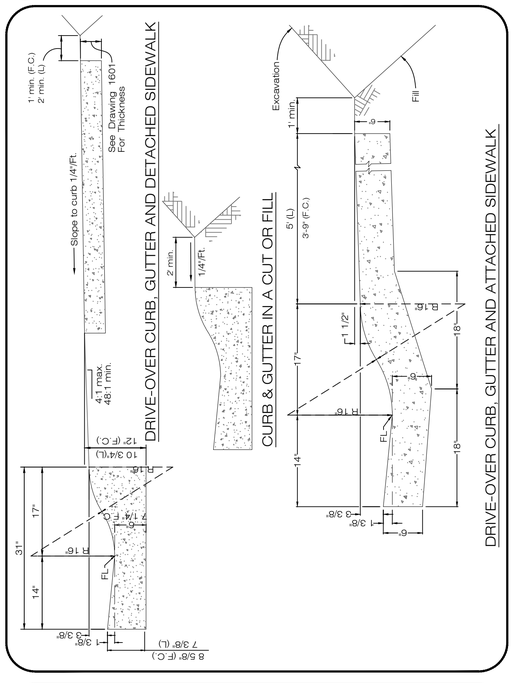
703 D7 SIDEWALK DETAIL NOT TO SCALE



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.

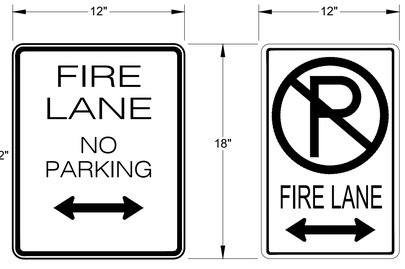
TRENCH DETAIL			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 DATE: 08/07/00	DRAWING 2201

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



STANDARD FIRE LANE SIGN DETAIL (FORT COLLINS ONLY)

UNIVERSAL FIRE LANE SIGN DETAIL

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

NOTES:

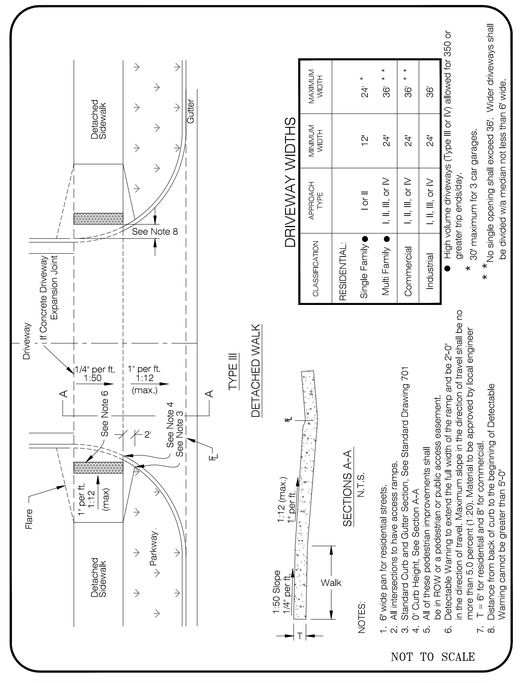
1. THE SIGN PLATE SHALL BE A MINIMUM OF 12"X18" WITH A THICKNESS OF .080 ALUMINUM CONSTRUCTION.

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



NOTES:
1. 6' wide pan for residential streets.
2. All intersections to have 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 constructed within the public right-of-way or public 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. 1" = 1' for radius and 1/4" = 1' for flare.
8. Distance from back of curb to the beginning of Detectable Warning cannot be greater than 5'-0"

DRIVEWAY WIDTHS

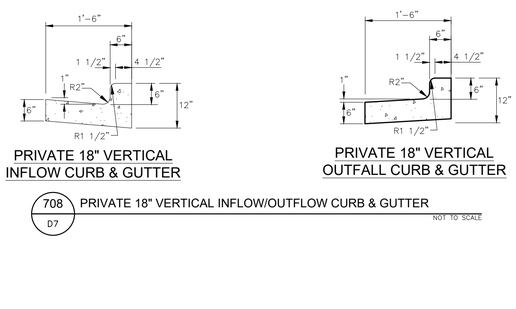
CLASSIFICATION		APPROACH TYPE	MINIMUM WIDTH	MAXIMUM WIDTH
RESIDENTIAL:				
	Single Family ●	I or II	12'	24' *
	Multi Family ●	I, II, III, or IV	24'	36' * *
Commercial		I, II, III, or IV	24'	35' * *
Industrial		I, II, III, or IV	24'	36'

● 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 8' wide.

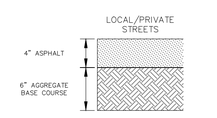
NOT TO SCALE

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

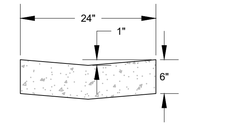
707 D7 STANDARD DRIVEWAY APPROACH (HIGH VOLUME DRIVE TYPE III) NOT TO SCALE



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



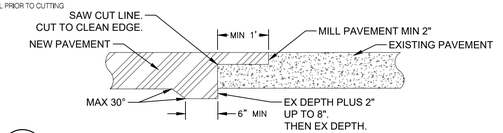
709 D7 PRELIMINARY PAVEMENT DETAIL NOT TO SCALE



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

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: [NCS-Border]

Revisions: No. 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

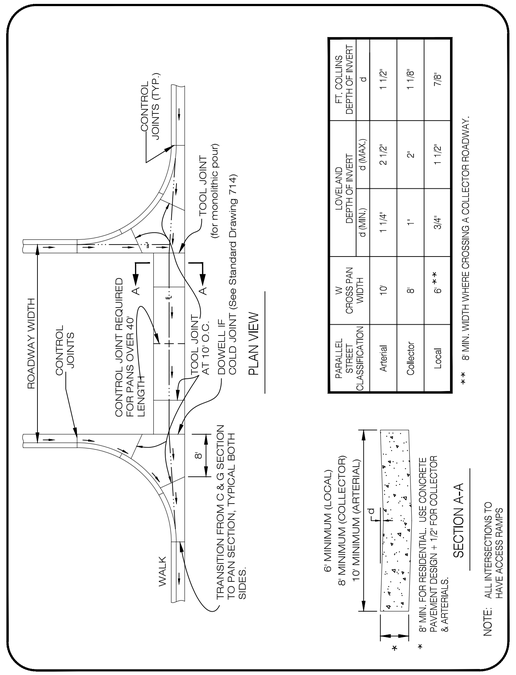
NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

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
22 of 27

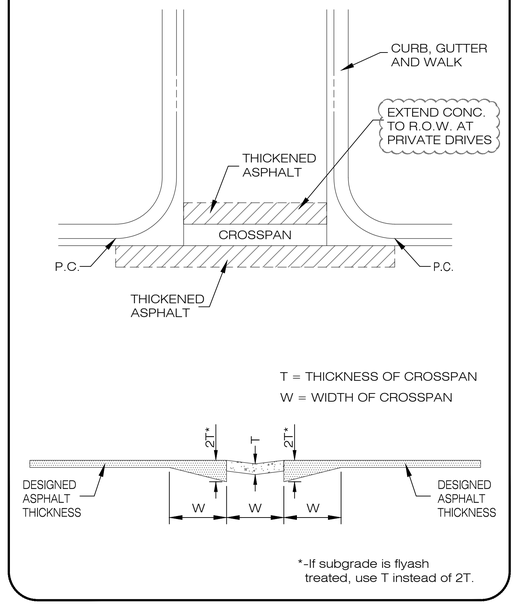


PARALLEL STREET CLASSIFICATION	W CROSS PAN WIDTH	LOVELAND DEPTH OF INVERT d (MIN.)	LOVELAND DEPTH OF INVERT d (MAX.)	FT. COLLINS DEPTH OF INVERT d
Arterial	10'	1.1/4"	2.1/2"	1.1/2"
Collector	8'	1"	2"	1.1/8"
Local	6'**	3/4"	1.1/2"	7/8"

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

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

800 D8 STREET INTERSECTION CROSSPAN NOT TO SCALE



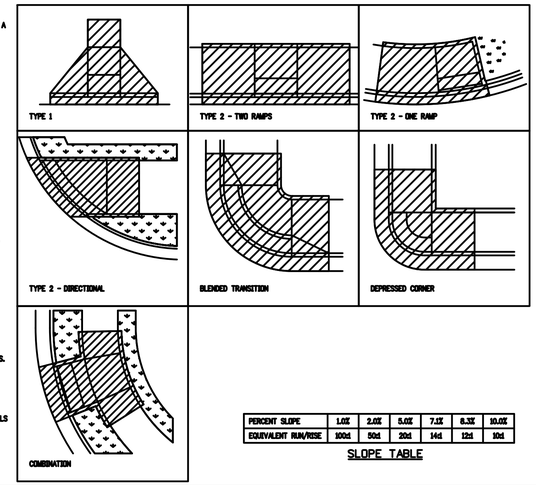
ASPHALT PAVING DETAIL (CROSSPAN)			
LARIMER COUNTY URBAN AREA STREET STANDARDS	CONSTRUCTION DRAWINGS	REVISION NO: 1 DATE: 04/01/07	DRAWING 710

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 GREATER 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 13.3%. 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 8.0-10.0%
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 INDEPENDENTLY 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	REV	05/03/19	Completely revised every sheet.	
Full Path: www.codot.gov/business/designsupport	REV			
Drawing File Name: 608010010.dgn	REV			
C/D Ver.: MicroStation V8 Scale: Not to Scale Units: English	REV			

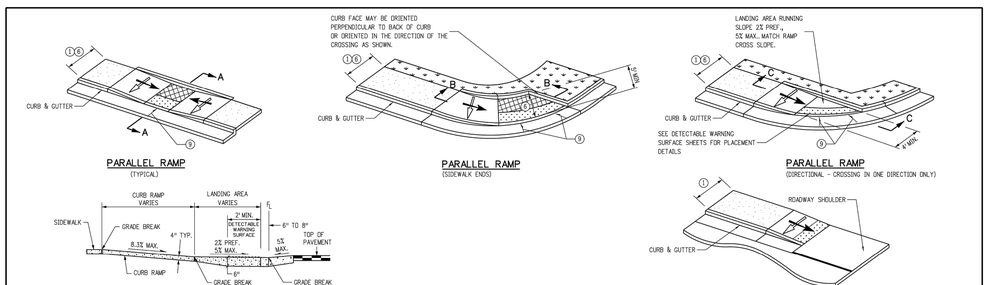
Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phone: 303-757-9021 FAX: 303-757-9868
Division of Project Support JBK/LTA

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



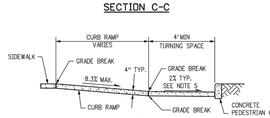
PARALLEL RAMP (TYPICAL)

PARALLEL RAMP (SIDEWALK ENDS)

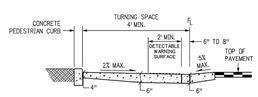
PARALLEL RAMP (DIRECTIONAL - CROSSING IN ONE DIRECTION ONLY)

SECTION C-C

SIDEWALK TO SHOULDER TRANSITION



SECTION B-B



SECTION A-A

SIDEWALK
TURNING SPACE 4 5 6
DETECTABLE WARNING SURFACE (DWS)

TYPE 2 PARALLEL CURB RAMPS

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.

Computer File Information		Sheet Revisions		
Creation Date: 07/04/12 Initials: JBK		Date	Comments	
Last Modification Date: 05/03/19 Initials: LTA	REV	05/03/19	Completely revised every sheet.	
Full Path: www.codot.gov/business/designsupport	REV			
Drawing File Name: 608010010.dgn	REV			
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	REV			

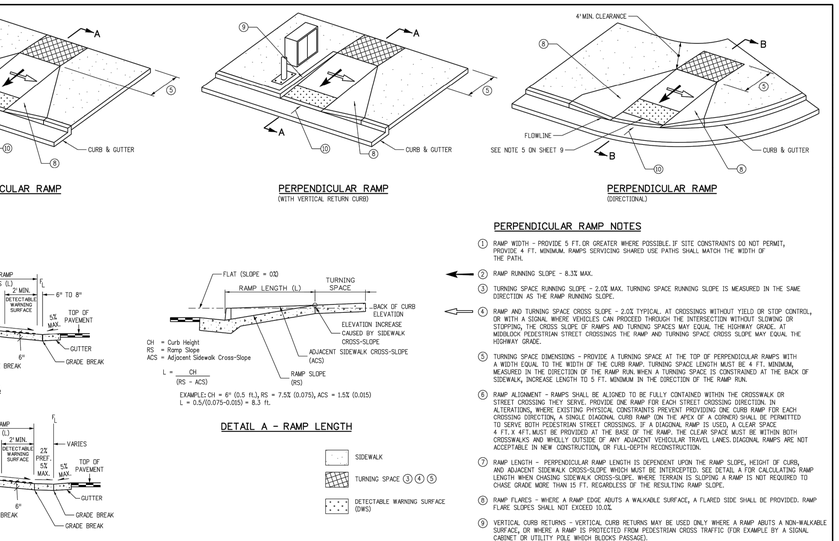
Colorado Department of Transportation
2829 West Howard Place
CDOT HQ, 3rd Floor
Denver, CO 80204
Phone: 303-757-9021 FAX: 303-757-9868
Division of Project Support JBK/LTA

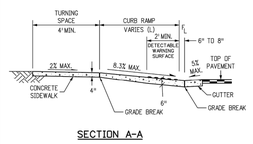
CURB RAMPS

Issued By: Project Development Branch July 4, 2012

STANDARD PLAN NO. M-608-1 Sheet No. 4 of 10

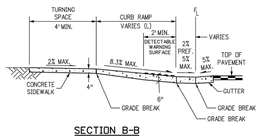
804 D8 CURB RAMP STANDARD DETAIL NOT TO SCALE





SECTION A-A

DETAIL A - RAMP LENGTH



SECTION B-B

SIDEWALK
TURNING SPACE 4 5
DETECTABLE WARNING SURFACE (DWS)

TYPE 1 PERPENDICULAR CURB RAMPS

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 ADJTS 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 ADJTS 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.

Computer File Information		Sheet Revisions		
Creation Date: 07/04/12 Initials: JBK		Date	Comments	
Last Modification Date: 05/03/19 Initials: LTA	REV	05/03/19	Completely revised every sheet.	
Full Path: www.codot.gov/business/designsupport	REV			
Drawing File Name: 608010010.dgn	REV			
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	REV			

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

DRAWING FILENAME: P:\167-025\Dwg\Details\167-025_DET_STR.dwg LAYOUT NAME: D8 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: stephanie
LIST OF USERS: [MDS-docdet]

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 04/26/23

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

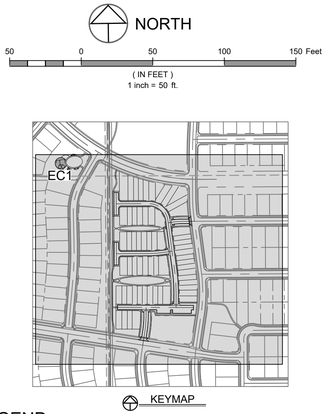
NORTHERN ENGINEERING
FORT COLLINS: 301 North Howes Street, Suite 100, 80521
GREELEY: 820 8th Street, 80631
970.221.4158
northernengineering.com

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

VANTAGE SUBDIVISION 7TH FILING

SITE DETAILS

Sheet D8
23 of 27



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, 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.

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.

Revisions: No. 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

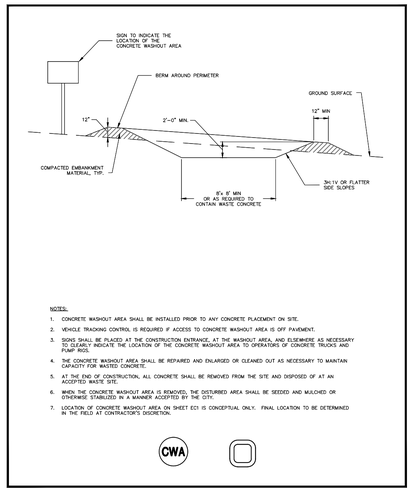
PROJECT: 167-025	DATE: 04/26/23
DESIGNED BY: C. PAPE	SCALE: 1" = 50'
DRAWN BY: C. PAPE	P. MANAGER: S. Thomas

VANTAGE SUBDIVISION 7TH FILING

EROSION CONTROL PLAN

Sheet
EC1
24 of 27

DRAWING FILENAME: P:\167-025\Dwg\167-025_EC05.dwg LAYOUT NAME: EC1 DATE: Apr 25, 2023 - 11:45am CAD OPERATOR: Stephanie
LIST OF XREFS: [167-025_xATK] [167-025_xEST] [167-025_xGRAD] [167-025_xGRID] [167-025_xPOND] [ACS-standard] [167-025_Keymap] [167-025_xAAD] [167-025_xEC05.dwg] [167-025_xPROFILES] [100-002_PHB_xPLAT 2nd Filng] [100-002_PHB_xPLAT]



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

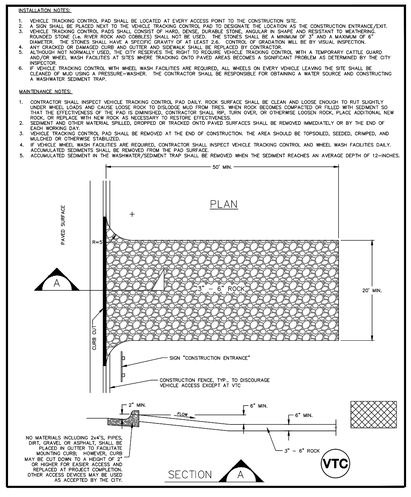
NOT TO SCALE

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 AT 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. THE MINIMUM DIMENSIONS OF THE PAD SHALL BE 50' (LENGTH) BY 20' (WIDTH) AND 6" THICK.
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 SIGNFICANT PROBLEM AS DETERMINED BY THE CITY ENGINEER.
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.

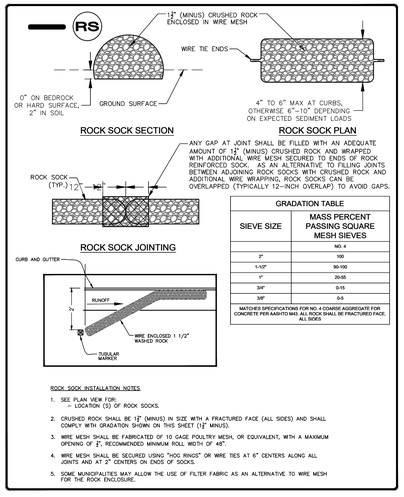
MAINTENANCE NOTES:

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 ON THE PAD AS NEEDED TO MEET THE REQUIREMENTS OF THIS BMP.
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. WHEN 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



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

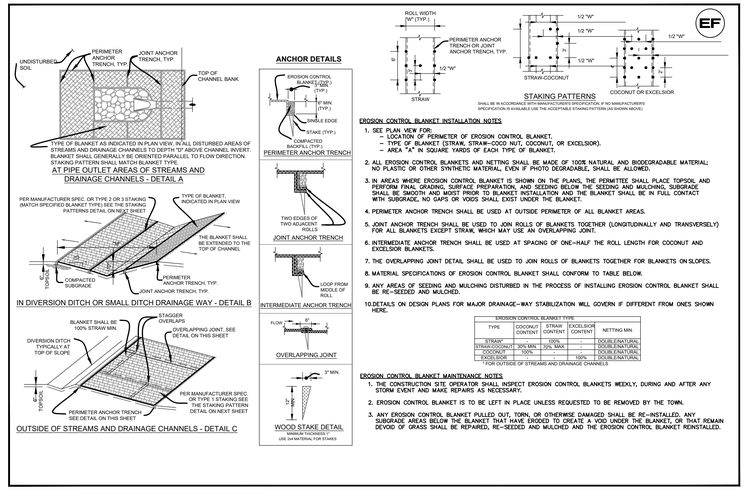
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M 80. ROCK SHALL BE FRACTURED FACE. ALL SIDES

ROCK SOCK INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   - LOCATION (S) OF ROCK SOCKS.
2. CRUSHED ROCK SHALL BE 12" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET (12" MINUS).
3. WIRE MESH SHALL BE FABRICATED OF 10 GAGE POULTRY MESH, OR EQUIVALENT, WITH A MAXIMUM OPENING OF 2", 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



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.

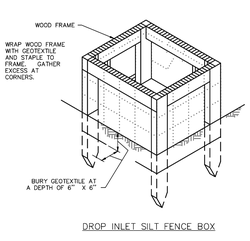
EROSION CONTROL BLANKET TYPE				
TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	NETTING MIN.
STRAW*	-	100%	-	DOUBLE NATURAL
STRAW-COCONUT*	30% MIN.	70% MAX.	-	DOUBLE NATURAL
COCONUT*	100%	-	-	DOUBLE NATURAL
EXCELSIOR*	-	-	100%	DOUBLE NATURAL
* OR OUTSIDE OF STREAMS AND DRAINAGE CHANNELS				

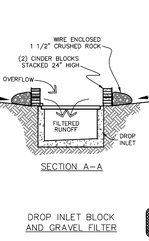
EROSION CONTROL BLANKET MAINTENANCE NOTES

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





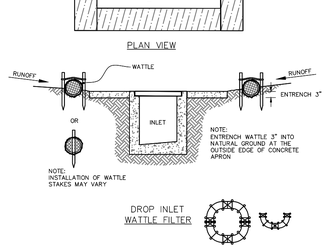
PLAN VIEW

DROP INLET SILT FENCE BOX

SECTION A—A

DROP INLET BLOCK AND GRAVEL FILTER

IP



PLAN VIEW

DROP INLET WATTLE FILTER

GENERAL NOTES:

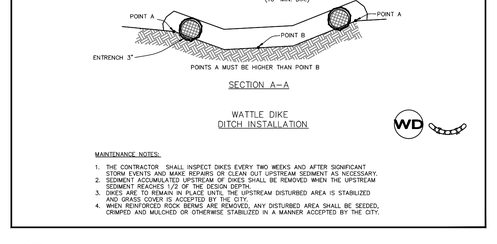
1. INLET PROTECTION AT AREA INLETS SHALL BE INSTALLED WITHIN 48 HOURS OF POURING INLET.
2. CRUSHED ROCK SHALL BE FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH A 1-1/2" MINUS GRADATION. RECYCLED CONCRETE MEETING THIS GRADATION MAY BE USED.
3. WIRE MESH SHALL BE FABRICATED OF 10 GAUGE WIRE TWISTED INTO 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.

005 / EC2 — DROP INLET PROTECTION

NOT TO SCALE



WATTLE DIKE DITCH INSTALLATION

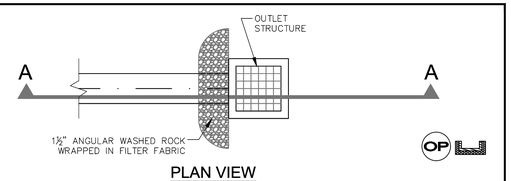
WD

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 1/3 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

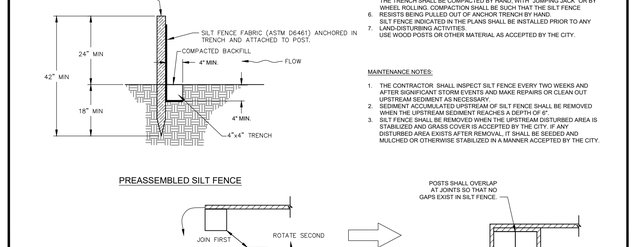
NOT TO SCALE



OP

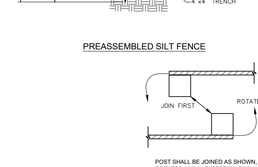
007 / EC2 — OUTLET PROTECTION

NOT TO SCALE



INSTALLATION NOTES:

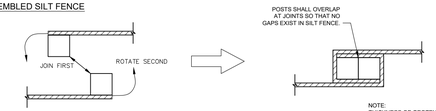
1. DRIVE POSTS VERTICALLY INTO THE GROUND TO A MINIMUM DEPTH OF 18".
2. EXCAVATE A TRENCH APPROXIMATELY 4" WIDE AND 4" DEEP ALONG THE LINE OF POSTS AND UPSLOPE FROM THE BARRIER.
3. ANCHOR TRENCH SHALL BE EXCAVATED BY HAND, WITH TRENCHER, OR WITH SILT FENCE INSTALLATION MACHINE. NO ROAD GRADERS, BACKHOES.
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 RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
6. SILT FENCE INDICATED IN THE PLANS SHALL BE INSTALLED PRIOR TO ANY LAND-DISTURBING ACTIVITIES.
7. 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.

PREASSEMBLED SILT FENCE



SF — SF — SF

SILT FENCE JOINTS

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.

Revisions: No. Date:

REVIEW SET NOT FOR CONSTRUCTION 04/26/23

These drawings are protected by Northern Engineering Services, Inc. and are not to be used for any purpose whatsoever 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

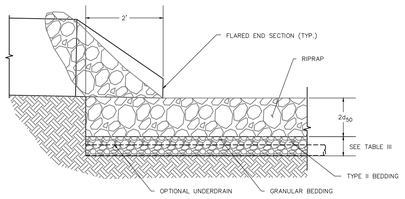
DATE: 04/26/23
SCALE: N/A
P. MANAGER: S. Thomas
PROJECT: 167-025
DESIGNED BY: C. PAPE
DRAWN BY: C. PAPE

VANTAGE SUBDIVISION 7TH FILING

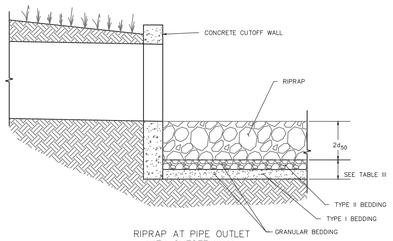
EROSION CONTROL DETAILS

Sheet EC2
25 of 27

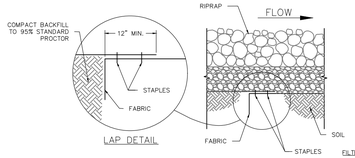
DRAWING FILENAME: P:\167-025\dwg\dwg\167-025_EC02.dwg LAYOUT NAME: EC2 DATE: Apr 25, 2023 - 11:48am CAD OPERATOR: stephanie
LIST OF XREFS: [167-025_util%] [167-025_ADEF] [167-025_xDRAG] [167-025_xSITE] [167-025_xTOPO] [NEW-Above] [167-025_Anyway] [167-025_xROU] [167-025_xPOND] [167-025_xPAVE] [1100-002_PHB_xPLAT] [1100-002_PHB_xPLAT 2nd Filing]



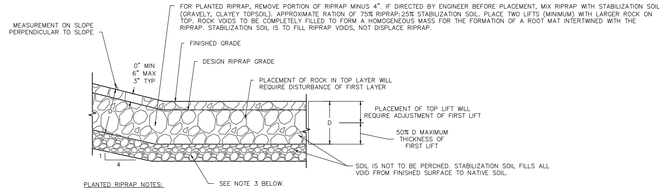
RIPRAP AT PIPE OUTLET
WITHOUT CUTOFF WALL



RIPRAP AT PIPE OUTLET
WITH CUTOFF WALL



FILTER FABRIC PLACEMENT AND LAP DETAIL



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 50–70 35–50 2–10	12 9 6 2	6**
TYPE L	70–100 50–70 35–50 2–10	15 12 9 3	9**
TYPE M	70–100 50–70 35–50 2–10	21 18 12 4	12
TYPE H	70–100 50–70 35–50 2–10	30 24 18 6	18
TYPE VH	70–100 50–70 35–50 2–10	42 33 24 9	24

* d_{50} = MEAN PARTICAL SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.
** d_{50} 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.

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.

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:

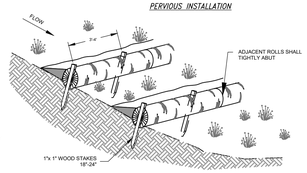
INSTALLATION:
WHEN INSTALLING RUNNING LENGTHS OF WATTLES, BUTT THE SECOND WATTLE TIGHTLY AGAINST THE FIRST. DO NOT OVERLAP THE ENDS. STAKE THE WATTLES AT EACH END AND FOUR FOOT ON CENTER. FOR EXAMPLE:

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 CAUSE IT TO FLOAT OVER THE TOP OF THE STAKE. IT MAY ALSO 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.

PERVIOUS INSTALLATION

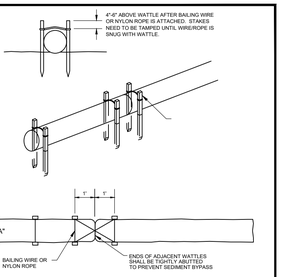


WATTLES – DETAIL A

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.

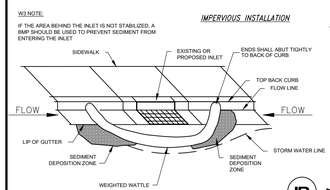


WATTLES – DETAIL B

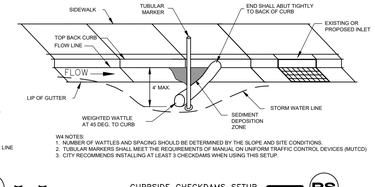
W3 NOTE:

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

IMPERVIOUS INSTALLATION



CURB INLET WATTLE PROTECTION SETUP

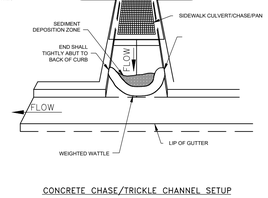


W4 NOTES:
1. NUMBER OF WATTLES AND SPACING SHOULD BE DETERMINED BY THE SLOPE AND SITE CONDITIONS.
2. TUBULAR MARKERS SHALL MEET THE REQUIREMENTS OF MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)
3. CITY RECOMMENDS INSTALLING AT LEAST 3 CHECKDAMS WHEN USING THIS SETUP.

CURBSIDE CHECKDAMS SETUP

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.



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.

Revisions: No. 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

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

EROSION CONTROL DETAILS

Sheet
EC3
26 of 27

DRAWING FILENAME: P:\167-025\Dwg\Ldt\167-025_EROS.dwg LAYOUT NAME: EC3 DATE: Apr 25, 2023 - 11:49am CAD OPERATOR: stephanie
LIST OF XREFS: [167-025_ATTR][167-025_ATTR][167-025_GRAD][167-025_GRID][167-025_XTOPO][XES-standard][167-025_Keymap][167-025_xADU][167-025_xEROS.dwg][167-025_xPARCEL][1100-002_PMB_APLAT][1100-002_PMB_APLAT 2nd Filing]

NORTH

50 0 50 100 150 Feet

(IN FEET)
1 inch = 50 ft.

KEYMAP

LEGEND:

- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- PROPOSED INLET
- PROPOSED CONTOUR — 93
- EXISTING CONTOUR — 4953
- PROPOSED SWALE
- PROPOSED CURB & GUTTER
- PROPERTY BOUNDARY
- DESIGN POINT — A
- FLOW ARROW
- DRAINAGE BASIN LABEL — BASIN DESIGNATION: A; MINOR "C2" 0.54 0.75; MAJOR "C100" 0.90 0.95; 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
NOT FOR CONSTRUCTION

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.

Revisions: No. 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 purpose or project unless signed and sealed by a Professional Engineer in the employ of Northern Engineering Services, Inc.

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

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

VANTAGE SUBDIVISION 7TH FILING

DRAINAGE EXHIBIT

Sheet
DR1
27 of 27

DRAWING FILENAME: P:\167-025\Dwg\Dwg\167-025_DRNG.dwg LAYOUT NAME: DR1 DATE: Apr 25, 2023 - 11:50am CAD OPERATOR: stephanie
LIST OF XREFS: [167-025_ALT6][167-025_ACAD][167-025_GRID][167-025_ITOPO][NES-doored][167-025_Xsymap][167-025_ADRAC_Map][167-025_AAU]

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. ¼" 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

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

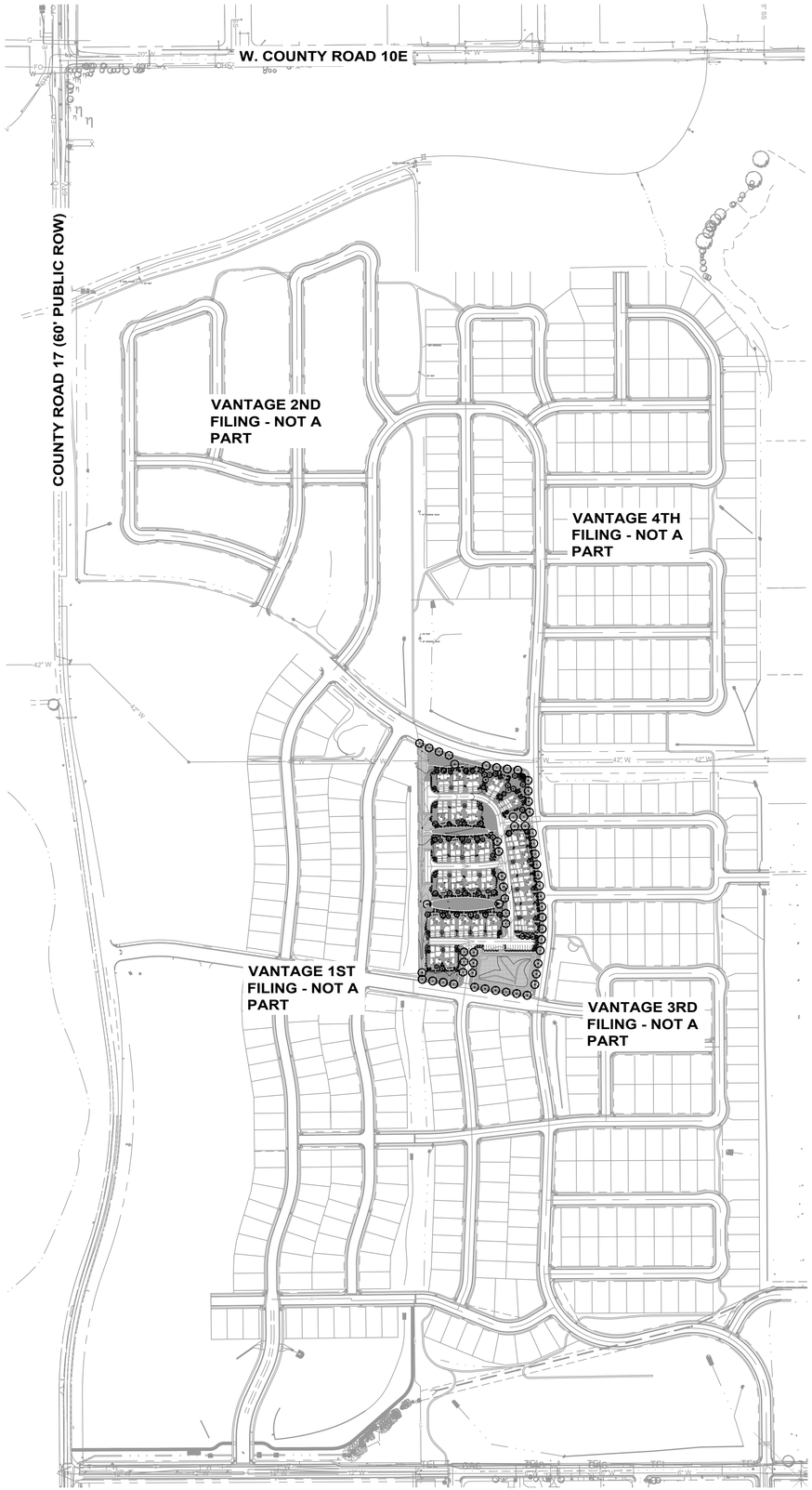
AUGUST 31, 2022

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.

FENCING NOTE:

FENCING WILL BE OPTIONAL AND INSTALLED BY PROPERTY OWNER. POTENTIAL FENCE LOCATIONS ARE SHOWN FOR REFERENCE ONLY.

Sheet Key

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

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

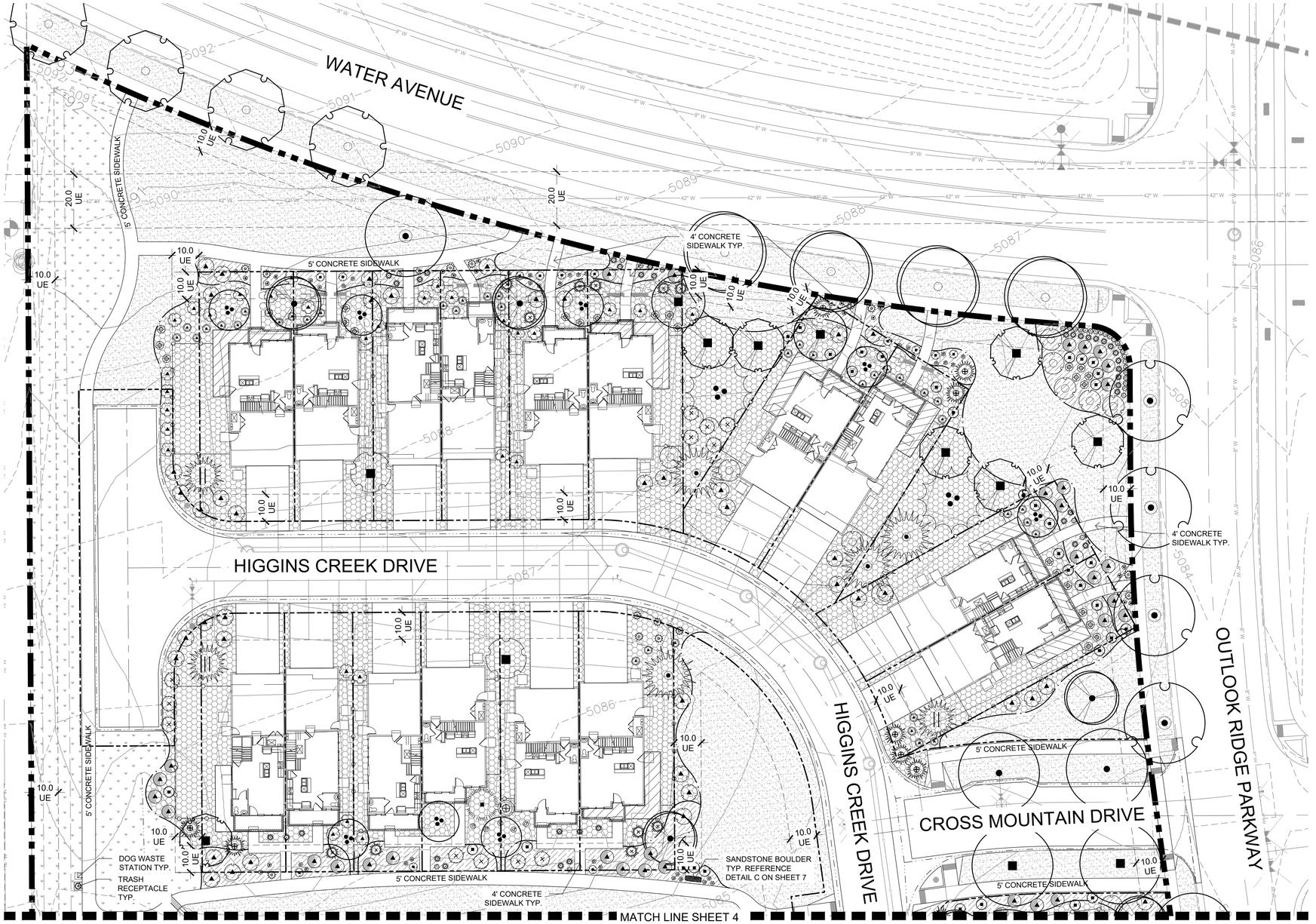
AUGUST 31, 2022

SHEET TITLE

Overall Site & Landscape Plan

SHEET INFORMATION

SHEET 2



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

SCALE 1" = 20'-0"

0 20' 30' 40' NORTH

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
	16	Acer ginnala `Flame` Amur Maple
	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
EVERGREEN SHRUBS	QTY	BOTANICAL / COMMON NAME
	64	Arctostaphylos uva-ursi Kinnikinnick
	70	Chamaebatiaria millefolium Fernbush
	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

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

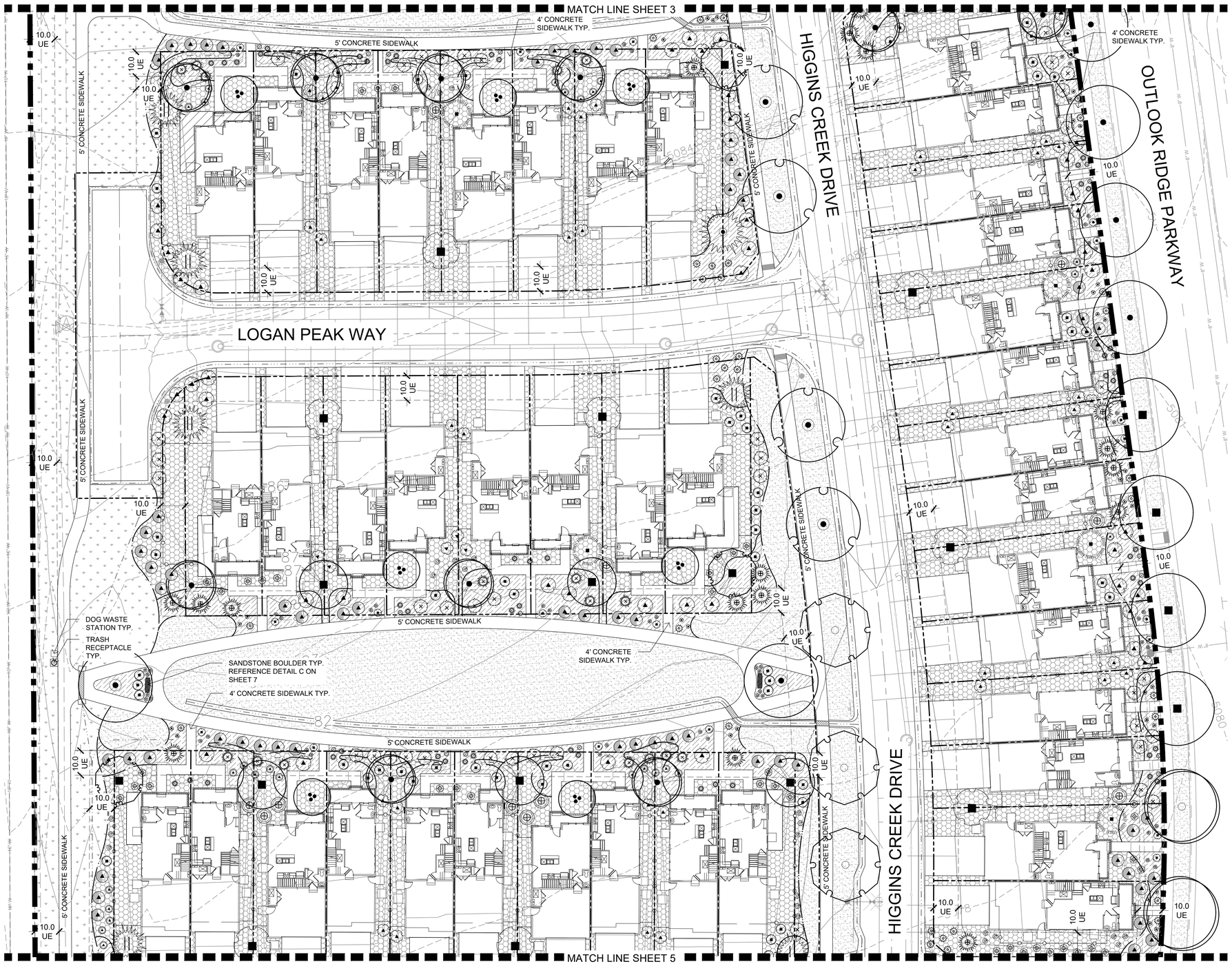
AUGUST 31, 2022

SHEET TITLE

Landscape Plan

SHEET INFORMATION

SHEET 3



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

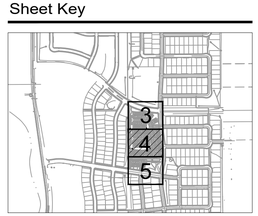
Plan Legend

- 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



SCALE 1" = 20'-0"

0 20' 30' 40' NORTH

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**
	16	Acer ginnala `Flame` Amur Maple
	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
EVERGREEN SHRUBS	**QTY**	**BOTANICAL / COMMON NAME**
	64	Arctostaphylos uva-ursi Kinnikinnick
	70	Chamaebatiaria millefolium Fernbush
	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

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

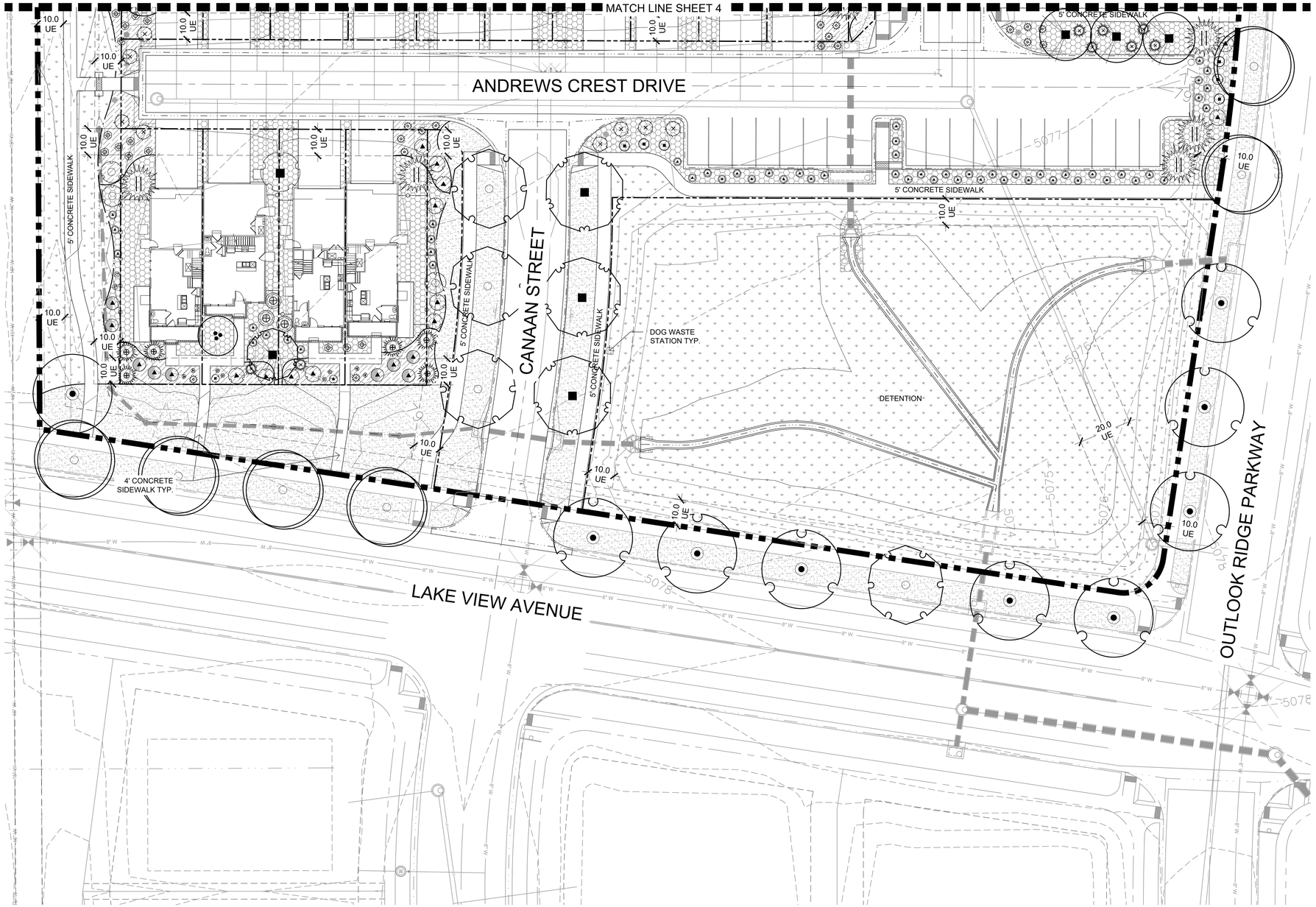
AUGUST 31, 2022

SHEET TITLE

Landscape Plan

SHEET INFORMATION

SHEET 4



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

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
	16	Acer ginnala `Flame` Amur Maple
	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
EVERGREEN SHRUBS	QTY	BOTANICAL / COMMON NAME
	64	Arctostaphylos uva-ursi Kinnikinnick
	70	Chamaebatiaria millefolium Fernbush
	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

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

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.

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

AUGUST 31, 2022

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

SYMBOL	DESCRIPTION	QTY
	IRRIGATED TURF DURATURF FESCUE BLEND	55,343 sf
	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'
SCALE 1" = 50'-0"

NORTH

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

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

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

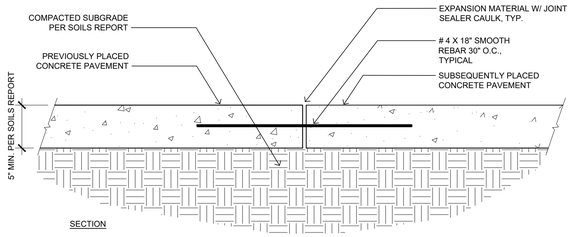
AUGUST 31, 2022

SHEET TITLE

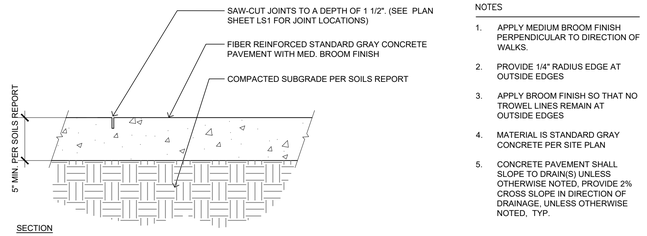
Hydrozone Plan

SHEET INFORMATION

SHEET 6



A 7 TYPICAL CONCRETE COLD JOINT



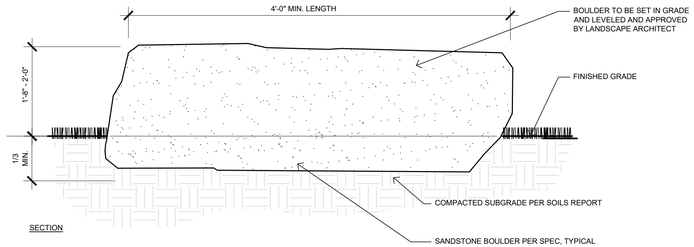
NOTES

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:

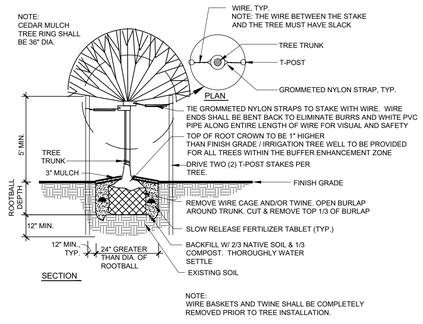
1. ALL CONCRETE TO BE FORMED-IN-PLACE TO CREATE CONSISTENT SLOPE TOWARDS GENERAL DIRECTION OF EXISTING GRADES, SLOPES AND DRAINAGE PATTERNS / SYSTEMS.
2. CONCRETE TO BE AT A MINIMUM 4500 PSI AT 28 DAYS WITH AIR ENTRAINMENT AT 5% TO 7% (ABSOLUTE 8% MAX) FOR MINIMUM ¾" AGGREGATE WITH FIBER REINFORCEMENT OF 100 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.



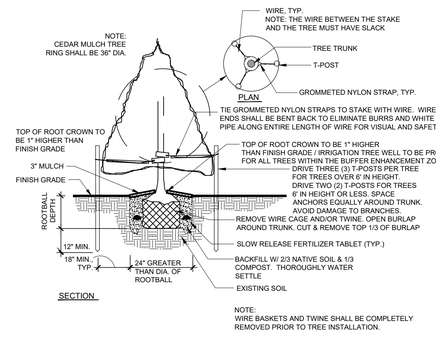
NOTES:

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

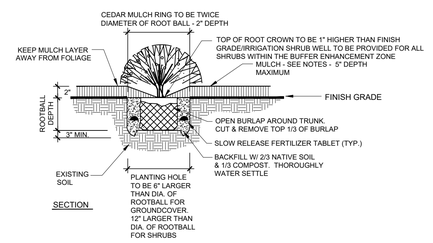
C 7 SANDSTONE BOULDER



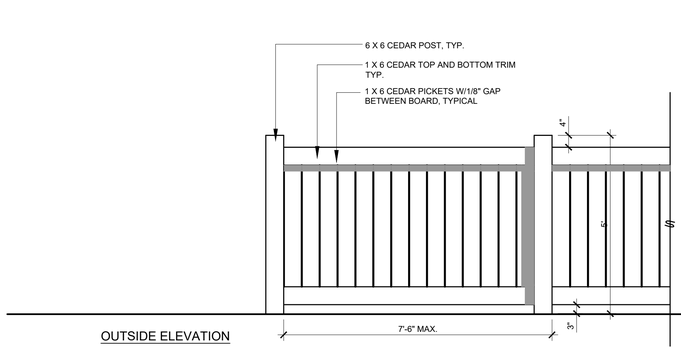
D 7 DECIDUOUS TREE PLANTING DETAIL

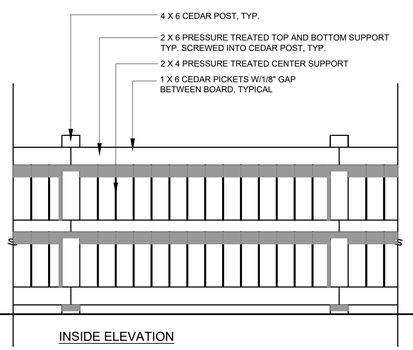


E 7 CONIFEROUS TREE PLANTING DETAIL

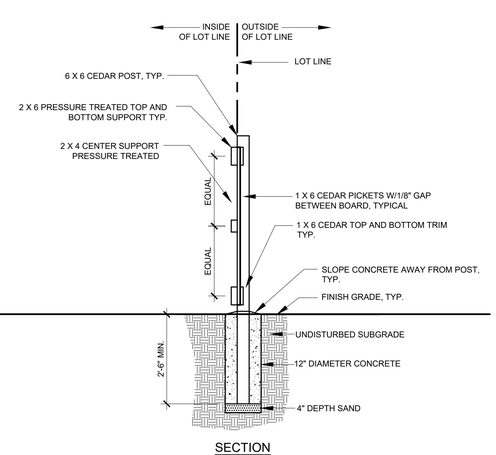


F 7 GROUND COVER AND SHRUB PLANTING DETAIL





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 $\frac{3}{4}$" = 1'-0"

FENCING NOTE:

FENCING WILL BE OPTIONAL AND INSTALLED BY PROPERTY OWNER. POTENTIAL FENCE LOCATIONS ARE SHOWN FOR REFERENCE ONLY.

TB GROUP
landscape architecture | planning | illustration
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.

9555 S. KINGSTON CT
ENGLEWOOD, CO 80112

CALL UTILITY NOTIFICATION CENTER OF COLORADO
811
Know what's below.
Call before you dig.
CALL 3 BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MARKING OF UNDERGROUND MEMBER UTILITIES.

REVISIONS	DATE
STAFF COMMENTS	02.16.23
STAFF COMMENTS	04.20.23

DATE

AUGUST 31, 2022

SHEET TITLE

Details

SHEET INFORMATION

SHEET 7