Community & Economic
Development Department
www.adcogov.org

ADAMS COUNTY
COLORADO

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

REQUEST FOR COMMENTS

Case Name:	5200 Sheridan Inert Fill Special Use Permit
Case Number:	VSP2025-00014

March 19, 2025

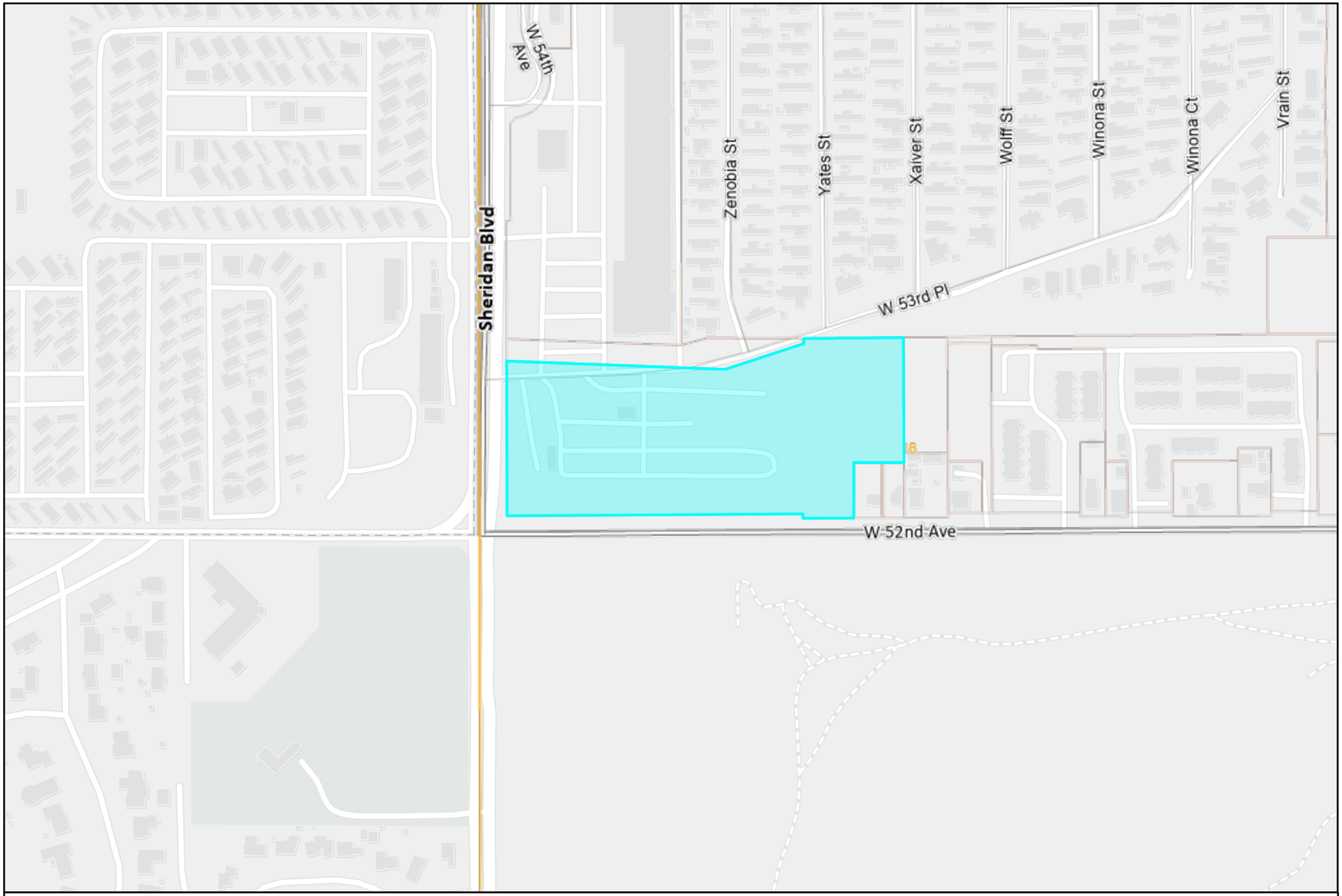
The Adams County Board of Adjustment is requesting comments on the following application: **Special Use Permit to allow for the importation of an additional 20,000 cubic yards of inert fill for a total of 62,000 cubic yards on 7.24 acres.** The property is located at 5200 Sheridan Boulevard. The Assessor's Parcel Number is 182518206004. The applicant and owner is SGBM Land Trust, located at PO Box 306, Pine, CO 80470-0306.

Please forward any written comments on this application to the Community and Economic Development Department at 4430 South Adams County Parkway, Suite W2000A Brighton, CO 80601-8216 or call (720) 523-6800 by **April 9, 2025** in order that your comments may be taken into consideration in the review of this case. If you would like your comments included verbatim please send your response by way of e-mail to DaWright@adcogov.org.

For further information regarding this case, please contact the Community and Economic Development Department, 4430 S. Adams County Pkwy., Brighton CO 80601, (720) 523-6800. The full text of the proposed request and additional colored maps can be obtained by contacting this office or by accessing the Adams County web site at www.adcogov.org/current-land-use-cases. Thank you for your review of this case.

Si usted tiene preguntas, por favor escribanos un correo electronico a cedespanol@adcogov.org para asistencia en espanol. Por favor incluya su direcion o numero de caso para poder ayudarle mejor.

David Wright
Planner I



Case Name 5200 Sheridan Inert Fill Special Use Permit

Case Number VSP2025-00014

ADAMS COUNTY
COLORADO

ADAMS COUNTY
COLORADO

Community & Economic Development Department
Planning & Development
4430 S. Adams County Pkwy., 1st Floor, Suite W2000B
Brighton, CO 80601-8218
Phone: 720.523.6800
Website: adcogov.org

INERT FILL

Inert fill is uncontaminated earthen material, such as sand, crushed rock, soil, or other types of material intended for grading and/or landfilling. Adams County allows for inert fill upon the approval of a permit. A temporary use permit, special use permit, or conditional use permit may be required dependent upon the volume of inert material, the duration of the import of those materials on to the site, and the overall size of the fill area. The first step to applying for an inert fill is to determine if you need a temporary use permit, special use permit, or conditional use permit. Please answer the following questions:

1. Are you importing MORE or LESS than 500,000 cubic yards? LESS
2. Is the fill area being spread across an area MORE or LESS than 10 acres? LESS
3. Will the importation of fill take MORE or LESS than 1 year? LESS

   If you answered MORE to <u>any of questions 1-3</u>, you need a CONDITIONAL USE PERMIT
   If you answered LESS to <u>all of questions 1-3</u>, proceed to Question 4
4. Will the importation of fill take MORE or LESS than 6 months? MORE

   If you answered MORE to Question 4, you need a SPECIAL USE PERMIT
   If you answered LESS to <u>all</u> four questions, you need a TEMPORARY USE PERMIT

<u>Required Checklist Items</u>

- ☐ Development Application Form (pg. 4)
- ☐ Written Explanation of the Project
- ☐ Site Plan Demonstrating Fill Placement and Drainage/Grading Plan
- ☐ Route Maps Showing Proposed Truck Routes (from source to destination)
- ☐ Proof of Clean, Dry, Inert Fill Material
- ☐ Proof of Ownership
- ☐ Proof of Water and Sewer Services
- ☐ Legal Description
- ☐ Statement of Taxes Paid

Application Fees	Amount	Due
Temporary Use Permit for Inert Fill	$600	With application submittal
Special Use Permit for Inert Fill	$800	With application submittal
Conditional Use Permit for Inert Fill	$1100*	With application submittal

**($400 per additional residential request/ $600 per additional non-residential)*

Inert Fill Permit-Guide to Development Application Submittal

All applications shall be submitted electronically to epermitcenter@adcogov.org. If the submittal is too large to email as an attachment, the application may be sent as an unlocked MS OneDrive link. Alternatively, the application may be delivered on a flash drive to the Community & Economic Development Department. Once a complete application has been received, fees will be invoiced and payable online at www.permits.adcogov.org.

Written Explanation:

- A clear and concise, yet thorough, description of the proposal, including volume of fill (in cubic yards), area which the fill will be spread (in square feet or acreage), and duration of the importation of fill material.

Site Plan:

- A detailed drawing of existing and proposed improvements.
- Including:
    - Streets, roads, and intersections
    - Driveways, access points, and parking areas
    - Existing and proposed structures, wells, and septic systems
    - Easements, utility lines, and no build or hazardous areas
    - Scale, north arrow, and date of preparation

Route Maps Showing Proposed Truck Routes (from source to destination):

- A map showing how inert material will get from site of origination to area to be filled.
- An Oversize Load permit may be required if haul route includes weight restricted roads.

Proof of Clean, Dry, Inert Fill Material:

- A signed letter certifying that the material is clean from the source providing the fill material OR
- Phase I ESA or due diligence report for the borrow site demonstrating no Recognized Environmental Concerns **OR**
- Soils sampling and testing in accordance with the following: for the first 3,000 cubic yards (cy), 2 composite samples each consisting of 3 grab samples collected at 5-ft depth increments, plus 1 composite sample per additional 2,000 cy:
    - VOCs: EPA SW-846 Method 8260D SVOCs: EPA SW-846 Method 8270E
    - RCRA metals (As, Ba, Cd, Cr, Pb, Hg, Se,Ag): EPA SW-846 Method 6010C/7471B
    - TPH: EPA SW-846 Method 8440

Proof of Ownership:

- A deed may be found in the Office of the Clerk and Recorder.
- A title commitment is prepared by a professional title company.
- If not the property owner, a signed letter stating permission to apply for permit.

Proof of Water:

- A written statement from the appropriate water district indicating that they will provide service to the property **OR** a copy of a current bill from the service provider.
- Well permit(s) information can be obtained from the Colorado State Division of Water Resources at (303) 866-3587.

Proof of Sewer:

- A written statement from the appropriate sanitation district indicating that they will provide service to the property OR a copy of a current bill from the service provider.
- A written statement from Adams County Health indicating the viability of obtaining Onsite Wastewater Treatment Systems.

Legal Description:

- Geographical description used to locate and identify a property.
- Visit http://gisapp.adcogov.org/quicksearch/ To find the legal description for your property.

Statement of Taxes Paid:

- All taxes on the subject property must be paid in full. Please contact the Adams County Treasurer's Office.
- Or https://adcogov.org/treasurer-division

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4430 South Adams County Parkway
1st Floor, Suite W2000
Brighton, CO 80601-8204
PHONE 720.523.6800
FAX 720.523.6998

DEVELOPMENT APPLICATION FORM

Application Type:

☐ Conceptual Review	☐ Preliminary PUD	☐ Temporary Use
☐ Subdivision, Preliminary	☐ Final PUD	☐ Variance
☐ Subdivision, Final	☐ Rezone	☐ Conditional Use
☐ Plat Correction/ Vacation	■ Special Use	☐ Other: _____

PROJECT NAME: 5200 Sheridan Boulevard - Inert Fill

APPLICANT

Name(s): James Goyette Phone #: (303) 907-5959

Address: P.O. Box 306

City, State, Zip: Pine, CO 80470

2nd Phone #: Email: jimgo25@msn.com

OWNER

Name(s): SBGM Land Trust Phone #: (303) 907-5959

Address: P.O. Box 306

City, State, Zip: Pine, CO 80470

2nd Phone #: Email: jimgo25@msn.com

TECHNICAL REPRESENTATIVE (Consultant, Engineer, Surveyor, Architect, etc.)

Name: Chris Purrington, P.E. Phone #: (303) 956-8353

Address: 1299 Washington Avenue, Suite 280

City, State, Zip: Golden, CO 80401

2nd Phone #: Email: chris@purringtoncivil.com

DESCRIPTION OF SITE

Address:	5200 Sheridan Boulevard
City, State, Zip:	Arvada, CO 80212
Area (acres or square feet):	7.24 ac
Tax Assessor Parcel Number	Parcel No. 0182518206004 / Account No. R0105441
Existing Zoning:	C-4
Existing Land Use:	Former Bus Stop for Coach America / Currently Abandoned
Proposed Land Use:	Extended Detention Basin construction / Stockpile Fill on East Side

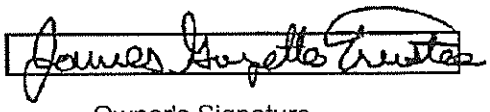
Have you attended a Conceptual Review? YES [ ] NO [X]

If Yes, please list PRE#: [ ]

I hereby certify that I am making this application as owner of the above described property or acting under the authority of the owner (attached authorization, if not owner). I am familiar with all pertinent requirements, procedures, and fees of the County. I understand that the Application Review Fee is non-refundable. All statements made on this form and additional application materials are true to the best of my knowledge and belief.

Name: SBGM Land Trust, James Goyette, Trustee Date: 2/27/2025

Owner's Printed Name

Name: 

Owner's Signature

PURRINGTON CIVIL

ENGINEERING YOUR VISION

February 27, 2025

Adams County Community &
Economic Development Department
Suite W2000
4430 South Adams County Parkway
Brighton, CO 80601

RE: Special Use Permit – Inert Fill
5200 Sheridan Boulevard
Parcel ID #0182518206004

Dear Adams County,

On behalf of James Goyette, SBGM Land Trust, we are submitting the attached Special Use Permit Application for import and grading of inert fill material at 5200 Sheridan Boulevard.

Land Use and Purpose

The property is 7.24 acres and is Zoned C-4. The current land use is mixed. The west half of the site was formerly used as a bus stop and parking for Coach America's Central City Route. The bus stop is abandoned and the parking area remains. A portion of the parking area is surrounded by a gated chain link fence. The east half of the site is undeveloped. A Temporary Use Permit was obtained on September 11, 2024 to import fill to the east half of the site (Reference Permit TVM2024-00008). Under the permit, which expires on March 11, 2025, approximately 42,000 cy of inert fill was imported.

The Owner desires to import additional inert fill material. The purpose is to stockpile fill on the eastern side to be used in the future for development on the western, The fill will also be used to construct an Extended Detention Basin as per the Plat Engineering Review (EGR2023-00012). There is no current plan to develop, but all future uses will adhere to C-4 Zoning.

Project Approach and Timeframe

The project approach is as follows:

1. Prepare the site to accept the import fill material. This includes ingress-egress, creating a construction roadway interior to the site, and establishing erosion and sediment control measures. The Site Preparation has been completed with the prior TUP. The existing Porous Landscape Detention (PLD) will be cleaned and maintained.

2. Establish import fill areas per the Grading, Erosion and Sediment Control Plan. The total additional import fill with this Permit is expected to be roughly **20,000 cy**. 10,000 cy will be used for Extended Detention Basin construction and 10,000 cy will be stockpiled on the eastern side. Including the 42,000 cy of fill imported with the most recent Temporary Use Permit, the total fill is expected to be 62,000 cy.

   Refer to the Grading, Erosion and Sediment Control Plan - Sheet C.3 Phase I GESC Plan

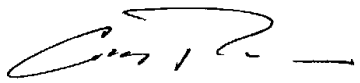
   The Owner will import fill material from 6640 Federal Boulevard. We have included a haul route and clean fill letter for the site.

The Owner anticipates this operation to take less than 12 months with an expected timeframe from **April 2025 to March 2026.**

The following documents are included with this application submittal:

0. Special Use Permit Application
1. Project Narrative – provided herein
2. Grading, Erosion, and Sediment Control Plan
3. Level III Drainage Report
4. SWQ Permit
5. CDPS General Permit COR400000
6. Haul Route
7. Proof of Clean, Inert Fill
8. Proof of Ownership and Legal Description
9. Receipt of Taxes Paid
10. Proof of Insurance
11. Proof of Utilities

Sincerely,
PURRINGTON CIVIL, LLC



Chris Purrington, P.E.
Principal

cc: James Goyette

DATE: 2-27-25
JOB NUMBER: 24-035

5200 SHERIDAN BOULEVARD

GRADING, EROSION & SEDIMENT CONTROL PLAN
for
ADAMS COUNTY SPECIAL USE PERMIT -
INERT FILL

5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY
ZONING : C-4
PARCEL ID: 0182518206004
7.24 ACRES

TO BE USED FOR
GRADING ONLY

PROJECT SCHEDULE

1. Fill Operations / Placement: April 2025 - May 2026
   Phase I - EC Measures
2. Final Site Stabilization: May 2026
   Phase II - EC Measures

DISTURBANCE

EARTHWORK QUANTITIES

	Previous TUP	Proposed	Total
Cut Material:	0 CY	0 CY	0 CY
Fill Material:	42,000 CY	20,000 CY	62,000 CY
Net Fill Material:	42,000 CY	20,000 CY	62,000 CY

DISTURBED AREA
3.98 Acres (173,400 SF)

LEGAL DESCRIPITION

BERKELEY VILLAGE FILING NO 1. DESCRIPTION: PT OF BERKELEY VILLAGE FILING NO 1 TOG WITH A PT OF SEC 18/3/68 BEG AT W4 COR SEC 18 TH E 60 FT TH N 40 FT TO TRUE POB THEN 350 FT TH S 88D 12M E 494/66 FT TH N 71D 40M E 188/20 FT TH N 14/10 FT TH E 228/50 FT TH S 285 FT TH W 115 FT TH S 125 FT TO PT ON N ROW LN W 52ND AVE TH W 113/50 FT TH N 10 FT TH W ALG N ROW LN W 52ND AVE 676/87 FT TO TRUE POB 18/3/68

PROJECT BENCHMARK
B.M. #117A SHERIDAN BLVD & 52ND AVENUE
CCD BRASS CAP @ SE CORNER IN WALK
ELEV=5294.50FT. (NAVD 1988)

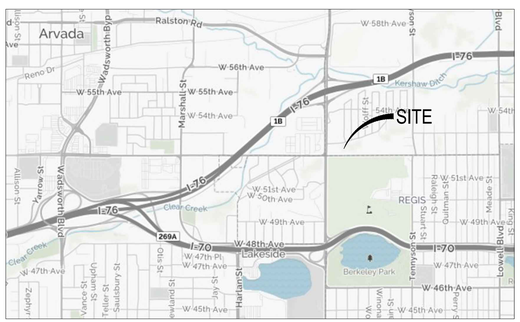
CONTACTS

Owner
James Goyette, Trustee
SGBM Land Trust
P.O. Box 306
Pine, CO 80470
Phone: 303.838.2503

Engineer
Purrington Civil, LLC
1299 Washington Avenue, Ste 280
Golden, CO 80401
Phone: 303.956.8353
Contact: Chris Purrington, P.E.

Surveyor
Olsson
1525 Raleigh Street, Ste 400
Denver, CO 80204
Phone: 303.347.3114
Contact: Nicholas Schrader

Adams County Community & Economic Development Department
4430 South Adams County Parkway
1st Floor, Suite W2000
Brighton, CO 80601-8204
Phone: 720-523-6800



VICINITY MAP
N.T.S.

SHEET INDEX

DATE	REVISION	BY

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE, SUITE 280
GOLDEN, CO 80401

COVER SHEET

SCALE: N.T.S

COLORADO LICENSED PROFESSIONAL ENGINEER
32559
2.27.25

C.1

Performance Standard Notes:

1. Stormwater runoff from disturbed areas must flow to at least **one (1)** CM to minimize sediment in the discharge. Do not allow **sediment to leave** the site. The best way to prevent sediment or pollutants from entering the storm sewer system is to stabilize the site as quickly as possible, preventing erosion and stopping sediment runoff at its source.

2. Phase construction to minimize disturbed areas, including disturbance of steep slopes. (i.e. the entire project site should not be disturbed if construction will only be occurring in one particular section of the site). Limit soil exposure to the shortest possible period of time. Protect natural features and **existing vegetation** whenever possible. Removal of existing vegetation shall be limited to the area required for immediate construction operations. Maintain pre-existing vegetation (or equivalent CMs) for areas within 50 horizontal ft of receiving waters.

3. Soil compaction must be minimized for areas where infiltration CMs will occur or where final stabilization will be achieved through vegetative cover.

4. All **soil imported** to or **exported** from the site shall be properly covered to prevent the loss of material during transport.

5. Dust emissions resulting from grading activities or wind shall be controlled.

6. Install construction fence (orange) to protect wetlands and other sensitive areas and to prevent access, and to delineate the Limits of Construction. Do not use silt fence to protect wetlands since trenching may impact these areas.

7. CMs intended to capture overland, low velocity **sheet flow** at a fairly level grade shall only be installed along contours.

8. Install CMs, such as **check dams,** perpendicular to the **concentrated flows** to reduce flow velocity.

9. Storm drain **inlets** within and adjacent to the construction site must be protected. Any ponding of stormwater around inlet protection must not cause excessive flooding or damage adjacent areas or structures.

10. Install **Vehicle Tracking Control (VTC)** to enter/exit unpaved area. Do not use recycled crushed concrete or asphalt millings for vehicle tracking pads.

11. Straw bales shall not be used for primary erosion or sediment control (i.e. straw bales may be used for reinforcement behind another BMP such as silt fence).

12. Outlets systems (such as skimmer or perforated riser pipe) shall be installed to withdraw water from or near the surface level when discharging from basins. Water cannot drain from the bottom of the pond.

13. Temporary stabilization must be implemented for earth disturbing activities on any portion of the site where land disturbing activities have permanently or temporarily ceased (for more than 14 calendar days). Temporary stabilization methods examples: tarps, soil tackifier, and hydroseed. Temporary stabilization requirement may **exceed** the 14-day schedule when either the function of the specific area requires it to remain disturbed, or, physical characteristics of the terrain and climate prevent stabilization as long as the constraints and alternative schedule is documented on the SWMP, and locations are identified on the EC Plan (site map).

14. Runoff from **stockpile area** must be controlled. Soils that will be stockpiled for more than 30 days shall be protected from wind and water erosion within 14 days of stockpile construction. Install CMs/BMPs 5 ft away from the toe of the stockpile's slope.

15. Water use to clean concrete trucks shall be discharged into a **concrete washout area** (CWA). The predefined containment area must be identified with a sign, and shall allow the liquids to evaporate or dry out. CWA discharges that may reach groundwater must flow through soil that has buffering capacity prior to reaching groundwater. The concrete washout location shall be not be located in an area where shallow groundwater may be present and would result in buffering capacity not being adequate, such as near natural drainages, springs, or wetlands. In this case, a liner underneath is needed for areas with high groundwater levels. CWA shall not be placed in low areas, ditches or adjacent to state waters. Place CWA 50 ft away from state waters.

16. Waste, such as building materials, workers trash and construction debris, must be properly managed to prevent stormwater pollution.

17. Install **stabilized staging area (SSA)** to store materials, construction trailer, etc.

18. If conditions in the field warrant **additional** CMs/BMPs to the ones originally approved on the SWMP or EC Plan (civil drawing), the landowner or contractor shall implement measures determined necessary, as **directed by the County**.

19. Permanent CMs/BMPs for slopes, channels, ditches, or disturbed land area shall be performed immediately after final grading. Consider the use **erosion control blankets** on slopes 3:1 or steeper and areas with **concentrated flows** such as swales, long channels and roadside ditches.

20. The discharge of **sanitary waste** into the storm sewer system is prohibited. Portable toilets must be provided, secured and placed on permeable surfaces, away from the curbside, storm inlets and/or drainage ways.

21. Remove temporary CMs/BMPs once final stabilization is reached, unless otherwise authorized.

22. Final stabilization must be implemented. Final stabilization is reached when all soil disturbing activities have been completed, and either a uniform vegetative cover has been established with an individual plant density of at least 70% of pre-disturbance levels, or equivalent permanent alternative method has been implemented.

23. Provide **spill prevention** and containment measures for construction materials, waste and fuel storage areas. **Bulk storage** (55 gallons or greater) of petroleum products and liquid chemicals must have secondary containment, or equivalent protection, in order to contain spills and to prevent spilled material from entering state waters.

24. Spills or releases of chemical, oil, petroleum product, sewage, etc., which may reach the storm sewer or enter state waters within **24-hours** from time of discovery. Guidance available at www.cdphe.state.co.us/emp/spillsandreleased.htm. State of Colorado Spill-line: 1-877-518-5608. Adams County Stormwater Hotline: 720-523-6400; Public Works 303-453-8787 and the Tri-County Health Department at 303-220-9200.

Adams County Erosion Control Plan - General Notes:

1. All construction projects, regardless of the size, shall install, maintain and repair stormwater pollution **control measures (CMs)** to effectively minimize erosion, sediment transport, and the release of pollutants related to construction activity. CMs example include: sediment control logs (SCL), silt fence (SF), dikes/swales, sediment traps (ST), inlet protection (IP), outlet protection (OP), check dams (CD), sediment basins (SB), temporary/permanent seeding and mulching (MU), soil roughening, maintaining existing vegetation and protection of trees. CMs must be selected, designed, adequately sized, installed and maintained in accordance with good engineering, hydrologic and pollution control practices. CMs/BMPs installation and maintenance details shall conform to Urban Drainage Flood Control Criteria Manual Volume 3, or the Colorado Department of Transportation (CDOT) Item Code Book. CMs must filter, settle, contain or strain pollutants from stormwater flows in order to prevent bypass of flows without treatment. CMs must be appropriate to treat the runoff from the amount of disturbed area, the expected flow rate, duration, and flow conditions (i.e., sheet or concentrated flow). CMs/BMPs **shall be specified in the SWMP (if applicable), and the locations shown on the EC Plan.**

1) Prior to construction, projects disturbing 1 or more acres of land, or any project belonging to a common plan of development disturb 1 or more acres, must obtain:

   - A General **Permit** for Stormwater Discharges associated with Construction Activities, from the Colorado Department of Public Health and Environment, and
   - An Adams County Stormwater Quality Permit within the unincorporated Adams County MS4 Area.

3) Permitted projects shall develop a Stormwater Management Plan (**SWMP**), aka Erosion and Sediment Control Plan (ESCP), in compliance with CDPHE minimum requirements. The approved SWMP, including Erosion Control (EC) Plan (Site Map), shall be **kept** on site and **updated** at all times. The **Qualified Stormwater Manager** is responsible for implementing the SWMP and CMs (aka BMPs) during construction.

4) Permitted projects shall perform regular **Stormwater Inspections** every 7 calendar days; **or** every 14 calendar days and within 24 hours after any precipitation or snowmelt event that causes surface erosion. Inspection frequency can be reduced for **Post-Storm Event inspections at Temporarily Idle Sites** and also for **Stormwater Inspections at Completed Sites waiting for final stabilization.** Inspection reports must identify any incidents of non-compliance.

5) **Tracking** of dirt onto paved public or private paved roads is not allowed. The use of dirt ramps to enter/exit from an unpaved into a paved area is prohibited. Vehicle tracking controls shall be implemented, otherwise entrance area must drain thru a CM towards the private site.

6) **Truck loads** of fill material imported to or cut material exported from the site shall be properly covered to prevent loss of the material during transportation on public ROW. Haul routes must be permitted by the County. No material shall be transported to another site without applicable permits.

7) Control measures designed for **concrete washout waste** must be implemented. This includes washout waste discharged to the ground and washout waste from concrete trucks and masonry operations.

8) Temporary **CMs/BMPs shall be removed** after the site has reached final stabilization.

9) **Dewatering operations** discharging off-site into any waters conveyance systems including wetlands, irrigation ditches, canals, rivers, streams or storm sewer systems, require a State Construction Dewatering Permit.

10) Permitted projects shall **keep** the CDPHE's Stormwater Discharge Permit, Stormwater Management Plan (SWMP) and inspection logs available on-site throughout the duration of the project, and for an additional 3 years after permit close-out.

Permitted landowner and/or contractor shall **close** the State and City/County permit once **final stabilization** is reached. Stormwater inspections shall continue until Inactivation Notice is filed with CDPHE.

Seeding

Permanent vegetative cover consisting of Loamy or Clayey Soils Mix must broadcast as outlined below.

Seed Mix

A - Loamy or Clayey Soils Mix				
Species	Variety	Percent of Mix	(Drilled Planting) PLS lbs./Acre	(Broadcast) PLS lbs./Acre
Western wheatgrass	Arriba	25	4	8
Green needlegrass	Lodorm	20	2	4
Blue grama	Lovington	20	0.6	1.2
Buffalograss	Texoka	10	1.7	3.3
Sandberg bluegrass	———	10	0.3	0.6
Sideoats grama	Vaughn	15	1.4	2.8
TOTAL:		100	10 lbs/ac.	19.9 lbs/ac.

Maintenance Standard Notes:

1. Maintain and repair CMs according to approved Erosion Control Plan (civil drawing) to assure they continue performing as originally intended.

2. CMs/BMPs requiring maintenance or adjustment shall be **repaired immediately** after observation of the failing BMP.

3. CMs shall be cleaned when sediment levels accumulate to **half the design** unless otherwise specified.

4. SWMP and EC plan shall be continuously **updated** to reflect new or revised CMs/BMPs due to changes in design, construction, operation, or maintenance, to accurately reflect the actual field conditions. A notation shall be made in the SWMP, including date of changes in the field, identification of the CMs removed, modified or added, and the locations of those CMs. Updates must be made within 72-hours following the change.

5. Maintain **Vehicle Tracking Control (VTC**), if sediment tracking occurs, clean-up immediately. Sweep by hand or the use street sweepers (with vacuum system). Flushing off paved surfaces with water is prohibited.

6. **CWA** must be cleaned once waste accumulation reaches ⅔ of the wet storage capacity of the structure. Legally disposed of concrete waste. Do not bury on-site.

7. **Clean-up spills** immediately after discovery, or contain until appropriate cleanup methods can be employed. Follow Manufacturer's recommended methods for spill cleanup, along with proper disposal methods. **Records** of spills, leaks, or overflows that result in discharge of pollutants must be documented and maintained.

8. Remove sediment from storm sewer infrastructure (ponds, storm pipes, outlets, inlets, roadside ditches, etc.), and restore volume capacity upon completion of project or prior to initial acceptance of public improvements (if applicable). Do not flush sediment offsite, capture on-site and disposed of at an approved location. These notes are not intended to be all-inclusive, but to highlight the basic stormwater pollution prevention requirements for construction activities to **comply** with CDPS Stormwater Construction Permit and be in **conformance** with County standards.

9. Any areas that will remain inactive for longer than 14 days must be mulched and seeded.

10. Soil roughening must be applied every 30 days.

These notes are not intended to be all-inclusive, but to highlight the basic stormwater pollution prevention requirements for construction activities to **comply** with CDPS Stormwater Construction Permit and be in **conformance** with County standards.

Adams County Flammable Gas Notes:

1. A flammable gas indicator will be utilized at all times during trenching, excavation, drilling, or when working within ten (10) feet of an open excavation.

2. Before personnel are permitted to enter an open trench or excavation, the trench or excavation will be monitored to ensure that flammable gas is not present in concentrations exceeding 1% and that oxygen is present at a minimum concentration of 19.5%. When in an excavation or trench, each work party will work no more than five (5) feet from a continuous flammable gas and oxygen monitor.

3. When trenching, excavating, or drilling deeper than two (2) feet into the fill, or in the presence of detectable concentrations of flammable gas, the soils will be wetted and the operating equipment will be provided with spark proof exhausts.

4. A dry chemical fire extinguisher, ABC rated, will be provided on all equipment used in the landfill.

5. Personnel within or near an open trench or drill hole will be fully clothed, and wear shoes with non-metallic soles, a hard hat and safety goggles or glasses.

6. Exhaust blowers will be used where trenches show a concentration of 1% flammable gas or a concentration of less than 19.5% oxygen.

7. Smoking will not be permitted in any area within one hundred (100) feet of the excavation.

8. Personnel will be kept upwind of any open trench unless the trench is continuously monitored.

9. All other applicable Safety and Health Regulations for Construction, as promulgated in 29 CFR by the Occupational Safety and Health Administration, shall be met. Applicable regulations include, but may not be limited to, the confined space standard (Part 1926.21(b)(6) (i)&(ii) in Subpart C); gases, vapors, fumes, dusts and mists (Part 1926.55 in Part 1926 Subpart E); fire protection and prevention (Part 1926 Subpart F); and trenching and excavation (Subpart P).

10. Compliance with the Occupational Safety and Health Administration's confined space requirements for general industry, as promulgated in 29 CFR 1910.146 and Appendices A- F.

DATE	REVISION	BY

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
12919 WASHINGTON AVENUE SUITE 280
GOLDEN, CO 80401

NOTES

SCALE: N.T.S

COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

C.2

5200 SHERIDAN SPECIAL USE PERMIT PHASE I GRADING, EROSION, AND SEDIMENT CONTROL PLAN

	ECB	EROSION CONTROL BLANKET
*	CF	CONSTRUCTION FENCE
*	SB	SEDIMENT BASIN
	DS	DRAINAGE SWALE
*	SF	SILT FENCE
*	VTC	VEHICLE TRACKING CONTROL
*	SSA	STABILIZED STAGING AREA
*	SP	STOCKPILE MANAGEMENT
*	PV	PROTECTION OF EXISTING VEGETATION
*	SR	SURFACE ROUGHENING
*	DC	DUST CONTROL / WATER TRUCK
*	IP	INLET PROTECTION
*	SCL	SEDIMENT CONTROL LOG
*	SCR	STABILIZED CONSTRUCTION ROADWAY
	PS	PERMANENT SEEDING

SEE EROSION CONTROL DETAILS SHEETS

LEGEND (EXISTING)

- PROPERTY BOUNDARY
- ADJOINER PROPERTY LINES
- RIGHT-OF-WAY
- EASEMENT
- 2' CONTOUR
- 8450 — 10' CONTOUR
- EDGE OF PAVEMENT
- UNPAVED ROAD
- BENCHMARK/CONTROL POINT
- SIGN
- BOLLARD/POST
- MAILBOX
- LIGHT POST
- FLOWLINE
- ELECTRIC UTILITY LINE
- OVERHEAD ELECTRIC UTILITY LINE
- UTILITY POLE
- ELECTRICAL TRANSFORMER
- COMMUNICATION BOX
- RETAINING WALL
- FENCE
- GAS UTILITY LINE
- GAS METER
- SANITARY SEWER LINE
- WATER MAIN
- STORM SEWER
- STORM SEWER INLET

LEGEND (PROPOSED)

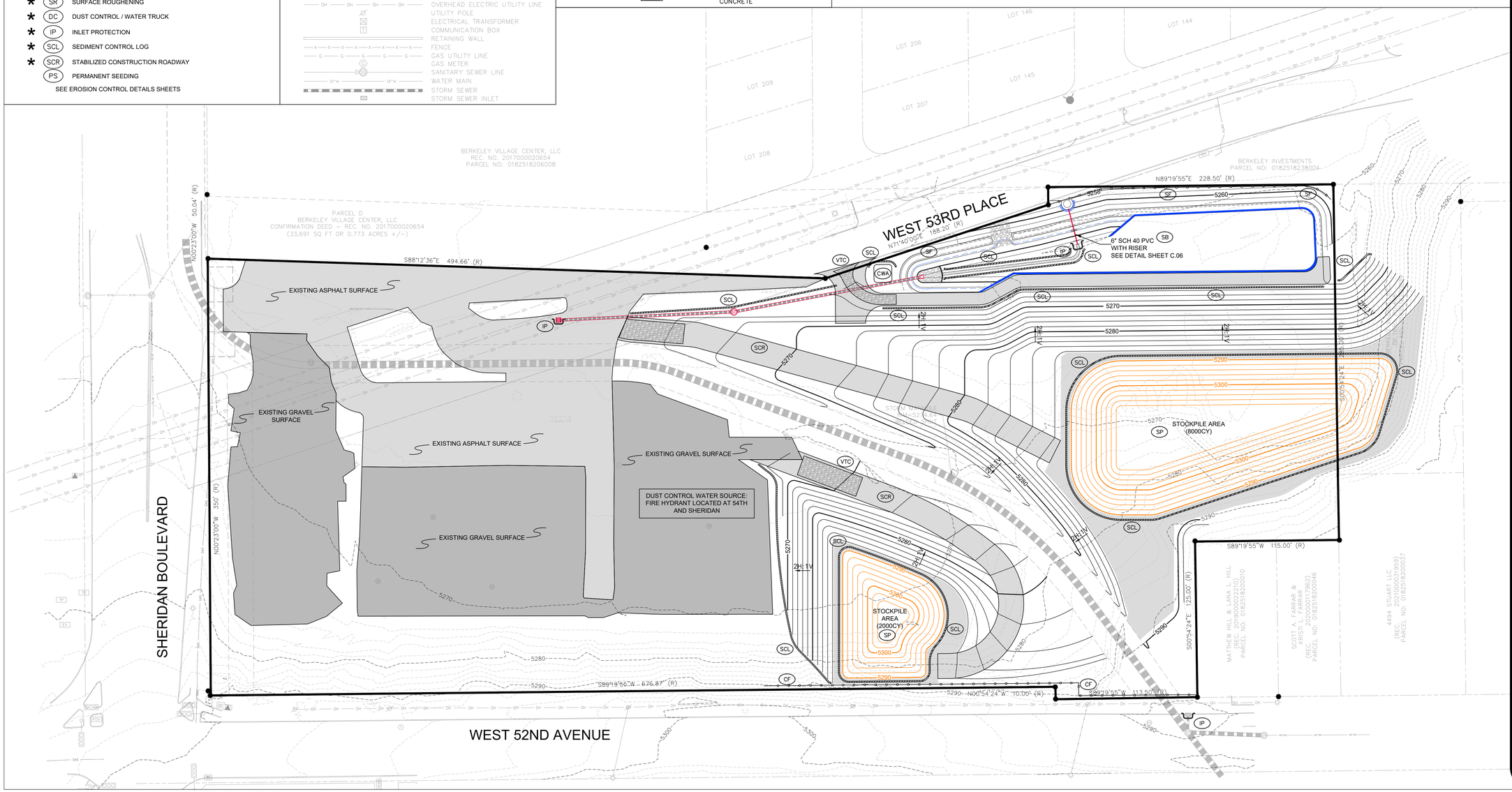
- 5440 — 2' CONTOUR (EGR)
- 5440 — 10' CONTOUR (EGR)
- 2' CONTOUR (STOCKPILE)
- 10' CONTOUR (STOCKPILE)
- SHOULDER
- DRIVE SURFACE
- DRAINAGE FLOW PATH
- STORM CULVERT
- STORM SEWER INLET / MH
- tw: 02.0 bw: 96.0 — 45.2 — SPOT ELEVATION
- RETAINING WALL
- 10.0% 2H:1V — DRIVEWAY GRADE
- CUT / FILL SLOPE
- ASPHALT
- CONCRETE

FILL OPERATIONS
APPROXIMATE FILL
62,000 CY
(INCLUDES 42,000 CY FROM TVM2024-00008)

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

N

0' 40' 80'



DATE	REVISION	BY

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE, SUITE 280
GOLDEN, CO 80401

PHASE I
GESC PLAN

SCALE: AS NOTED

COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

C.03

5200 SHERIDAN SPECIAL USE PERMIT PHASE II GRADING, EROSION, AND SEDIMENT CONTROL PLAN

*	ECB	EROSION CONTROL BLANKET
	CF	CONSTRUCTION FENCE
	SB	SEDIMENT BASIN
	DS	DRAINAGE SWALE
	SF	SILT FENCE
	VTC	VEHICLE TRACKING CONTROL
	SSA	STABILIZED STAGING AREA
*	SP	STOCKPILE MANAGEMENT
	PV	PROTECTION OF EXISTING VEGETATION
	SR	SURFACE ROUGHENING
	DC	DUST CONTROL / WATER TRUCK
	IP	INLET PROTECTION
	SCL	SEDIMENT CONTROL LOG
	SCR	STABILIZED CONSTRUCTION ROADWAY
*	PS	PERMANENT SEEDING

SEE EROSION CONTROL DETAILS SHEETS

LEGEND (EXISTING)

- PROPERTY BOUNDARY
- ADJOINER PROPERTY LINES
- RIGHT-OF-WAY
- EASEMENT
- 2' CONTOUR
- 8450 — 10' CONTOUR
- EDGE OF PAVEMENT
- UNPAVED ROAD
- BENCHMARK/CONTROL POINT
- SIGN
- BOLLARD/POST
- MAILBOX
- LIGHT POST
- FLOWLINE
- ELECTRIC UTILITY LINE
- OVERHEAD ELECTRIC UTILITY LINE
- UTILITY POLE
- ELECTRICAL TRANSFORMER
- COMMUNICATION BOX
- RETAINING WALL
- FENCE
- GAS UTILITY LINE
- GAS METER
- SANITARY SEWER LINE
- WATER MAIN
- STORM SEWER
- STORM SEWER INLET

LEGEND (PROPOSED)

- 5440 — 2' CONTOUR (EGR)
- 5440 — 10' CONTOUR (EGR)
- 2' CONTOUR (STOCKPILE)
- 10' CONTOUR (STOCKPILE)
- SHOULDER
- DRIVE SURFACE
- DRAINAGE FLOW PATH
- STORM CULVERT
- ST — STORM SEWER INLET / MH
- SPOT ELEVATION
- RETAINING WALL
- DRIVEWAY GRADE
- tw: 02.0, bw: 96.0 — 45.2 — 10.0% — 2H:1V — CUT / FILL SLOPE
- ASPHALT
- CONCRETE

FILL OPERATIONS
APPROXIMATE FILL
62,000 CY
(INCLUDES 42,000 CY FROM TVM2024-00008)

Know what's below. Call before you dig.

N

0' 40' 80'

BERKELEY VILLAGE CENTER, LLC
REC. NO. 2017000020654
PARCEL NO: 0182518206008

PARCEL D
BERKELEY VILLAGE CENTER, LLC
CONFIRMATION DEED – REC. NO. 2017000020654
(33,691 SQ FT OR 0.773 ACRES +/–)

BERKELEY INVESTMENTS
PARCEL NO: 0182518238004

WEST 53RD PLACE

N89°19'55"E 228.50' (R)

N71°40'00"E 189.20' (R)

S88°12'36"E 494.66' (R)

N00°23'00"W 50.04' (R)

N00°23'00"W 350' (R)

SHERIDAN BOULEVARD

WEST 52ND AVENUE

EXISTING ASPHALT SURFACE

EXISTING GRAVEL SURFACE

EXISTING ASPHALT SURFACE

EXISTING GRAVEL SURFACE

EXISTING GRAVEL SURFACE

AREA OF EXISTING VEGETATION

STOCKPILE AREA (8000CY)

STOCKPILE AREA (2000CY)

S89°19'55"W 115.00' (R)

S00°54'24"E 125.00' (R)

S89°19'55"W 876.67' (R)

N00°54'24"W 10.00' (R)

S89°19'55"W 113.50' (R)

MATTHEW HILL & ANA L. HILL
(REC. 2019000022210)
PARCEL NO: 0182518200010

SCOTT A. FARRAR &
KRISTI L. FARRAR
(REC. 2020000117962)
PARCEL NO: 0182518200046

4494 STUART LLC
(REC. 2020000031999)
PARCEL NO: 0182518200037

EROSION CONTROL BLANKET

BY	REVISION	DATE

SPECIAL USE PERMIT
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ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE,SUITE 280
GOLDEN, CO 80401

PHASE II
GESC PLAN

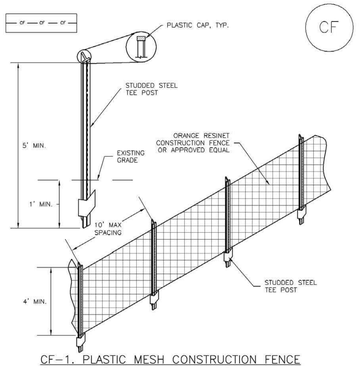
SCALE: AS NOTED

COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

C.04

5200 SHERIDAN SPECIAL USE PERMIT EROSION CONTROL DETAILS

SM-3 Construction Fence (CF)



CF–1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF CONSTRUCTION FENCE.

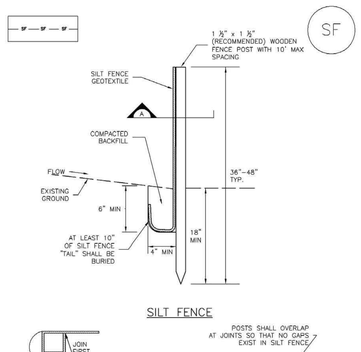
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR–GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.

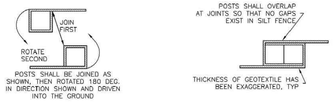
4. STUDDED STEEL TEE POSTS SHALL BE UTILIZED TO SUPPORT THE CONSTRUCTION FENCE. MAXIMUM SPACING FOR STEEL TEE POSTS SHALL BE 10'.

5. CONSTRUCTION FENCE SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

Silt Fence (SF) SC-1



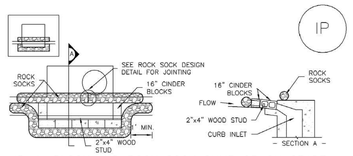
SILT FENCE



SECTION A

SF–1. SILT FENCE

SC-6 Inlet Protection (IP)



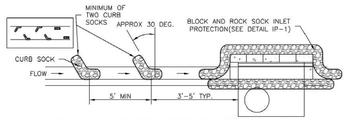
IP–1. BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.

3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER AND JOINTED TOGETHER IN ACCORDANCE WITH ROCK SOCK DESIGN DETAIL.



IP–2. CURB ROCK SOCKS UPSTREAM OF INLET PROTECTION

CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

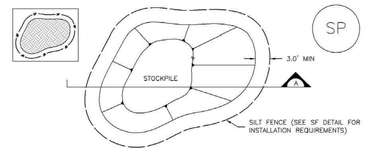
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.

2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.

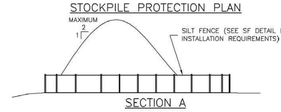
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.

4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON–GRADE INLETS.

Stockpile Management (SP) MM-2



STOCKPILE PROTECTION PLAN



SECTION A

SP–1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES

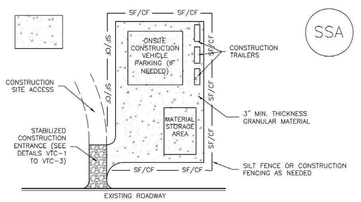
1. SEE PLAN VIEW FOR:
   –LOCATION OF STOCKPILES.
   –TYPE OF STOCKPILE PROTECTION.

2. INSTALL PERIMETER CONTROLS IN ACCORDANCE WITH THEIR RESPECTIVE DESIGN DETAILS. SILT FENCE IS SHOWN IN THE STOCKPILE PROTECTION DETAILS; HOWEVER, OTHER TYPES OF PERIMETER CONTROLS INCLUDING SEDIMENT CONTROL LOGS OR ROCK SOCKS MAY BE SUITABLE IN SOME CIRCUMSTANCES. CONSIDERATIONS FOR DETERMINING THE APPROPRIATE TYPE OF PERIMETER CONTROL FOR A STOCKPILE INCLUDE WHETHER THE STOCKPILE IS LOCATED ON A PERVIOUS OR IMPERVIOUS SURFACE, THE RELATIVE HEIGHTS OF THE PERIMETER CONTROL AND STOCKPILE, THE ABILITY OF THE PERIMETER CONTROL TO CONTAIN THE STOCKPILE WITHOUT FAILING IN THE EVENT THAT MATERIAL FROM THE STOCKPILE SHIFTS OR SLUMPS AGAINST THE PERIMETER, AND OTHER FACTORS.

3. STABILIZE THE STOCKPILE SURFACE WITH SURFACE ROUGHENING, TEMPORARY SEEDING AND MULCHING, EROSION CONTROL BLANKETS, OR SOIL BINDERS. SOILS STOCKPILED FOR AN EXTENDED PERIOD (TYPICALLY FOR MORE THAN 60 DAYS) SHOULD BE SEEDED AND MULCHED WITH A TEMPORARY GRASS COVER ONCE THE STOCKPILE IS PLACED (TYPICALLY WITHIN 14 DAYS). USE OF MULCH ONLY OR A SOIL BINDER IS ACCEPTABLE IF THE STOCKPILE WILL BE IN PLACE FOR A MORE LIMITED TIME PERIOD (TYPICALLY 30–60 DAYS).

4. FOR TEMPORARY STOCKPILES ON THE INTERIOR PORTION OF A CONSTRUCTION SITE, WHERE OTHER DOWNGRADIENT CONTROLS, INCLUDING PERIMETER CONTROL, ARE IN PLACE, STOCKPILE PERIMETER CONTROLS MAY NOT BE REQUIRED.

Stabilized Staging Area (SSA) SM-6



SSA–1. STABILIZED STAGING AREA

STABILIZED STAGING AREA INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF STAGING AREA(S).
   –CONTRACTOR MAY ADJUST LOCATION AND SIZE OF STAGING AREA WITH APPROVAL FROM THE LOCAL JURISDICTION.

2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE. OVERSIZING RESULTS IN A LARGER AREA TO STABILIZE FOLLOWING CONSTRUCTION.

3. STAGING AREA SHALL BE STABILIZED PRIOR TO OTHER OPERATIONS ON THE SITE.

4. THE STABILIZED STAGING AREA SHALL CONSIST OF A MINIMUM 3" THICK GRANULAR MATERIAL.

5. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

6. ADDITIONAL PERIMETER BMPs MAY BE REQUIRED INCLUDING BUT NOT LIMITED TO SILT FENCE AND CONSTRUCTION FENCING.

STABILIZED STAGING AREA MAINTENANCE NOTES

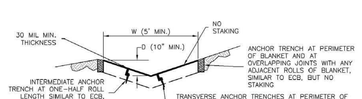
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.

2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.

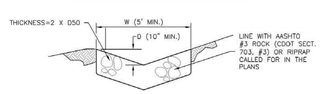
3. WHERE BMPs HAVE FAILED, REPAIR OR REPLACEMENT SHOULD BE INITIATED UPON DISCOVERY OF THE FAILURE.

4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY IF RUTTING OCCURS OR UNDERLYING SUBGRADE BECOMES EXPOSED.

EC-10 Earth Dikes and Drainage Swales (ED/DS)



DS–4. SYNTHETIC LINED SWALE



DS–5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   – LOCATION OF DIVERSION SWALE.
   – TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
   – LENGTH OF EACH SWALE.
   – DEPTH, D, AND WIDTH, W DIMENSIONS.
   – FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
   – FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.

2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2–YEAR FLOW RATE OR 10 CFS.

3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND–DISTURBING ACTIVITIES IN PROXIMITY.

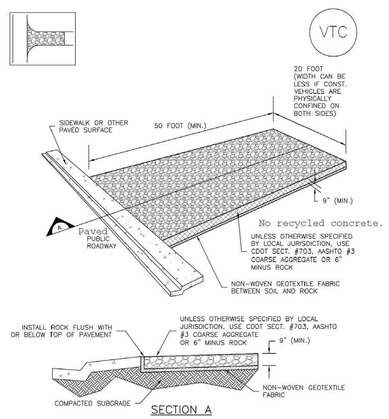
4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.

5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.

6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS OF THE ECB DETAIL.

7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

Vehicle Tracking Control (VTC) SM-4



SECTION A

VTC–1. AGGREGATE VEHICLE TRACKING CONTROL

Stabilized Construction Roadway (SCR) SM-5

Description

A stabilized construction roadway is a temporary method to control sediment runoff, vehicle tracking, and dust from roads during construction activities.

Appropriate Uses

Use on high traffic construction roads to minimize dust and erosion.

Stabilized construction roadways are used instead of rough-cut street controls on roadways with frequent construction traffic.

Photograph SCR-1. Stabilized construction roadway.

Design and Installation

Stabilized construction roadways typically involve two key components: 1) stabilizing the road surface with an aggregate base course of 3-inch-diameter granular material and 2) stabilizing roadside ditches, if applicable. Early application of road base is generally suitable where a layer of coarse aggregate is specified for final road construction.

Maintenance and Removal

Apply additional gravel as necessary to ensure roadway integrity.

Inspect drainage ditches along the roadway for erosion and stabilize, as needed, through the use of check dams or rolled erosion control products.

Gravel may be removed once the road is ready to be paved. Prior to paving, the road should be inspected for grade changes and damage. Regrade and repair as necessary.

Stabilized Construction Roadway	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	Yes

DATE	REVISION	BY

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE,SUITE 280
GOLDEN, CO 80401

EROSION CONTROL DETAILS

SCALE: N.T.S

COLORADO LICENSED
CHRISTOPHER A. PURRINGTON
32559
2.27.25
PROFESSIONAL ENGINEER

C.05

5200 SHERIDAN SPECIAL USE PERMIT EROSION CONTROL DETAILS

Temporary and Permanent Seeding (TS/PS) EC-2

Description

Temporary seeding can be used to stabilize disturbed areas that will be inactive for an extended period. Permanent seeding should be used to stabilize areas at final grade that will not be otherwise stabilized. Effective seeding includes preparation of a seedbed, selection of an appropriate seed mixture, proper planting techniques, and protection of the seeded area with mulch, geotextiles, or other appropriate measures.

Photograph TS/PS -1. Equipment used to drill seed. Photo courtesy of Douglas County.

Appropriate Uses

When the soil surface is disturbed and will remain inactive for an extended period (typically 30 days or longer), proactive stabilization measures should be implemented. If the inactive period is short-lived (on the order of two weeks), techniques such as surface roughening may be appropriate. For longer periods of inactivity, temporary seeding and mulching can provide effective erosion control. Permanent seeding should be used on finished areas that have not been otherwise stabilized.

Typically, local governments have their own seed mixes and timelines for seeding. Check jurisdictional requirements for seeding and temporary stabilization.

Design and Installation

Effective seeding requires proper seedbed preparation, selection of an appropriate seed mixture, use of appropriate seeding equipment to ensure proper coverage and density, and protection with mulch or fabric until plants are established.

The USDCM Volume 2 *Revegetation* Chapter contains detailed seed mix, soil preparations, and seeding and mulching recommendations that may be referenced to supplement this Fact Sheet.

Drill seeding is the preferred seeding method. Hydroseeding is not recommended except in areas where steep slopes prevent use of drill seeding equipment, and even in these instances it is preferable to hand seed and mulch. Some jurisdictions do not allow hydroseeding or hydromulching.

Seedbed Preparation

Prior to seeding, ensure that areas to be revegetated have soil conditions capable of supporting vegetation. Overlot grading can result in loss of topsoil, resulting in poor quality subsoils at the ground surface that have low nutrient value, little organic matter content, few soil microorganisms, rooting restrictions, and conditions less conducive to infiltration of precipitation. As a result, it is typically necessary to provide stockpiled topsoil, compost, or other

Temporary and Permanent Seeding	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	No

Wind Erosion/Dust Control (DC) EC-14

Description

Wind erosion and dust control BMPs help to keep soil particles from entering the air as a result of land disturbing construction activities. These BMPs include a variety of practices generally focused on either graded disturbed areas or construction roadways. For graded areas, practices such as seeding and mulching, use of soil binders, site watering, or other practices that provide prompt surface cover should be used. For construction roadways, road watering and stabilized surfaces should be considered.

Photograph DC-1. Water truck used for dust suppression. Photo courtesy of Douglas County.

Appropriate Uses

Dust control measures should be used on any site where dust poses a problem to air quality. Dust control is important to control for the health of construction workers and surrounding waterbodies.

Design and Installation

The following construction BMPs can be used for dust control:

- An irrigation/sprinkler system can be used to wet the top layer of disturbed soil to help keep dry soil particles from becoming airborne.
- Seeding and mulching can be used to stabilize disturbed surfaces and reduce dust emissions.
- Protecting existing vegetation can help to slow wind velocities across the ground surface, thereby limiting the likelihood of soil particles to become airborne.
- Spray-on soil binders form a bond between soil particles keeping them grounded. Chemical treatments may require additional permitting requirements. Potential impacts to surrounding waterways and habitat must be considered prior to use.
- Placing rock on construction roadways and entrances will help keep dust to a minimum across the construction site.
- Wind fences can be installed on site to reduce wind speeds. Install fences perpendicular to the prevailing wind direction for maximum effectiveness.

Wind Erosion Control/ Dust Control	
Functions	
Erosion Control	Yes
Sediment Control	No
Site/Material Management	Moderate

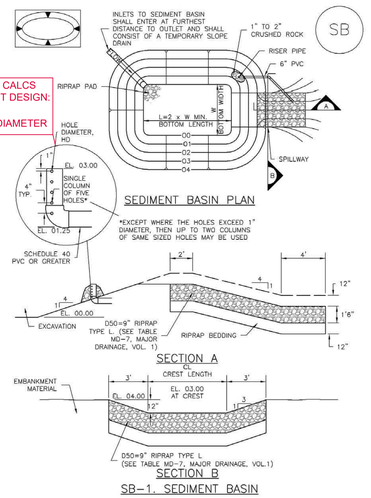
Maintenance and Removal

When using an irrigation/sprinkler control system to aid in dust control, be careful not to overwater. Overwatering will cause construction vehicles to track mud off-site.

Sediment Basin (SB) SC-7

REFER TO DRAINAGE CALCS FOR SPECIFIC OUTLET DESIGN:

- 4 INLET HOLES ~ 3/4" DIAMETER



Street Sweeping and Cleaning S-11

Description

Street sweeping uses mechanical pavement cleaning practices to reduce sediment, litter and other debris washed into storm sewers by runoff. This can reduce pollutant loading to receiving waters and in some cases reduce clogging of storm sewers and prolong the life of infiltration oriented BMPs and reduce clogging of outlet structures in detention BMPs.

Different designs are available with typical sweepers categorized as a broom and conveyor belt sweeper, wet or dry vacuum-assisted sweepers, and regenerative-air sweepers. The effectiveness of street sweeping is dependent upon particle loadings in the area being swept, street texture, moisture conditions, parked car management, equipment operating conditions and frequency of cleaning (Pitt et al. 2004).

Photograph SSC-1. Monthly street sweeping from April through November removed nearly 40,690 cubic yards of sediment/debris from Denver streets in 2009. Photo courtesy of Denver Public Works.

Appropriate Uses

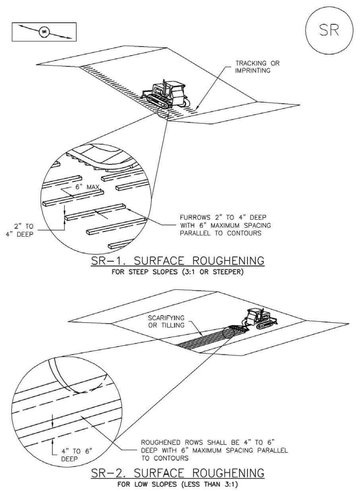
Street sweeping is an appropriate technique in urban areas where sediment and litter accumulation on streets is of concern for aesthetic, sanitary, water quality, and air quality reasons. From a pollutant loading perspective, street cleaning equipment can be most effective in areas where the surface to be cleaned is the major source of contaminants. These areas include freeways, large commercial parking lots, and paved storage areas (Pitt et al. 2004). Where significant sediment accumulation occurs on pervious surfaces tributary to infiltration BMPs, street sweeping may help to reduce clogging of infiltration media. In areas where construction activity is occurring, street sweeping should occur as part of construction site stormwater management plans. Vacuuming of permeable pavement systems is also considered a basic routine maintenance practice to maintain the BMP in effective operating condition. See the maintenance chapter for more information on permeable pavement systems. Not all sweepers are appropriate for this application.

Practice Guidelines[1]

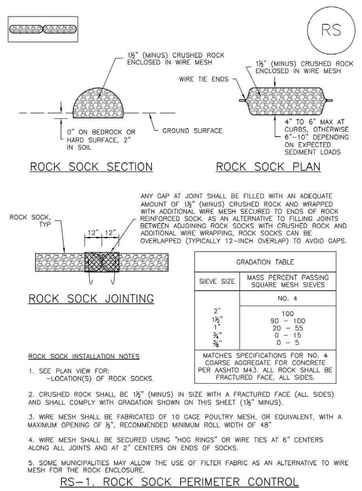
1. Post street sweeping schedules with signs and on local government websites so that cars are not parked on the street during designated sweeping days.
2. Sweeping frequency is dependent on local government budget, staffing, and equipment availability, but monthly sweeping during non-winter months is a common approach in the metro Denver urban

[1] Practice guidelines adapted from CASQA (2003) *California Stormwater BMP Handbook*, Practice SC-70 Road and Street Maintenance.

Surface Roughening (SR) EC-1



SC-5 Rock Sock (RS)



GRADATION TABLE	
SIEVE SIZE	MASS PERCENT PASSING SQUARE MESH SIEVES
	NO. 4
2"	100
1½"	90 – 100
1"	20 – 55
¾"	0 – 15
⅜"	0 – 5
MATCHES SPECIFICATIONS FOR NO. 4 COARSE AGGREGATE FOR CONCRETE PER AASHTO M43. ALL ROCK SHALL BE FRACTURED FACE, ALL SIDES.	

ROCK SOCK INSTALLATION NOTES

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

RS-1. ROCK SOCK PERIMETER CONTROL

Protection of Existing Vegetation (PV) SM-2

Description

Protection of existing vegetation on a construction site can be accomplished through installation of a construction fence around the area requiring protection. In cases where upgradient areas are disturbed, it may also be necessary to install perimeter controls to minimize sediment loading to sensitive areas such as wetlands. Existing vegetation may be designated for protection to maintain a stable surface cover as part of construction phasing, or vegetation may be protected in areas designated to remain in natural condition under post-development conditions (e.g., wetlands, mature trees, riparian areas, open space).

Photograph PV-1. Protection of existing vegetation and a sensitive area. Photo courtesy of CDOT.

Appropriate Uses

Existing vegetation should be preserved for the maximum practical duration on a construction site through the use of effective construction phasing. Preserving vegetation helps to minimize erosion and can reduce revegetation costs following construction.

Protection of wetland areas is required under the Clean Water Act, unless a permit has been obtained from the U.S. Army Corps of Engineers (USACE) allowing impacts in limited areas.

If trees are to be protected as part of post-development landscaping, care must be taken to avoid several types of damage, some of which may not be apparent at the time of injury. Potential sources of injury include soil compaction during grading or due to construction traffic, direct equipment-related injury such as bark removal, branch breakage, surface grading and trenching, and soil cut and fill. In order to minimize injuries that may lead to immediate or later death of the tree, tree protection zones should be developed during site design, implemented at the beginning of a construction project, as well as continued during active construction.

Design and Installation

General

Once an area has been designated as a preservation area, there should be no construction activity allowed within a set distance of the area. Clearly mark the area with construction fencing. Do not allow stockpiles, equipment, trailers or parking within the protected area. Guidelines to protect various types of existing vegetation follow.

Protection of Existing Vegetation	
Functions	
Erosion Control	Yes
Sediment Control	Moderate
Site/Material Management	Yes

S-11 Street Sweeping and Cleaning

area. Consider increasing sweeping frequency based on factors such as traffic volume, land use, field observations of sediment and trash accumulation, proximity to watercourses, etc. For example:

- Increase the sweeping frequency for streets with high pollutant loadings, especially in high traffic and industrial areas.
- Conduct street sweeping prior to wetter seasons to remove accumulated sediments.
- Increase the sweeping frequency for streets in special problem areas such as special events, high litter or erosion zones.

3. Perform street cleaning during dry weather if possible.
4. Avoid wet cleaning the street; instead, utilize dry methods where possible.
5. Maintain cleaning equipment in good working condition and purchase replacement equipment as needed. Old sweepers should be replaced with more technologically advanced sweepers (preferably regenerative air sweepers) that maximize pollutant removal.
6. Operate sweepers at manufacturer recommended optimal speed levels to increase effectiveness.
7. Regularly inspect vehicles and equipment for leaks and repair promptly.
8. Keep accurate logs of the number of curb-miles swept and the amount of waste collected.
9. Dispose of street sweeping debris and dirt at a landfill.
10. Do not store swept material along the side of the street or near a storm drain inlet.

Changes in Street Sweeper Technology (Source: Center for Watershed Protection 2002)

At one time, street sweepers were thought to have great potential to remove stormwater pollutants from urban street surfaces and were widely touted as a stormwater treatment practice in many communities. Street sweeping gradually fell out of favor, largely as a result of performance monitoring conducted as part of the National Urban Runoff Program (NURP). These studies generally concluded that street sweepers were not very effective in reducing pollutant loads (USEPA, 1983). The primary reason for the mediocre performance was that mechanical sweepers of that era were unable to pick up fine-grained sediment particles that carry a substantial portion of the stormwater pollutant load. In addition, the performance of sweepers is constrained by that portion of a street's stormwater pollutant load delivered from outside street pavements (e.g., pollutants that wash onto the street from adjacent areas or are directly deposited on the street by rainfall). Street sweeping technology, however, has evolved considerably since the days of the NURP testing. Today, communities have a choice in three basic sweeping technologies to clean their urban streets: traditional mechanical sweepers that utilize a broom and conveyor belt, vacuum-assisted sweepers, and regenerative-air sweepers (those that blast air onto the pavement to loosen sediment particles and vacuum them into a hopper).

For more information, see http://www.cwp.org/Resource_Library/Center_Docs/PWP/ELC_PWP121.pdf

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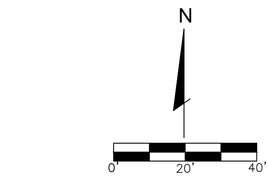
EROSION CONTROL DETAILS

SCALE:N.T.S

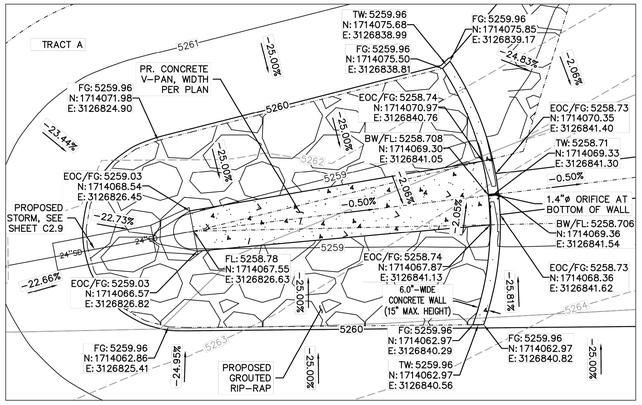
COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

C.06

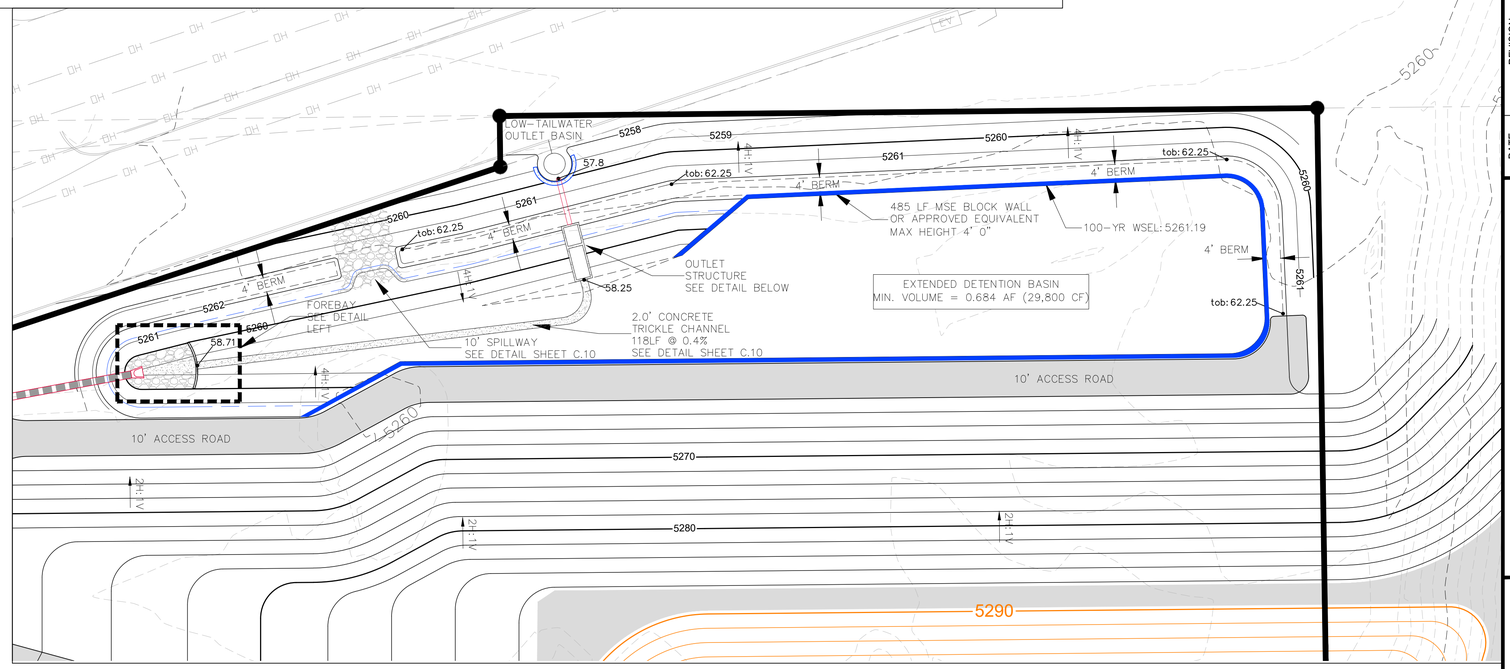
5200 SHERIDAN SPECIAL USE PERMIT EXTENDED DETENTION BASIN PLAN AND DETAILS

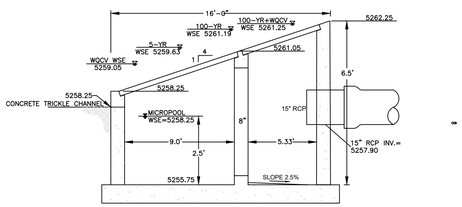


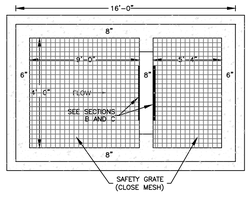
Know what's **below.**
Call before you dig.



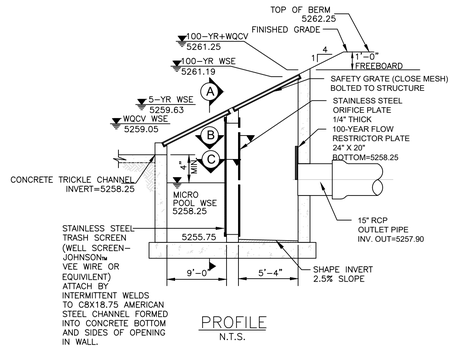
DETENTION BASIN FOREBAY
NOT TO SCALE



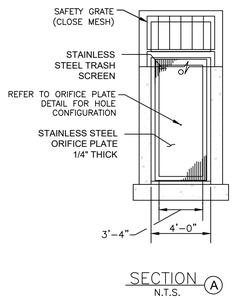




OUTLET STRUCTURE
SECTIONS



PROFILE
N.T.S.



SECTION (A)
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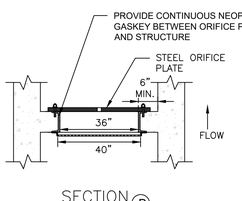

SECTION (B)
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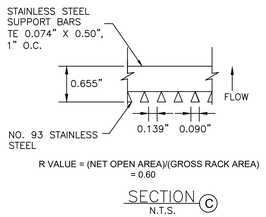
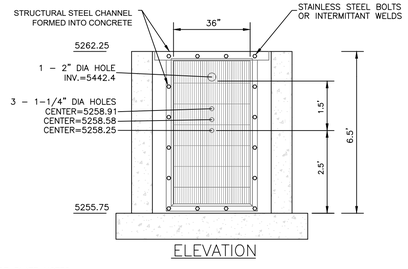


R VALUE = (NET OPEN AREA)/(GROSS RACK AREA)
= 0.60

SECTION (C)
N.T.S.

OUTLET STRUCTURE
WITH WELL SCREEN TRASH RACK



ELEVATION

ORIFICE PLATE NOTES:

1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. SEE TABLE OS-2 FOR PLATE THICKNESS.

EURV AND WQCV TRASH RACKS:

1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
2. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
3. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

OVERFLOW SAFETY GRATES:

1. ALL SAFETY GRATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. SAFETY GRATES SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

ORIFICE PLATE AND TRASH RACK
DETAILS AND NOTES

BY	REVISION	DATE

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EDB PLAN AND DETAILS

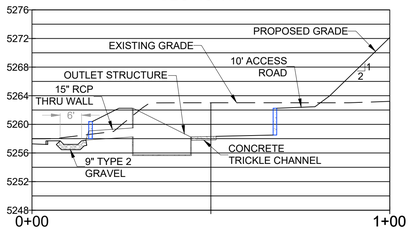
SCALE: AS NOTED

COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

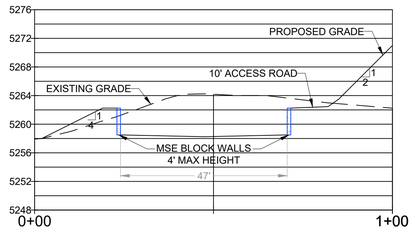
C.07

5200 SHERIDAN SPECIAL USE PERMIT EXTENDED DETENTION BASIN PROFILES

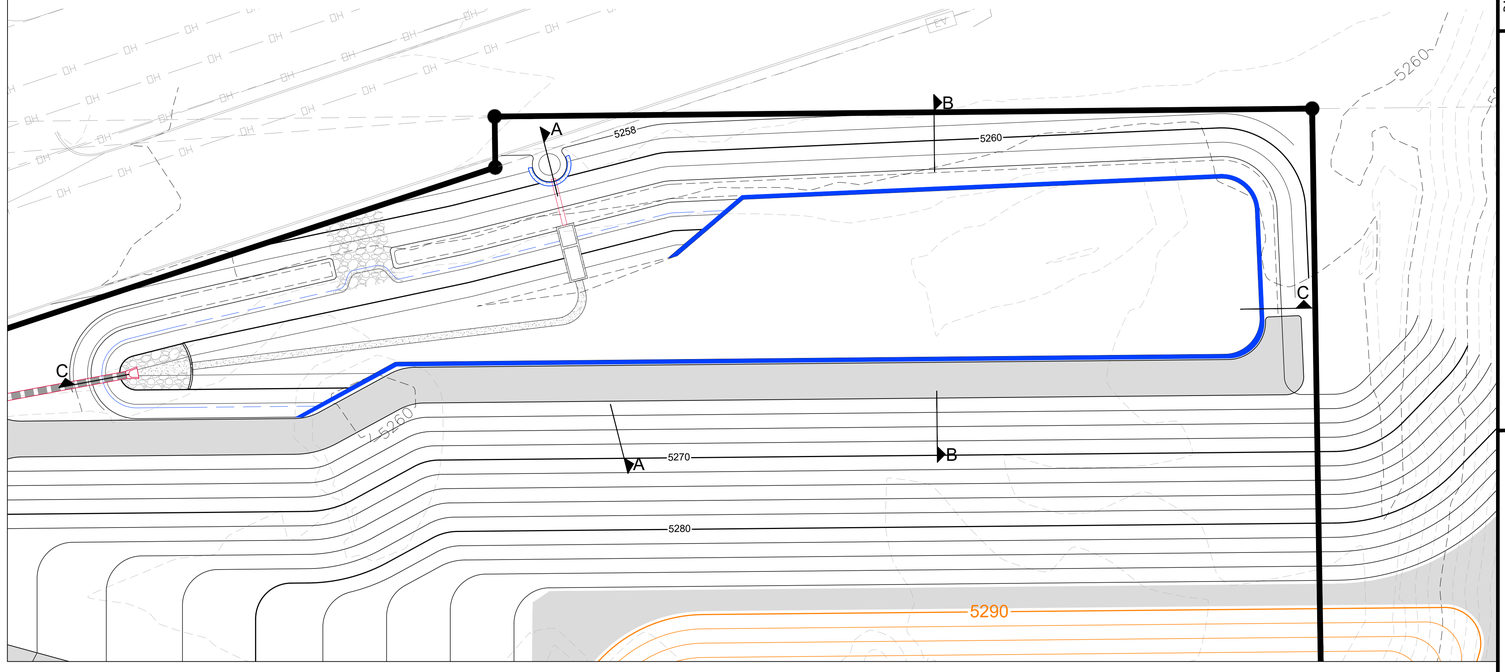
SECTION A-A



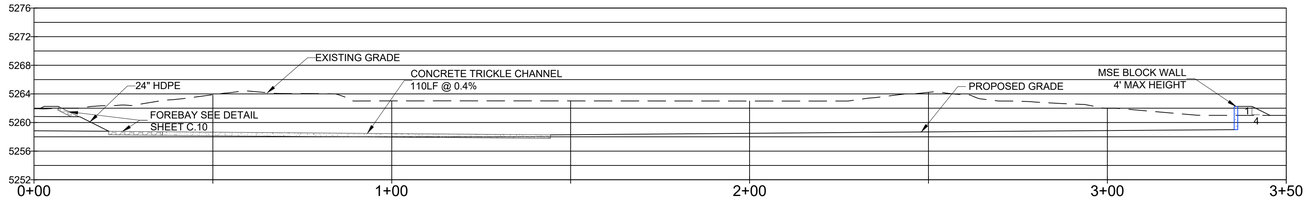
SECTION B-B



EXTENDED DETENTION BASIN PROFILES
SCALE
H: 1" = 20' V: 1" = 10'



SECTION C-C



EXTENDED DETENTION BASIN PROFILE
SCALE
H: 1" = 20' V: 1" = 10'

N

0' 20' 40'

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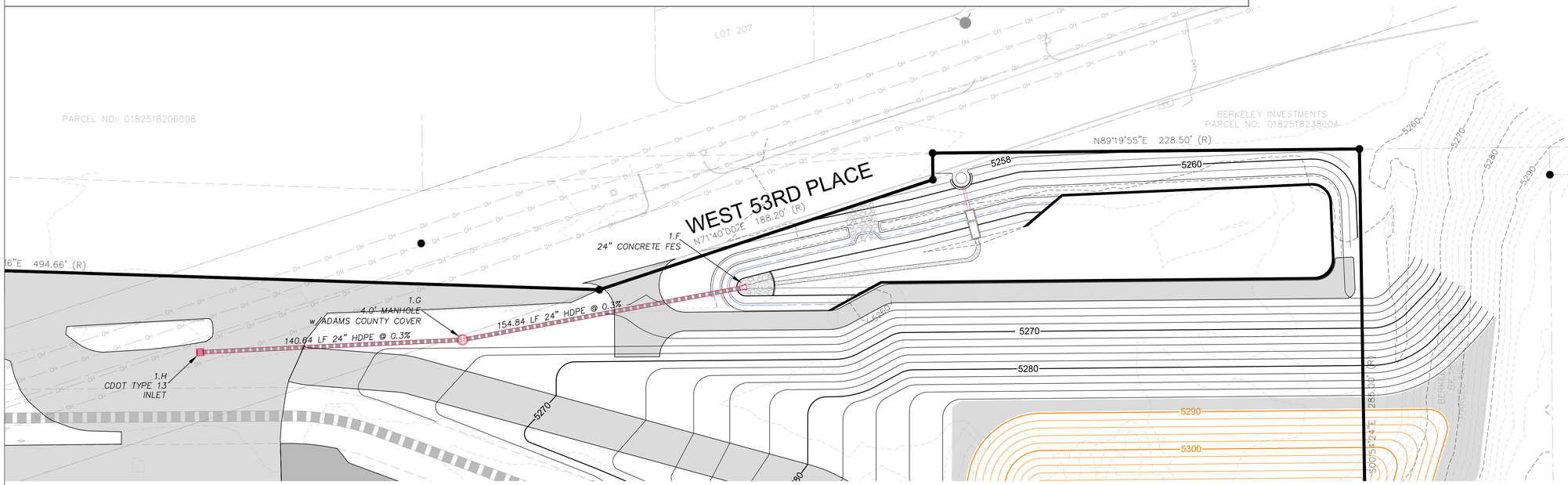
EDB PLAN PROFILES

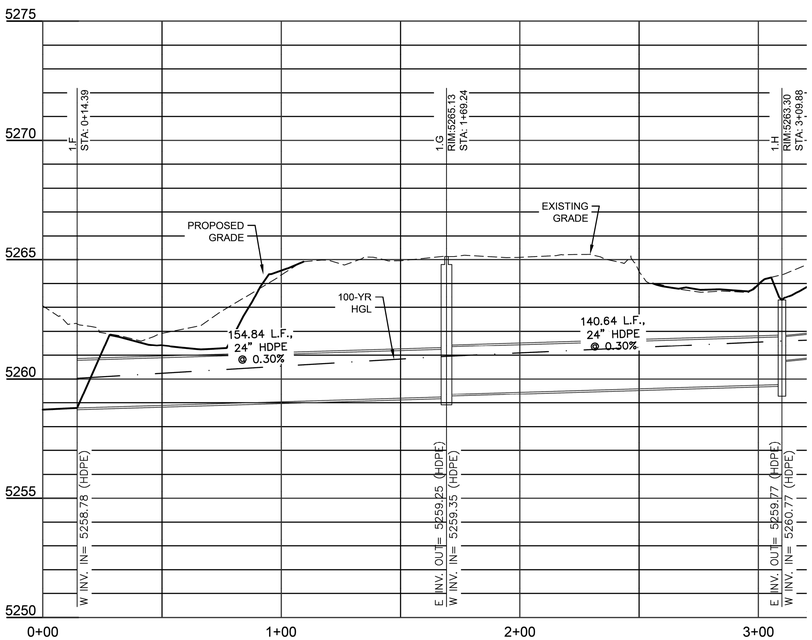
SCALE: AS NOTED

COLORADO LICENSED
SCOTT A. PURRINGTON
32559
2.27.25
PROFESSIONAL ENGINEER

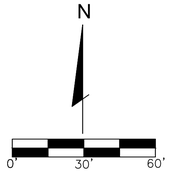
C.08

5200 SHERIDAN SPECIAL USE PERMIT STORM SEWER PLAN AND PROFILES



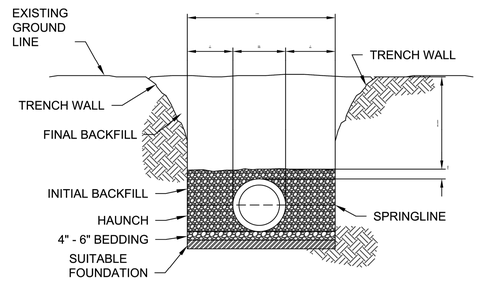


811 Know what's below. Call before you dig.



STORM SEWER NOTES

1. STORM SEWER PIPE MATERIALS SHALL BE HDPE DOUBLE-WALL, SMOOTH INTERIOR PIPE (ADS N-12 OR APPROVED EQUAL) UNLESS OTHERWISE SPECIFIED IN THE PLANS. ALL JOINTS AND STRUCTURE CONNECTIONS SHALL BE SOIL-TIGHT (MINIMUM).
2. STORM SEWER PIPE SHALL BE BEDDED, INSTALLED, AND BACKFILLED IN ACCORDANCE WITH THE DETAILS INCLUDED IN THE PLANS, MANUFACTURER'S INSTALLATION REQUIREMENTS, AND/OR STANDARD DETAILS INCLUDED BY REFERENCE.
3. ALL CAST-IN-PLACE CONCRETE DRAINAGE STRUCTURES SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI, TYPE II CEMENT (UNLESS OTHERWISE SPECIFIED) WITH AIR ENTRAINING ADMIXTURES AND SHALL CONFORM TO THE LOCAL CITY'S SPECIFICATIONS.
4. SMALL DIAMETER STORM SEWER CONNECTIONS (12 INCH DIAMETER AND LESS) SHALL BE MADE WITH REDUCING WYE'S, 45 DEGREE BENDS, AND REDUCING COUPLERS, UNLESS OTHERWISE INDICATED. REFER TO PLAN AND DETAILS FOR SYSTEM LAYOUT.
5. ALL CAST-IN-PLACE AND PRE-FABRICATED DRAINAGE STRUCTURES WITHIN PAVED AREAS MUST BE INSTALLED TO MEET (AT A MINIMUM) AASHTO H-20/HS-20 LOAD RATING. THE GENERAL CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER OF ANY PRE-FABRICATED STRUCTURE TO CONFIRM INSTALLATION MEASURES REQUIRED TO ENSURE THE AFOREMENTIONED LOAD RATING IS ACHIEVED. FOR ALL PRE-FABRICATED NYLOPLAST® DRAIN BASINS, THE GENERAL CONTRACTOR SHALL POUR A CONCRETE COLLAR UNDER THE FRAME/GRATE/HOOD ASSEMBLY IN THE MINIMUM DIMENSIONS SPECIFIED ON THE MANUFACTURER'S STANDARD DETAIL DRAWINGS TO ACHIEVE H-20/HS-20 LOAD RATING. THE GENERAL CONTRACTOR SHALL CONTACT OWNER FOR ADDITIONAL DIRECTION IF H-20/HS-20 INSTALLATION GUIDELINES CANNOT BE OBTAINED FROM THE MANUFACTURER OF ANY PROPOSED PRE-FABRICATED STRUCTURE.



F HDPE PIPE BEDDING DETAIL
NOT TO SCALE

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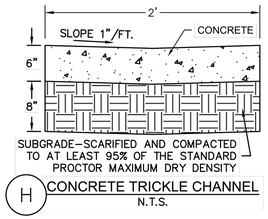
STORM SEWER PLAN AND PROFILES

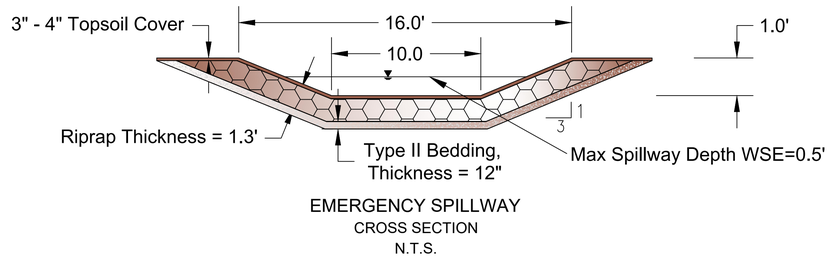
SCALE: AS NOTED

COLORADO LICENSED Jeffrey A. Purrington 32559 2.27.25 PROFESSIONAL ENGINEER

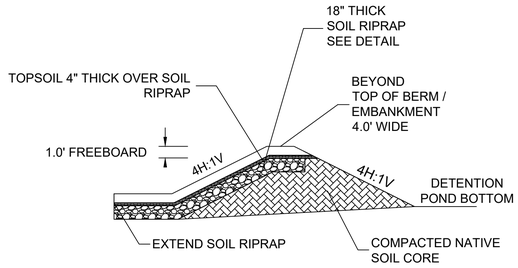
C.09

5200 SHERIDAN SPECIAL USE PERMIT STORM SEWER AND DETENTION DETAILS

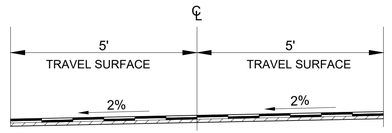




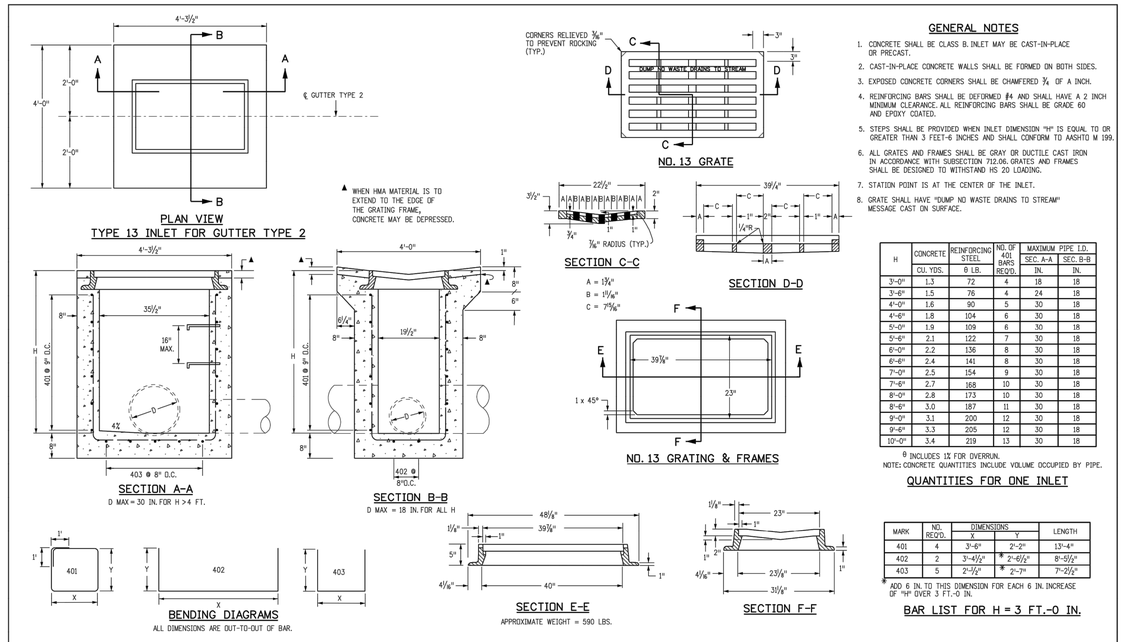
EMERGENCY SPILLWAY
CROSS SECTION
N.T.S.



EMBANKMENT DETAIL
CROSS SECTION
N.T.S.



EDB ACCESS DRIVE CROSS SECTION
N.T.S.



GENERAL NOTES

1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
2. CAST-IN-PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES.
3. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾ OF A INCH.
4. REINFORCING BARS SHALL BE DEFORMED #4 AND SHALL HAVE A 2 INCH MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE GRADE 60 AND EPOXY COATED.
5. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FEET-6 INCHES AND SHALL CONFORM TO AASHTO M 199.
6. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING.
7. STATION POINT IS AT THE CENTER OF THE INLET.
8. GRATE SHALL HAVE "DUMP NO WASTE DRAINS TO STREAM" MESSAGE CAST ON SURFACE.

H	CONCRETE	REINFORCING STEEL	NO. OF 401 BARS REQ'D.	MAXIMUM PIPE I.D.	
	CU. YDS.	@ LB.		SEC. A-A IN.	SEC. B-B IN.
3'-0"	1.3	72	4	18	18
3'-6"	1.5	76	4	24	18
4'-0"	1.6	90	5	30	18
4'-6"	1.8	104	6	30	18
5'-0"	1.9	109	6	30	18
5'-6"	2.1	122	7	30	18
6'-0"	2.2	136	8	30	18
6'-6"	2.4	141	8	30	18
7'-0"	2.5	154	9	30	18
7'-6"	2.7	168	10	30	18
8'-0"	2.8	173	10	30	18
8'-6"	3.0	187	11	30	18
9'-0"	3.1	200	12	30	18
9'-6"	3.3	205	12	30	18
10'-0"	3.4	219	13	30	18

@ INCLUDES 1% FOR OVERRUN.
NOTE: CONCRETE QUANTITIES INCLUDE VOLUME OCCUPIED BY PIPE.

QUANTITIES FOR ONE INLET

MARK	NO. REQ'D.	DIMENSIONS X	DIMENSIONS Y	LENGTH
401	4	3'-6"	2'-2"	13'-4"
402	2	3'-4½"	* 2'-6½"	8'-5½"
403	5	2'-7½"	* 2'-7"	7'-2½"

* ADD 6 IN. TO THIS DIMENSION FOR EACH 6 IN. INCREASE OF "H" OVER 3 FT.-0 IN.

BAR LIST FOR H = 3 FT.-0 IN.

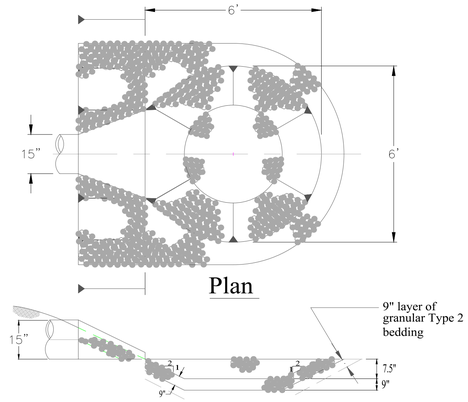


Figure 1: Low tailwater basin at pipe outlets

Computer File Information		Sheet Revisions	
Creation Date: 07/31/19		Date:	Comments
Designer Initials: JBK	(R=X)		
Last Modification Date: 07/31/19	(R=X)		
Detailer Initials: LTA	(R=X)		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	(R=X)		

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

CONCRETE INLET TYPE 13

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-604-13
Standard Sheet No. 1 of 1
Project Sheet Number:

BY	REVISION	DATE

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE SUITE 280
GOLDEN, CO 80401

EDB AND STORM SEWER DETAILS

SCALE: AS NOTED

COLORADO LICENSED 32559 PROFESSIONAL ENGINEER 2.27.25

C.10

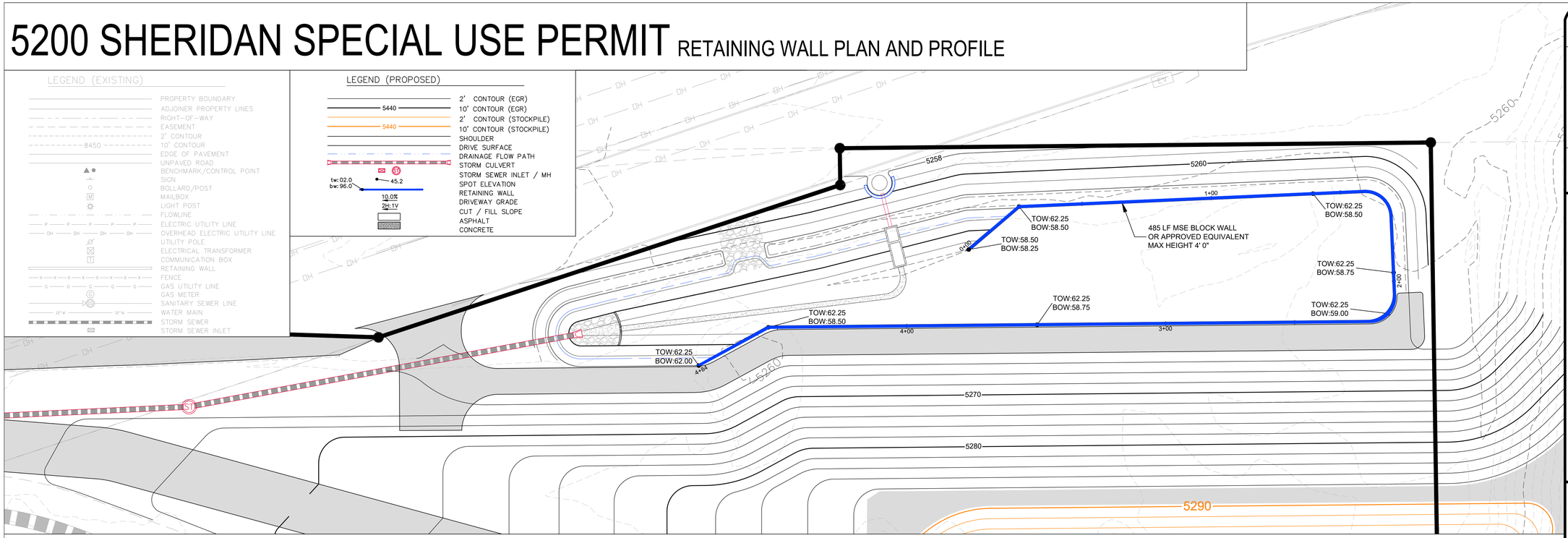
5200 SHERIDAN SPECIAL USE PERMIT RETAINING WALL PLAN AND PROFILE

LEGEND (EXISTING)

- PROPERTY BOUNDARY
- ADJOINER PROPERTY LINES
- RIGHT-OF-WAY
- EASEMENT
- 2' CONTOUR
- 8450 10' CONTOUR
- EDGE OF PAVEMENT
- UNPAVED ROAD
- BENCHMARK/CONTROL POINT
- SIGN
- BOLLARD/POST
- MAILBOX
- LIGHT POST
- FLOWLINE
- P ELECTRIC UTILITY LINE
- OH OVERHEAD ELECTRIC UTILITY LINE
- UTILITY POLE
- ELECTRICAL TRANSFORMER
- COMMUNICATION BOX
- RETAINING WALL
- FENCE
- G GAS UTILITY LINE
- GAS METER
- SANITARY SEWER LINE
- 12"V WATER MAIN
- STORM SEWER
- STORM SEWER INLET

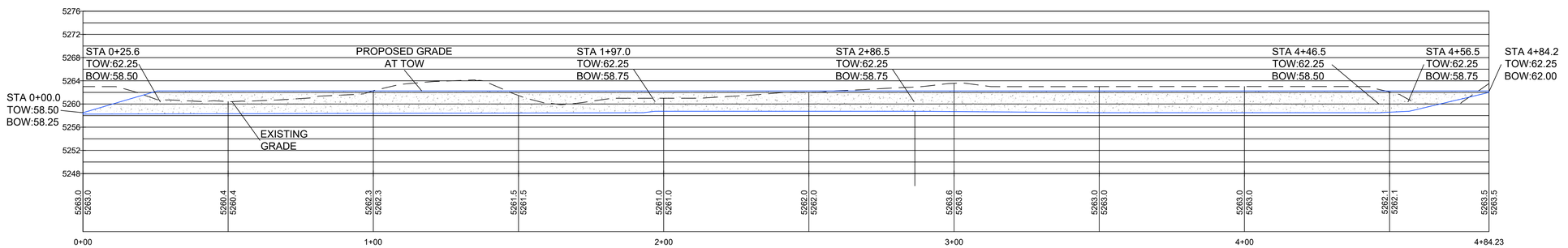
LEGEND (PROPOSED)

- 2' CONTOUR (EGR)
- 5440 10' CONTOUR (EGR)
- 2' CONTOUR (STOCKPILE)
- 5440 10' CONTOUR (STOCKPILE)
- SHOULDER
- DRIVE SURFACE
- DRAINAGE FLOW PATH
- STORM CULVERT
- ST STORM SEWER INLET / MH
- tw: 02.0 bw: 96.0 45.2 SPOT ELEVATION
- RETAINING WALL
- 10.0% DRIVEWAY GRADE
- 2H:1V CUT / FILL SLOPE
- ASPHALT
- CONCRETE



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

0 20' 40'



RETAINING WALL PROFILE
SCALE
H: 1" = 20' V: 1" = 10'

BY	REVISION	DATE

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE,SUITE 280
GOLDEN, CO 80401

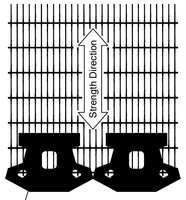
RETAINING WALL PLAN AND PROFILE

SCALE: AS NOTED

COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

C.11

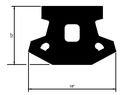
5200 SHERIDAN SPECIAL USE PERMIT RETAINING WALL SECTIONS & DETAILS



Geogrid is to be Placed on Level Backfill and Extended Over the Fiberglass Pins. Place Next Unit. Pull Grid Taught and Backfill. Stake as required.

Grid & Pin Connection

Compac Elevation



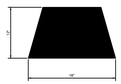
Compac Plan

Compac Unit

* Dimensions May Vary by Region

Cap Unit Elevation

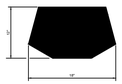
Cap Unit Elevation



Cap Unit Plan

Universal Cap Unit Option

* Dimensions & Availability Will Vary by Region



Cap Unit Plan

3-Plane Split Cap Unit Option

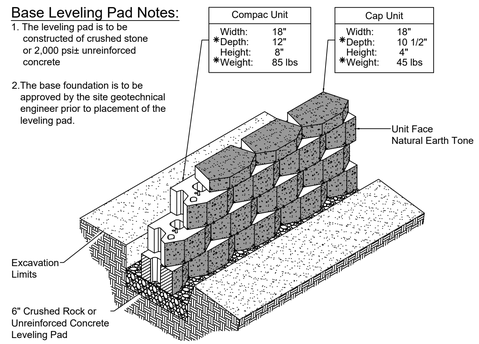
* Dimensions & Availability Will Vary by Region

Base Leveling Pad Notes:

1. The leveling pad is to be constructed of crushed stone or 2,000 psi± unreinforced concrete
2. The base foundation is to be approved by the site geotechnical engineer prior to placement of the leveling pad.

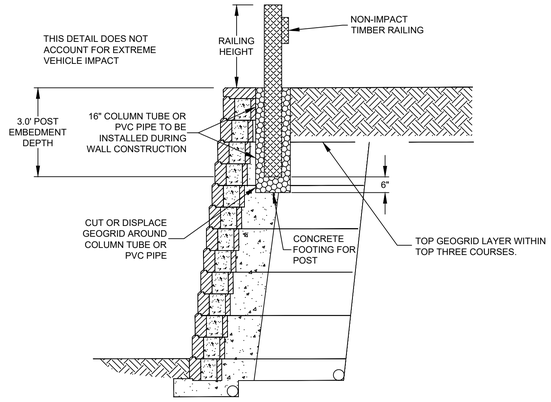
Compac Unit	
Width:	18"
*Depth:	12"
Height:	8"
*Weight:	85 lbs

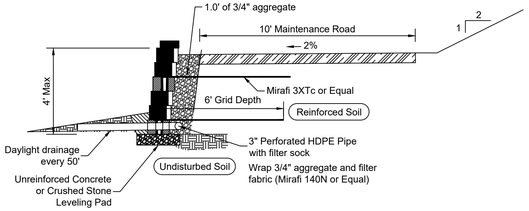
Cap Unit	
Width:	18"
*Depth:	10 1/2"
Height:	4"
*Weight:	45 lbs



Compac Unit/Base Pad Isometric Section View

* Dimensions & Weight May Vary by Region





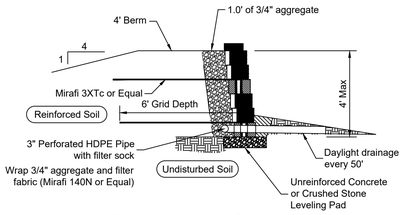
Typical South Wall Section

Compac Unit - 1" Setback

Square American Timber Rail

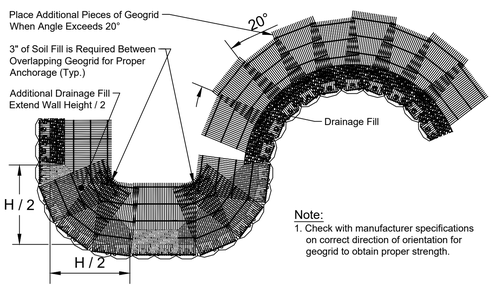
We designed our American Timber Rail as a cost effective solution for jobs that do not need the strength of our Steel-Backed Timber Guardrail yet it looks great and offers protection around areas like parking lots, pathways and in parks. This easy to assemble guide rail system has 6 foot on center post spacing and 12 foot splicing.

Using surfaced Southern Yellow Pine for a uniform look and reliable strength, we chamfer the 6 inch by 8 inch post tops and the face of the 4 inch by 8 inch rails for an attractive finish and all the plates and hardware are made from weathering steel for a rustic appeal. Then to make sure we get the longest life, we treat it to .60 with CCA



Typical North Wall Section

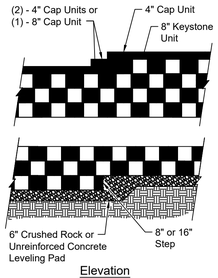
Compac Unit - 1" Setback



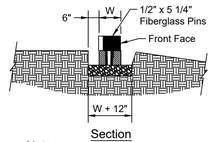
Note:

1. Check with manufacturer specifications on correct direction of orientation for geogrid to obtain proper strength.

Geogrid Installation on Curves



Elevation



Section

Notes:

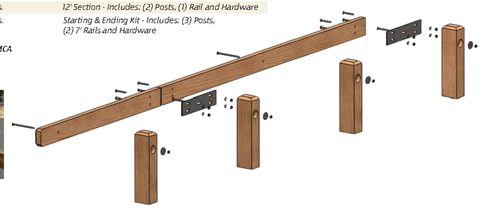
1. Secure all cap units with Keystone Kapseal or equal.
2. The leveling pad is to be constructed of crushed stone or 2000 psi ± unreinforced concrete.

Leveling Pad Detail

Square American Timber Rail - 6" x 8" - 6' Posts with 4" x 8" - 12'Rails

Item #	Lbs. ea.	Description
ATS6841-2301	315 lbs.	12' Section - Includes: (2) Posts, (1) Rail and Hardware
ATS6841-2302	417 lbs.	Starting & Ending Kit - Includes: (3) Posts, (2) 7' Rails and Hardware

+ Also available in ACQ and MCA



BY | REVISION | DATE

SPECIAL USE PERMIT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
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1299 WASHINGTON AVENUE SUITE 280
GOLDEN, CO 80401

RETAINING WALL SECTIONS & DETAILS

SCALE: AS NOTED

COLORADO LICENSED PROFESSIONAL ENGINEER 32559 2.27.25

C.12

LEVEL III
STORM DRAINAGE STUDY

REGIONAL DRAINAGE REPORT
5200 SHERIDAN MINOR SUBDIVISION PLAT

5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

Prepared for:
James Goyette
SBGM Land Trust
P.O. Box 306
Pine, CO 80470

Revised December 2024
September 2024

PURRINGTON CIVIL
ENGINEERING YOUR VISION

1299 Washington Avenue, Suite 280
Golden, CO 80401
Phone: 303.956.8353

ENGINEER CERTIFICATION OF DRAINAGE REPORT

"I hereby certify that this report (plan) for the Final Drainage design of 5200 Sheridan Minor Subdivision Plat was prepared by me or under my direct supervision in accordance with the provisions of Adams County Storm Drainage Design and Technical Criteria for the owners thereof. I understand that Adams County does not and will not assume liability for drainage facilities designed by others."

12/18/24

Date

Registered Professional Engineer

State of Colorado No. 32559

DEVELOPER CERTIFICATION OF DRAINAGE FACILITIES

"James Goyette. hereby certifies that the drainage facilities for 5200 Sheridan Minor Subdivision Plat shall be constructed according to the design presented in this report. I understand that Adams County does not and will not assume liability for the drainage facilities designed and/ or certified by my engineer. I understand that Adams County reviews drainage plans pursuant to Colorado Revised Statues Title 30, Article 28; but cannot, on behalf of 5200 Sheridan Minor Subdivision, guarantee that final drainage design review will absolve SBGM Land Trust and/ or their successors and/ or assigns the future liability for improper design. I further understand that approval of the Final Plat and/ or Final Development Plan does not imply approval of my engineer's drainage design."

12/18/24

Date

SBGM Land Trust

Name of Developer

James Goyette, Trustee

Authorized Signature

TABLE OF CONTENTS

APPENDICES

1.0 GENERAL LOCATION AND DESCRIPTION

This document is the Level III Storm Drainage Study Report for the 5200 Sheridan Minor Subdivision Plat. The purpose of this report is to identify onsite and offsite drainage patterns, storm sewer, inlet locations, and areas tributary to the site with the goal of safely routing developed storm water runoff to adequate outfall facilities.

Additionally, this report will address regional water quality treatment and full spectrum detention within an extended detention basin located on the property. This facility will serve the overall property.

The proposed project is located at 5200 Sheridan Boulevard, located within Parcel A, SBGM Land Trust, QC Deed, being a portion of the northwest quarter of Section 18, Township 3 South, Range 68 West of the 6th P.M., City of Arvada, County of Adams, State of Colorado. The site is bordered on the west by Sheridan Boulevard, on the north by W 53rd Place, and on the south by W 52nd Avenue.

Currently the site consists primarily of a partially paved parking lot with a central single-story building. Gravel parking lots, dirt drives, and native grass areas are located throughout the site surrounding the building and pavement area. Parcel A is currently listed as approximately 7.158 acres and will be further subdivided within the proposed development of this project.

Parcel A will be divided into three (3) individual lots and one (1) tract. The drainage analysis and improvements presented in this report will be for the entire Parcel A that includes the three (3) future individual lots.

The overall parcel generally slopes from south to north at slopes ranging from 2 percent to 50 percent. An approximately 60” diameter Denver storm sewer mainline crosses through the central portion of the parcel. This pipe is expected to be upsized in the future and will remain untouched and unimpacted until an agreement with the City & County of Denver regarding grading and fill over the pipe has been established.

According to the United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Custom Soil Resource Report for the site, approximately two-thirds of the site can be classified as Hydrologic Soil Group A. The remaining third of the site does not have a Hydrologic Soil Group designation. For the purpose of this drainage analysis, the entirety of the site has been assumed as Hydrologic Soil Group A. The NRCS Soil Report for the site can be seen within Appendix D.

Per FEMA’s National Flood Hazard Layer (NFHL) FIRMette Map Panel 08001C0591H, dated March 5th, 2007, the entirety of the site is located within Zone X, Area of Minimal Flood Hazard. The FEMA FIRMette Panel for the site can be seen within Appendix D.

Geotechnical Considerations:

Per the geotechnical report for the Lot 1 (*Report of Geotechnical Exploration, Kum & Go #2294*, prepared by Olsson, dated September 1st, 2022), claystone and bedrock was encountered at depths ranging from 3 feet to 8 feet below the existing grade of Lot 1.

2.0 DRAINAGE BASIN AND SUB-BASINS

Existing Basin Description:

Based off of the October 2019 City & County of Denver Storm Drainage Master Plan (SDMP), Parcel A is located within Basin 4300-03 for Clear Creek – North of I-70. The relevant pages of the SDMP can be found within Appendix D.

According the SDMP, collection system Project B – Clear Creek Outfall includes the existing 60" diameter storm main that runs across Parcel A. The SDMP calls for this collect system to be drastically upsized, and the City & County of Denver will not allow a connection from the site to any of the location storm sewer infrastructure located within the site nor along Sherdan Boulevard to the west due to the current capacity issues of the pipes.

The site and its adjacent areas of interest have been divided into two distinct existing drainage basins based off the current drainage and flow patterns. Please note that these basins represent the existing conditions prior to the Inert Fill Operations per the Temporary Use Permit TVM2023-00009.

Descriptions of each existing basin are as follows.

Existing basin *EX1* consists primarily of the area of Parcel A located west of the Denver storm main. Runoff generated within this basin will flow north, undetained and untreated, across 53rd Place and into the existing parking lot directly north of the site. This flow entering the parking lot is represented as Design Point 1 (DP1).

Existing basin *EX2* consists primarily of the area of Parcel A located east of the Denver storm main. Runoff generated within this basin will generally flow undetained and untreated to the northeast. Runoff is routed through the neighborhood's existing storm sewer infrastructure via 53rd Place's curb and gutter and by an existing regional drainage ditch located at the northeast corner of the site. This flow within leaving at the northeast corner of the site is represented by Design Point 2 (DP2).

The delineation of each of these existing drainage basins can be found on the Existing Drainage Basin Map within Appendix A. Table 1 below highlights the key parameters of the existing basins.

Table 1. Existing Basin Characteristics

Basin	Description	Area *(acres)*	Imperviousness *(%)*
EX1	Parcel A - West	4.60	36.9%
EX2	Parcel A - East	2.84	11.3%

Proposed Major Basin Descriptions:

The site has been divided into four (4) proposed major drainage basins. These four basins correspond with the three (3) individual lots and the one (1) Tract. Lots 1, 2, and 3 have been designated as "future developments" and have assumed imperviousness values. Tract A has been evaluated for the proposed condition. Descriptions of each of the proposed major drainage basins are as follows.

Major Basin *LOT 1* corresponds to the Lot 1 portion of Parcel A. This area, comprised of the western portion of the parcel, has been denoted as "future development", with the assumption that the lot will contain a gas station and convenience store, parking areas, and various landscaping and lawns. For the purpose of this report's drainage analysis, Lot 1 has been assumed to have a proposed imperviousness value of 65.2%. This value is based on a previous Convenience Store / Gas Station design.

Major Basin *LOT 2* corresponds to the Lot 2 portion of Parcel A. This area, comprised of the center area of the parcel, has been denoted as "future development", with the assumption that the lot will contain an office building, parking lot, and various landscaping throughout. For the purpose of this report's drainage analysis, Lot 2 has been assumed to have a proposed imperviousness value of 71.2%.

Major Basin *LOT 3* corresponds to the Lot 3 portion of Parcel A. This area, comprised of the eastern portion of the parcel, has been denoted as "future development", with the assumption that the site will be used for general storage, comprised of a mix of pavement, gravel, and landscape areas. For the purpose

of this report's drainage analysis, Lot 3 has been assumed to have a proposed imperviousness value of 58.5%.

Major Basin *TRACT A* corresponds to the Tract A portion of Parcel A. This area, located within the northeast corner of the parcel, will contain the extended detention basin that will serve as a regional facility for all four of the previously mentioned Lots.

The delineation of each of these major drainage basins can be found on the Proposed Major Basin Map within Appendix A. Table 2 below highlights the key parameters of the previously described major basins.

Table 2. Major Basin Characteristics

Basin	**Description**	**Area *(acres)***	**Imperviousness *(%)***
LOT 1	Future Site	2.160	65.2%
LOT 2	Future Site	1.600	71.2%
LOT 3	Future Site	2.724	58.5%
TRACT A	Detention Basin	0.581	7.2%

Offsite Basin Descriptions:

There are three basins outside of the limits of the overall Parcel A that contribute runoff to the various design points within the proposed conditions. Descriptions of each of these offsite drainage basins are as follows.

Basin OS-1 consists of the landscape area between the southern property line and W 52nd Avenue sidewalk as well as the area between Sheridan Boulevard and the western property line, outside of the overall Parcel A. Runoff generated within this basin will flow onto Lot 1 and contribute to *Major Basin LOT 1*.

Basin OS-2 consists of the landscape area between the southern property line and W 52nd Avenue sidewalk, outside of the overall Parcel A. Runoff generated within this basin will flow onto Lot 2 and contribute to *Major Basin LOT 2*.

Basin OS-3 consists of the landscape area between the southern property line and W 52nd Avenue sidewalk, outside of the overall Parcel A. Runoff generated within this basin will flow onto Lot 3 and contribute to *Major Basin LOT 3*.

The delineation of each of these major drainage basins can be found on the Proposed Major Basin Map within Appendix A. Table 4 below highlights the key parameters of the previously described offsite basins.

Table 4. Offsite Basin Characteristics

Basin	Description	Area *(acres)*	Imperviousness *(%)*
OS-1	Offsite to Basin Lot 1	0.23	2.0%
OS-2	Offsite to Basin Lot 3	0.08	2.0%
OS-3	Offsite to Basin Lot 4	0.07	2.0%

Summary:

The impact of the proposed development to the existing drainage patterns can be evaluated at each of the two design points, which have been designated within the “EXISTING BASIN DESCRIPTION” section above.

The routing of the proposed drainage basins to the two design points is detailed in depth within the full hydrological equations and calculations within Appendix B of this report.

A pre-development versus post-development comparison of each of the two design points is summarized below in Table 5.

Table 5. Pre- to Post-Development Comparison

		Design Point 1	Design Point 2
Tributary Area (*acres*)	Pre-	4.60	2.84
	Post-	0.46	6.98
Imperviousness (*%*)	Pre-	36.9%	11.3%
	Post-	93.6%	53.8%
Q_5 (*cfs*)	Pre-	2.70	0.34
	Post-	1.31	7.81
Q_{100} (*cfs*)	Pre-	9.52	2.71
	Post-	2.97	22.66

As the post-development total runoff being directed to Design Point 1 is less than the pre-development values, the are no expected adverse impacts, and no additional improvements are required.

The increase in runoff to Design Point 2 is to be addressed via the proposed detention basin, which is detailed in the following sections.

3.0 DRAINAGE BASIN CRITERIA

Development Criteria Reference and Constraints:

The design of the proposed drainage system was completed in accordance with the criteria set forth within the Adams County Development Standards and Regulations (DSR), as well as the Mile High Flood District (MHFD) Criteria Manuals.

Hydrological Criteria:

Hydrologic calculations have been prepared in accordance with criteria set forth within the DSR, as well as MHFD. Hydrologic calculations can be found within Appendix B of this report.

Hydrologic calculations have been performed by utilizing the Rational Method calculations. Imperviousness and runoff coefficients have been calculated via

the equations presented within the MHFD Criteria Manuals. NOAA Atlas 14 has provided rainfall intensity values and rainfall depth values for the site. These referenced equations and resources can be found within Appendix B.

Hydraulic Criteria:

Hydraulic calculations have been prepared in accordance with the criteria set forth within the DSR, as well as the MHFD Criteria Manuals. Hydraulic calculations can be found within Appendix C of this report.

The design of the extended detention basin and its outlet structure has been performed by utilizing the Detention Design – MHFD-Detention v4.06 spreadsheet. The completed spreadsheet, is include within Appendix C.

Floodplain Regulations Compliance:

Per FEMA's National Flood Hazard Layer (NFHL) FIRMette Map Panel 08001C0591H, dated March 5th, 2007, the entirety of the site is located within Zone X, Area of Minimal Flood Hazard. The FEMA FIRMette Panel for the site can be seen within Appendix D.

Modifications of Criteria:

There are no proposed modifications to the drainage criteria for this project.

4.0 DRAINAGE FACILITY DESIGN

General Concept:

The Tract A detention basin has been designed to support the majority of the runoff generated for the overall Parcel A in its full, future-buildout condition. *Major Basins LOT 1, LOT 2, and LOT 3* have been denoted as future development and are assumed to be tributary to the pond in their entireties. With the exception of the north west corner of the lot, the entirety of *Major Basin LOT 1* is also tributary to the Tract A detention basin. Additionally, offsite basins OS-*1, OS-2,* and *OS-3* direct runoff onto the parcel and have been accounted for within the analysis of the Tract A detention basin.

The majority of the runoff generated within *Major Basin LOT 1* will be conveyed via overland flow through future swales and gutters to the inlet proposed at the northwest corner of Lot 1.

Additionally, *Major Basin LOT 2* will be able to route generated runoff through future swales and gutters to the inlet proposed at the northwest corner of Lot 1.

From the inlet, the conveyance of runoff will be provided via the storm sewer main directly south of W 53rd Place. Flowing from west to east, this storm main has been sized to convey the Lot 1 and Lot 2 future developments, before discharging into the Tract A detention basin.

Major Basin LOT 3 will route generated runoff north and directly into the Tract A detention basin.

Specific Details:

Sustainable Development Practices (SDP):
Section 3-27-06-05-07-08 of the Adams County DSR defines SDP's for new buildings that are encouraged to be incorporated to the maximum extent. The proposed development has implemented the following practices:

- Low-Impact Development (LID) stormwater management facilities; references following sections.
- The removal and replacement of various trees throughout the property.

Water Quality Treatment:
Section 9-04-04 of the Adams County DSR defines the minimum water quality treatment design standards for post-construction water quality treatment BMP's. The treatment of the WQCV for the site will be provided within the proposed Tract A detention basin. The total 6.98 acres tributary to the detention basin can be summarized in a few different manners:

- Approximately 93.8% of the entire area of analysis is tributary to the detention basin. This area of analysis includes all of Parcel A and any offsite area that contributes runoff to the pond.
- Approximately 93.5% of the overall Parcel A area is tributary to the detention basin. This area includes all four of the Lots and Tract A.

The area not directed to the detention basin cannot be feasibly captured and routed to any sort of treatment BMP or facility. This uncapturable area is primarily the adjacent roadway (West 53rd Place). This area cannot be captured due to the fact that it is too low in elevation and cannot be routed to the proposed detention basin.

Additionally, the proposed detention basin will drain the full, post-development WQCV within 40 hours which allows for proper pollutant removal, maintain vegetations, and overall functionality.

As designed, the proposed detention basin meets the requirements of Section 9-04-04-1a and Section 9-04-04-1b of the Adams County DSR, and therefore meets the minimum water quality treatment requirements for a post-construction water quality treatment BMP.

Low-Impact Development (LID):
Section 9-01-03-14 of the Adams County DSR defines the LID standards and requirements for all construction projects. The proposed development has implemented the following LID practices:

- The proposed detention basin will provide an onsite, structural BMP which will promote infiltration, evapotranspiration, and the use and treatment of stormwater.
- Grass swales and buffers are used on the east end of the site to promote infiltration and the reduction of stormwater runoff.

Required Storage Volumes:
Per criteria set forth within the Adams County DSR, as well as MHFD, the parcel's proposed Tract A detention basin will need to detain and release the full Water Quality Capture Volume (WQCV), the minor (5-year) storm event runoff volume, the major (100-year) storm event runoff volume, as well as an additional ½ of the WQCV.

The detention basin has been designed in a manner such that WQCV is detained and released within 40 hours and that the minor (5-year) and major (100-year) storm events are attenuated and released at a rate equal to or less than the maximum allowable release rates. The calculation for the maximum allowable release rates can be seen within Appendix C.

Per the calculations presented within the MHFD-Detention, Version 4.06 (July 2022), DETENTION BASIN STAGE-STORAGE TABLE BUILDER spreadsheet, the proposed detention basin will provide a WQCV of 0.126 acre-feet, a minor (5-year) storm event runoff volume of 0.265 acre-feet, and a major (100-year) storm event runoff volume of 0.621 acre-feet. **The total EDB volume is 0.684 acre-feet.**

Outlet Structure and Spillway:

The outlet structure has been designed to drain the WQCV in 40 hours and release the minor (5-year) and major (100-year) storm events at a rate equal to or less than their respective maximum allowable release rates. Runoff exiting the outlet structure will enter the proposed storm sewer infrastructure, which flows northeast and discharges into the existing regional drainage ditch located at the northeast corner of the site.

The outlet structure for the proposed detention basin has been designed in ordinance to MHFD's *Volume 3, Chapter 4: Treatment BMPs, Treat BMP Fact Sheets: T-12 Outlet Structures, Figure OS-7: Full spectrum detention outlet*

structure for 5-acre impervious are or less. This design utilizes a rectangular concrete structure with a slanted safety grate. The micropool will be located inside of the outlet structure, while the interior concrete weir will contain a rectangular concrete knockout. The knockout will be covered with a bar rack (trash screen) and stainless steel orifice plate. This orifice plate will contain numerous orifices of varying heights and sizes in order to ensure the proper attenuation release of each of the specified volumes.

A spillway is provided within the northwestern portion of the detention basin's berm and will serve as the emergency overflow path. Storm events greater than the major (100-year) storm event will pass through the spillway and flow undetained in W 53rd Place and to Design Point 2.

The sizing and calculation for the design of the outlet structure was completed by utilizing the MHFD-Detention, Version 4.06 (July 2022), DETENTION BASIN OUTLET STRUCTURE DESIGN spreadsheet. This spreadsheet is included with Appendix C. The pond design as well as the details of the outlet structure, forebay, micropool, and emergency overflow spillway, is included within Appendix E.

Table 6 below summarizes the impact the proposed Tract A detention basin will have on Design Point 2.

Table 6. Design Point 2 Detention Basin

	Pre-Development	**Post-Development (No Det. Basin)**	**Post-Development (With Det. Basin)**
Tributary Area (*acres)*	2.84	6.98	6.98
Imperviousness (*%)*	11.3%	53.8%	53.8%
Q_5 (*cfs)*	0.34	7.81	0.14
Q_{100} (*cfs)*	2.71	22.66	1.75

5.0 CONCLUSION

This report and the proposed drainage design for the overall Parcel A is in compliance with the Adams County DSR, the MHFD Criteria Manuals, existing drainage patterns, floodplain regulations, and all other applicable state and federal regulations.

More than 80% of the proposed project area will be directed to the proposed extended detention basin. This facility will provide runoff attenuation and treatment for the overall parcel's WQCV, minor storm event, and major storm event. The outlet structure will drain the WQCV within 40 hours and release the minor and major storm events at or below their maximum allowable rates. The pond spillway will allow for greater volumes to safely overflow offsite and undetained into the adjacent roadways.

Any runoff that is not directed to the detention basin will flow offsite and match the existing regional drainage patterns. As the total amount of offsite runoff has been greatly reduced through the development of the site, there are no expected adverse impacts to the existing storm sewer inlets, public roadways, or the regional historic drainage patterns.

6.0 REFERENCES

Adams County Development Standards and Regulations, Adams County, dated December 8, 2020

Urban Storm Drainage Criteria Manual, Volumes 1, 2, & 3, Mile High Flood District, dated January 2016

Report of Geotechnical Exploration, Kum & Go #2294, Olsson, dated September 1, 2022

MHFD-Detention, Version 4.06, Mile High Flood District, July 2022

APPENDIX A
MAPS

- Vicinity
- Existing Drainage Basin
- Proposed Drainage Basin

5200 SHERIDAN MINOR SUBDIVISION PLAT VICINITY MAP

DATE	REVISION	BY

MINOR SUBDIVISION PLAT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE SUITE 280
GOLDEN, CO 80401

VICINITY MAP

SCALE: AS NOTED

5200 SHERIDAN MINOR SUBDIVISION PLAT

EXISTING DRAINAGE BASIN MAP

LEGEND (EXISTING)

- PROPERTY BOUNDARY
- ADJOINER PROPERTY LINES
- RIGHT-OF-WAY
- EASEMENT
- 2' CONTOUR
- 8450 — 10' CONTOUR
- EDGE OF PAVEMENT
- UNPAVED ROAD
- BENCHMARK/CONTROL POINT
- SIGN
- BOLLARD/POST
- MAILBOX
- LIGHT POST
- FLOWLINE
- ELECTRIC UTILITY LINE
- OVERHEAD ELECTRIC UTILITY LINE
- UTILITY POLE
- ELECTRICAL TRANSFORMER
- COMMUNICATION BOX
- RETAINING WALL
- FENCE
- GAS UTILITY LINE
- GAS METER
- SANITARY SEWER LINE
- WATER MAIN
- STORM SEWER
- STORM SEWER INLET

LEGEND

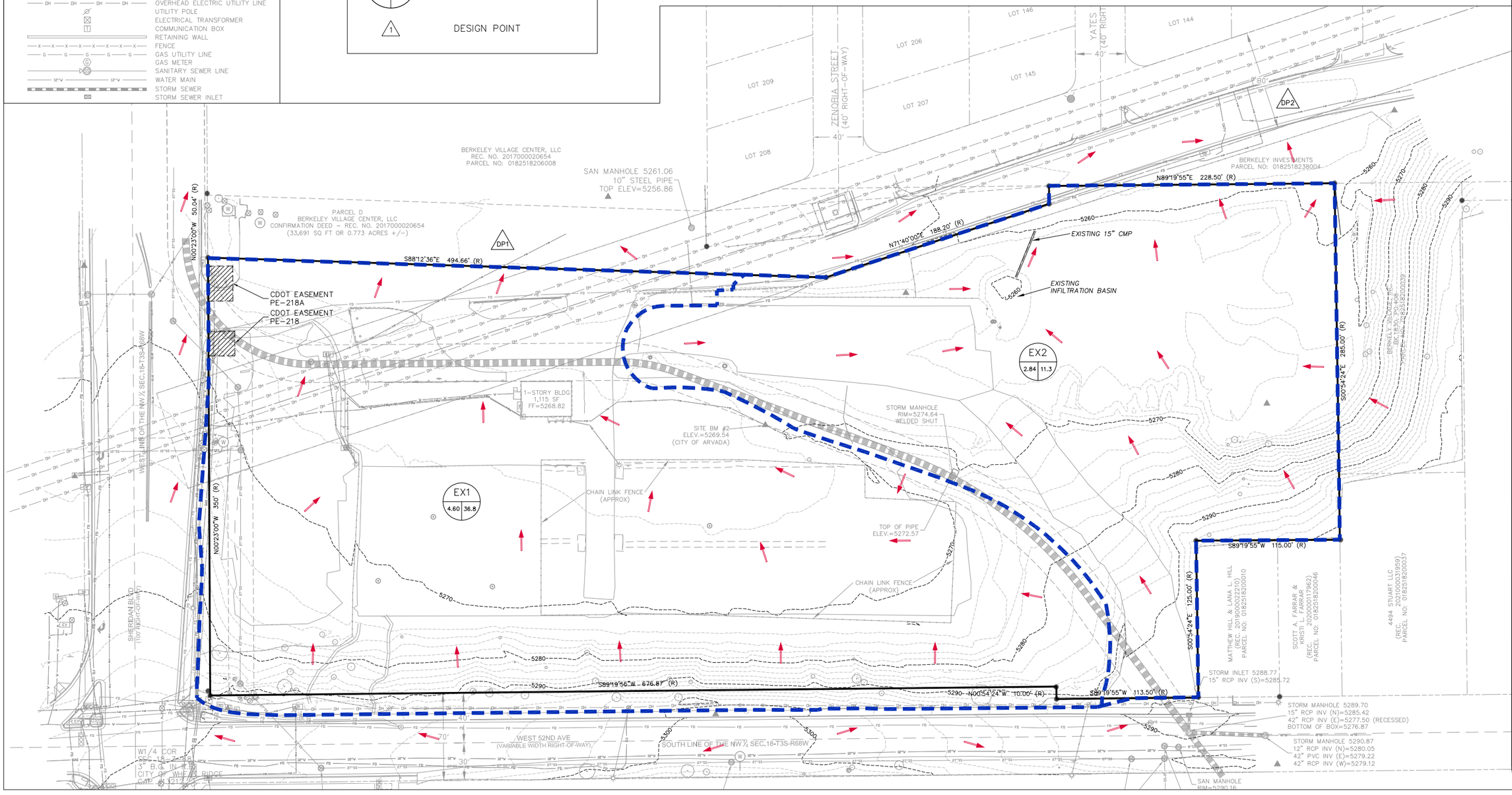
- = DRAINAGE BASIN
- = DRAINAGE FLOW ARROW
- A / B / C — A=BASIN DESIGNATION, B=BASIN AREA (ACRES), C=PERCENT IMPERVIOUS
- 1 — DESIGN POINT

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

N

0' 40' 80'

DATE	REVISION	BY
10.31.24	PLAT REVISION TO 3 LOTS	CP
12.18.24	REVISION TO EDB / TRACT A	CP



MINOR SUBDIVISION PLAT
5200 SHERIDAN BOULEVARD
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ADAMS COUNTY

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GOLDEN, CO 80401

EXISTING DRAINAGE BASIN MAP

SCALE: AS NOTED

DP 1

5200 SHERIDAN MINOR SUBDIVISION PLAT

PROPOSED DRAINAGE BASIN MAP

LEGEND (EXISTING)

- PROPERTY BOUNDARY
- ADJOINER PROPERTY LINES
- RIGHT-OF-WAY
- EASEMENT
- 2' CONTOUR
- 8450 10' CONTOUR
- EDGE OF PAVEMENT
- UNPAVED ROAD
- BENCHMARK/CONTROL POINT
- SIGN
- BOLLARD/POST
- MAILBOX
- LIGHT POST
- FLOWLINE
- ELECTRIC UTILITY LINE
- OVERHEAD ELECTRIC UTILITY LINE
- UTILITY POLE
- ELECTRICAL TRANSFORMER
- COMMUNICATION BOX
- RETAINING WALL
- FENCE
- GAS UTILITY LINE
- GAS METER
- SANITARY SEWER LINE
- WATER MAIN
- STORM SEWER
- STORM SEWER INLET

LEGEND (PROPOSED)

- 5440 2' CONTOUR
- 10' CONTOUR
- SHOULDER
- DRIVE SURFACE
- DRAINAGE FLOW PATH
- STORM CULVERT
- STORM SEWER INLET / MH
- SPOT ELEVATION
- RETAINING WALL
- DRIVEWAY GRADE
- CUT / FILL SLOPE
- ASPHALT
- CONCRETE

tw: 02.0
bw: 96.0
45.2
10.0%
2H:1V

Know what's below. Call before you dig.

N

0 40' 80'

BERKELEY VILLAGE CENTER, LLC
REC. NO. 2017000020654
PARCEL NO: 0182518206008

PARCEL D
BERKELEY VILLAGE CENTER, LLC
CONFIRMATION DEED – REC. NO. 2017000020654
(33,691 SQ FT OR 0.773 ACRES +/–)

BERKELEY INVESTMENTS
PARCEL NO: 0182518238004

LOT 146 LOT 144 LOT 206 LOT 145 LOT 209 LOT 207 LOT 208

DP1 DP2

N00°23'00"W 50.04' (R)

S88°12'36"E 494.66' (R)

N89°19'55"E 228.50' (R)

WEST 53RD PLACE
N71°40'00"E 188.20' (R)

PROPOSED 15" STORM SEWER

PROPOSED 24" STORM SEWER

PROPOSED TYPE 13 INLET

CDOT EASEMENT PE-218A

CDOT EASEMENT PE-218

12' RIGHT-OF-WAY DEDICATION 0.096 ACRES

N00°23'00"W 350' (R)

SHERIDAN BOULEVARD

LOT 1
2.160 AC
2.16 | 65.2

LOT 2
1.600 AC
1.60 | 71.2

TRACT A
0.581 AC
0.72 | 7.2

LOT 3
2.724 AC
2.72 | 58.5

APPROXIMATE IMPORT FILL LIMITS PER TEMPORARY USE PERMIT TVM2024-00008

APPROXIMATE IMPORT FILL LIMITS PER TEMPORARY USE PERMIT TVM2024-00008

STORM MANHOLE
RIM=5274.84
INVERT=

2H:1V

5260 5270 5280 5290

S00°54'24"E 261.00' (R)

S00°54'24"E 125.00' (R)

S89°19'55"W 115.00' (R)

S89°19'55"W 676.87' (R)

N00°54'24"W 10.00' (R)

S89°19'55"W 113.50' (R)

OS-1
0.23 | 2.0

OS-2
0.08 | 2.0

OS-3
0.07 | 2.0

WEST 52ND AVENUE

MATTHEW HILL & LANA L. HILL
(REC. NO. 2020000117962)
PARCEL NO: 0182518200010

SCOTT A. FARRAR & KRISTEN E. FARRAR
(REC. NO. 2020000117962)
PARCEL NO: 0182518200046

4494 STUART LLC
(REC. NO. 2021000031959)
PARCEL NO: 0182518200037

DATE	REVISION	BY
10.31.24	PLAT REVISION TO 3 LOTS	CP
12.18.24	REVISION TO EDB / TRACT A	CP

MINOR SUBDIVISION PLAT
5200 SHERIDAN BOULEVARD
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
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GOLDEN, CO 80401

PROPOSED DRAINAGE BASIN MAP

SCALE: AS NOTED

DP 2

APPENDIX B
HYDROLOGIC CALCULATIONS

- NOAA Point Precipitation Frequency Estimates
- Impervious Calculations
- Runoff Calculations

NOAA Atlas 14, Volume 8, Version 2
Location name: Arvada, Colorado, USA*
Latitude: 39.7918°, Longitude: -105.0521°
Elevation: 5270 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Deborah Martin, Sandra Pavlovic, Ishani Roy, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Michael Yekta, Geoffery Bonnin

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.204 (0.158-0.264)	0.255 (0.197-0.329)	0.343 (0.265-0.444)	0.422 (0.324-0.548)	0.540 (0.405-0.732)	0.638 (0.466-0.871)	0.743 (0.524-1.03)	0.855 (0.579-1.21)	1.01 (0.660-1.47)	1.14 (0.722-1.66)
10-min	0.299 (0.232-0.386)	0.373 (0.289-0.481)	0.502 (0.388-0.650)	0.618 (0.475-0.803)	0.791 (0.593-1.07)	0.935 (0.683-1.28)	1.09 (0.768-1.51)	1.25 (0.848-1.78)	1.48 (0.967-2.15)	1.67 (1.06-2.43)
15-min	0.365 (0.283-0.471)	0.454 (0.352-0.587)	0.612 (0.473-0.792)	0.754 (0.579-0.979)	0.965 (0.723-1.31)	1.14 (0.832-1.56)	1.33 (0.936-1.84)	1.53 (1.03-2.17)	1.81 (1.18-2.62)	2.03 (1.29-2.97)
30-min	0.516 (0.400-0.665)	0.640 (0.495-0.826)	0.858 (0.662-1.11)	1.05 (0.809-1.37)	1.34 (1.01-1.82)	1.59 (1.16-2.16)	1.84 (1.30-2.56)	2.12 (1.44-3.00)	2.50 (1.63-3.63)	2.81 (1.78-4.11)
60-min	0.639 (0.495-0.824)	0.791 (0.613-1.02)	1.06 (0.818-1.37)	1.30 (0.999-1.69)	1.66 (1.24-2.25)	1.96 (1.43-2.67)	2.27 (1.60-3.16)	2.61 (1.77-3.71)	3.09 (2.02-4.48)	3.47 (2.20-5.07)
2-hr	0.762 (0.598-0.972)	0.943 (0.739-1.20)	1.26 (0.986-1.61)	1.55 (1.20-1.99)	1.97 (1.50-2.64)	2.33 (1.72-3.14)	2.70 (1.93-3.71)	3.11 (2.13-4.36)	3.68 (2.43-5.27)	4.13 (2.65-5.96)
3-hr	0.827 (0.653-1.05)	1.02 (0.806-1.29)	1.36 (1.07-1.73)	1.67 (1.31-2.13)	2.13 (1.62-2.83)	2.51 (1.87-3.36)	2.91 (2.09-3.97)	3.35 (2.31-4.66)	3.96 (2.63-5.63)	4.45 (2.87-6.37)
6-hr	0.986 (0.788-1.23)	1.21 (0.963-1.51)	1.59 (1.27-2.00)	1.94 (1.54-2.44)	2.46 (1.90-3.23)	2.89 (2.18-3.82)	3.35 (2.44-4.51)	3.85 (2.69-5.29)	4.54 (3.05-6.38)	5.10 (3.33-7.20)
12-hr	1.23 (0.993-1.52)	1.48 (1.20-1.83)	1.93 (1.56-2.39)	2.33 (1.87-2.90)	2.93 (2.29-3.79)	3.42 (2.61-4.46)	3.95 (2.90-5.24)	4.51 (3.18-6.11)	5.30 (3.60-7.34)	5.93 (3.92-8.27)
24-hr	1.50 (1.23-1.84)	1.81 (1.48-2.21)	2.34 (1.90-2.86)	2.80 (2.27-3.44)	3.48 (2.74-4.42)	4.03 (3.10-5.16)	4.60 (3.42-6.02)	5.22 (3.72-6.97)	6.07 (4.17-8.28)	6.75 (4.51-9.28)
2-day	1.77 (1.47-2.13)	2.13 (1.76-2.56)	2.73 (2.26-3.30)	3.25 (2.67-3.94)	4.00 (3.18-4.99)	4.59 (3.56-5.79)	5.20 (3.90-6.68)	5.83 (4.20-7.66)	6.70 (4.65-9.00)	7.38 (4.98-10.0)
3-day	1.92 (1.61-2.30)	2.30 (1.92-2.75)	2.93 (2.43-3.51)	3.47 (2.87-4.17)	4.23 (3.39-5.25)	4.84 (3.79-6.06)	5.47 (4.14-6.98)	6.13 (4.45-7.99)	7.02 (4.90-9.35)	7.72 (5.25-10.4)
4-day	2.04 (1.72-2.43)	2.42 (2.03-2.88)	3.06 (2.56-3.65)	3.61 (3.00-4.32)	4.39 (3.54-5.42)	5.02 (3.95-6.25)	5.66 (4.30-7.18)	6.33 (4.62-8.20)	7.24 (5.09-9.60)	7.96 (5.44-10.7)
7-day	2.34 (1.98-2.75)	2.73 (2.31-3.22)	3.39 (2.86-4.00)	3.96 (3.33-4.69)	4.77 (3.88-5.82)	5.42 (4.31-6.67)	6.08 (4.68-7.64)	6.78 (5.00-8.69)	7.73 (5.48-10.1)	8.47 (5.85-11.2)
10-day	2.61 (2.23-3.05)	3.02 (2.57-3.53)	3.70 (3.15-4.34)	4.29 (3.62-5.04)	5.12 (4.19-6.19)	5.78 (4.62-7.06)	6.46 (5.00-8.05)	7.17 (5.32-9.12)	8.13 (5.80-10.6)	8.88 (6.17-11.7)
20-day	3.41 (2.95-3.93)	3.88 (3.36-4.48)	4.66 (4.02-5.40)	5.32 (4.55-6.17)	6.23 (5.16-7.40)	6.94 (5.61-8.34)	7.65 (5.99-9.38)	8.38 (6.29-10.5)	9.36 (6.76-12.0)	10.1 (7.11-13.1)
30-day	4.06 (3.54-4.64)	4.62 (4.02-5.28)	5.52 (4.79-6.33)	6.26 (5.40-7.21)	7.28 (6.06-8.56)	8.05 (6.56-9.57)	8.82 (6.94-10.7)	9.59 (7.24-11.9)	10.6 (7.69-13.4)	11.3 (8.04-14.6)
45-day	4.84 (4.25-5.50)	5.54 (4.85-6.29)	6.64 (5.80-7.56)	7.53 (6.55-8.60)	8.72 (7.30-10.1)	9.61 (7.87-11.3)	10.5 (8.29-12.6)	11.3 (8.59-13.9)	12.4 (9.05-15.5)	13.2 (9.40-16.8)
60-day	5.48 (4.84-6.19)	6.31 (5.56-7.13)	7.62 (6.70-8.62)	8.66 (7.57-9.84)	10.0 (8.43-11.6)	11.0 (9.08-12.9)	12.0 (9.54-14.3)	12.9 (9.86-15.7)	14.1 (10.3-17.5)	14.9 (10.7-18.9)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical

AREA WEIGHTED IMPERVIOUSNESS VALUES
24-035 5200 Sheridan Minor Subdivision Plat

EXISTING BASINS

Basin Name	Basin Description	Soil Type	Paved 100% (acres)	Building 90% (acres)	Gravel 40% (acres)	Lawn 2% (acres)	Total Area (acres)	Percent Impervious
EX1	DP1 - Existing	A	0.85	0.03	1.96	1.76	4.60	36.9%
EX2	DP2 - Existing	A	0.01		0.67	2.16	2.84	11.3%
		Total	0.86	0.03	2.63	3.92	**7.44**	**27.1%**

MAJOR BASINS

Basin Name	Basin Description	Soil Type	Paved 100% (acres)	Building 90% (acres)	Gravel 40% (acres)	Lawn 2% (acres)	Total Area (acres)	Percent Impervious
LOT 1	Future Site (1)	A	1.15	0.27		0.74	2.16	65.2%
LOT 2	Future Site (2)	A	0.95	0.20		0.45	1.60	71.2%
LOT 3	Future Site (2)	A	0.85	0.80		1.07	2.72	58.5%
TRACT A	Detention Basin	A			0.08	0.50	0.58	7.2%
		Total	2.95	1.27	0.08	2.76	**7.06**	59.2%

(1) Values for Lot 1 are based on a previous Convenience Store / Gas Station Design

(2) Values for Lots 2 and 3 are assumed based on each lots future build-out condition

OFF-SITE BASINS

Basin Name	Basin Description	Soil Type	Paved 100% (acres)	Building 90% (acres)	Gravel 40% (acres)	Lawn 2% (acres)	Total Area (acres)	Percent Impervious
OS-1	Off-Site to LOT 1	A				0.23	0.23	2.0%
OS-2	Off-Site to LOT 2	A				0.08	0.08	2.0%
OS-3	Off-Site to LOT 3	A				0.07	0.07	2.0%
		Total	-	-	-	0.38	**0.38**	2.0%

MASTER BASINS

Basin Name	Basin Description	Soil Type	Paved 100% (acres)	Building 90% (acres)	Gravel 40% (acres)	Lawn 2% (acres)	Total Area (acres)	Percent Impervious
DP1	DP1 - Proposed	A	0.43			0.03	0.46	93.6%
DP2	DP2 - Proposed	A	2.52	1.27	0.08	3.11	6.98	53.8%
		Total	2.95	1.27	0.08	3.14	**7.44**	56.3%

Table 6-3. Recommended percentage imperviousness values

Land Use or Surface Characteristics	Percentage Imperviousness (%)
Business:	
Downtown Areas	95
Suburban Areas	75
Residential lots (lot area only):	
Single-family	
2.5 acres or larger	12
0.75 – 2.5 acres	20
0.25 – 0.75 acres	30
0.25 acres or less	45
Apartments	75
Industrial:	
Light areas	80
Heavy areas	90
Parks, cemeteries	10
Playgrounds	25
Schools	55
Railroad yard areas	50
Undeveloped Areas:	
Historic flow analysis	2
Greenbelts, agricultural	2
Off-site flow analysis (when land use not defined)	45
Streets:	
Paved	100
Gravel (packed)	40
Drive and walks	90
Roofs	90
Lawns, sandy soil	2
Lawns, clayey soil	2

Designer: Chris Purrington
Company: Purrington Civil, LLC
Date: 12/18/2024
Project: 5200 Sheridan Minor Subdivision Plat
Location: 5200 Sheridan Blvd, Arvada, CO

Version 2.00 released May 2017

Cells of this color are for required user-input
Cells of this color are for optional override values
Cells of this color are for calculated results based on overrides

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

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

Computed $t_c = t_i + t_t$

Regional $t_c = (26 - 17i) +$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Runoff Coefficient, C							Overland (Initial) Flow Time				
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	Overland Flow Length L_i (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Overland Flow Slope S_i (ft/ft)	Overland Flow Time t_i (min)
EX1	4.60	A	36.9	0.23	0.24	0.26	0.29	0.34	0.40	0.49	300			0.0625	14.67
EX2	2.84	A	11.3	0.05	0.05	0.06	0.08	0.12	0.20	0.33	300			0.0700	17.22
LOT 1	2.16	A	65.2	0.48	0.50	0.52	0.55	0.58	0.62	0.67	150			0.1315	5.68
LOT 2	1.60	A	71.2	0.54	0.56	0.57	0.60	0.63	0.66	0.71	245			0.0200	12.18
LOT 3	2.72	A	58.5	0.42	0.43	0.45	0.48	0.52	0.57	0.63	170			0.0650	8.45
TRACT A	0.58	A	7.2	0.03	0.03	0.03	0.05	0.09	0.17	0.30	32			0.0800	5.50
DP1	0.46	A	93.6	0.77	0.79	0.80	0.82	0.82	0.84	0.86	105.00			0.058	3.20
DP2	6.98	A	53.8	0.37	0.39	0.41	0.44	0.48	0.53	0.60	150.00			0.132	6.71

Calculation of Peak Runoff using Rational Method

Designer: Chris Purrington
Company: Purrington Civil, LLC
Date: 12/18/2024
Project: 5200 Sheridan Minor Subdivision Plat
Location: 5200 Sheridan Blvd, Arvada, CO

$$\frac{L_t}{60(14i+9)\sqrt{S_t}}$$

$t_{minimum}$ = 5 (urban)
$t_{minimum}$ = 10 (non-urban)

$$\text{Selected } t_c = \max\{t_{minimum}, \min(\text{Computed } t_c, \text{Regional } t_c)\}$$

Select UDFCD locatic

1-hour rainfall depth, P1 (in) =

Rainfall Intensity Equation Coefficients =

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Channelized (Travel) Flow Time							Time of Concentration		
				Channelized Flow Length L_t (ft)	U/S Elevation (ft) (Optional)	D/S Elevation (ft) (Optional)	Channelized Flow Slope S_t (ft/ft)	NRCS Conveyance Factor K	Channelized Flow Velocity V_t (ft/sec)	Channelized Flow Time t_t (min)	Computed t_c (min)	Regional t_c (min)	Selected t_c (min)
EX1	4.60	A	36.9	0			0.0630	20	5.02	0.00	14.67	19.73	14.67
EX2	2.84	A	11.3	0			0.0070	20	1.67	0.00	17.22	24.08	17.22
LOT 1	2.16	A	65.2	401			0.0167	15.6	2.02	3.32	9.00	17.77	9.00
LOT 2	1.60	A	71.2	474			0.2000	20	8.94	0.88	13.06	14.83	13.06
LOT 3	2.72	A	58.5	135			0.0150	20	2.45	0.92	9.37	17.12	9.37
TRACT A	0.58	A	7.2	300			0.0050	20	1.41	3.54	9.04	31.84	10.00
DP1	0.46	A	93.6	0			0.058	20	4.82	0.00	3.20	10.09	5.00
DP2	6.98	A	53.8	401.00			0.017	15.6	2.02	3.32	10.02	19.98	10.02

Designer: Chris Purrington
Company: Purrington Civil, LLC
Date: 12/18/2024
Project: 5200 Sheridan Minor Subdivision Plat
Location: 5200 Sheridan Blvd, Arvada, CO

n for NOAA Atlas 14 Rainfall Depths from the pulldown list OR enter your own depths obtained from the NOAA website (click this link)

2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
0.79	1.06	1.30	1.66	1.96	2.27	3.09

a	b	c
28.50	10.00	0.786

$$I(in/hr) = \frac{a * P_1}{(b + t_c)^c}$$

$$Q(cfs) = CIA$$

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Rainfall Intensity, I (in/hr)							Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr	2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
EX1	4.60	A	36.9	1.81	2.43	2.98	3.81	4.50	5.21	7.09	1.91	2.70	3.51	5.05	7.04	9.52	16.04
EX2	2.84	A	11.3	1.68	2.25	2.76	3.52	4.16	4.82	6.56	0.23	0.34	0.47	0.76	1.44	2.71	6.09
LOT 1	2.16	A	65.2	2.23	2.99	3.66	4.68	5.52	6.40	8.71	2.32	3.22	4.08	5.52	6.94	8.54	12.68
LOT 2	1.60	A	71.2	1.91	2.56	3.14	4.01	4.74	5.49	7.47	1.65	2.29	2.89	3.88	4.80	5.84	8.53
LOT 3	2.72	A	58.5	2.19	2.94	3.61	4.61	5.44	6.30	8.57	2.50	3.48	4.42	6.06	7.76	9.69	14.72
TRACT A	0.58	A	7.2	2.14	2.87	3.52	4.49	5.30	6.14	8.36	0.03	0.05	0.07	0.12	0.27	0.59	1.46
DP1	0.46	A	93.6	2.68	3.60	4.41	5.63	6.65	7.70	10.48	0.95	1.31	1.63	2.13	2.52	2.97	4.14
DP2	6.98	A	53.8	2.14	2.87	3.51	4.49	5.30	6.14	8.35	5.59	7.81	9.98	13.79	17.92	22.66	35.04

APPENDIX C
HYDRAULIC CALCULATIONS

- Maximum Allowable Release Rate
- Extended Detention Basin Sizing Calculations
- Storm Sewer Sizing Calculations
    - Storm Sewer 1 – EDB Outlet Pipe (15”)
    - Storm Sewer 2 – Storm Sewer Pipe to EDB (24”)
- Forebay Design

EXTENDED DETENTION BASIN - MAXIMUM ALLOWABLE RELEASE RATE
24-035 5200 Sheridan Minor Subdivision Plat

The release rate from the detention basin shall be the lesser of the two following methods
1. As defined by the Adams County DSR
2. The existing, pre-development flow rate at the downstream confluence point (DP2)

Method 1:

9-01-11-02 MAXIMUM ALLOWABLE RELEASE RATE

The maximum allowable release rates for the corresponding storm events (5 and 100-year) are as presented in Table 9.16.

Table 9.16—Allowable Release Rates (CFS/Acre)

Control Frequency	Dominant Soil Group		
	A	B	C & D
5-year	0.07	0.13	0.17
100-year	0.50	0.85	1.00

Total Tributary Area: 6.98 acres - represented by Master Basin DP2

5-Year: 0.07 cfs/acre * 6.98 = **0.49 cfs** 100-Year: 0.50 cfs/acre * 6.98 = **3.49 cfs**

Method 2:

Subcatchment Name	Area (ac)	NRCS Hydrologic Soil Group	Percent Imperviousness	Peak Flow, Q (cfs)						
				2-yr	5-yr	10-yr	25-yr	50-yr	100-yr	500-yr
EX1	4.60	A	36.9	1.91	2.70	3.51	5.05	7.04	9.52	16.04
EX2	2.84	A	11.3	0.23	0.34	0.47	0.76	1.44	2.71	6.09

Conclusion:

5-Year Storm Maximum Allowable Release Rate: **0.34 cfs**

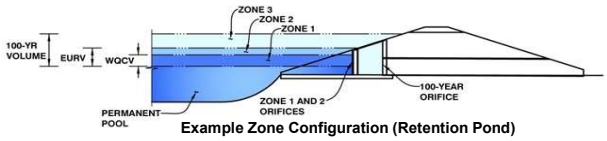
100-Year Storm Maximum Allowable Release Rate: **2.71 cfs**

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.06 (July 2022)

Project: **5200 Sheridan Minor Subdivision Plat**

Basin ID: **Tract A Extended Detention Basin**



Example Zone Configuration (Retention Pond)

Watershed Information

Selected BMP Type =	**EDB**	
Watershed Area =	6.98	acres
Watershed Length =	775	ft
Watershed Length to Centroid =	500	ft
Watershed Slope =	0.020	ft/ft
Watershed Imperviousness =	53.80%	percent
Percentage Hydrologic Soil Group A =	100.0%	percent
Percentage Hydrologic Soil Group B =	0.0%	percent
Percentage Hydrologic Soil Groups C/D =	0.0%	percent
Target WQCV Drain Time =	40.0	hours
Location for 1-hr Rainfall Depths =	User Input	

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

			Optional User Overrides	
Water Quality Capture Volume (WQCV) =	0.126	acre-feet		acre-feet
Excess Urban Runoff Volume (EURV) =	0.442	acre-feet		acre-feet
2-yr Runoff Volume (P1 = 0.79 in.) =	0.205	acre-feet	0.79	inches
5-yr Runoff Volume (P1 = 1.06 in.) =	0.283	acre-feet	1.06	inches
10-yr Runoff Volume (P1 = 1.3 in.) =	0.358	acre-feet	1.30	inches
25-yr Runoff Volume (P1 = 1.66 in.) =	0.490	acre-feet	1.66	inches
50-yr Runoff Volume (P1 = 1.96 in.) =	0.618	acre-feet	1.96	inches
100-yr Runoff Volume (P1 = 2.27 in.) =	0.784	acre-feet	2.27	inches
500-yr Runoff Volume (P1 = 3.09 in.) =	1.218	acre-feet	3.09	inches
Approximate 2-yr Detention Volume =	0.189	acre-feet		
Approximate 5-yr Detention Volume =	0.265	acre-feet		
Approximate 10-yr Detention Volume =	0.338	acre-feet		
Approximate 25-yr Detention Volume =	0.460	acre-feet		
Approximate 50-yr Detention Volume =	0.537	acre-feet		
Approximate 100-yr Detention Volume =	0.621	acre-feet		

Define Zones and Basin Geometry

Zone 1 Volume (WQCV) =	0.126	acre-feet
Zone 2 Volume (5-year - Zone 1) =	0.139	acre-feet
Zone 3 (100yr + 1 / 2 WQCV - Zones 1 & 2) =	0.419	acre-feet
Total Detention Basin Volume =	0.684	acre-feet
Initial Surcharge Volume (ISV) =	user	ft^3
Initial Surcharge Depth (ISD) =	user	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	user	ft
Slope of Trickle Channel (S_{TC}) =	user	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio ($R_{L/W}$) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

Depth Increment = ft

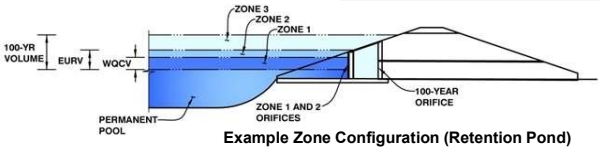
Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Top of Micropool	--	0.00	--	--	--	97	0.002		
5258.50	--	0.25	--	--	--	6,465	0.148	820	0.019
5258.75	--	0.50	--	--	--	8,514	0.195	2,692	0.062
5259.00	--	0.75	--	--	--	9,913	0.228	4,996	0.115
5260.00	--	1.75	--	--	--	10,848	0.249	15,376	0.353
5261.00	--	2.75	--	--	--	12,094	0.278	26,847	0.616
5261.25	--	3.00	--	--	--	12,348	0.283	29,902	0.686
5262.00	--	3.75	--	--	--	12,931	0.297	39,382	0.904
5262.25	--	4.00	--	--	--	13,107	0.301	42,637	0.979

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

Project: **5200 Sheridan Minor Subdivision Plat**

Basin ID: **Tract A Extended Detention Basin**



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	0.81	0.126	Orifice Plate
Zone 2 (5-year)	1.40	0.139	Circular Orifice
Z3 (100+1/2WQCV)	3.00	0.419	Weir&Pipe (Restrict)
Total (all zones)		0.684	

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

Underdrain Orifice Invert Depth =	N/A	ft (distance below the filtration media surface)	Underdrain Orifice Area =	N/A	ft^2
Underdrain Orifice Diameter =	N/A	inches	Underdrain Orifice Centroid =	N/A	feet

Calculated Parameters for Underdrain

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

Centroid of Lowest Orifice =	0.00	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	8.681E-03	ft^2
Depth at top of Zone using Orifice Plate =	0.80	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	N/A	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	1.25	sq. inches (diameter = 1-1/4 inches)	Elliptical Slot Area =	N/A	ft^2

Calculated Parameters for Plate

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

	Row 1 (required)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	0.00	0.33	0.67					
Orifice Area (sq. inches)	1.25	1.25	1.25					

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

User Input: Vertical Orifice (Circular or Rectangular)

	Zone 2 Circular	Not Selected			Zone 2 Circular	Not Selected	
Invert of Vertical Orifice =	1.30	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	0.02	N/A	ft^2
Depth at top of Zone using Vertical Orifice =	1.40	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	0.08	N/A	feet
Vertical Orifice Diameter =	2.00	N/A	inches				

Calculated Parameters for Vertical Orifice

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

	Zone 3 Weir	Not Selected			Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	2.80	N/A	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	2.80	N/A	feet
Overflow Weir Front Edge Length =	4.00	N/A	feet	Overflow Weir Slope Length =	4.00	N/A	feet
Overflow Weir Grate Slope =	0.00	N/A	H:V	Grate Open Area / 100-yr Orifice Area =	48.17	N/A	
Horiz. Length of Weir Sides =	4.00	N/A	feet	Overflow Grate Open Area w/o Debris =	12.66	N/A	ft^2
Overflow Grate Type =	Close Mesh Grate	N/A		Overflow Grate Open Area w/ Debris =	6.33	N/A	ft^2
Debris Clogging % =	50%	N/A	%				

Calculated Parameters for Overflow Weir

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

	Zone 3 Restrictor	Not Selected			Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	0.25	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	0.26	N/A	ft^2
Outlet Pipe Diameter =	15.00	N/A	inches	Outlet Orifice Centroid =	0.20	N/A	feet
Restrictor Plate Height Above Pipe Invert =	4.00		inches	Half-Central Angle of Restrictor Plate on Pipe =	1.09	N/A	radians

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	3.00	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	0.51	feet
Spillway Crest Length =	10.00	feet	Stage at Top of Freeboard =	4.51	feet
Spillway End Slopes =	3.00	H:V	Basin Area at Top of Freeboard =	0.30	acres
Freeboard above Max Water Surface =	1.00	feet	Basin Volume at Top of Freeboard =	0.98	acre-ft

Calculated Parameters for Spillway

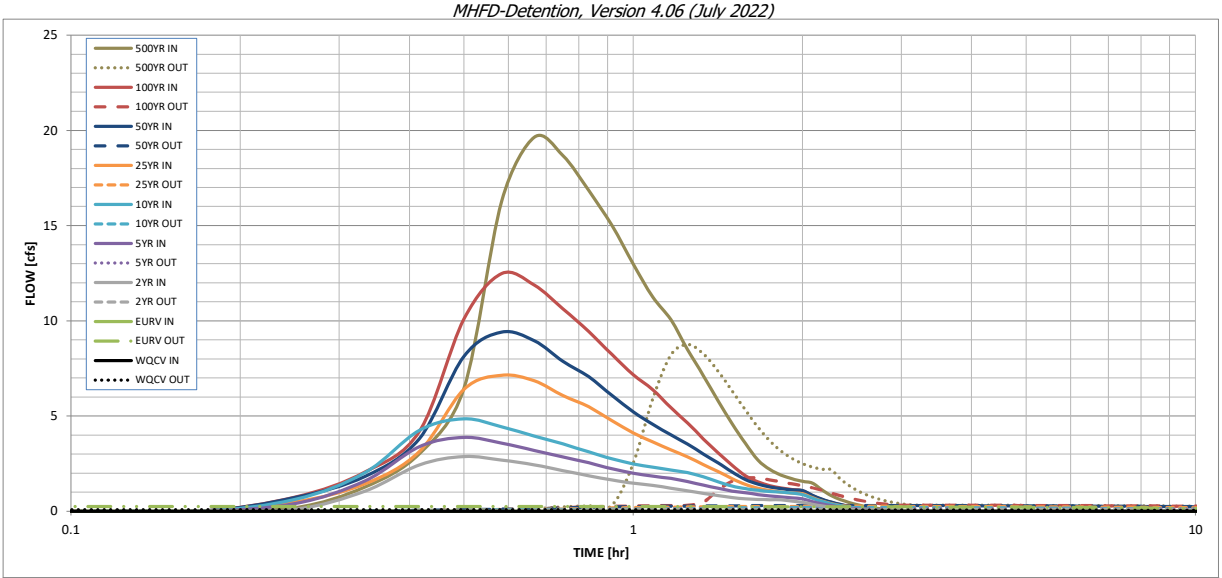
Routed Hydrograph Results

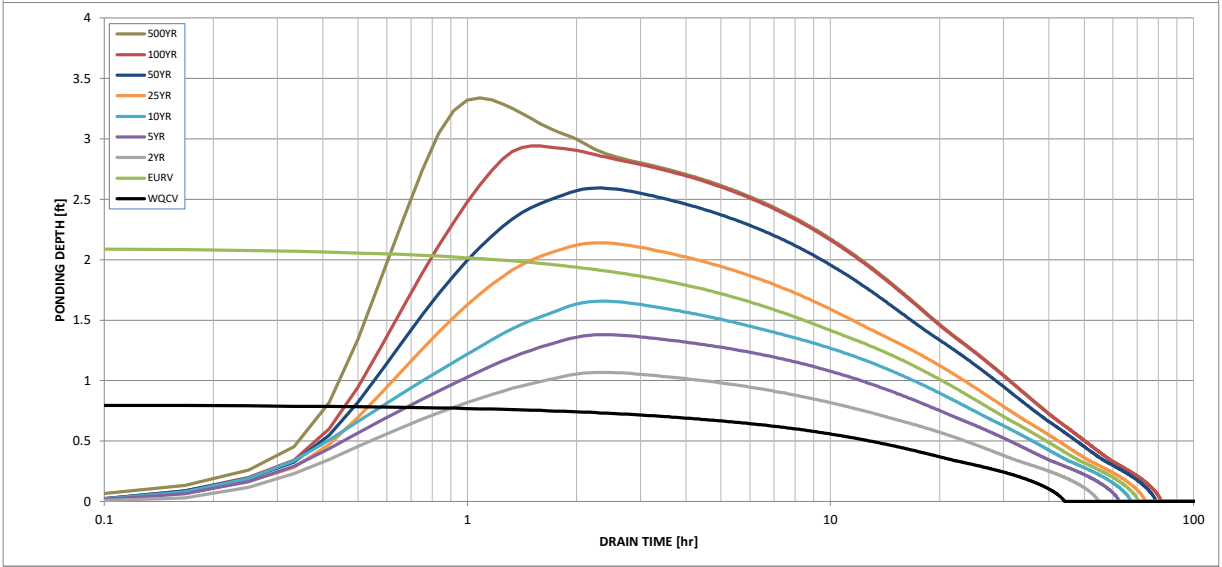
The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AF).

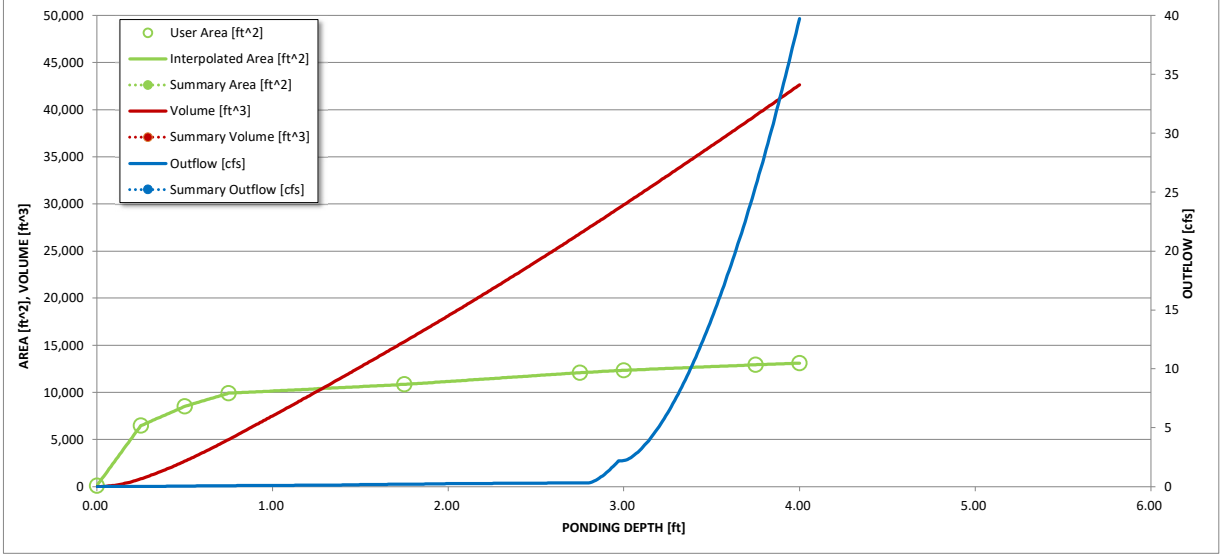
Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year	500 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	0.79	1.06	1.30	1.66	1.96	2.27	3.09
CUHP Runoff Volume (acre-ft) =	0.126	0.442	0.205	0.283	0.358	0.490	0.618	0.784	1.218
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.205	0.283	0.358	0.490	0.618	0.784	1.218
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	0.0	0.0	0.1	0.1	1.0	2.7	6.7
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A							
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.00	0.00	0.01	0.02	0.14	0.38	0.95
Peak Inflow Q (cfs) =	N/A	N/A	2.88	3.88	4.85	7.15	9.40	12.48	19.64
Peak Outflow Q (cfs) =	0.08	0.25	0.11	0.14	0.20	0.26	0.30	1.75	8.76
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	7.3	3.7	1.8	0.3	0.7	1.3
Structure Controlling Flow =	Plate	Vertical Orifice 1	Plate	Vertical Orifice 1	Vertical Orifice 1	Vertical Orifice 1	Vertical Orifice 1	Overflow Weir 1	Spillway
Max Velocity through Grate 1 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.1	0.2
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	40	59	48	54	58	62	64	64	58
Time to Drain 99% of Inflow Volume (hours) =	**42**	66	52	59	63	68	72	74	71
Maximum Ponding Depth (ft) =	0.80	2.11	1.07	1.38	1.66	2.14	2.59	2.94	3.34
Area at Maximum Ponding Depth (acres) =	0.23	0.26	0.23	0.24	0.25	0.26	0.27	0.28	0.29
Maximum Volume Stored (acre-ft) =	0.126	0.444	0.186	0.262	0.328	0.452	0.572	0.669	0.781

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

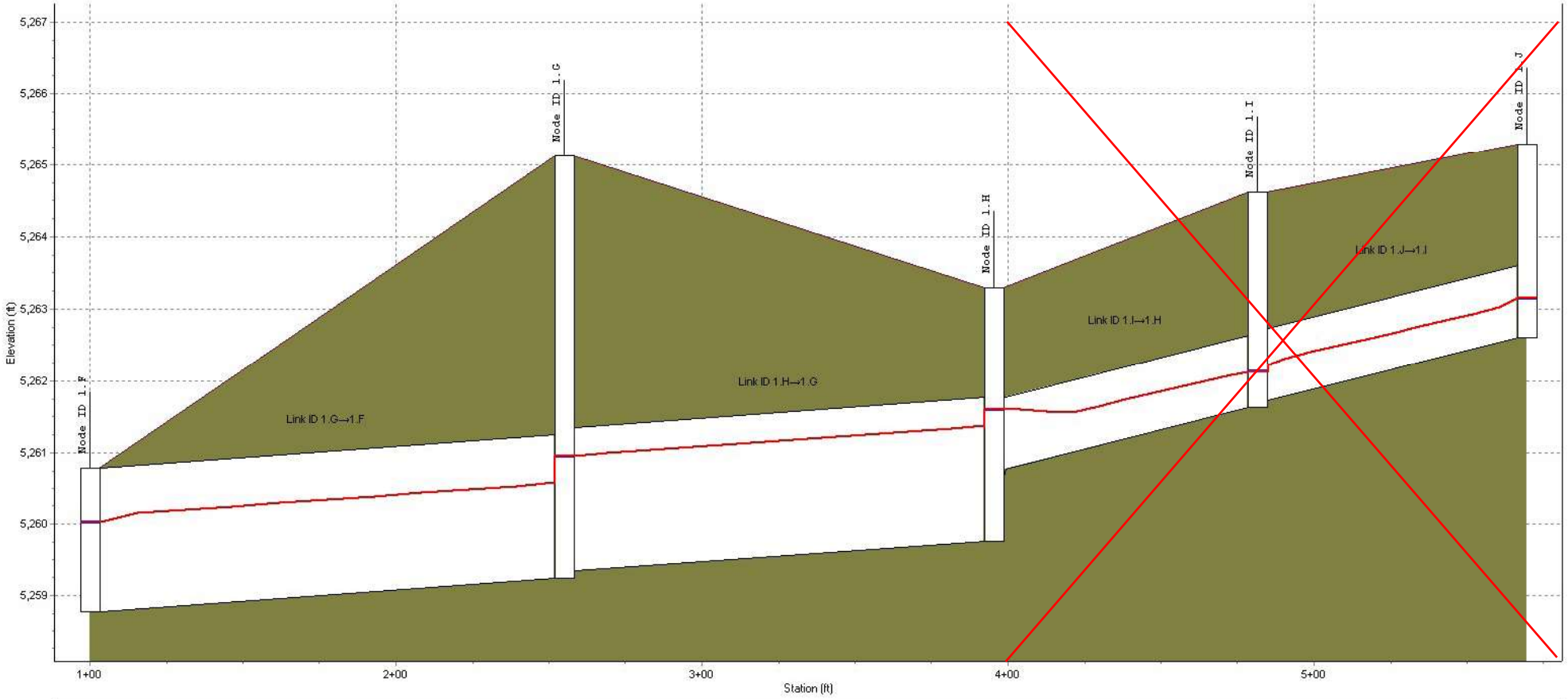






S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

Storm Sewer - Storm Sewer Pipe to EDB



Node ID:	1.F	1.G	1.H	1.I	1.J
Rim (ft):		5265.13	5263.30	5264.62	5265.29
Invert (ft):	5258.78	5259.25	5259.77	5261.63	5262.61
Min Pipe Cover (ft):		3.78	1.53	1.89	1.68
Max HGL (ft):	5260.03	5260.95	5261.60	5262.13	5263.15

Link ID:	1.G→1.F	1.H→1.G	1.I→1.H	1.J→1.I
Length (ft):	154.84	140.64	86.08	87.96
Dia (in):	24.0	24.0	12.0	12.0
Slope (ft/ft):	0.00	0.00	0.01	0.01
Up Invert (ft):	5259.25	5259.77	5261.63	5262.61
Dn Invert (ft):	5258.78	5259.35	5260.77	5261.73
Max Q (cfs):	12.10	12.19	1.82	1.81
Max Vel (ft/s):	4.86	4.29	4.23	4.50
Max Depth (ft):	1.48	1.72	0.66	0.51

FOREBAY DESIGN
24-035 5200 Sheridan Minor Subdivision Plat

Forebay Design:

Per MFHD USDCM Volume 3, Chapter 4, Treatment BMP Fact Sheets: T-5 Extended Detention Basin

The forebay must have a minimum volume of 2% of the WQCV, have a maximum depth of 18 inches, and must release the volume at 2% of the undetained 100-year discharge:

0.02 * 0.128 *ac-ft* = 0.00256 *ac-ft* = **111.5 *cu. ft.***

0.02 * 12.08 *cfs* (FES 1.F Outflow) = **0.24 cfs**

Assuming a 15 inch tall wall;

$$Q = C_0 A\sqrt{2gh}$$

$$A = \pi r^2$$

$$A = \pi r^2 = \frac{Q}{C_0\sqrt{2gh}}$$

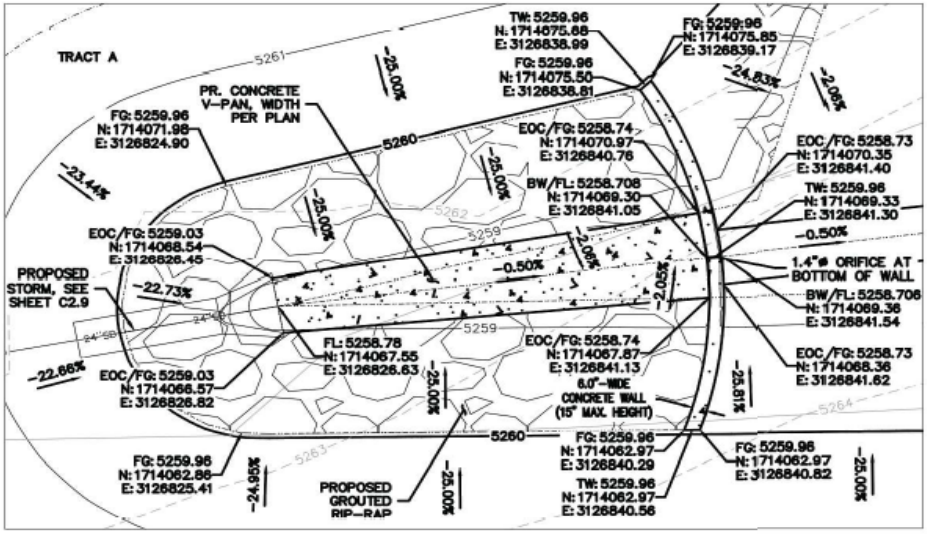
$$r = \sqrt{\frac{Q}{\pi C_0\sqrt{2gh}}}$$

Where:
- Q = Discharge, cfs
- C_0 = Orifice coefficient, dimensionless
- A = Cross-sectional area of orifice, ft^2
- g = Gravitational constant (32.2 ft/sec^2)
- H = Effective head, ft
- r = Orifice radius, ft

$$r = \sqrt{\frac{0.24\,cfs}{\pi * 0.61 * \sqrt{2 * 32.2\frac{ft}{sec^2} * 1.25ft}}}$$

$$= 0.12\,ft = 1.4\,in$$

FOREBAY STAGE | STORAGE		
ELEVATION	AREA *(sq. ft.)*	VOLUME *(cu. ft.)*
5258.71	0.03	0.00
5258.80	27.39	0.85
5258.90	39.46	4.17
5259.00	52.05	8.73
5259.10	65.15	14.58
5259.20	78.75	21.77
5259.30	92.86	30.34
5259.40	107.48	40.35
5259.50	122.60	51.84
5259.60	138.23	64.88
5259.70	154.36	79.50
5259.80	171.00	95.76
5259.90	188.14	113.71
5259.96	198.67	125.31



DETENTION BASIN FOREBAY
NOT TO SCALE

APPENDIX D
REFERENCED INFORMATION

- CCD Storm Drainage Master Plan
- NRCS Soils
- FEMA FIRMette Panel

4.6 CLEAR CREEK

MAJOR DRAINAGEWAY NUMBER 4300

WATERSHED DESCRIPTION: Clear Creek is a west bank tributary to the South Platte River, and has its source in the Rocky Mountains west of Denver. Flowing in a generally easterly direction from the Continental Divide, Clear Creek enters the high plains in Golden. Within this lower reach, Clear Creek passes through unincorporated areas of Adams and Jefferson Counties, and the cities of Golden, Wheatridge, Arvada and Denver. Clear Creek crosses the northwest corner of Denver for a distance of 0.2 miles in the vicinity of 52nd Avenue and Gray Street.

The drainage area at the mouth is 575 square miles, of which 400 square miles are in the mountain region above Golden. There are 11 major reservoirs in the lower Clear Creek basin, three of which are on-stream and provide some residual flood control effects downstream from each site. Ralston Reservoir was built in 1938 by Denver and receives water from Ralston and South Boulder Creeks. Although Ralston Reservoir is not operated for flood control purposes, there are approximately 2,400 acre-feet of storage available. Maple Grove Reservoir is located on Lena Gulch at West 27th Avenue and has approximately 452 acre-feet of available storage. Leyden Lake is an irrigation water storage reservoir on Leyden Creek upstream from Indiana Street, and has approximately 550 acre-feet of uncontrolled storage.

MAJOR DRAINAGEWAY CHARACTERISTICS

TOTAL TRIBUTARY AREA:
575 Sq. Mi

TRIBUTARY AREA IN DENVER:
2.5 Sq. Mi

MAJOR DRAINAGEWAY LENGTH IN DENVER:
Clear Creek: 0.2 Mi.

DENVER CITY COUNCIL DISTRICTS: 1

JURISDICTION(S) OUTSIDE OF DENVER: Adams County,Lakeside, Mountain View, Wheat Ridge, Jefferson County

KEY POINTS OF INTEREST IN DENVER WATERSHED:
Regis University, Berkley Lake, West Highland

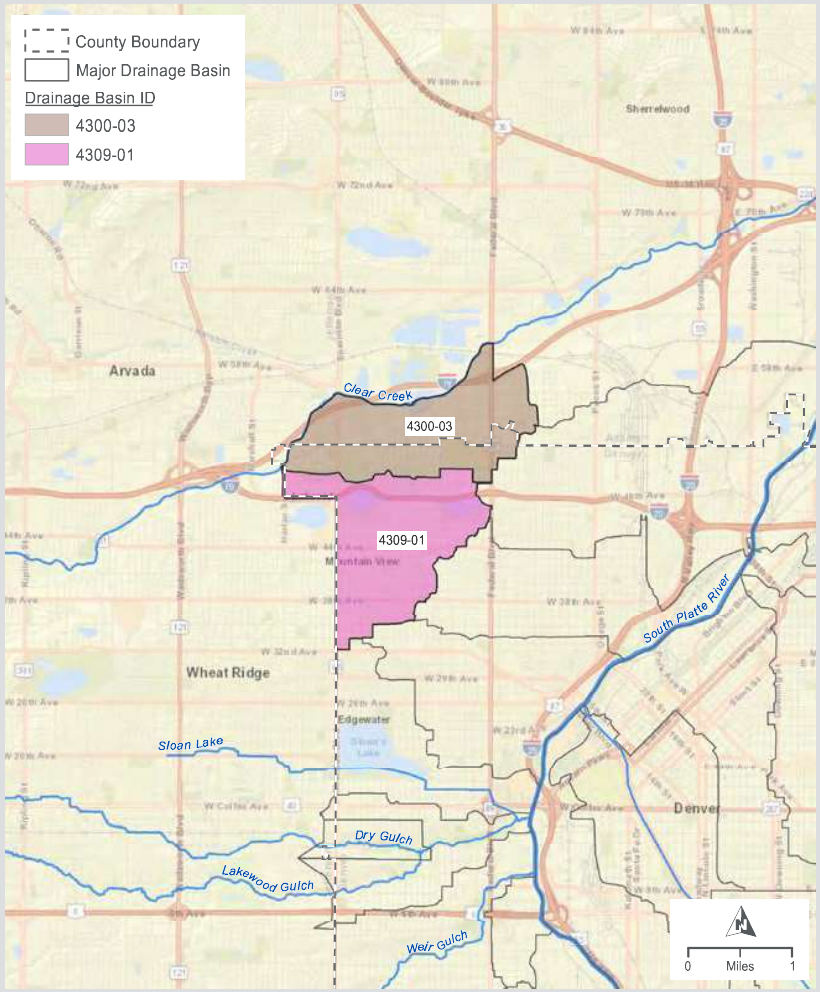


FIGURE 4.7
Major Drainageway Map — Clear Creek

DESCRIPTION / CURRENT SYSTEM

EXISTING SYSTEM: This collection system basin drains to Clear Creek and is generally bound by Regis Boulevard on the south, Clear Creek on the north and west, and Alcott Street on the east. A 60-inch RCP drains into the basin from the south from Basin 4309-01 (Berkeley Lake) and continues through Willis Case Golf Course and then along Sheridan Boulevard to Clear Creek. The southern half of the basin is located within the City and County of Denver and drains to an existing 36-inch system in 52nd Avenue. The northern half is outside of the City and drains to the north into Clear Creek. The majority of the basin is residential, but also includes Regis University and Willis Case Golf Course.

DRAINAGE DEFICIENCIES: The majority of trunk drainage systems within this basin do not meet drainage criteria.

TRANS-BASIN FLOW: Flow enters Basin 4300-03 from Basin 4309-01 at the outlet of Berkley Lake.

RECOMMENDED IMPROVEMENTS

COLLECTION SYSTEM

PROJECT A - N. FEDERAL BLVD. OUTFALL: Replacing the 12-inch pipe in N. Federal Blvd. with a 24-inch line within Denver's jurisdiction will meet drainage criteria. Extending the system to the north into Arvada and the outfall at Clear Creek will require a slightly larger system to be coordinated with the City of Arvada.

PROJECT B - CLEAR CREEK OUTFALL: The existing City and County of Denver storm drain outfall in N. Sheridan Blvd. and along W. 52nd Ave. should be upsized to better convey flows to Clear Creek and meet drainage criteria. A portion of this project is outside the City and County of Denver; however Denver has a 30' wide easement for its existing drain in Sheridan Boulevard on to Clear Creek. Recommended sizes range from 48- to 96-inch RCP along the system.

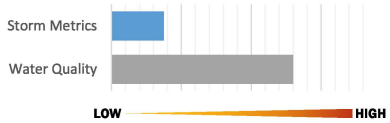
PROJECT C - W. 52ND AVE. OUTFALL: Upsizing to a 60-inch pipe along W. 52nd Ave. west of Sheridan Blvd. is Recommended outfalling to Clear Creek.

STORM DRAINAGE SYSTEM

EXISTING SYSTEM: 5.6 MI

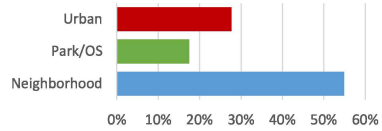
COLLECTION SYSTEM NEEDS: 2.2 MI

WATER QUALITY & STORM METRICS PRIORITY SCORING*



** Based on Storm Metrics and Stormwater Quality Prioritization reports*

FUTURE LAND USE / PROJECTED BUILDOUT



** Based on Blueprint Denver land use*

MAJOR DRAINAGEWAY

CLEAR CREEK

RECOMMENDED MAJOR DRAINAGE WAY IMPROVEMENTS: YES

100-YEAR FEMA FLOODPLAIN AREA: 2 AC, 0% OF BASIN

BASIN LAYOUT & STATISTICS

NEIGHBORHOODS: Chaffee Park, Regis

COUNCIL DISTRICT(S): 1

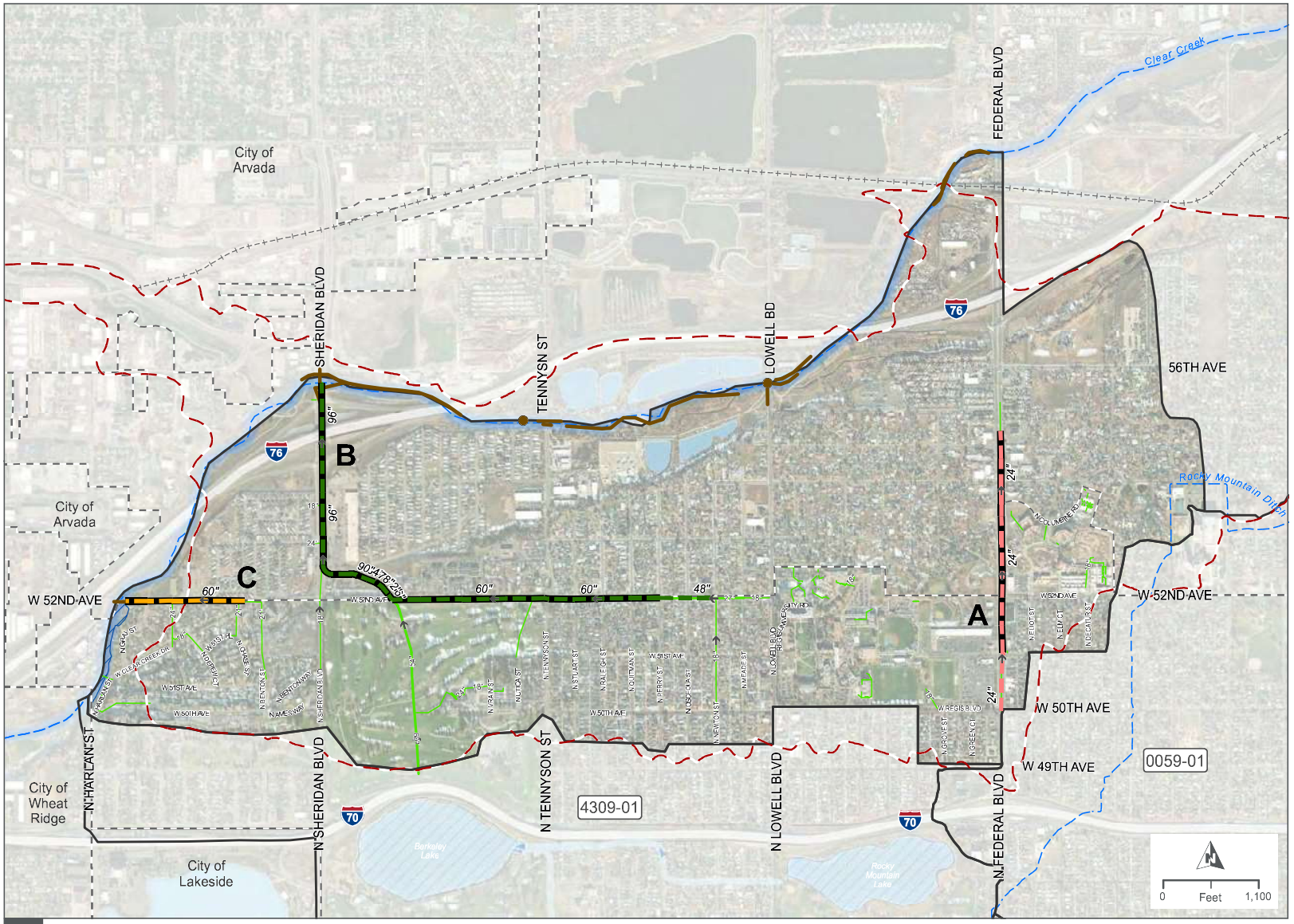
PARK/OS AREA: 103 AC

EXISTING DETENTION: 8 AC

SIZE: 1,147 AC / 1.79 Sq. Mi.

AVERAGE IMPERVIOUS: 50%

PIPE INSTALLATION DATE: MIN: 1930 MAX: 2017 AVG: 1993



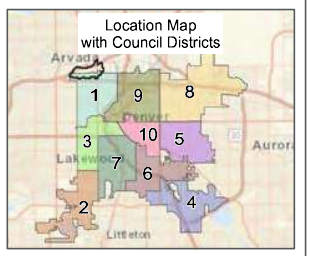
RECOMMENDATIONS

- Modeled Recommendation
- Unmodeled Recommendation

Project Name

- A: N Federal Blvd Outfall
- B: Clear Creek Outfall
- C: W 52nd Ave Outfall

- UDFCD Study Recommendations
- FEMA 100-Year Floodplain
- Existing Storm Main
- Collection System Basin
- Topographic Basin Boundary
- Major Drainageway
- Thalweg
- Existing Storm Detention
- Light Rail
- City Boundary



DATA SOURCE: City and County of Denver, Enginuity Engineering, HDR Engineering, UDFCD

DENVER THE MILE HIGH CITY

SDMP

BASIN 4300-03

CLEAR CREEK - NORTH OF I-70

2019 SDMP

PATH: \\DEN-GISSRV1\GISDATA\PROJECTS\10125417_DENVER_SDMP_2019_PHASE_B\MAP_DOCS\CCD_SDMP_2019_11X17_MAPBOOK_2019.MXD - USER: WWHEELER - DATE: 10/24/2019

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

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

August 29, 2022

Custom Soil Resource Report
Map—Hydrologic Soil Group

Map Scale: 1:1,870 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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

Table—Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
DUM	Dumps		5.0	34.7%
Tc	Terrace escarpments	A	6.1	41.6%
TuC	Truckton sandy loam, 3 to 5 percent slopes	A	3.4	23.7%
Totals for Area of Interest			**14.5**	**100.0%**

Rating Options—Hydrologic Soil Group

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

National Flood Hazard Layer FIRMette

FEMA

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE)
- With BFE or Depth
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile
- Future Conditions 1% Annual Chance Flood Hazard
- Area with Reduced Flood Risk due to Levee. See Notes.
- Area with Flood Risk due to Levee

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard
- Effective LOMRs
- Area of Undetermined Flood Hazard

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- Cross Sections with 1% Annual Chance
- Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

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

N

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

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

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/29/2022 at 3:29 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

APPENDIX E
DESIGN DRAWINGS

- Extended Detention Basin Plan and Details
- Storm Sewer Plan and Profiles
- EDB and Storm Sewer Details

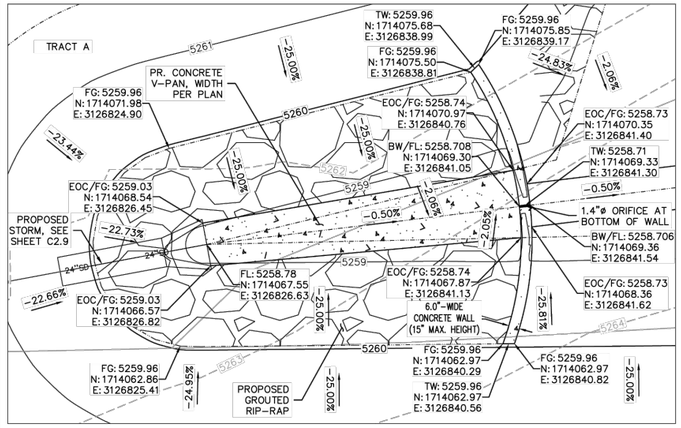
5200 SHERIDAN MINOR SUBDIVISION PLAT

EXTENDED DETENTION BASIN PLAN AND DETAILS

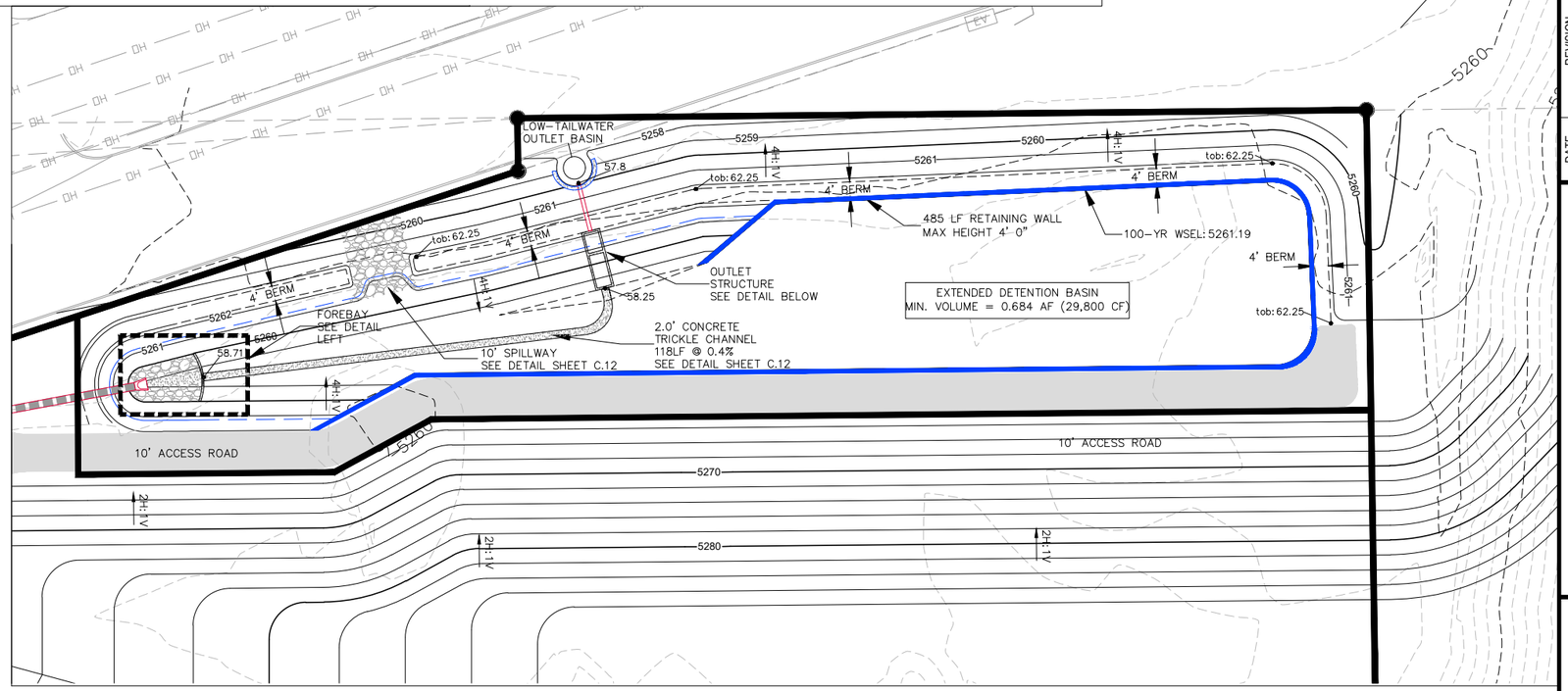
N

0' 20' 40'

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



DETENTION BASIN FOREBAY
NOT TO SCALE



REVISION	BY	DATE
PLAT REVISION TO 3 LOTS	CP	10.31.24
REVISION TO EDB / TRACT A	CP	12.18.24

MINOR SUBDIVISION PLAT
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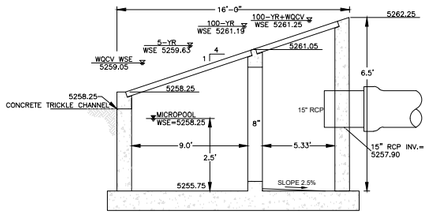
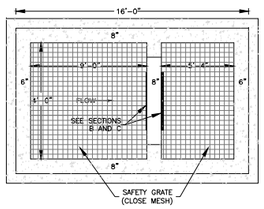
ARVADA, COLORADO
ADAMS COUNTY

PURRINGTON CIVIL
ENGINEERING YOUR VISION
1299 WASHINGTON AVENUE SUITE 280
GOLDEN, CO 80401

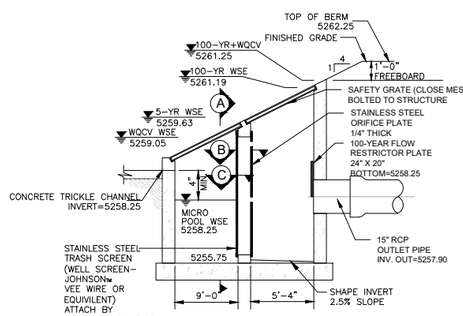
EDB PLAN AND DETAILS

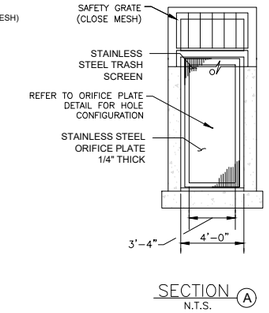
SCALE: AS NOTED

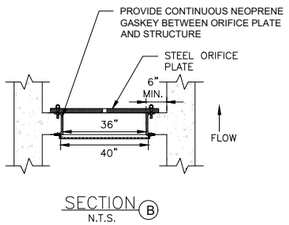


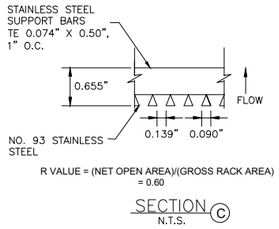


OUTLET STRUCTURE
SECTIONS

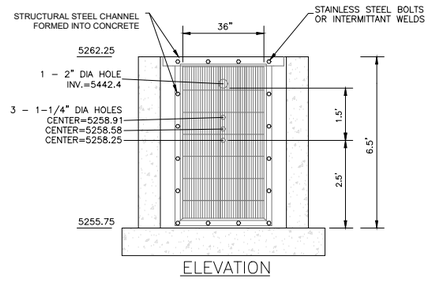








OUTLET STRUCTURE
WITH WELL SCREEN TRASH RACK



ORIFICE PLATE NOTES:

1. PROVIDE CONTINUOUS NEOPRENE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
2. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER. SEE TABLE OS-2 FOR PLATE THICKNESS.

EURV AND WQCV TRASH RACKS:

1. WELL-SCREEN TRASH RACKS SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
2. BAR GATE TRASH RACKS SHALL BE ALUMINUM AND SHALL BE BOLTED USING STAINLESS STEEL HARDWARE.
3. TRASH RACK OPEN AREAS ARE FOR SPECIFIED TRASH RACK MATERIALS. TOTAL TRASH RACK SIZE MAY NEED TO BE ADJUSTED FOR MATERIALS HAVING DIFFERENT OPEN AREA/GROSS AREA RATIO (R VALUE).
4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

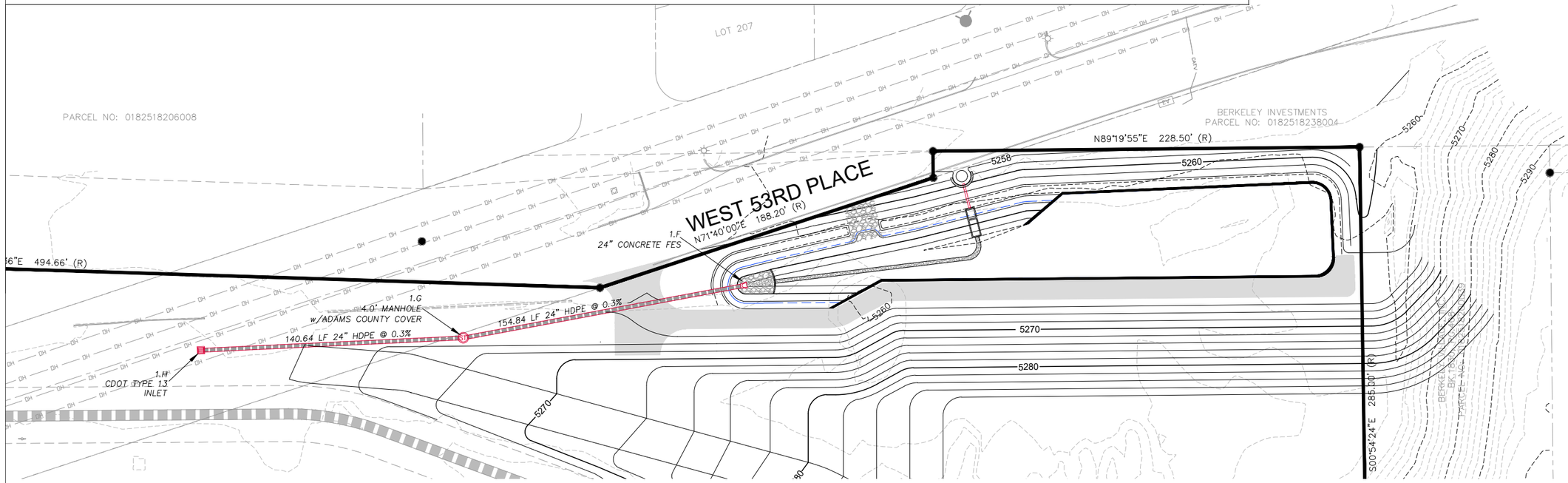
OVERFLOW SAFETY GRATES:

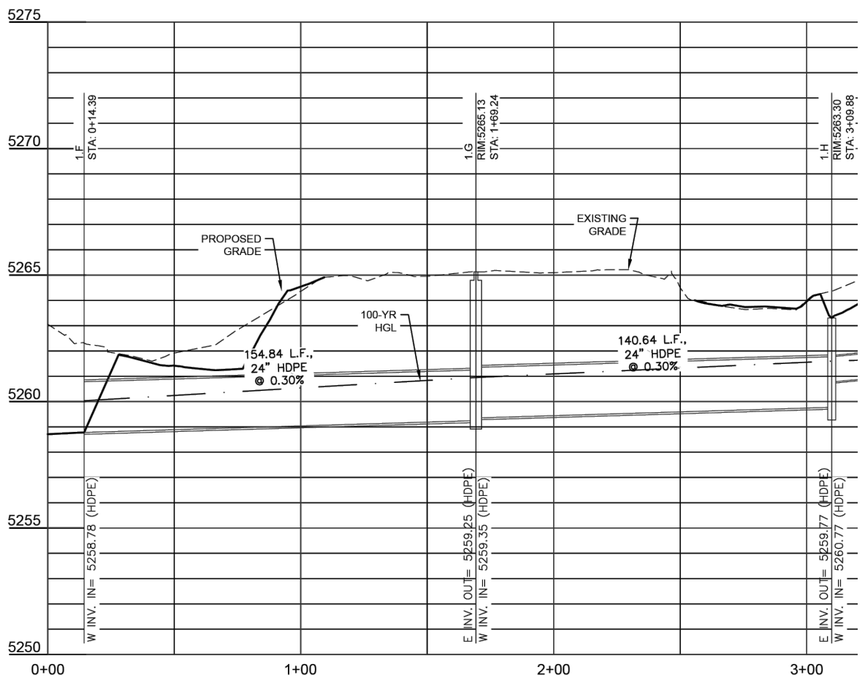
1. ALL SAFETY GRATES SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
2. SAFETY GRATES SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL GRATES SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
3. SAFETY GRATES SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
4. STRUCTURAL DESIGN OF SAFETY GRATES SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.

ORIFICE PLATE AND TRASH RACK
DETAILS AND NOTES

5200 SHERIDAN MINOR SUBDIVISION PLAT

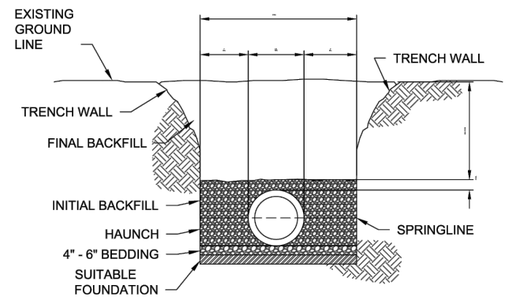
STORM SEWER PLAN AND PROFILES





STORM SEWER NOTES

1. STORM SEWER PIPE MATERIALS SHALL BE HDPE DOUBLE-WALL, SMOOTH INTERIOR PIPE (ADS N-12 OR APPROVED EQUAL) UNLESS OTHERWISE SPECIFIED IN THE PLANS. ALL JOINTS AND STRUCTURE CONNECTIONS SHALL BE SOIL-TIGHT (MINIMUM).
2. STORM SEWER PIPE SHALL BE BEDDED, INSTALLED, AND BACKFILLED IN ACCORDANCE WITH THE DETAILS INCLUDED IN THE PLANS, MANUFACTURER'S INSTALLATION REQUIREMENTS, AND/OR STANDARD DETAILS INCLUDED BY REFERENCE.
3. ALL CAST-IN-PLACE CONCRETE DRAINAGE STRUCTURES SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 PSI, TYPE II CEMENT (UNLESS OTHERWISE SPECIFIED) WITH AIR ENTRAINING ADMIXTURES AND SHALL CONFORM TO THE LOCAL CITY'S SPECIFICATIONS.
4. SMALL DIAMETER STORM SEWER CONNECTIONS (12 INCH DIAMETER AND LESS) SHALL BE MADE WITH REDUCING WYE'S, 45 DEGREE BENDS, AND REDUCING COUPLERS, UNLESS OTHERWISE INDICATED. REFER TO PLAN AND DETAILS FOR SYSTEM LAYOUT.
5. ALL CAST-IN-PLACE AND PRE-FABRICATED DRAINAGE STRUCTURES WITHIN PAVED AREAS MUST BE INSTALLED TO MEET (AT A MINIMUM) AASHTO H-20/HS-20 LOAD RATING. THE GENERAL CONTRACTOR SHALL CONSULT WITH THE MANUFACTURER OF ANY PRE-FABRICATED STRUCTURE TO CONFIRM INSTALLATION MEASURES REQUIRED TO ENSURE THE AFOREMENTIONED LOAD RATING IS ACHIEVED. FOR ALL PRE-FABRICATED NYLOPLAST® DRAIN BASINS, THE GENERAL CONTRACTOR SHALL POUR A CONCRETE COLLAR UNDER THE FRAME/GRATE/HOOD ASSEMBLY IN THE MINIMUM DIMENSIONS SPECIFIED ON THE MANUFACTURER'S STANDARD DETAIL DRAWINGS TO ACHIEVE H-20/HS-20 LOAD RATING. THE GENERAL CONTRACTOR SHALL CONTACT OWNER FOR ADDITIONAL DIRECTION IF H-20/HS-20 INSTALLATION GUIDELINES CANNOT BE OBTAINED FROM THE MANUFACTURER OF ANY PROPOSED PRE-FABRICATED STRUCTURE.



F HDPE PIPE BEDDING DETAIL
NOT TO SCALE

DATE	REVISION	BY
10.31.24	PLAT REVISION TO 3 LOTS	CP
12.18.24	REVISION TO EDB / TRACT A	CP

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GOLDEN, CO 80401

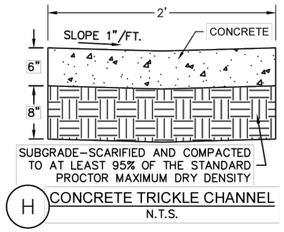
STORM SEWER PLAN AND PROFILES

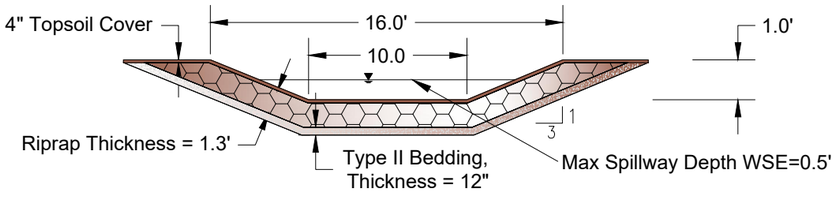
SCALE: AS NOTED

C.11

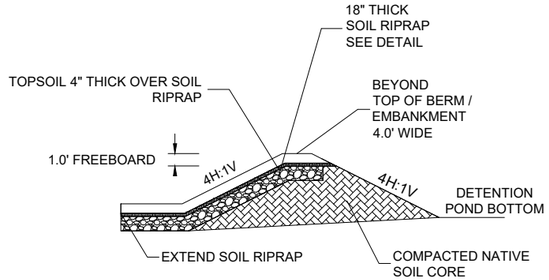
5200 SHERIDAN MINOR SUBDIVISION PLAT

STORM SEWER AND DETENTION DETAILS

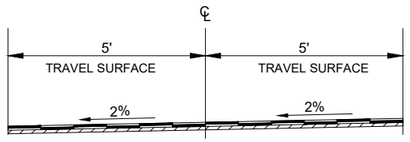




EMERGENCY SPILLWAY
CROSS SECTION
N.T.S.



EMBANKMENT DETAIL
CROSS SECTION
N.T.S.



1.5" GRAVEL SURFACE - 3" DEPTH

EDB ACCESS DRIVE CROSS SECTION
N.T.S.

GENERAL NOTES

1. CONCRETE SHALL BE CLASS B. INLET MAY BE CAST-IN-PLACE OR PRECAST.
2. CAST-IN-PLACE CONCRETE WALLS SHALL BE FORMED ON BOTH SIDES.
3. EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED ¾" OF A INCH.
4. REINFORCING BARS SHALL BE DEFORMED #4 AND SHALL HAVE A 2 INCH MINIMUM CLEARANCE. ALL REINFORCING BARS SHALL BE GRADE 60 AND EPOXY COATED.
5. STEPS SHALL BE PROVIDED WHEN INLET DIMENSION "H" IS EQUAL TO OR GREATER THAN 3 FEET-6 INCHES AND SHALL CONFORM TO AASHTO M 199.
6. ALL GRATES AND FRAMES SHALL BE GRAY OR DUCTILE CAST IRON IN ACCORDANCE WITH SUBSECTION 712.06. GRATES AND FRAMES SHALL BE DESIGNED TO WITHSTAND HS 20 LOADING.
7. STATION POINT IS AT THE CENTER OF THE INLET.
8. GRATE SHALL HAVE "DUMP NO WASTE DRAINS TO STREAM" MESSAGE CAST ON SURFACE.

H	CONCRETE CU. YDS.	REINFORCING STEEL @ LB.	NO. OF 401 BARS REQ'D.	MAXIMUM PIPE I.D. SEC. A-A IN.	SEC. B-B IN.
3'-0"	1.3	72	4	18	18
3'-6"	1.5	76	4	24	18
4'-0"	1.6	90	5	30	18
4'-6"	1.8	104	6	30	18
5'-0"	1.9	109	6	30	18
5'-6"	2.1	122	7	30	18
6'-0"	2.2	136	8	30	18
6'-6"	2.4	141	8	30	18
7'-0"	2.5	154	9	30	18
7'-6"	2.7	168	10	30	18
8'-0"	2.8	173	10	30	18
8'-6"	3.0	187	11	30	18
9'-0"	3.1	200	12	30	18
9'-6"	3.3	205	12	30	18
10'-0"	3.4	219	13	30	18

θ INCLUDES 1% FOR OVERRUN.
NOTE: CONCRETE QUANTITIES INCLUDE VOLUME OCCUPIED BY PIPE.

QUANTITIES FOR ONE INLET

MARK	NO. REQ'D.	DIMENSIONS X	Y	LENGTH
401	4	3'-6"	2'-2"	13'-4"
402	2	3'-4½"	* 2'-6½"	8'-5½"
403	5	2'-1½"	* 2'-7"	7'-2½"

* ADD 6 IN. TO THIS DIMENSION FOR EACH 6 IN. INCREASE OF "H" OVER 3 FT.-0 IN.

BAR LIST FOR H = 3 FT.-0 IN.

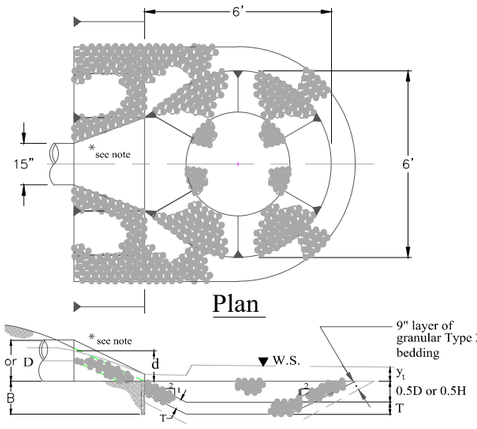
Computer File Information		Sheet Revisions	
Creation Date: 07/31/19		Date:	Comments
Designer Initials: JBK	RE-X		
Last Modification Date: 07/31/19	RE-X		
Detailer Initials: LTA	RE-X		
CAD Ver.: MicroStation V8 Scale: Not to Scale Units: English	RE-X		

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

CONCRETE INLET TYPE 13

Issued by the Project Development Branch: July 31, 2019

STANDARD PLAN NO.
M-604-13
Standard Sheet No. 1 of 1
Project Sheet Number:



Profile

* Note: For rectangular conduits use a standard design for a headwall with wingwalls, paved bottom between the wingwalls, with an end cutoff wall extending to a minimum depth equal to B

Figure 1: Low tailwater basin at pipe outlets

DATE	REVISION	BY
10.31.24	PLAT REVISION TO 3 LOTS	CP
12.18.24	REVISION TO EDB / TRACT A	CP

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GOLDEN, CO 80401

EDB AND STORM SEWER DETAILS

SCALE: AS NOTED

C.12

Adams County Stormwater Quality Permit Certification Renewal

Adams County

Stormwater Management Division grants:

Jim Goyette - SBGM Land Trust

permission to discharge stormwater associated with construction site:

5200 Sheridan Blvd - Fill Operations
5200 Sheridan Blvd
Adams Couny, CO

CSI2021-00008

Case #

M. Juliana Archuleta,
Stormwater Administrator 09/11/2024

Signature Date

Adams County Stormwater Management Division
Public Works Department
4430 S. Adams County Pkwy, Ste W2000B
Brighton, CO 80601

This permit expires on: 9/13/2025

COLORADO
Department of Public Health & Environment

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR400000
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

Certification Number: **COR413231**

This Certification to Discharge specifically authorizes:

Owner SBGM Land Trust - Not a Business
Operator SBGM Land TrustSBGM Land Trust - Not a Business
to discharge stormwater from the facility identified as

5200 Sheridan Blvd

To the waters of the State of Colorado, including, but not limited to:

Clear Creek

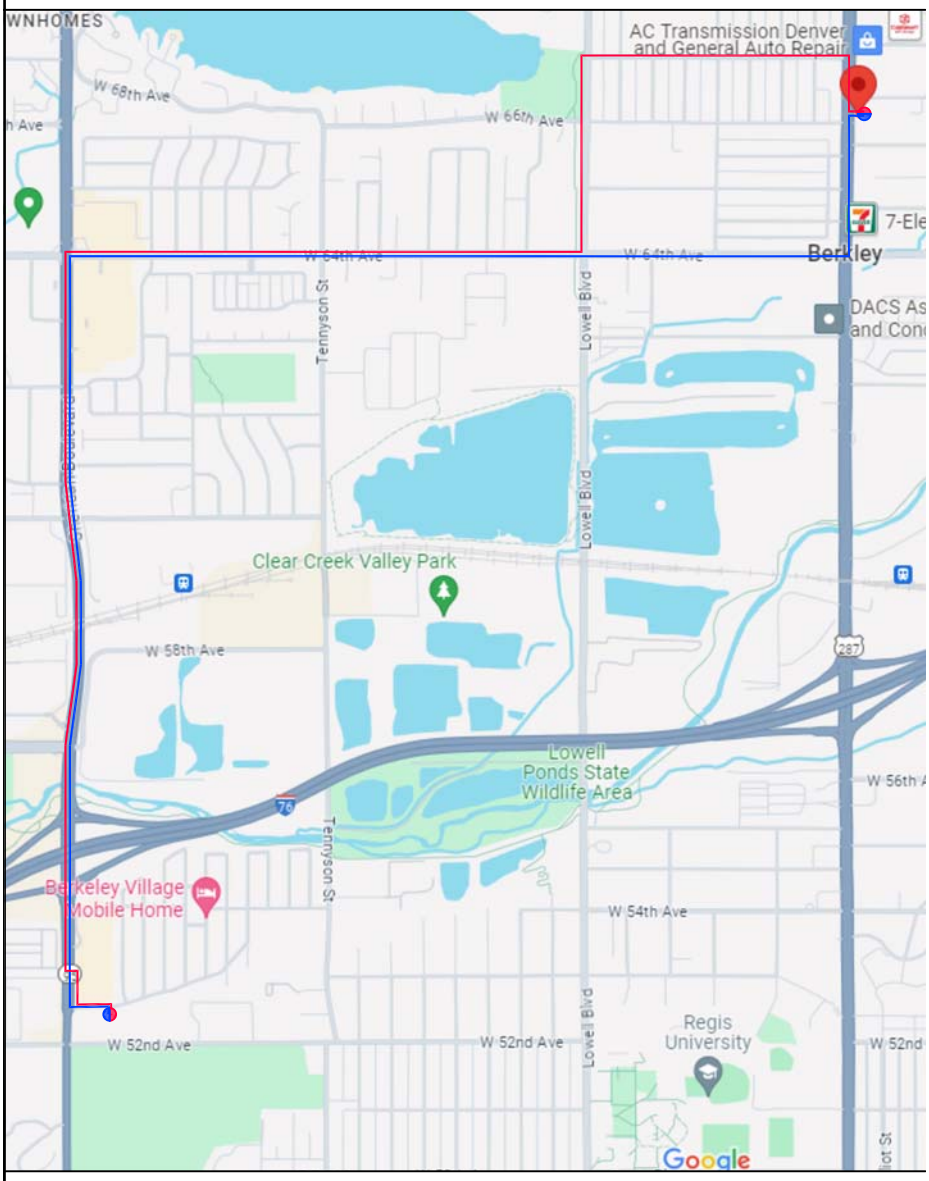
Facility Activity :	NonStructural
Disturbed Acres:	4.00 acres
Facility Located at:	5200 Sheridan Blvd Arvada 80002 ADAMS County Latitude 39.791656 Longitude -105.051375
Specific Information (if applicable):	

Certification is issued: 4/5/2024
Certification is effective: 4/1/2024
Expiration date of general permit: 3/31/2029

This certification under the general permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the COR400000 permit.

This certification was approved by:
Andrew Sayers-Fay Permits Section Manager
Clean Water Program
Water Quality Control Division

HAUL ROUTE MAP



HAUL ROUTES

PROJECT SITE: 5200 SHERIDAN BOULEVARD ARVADA, CO 80212

BORROW SITE: 6640 FEDERAL BOULEVARD DENVER, CO 80221

BORROW SITE TO PROJECT SITE

- FROM BORROW SITE
  - EGRESS TO NORTHBOUND FEDERAL BLVD
  - TURN WEST ONTO W 67TH AVE
  - TURN SOUTH ONTO LOWELL BLVD
  - TURN WEST ONTO W 64TH AVE
  - TURN SOUTH ONTO SHERIDAN BLVD
  - TURN EAST AT THE LIGHT AT 53RD AVE AND SHERIDAN
  - TURN LEFT ONTO W 53RD PL
  - INGRESS TO PROJECT SITE

PROJECT SITE TO BORROW SITE

- FROM PROJECT SITE
  - EGRESS PROJECT TO WESTBOUND W 53RD PL
  - TURN NORTH ONTO SHERIDAN BLVD
  - TURN RIGHT ON W 64TH AVE
  - TURN LEFT ONTO FEDERAL BLVD
  - INGRESS TO BORROW SITE

N

N.T.S.

PURRINGTON CIVIL LLC
1299 WASHINGTON AVENUE
SUITE 280
GOLDEN, CO 80401
Phone: 303.956.8353
www.PurringtonCivil.com

HAUL ROUTE MAP

PROJECT: 24-035

SCALE: AS NOTED

TEMPORARY USE PERMIT - INERT FILL
5200 SHERIDAN BOULEVARD
ARVADA, CO
ADAMS COUNTY

DATE: 2/27/25

Clean Soil Acceptance Certification Letter

Re: Clean Soil from 6690 North Federal Blvd

(Job Site and Location Address)

This certification is in reference to disposing Clean Soil from the job site listed above, managed/controlled by Tony Dalla

(Contractor and Property Owner)

who will be disposing soil at **5250 SHERIDAN BLVD 80002.** As the person or party responsible for designating the above referenced material as clean, I certify that no contaminants have been introduced into this material by agicultural, commercial and/or industrial means. These contaminants include, but are not limited to:

PCB's (40CFR Part 761)

Heavy Metals

Petroleum Products

Volatile Organic Compounds

Pesticides/Herbicides

Asbestos, Asbestos-containing material (NESHAP 40 CFR 61.141) and/or Regulated Asbestos Contaminated Soils (RACS) (6 CCR 1007-2 Part 5.5)

Organic material or concrete, rocks, bricks etc. greater than 6" in diameter.

Free liquids of any kind

By signing this certification, I also certify that no deliberate or willful omissions of composition or properties of the waste exists; all known or suspected hazards have been disclosed to the appropriate landfill personnel, and the waste is not designated a Hazardous Waste by the UA EPA (40 CFR Part 261, Appendix VII) or State of Colorado.

Please contact: **JAMES GOYETTE AT 303 907 5959,** should you have any questions or concerns regarding the disposal of soil from the location noted above.

Sincerely,

Tony Dalla Tony Dalla Principal 6/6/24

(Signature) (Print Name) (Title) (Date)

Individually and a representative for SW1 Excavating

(Contractor/Property Owner)

The acceptance of this soil has been approved on 6/6/24 by, James Goyette

C1181734
7/25/2003 13:52:43
PG: 0001-002
11.00 DOC FEE: 43.75
CAROL SNYDER
ADAMS COUNTY

SPECIAL WARRANTY DEED

Date
$43.75
State Doc, Fee

THIS DEED, Made this 23rd day of July , 2003 ,
between
Edward H. Kerman and Leonard A. Sloan and Stephen H. Friedlander and Phyllis Feder, as their interests may appear
Cont.
of the County of and State of ,
grantor(s), and James W. Goyette

whose legal address is P.O. Box 306 Pine, Co. 80470
~~1860 Nova Road, Pine, CO 80470~~

of the County of Park and State of Colorado , grantee(s):

WITNESSETH, That the grantor(s), for and in consideration of the sum of FOUR HUNDRED THIRTY SEVEN THOUSAND FIVE HUNDRED AND NO/100----------
----------DOLLARS, ($437,500.00),
the receipt and sufficiency of which is hereby acknowledged, has granted, bargained, sold and conveyed, and by these presents does grant, bargain, sell, convey and confirm, unto the grantee(s), his heirs and assigns forever, all the real property together with improvements, if any, situate, lying and being in the County of Adams , and State of Colorado, described as follows:
See Exhibit "A" attached hereto and incorporated herein.

FIRST AMERICAN
HERITAGE TITLE

also known by street and number as 5200 Sheridan Blvd., Denver, Colorado 80212

TOGETHER with all and singular the hereditaments and appurtenances thereunto belonging, or in anywise appertaining, and the reversion and reversions, remainder and remainders, rents, issues and profits thereof, and all the estate, right, title, interest, claim and demand whatsoever of the grantor(s), either in law or equity, of, in and to the above bargained premises, with the hereditaments and appurtenances.

TO HAVE AND TO HOLD the said premises above bargained and described, with the appurtenances, unto the grantee(s), his heirs and assigns forever. The grantor(s), for himself, his heirs and personal representatives or successors, does covenant and agree that he shall and will WARRANT AND FOREVER DEFEND the above-bargained premises in the quiet and peaceable possession of the grantee(s), his heirs and assigns, against all and every person or persons claiming the whole or any part thereof, by, through or under the grantor(s).

The singular number shall include the plural, the plural the singular, and the use of any gender shall be applicable to all genders.

IN WITNESS WHEREOF, the grantor(s) has executed this deed on the date set forth above.

Edward H. Kerman

Leonard A. Sloan

Stephen H. Friedlander

Phyllis Feder

STATE OF ~~COLORADO~~ District of Columbia)
) ss.
COUNTY OF)

The foregoing instrument was acknowledged before me this ~~23rd~~ 24th day of July , 2003, by Edward H. Kerman and Leonard A. Sloan and Stephen H. Friedlander and Phyllis Feder

My Commission ~~expires~~:

MARLENE S. AYLOR NOTARY PUBLIC DISTRICT OF COLUMBIA My Commission Expires: June 14, 2007

Witness my hand and official seal.

Notary Public

SPECIAL WARRANTY DEED (SPECWD) File # KC46433B03

5200 Sheridan Blvd.

LEGAL DESCRIPTION OF DEED DATED
July 23, 2003

A part of the Northwest 1/4 of Section 18, Township 3 South, Range 68 West of the 6th P.M., Adams County, Colorado, more particularly described as follows:

Commencing at the West 1/4 corner of said Section 18; thence North 89°19'55" East, and along the East-West centerline of said Section 18, a distance of 60 feet; thence North 00°23'00" West, a distance of 40 feet to the point of beginning; thence North 00°23'00" West, along the East right of way line of Sheridan Boulevard, a distance of 350 feet; thence South 88°12'36" East, a distance of 494.66 feet; thence North 71°40'00" East, a distance of 188.20 feet; thence North 00°54'24" West, a distance of 14.10 feet; thence North 89°19'55" East, a distance of 228.50 feet; thence South 00°54'24" East, a distance of 285.00 feet; thence South 89°19'55" West, a distance of 115.00 feet; thence South 00°54'24" East, a distance of 125.00 feet to a point on the North right of way line of West 52nd Avenue; thence South 89°19'55" West, and along the North right of way line of West 52nd Avenue, a distance of 113.50 feet; thence North 00°54'24" West, a distance of 10.00 feet; thence South 89°19'55" West and along the North right of way line of West 52nd Avenue, a distance of 676.87 feet to the point of beginning, as well as an access easement over and across part of the Northwest 1/4 of Section 18, Township 3 South, Range 68 West of the 6th Principal Meridian, more particularly described as follows:

Commencing at the West 1/4 corner of said Section 18; thence North 89°17'55" East and along the East-West centerline of said Section 18, a distance of 60.0 feet; thence North 00°23'00" West and along the East right of way line of Sheridan Blvd., a distance of 390.0 feet to the point of beginning; thence continuing North 00°23'00" West, a distance of 50.04 feet; thence South 88°12'36" East, a distance of 400.29 feet; thence North 71°41'00" East, 56.48 feet; thence North 89°19'55" East, 219.48 feet; thence South 00°54'24" East, 14.10 feet; thence South 71°40'00" West, 188.20 feet; thence North 88°12'36" West, 494.66 feet to the True Point of Beginning,
County of Adams, State of Colorado

RECEPTION#: 2009000005600, 01/27/2009 at 03:19:32 PM, 1 OF 1, TD Pgs: 0 Doc Type:QCD Karen Long, Adams County, CO

NO DOC FEE REQUIRED

QUITCLAIM DEED

THIS DEED, made this 24th day of December, 20 08, between

JAMES W. GOYETTE

of ADAMS County, State of Colorado, **grantor**, and

SBGM LAND TRUST (DATED 12/24/2008)

whose legal address is PO BOX 306, PINE, CO 80470, **grantee**:

WITNESS, that the grantor(s), for and in consideration of the sum of $10.00 DOLLARS, the receipt and sufficiency of which is hereby acknowledged has/have remised, released, sold and QUITCLAIMED, and by these presents do/does remise, release, sell and QUITCLAIM unto the grantee(s), the grantee(s)' heirs, successors and assigns forever, all the right, title, interest, claim and demand which the grantor(s) has/have in and to the real property, together with improvements, if any situate, lying, and being in ADAMS County and State of Colorado, described as follows:

A PART OF THE NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH P.M., ADAMS COUNTY, COLORADO, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 18; THENCE NORTH 89 DEG 19' 55" EAST, AND ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 18, A DISTANCE OF 60 FEET; THENCE NORTH 00 DEG 23' 00" WEST, A DISTANCE OF 40 FEET TOTHE POINT OF BEGINNING; THENCE NORTH 00 DEG 23' 00" WEST, ALONG THE EAST RIGHT OF WAY LINE OF SHERIDAN BOULEVARD, A DISTANCE OF 350 FEET; THENCE SOUTH 88 DEG 12' 36" EAST, A DISTANCE OF 494.66 FEET; THENCE NORTH 71 DEG 40' 00" EAST, A DISTANCE OF 188.20 FEET; THENCE NORTH 00 DEG 54' 24" WEST, A DISTANCE OF14.10 FEET; THENCE NORTH 89 DEG 19' 55" EAST, A DISTANCE OF 228.50 FEET; THENCE SOUTH 00 DEG 54' 24" EAST, A DISTANCE OF 285.00 FEET; THENCE SOUTH 89 DEG 19' 55" WEST, A DISTANCE OF 115.00 FEET; THENCE SOUTH 00 DEG 54' 24" EAST, A DISTANCE OF 125.00 FEET TO A POINT ON THE NORTH RIGHT OF WAY LINE OF WEST 52ND AVENUE; THENCE SOUTH 89 DEG 19' 55" WEST, AND ALONG THE NORTH RIGHT OF WAY LINE OF WEST 52ND AVENUE, A DISTANCE OF 113.50 FEET; THENCE NORTH 00 DEG 54' 24" WEST, A DISTANCE OF 10.00 FEET; THENCE SOUTH 89 DEG19' 55" WEST AND ALONG THE NORTH RIGHT OF WAY LINE OF WEST 52ND AVENUE, A DISTANCE OF 676.87 FEET TO THE POINT OF BEGINNING, AS WELL AS AN ACCESS EASEMENT OVER AND ACROSS PART OF THE NORTHWEST 1/4 OF SECTION 18, TOWNSHIP 3 SOUTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 18; THENCE NORTH 89 DEG 17' 55" EAST AND ALONG THE EAST-WEST CENTERLINE OF SAID SECTION 18, A DISTANCE OF 60.0 FEET; THENCE NORTH 00 DEG 23' 00" WEST AND ALONG THE EAST RIGHT OF WAY LINE OF SHERIDAN BLVD., A DISTANCE OF 390.0 FEET TO THE POINT OF BEGINNING; THENCE CONTINUING NORTH 00 DEG 23' 00" WEST, A DISTANCE OF 50.04 FEET; THENCE SOUTH 88 DEG 12' 36" EAST, A DISTANCE OF 400.29 FEET; THENCE NORTH71 DEG 41' 00" EAST, 56.48 FEET; THENCE NORTH 89 DEG 19' 55" EAST, 219.48 FEET; THENCE SOUTH 00 DEG 54' 24" EAST, 14.10 FEET; THENCE SOUTH 71 DEG 40 '00" WEST, 188.20 FEET; THENCE NORTH 88 DEG 12' 36" WEST, 494.66 FEET TO THE TRUE POINT OF BEGINNING, COUNTY OF ADAMS, STATE OF COLORADO

COMMONLY KNOWN AS: 5250 SHERIDAN BLVD, ARVADA, CO 80002

TO HAVE AND TO HOLD the same, together with all and singular the appurtenances and privileges thereunto belonging, or in anywise thereunto appertaining, and all the estate, right, title, interest and claim whatsoever of the grantor(s), either in law or equity, to the only proper use, benefit and behalf of the grantee(s), his/her/their heirs and assigns forever.

IN WITNESS WHEREOF, the grantor(s) has/have executed this deed on the date set forth above.

James W Goyette

JAMES W. GOYETTE

STATE OF COLORADO)
) ss.
County of Denver)

The foregoing instrument was acknowledged before me on this 24th day of December, 2008 by JAMES W. GOYETTE.

Witness my hand and official seal:

ANTHONY M. ESTRADA
Notary Public
State of Colorado

Notary Public

11/24/2011

My Commission Expires

9

DENVER WATER

BILLING DATE 4/9/2024
CUSTOMER ID 1359845861
ACCOUNT NUMBER 7680350000
DUE DATE Apr 30, 2024
AMOUNT DUE $18.40

Account Summary

Previous Balance		18.40
Payment Received - 4/1/24	*Thank You*	-18.40
Current Charges		18.40
Automatic Payment Amount		**$18.40**

Payments must be received and posted to the account by 5/6/24 to avoid a delinquency charge. A 5% delinquency charge (maximum $250.00) will apply to any unpaid balance on the next billing cycle after the charge is incurred.

5250 SHERIDAN BLVD

Water Charges

RATE: Commercial Water (Total Service)
AVERAGE WINTER CONSUMPTION (calculated using Jan-Mar bills): 0 Gallons
BILLING PERIOD: 3/12/2024 - 4/9/2024 **DAYS:** 29

METER NO.	CURRENT READ -	PREVIOUS READ	x MULTIPLIER =	CONSUMPTION
448489	1,132	1,132	1000	0 Gal

Consumption Charge *(0 Gallons)*

1,000 Gals	Tier 1 0-1*	Tier 2 2-4	Tier 3 Over 4	
1,000 Gals used	0			
Price per 1,000	x $4.85	$6.79	$7.76	
Charge	$0.00			= 0.00

**Tier 1 minimum allowance is 1,000 gallons.*

Fixed Monthly Charge, 3/4" meter	18.40
Water Charges	**$18.40**

denverwater.org

Questions About Your Bill?
¿Preguntas Sobre Su Cuenta?
303-893-2444
Monday - Friday
7:30 a.m. - 5:30 p.m.

Visit Us Online
www.denverwater.org/contact

Denver Water, Correspondence
1600 W. 12th Ave.
Denver, CO 80204-3412

Online Account Management and Payment Options

We accept payment from: Checking/Savings Account, ATM/Debit, Visa, MasterCard, or Discover cards.

Manage your account at **myaccount.denverwater.org** View/update account information, pay your bill, sign up and manage automatic payments and E-Bill.

Automatic Payment Plan: Each month the total bill amount is automatically deducted from the account of your choice.

E-Bill: Receive and pay your bill directly from your email or combine with the automatic payment plan.

Web Pay: Quick one-time only payment. Visit **denverwater.org/webpay**

Pay By Phone: 1-800-556-0292 Free automated service with step-by-step instructions.

For Special Situations: Please call Customer Care if you are making a payment to prevent service interruption during normal business hours at 303-893-2444 (Monday - Friday, 7:30 a.m. - 5:30 p.m.)

Pay In Person: Payments can be made in cash or with a PIN-based debit card (at participating locations). To find a location near you, visit **denverwater.org/payinperson**

Pay By Mail: Send check or money order to: PO Box 173343, Denver, CO 80217-3343. Write account number on check and make payable to Denver Water.

After Hours Emergency Service
303-628-6801 (After hours 5:30 p.m. - 7:30 a.m)

PLEASE KEEP THIS PORTION FOR YOUR RECORDS.

PLEASE RETURN THIS PORTION WITH YOUR PAYMENT.

DENVER WATER

SERVICE ADDRESS
5250 SHERIDAN BLVD

ACCOUNT NUMBER 7680350000
DUE DATE Automatic Pay
AMOUNT DUE $18.40

Your payment of $18.40 will be paid by "Automatic Payment" on or after 04/30/2024

00104111
10411 1 AB 0.544
********AUTO**ALL FOR AADC 800 151300 420 56
JAMES GOYETTE
PO BOX 306
PINE CO 80470-0306

00 703 200724 000000001 80217 3343
DENVER WATER
PO BOX 173343
DENVER, CO 80217-3343

900 7680350000 00000000000018407

Due 5/30/24

Berkeley Water and Sanitation
4455 West 58th Avenue Unit A
Arvada, CO 80002

303-477-1914

SBGM LAND TRUST
PO BOX 306
PINE, CO 80470

Account Number: 0089-2
Premises Number: 0089

Service Address:
5200 SHERIDAN BLVD

Due Date: 6/30/2024

Date	Description	Charge	Amount
	Beginning Balance		(30.00)
	Payments & Other Adjustments		0.00
4/1/2024	BILL CALC 2024-04-01	QTR: COMMERCIAL - SEWER	72.97
		Balance Due:	**42.97**

Second Quarter Sewer Bill 2024

To assure proper credit, please write your account number on your check.

Return This Portion with Payment

Account # 0089-2
Premises # 0089

SBGM LAND TRUST
PO BOX 306
PINE, CO 80470

Balance Due: **$42.97**

After **6/30/2024** Please Pay $57.97

PAY YOUR BILLS ONLINE AT WWW.BERKELEYWATERSANITATION.COM. IF YOU WOULD LIKE TO RECEIVE YOUR BILL VIA EMAIL, PLEASE CALL OR EMAIL US AT BERKELEYWATER@GMAIL.COM WITH YOUR EMAIL INFORMATION.

Make checks payable and mail to:
Berkeley Water and Sanitation
4455 West 58th Avenue Unit A
Arvada, CO 80002