



STORMWATER MANAGEMENT PLAN (SWMP)

FOR

MAYBERRY, COLORADO SPRINGS – FILING NO. 2A

PREPARED FOR:

**COLORADO SPRINGS MAYBERRY, LLC
3296 DEVINE HEIGHTS #208
COLORADO SPRINGS, CO 80922**

PREPARED BY:

**R & R ENGINEERS - SURVEYORS, INC.
1635 W. 13TH AVE, SUITE 310
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**R&R JOB #MC22199
EPC PROJECT No. SF1910**

SUBMITTAL: JANUARY 2024

Qualified Stormwater Manager: Raw Land Detailing
Attn: Larry Lee
10475 Accipiter Dr.
Peyton, CO 80831

Contractor: Mayberry Communities, LLC
Attn: Jason Kvols
3296 Divine Heights #207
Colorado Springs, CO 80922

TABLE OF CONTENTS

	<u>PAGE</u>
1. APPLICANT/CONTACT INFORMATION.....	1
2. SITE DESCRIPTION.....	1
3. CONSTRUCTION SCHEDULE.....	2
4. POTENTIAL SOURCES OF POLLUTION.....	2
5. SITE MAP.....	3
6. BMP'S FOR STORMWATER POLLUTION PREVENTION.....	3
7. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT.....	6
8. OTHER CONTROLS.....	7
9. INSPECTION AND MAINTENANCE.....	7

APPENDICES

<u>APPENDIX A</u>	SITE MAP
<u>APPENDIX B</u>	SOILS MAP
<u>APPENDIX C</u>	SITE GRADING & EROSION CONTROL PLAN
<u>APPENDIX D</u>	EROSION CONTROL NOTES & DETAILS

MAYBERRY – FILING 2A
SWMP REPORT

1. APPLICANT/CONTACT INFORMATION

Developer: Colorado Springs Mayberry, LLC
3296 Devine Heights #208
Colorado Springs, CO 80922

Engineer: R & R Engineers - Surveyors, Inc.
1635 W. 13th Ave, Suite 310
Denver, CO 80204

Contractor: Raw Land Detailing
10475 Accipiter Dr.
Peyton, CO 80831
Attn: Larry Lee (719)-495-7770

2. SITE DESCRIPTION

- a. Ellicott Town Center is a proposed subdivision located west of Ellicott, Colorado in El Paso County. The development is located on the south side of State Highway 94, approximately 1-1/2 miles west of Ellicott Highway. The approved Ellicott Town Center PUD includes a total of 1,048 single-family dwelling units and 32 acres of commercial space. Colorado Springs Mayberry, LLC is moving forward with development of Ellicott Town Center Filing No. 1, consisting of 98 single-family residential lots near the north boundary of the project. Ellicott Town Center Filing No. 2 consisted of a replat of Tract L and Tract Q of Ellicott Town Center Filing No. 1, creating 3 commercial lots along the previous extension of Cattlemen Run on the west side of Springs Road. Filing No. 2A consists of a re-plat of Filing No. 2, as Cattlemen Run no longer extends and a new road, Business Park Avenue, will be proposed which ends in a cul-de-sac. The boundary of Lots 1, 2, and 3 have been slightly modified with this change.
- b. There are no stream crossings in the project area.
- c. The proposed development consists of three commercial lots and a proposed street, Business Park Avenue, which ends in a cul-del-sac. A portion of the north curb and gutter has been built per the original Filing No. 2 construction plans completed and designed by JPS Engineering. The site development activities will include site grading, pavement, curb and gutter, and related site improvements.
- d. Proposed sequence of major activities:
 - Mobilization/implementation of BMP's
 - Clearing and grubbing
 - Rough grading
 - Roadway grading/paving
- e. Total site area = 4.48 acres (Filing No. 2A); Proposed disturbed area = 2.54 acres

**MAYBERRY – FILING 2A
SWMP REPORT**

- f. Historic runoff coefficient, C = 0.35
Developed runoff coefficient, C = 0.88
- g. Existing vegetation on site on site: existing gravel, native meadow grasses (approx. 60% coverage).
- h. Potential Pollutants: See Section table in section 4
- i. Non-stormwater components of discharge: none anticipated.
- j. Receiving water: Surface drainage from this site will flow southeasterly to existing natural drainage swales flowing to the West Fork of Black Squirrel Creek located east of this parcel between the site and Ellicott Highway. Black Squirrel Creek ultimately outfalls into the Arkansas River.
- k. Erosion potential and potential impacts upon discharge: According to the Web Soil Survey by the Natural Resources Conservation Service, on-site soils are comprised primarily of Truckton loamy sand and Blakeland loamy sand which are both classified as soil Group A. Group A soils have a high infiltration rate with a moderate rate of water transmission. The erosion factor K for these soils are 0.24 and 0.10 respectively. Uncontrolled soil erosion may adversely affect downstream drainageways; on-site BMP's will be provided and maintained to mitigate impacts. See soils map in appendices.

3. CONSTRUCTION SCHEDULE

The anticipated start and completion time period of the construction activities is from May 2024 through August 2024. The estimated schedule for erosion control activities is as follows:

- Install Initial SCM's: May 2024
- Site Grading: June 2024
- Seeding & Mulching: July 2024
- Final Stabilization: August 2024

4. Potential Sources of Pollution

Potential pollutant sources will be addressed as follows:

POTENTIAL POLLUTION SOURCES

Potential Pollution Sources	Possible Site Contributions of Pollutants to Stormwater Discharges	Location
All disturbed and stored soils	Stockpiles of fill from site excavations, topsoil stockpiles.	Stockpiles
Vehicle tracking of sediments	See GEC Plans for vehicle entrance and exits. Vehicle tracking control pads will be installed and maintained at all construction access points.	VTC (per GEC Plans)
Management of contaminated soils	No contaminated soils are expected to be encountered.	N/A
Loading and unloading operations	Loading and unloading of construction materials	TBD*
Outdoor storage activities (building	Stockpiles and equipment storage areas (no	TBD*

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SWMP REPORT**

material, fertilizers, chemicals, etc.)	fertilizers, petroleum or chemical products will be stored on-site).	
Vehicle and equipment maintenance and fueling	Fueling will occur on-site using mobile equipment (will not be stored on-site). Equipment maintenance will occur off-site	TBD*
Significant dust or particulate-generating processes	Vehicle tracking, soil removed from excavation, stockpiles.	TBD*
Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.	All equipment maintenance will occur off-site. No fertilizers, pesticides, detergents, and/or solvents will be used or stored on-site.	TBD*
On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.)	All waste will be removed from site as soon as possible, and disposed of at a permitted off-site disposal site	TBD*
Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment	Properly contained concrete washout areas may be designated and maintained within the site, based on construction phasing.	CWA
Dedicated asphalt and concrete batch plants	No dedicated asphalt or concrete batch plants are planned on-site.	N/A
Non-industrial waste sources such as worker trash and portable toilets	Worker trash will be removed from the site as soon as possible. Portable toilets will be utilized and maintained as required based on construction phasing.	TBD*
Other areas or procedures where potential spills can occur	Petroleum releases from equipment are possible.	TBD*

* Contractor to add locations of any items not specified at this time*

5. SITE MAP

See Site Map in appendices.

6. BMP'S FOR STORMWATER POLLUTION PREVENTION

<u>Phase</u>	<u>BMP</u>
Clearing and grubbing necessary for perimeter controls	VTC's
Initiation of perimeter controls	SCL
Remaining clearing and grubbing	
Site grading	RS/SCL
Stabilization	SM
Removal of erosion control measures	

A. Erosion and Sediment Controls

1) Structural Practices:

- Vehicle Tracking Control (VTC) pad at construction entry. This will be used from Filing 3's construction entrance.
- Sediment Control Logs (SCL) at toe of slope along downstream limits of disturbance

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SWMP REPORT

- Inlet protection (IP) in Filing 3, downstream of Filing 2A, shall remain in place until the completion of Filing 2A.

2) Non-Structural Practices:

- Preserve existing vegetation beyond limits of work
- Temporary seeding of areas to remain disturbed for significant periods of time.
- Permanent seeding/mulching (SM) upon completion of rough grading.

B. Materials Handling and Spill Prevention

- **General Materials Handling Practices:**
 - Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as required to prevent storm water from contacting stored materials. Chemicals that are not compatible shall be stored and segregated areas so that spilled materials cannot combine and react.
 - Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
 - Materials no longer required for construction shall be removed from the site as soon as possible.
- Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and BMPs clear and functional.
- **Specific Materials Handling Practices:**
 - All pollutants, including waste materials and demolition debris, that occur on-site during construction shall be handled in a way that does not contaminate storm water.
 - All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site shall be covered and contained and protected from vandalism.
 - Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.

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SWMP REPORT

- Wheel wash water shall be settled and discharged on site by infiltration. Wheel wash water shall not be discharged to the storm water system.
- Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and at application rates that will not result in loss of chemical to storm water runoff. Follow manufacturer's recommendations for application rates and procedures.
- pH-modifying sources shall be managed to prevent contamination of runoff and storm water collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.
- Equipment maintenance and fueling: Contractor shall implement appropriate spill prevention and response procedures
- Spill Prevention and Response Procedures:
 - The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on site and prevent their release into receiving waters.
 - Spill Response Procedures:
 - Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.
 - If spills represent an imminent threat of escaping on-site facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent after the situation has stabilized.
 - The site superintendent, or his designee, shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
 - Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
 - Spill kits shall be on-hand at all fueling sites. Spill kit location(s) shall be reported to the SWMP Administrator.
 - Absorbent materials shall be on-hand at all fueling areas for use in containing inadvertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
 - Recommended components of spill kits include the following:
 - Oil absorbent pads (one bale)
 - Oil absorbent booms (40 feet)
 - 55-gallon drums (2)

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SWMP REPORT

- 9-mil plastic bags (10)
- Personal protective equipment including gloves and goggles
- Concrete Wash Water: Unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site. The discharge of water containing waste cement to the storm drainage system is prohibited.
- Concrete Batch Plant: This project will not have an on-site dedicated batch plant.
- Notification Procedures:
 - In the event of an accident or spill, the SWMP Administrator shall be notified as a minimum.
 - Depending on the nature of the spill material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line: 877-518-5608), downstream water users, or other agencies may also need to be notified.
 - Any spill of oil which 1) violates water quality standards, 2) produces a “sheen” on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800)-424-8802.
- This project does not rely on control measures owned or operated by another entity.

7. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

- Permanent seeding will be provided to achieve long-term stabilization of the site.
- Seed Mix: “Foothills Mix” or approved equal:
- Seeding Application Rate: Drill seed 0.25” to 0.5” into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25” to 0.5” into the soil. Apply seed at the following rates:
 - Dryland: 20-25 lbs/acre
 - Irrigated: 40 lbs/acre
- Soil Stabilization Practices:
 - Mulching Application: Apply 1-1/2 tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier. On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of much and mulch tackifier.
- Soil Conditioning and Fertilizer Requirements:
 - Soil conditioner, organic amendment shall be applied to all seeded areas at 3 CY / 1000 SF.
 - Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% potassium-magnesia with a grade of 6-1-3 or approved equal. Fertilizer shall be applied as recommended by seed supplier.

MAYBERRY – FILING 2A
SWMP REPORT

- Final stabilization is reached when all soil-disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.
- The long-term stormwater management for this site is provided in the downstream detention pond, Pond D, constructed within Mayberry Filing No. 3 (EPC #SF2219). This detention pond shall be fully functioning prior to the completion of Filing 2A.

8. OTHER CONTROLS

- Contractor shall dispose of all waste materials at a permitted off-site disposal site.
- Vehicle tracking pads from Mayberry Filing No. 3 BMP's will remain in place to limit off-site soil tracking.

9. INSPECTION AND MAINTENANCE

A. Inspection Schedules:

- Contractor shall inspect BMPs bi-weekly as a minimum, and immediately (within 24 hours) after any precipitation or snowmelt event that causes surface erosion (i.e. that results in stormwater running across the ground), to ensure that BMPs are maintained in effective operating condition.

B. Inspection Procedures:

1. Site Inspection / Observation Items:

- Construction site perimeter and discharge points (including discharges into a storm sewer system)
- All disturbed areas
- Areas used for material / waste storage that are exposed to precipitation
- Other areas having a significant potential for stormwater pollution, such as demolition areas or concrete washout locations, or locations where vehicles enter or leave the site
- Erosion and sediment control measures identified in the SWMP
- Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks, or the condition of spill response kits.

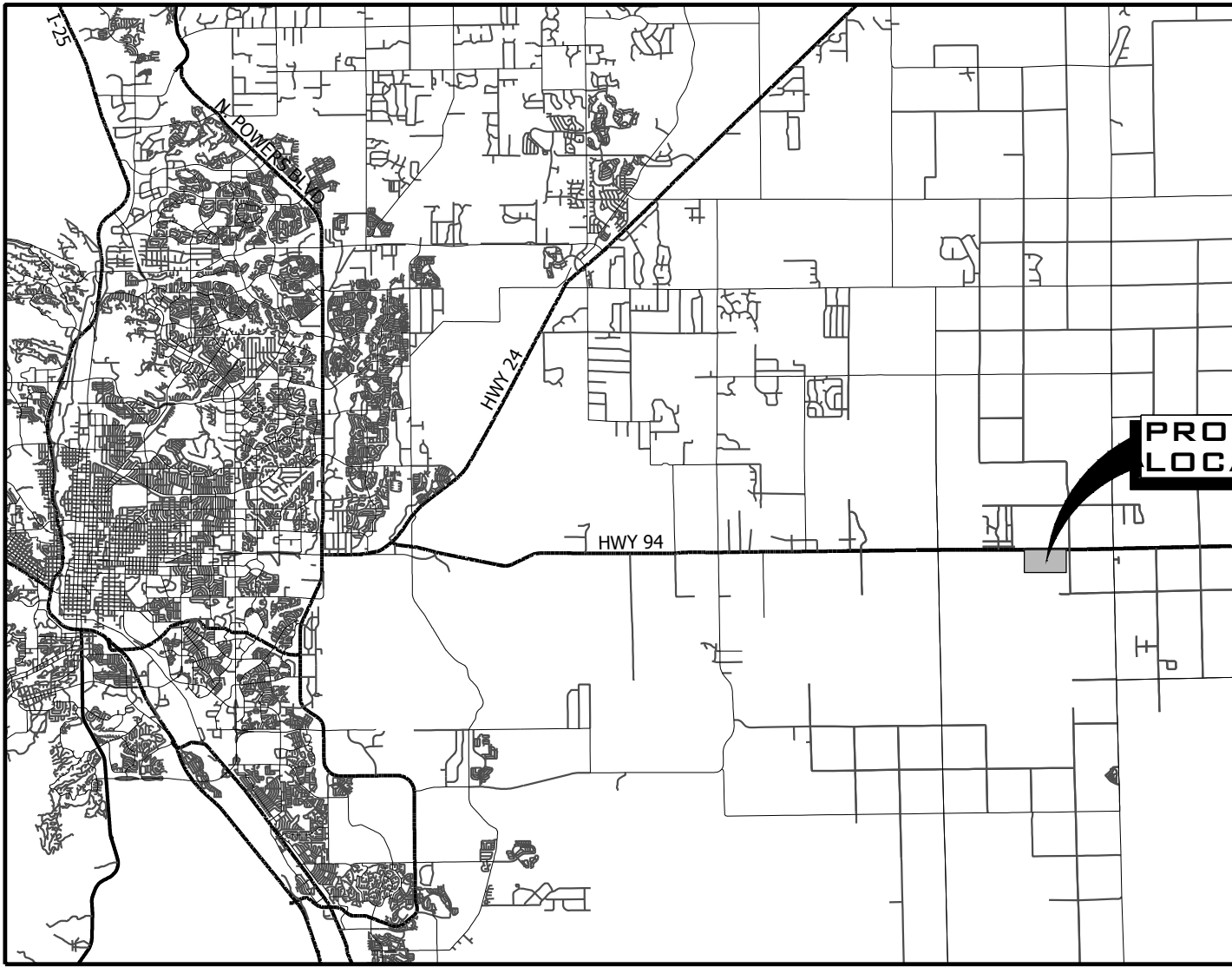
2. Inspection requirements:

- Determine if there is any evidence of, or potential for, pollutants entering the drainage system.
- Review BMPs to determine if they still meet design and operational criteria in the SWMP, and if they continue to adequately control pollutants at the site.

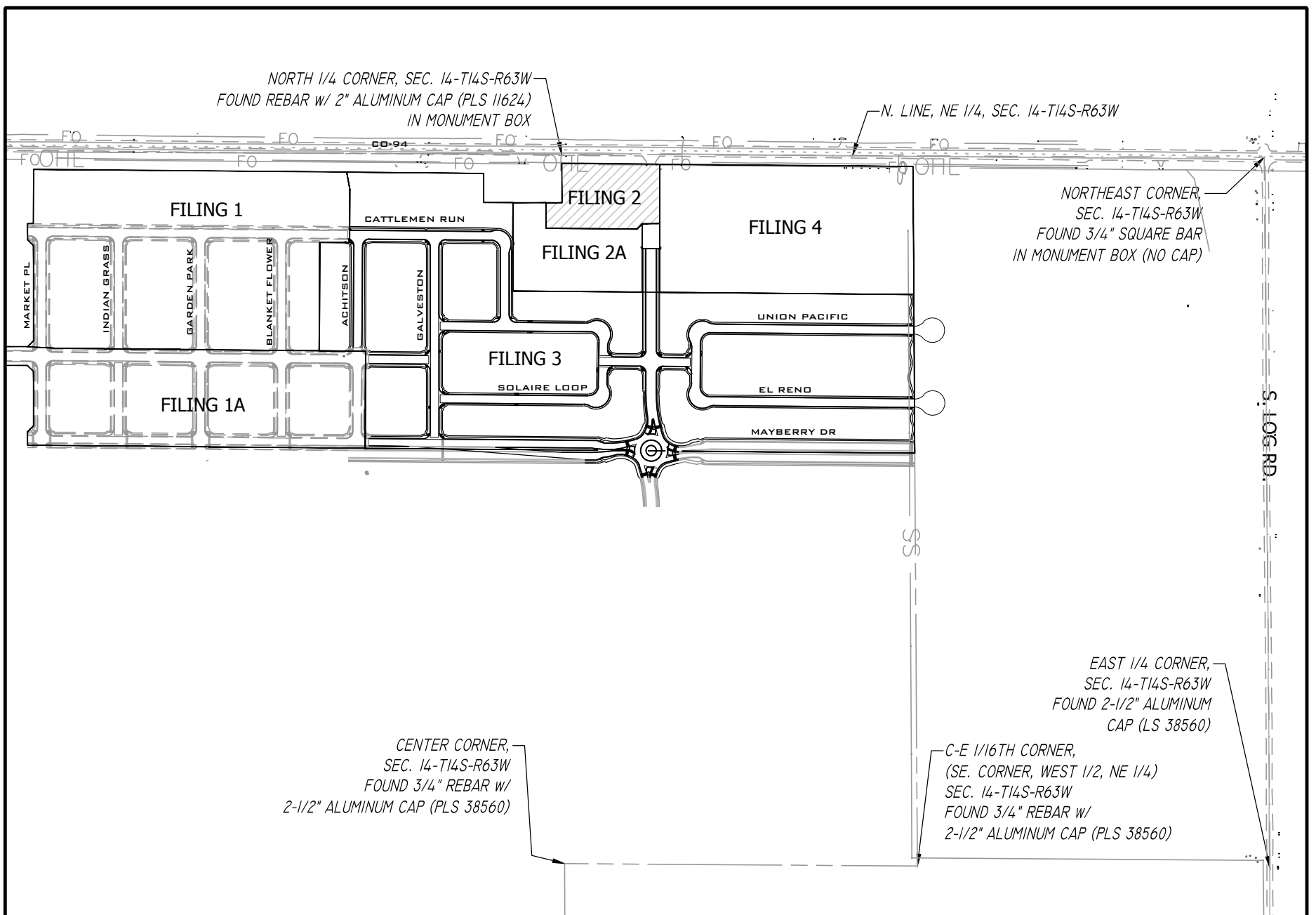
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SWMP REPORT

- Upgrade and/or revise any BMPs not operating in accordance with the SWMP and update the SWMP to reflect any revisions.
- C. BMP Maintenance / Replacement and Failed BMPs:
- This SWMP should be viewed as a “living document”. It is continuously being reviewed and modified as part of the overall process of evaluating and managing stormwater quality issues at the site.
 - Contractor shall remove sediment that has been collected by perimeter controls, such as silt fence and inlet protection, on a regular basis to prevent failure of BMPs, and remove potential of sediment from being discharged from the site in the event of BMP failure.
 - Removed sediment must be moved to an appropriate location where it will not become an additional pollutant source, and should never be placed in ditches or streams.
 - Contractor shall update Erosion Control Plans as required with any new BMPs added during the construction period.
 - Contractor shall address BMPs that have failed or have the potential to fail without maintenance or modifications, as soon as possible, immediately in most cases, to prevent discharge of pollutants.
- D. Record Keeping and Documenting Inspections:
- Contractor shall maintain records of all inspection reports, including signed inspection logs, at the project site.
 - Permittee shall document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage.
 - Site inspection records shall include the following:
 - Inspection date
 - Name and title of personnel making the inspection
 - Location of discharges of sediment or other pollutants from the site
 - Location(s) of BMPs that need to be maintained
 - Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
 - Location(s) where additional BMPs are needed that were not in place at the time of inspection
 - Deviations from the minimum inspection schedule

APPENDIX A – SITE MAP

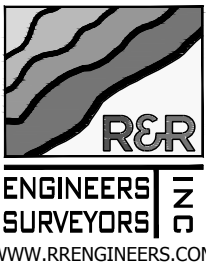


VICINITY MAP
SCALE 1" = 20,000'



SITE MAP
SCALE 1" = 500'

REVISIONS			



SITE MAP

MAYBERRY FILING NO. 2A

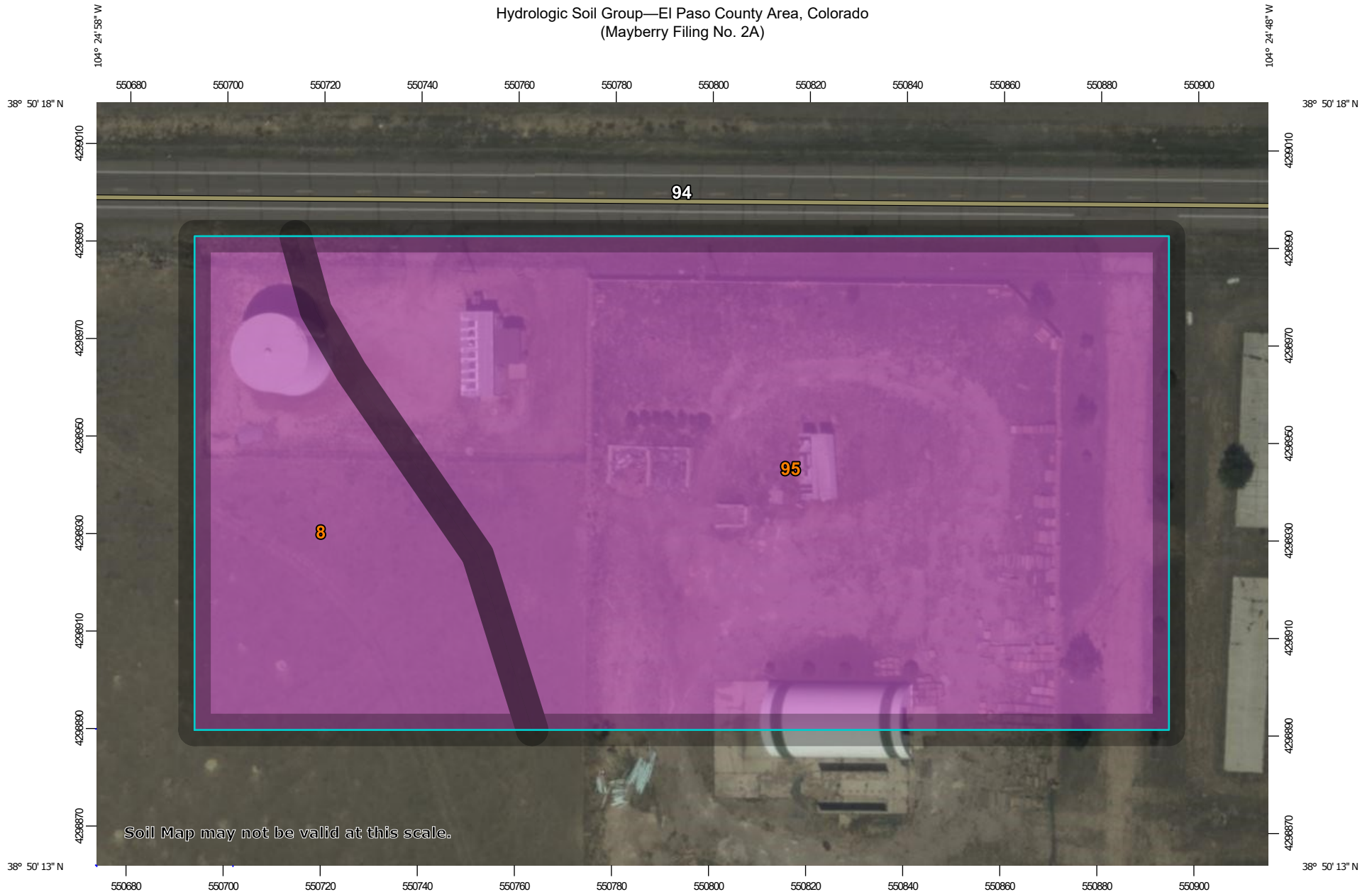
3296 DEVINE HEIGHTS #208
COLORADO SPRINGS, CO 80922



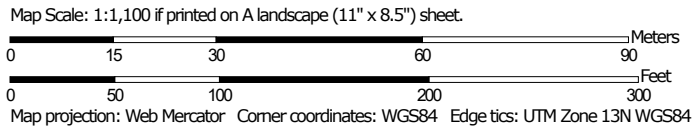
JOB NO.	MC22199
DATE	12-16-2022
DRN	LAO CHK CD
EXHIBIT NAME	SITE MAP
SHEET NO.	1 OF 1

APPENDIX B – SOILS MAP

Hydrologic Soil Group—El Paso County Area, Colorado
(Mayberry Filing No. 2A)




Soil Map may not be valid at this scale.



MAP LEGEND

Area of Interest (AOI)









 Area of Interest (AOI)

Soils

Soil Rating Polygons





 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Lines

 A
 A/D
 B
 B/D
 C
 C/D
 D
 Not rated or not available

Soil Rating Points

 A
 A/D
 B
 B/D

 C
 C/D
 D
 Not rated or not available


Water Features

 Streams and Canals

Transportation

 Rails
 Interstate Highways
 US Routes
 Major Roads
 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: El Paso County Area, Colorado
 Survey Area Data: Version 20, Sep 2, 2022

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

Date(s) aerial images were photographed: Sep 11, 2018—Oct 20, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	A	1.2	23.2%
95	Truckton loamy sand, 1 to 9 percent slopes	A	3.9	76.8%
Totals for Area of Interest			5.0	100.0%

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

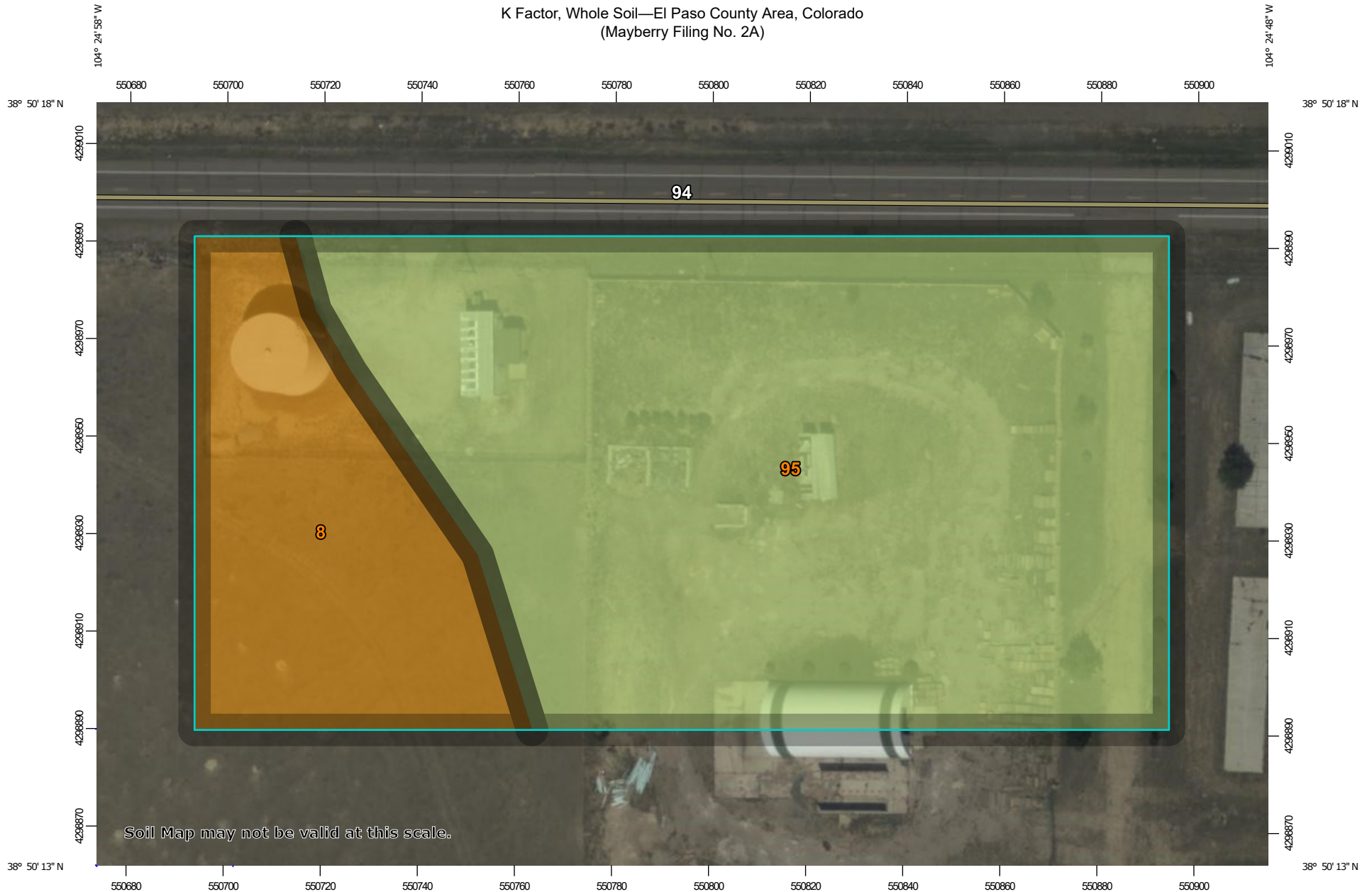
Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

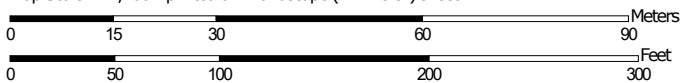
Tie-break Rule: Higher

K Factor, Whole Soil—El Paso County Area, Colorado
(Mayberry Filing No. 2A)



Soil Map may not be valid at this scale.

Map Scale: 1:1,100 if printed on A landscape (11" x 8.5") sheet.




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


















MAP LEGEND

Area of Interest (AOI)







 Area of Interest (AOI)










Soils

Soil Rating Polygons
















-  .02
-  .05
-  .10
-  .15
-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Soil Rating Lines








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-  .02
-  .05
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-  .17
-  .20
-  .24
-  .28
-  .32
-  .37
-  .43
-  .49
-  .55
-  .64
-  Not rated or not available

Water Features

-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

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K Factor, Whole Soil

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
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95	Truckton loamy sand, 1 to 9 percent slopes	.24	3.9	76.8%
Totals for Area of Interest			5.0	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Factor K does not apply to organic horizons and is not reported for those layers.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

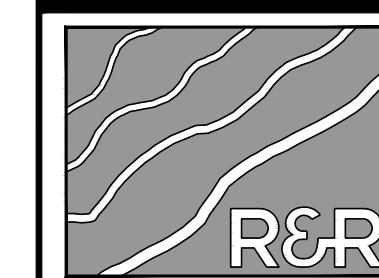
Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

APPENDIX C – EROSION CONTROL PLAN



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MAYBERRY PUD PH1 - FILING NO. 2A

SITE ADDRESS: MAYBERRY, COLORADO SPRINGS
EL PASO COUNTY

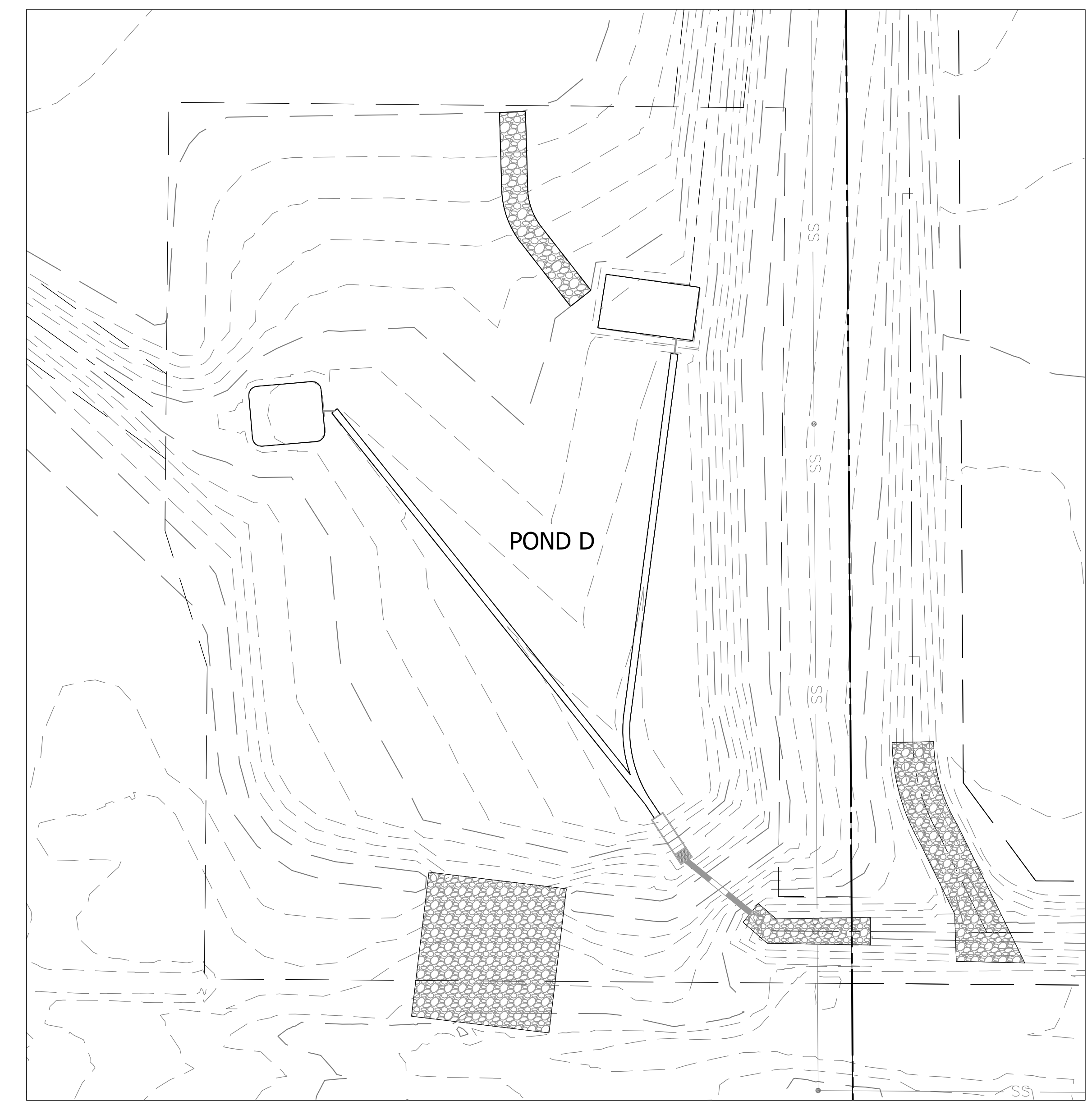
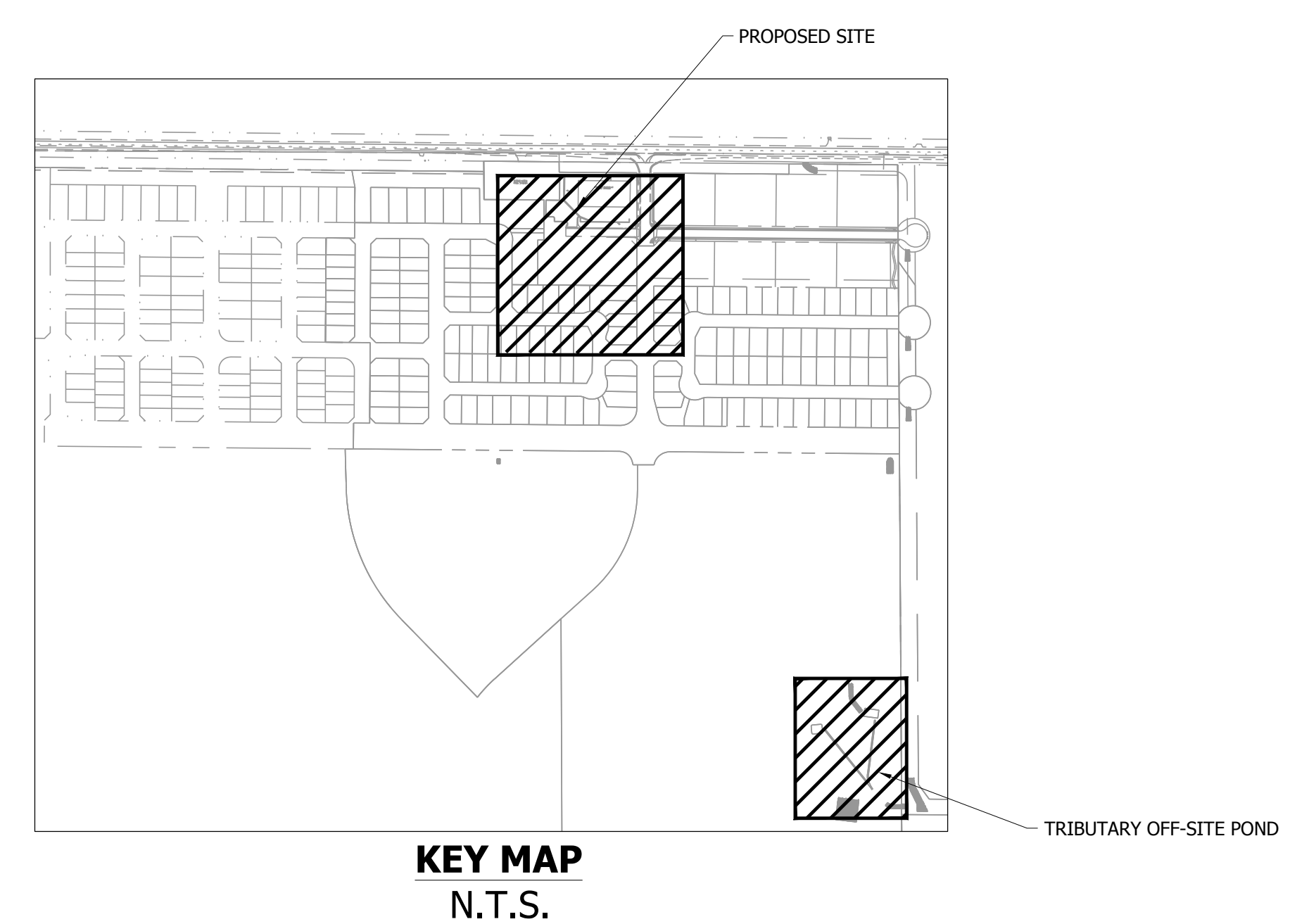
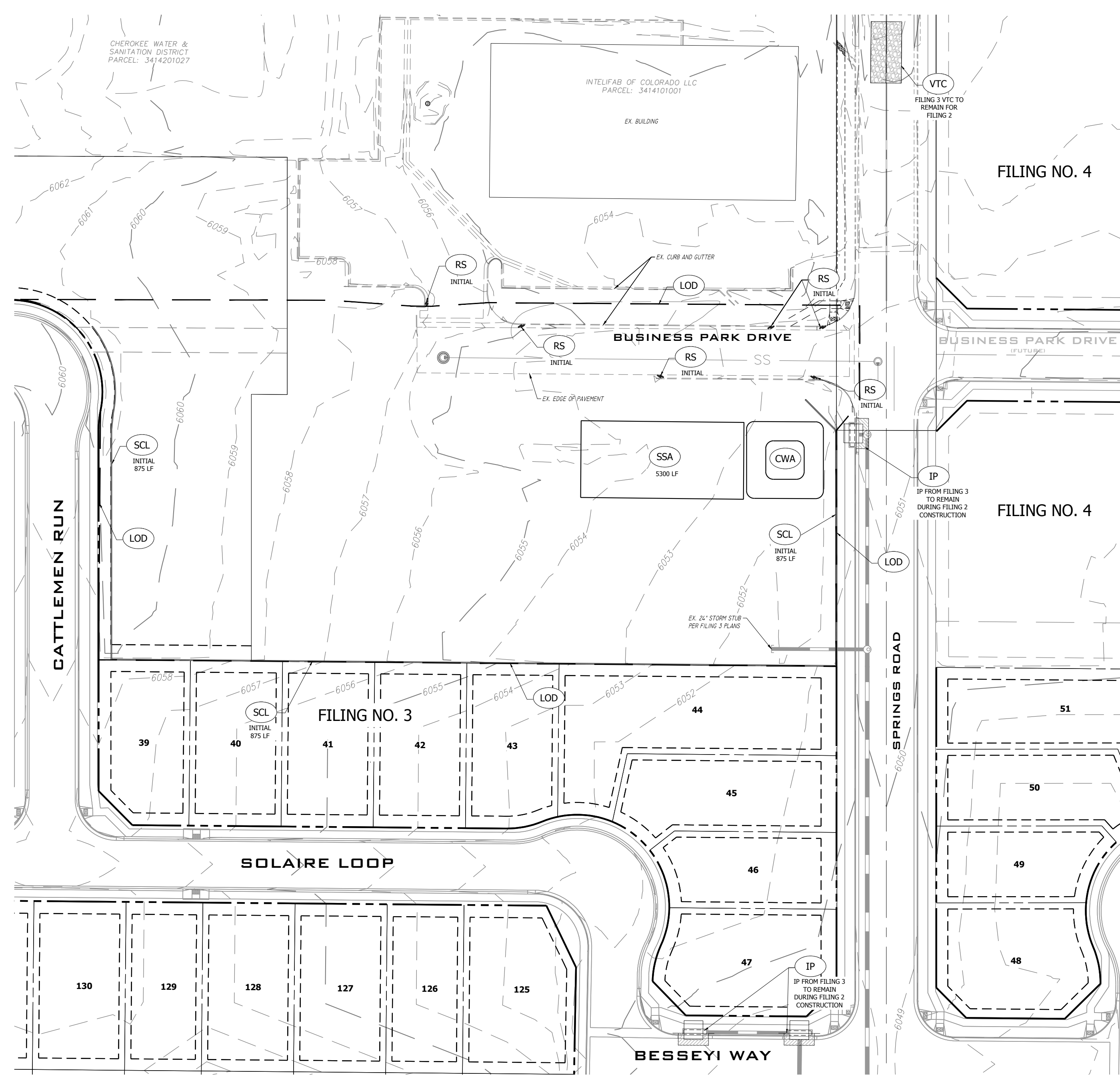
PREPARED FOR: MAYBERRY COMMUNITIES, LLC
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CONSTRUCTION DOCUMENTS

JOB NO. MC22199
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NAME

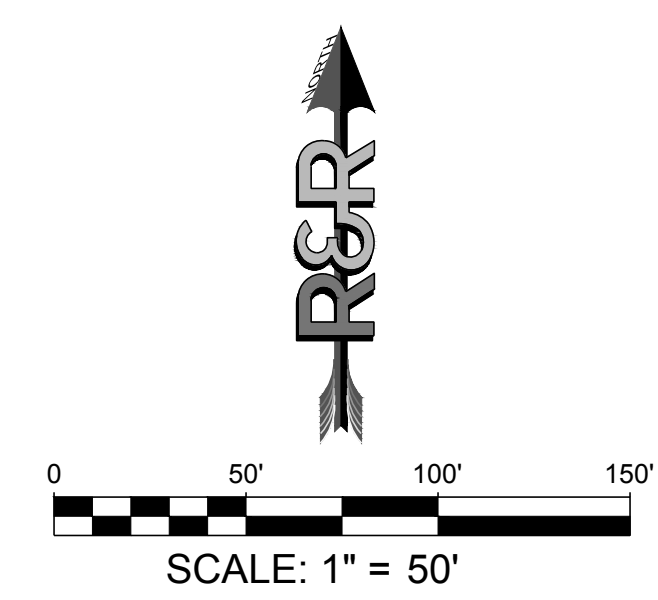
INITIAL EROSION CONTROL MEASURES

No. 9



- BMP LEGEND**
- LIMITS OF DISTURBANCE/CONSTRUCTION
 - SEDIMENT CONTROL LOG
 - ROCK SOCK
 - INLET PROTECTION
 - VEHICLE TRACKING CONTROL
 - REINFORCED CHECK DAM FOR CULVERT PROTECTION
 - CONCRETE WASHOUT AREA
 - STABILIZED STAGING AREA
 - PROP. CUT/FILL BOUNDARY

- SCHEDULE OF ACTIVITIES/SEQUENCE**
- INITIAL PHASE**
1. INSTALL EROSION CONTROL MEASURES
 2. CLEAR & GRUB, GRADING
- INTERIM PHASE**
1. GRADE AREA FOR NEW PARKING LOT CONFIGURATION.
 2. INSTALL DETENTION VAULT SYSTEM
 3. PAVE PARKING LOT
- FINAL PHASE**
1. LANDSCAPING
 2. SITE CLEAN UP
 3. REMOVE EROSION CONTROL MEASURES

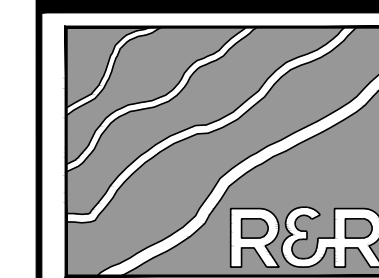


P:\PL\MC22199 MAYBERRY PUD PH1 - FILING NO. 2A - LOTS 39 & 31\ENGINEERING\DRAWINGS\PLANS\MC22199_CUL DE SAC EROSION CONTROL MEASURES.dwg PLOT DATE: 10/16/2023 2:43:09 PM BY: JLN



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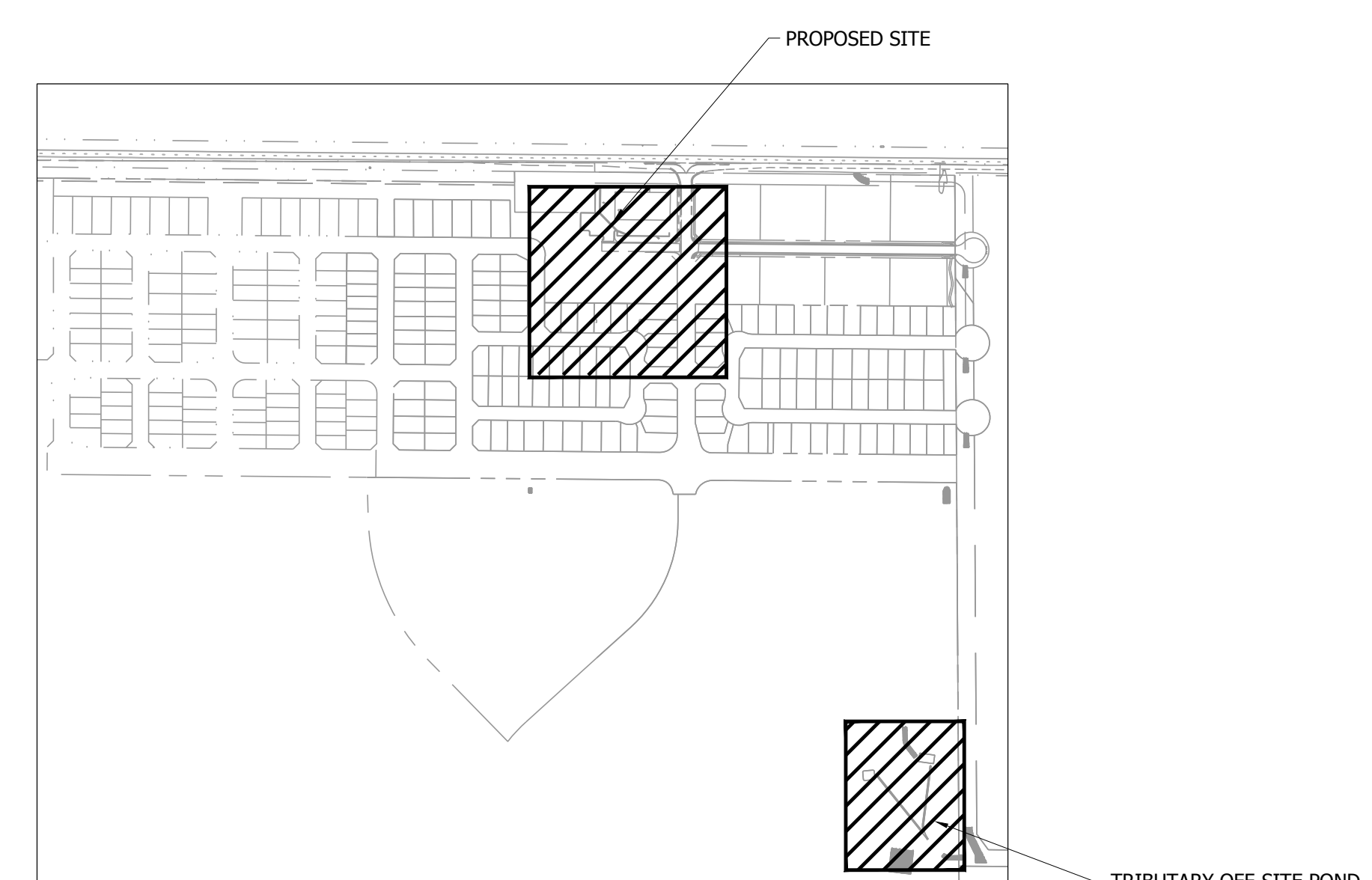
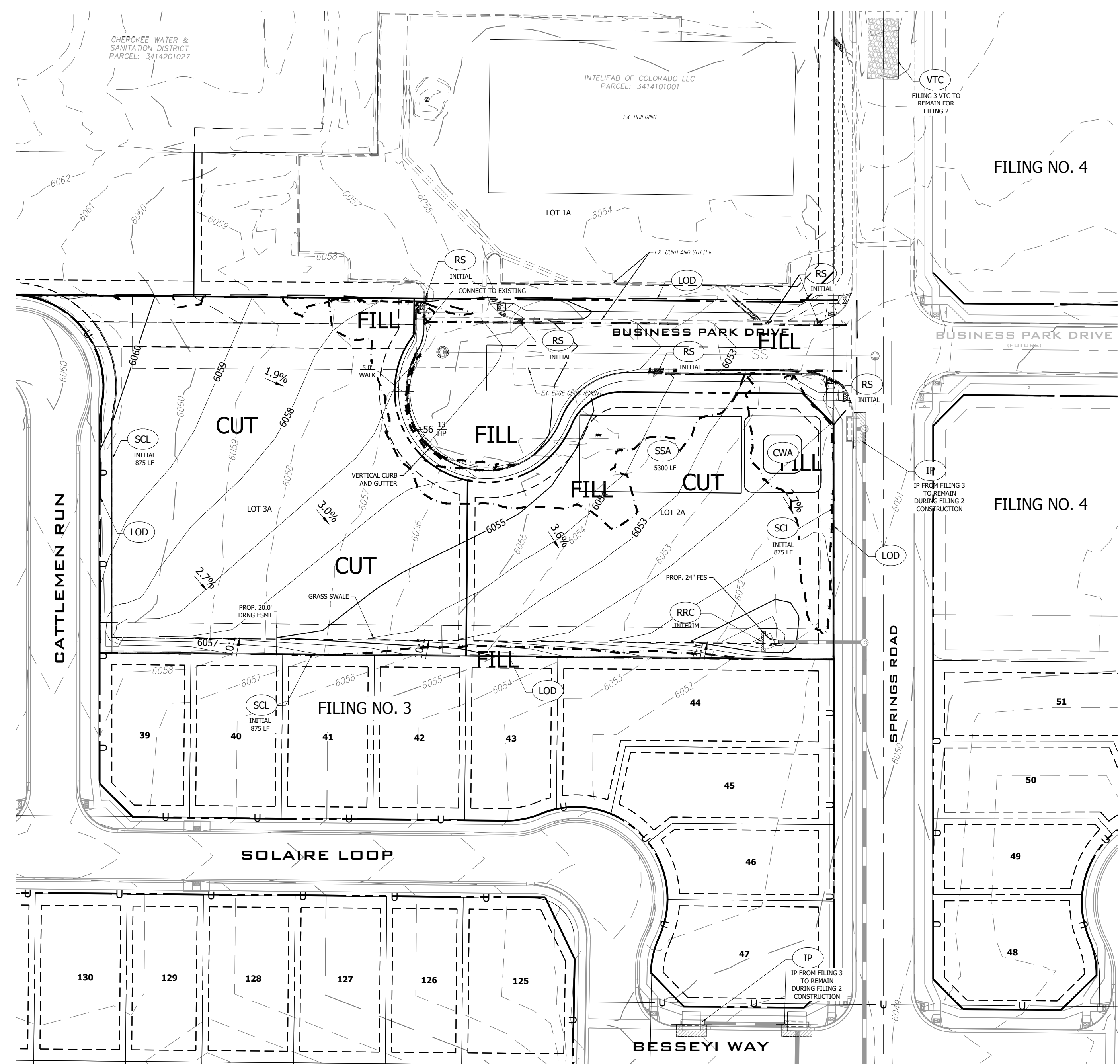


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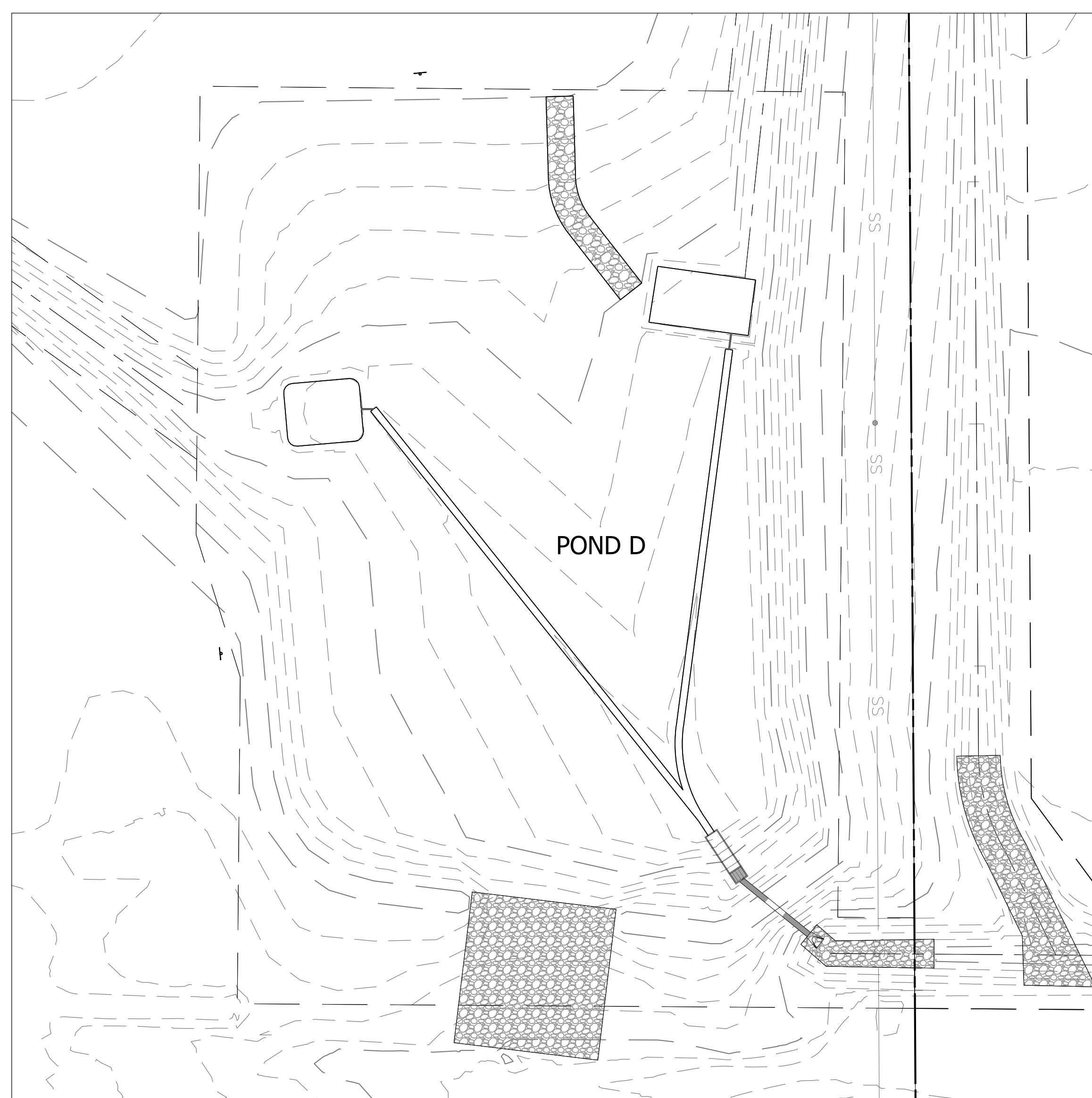
CONSTRUCTION DOCUMENTS
JOB NO. MC22199
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NAME

INTERIM EROSION CONTROL MEASURES

NO. 10



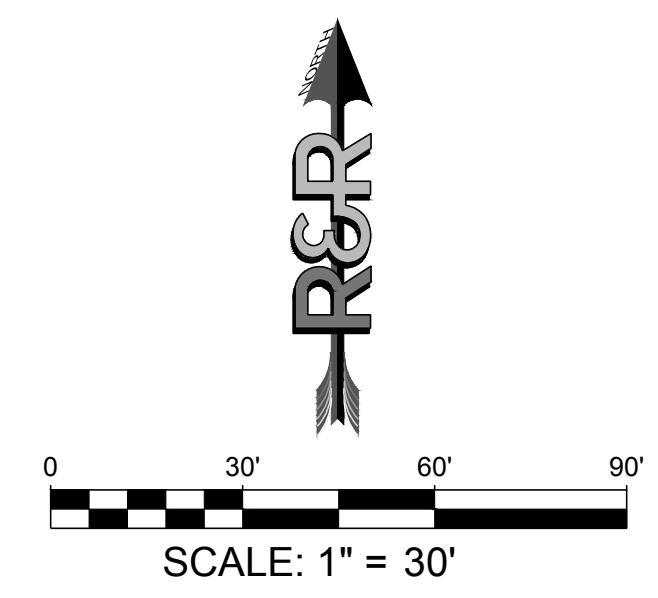
KEY MAP
N.T.S.



OFF-SITE POND
SCALE: 1" = 50'

- BMP LEGEND**
- LIMITS OF DISTURBANCE/CONSTRUCTION
 - SEDIMENT CONTROL LOG
 - ROCK SOCK
 - INLET PROTECTION
 - VEHICLE TRACKING CONTROL
 - REINFORCED CHECK DAM FOR CULVERT PROTECTION
 - CONCRETE WASHOUT AREA
 - STABILIZED STAGING AREA
 - PROP. CUT/FILL BOUNDARY

- SCHEDULE OF ACTIVITIES/SEQUENCE**
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 2. INSTALL DETENTION VAULT SYSTEM
 3. PAVE PARKING LOT
- FINAL PHASE**
1. LANDSCAPING
 2. SITE CLEAN UP
 3. REMOVE EROSION CONTROL MEASURES

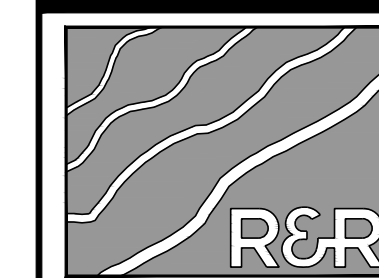


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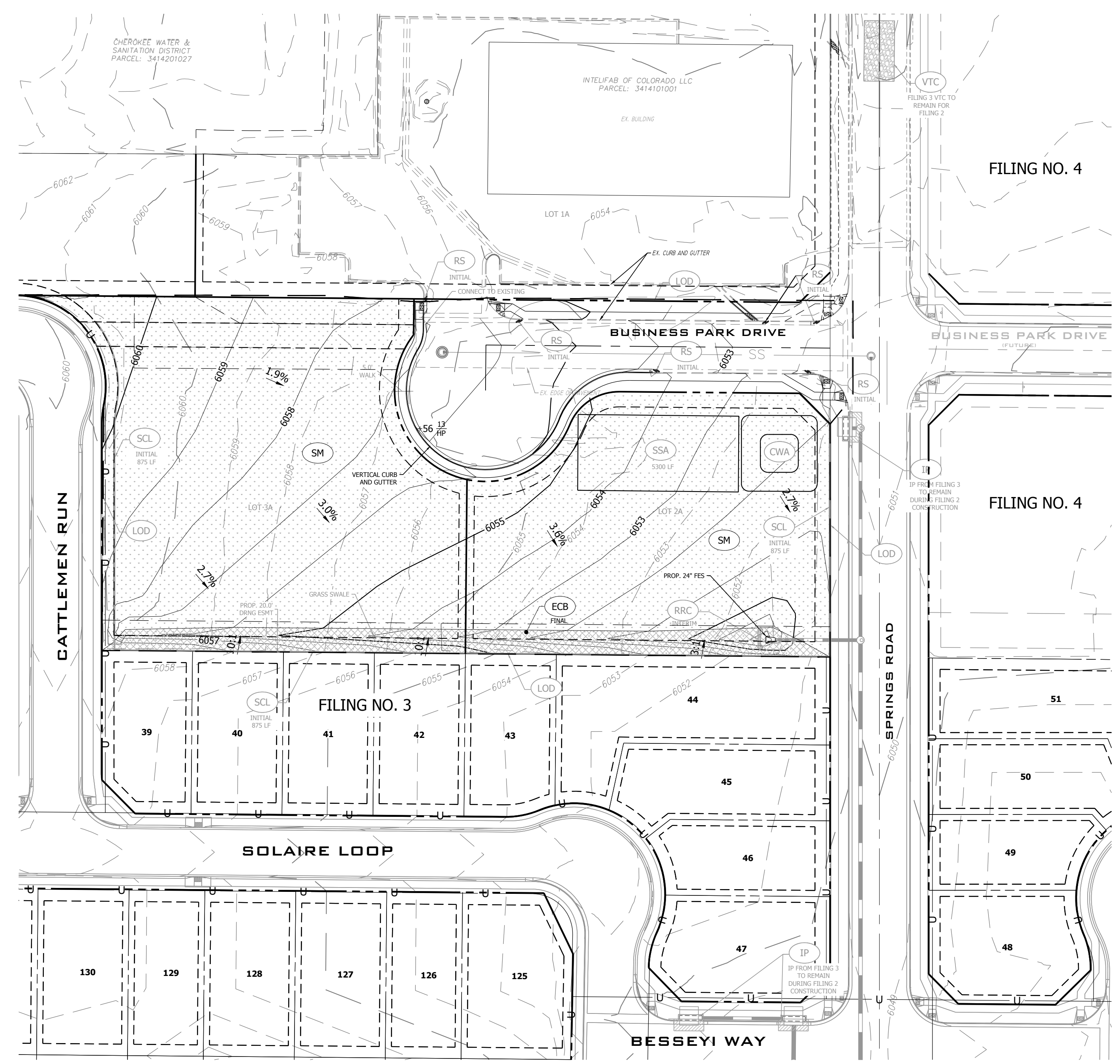


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COLORADO SPRINGS, CO 80922

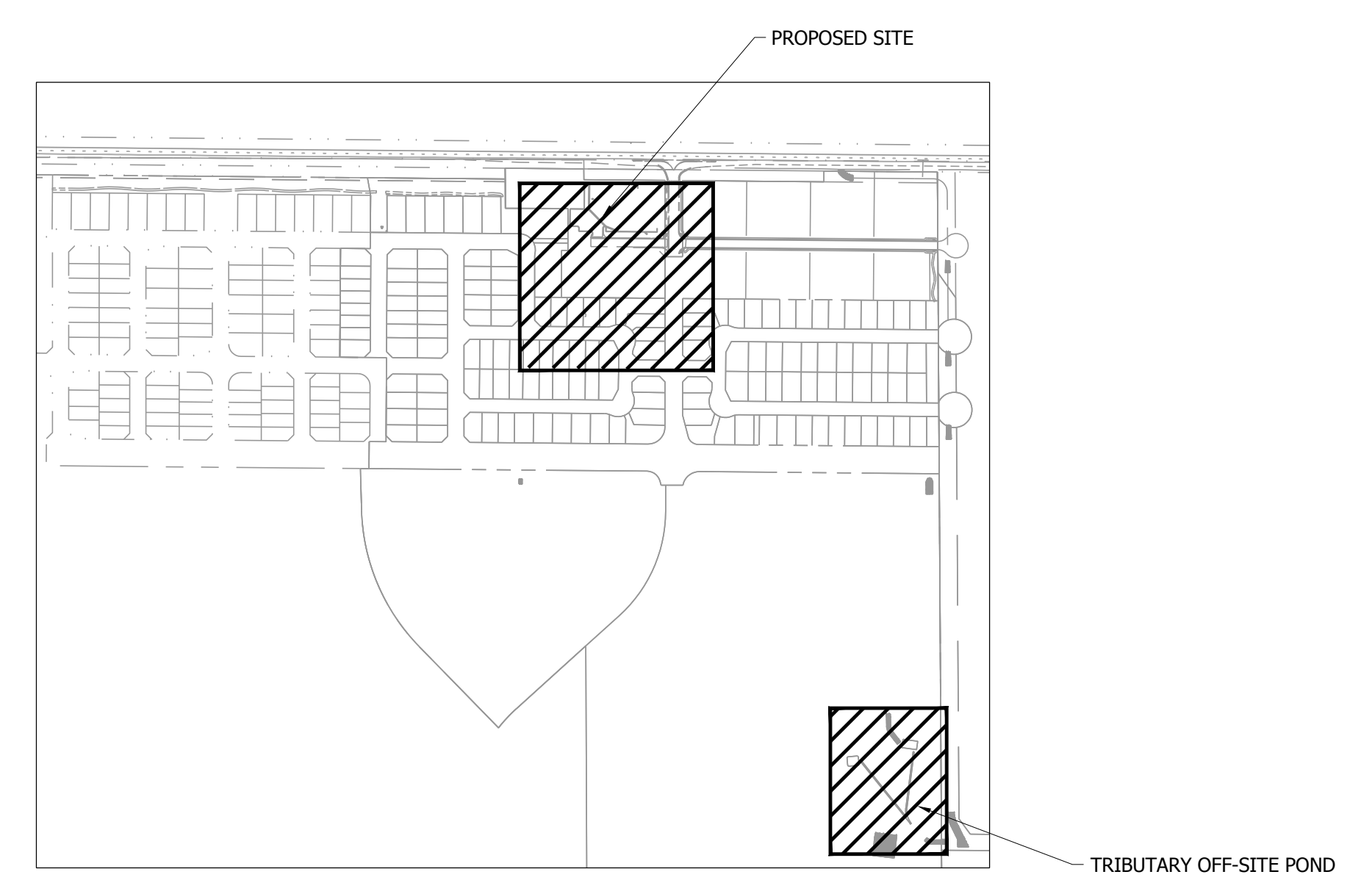
CONSTRUCTION DOCUMENTS			
JOB NO.	MC22199	DATE	09/25/2023
ORG. SUBM. DATE	09/25/2023	DWN:	LO
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FINAL EROSION CONTROL MEASURES

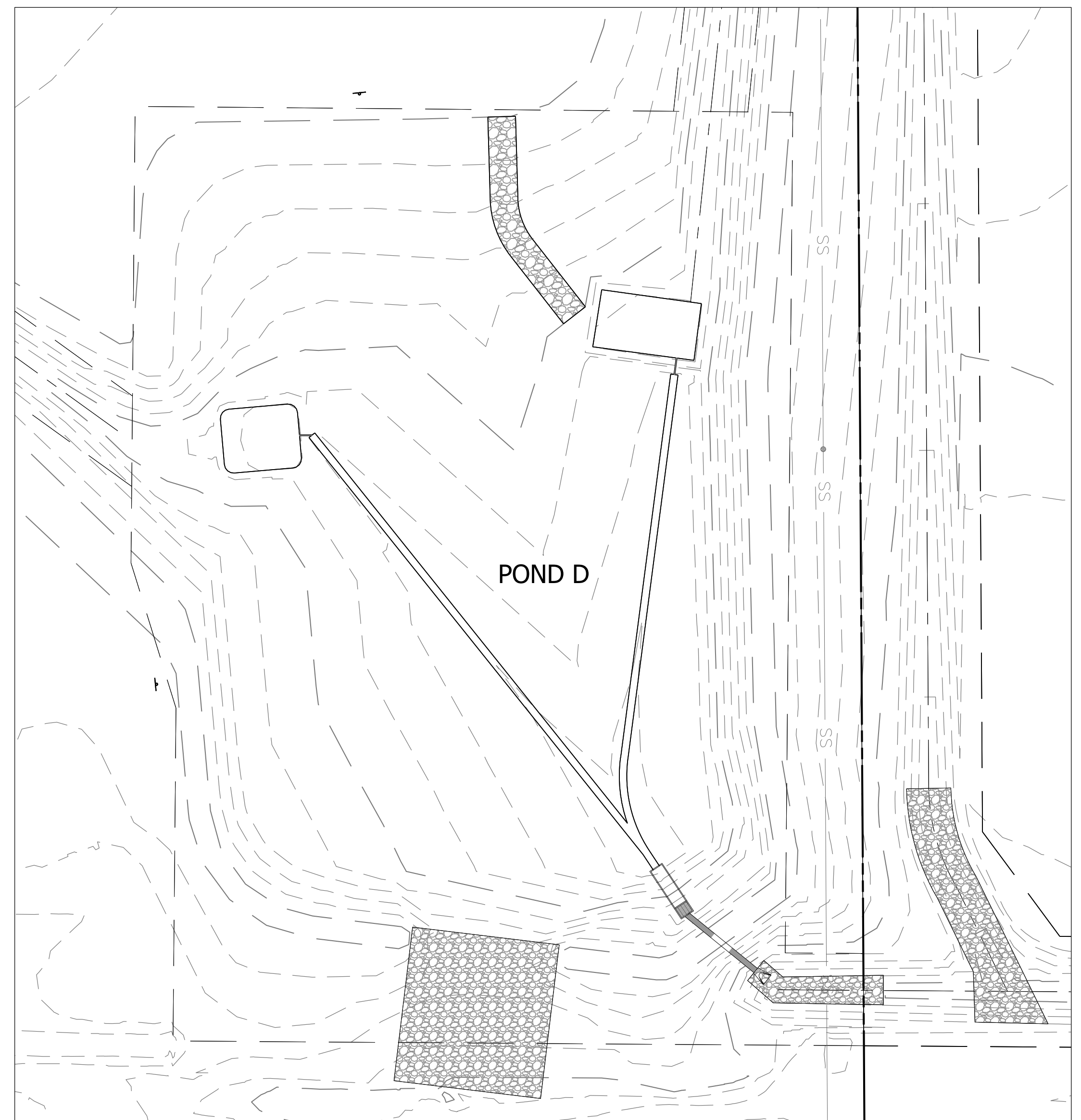
NO. **11**



NOTE:
SSA AND CWA FINAL LOCATION TO
BE DETERMINED BY CONTRACTOR.



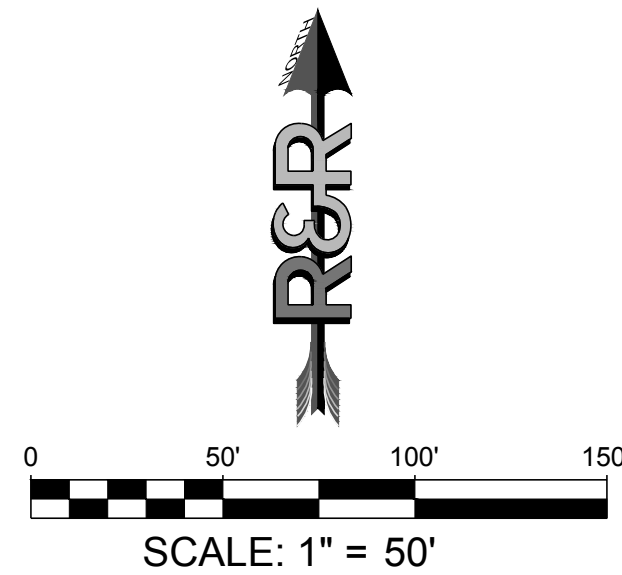
KEY MAP
N.T.S.



OFF-SITE POND
SCALE: 1" = 50'

- BMP LEGEND**
- LIMITS OF DISTURBANCE/CONSTRUCTION
 - SEDIMENT CONTROL LOG
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 3. PAVE PARKING LOT
- FINAL PHASE**
1. LANDSCAPING
 2. SITE CLEAN UP
 3. REMOVE EROSION CONTROL MEASURES



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APPENDIX D – BMP DETAILS

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 EL PASO COUNTY
 MAYBERRY COMMUNITIES, LLC
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CONSTRUCTION DOCUMENTS
JOB NO. MC22199
ORG. SUBM. DATE 09/25/2023
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NAME

DETAILS

NO. 12

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Table SF-1

Silt Fence Used as	Case 1		Case 2
	DA < 0.25 AC	0.25 < DA < 1 AC	DA > 1.0 AC
Continuous Grade	OK ⁽¹⁾	OK ⁽¹⁾	OK ⁽¹⁾
Area of Concentrated Flow	OK	NO ⁽²⁾	NO ⁽³⁾

(1) Temporary Dowe or Straw Bale Barrier may be used as alternative to a Silt Fence.
 (2) Check Dam may also be used as alternative to Silt Fence at low point.
 (3) Sediment Basin is required for concentrated flow from drainage areas > 1.0 AC.

City of Colorado Springs Stormwater Quality Figure SF-1 Silt Fence Application Examples

https://mclibrary.blob.core.usgovcloudapi.net/codecontent/15645/318684/FigSF-1.png 1/1

7/15/22, 11:44 AM FigSF-2.png (1559x2055)

SILT FENCE NOTES

INSTALLATION REQUIREMENTS

- SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
- WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
- METAL POSTS SHALL BE "STUDDOED TEE" OR "T" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
- THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/16" LONG #8 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
- WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY DUTY WIRE STAPLES AT LEAST 3/16" LONG. THE WIRE OR HOOD RING, THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 8" AND SHALL NOT EXTEND MORE THAN 7" ABOVE THE ORIGINAL GROUND SURFACE.
- ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POOL AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
- THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES. HIGHER FENCES MAY REDUCE VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PROLONGED RAINFALL. DAMAGED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATED TO HALF THE SPECIFIED GEOTEXTILE HEIGHT.
- SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality Figure SF-2 Silt Fence Construction Detail and Maintenance Requirements

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7/15/22, 11:48 AM FigSF-3.png (1556x2038)

Top View of Silt Fence Posts Detail

Refer to 'Top View of Silt Fence Posts Detail'

City of Colorado Springs Stormwater Quality Figure SF-3 Silt Fence Joint Tying Construction Detail and Maintenance Requirements

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7/15/22, 1:00 PM FigIP-4.png (1524x2009)

CURB SOCK INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

- INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
- SOCK IS TO BE MADE OF 1/4" INCH WIRE MESH (USED WITH GRAVEL ONLY) OR GEOTEXTILE.
- WEAVED SAND OR GRAVEL, 36 INCH TO 4 INCHES IN DIAMETER IS PLACED INSIDE THE SOCK.
- PLACEMENT OF THE SOCK IS TO BE 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
- SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED AT A MINIMUM 5 FEET APART.
- AT LEAST 2 CURB SOCKS IN SERIES IS REQUIRED.

MAINTENANCE REQUIREMENTS

- CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL AT LEAST DAILY DURING PROLONGED RAINFALL AND WEEKLY DURING PROLONGED RAINFALL.
- DAMAGED OR INEFFECTIVE INLET PROTECTION SHALL BE PROMPTLY REPAIRED OR REPLACED.
- SEDIMENT SHALL BE REMOVED FROM BEHIND THE SOCK WHEN GUTTER WIDTH IS FILLED.
- INLET PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED WITHIN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs Stormwater Quality Figure IP-4 Curb Sock Inlet Protection Construction Detail and Maintenance Requirements

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7/15/22, 12:39 PM FigCD-1.png (1561x2058)

SEDIMENT CONTROL LOG JOINTS

INSTALLATION NOTES

- ALL SEDIMENT CONTROL LOGS MUST BE EMBEDDED TO 1/2 OF THE HEIGHT OF THE LOG.
- LARGER DIAMETER SEDIMENT CONTROL LOGS NEED TO BE EMBEDDED DEEPER.
- PLACE SEDIMENT CONTROL LOG AGAINST SIDEWALK OR BACK OF CURB WHEN ADJACENT TO THESE FEATURES.
- SEDIMENT CONTROL LOGS SHALL CONSIST OF STRAW, COMPOST, EXCELSIOR OR COCONUT FIBER, AND SHALL BE FREE FROM ANY NOXIOUS WEED SEEDS OF DEFECTS INCLUDING RIPS, HOLES AND OBVIOUS WEAR. IF USING AS SLOPE PROTECTION, INSTALL SEDIMENT CONTROL LOGS ALONG THE CONTOUR.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ACCUMULATED SEDIMENT MUST BE REMOVED WHEN THE HEIGHT REACHES 1/2 OF THE HEIGHT OF THE SEDIMENT CONTROL LOG.
- PERMANENTLY STABILIZE AREA AFTER SEDIMENT CONTROL LOGS HAVE BEEN REMOVED.

City of Colorado Springs Stormwater Quality Figure CD-1 Check Dam Construction Detail and Maintenance Requirements

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7/15/22, 12:39 PM FigCD-1.png (1561x2058)

CHECK DAM NOTES

INSTALLATION REQUIREMENTS

- STRAW BALES USED AS CHECK DAMS ARE TO MEET THE REQUIREMENTS STATED IN FIGURE SSB-2.
- THE 1/2" DIMENSION SHALL BE SET TO PROVIDE WEIR FLOW CONVEYANCE FOR 2-YEAR FLOW OR GREATER.

MAINTENANCE REQUIREMENTS

- REGULAR INSPECTIONS ARE TO BE MADE OF ALL CHECK DAMS, ESPECIALLY AFTER STORM EVENTS.
- REPLACE STONE AS NECESSARY TO MAINTAIN THE CORRECT HEIGHT OF THE DAM.
- ACCUMULATED SEDIMENT AND WEIRS BE TO BE REMOVED FROM BEHIND THE DAMS AFTER EACH STORM OR WHEN 1/2 OF THE ORIGINAL HEIGHT OF THE DAM IS REACHED.
- CHECK DAMS ARE TO REMAIN IN PLACE AND OPERATIONAL UNTIL THE DRAINAGE AREA AND CHANNEL ARE PERMANENTLY STABILIZED.
- WHEN CHECK DAMS ARE REMOVED THE CHANNEL LINING OR VEGETATION IS TO BE RESTORED.

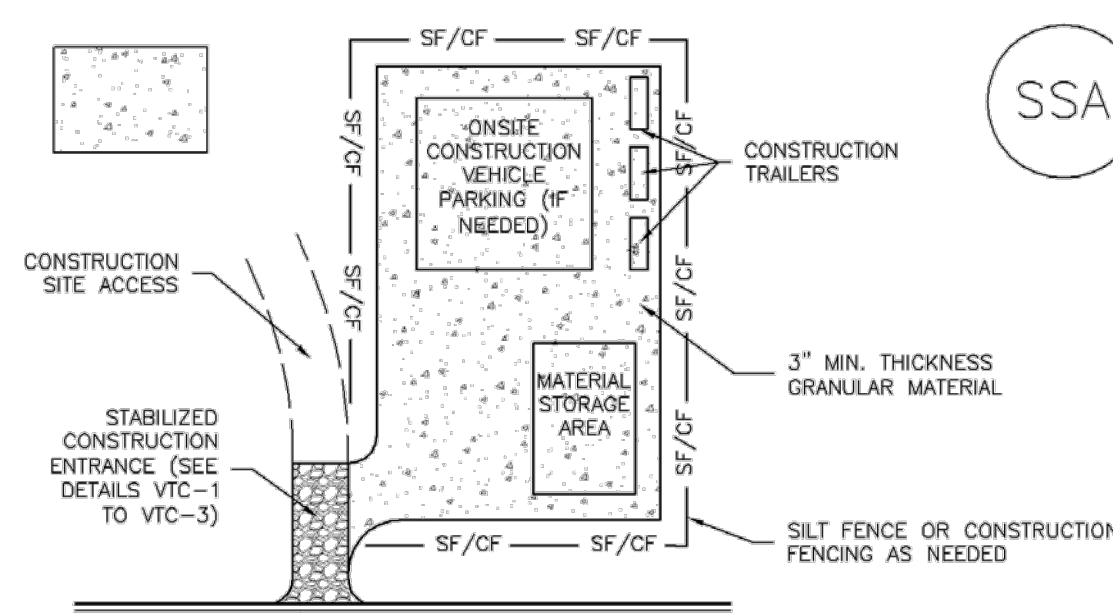
City of Colorado Springs Stormwater Quality Figure CD-1 Check Dam Construction Detail and Maintenance Requirements

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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).
2. STABILIZED STAGING AREA SHOULD BE APPROPRIATE FOR THE NEEDS OF THE SITE.
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.
2. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN BMPs IN EFFECTIVE OPERATING CONDITION.
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.

November 2010 Urban Drainage and Flood Control District SSA-3
Urban Storm Drainage Criteria Manual Volume 3

SM-6

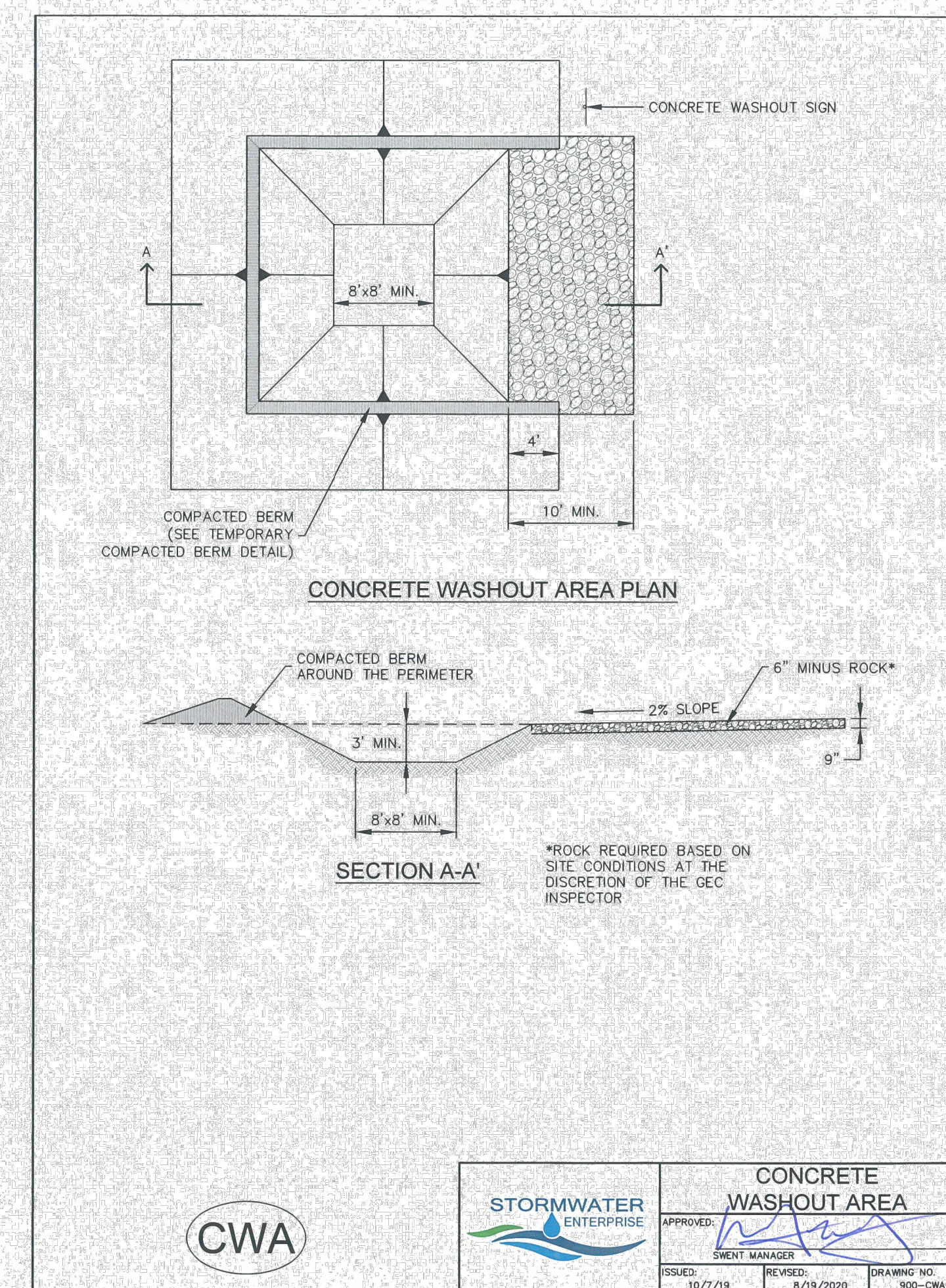
Stabilized Staging Area (SSA)

STABILIZED STAGING AREA MAINTENANCE NOTES

- 5. STABILIZED STAGING AREA SHALL BE ENLARGED IF NECESSARY TO CONTAIN PARKING, STORAGE, AND UNLOADING/LOADING OPERATIONS.
6. THE STABILIZED STAGING AREA SHALL BE REMOVED AT THE END OF CONSTRUCTION.
NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS.
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO, NOT AVAILABLE IN AUTOCAD)

SSA-4 Urban Drainage and Flood Control District November 2010
Urban Storm Drainage Criteria Manual Volume 3



Approval table with fields for APPROVED, SHEET MANAGER, ISSUED, and REVISION.

INSTALLATION NOTES

- 1. SEE PLAN VIEW FOR LOCATION OF CONCRETE WASHOUT AREA.
2. LOCATE AT LEAST 50' AWAY FROM STATE WATERS MEASURED HORIZONTALLY.
3. AN IMPERMEABLE LINER (16 MIL MINIMUM THICKNESS) IS REQUIRED IF CONCRETE WASH AREA IS LOCATED WITHIN 400' OF STATE WATERS OR 1000' OF WELLS OR DRINKING WATER SOURCES.
4. DO NOT LOCATE IN AREAS WHERE SHALLOW GROUNDWATER MAY BE PRESENT.
5. THE CONCRETE WASH AREA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
6. CONCRETE WASH AREA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8'.
7. BERM SURROUNDING SIDES AND BACK OF CONCRETE WASH AREA SHALL HAVE A MINIMUM HEIGHT OF 2 FEET.
8. CONCRETE WASH AREA ENTRANCE SHALL BE SLOPED 2% TOWARDS THE CONCRETE WASH AREA.
9. SIGNS SHALL BE PLACED AT THE CONCRETE WASH AREA.
10. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

MAINTENANCE NOTES

- 1. FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION.
2. THE CONCRETE WASH AREA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE.
3. CONCRETE WASHOUT WATER, WASTED PIECES OF CONCRETE, AND ALL OTHER DEBRIS IN THE SUBSURFACE PIT SHALL BE TRANSPORTED FROM THE JOB SITE IN A WATER-TIGHT CONTAINER AND DISPOSED OF PROPERLY.
4. THE CONCRETE WASH AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
5. PERMANENTLY STABILIZE AREA AFTER CONCRETE WASH AREA IS REMOVED.



Approval table for Concrete Washout Area with fields for APPROVED, SHEET MANAGER, ISSUED, and REVISION.

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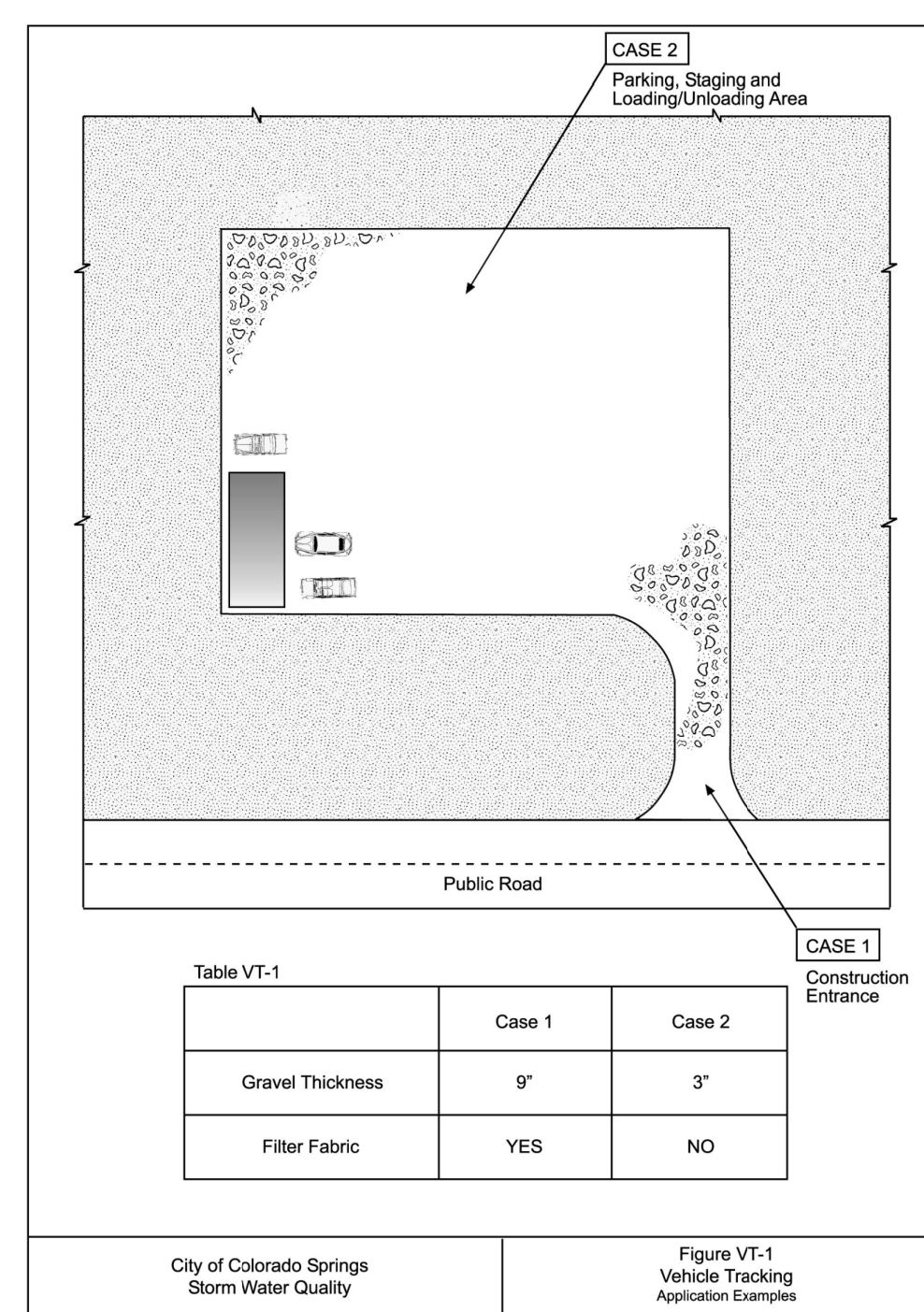
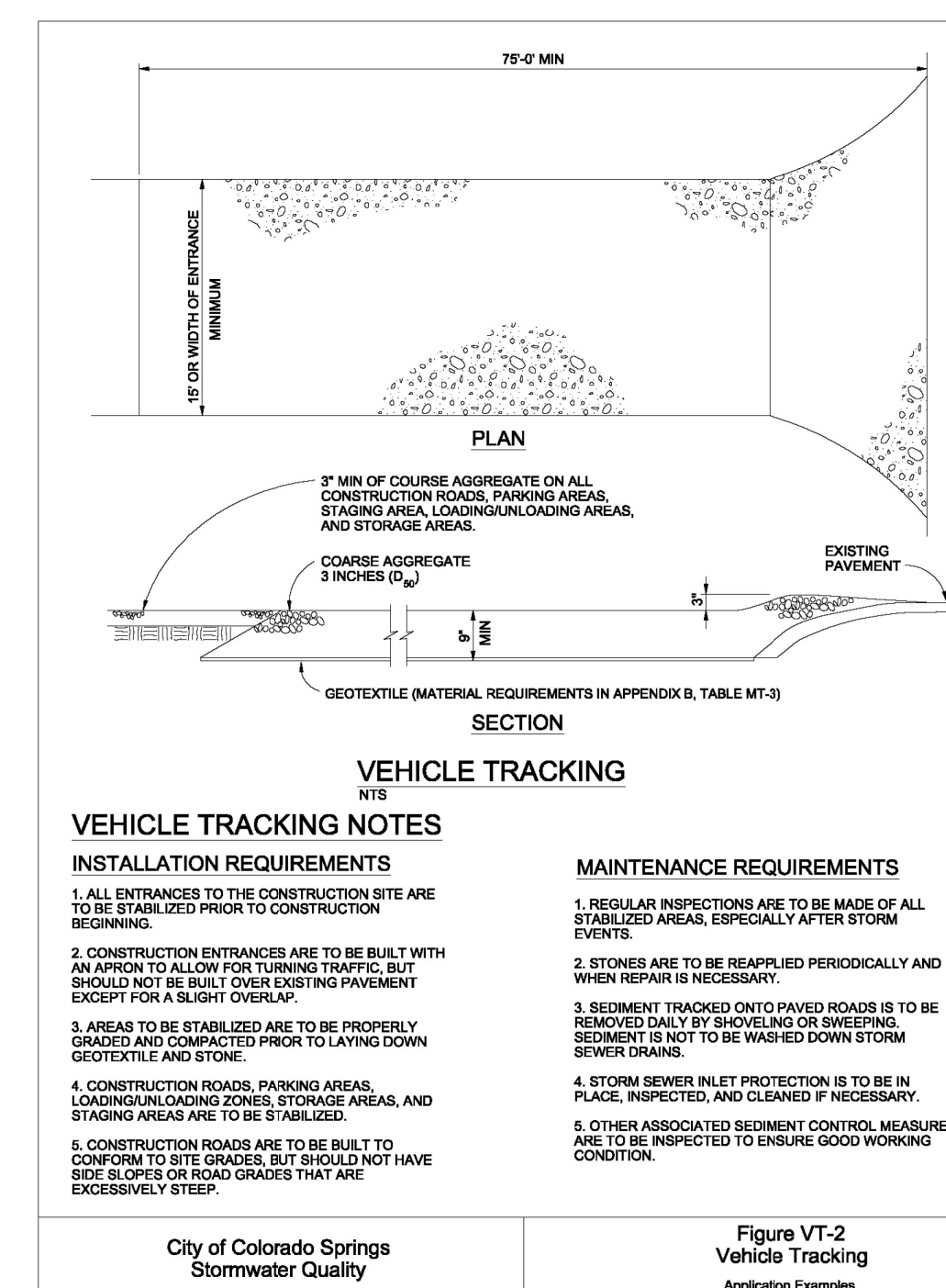


Table VT-1: Comparison of Case 1 and Case 2 for Gravel Thickness and Filter Fabric.

City of Colorado Springs Storm Water Quality Figure VT-1 Vehicle Tracking Application Examples

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VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

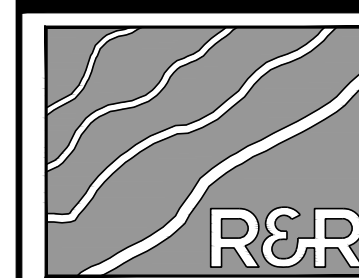
- 1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADEZ AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE STEEP SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

- 1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED ONLY BY SHOULDER OR OVERPASS. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAIN.
4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs Stormwater Quality Figure VT-2 Vehicle Tracking Application Examples

Revision table with columns for NO., REVISION, and DATE.



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Construction Documents table with fields for JOB NO., ORG. SUBM. DATE, DWN, and NAME.

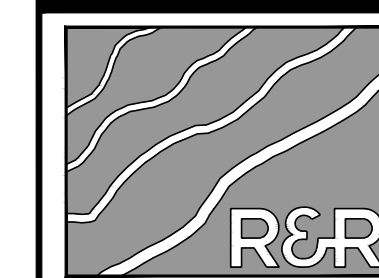
DETAILS

NO. 13



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COLORADO SPRINGS, CO 80922

CONSTRUCTION DOCUMENTS
JOB NO. MC22199
ORG. SUBM. DATE 09/25/2023
DWN: LO CHKD: TW
NAME

DETAILS

NO. 14

ROCK SOCK PLAN
1 1/2" (MINUS) CRUSHED ROCK (MAX.)
3/4" CRUSHED ROCK (MIN.)
ENCLOSED IN WIRE MESH OR
FILTER FABRIC

ROCK SOCK SECTION
GROUND SURFACE

ROCK SOCK OVERLAP
OVERLAP ROCK SOCKS
TO AVOID GAPS

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

MATCHES SPECIFICATIONS FOR
No. 4 COARSE AGGREGATE FOR
CONCRETE PER AASHTO M-43.
ALL ROCK SHALL BE FRACTURED
FACE, ALL SIDES

INSTALLATION NOTES

- CRUSHED ROCK SHALL BE BETWEEN MAX. 1 1/2" (MINUS) IN SIZE WITH A FRACTURED FACE (ALL SIDES) AND SHALL COMPLY WITH GRADATION SHOWN ON THIS SHEET AND MIN. 3/4" CRUSHED ROCK.
- WIRE MESH SHALL HAVE OPENINGS SMALLER THAN THE SMALLEST SIZE ROCK.
- 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.

MAINTENANCE NOTES

- FREQUENT OBSERVATIONS AND MAINTENANCE ARE NECESSARY TO MAINTAIN CONTROL MEASURES IN EFFECTIVE OPERATING CONDITION. INSPECTIONS AND CORRECTIVE MEASURES SHOULD BE DOCUMENTED THOROUGHLY.
- ROCK SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED OR DAMAGED BEYOND REPAIR.
- ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN THE DEPTH REACHES 1/2 OF THE HEIGHT OF THE ROCK SOCK.
- ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL DISTURBED AREA IS STABILIZED.
- PERMANENTLY STABILIZE AREA AFTER ROCK SOCKS HAVE BEEN REMOVED.

ROCK SOCK

APPROVED: *[Signature]*
ENGINEER

ISSUED: 10/7/19 REVISED: 8/19/2020 DRAWING NO. 900-RS

STORMWATER ENTERPRISE

RS

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FigECB-1.png (1333x1811)

Shallow Slope
On shallow slopes, strips of netting may be applied across the slope.

Where there is a berm at the top of the slope, bring the netting over the berm and anchor it behind the berm.

Steep Slope
On steep slopes, apply strips of netting parallel to the direction of flow and anchor securely.

Bring netting down to a level area before terminating the installation. Turn the end under 6" and staple at 12" intervals.

Ditch
In ditches, apply netting parallel to the direction of flow. Use check slots every 15 feet. Do not join strips in the center of the ditch.

City of Colorado Springs
Storm Water Quality

Figure ECB-1
Erosion Control Blanket
Application Examples

1/1

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FigECB-2.png (1338x1826)

Anchor Slot
Bury the up-channel end of the net in a 6" deep trench. Tamp the soil firmly. Staple at 12" intervals across the net.

Overlap
Overlap edges of the strips at least 6". Staple every 3 feet down the center of the strip.

Joining Strips
Insert the new roll of net in a trench, as with the Anchor Slot. Overlap the up-channel end of the previous roll 18" and turn the end under 6". Staple the end of the previous roll just below the anchor slot and at the end at 12" intervals.

Check Slots
On erodible soils or steep slopes, check slots should be made every 15 feet. Insert a fold of the net into a 6" trench and tamp firmly. Staple at 12" intervals across the net. Lay the net smoothly on the surface of the soil - do not stretch the net, and do not allow wrinkles.

Anchoring Ends At Structures
Place the end of the net in a 6" slot on the up-channel side of the structure. Fill the trench and tamp firmly. Roll the net up the channel. Place staples at 12" intervals along the anchor end of the net.

City of Colorado Springs
Storm Water Quality

Figure ECB-2
Erosion Control Blanket
Installation Requirements

1/1

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