

# Stormwater Management Plan (SWMP)

for construction activities at:

ANYTHINK NATURE LIBRARY  
COT INFRASTRUCTURE PHASE  
136TH AND NEWPORT ST,  
THORNTON, CO 80602

SWMP Preparation Date: **10/7/2022**

SWMP Revision Date: **6/16/2023**

Revision No.0

# Table of Contents

<b>SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING</b> .....	<b>4</b>
1.1 Project/Site Information .....	4
1.2 Contact Information/Responsible Parties .....	4
1.3 Nature and Sequence of Construction Activity .....	5
1.4 Construction Site Estimates .....	6
1.5 Soils, Drainage Patterns, and Vegetation .....	6
1.6 Anticipated Sources of Authorized Non-stormwater Discharge .....	7
1.7 Receiving Waters .....	7
1.8 Protected Site Features and Sensitive Areas.....	8
1.9 Potential Sources of Pollution.....	9
<b>SECTION 2: EROSION &amp; SEDIMENT CONTROL MEASURES</b> .....	<b>13</b>
2.1 Sediment Control Measures .....	13
2.2 Erosion Control Measures .....	16
2.3 Materials Management Control Measures .....	22
2.4 Site Management Control Measures .....	24
<b>SECTION 3: CONSTRUCTION SITE PHASING &amp; ESC PLAN</b> .....	<b>27</b>
3.1 Construction Site Phasing Summary .....	27
3.2 General Notes.....	28
<b>SECTION 4: WASTE MANAGEMENT PLAN</b> .....	<b>30</b>
4.1 Covering Outdoor Storage and Handling Areas .....	30
4.2 Spill Prevention and Response Plan .....	31
4.3 Good Housekeeping.....	34
4.4 Vehicle Maintenance, Fueling and Storage.....	36
4.5 Street Sweeping and Cleaning .....	38
4.6 Storm Sewer Cleaning.....	40
<b>SECTION 5: FINAL STABILIZATION</b> .....	<b>41</b>
5.1 Final Stabilization Requirement .....	41
5.2 Final Stabilization Measures .....	41
5.3 Removal of Temporary CMs .....	42
5.4 Stormwater Permits Close-out.....	42
5.5 Long Term Stormwater Management.....	43
<b>SECTION 6: STORMWATER INSPECTIONS</b> .....	<b>43</b>
6.1 Inspections.....	43
6.2 Inspection Sequence.....	45
<b>SECTION 7: RECORDKEEPING</b> .....	<b>47</b>
7.1 Recordkeeping.....	47
<b>SWMP APPENDICES</b> .....	<b>48</b>

**Objectives:**

The SWMP identifies possible pollutant sources that may contribute to stormwater pollution, and identifies control measures to reduce or eliminate potential water quality impacts during construction activities. The SWMP must be completed and implemented prior to project breaking ground, and revised by the contractor's Qualified Stormwater Manager as construction proceeds, to accurately reflect the conditions and practices at the site until final stabilization is reached. The SWMP meets the minimum requirements to comply with the State of Colorado CDPS General Permit for Stormwater Discharges Associated with Construction Activity, and the local regulations.

**General Instructions:**

To fill out the Stormwater Management Plan (SWMP) Template, select (double right click) the [blue text](#) and enter applicable information. When a blue box  is present, check the applicable selection. **No sections shall be left blank!** If a section is "Not Applicable" to the project, select the [blue text](#) and enter "N/A".

**Basic Acronyms:**

**ESC Plan:** Erosion and Sediment Control Plan (Site Map)

**CM:** Control Measures or **BMP:** Best Management Practices

**MS4:** Municipal Separate Storm Sewer System

# SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

## 1.1 Project/Site Information

**Instructions:**

- Include basic site information identifying general project information, permit numbers.
- Include a project vicinity map in **Appendix 1**.
- Attach the State of Colorado CDPS Stormwater Construction Permit Certification Page in **Appendix 2**.

Project/Site Name: ANYTHINK LIBRARY - COT INFRASTRUCTURE PHASE

Project Location: 136TH AND NEWPORT ST

City: THORNTON

State: CO ZIP Code: 80602

Subdivision/Project: ANYTHINK LIBRARY

State of Colorado - CDPS Stormwater Discharge Permit associated with Construction Activities

Permit Number: COR-XXXXXX

## 1.2 Contact Information/Responsible Parties

**Instructions:**

List the owner, operator, stormwater contact, and organization that prepared the SWMP. Complete by selecting the [blue text](#), double right click, then type in the applicable information.

**Owner:**

[City of Thornton](#)

[Jason Pierce](#)

[12450 Washington Street, Thornton CO 80241](#)

Office #: [\(720\)-977-6258](#)

Cell #: [\(xxx\)-xxx-xxxx](#)

Email: [xxx@xxx.com](#)

**Operator:**

[TBD](#)

[TBD](#)

[Address, City, State, Zip Code](#)

Office #: [\(xxx\)-xxx-xxxx](#)

Cell #: [\(xxx\)-xxx-xxxx](#)

Email: [xxx@xxx.com](#)

**Site Superintendent:**

[Insert Site Superintendent\(s\) Company or Organization Name](#)

[Insert Site Superintendent\(s\) Name](#)

[Insert Site Superintendent\(s\) Address, City, State, Zip Code](#)

Office #: [\(xxx\)-xxx-xxxx](#)

Cell #: [\(xxx\)-xxx-xxxx](#)

Email: [xxx@xxx.com](#)

**Qualified Stormwater Manager:** Individual responsible for implementing, maintaining, and revising the SWMP, knowledgeable in the principles and practices of ESC and pollution prevention, with the skills to:

- Assess conditions at construction sites that could impact stormwater quality, and
- Assess the effectiveness of stormwater controls.
- Perform inspections

TBD

Insert ESC Qualified Stormwater Manager(s) Name

Insert ESC Qualified Stormwater Manager(s) Title

Insert ESC Qualified Stormwater Manager(s) Address, City, State, Zip Code

Office #: (xxx)-xxx-xxxx

Cell #: (xxx)-xxx-xxxx

Email: xxx@xxx.com

\*To add additional Qualified Stormwater Managers please click on the blue plus sign.

**SWMP prepared by:**

Ware Malcomb

Ian Crawford

900 S Broadway #320, Denver CO 80209

Office #: (303)-561-3333

Cell #: (xxx)-xxx-xxxx

Email:

icrawford@waremalcomb.com

## 1.3 Nature and Sequence of Construction Activity

**Instructions:**

- Describe the scope of the construction activity at the project site.
- Identify the purpose of the construction activity, include estimated dates to begin and conclude.
- Describe the sequence for major construction activities at each phase of the construction project.

Project scope of work: Phase 1 Scope: The intent of phase 1 is to add to existing utility infrastructure within 136th Ave for a future Anythink Library Commercial site. There is also a proposed additional turn lane added to 136th ave for access to the future site. Phase 1 includes the access drive and fire access lane.

Type of construction activity:

Residential

Commercial

Industrial

Road Construction

Linear Utility

Other (please specify): INSERT TEXT HERE

Estimated Project Start Date: June 23, 2023

Estimated Project Completion Date: [Insert Estimated Project Completion Date](#)

Estimated Project Final Stabilization: [Insert Estimated Project Completion Date](#)

Major phases of Construction:

Initial CM

Demolition

Grading

Utility Installation

Interim CM

Road Construction

- Vertical Construction       Final Grade       Final Stabilization CM
- Other: [INSERT TEXT HERE](#)

Earth Work Summary:

Cut: 6909.44 CY

Fill: 170.89 CY

## 1.4 Construction Site Estimates

**Instructions:**

- Estimate total project area.
- Estimate the area to be disturbed by excavation, grading, or other construction activities, including off-site improvements, pavement cuts, dedicated off-site borrow or fill areas within ¼ mile from the site, equipment and material storage areas, and staging areas.

Total site area: 3.31 acres

Construction site area to be disturbed: 3.31 acres

Are there any control measures (CMs) located **outside** of the permitted area, that are utilized by the Permittee’s construction site for compliance with this permit, but not under the direct control of the Permittee?:  Yes /  No

If Yes, attach user agreement if applicable, with the off-site owner/operator under **Appendix 8** and describe CMs location, specifications, etc.

## 1.5 Soils, Drainage Patterns, and Vegetation

**Instructions:**

- Describe the existing soil conditions at the construction site including soil type(s), drainage patterns, and other topographic features that might affect erosion and sediment control.
- Describe the pre-disturbance vegetation and include color pre-disturbance photos in **Appendix 3**.

Soil type:

The majority of the site contains Loam and Clay, per web soil survey dated October 6, 2022.

Soil’s erosion potential:

The surrounding soils contain class D type soils and contain a large amount of clay and loam. These soils produce a high level of runoff but do not have a high potential for erosion.

Drainage pattern - Describe existing drainage patterns, slopes and changes due to the proposed grading:

In general the existing drainage conveys flows overland from the northwest to the southeast at an average slope of 3%. The proposed storm sewer system is intended to treat and detain flows from the site. Additionally, there is an existing drainage way on the western side of the site that will have a conflict within the fire access drive. A culvert is proposed in this area to alleviate disturbance of the drainage way.

Vegetation - Describe pre-disturbance vegetation:

The site in the existing condition contains native grasses and no existing disturbance.

Vegetation - Estimate the percentage of pre-existing vegetation cover of the entire site (%):

95% of the site contains native grasses. The vegetation cover density is 50%.

Vegetation - Describe method for determining the percentage:

Google earth imagery was used to determine vegetation cover.

## 1.6 Anticipated Sources of Authorized Non-stormwater Discharge

**Instructions:**

- Check box for presence of any anticipated allowable sources of non-stormwater discharge at the site such as: uncontaminated springs, landscape irrigation return flows, construction dewatering, concrete washout, super-chlorinated water for pipeline testing, etc.

Description and location of any anticipated allowable sources of non-stormwater discharge at the site. Check if applicable:

Natural springs, only if:

- Uncontaminated, and
- Spring flows are not exposed to land disturbance

Landscape irrigation return flow

Emergency fire fighting

Concrete washout (CWA), only if:

- Liquids from washing concrete tools and concrete mixer chutes are properly contained, and
- No concrete washout water leaves the site as surface runoff or reaches receiving waters

Liner under CWA is required if:

- The groundwater table level is high.
- CWA is within 400 feet of any natural drainage pathway or waterbody, or
- CWA is within 1,000 feet of any wells or drinking water sources.

Check if the CWA liner is needed for this site.

Description of any other anticipated allowable sources of non-stormwater discharge at the site:

N/A

## 1.7 Receiving Waters

**Instructions:**

- Indicate inside which watershed the project is located.
- List the waterbody(s) that would receive stormwater from your site, including streams, rivers, lakes and wetlands. Describe each as clearly as possible, such as: *Niver Creek, a tributary to the South Platte River.*
- List the jurisdictional storm sewer system or drainage system that stormwater from your site discharges to, such as storm sewer system within City of Thornton, or unincorporated Adams County, etc.

Name and description of watershed:

The site is located within the Second Creek watershed (101900030403). The Second Creek Watershed is located within the greater South Platte watershed region.

Name and description of ultimately receiving water(s), including stream segment designation:

The entire site generally drains northwest to southeast to a permanent lake. Additionally there is an existing drainage way on the eastern side of the site that outfalls into an existing retention pond. Ultimately all drainage from the site will flow into the South Platte River.

Distance from the project to the closest receiving water:

436'

Is the stream segment impaired?  Yes /  No

Description of all stream crossings located within the construction site boundary:

There are no stream crossings necessary within the construction site boundary.

Other:

N/A

## 1.8 Protected Site Features and Sensitive Areas

### Instructions:

- Describe unique site features or sensitive area including historic structures, floodplain/floodway of streams, stream buffers, wetlands, specimen trees, natural vegetation, steep slopes, or highly erodible soils that are to be preserved. Describe the measures that will be used to protect these features. Include unique features and sensitive areas on the EC Plan drawings.
- Describe any known soil or groundwater contamination. Note that additional permitting is required from the State of Colorado, Water Quality Control Division.

Refer to <https://www.colorado.gov/pacific/cdphe/hwforms> and access the Hazardous Materials and Waste Management Division Site Locator Mapping Application.

Describe unique site feature or sensitive area to be preserved during construction:

The site mostly sits on type D soils with native grasses covering the majority of the area.

Describe measures to preserve unique site feature or sensitive area during construction:

Silt fences and rock socks will be used during construction to minimize disturbance of existing site features.

Describe any known soil or groundwater contamination:

There are no known groundwater contamination.

Describe management plan for contaminated soils and/or groundwater:

N/A

Attach applicable Permits (check if applicable):

404 Permit

401 Permit

Dewatering Permit

Remediation Permit



Other: INSERT TEXT HERE

## 1.9 Potential Sources of Pollution

**Instructions:**

- List and describe measures to control potential sources of pollution, which may reasonably be expected to affect stormwater quality discharges from the construction site.
- Below is a comprehensive list. Add rows if additional potential sources of pollution are identified.
- If a potential pollutant source is applicable to the site, then select the blue **Yes/No**, then type **“Yes”** or **“No”**.

Potential Pollution Source	Potential on this site?	Control Measures (CM)	CM Implementation (as needed)
Disturbed & Stored Soils - grading - spoils - stockpiles	Yes	ESC CMs (IP, SF, SSA, TRM, RECP, TOP, SCL, SBB, RS, SB, ST) Preservation of existing vegetation (PV, VB, CF, CP) Materials management Solid waste management (SP, GH) Stockpile management (SP) Vehicle tracking control (VTC)	1. Delineate protected areas prior to construction. 2. Install CMs prior to construction. 3. Manage materials effectively once they arrive on site. 4. Place trash receptacles prior to construction. 5. Implement spill response. 6. Implement stockpile mgnt controls. 7. Delineate vehicle travel areas prior to construction, adjust as needed.
Vehicle Tracking - all permitted vehicle traffic	Yes	ESC CMs (IP, SF, SSA, TRM, RECP, TOP, SCL, SBB, RS, SB, ST) Vehicle traffic controls Vehicle tracking controls (VTC) Street sweeping (SS)	1. Install CMs prior construction. 2. Delineate vehicle travel areas prior to construction, adjust as needed. 3. Install VTC prior to construction. 4. Implement SS as needed, in conjunction with start of construction.
Contaminated Soils	No	Hazardous materials management (GH, CT) Spill response & notification (GH) Stockpile management (SP)	1. Implement hazardous materials management. 2. Implement spill response procedures. 3. Implement stockpile mgnt controls.
Loading & Unloading - construction materials	Yes	Material management (GH) Vehicle traffic controls (VTC)	1. Manage materials effectively once they arrive on site. 2. Delineate vehicle travel areas prior to construction, adjust as needed.
Vehicle/equipment maint. & fueling - gas, oil, - diesel - lubricants - hydraulic fluids	No	Spill prevention controls (GH) Designated fuel storage area (GH) Spill response & notification (GH)	1. Designate fuel storage area. 2. Implement spill prevention controls. 3. Implement spill response and notification procedures.

<b>Outdoor storage</b> - building materials - fertilizers - chemicals	Yes	Material storage procedures (GH)	1. Designate material storage areas prior to delivery. 2. Materials left outdoors must be covered if they can pollute stormwater. 3. Secondary containment must be used for hazardous materials.
<b>Dust</b> - wind transport - saw cutting	Yes	Dust control (DC) Temporary soil stabilization (SF, SD, GB, SSA, TRM, RECP, TOP) Street sweeping (SS) Preservation of existing vegetation (PV, VB, CF)	1. Delineate protected areas prior to construction. 2. Implement dust control in conjunction with soil disturbing activities. 3. Implement temporary soil stabilization measures as soon as practical. 4. Implement street sweeping at the start of major construction and maintain as needed.
<b>Routine Maintenance Activities</b> - fertilizers - pesticides - detergents - solvents - fuels, oils, etc.	Yes	Material storage (GH) Hazardous waste management (GH, CT) ESC CMs (IP, SF, SSA, TRM, RECP, TOP, SCL, SBB, RS, SB, ST)	1. Designate materials storage areas prior to site arrival. 2. Practice hazardous waste management procedures during the storage of such materials. 3. Install ESC measures prior to landscape work.
<b>Non-industrial Waste</b> - worker trash - portable toilets	No	Sanitary waste (GH) Solid waste management (GH)	1. Place temporary sanitary facilities on site and prevent off-site discharges. 2. Place trash receptacles on site.
<b>On-site Industrial Waste</b> - construction debris, etc	Yes	Waste management (GH) Liquid waste management (GH) Hazardous waste management (GH, CT)	1. Place trash receptacles on site. 2. Place designated watertight receptacles or washout area(s) prior to activities that produce liquid waste. 3. Implement hazardous waste management procedures.
<b>Concrete Truck Chute/Tool Washing</b>	Yes	Concrete washout area (CWA)	Install designated concrete washout(s) prior to concrete work.
<b>Drywall Mud and Paint</b>	No	Liquid waste management (GH)	Place designated watertight receptacles or washout area(s) prior to activities that produce liquid waste.
<b>Fly Ash</b> - concrete - flow fill	Yes	Concrete washout area (CWA) Hazardous waste management (GH)	1. Install designated CWA prior to concrete activities. 2. Implement hazardous waste management procedures.
<b>Dedicated:</b> - asphalt plants - concrete batch plants - masonry mixing stations	No	Secondary containment Concrete washout area (CWA) Solid waste management (GH) Materials management (GH)	1. Install secondary containment CMs prior to using dedicated batch plants. 2. Establish dedicated washout area before construction begins. 3. Place trash receptacles on site. 4. Manage materials effectively once they arrive on site.

Waste from: - geo-tech test - potholing - saw cutting - utility borings for locates	Yes	Dust control (DC) Material storage (GH) Solid waste management (GH)	1. Implement dust control in conjunction with soil disturbing activities. 2. Designate materials storage areas prior to their arrival on site. 3. Place trash receptacles on site.
Demolition of infrastructure: - concrete curb - asphalt road - steel/rebar	Yes	Dust control (DC) Solid waste management (GH)	1. Implement dust control in conjunction with soil disturbing activities. 2. Place trash receptacles.
Electric Generator - pump	No	Secondary containment Spill response & notification (GH) Hazardous waste management (GH, CT)	1. Install secondary containment CMs prior to using generators. 2. Implement hazardous waste management procedures.
Areas where <u>potential spills</u> can occur	Yes	Hazardous waste management (GH) Spill response & notification (GH)	1. Implement hazardous waste management. 2. Implement spill response and notification procedures.
<b>Pollutant Source</b>	<b>Yes/No</b>	<b>Indicate Control Measures</b>	<b>Describe Implementation</b>

\* Refer to Section 2, for acronyms used to identify CM details.

### ***Potential hazardous material & chemical pollutants to stormwater:***

Potentially on Site?	Material/ Chemical	Physical Description	Stormwater Pollutants	Location
Yes	Fertilizer	Liquid or solid grains	Nitrogen, phosphorous	Newly seeded areas
No	Cleaning solvents	Colorless, blue, or yellow-green liquid	Perchloroethylene, methylene chloride, trichloroethylene, petroleum distillates	Staging areas
Yes	Asphalt	Black solid	Oil, petroleum distillates	Streets
Yes	Concrete and Grout	White solid/grey liquid	Limestone, sand, pH, chromium	Curb and gutter, sidewalk, building construction
Yes	Curing compounds	Creamy white liquid	Naphtha	Curb and gutter, sidewalk, driveways, concrete slabs
Yes	Hydraulic oil/ fluids	Brown, oily petroleum hydrocarbon	Mineral oil	Leaks or broken hoses from equipment
Yes	Gasoline	Colorless, pale brown or pink petroleum hydrocarbon	Benzene, ethyl benzene, toluene, xylene, MTBE	Secondary containment/staging area
No	Antifreeze/ coolant	Clear green/yellow liquid	Ethylene glycol, propylene glycol, heavy	Leaks or broken hoses from equipment or vehicles

			metals (copper, lead, zinc)	
Yes	Sanitary toilets	Various colored liquid	Bacteria, parasites, and viruses	Staging areas
Yes/No	Other	Physical Description	Stormwater Pollutants	Location

## SECTION 2: EROSION & SEDIMENT CONTROL MEASURES

### Instructions:

Multiple permanent (structural) and temporary (non-structural) Control Measures (CM) are used for each phase of construction to minimize stormwater pollution. Select and categorize each CM according to their purpose:

1. Minimize disturbed area, and protect natural features and soil
2. Control stormwater flowing onto and through the project
3. Soil stabilization and slope protection
4. Storm drain inlet protection
5. Perimeter control and sediment barriers
6. Retention of sediment on-site
7. Construction entrance/exit stabilization
8. Additional CMs

Describe the CMs that will be implemented to control pollutants in stormwater discharges. A list of standard and commonly use CM is provided. The information also includes the *expected level of information* for each CM. The *expected level of information* must address the following:

- o **What** CMs will be installed? Select and describe CMs.
- o **When** will the CMs be implemented and removed? Timing, temporary or permanent. All CMs shall be installed as a phased operation as construction progresses.
- o **Where** will the CMs be implemented? Location.
- o **How** will the CMs be maintained? Describe the maintenance and inspection procedures. Include protocols, thresholds, and schedules for cleaning, repairing or replacing damaged or failing CMs.

If a construction project uses a CM that is not included below, add the CMs and ensure that the *expected level of information* is included.

Indicate applicable measure by selecting the blue **Yes/No** then type “**Yes**” or “**No**”. Identify the phase of construction during which the CM will be implemented: **1, 2, 3 or N/A**, and check whether the CM is **Permanent** (structural) or **Temporary** (non-structural). Add any additional CMs as needed.

Place CM detail drawings in **Appendix 4**.

Use Urban Drainage Flood Control District’s Detail Drawings:

<https://udfcd.org/wp-content/uploads/uploads/vol3%20criteria%20manual/Chapter%207%20Construction%20BMPs.pdf>

Or Colorado’s Department of Transportation Drainage Design Manual:

[https://www.codot.gov/business/designsupport/standard-plans/copy\\_of\\_2012-m-standards-plans](https://www.codot.gov/business/designsupport/standard-plans/copy_of_2012-m-standards-plans)

## 2.1 Sediment Control Measures

### Instructions:

- Describe how each unique site feature or sensitive area identified earlier will be protected during construction activity. Include these areas and associated measures on the ESC Plan (site map).
- Indicate applicable measure by selecting the blue **Yes/No** then type “**Yes**” or “**No**”. Identify the phase of construction during which the CM will be implemented: **1, 2, 3 or N/A**, and check whether the CM is **Permanent** (structural) or **Temporary** (non-structural). Add any additional CMs as needed.

<b>Silt Fence (SF)</b>	Used: Yes	Phase(s): 1 & 2
<input type="checkbox"/> <b>Permanent</b>	<input checked="" type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	SF is a woven geotextile fabric attached to wooden posts and trenched into the ground. It is use to intercept sheet flow runoff from disturbed areas.
<b>When: Installation</b>	SF shall be installed prior to land disturbing activities. SF shall be removed when the upstream area is stabilized.
<b>Where: Location</b>	SF shall be installed at the locations identified on the SWMP. SF is typically installed along the contour of slopes, which is down slope of a disturbed area to accept sheet flow, and placed along the perimeter of a construction site. <b>SF is not designed to receive concentrated flow, or to be used a filter fabric.</b>
<b>How: Maintenance &amp; Inspection</b>	SF shall be installed per detail (Appendix 4). Inspect regularly and maintain SF throughout construction. Any section of SF that has a tear, hole, slumping, undercutting or has been bypassed shall be replaced. Accumulated sediment shall be removed before it reaches a depth of ½ the height of the of the silt fence usually 6 inches.

<b>Sediment Control Log (SCL)</b>	Used: No	Phase(s): N/A
<input type="checkbox"/> Permanent	<input type="checkbox"/> Temporary	

<b>What: Description</b>	SCL, aka “Straw Wattle”, is a linear roll made of natural materials (straw, coconut fiber or other fibrous material), trenched into the ground and held with wooden stakes, used to intercept sheet flows from disturbed areas.
<b>When: Installation</b>	SCL shall be installed during land disturbing activities and it may also be installed after formation of a stockpile. Once the upstream area is stabilized, remove and properly dispose of the SCL. If disturbed areas exist after removal, the area shall be covered with top soil, seeded and mulched.
<b>Where: Location</b>	SCL shall be installed at the locations identified on the ECSP. SCL are typically used for stockpile control, IP, and CD in small drainage ditches, on disturbed slopes to shorten flow lengths and/or as part of multi-layered perimeter control along receiving water such as a stream, pond or wetland. SCL work well in combination with other layers of erosion and sediment controls. Stockpiles stored on impervious surfaces shall not be placed in a flowline and SCL shall be weighted. Stockpiles stored on pervious surfaces may be protected by pervious SCL, SF or adequate vegetative cover.
<b>How: Maintenance &amp; Inspection</b>	SCL shall be installed per detail (Appendix 4), along (parallel) the slope contour to avoid concentrating flows. Inspect regularly and maintain SCL throughout construction as they will eventually degrade. Accumulated sediment shall be removed before the depth is ½ the height of the SCL.

<b>Sediment Basin (SB)</b>	Used: Yes	Phase(s): 1, 2, & 3
<input type="checkbox"/> Permanent	<input checked="" type="checkbox"/> Temporary	

<b>What: Description</b>	SB is a temporary structure designed to capture sediment transported in runoff and slowly release flows to allow time for settling of the sediment prior to discharge from the site
------------------------------	---

<b>When: Installation</b>	Install SB prior to land disturbing activities. SBs are typically converted to permanent detention basins. For conversion, remove accumulated sediment and re-configure the basin and outlet to meet the requirements of the final design. For SB that are temporary, remove when is no longer needed by filling in the excavated area with soil and stabilizing accordingly.
<b>Where: Location</b>	SB shall be installed at the locations identified on the SWMP. Where feasible, the SB shall be installed in the same location where a permanent post-construction detention basin will be located.
<b>How: Maintenance &amp; Inspection</b>	The SB shall be installed per detail (Appendix 4). Inspect regularly and maintain SB to be effective. Accumulated sediment shall be dredged from the basin when it reaches no more than 1/3 of the design storage volume.

<b>Sediment Trap (ST)</b>	Used: No	Phase(s): N/A
<input type="checkbox"/> <b>Permanent</b>	<input type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	ST is an excavated or bermed area designed to capture drainage, allowing settling of sediment from upstream disturbed area smaller than 1 acre.
<b>When: Installation</b>	Install ST prior to land disturbing activities. The ST shall not be removed until the upstream area is sufficiently stabilized.
<b>Where: Location</b>	Install ST in the locations identified on the SWMP. It shall be installed across a low area or drainage swale.
<b>How: Maintenance &amp; Inspection</b>	ST shall be installed per detail (Appendix 4). Inspect regularly and maintain the ST throughout construction. Inspect the embankments for stability and seepage, and the outlet for sediment, debris and damage. Repair damage to the outlet, and remove all obstructions. Accumulated sediment shall be removed when it reaches 1/2 the height of the outflow embankment.

<b>Inlet Protection (IP)</b>	Used: Yes	Phase(s): 1, 2, & 3
<input type="checkbox"/> <b>Permanent</b>	<input checked="" type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	IP is a permeable barrier that is installed around an inlet drain to filter runoff and remove sediment before entering the storm system. IP can be constructed of: RS, SCL, SF, blocks and RS, or other materials.
<b>When: Installation</b>	Install IP for existing catch basins prior to land disturbing activities upslope from the inlet. IP for proposed catch basins shall be installed immediately after the drain is constructed. IP and associated sediment must be removed and properly disposed of when the drainage area upstream is stabilized.
<b>Where: Location</b>	Install IP at the locations identified on the EC Plan. IP is not a stand-alone measure. It shall be used in conjunction with other up gradient measures.
<b>How: Maintenance &amp; Inspection</b>	Install IP per detail (Appendix 4). IP shall enable the drain to function without completely blocking the flow. Inspect regularly and maintain IP throughout construction as it is the final measure before runoff enters the storm drain. Accumulated sediment shall be removed when it has reached 1/2 of the height

	of the IP or loses functionality, whichever comes first. IP is not standalone measure and shall be part of redundant system.
--	--

<b>Rock Sock (RS)</b>	Used: Yes	Phase(s): 1, 2, & 3
-----------------------	-----------	---------------------

**Permanent**                       **Temporary**

<b>What: Description</b>	RS is an elongated cylindrical filter constructed of gravel wrapped by wire mesh or woven geotextile (aka “curb socks” if placed at angles at curb line).
<b>When: Installation</b>	Install RS prior to land disturbing activities; once upstream stabilization is complete. Accumulated sediment shall be removed and properly disposed of.
<b>Where: Location</b>	RS shall be installed at the locations identified on the EC Plan. They are use for perimeter control of a disturbed area, or as part of IP.
<b>How: Maintenance &amp; Inspection</b>	Install RS per detail (Appendix 4). Inspect regularly and maintain RS as they are susceptible to displacement and breakage due to vehicle traffic. Accumulated sediment shall be removed to maintain functionality.

<b>Insert Additional Control Measure (CM)</b>	Used: Yes/No	Phase(s): 1, 2, 3, N/A
---	--------------	------------------------

**Permanent**                       **Temporary**

<b>What – Description</b>	INSERT TEXT HERE
<b>When – Installation</b>	INSERT TEXT HERE
<b>Where – Location</b>	INSERT TEXT HERE
<b>How – Maintenance and Inspection</b>	INSERT TEXT HERE

\*To add additional CMs please click on the blue plus sign.

## 2.2 Erosion Control Measures

<b>Instructions:</b>	
<ul style="list-style-type: none"> <li>- Describe how each unique site feature or sensitive area identified earlier will be protected during construction activity. Include these areas and associated measures on the ESC Plan (site map).</li> <li>- Indicate applicable measure by selecting the blue Yes/No then type “Yes” or “No”. Identify the phase of construction during which the CM will be implemented: 1, 2, 3 or N/A, and check whether the CM is Permanent (structural) or Temporary (non-structural). Add any additional CMs as needed.</li> </ul>	

<b>Surface Roughening (SR)</b>	Used: No	Phase(s): N/A
--------------------------------	----------	---------------

**Permanent**                       **Temporary**

<b>What: Description</b>	SR is tracking, scarifying, imprinting or tilling a disturbed area to provide temporary stabilization. Variations in the soil are created to help minimize wind and water erosion.
------------------------------	--



<b>When: Installation</b>	SR shall be performed either after final grading or to temporarily stabilize an area during active construction.
<b>Where: Location</b>	SR shall be used in the locations identified on the SWMP. It can be used on mild and steep slopes.
<b>How: Maintenance &amp; Inspection</b>	SR shall be installed per detail (Appendix 4). SR shall always be perpendicular to the slope. Continuously inspect and maintain all surfaces that are roughened throughout construction. SR shall be inspected for erosion as it is only a temporary control. Vehicles and equipment shall not be driven over areas that have been surface roughening. Refresh SR as needed.

<b>Temporary and Permanent Seeding (TS/PS)</b>	Used: Yes	Phase(s): 3
<input checked="" type="checkbox"/> <b>Permanent</b>	<input type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	Seed is applied to disturbed areas in an effort to establish vegetation. TS is used to stabilize disturbed areas that will be inactive for an extended period. PM is 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, geotextile, or other appropriate measures. Mulching helps to protect the bare soil and must be secured by crimping, tackifiers, netting or other measures.
<b>When: Installation</b>	TS/PS shall be performed on temporary inactive surfaces and following the completion of final grading.
<b>Where: Location</b>	TS/PS shall be completed in the locations identified on the SWMP to stabilize areas at final grade that will not otherwise be stabilized.
<b>How: Maintenance &amp; Inspection</b>	TS/PS and secured mulching shall be installed per seed mix specifications and detail (Appendix 4). Continuously inspect and maintain TS/PS and secured mulch throughout construction. Prepare the seedbed, select an appropriate seed mixture, use proper planting techniques and protect the seeded area with secured mulch.

<b>Soil Binders (SB)</b>	Used: No	Phase(s): N/A
<input type="checkbox"/> <b>Permanent</b>	<input type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	SB involves a broad range of treatments that can be applied to exposed soils for temporary stabilization to reduce wind and water erosion.
<b>When: Installation</b>	Use SB for short term temporary stabilization. Soil binders can break down fast due to natural weathering.
<b>Where: Location</b>	SB can be used on mild and steep slopes including stockpiles. They are often used in areas where work has temporarily stopped, but is expected to resume before revegetation can be established.

<b>How: Maintenance &amp; Inspection</b>	SB shall be used per detail (Appendix 4). Continuously inspect and maintain all areas where SB have been applied throughout construction. SB can fail after heavy rainfall events and may require re-application. In particular, SB will generally experience spot failures during heavy rainfall events.
--	---

<b>Mulching (MU)</b>	Used: Yes	Phase(s): 3
<input checked="" type="checkbox"/> <b>Permanent</b>	<input type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	MU consists of evenly applying straw, hay, shredded wood mulch, bark or compost to disturbed soils and securing the mulch by crimping, tackifiers or netting.
------------------------------	---

<b>When: Installation</b>	MU is used in conjunction with TS/PS to help protect the seed bed and stabilize the soil. Mulch can also be used as a temporary cover on low to mild slopes to help temporarily stabilize disturbed area where there are growing season constraints. After MU application, there shall not be bare ground surface exposed. Reapply mulch, as needed, to cover bare areas.
-------------------------------	---

<b>Where: Location</b>	Temporary and/or permanent MU shall be completed in the locations identified on the SWMP.
----------------------------	---

<b>How: Maintenance &amp; Inspection</b>	MU shall be installed per detail (Appendix 4). After MU, the bare ground surface shall not be more than 10% exposed. Re-apply mulch, as needed, to cover bare areas.
--	--

<b>Rolled Erosion Control Product (RECP)</b>	Used: Yes	Phase(s): 2 & 3
<input checked="" type="checkbox"/> <b>Permanent</b>	<input type="checkbox"/> <b>Temporary</b>	

<b>What: Description</b>	RECP consist of a variety of temporary or permanently installed manufactured products designed to control erosion and enhance vegetation establishment and survivability, especially on slopes and in channels. Categories of RECP: mulch control netting, open weave textile, erosion control blanket, and turf reinforcement mat.
------------------------------	---

<b>When: Installation</b>	RECP shall be installed upon completion of slope grading and when revegetation measures are completed. RECP are biodegradable typically and do not need to be removed after construction.
-------------------------------	---

<b>Where: Location</b>	RECP shall be installed at the locations identified on the SWMP. Install RECP according to manufacturer's specifications.
----------------------------	---

<b>How: Maintenance &amp; Inspection</b>	RECP shall be installed per (Appendix 4). Continuously inspect and maintain all RECP throughout construction. Check for signs of erosion, including voids under the mat. Also check for damaged or loose stakes and secure loose sections of the blanket.
--	---

**Temporary Slope Drains (TSD)** Used: No Phase(s): N/A

*Permanent*  *Temporary*

<b>What: Description</b>	TSD is a pipe or culvert use to convey water down a slope where there is high potential for erosion. A collection system at the top of the slope directs runoff to the conveyance. The pipe outlet must be equipped with outlet protection.
<b>When: Installation</b>	Install TSD prior to up-gradient land disturbing activities and maintain in place until no longer needed, but remove prior to the end of construction.
<b>Where: Location</b>	TSD shall be installed at the locations identified on the SWMP. They are for long, steep slopes where there is a high potential for flow concentration.
<b>How: Maintenance &amp; Inspection</b>	TSD shall be installed and maintained per detail (Appendix 4). Inspect and maintain all TSD throughout construction. Inspect the entrance for sediment accumulation. Inspect the downstream outlet for signs of erosion and stabilize, as needed. Remove accumulated sediment at the entrance and outfall, and inspect pipe anchors to ensure they are secure.

**Temporary Outlet Protection (TOP)** Used: Yes Phase(s): 1, 2, & 3

*Permanent*  *Temporary*

<b>What: Description</b>	TOP consist of riprap rock placed at the outlet to help reduce erosion immediately downstream of a pipe, culvert, slope drain rundown or other conveyance with concentrated flow. TOP is intended to be used for less than two years.
<b>When: Installation</b>	TOP shall be installed immediately upon the completion of grading and removed once the pipe is no longer draining upstream area or once the downstream area has been sufficiently stabilized.
<b>Where: Location</b>	TOP shall be installed at the locations identified on the SWMP. It shall be installed where a conveyance discharges onto a disturbed area where there is a potential for accelerated erosion due to concentrated flow.
<b>How: Maintenance &amp; Inspection</b>	TOP shall be installed and maintain per (Appendix 4). The Inspect regularly and maintain TOP as the rocks may be displaced. Accumulated sediment shall be removed before the TOP becomes buried and ineffective.

**Earth Dikes/Drainage Swales (ED/DS)** Used: Yes Phase(s): 2 & 3

*Permanent*  *Temporary*

<b>What: Description</b>	ED/DS are temporary storm conveyance channels used to divert runoff around slopes or to convey runoff to additional sediment control CMs prior to discharge from the site.
<b>When: Installation</b>	Install ED/DS immediately upon completion of channel grading and maintain in place until the end of construction.

<b>Where: Location</b>	ED/DS shall be installed at the locations identified on the SWMP. Typically installed around steep slopes or as temporary conveyance feature leading to a sediment basin or trap.
<b>How: Maintenance &amp; Inspection</b>	ED/DS shall be installed per detail (Appendix 4). Continuously inspect and maintain all ED/DS for stability, compaction and signs of erosion and repair. Inspect side slopes for erosion and damage to erosion control fabric. Stabilize slopes and repair fabric as necessary. Accumulated sediment shall be removed when the sediment has accumulated to ½ of the depth of the ED/DS.

**Terracing (TER)** Used: No      Phase(s): N/A

**Permanent**                       **Temporary**

<b>What: Description</b>	TER consists of grading steep slopes into a series of relatively flat sections separated at intervals by steep slope segments. They shorten the uninterrupted flow lengths on steep slopes, reducing the development of rills and gullies.
<b>When: Installation</b>	TER shall be completed during grading activities; when slope is at final grade, and vegetation shall be established as soon as possible.
<b>Where: Location</b>	TER shall be installed at the locations identified on the SWMP. It is usually used to control erosion on slopes that are steeper than 4:1.
<b>How: Maintenance &amp; Inspection</b>	TER shall be installed per detail (Appendix 4). TER shall be used in combination with other stabilization measures that provide cover for exposed soils. Inspect regularly and maintain all TER throughout construction. Remove accumulated sediment and repair rill erosion as necessary.

**Check Dams (CD)** Used: No      Phase(s): N/A

**Permanent**                       **Temporary**

<b>What: Description</b>	CDs are temporary or permanent grade control structures use in drainage channels to reduce the velocity of runoff and concentrated flows. They can be constructed from rock, gravel bags, sand bags or proprietary devices.
<b>When: Installation</b>	CD shall be installed prior to earth disturbing activities or immediately upon completion of channel grading. Temporary CDs shall be removed and area shall be stabilized. Permanent CDs shall be cleaned and remain in place.
<b>Where: Location</b>	CD shall be installed at the locations identified on the SWMP. Typically they are placed in drainage channels, swales or on mild to moderately steep slopes.
<b>How: Maintenance &amp; Inspection</b>	CDs shall be installed per detail (Appendix 4). They shall be placed at regularly spaced intervals along the drainage swale or ditch. The height of the CD shall allow for pooling of the runoff. Inspect regularly and maintain CD as rocks can be displaced and gravel bags or sandbags can be torn. Accumulated sediment shall be removed before it reaches ½ the height of the CD.

**Streambank Stabilization (SS)** Used: No Phase(s): N/A

*Permanent*  *Temporary*

<b>What: Description</b>	SS is a combination of erosion and sediment control measures to protect streams, banks, and in-stream habitat from accelerated erosion. Some of the measures include PV, CD, TS/PS and RECP.
<b>When: Installation</b>	SS shall be installed prior to earth disturbing activities to protect existing vegetation, preserve exposed streambank, or mitigate erosion rates from disturbed area. SS measures that will not remain in place as a part of final stabilization, such as silt fence, shall be removed when all land disturbing activities have ceased and the area has been permanently stabilized.
<b>Where: Location</b>	SS shall be installed at the locations identified on the SWMP. They shall be installed along the banks of streams or waterways.
<b>How: Maintenance &amp; Inspection</b>	SS shall be installed per detail (Appendix 4). Inspect regularly and maintain SS throughout construction.

**Wind Erosion/Dust Control (DC)** Used: **Yes** Phase(s): 1 & 2

*Permanent*  *Temporary*

<b>What: Description</b>	DC helps keep sediments (from soils and stockpiles) from entering the air as a result of land disturbing construction activities. A variety of practices that focus on grading disturbed areas may be used.
<b>When: Installation</b>	Implement DC during conditions which result in the formation of dust from either construction activities or from naturally occurring winds. Do not overwater.
<b>Where: Location</b>	Dust abatement shall be completed throughout the project area where any material exists that has the potential to become airborne.
<b>How: Maintenance &amp; Inspection</b>	DC measures shall be performed per detail (Appendix 4). Apply water or magnesium chloride, seed and mulch or use spray-on soil binders on disturbed areas. Water and magnesium chloride shall be applied such that concentrated flows do not form.

**Insert Additional Control Measure (CM)** Used: **Yes/No** Phase(s): 1, 2, 3, N/A

*Permanent*  *Temporary*

<b>What – Description</b>	INSERT TEXT HERE
<b>When – Installation</b>	INSERT TEXT HERE
<b>Where – Location</b>	INSERT TEXT HERE
<b>How – Maintenance and Inspection</b>	INSERT TEXT HERE

\*To add additional CMs please click on the blue plus sign.

## 2.3 Materials Management Control Measures

**Instructions:**

- Describe how each unique site feature or sensitive area identified earlier will be protected during construction activity. Include these areas and associated measures on the ESC Plan (site map).
- Indicate applicable measure by selecting the blue **Yes/No** then type “**Yes**” or “**No**”. Identify the phase of construction during which the CM will be implemented: **1, 2, 3 or N/A**, and check whether the CM is **Permanent** (structural) or **Temporary** (non-structural). Add any additional CMs as needed.

<b>Concrete Washout Areas (CWA)</b>		Used: Yes	Phase(s): 1, & 2
<input type="checkbox"/> <b>Permanent</b>		<input checked="" type="checkbox"/> <b>Temporary</b>	
<b>What: Description</b>	A CWA is a specific area of the construction site designated and managed for concrete washing activities. Options available: excavation of a pit in the ground, use of an above ground storage area or use of prefabricated haul-away concrete washout containers.		
<b>When: Installation</b>	CWA shall be installed prior to any concrete delivery to the construction site; and remove upon termination of use of the washout. Accumulated solid waste, including concrete waste and any contamination soils, must be removed from the site to a designated disposal location.		
<b>Where: Location</b>	CWA shall be installed at the locations identified on the SWMP. If the groundwater table is high; or if the CWA will be placed within 400 ft of a natural drainage pathway/waterbody; or within 1,000 ft of a wells or drinking water source it must be lined.		
<b>How: Maintenance &amp; Inspection</b>	CWA shall be installed per detail (Appendix 4). Inspect regularly and maintain CWA throughout construction. Ensure adequate signage is in place identifying the location of the CWA. Remove concrete waste when filled to about ¾ of CWA capacity to maintain functionality.		

<b>Stockpile Management (SP)</b>		Used: Yes	Phase(s): 1 & 2
<input type="checkbox"/> <b>Permanent</b>		<input checked="" type="checkbox"/> <b>Temporary</b>	
<b>What: Description</b>	SP includes measures to minimize erosion and sediment transport from stockpiles. SP shall be used when soils or other erodible materials are stored at a construction site.		
<b>When: Installation</b>	SP locations shall be determined during construction. If temporary removal of a CM is necessary to access the SP, ensure CMs area re-installed per detail drawing. When SP is no longer needed, properly dispose of excess materials and re-vegetate or stabilize the ground surface where the SP was located.		

<b>Where: Location</b>	SP locations shall be placed away from areas where concentrated stormwater flow is anticipated, major drainage ways, gutters, and storm sewer inlets. SP locations shall be noted on the SWMP.
<b>How: Maintenance &amp; Inspection</b>	SP shall be installed per detail (Appendix 4). Inspect regularly and maintain SP throughout construction. It is recommended to place SP on a pervious surface and protected from sediment transport with measures such as SCL, VB and/or SF. SP are only allowed on impervious surfaces if no other practical alternative exists. Provide weighted sediment control measures around the perimeter of the SP, such as RS or sand bags.

**Street Sweeping (SS)** Used: Yes Phase(s): 1, 2, & 3

**Permanent**  **Temporary**

<b>What: Description</b>	SS is used where vehicles track sediment onto paved roadways to reduce the transport of it into storm drain systems or surface waterways.
<b>When: Installation</b>	Manual SS or mechanical vacuuming SS shall be conducted when there is noticeable sediment accumulation on roadways adjacent to the construction site. SS shall be completed prior to any precipitation events, at the end of the workday as needed, and at the end of construction.
<b>Where: Location</b>	SS shall be utilized throughout the site and also on adjacent areas to construction.
<b>How: Maintenance &amp; Inspection</b>	SS shall be performed per detail (Appendix 4). Use standard SS equipment to adequately remove sediment from roadways adjacent to the construction site.

[Insert Additional Control Measure \(CM\)](#) Used: Yes/No Phase(s): 1, 2, 3, N/A

**Permanent**  **Temporary**

<b>What – Description</b>	<a href="#">INSERT TEXT HERE</a>
<b>When – Installation</b>	<a href="#">INSERT TEXT HERE</a>
<b>Where – Location</b>	<a href="#">INSERT TEXT HERE</a>
<b>How – Maintenance and Inspection</b>	<a href="#">INSERT TEXT HERE</a>

\*To add additional CMs please click on the blue plus sign.

## 2.4 Site Management Control Measures

### Instructions:

- Describe how each unique site feature or sensitive area identified earlier will be protected during construction activity. Include these areas and associated measures on the ESC Plan (site map).
- Indicate applicable measure by selecting the blue **Yes/No** then type “**Yes**” or “**No**”. Identify the phase of construction during which the CM will be implemented: **1, 2, 3 or N/A**, and check whether the CM is **Permanent** (structural) or **Temporary** (non-structural). Add any additional CMs as needed.

<b>Limits of Construction (LOC)</b>		Used: Yes	Phase(s): 1, 2, & 3
<input type="checkbox"/> <b>Permanent</b>		<input checked="" type="checkbox"/> <b>Temporary</b>	
<b>What: Description</b>	LOC is use to designate the area of land that will be disturbed by construction activities.		
<b>When: Installation</b>	The permitted LOC shall be designated prior to land disturbing activities. If land is disturbed <u>outside</u> of the limits, then the State and Local stormwater construction discharge permits and SWMP/EC Plan must be amended.		
<b>Where: Location</b>	The permitted LOC shall be identified on the EC Plan.		
<b>How: Maintenance &amp; Inspection</b>	LOC are typically delineated by silt fence or construction fence. Inspect LOC continuously and maintain the permitted LOC in an effort to not disturb land outside of the boundaries.		
<b>Construction Fence (CF)</b>		Used: Yes	Phase(s): 1 & 2
<input type="checkbox"/> <b>Permanent</b>		<input checked="" type="checkbox"/> <b>Temporary</b>	
<b>What: Description</b>	CF restricts site access to designated entrances and exits, delineates construction site boundaries, and keeps construction out of sensitive locations such as natural areas to be preserved as open space, wetlands and riparian areas.		
<b>When: Installation</b>	CF shall be installed prior to earth disturbing activities; and removed once construction is complete.		
<b>Where: Location</b>	Install CF along the site perimeter or any area within the site where access shall be restricted.		
<b>How: Maintenance &amp; Inspection</b>	CF shall be installed, maintained and removed per detail (Appendix 4). Inspect CF for damages and slumping. The CF shall be tight and any areas with slumping or fallen posts shall be reinstalled or replaced.		



<b>Vehicle Tracking Control (VTC)</b>		Used: Yes	Phase(s): 1 & 2
<input type="checkbox"/> <b>Permanent</b> <input checked="" type="checkbox"/> <b>Temporary</b>			
<b>What: Description</b>	VTC is a stabilized site access point that helps remove sediment from vehicle tires and reduces tracking of sediment onto paved surfaces.		
<b>When: Installation</b>	Install VTC prior to any land disturbing activities; and removed when there is no longer the potential for vehicle tracking to occur.		
<b>Where: Location</b>	VTC shall be installed at the location identified on the SWMP. Locate VTC where frequent vehicle traffic will exit the construction site onto a paved roadway.		
<b>How: Maintenance &amp; Inspection</b>	VTC shall be installed per detail (Appendix 4). All VTC must have non-woven geotextile fabric between the soil and rock pad. <u>Recycled concrete aggregate is not allowed because concrete dust elevates pH in stormwater.</u> Inspect regularly and maintain VTCs throughout construction. If the area becomes clogged with sediment, remove and dispose of excess sediment or replace material with a fresh layer of rock. Any sediment that is tracked onto adjacent roadways shall be cleaned with brooms, shovels (no water washing), or mechanically cleaned with a street vacuum sweeper.		

<b>Stabilized Construction Roadway (SCR)</b>		Used: No	Phase(s): N/A
<input type="checkbox"/> <b>Permanent</b> <input type="checkbox"/> <b>Temporary</b>			
<b>What: Description</b>	SCR is a temporary method to control sediment runoff, vehicle tracking, and dust from roads during construction activities consisting of aggregate base course of 3-inch diameter granular material ( <u>recycled concrete aggregate is not allowed because concrete dust elevates pH in stormwater</u> ).		
<b>When: Installation</b>	SCR is installed on high traffic construction roads to minimize dust and erosion, and use in place of rough cut street controls on roadways with frequent construction and vehicle traffic. Gravel shall be removed once the road is ready to be paved. Prior to paving, the road should be inspected for grade changes and damage. Re-grade and repair as necessary.		
<b>Where: Location</b>	SCR shall be installed at the locations identified on the SWMP. Apply gravel to disturbed areas that are used as a route for vehicles.		
<b>How: Maintenance &amp; Inspection</b>	SCR shall be installed per detail (Appendix 4). Inspect regularly and maintain SCR throughout construction. A stable surface cover of rigid gravel shall be maintained as well as repairing any perimeter controls. Inspect drainage ditches along the roadway for erosion and stabilize as needed.		

<b>Stabilized Staging Area (SSA)</b>		Used: Yes	Phase(s): 1 & 2
<input type="checkbox"/> <b>Permanent</b> <input checked="" type="checkbox"/> <b>Temporary</b>			
<b>What: Description</b>	SSA is a clearly designated area where construction equipment and vehicles, stockpiles, waste bins and other construction-related materials are stored. If the construction site is big, more than one SSA may be necessary.		

<b>When: Installation</b>	SSA shall be installed prior to any land disturbing activities.
<b>Where: Location</b>	SSA shall be installed at the location identified on the SWMP.
<b>How: Maintenance &amp; Inspection</b>	SSA shall be installed per detail (Appendix 4). Inspect regularly and maintain SSA throughout construction. A stable surface cover of rigid gravel shall be maintained as well as repairing any perimeter controls and following good housekeeping practices.

<b>Temporary Diversion Channel (TDC)</b>	Used: No	Phase(s): N/A
<input type="checkbox"/> <b>Permanent</b> <input type="checkbox"/> <b>Temporary</b>		

<b>What: Description</b>	TDC diverts water from a stream to allow for construction activities to take place underneath or in the stream.
<b>When: Installation</b>	TDC shall be installed prior to the start of any construction activities within a stream. The TDC shall be removed when the work at the down gradient or natural channel is no longer required. The TDC shall be backfilled and stabilized.
<b>Where: Location</b>	TDC shall be installed at the location identified on the SWMP. TDC can be used in the following locations: construction of detention ponds, dams, in-stream grade control structures, utility installations or any activity that requires work in a waterway.
<b>How: Maintenance &amp; Inspection</b>	TDC shall be installed per detail (Appendix 4). Inspect frequently and maintain all TDC throughout construction. Inspect flow barriers at the start and end of each workday. Inspect TDC for signs of erosion. Repair or replace the lining if necessary.

<b>Temporary Stream Crossing (TSC)</b>	Used: No	Phase(s): N/A
<input type="checkbox"/> <b>Permanent</b> <input type="checkbox"/> <b>Temporary</b>		

<b>What: Description</b>	TSC is needed where an actively flowing watercourse must be crossed. Crossing methods: culvert crossing, stream ford and temporary bridge. A 404 permit is required for placement of fill in a waterway from the U.S. Army Corps of Engineers per Section 404 of the Clean Water Act.
<b>When: Installation</b>	Install a TSC only when it is necessary to cross a stream; and remove it when the crossing is no longer needed for construction.
<b>Where: Location</b>	TSC shall be installed at the locations identified on the SWMP.
<b>How: Maintenance &amp; Inspection</b>	TSC shall be installed per detail (Appendix 4). Inspect and maintain TSC throughout construction. Inspect for bank erosion and in-stream degradation.

<b>Paving and Grinding Operations (PGO)</b>		Used: No	Phase(s): N/A
<input type="checkbox"/> <b>Permanent</b>		<input type="checkbox"/> <b>Temporary</b>	
<b>What: Description</b>	Runoff management practices shall be used during all PGO. A variety of management practices can be used such as: IP, perimeter controls, store materials away from the storm sewer system, drainages and waterways, and keep a spill kit onsite.		
<b>When: Installation</b>	PGO shall be scheduled during dry weather. Recycle asphalt and pavement material when feasible. Material that cannot be recycled must be disposed of properly.		
<b>Where: Location</b>	Use runoff management practices during all paving and grinding operations such as surfacing, resurfacing, and saw cuts.		
<b>How: Maintenance &amp; Inspection</b>	PGO shall be installed per detail (Appendix 4). Inspect regularly and maintain PGO throughout construction.		

<b>Insert Additional Control Measure (CM)</b>		Used: Yes/No	Phase(s): 1, 2, 3, N/A
<input type="checkbox"/> <b>Permanent</b>		<input type="checkbox"/> <b>Temporary</b>	
<b>What – Description</b>	INSERT TEXT HERE		
<b>When – Installation</b>	INSERT TEXT HERE		
<b>Where – Location</b>	INSERT TEXT HERE		
<b>How – Maintenance and Inspection</b>	INSERT TEXT HERE		

\*To add additional CMs please click on the blue plus sign.

## SECTION 3: CONSTRUCTION SITE PHASING & ESC PLAN

### 3.1 Construction Site Phasing Summary

**Instructions:**

The SWMP and ESC Plan (Site Map) shall clearly delineate the construction sequencing between the separate phases of construction, and the CM/BMP implementation of the permanent and temporary CMs.

Using the information under **Section 1.3 Nature and Sequence of Construction Activity**, describe the construction phase and the permanent or temporary CMs associated with each of the following 3 phases:

- **Initial Construction = Phase I, Initial BMP/CMs**
- **Interim Construction = Phase II, Interim BMP/CMs**
- **Final Construction = Phase III, Final BMP/CMs**

The ESC Plan **must** identify location of the proposed CMs to be implemented during the 3 phases of construction. Place the ESC Plan sheets in **Appendix 5**. Place CMs details in **Appendix 4**.

## 3.2 General Notes

### City of Thornton General Erosion and Sediment Control Notes:

1. Control Measures shall be installed before any earth disturbing activities commence.
2. The Owner/Contractor shall notify the Thornton inspector once all initial control measures have been installed for an initial inspection at least Forty Eight (48) hours prior to the inspection. Construction activity cannot begin until a passing initial inspection has occurred.
3. Stormwater discharges from construction activities shall not cause, have the reasonable potential to cause, or measurably contribute to exceed any water quality standard.
4. Construction shall be phased in a manner to limit earth disturbing activities (i.e. the entire project site should not be disturbed if construction will only be occurring in one particular section).
5. Sediment caused by accelerated soil erosion shall be removed from runoff water before it leaves the construction site.
6. Bulk storage structures for petroleum products and any other chemicals shall have secondary containment or equivalent protection to contain all spills and prevent any spilled material from entering the MS4 or State waters.
7. A copy of the SWMP and Erosion and Sediment Control (ESC) Plans must be available at all times on the construction site unless otherwise approved by CDPHE or Thornton.
8. The SWMP and EC plan shall be continuously updated to reflect new or revised Control Measures (CM) due to changes in design, construction, operation, or maintenance of the construction site. Updates must be made within 72-hours following the change in Control Measures.
9. The Owner/Contractor shall inspect the construction site (including all Control Measures, storage containers, and construction equipment) at a minimum of every **7 calendar days or every 14 calendar days**. If on the 14 day frequency a 24-hour post storm inspection must be conducted after a precipitation event or snow melt. Inspections shall continue until an Inactivation Notice is filed with CDPHE.
10. The Owner/Contractor shall keep a record of all inspections on site and available for review by CDPHE or City staff. Inspection reports must identify any incidents of non-compliance with the terms and conditions of the Permit.
11. Control Measures requiring maintenance or adjustment shall be repaired immediately after observation of the failing Control Measure.
12. Silt fence patching: patching is only allowed on the top half of the fence. Not more than two (2) patches per section of fence. Silt fence with holes or deterioration on the lower half of the fence must be replaced. Repair typically involves replacing the silt fence to maintain the CMs effectiveness to drain slowly and function as originally designed.
13. For all instances of noncompliance based on environmental hazards and chemical spills and releases, all needed information must be provided orally to CDPHE spill reporting line (24-hour number for environmental hazards and chemical spills and releases: 1-877-518-5608) within **24-hours** from the time the Owner/Contractor becomes aware of the circumstances.
14. 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).
15. Control measures referred to as "Cutback Curb" are **not allowed**. The cutback curb may become ineffective and may also compromise the integrity of the curb and in most cases does not provide any water quality benefit for filtering out sediment.

16. Inlet Protection and Vegetative Buffer Control Measures **shall not** be used as standalone CMs. These methods must be utilized with at least one additional CM.
17. Control Measures intended for sheet flow sediment runoff shall be placed parallel to the slope.
18. All Control Measures shall be cleaned when sediment levels accumulate to half the design of the CM unless otherwise specified.
19. A Vehicle Tracking Control (VTC) shall be placed at all entrances/exits from the site as well as any egress from exposed dirt to paved areas to prevent track-out onto streets. If track-out does occur, the Owner/Contractor shall immediately sweep the street of debris. Recycled crushed concrete or asphalt **shall not** be used for vehicle tracking pads.
20. For residential projects, back of curb protection is required along all interior lots.
21. All sediment collected in Control Measures shall be removed upon initial acceptance.
22. Wind Erosion and Dust Control Measures must be utilized to minimize airborne particulate dust. Control Measures may include minimizing disturbed areas, watering, and/or providing temporary stabilization.
23. Permanent erosion control measures for slopes, channels, ditches, or any disturbed land area shall be completed within **14 calendar days** after final grading or the final earth disturbance has been completed. When it is not possible to permanently stabilize a disturbed area after an earth disturbance has been completed or where significant earth disturbance activity ceases, temporary soil erosion control measures shall be implemented within 14 calendar days. Temporary erosion control measures shall be maintained until permanent soil erosion measures are implemented.
24. Final stabilization has been achieved when all earth 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.
25. All temporary Control Measures shall be removed from the site upon submitting the Inactivation Notice.
26. All site wastes (including trash and building materials) must be properly managed to prevent potential pollution discharges to the MS4 or State waters.
27. Street repair operations such as rotor milling, slurry seal and chip seal. The minimum CMs required are; inlet protection, curb socks and street sweeping.

This list is not intended to be all-inclusive, but is intended to identify the general note identified by the City to be included as part of the SWMP for compliance with the City's stormwater management requirements for construction activities.

## SECTION 4: WASTE MANAGEMENT PLAN

### Instructions:

Complete the Waste Management Plan below by describing site-specific pollution prevention CMs that will be implemented to control pollutants in stormwater from construction sites. Indicate which of the following CM categories are applicable for your construction site:

- Covering Outdoor Storage and Handling Areas (required)
- Spill Prevention and Response Plan (required)
- Good Housekeeping (required)
- Vehicle Maintenance, Fueling and Storage (required, if applicable)
- Street Sweeping and Cleaning (required)
- Storm Sewer System Cleaning (required, if applicable)

### 4.1 Covering Outdoor Storage and Handling Areas

#### Instructions:

- Practices for outdoor storage and handling areas are required to be implemented in all 3 phases of construction (initial, interim and final).

---

**Covering Outdoor Storage and Handling Areas**      Used: Yes      Phase(s): 1, 2, & 3

---

**Permanent**                       **Temporary**

---

**Description:** When raw materials, byproducts, finished products, storage tanks, and other materials are stored or handled outdoors, stormwater runoff that comes in contact with the materials can become contaminated. Proactively covering storage and handling areas can be an effective source control for such areas. Coverings can be permanent or temporary and consist of tarp, plastic sheeting, roofing, enclosed structures, or other approaches that reduce exposure of materials to precipitation and wind.

**Uses:** Covering is appropriate for areas where solids (e.g., gravel, compost, building materials) or liquids (e.g., oil, gas, tar) are stored, prepared, or transferred. Cover the following areas that are applicable to this construction site:

- **Loading and Unloading:** Loading and unloading operations usually take place at outside storage or staging area on the construction site. Materials may be spilled during transfer between storage facilities and trucks during pumping of liquids, pneumatic transfer of dry chemicals, and mechanical transfer of bags, boxes, drums, or other containers by material handling equipment.
  - **Aboveground Tanks/Liquid Storage:** Accidental releases of chemicals from above-ground liquid storage can contaminate stormwater with a variety of pollutants. Several common causes of accidental releases from above-ground storage include: external corrosion and structural failure, problems due to improper installation, spills and overfills due to operator error, failure of piping systems, and leaks or spills during pumping of liquids or gases between trucks to a storage facility.
-

- **Outside Manufacturing:** Common outside manufacturing activities may include parts assembly, rock grinding or crushing, metals painting or coating, grinding or sanding, degreasing, concrete manufacturing, parts cleaning or operations that use hazardous materials. These activities can result in dry deposition of dust, metal and wood shavings and liquid discharges of dripping or leaking fluids from equipment or process and other residuals being washed away in storm runoff. In addition, outside storage of materials and waste products may occur in conjunction with outside manufacturing.
- **Waste Management:** Wastes spilled, leached, or lost from outdoor waste management areas or outside manufacturing activities may accumulate in soils or on other surfaces and be carried away by storm runoff. There is also the potential for liquid wastes from surface impoundments to overflow to surface waters or soak the soil where they can be picked up by runoff. Possible stormwater contaminants include toxic compounds, oil and grease, oxygen-demanding organics, paints and solvents, heavy metals and high levels of suspended solids. Lack of coverage of waste receptacles can result in precipitation seeping through the material and collecting contaminants or the material being blown around the site and into the storm sewer system. Containment sources include waste piles, wastewater and solid waste treatment and disposal, land application sites, dumpsters, or unlabeled drums.
- **Outside Storage of Materials:** Raw materials, intermediate products, byproducts, process residuals, finished products, containers, and materials storage areas can be sources of pollutants such as metals, oils and grease, sediment and other contaminants. Pollutant transport can occur when solid materials wash off or dissolve into water, or when spills or leaks occur.

**Practice Procedures:**

- Where practical, conduct operations indoors. If outdoors, then select a temporary or permanent covering to reduce exposure of materials to precipitation and runoff.
- The type of covering selected depends on a variety of factors such as the type and size of activity being conducted and materials involved. Types of cover range from relatively inexpensive tarps and plastic sheeting to overhead structures or fully enclosed buildings equipped with ventilation, lighting, etc.
- Covering practices should be combined with Good Housekeeping to be most effective.
- Tarps and plastic sheets require more frequent inspection and maintenance.

Place site-specific information here:

N/A

## 4.2 Spill Prevention and Response Plan

**Instructions:** Implement spill prevention, containment and control practices during all 3 phases of construction.

**Spill Prevention & Response Plan**

Used: Yes

Phase(s): 1, 2, 3

---

**Permanent**

**Temporary**

---

Spills and leaks of solid and liquid materials processed, handled or stored outdoors can be a source of stormwater pollution. Spilled substances can reach receiving waters when runoff washes these materials from impervious surfaces or when spills directly enter the storm system during dry weather conditions. Effective controls depend on spill prevention and response measures, proper training, and may include structural spill containment or control devices. Spill containment measures include temporary or permanent curbs or berms that surround a potential spill site. Berms may be constructed of concrete, earthen material, metal, synthetic liners, or other material. Spill control devices include valves, slide gates, or other devices that can control and contain spilled material.

### **Spill Prevention Measures**

- Train key employees in plan and provide clear, common-sense spill prevention practices and clean-up procedures to be strictly followed.
- Identify equipment that is exposed to precipitation, pollutants that may be generated and possible sources of leaks or discharges.
- Perform inspections and preventative maintenance of equipment for proper operation and to check for leaks or evidence of discharge (stains). Ensure repairs are completed or provide temporary leak containment until such repairs can be made.
- Drain used motor oil and other automotive fluids in a designated area away from storm inlets. Collect spent fluids and recycle or dispose of properly. Never dispose into storm or sanitary sewer.
- In fueling areas, clean up spills with dry methods (absorbents) and use damp cloths on gas pumps and damp mops on paved surfaces.
- Never hose down a spill or absorbent materials into the storm drain, or down into an interior floor drain which leads to the sanitary sewer system.
- Reduce stormwater contact with equipment and materials by implementing covered storage, reduce stormwater run-on and follow good housekeeping practices.
- Post signs at critical locations with Spill Prevention and Response Plan information.

**Identification of Spill Areas:** Spill prevention and response measures shall be implemented at construction sites in areas where materials may be spilled in quantities that can adversely impact receiving waters or the storm system. Identify potential spill areas, potential spill volumes, material types, frequency of material used, and drainage paths from spill areas with relation to storm sewer inlets, adjacent water bodies, structural CMs, and containment structures. Use this information to determine the types of spill prevention and control measures needed specific to the site conditions. Show the potential spill areas on the EC Plan:

- Loading and unloading areas
- Outdoor storage areas
- Outdoor manufacturing or processing activities
- Waste disposal
- Areas that generate significant dust or particulates that may later deposit on the ground



- 
- Areas prone to spills based on past experience at the site
  - Locations where other routine maintenance activities occur
  - Areas where smaller leaks may occur (parking lots)

**Material Handling Procedures:** From a water quality perspective, the primary principle behind effective material handling practices is to minimize exposure to precipitation. Store the material indoors, otherwise implement the following outdoor materials handling procedures:

- Divert stormwater around materials storage areas.
- Keep bulk solid materials (raw materials, sand, gravel, topsoil, compost, concrete, packing materials, metal products, etc) covered and protected from stormwater.
- When practical, store materials on impermeable surfaces.
- Store hazardous materials according to federal, state, and local requirements.
- Adopt procedures to reduce spills or leaks during filling or transfer of materials.
- Substitute less toxic or nontoxic materials for toxic materials.
- Store containers that are easily punctured or damaged away from high traffic areas.
- Add waste-capture containers such as collection pans for lubricating fluids.
- Store drums and containers with liquids on impermeable surfaces and provide secondary containment. Place drums stored outdoors on pallets to minimize contact with runoff.

**Spill Response Procedures:** Tailor spill response procedures to site-specific conditions and industry-specific regulatory requirements. Follow procedures:

- Contain and cleanup spills promptly after the spill is discovered.
- Sweep up small quantities of pollutants to reduce exposure to runoff.
- Place absorbents at fueling areas or areas susceptible to spills.
- Wipe up small spills with a rag, store rags in appropriate containers, dispose of rags properly or use a professional industrial cleaning service.
- Contain medium-sized spills with absorbents and use berms or absorbent "snakes" as temporary booms for the spill. Store and dispose of absorbents properly. Wet/dry vacuums may be used, but not for volatile fluids.
- Install drip pans below minor equipment leaks until a repair can be made.
- For large spills, first contain the spill and plug storm inlet where the liquid may migrate off-site, then clean up the spill.
- Excavation of spill areas to removed contaminated material may be required where large liquid spills occur on unpaved surfaces.
- Maintain an inventory of cleanup materials onsite and strategically locate them based on the types and quantities of chemicals present.
- Records of spills, leaks, or overflows that result in the discharge of pollutants must be documented and maintained.

Two approaches are used when implementing spill containment measures: 1) Design system to contain the entire spill; or 2) Use curbing to route spilled material to a collection basin. Both containment berming and curbing should be sized to safely contain or convey to a collection basin a spill from the largest storage tank, tanker truck, or other containment device in the possible spill area. The spill containment area must have an impermeable surface (impermeable liner, asphalt or concrete) to prevent groundwater contamination. Design containment system to enable collection and removal of spilled material through a pump or vacuum trucks, sorbent or gelling material, etc. Material removed must be disposed of or recycled according to local, state, and federal standards. If the capacity of the spill containment is exceeded, supplemental measures should be available such as a portable containment device, sorbent materials, or gelling agents to solidify the material. Water that collects within containment areas due to rainfall or snowmelt must be appropriately treated before release from the spill area.

---

**Emergency 24-Hour Site Contact (with spill response and clean-up authority):**

---

TBD

---

TBD

---

Office #: (xxx)-xxx-xxxx

Cell #: (xxx)-xxx-xxxx

Email: xxx@xxx.com

---

**Notification Procedures:** Some spills may need to be reported to the State of Colorado, Water Quality Control Division and Adams County Stormwater Division immediately upon discovery. Releases of chemical, oil, petroleum product, sewage, etc., which may enter State Waters must be reported to: State of Colorado, 24-hour Emergency Spill Reporting Line: 1-877-518-5608. <https://www.colorado.gov/pacific/cdphe/wq-environmental-spills>.  
Tri-County Health Department: 303-220-9200.

Insert: Other Notification numbers in the event of a spill

Insert: List of spill clean-up materials on-site

---

## 4.3 Good Housekeeping

**Instructions:** Implement good housekeeping practices during all 3 phases of construction (initial, interim & final).

---

**Good Housekeeping Practices**

Used: Yes

Phase(s): 1, 2, 3

---

**Permanent**

**Temporary**

---

**Description:** Good housekeeping practices are designed to maintain a clean and orderly work environment. The most effective first steps towards preventing stormwater pollution at construction sites simply involve using common sense to improve the site's basic housekeeping methods. Poor housekeeping practices result in increased waste and potential for stormwater contamination. A clean and orderly work site reduces the possibility of accidental spills caused by mishandling of chemicals and equipment and should reduce safety hazards to personnel. A well-maintained material and chemical storage area will reduce the possibility of stormwater mixing with pollutants. Some simple procedures a site can use to promote good housekeeping include improved operation and maintenance of machinery and processes, material storage

---

---

practices, material inventory controls, routine and regular clean-up schedules, maintaining well organized work areas, signage, and educational program for employees and the general public.

**Practice Procedures for Operation and Maintenance:**

- Maintain dry and clean floors and ground surfaces by using brooms, shovels, vacuums or cleaning machines, rather than wet clean-up methods.
- Regularly collect and dispose of garbage and waste material.
- Routinely inspect equipment to ensure that it is functioning properly without leaking and conduct preventative maintenance and needed repairs.
- Train employees on proper clean up and spill response procedures.
- Designate separate areas for auto parking, vehicle refueling and routine maintenance.
- Promptly clean up leaks, drips and other spills.
- Cover and maintain dumpsters and waste receptacles. Add additional dumpsters or increase frequency of waste collection if overflowing conditions reoccur.
- For outdoor painting and sanding: Conduct activities in designated areas that provide adequate protection to prevent overspray and uncontrolled emissions. All operations should be conducted on paved surfaces to facilitate cleanup. Use portable containment as necessary for outside operations. Clean up and properly dispose of excess paint, paint chips, protective coatings, grit waste, etc.
- Maintain vegetation on facility grounds in a manner that minimizes erosion. Follow the Landscape Maintenance and Pesticide, Herbicide and Fertilizer Usage CMs to ensure that minimum amounts of chemicals needed for healthy vegetation are applied to minimize transport of these materials in runoff.

**Practice Procedures for Material Storage Practices:**

- Provide adequate aisle space to facilitate material transfer and access for inspection.
- Store containers, drums, and bags away from direct traffic routes to reduce container damage resulting in accidental spills.
- Stack containers according to manufacturer's instructions to avoid damaging the containers from improper weight distribution. Also store materials in accordance with directions in Safety Data Sheets (SDSs).
- Store containers on pallets or similar devices to prevent corrosion of containers that results from containers coming in contact with moisture on the ground.
- Store toxic or hazardous liquids within curbed areas or secondary containers.

**Practice Procedures for Material Inventory Practices:** An up-to-date materials inventory can keep material costs down by preventing overstocking, track how materials are stored and handled onsite, and identify which materials and activities pose the most risk to the environment. Assign responsibility of hazardous material inventory to individuals trained to handle such materials. A material inventory should include these steps:

- Identify all chemical substances present at work site. Perform a walk-through of the site, review purchase orders, list all chemical substances used and obtain Safety Data Sheets (SDS) for all chemicals.
-

- 
- Label all containers with name and type of substance, stock number, expiration date, health hazards, handling suggestions, and first aid information. Find info on the SDS.
  - Clearly identify special handling, storage, use and disposal considerations for hazardous materials on the material inventory.
  - Institute a shelf-life program to improve material tracking and inventory to reduce the amount of materials overstocked and ensure proper disposal of expired materials. Careful tracking of materials ordered can result in more efficient materials use. Decisions on the amounts of hazardous materials that are stored on site should include an evaluation-of any emergency control systems that are in place. All storage areas for hazardous materials should be designed to contain spills.

**Practice Procedures for Training and Participation:** Provide frequent and proper training in good housekeeping techniques to reduce mishandling of chemicals or equipment. Educate by:

- Discussing good housekeeping practices in training programs and meetings.
  - Publicizing pollution prevention concepts through posters or signs.
  - Posting bulletin boards with updated good housekeeping procedures and tips.
- 

Place site-specific information here:

---

N/A

---

## 4.4 Vehicle Maintenance, Fueling and Storage

**Instructions:**

- Identify procedures by selecting the blue **Yes/NA** then type "Yes" or "NA".
- If applicable, CMs is required during all 3 phases of construction (initial, interim and final).

**Permanent** **Temporary**

---

**Description:** Areas where vehicles are fueled, maintained, and stored/parked can be pollutant "hot spots" that can result in hydrocarbons, trace metals, and other pollutants being transported in precipitation runoff. Proper fueling operations, storage of automotive fluids and effective spill cleanup procedures can help reduce contamination of stormwater runoff from vehicle maintenance and fueling facilities. Fuel-related spills can occur due to lack of attention during fueling or "topping off" fuel tanks. Common activities at construction sites include vehicle fluid replacement and equipment replacement and repair. Some of the wastes generated maintaining automobiles include solvents (degreasers, paint thinners, etc.), antifreeze, brake fluid, brake pad dust, battery acid, motor oil, fuel, and lubricating grease.

**Uses:** procedures are applicable to vehicle maintenance and fueling. Vehicle wash water is considered process wastewater that will not be discharged to the storm sewer system.

**Practice Procedures for Vehicle Maintenance:** The most effective way to minimize wastes generated by automotive maintenance activities is to prevent their production in the first place. The following practices will be implemented:

- Perform maintenance activities inside or under cover. When repairs cannot be performed indoors, use drip pans or absorbents.
  - Keep equipment clean and free of excessive oil and grease buildup.
  - Promptly cleanup spills using dry methods and properly dispose of waste. When water is required, use as little as possible to clean spills, leaks, and drips.
  - Use a solvent collection service to collect spent solvent used for parts cleaning.
  - When using liquids for cleaning, use a centralized station to ensure that solvents and residues stay in one area. Locate drip pans and draining boards to direct solvents back into a solvent sink or holding tank for reuse.
  - Store used oil for recycling in labeled tanks. Locate used oil tanks and drums away from storm sewer, flowing streams, and preferably indoors.
  - Use non-hazardous or less hazardous alternatives when practical. For example, replace chlorinated organic solvents with non-chlorinated ones like kerosene or mineral spirits.
  - Properly recycle or dispose of grease, oil, antifreeze, brake fluid, cleaning solutions, hydraulic fluid, batteries, transmission fluid, worn parts, filters, and rags.
  - Drain and crush oil filters before recycling or disposal.
  - Drain all fluids and remove batteries from salvage vehicles and equipment.
  - Closely monitor parked vehicles for leaks and place pans under leaks to collect the fluids for proper disposal or recycling.
  - Install berms or other measures to contain spills and prevent work surface runoff from entering storm sewer system.
  - Develop a spill prevention plan with measures such as spill kits, and information about location of storm drains and how to protect them if a large spill occurs.
-

- 
- Conduct periodic employee training to reinforce proper disposal practices.
  - Promptly transfer used fluids to recycling drums or hazardous waste containers.
  - Store cracked batteries in leak-proof secondary containers.
  - Inspect outdoor storage areas regularly for drips, spills and improperly stored materials (for example: unlabeled containers, auto parts that might contain grease or fluids, etc). This is particularly important for parking areas for vehicles awaiting repair.
  - Structural CMs, such as traps, installed in vehicle hotspot areas require routine cleanout of oil and grease. During heavy rainfall, cleanout is required more often to ensure that pollutants are not washed through the trap. Sediment removal is also required on a regular basis to keep the CM working efficiently.

**Practice Procedures for Vehicle Fueling:**

- Fueling areas should be designed to prevent stormwater runoff and spills. Fuel-dispensing areas should be paved with concrete or equivalent impervious surface, with an adequate slope to prevent ponding, and separated from the rest of the site by a grade break or berm to prevent run-on of precipitation.
  - For sites using a mobile fuel truck, establish a designated fueling area. Place temporary "caps" over nearby catch basins or manhole covers so that if a spill occurs, it is prevented from entering the storm sewer. Secondary containment should be used when transferring fuel from the tank truck to the fuel tank. Cover storm drains in the vicinity. Install vapor recovery nozzles to help control drips, and reduce air pollution.
  - Keep spill response information and spill cleanup materials onsite and readily available.
  - Employ dry cleanup methods cleaning up fuel spills. Such methods include sweeping to remove litter and debris, and using rags and absorbents for leaks and spills.
  - Water should not be used to wash fuel spill areas. During routine cleaning, use a damp cloth on the pumps and a damp mop on the pavement. Fuel dispensing nozzles should be fitted with automatic shutoff except where prohibited by fire department. Post signs at the fuel dispenser warning operators against "topping off" vehicle fuel tanks.
  - Provide written procedures describing CMs to employees who will be fueling.
- 

Place site-specific information here:

---

N/A

---

## 4.5 Street Sweeping and Cleaning

**Instructions:**

- Identify CMs for the construction site by selecting the blue **Yes/NA** then type "Yes" or "N/A".
- If applicable, street sweeping shall be implemented for all 3 phases of construction (initial, interim and final).

<b>Street Sweeping (SS)</b>	Used: Yes	Phase(s): 1, 2, 3
<input type="checkbox"/> <b>Permanent</b>	<input checked="" type="checkbox"/> <b>Temporary</b>	

**Description:** SS uses either manual or mechanical pavement cleaning practices to collect or vacuum sediment, litter and other debris from the streets before being washed into storm sewers by runoff. This practice can reduce pollutant loading to receiving waters, reduce clogging of storm sewer pipes, prolong the life of infiltration CMs and reduce clogging of outlet structures in detention ponds. Mechanical designs include: broom and conveyor belt sweeper, wet or dry vacuum-assisted sweepers, and regenerative-air sweepers. The effectiveness depends upon particle loadings being swept, street texture, moisture conditions, parked cars, equipment conditions and frequency of cleaning.

**Uses:** SS is a technique in urban areas where sediment and litter accumulated on streets is of concern for aesthetic, sanitary, water and air quality reasons. SS is required at construction sites per SWMP to reduce off-site tracking.

**Procedures:**

1. SS may be performed manually (broom and shovel) or with a vacuum sweeper (no kick-broom). Choose the most effective approach for site conditions.
2. SS shall be completed when there is sediment tracking from the construction site exits into the public road or right-of-way.
3. SS frequency depends on presence of sediment tracking. If tracking is occurring, either a VTC shall be installed, the VTC needs maintenance, or the VTC is inadequate; all require SWMP updates.
4. Off-site sediment tracking from the construction site shall be swept immediately.
5. Conduct SS prior to precipitation events.
6. Operate sweepers at manufacturer recommended optimal speed levels.
7. Regularly inspect vehicles and equipment for leaks and repair promptly.
8. Keep accurate logs of number of curb-miles swept and amount of waste collected.
9. Dispose of SS debris and dirt at a landfill.
10. Do not store swept material along the side of the street or near a storm drain inlet.

---

Place site-specific information here:

---

N/A

---

## 4.6 Storm Sewer Cleaning

**Instructions:**

- Select CMs to remove accumulated sediment, trash, and other pollutants from the storm system for the applicable construction site wastes identified in **Section 1.8 Potential Sources of Pollution** to maintain a clean and orderly construction site.
- Identify CMs by selecting the blue **Yes/NA** then type “**Yes**” or “**N/A**”. If applicable, the following practices shall be implemented for all 3 phases of construction (initial, interim and final).

---

**Storm Sewer System Cleaning**

Used: Yes

Phase(s): 1, 2,3

---

**Permanent**

**Temporary**

---

**Description:** Periodic storm sewer cleaning can help remove accumulated sediment, trash, and other pollutants from the storm system including inlets, pipes and also construction CMs. Routine cleaning reduces the amount of pollutants in the storm system and in receiving waters. Clogged drains can cause overflow, leading to increase erosion. Cleaning increases dissolved oxygen, reduces levels of bacteria, and supports in-stream habitat. Areas with flat grades or low flows should be given special attention because they rarely achieve high enough flows to flush themselves. Water used in storm drain cleaning must be collected and properly disposed of, typically at a sanitary wastewater treatment facility. Simpler methods in localized areas can also include manual trash collection and shoveling sediment and debris from inlets and outlets. Frequency and prioritization of storm sewer cleaning is affected by the activity and intensity of construction and the proper installation and maintenance for construction CMs.

**Uses:** Inspection of the existing storm system is recommended prior construction to document condition. The storm sewer shall be cleaned at minimum at completion of construction.

**Practice Guidelines:** Inspect the storm system as part of the required stormwater inspection.

- **Technology available:** manual cleaning (shovel), vacuum cleaning and vacuum combination jet cleaning. Choose the most effective approach for site conditions.
  - **Staff training:** train about maintenance, waste collection and disposal methods.
  - **Waste disposal:** Most catch basin waste is acceptable for landfills. If hazardous material is suspected, it should be tested and disposed of accordingly.
- 

Place site specific information here:

---

N/A

---



# SECTION 5: FINAL STABILIZATION

## 5.1 Final Stabilization Requirement

**Instructions:**

Final stabilization of the construction sites occurs when all ground surface disturbing activities at the site have been completed, and for all areas of ground surface disturbing activities where a 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.

Final Stabilization is reached when all ground disturbing activities are complete, and all disturbed areas have either been built on, paved over or a uniform vegetative cover has been established per SWMP. Prior to closing the State Stormwater Permit, all the items listed below must be completed in order for the construction site to be considered to have final stabilization.

1. The site has a uniform vegetative cover with a density of at least 70% compared to the original undisturbed site. Such cover must be capable of adequately controlling soil erosion.
2. If applicable, proper installation and maintenance of all approved, permanent, post-construction stormwater quality treatment drainage facilities.
3. Removal of all stockpiles of soil, construction material/debris, construction equipment, etc. from the construction site.
4. Streets, parking lots and other surrounding paved surfaces are clean and free of any sediment or debris.
5. Removal of sediment, debris or other pollutants within the private and adjacent public storm drainage system.
6. Restoration of any damaged public infrastructure caused by the construction activities.

## 5.2 Final Stabilization Measures

**Instructions:**

Describe CMs for final stabilization of all disturbed areas at the site, such as: erosion control blankets, mulch and seeding, approved landscape plan, etc. Update the ESC Plan (site map) to indicate areas that have achieved final stabilization.

---

**Permanent Seeding (PS)**

Used: Yes

Phase(s): 3

---

**Permanent**

**Temporary**

---

<b>Seed Mix Selection According to Soil Type</b>	Native Seed: PBSI Native Prairie Mix 1.5 PLUS Blue Gram 2.4 PLS Buffalograss 2.7 PLS Sideoats Gramma 5.2 PLS Western Wheatgrass 3 PLS Green Needlegrass 0.18 PLS Sand Dropseed Detention Seed: PBSI Native Prairie Mix 40% Alkaligrass 30% Western Wheatgrass 30% Smooth Biome		
<b>Seed Application Method</b>	Native Seed: 15 PLS/Acre Detention Seed: 40 LBS/Acre		
<b>Soil Preparation</b>	N/A		
<b>Soil Amendment</b>	N/A		
<b>Crimped Straw</b>	Used: N/A	Phase(s): 3	
<input type="checkbox"/> <b>Permanent</b>	<input checked="" type="checkbox"/> <b>Temporary</b>		
<a href="#">INSERT TEXT HERE</a>			
<b>Hydromulch</b>	Used: N/A	Phase(s): 3	
<input type="checkbox"/> <b>Permanent</b>	<input checked="" type="checkbox"/> <b>Temporary</b>		
<a href="#">INSERT TEXT HERE</a>			
<b>Rolled Erosion Control Products (RECP)</b>	Used: Yes	Phase(s): 3	
<input type="checkbox"/> <b>Permanent</b>	<input checked="" type="checkbox"/> <b>Temporary</b>		
<a href="#">INSERT TEXT HERE</a>			
<a href="#">Insert Additional Control Measure (CM)</a>	Used: Yes/NA	Phase(s): 3	
<input type="checkbox"/> <b>Permanent</b>	<input type="checkbox"/> <b>Temporary</b>		
<a href="#">INSERT TEXT HERE</a>			

### 5.3 Removal of Temporary CMs

Once the site has met the final stabilization conditions, the remaining temporary CMs such as perimeter controls, inlet protection, silt fence, etc. shall be removed and disposed of properly.

### 5.4 Stormwater Permits Close-out

Submit the CDPS Stormwater Discharge Permit [Inactivation Form](#) to CDPHE.

## 5.5 Long Term Stormwater Management

### Instructions:

Describe planned practices to control pollutants in stormwater discharges that will occur after construction operations are completed. Including, but not limited to, detention/retention ponds, rain gardens, underground stormwater vaults, etc.

Describe the planned practices to control pollutants in stormwater discharges that will occur after construction operations are completed, including permanent water quality treatment facilities:

N/A

## SECTION 6: STORMWATER INSPECTIONS

### 6.1 Inspections

#### Instructions:

Identify the individual responsible for conducting inspections and describe qualifications. Select the frequency of inspections and procedures to inspect CMs that will occur at your site. Identify procedures to document the repairs and maintenance of CMs as a result of the inspections. Use the Stormwater Inspection Form in **Appendix 6**. Place completed stormwater inspections in **Appendix 7**.

#### **1. Qualified Stormwater Management Inspection Personnel:**

Identify the inspection person(s) who will be responsible for conducting stormwater inspections and describe their qualifications:

#### **2. Inspection Frequency:**

Inspections shall start within 7 calendar days of commencement of construction activities.

**Minimum Stormwater Inspection Schedule:** A thorough inspection of the site inspection shall be performed in accordance with one of the following minimum frequencies:

- At least one inspection every 7 calendar days, **or**
- At least one inspection every 14 calendar days, if post-storm event inspections are conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion. Post-storm inspections may be used to fulfill the 14-day routine inspection requirement.

**Post-Storm Inspections at Temporarily Idle Sites** - For permittees choosing to combine 14-day inspections and post-storm-event inspections, if no construction activities will occur following a storm event, post-storm event inspections must be conducted prior to re-commencing construction activities, but no later than 72 hours following the storm event. The delay of any post-storm event inspection must be documented in the inspection record. Routine inspections must still be conducted at least every 14 calendar days.

**Inspections at Completed Sites/Areas** - When the site, or portions of a site are awaiting establishment of a vegetative ground cover and final stabilization, the permittee must conduct a thorough inspection of the stormwater management system at least once every 30 days. Post-storm event inspections are not required under this schedule. This reduced inspection schedule is allowed if all of the following criteria are met:

- i. All construction activities resulting in ground disturbance are complete;
- ii. All activities required for final stabilization, in accordance with the SWMP, have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts; and
- iii. The SWMP has been amended to locate those areas to be inspected in accordance with the reduced schedule allowed for in this paragraph.

The minimum inspection frequency required does not affect the permittee’s responsibility to implement and maintain effective control measures as prescribed in the SWMP. Proper maintenance may require more frequent inspections.

**3. Inspection Procedures:**

- At minimum, inspect the construction site perimeter, all disturbed area, designated haul routes, material and/or waste storage areas that are exposed to precipitation, discharge location(s), and locations where vehicles exit the site shall be inspected for evidence of, or the potential for, pollutants leaving the Permitted boundaries, entering the storm sewer system, or discharging to the MS4.
- Refer to **Section 5.2 Inspection Sequence**.
- Visually verify whether all implemented CMs are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.
- Determine if there are new potential sources of pollutants.
- Assess the adequacy of CMs at the site to identify areas requiring new or modified CMs to minimize pollutant discharges.
- Identify all areas of non-compliance and implement corrective action.

**4. Correcting Problems:**

Take steps to minimize the discharge of pollutants until a CM is implemented and operational, or an inadequate CM is replaced or corrected, and returned to effective operating condition. If it is infeasible to install or repair the CM immediately after discovering the deficiency, the following must be documented:

- (a) Describe why it is infeasible to initiate the installation or repair immediately; and
- (b) Provide a schedule for installing or repairing the CM and returning it to an effective operating condition asap.

Remove and properly dispose of any unauthorized release or discharge. Clean up any contaminated surfaces to minimize discharges of the material in subsequent storm events.

INSERT ADDITIONAL INFORMATION ABOUT CORRECTING ISSUES HERE

Responsible staff or company for making corrections: TBD

**5. Inspection Form:**

Use the form<sup>1</sup> in **Appendix 6** for all Capital Improvement Projects. Place completed inspections or refer to where the inspections are kept electronically in **Appendix 7**. At a minimum the form should document:

- Inspection date;
- name & title of inspector;
- weather conditions;
- phase of construction;
- estimated acreage of disturbance at the time of inspection;
- location(s) of discharges of sediment or other pollutants from the site; location(s) of CMs needing maintenance;
- location(s) and identification of inadequate CMs;
- location(s) and identification of additional CMs needed that were not in place at the time of inspection;
- description of the minimum inspection frequency;
- deviations from the minimum inspection schedule; certification statement for corrective action(s) or inspection (if no actions).

## 6.2 Inspection Sequence

### Instructions:

When conducting stormwater inspections of your construction site it is recommended that one always follows this recommended inspection sequence to ensure that all procedures and measures are being followed.

### 1. Plan your stormwater inspection

- Use the inspection form (or equivalent) under **Appendix 6**.
- Obtain a copy of the EC Plan (Site Map) with CMs locations marked.
- Plan to walk the entire site, including discharge points from the site and any off-site support activities.
- Follow a consistent pattern each time to ensure you inspect all areas.

### 2. Determine Inspection frequency

- Site inspections must be conducted at least once every 7; or 14 calendar days.
- If 14-day inspections, then post-storm inspections must be conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion.
- 30-day inspections are conducted once construction is complete, temporary stabilizations has been installed and the site is waiting to reach final stabilization.

### 3. Inspect discharge points and downstream, off-site areas

- Inspect discharge locations to determine whether erosion and sediment control measures are effective.

---

<sup>1</sup> An equivalent form may be used for all projects except Capital Improvement Projects.

- Inspect nearby downstream locations.
- Walk down the street to inspect off-site areas for signs of discharges.
- Inspect down slope existing catch basins to ensure they are free of sediment and other pollutants and to ensure that they are adequately protected.

#### **4. Inspect perimeter controls and slopes**

- Inspect perimeter controls to determine if sediment should be removed.
- Check the structural integrity of the CM. Determine if CM replacement is needed.
- Inspect slopes and temporary stockpiles to determine if erosion controls are effective.

#### **5. Compare CMs in the EC Plan with the construction site conditions.**

- Determine whether CMs are in place as required by the EC plan.
- Evaluate whether CMs have been adequately installed and maintained.
- Look for areas where CMs are needed but are missing on the field, or are not documented on the SWMP.

#### **6. Inspect construction site entrances**

- Inspect the construction exits to determine if there is tracking of sediment from the site onto the street.
- Refresh or replace the rock in designated entrances and concrete washout areas.
- Look for evidence of additional construction exits being used that are not in the SWMP or are not stabilized.
- Sweep the street if there is evidence of sediment accumulation.

#### **7. Inspect sediment controls**

- Inspect any sediment basins for sediment accumulation.
- Remove sediment when it reduces the capacity of the basin by  $\frac{1}{3}$  of the design storage volume.

#### **8. Inspect pollution prevention and good housekeeping practices**

- Inspect trash areas to ensure that waste is properly contained.
- Inspect material storage and staging areas to verify that potential pollutant sources are not exposed to stormwater runoff.
- Verify that concrete, paint, and stucco washouts are being used properly and are correctly sized for the volume of wash water.
- Inspect vehicle/equipment fueling and maintenance areas for signs of stormwater pollutant exposure.

#### **9. Inspect for final stabilization**

- Inspect all temporary and permanent CMs for correct application and installation with the CM details.

- Remove sediment from the private storm sewer system - do not jet pollutants down into the public storm sewer system.

## SECTION 7: RECORDKEEPING

### 7.1 Recordkeeping

**Instructions:**

The following section provides a list of records that shall be kept available at your construction site for review, including the length of time those records shall be preserved for.

The following records shall be available at the construction site, or be on-site when construction activities are occurring:

- ✓ An updated SWMP, reflecting current conditions and CMs.
- ✓ Keep record of SWMP/EC Plan changes made including the date and identification of the changes (\*).
- ✓ Completed inspection reports, can be placed or electronically stored and the location referenced in **Appendix 7**
- ✓ Any document or plan incorporated by reference to the SWMP.

(\* ) The SWMP must be amended when the following occurs:

- 1) A change in design, construction, operation, or maintenance of the site requiring implementation of new or revised control measures;
- 2) The SWMP proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;
- 3) Control measures identified in the SWMP are no longer necessary and are removed; and
- 4) Corrective actions are taken onsite that result in a change to the SWMP.

A notation must be included in the SWMP to identify the date of the site change, the control measure removed, or modified, the location(s) of those control measures, and any changes to the control measure(s). The permittee must ensure the site changes are reflected in the SWMP. The permittee is non-compliant with the permit until the SWMP revisions have been made

SWMP documentation required under this permit are considered reports that must be available to the public under Section 308(b) of the CWA and Section 61.5(4) of the CDPS regulations. The permittee must make plans available to members of the public upon request. However, the permittee may claim any portion of a SWMP as confidential in accordance with 40 CFR Part 2.

Records will be retained for a minimum period of at least 3 years after the CDPHE permit is terminated.

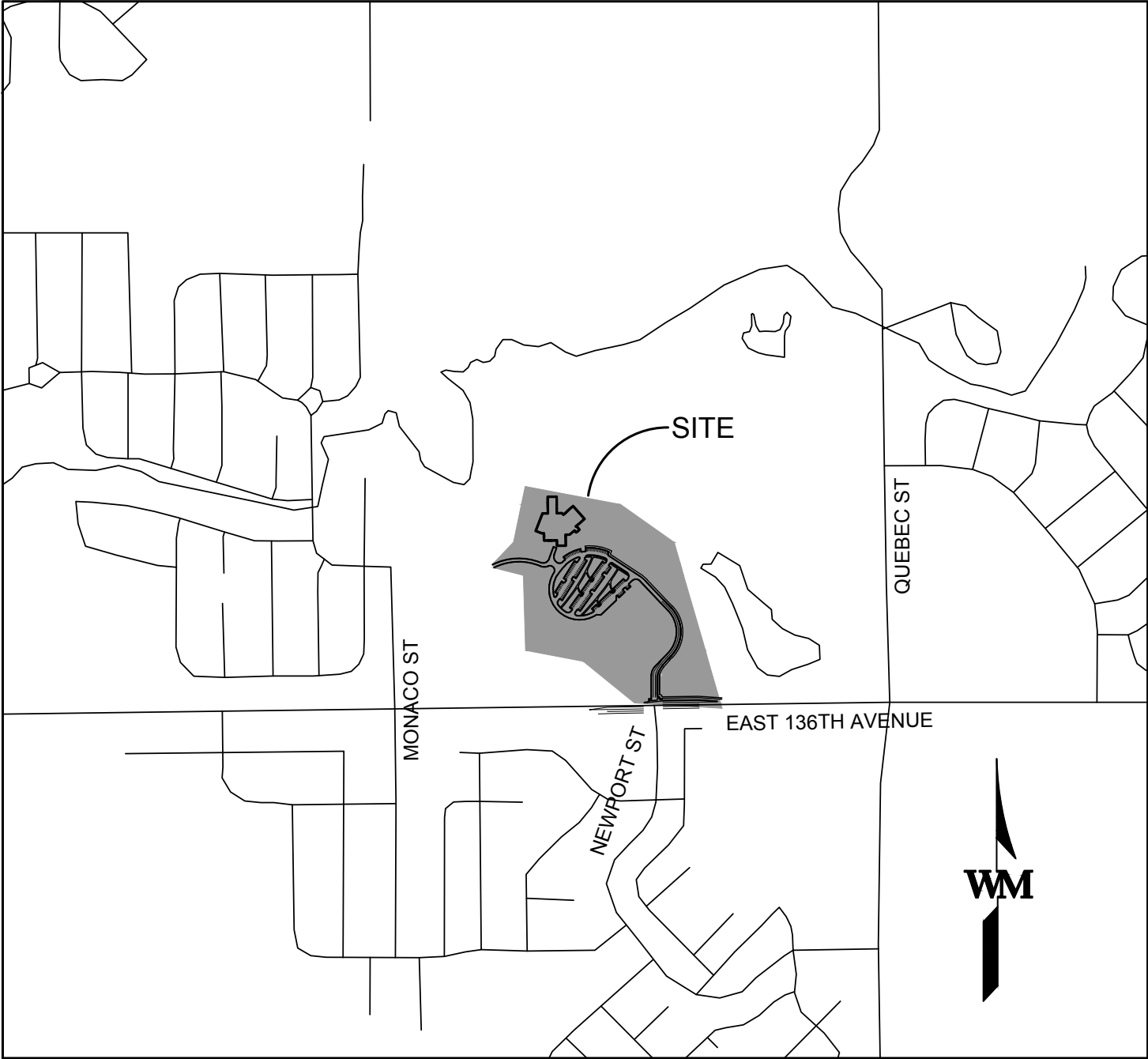
# SWMP APPENDICES

Attach the following documentation:

<b><i>Appendix 1 - Project Vicinity Map</i></b>	<b><i>(Section 1.1)</i></b>
<b><i>Appendix 2 - State CDPS Stormwater Construction Permit and Additional Permits (if applicable)</i></b>	<b><i>(Section 1.2)</i></b>
<b><i>Appendix 3 - Pre-disturbance Photos</i></b>	<b><i>(Section 1.4)</i></b>
<b><i>Appendix 4 - Erosion and Sediment BMPs/CMs Details</i></b>	<b><i>(Section 1.10)</i></b>
<b><i>Appendix 5 - Erosion and Sediment Control Plan (ESC Plan) - Site Map</i></b>	<b><i>(Section 2.10)</i></b>
<b><i>Appendix 6 - Stormwater Inspection Form</i></b>	<b><i>(Section 5.1)</i></b>
<b><i>Appendix 7 - Completed Stormwater Inspection Logs</i></b>	<b><i>(Sections 5.3 &amp; 5.5)</i></b>
<b><i>Appendix 8 - Agreement for off-site Control Measures (if applicable)</i></b>	<b><i>(Section 1.5)</i></b>



# APPENDIX 1: Project Vicinity Map



**VICINITY MAP**  
SCALE: 1" = 1500'

**APPENDIX 2: CDPHE Stormwater Construction Permit and Additional Permits (if applicable)**

# **APPENDIX 3: Pre-Disturbance Photos**

(ADD COLOR PICTURES)



# APPENDIX 4: Erosion & Sediment CMs/BMPs Details

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

**Table TS/PS-1. Minimum Drill Seeding Rates for Various Temporary Annual Grasses**

Species <sup>a</sup> (Common name)	Growth Season <sup>b</sup>	Pounds of Pure Live Seed (PLS)/acre <sup>c</sup>	Planting Depth (inches)
1. Oats	Cool	35 - 50	1 - 2
2. Spring wheat	Cool	25 - 35	1 - 2
3. Spring barley	Cool	25 - 35	1 - 2
4. Annual ryegrass	Cool	10 - 15	½
5. Millet	Warm	3 - 15	½ - ¾
6. Winter wheat	Cool	20-35	1 - 2
7. Winter barley	Cool	20-35	1 - 2
8. Winter rye	Cool	20-35	1 - 2
9. Triticale	Cool	25-40	1 - 2

<sup>a</sup> Successful seeding of annual grass resulting in adequate plant growth will usually produce enough dead-plant residue to provide protection from wind and water erosion for an additional year. This assumes that the cover is not disturbed or mowed closer than 8 inches.

Hydraulic seeding may be substituted for drilling only where slopes are steeper than 3:1 or where access limitations exist. When hydraulic seeding is used, hydraulic mulching should be applied as a separate operation, when practical, to prevent the seeds from being encapsulated in the mulch.

<sup>b</sup> See Table TS/PS-2 for seeding dates. Irrigation, if consistently applied, may extend the use of cool season species during the summer months.

<sup>c</sup> Seeding rates should be doubled if seed is broadcast, or increased by 50 percent if done using a Brillion Drill or by hydraulic seeding.

**Table TS/PS-2. Seeding Dates for Annual and Perennial Grasses**

Seeding Dates	Annual Grasses (Numbers in table reference species in Table TS/PS-1)		Perennial Grasses	
	Warm	Cool	Warm	Cool
January 1–March 15			✓	✓
March 16–April 30		1,2,3	✓	✓
May 1–May 15			✓	
May 16–June 30	5			
July 1–July 15	5			
July 16–August 31				
September 1–September 30		6, 7, 8, 9		
October 1–December 31			✓	✓

## Mulch

Cover seeded areas with mulch or an appropriate rolled erosion control product to promote establishment of vegetation. Anchor mulch by crimping, netting or use of a non-toxic tackifier. See the USDCM Volume 2 *Revegetation* Chapter and Volume 3 Mulching BMP Fact Sheet (EC-04) for additional guidance.

## Maintenance and Removal

Monitor and observe seeded areas to identify areas of poor growth or areas that fail to germinate. Reseed and mulch these areas, as needed.

If a temporary annual seed was planted, the area should be reseeded with the desired perennial mix when there will be no further work in the area. To minimize competition between annual and perennial species, the annual mix needs time to mature and die before seeding the perennial mix. To increase success of the perennial mix, it should be seeded during the appropriate seeding dates the second year after the temporary annual mix was seeded. Alternatively, if this timeline is not feasible, the annual mix seed heads should be removed and then the area seeded with the perennial mix.

An area that has been permanently seeded should have a good stand of vegetation within one growing season if irrigated and within three growing seasons without irrigation in Colorado. Reseed portions of the site that fail to germinate or remain bare after the first growing season.

Seeded areas may require irrigation, particularly during extended dry periods. Targeted weed control may also be necessary.

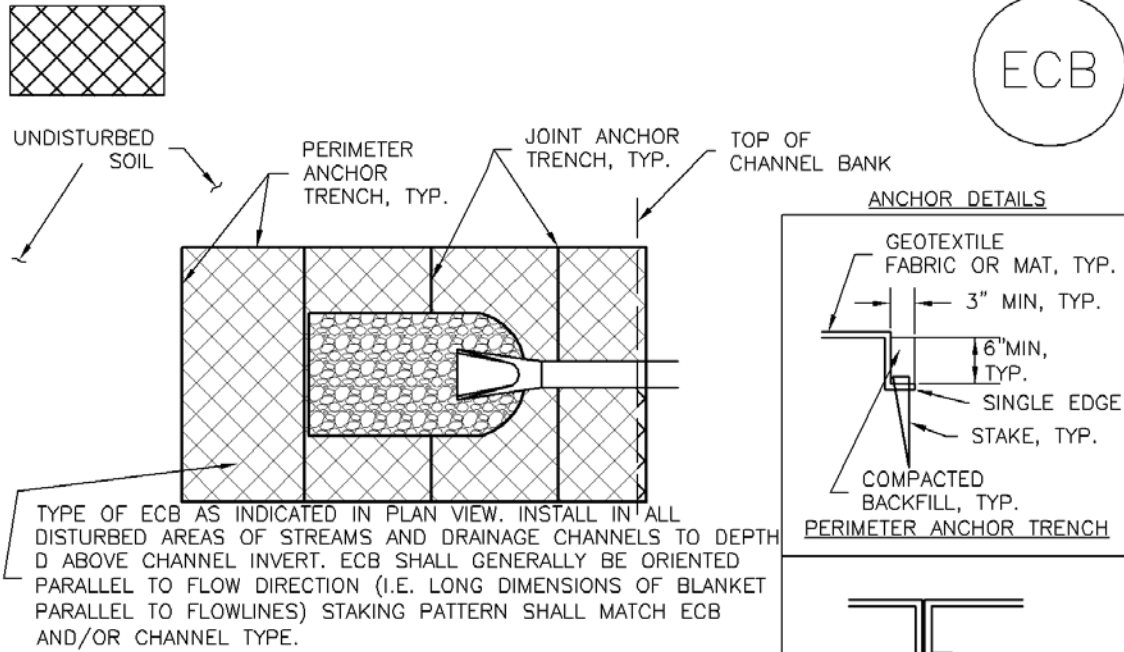
Protect seeded areas from construction equipment and vehicle access.

- Clean, weed-free and seed-free cereal grain straw should be applied evenly at a rate of 2 tons per acre and must be tacked or fastened by a method suitable for the condition of the site. Straw mulch must be anchored (and not merely placed) on the surface. This can be accomplished mechanically by crimping or with the aid of tackifiers or nets. Anchoring with a crimping implement is preferred, and is the recommended method for areas flatter than 3:1. Mechanical crimpers must be capable of tucking the long mulch fibers into the soil to a depth of 3 inches without cutting them. An agricultural disk, while not an ideal substitute, may work if the disk blades are dull or blunted and set vertically; however, the frame may have to be weighted to afford proper soil penetration.
- Grass hay may be used in place of straw; however, because hay is comprised of the entire plant including seed, mulching with hay may seed the site with non-native grass species which might in turn out-compete the native seed. Alternatively, native species of grass hay may be purchased, but can be difficult to find and are more expensive than straw. Purchasing and utilizing a certified weed-free straw is an easier and less costly mulching method. When using grass hay, follow the same guidelines as for straw (provided above).
- On small areas sheltered from the wind and heavy runoff, spraying a tackifier on the mulch is satisfactory for holding it in place. For steep slopes and special situations where greater control is needed, erosion control blankets anchored with stakes should be used instead of mulch.
- Hydraulic mulching consists of wood cellulose fibers mixed with water and a tackifying agent and should be applied at a rate of no less than 1,500 pounds per acre (1,425 lbs of fibers mixed with at least 75 lbs of tackifier) with a hydraulic mulcher. For steeper slopes, up to 2000 pounds per acre may be required for effective hydroseeding. Hydromulch typically requires up to 24 hours to dry; therefore, it should not be applied immediately prior to inclement weather. Application to roads, waterways and existing vegetation should be avoided.
- Erosion control mats, blankets, or nets are recommended to help stabilize steep slopes (generally 3:1 and steeper) and waterways. Depending on the product, these may be used alone or in conjunction with grass or straw mulch. Normally, use of these products will be restricted to relatively small areas. Biodegradable mats made of straw and jute, straw-coconut, coconut fiber, or excelsior can be used instead of mulch. (See the ECM/TRM BMP for more information.)
- Some tackifiers or binders may be used to anchor mulch. Check with the local jurisdiction for allowed tackifiers. Manufacturer's recommendations should be followed at all times. (See the Soil Binder BMP for more information on general types of tackifiers.)
- Rock can also be used as mulch. It provides protection of exposed soils to wind and water erosion and allows infiltration of precipitation. An aggregate base course can be spread on disturbed areas for temporary or permanent stabilization. The rock mulch layer should be thick enough to provide full coverage of exposed soil on the area it is applied.

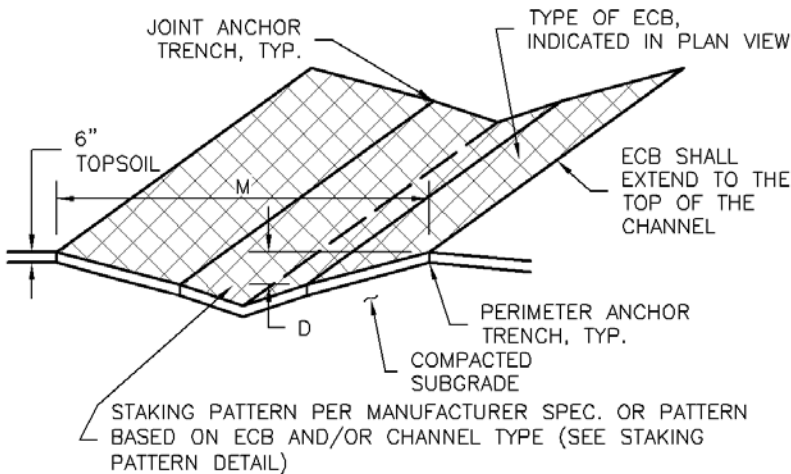
## **Maintenance and Removal**

After mulching, the bare ground surface should not be more than 10 percent exposed. Reapply mulch, as needed, to cover bare areas.

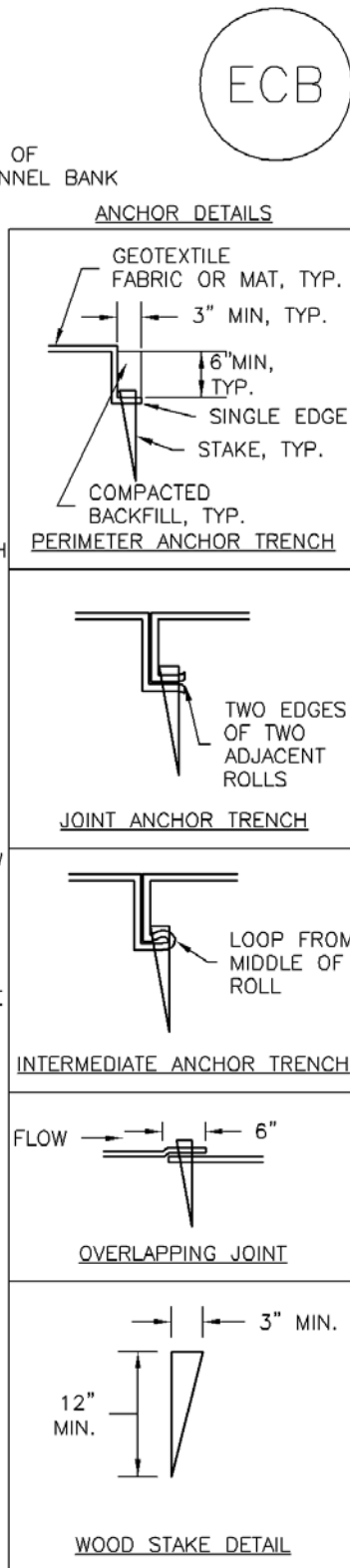


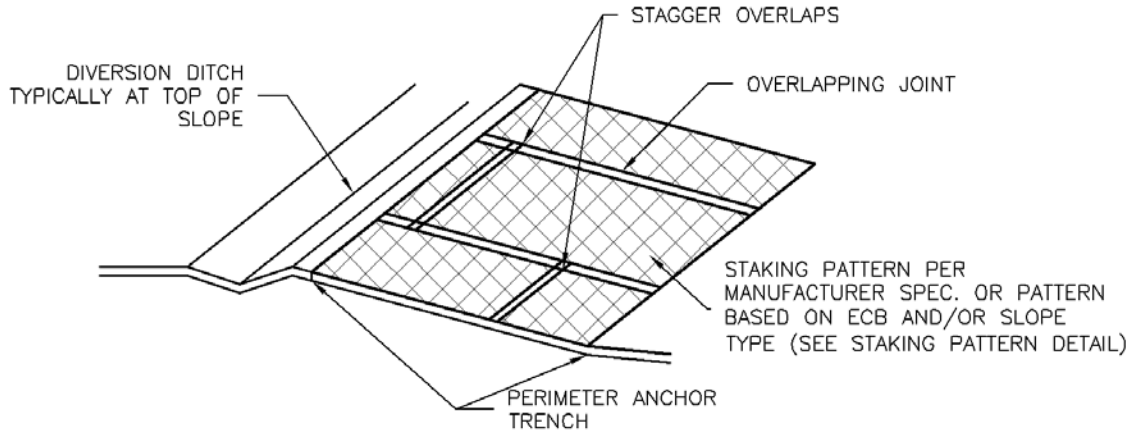


ECB-1. PIPE OUTLET TO DRAINAGEWAY

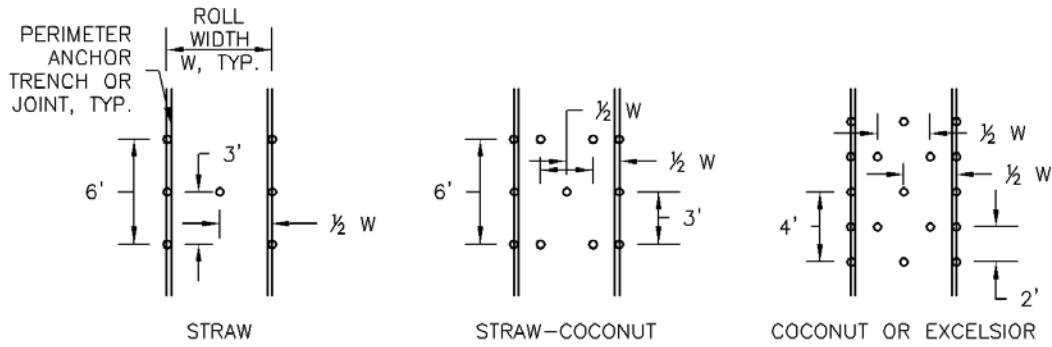


ECB-2. SMALL DITCH OR DRAINAGEWAY

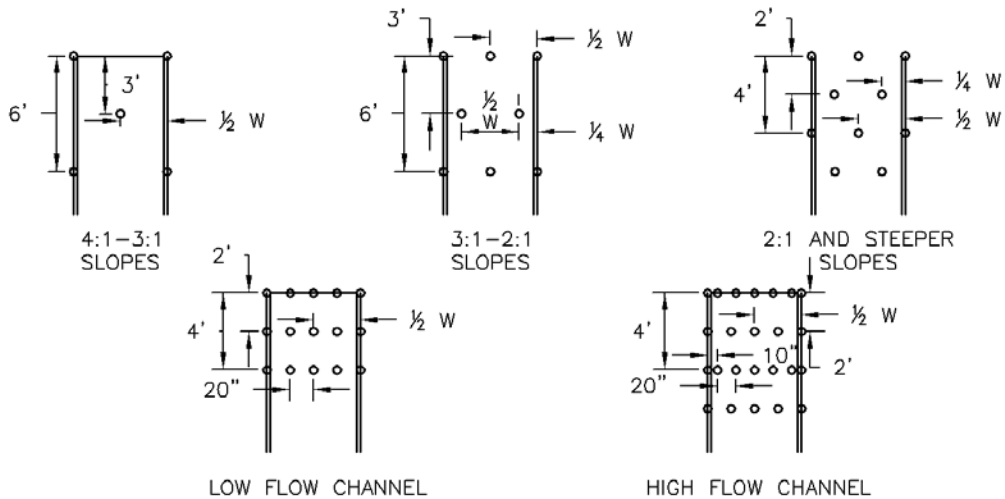




## ECB-3. OUTSIDE OF DRAINAGEWAY



## STAKING PATTERNS BY ECB TYPE



## STAKING PATTERNS BY SLOPE OR CHANNEL TYPE

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
  - LOCATION OF ECB.
  - TYPE OF ECB (STRAW, STRAW-COCONUT, COCONUT, OR EXCELSIOR).
  - AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.
2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.
3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.
4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.
5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.
6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE-HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.
7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.
8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB-1.
9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBs SHALL BE RESEEDED AND MULCHED.
10. DETAILS ON DESIGN PLANS FOR MAJOR DRAINAGEWAY STABILIZATION WILL GOVERN IF DIFFERENT FROM THOSE SHOWN HERE.

TABLE ECB-1. ECB MATERIAL SPECIFICATIONS				
TYPE	COCONUT CONTENT	STRAW CONTENT	EXCELSIOR CONTENT	RECOMMENDED NETTING**
STRAW*	-	100%	-	DOUBLE/NATURAL
STRAW-COCONUT	30% MIN	70% MAX	-	DOUBLE/NATURAL
COCONUT	100%	-	-	DOUBLE/NATURAL
EXCELSIOR	-	-	100%	DOUBLE/NATURAL

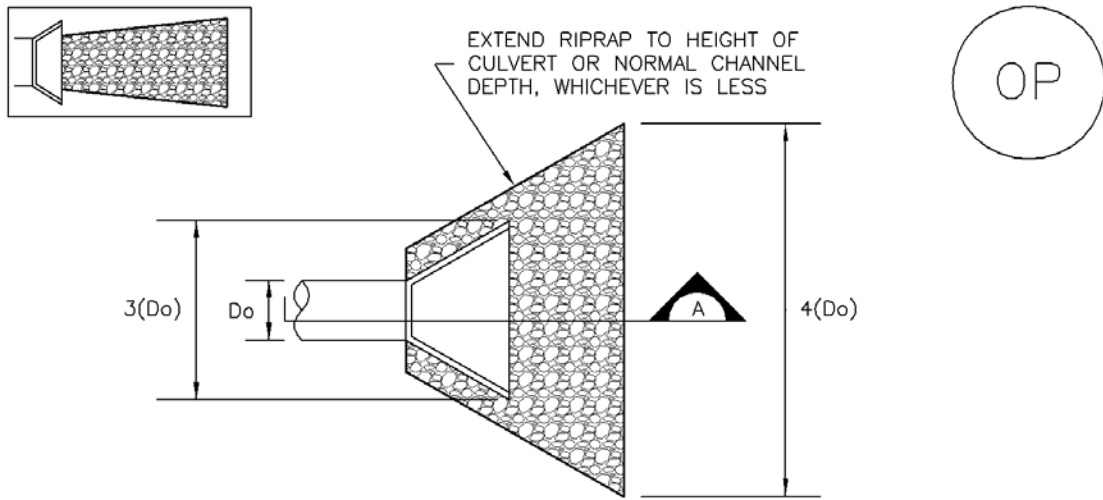
\*STRAW ECBs MAY ONLY BE USED OUTSIDE OF STREAMS AND DRAINAGE CHANNEL.  
 \*\*ALTERNATE NETTING MAY BE ACCEPTABLE IN SOME JURISDICTIONS

## EROSION CONTROL BLANKET MAINTENANCE NOTES

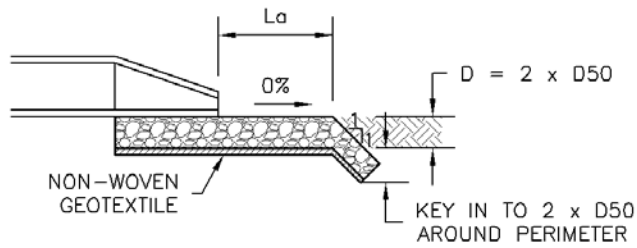
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS 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. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.
5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEDED AND MULCHED AND THE ECB REINSTALLED.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO AND TOWN OF PARKER COLORADO, NOT AVAILABLE IN AUTOCAD)



TEMPORARY OUTLET PROTECTION PLAN



SECTION A

TABLE OP-1. TEMPORARY OUTLET PROTECTION SIZING TABLE			
PIPE DIAMETER, $D_o$ (INCHES)	DISCHARGE, $Q$ (CFS)	APRON LENGTH, $L_a$ (FT)	RIPRAP D50 DIAMETER MIN (INCHES)
8	2.5	5	4
	5	10	6
12	5	10	4
	10	13	6
18	10	10	6
	20	16	9
	30	23	12
24	40	26	16
	30	16	9
	40	26	9
	50	26	12
	60	30	16

OP-1. TEMPORARY OUTLET PROTECTION

## TEMPORARY OUTLET PROTECTION INSTALLATION NOTES

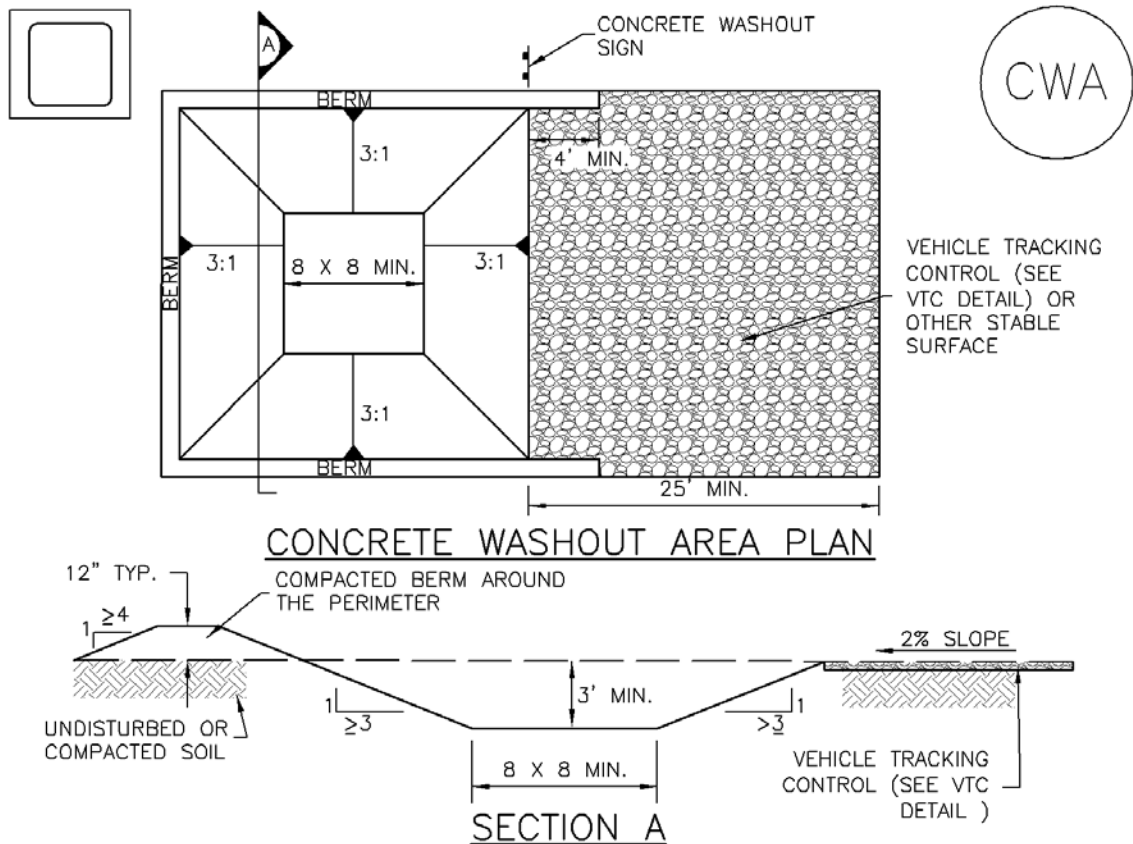
1. SEE PLAN VIEW FOR
  - LOCATION OF OUTLET PROTECTION.
  - DIMENSIONS OF OUTLET PROTECTION.
2. DETAIL IS INTENDED FOR PIPES WITH SLOPE  $\leq$  10%. ADDITIONAL EVALUATION OF RIPRAP SIZING AND OUTLET PROTECTION DIMENSIONS REQUIRED FOR STEEPER SLOPES.
3. TEMPORARY OUTLET PROTECTION INFORMATION IS FOR OUTLETS INTENDED TO BE UTILIZED LESS THAN 2 YEARS.

## TEMPORARY OUTLET PROTECTION INSPECTION AND 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.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM AURORA, COLORADO AND PREVIOUS VERSION OF VOLUME 3, NOT AVAILABLE IN AUTOCAD)



## CWA-1. CONCRETE WASHOUT AREA

### CWA INSTALLATION NOTES

1. SEE PLAN VIEW FOR:  
-CWA INSTALLATION LOCATION.
2. DO NOT LOCATE AN UNLINED CWA WITHIN 400' OF ANY NATURAL DRAINAGE PATHWAY OR WATERBODY. DO NOT LOCATE WITHIN 1,000' OF ANY WELLS OR DRINKING WATER SOURCES. IF SITE CONSTRAINTS MAKE THIS INFEASIBLE, OR IF HIGHLY PERMEABLE SOILS EXIST ON SITE, THE CWA MUST BE INSTALLED WITH AN IMPERMEABLE LINER (16 MIL MIN. THICKNESS) OR SURFACE STORAGE ALTERNATIVES USING PREFABRICATED CONCRETE WASHOUT DEVICES OR A LINED ABOVE GROUND STORAGE ARE SHOULD BE USED.
3. THE CWA SHALL BE INSTALLED PRIOR TO CONCRETE PLACEMENT ON SITE.
4. CWA SHALL INCLUDE A FLAT SUBSURFACE PIT THAT IS AT LEAST 8' BY 8' SLOPES LEADING OUT OF THE SUBSURFACE PIT SHALL BE 3:1 OR FLATTER. THE PIT SHALL BE AT LEAST 3' DEEP.
5. BERM SURROUNDING SIDES AND BACK OF THE CWA SHALL HAVE MINIMUM HEIGHT OF 1'.
6. VEHICLE TRACKING PAD SHALL BE SLOPED 2% TOWARDS THE CWA.
7. SIGNS SHALL BE PLACED AT THE CONSTRUCTION ENTRANCE, AT THE CWA, AND ELSEWHERE AS NECESSARY TO CLEARLY INDICATE THE LOCATION OF THE CWA TO OPERATORS OF CONCRETE TRUCKS AND PUMP RIGS.
8. USE EXCAVATED MATERIAL FOR PERIMETER BERM CONSTRUCTION.

CWA 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. THE CWA SHALL BE REPAIRED, CLEANED, OR ENLARGED AS NECESSARY TO MAINTAIN CAPACITY FOR CONCRETE WASTE. CONCRETE MATERIALS, ACCUMULATED IN PIT, SHALL BE REMOVED ONCE THE MATERIALS HAVE REACHED A DEPTH OF 2'.

5. 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.

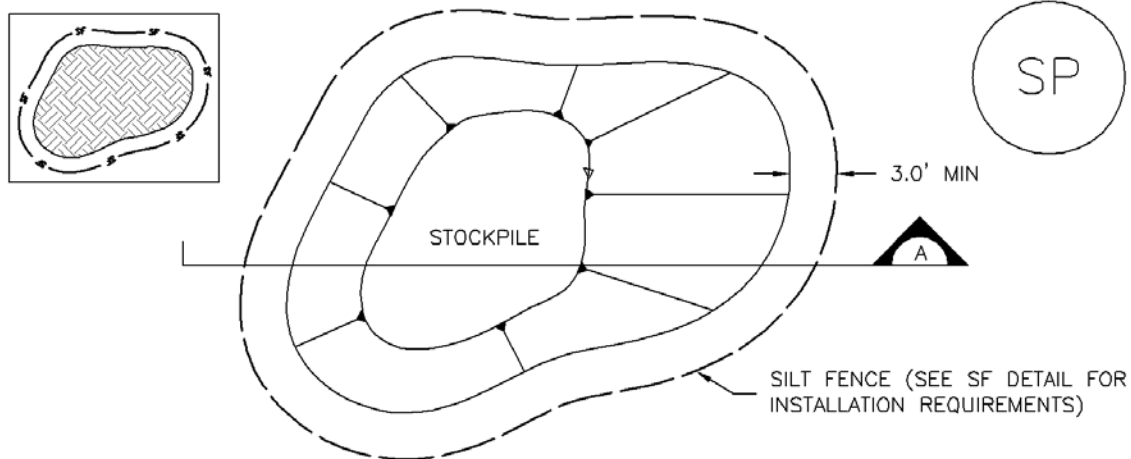
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

7. WHEN THE CWA IS REMOVED, COVER THE DISTURBED AREA WITH TOP SOIL, SEED AND MULCH OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

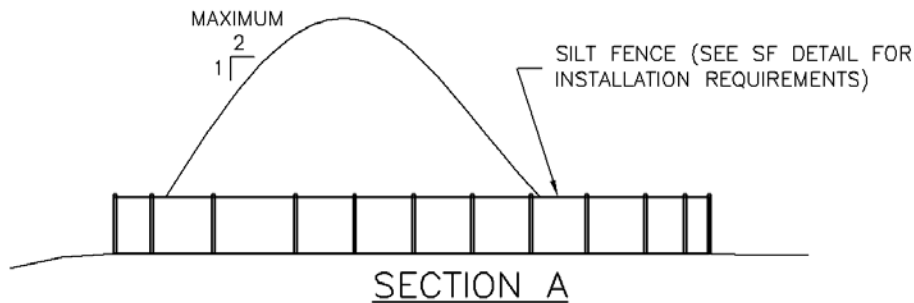
(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD).

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.





## STOCKPILE PROTECTION PLAN



## 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 SEEDING 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.

STOCKPILE PROTECTION 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.

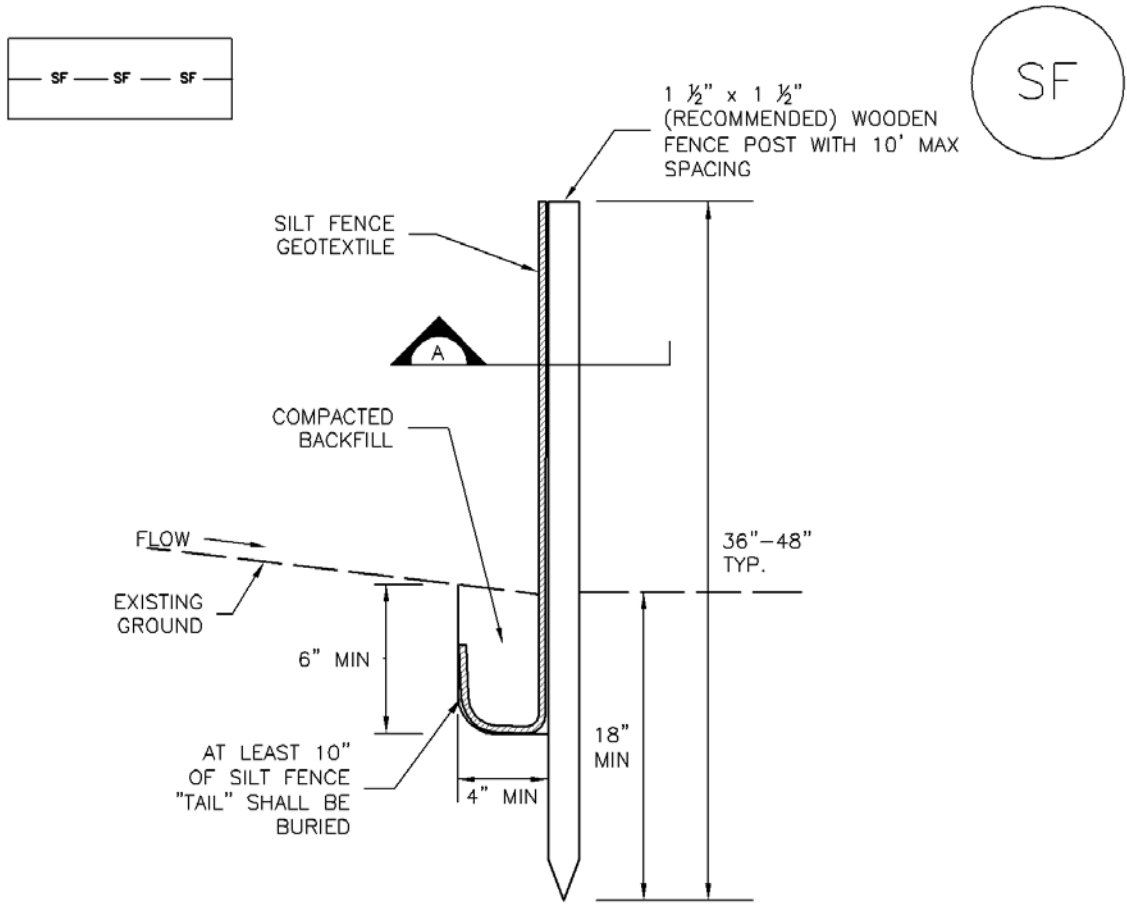
STOCKPILE PROTECTION MAINTENANCE NOTES

4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

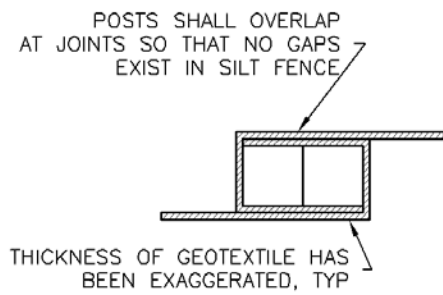
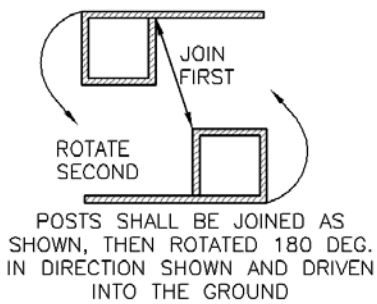
5. STOCKPILE PERIMETER CONTROLS CAN BE REMOVED ONCE ALL THE MATERIAL FROM THE STOCKPILE HAS BEEN USED.

(DETAILS ADAPTED FROM PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



SILT FENCE



SECTION A

SF-1. SILT FENCE

SILT FENCE INSTALLATION NOTES

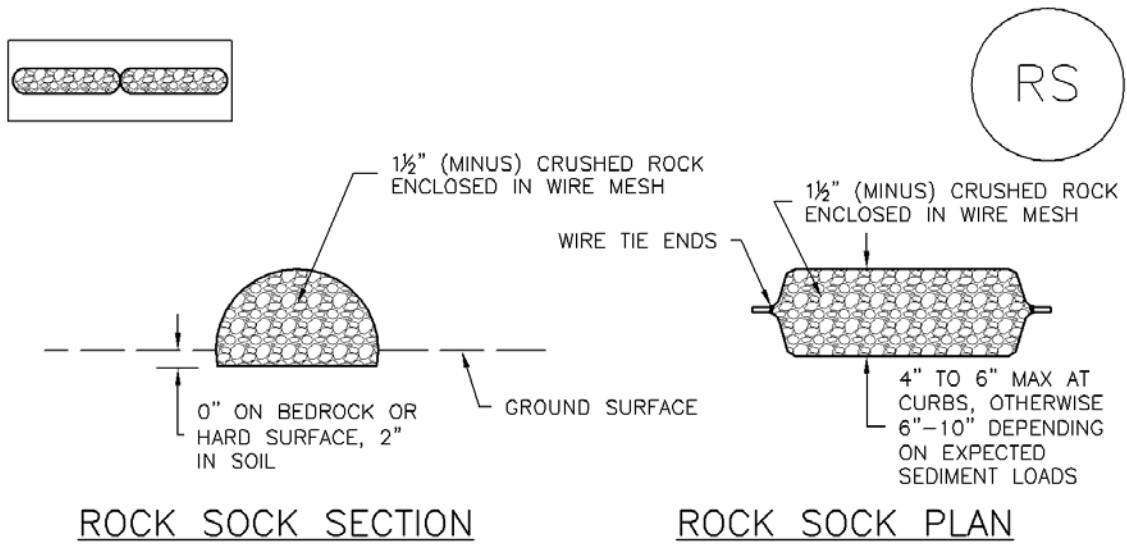
1. SILT FENCE MUST BE PLACED AWAY FROM THE TOE OF THE SLOPE TO ALLOW FOR WATER PONDING. SILT FENCE AT THE TOE OF A SLOPE SHOULD BE INSTALLED IN A FLAT LOCATION AT LEAST SEVERAL FEET (2-5 FT) FROM THE TOE OF THE SLOPE TO ALLOW ROOM FOR PONDING AND DEPOSITION.
2. A UNIFORM 6" X 4" ANCHOR TRENCH SHALL BE EXCAVATED USING TRENCHER OR SILT FENCE INSTALLATION DEVICE. NO ROAD GRADERS, BACKHOES, OR SIMILAR EQUIPMENT SHALL BE USED.
3. COMPACT ANCHOR TRENCH BY HAND WITH A "JUMPING JACK" OR BY WHEEL ROLLING. COMPACTION SHALL BE SUCH THAT SILT FENCE RESISTS BEING PULLED OUT OF ANCHOR TRENCH BY HAND.
4. SILT FENCE SHALL BE PULLED TIGHT AS IT IS ANCHORED TO THE STAKES. THERE SHOULD BE NO NOTICEABLE SAG BETWEEN STAKES AFTER IT HAS BEEN ANCHORED TO THE STAKES.
5. SILT FENCE FABRIC SHALL BE ANCHORED TO THE STAKES USING 1" HEAVY DUTY STAPLES OR NAILS WITH 1" HEADS. STAPLES AND NAILS SHOULD BE PLACED 3" ALONG THE FABRIC DOWN THE STAKE.
6. AT THE END OF A RUN OF SILT FENCE ALONG A CONTOUR, THE SILT FENCE SHOULD BE TURNED PERPENDICULAR TO THE CONTOUR TO CREATE A "J-HOOK." THE "J-HOOK" EXTENDING PERPENDICULAR TO THE CONTOUR SHOULD BE OF SUFFICIENT LENGTH TO KEEP RUNOFF FROM FLOWING AROUND THE END OF THE SILT FENCE (TYPICALLY 10' - 20').
7. SILT FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.

SILT FENCE 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. SEDIMENT ACCUMULATED UPSTREAM OF THE SILT FENCE SHALL BE REMOVED AS NEEDED TO MAINTAIN THE FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY 6".
5. REPAIR OR REPLACE SILT FENCE WHEN THERE ARE SIGNS OF WEAR, SUCH AS SAGGING, TEARING, OR COLLAPSE.
6. SILT FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION, OR IS REPLACED BY AN EQUIVALENT PERIMETER SEDIMENT CONTROL BMP.
7. WHEN SILT FENCE IS REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

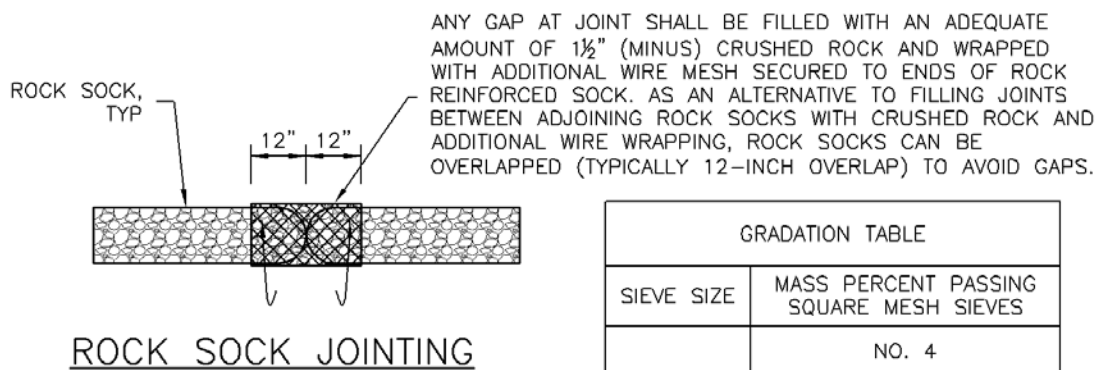
(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



ROCK SOCK SECTION

ROCK SOCK PLAN



ROCK SOCK JOINTING

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

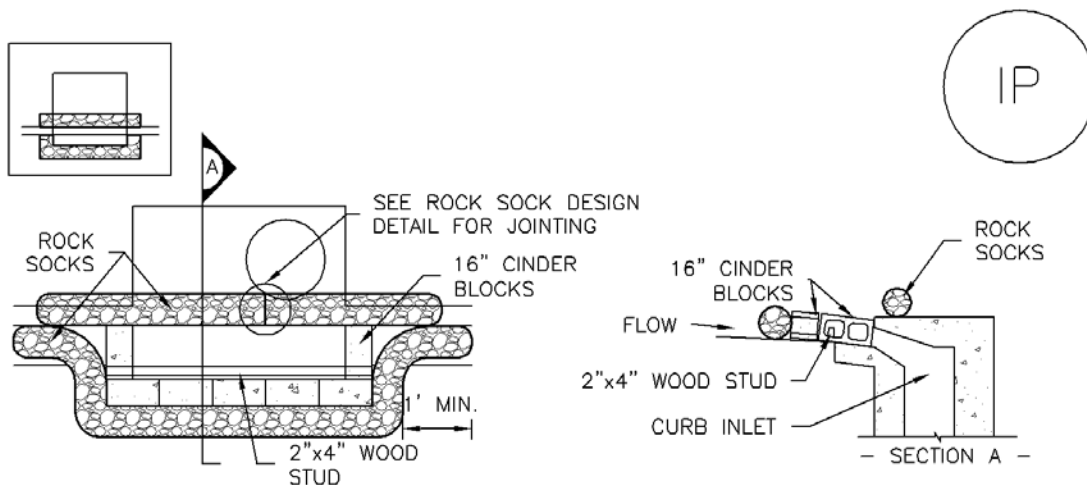
## ROCK SOCK MAINTENANCE NOTES

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 SOCKS SHALL BE REPLACED IF THEY BECOME HEAVILY SOILED, OR DAMAGED BEYOND REPAIR.
5. SEDIMENT ACCUMULATED UPSTREAM OF ROCK SOCKS SHALL BE REMOVED AS NEEDED TO MAINTAIN FUNCTIONALITY OF THE BMP, TYPICALLY WHEN DEPTH OF ACCUMULATED SEDIMENTS IS APPROXIMATELY  $\frac{1}{2}$  OF THE HEIGHT OF THE ROCK SOCK.
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
7. WHEN ROCK SOCKS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

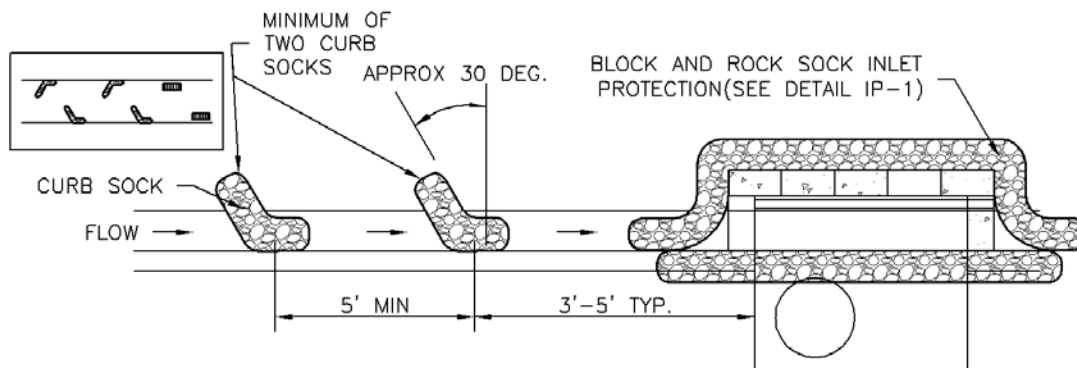
NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF ROCK SOCK INSTALLATION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY OTHER SIMILAR PROPRIETARY PRODUCTS ON THE MARKET. UDFCD NEITHER NDORSES NOR DISCOURAGES USE OF PROPRIETARY PROTECTION PRODUCTS; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.



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

**BLOCK AND CURB SOCK INLET PROTECTION INSTALLATION NOTES**

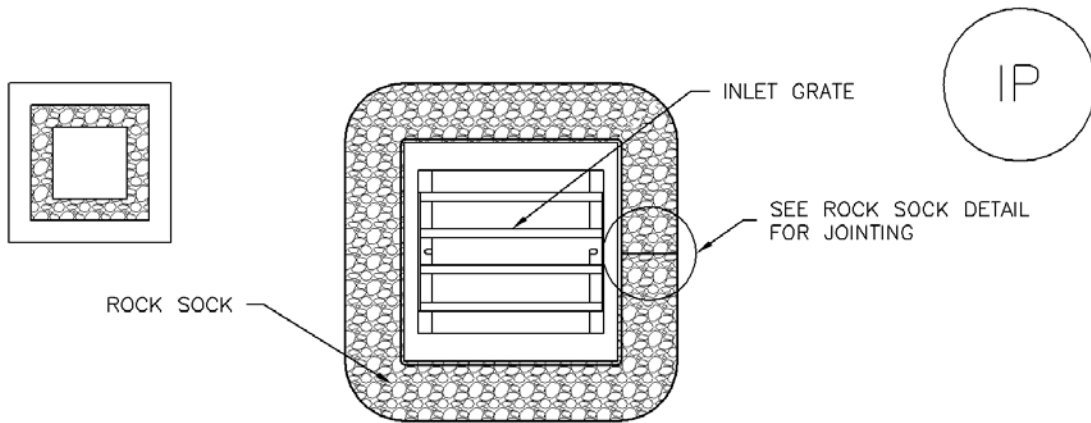
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. CONCRETE "CINDER" BLOCKS SHALL BE LAID ON THEIR SIDES AROUND THE INLET IN A SINGLE ROW, ABUTTING ONE ANOTHER WITH THE OPEN END FACING AWAY FROM THE CURB.
3. GRAVEL BAGS SHALL BE PLACED AROUND CONCRETE BLOCKS, CLOSELY ABUTTING ONE ANOTHER 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**

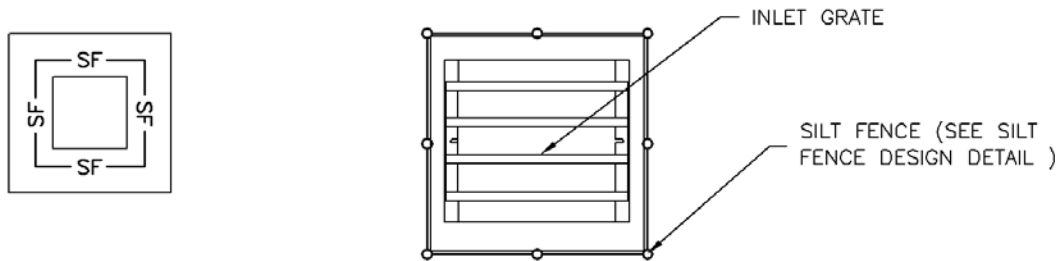
1. SEE ROCK SOCK DESIGN DETAIL INSTALLATION REQUIREMENTS.
2. PLACEMENT OF THE SOCK SHALL BE APPROXIMATELY 30 DEGREES FROM PERPENDICULAR IN THE OPPOSITE DIRECTION OF FLOW.
3. SOCKS ARE TO BE FLUSH WITH THE CURB AND SPACED A MINIMUM OF 5 FEET APART.
4. AT LEAST TWO CURB SOCKS IN SERIES ARE REQUIRED UPSTREAM OF ON-GRADE INLETS.



## IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION

### ROCK SOCK SUMP/AREA INLET PROTECTION INSTALLATION NOTES

1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF ROCK SOCKS FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



## IP-4. SILT FENCE FOR SUMP INLET PROTECTION

### SILT FENCE INLET PROTECTION INSTALLATION NOTES

1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. POSTS SHALL BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.
3. STRAW WATTLES/SEDIMENT CONTROL LOGS MAY BE USED IN PLACE OF SILT FENCE FOR INLETS IN PERVIOUS AREAS. INSTALL PER SEDIMENT CONTROL LOG DETAIL.



GENERAL INLET PROTECTION INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
  - LOCATION OF INLET PROTECTION.
  - TYPE OF INLET PROTECTION (IP.1, IP.2, IP.3, IP.4, IP.5, IP.6)
2. INLET PROTECTION SHALL BE INSTALLED PROMPTLY AFTER INLET CONSTRUCTION OR PAVING IS COMPLETE (TYPICALLY WITHIN 48 HOURS). IF A RAINFALL/RUNOFF EVENT IS FORECAST, INSTALL INLET PROTECTION PRIOR TO ONSET OF EVENT.
3. MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

INLET PROTECTION MAINTENANCE NOTES

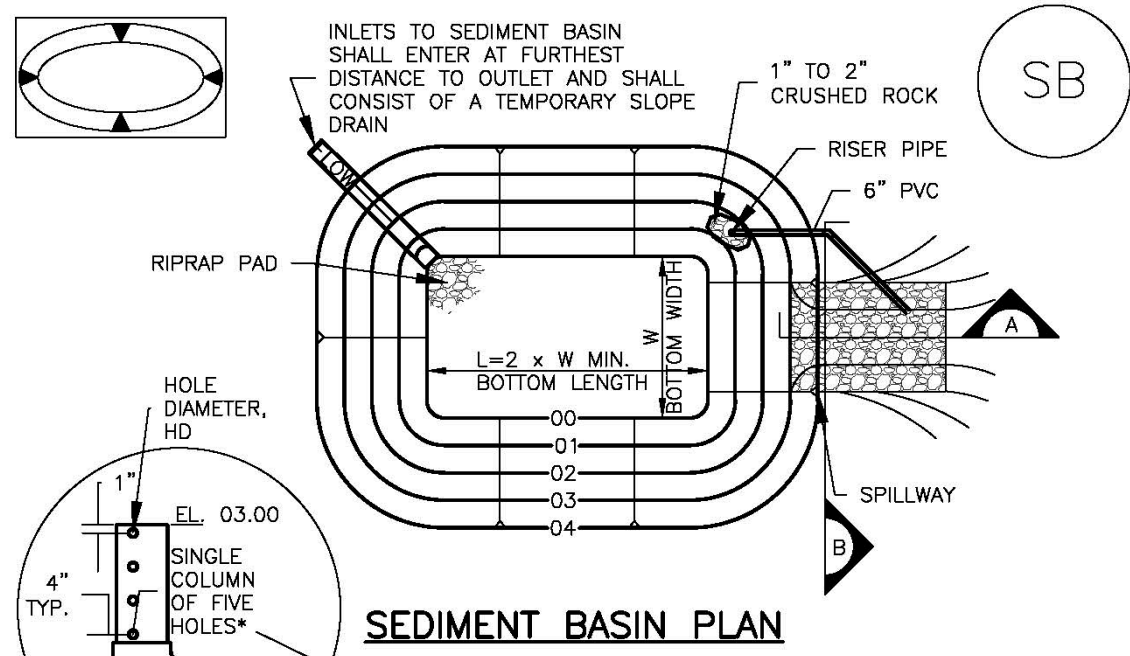
1. INSPECT BMPs EACH WORKDAY, AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION. MAINTENANCE OF BMPs SHOULD BE PROACTIVE, NOT REACTIVE. INSPECT BMPs AS SOON AS POSSIBLE (AND ALWAYS WITHIN 24 HOURS) FOLLOWING A STORM THAT CAUSES SURFACE EROSION, AND PERFORM NECESSARY MAINTENANCE.
2. FREQUENT OBSERVATIONS 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. SEDIMENT ACCUMULATED UPSTREAM OF INLET PROTECTION SHALL BE REMOVED AS NECESSARY TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN STORAGE VOLUME REACHES 50% OF CAPACITY, A DEPTH OF 6" WHEN SILT FENCE IS USED, OR ¼ OF THE HEIGHT FOR STRAW BALES.
5. INLET PROTECTION IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS PERMANENTLY STABILIZED, UNLESS THE LOCAL JURISDICTION APPROVES EARLIER REMOVAL OF INLET PROTECTION IN STREETS.
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO AND CITY OF AURORA, COLORADO, NOT AVAILABLE IN AUTOCAD)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

NOTE: THE DETAILS INCLUDED WITH THIS FACT SHEET SHOW COMMONLY USED, CONVENTIONAL METHODS OF INLET PROTECTION IN THE DENVER METROPOLITAN AREA. THERE ARE MANY PROPRIETARY INLET PROTECTION METHODS ON THE MARKET. UDFCD NEITHER ENDORSES NOR DISCOURAGES USE OF PROPRIETARY INLET PROTECTION; HOWEVER, IN THE EVENT PROPRIETARY METHODS ARE USED, THE APPROPRIATE DETAIL FROM THE MANUFACTURER MUST BE INCLUDED IN THE SWMP AND THE BMP MUST BE INSTALLED AND MAINTAINED AS SHOWN IN THE MANUFACTURER'S DETAILS.

NOTE: SOME MUNICIPALITIES DISCOURAGE OR PROHIBIT THE USE OF STRAW BALES FOR INLET PROTECTION. CHECK WITH LOCAL JURISDICTION TO DETERMINE IF STRAW BALE INLET PROTECTION IS ACCEPTABLE.



\*EXCEPT WHERE THE HOLES EXCEED 1" DIAMETER, THEN UP TO TWO COLUMNS OF SAME SIZED HOLES MAY BE USED

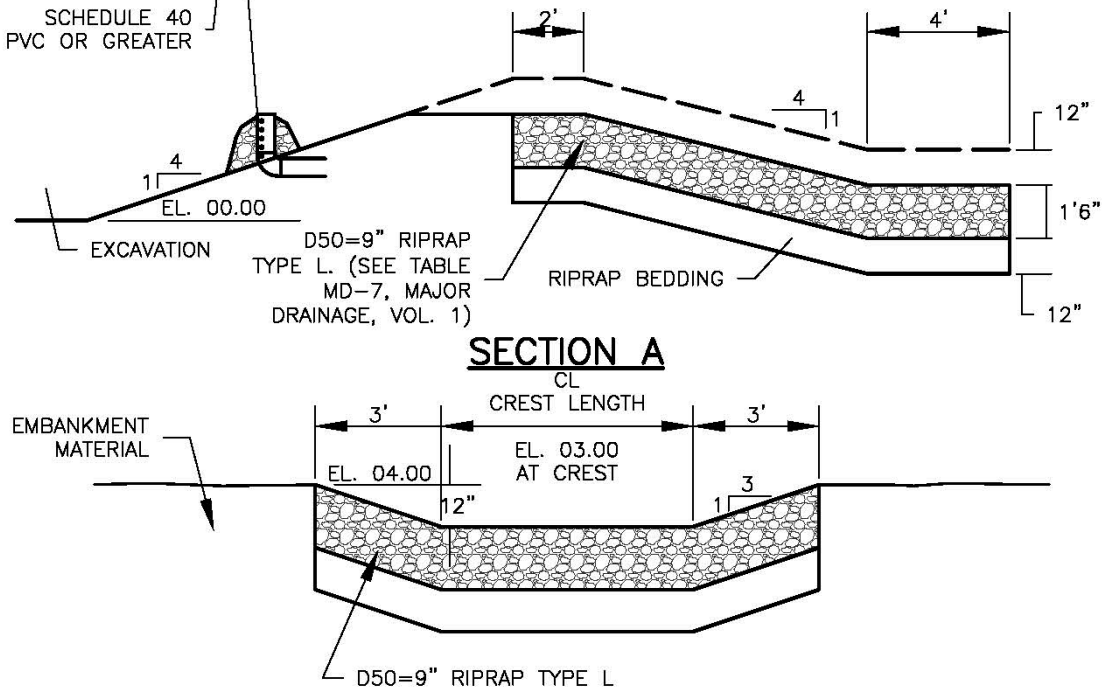


TABLE SB-1. SIZING INFORMATION FOR STANDARD SEDIMENT BASIN			
Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 1/2	2	9/32
2	21	3	13/16
3	28	5	1/2
4	33 1/2	6	9/16
5	38 1/2	8	2 1/32
6	43	9	2 1/32
7	47 1/4	11	2 5/32
8	51	12	2 7/32
9	55	13	7/8
10	58 1/4	15	1 5/16
11	61	16	3 1/32
12	64	18	1
13	67 1/2	19	1 1/16
14	70 1/2	21	1 1/8
15	73 1/4	22	1 3/16

SEDIMENT BASIN INSTALLATION NOTES

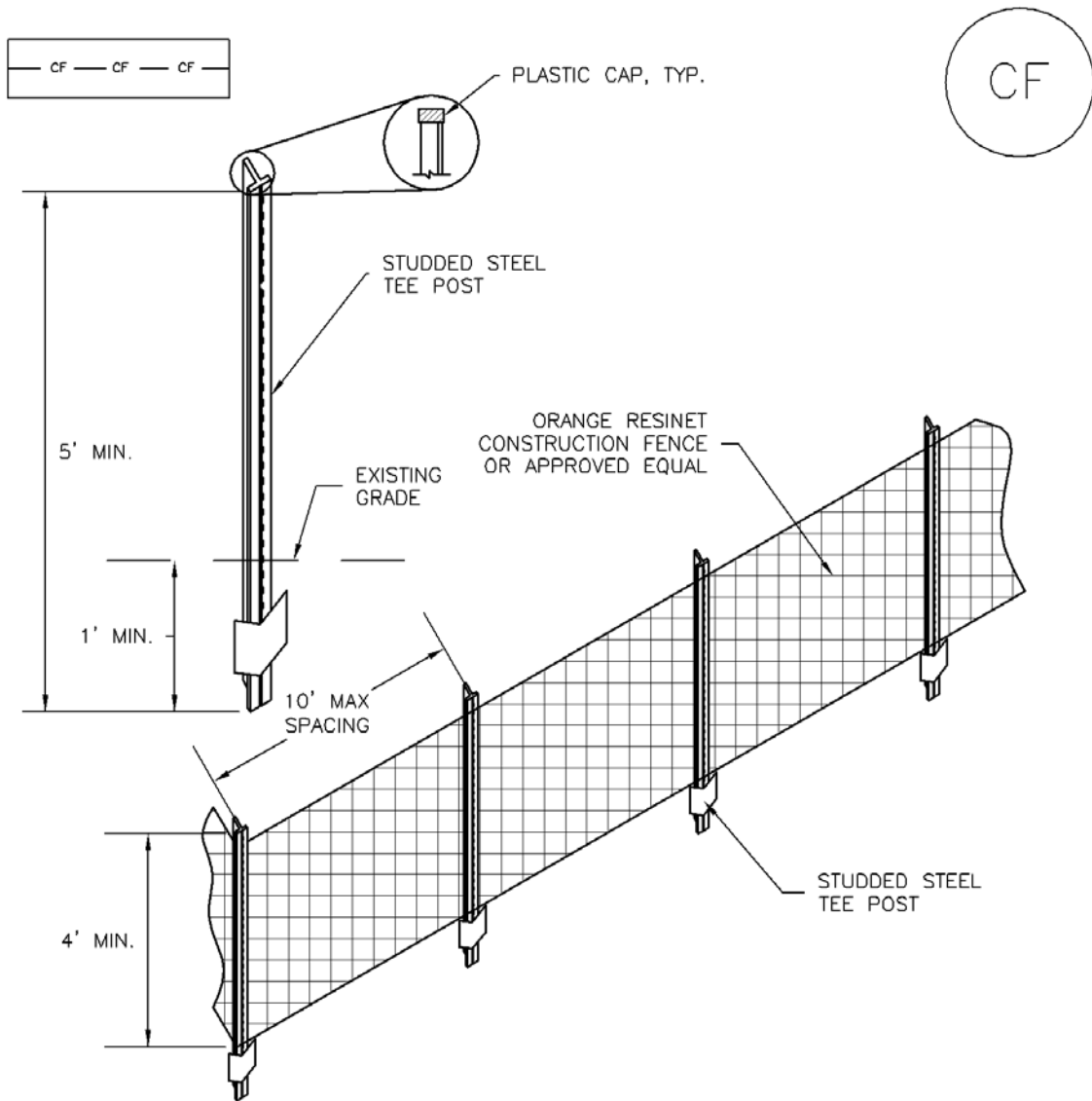
1. SEE PLAN VIEW FOR:
  - LOCATION OF SEDIMENT BASIN.
  - TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
  - FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
  - FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.
2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.
3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND-DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL.
4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.
5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.
6. PIPE SCH 40 OR GREATER SHALL BE USED.
7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

## SEDIMENT BASIN 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. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).
5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.
6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

(DETAILS ADAPTED FROM DOUGLAS COUNTY, COLORADO)

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

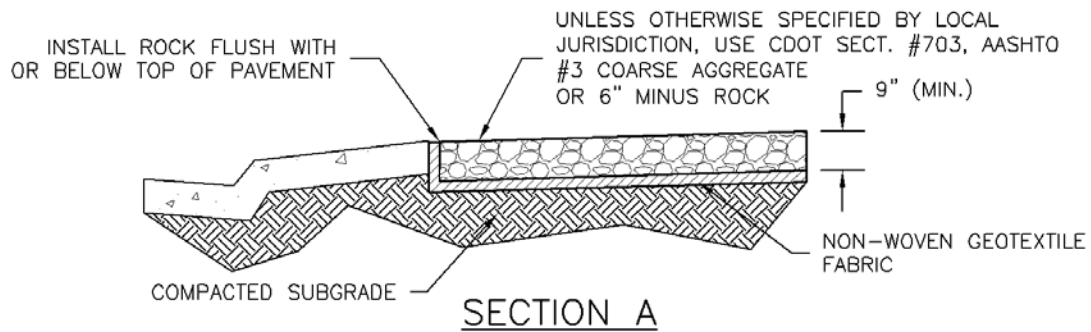
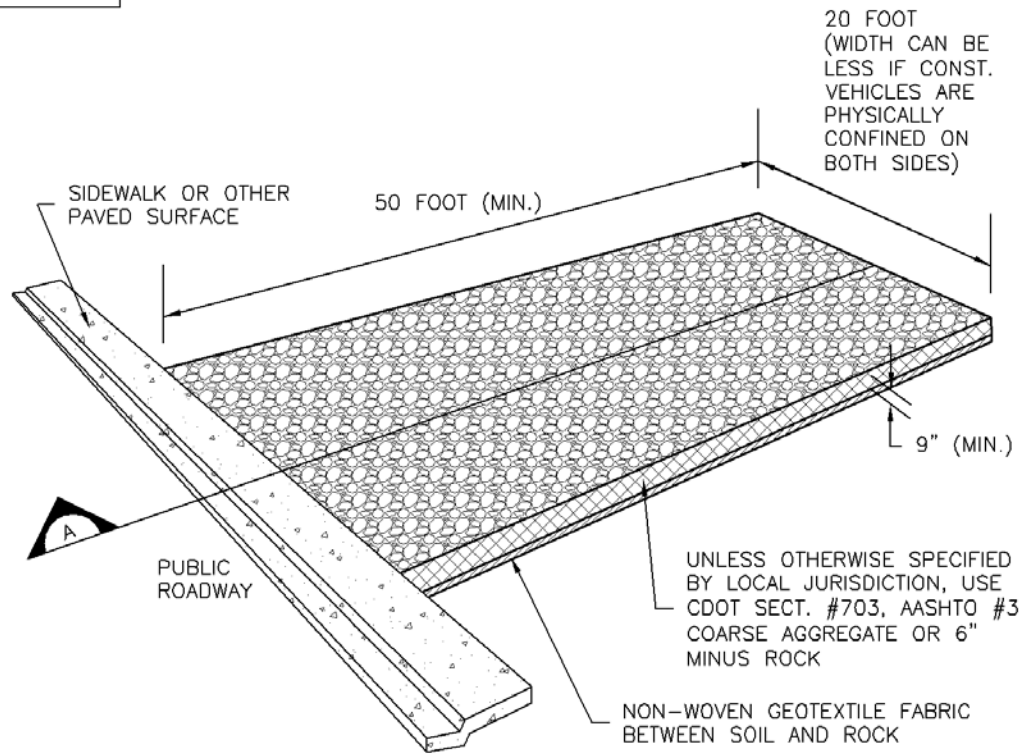
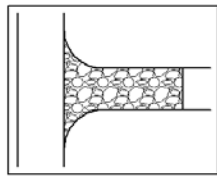
1. SEE PLAN VIEW FOR:  
-LOCATION OF CONSTRUCTION FENCE.
2. CONSTRUCTION FENCE SHOWN SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
3. CONSTRUCTION FENCE SHALL BE COMPOSED OF ORANGE, CONTRACTOR-GRADE MATERIAL THAT IS AT LEAST 4' HIGH. METAL POSTS SHOULD HAVE A PLASTIC CAP FOR SAFETY.
4. STUDED 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.

## CONSTRUCTION FENCE 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. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.
5. WHEN CONSTRUCTION FENCES ARE REMOVED, ALL DISTURBED AREAS ASSOCIATED WITH THE INSTALLATION, MAINTENANCE, AND/OR REMOVAL OF THE FENCE SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAIL ADAPTED FROM TOWN OF PARKER, COLORADO, NOT AVAILABLE IN AUTOCAD)



## VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

STABILIZED CONSTRUCTION ENTRANCE/EXIT INSTALLATION NOTES

1. SEE PLAN VIEW FOR
  - LOCATION OF CONSTRUCTION ENTRANCE(S)/EXIT(S).
  - TYPE OF CONSTRUCTION ENTRANCE(S)/EXITS(S) (WITH/WITHOUT WHEEL WASH, CONSTRUCTION MAT OR TRM).
2. CONSTRUCTION MAT OR TRM STABILIZED CONSTRUCTION ENTRANCES ARE ONLY TO BE USED ON SHORT DURATION PROJECTS (TYPICALLY RANGING FROM A WEEK TO A MONTH) WHERE THERE WILL BE LIMITED VEHICULAR ACCESS.
3. A STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE LOCATED AT ALL ACCESS POINTS WHERE VEHICLES ACCESS THE CONSTRUCTION SITE FROM PAVED RIGHT-OF-WAYS.
4. STABILIZED CONSTRUCTION ENTRANCE/EXIT SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
5. A NON-WOVEN GEOTEXTILE FABRIC SHALL BE PLACED UNDER THE STABILIZED CONSTRUCTION ENTRANCE/EXIT PRIOR TO THE PLACEMENT OF ROCK.
6. UNLESS OTHERWISE SPECIFIED BY LOCAL JURISDICTION, ROCK SHALL CONSIST OF DOT SECT. #703, AASHTO #3 COARSE AGGREGATE OR 6" (MINUS) ROCK.

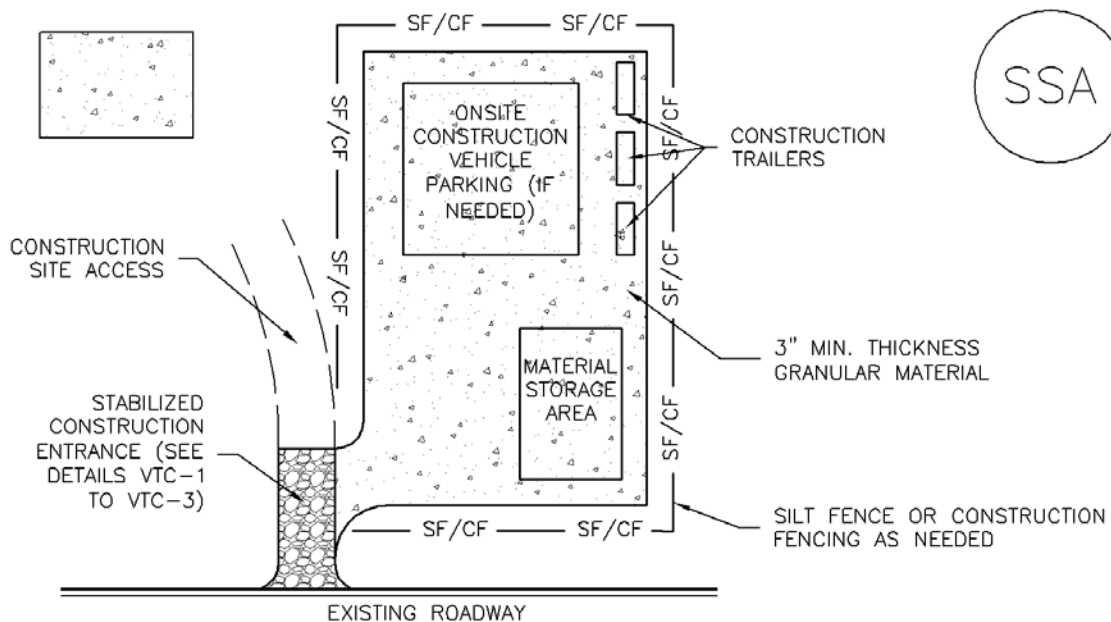
STABILIZED CONSTRUCTION ENTRANCE/EXIT MAINTENANCE NOTES

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 TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.
5. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED THROUGHOUT THE DAY AND AT THE END OF THE DAY BY SHOVELING OR SWEEPING. SEDIMENT MAY NOT BE WASHED DOWN STORM SEWER DRAINS.

NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

(DETAILS ADAPTED FROM CITY OF BROOMFIELD, COLORADO, NOT AVAILABLE IN AUTOCAD)





## 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.

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. THE GRANULAR MATERIAL SHALL BE REMOVED OR, IF APPROVED BY THE LOCAL JURISDICTION, USED ON SITE, AND THE AREA COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

NOTE: MANY MUNICIPALITIES PROHIBIT THE USE OF RECYCLED CONCRETE AS GRANULAR MATERIAL FOR STABILIZED STAGING AREAS DUE TO DIFFICULTIES WITH RE-ESTABLISHMENT OF VEGETATION IN AREAS WHERE RECYCLED CONCRETE WAS PLACED.

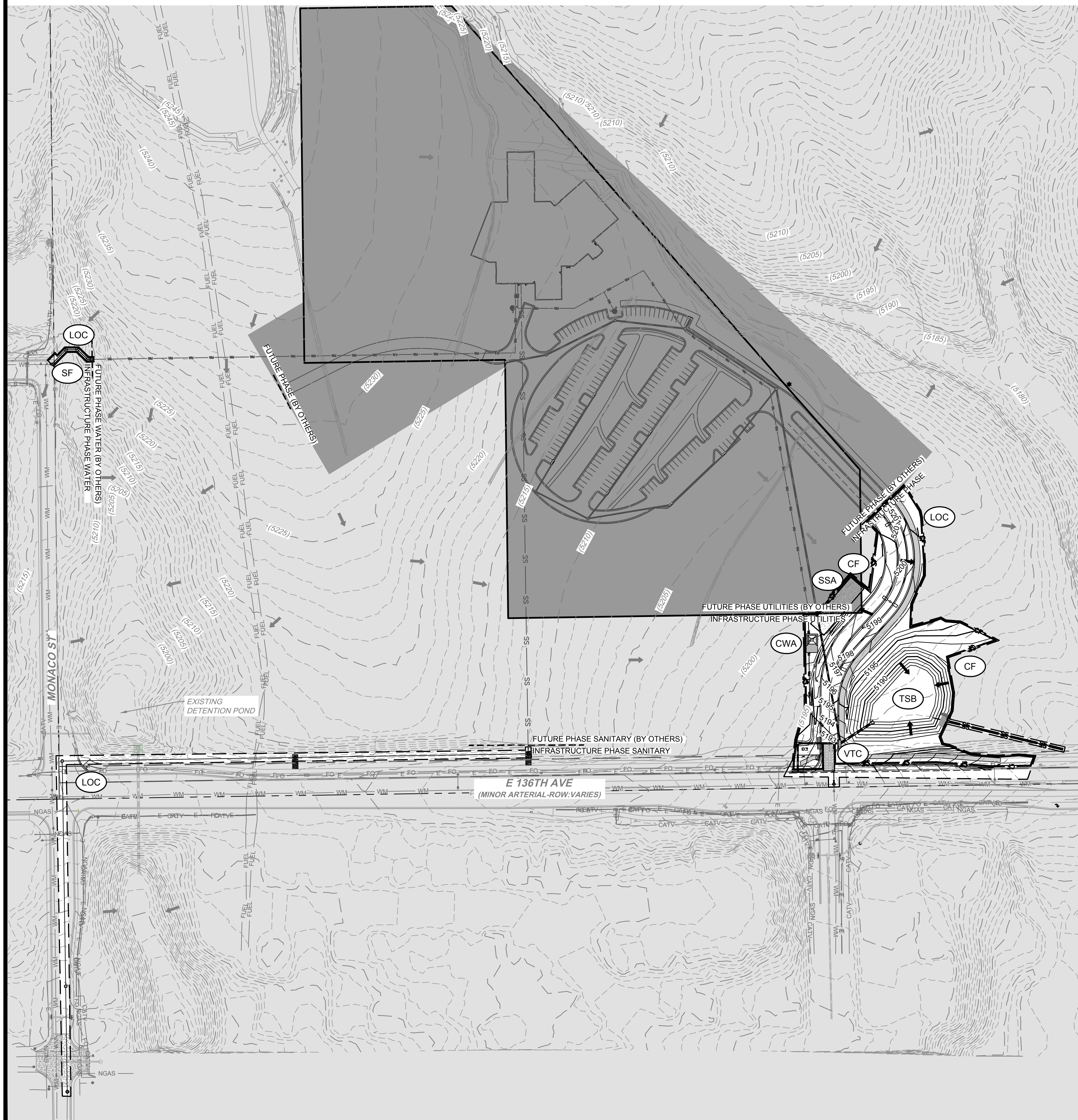
NOTE: MANY JURISDICTIONS HAVE BMP DETAILS THAT VARY FROM UDFCD STANDARD DETAILS. CONSULT WITH LOCAL JURISDICTIONS AS TO WHICH DETAIL SHOULD BE USED WHEN DIFFERENCES ARE NOTED.

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

## **APPENDIX 5: Erosion & Sediment Control Plan (ESC Plan) – Site Map**

ESC Plan includes, at a minimum, the following:

1. Construction site boundaries;
2. Flow arrows that depict stormwater flow directions on-site and runoff direction;
3. Areas of ground disturbance including areas of borrow and fill;
4. Areas used for storage of soil;
5. Locations of all waste accumulation areas, including areas for liquid, concrete, masonry, and asphalt;
6. Locations of dedicated asphalt, concrete batch plants and masonry mixing stations;
7. Locations of all structural control measures;
8. Locations of all non-structural control measures;
9. Locations of springs, streams, wetlands and other state waters, including areas that require pre-existing vegetation be maintained within 50 ft of a receiving water; and
10. Locations of all stream crossings located within the construction site boundary.

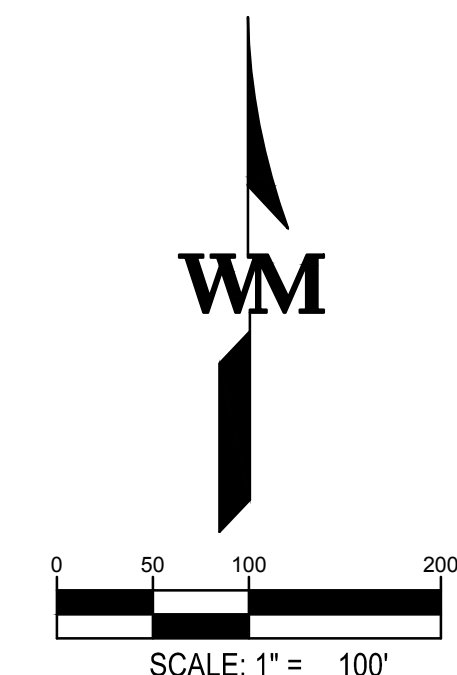


**EROSION CONTROL BMP LEGEND**

LOC	LIMITS OF CONSTRUCTION	---
CF	CONSTRUCTION FENCE	CF
CWA	CONCRETE WASHOUT AREA	[Symbol]
ECB	EROSION CONTROL BLANKET	[Symbol]
IP	INLET PROTECTION	[Symbol]
OP	OUTLET PROTECTION	[Symbol]
RS	ROCK/CURB SOCK	[Symbol]
SF	SILT FENCE	SF
SSA	STABILIZED STAGING AREA	[Symbol]
VTC	VEHICLE TRACKING CONTROL	[Symbol]
PS/M	PERMANENT SEEDING / MULCHING (PER LANDSCAPE PLAN)	[Symbol]
GS	GRASS SWALE	[Symbol]
TSB	TEMPORARY SEDIMENT BASIN	[Symbol]

**EROSION CONTROL NOTES**

1. CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
2. REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
3. ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
4. AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
5. REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

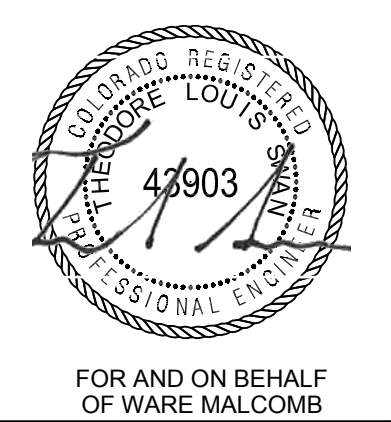


CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



**ANYTHINK AYLOR LIBRARY  
INFRASTRUCTURE PHASE  
CONSTRUCTION DOCUMENTS**

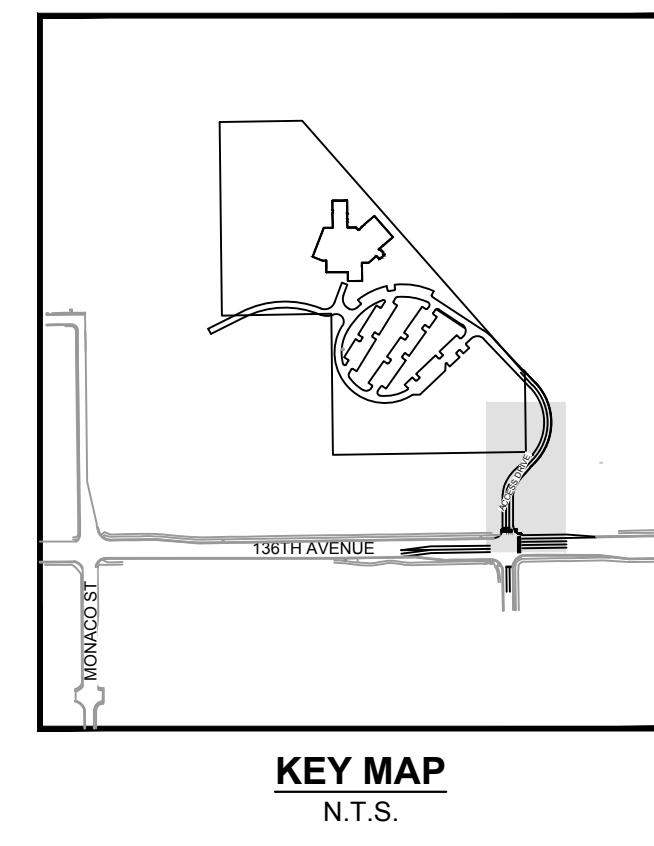
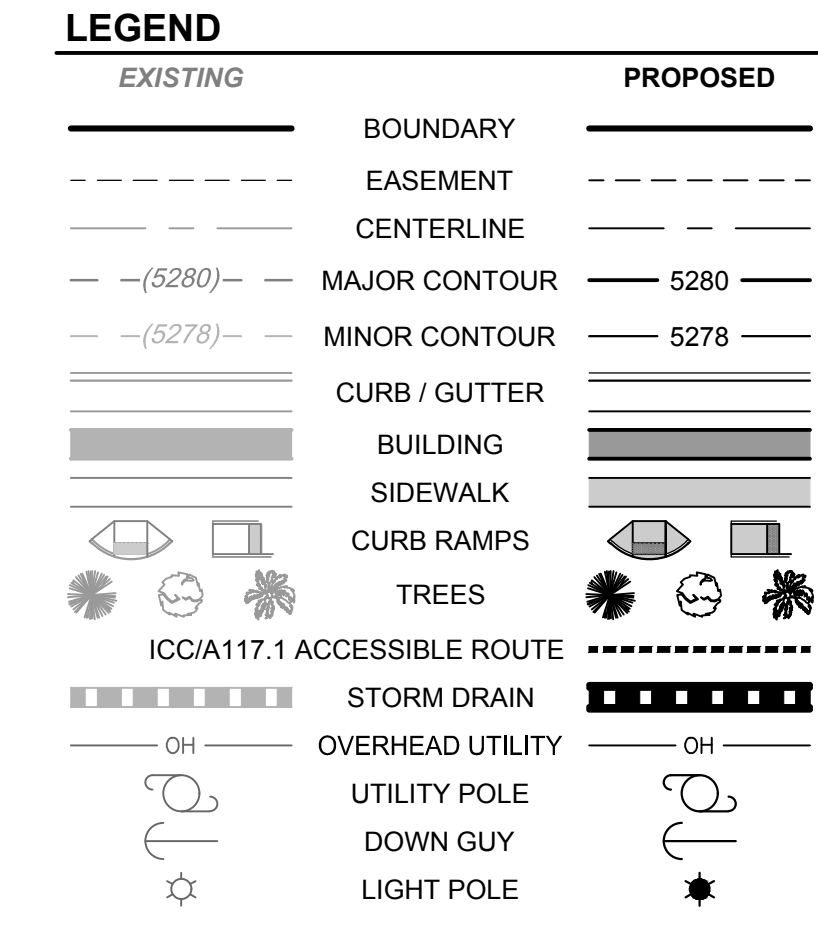
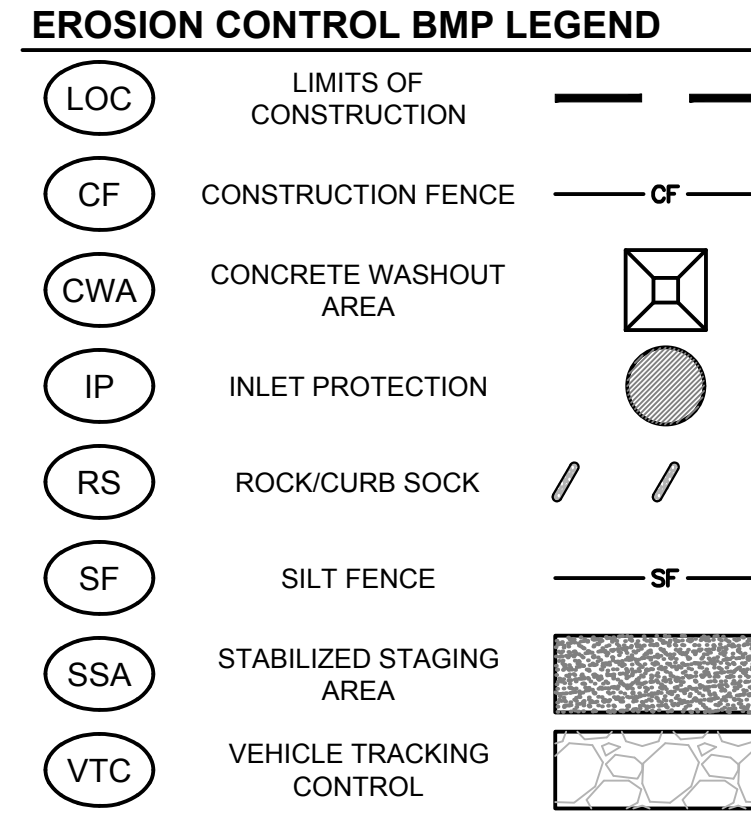
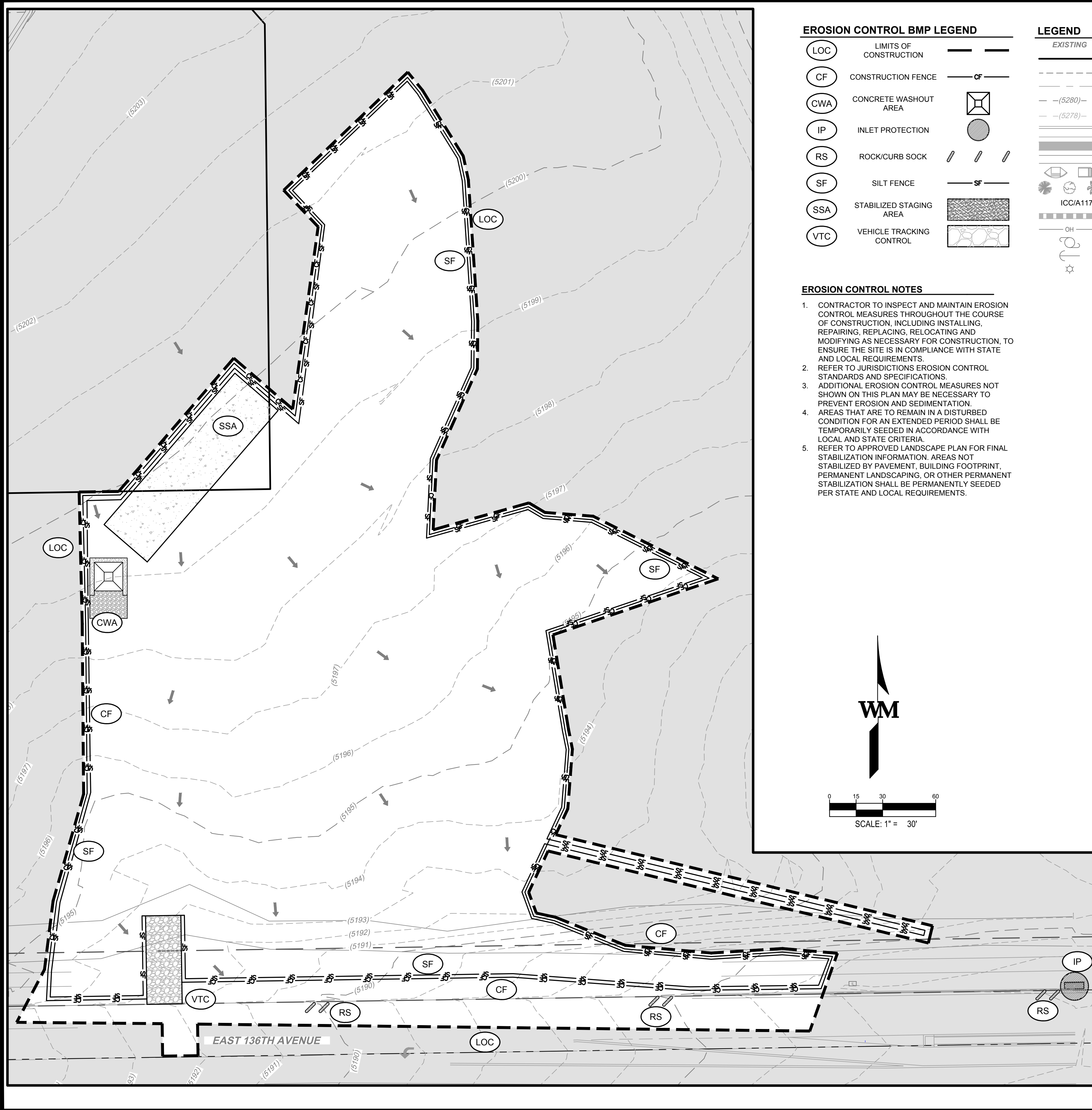
NO	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/18/2023	100% CD SUBMITTAL

JOB NO.:	DCS22-4022
PA / PM:	J. MANN
DRAWN BY:	I. CRAWFORD
DATE:	6/13/2023

SHEET  
**C4.0**  
Sheet 5 of 40

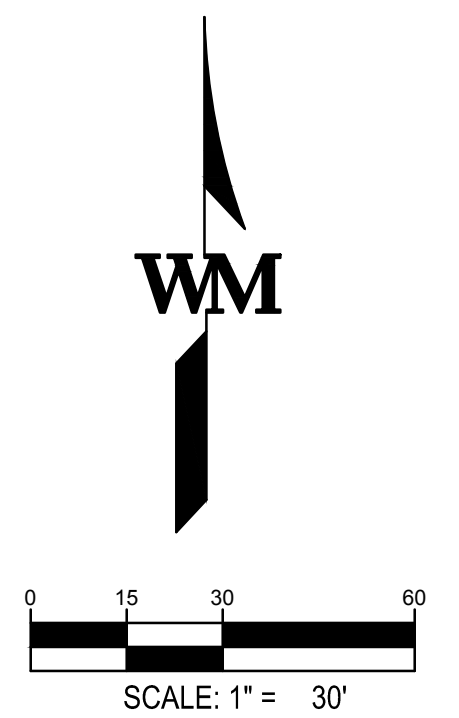
THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

NOT FOR CONSTRUCTION



- ### EROSION CONTROL NOTES
- CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
  - REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
  - ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
  - AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
  - REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

- ### CITY OF THORNTON NOTES
- CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
  - THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
  - STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD.
  - CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
  - SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
  - BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4 OR STATE WATERS.
  - A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
  - THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
  - THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
  - THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
  - CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
  - SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
  - FOR ALL INSTANCES OF NONCOMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES. 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).
  - CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
  - INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
  - CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
  - ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
  - A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
  - FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
  - ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
  - WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
  - PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
  - FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
  - ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
  - ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE MS4 OR STATE WATERS.
  - STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
 suite 320  
 denver, co 80209  
 p 303.561.3333  
 waremalcomb.com



ANYTHING AYLOR LIBRARY  
 INFRASTRUCTURE PHASE  
 CONSTRUCTION DOCUMENTS

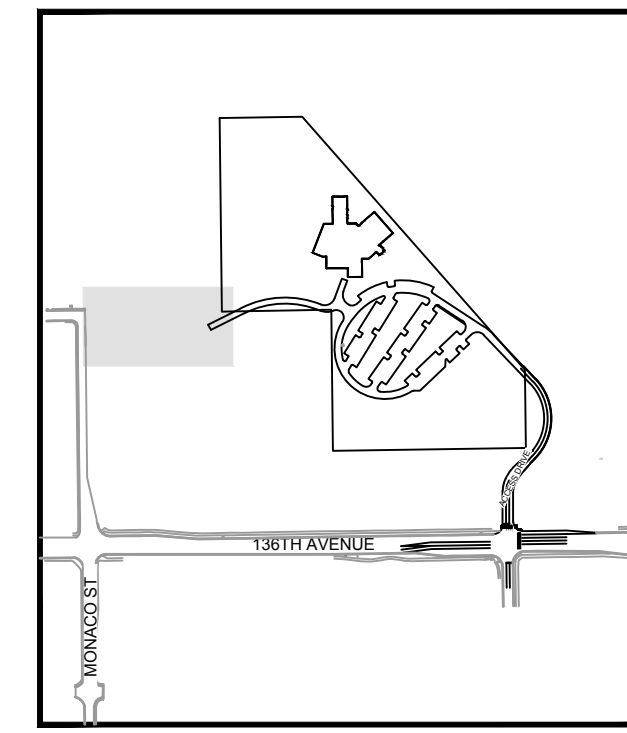
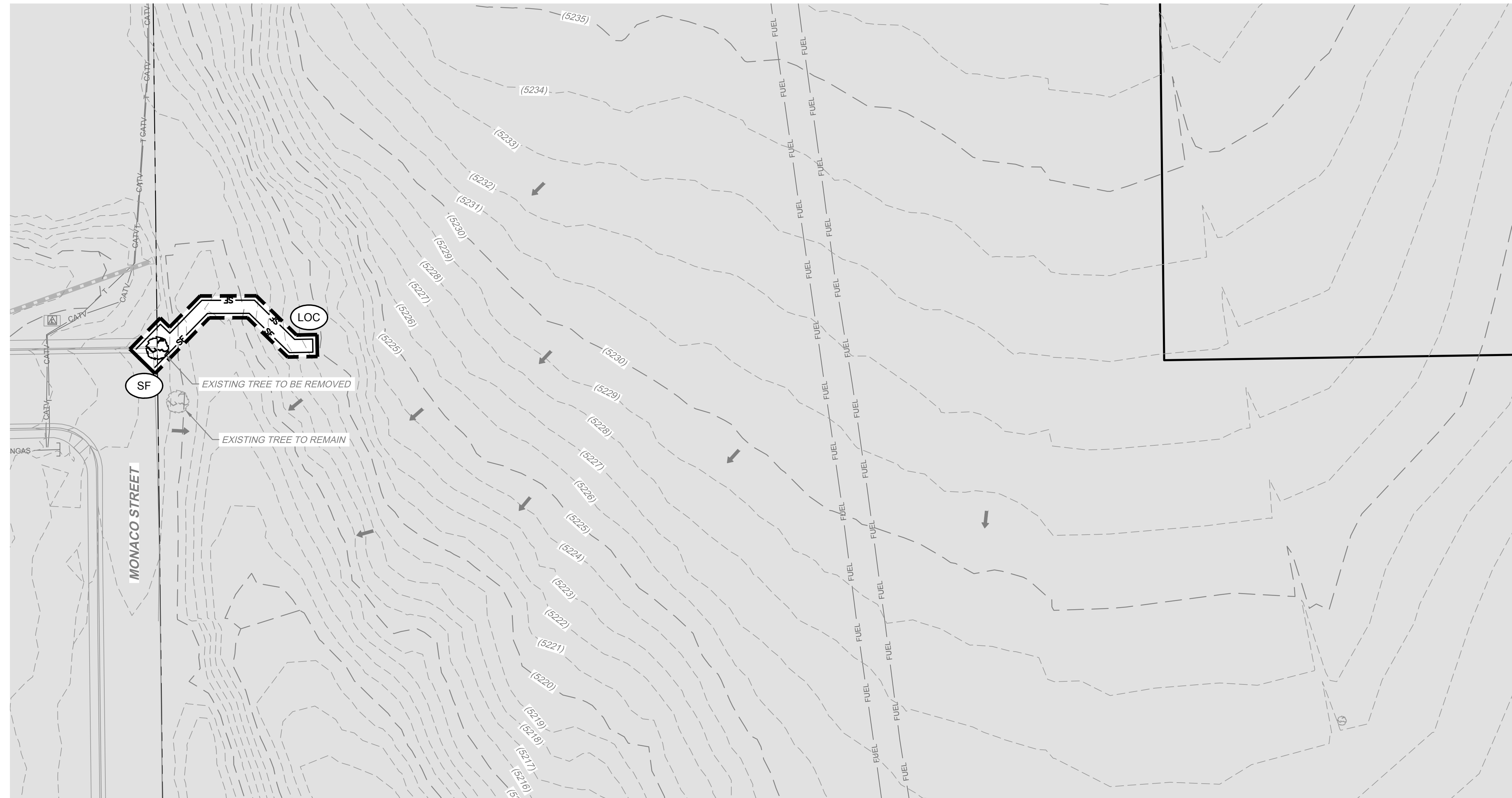
### INITIAL EROSION CONTROL PLAN

NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/16/2023	100% CD SUBMITTAL

JOB NO.: DCS22-4022  
 PA / PM: J. MANN  
 DRAWN BY: I. CRAWFORD  
 DATE: 6/13/2023

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

NOT FOR CONSTRUCTION



KEY MAP  
N.T.S.

**EROSION CONTROL BMP LEGEND**

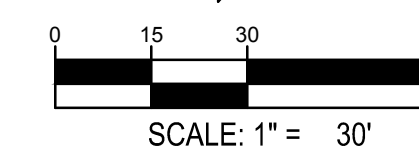
(LOC)	LIMITS OF CONSTRUCTION	—
(CF)	CONSTRUCTION FENCE	— CF —
(CWA)	CONCRETE WASHOUT AREA	□
(IP)	INLET PROTECTION	●
(RS)	ROCK/CURB SOCK	///
(SF)	SILT FENCE	— SF —
(SSA)	STABILIZED STAGING AREA	▨
(VTC)	VEHICLE TRACKING CONTROL	⊞

**CITY OF THORNTON NOTES**

- CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
- THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
- STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD.
- CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
- SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
- BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4 OR STATE WATERS.
- A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
- THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
- THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
- THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
- CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
- SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
- FOR ALL INSTANCES OF NON-COMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES.
- 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).
- CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
- INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
- CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
- ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
- A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
- FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
- ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
- WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
- PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
- FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
- ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
- ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE MS4 OR STATE WATERS.
- STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

**EROSION CONTROL NOTES**

- CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
- ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
- REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



ANYTHINK AYLOR LIBRARY  
INFRASTRUCTURE PHASE  
CONSTRUCTION DOCUMENTS

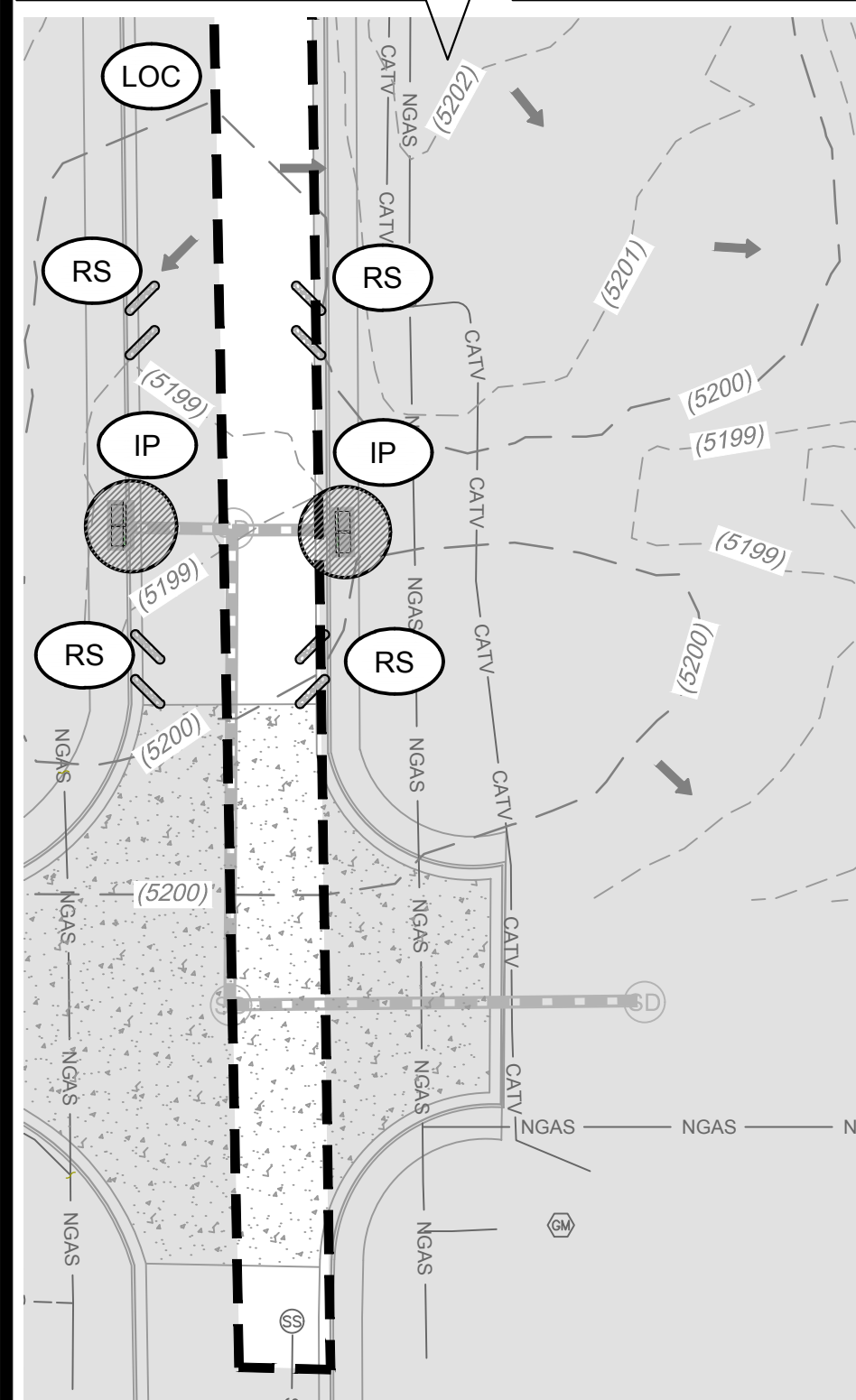
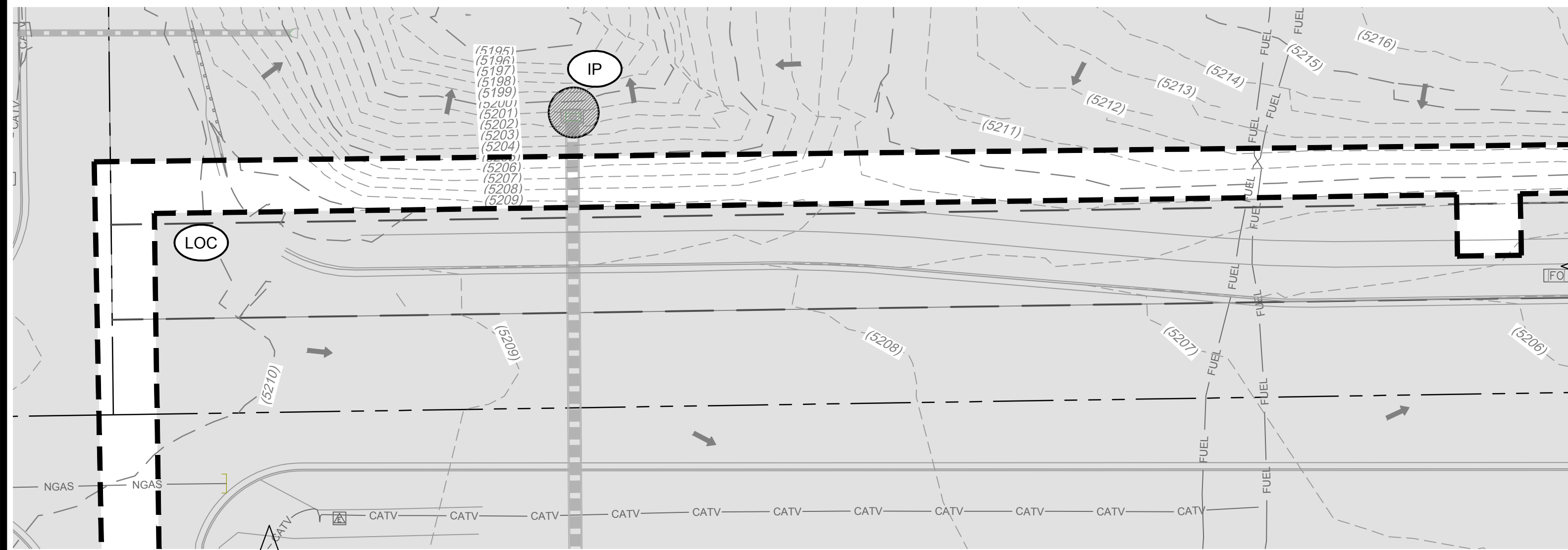
NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/19/2022	90% CD SUBMITTAL
3	04/19/2023	95% CD SUBMITTAL
4	06/16/2023	100% CD SUBMITTAL

JOB NO.:	DCS22-4022
PA / PM:	J. MANN
DRAWN BY:	I. CRAWFORD
DATE:	6/13/2023

SHEET  
**C4.2**  
Sheet 7 of 40

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

NOT FOR CONSTRUCTION

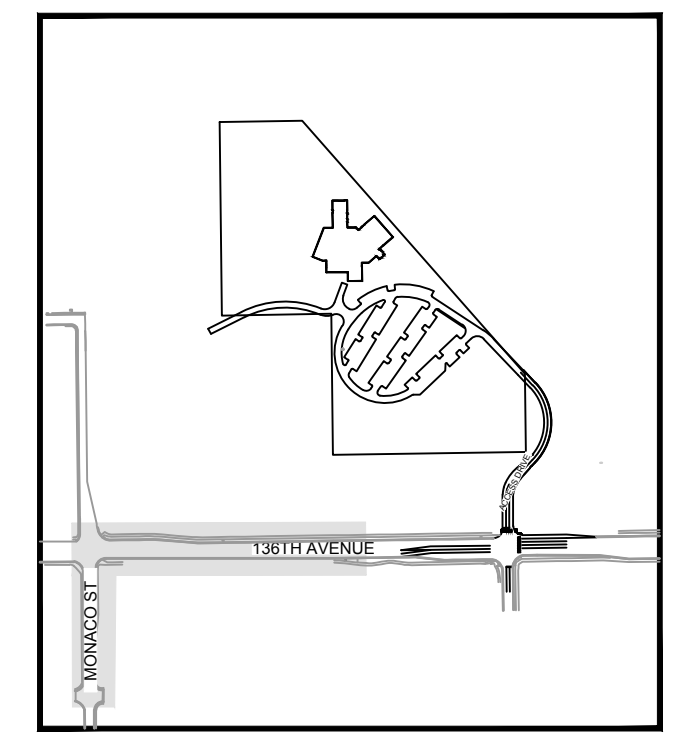


**CITY OF THORNTON NOTES**

- CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE. THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
- STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD. CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
- SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
- BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE M4 OR STATE WATERS.
- A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
- THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
- THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
- THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
- CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
- SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
- FOR ALL INSTANCES OF NONCOMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES.
- 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).
- CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
- INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
- CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
- ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
- A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
- FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
- ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
- WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
- PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
- FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
- ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
- ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE M4 OR STATE WATERS.
- STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

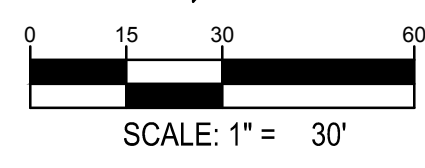
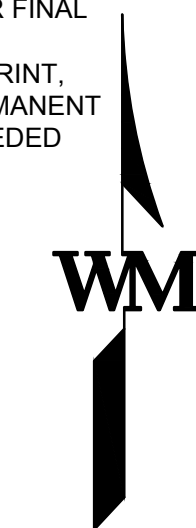
**EROSION CONTROL BMP LEGEND**

- LOC LIMITS OF CONSTRUCTION
- CF CONSTRUCTION FENCE
- CWA CONCRETE WASHOUT AREA
- IP INLET PROTECTION
- RS ROCK/CURB SOCK
- SF SILT FENCE
- SSA STABILIZED STAGING AREA
- VTC VEHICLE TRACKING CONTROL



**EROSION CONTROL NOTES**

- CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
- ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
- REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



ANYTHING AYLOR LIBRARY  
INFRASTRUCTURE PHASE  
CONSTRUCTION DOCUMENTS

NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/16/2023	100% CD SUBMITTAL

JOB NO.: DCS22-4022  
PA / PM: J. MANN  
DRAWN BY: I. CRAWFORD  
DATE: 6/13/2023

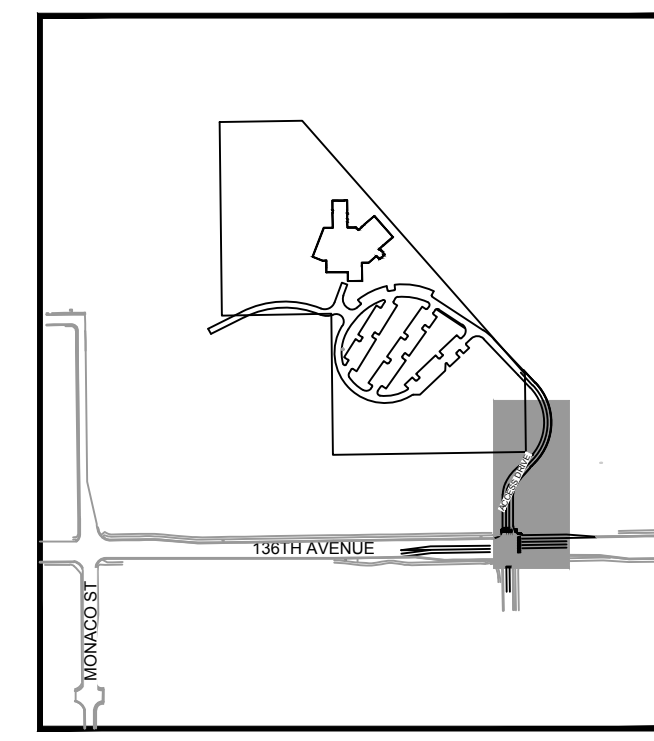
SHEET  
**C4.3**  
Sheet 8 of 40

THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

NOT FOR CONSTRUCTION

**EROSION CONTROL BMP LEGEND**

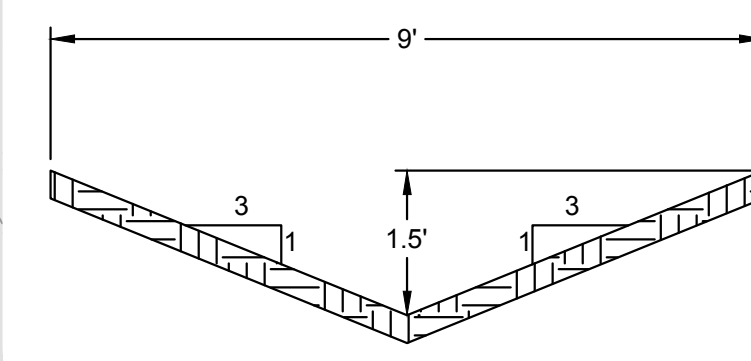
- (LOC) LIMITS OF CONSTRUCTION
- (CF) CONSTRUCTION FENCE
- (CWA) CONCRETE WASHOUT AREA
- (ECB) EROSION CONTROL BLANKET
- (IP) INLET PROTECTION
- (OP) OUTLET PROTECTION
- (RS) ROCK/CURB SOCK
- (SF) SILT FENCE
- (SSA) STABILIZED STAGING AREA
- (VTC) VEHICLE TRACKING CONTROL
- (GS) GRASS SWALE
- (TSB) TEMPORARY SEDIMENT BASIN



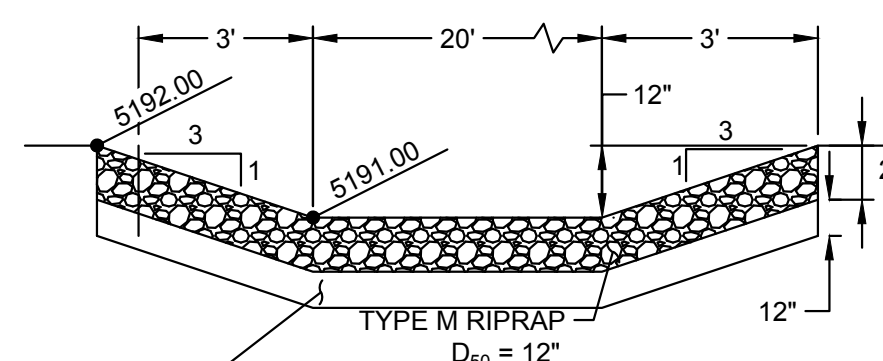
**KEY MAP**  
N.T.S.

**EROSION CONTROL NOTES**

- CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS
- ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
- REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

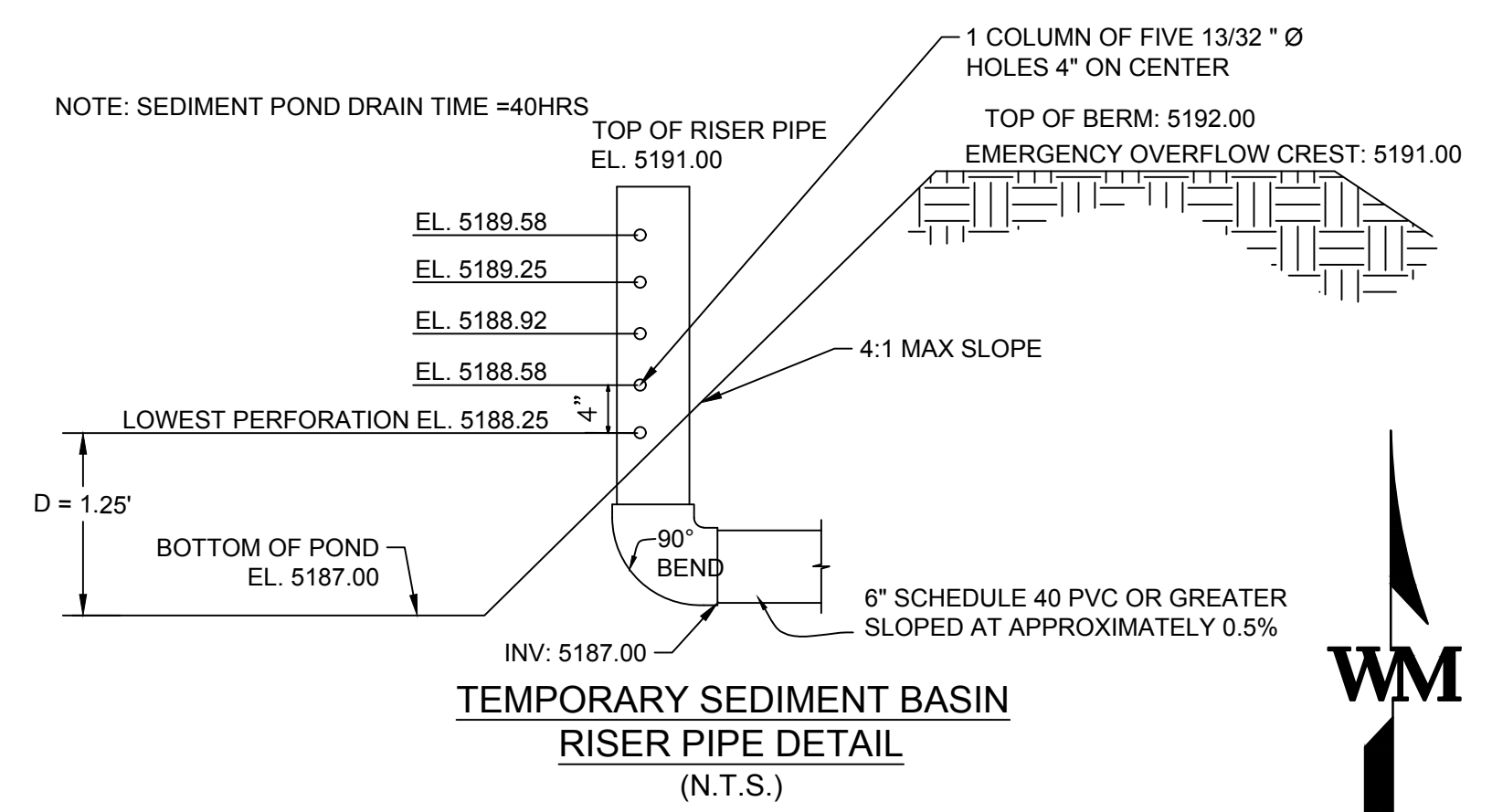


**GRASS SWALE SECTION A-A**

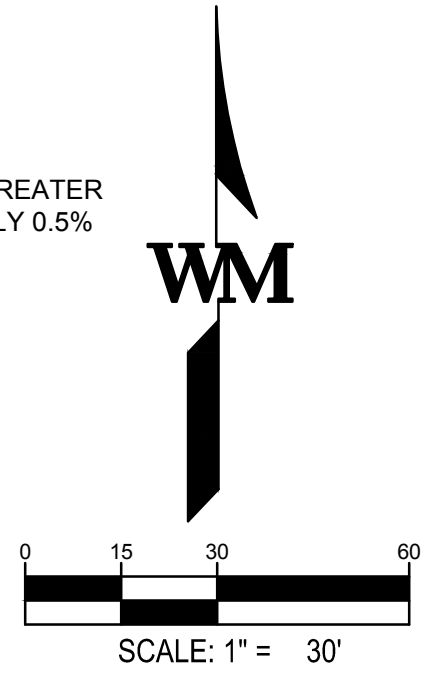


**RIPRAP BEDDING PROPOSED EMERGENCY OVERFLOW SECTION B-B**

NOTE: SEDIMENT POND DRAIN TIME = 40HRS

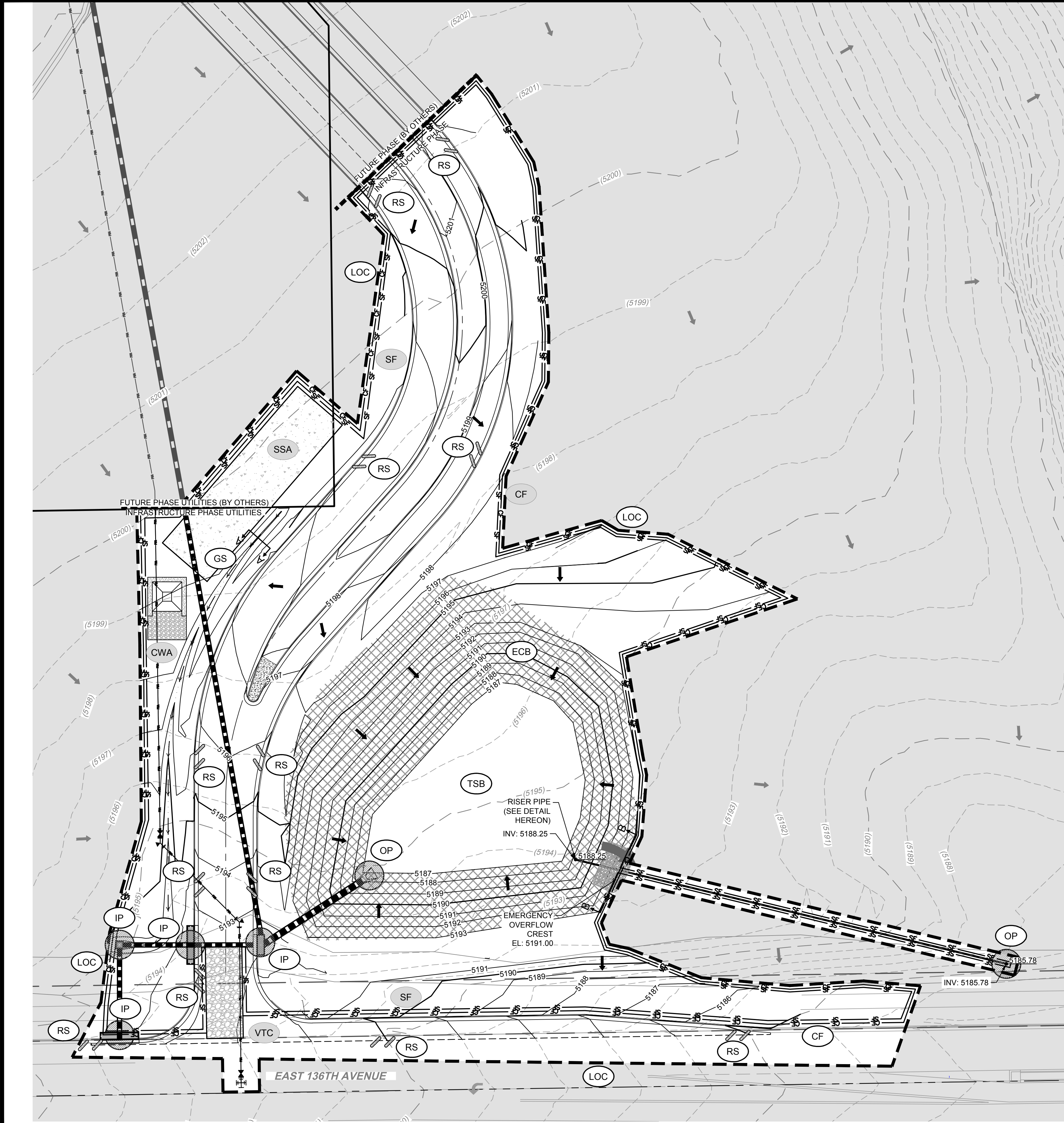


**TEMPORARY SEDIMENT BASIN RISER PIPE DETAIL (N.T.S.)**



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.



**WARE MALCOMB**  
900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



FOR AND ON BEHALF OF WARE MALCOMB

**ANYTHINK AYLOR LIBRARY**  
**INFRASTRUCTURE PHASE**  
CONSTRUCTION DOCUMENTS

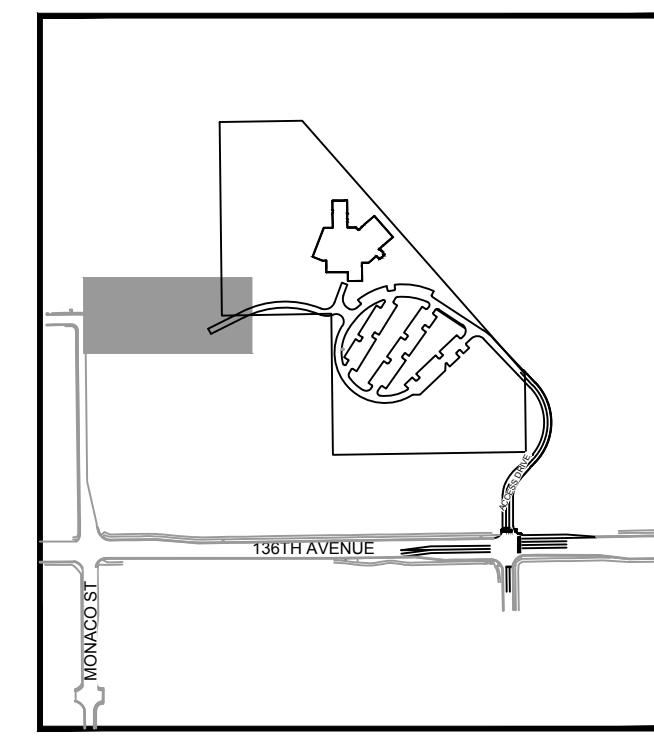
NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/18/2023	100% CD SUBMITTAL

JOB NO.: DCS22-4022  
PA / PM: J. MANN  
DRAWN BY: I. CRAWFORD  
DATE: 6/13/2023

SHEET  
**C4.4**  
Sheet 9 of 40

NOT FOR CONSTRUCTION





**EROSION CONTROL BMP LEGEND**

(LOC)	LIMITS OF CONSTRUCTION	---
(CF)	CONSTRUCTION FENCE	CF
(CWA)	CONCRETE WASHOUT AREA	[Symbol]
(ECB)	EROSION CONTROL BLANKET	[Symbol]
(IP)	INLET PROTECTION	[Symbol]
(OP)	OUTLET PROTECTION	[Symbol]
(RS)	ROCK/CURB SOCK	[Symbol]
(SF)	SILT FENCE	SF
(SSA)	STABILIZED STAGING AREA	[Symbol]
(VTC)	VEHICLE TRACKING CONTROL	[Symbol]
(GS)	GRASS SWALE	[Symbol]
(TSB)	TEMPORARY SEDIMENT BASIN	[Symbol]

**CITY OF THORNTON NOTES**

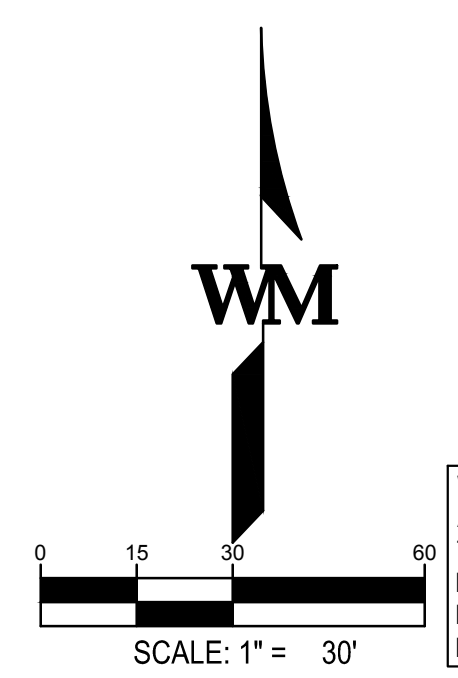
- CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
- THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
- STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD.
- CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
- SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
- BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4 OR STATE WATERS.
- A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
- THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
- THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
- THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
- CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
- SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
- FOR ALL INSTANCES OF NONCOMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES.
- 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).
- CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
- INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
- CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
- ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
- A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
- FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
- ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
- WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
- PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
- FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
- ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
- ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE MS4 OR STATE WATERS.
- STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

**LEGEND**

EXISTING		PROPOSED
---	BOUNDARY	---
---	EASEMENT	---
---	CENTERLINE	---
-(5280)-	MAJOR CONTOUR	5280
-(5278)-	MINOR CONTOUR	5278
[Symbol]	CURB / GUTTER	[Symbol]
[Symbol]	BUILDING	[Symbol]
[Symbol]	SIDEWALK	[Symbol]
[Symbol]	CURB RAMPS	[Symbol]
[Symbol]	TREES	[Symbol]
[Symbol]	ICC/A117.1 ACCESSIBLE ROUTE	[Symbol]
[Symbol]	STORM DRAIN	[Symbol]
[Symbol]	OVERHEAD UTILITY	[Symbol]
[Symbol]	UTILITY POLE	[Symbol]
[Symbol]	DOWN GUY	[Symbol]
[Symbol]	LIGHT POLE	[Symbol]

**EROSION CONTROL NOTES**

- CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
- ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
- REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

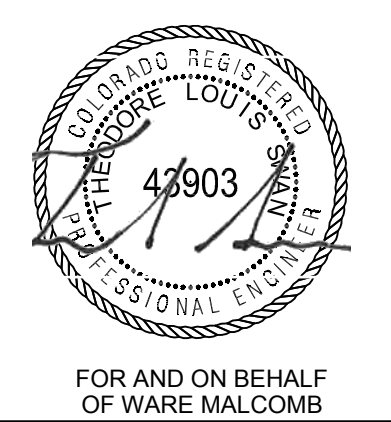


CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



ANYTHINK AYLOE LIBRARY  
INFRASTRUCTURE PHASE  
CONSTRUCTION DOCUMENTS

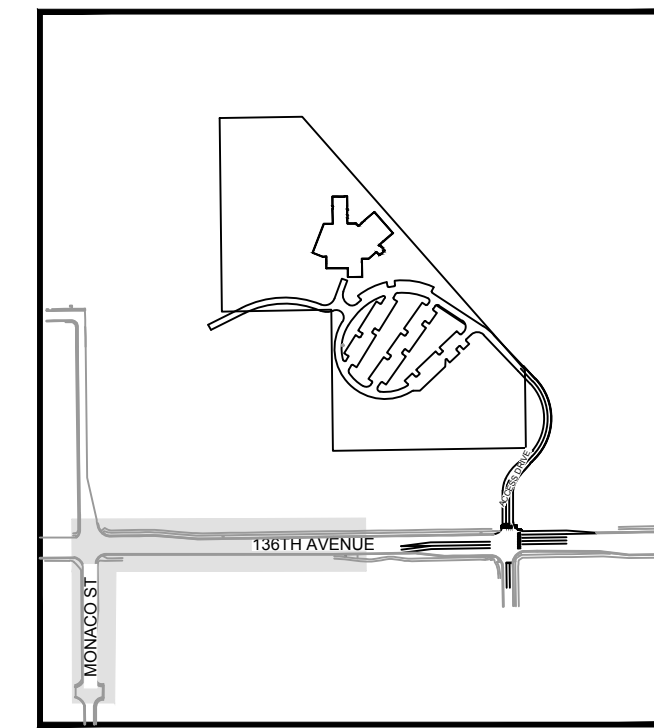
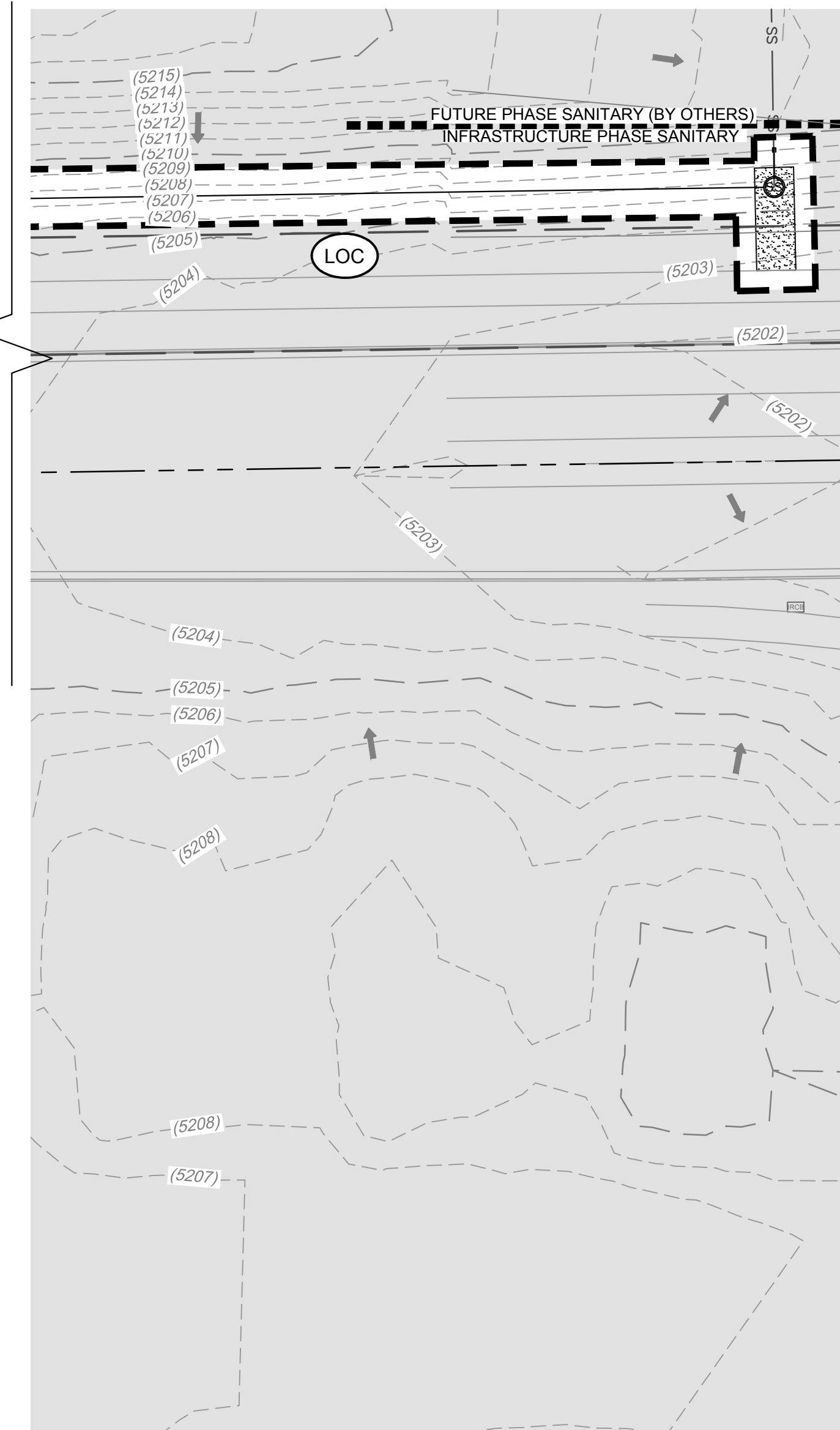
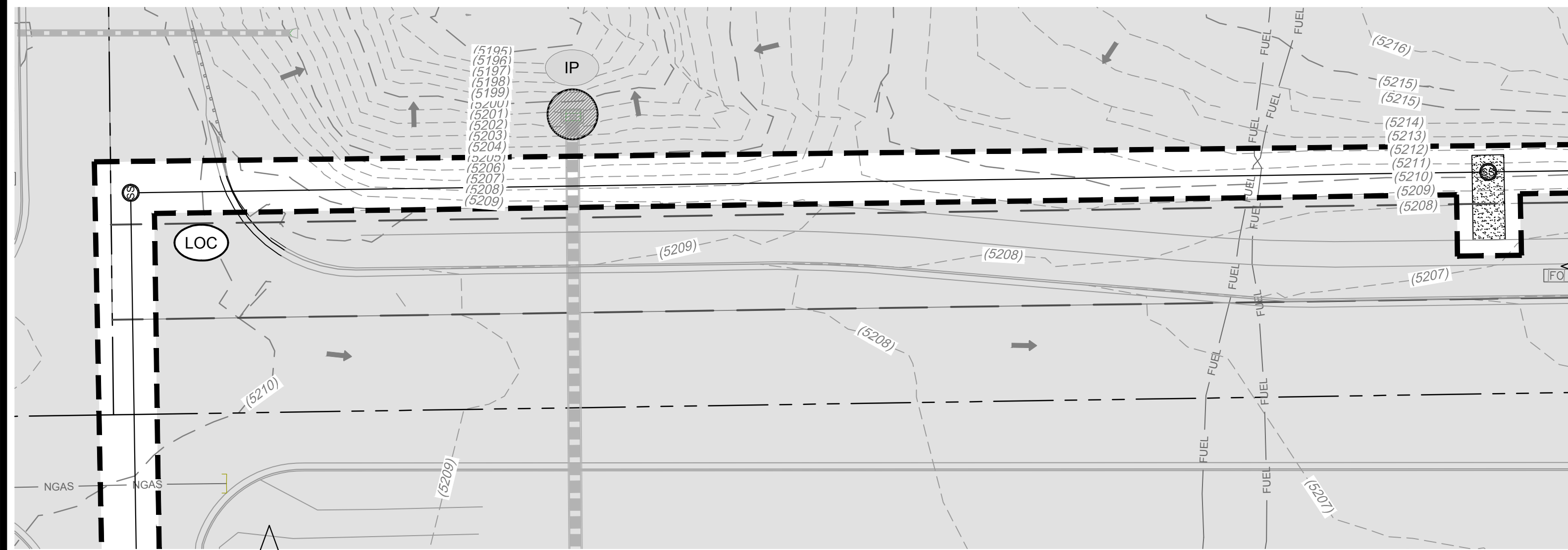
**INTERIM EROSION CONTROL PLAN**

NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/18/2023	100% CD SUBMITTAL

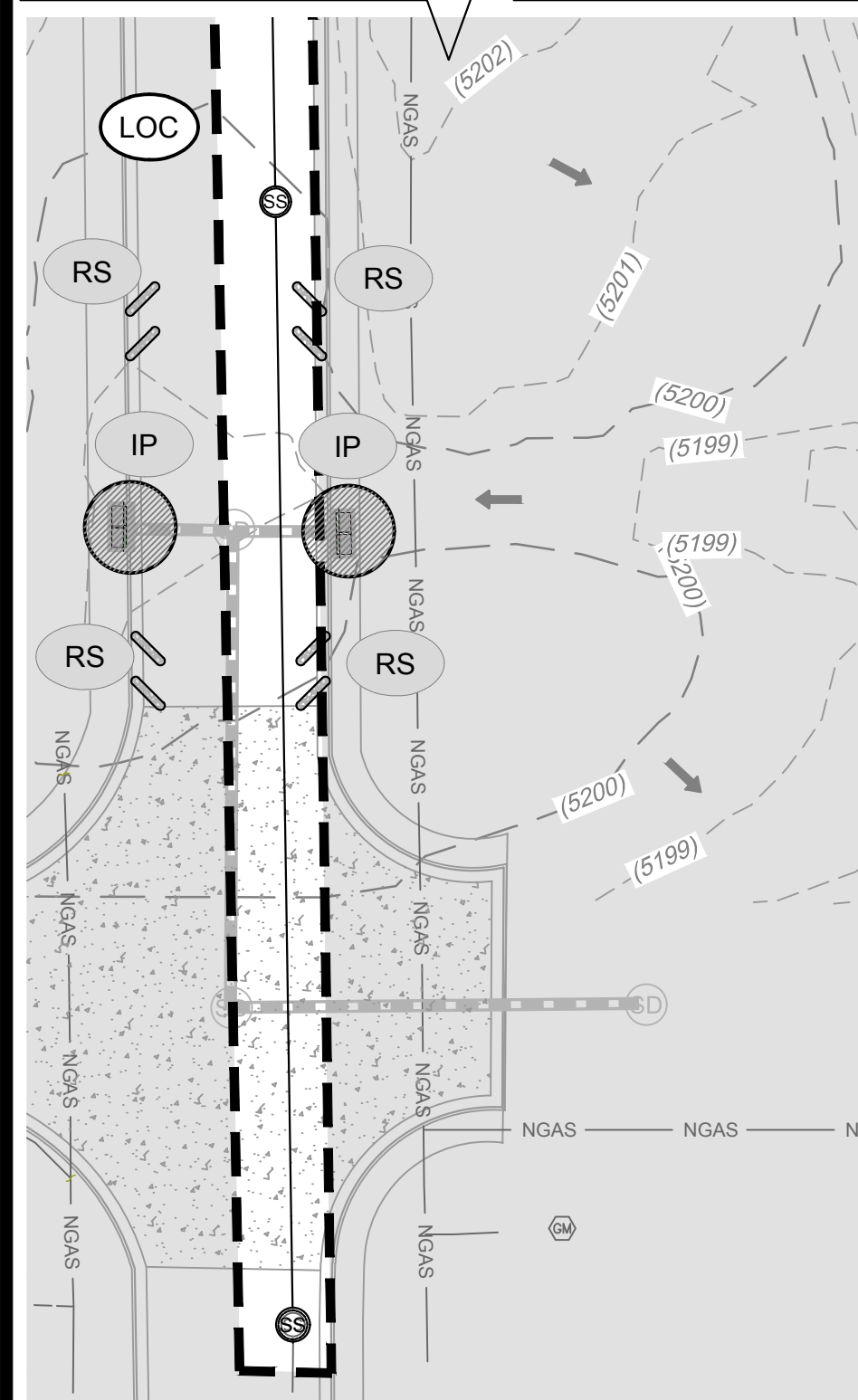
JOB NO.:	DCS22-4022
PA / PM:	J. MANN
DRAWN BY:	I. CRAWFORD
DATE:	6/13/2023

SHEET  
**C4.5**  
Sheet 10 of 40

NOT FOR CONSTRUCTION



KEY MAP  
N.T.S.



**CITY OF THORNTON NOTES**

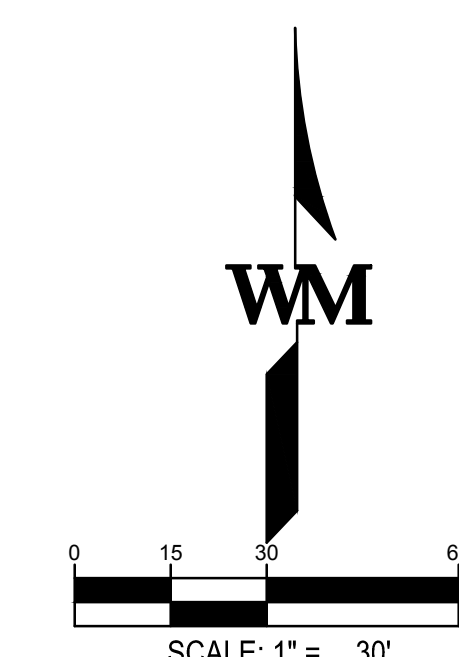
- CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE. THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
- STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD. CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
- SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
- BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE M4 OR STATE WATERS.
- A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
- THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
- THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
- THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
- CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
- SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
- FOR ALL INSTANCES OF NONCOMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES.
- 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).
- CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
- INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
- CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
- ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
- A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
- FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
- ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
- WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
- PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
- FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
- ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
- ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE M4 OR STATE WATERS.
- STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

**EROSION CONTROL BMP LEGEND**

- (LOC) LIMITS OF CONSTRUCTION
- (CF) CONSTRUCTION FENCE
- (CWA) CONCRETE WASHOUT AREA
- (ECB) EROSION CONTROL BLANKET
- (IP) INLET PROTECTION
- (OP) OUTLET PROTECTION
- (RS) ROCK/CURB SOCK
- (SF) SILT FENCE
- (SSA) STABILIZED STAGING AREA
- (VTC) VEHICLE TRACKING CONTROL
- (GS) GRASS SWALE
- (TSB) TEMPORARY SEDIMENT BASIN

**EROSION CONTROL NOTES**

- CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
- REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
- ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
- AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
- REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



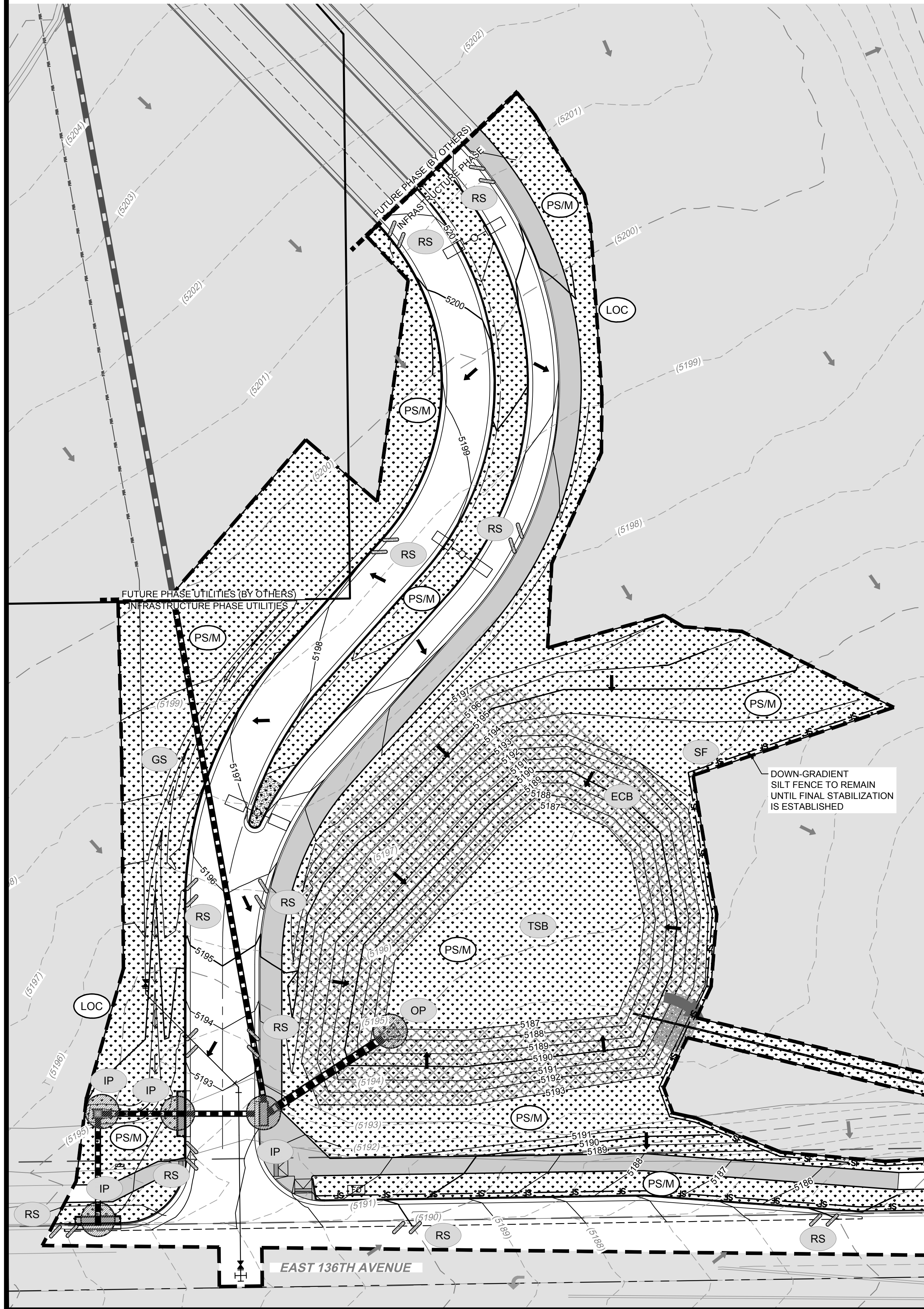
ANYTHINK AYLOR LIBRARY  
INFRASTRUCTURE PHASE  
CONSTRUCTION DOCUMENTS

INTERIM EROSION CONTROL PLAN	
NO.	REMARKS
1	10/07/2022 60% CD SUBMITTAL
2	11/18/2022 90% CD SUBMITTAL
3	04/18/2023 95% CD SUBMITTAL
4	06/18/2023 100% CD SUBMITTAL

JOB NO.:	DCS22-4022
PA / PM:	J. MANN
DRAWN BY:	I. CRAWFORD
DATE:	6/13/2023

SHEET  
**C4.6**  
Sheet 11 of 40

NOT FOR CONSTRUCTION

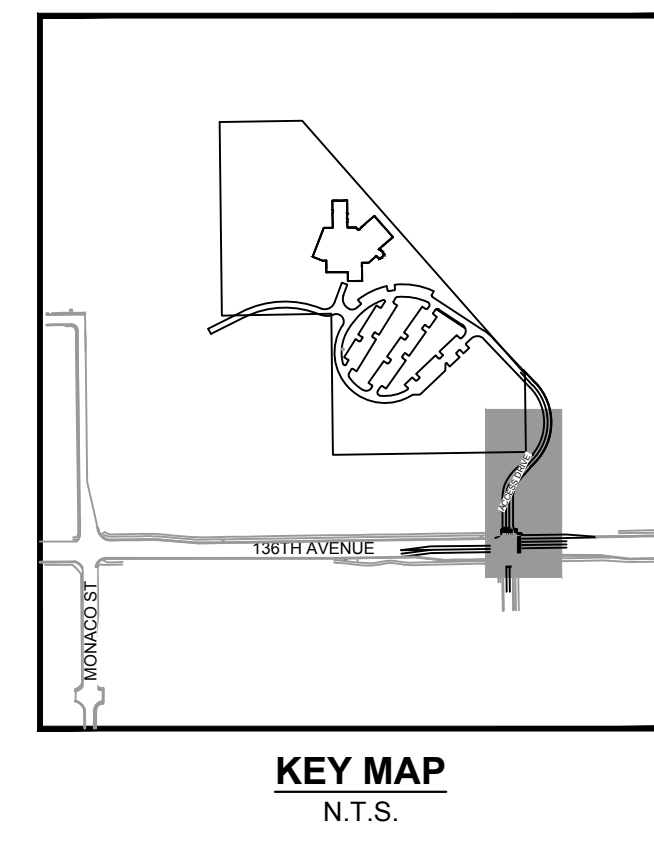


**WM NOTES: GESC**

1. CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
2. REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
3. ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
4. AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
5. REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

**LEGEND**

EXISTING	PROPOSED
BOUNDARY	BOUNDARY
EASEMENT	EASEMENT
CENTERLINE	CENTERLINE
MAJOR CONTOUR (5280)	MAJOR CONTOUR 5280
MINOR CONTOUR (5278)	MINOR CONTOUR 5278
CURB / GUTTER	CURB / GUTTER
BUILDING	BUILDING
SIDEWALK	SIDEWALK
CURB RAMP	CURB RAMP
TREES	TREES
ICC/A117.1 ACCESSIBLE ROUTE	ICC/A117.1 ACCESSIBLE ROUTE
STORM DRAIN	STORM DRAIN
OVERHEAD UTILITY	OVERHEAD UTILITY
UTILITY POLE	UTILITY POLE
DOWN GUY	DOWN GUY
STREET LIGHT	STREET LIGHT



**CITY OF THORNTON NOTES**

1. CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
2. THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
3. STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD.
4. CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
5. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
6. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4 OR STATE WATERS.
7. A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
8. THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
9. THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
10. THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
11. CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
12. SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
13. FOR ALL INSTANCES OF NONCOMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES.
14. 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).
15. CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
16. INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
17. CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
18. ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
19. A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
20. FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
21. ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
22. WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
23. PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
24. FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
25. ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
26. ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE MS4 OR STATE WATERS.
27. STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

**EROSION CONTROL BMP LEGEND**

LOC	LIMITS OF CONSTRUCTION
ECB	EROSION CONTROL BLANKET
IP	INLET PROTECTION
OP	OUTLET PROTECTION
RS	ROCK/CURB SOCK
SF	SILT FENCE
PS/M	PERMANENT SEEDED / MULCHING (PER LANDSCAPE PLAN)
GS	GRASS SWALE
TSB	TEMPORARY SEDIMENT BASIN

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



**ANYTHINK AYLOR LIBRARY**

**INFRASTRUCTURE PHASE**

**CONSTRUCTION DOCUMENTS**

**FINAL EROSION CONTROL PLAN**

NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/18/2023	100% CD SUBMITTAL

JOB NO.:	DCS22-4022
PA / PM:	J. MANN
DRAWN BY:	I. CRAWFORD
DATE:	6/13/2023

SHEET

**C4.7**

Sheet 12 of 40

**WM**

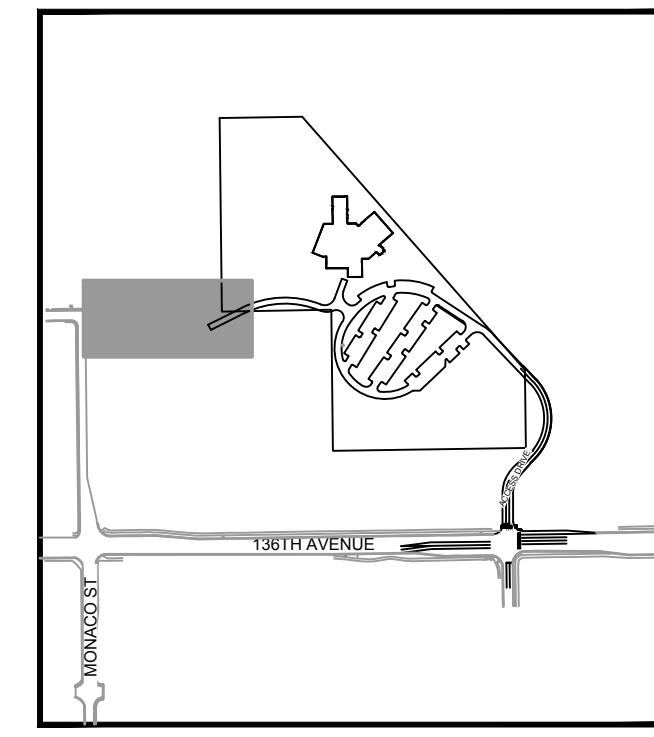
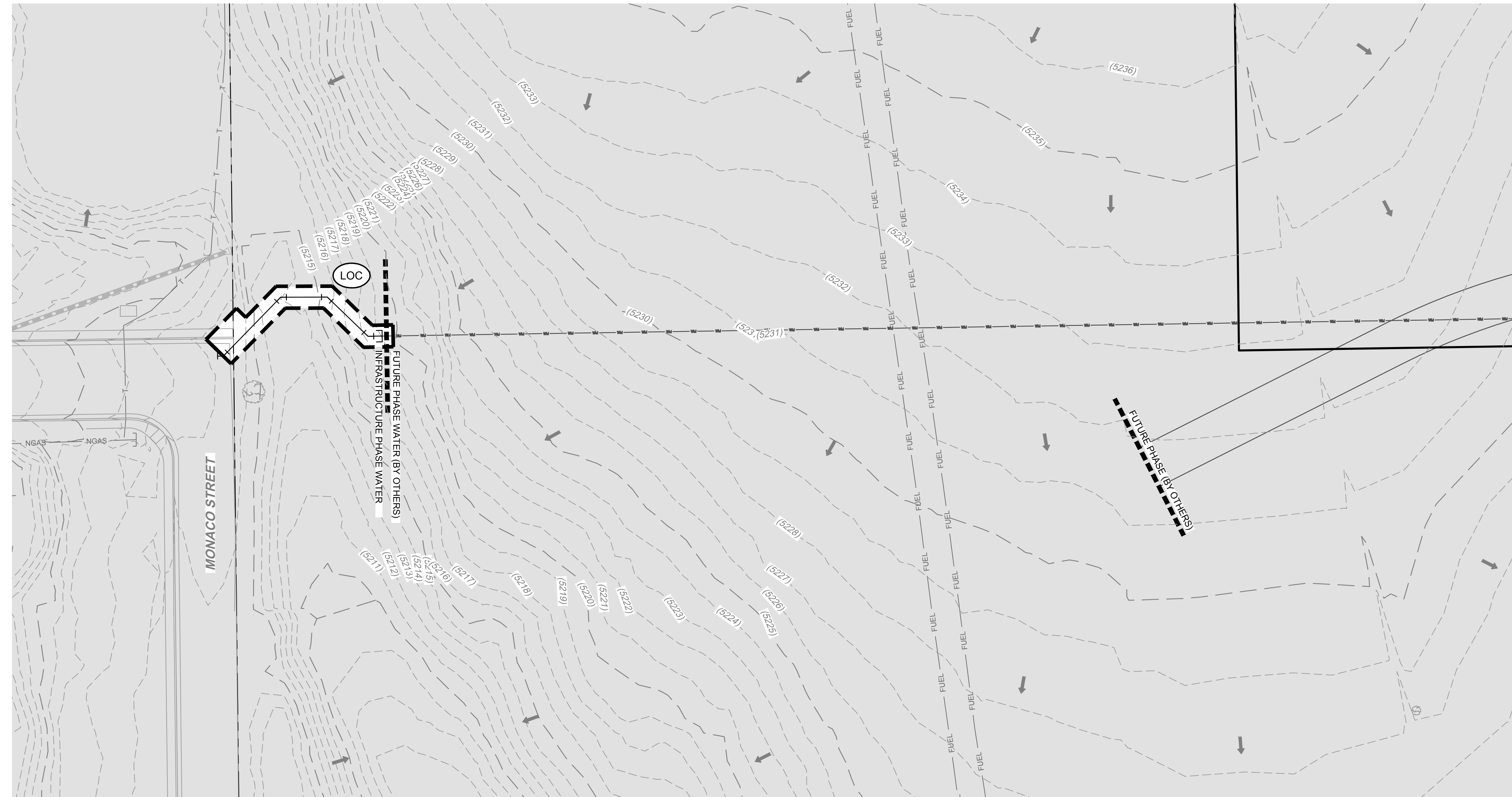
SCALE: 1" = 30'

CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.










THESE DRAWINGS AND SPECIFICATIONS ARE THE PROPERTY AND COPYRIGHT OF WARE MALCOMB AND SHALL NOT BE USED ON ANY OTHER WORK EXCEPT BY AGREEMENT WITH WARE MALCOMB. WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED DIMENSIONS AND SHALL BE VERIFIED ON THE JOB SITE. ANY DISCREPANCY SHALL BE BROUGHT TO THE NOTICE OF WARE MALCOMB PRIOR TO THE COMMENCEMENT OF ANY WORK.

NOT FOR CONSTRUCTION



KEY MAP  
N.T.S.

**EROSION CONTROL BMP LEGEND**

-  LIMITS OF CONSTRUCTION
-  EROSION CONTROL BLANKET
-  INLET PROTECTION
-  OUTLET PROTECTION
-  ROCK/CURB SOCK
-  SILT FENCE
-  PERMANENT SEEDING / MULCHING (PER LANDSCAPE PLAN)
-  GRASS SWALE
-  TEMPORARY SEDIMENT BASIN

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



FOR AND ON BEHALF OF WARE MALCOMB

**ANYTHINK AYLOR LIBRARY**  
**INFRASTRUCTURE PHASE**  
CONSTRUCTION DOCUMENTS



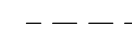
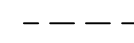

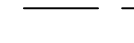



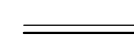











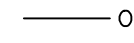










**CITY OF THORNTON NOTES**

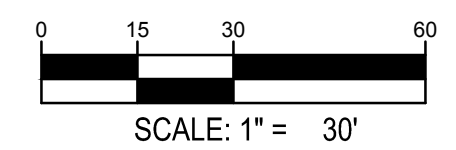
1. CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
2. THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
3. STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD.
4. CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
5. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
6. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4 OR STATE WATERS.
7. A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
8. THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
9. THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
10. THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
11. CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
12. SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
13. FOR ALL INSTANCES OF NON-COMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES.
14. 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).
15. CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
16. INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
17. CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
18. ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
19. A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
20. FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
21. ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
22. WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
23. PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION MEASURES ARE IMPLEMENTED.
24. FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
25. ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
26. ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE MS4 OR STATE WATERS.
27. STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

**WM NOTES: GESC**

1. CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
2. REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
3. ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
4. AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
5. REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

**LEGEND**

- | EXISTING  | PROPOSED  |
|---|---|
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

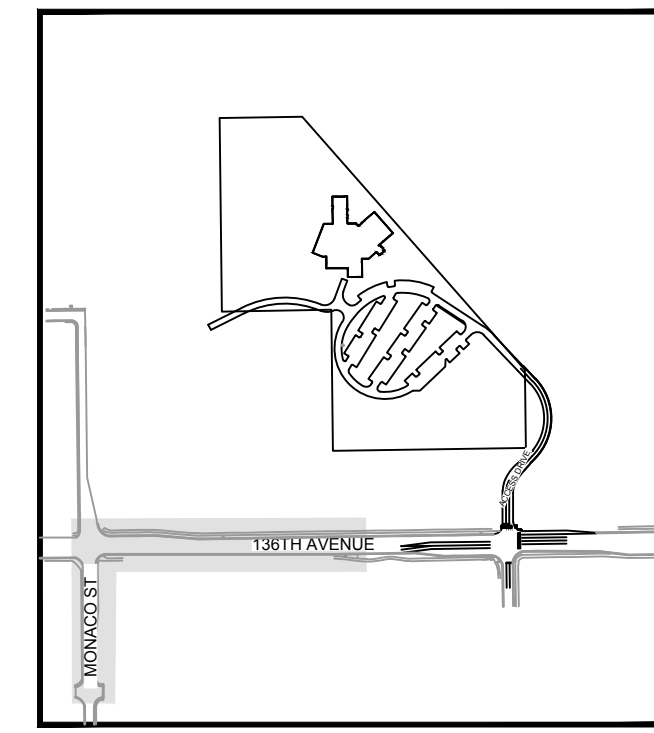
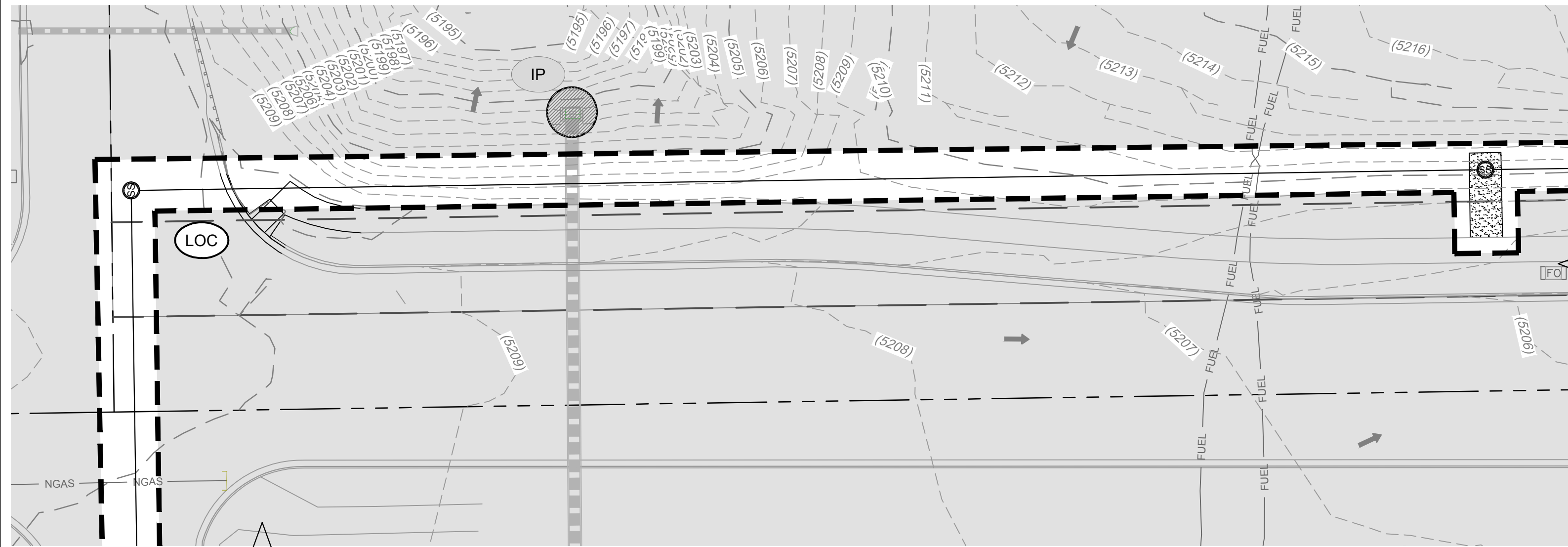
WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/18/2023	100% CD SUBMITTAL

JOB NO.: DCS22-4022  
 PA / PM: J. MANN  
 DRAWN BY: I. CRAWFORD  
 DATE: 6/13/23

SHEET  
**C4.8**  
 Sheet 13 of 40

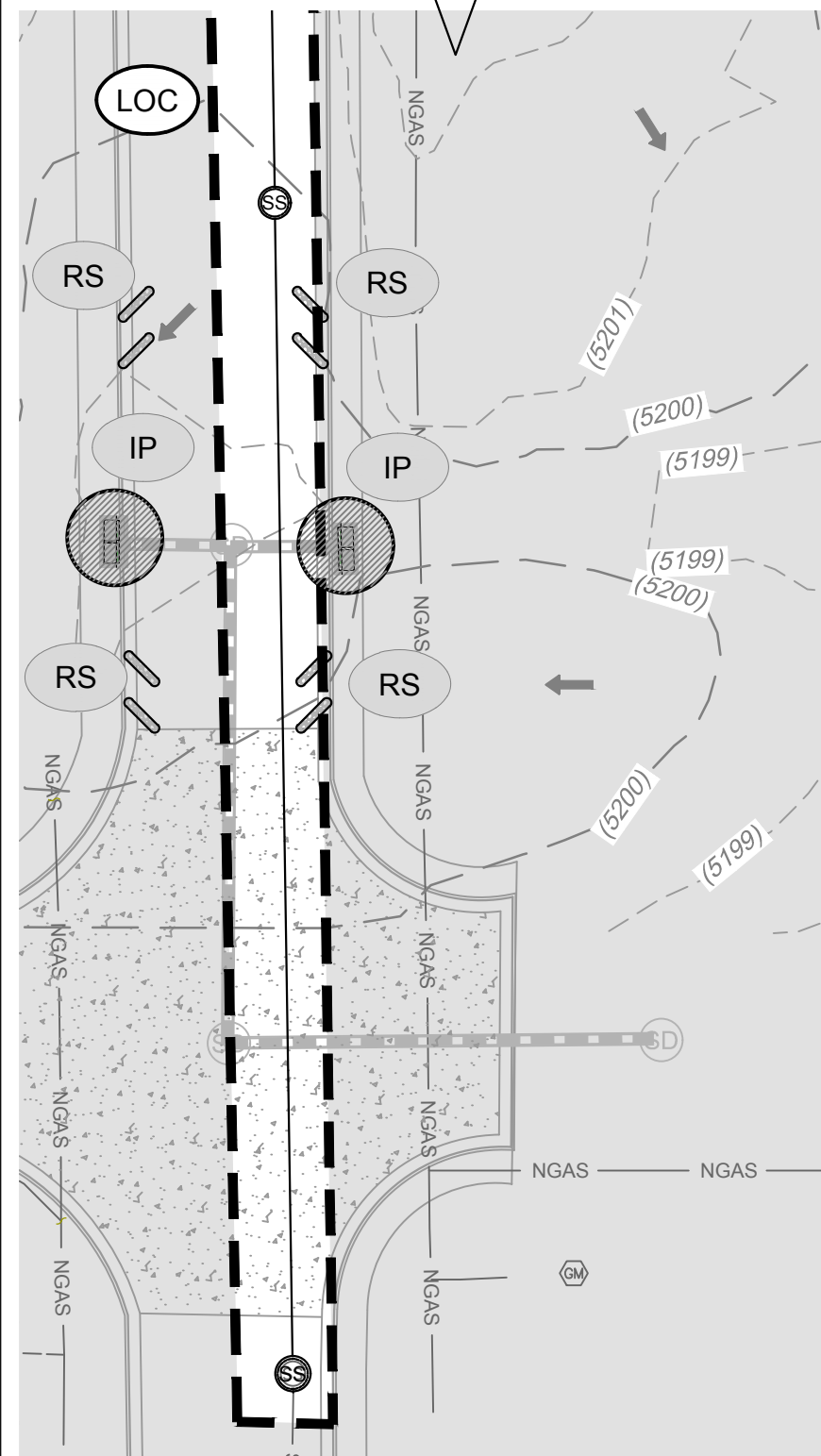
NOT FOR CONSTRUCTION



KEY MAP  
N.T.S.

**EROSION CONTROL BMP LEGEND**

- LOC LIMITS OF CONSTRUCTION
- ECB EROSION CONTROL BLANKET
- IP INLET PROTECTION
- OP OUTLET PROTECTION
- RS ROCK/CURB SOCK
- SF SILT FENCE
- PS/M PERMANENT SEEDING / MULCHING (PER LANDSCAPE PLAN)
- GS GRASS SWALE
- TSB TEMPORARY SEDIMENT BASIN



**CITY OF THORNTON NOTES**

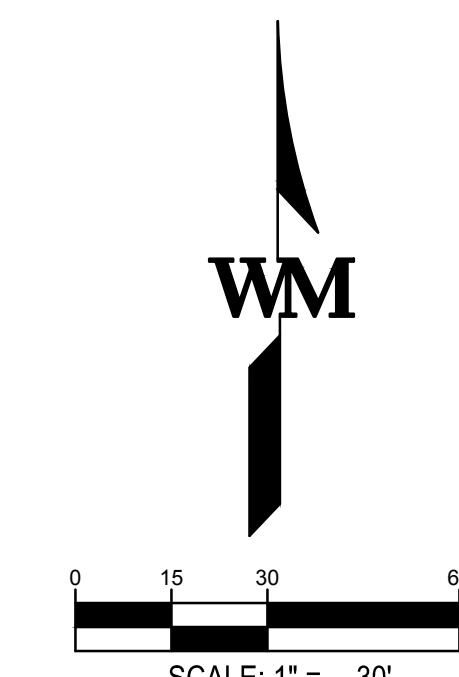
1. CONTROL MEASURES SHALL BE INSTALLED BEFORE ANY EARTH DISTURBING ACTIVITIES COMMENCE.
2. THE OWNER/CONTRACTOR SHALL NOTIFY THE THORNTON INSPECTOR ONCE ALL INITIAL CONTROL MEASURES HAVE BEEN INSTALLED FOR AN INITIAL INSPECTION AT LEAST FORTY EIGHT (48) HOURS PRIOR TO THE INSPECTION. CONSTRUCTION ACTIVITY CANNOT BEGIN UNTIL A PASSING INITIAL INSPECTION HAS OCCURRED.
3. STORMWATER DISCHARGES FROM CONSTRUCTION ACTIVITIES SHALL NOT CAUSE, HAVE THE REASONABLE POTENTIAL TO CAUSE, OR MEASURABLY CONTRIBUTE TO EXCEED ANY WATER QUALITY STANDARD.
4. CONSTRUCTION SHALL BE PHASED IN A MANNER TO LIMIT EARTH DISTURBING ACTIVITIES (I.E. THE ENTIRE PROJECT SITE SHOULD NOT BE DISTURBED IF CONSTRUCTION WILL ONLY BE OCCURRING IN ONE PARTICULAR SECTION).
5. SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE REMOVED FROM RUNOFF WATER BEFORE IT LEAVES THE CONSTRUCTION SITE.
6. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND ANY OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT PROTECTION TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4 OR STATE WATERS.
7. A COPY OF THE SWMP AND EROSION AND SEDIMENT CONTROL (ESC) PLANS MUST BE AVAILABLE AT ALL TIMES ON THE CONSTRUCTION SITE UNLESS OTHERWISE APPROVED BY CDPHE OR THORNTON.
8. THE SWMP AND EC PLAN SHALL BE CONTINUOUSLY UPDATED TO REFLECT NEW OR REVISED CONTROL MEASURES (CM) DUE TO CHANGES IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE OF THE CONSTRUCTION SITE. UPDATES MUST BE MADE WITHIN 72-HOURS FOLLOWING THE CHANGE IN CONTROL MEASURES.
9. THE OWNER/CONTRACTOR SHALL INSPECT THE CONSTRUCTION SITE (INCLUDING ALL CONTROL MEASURES, STORAGE CONTAINERS, AND CONSTRUCTION EQUIPMENT) AT A MINIMUM OF EVERY 7 CALENDAR DAYS OR EVERY 14 CALENDAR DAYS. IF ON THE 14 DAY FREQUENCY A 24-HOUR POST STORM INSPECTION MUST BE CONDUCTED AFTER A PRECIPITATION EVENT OR SNOW MELT. INSPECTIONS SHALL CONTINUE UNTIL AN INACTIVATION NOTICE IS FILED WITH CDPHE.
10. THE OWNER/CONTRACTOR SHALL KEEP A RECORD OF ALL INSPECTIONS ON SITE AND AVAILABLE FOR REVIEW BY CDPHE OR CITY STAFF. INSPECTION REPORTS MUST IDENTIFY ANY INCIDENTS OF NON-COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT.
11. CONTROL MEASURES REQUIRING MAINTENANCE OR ADJUSTMENT SHALL BE REPAIRED IMMEDIATELY AFTER OBSERVATION OF THE FAILING CONTROL MEASURE.
12. SILT FENCE PATCHING: PATCHING IS ONLY ALLOWED ON THE TOP HALF OF THE FENCE. NOT MORE THAN TWO (2) PATCHES PER SECTION OF FENCE. SILT FENCE WITH HOLES OR DETERIORATION ON THE LOWER HALF OF THE FENCE MUST BE REPLACED. REPAIR TYPICALLY INVOLVES REPLACING THE SILT FENCE TO MAINTAIN THE CMS EFFECTIVENESS TO DRAIN SLOWLY AND FUNCTION AS ORIGINALLY DESIGNED.
13. FOR ALL INSTANCES OF NONCOMPLIANCE BASED ON ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES, ALL NEEDED INFORMATION MUST BE PROVIDED ORALLY TO CDPHE SPILL REPORTING LINE (24-HOUR NUMBER FOR ENVIRONMENTAL HAZARDS AND CHEMICAL SPILLS AND RELEASES: 1-877-518-5608) WITHIN 24-HOURS FROM THE TIME THE OWNER/CONTRACTOR BECOMES AWARE OF THE CIRCUMSTANCES. 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).
14. CONTROL MEASURES REFERRED TO AS "CUTBACK CURB" ARE NOT ALLOWED. THE CUTBACK CURB MAY BECOME INEFFECTIVE AND MAY ALSO COMPROMISE THE INTEGRITY OF THE CURB AND IN MOST CASES DOES NOT PROVIDE ANY WATER QUALITY BENEFIT FOR FILTERING OUT SEDIMENT.
15. INLET PROTECTION AND VEGETATIVE BUFFER CONTROL MEASURES SHALL NOT BE USED AS STANDALONE CMS. THESE METHODS MUST BE UTILIZED WITH AT LEAST ONE ADDITIONAL CM.
16. CONTROL MEASURES INTENDED FOR SHEET FLOW SEDIMENT RUNOFF SHALL BE PLACED PARALLEL TO THE SLOPE.
17. ALL CONTROL MEASURES SHALL BE CLEANED WHEN SEDIMENT LEVELS ACCUMULATE TO HALF THE DESIGN OF THE CM UNLESS OTHERWISE SPECIFIED.
18. A VEHICLE TRACKING CONTROL (VTC) SHALL BE PLACED AT ALL ENTRANCES/EXITS FROM THE SITE AS WELL AS ANY EGRESS FROM EXPOSED DIRT TO PAVED AREAS TO PREVENT TRACK-OUT ONTO STREETS. IF TRACK-OUT DOES OCCUR, THE OWNER/CONTRACTOR SHALL IMMEDIATELY SWEEP THE STREET OF DEBRIS. RECYCLED CRUSHED CONCRETE OR ASPHALT SHALL NOT BE USED FOR VEHICLE TRACKING PADS.
19. FOR RESIDENTIAL PROJECTS, BACK OF CURB PROTECTION IS REQUIRED ALONG ALL INTERIOR LOTS.
20. ALL SEDIMENT COLLECTED IN CONTROL MEASURES SHALL BE REMOVED UPON INITIAL ACCEPTANCE.
21. WIND EROSION AND DUST CONTROL MEASURES MUST BE UTILIZED TO MINIMIZE AIRBORNE PARTICULATE DUST. CONTROL MEASURES MAY INCLUDE MINIMIZING DISTURBED AREAS, WATERING, AND/OR PROVIDING TEMPORARY STABILIZATION.
22. PERMANENT EROSION CONTROL MEASURES FOR SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN 14 CALENDAR DAYS AFTER FINAL GRADING OR THE FINAL EARTH DISTURBANCE HAS BEEN COMPLETED. WHEN IT IS NOT POSSIBLE TO PERMANENTLY STABILIZE A DISTURBED AREA AFTER AN EARTH DISTURBANCE HAS BEEN COMPLETED OR WHERE SIGNIFICANT EARTH DISTURBANCE ACTIVITY CEASES, TEMPORARY SOIL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED WITHIN 14 CALENDAR DAYS. TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
23. FINAL STABILIZATION HAS BEEN ACHIEVED WHEN ALL EARTH 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.
24. ALL TEMPORARY CONTROL MEASURES SHALL BE REMOVED FROM THE SITE UPON SUBMITTING THE INACTIVATION NOTICE.
25. ALL SITE WASTES (INCLUDING TRASH AND BUILDING MATERIALS) MUST BE PROPERLY MANAGED TO PREVENT POTENTIAL POLLUTION DISCHARGES TO THE MS4 OR STATE WATERS.
26. STREET REPAIR OPERATIONS SUCH AS ROTOR MILLING, SLURRY SEAL AND CHIP SEAL. THE MINIMUM CMS REQUIRED ARE: INLET PROTECTION, CURB SOCKS AND STREET SWEEPING.

**WM NOTES: GESC**

1. CONTRACTOR TO INSPECT AND MAINTAIN EROSION CONTROL MEASURES THROUGHOUT THE COURSE OF CONSTRUCTION, INCLUDING INSTALLING, REPAIRING, REPLACING, RELOCATING AND MODIFYING AS NECESSARY FOR CONSTRUCTION, TO ENSURE THE SITE IS IN COMPLIANCE WITH STATE AND LOCAL REQUIREMENTS.
2. REFER TO JURISDICTIONS EROSION CONTROL STANDARDS AND SPECIFICATIONS.
3. ADDITIONAL EROSION CONTROL MEASURES NOT SHOWN ON THIS PLAN MAY BE NECESSARY TO PREVENT EROSION AND SEDIMENTATION.
4. AREAS THAT ARE TO REMAIN IN A DISTURBED CONDITION FOR AN EXTENDED PERIOD SHALL BE TEMPORARILY SEEDED IN ACCORDANCE WITH LOCAL AND STATE CRITERIA.
5. REFER TO APPROVED LANDSCAPE PLAN FOR FINAL STABILIZATION INFORMATION. AREAS NOT STABILIZED BY PAVEMENT, BUILDING FOOTPRINT, PERMANENT LANDSCAPING, OR OTHER PERMANENT STABILIZATION SHALL BE PERMANENTLY SEEDED PER STATE AND LOCAL REQUIREMENTS.

**LEGEND**

- | EXISTING | PROPOSED                    |
|----------|-----------------------------|
|          | BOUNDARY                    |
|          | EASEMENT                    |
|          | CENTERLINE                  |
|          | MAJOR CONTOUR 5280          |
|          | MINOR CONTOUR 5278          |
|          | CURB / GUTTER               |
|          | BUILDING                    |
|          | SIDEWALK                    |
|          | CURB RAMPS                  |
|          | TREES                       |
|          | ICC/A117.1 ACCESSIBLE ROUTE |
|          | STORM DRAIN                 |
|          | OVERHEAD UTILITY            |
|          | UTILITY POLE                |
|          | DOWN GUY                    |
|          | LIGHT POLE                  |



CONTRACTOR TO FIELD VERIFY LOCATION OF ALL EXISTING UTILITES PRIOR TO CONSTRUCTION

WORK SHALL BE CONSTRUCTED TO CITY OF THORNTON STANDARDS AND SPECIFICATIONS. THIS APPROVAL IS FOR CONFORMANCE WITH THESE STANDARDS AND SPECIFICATIONS AND OTHER CITY REQUIREMENTS. THE DESIGN AND CONCEPT REMAINS THE RESPONSIBILITY OF THE PROFESSIONAL ENGINEER OR LANDSCAPE PROFESSIONAL.

**WARE MALCOMB**

900 south broadway  
suite 320  
denver, co 80209  
p 303.561.3333  
waremalcomb.com



FOR AND ON BEHALF OF WARE MALCOMB

ANYTHINK AYLOR LIBRARY  
INFRASTRUCTURE PHASE  
CONSTRUCTION DOCUMENTS

NO.	DATE	REMARKS
1	10/07/2022	60% CD SUBMITTAL
2	11/18/2022	90% CD SUBMITTAL
3	04/18/2023	95% CD SUBMITTAL
4	06/18/2023	100% CD SUBMITTAL

JOB NO.: DCS22-4022  
PA / PM: J. MANN  
DRAWN BY: I. CRAWFORD  
DATE: 6/13/23

SHEET  
**C4.9**  
Sheet 14 of 40

NOT FOR CONSTRUCTION

## APPENDIX 6: Stormwater Inspection Form (Template)

### Instructions:

The inspection report template can be found on the city's here [Construction & Education](#). The inspection report has been developed to complete the 7 day (or 14 day and storm event site inspections) and 30-day inspections at completed sites.

# Contractor Construction Stormwater Site Inspection

## General Information

**Project Name:** \_\_\_\_\_ **Project No. :** \_\_\_\_\_  
**Location:** \_\_\_\_\_ **CDPS Cert. No.:** COR-\_\_\_\_\_  
**Date of Inspection:** \_\_\_\_\_ **Start and End Time:** \_\_\_\_\_  
**Weather Conditions:**  Clear  Cloudy  Rain  Sleet  Fog  Snow  High Winds  Other: \_\_\_\_\_  
**Temperature (°F):** \_\_\_\_\_ **Estimated Area of Disturbance (ac):** \_\_\_\_\_ **Present Phase of Construction:** Interim

## Inspection Information

### Type of Inspection:

If Post-Storm Inspection, provide the storm information below:

Type: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Duration (hrs): \_\_\_\_\_ Approximate Amount of Precipitation (in): \_\_\_\_\_

**Has there been any deviations from the minimum inspection schedule?**  Yes  No

If "Yes", describe:

**Inspector's Name:** \_\_\_\_\_

**Inspector's Title:** \_\_\_\_\_

**Is the above inspector a qualified stormwater manager?**  Yes  No

**Is there evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system or discharging to state waters at the following locations?**  Yes  No

If "Yes", select all that apply:

Construction site perimeter;  All disturbed areas;  Designated haul routes;  Material and waste storage areas exposed to precipitation;  Locations where stormwater has the potential to discharge offsite;  Locations where vehicles exit the site;  Other: \_\_\_\_\_

\* If winter conditions exclusions is selected as type of inspection, please attach a copy of the required documentation from Part I.D.4.c of the Permit.

## Noncompliance Reporting to CDPHE

The permittee shall report the following circumstances orally within twenty-four (24) hours from the time the permittee becomes aware of the circumstances, and shall mail to the division a written report containing the information requested within five (5) working days after becoming aware of the following circumstances. The division may waive the written report required if the oral report has been received within 24 hours.

a. Endangerment to Health or the Environment

Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident (See Part II.L.6.a of the Permit)

b. Numeric Effluent Limit Violations

o Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit)

o Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit)

o Daily maximum violations (See Part II.L.6.d of the Permit)

*Numeric effluent limits are very uncommon in certifications under the COR400000 general permit. This category of noncompliance only applies if numeric effluent limits are included in a permit certification.*

**Has there been an incident of noncompliance requiring 24-hour notification?**  Yes  No If "Yes" please document below:

### Noncompliance Reporting to CDPHE Information

Date and Time of Incident	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification*
Location and Description of Noncompliance		Description of Corrective Action

Date and Time of Incident	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification*
Location and Description of Noncompliance		Description of Corrective Action

Date and Time of Incident	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification*
Location and Description of Noncompliance		Description of Corrective Action

Date and Time of Incident	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification*
Location and Description of Noncompliance		Description of Corrective Action

Date and Time of Incident	Date and Time of 24 Hour Oral Notification	Date of 5 Day Written Notification*
Location and Description of Noncompliance		Description of Corrective Action

\* Attach copy of 5 day written notification to report. Indicate if written notification was waived, including the name of the division personnel who granted waiver.



## Sediment Control Measures

<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					

## Erosion Control Measures

<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					

Please include additional sheets as necessary

## Materials Management Control Measures

<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					

## Site Management Control Measures

<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					
<b>Control Measure:</b>					
<b>Location:</b>					
<b>Action Needed:</b>	<b>Routine Maintenance?</b>	<input type="checkbox"/>	<b>Date Discovered:</b>	<b>Date Corrected:</b>	<b>Operator Initials:</b>
	<b>Inadequate Control Measure?</b>	<input type="checkbox"/>			
	<b>Additional Control Measure?</b>	<input type="checkbox"/>			
<b>Description of Routine Maintenance or Corrective Action and General Notes:</b>					

Please include additional sheets as necessary

## Field Notes

## Certification Statement

After adequate corrective action(s) and maintenance have been taken, or where a report does not identify any incidents requiring corrective action or maintenance, the individual(s) designated as the Qualified Stormwater Manager, shall sign and certify the below statement:

“I verify that, to the best of my knowledge and belief, all corrective action and maintenance items identified during the inspection are complete, and the site is currently in compliance with the permit.”

\_\_\_\_\_  
Name of Qualified Stormwater Manager

\_\_\_\_\_  
Title of Qualified Stormwater Manager

\_\_\_\_\_  
Signature of Qualified Stormwater Manager

\_\_\_\_\_  
Date

# APPENDIX 7: Completed Stormwater Inspection Logs

(File completed inspection forms or reference electronic location of inspections here)

## **APPENDIX 8: Agreement for off-site Control Measures**

*(if applicable)*

Attach use agreement between the Permittee and the owner/operator of any control measures located outside of the permitted area, that are utilized by the Permittee's construction site for compliance with this permit, but not under the direct control of the Permittee.

The Permittee is responsible for ensuring that all control measures located outside of their permitted area, that are being utilized by the Permittee's construction site, are properly maintained and in compliance with all terms and conditions of the permit.

Include all information to any such off-site control measures located outside the permitted area, including location, installation specifications, design specifications and maintenance requirements