STORMWATER MANAGEMENT PLAN

QuikTrip Store 4299

S.W.C. of W. Baptist Rd. & Terrazzo Dr.
Monument, Colorado

PREPARED FOR:
QuikTrip Corporation

PREPARED BY:
Galloway & Company, Inc.
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111

DATE:
November 12, 2021

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I. Certification

Engineer's Statement

I hereby attest that this Stormwater Management Plan (SWMP) document for the QuikTrip project has been prepared by me or under my direct supervision, and to the best of my knowledge and ability has been prepared in accordance with requirements. The signature and stamp affixed hereon certifies that this document was prepared in accordance with the required regulations and criteria; however, the stamp and signature does not certify that or guarantee future performance of the execution of the plan by the contractor. The contractor is responsible for the construction work according to the information set forth in the plan in accordance with all applicable requirements.

_____ _____

Jenny Romano Date
Registered Professional Engineer
State of Colorado No. 44401

Developer's Certification

QuikTrip hereby certifies that the SWMP facilities for Lot 1 and Lot 2 of QuikTrip 4299 Subdivision Filing No. 1 shall be installed and maintained according to the design presented in this report.

This Erosion and Sediment Control Plan has been placed in the Town of Monument file for this project. The Plan fulfills the Urban Drainage and Flood Control District's technical criteria and the criteria for erosion control and requirements of City of Colorado Springs to the best of my knowledge. I understand that additional erosion control measures may be needed if unforeseen erosion problems occur or if the submitted Plan does not function as intended. The requirements of this Plan shall run with the land and be the obligation of the land owner until such time as the plan is properly completed, modified, or voided.

_____ _____

Jessica Glavas Date
QuikTrip Corporation

II. General Requirements

This Stormwater Management Plan (SWMP) has been prepared for QuikTrip Corporation, the developer of the site, to fulfill the SWMP requirements of the State of Colorado. The SWMP identifies all potential pollution sources which may be expected to affect stormwater quality and the initial (construction phase) and final (after construction) erosion and sedimentation control requirements. It also specifies the use and maintenance of control measures, designed in accordance with sound engineering and hydrologic practices, to reduce pollutants and sediment in stormwater discharges associated with construction activity. The control measures are presented in detail in the text of this report and are shown on the Erosion and Sediment Control plans (Site Maps) included in the back of this report. This site must implement the provisions of this SWMP as written and updated from commencement of construction activity until final stabilization is complete. Both the owner and operator must apply as permittees, except for instances where the duties of the owner and operator are managed by the owner. The permittee is responsible for updating the SWMP as construction activity on the site dictates and documenting any changes within this document. Additionally, this SWMP details control measures and processes for spill prevention control and countermeasures which shall be adhered to on site.

III. Narrative Site Description

The project is located at the southwest corner of W. Baptist Road and Terrazzo Drive at or Lot 1 and Lot 2 of QuikTrip 4299 Subdivision Filing No. 1 in Monument, Colorado. The project is located in the NE ¼ of Section 35, Township 11 South, Range 67 West of the 6th P.M., Town of Monument, County of El Paso, State of Colorado. A vicinity map is included in Section IV for reference.

Project Coordinate Location

- Longitude 104°51’20.30” W
- Latitude 39°03’21.60” N

Lot 1 is approximately 7.558 acres and Lot 2 is approximately 4.458 acres. Both lots consist of overlot graded pads covered mostly by native seed mix and bare ground. Lot 1 will be developed into a commercial retail site for a QuikTrip convenience store and two fuel canopies. Lot 2, which will be fully developed in the future, will have some minor grading.

Nature of Construction Activity

The project consists of the construction of a proposed QuikTrip store, two fuel canopies, utility and roadway infrastructure for the commercial site. Improvements will include cut/fill grading, underground utility mains and service extensions, internal roadway installation, building foundation and vertical construction, and installation of associated landscaping, parking, drives, and site amenities.

Sequence of Major Activities

The projected sequence of work is expected to occur in the following order, with some overlap and adjustments as site conditions dictate:

- Install control measures
- Construct drainage swales
- Clear and grub
- Rough overlot grading
- Grade building pad
- Trench and install underground utilities
- Commence vertical construction
- Fine grade the remainder of the site
- Pavement installation
- Seed native areas and install permanent landscaping
- Remove final control measures upon establishment of vegetation

Construction is anticipated to begin in March 2022 and substantial completion of the project is anticipated in October 2022.

The major phases of construction and their associated control measures are listed in the following table.

	Clearing and Grubbing	Rough Grading	Utility Installation	Building Construction	Curb and Gutter Construction	Paving	Fine Grading	Permanent Landscaping
Dust Control	✓	✓	✓		✓	✓	✓	✓
Concrete Washout Area			✓	✓	✓	✓		
Good Housekeeping	✓	✓	✓		✓	✓	✓	✓
Silt Fence	✓	✓	✓		✓	✓	✓	✓
Inlet Protection	✓	✓	✓		✓	✓	✓	✓
Vehicle Tracking Control	✓	✓	✓		✓	✓		
Stabilized Staging Area	✓	✓	✓		✓	✓	✓	✓
Street Sweeping	✓	✓	✓		✓	✓	✓	✓

Extent of Disturbance

The total area of the site is 12.016 acres. Construction of this project will account for disturbed and impervious areas as shown in the table below. The earthwork for this project will result in cut/fill material which will be exported and imported.

Total Disturbed Area (ac)	8.36
Pre-Construction Impervious Area (ac)	0.00
Post-Construction Impervious Area (ac)	4.82
Total new Impervious Area (ac)	4.82

The adjusted cut and fill quantities are listed below.

Cut Volume = 273 CY

Fill Volume = 29,395 CY

Net Volume = 29,122 CY Fill

Soils

The NRCS Web Soil Survey of El Paso County, Colorado indicates site soils to be Pring coarse sandy loam, Hydrologic Soil Type B. The soil texture on the site is predominantly sandy loam. Refer to Appendix A for the soil survey information.

Existing Vegetation

The site currently exists as vacant land with native grasses and bare soil throughout. Vegetative cover was determined by visual site observation.

Potential Pollution Sources

During construction there is potential for pollution from grading, utility, roadway, and building construction activities. These activities include ground disturbance, refueling and maintenance of equipment, washing of equipment, concrete waste, and the on-site use of paints, solvents, and other chemicals required for construction. Additionally, there is potential for pollution from the concrete washout area, temporary batch plant, worker's trash and portable toilets. Locations of potential pollution sources will be shown and updated on the Site Maps by the Qualified Stormwater Manager (QSM). The QSM is also responsible for adhering to the Spill Prevention and Control Plan included in Appendix E of this plan.

Non-Stormwater Discharges

Based on current information, the only non-stormwater discharges anticipated are landscape irrigation return flow, emergency firefighting activities, uncontaminated springs, discharge to the ground of concrete washout water, and construction dewatering activities.

A designated contained concrete washout area is located on the Site Map; infiltration discharge of concrete washout water from washing of tools and concrete mixer chutes may be discharged on this construction site provided that control measures in accordance with Part I.B.1.a.ii.(b) of the *Colorado General Permit for Stormwater Discharges Associated with Construction Activity* are installed to prevent pollution of groundwater and discharges do not leave the site as surface runoff or reach receiving waters

as defined by the *Colorado General Permit for Stormwater Discharges Associated with Construction Activity*. On-site waste disposal of concrete is not authorized by the *Colorado General Permit for Stormwater Discharges Associated with Construction Activity*.

If landscape irrigation is to be installed, then potential return flow from the irrigation system must be documented.

Emergency firefighting activities that may occur on the site during active emergency response are permissible under the *Colorado General Permit for Stormwater Discharges Associated with Construction Activity.*

If low risk discharges including potable water monitoring devices, potable water snowmelt, or uncontaminated groundwater to land occur, they must be discharged in accordance with the CDPHE Low Risk Discharge policies.

Receiving Waters

The project area will drain to proposed inlets and exit the site by tying into an existing storm sewer system located in Squadron Drive. Ultimately, all runoff will be routed to a regional pond south of the property, designed as part of the Falcon Commerce Center development. From there it will ultimately be conveyed south to the ultimate receiving water, Monument Creek, which is within the Town of Monument MS4 permitted area. The existing detention pond will provide water quality and detention for runoff from the entire site and other portions of the Falcon Commerce Center development.

Because wetlands were not found on or around the site, construction is not anticipated to have any negative affect on wetlands.

Since this property is currently zoned for commercial business district uses and has no historic designations, historic properties will not be encountered and will not place additional restrictions on stormwater.

IV. Site Map

Vicinity Map

V. Stormwater Management Controls

Qualified Stormwater Manager

The Qualified Stormwater Manager (QSM) is an individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention and has the skills to assess conditions at construction sites that could impact stormwater quality and to assess the effectiveness of stormwater controls implemented to meet the requirements of the CDPS General Permit. The Permittee(s) is responsible for ensuring that the inspector is a qualified stormwater manager. The Permittee(s) shall designate a QSM who will be the contact for all SWMP related issues and the person responsible for its accuracy, completeness, and implementation. The QSM should be a person with authority to adequately manage and direct day-to-day stormwater quality management activities at the site.

The QSM is responsible for holding a weekly stormwater meeting attended by the Permittee(s) with all contractors and subcontractors involved in ground-disturbing activities to review the requirements of the Permit(s), the SWMP, and address any problems that have arisen in implementing the SWMP or maintaining the BMPs. The QSM shall maintain a log of all weekly meetings and document the issues addressed in the meetings.

The name and contact information for the Qualified Stormwater Manager is:

Name: _____ Phone: _____

Potential Pollutant Sources

Potential pollutant sources for this site include:

Disturbed and Stored Soils – The entire site will be grubbed and overlot graded prior to major utility and roadway construction. This will be a one-time activity and should be completed relatively early in the project timeline. The areas of grading that will not require additional disturbance shall receive final landscaping within 7 days. Otherwise temporary seeding and mulching will be required within 7 days of last disturbance if no further disturbance is anticipated for at least 14 days. Any soil stockpiles utilized during construction will be covered with a tarpaulin when not in active use and will have silt fence installed along the base of the slope.

Construction Vehicle Entrance and Vehicle Tracking of Sediments – There is potential for tracking of soils between the beginning of the grading process and the final stabilization of the site. Construction vehicle entrances shall be minimized to reduce the potential for tracking of soils off-site and vehicle tracking control shall be installed at each construction entrance. Vehicle tracking control is to be installed prior to land disturbance activities and sweeping is to take place as needed. Vehicle access to the exposed and disturbed subgrade will be limited primarily to roll on/off earthmoving equipment and heavy materials delivery trucks. The QSM is responsible for ensuring that access to exposed subgrade is limited, both in quantity and in timing relative to the tracking susceptibility of the soil as it relates to moisture content. The QSM must keep the adjacent parking areas and public rights-of-way free from mud and other tracked debris from the site.

Management of Contaminated Soils – Contaminated soils are not anticipated based on due diligence conducted for the project site. If suspect soils are encountered construction activity shall immediately halt and environmental professionals shall review the materials and provide recommendations on handling of materials. All handling of materials shall be in accordance with State and Federal regulations. The SWMP shall be updated and control measures installed to manage the potential new source of pollution.

Loading and Unloading Operations – Loading and unloading operations are expected during demolition and during the delivery and staging of materials and equipment. Additionally, imported materials may be necessary to achieve final grades. All loading and unloading operations of equipment shall be accomplished in areas protected by erosion and sediment controls. It is recommended that all equipment be cleaned on-site and within protected areas prior to exiting the site.

Outdoor Storage Activities – Outdoor storage is anticipated during construction activities including delivery and staging of materials. Potential chemicals include paint, fuel, oil, form oil, hydraulic fluid, plumbing glue, and fertilizer. Outdoor storage activities shall be limited to the designated stabilized staging area. All stored chemicals require protection from the elements and must be stored off the ground in some manner. An emergency spill kit is required to be in proximity of any stored chemicals and hazardous materials. The kit at a minimum would have a broom, chemical absorbent, shovel, and turn pallets. Good housekeeping practices shall be employed to prevent pollution associated with solid, liquid, and hazardous construction-related materials and wastes. Secondary containment is required for individual containers 55 gallons or greater of petroleum products, chemicals, or solvents to reduce the likelihood of contamination of State Waters and Waters of the United States. The QSM shall show storage locations on the site maps and update them as needed.

Fueling of Vehicles and Equipment – Vehicle and equipment fueling shall occur within the stabilized staging area. Fueling is expected to occur during all phases of construction activity. Under no circumstances shall fueling take place within 200 feet of any State Waters or Waters of the United States or within 50 feet of an inlet or ditch. Spill response kits shall be readily available an accessible at locations where fueling takes place. Please refer to the Hazardous Material Management and Spill Reporting Plan section for information on clean-up and disposal of spills.

Temporary on-site fuel tanks for construction vehicles shall meet all state and federal regulations. Tanks shall have approved spill containment with the capacity required by the applicable regulations. From NFPA 30: All tanks shall be provided with secondary containment (i.e. containment external to and separate from primary containment). Secondary containment shall be constructed of materials of sufficient thickness, density, and composition so as not to be structurally weakened as a result of contact with the fuel stored and capable of containing discharged fuel for a period of time equal to or longer than the maximum anticipated time sufficient to allow recovery of discharged fuel. It shall be capable of containing 110% of the volume of the primary tank if a single tank is used, or in the case of multiple tanks, 150% of the largest tank or 10% of the aggregate, whichever is larger.

The tanks shall be in sound condition free of rust or other damage which might compromise containment. Fuel storage areas will meet all EPA, OSHA and other regulatory requirements for signage, fire extinguisher, etc. Hoses, valves, fittings, caps, filler nozzles, and associated hardware shall be maintained in proper working condition at all times. The location of fuel tanks shall be shown on the Site Maps and shall be located to minimize exposure to weather and surface water drainage features.

A Spill Prevention and Control (SPCP) Plan has been included in Appendix E.

Maintenance of Vehicles and Equipment – If equipment is to be maintained and stored in an open area this area should not be within the drip line of trees and not be within 100 feet of a watercourse or wetland. Runoff should be diverted away from watercourses and wetlands. Maintenance should be done on impervious areas surrounded with impervious berms. Where this is not possible, use pads designed to contain the pollutants which may leak or spill during maintenance operations. Impervious pads are particularly important on sandy and other course soils where spilled materials can easily leach into the groundwater. Equipment shall be checked before and after each use and, minimally, during the weekly stormwater inspection if otherwise idle. Periodic checks of the equipment wash areas shall be performed to ensure proper operation.

Hazardous Material Management and Spill Reporting Plan – Any hazardous or potentially hazardous material that is brought onto the construction site will be handled properly in order to reduce the potential for storm water pollution. All materials used on this construction site will be properly stored including the use of secondary containment measures, handled, dispensed and disposed of following all applicable label directions. Flammable and combustible liquids will be stored and handled according to 29 CFR 1926.152. Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.

Material Safety Data Sheets (MSDS) information will be kept on site for any and all applicable materials.

In the event of an accidental spill, immediate action will be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials will be disposed of by the Contractor in the manner specified by federal, state and local regulations and by the manufacturer of such products. As soon as possible, the spill will be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States will be properly reported. The General Contractor will prepare a written record of all spills and associated clean-up and will provide also notify the Town of Monument (719-481-2954) and El Paso County (719-520-6460). The General Contractor will provide notice to Owner immediately upon identification of a reportable spill.

Any spills of petroleum products or hazardous materials in excess of Reportable Quantities as defined by EPA or the state or local agency regulations, shall be immediately reported to the EPA National Response Center (1-800-424-8802), the Colorado Department of Public Health and Environment (CDPHE) (1-877-518-5608), the Town of Monument (719-481-2954) and El Paso County (719-520-6460).

The State reportable quantity for petroleum products is 25 gallons or more (or that cause a sheen on nearby surface waters). Spills from regulated aboveground and underground fuel storage tanks must be reported to the State Oil Inspector within 24 hours (after-hours contact CDPHE Emergency Spill Reporting Line). This includes spills from fuel pumps. Spills or releases of hazardous substances from regulated storage tanks in excess of the reportable quantity (40 CFR Part 302.6) must be reported to the National Response Center, the local fire authority immediately, the State Oil Inspector, the Town of Monument, and El Paso County within 24 hours.

The reportable quantity for hazardous materials can be found in 40 CFR 302 at:
http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr302_main_02.tpl

In order to minimize the potential for a spill of petroleum product or hazardous materials to come in contact with storm water, the following steps will be implemented:

a) All materials with hazardous properties (such as pesticides, petroleum products, fertilizers, detergents, construction chemicals, acids, paints, paint solvents, additives for soil stabilization, concrete, curing compounds and additives, etc.) will be stored including secondary containment measures in a secure location, under cover, when not in use.

b) The minimum practical quantity of all such materials will be kept on the job site and scheduled for delivery as close to time of use as practical.

c) A spill control and containment kit (containing for example, absorbent material such as kitty litter or sawdust, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) will be provided on the construction site and location(s) shown on Site Maps. The kit should be inspected for completeness as a part of weekly stormwater inspections.

d) All of the product in a container will be used before the container is disposed of. All such containers will be triple rinsed with water prior to disposal. The rinse water used in these containers will be disposed of in a manner in compliance with state and federal regulations and will not be allowed to mix with storm water discharges.

e) All products will be stored in and used from the original container with the original product label.

f) All products will be used in strict compliance with instructions on the product label.

g) The disposal of excess or used products will be in strict compliance with instructions on the products label and local regulations.

The contractor is responsible for the Spill Prevention and Control Plan (SPCP) included in Appendix D of the SWMP. If the contractor elects to provide his own SPCP it must be included in Appendix D as a replacement. A contractor provided SPCP shall clearly state measures to stop the source of a spill, contain the spill, clean up the spill, dispose of contaminated materials, and train personnel to prevent and control future spills. In addition, the SPCP must include contact and documentation requirements for each of the Minor, Significant, and Hazardous spill magnitudes. Further requirements are listed below in the equipment fueling section.

Significant Dust or Particulate Generating Processes – Dust and airborne particulates can be expected during clearing and grubbing, site grading, saw cutting, and final stabilization activities. Dust mitigation shall be implemented as necessary.

Routine Maintenance Activities Involving Chemicals, Detergents, Fuels, Solvents, Oils, etc. – On-site routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc. shall occur within the stabilized staging area when possible and shall be kept to a minimum. Routine maintenance activities are expected to occur during all phases of construction activity. The QSM shall show storage locations on the appropriate plan sheets and update them as needed. All chemicals are to be protected from the elements. Spill response kits shall be readily available an accessible at locations where maintenance takes place. Please refer to the Hazardous Material Management and Spill Reporting Plan section for information on clean-up and disposal of spills.

On-Site Waste Management – Waste generation is expected as a result of construction activities. All waste shall be properly stored and disposed of to minimize the potential for pollution of stormwater or snowmelt runoff. Additionally, on-site waste should be stored such that wind will not transport refuse away from the storage area. This may include the use of storage containers, dumpsters, fencing or covers.

Concrete Truck/Equipment Washing (including truck chute and associated fixtures and equipment) – Concrete washout area shall be installed prior to any concrete placement on site. Signs

shall be placed at the construction entrance(s), at the washout area, and elsewhere as necessary to clearly indicate the location of the concrete washout area. The washout area shall be repaired and enlarged or cleaned out as necessary to maintain capacity for wasted concrete. Concrete and concrete wash water shall be removed from the site and disposed of at an accepted waste facility.

Dedicated Asphalt and Concrete Batch Plants – A small temporary batch plant may be installed to allow on-site storage and mixing of concrete and masonry. This should be protected by sediment traps, silt fence, drainage swales or other perimeter protection as appropriate to keep stockpiled material within the plant area and located on the Site Maps by the QSM.

Non-Industrial Waste Management

- **Worker's Trash** – The site shall be policed at the end of each work day to be kept free of trash and debris resulting from workers day to day activities. If necessary, utilize clearly marked and protected containers for trash and debris at convenient locations throughout the site. Burying of waste on site is prohibited. Trash must be properly contained at the end of each day.

- **Portable Toilets** – All personnel involved with construction activities must comply with state and local sanitary or septic system regulations. Temporary sanitary facilities will be provided at the site throughout the construction phase. They must be utilized by all construction personnel and must be serviced weekly by a commercial operator. The location of sanitary facilities shall be shown on the Site Maps. Portable toilets must be securely anchored a minimum of 10' behind curbs and are not allowed within 50' of inlets or within 50' of a water of the State or the municipal storm drain system.

- **Concrete and Saw Cutting Waste** – Concrete and asphalt cutting are expected during demolition activities. The waste material from these operations will be fully contained and cleaned up immediately by vacuum. Any remaining residue shall be cleaned by vacuum or street sweeping.

Dewatering – Dewatering of excavations shall occur as permitted by a Water Quality Control Division Low Risk Guidance Document. Any water from dewatering operations shall be uncontaminated and discharge to a control measure and captured on-site for infiltration and/or evaporation. Under no circumstances shall construction dewatering water be allowed to leave the site as surface runoff. If contamination of groundwater is suspected, a separate construction dewatering permit will be required.

Control Measures for Stormwater Pollution Prevention

The following erosion control, sediment control, materials management, and site management measures shall be utilized and/or installed as indicated on the site maps to reduce the potential of the sources identified above to contribute pollutants to stormwater discharges.

The following structural control measures are anticipated to be implemented on this site:

BMP	Quantity	Unit
Permanent Landscaping	3.54	AC
Diversion Ditches	975	LF
Concrete Washout Area	1	EA
Soil Stockpile	300	SF
Silt Fence	2,009	LF
Rock Sock	45	LF
Storm Sewer Inlet Protection	9	EA
Sediment Basin	1	EA
Vehicle Tracking Control	1,500	SF
Stabilized Staging Area	12,600	SF

Site maps and control details can be found in Appendix B of this document.

Erosion Control

Temporary and Permanent Seeding – All denuded areas that will be inactive for 14 days or more must be stabilized temporarily with the use of fast-germinating annual grass/grain varieties appropriate for site soil and climate conditions, straw/hay mulch, wood cellulose fibers, tackifiers, netting and/or blankets. Stockpiles and drainage swales/berms must be stabilized to prevent erosion and dust issues. A Foothills Native seed mix shall be used. All areas at final grade must be seeded or sodded within 14 days after completion of work in that area. Prepare soil and seed immediately after final grade is achieved. At the completion of ground-disturbing activities the entire site must have permanent vegetative cover, meeting vegetative cover requirements, or mulch per landscape plan, in all areas not covered by hardscape (pavement, buildings, etc.). Except for small (<100 SF) level spots, seeded areas should be protected with mulch, tackifier, or a rolled erosion control product. Mulch must be crimped by disc or other machinery.

Diversions – Discharges of state waters that are temporarily routed through channels or structures (e.g. in-stream, uncontaminated springs, non-pumped groundwater, temporary rerouting of surface waters). Diversions shall consist of lined or piped structures that result in no erosion in all flow conditions. Alternatively, diversion channels, berms, and coffer dams shall be lined with or composed of a material that minimizes potential for soil loss in the entire wetted perimeter during anticipated flow conditions. Design of the diversion channel must consider the maximum flow velocity for the type of material(s)

exposed to flows to ensure the maximum calculated flow shear stress will not result in physical damage to the channel or liner and result in discharge of pollutants.

Wind Erosion and Dust Control – Wind erosion and dust control measures help to keep soil particles from entering the air as a result of land disturbing construction activities. These control measures include a variety of practices generally focused on either graded disturbed areas or construction roadways. For graded areas, practices such as seeding and mulching, use of soil binders, site watering, or other practices that provide prompt surface cover should be used. For construction roadways, road watering and stabilized surfaces should be considered. Dust control measures should be used on any site where dust poses a problem to air quality. Dust control is important to control for the health of construction workers and surrounding waterbodies. Dust control shall be implemented throughout construction once the site has any exposed, bare soil. It shall be implemented until all bare soil has been covered by final stabilization.

Materials Management

Concrete Washout Area – The concrete washout area shall be installed prior to any concrete placement on site. Signs shall be placed at the construction entrance(s), at the washout area, and elsewhere as necessary to clearly indicate the location of the concrete washout area. The washout area shall be repaired and enlarged or cleaned out as necessary to maintain capacity for wasted concrete. Concrete shall be removed from the site and disposed of at an accepted waste facility. The concrete washout area shall be installed as shown on site maps prior to any concrete work. It shall remain in place until all concrete work is complete. Discharges that may reach groundwater must flow through soil that has buffering capacity prior to reaching groundwater, as necessary to meet the effluent limits in the *Colorado General Permit for Stormwater Discharges Associated with Construction*. The concrete washout area shall not be located in an area where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.

Stockpile Management – Stockpile management includes measures to minimize erosion and sediment transport from soil stockpiles. Soil stockpiles shall be located away from all drainage system components including inlets. When practical, choose stockpile locations that will remain undisturbed for the longest period of time as the phases of construction progress. Place sediment control measures such as silt fence, straw wattles, or rock socks around the perimeter of all stockpiles. For stockpiles in active use, provide a stabilized designated access point on the upgradient side of the stockpile. Soils stockpiled for more than 60 days should be seeded and mulched with a temporary grass cover. Soil stockpile management shall be installed when soil stockpiling begins. It shall remain in place until all soil has been replaced or hauled off-site to a permanent location.

Good Housekeeping Practices – A clean and orderly work site reduces the possibility of accidental spills and reduces safety hazards to employees and subcontractors. It will also help minimize potential contamination of stormwater runoff. Housekeeping practices are to include providing waste management, establishing proper building material staging areas, designating paint and concrete washout areas, establishing proper equipment and vehicle fueling and maintenance practices, controlling equipment and vehicle washing and allowable non-stormwater discharges, and developing a spill prevention and response plan. Good housekeeping practices shall be employed throughout the duration of construction.

Sediment Control

Silt Fence – Silt fence is a synthetic permeable woven or non-woven geotextile fabric incorporating support stakes at intervals sufficient to support the fence (5-feet maximum distance between posts), water, and sediment retained by the fence. The fence is designed to retain sediment-laden storm water and allow settlement of suspended soils before the storm water flows through the fabric and discharges off-site. Silt fence shall be located on the contour to capture overland, low-velocity sheet flows. Silt fence shall be installed at the start of construction prior to any earth moving activities. Silt fence shall remain in place until site construction has been completed to a point where other control measures can control the remaining sediment concerns.

Rock Sock – Rock socks consist of gravel wrapped by wire mesh or a geotextile to form an elongated cylindrical filter to prevent sediment transfer. They are used to trap sediment from stormwater runoff that flows onto roadways as a result of construction activities. They can be used as curb flow control, perimeter control, or as part of inlet protection. Rock socks shall be installed at the start of construction prior to any earth moving activities. Rock socks shall remain in place until final stabilization.

Storm Sewer Inlet Protection – Inlet protection devices intercept and/or filter sediment before it can be transported from a site into the storm drain system and discharged into a lake, river, stream, wetland, or other body of water. These devices also keep sediment from filling or clogging storm drain pipes, ditches, and downgradient sediment traps or ponds. Inlet protection may also include placement of a barrier to create a bypass of an inlet transferring flow downstream to a sediment trap, basin, or other inlet discharging to a non-critical area. The primary mechanism is to place controls in the path of flow sufficient to slow the sediment-laden water to allow settlement of suspended soils before discharging into the storm sewer. It is possible that as construction progresses from storm sewer installation through to paving that the inlet protection devices should change. All inlet protection devices create ponding of storm water. This should be taken into consideration when deciding on which device or devices should be used. Inlet protection shall be installed around all existing inlets at the start of construction prior to any

earth moving activities and around all proposed inlets as they are constructed. Inlet protection shall remain in place until final stabilization (pavement and/or landscaping).

Sediment Basin – Sediment basins are temporary ponds built to capture storm runoff and sediment prior to discharge from the site. These are designed to capture site runoff and slowly release it to allow time for settling of sediment prior to discharge. Sediment basins shall be installed at the start of construction and remain in place until inlets and entire storm infrastructure is in place towards the end of site construction and the site has achieved permanent stabilization.

Site Management and Other Practices

Construction Phasing and Scheduling – Effective construction site management to minimize erosion and sediment transport includes attention to construction phasing, scheduling, and sequencing of land disturbing activities. On most construction projects, erosion and sediment controls will need to be adjusted as the project progresses and should be documented in the SWMP. All construction projects can benefit from upfront planning to phase and sequence construction activities to minimize the extent and duration of disturbance. Larger projects and linear construction projects may benefit most from construction sequencing or phasing, but even small projects can benefit from construction sequencing that minimizes the duration of disturbance. Typically, erosion and sediment controls needed at a site will change as a site progresses through the major phases of construction. Erosion and sediment control practices corresponding to each phase of construction must be documented in the SWMP.

Protection of Existing Vegetation – Existing vegetation should be preserved for the maximum practical duration on a construction site through the use of effective construction phasing. Preserving vegetation helps to minimize erosion and can reduce revegetation costs following construction. Potential sources of injury to existing trees include soil compaction during grading or due to construction traffic, direct equipment-related injury such as bark removal, branch breakage, surface grading and trenching, and soil cut and fill. In order to minimize injuries that may lead to immediate or later death of the tree, tree protection zones shall be established at the beginning of a construction project and remain in place until final stabilization.

Construction Fence – Construction fence shall restrict site access to designated entrances and exits for safety and preservation of adjacent areas. Construction fence shall be installed around the perimeter of the site except at construction access points at the start of construction prior to any earth moving activities. It shall remain in place until construction is complete and no further threat to public safety exists (e.g. open trenches, heavy operating equipment on-site).

Vehicle Tracking Control – Vehicles leaving construction sites can track sediment onto adjoining roadways. This sediment can create safety hazards and contribute significantly to sediment pollution in waterways. The purpose of a vehicle tracking control measure is to prevent soil and mud on work vehicles from being carried offsite and deposited on public roads, parking lots, and other areas. All points closed to the general public and providing access into the construction site shall include a marked construction exit with structural and nonstructural vehicle tracking controls. This may include tracking pads, minimizing site access, wash racks, graveled parking areas, maintaining vehicle traffic to paved areas, street sweeping, and sediment control measures. If a wheel wash system is installed, a sediment trap control must be installed to treat the wash water before it discharges from the site. Discharge must be directed to the sediment basin or sediment trap within the limits of construction as indicated. Vehicle tracking controls shall be installed at all construction access points at the start of construction prior to any earth moving activities. They shall remain in place until permanent pavement is installed.

Stabilized Staging Area – This is a clearly designated area where construction equipment and vehicles, stockpiles, waste bins, and other construction-related materials are stored. The stabilized storage area consists of a stabilized surface, covered with 3-inch diameter aggregate or larger. The stabilized staging area shall be installed as shown on the site maps at the start of construction prior to any earth moving activities. It shall remain in place until permanent pavement is installed.

Street Sweeping and Vacuuming – Street sweeping and vacuuming remove sediment that has been tracked onto roadways to reduce sediment transport into storm drain systems or a surface waterway. Street sweeping or vacuuming should be conducted when there is noticeable sediment accumulation on roadways on or adjacent to the construction site. Typically, this will be concentrated at the entrance/exit to the construction site. Well-maintained stabilized construction entrances, vehicle tracking controls and tire wash facilities can help reduce the necessary frequency of street sweeping and vacuuming. Street sweeping shall occur as needed and at a minimum once a day throughout the duration of construction.

Temporary Diversion Methods – Temporary diversion methods are used to reroute water from a stream or restrict flows to a designated portion of the stream channel to allow for construction activities to take place in the stream, along the banks or beneath the active channel. Temporary diversion methods are often required during the construction of detention ponds, dams, in-stream grade control structures, utility installation and other activities, including maintenance, that require working in waterways. Temporary diversion methods include temporary diversion channels, pump-arounds, piped diversions, coffer dams and other similar practices. The primary purpose of all temporary diversion methods is to protect water quality by passing upstream flows around the active construction zone.

Dewatering Operations – Dewatering typically involves pumping water from an inundated area to a control measure, and then downstream to a receiving waterway, sediment basin, or well-vegetated area. Dewatering typically involves several control measures in sequence. Dewatering operations are used when an area of the construction site needs to be dewatered as the result of a large storm event, groundwater, or existing ponding conditions. This can occur during deep excavation, utility trenching, and wetland or pond excavation. All dewatering discharges must be treated to remove sediment before discharging from the construction site. Discharging water into a sediment trap or basin is an acceptable treatment option. Water may also be treated using a dewatering filter bag and a series of straw bales or sediment logs. If these options are not feasible, a settling tank or an active treatment system may need to be utilized. Settling tanks are manufactured tanks with a series of baffles to promote settling. Flocculants can also be added to the tank to induce more rapid settling. Contact the state agency for special requirements prior to using flocculants and land application techniques. Some commonly used methods to handle the pumped water without surface discharge include land application to vegetated areas through a perforated discharge hose (i.e., the "sprinkler method") or dispersal from a water truck for dust control.

Revising Control Measures and the SWMP

Should there be changes to the implemented control measures the QSM shall be notified and the SWMP modified to accurately reflect the field conditions. Examples include, but are not limited to, removal of control measures, identification of new potential pollutant sources, addition of control measures, modification of control measure installation and implementation criteria or maintenance procedures, and changes in items included in the Site Map and/or description. SWMP revisions must be made prior to changes in site conditions, except for Responsive SWMP Changes, as follows:

- SWMP revisions must be made immediately after changes are made in the field to address control measure installation and/or implementation issues; or

- SWMP revisions that require the development of supporting documentation (e.g. design of sediment basin capacity) must be made as soon as practicable, but in no case more than 72 hours, after change(s) in control measure installation and/or implementation occur at the site.

Notation must be included in the plan that identifies:

- The date of the site change
- The control measure removed or modified
- The location(s) of those control measure(s)
- Any changes to the control measure(s)

This SWMP should be viewed as a “living document” that is to be continuously reviewed and modified as part of the overall process of assessing and managing stormwater quality issues on-site.

VI. Final Stabilization & Long-Term Stormwater Management

Permanent stabilization of the site will include establishment of permanent landscaping areas, and pavement placement. Final site stabilization is achieved when the following are complete:

- All construction activities are complete.
- Permanent stabilization methods are complete. Permanent stabilization methods include, but are not limited to, permanent pavement or concrete, hardscape, xeriscape, stabilized driving surfaces, vegetative cover, or equivalent alternative stabilization methods. Vegetative cover must mee the following criteria:
  - Evenly distributed perennial vegetation, and
  - Coverage, at a minimum, equal to 70% of what would have been provided by native vegetation in a local, undisturbed are or adequate reference site.
- The permittee must ensure all temporary control measures are removed from the construction site once final stabilization is achieved, except when the control measure specifications allow the control measure to be left in place (e.g. biodegradable control measures).

Inactivation of Permit Coverage

Once the criteria for final stabilization have been met, the Permittee shall make a request to terminate the permit through the Colorado Environmental Online Services (CEOS) system.

The QSM shall provide a completed SWMP binder to the owner at the conclusion of the project which will include the original SWMP, all markups or other changes to the SWMP, and inspection and maintenance records. The owner shall keep this document on file for a minimum of 3 years after construction completion.

VII. Inspection & Maintenance Procedures

The contractor must keep the approved SWMP on site at all times. The person(s) inspecting the site may be on the Permittee’s staff or a third party hired to conduct stormwater inspections under the direction of the Permittee. The Permittee is responsible for ensuring that the inspector is a qualified stormwater manager. All regulatory authorities may inspect the land or site covered by the SWMP at any time, without prior notice, for compliance with the SWMP. If site conditions indicate that the objectives of this section are not being met, the operator shall make appropriate modifications to the SWMP. Any modification must be recorded on the owner’s copy of the SWMP and the QSM notified. The Permittee must maintain

inspection records on site with the SWMP and such records must be provided to the regulatory agencies for review upon request. At a minimum, the inspection report must include:

i. The inspection date
ii. Name(s) and title(s) of personnel conducting the inspection
iii. Weather conditions at the time of inspection
iv. Phase of construction at the time of inspection
v. Estimated acreage of disturbance at the time of inspection
vi. Location(s) of and identification of control measures requiring routine maintenance
vii. Location(s) of and identification of discharges of sediment or other pollutants from the site
viii. Location(s) and identification of inadequate control measures
ix. Location(s) and identification of additional control measures needed that were not in place at the time of inspection.
x. Description of corrective action(s) for items vii, viii, and ix above, dates corrective action(s) were completed, including requisite changes to the SMP, as necessary.
xi. Description of the minimum inspection frequency (either in accordance with Part I.D.2., I.D.3. or I.D.4.) utilized when conducting each inspection.
xii. Deviations from the minimum inspection schedule as required in Part I.D.2.
xiii. After adequate corrective action(s) and maintenance have been taken, or where a report does not identify incidents requiring corrective action or maintenance, the report shall contain a statement as required in Part I.A.3.f.

The State Construction Stormwater Site Inspection Report template has been included in Appendix D. The Permittee may provide their own inspection report if desired but must ensure it meets the requirements above. Any person(s) signing inspection documents required for compliance must make the following statement and provide the date of the statement:
"I verify that, to the best of my knowledge and belief, that if any corrective action items were identified during the inspection, those corrective actions are complete, and the site is currently in compliance with the permit."

Inspection Schedules

Between the time this SWMP is implemented and final Inactivation Notice or Termination Application has been submitted, all disturbed areas and pollutant controls must be inspected with one of the following minimum frequencies:

- At least one inspection every 7 calendar days
- At least one inspection every 14 calendar days, plus post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosion.

If more frequent inspections are required to ensure that control measures are properly maintained and operated, the inspection schedule must be modified to meet this need. The first site inspection must

occur within 7 calendar days of the commencement of construction activities on site. The contractor and QSM shall adhere to the maintenance schedules listed in the details for each control measure. Permittees must conduct site inspections at least once every 7 calendar days for sites that discharge to a water body designated as an Outstanding Water by the Water Quality Control Commission. Preventative maintenance shall be coupled with periodic inspections.

Inspection Procedures

The purpose of site inspections is to assess performance of pollutant controls. Based on these inspections the contractor, in consultation with the QSM (if different) will decide whether it is necessary to modify this SWMP, add or relocate controls, or revise or implement additional control measures in order to prevent pollutants from leaving the site via stormwater runoff. The contractor has the duty to cause pollutant control measures to be repaired, modified, supplemented, or take additional steps as necessary in order to achieve effective pollutant control. Note: If a control measure is covered by snow, mark the control measure as not applicable and document the reason the control measure cannot be inspected on the daily report.

The inspection must include observation of:

- The construction site perimeter and discharge points, including discharges into a storm sewer system
- All disturbed areas
- Areas used for material/waste storage that are exposed to precipitation
- Areas determined to have a significant potential for stormwater pollution, such as demolition areas, concrete washout areas, or construction vehicle entrances
- All erosion and sediment control measures identified in the SWMP
- Structural control measures that may require maintenance, such as secondary containment around fuel tanks or the condition of spill response kits

Examples of specific items to evaluate during site inspections are listed below. This list is not intended to be comprehensive. During each inspection, the inspector must evaluate overall pollutant control system performance as well as particular details of individual system components. Additional factors should be considered as appropriate to the circumstances. Additional information on maintenance requirements can be found in the BMP Fact Sheets in Volume 3 of the *Urban Storm Drainage Criteria Manual* by the Urban Drainage and Flood Control District.

- **Construction Exit and Track Out** – Locations where vehicles enter and exit the site must be inspected for evidence of off-site sediment tracking. A stabilized construction exit shall be

constructed where vehicles enter and exit. Exits shall be maintained or supplemented as necessary to prevent the release of sediment from vehicles leaving the site. Any sediment deposited on the roadway shall be swept as necessary throughout the day or at the end of every day and disposed of in an appropriate manner. Sediment shall NOT be washed into storm sewer systems.

- **Erosion Control Devices** – Rolled erosion control products (nets, blankets, turf reinforcement mats) and marginally vegetated areas (areas not meeting required vegetative densities for final stabilization) must be inspected weekly. Rilling, rutting and other signs of erosion indicate the erosion control device is not functioning properly and additional erosion control devices are warranted.

- **Material Storage Areas** – Material storage areas should be located to minimize exposure to weather. Inspections shall evaluate disturbed areas and areas used for storing materials that are exposed to rainfall for evidence of, or the potential for, pollutants entering the drainage system or discharging from the site. If necessary, the materials must be covered or original covers must be repaired or supplemented. Also, protective berms must be constructed, if needed, in order to contain runoff from material storage areas. All state and local regulations pertaining to material storage areas will be adhered to.

- **Discharge Points** – All discharge points must be inspected to determine whether erosion and sediment control measures are effective in preventing discharge of sediment from the site or impacts to receiving waters.

Control Measure Maintenance/Replacement and Failed Control Measures

The *Colorado General Permit for Stormwater Discharges Associated with Construction Activity* requires that all erosion and sediment control practices and other protective measures identified in the SWMP be maintained in effective operating condition and in accordance with good engineering, hydrologic and pollution control practices. Sediment that has been collected by sediment controls, such as silt fence and inlet protection, shall be removed when observed to prevent failure of control measures, and remove the potential of that sediment from being discharged from the site if the control measure did fail. Removed sediment shall be properly disposed of on-site. Maintenance activities to correct problems noted during inspections must be documented as discussed in the documentation section below. The inspection process must also include procedures to ensure that, when needed, control measures are replaced or new control measures added to adequately manage the pollutant sources at the site. The permittee must take all necessary steps to minimize or prevent the discharge of pollutants from the permitted area and manage any stormwater run-on onto the site until a control measure is implemented and made operational and/or an inadequate control measure is replaced or corrected and returned to effective

operating condition in compliance with the *Colorado General Permit for Stormwater Discharges Associated with Construction Activity*. This procedure is part of the ongoing process of revising the control measures and the SWMP as discussed above, and any changes to control measures must be recorded in the SWMP. The SWMP must be modified as soon as practicable to reflect current conditions. Control measures that have failed or have the potential to fail without maintenance or modifications must be addressed as soon as possible, immediately in most cases, to prevent the discharge of pollutants. If it is infeasible to install or repair a control measure immediately after discovering the deficiency, the following information must be documented and kept on record:

1) Describe why it is infeasible to initiate the installation or repair immediately; and
2) Provide a schedule for installing or repairing the control measure and returning it to an effective operating condition as soon as possible.

If applicable, the Permittee must remove and properly dispose of any unauthorized release or discharge within and from the permitted area (e.g. discharge of non-stormwater, untreated stormwater containing pollutants, spill or leak not authorized by the Construction Stormwater Permit). The Permittee must also clean up any contaminated surfaces, if feasible to minimize discharges of the material in subsequent storm events, including water remaining form the response that contains pollutants after active emergency firefighting response is complete.

Record Keeping and Documentation

All erosion control measures and stabilizations shall be inspected weekly and after each precipitation or snow melt event. The Permittee must document inspection results and maintain a record of the results for a period of 3 years following closing of permit coverage. These records must be made available to the Owner, the City & County, the State, or the EPA upon request. The following items must be documented as part of the site inspections:

- The inspection date
- Name(s) and title(s) of personnel making the inspection
- Location(s) of discharges of sediment or other pollutants from the site
- Location(s) of control measures that need to be maintained
- Location(s) of control measures that failed to operate as designed or proved inadequate for a particular location
- Location(s) where additional control measures are needed that were not in place at the time of inspection
- Deviations from the minimum inspection schedule as indicated above
- Description and dates of corrective actions taken including requisite changes to the SWMP

After adequate corrective action(s) has been taken, or where a report does not identify any incidents requiring corrective action, the report shall contain a signed statement indicating the site is in compliance with the permit to the best of the signer's knowledge and belief.

Record of spills, leaks, or overflows that result in the discharge of pollutants must be documented and maintained. Information that should be recorded for all occurrences includes the time and date, weather conditions, reasons for the spill, who the spill was reported to, etc.

A complete copy of the SWMP shall be kept with the inspection and maintenance records for the aforementioned 3-year period. **<Permittee to provide physical address.>**

VIII. Conclusion

Conformance with Standards

The Stormwater Management report for Project at Lot 1 and Lot 2, QuikTrip 4299 Subdivision Filing No. 1, a commercial pad lot infrastructure development, was prepared in compliance with *City of Colorado Springs Engineering Code of Standards and Specifications* and the *Colorado General Permit for Stormwater Discharges Associated with Construction Activity.*

Drainage Concept

The proposed erosion and sediment control measures do not alter the proposed drainage patterns, volumes, or control points from the approved *Final Drainage Report for Project of Lots 1-7, Falcon Commerce Center* applicable to this development.

IX. References

1. Drainage Criteria Manual Volumes 1&2, City of Colorado Springs, 2021 Edition
2. Urban Storm Drainage Criteria Manual, Volume 3, Urban Drainage and Flood Control District, revised January 2021.
3. General Permit Application and Stormwater Management Plan Preparation Guidance, Colorado Department of Public Health and Environment, Revised April 2019.

Appendix A – Reference Information

NRCS Web Soil Survey Information
FEMA FIRMette

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

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

Custom Soil Resource Report for El Paso County Area, Colorado

September 13, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map

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

N

Meters: 0 25 50 100 150

Feet: 0 50 100 200 300

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

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: El Paso County Area, Colorado
Survey Area Data: Version 18, Jun 5, 2020

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

Date(s) aerial images were photographed: Aug 19, 2018—Sep 23, 2018

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

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
71	Pring coarse sandy loam, 3 to 8 percent slopes	12.0	100.0%
Totals for Area of Interest		**12.0**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

El Paso County Area, Colorado

71—Pring coarse sandy loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 369k
Elevation: 6,800 to 7,600 feet
Farmland classification: Not prime farmland

Map Unit Composition

Pring and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pring

Setting

Landform: Hills
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Arkosic alluvium derived from sedimentary rock

Typical profile

A - 0 to 14 inches: coarse sandy loam
C - 14 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 6.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: R048AY222CO
Hydric soil rating: No

Minor Components

Pleasant

Percent of map unit:
Landform: Depressions
Hydric soil rating: Yes

Other soils

Percent of map unit:
Hydric soil rating: No

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National Flood Hazard Layer FIRMette

FEMA

104°51'39"W 39°3'34"N

104°51'2"W 39°3'6"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

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

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

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

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

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

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

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

N

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

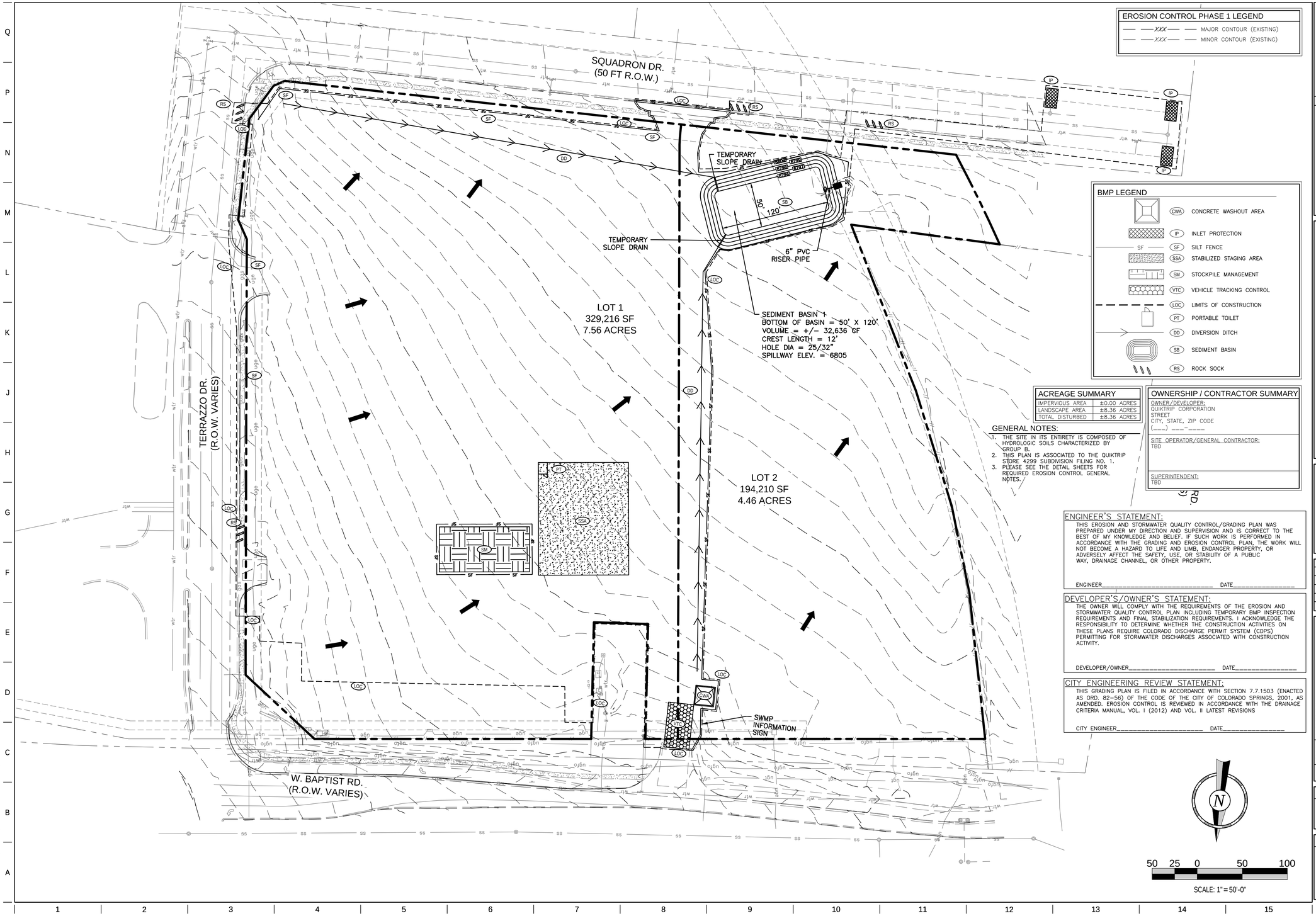
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 9/14/2021 at 3:05 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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

Appendix B – SWMP Site Maps and Calculations

SWMP Site Maps and Details



ACREAGE SUMMARY	
IMPERVIOUS AREA	±0.00 ACRES
LANDSCAPE AREA	±8.36 ACRES
TOTAL DISTURBED	±8.36 ACRES

GENERAL NOTES:

1. THE SITE IN ITS ENTIRETY IS COMPOSED OF HYDROLOGIC SOILS CHARACTERIZED BY GROUP B.
2. THIS PLAN IS ASSOCIATED TO THE QUIKTRIP STORE 4299 SUBDIVISION FILING NO. 1.
3. PLEASE SEE THE DETAIL SHEETS FOR REQUIRED EROSION CONTROL GENERAL NOTES.

OWNERSHIP / CONTRACTOR SUMMARY

OWNER/DEVELOPER:
QUIKTRIP CORPORATION
STREET
CITY, STATE, ZIP CODE
(____) ____-____

SITE OPERATOR/GENERAL CONTRACTOR:
TBD

SUPERINTENDENT:
TBD

ENGINEER'S STATEMENT:

THIS EROSION AND STORMWATER QUALITY CONTROL/GRADING PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROPERTY.

ENGINEER_____ DATE_____

DEVELOPER'S/OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE EROSION AND STORMWATER QUALITY CONTROL PLAN INCLUDING TEMPORARY BMP INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

DEVELOPER/OWNER_____ DATE_____

CITY ENGINEERING REVIEW STATEMENT:

THIS GRADING PLAN IS FILED IN ACCORDANCE WITH SECTION 7.7.1503 (ENACTED AS ORD. 82-56) OF THE CODE OF THE CITY OF COLORADO SPRINGS, 2001, AS AMENDED. EROSION CONTROL IS REVIEWED IN ACCORDANCE WITH THE DRAINAGE CRITERIA MANUAL, VOL. I (2012) AND VOL. II LATEST REVISIONS

CITY ENGINEER_____ DATE_____

PROJECT NO.: QKT004299

QuikTrip No. 4299

S.W.C. OF BAPTIST RD & TERRAZZO DR.
MONUMENT, COLORADO

PROTOTYPE:	P-107 (08/01/21)
DIVISION:	83
VERSION:	001
DESIGNED BY:	DLR
DRAWN BY:	DLR
REVIEWED BY:	ACJ

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 9/24/2021

SHEET TITLE:
EROSION CONTROL PLAN

SHEET NUMBER:
16

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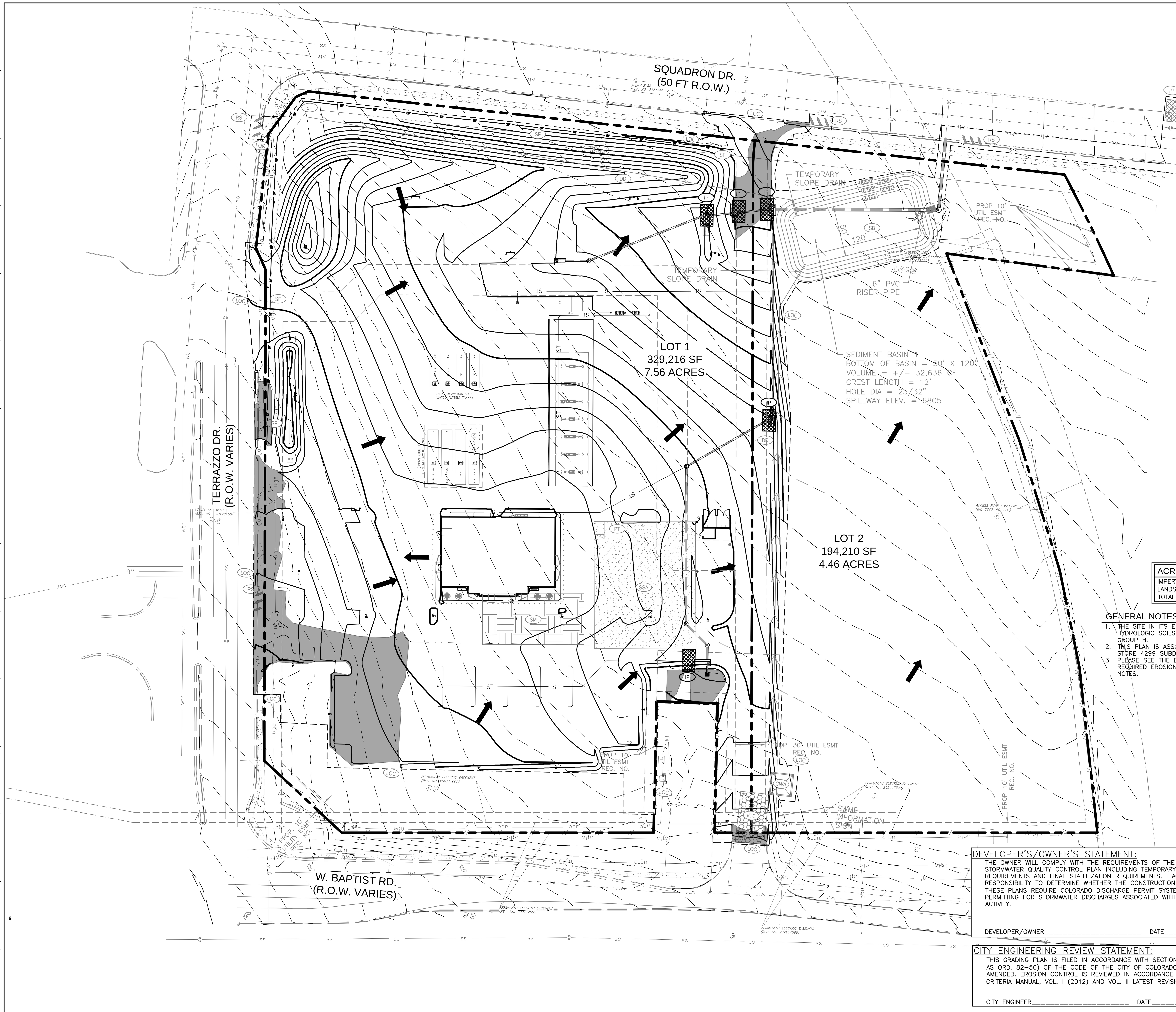


EROSION CONTROL PHASE 2 LEGEND

- MAJOR CONTOUR (EXISTING)
- MINOR CONTOUR (EXISTING)
- MAJOR CONTOUR (NEW)
- MINOR CONTOUR (NEW)
- STORM GRATE (NEW)
- CUT DELINEATION
- FILL DELINEATION

BMP LEGEND

- CWA — CONCRETE WASHOUT AREA
- IP — INLET PROTECTION
- SF — SILT FENCE
- SSA — STABILIZED STAGING AREA
- SM — STOCKPILE MANAGEMENT
- VTC — VEHICLE TRACKING CONTROL
- LOC — LIMITS OF CONSTRUCTION
- LS — PERMANENT LANDSCAPING
- PT — PORTABLE TOILET
- DD — DIVERSION DITCH
- SB — SEDIMENT BASIN
- RS — ROCK SOCK

ACREAGE SUMMARY

IMPERVIOUS AREA	±4.82 ACRES
LANDSCAPE AREA	±3.54 ACRES
TOTAL DISTURBED	±8.36 ACRES

OWNERSHIP / CONTRACTOR SUMMARY

OWNER/DEVELOPER:
QUIKTRIP CORPORATION
STREET
CITY, STATE, ZIP CODE
(___) ___-____

SITE OPERATOR/GENERAL CONTRACTOR:
TBD

SUPERINTENDENT:
TBD

GENERAL NOTES:

1. THE SITE IN ITS ENTIRETY IS COMPOSED OF HYDROLOGIC SOILS CHARACTERIZED BY GROUP B.
2. THIS PLAN IS ASSOCIATED TO THE QUIKTRIP STORE 4299 SUBDIVISION FILING NO. 1.
3. PLEASE SEE THE DETAIL SHEETS FOR REQUIRED EROSION CONTROL GENERAL NOTES.

ENGINEER'S STATEMENT:

THIS EROSION AND STORMWATER QUALITY CONTROL/GRADING PLAN WAS PREPARED UNDER MY DIRECTION AND SUPERVISION AND IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. IF SUCH WORK IS PERFORMED IN ACCORDANCE WITH THE GRADING AND EROSION CONTROL PLAN, THE WORK WILL NOT BECOME A HAZARD TO LIFE AND LIMB, ENDANGER PROPERTY, OR ADVERSELY AFFECT THE SAFETY, USE, OR STABILITY OF A PUBLIC WAY, DRAINAGE CHANNEL, OR OTHER PROPERTY.

ENGINEER______________________________ DATE________________

DEVELOPER'S/OWNER'S STATEMENT:

THE OWNER WILL COMPLY WITH THE REQUIREMENTS OF THE EROSION AND STORMWATER QUALITY CONTROL PLAN INCLUDING TEMPORARY BMP INSPECTION REQUIREMENTS AND FINAL STABILIZATION REQUIREMENTS. I ACKNOWLEDGE THE RESPONSIBILITY TO DETERMINE WHETHER THE CONSTRUCTION ACTIVITIES ON THESE PLANS REQUIRE COLORADO DISCHARGE PERMIT SYSTEM (CDPS) PERMITTING FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.

DEVELOPER/OWNER____________________________ DATE________________

CITY ENGINEERING REVIEW STATEMENT:

THIS GRADING PLAN IS FILED IN ACCORDANCE WITH SECTION 7.7.1503 (ENACTED AS ORD. 82-56) OF THE CODE OF THE CITY OF COLORADO SPRINGS, 2001, AS AMENDED. EROSION CONTROL IS REVIEWED IN ACCORDANCE WITH THE DRAINAGE CRITERIA MANUAL, VOL. I (2012) AND VOL. II LATEST REVISIONS

CITY ENGINEER____________________________ DATE________________

50 25 0 50 100
SCALE: 1"=50'-0"

PROJECT NO.:QKT004299

QuikTrip No. 4299

S.W.C. OF BAPTIST RD & TERRAZZO DR.
MONUMENT, COLORADO

PROTOTYPE: P-107 (08/01/21)
DIVISION: 83
VERSION: 001
DESIGNED BY: DLR
DRAWN BY: DLR
REVIEWED BY: ACJ

REV	DATE	DESCRIPTION

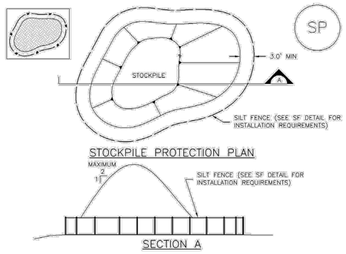
ORIGINAL ISSUE DATE: 9/24/2021

SHEET TITLE:
EROSION CONTROL PLAN

SHEET NUMBER:
17

FILE LOCATION:H:\Quiktrip\QKT004299-Monument, CO\DCM\2-Plan\83-4299_Civil.dwg TAB NAME:Erosion PH 2 (PUD) USER:Duncan_Rody SAVED:11/10/2021 5:16 PM PLOTTED:11/10/2021 8:16 PM

Stockpile Management (SP) MM-2



STOCKPILE PROTECTION PLAN

SECTION A

SP-1. STOCKPILE PROTECTION

STOCKPILE PROTECTION INSTALLATION NOTES:

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

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

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

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

MM-2 Stockpile Management (SM)

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

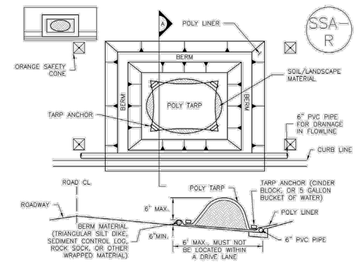
4. IF PERIMETER PROTECTION MUST BE MOVED TO ACCESS SOIL STOCKPILE, REPLACE PERIMETER CONTROLS BY THE END OF THE WORKDAY.

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.

Stockpile Management (SP) MM-2



SP-2. MATERIALS STAGING IN ROADWAY

MATERIALS STAGING IN ROADWAYS INSTALLATION NOTES:

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

2. FEATURE MUST BE INSTALLED PRIOR TO EXCAVATION, EARTHWORK OR DELIVERY OF MATERIALS.

3. MATERIALS MUST BE STATIONED ON THE POLY LINER. ANY INCIDENTAL MATERIALS DEPOSITED ON PAVED SECTION OR ALONG CURB LINE MUST BE CLEANED UP PROMPTLY.

4. POLY LINER AND TARP COVER SHOULD BE OF SIGNIFICANT THICKNESS TO PREVENT DAMAGE OR LOSS OF INTEGRITY.

5. SAND BAGS MAY BE SUBSTITUTED TO ANCHOR THE COVER TARP OR PROVIDE BERMING UNDER THE BASE LINER.

6. FEATURE IS NOT INTENDED FOR USE WITH WET MATERIAL THAT WILL BE DRAINING AND/OR SPREADING OUT ON THE POLY LINER OR FOR DEMOLITION MATERIALS.

7. THIS FEATURE CAN BE USED FOR:
   -UTILITY REPAIRS.
   -WHEN OTHER STAGING LOCATIONS AND OPTIONS ARE LIMITED.
   -OTHER LIMITED APPLICATION AND SHORT DURATION STAGING.

MM-2 Stockpile Management (SM)

MATERIALS STAGING IN ROADWAY 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. INSPECT PVC PIPE ALONG CURB LINE FOR CLOGGING AND DEBRIS. REMOVE OBSTRUCTIONS PROMPTLY.

5. CLEAN MATERIAL FROM PAVED SURFACES BY SWEEPING OR VACUUMING.

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)

GENERAL NOTES:

1. STORMWATER DISCHARGES FROM CONSTRUCTION SITES SHALL NOT CAUSE OR THREATEN TO CAUSE POLLUTION, CONTAMINATION, OR DEGRADATION OF STATE WATERS.
2. CONCRETE WASH WATER SHALL NOT BE DISCHARGED TO OR ALLOWED TO RUNOFF TO THE MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4).
3. BUILDING, CONSTRUCTION, EXCAVATION, OR OTHER WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY, UNLESS IN ACCORDANCE WITH AN APPROVED TRAFFIC CONTROL PLAN. BMPS MAY BE REQUIRED BY THE MS4 PERMITTEE IF DEEMED NECESSARY, BASED ON SPECIFIC CONDITIONS AND CIRCUMSTANCES (E.G., ESTIMATED TIME OF EXPOSURE, SEASON OF THE YEAR, ETC.).
4. VEHICLE TRACKING OF SOILS OFF-SITE SHALL BE MINIMIZED.
5. ALL WASTES COMPOSED OF BUILDING MATERIALS MUST BE REMOVED FROM THE CONSTRUCTION SITE FOR DISPOSAL IN ACCORDANCE WITH LOCAL AND STATE REGULATORY REQUIREMENTS. NO BUILDING MATERIAL WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURIED, DUMPED, OR DISCHARGED AT THE SITE.
6. NO CHEMICALS ARE TO BE ADDED TO THE DISCHARGE UNLESS PERMISSION FOR THE USE OF A SPECIFIC CHEMICAL IS GRANTED BY THE STATE. IN GRANTING THE USE OF SUCH CHEMICALS, SPECIAL CONDITIONS AND MONITORING MAY BE REQUIRED.
7. BULK STORAGE STRUCTURES FOR PETROLEUM PRODUCTS AND OTHER CHEMICALS SHALL HAVE SECONDARY CONTAINMENT OR EQUIVALENT ADEQUATE PROTECTION SO AS TO CONTAIN ALL SPILLS AND PREVENT ANY SPILLED MATERIAL FROM ENTERING THE MS4, INCLUDING ANY SURFACE OR SUBSURFACE STORM DRAINAGE SYSTEM OR FACILITIES.
8. ALL PERSONS ENGAGED IN EARTH DISTURBANCE SHALL IMPLEMENT AND MAINTAIN ACCEPTABLE SOIL EROSION AND SEDIMENT CONTROL MEASURES INCLUDING BMPS IN CONFORMANCE WITH THE EROSION CONTROL TECHNICAL STANDARDS OF THE DRAINAGE CRITERIA MANUAL, VOLUME 2 AND IN ACCORDANCE WITH THE APPROVED EROSION AND STORMWATER QUALITY CONTROL PLAN APPROVED BY THE MS4 PERMITTEE, IF REQUIRED.
9. ALL TEMPORARY EROSION CONTROL FACILITIES INCLUDING BMPS AND ALL PERMANENT FACILITIES INTENDED TO CONTROL EROSION OF ANY EARTH DISTURBANCE OPERATIONS, SHALL BE INSTALLED AS DEFINED IN THE APPROVED EROSION AND STORMWATER QUALITY CONTROL PLAN AND THE DRAINAGE CRITERIA MANUAL, VOLUME 2 AND MAINTAINED THROUGHOUT THE DURATION OF THE EARTH DISTURBANCE OPERATION. THE INSTALLATION OF THE FIRST LEVEL OF TEMPORARY EROSION CONTROL FACILITIES AND BMPS SHALL BE INSTALLED AND INSPECTED PRIOR TO ANY EARTH DISTURBANCE OPERATIONS TAKING PLACE.
10. ANY EARTH DISTURBANCE SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY REDUCE ACCELERATED SOIL EROSION AND RESULTING SEDIMENTATION.
11. ALL EARTH DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED IN SUCH A MANNER SO THAT THE EXPOSED AREA OF ANY DISTURBED LAND SHALL BE LIMITED TO THE SHORTEST PRACTICAL PERIOD OF
12. ALL WORK AND EARTH DISTURBANCE SHALL BE DONE IN A MANNER THAT MINIMIZES POLLUTION OF ANY ON SITE OR OFF-SITE WATERS, INCLUDING WETLANDS.
13. SUSPENDED SEDIMENT CAUSED BY ACCELERATED SOIL EROSION SHALL BE MINIMIZED IN RUNOFF WATER BEFORE IT LEAVES THE SITE OF THE EARTH DISTURBANCE.ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, THROUGH, OR FROM THE EARTH DISTURBANCE AREA SHALL BE DESIGNED TO LIMIT THE DISCHARGE TO A NON-EROSIVE VELOCITY.
15. TEMPORARY SOIL EROSION CONTROL FACILITIES SHALL BE REMOVED AND EARTH DISTURBANCE AREAS GRADED AND STABILIZED WITH PERMANENT SOIL EROSION CONTROL MEASURES PURSUANT TO THE STANDARDS AND SPECIFICATIONS PRESCRIBED IN THE DRAINAGE CRITERIA MANUAL, VOLUME 2, AND IN ACCORDANCE WITH THE PERMANENT EROSION CONTROL FEATURES SHOWN ON THE APPROVED EROSION AND STORMWATER QUALITY CONTROL PLANS, IF REQUIRED.
16. SOIL EROSION CONTROL MEASURES FOR ALL SLOPES, CHANNELS, DITCHES, OR ANY DISTURBED LAND AREA SHALL BE COMPLETED WITHIN TWENTY-ONE (21) CALENDAR DAYS AFTER FINAL GRADING, OR FINAL EARTHDISTURBANCE, HAS BEEN COMPLETED. DISTURBED AREAS AND STOCKPILES WHICH ARE NOT AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS SHALL ALSO BE MULCHED WITHIN 21 DAYS AFTER INTERIM GRADING. AN AREA THAT IS GOING TO REMAIN IN AN INTERIM STATE FOR MORE THAN 60 DAYS SHALL ALSO BE SEEDED. ON A CASE-BY-CASE BASIS, THE MS4 PERMITTEE MAY ALLOW ANOTHER APPROPRIATE BMP TO BE IN PLACE THAT PREVENTS SEDIMENT FROM LEAVING THE SITE. ALL TEMPORARY SOIL EROSION CONTROL MEASURES AND BMPS SHALL BE MAINTAINED UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED.
17. NO PERSON SHALL CAUSE, PERMIT, OR CONTRIBUTE TO THE DISCHARGE INTO THE MUNICIPAL SEPARATE STORM SEWER POLLUTANTS THAT COULD CAUSE THE MS4 PERMITTEE TO BE IN VIOLATION OF ITS COLORADO DISCHARGE PERMIT SYSTEM MS4 PERMIT.
18. THE OWNER, SITE DEVELOPER, CONTRACTOR, AND/OR THEIR AUTHORIZED AGENTS SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, SEDIMENT, AND SAND THAT MAY ACCUMULATE IN THE STORM SEWER OR OTHER DRAINAGE CONVEYANCE SYSTEM AND STORMWATER APPURTENANCES AS A RESULT OF SITE DEVELOPMENT.
19. NO PERSON SHALL CAUSE THE IMPEDIMENT OF STORMWATER FLOW IN THE FLOW LINE OF THE CURB AND GUTTER, INCLUDING THE TEMPORARY OR PERMANENT RAMPING WITH MATERIALS FOR VEHICLE ACCESS.
20. INDIVIDUALS SHALL COMPLY WITH THE "COLORADO WATER QUALITY CONTROL ACT" (TITLE 25, ARTICLE 8, CRS) AND THE "CLEAN WATER ACT" (33 USC 1344), REGULATIONS PROMULGATED, CERTIFICATIONS OR PERMITS ISSUED, IN ADDITION TO THE REQUIREMENTS INCLUDED IN THE DRAINAGE CRITERIA MANUAL, VOLUME 2. IN THE EVENT OF CONFLICTS BETWEEN THESE REQUIREMENTS AND WATER QUALITY CONTROL LAWS, RULES, OR REGULATIONS OF OTHER FEDERAL OR STATE AGENCIES, THE MORE RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
21. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT QUANTITY REQUIRED TO PERFORM THE WORK IN AN ORDERLY SEQUENCE. ALL MATERIALS STORED ON SITE SHALL BE STORED IN A NEAT, ORDERLY MANNER, IN THEIR ORIGINAL CONTAINERS, WITH ORIGINAL MANUFACTURER'S LABELS. MATERIALS SHALL NOT BE STORED IN A LOCATION WHERE THEY MAY BE CARRIED BY STORMWATER RUNOFF INTO THE MS4 AT ANY TIME.
22. SPILL PREVENTION AND CONTAINMENT MEASURES SHALL BE USED AT STORAGE, AND EQUIPMENT FUELING AND SERVICING AREAS TO PREVENT POLLUTION FROM DISCHARGING TO THE MS4. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY AFTER DISCOVERY, OR CONTAINED UNTIL APPROPRIATE CLEANUP METHODS CAN BE EMPLOYED. MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE FOLLOWED, ALONG WITH PROPER DISPOSAL METHODS.

PROJECT NO.: QKT004299

QuikTrip No. 4299

S.W.C. OF BAPTIST RD & TERRAZZO DR.
MONUMENT, COLORADO

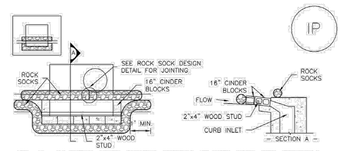
PROTOTYPE:	P-107 (08/01/21)
DIVISION:	83
VERSION:	001
DESIGNED BY:	DLR
DRAWN BY:	DLR
REVIEWED BY:	ACJ

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 9/24/2021

SHEET TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
18



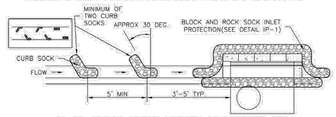
IP–1, BLOCK AND ROCK SOCK SUMP OR ON GRADE INLET PROTECTION

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, ABUTING 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

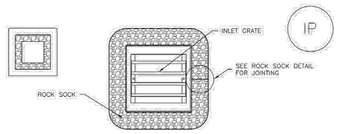
CURB ROCK SOCK INLET PROTECTION INSTALLATION NOTES

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.

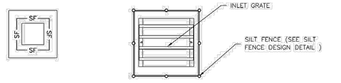


IP–3, ROCK SOCK SUMP/AREA INLET PROTECTION

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.

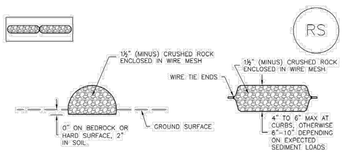
6. WHEN INLET PROTECTION AT AREA INLETS IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED AND MULCHED, OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

(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.



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 ½ OF THE HEIGHT OF THE ROCK SOCK.

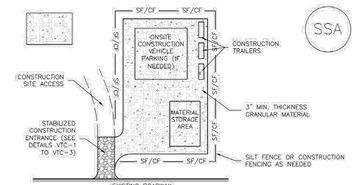
6. ROCK SOCKS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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 ENDORSES 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.



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 CDOT 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)

PROJECT NO.: QKT004299

QuikTrip No. 4299
S.W.C. OF BAPTIST RD & TERRAZZO DR.
MONUMENT, COLORADO

PROTOTYPE: P-107 (08/01/21)
DIVISION: 83
VERSION: 001
DESIGNED BY: DLR
DRAWN BY: DLR
REVIEWED BY: ACJ

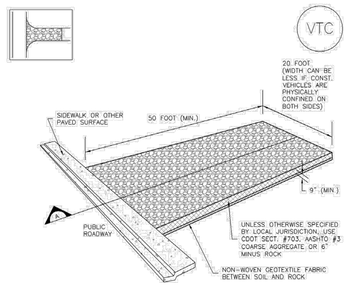
REV	DATE	DESCRIPTION
		ORIGINAL ISSUE DATE: 9/24/2021

SHEET TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
19

FILE LOCATION: H:\Quiktrip\QKT004299–Monument, CO\CIV\3–CD\DETAILS MISC. SITE.dwg TAB NAME:EROSION CONTROL SHEET 2 USER:Duncan_Rody SAVED:11/10/2021 8:22 AM PLOTTED:11/10/2021 8:17 PM

Vehicle Tracking Control (VTC) SM-4



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

SM-4 Vehicle Tracking Control (VTC)

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.

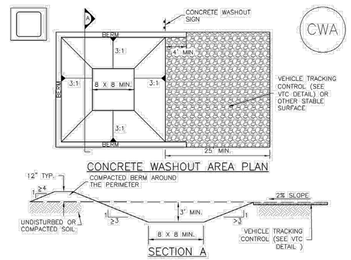
4. ROCK SHALL BE REAPPLIED OR REGRADED AS NECESSARY TO THE STABILIZED ENTRANCE/EXIT TO MAINTAIN A CONSISTENT DEPTH.

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)

Concrete Washout Area (CWA) MM-1



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 ON 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.

MM-1 Concrete Washout Area (CWA)

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.

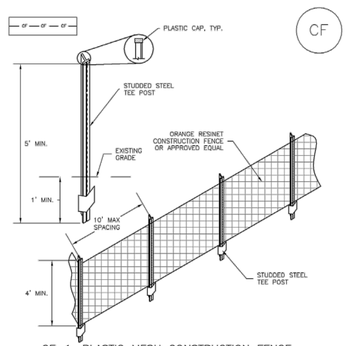
6. THE CWA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.

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.

SM-3 Construction Fence (CF)



CF-1. PLASTIC MESH CONSTRUCTION FENCE

CONSTRUCTION FENCE INSTALLATION NOTES

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

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

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

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

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

Construction Fence (CF) SM-3

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.

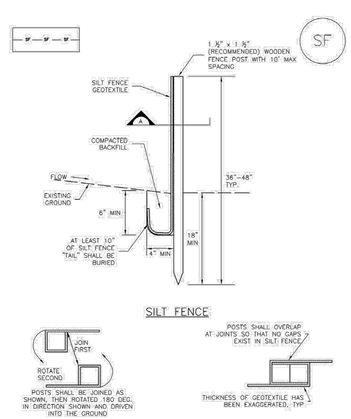
4. CONSTRUCTION FENCE SHALL BE REPAIRED OR REPLACED WHEN THERE ARE SIGNS OF DAMAGE SUCH AS RIPS OR SAGS. CONSTRUCTION FENCE IS TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND APPROVED BY THE LOCAL JURISDICTION.

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)

Silt Fence (SF) SC-1



SF-1. SILT FENCE

SC-1 Silt Fence (SF)

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.

PROJECT NO.: QKT004299

QuikTrip No. 4299

S.W.C. OF BAPTIST RD & TERRAZZO DR.
MONUMENT, COLORADO

PROTOTYPE: P-107 (08/01/21)
DIVISION: 83
VERSION: 001
DESIGNED BY: DLR
DRAWN BY: DLR
REVIEWED BY: ACJ

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 9/24/2021

SHEET TITLE:
EROSION CONTROL DETAILS

SHEET NUMBER:
20

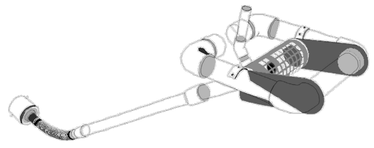


Illustration SB-1. Outlet structure for a temporary sediment basin - Faircloth Skimmer Floating Outlet. Illustration courtesy of J. W. Faircloth & Sons, Inc., FairclothSkimmer.com.

- **Outlet Protection and Spillway:** Consider all flow paths for runoff leaving the basin, including protection at the typical point of discharge as well as overtopping.
  - **Outlet Protection:** Outlet protection should be provided where the velocity of flow will exceed the maximum permissible velocity of the material of the waterway into which discharge occurs. This may require the use of a riprap apron at the outlet location and/or other measures to keep the waterway from eroding.
  - **Emergency Spillway:** Provide a stabilized emergency overflow spillway for rainstorms that exceed the capacity of the sediment basin volume and its outlet. Protect basin embankments from erosion and overtopping. If the sediment basin will be converted to a permanent detention basin, design and construct the emergency spillway(s) as required for the permanent facility. If the sediment basin will not become a permanent detention basin, it may be possible to substitute a heavy polyvinyl membrane or properly bedded rock cover to line the spillway and downstream embankment, depending on the height, slope, and width of the embankments.

Maintenance and Removal

Maintenance activities include the following:

- Dredge sediment from the basin, as needed to maintain BMP effectiveness, typically when the design storage volume is no more than one-third filled with sediment.
- Inspect the sediment basin embankments for stability and seepage.
- Inspect the inlet and outlet of the basin, repair damage, and remove debris. Remove, clean and replace the gravel around the outlet on a regular basis to remove the accumulated sediment within it and keep the outlet functioning.
- Be aware that removal of a sediment basin may require dewatering and associated permit requirements.
- Do not remove a sediment basin until the upstream area has been stabilized with vegetation.

Final disposition of the sediment basin depends on whether the basin will be converted to a permanent post-construction stormwater basin or whether the basin area will be returned to grade. For basins being converted to permanent detention basins, remove accumulated sediment and reconfigure the basin and outlet to meet the requirements of the final design for the detention facility. If the sediment basin is not to be used as a permanent detention facility, fill the excavated area with soil and stabilize with vegetation.

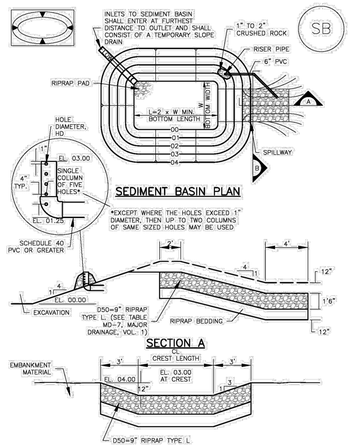


TABLE SB-1, SIZING INFORMATION FOR STANDARD SEDIMENT BASIN

Upstream Drainage Area (rounded to nearest acre), (ac)	Basin Bottom Width (W), (ft)	Spillway Crest Length (CL), (ft)	Hole Diameter (HD), (in)
1	12 ½	2	3/32
2	21	3	1/8
3	28	5	3/16
4	33 ½	6	1/4
5	38 ½	8	7/32
6	43	9	2/32
7	47 ½	11	2/32
8	51	12	2/32
9	55	13	5/16
10	58 ½	15	13/64
11	61	16	7/32
12	64	18	15/64
13	67 ½	19	1/4
14	70 ½	21	1 1/16
15	73 ¼	22	1 1/16

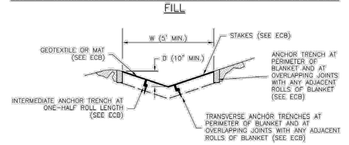
SEDIMENT BASIN INSTALLATION NOTES

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.

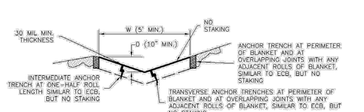
ED–1. COMPACTED UNLINED EARTH DIKE FORMED BY BERM

DS–1. COMPACTED UNLINED EXCAVATED SWALE

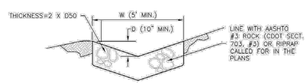
DS–2. COMPACTED UNLINED SWALE FORMED BY CUT AND FILL



DS–3. ECB LINED SWALE (CUT AND FILL OR BERM)



DS–4. SYNTHETIC LINED SWALE



DS–5. RIPRAP LINED SWALE

EARTH DIKE AND DRAINAGE SWALE INSTALLATION NOTES

1. SEE SITE PLAN FOR:
   – LOCATION OF DIVERSION SWALE
   – TYPE OF SWALE (UNLINED, COMPACTED AND/OR LINED).
   – LENGTH OF EACH SWALE.
   – DEPTH, D, AND WIDTH, W DIMENSIONS.
   – FOR ECB/TRM LINED DITCH, SEE ECB DETAIL.
   – FOR RIPRAP LINED DITCH, SIZE OF RIPRAP, D50.
2. SEE DRAINAGE PLANS FOR DETAILS OF PERMANENT CONVEYANCE FACILITIES AND/OR DIVERSION SWALES EXCEEDING 2-YEAR FLOW RATE OR 10 CFS.
3. EARTH DIKES AND SWALES INDICATED ON SWMP PLAN SHALL BE INSTALLED PRIOR TO LAND-DISTURBING ACTIVITIES IN PROXIMITY.
4. EMBANKMENT IS TO BE COMPACTED TO 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D698.
5. SWALES ARE TO DRAIN TO A SEDIMENT CONTROL BMP.
6. FOR LINED DITCHES, INSTALLATION OF ECB/TRM SHALL CONFORM TO THE REQUIREMENTS OF THE ECB DETAIL.
7. WHEN CONSTRUCTION TRAFFIC MUST CROSS A DIVERSION SWALE, INSTALL A TEMPORARY CULVERT WITH A MINIMUM DIAMETER OF 12 INCHES.

EARTH DIKE AND DRAINAGE SWALE 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. SWALES SHALL REMAIN IN PLACE UNTIL THE END OF CONSTRUCTION; IF APPROVED BY LOCAL JURISDICTION, SWALES MAY BE LEFT IN PLACE.
5. WHEN A SWALE IS REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY LOCAL JURISDICTION.

(DETAIL ADAPTED FROM DOUGLAS COUNTY, COLORADO AND THE CITY OF COLORADO SPRINGS, 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.

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.

PROJECT NO.: QKT004299

QuikTrip No. 4299

S.W.C. OF BAPTIST RD & TERRAZZO DR.
MONUMENT, COLORADO

PROTOTYPE:	P-107 (08/01/21)
DIVISION:	83
VERSION:	001
DESIGNED BY:	DLR
DRAWN BY:	DLR
REVIEWED BY:	ACJ

REV	DATE	DESCRIPTION

ORIGINAL ISSUE DATE: 9/24/2021

SHEET TITLE:

EROSION CONTROL DETAILS

SHEET NUMBER:

21

FILE LOCATION: H:\Quiktrip\QKT004299-Monument, CO\CIV\3-CD\DETAILS MISC. SITE.dwg TAB NAME: EROSION CONTROL SHEET 4 USER: Duncan_Rody SAVED: 11/10/2021 8:22 AM PLOTTED: 11/10/2021 8:17 PM

Appendix C – Training Documentation

Appendix D – Inspection Report

State Inspection Report Template

Appendix D: Stormwater Inspection Report Template

Facility Name		Permittee	
Date of Inspection		Weather Conditions	
Permit Certification #		Disturbed Acreage	
Phase of Construction		Inspector Title	
Inspector Name			

Is the above inspector a qualified stormwater manager? (permittee is responsible for ensuring that the inspector is a qualified stormwater manager)	YES ☐	NO ☐

INSPECTION FREQUENCY	
Check the box that describes the minimum inspection frequency utilized when conducting each inspection	
At least one inspection every 7 calendar days	☐
At least one inspection every 14 calendar days, with post-storm event inspections conducted within 24 hours after the end of any precipitation or snowmelt event that causes surface erosions	☐
• This is this a post-storm event inspection. Event Date: _____	☐
Reduced inspection frequency - Include site conditions that warrant reduced inspection frequency	☐
• Post-storm inspections at temporarily idle sites	☐
• Inspections at completed sites/area	☐
• Winter conditions exclusion	☐
Have there been any deviations from the minimum inspection schedule? If yes, describe below.	YES ☐ NO ☐

INSPECTION REQUIREMENTS*
i. Visually verify all implemented control measures are in effective operational condition and are working as designed in the specifications
ii. Determine if there are new potential sources of pollutants
iii. Assess the adequacy of control measures at the site to identify areas requiring new or modified control measures to minimize pollutant discharges
iv. Identify all areas of non-compliance with the permit requirements, and if necessary, implement corrective action
*Use the attached **Control Measures Requiring Routine Maintenance** and **Inadequate Control Measures Requiring Corrective Action** forms to document results of this assessment that trigger either maintenance or corrective actions

AREAS TO BE INSPECTED			
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?			
	NO	YES	If "YES" describe discharge or potential for discharge below. Document related maintenance, inadequate control measures and corrective actions **Inadequate Control Measures Requiring Corrective Action** form
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: _____	☐	☐	

CONTROL MEASURES REQUIRING ROUTINE MAINTENANCE

Definition: Any control measure that is still operating in accordance with its design and the requirements of the permit, but requires maintenance to prevent a breach of the control measure. These items are not subject to the corrective action requirements as specified in Part I.B.1.c of the permit.

Are there control measures requiring maintenance?	NO	YES	
	☐	☐	If "YES" document below

Date Observed	Location	Control Measure	Maintenance Required	Date Completed

INADEQUATE CONTROL MEASURES REQUIRING CORRECTIVE ACTION

Definition: Any control measure that is not designed or implemented in accordance with the requirements of the permit and/or any control measure that is not implemented to operate in accordance with its design. This includes control measures that have not been implemented for pollutant sources. If it is infeasible to install or repair the control measure immediately after discovering the deficiency the reason must be documented and a schedule included to return the control measure to effective operating condition as possible.

	NO	YES	
Are there inadequate control measures requiring corrective action?	☐	☐	If "YES" document below

	NO	YES	
Are there additional control measures needed that were not in place at the time of inspection?	☐	☐	If "YES" document below

Date Discovered	Location	Description of Inadequate Control Measure	Description of Corrective Action	Was deficiency corrected when discovered? YES/NO if "NO" provide reason and schedule to correct	Date Corrected

REPORTING REQUIREMENTS

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.

All Noncompliance Requiring 24-Hour Notification per Part II.L.6 of the Permit

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)

This category would primarily result from the discharge of pollutants in violation of the permit

b. Numeric Effluent Limit Violations

- Circumstances leading to any unanticipated bypass which exceeds any effluent limitations (See Part II.L.6.b of the Permit)
- Circumstances leading to any upset which causes an exceedance of any effluent limitation (See Part II.L.6.c of the Permit)
- 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?	NO	YES	
	☐	☐	If "YES" document below

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

*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.

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

Notes/Comments

Appendix E – Spill and Prevention Control

Spill Prevention and Control Plan
Site Spill Log

Galloway
6162 S. Willow Drive, Suite 320
Greenwood Village, CO 80111
303.770.8884 • GallowayUS.com

SPILL PREVENTION AND CONTROL PLAN

Whenever significant quantities of fuels, materials, vehicle fluids, or other pollutants are to be used on site, specific procedures for material containment and spill prevention shall be developed and implemented.

Introduction

The following Spill Prevention and Response Plan shall be implemented during the construction of improvements at Lot 1 and Lot 2 of QuikTrip 4299, Filing No. 1, and associated thereto. This plan will be implemented to meet the requirements of the Town of Monument, City of Colorado Springs and the State of Colorado.

Materials On-Site

Spill control procedures will be implemented when materials are stockpiled or when chemicals and/or fluids are used in the construction area.

Stockpiles of Dry Materials

The following spill prevention procedures shall be implemented:

All materials shall be stockpiled in designated areas, with control measures used to reduce and minimize the runoff of contaminants. Control measures such as silt fence and sediment control logs will be installed according to City of Colorado Springs criteria using the details shown on the SWMP plans. Loading and unloading operations shall be performed in a manner to limit materials from being spilled. Any spilled materials shall be swept up immediately after the operations are performed.

Vehicle Fueling

The following spill prevention procedures shall be implemented:

All vehicle fueling will be done off-site as much as possible. All on-site fueling operations will be performed in designated areas. Measures will be taken where necessary to reduce and minimize spills during vehicle fueling operations. These measures may include the placement of a temporary berm around the fueling area, covering the fueling area under a temporary portable structure, and/or the placement of drip pans under valves and tank openings. Berms will be constructed around all fueling areas. An adequate supply of absorbents will also be stockpiled at each fueling area.

Routine Vehicle and Equipment Maintenance

The following spill prevention procedures shall be implemented:

All vehicle maintenance will be performed off-site when possible. However, there may be occasions where construction equipment and vehicles may break down at the site and on-site repairs are more feasible. On-site vehicle and equipment maintenance, if needed, will be performed in designated areas, where practical, and enclosed by earthen berms. All maintenance areas will maintain an adequate supply of drip pans. These pans will be placed underneath vehicles as needed and absorbents will be used in the event of a minor spill or leak.

SPILL RESPONSE

NOTE: IN CASE OF FIRE, EVACUATE ALL PERSONNEL FROM THE IMMEDIATE AREA, RENDER FIRST AID TO ANYONE WHO IS INJURED, AND DIAL 911 IMMEDIATELY. TAKE APPROPRIATE STEPS TO PROTECT HUMAN LIFE AND TO CONTROL FIRES FIRST. SPILL CONTROL IS A SECONDARY CONCERN.

Cleanup and Removal Procedures

- Upon detection of any spill, the first action to be taken is to ensure personal safety. All possible ignition sources, including running engines, electrical equipment (including cellular telephones, etc.), or other hazards will be immediately turned off or removed from the area. The extent of the spill and the nature of the spilled material will be evaluated to determine if remedial actions could result in any health hazards, escalation of the spill, or further damage that would intensify the problem. If such conditions exist, a designated employee will oversee the area of the spill and the construction supervisor will be notified immediately.
- The source of the spill will be identified and if possible the flow of pollutants stopped if it can be done safely. However, no employee will attend to the source or begin cleanup of the spill until ALL emergency priorities (fire, injuries, etc.) have been addressed.

Small Spills

Small spills (usually <5 gallons) consist of minor quantities of gasoline, oil, anti-freeze, or other materials that can be cleaned up by a single employee using readily available materials.

The following procedures shall be used for clean up of small spills:

1. Ensure personal safety, evaluate the spill, and if possible, stop the flow of pollutants.

2. Contain the spread of the spill using absorbents, portable berms, sandbags, or other available measures.

3. Spread absorbent materials on the area to soak up as much of the liquid as possible and to prevent or minimize infiltration into the soil.

4. Once the liquids have been absorbed, remove all absorbents from the spill and place the materials in a suitable storage container. On paved areas, wipe any remaining liquids from the surface and place the materials in a storage container. Do not spray or wash down the area using water. For open soil areas, excavate any contaminated soil as soon as possible and place the soil in a suitable storage container. All materials will then be transported off-site for disposal.

5. If immediate transfer and storage of the contaminated soil is not practical, excavate and place the contaminated soil on a double thickness sheet of 3-mil or higher polyethylene film. In addition, a small berm should be formed around the outer edges of the soil stockpile, underneath the polyethylene film, to ensure that contaminants are not washed from the site during precipitation events and that materials do not seep through the berm.

6. Record all significant facts and information about the spill, including the following:
    - Type of pollutant
    - Location
    - Apparent source
    - Estimated volume
    - Time of discovery
    - Actions taken to clean up spill

7. Notify the supervisor of the spill and provide the information from Item #6. The supervisor will then contact the Town of Monument and El Paso County.

Medium to Large Spills

Medium to large spills consist of larger quantities of materials (usually >5 - 25 gallons) that are used on site that cannot be controlled by a single employee. Generally, a number of facility personnel will be needed to control the spill and a response may require the suspension of other facility activities.

The following procedure shall be used for the cleanup of medium to large spills:

1. Ensure personal safety, evaluate the spill, and if possible, stop the flow of pollutants.

2. Immediately dispatch a front-end loader or similar equipment to the spill and construct a berm or berms down gradient of the spill to minimize the spread of potential pollutants. On paved surfaces, portable berms, sandbags, booms, or other measures will be used to control the lateral spread of the pollutants.

3. When the spread of the spill has been laterally contained, contact the supervisor or designated facility employee and provide them information on the location, type, and amount of spilled material, and a briefing on the extent of the spread and measures undertaken to contain the contaminants.

4. Depending on the nature of the spill, mobilize additional resources as needed to contain the contaminants.

5. Cleanup will commence when the lateral spread has been contained and the notification to the supervisor has been made.

6. Freestanding liquid will be bailed or pumped into 55-gallon storage drums, steel tanks, or other suitable storage containers. When all the liquid has been removed from the pavement or soil layer, absorbents will be applied to the surface and transferred to the storage containers when they have soaked up as much of the spill as possible.

7. On paved surfaces, the remaining contaminants will be removed to the extent possible, with rags, sweeping, or similar measures. The area of the spill will not be sprayed or washed down using water. Any contaminant soaked materials will be placed into the storage containers with the other absorbents.

8. The remaining contaminated soils will be excavated and loaded into a dump truck(s) for disposal off-site at a designated facility. If transport off-site is not immediately available, the remaining soils will be stockpiled on a double thickness sheet of 3-mil or higher polyethylene film. In addition, a small berm will be formed around the outer edges of the soil stockpile, underneath the polyethylene film, to ensure that contaminants are not washed from the site during precipitation and do not seep through the berm.

9. Record all significant facts and information about the spill, including the following:
    - Type of pollutant
    - Location
    - Apparent source
    - Estimated volume
    - Time of discovery
    - Actions taken to clean up spill

10. Provide the supervisor (or designated employee) with the information from Item #9. The supervisor will then contact the Town of Monument and El Paso County.

NOTIFICATION

Notification to the Colorado Department of Public Health & Environment (CDPHE) is required if there is any release or suspected release of any substance, including oil or other substances that spill into or threaten State waters. Unless otherwise noted, notifications are to be made by the supervisor and only after emergency responses related to the release have been implemented. This will prevent misinformation and assures that notifications are properly conducted.

The notification requirements are as follows:

1. Spills into/or Threatens State Waters: Immediate notification is required for releases that occur beneath the surface of the land or impact or threaten waters of the State of threaten the public health and welfare. Notifications that will be made are:

a. For any substance, regardless of quantity, contact CDPHE at 1-877-518¬5608. State as follows:

a) Give you name.
b) Give location of spill (name of city).
c) Describe the nature of the spill, type of products, and estimate size of spill.
d) Describe type of action taken thus far, type of assistance or equipment needed.

b. For any quantity of oil or other fluids, call the National Response Center at 1-800-424-8802. State as follows:

a) Give your name.
b) Give location of spill (name of city and state).
c) Describe the nature of the spill, type of product, and estimate size of spill.
d) Describe type of action taken thus far, type of assistance or equipment needed.

2. Reportable Quantity Spill on Land Surface: Immediate notification is required of a release upon the land surface of an oil in quantity that exceeds 25 gallons, or of a hazardous substance that equals or exceeds 10 pounds or its reportable quantity under Section 101(14) of the Comprehensive Environmental Response, Compensation Liability Act (CERCLA) of 1980 as amended (40 CFR Part 302) and Section 329c(F3)of the Emergency Planning and Community Right to Know Act of 1986 (40 CFR Part 355) whichever is less. This requirement does apply at a minimum to the substances listed in Table A below.

TABLE A
Substances Requiring Notification

SUBSTANCE	REPORTABLE QUANTITY
Motor Oil	25 Gallons
Hydraulic Oil	25 Gallons
Gasoline/Diesel Fuel	25 Gallons

The notification procedures to be followed are:

a) Give your name.
b) Give location of spill (name of city and state).
c) Describe nature of the spill, type of product, and estimate size of spill.
d) Describe type of action taken thus far, type of assistance or equipment needed.
e) Give name of land owner
f) Specify department responsible for any facilities that may be impacted

3. Notification is not required for release of oil upon the land surface of 25 gallons or less - that will not constitute a threat to public health and welfare, the environmental or a threat of entering the waters of the State.

4. Notification, as required in paragraphs 1 and 2 above, will be made to the CDPHE using the 24-hour telephone number to report environmental spills. All information known about the release at the time of discovery is to be included, such as the time of occurrence, quantity and type of material, location and any corrective or clean-up actions presently being taken. Table B lists these phone numbers.

SPILL RESPONSE CONTACTS

TABLE B
Emergency Notification Contacts

Name/Agency	Number
Monument Fire Department	**911**
Monument Police Department	**911**
Ambulance	**911**
Hospital	**911**
National Response Center	**1-800-424-8802**
CDPHE - Report Environmental Spills (24 hrs/day)	**1-877-518-5608**
Colorado Emergency Planning Committee	**303-273-1622**
El Paso County Sheriff's Office	**719-520-7100**
Town of Monument	719-481-2954

It is the responsibility of the supervisor to contact the Town of Monument, El Paso County, CDPHE, and/or the National Response Center.

- The **National Response Center** is to be contacted when a release containing a hazardous substance or oil in an amount equal to or in excess of a reportable quantity established under either 40 CFR 110, 4- DFR 117, or 40CFR 302 occurs during a 24-hour period.

- Notification to the CDPHE is required if there is any release or suspected release of any material, including oil or hazardous substances that spill into or threaten state waters.

REPORTS

The CDPHE requires written notification of a spill or discharge of oil or other substance that may cause pollution of the waters of the State of Colorado. A written report must be submitted to the Water Quality Control District (WQCD) within five days after becoming aware of the spill or discharge.

The CDPHE requires a written final report within five days for all releases of an oil or hazardous substance that require implementation of a contingency plan. The CDPHE may also require additional reports on the status of the clean up until any required remedial action has been complete.

Written notification of reports must contain at a minimum:

1. Date, time, and duration of the release.
2. Location of the release.
3. Person or persons causing and responsible for the release.
4. Type and amount of oil or substance released.
5. Cause of the release.
6. Environmental damage caused by the release.
7. Actions taken to respond, contain, and clean up the release.
8. Location and method of ultimate disposal of the oil or other fluids.
9. Actions taken to prevent a reoccurrence of the release.
10. Any known or anticipated acute or chronic health risks associated with the release.
11. When appropriate advice regarding medical attention necessary for exposed individuals.

Site Spill Log

Site Location: _____

General Contractor: _____

Any site spill must be reported to the appropriate authorities in accordance with all applicable laws and regulations. Spills must also be reported to the owner's representative immediately, but no later than 24 hours of occurrence.

Date / Time of Spill:_____

Name / Title: _____

Material Spilled and Approximate Quantity: _____

_____

Weather Conditions: _____

Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)

Contractor(s) Representatives Present:

_____

_____

Containment Actions Taken and Authorities Notified:

_____

_____

Date / Time of Spill:_____

Name / Title: _____

Material Spilled and Approximate Quantity:

_____

_____

Weather Conditions: _____

Phase of Construction: _____ (Clearing, Rough Grading, Building, Paving, Etc.)

Contractor(s) Representatives Present:

_____

_____

Containment Actions Taken and Authorities Notified:

_____

_____