Reviewed by:
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STORMWATER MANAGEMENT PLAN (SWMP)

Project: Meadowbrook Park
El Paso County, Colorado

Prepared for:

Meadowbrook Development, LLC.
90 South Cascade Avenue
Suite 1500
Colorado Springs, Colorado 80903
Contact: Danny Mientka

Prepared by:

Kimley-Horn and Associates, Inc.
2 North Nevada Avenue, Suite 300
Colorado Springs, Colorado 80903
(719) 453-0180
Contact: John Heiberger, P.E

Qualified Stormwater Manager
Company:_____
Address: _____
Contact: _____

Contractor
Company:_____
Address: _____
Contact: _____

March 18, 2021

Kimley»Horn

PCD Filing No.: SF-21-025

Project #: 09656009

Prepared: October 18, 2021

APPENDIX A – STORMWATER MANAGEMENT PLANS / SITE MAPS
APPENDIX B – CDPHE STOMWATER PERMIT
APPENDIX C – FEMA FIRM MAP
APPENDIX D – SOILS INFORMATION
APPENDIX E – IDENTIFICATION OF POLLUTANT SOURCES
APPENDIX F – LAND DISTURBANCE / CONTROL MEASURE / STABILIZATION LOG
APPENDIX G – CDPHE ENVIRONMENTAL SPILL REPORTING / CONTROL MEASURE
APPENDIX H – STORM EVENT LOG
APPENDIX I – INSPECTION AND SAMPLING REPORTS
APPENDIX J – SWMP AMENDMENT LOG

DEVELOPER/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 Signature:_____

Name of Developer/Owner:_____Date: _____

DBA:_____Phone:_____

Title:_____Email:_____

Address:_____Fax:_____

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."

Signature:_____ Date:_____

Printed Name: John Heiberger, P.E. / Associate

PERMITTEE / OPERATOR RESPONSIBILITIES

This Stormwater Management Plan (SWMP) is prepared for Meadowbrook Development, LLC (the Owner) to fulfill the Colorado Discharge Permit System (CDPS) requirements for El Paso County and the State of Colorado Department of Public Health and Environment (CDPHE) for Meadowbrook Park (the Project). This narrative, in conjunction with the Stormwater Management Plan, examines measures taken onsite to improve stormwater quality leaving the Site, and also addresses important erosion control measures implemented prior to and during construction. A general overview of the procedures outlined in the SWMP which the Operator (the Contractor) shall follow is provided below for reference.

	Responsibility Operator
1. Submit and Receive the Colorado Discharge Permit System (CDPS) General Permit through CDPHE	☐
2. Complete the Permittee / Operator SWMP Certifications provided within the SWMP Narrative.	☐
3. Complete the Operator / SWMP Administrator Contact Information identified in the SWMP Narrative.	☐
4. Post the Site in accordance with the requirements identified on the SWMP Site Map included in the appendices of this report.	☐
5. Commence BMP installation and construction in accordance with the Phased BMP Implementation.	☐
6. Complete Land Disturbance / BMP / Site Stabilization Log, a copy of which is included in the appendices of this report.	☐
7. Complete Inspections in accordance with the SWMP Inspection Schedule and Procedures outlined within the SWMP Narrative.	☐
8. Complete field maintenance or field modifications to Stormwater Management Practices based upon the results of the Inspection.	☐
9. Maintain current records of the SWMP Inspections in accordance with the Inspection Record Keeping identified in the SWMP Narrative.	☐
10. Maintain current records of the Land Disturbance / BMP / Site Stabilization Log, a copy of which is included in the appendices of this report.	☐
11. Maintain current records of the BMP Corrective Action Log, a copy of which is included in the appendices of this report.	☐
12. Maintain current records of the SWMP Amendment Log, a copy which is included in the appendices of this report.	☐
13. Achieve Final Stabilization in accordance with the Final Stabilization practices outlined within the SWMP Narrative.	☐
14. File the County and State Construction Stormwater Inactivation Notice.	☐

This summary is provided for Permittee / Operator convenience only and shall not be considered all-inclusive with respect to stormwater management responsibilities. The Permittee / Operator shall

familiarize themselves with the County and CDPS General Permit and SWMP, and implement storm water management strategies based upon the recommendations identified herein and varying Site conditions.

PERMITTEE CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Owner's Authorized Agent: Date:

OPERATOR CERTIFICATION

I certify under penalty of law that a complete Stormwater Management Plan, has been prepared for my activity. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the Stormwater Management Plan is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Operator's Authorized Agent: Date:

SUBCONTRACTOR CERTIFICATION

Subcontractor Certification

I certify under penalty of law that a complete Stormwater Management Plan, has been prepared for my activity. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the Stormwater Management Plan is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for falsely certifying the completion of said SWMP, including the possibility of fine and imprisonment for knowing violations.

_____ _____

Subcontractor's Authorized Agent: Date:

Note: Additional Subcontractor Certifications shall be completed as necessary.

INTRODUCTION

The purpose of this report is to outline the SWMP plan for the Meadowbrook Park single-family development (herein the "Project"), located within the jurisdictional limits of El Paso County ("the County").

PERMIT COVERAGE AND APPLICATIONS

Based upon a Site Disturbance Area of one (1) acre or more, this Site requires the approval of this Stormwater Management Plan and a Grading and Erosion Control Plan with the County and the issuance of a Colorado Discharge Permit System (CDPS) - Stormwater Discharge Associated with Construction Activities Application (the General Permit) through the Colorado Department of Public Health and Environment (CDPHE).

A copy of the CDPS General Permit is included in the Appendices of this report.

DEFINITIONS

CDPHE – Colorado Department of Public Health and Environment

Operator – The group or individual that is responsible for day-to-day operations on the Project Site. The Operator will be assigned the SWMP Administrator role and these terms are used interchangeably in the SWMP.

SWMP – Construction Activities Stormwater Management Plan

SWMP Administrator – The specific individual(s), position or title that is responsible for developing, implementing, maintaining and revising the SWMP. The activities and responsibilities of the Administrator shall address all aspects of the facility's SWMP. The Operator will be assigned the SWMP Administrator role and these terms are used interchangeably in the SWMP.

Permittee – The specific individual(s), position or title that is legally responsible for compliance with the permit. The Permittee is authorized to sign and certify the permit application.

SITE DESCRIPTION

GENERAL PROJECT DESCRIPTION

The proposed Meadowbrook Park development is located northwest of the Meadowbrook Parkway and US Highway 24 intersection in El Paso County, Colorado. More specifically, the Project is made up of Tract A within the 94/24 Business Park Filing No. 1 plat within the southeast quarter of Section 8, Township 14 South, Range 65 West of the 6th Principal Meridian, County of El Paso, State of Colorado. The site is bounded by Meadowbrook Park Parkway to the west, a commercial development to the north, US Highway 24 to the east, and a commercial development to the south. A vicinity map has been provided in the Appendix A of this report.

The Project Site is 8.07 acres and involves a 67 lot single family development. The scope will include the construction of private streets, sidewalks, driveways, hardscape/landscape, stormwater management, and associated utility infrastructure required to serve each lot. Stormwater quality and detention is required for the site and will be accomplished with the construction of an Extended Detention Basin proposed in the southeast corner of the site and a bioretention rain garden proposed in the southwest corner of the site. As part of the utility infrastructure improvements, a proposed storm sewer system will be constructed to collect and convey runoff to the proposed detention system. The majority of the onsite stormwater will travel via overland flow to proposed curb and gutter and will be captured in proposed storm inlets before entering the storm sewer system. Onsite stormwater between the western lots and the western right-of-way line will be conveyed through proposed swales to the proposed inlets before entering the storm sewer system. Once the stormwater reaches the detention basin from the proposed storm sewer system, it will be piped to the outfall, an existing private storm sewer in the southwest corner of the site. The onsite stormwater in the southern portion of the site not routed to the detention basin will be conveyed via overland flow to the bioretention rain garden in the southwest corner of the site. The rain garden will also discharge to the outfall in the southwest. The offsite stormwater, a portion of the stormwater runoff from US Highway 24 travel lanes and the adjacent right-of-way in the east, will be routed through an offsite proposed swale to the onsite proposed storm sewer and will be piped to the outfall in the southwest. Reference Appendix A for the Stormwater Management Plans.

PROJECT CONTACTS

SWMP Preparer

Company:	Kimley-Horn and Associates, Inc.
Contact:	John Heiberger, P.E.
Address:	2 North Nevada Avenue- Suite 300 Colorado Springs, CO 80903
Phone:	719.284.7272
Email:	John.Heiberger@kimley-horn.com

SWMP Administrator

Company:	Meadowbrook Development, LLC
Contact:	Danny Mientka
Address:	90 Cascade Avenue, Suite 1500 Colorado Springs, CO 80903

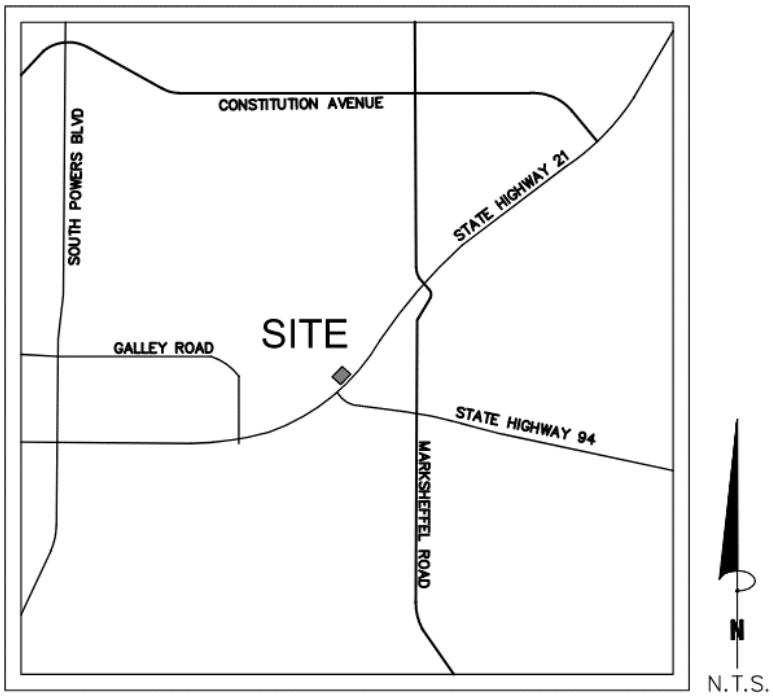
Phone: (719) 475-7621

PROJECT LOCATION

The proposed project is located northwest of the Meadowbrook Parkway and US Highway 24 intersection in El Paso County, Colorado. More specifically, the Project is made up of Tract A within the 94/24 Business Park Filing No. 1 plat within the southeast quarter of Section 8, Township 14 South, Range 65 West of the 6th Principal Meridian, County of El Paso, State of Colorado. The site is bounded by Meadowbrook Parkway to the west, a commercial development to the north, US Highway 24 to the east, and a commercial development to the south. A vicinity map has been provided below.

VICINITY MAP

A vicinity map is provided below for reference:



VICINITY MAP
N.T.S

SITE CONDITIONS

VEGETATION

The existing site is currently undeveloped with onsite conditions consisting of little to no vegetation. Per the Soils report, the site consists mostly of native grasses and weeds with very few shrubs and deciduous trees. See Appendix D for the full “Soils and Geology Study” prepared by the site by Rocky Mountain Group dated August 26, 2020

Checklist item 23 - state that final vegetative cover density is to be 70% of pre-disturbed levels.
Make this statement here, or in a more appropriate section of SWMP.

Item 15 - include details on ultimate receiving waters.

DRAINAGE CHARACTERISTICS

The proposed buildings, parking lot, paved drives, and other impervious surfaces comprise 57.9 percent (203,425 square feet) of the overall Project Site. Landscape areas internal to the Site consist of landscape areas to serve the single-family units and existing hillside areas. The proposed internal landscaping areas make up 42.1% (148,104 square feet) of the Project Site.

Generally, the site slopes east to west with the far eastside portion sloping approximately 5-10% and the remaining western portions sloping approximately 2-4%. The site slopes approximately 2% from north to south. This historic runoff pattern will generally be maintained and unaffected with the proposed Project.

The 5-year and 100-year design storm events were used in determining rainfall and runoff for the proposed drainage system per chapter 6 of the El Paso County Drainage Criteria. *Table 6-2* of the El Paso County Drainage Criteria is the source for rainfall data for the 5-year and 100-year design storm events. Design runoff was calculated using the Rational Method for developed conditions as established in the El Paso County Drainage Criteria Manual and the Mile-High Flood District Manual. Runoff coefficients for the proposed development were determined using *Table 6-6* of the El Paso County Drainage Manual by calculating weighted impervious values for each specific site basin. The detention storage requirement was calculated using Full Spectrum Detention methods as specified in the El Paso County Drainage Criteria Manual and the Mile-High Flood District Manual. The detention basin's outlet structure was designed to release the Water Quality Capture Volume (WQCV) in 40 hours. Based upon this approach, we feel that the drainage design provided for the Site is conservative and maintains the historic drainage pattern for the zoning and area.

Water quality treatment will be provided by a proposed private water quality extended detention basin with a trickle channel and micro pool that connects to a water quality outlet structure within the southeast landscaped perimeter of the property. Full spectrum detention will be provided by the proposed extended detention basin in the southeast corner of the Site. The controlled 5-year and 100-year release from the detention basin outlet structure will be piped to a proposed private 36" RCP storm sewer that will connect via a doghouse manhole to the existing private 30" storm sewer at the southwest corner of the Site. This storm sewer tie-in will be the outfall of the entire stormwater system and will ultimately discharge into the County storm sewer system within Meadowbrook Parkway.

Using the same storm events and El Paso County Drainage Criteria stated above, a private bioretention rain garden will provide water quality treatment by infiltration through soil filtration media before discharging through an underdrain orifice to the outfall point.

The Flood Insurance Rate Map (FIRM) 08041C0511G, effective date December 7, 2018, by FEMA, shows the proposed development to be outside of the 100-year and 500-year flood plains (see Appendix C for FEMA FIRM Map). Additionally, no streams or state waters are located within site area.

SOILS

Using NRCS soil data, the onsite soils was found to be Blakeland loamy sand (1 to 9% slopes) with a USCS Hydrologic Soil Group A. Group A soils have higher infiltration rates compared to other soil groups and are generally made up of well drained sands or gravelly sands. Specifically, blakeland loamy sand has good drainage with no ponding/flooding and minimum runoff. However, along the eastern property line where the slopes are the steepest and vegetation is minimal, the sandy soil is

more susceptible to wind and rill erosion. Before land disturbance, erosion control measures will need to be implemented on site. A Soils and Geology Study has been prepared by the site by Rocky Mountain Group dated August 26, 2020 and is attached in the Appendix D of this report for reference. Also reference the NRCS soil data in Appendix D.

AREAS & VOLUMES

The gross Site area is approximately 8.07 acres with a building coverage of 1.59 acres. The total anticipated Project disturbance area is 9.07 acres including onsite and offsite disturbance. For construction site boundaries or "limits of disturbance", reference Appendix A for Stormwater Management Plans.

EROSION & SEDIMENT CONTROL MEASURES

Construction operations including grading, hauling of soil, drainage, pavement work, and final stabilization shall implement erosion and sediment control measures as described below and in the Timing section of this report. Additional measures shall be implemented as appropriate.

Erosion and sediment control measures shall be implemented during construction of the Project. Two construction entrances with vehicle tracking control (VTC) shall be in an effort to reduce off-site sediment tracking. One will be located on the central driveway off of Meadowbrook Parkway, and the other will be located on the NE corner of the site. Temporary Soil Stockpiles (SP) shall be protected from stormwater using SF or other perimeter control to inhibit soil transport as well as at material storage areas. A Silt Fence (SF) and Construction Fence (CF) shall be used for perimeter control. Concrete Washout (CWA) shall be used. In addition to those measures noted above, Perimeter Control and Portable Toilets will also be utilized on Site. Portable toilets shall be located on flat surfaces away from drainage paths, tie-downed or stake-downed, emptied regularly, and where possible secondary containment pans shall be provided under the portable toilets. Please see the Grading and Erosion Control Plans for locations and sizing of recommended erosion control measures.

All persons engaged in earth disturbances shall design, implement, and maintain acceptable soil erosion and sedimentation control measures, in conformance with the erosion and sediment control technical standards adopted by the City. All temporary erosion and sediment control facilities, and all permanent facilities intended to control erosion of any earth disturbance operation shall be installed before any earth disturbance operations take place. Any earth disturbances shall be conducted in such a manner to effectively control runoff volumes, reduce accelerated soil erosion, sediment movement, and deposition off-site. All earth disturbances shall be completed in such a manner so that the total amount of soil exposed at any given time shall be minimized, and the exposed area of any disturbed land shall be limited to the shortest possible period of time. Temporary soil erosion control facilities shall be removed and earth disturbance areas graded and stabilized with permanent soil erosion control measures pursuant to approved plans and specifications.

Permanent soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within fourteen (14) calendar days after final grading or the final earth disturbances have been completed. When it is not possible to permanently stabilize a disturbed area after an earth disturbance has been completed or where significant earth disturbance activity ceases, temporary soil erosion control measures shall be implemented within fourteen (14) calendar days. All temporary soil erosion control measures shall be maintained until permanent soil erosion measures are implemented.

Paved and impervious surfaces which are adjacent to construction sites must be swept on a daily basis and as needed during the day when sediment and other materials are tracked or discharged onto them.

Either sweeping by hand or use of street sweepers is acceptable. Street sweepers using water while sweeping is preferred in order to minimize dust. Flushing off paved surfaces with water is prohibited. All construction site operators shall control waste such as discarded building materials, hazardous chemicals (to include but not be limited to, heavy equipment maintenance fluids, motor oil, antifreeze and secondary containment of vehicle fuel), litter, and sanitary waste at the construction Site that may cause adverse impacts to water quality. Chemicals, paints, solvents, fertilizers, and other toxic materials must be stored in weatherproof containers. Except during application, the contents must be kept in trucks or within storage facilities. Runoff containing such material must be collected, removed from the Site, treated, and disposed at an approved solid waste or chemical disposal facility. On-site fueling is not expected with this Project.

Throughout build-out, the developer shall be responsible for implementing and maintaining Best Management Practices (BMPs) to control erosion and sediment problems on all idle lots.

All stockpiles shall require erosion and sediment control. All stockpiles shall:

- Not be located adjacent to a waterway.
- Be stabilized within 14 days after establishment. Stabilization shall include, but not be limited to, surface roughening, seeding, and mulching.
- Not exceed 10 feet in height.
- Utilize silt fence in all down slope sides of the stockpile.

TIMING & SCHEDULE

The proposed project will begin in June 2021 to June 2022. The general sequence of the phasing of the related construction activities will occur according to the following anticipated sequence:

Project sequence:

Phased BMP Implementation – Initial and Interim Phase

The initial phase shall consist of the temporary construction BMPs to minimize potential for erosion and sediment transfer while mobilizing and preparing the Site for construction activities. The operator shall complete the anticipated initial phase sequencing as follows:

1. Prepare and submit the state of Colorado, Colorado department of public health and environment (CDPHE) application. A copy of the permit shall be provided to the owner upon receipt from the CDPHE.

intended to be included with #3?

2. Install SWMP information sign (S) in accordance with applicable city, state, and owner requirements.

3. Ensure that general construction BMPs which are required throughout the Project at locations shown on the GEC plans or as

4. dictated by construction activities are operational.

5. Install perimeter controls (CF) and ensure that the limits of construction (LOC) are defined as necessary or known by all parties which will be responsible for construction on the Site.

Discuss other BMPs shown on GEC plan: check dam, sediment basin, sediment trap, swale

6. Install sump inlet protection (IPS), on-grade inlet protection and curb socks (CS) for existing stormwater conveyance facilities as indicated on the GEC plans or as necessitated by field conditions.

7. Install stabilized vehicle tracking control pad (VTC) as indicated on the GEC plans.

8. Construct required stabilized staging area (SSA).

9. Install silt fence (SF) as shown on the GEC plans.

10. Upon completion of the initial BMP installation the operator shall schedule a pre-construction meeting with the owner and the County erosion control inspector to confirm BMPs installed are adequate prior to proceeding with additional land disturbing activities.

11. Complete demolition of existing site improvements and clearing and grubbing of the Site as necessary to proceed with initial grading operations. Stockpile materials in accordance with the stockpile management (SP) BMP.

Phased BMP Implementation - Final Phase
The final phase shall consist of the temporary construction BMPs to minimize potential for erosion and sediment transfer during the construction of the proposed parking structure and associated limited site improvements. The operator shall complete the anticipated final phase sequencing as follows:

1. Confirm existing BMPs from the initial phase, which are to be maintained throughout construction, are in working order and compliant with applicable regulations.

2. Repair and/or replace any existing BMPs which are deemed inadequate.

3. Complete required temporary grading operations necessary for construction. Conduct excavation as needed for the underground utilities. Stockpile materials in accordance with the stockpile management (SP) BMP.

4. Temporary stabilize (TS) all areas of the Site which will remain inactive for a period greater than 30 days. Temporary stabilization shall be implemented within 14 days of disturbance.

5. Install concrete washout area (CWA) prior to construction of concrete improvements.

6. Complete required grading operations necessary for construction of the proposed commercial building and associated site and utility improvements. Stockpile materials in accordance with the stockpile management (SP) BMP.

7. Construct underground utilities.

8. Complete fine grading and proceed with temporary stabilization (TS) and permanent stabilization (PS) practices in accordance with approved landscape plans.

9. Achieve permanent stabilization in accordance with El Paso County, CDPHE and owner requirements.

10. Remove remaining BMPs once permanent stabilization (PS) has been achieved. Repair and stabilize areas disturbed through BMP removal.

11. Notify the owner of intent to file the notice of inactivation with the EL PASO COUNTY and CDPHE and receive owner acceptance to proceed with stormwater management close-out.

12. Notify the EL PASO COUNTY of the intent to file the notice of inactivation and receive EL PASO COUNTY field acceptance prior to proceeding with filing the notice of inactivation with the EL PASO COUNTY.

13. Proceed with filing the notice of inactivation with the EL PASO COUNTY and CDPHE.

15. Provide the owner with a copy of all stormwater documentation (permits, inspection reports, logs, etc.). Upon completion of Project, file the notice of inactivation.

STORMWATER MANAGEMENT CONTROLS

SWMP ADMINISTRATOR

The SWMP Administrator is the Operator selected for the Project and will be sufficiently qualified for the required duties per the ECM Appendix I.5. The SWMP Administrator is responsible for developing, implementing, maintaining and revising the SWMP. The activities and responsibilities of the Administrator shall address all aspects of the facility's SWMP.

SITE SPECIFIC POLLUTION SOURCES

Further identification of site-specific pollutants that fall within the categories outlined in the next section may be field noted using the corresponding log included in the appendices of this report. The logs are intended to record site-specific pollutants, the date of arrival on the Site, the date removed from the Site, and the methods of treatment.

IDENTIFICATION OF POLLUTANT SOURCES

Evaluation of general sediment and non-sediment pollution sources associated with Site construction activities, as outlined within the General Permit, consist of the following:

- **Disturbed and Stored Soils** – Earth disturbing activities (grading, excavation, etc.) will be necessary for this Project; therefore, the potential exists for disturbed site soils to contribute sediment to stormwater discharges.
- **Vehicle Tracking and Sediment** – Construction traffic will be entering and exiting the Site; therefore, the potential exists for vehicle tracking to contribute sediment to stormwater discharges.
- **Management of Contaminated Soils** – Contaminated soils are not anticipated on this Site. If encountered, the SWMP Administrator shall take appropriate containment and treatment measures.
- **Loading and Unloading Operations** – Loading and unloading operations will be taking place at the Site; therefore, the potential exists for these operations to introduce sediment and non-sediment pollutants to stormwater discharges.
- **Outdoor Storage of Materials** – Limited outdoor storage of materials is anticipated with construction of this Site; however, outdoor storage of chemicals, fertilizers, etc. is not anticipated.

- **Vehicle and Equipment Maintenance and Fueling** – Routine maintenance and fueling of vehicles and equipment is anticipated with this Site; therefore, the potential exists for pollutants associated with these activities to contribute pollutants to stormwater discharges.
- **Significant Dust or Particulate Generating Processes** – Earth disturbing activities (grading, excavation, etc.) will be necessary for this Project; therefore, the potential exists for windblown site soils to contribute sediment to stormwater discharges.
- **Routine Maintenance** – Routine maintenance involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc., other than those identified within Vehicle and Equipment Maintenance and Fueling are not anticipated with this Project. If encountered, the SWMP Administrator shall take appropriate containment and treatment measures.
- **Onsite Waste Management** – Waste management consisting of solid waste piles, liquid wastes, dumpsters, etc. are anticipated onsite; therefore, the potential exists for these operations to introduce sediment and non-sediment pollutants to stormwater discharges.
- **Concrete Truck / Equipment Washing** – Concrete truck and equipment washing are anticipated with this Project. The SWMP Administrator shall take appropriate containment and treatment measures.
- **Dedicated Asphalt and Concrete Batch Plants** – Dedicated asphalt and/or concrete batch plants are not anticipated with this Project. If encountered, the SWMP Administrator shall take appropriate containment and treatment measures and document as necessary.
- **Non-Industrial Waste Sources** – Non-Industrial waste sources limited to portable sanitary facilities are anticipated with this Project.
- **Additional Pollutant Sources** – Additional areas or procedures where potential spills could occur are not anticipated with this Project.

Logs for the identification of pollutant sources are included in the Appendices for reference and use.

Based on the following, the potential to contribute pollutants to stormwater discharges is not significant for most of the pollutants identified above:

- Relatively Low Frequency of the Activities
- The Ability to Schedule Activities During Dry Weather
- Existing Site Topography
- The Ability to Implement Primary and Secondary Containment for Product Storage
- The Ability to Locate Activities Away from Drainage Ways

Potential pollutant sources noted below shall be mitigated by use of Best Management Practices (BMPs) as noted in the following sections:

- Disturbed and Stored Soils
- Vehicle Tracking and Sediment
- Loading and Unloading Operations
- Outdoor Storage
- Vehicle Equipment and Maintenance Fueling
- Significant Dust or Particulate Generating Processes
- Non-Industrial Waste Sources

BEST MANAGEMENT PRACTICES FOR STORMWATER POLLUTION PREVENTION

Structural Practices for Erosion and Sediment Control

Structural BMPs shall be implemented onsite to minimize erosion and sediment transport. Recommended BMPs based upon a limited site review may be seen within the SWMP Site Map included in the Appendices of this report. Additional BMPs shall be implemented by the SWMP Administrator if necessary to prevent sediment-laden runoff from leaving the Project Site. The SWMP shall be updated to reflect any changes or revisions enacted in the field.

Non-Structural Practices for Erosion and Sediment Control

Non-Structural BMPs shall be implemented onsite to minimize erosion and sediment transport. Recommended BMPs based upon a limited site review may be seen within the SWMP Site Map included in the Appendices of this report. Additional BMPs shall be implemented by the SWMP Administrator if necessary to prevent sediment-laden runoff from leaving the Project Site. The SWMP shall be updated to reflect any changes or revisions enacted in the field.

Phased BMP Implementation

Construction of the identified improvements will take place under two main phases of construction anticipated as identified within the construction sequencing included within this report.

A Land Disturbance, BMP Installation, and Stabilization Log is provided in the Appendices and shall be filled out accordingly during BMP implementation.

Materials Handling and Spill Prevention

Any hazardous or potentially hazardous material that is brought onto the construction Site shall be handled properly in order to reduce the potential for stormwater pollution. In an effort to minimize the potential for a spill of petroleum product or hazardous materials to come in contact with stormwater, the following steps shall be implemented:

- Material Safety Data Sheets (MSDS) information shall be kept on Site for any and all applicable materials.
- 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.) shall be stored in a secure location, under cover and in appropriate, tightly sealed containers when not in use.
- The minimum practical quantity of all such materials shall be kept on the job Site and scheduled for delivery as close to time of use as practical.
- A spill control and containment kit (containing, for example, absorbent material, acid neutralizing agent, brooms, dust pans, mops, rags, gloves, goggles, plastic and metal trash containers, etc.) shall be provided on the construction Site and location(s) shown on Site Maps.
- All of the product in a container shall be used before the container is disposed of. All such containers shall be triple rinsed, with water prior to disposal. The rinse water used in these containers shall be disposed of in a manner in compliance with State and Federal regulations and shall not be allowed to mix with stormwater discharges.
- All products shall be stored in and used from the original container with the original product label and used in strict compliance with the instructions on the product label.
- The disposal of excess or used products shall be in strict compliance with instructions on the product label.

Temporary onsite 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.

The tanks shall be in sound condition free of rust or other damage which might compromise containment. Fuel storage areas shall meet all Environmental Protection Agency (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.

The Operator shall develop and implement a Materials Handling and Spill Prevention Plan (MHSPP) in accordance with the EPA and State of Colorado requirements. In the event of an accidental spill, immediate action shall be undertaken by the Operator to contain and remove the spilled material. All hazardous materials, including contaminated soil, shall be disposed of by the Operator in the manner specified by federal, state and local regulations and by the manufacturer of such products. As soon as possible, the spill shall 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 shall be properly reported. The Operator shall prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, whichever is less.

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 Colorado Department of Public Health and Environment spill reporting lines.

- CDPHE Environmental Release and Incident Reporting Line (877) 518-5608.

For reference, a bulletin on Environmental Spill Reporting published by the CDPHE, has been included in the Appendices of this report.

Vehicle Tracking and Dust Control

Vehicle Tracking Control BMPs (structural and non-structural) shall be implemented in order to control potential sediment discharges from vehicle tracking. Practices shall be implemented for all areas of potential vehicle tracking which include, but are not limited to reduced Site access and utilization of designated haul routes.

Areas of soil that are denuded of vegetation and have little protection from particles being picked up and carried by wind should be protected with a temporary cover or kept under control with water or other soil adhering products to limit wind transported particles exiting the Site perimeter.

Waste Management and Disposal

An effective first step towards preventing pollution in stormwater from work sites involves using a common sense approach to improve the facility's basic housekeeping methods. Poor housekeeping practices result in increased waste and potential for stormwater contamination.

No solid materials are allowed to be discharged from the Site with stormwater. All solid waste, including disposable materials incidental to the construction activities, must be collected and placed in containers. Secure covers for the containers shall be provided at all times to meet state and local requirements. The location of solid waste receptacles shall be identified on the SWMP by the Operator.

Item 13. Discuss inspection procedure for checking waste disposal bins for leaks and overflowing capacity. And discuss frequency that they will be emptied (or at what level of capacity would trigger the need to be emptied)

Concrete waste is anticipated with this Project; and therefore, a dedicated concrete washout is required. The SWMP Administrator shall take appropriate containment and treatment measures and document as necessary.

Portable Toilets
Portable toilets shall be provided on-site as necessary for construction personnel. Portable toilets shall be located on flat surfaces away from drainage paths with a minimum of 10' of clearance from stormwater inlets and 50' from state waters. They must be secured on at all four corners to prevent overturning, emptied on a weekly basis, inspected daily for spills, and where possible, secondary containment pans shall be provided under the portable toilets. In the event of a spill, the Permittee shall follow spill prevention measures as noted in Appendix G. Toilets shall be located away from anticipated stormwater discharges. Proper and regular maintenance and cleaning shall occur as a preventive measure.

Groundwater and Stormwater Dewatering
Except as noted below, all discharges covered by this permit shall be composed entirely of stormwater associated with construction activity.

- Emergency Fire Fighting Activities
- Uncontaminated Spring Water

Groundwater dewatering is not anticipated. Before excavation, or if encountered, the operator shall file for appropriate permits with the CDPHE.

FINAL STABILIZATION AND LONG TERM STORMWATER MANAGEMENT

Permanent stabilization will not be necessary on the Site as all soil will be covered with concrete or landscaping. Briefly describe plan for Long Term SW Mgmt (ie: pond and rain garden)

INSPECTION AND MAINTENANCE

Permittee or contractor shall produce written and signed inspection records every seven (7) days and after significant precipitation events. All necessary maintenance and repair shall be completed immediately. The purpose of Site inspections is to assess performance of pollutant controls. The inspections will be conducted by the contractor's Storm Water Coordinator. Based on these inspections, it is the responsibility of the contractor to revise or implement additional Best Management Practices, repair erosion control measures, modify, maintain, supplement, or take additional steps as necessary to achieve effective pollutant control measures.

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.

A. Locations where vehicles enter and exit the Site must be inspected for evidence of off-site sediment tracking. A stabilized VTC 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.

B. Sediment barriers must be inspected, and they must be extended, repaired or cleaned at such

Item 26. Add a note stating that this project does not rely on control measures owned or operated by another entity.

time as their original capacity has been reduced by 33 percent. All material excavated from behind sediment barriers shall be stockpiled on the up-slope side. Additional sediment barriers must be constructed as needed.

C. 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, and/or run-on.

D. All discharge points must be inspected to determine whether erosion control measures are effective in preventing significant impacts to receiving waters.

A sample report from the EPA has been included in the Appendices E and F for reference.

TERM AND CONDITIONS OF THE CDPS GENERAL PERMIT

GENERAL LIMITATIONS

The following limitations shall apply to discharges associated with construction activities:

- Stormwater discharges from construction activities shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any water quality standard, including narrative standards for water quality.
- Concrete washout water shall not be discharged to state surface waters or to storm sewer systems. Onsite permanent disposal of concrete washout waste is not authorized by this permit. Discharge to the ground of concrete washout waste that will subsequently be disposed of offsite is authorized by this permit. See Part I.D.3.c of the permit.
- Bulk storage structures for petroleum products and any other chemicals shall have secondary containment or equivalent adequate protection so as to contain all spills and prevent any spilled material from entering State Waters.
- No chemicals are to be added to the discharge unless permission for the use of a specific chemical is granted by CDPHE. In granting the use of such chemicals, special conditions and monitoring may be addressed by separate correspondence.
- CDPHE reserves the right to require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that compliance with the SWMP is a problem, or to measure the effectiveness of the BMPs in removing pollutants in the effluent. Such monitoring may include Whole Effluent Toxicity testing.
- All Site wastes must be properly managed to prevent potential pollution of State Waters. This permit does not authorize onsite waste disposal.
- All dischargers must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts and other local agencies regarding any discharges of stormwater to storm drain systems or other water courses under their jurisdiction, including applicable requirements in municipal stormwater management programs developed to comply with CDPS permits. Dischargers must comply with local stormwater management requirements, policies, or guidelines including erosion and sediment control.

The above information is taken directly from the CDPHE General Permit.

PROHIBITION OF NON-STORMWATER DISCHARGES

Except as identified within the Terms and Conditions of the General Permit (Section D.3 – Prohibition of Non-Stormwater Discharges), all discharges covered by this permit shall be composed entirely of stormwater associated with construction activity. Discharges of material other than stormwater must be addressed in a separate CDPS permit issued for that discharge. No non-stormwater discharges are anticipated at this site.

Discharges to the ground from construction dewatering activities that do not meet the referenced criteria must be covered under a separate CDPS discharge permit. Contaminated groundwater requiring coverage under a separate CDPS discharge permit may include groundwater contaminated with pollutants from a landfill, mining activity, industrial pollutant plume, underground storage tank, or other source.

The above information is taken from the CDPHE General Permit.

SWMP RETENTION REQUIREMENTS

The permittee must document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage. These records must be made available to the City, County, CDPHE or EPA upon request.

In order to fulfill this requirement, the SWMP Administrator shall retain a copy of the SWMP and provide the original to the owner/permittee upon inactivation of the permit.

SWMP REVIEW / CHANGES

At nearly every site, the recommended and/or implemented BMPs will need to be modified to adapt to changing site conditions, or to ensure that the potential pollutants are consistently and properly managed. The Operator shall amend the SWMP:

- When there is a change in design, construction, operation, or maintenance of the Site, which would require the implementation of new or revised BMPs; or
- If the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in stormwater discharges associated with construction activity; or
- When BMPs are no longer necessary and removed.

SWMP changes shall be made prior to changes in Site conditions, except as noted below. Revisions may include, but are not limited to, potential pollutant source identification, selection of appropriate BMPs for Site conditions, BMP maintenance procedures and interim and final stabilization practices. The SWMP changes may include a schedule for further BMP design and implementation, provided that, if any interim BMPs are needed to comply with the permit, they are also included in the SWMP and implemented during the interim period.

RESPONSIVE SWMP CHANGES

SWMP changes addressing BMP installation and/or implementation are often required to be made in response to changing conditions, or when current BMPs are determined ineffective. The majority of these SWMP revisions can be made immediately with quick in-the-field revisions to the SWMP. In the less common situation where more complex development of materials to modify the SWMP is necessary, the revisions shall be made in accordance with the following requirements:

- The SWMP shall be revised as soon as practicable, but in no case more than 72 hours after the change(s) in BMP installation/implementation occur at the Site; and

- A notation must be included in the SWMP prior to the Site change(s) that includes the time and date of the change(s) in the field, an identification of the BMP(s) removed or added and the location(s) of those BMP(s).

Any BMP deficiencies, replacement or additional BMPs that may be required shall be documented on the Stormwater Management Plans and in the appropriate logs. Copies of the Corrective Action Log and SWMP Amendment Log have been included in the Appendices for reference and use.

CONCLUSIONS

Temporary erosion control measures and BMPs will enhance stormwater quality within the Project area by capturing and detaining sediment-laden runoff prior to discharging off-site.

REFERENCES

El Paso County Erosion Control, and Stormwater Quality Plan Checklist, Engineering Criteria Manual, El Paso County, CO, May 21, 2007.

Colorado Discharge Permit System (CDPS) – Stormwater Discharge Associated with Construction Activities Application - Prepared by Water Quality Control Division, Colorado Department of Public Health and Environment; Revised March 2016.

Colorado Discharge Permit System (CDPS) General Permit – Stormwater Discharges Associated with Construction Activity - Prepared by Water Quality Control Division, Colorado Department of Public Health and Environment; signed and issued on May 31, 2007 and administratively continued effective July 1, 2012.

Stormwater Discharges Associated with Construction Activity – Stormwater Management Plan Preparation Guidance - Prepared by Water Quality Control Division, Colorado Department of Public Health and Environment; Revised April 2011.

Urban Storm Drainage Criteria Manual, Volume 3 – Mile High Flood District, Denver, CO.; November 2010.

APPENDICES