Construction Activities

Stormwater Management Plan

The Glen at Widefield East
Colorado Springs, Colorado

Prepared for:

Glen development Company
c/o Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911
Phone: (719) 392-0194

Prepared by:

Kiowa
Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Kiowa Project No. 14044

February 2016

Table of Contents

STORMWATER PLAN OBJECTIVES 3
I. SITE DESCRIPTION 3
A. Nature of the Construction Activity 3
B. Sequence of Major Activities 3
C. Estimate of Area and Volume Disturbed 4
D. Soil Data 4
E. Existing Vegetation and Ground Cover 4
F. Potential Pollution Sources 5
G. Non-stormwater Discharges 5
H. Receiving Waters 5
II. SWMP SITE MAP 5
III. STORMWATER MANAGEMENT CONTROLS 6
A. SWMP Administrator: 6
B. Identification of Potential Pollutant Sources: 6
C. Best Management Practices (BMPs) for Pollution Prevention 7
IV. FINAL STABILIZATION AND LONG TERM STORMWATER MANAGEMENT 10
V. RECOMMENDED INSPECTION AND MAINTENANCE PROCEDURES 12
A. Minimum Inspection Schedule 12
B. BMP Operation and Maintenance 13
REFERENCES 14
APPENDIX 1 15
SWMP Application 15
APPENDIX 2 16
Construction Activity Stormwater Permit 16
APPENDIX 3 17
Evaluation of Construction BMP's Form 17
APPENDIX 4 18
SWMP Site Map (Figures 2, 3, and 4) 18
APPENDIX 5 19
Details of Construction BMPs (Figure 5) 19
APPENDIX 6 20
Soils Borings and Tests and Groundwater 20
APPENDIX 7 21
Operations and Maintenance Manual for Extended Detention Basin 21
APPENDIX 8
Glen at Widefield Filing 10 -- SWMP Amendment

STORMWATER PLAN OBJECTIVES

The objective of the Stormwater Management Plan (SWMP) is to define controls and measures to maintain water quality by eliminating or reducing pollutants in stormwater discharges during construction activities. A general schedule or phasing of Best Maintenance Practices (BMPs) will be determined by construction schedule and ground disturbances necessitating required erosion control methods/BMPs. Evaluations of and modifications to this plan may be necessary during the length of the construction project until the site is finally stabilized. This SWMP should be reviewed and modified as a part of the continuing overall process of evaluating and managing stormwater quality issues. A copy of the Stormwater Discharge Permit, SWMP, SWMP Site Map (Figures 2, 3, and 4) and inspection logs shall be kept on site by the SWMP Administrator as to be available to federal, state and local agencies for inspection.

A Construction Activities Stormwater Discharge Permit has been applied for on January 24, 2016 from the Colorado Department of Public Health and Environment. The permit is included in Appendix 1. The general conditions associated with this permit should be followed through the duration of the land disturbing activities at the site. For additional details or more specific information, consult CDPS General Permit No. COR-030000 in Appendix 2.

I. SITE DESCRIPTION

A. Nature of the Construction Activity

The Glen at Widefield East will be a single family residential development located northwest of the future intersection of Marksheffel Road and Mesa Ridge Parkway. See Vicinity Map (Figure 1) on the following page. Construction activities include the construction of homesites, access roads, and utility and stormwater infrastructure.

B. Sequence of Major Activities

Construction activities for the project are expected to begin in the Winter of 2016. Prior to the commencement of the majority of clearing and grubbing activities, minimal clearing and grubbing may be necessary prior to install the initial erosion control features such as silt fences and vehicle tracking control. Subsequent to the installation of the silt fences and vehicle control, clearing and grubbing will commence and grading will proceed as shown on the SWMP Site Map (Figures 2, 3, and 4). When the finished grades are attained, utility, roadway and stormwater infrastructure will

VICINITY MAP
SCALE: N.T.S.

Figure 1

be installed. In general, the SWMP Administrator will identify the precise schedule to be used during the term of this project.

Temporary erosion control measures are anticipated to be removed in the Spring of 2019.

Final Stabilization is anticipated to occur in the Summer of 2019.

C. Estimate of Area and Volume Disturbed

The project area totals 245.4 acres of which approximately 172.8 acres will be subject to disturbance. The estimated acres of disturbance corresponds to that necessary to install access roads, buildings, building pads, driveways, landscaping, stormwater facilities, and utilities. Locations of disturbed areas are as shown on the SWMP Site Map (Figures 2, 3, and 4.) All other areas are to remain undisturbed.

Earthwork cut and fill operations are more than 1,000,000 cubic yards.

D. Soil Data

Soil within the property is classified within Hydrologic Soils Group B. C, and D as shown in the *El Paso County Soils Survey*. The soil types on the site are Nelson-Tassel fine sandy loams (B/D); Stoneham sand loam (B); and Nunn clay loam (C). The soils have a permeability ranging from moderately rapid to moderate to moderately slow.

The pre-construction and the post-construction 100-year run-off coefficients are 0.50.

E. Existing Vegetation and Ground Cover

In the undisturbed condition, the ecology of the project site can be characterized as short grass prairie of the Western Great Plains Province dominated by blue grama grass. The grasslands present on site are composed of a majority non-native grass and herb species. The presence of non-native species such as crested wheat and smooth brome grass indicate that the site has been disturbed and reseeded. A few small elm and cottonwood trees are scattered across the site and shrub species such as rabbitbrush and silver sage can also be found in isolated locations.

The site has been disturbed over the years by agricultural uses such as sod production and irrigated hay fields and most recently a large portion of the ridge area has been used as a borrow area. Little is remains in a natural condition. Existing vegetation cover is in a poor condition due to on-going disturbance.

The site vegetation was evaluated on _____ according to protocol recommended in the *Erosion Control and Stormwater Quality Guide* by the Colorado Department of Transportation (Section 4.11.1). Per guidelines, _____ fifty-foot transects were taken with results of ___%, ___% and ___% with and average existing vegetation cover of ___%.

F. Potential Pollution Sources

The location of all potential pollution sources, including ground breaking disturbing activities, vehicle fueling, storage of fertilizers or chemicals, concrete or asphalt batch plants, concrete washouts, among numerous other potential pollutants shall be enumerated in this SWMP. Further descriptions and locations can be found in Section III B 1 thru 13 of this report.

G. Non-Stormwater Discharges

At this time, no non-stormwater components of discharge, such as springs, landscape irrigation return flows, construction dewatering or other discharges are known to exist. If any non-stormwater components of discharge are known to exist, these items will be addressed in Section III C 8 of this report. If any non-stormwater discharges become apparent during the term of construction, the occurrence and mitigation shall be addressed in an addendum by the SWMP Administrator.

H. Receiving Waters

The site will be primarily drained by overland flow and roadways to proposed stormwater systems and detention and water quality basins that will discharge to the West Fork of Jimmy Camp Creek and Jimmy Camp Creek which is a tributary to Fountain Creek and ultimately to the Arkansas River.

II. SWMP SITE MAP

The Stormwater Management Plan Site Map (Figures 2, 3, and 4) is included in Appendix 4 and identifies the following:

A. Construction site boundaries:
B. All areas of ground disturbance;
C. Areas of cut and fill;
D. Areas used for storage of building materials, equipment, soil, or waste;
E. Locations of dedicated asphalt or concrete batch plants;
F. Locations of all structural BMPs;
G. Locations of non-structural BMPs where applicable;

H. Locations of springs, streams, wetlands, detention basins, irrigation canals, roadside ditches and other surface waters.

The SWMP Site Map must be updated by the SWMP Administrator on a regular basis to reflect current conditions of the site at all times.

III. STORMWATER MANAGEMENT CONTROLS

A. SWMP Administrator:

The Owner shall designate the SWMP Administrator. The SWMP Administrator will likely be the Contractor or his/her designated representative and is responsible for developing, implementing, maintaining and revising the SWMP. Should the SWMP Administrator change for any reason, it shall be noted on this Plan.

SWMP Administrator: Rudy Cross, The Cross Company. If the SWMP Administrator should change for any reason note the change here _____.

B. Identification of Potential Pollutant Sources:

At a minimum, the following activities and sources shall be evaluated for the potential to contribute pollutants to stormwater discharges. The SWMP Administrator shall determine the need for and locations of each of the following potential pollutant sources during the course of the construction project. The sources of any potential pollutants must be controlled through BMP selection and implementation.

1. All disturbed and stored soils;
2. Vehicle tracking of sediments;
3. Management of contaminated soils;
4. Loading and unloading operations;
5. Outdoor storage activities (building materials, fertilizers, chemicals, etc.);
6. Vehicle and equipment maintenance and fueling;
7. Significant dust or particulate generating processes shall be controlled by sprinkling with water and other appropriate means;
8. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.
9. On-site waste management practices such as waste piles, liquid wastes, dumpsters, etc.

10. Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment;
11. Dedicated asphalt and concrete batch plants;
12. Non-industrial waste sources such as worker trash and portable toilets; and
13. Any other areas or procedures where potential spills could occur.

C. Best Management Practices (BMPs) for Pollution Prevention

Best Management practices for erosion and sediment control implemented on the site to minimize erosion and sediment are:

1. Structural practices to be used on-site are straw bale check dams, silt fences, drainage swales, inlet protection, vehicle tracking control, erosion control blankets and a temporary sediment basin. Minimal clearing and grubbing may be necessary prior to installing the initial erosion control features such as silt fences and vehicle tracking control. Prior to any construction activities, silt fences around proposed grading areas as shown on attached Figures 2, 3, and 4 will be installed. Vehicle tracking control will be installed to manage sedimentation from construction vehicles exiting the site. Inlet protection will be installed to filter stormwater before entering any watercourses. Final stabilization is anticipated to occur in the summer of 2019.

   Description of structural Practices:

   An extended detention/water quality basin will be constructed southwest of the proposed Glen at Widefield Filing No. 7 and three other basins are proposed throughout the overall site. The extended detention/water quality basins will be used as a temporary sediment basin during construction of the site. Silt fencing will be used along the western boundary and along portions of the eastern and northern boundaries. Vehicle tracking control will be installed at the two entrance locations to the site, off Mesa Ridge Parkway after paving and Peaceful Valley Road. If pavement does not exist on Mesa Ridge Parkway at the entrance, the vehicle tracking control will be placed at the location where pavement ends on Mesa Ridge Parkway. Rough-cut street control shall be used on all roadway excavations. Erosion control blankets will be used to stabilize slopes in excess of 3 to 1. A concrete washout area is anticipated and will be sited by the contractor.

2. Non-structural practices for erosion and sediment control to be used to minimize erosion and sediment transport are:

Minimize the amount of existing vegetation to be removed during construction, leaving native vegetation in place when possible. If possible, leave existing ground cover, including asphalt in place or remove just prior to grading to minimize the length of soil exposure.

3. Phased BMP Implementation:

Rice and Rice Inc. has been chosen to be the Contractor for Phase I with Craig A. Cross as the Construction Coordinator. At this time, it is unknown when the construction of Phases II and III of the project will occur as the local economy will drive demand for home construction and lot preparation. The project schedules as determined by the Contractor and the Construction Coordinator are placed in Appendix 7 and will be updated as needed.

The project will likely be constructed in three phases starting with the southerly phase first and progressing northward approximately as follows:

a. Strip a 20 acre area in southwest area 1, piling roughly 9,495 CY of stripping's, while also stripping a fill area of 10 acres in the northeast portion of the site. Start to over excavate in southwest area 1 (103,661 CY) and placing this material in the northeast fill area.

b. Strip southwest area 3 of 10 acres and pile 5,210 CY, then cut southwest area 3 (195,216 CY) and place in the over excavated/fill portion in southwest area 1. There will be 33,227 CY of cut left in southwest area 3, which will go to the northeast fill area.

c. Strip southwest area 2 (10,852 CY) and place directly on southwest areas 1 & 3.

d. Strip another 10 acres (4,000 CY) of fill in the northeast area, placing this directly onto the northeast fill area 1. Over excavate southwest area 2 (129,413 CY) placing it in the northeast area 2.

e. Strip southwest area 4 (4,140 CY) and pile opening more cut. Cut in southwest area 4 hauling the over excavated cut (183,845 CY) to the fill area getting it to grade in southwest area 2 fill, which will leave 63,033 CY left to finish southwest area 2 fill. This will be accomplished with cut from southwest area 2.

f. Strip northwest area of 10,852 CY and place directly on lots in southwest area 2 to complete that area, along with piling another 8,243 CY. The northwest area over excavation of 53,349 CY can be placed in northwest area fills completing the over excavation in this area.

g. Strip southwest area 5 cut (10,840 CY.) and pile these stripping's. The southwest area *5* cut (172,306 CY) will be hauled to the northwest area, completing the northwest area. The

southwest area 5 cut area will have 91,411 CY of cut left, 49,597 CY of this cut will go into southwest area *5* fills completing this fill area. There will be 41,814 CY left in southwest area 5, which will be hauled to the northeast fill area's completing southwest area 5.

h. Place piled topsoil in various locations to complete the grading.

All phases will be constructed in generally the same manner starting with minimal clearing and grubbing before installation of silt fence perimeter control followed by installation of vehicle tracking control and construction of the temporary sedimentation basins prior to major earthwork. As stormwater pipes and inlets are installed, inlet protection will be installed immediately. As soon as 3:1 fill slopes are placed, straw bale barriers, diversion dikes and temporary slope drains will be installed to manage stormwater flowing over or from newly graded slopes. Seeding and mulching shall take place at the earliest time possible. Each phase will likely have its own concrete washout and staging area.

In the event that overlot and rough street grading are completed and final stabilization procedures are not met, rough-cut street control will be applied to unfinished roadways and interim seeding and mulching will be applied.

4. Materials handling and spill prevention:

The site superintendent will inspect daily to ensure proper use and disposal of materials on-site including building materials, paints, solvents, fertilizers, chemicals, waste materials and equipment maintenance or fueling procedures. All materials stored on-site will be stored in a neat and orderly manner in the original containers with the original manufacturer's label, and if possible under a roof or other enclosure. Before disposing of the container, all of a product will be used up whenever possible and manufacture's recommendations for proper disposal will be followed according to state and local regulations.

Material and equipment necessary for spill cleanup will be kept in the material storage area on-site. Manufacturer's recommendations for spill cleanup will be posted and site personnel will be made aware of the procedures along with the location of the information and cleanup supplies.

5. Concrete and asphalt batch plants:

Dedicated concrete or asphalt batch plants is unknown.

6. Vehicle tracking control:

   Off-site vehicle tracking of sediment shall be minimized and is as shown on the SWMP Site Map. Streets shall be kept clean and free of mud, soil and construction waste. Street sweeping or other acceptable methods shall be used to prevent sediment from being washed from the project site. Streets shall not be washed down with water. Street cleaning operations shall occur if necessary or as directed by El Paso County.

7. Waste management and disposal including concrete washout:

   A concrete washout area shall be specified in a location near concrete work areas. Concrete wash water shall not be discharged to state waters or to storm sewer systems. The washout area shall be a shallow excavation with a small perimeter berm to isolate concrete truck washout operations. At the end of construction, all concrete shall be removed from the site and disposed of at an approved waste site. Signs shall be placed at the washout to clearly indicate the concrete washout area to operators of concrete trucks and pump rigs.

   All construction site waste both liquid and solid must be contained in approved waste containers and disposed of off-site according to state and local regulations. Locations are unknown at this time but will be shown on the SWMP Site Map when determined. Portable sanitary facilities shall be provided at the site throughout the construction phase and must comply with state and local sanitary or septic system.

8. Groundwater and stormwater dewatering:

   Groundwater and/or stormwater dewatering is not anticipated on this site. If groundwater or stormwater dewatering is required, locations and practices to be implemented to control stormwater pollution from excavations, etc. will be noted on the SWMP Site Map. A separate CDPHE discharge permit maybe required for groundwater dewatering.

IV. FINAL STABILIZATION AND LONG TERM STORMWATER MANAGEMENT

Final stabilization is anticipated to occur during Summer 2019. Final stabilization is reached when all soil disturbing activities at the site have been completed and uniform vegetative cover has been established with a density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reductions have been employed. For the purposes of the SWMP, establishment of a vegetative cover capable of providing erosion control equivalent to pre-existing conditions at the

site can be considered final stabilization. The contractor will be responsible for providing the documentation to make this comparison to the State of Colorado, Water Quality Control Division.

The project site shall be seeded with the seed mix as shown on the SWMP Site Plan, where the application methods and soil preparations are also found. All slopes greater than three-to-one will be covered with erosion control blankets.

Management of storm water after completion of construction will be accomplished by utilizing the practices listed below.

- Upon completion of construction, the site shall be inspected to ensure that all equipment, waste materials and debris have been removed.
- The site will be inspected to make certain that all graded surfaces have been paved, landscaped or seeded with an appropriate ground cover.
- All silt fence, inlet protection, sediment logs, curb socks and all other control practices & measures that are to remain after completion of construction will be inspected to ensure their proper functioning.
- The contractor shall remove erosion control measures that are not required to remain.

After all construction activities are completed on the site, but final stabilization has not been achieved, the contractor shall make a thorough inspection of the stormwater management system at least once every month.

The contractor shall be responsible for maintaining the storm water controls in good working order and shall also be responsible for the costs incurred until such time as final stabilization is reached. Once final stabilization has been achieved the contractor shall be responsible for removal of the erosion control measures.

Should any of the erosion control facilities become in disrepair prior to the establishment of the native or natural erosion control measures, the Contractor is responsible for the cost of such maintenance. The Contractor is also responsible for the cleanup of offsite areas affected by any sediment that may leave the site. Control of erosion from areas disturbed by utility or building construction will be the responsibility of the respective contractor. All erosion control measures shown on the plan shall be installed and maintained in accordance with Best Management Practices.

V. RECOMMENDED INSPECTION AND MAINTENANCE PROCEDURES

A. Minimum Inspection Schedule

a) **Frequency**. Contractor should inspect Construction BMP's at the following times and intervals.

(1) After installation of any Construction BMP;

(2) Within 24 hours after any runoff event that causes erosion;

(3) At least once every 14 days, but a more frequent inspection schedule may be necessary to ensure that BMPs continue to operate as needed to comply with the permit.

(4) Consult Permit No. COR-030000 for alternate inspection requirements at temporarily idle sites, at completed sites, or for winter conditions.

b) **Inspection Log**. The SWMP Administrator should record the inspection results on a site-specific standardized inspection log to be maintained and kept at _____, for review by agencies, until 30 days after completion of land disturbances. A template for the inspection log format is included in Appendix 3. The SWMP Administrator should develop site-specific inspection logs that itemize the selected Construction BMP's for their site. At a minimum the following information from each inspection should be recorded on the site-specific log:

(1) Date of inspection;

(2) Name and title of inspector;

(3) Location(s) of discharges of sediment or other pollutants from the site;

(4) Location(s) of BMPs that need to be maintained;

(5) Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location;

(6) Location(s) where additional BMPs are needed that were not in place at the time of inspection;

(7) Deviations from the minimum inspection schedule as provided in the permit;

(8) Descriptions of corrective actions for any item above, date(s) of corrective actions taken, and measures taken to prevent future violations, including requisite changes to the SWMP, as necessary and

(9) After corrective action(s) have been taken, or where a report does not identify any incidents requiring corrective actions, 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.

B. BMP Operation and Maintenance.

The SWMP Administrator is responsible for operation and maintenance of construction BMPs. The SWMP Administrator will inspect the site per inspection and monitoring protocol outlined above and will make any necessary repairs to construction BMPs immediately after a defect or other need for repair is discovered. The project site and the adjacent streets impacted by the construction shall be kept neat, clean and free of debris. The erosion control measures and facilities will be maintained in good working order until final stabilization. Any items that are not functioning properly or are inadequate will be promptly repaired or upgraded. Records of inspections must be kept and be available for review by the State of Colorado Water Quality Control Division or El Paso County.

REFERENCES

The following reports and plans were used in the process of preparing this Stormwater Management Plan:

1. *CDPS General Permit: Stormwater Discharges Associated with Construction Activity Permit No. COR-030000.* Colorado Department of Public Health and Environment. March 7, 2012.
2. *Preliminary Drainage Report, The Glen at Widefield East*, Kiowa Engineering Corporation, June 15, 2015.
3. *Final Drainage Report The Glen at Widefield Filing No. 7*, Kiowa Engineering Corporation, June 15, 2015.
4. *Erosion Control and Stormwater Quality Guide. Colorado Department of Transportation. 1995.*
5. *West Fork Jimmy Camp Creek Drainage Basin Planning Study*. Kiowa Engineering Corporation. October 2003.
6. *City of Colorado Springs and El Paso County Drainage Criteria Manual*. May 2014.
7. *City of Colorado Springs Drainage Criteria Manual Volume 2*. May 2014.
8. *Soil Survey of El Paso County Area, Colorado*, prepared by United States Department of Agriculture Soil Conservation Service. June 1981.
9. *FIRM Flood Insurance Rate Map Numbers 08041CO956F and 08041CO957F.* Federal Emergency Management Agency. March 17, 1997.
10. *Geologic Hazards Evaluation & Preliminary Geotechnical Investigation for The Glen at Widefield East, Colorado Springs Colorado.* STE, Inc. updated 2015.
11. *U.S.G.S. 7.5-minute Fountain Quadrangle Map. El Paso County, Colorado.* 1981. U. S. Department of the Interior. 2013.

APPENDIX 1

SWMP Application

STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
Dedicated to protecting and improving the health and environment of the people of Colorado

Water Quality Control Division
4300 Cherry Creek Drive South
WQCD-WQPS-B2
Denver, CO 80246-1530
(303) 692– 3500 www.coloradowaterpermits.com

For Agency Use Only

Permit Number Assigned

COR03-_____

Date Received _____/_____/_____
MM DD YYYY

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

STORMWATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITIES APPLICATION

PHOTO COPIES, FAXED COPIES, PDF COPIES OR EMAILS WILL NOT BE ACCEPTED.

Please print or type. Original signatures are required.
All items must be completed accurately and in their entirety for the application to be deemed complete. Incomplete applications will not be processed until all information is received which will ultimately delay the issuance of a permit. If more space is required to answer any question, please attach additional sheets to the application form. Applications must be submitted by mail or hand delivered to:

Colorado Department of Public Health and Environment
Water Quality Control Division
4300 Cherry Creek Drive South
WQCD-WQPS-B2
Denver, CO 80246-1530

Any additional information that you would like the Division to consider in developing the permit should be provided with the application. Examples include effluent data and/or modeling and planned pollutant removal strategies.

HOW TO COMPLETE THIS APPLICATION

1. Online via web browser. You must use Internet Explorer (version 8 and above). All other browsers disable the electronic submission features.
OR
2. Download and save this form to your computer. Then open Adobe Reader (or Acrobat), select File, then Open and navigate to where the form is saved. This is the best option if using a Mac computer (Do not use the Mac Preview program).

PERMIT INFORMATION

Reason for Application: ☑ NEW CERT ☐ RENEW CERT EXISTING CERT# _____

Applicant is: ☑ Property Owner ☐ Contractor/Operator

A. CONTACT INFORMATION—NOT ALL CONTACTS MAY APPLY *indicates required

*** PERMITTEE (if more than one please add additional pages)**

*** ORGANIZATION FORMAL NAME:** Glen Development Company

1) * PERMITTEE CONTACT the person **authorized to sign and certify** the permit application.
This person receives all permit correspondences and is the person **responsible** for ensuring compliance with the permit.

Responsible Person (Title): President

Currently Held By (Person): FirstName: J Mark LastName: Watson

Telephone: 719 392-0194 Email Address: typeacbear@aol.com

Organization: Glen Development Company

Mailing Address: 3 Widefield Blvd

City: Colorado Springs State: CO Zip Code: 80911

This form must be signed by the Permittee (listed in item 1) to be considered complete.
Per Regulation 61 In all cases, it shall be signed as follows:

In the case of corporations, by a responsible corporate officer. For the purposes of this section, the responsible corporate officer is responsible for the overall operation of the facility from which the discharge described in the application originates.
In the case of a partnership, by a general partner.
In the case of a sole proprietorship, by the proprietor.
In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official.

2) **DMR COGNIZANT OFFICIAL (i.e. authorized agent)** the person or position authorized to **sign and certify reports required by the Division** including Discharge Monitoring Reports *DMR's, Annual Reports, Compliance Schedule submittals, and other information requested by the Division. The Division will transmit pre-printed reports (ie. DMR's) to this person. If more than one, please add additional pages.

☑ Same as 1) Permittee

Responsible Person (Title): President

Currently Held By (Person): FirstName: J Mark LastName: Watson

Telephone: 719 392-0194 Email Address: typeacbear@aol.com

Organization: Glen Development Company

Mailing Address: 3 Widefield Blvd

City: Colorado Springs State: CO Zip Code: 80911

Per Regulation 61 : All reports required by permits, and other information requested by the Division shall be signed by the permittee or by a duly authorized representative of that person. A person is a duly authorized representative only if:

i. The authorization is made in writing by the permittee.
ii. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a **named individual** or any individual occupying a **named position);** and
iii. The written authorization is submitted to the Division.

3) ***SITE CONTACT** local contact for questions relating to the facility & discharge authorized by this permit

☐ Same as 1) Permittee

Responsible Person (Title): Construction Manager

Currently Held By (Person): FirstName: Rudy LastName: Cross

Telephone: 719 338-3392 Email Address: rulocro@comcast.net

Organization: Cross Company

Mailing Address: 3140 Shadybrook Lane

City: Colorado Springs State: CO Zip Code: 80904

4) ***BILLING CONTACT** if different than the permittee.

☑ Same as 1) Permittee

Responsible Person (Title): President

Currently Held By (Person): FirstName: J Mark LastName: Watson

Telephone: 719 392-0194 Email Address: typeacbear@aol.com

Organization: Glen Development Company

Mailing Address: 3 Widefield Blvd

City: Colorado Springs State: CO Zip Code: 80911

5) **OTHER CONTACT TYPES (check below) Add pages if necessary:**

Responsible Person (Title): _____

Currently Held By (Person): _____ LastName: _____

Telephone: _____ Email Address: _____

Organization: _____

Mailing Address: _____

City: _____ State: _____ Zip Code: _____

- [ ] Pretreatment Coordinator
- [ ] Property Owner
- [ ] Compliance Contact
- [ ] Environmental Contact
- [ ] Inspection Facility Contact
- [ ] Stormwater MS4 Responsible Person
- [ ] Biosolids Responsible Party
- [ ] Consultant
- [ ] Stormwater Authorized Representative
- [ ] Other: _____

B) PERMITTED PROJECT/FACILITY INFORMATION

Project/Facility Name: The Glen at Widefield East

Street Address or Cross Streets: Mesa Ridge Parkway & Spring Glen Drive

(e.g., "S. of Park St. between 5th Ave. and 10th Ave.", or "W. side of C.R. 21, 3.25 miles N. of Hwy 10"; A street name without an address, intersection, mile marker, or other identifying information describing the location of the project is not adequate. For **linear projects**, the route of the project should be described as best as possible with the location more accurately indicated by a map.)

City: Colorado Springs Zip Code: 80911 County: El Paso

Facility Latitude/Longitude - (approximate center of site to nearest 15 seconds using one of the following formats)

- [x] Decimal Degrees

001A Latitude 38 . 7222 (Degrees (to 3 decimal places)) 001A Longitude -104 . 6592 (Degrees (to 3 decimal places)) (e.g., 39.703°, 104.933°)

OR

- [ ] Degrees, Minutes, Seconds

001A Latitude ____ ° ____ ' ____ " (Degrees, Minutes, Seconds) 001A Longitude ____ ° ____ ' ____ " (Degrees, Minutes, Seconds) e.g., 39°46'11"N, 104°53'11"W

For the approximate center point of the property, to the nearest 15 seconds. The latitude and longitude must be provided as either degrees, minutes, and seconds, or in decimal degrees with three decimal places. This information may be obtained from a variety of sources, including:

- **Surveyors or engineers** for the project should have, or be able to calculate, this information.
- EPA maintains a **web-based siting tool** as part of their Toxic Release Inventory program that uses interactive maps and aerial photography to help users get latitude and longitude. The siting tool can be accessed at **www.epa.gov/tri/report/siting_tool/index.htm**
- **U.S. Geological Survey topographical map(s)**, available at area map stores.
- Using a **Global Positioning System (GPS) unit** to obtain a direct reading.

Note: the latitude/longitude required above is not the directional degrees, minutes, and seconds provided on a site legal description to define property boundaries.

C) MAP (Attachment) If no map is submitted, the permit will not be issued Facility Information

Map: Attach a map that indicates the site location and that CLEARLY shows the boundaries of the area that will be disturbed. Maps must be **no larger** than 11x17 inches.

D) LEGAL DESCRIPTION

Legal description: If subdivided, provide the legal description below, or indicate that it is not applicable (**do not** supply Township/Range/Section or metes and bounds description of site)

Subdivision(s): _____ Lot(s): _____ Block(s) _____

OR - [x] Not applicable (site has not been subdivided)

E) AREA OF CONSTRUCTION SITE

Total area of project site (Acres) 245.4 Area of project site to undergo disturbance (Acres) 172.8

Note: aside from clearing, grading and excavation activities, disturbed areas also include areas receiving overburden (e.g., stockpiles), demolition areas, and areas with heavy equipment/vehicle traffic and storage that disturb existing vegetative cover

Total disturbed area of Larger Common Plan of Development or Sale. If applicable: na

(i.e., total, including all phases, filings, lots, and infrastructure not covered by this application)

Provide both the total area of the construction site, and the area that will undergo disturbance, in acres. **Note:** aside from clearing, grading and excavation activities, disturbed areas also include areas receiving overburden (e.g., stockpiles), demolition areas, and areas with heavy equipment/vehicle traffic and storage that disturb existing vegetative cover (see construction activity description under the APPLICABILITY section on page 1). If the project is part of a **larger common plan of development or sale** (see the definition under the APPLICABILITY section on page 1), the disturbed area of the total plan must also be included.

F) NATURE OF CONSTRUCTION ACTIVITY

Check the appropriate box(s) or provide a brief description that indicates the general nature of the construction activities. (The full description of activities must be included in the Stormwater Management Plan.)

- [x] Single Family Residential Development
- [ ] Multi-Family Residential Development
- [ ] Commercial Development
- [ ] Oil and Gas Production and/or Exploration (including pad sites and associated infrastructure)
- [ ] Highway/Road Development (not including roadways associated with commercial or residential development)
- [ ] Other—Description: _____

G) ANTICIPATED CONSTRUCTION SCHEDULE

Construction Start Date: Feb. 15, 2016 Final Stabilization Date: Autumn 2019

- *Construction Start Date* - This is the day you expect to begin ground disturbing activities, including grubbing, stockpiling, excavating, demolition, and grading activities.
- *Final Stabilization Date* - In terms of permit coverage, this is when the site is finally stabilized. This means that all ground surface disturbing activities at the site have been completed, and all disturbed areas have been either built on, paved, or a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels. **Permit coverage must be maintained until the site is finally stabilized. Even if you are only doing one part of the project, the estimated final stabilization date must be for the <u>overall</u> project.** If permit coverage is still required once your part is completed, the permit certification may be transferred or reassigned to a new responsible entity(s).

H) RECEIVING WATERS (If discharge is to a ditch or storm sewer, include the name of the ultimate receiving waters)

Immediate Receiving Water(s): West Fork Jimmy Camp Creek

Ultimate Receiving Water(s): Jimmy Camp Creek/Fountain Creek

Identify the receiving water of the stormwater from your site. Receiving waters are any waters of the State of Colorado. This includes all water courses, even if they are usually dry. If stormwater from the construction site enters a ditch or storm sewer system, identify that system and indicate the ultimate receiving water for the ditch or storm sewer. **Note:** a stormwater discharge permit does not allow a discharge into a ditch or storm sewer system without the approval of the owner/operator of that system.

I) SIGNATURE PAGE

1. **You may print and sign this document and mail the hard copy to the State along with required documents.**

OR

2. **Electronic Submission Signature**

You may choose to submit your application electronically, along with required attachments. To do so, click the SUBMIT button below which will direct you, via e-mail , to sign the document electronically using the DocuSign Electronic Signature process. Once complete, you will receive, again via e-mail, an electronically stamped Adobe pdf of this application. Print the signature page from the electronically stamped pdf, sign it and mail it to the WQCD Permits Section to complete the application process (address is on page 1 of the application).

- **The Division encourages use of the electronic submission of the application and electronic signature. This method meets signature requirements as required by the State of Colorado.**
- **The ink signed copy of the electronically stamped pdf signature page is also required. This requirement meets Federal EPA Requirements.**

Processing of the application will begin with the receipt of the valid electronic signature.

☑ STORMWATER MANAGEMENT PLAN CERTIFICATION

"I certify under penalty of law that a complete Stormwater Management Plan, as described in Appendix B of this application, 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."

"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."

"I understand that submittal of this application is for coverage under the State of Colorado General Permit for Stormwater Discharges Associated with Construction Activity **for the entirety of the construction site/project described and applied for, until such time as the application is amended or the certification is transferred, inactivated, or expired."** [Reg 61.4(1)(h)]

For Docusign Electronic Signature _____ Ink Signature _____ Date: 1/26/16

Signature of Legally Responsible Person or Authorized Agent (submission must include original signature)

J Mark Watson — President

Name (printed) — Title

This form must be signed by the Permittee to be considered complete. **Per Regulation 61** In all cases, it shall be signed as follows:

a) In the case of corporations, by a responsible corporate officer. For the purposes of this section, the responsible corporate officer is responsible for the over all operation of the facility from which the discharge described in the application originates.
b) In the case of a partnership, by a general partner.
c) In the case of a sole proprietorship, by the proprietor.
d) In the case of a municipal, state, or other public facility, by either a principal executive officer or ranking elected official

3rd Party Preparer: If this form was prepared by an authorized agent on behalf of the Permittee, please complete the fields below.

E. Klein — eklein@kiowaengineering.com

Preparer Name (printed) — Email Address

DO NOT INCLUDE A COPY OF THE STORMWATER MANAGEMENT PLAN
DO NOT INCLUDE PAYMENT—AN INVOICE WILL BE SENT AFTER THE CERTIFICATION IS ISSUED.

	Attach Map
	Attach File
	Attach File
	Attach File
	Attach File

Mesa Ridge Parkway
Glen at Widfield East
Undistrurbed
Glean at Widfield East
Area to be Distrurbed
Marksheffel Road

APPENDIX 2

Construction Activity Stormwater Permit

COLORADO
Department of Public
Health & Environment

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR-0300000
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES

Certification Number: **COR030949**

This Certification to Discharge specifically authorizes:

Glen Development Co
to discharge stormwater from the facility identified as

Glen at Widefield E

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

West Fork Jimmy Camp Creek- Jimmy Camp Creek

Facility Industrial Activity :
Single family residence

Facility Located at:
Mesa Ridge Pkwy and Spring Glen Dr Colorado Springs CO 80911
El Paso County
Latitude 38.726197 Longitude -104.681097

Specific Information (if applicable):

Certification is issued and effective: 2/10/2016
Expiration Date: This authorization expires upon effective date of the General Permit COR030000 renewal unless otherwise notified by the division.

*ADMINISTRATIVELY CONTINUED

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

This certification was approved by:
Lillian Gonzalez, Unit Manager
Permits Section
Water Quality Control Division

*explanation of Admin Continued in cover letter

XFINITY Connect rulocro@comcast.ne

+ Font Size -

FW: Permit Application Received

From : Ryan Watson <ryan@widefieldinvestmentgroup.com> Wed, Feb 17, 2016 01:11 PM

Subject : FW: Permit Application Received

To : rulocro@comcast.net

FYI

-----Original Message-----
From: SQL Service on VS90 (DO NOT REPLY) [mailto:dphevs90mail@state.co.us]
Sent: Wednesday, February 17, 2016 1:06 PM
To: ryan@widefieldinvestmentgroup.com
Subject: Permit Application Received

Colorado Department of Public Health and Environment
Air Pollution Control Division
Stationary Sources Program
- ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ -

A construction permit application was received by the Air Pollution Control Division (the Division) on 01/28/2016 and has been logged in to the Division's permit tracking system. The permit and AIRS ID number assignments are as follows:

PERMIT	AIRS ID	FACILITY
GP03	042/0233/001	GLEN DEVELOPMENT COMPANY - THE GLEN

Point Description: LAND DEVELOPMENT

If you should have any questions concerning the status of your permit application, please contact Aaron Moseley at (303)692-3242 or aaron.moseley@state.co.us. When calling, please reference the permit and/or AIRS ID number(s) listed above. You can also research the status of your application online at https://www.colorado.gov/pacific/cdphe/air-permit-status . Please note that the status of general permit applications will not be reflected on the Division's website; conditional coverage under the relevant general permit is effective on the date that a complete application is received by the Division.

The next step in processing your construction permit application is to determine if all of the information we need is contained within your application. If so, we will begin our preliminary engineering analysis. If any information is missing, however, we will contact you in the near future to obtain the needed material.

State law requires that the Division determine the completeness of an application within 60 days of receipt. If you do not hear from the Division by 03/28/2016, you can assume that your application is complete.

STATE OF COLORADO

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT
Water Quality Control Division

CDPS GENERAL PERMIT

STORMWATER DISCHARGES ASSOCIATED WITH

CONSTRUCTION ACTIVITY

AUTHORIZATION TO DISCHARGE UNDER THE

COLORADO DISCHARGE PERMIT SYSTEM (CDPS)

In compliance with the provisions of the Colorado Water Quality Control Act, (25-8-101 et seq., CRS, 1973 as amended) and the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq.; the "Act"), this permit authorizes the discharge of stormwater associated with construction activities (and specific allowable non-stormwater discharges in accordance with Part I.A.1. of the permit) certified under this permit, from those locations specified throughout the State of Colorado to specified waters of the State.

Such discharges shall be in accordance with the conditions of this permit. This permit specifically authorizes the facility listed on the certification to discharge in accordance with permit requirements and conditions set forth in Parts I and II hereof. All discharges authorized herein shall be consistent with the terms and conditions of this permit.

This permit becomes effective on April 1, 2019, and shall expire at midnight March 31, 2024.

Issued and signed this 1st day of November 2018.

COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT

Ellen Howard Kutzer, Permits Section Manager
Water Quality Control Division

Permit History
Originally signed and issued October 31, 2018; effective April 1, 2019.

Table of Contents

Part I 1

A. COVERAGE UNDER THIS PERMIT 1

1. Authorized Discharges 1

2. Limitations on Coverage 1

3. Permit Certification and Submittal Procedures 2

B. EFFLUENT LIMITATIONS 6

1. Requirements for Control Measures Used to Meet Effluent Limitations 6

2. Discharges to an Impaired Waterbody 9

3. General Requirements 10

C. STORMWATER MANAGEMENT PLAN (SWMP) REQUIREMENTS 11

1. SWMP General Requirements 11

2. SWMP Content 11

3. SWMP Review and Revisions 13

4. SWMP Availability 14

D. SITE INSPECTIONS 14

1. Person Responsible for Conducting Inspections 14

2. Inspection Frequency 14

3. Inspection Frequency for Discharges to Outstanding Waters 15

4. Reduced Inspection Frequency 15

5. Inspection Scope 16

E. DEFINITIONS 17

F. MONITORING 20

G. Oil and Gas Construction 21

Part II: Standard Permit Conditions 22

A. DUTY TO COMPLY 22

B. DUTY TO REAPPLY 22

C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE 22

D. DUTY TO MITIGATE 22

E. PROPER OPERATION AND MAINTENANCE 22

F. PERMIT ACTIONS 22

G. PROPERTY RIGHTS 22

H. DUTY TO PROVIDE INFORMATION 23

I. INSPECTION AND ENTRY 23

J. MONITORING AND RECORDS 23

K. SIGNATORY REQUIREMENTS 24

1. Authorization to Sign: 24
2. Electronic Signatures 25
3. Change in Authorization to Sign 25
L. REPORTING REQUIREMENTS 25
1. Planned Changes 25
2. Anticipated Non-Compliance 25
3. Transfer of Ownership or Control 25
4. Monitoring reports 26
5. Compliance Schedules 26
6. Twenty-four hour reporting 26
7. Other non-compliance 27
8. Other information 27
M. BYPASS 27
1. Bypass not exceeding limitations 27
2. Notice of bypass 27
3. Prohibition of Bypass 27
N. UPSET 28
1. Effect of an upset 28
2. Conditions necessary for demonstration of an Upset 28
3. Burden of Proof 28
O. RETENTION OF RECORDS 28
1. Post-Expiration or Termination Retention 28
2. On-site Retention 29
P. REOPENER CLAUSE 29
1. Procedures for modification or revocation 29
2. Water quality protection 29
Q. SEVERABILITY 29
R. NOTIFICATION REQUIREMENTS 29
1. Notification to Parties 29
S. RESPONSIBILITIES 30
1. Reduction, Loss, or Failure of Treatment Facility 30
T. Oil and Hazardous Substance Liability 30
U. Emergency Powers 30
V. Confidentiality 30
W. Fees 30

X. Duration of Permit 30
Y. Section 307 Toxics 30

Part I
Note: At the first mention of terminology that has a specific connotation for the purposes of this permit, the terminology is electronically linked to the definitions section of the permit in Part I.E.

A. COVERAGE UNDER THIS PERMIT

1. Authorized Discharges

   This general permit authorizes permittee(s) to discharge the following to state waters: stormwater associated with construction activity and specified non-stormwater associated with construction activity. The following types of stormwater and non-stormwater discharges are authorized under this permit:

   a. Allowable Stormwater Discharges

      i. Stormwater discharges associated with construction activity.

      ii. Stormwater discharges associated with producing earthen materials, such as soils, sand, and gravel dedicated to providing material to a single contiguous site, or within ¼ mile of a construction site (i.e. borrow or fill areas)

      iii. Stormwater discharges associated with dedicated asphalt, concrete batch plants and masonry mixing stations (Coverage under this permit is not required if alternative coverage has been obtained.)

   b. Allowable Non-Stormwater Discharges

      The following non-stormwater discharges are allowable under this permit if the discharges are identified in the stormwater management plan in accordance with Part I.C. and if they have appropriate control measures in accordance with Part I.B.1.

      i. Discharges from uncontaminated springs that do not originate from an area of land disturbance.

      ii. Discharges to the ground of concrete washout water associated with the washing of concrete tools and concrete mixer chutes. Discharges of concrete washout water must not leave the site as surface runoff or reach receiving waters as defined by this permit.

      iii. Discharges of landscape irrigation return flow.

   c. Emergency Fire Fighting

      Discharges resulting from emergency firefighting activities are authorized by this permit.

2. Limitations on Coverage

   Discharges not authorized by this permit include, but are not limited to, the discharges and activities listed below. Permittees may seek individual or alternate general permit coverage for the discharges, as appropriate and available.

   a. Discharges of Non-Stormwater

Discharges of non-stormwater, except the authorized non-stormwater discharges listed in Part I.A.1.b., are not eligible for coverage under this permit.

b. Discharges Currently Covered by another Individual or General Permit

c. Discharges Currently Covered by a Water Quality Control Division (division) Low Risk Guidance Document

3. Permit Certification and Submittal Procedures

a. Duty to apply
The following activities shall apply for coverage under this permit:

i. Construction sites that will disturb one acre or more; or

ii. Construction sites that are part of a common plan of development or sale; or

iii. Stormwater discharges that are designated by the division as needing a stormwater permit because the discharge:

(a) Contributes to a violation of a water quality standard; or

(b) is a significant contributor of pollutants to state waters.

b. Application Requirements
To obtain authorization to discharge under this permit, applicants applying for coverage following the effective date of the renewal permit shall meet the following requirements:

i. Owners and operators submitting an application for permit coverage will be co-permittees subject to the same benefits, duties, and obligations under this permit.

ii. Signature requirements: Both the owner and operator (permittee) of the construction site, as defined in Part I.E., must agree to the terms and conditions of the permit and submit a completed application that includes the signature of both the owner and the operator. In cases where the duties of the owner and operator are managed by the owner, both application signatures may be completed by the owner. Both the owner and operator are responsible for ensuring compliance with all terms and conditions of the permit, including implementation of the stormwater management plan.

iii. Applicants must use the paper form provided by the division or the electronic form provided on the division's web-based application platform when applying for coverage under this permit.

iv. The applicant(s) must develop a stormwater management plan (SWMP) in accordance with the requirements of Part I.C. The applicant(s) must also certify that the SWMP is complete, or will be complete, prior to commencement of any construction activity.

v. The applicant(s) must submit a complete, accurate, and signed permit application electronically, by mail or hand delivery to the division at least 10 days prior to the commencement of construction activity except that construction activities that are in response to a public emergency related site shall apply for coverage no later than 14 days after the commencement of construction activities. The provisions of this part in no way remove a violation of the Colorado Water Quality Control Act if a point source discharge occurs prior to the issuance of a CDPS permit.

vi. The application must be signed in accordance with the requirements of Part IA. Applications submitted by mail or hand delivered should be directed to:

Colorado Department of Public Health and Environment
Water Quality Control Division
Permits Section, WQCD-PS-B2
4300 Cherry Creek Drive South
Denver, CO 80246

vii. The applicant(s) must receive written notification that the division granted permit coverage prior to conducting construction activities except for construction activities that are in response to a public emergency related site

c. Division Review of Permit Application

Within 10 days of receipt of the application, and following review of the application, the division may:

i. Issue a certification of coverage;

ii. request additional information necessary to evaluate the discharge;

iii. delay the authorization to discharge pending further review;

iv. notify the applicant that additional terms and conditions are necessary; or

v. deny the authorization to discharge under this general permit.

d. Alternative Permit Coverage

i. Division Required Alternate Permit Coverage:
The Division may require an applicant or permittee to apply for an individual permit or an alternative general permit if it determines the discharge does not fall under the scope of this general permit. In this case, the Division will notify the applicant or permittee that an individual permit application is required.

ii. Permittee Request for alternate permit coverage:
A permittee authorized to discharge stormwater under this permit may request to be excluded from coverage under this general permit by applying for an individual permit. In this case, the permittee must submit an individual application, with reasons supporting the request, to the Division at least 180 days prior to any discharge. When an individual permit is issued, the permittee's authorization to discharge under this permit is terminated on the effective date of the individual permit.

e. Submittal Signature Requirements

Documents required for submittal to the division in accordance with this permit, including applications for permit coverage and other documents as requested by the division, must include signatures by both the owner and the operator, except for instances where the duties of the owner and operator are managed by the owner.

Signatures on all documents submitted to the division as required by this permit must meet the Standard Signatory Requirements in Part II.K. of this permit in accordance with 40 C.F.R. 122.41(k).

i. Signature Certification
Any person(s) signing documents required for submittal to the Division must make the following 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."

f. Compliance Document Signature Requirements
Documents which are required for compliance with the permit, but for which submittal to the division is not required unless specifically requested by the division, must be signed by the individual(s) designated as the Qualified Stormwater Manager, as defined in Part I.E.

i. Any person(s) signing inspection documents required for compliance with the permit must make the following 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."

g. Field Wide Permit Coverage for Oil and Gas Construction
At the discretion of the division, a single permit certification may be issued to a single oil and gas permittee to cover construction activity related discharges from an oil and gas field at multiple locations that are not necessarily contiguous.

h. Permit Coverage without Application
Qualifying Local Program: When a small construction site is within the jurisdiction of a qualifying local program, the owner and operator of the construction activity are authorized to discharge stormwater associated with small construction activity under this general permit without the submittal of an application to the division. Sites covered by a qualifying local program are exempt from the following sections of this general permit:

Part I.A.3.a.; Part I.A.3.b.; Part I.A.3.c.; Part I.A.3.d.; Part I.A.3.g.; Part I.A.3.i.; Part I.A.3.j.; Part I.A.3.k.

Sites covered by a qualifying local program are subject to the following requirements:

i. Local Agency Authority: This permit does not pre-empt or supersede the authority of local agencies to prohibit, restrict, or control discharges of stormwater to storm drain systems or other water courses within their jurisdiction.

ii. Permit Coverage Termination: When a site under a Qualifying Local Program is finally stabilized, coverage under this permit is automatically terminated.

iii. Compliance with Qualifying Local Program: Qualifying Local Program requirements that are equivalent to the requirements of this permit are incorporated by reference. Permittees authorized to discharge under this permit, must comply with the equivalent requirements of the Qualifying Local Program that has jurisdiction over the site as a condition of this permit.

iv. Compliance with Remaining Permit Conditions. Requirements of this permit that are in addition to or more stringent than the requirements of the Qualifying Local Program apply in addition to the requirements of the Qualifying Local Program.

v. Written Authorization of Coverage: The division or local municipality may require any permittee within the jurisdiction of a Qualifying Local Program covered under this permit to apply for, and obtain written authorization of coverage under this permit. The permittee must be notified in writing that an application for written authorization of coverage is required.

i. Permittee Initiated Permit Actions

Permittee initiated permit actions, including but not limited to modifications, contact changes, transfers, reassignments, and terminations, shall be conducted following division guidance and using appropriate division-provided forms.

j. Sale of Residence to Homeowner

Residential construction sites only: The permittee may remove residential lots from permit coverage once the lot meets the following criteria:

i. the residential lot has been sold to the homeowner(s) for private residential use;

ii. a certificate of occupancy, or equivalent, is maintained on-site and is available during division inspections;

iii. the lot is less than one acre of disturbance;

iv. all construction activity conducted on the lot by the permittee is complete;

v. the permittee is not responsible for final stabilization of the lot; and

vi. the SWMP was modified to indicate the lot is no longer part of the construction activity.

If the residential lot meets the criteria listed above then activities occurring on the lot are no longer considered to be construction activities with a duty to apply and maintain permit coverage. Therefore, the permittee is not required to meet the final stabilization requirements and may terminate permit coverage for the lot.

k. Permit Expiration and Continuation of Permit Coverage

Authorization to discharge under this general permit shall expire at midnight on March 31, 2024. While Regulation 61.4 requires a permittee to submit an application for continuing permit coverage 180 days before the permit expires, the division is requiring that permittees desiring continued coverage under this general permit must reapply at least 90 days in advance of this permit expiration. The Division will determine if the permittee may continue to discharge stormwater under the terms of the general permit. An individual permit may be required for any facility not reauthorized to discharge under the reissued general permit.

If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued and remain in force and effect. For permittees that have applied for continued permit coverage, discharges authorized under this permit prior to the expiration date will automatically remain covered by this permit until the earliest of:

i. An authorization to discharge under a reissued permit, or a replacement of this permit, following the timely and appropriate submittal of a complete application requesting authorization to discharge under the new permit and compliance with the requirements of the new permit; or

ii. The issuance and effect of a termination issued by the Division; or

iii. The issuance or denial of an individual permit for the facility's discharges; or

iv. A formal permit decision by the Division not to reissue this general permit, at which time the Division will identify a reasonable time period for covered dischargers to seek coverage under an alternative general permit or an individual permit. Coverage under this permit will cease when coverage under another permit is granted/authorized; or

v. The Division has informed the permittee that discharges previously authorized under this permit are no longer covered under this permit.

B. EFFLUENT LIMITATIONS

1. Requirements for Control Measures Used to Meet Effluent Limitations

The permittee must implement control measures to minimize the discharge of pollutants from all potential pollutant sources at the site. Control measures must be installed prior to commencement of activities that may contribute pollutants to stormwater discharges. Control measures must be selected, designed, installed and maintained in accordance with good engineering, hydrologic and pollution control practices. Control measures implemented at the site must be designed to prevent pollution or degradation of state waters.

a. Stormwater Pollution Prevention

The permittee must implement structural and/or nonstructural control measures that effectively minimize erosion, sediment transport, and the release of other pollutants related to construction activity.

i. Control Measures for Erosion and Sediment Control

Control measures for erosion and sediment control may include, but are not limited to, wattles/sediment control logs, silt fences, earthen dikes, drainage swales, sediment traps, subsurface drains, pipe slope drains, inlet protection, outlet protection, gabions, sediment basins, temporary vegetation, permanent vegetation, mulching, geotextiles, sod stabilization, slope roughening, maintaining existing vegetation, protection of trees, and preservation of mature vegetation. Specific non-structural control measures must meet the requirements listed below.

Specific control measures must meet the requirements listed below.

(a) Vehicle tracking controls shall either be implemented to minimize vehicle tracking of sediment from disturbed areas, or the areas where vehicle tracking occurs shall meet subsection Part I.B.1.a.i(b);

(b) Stormwater runoff from all disturbed areas and soil storage areas for which permanent or temporary stabilization is not implemented, must flow to at least one control measure to minimize sediment in the discharge. This may be accomplished through filtering, settling, or straining. The control measure must be selected, designed, installed and adequately sized in accordance with good engineering, hydrologic and pollution control practices. The control measure(s) must contain or filter flows in order to prevent the bypass of flows without treatment and must be appropriate for stormwater runoff from disturbed areas and for the expected flow rate, duration, and flow conditions (i.e., sheet or concentrated flow);

(c) Outlets that withdraw water from or near the surface shall be installed when discharging from basins and impoundments, unless infeasible.

(d) Maintain pre-existing vegetation or equivalent control measures for areas within 50 horizontal feet of receiving waters as defined by this permit, unless infeasible.

(e) Soil compaction must be minimized for areas where infiltration control measures will occur or where final stabilization will be achieved through vegetative cover.

(f) Unless infeasible, topsoil shall be preserved for those areas of a site that will utilize vegetative final stabilization.

(g) Minimize the amount of soil exposed during construction activity, including the disturbance of steep slopes.

ii. Practices for Other Common Pollutants

(a) Bulk storage, 55 gallons or greater, for petroleum products and other liquid chemicals must have secondary containment, or equivalent protection, in order to contain spills and to prevent spilled material from entering state waters.

(b) Control measures designed for concrete washout waste must be implemented. This includes washout waste discharged to the ground as authorized under this permit and washout waste from concrete trucks and masonry operations contained on site. The permittee must ensure the washing activities do not contribute pollutants to stormwater runoff, or receiving waters in accordance Part I.A.1.b.ii. 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 this permit, including Part I.B.3.a. The concrete washout location shall be not be located in an area where shallow groundwater may be present and would result in buffering capacity not being adequate, such as near natural drainages, springs, or wetlands. This permit authorizes discharges to the ground of concrete washout waste.

iii. Stabilization Requirements
The following requirements must be implemented for each site.

(a) Temporary stabilization must be implemented for earth disturbing activities on any portion of the site where ground disturbing construction activity has permanently ceased, or temporarily ceased for more than 14 calendar days. Temporary stabilization methods may include, but are not limited to, tarps, soil tackifier, and hydroseed. The permittee may exceed the 14-day schedule when either the function of the specific area of the site requires it to remain disturbed, or, physical characteristics of the terrain and climate prevent stabilization. The SWMP must document the constraints necessitating the alternative schedule, provide the alternate stabilization schedule, and identify all locations where the alternative schedule is applicable on the site map.

(b) Final stabilization must be implemented for all construction sites. Final stabilization is reached when all ground surface disturbing activities at the construction site are complete; and, for all areas of ground surface disturbing activities, either a uniform vegetative cover with an individual plant density of at least 70 percent of pre-disturbance levels is established, or equivalent permanent alternative stabilization methods are implemented. The division may approve alternative final stabilization criteria for specific operations.

(c) Final stabilization must be designed and installed as a permanent feature. Final stabilization measures for obtaining a vegetative cover or alternative stabilization methods include, but are not limited to, the following as appropriate:

(1) Seed mix selection and application methods;

(2) Soil preparation and amendments;

(3) Soil stabilization methods (e.g., crimped straw, hydro mulch or rolled erosion control products);

(4) Appropriate sediment control measures as needed until final stabilization is achieved;

(5) Permanent pavement, hardscape, xeriscape, stabilized driving surfaces;

(6) Other alternative stabilization practices as applicable;

(d) The permittee(s) 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 (i.e., bio-degradable control measures).

b. Maintenance

The permittee must ensure that all control measures remain in effective operating condition and are protected from activities that would reduce their effectiveness. Control measures must be maintained in accordance with good engineering, hydrologic and pollution control practices. Observations leading to the required maintenance of control measures can be made during a site inspection, or during general observations of site conditions. The necessary repairs or modifications to a control measure requiring routine maintenance, as defined in Part I.E., must be conducted to maintain an effective operating condition. This section is not subject to the requirements in Part I.B.1.c. below.

c. Corrective Actions

The permittee must assess the adequacy of control measures at the site, and the need for changes to those control measures, to ensure continued effective performance. When an inadequate control measure, as defined in Part I.E., is identified (i.e., new or replacement control measures become necessary), the following corrective action requirements apply. The permittee is in noncompliance with the permit until the inadequate control measure is replaced or corrected and returned to effective operating condition in compliance with Part I.B.1. and the general requirements in Part I.B.3. If the inadequate control measure results in noncompliance that meets the conditions of Part II.L., the permittee must also meet the requirements of that section.

i. The permittee must take all necessary steps to minimize or prevent the discharge of pollutants, 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. If it is infeasible to install or repair of control measure immediately after discovering the deficiency, the following must be documented and kept on record in accordance with the recordkeeping requirements in Part II.

(a) Describe why it is infeasible to initiate the installation or repair immediately; and

(b) Provide a schedule for installing or repairing the control measure and returning it to an effective operating condition as soon as possible.

ii. If applicable, the permittee must remove and properly dispose of any unauthorized release or discharge (e.g., discharge of non-stormwater, spill, or leak not authorized by this permit.) The permittee must also clean up any contaminated surfaces to minimize discharges of the material in subsequent storm events.

2. Discharges to an Impaired Waterbody

a. Total Maximum Daily Load (TMDL)

If the permittee's discharge flows to or could reasonably be expected to flow to any water body for which a TMDL has been approved, and stormwater discharges

associated with construction activity were assigned a pollutant-specific Wasteload Allocation (WLA) under the TMDL, the division may:

i. ensure the WLA is implemented properly through alternative local requirements, such as by a municipal stormwater permit; or

ii. notify the permittee of the WLA and amend the permittee's certification to add specific effluent limits and other requirements, as appropriate. The permittee may be required to do the following:

(a) under the permittee's SWMP, implement specific control measures based on requirements of the WLA, and evaluate whether the requirements are met through implementation of existing stormwater control measures or if additional control measures are necessary. Document the calculations or other evidence demonstrating that the requirements are expected to be met; and

(b) if the evaluation shows that additional or modified control measures are necessary, describe the type and schedule for the control measure additions or modifications.

iii. Discharge monitoring may also be required. The permittee may maintain coverage under the general permit provided they comply with the applicable requirements outlined above. The division reserves the right to require individual or alternate general permit coverage.

3. General Requirements

a. Discharges authorized by this permit shall not cause, have the reasonable potential to cause, or measurably contribute to an exceedance of any applicable water quality standard, including narrative standards for water quality.

b. The division may require sampling and testing, on a case-by-case basis, in the event that there is reason to suspect that the SWMP is not adequately minimizing pollutants in stormwater or in order to measure the effectiveness of the control measures in removing pollutants in the effluent. Such monitoring may include Whole Effluent Toxicity testing.

c. The permittee must comply with the lawful requirements of federal agencies, municipalities, counties, drainage districts and other local agencies including applicable requirements in Municipal Stormwater Management Programs developed to comply with CDPS permits. The permittee must comply with local stormwater management requirements, policies and guidelines including those for erosion and sediment control.

d. All construction site wastes must be properly managed to prevent potential pollution of state waters. This permit does not authorize on-site waste disposal.

e. This permit does not relieve the permittee of the reporting requirements in 40 CFR 110, 40 CFR 117 or 40 CFR 302. Any discharge of hazardous material must be handled in accordance with the division's Noncompliance Notification Requirements (see Part II.L. of the permit).

C. STORMWATER MANAGEMENT PLAN (SWMP) REQUIREMENTS

1. SWMP General Requirements

   a. A SWMP shall be developed for each construction site covered by this permit. The SWMP must be prepared in accordance with good engineering, hydrologic and pollution control practices.

      i. For public emergency related sites a SWMP shall be created no later than 14 days after the commencement of construction activities.

   b. The permittee must implement the provisions of the SWMP as written and updated, from commencement of construction activity until final stabilization is complete. The division may review the SWMP.

   c. A copy of the SWMP must be retained onsite or be onsite when construction activities are occurring at the site unless the permittee specifies another location and obtains approval from the division.

2. SWMP Content

   a. The SWMP, at a minimum, must include the following elements.

      i. Qualified Stormwater Manager. The SWMP must list individual(s) by title and name who are designated as the site's qualified stormwater manager(s) responsible for implementing the SWMP in its entirety. This role may be filled by more than one individual.

      ii. Spill Prevention and Response Plan. The SWMP must have a spill prevention and response plan. The plan may incorporate by reference any part of a Spill Prevention Control and Countermeasure (SPCC) plan under section 311 of the Clean Water Act (CWA) or a Spill Prevention Plan required by a separate CDPS permit. The relevant sections of any referenced plans must be available as part of the SWMP consistent with Part I.C.4.

      iii. Materials Handling. The SWMP must describe and locate all control measures implemented at the site to minimize impacts from handling significant materials that could contribute pollutants to runoff. These handling procedures can include control measures for pollutants and activities such as, exposed storage of building materials, paints and solvents, landscape materials, fertilizers or chemicals, sanitary waste material, trash and equipment maintenance or fueling procedures.

      iv. Potential Sources of Pollution. The SWMP must list all potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activity from the site. This shall include, but is not limited to, the following pollutant sources:

         (a) disturbed and stored soils;

         (b) vehicle tracking of sediments;

         (c) management of contaminated soils;

         (d) loading and unloading operations;

(e) outdoor storage activities (erodible building materials, fertilizers, chemicals, etc.);

(f) vehicle and equipment maintenance and fueling;

(g) significant dust or particulate generating processes (e.g., saw cutting material, including dust);

(h) routine maintenance activities involving fertilizers, pesticides, herbicides, detergents, fuels, solvents, oils, etc.;

(i) on-site waste management practices (waste piles, liquid wastes, dumpsters);

(j) concrete truck/equipment washing, including washing of the concrete truck chute and associated fixtures and equipment;

(k) dedicated asphalt, concrete batch plants and masonry mixing stations;

(l) non-industrial waste sources such as worker trash and portable toilets.

v. Implementation of Control Measures. The SWMP must include design specifications that contain information on the implementation of the control measure in accordance with good engineering hydrologic and pollution control practices; including as applicable drawings, dimensions, installation information, materials, implementation processes, control measure-specific inspection expectations, and maintenance requirements.

The SWMP must include a documented use agreement between the permittee and the owner or operator of any control measures located outside of the permitted area, that are utilized by the permittee's construction site for compliance with this permit, but not under the direct control of the permittee. The permittee is responsible for ensuring that all control measures located outside of their permitted area, that are being utilized by the permittee's construction site, are properly maintained and in compliance with all terms and conditions of the permit. The SWMP must include all information required of and relevant to any such control measures located outside the permitted area, including location, installation specifications, design specifications and maintenance requirements.

vi. Site Description. The SWMP must include a site description which includes, at a minimum, the following:

(a) the nature of the construction activity at the site;

(b) the proposed schedule for the sequence for major construction activities and the planned implementation of control measures for each phase. (e.g.: clearing, grading, utilities, vertical, etc.);

(c) estimates of the total acreage of the site, and the acreage expected to be disturbed by clearing, excavation, grading, or any other construction activities;

(d) a summary of any existing data used in the development of the construction site plans or SWMP that describe the soil or existing potential for soil erosion;

(e) a description of the percent of existing vegetative ground cover relative to the entire site and the method for determining the percentage;

(f) a description of any allowable non-stormwater discharges at the site, including those being discharged under a division low risk discharge guidance policy;

(g) a description of areas receiving discharge from the site. Including a description of the immediate source receiving the discharge. If the stormwater discharge is to a municipal separate storm sewer system, the name of the entity owning that system, the location of the storm sewer discharge, and the ultimate receiving water(s); and

(h) a description of all stream crossings located within the construction site boundary.

vii. Site Map. The SWMP must include a site map which includes, at a minimum, the following:

(a) construction site boundaries;

(b) flow arrows that depict stormwater flow directions on-site and runoff direction;

(c) all areas of ground disturbance including areas of borrow and fill;

(d) areas used for storage of soil;

(e) locations of all waste accumulation areas, including areas for liquid, concrete, masonry, and asphalt;

(f) locations of dedicated asphalt, concrete batch plants and masonry mixing stations;

(g) locations of all structural control measures;

(h) locations of all non-structural control measures;

(i) locations of springs, streams, wetlands and other state waters, including areas that require pre-existing vegetation be maintained within 50 feet of a receiving water, where determined feasible in accordance with Part I.B.1.a.i.(d).; and

(j) locations of all stream crossings located within the construction site boundary.

viii. Final Stabilization and Long Term Stormwater Management. The SWMP must describe the practices used to achieve final stabilization of all disturbed areas at the site and any planned practices to control pollutants in stormwater discharges that will occur after construction operations are completed. Including but not limited to, detention/retention ponds, rain gardens, stormwater vaults, etc.

ix. Inspection Reports. The SWMP must include documented inspection reports in accordance with Part ID.

3. SWMP Review and Revisions

Permittees must keep a record of SWMP changes made that includes the date and identification of the changes. The SWMP must be amended when the following occurs:

a. a change in design, construction, operation, or maintenance of the site requiring implementation of new or revised control measures;

b. the SWMP proves ineffective in controlling pollutants in stormwater runoff in compliance with the permit conditions;

c. control measures identified in the SWMP are no longer necessary and are removed; and

d. corrective actions are taken onsite that result in a change to the SWMP.

For SWMP revisions made prior to or following a change(s) onsite, including revisions to sections addressing site conditions and control measures, a notation must be included in the SWMP that identifies the date of the site change, the control measure removed, or modified, the location(s) of those control measures, and any changes to the control measure(s). The permittee must ensure the site changes are reflected in the SWMP. The permittee is noncompliant with the permit until the SWMP revisions have been made.

4. SWMP Availability

A copy of the SWMP must be provided upon request to the division, EPA, and any local agency with authority for approving sediment and erosion plans, grading plans or stormwater management plans within the time frame specified in the request. If the SWMP is required to be submitted to any of these entities, the submission must include a signed certification in accordance with Part I.A.3.e., certifying that the SWMP is complete and compliant with all terms and conditions of the permit.

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

D. SITE INSPECTIONS

Site inspections must be conducted in accordance with the following requirements. The required inspection schedules are a minimum frequency and do not affect the permittee's responsibility to implement control measures in effective operating condition as prescribed in the SWMP. Proper maintenance of control measures may require more frequent inspections. Site inspections shall start within 7 calendar days of the commencement of construction activities on site.

1. Person Responsible for Conducting Inspections

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(s). The permittee is responsible for ensuring that the inspector is a qualified stormwater manager.

2. Inspection Frequency

Permittees must conduct site inspections in accordance with one of the following minimum frequencies, unless the site meets the requirements of Part ID.3

a. At least one inspection every 7 calendar days. Or

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

c. When site conditions make the schedule required in this section impractical, the permittee may petition the Division to grant an alternate inspection schedule. The alternative inspection schedule may not be implemented prior to written approval by the division and incorporation into the SWMP.

3. Inspection Frequency for Discharges to Outstanding Waters

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.

4. Reduced Inspection Frequency

The permittee may perform site inspections at the following reduced frequencies when one of the following conditions exists:

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

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

i. all construction activities resulting in ground disturbance are complete;

ii. all activities required for final stabilization, in accordance with the SWMP, have been completed, with the exception of the application of seed that has not occurred due to seasonal conditions or the necessity for additional seed application to augment previous efforts; and

iii. the SWMP has been amended to locate those areas to be inspected in accordance with the reduced schedule allowed for in this paragraph.

c. Winter Conditions Inspections Exclusion

Inspections are not required for sites that meet all of the following conditions: construction activities are temporarily halted, snow cover exists over the entire site for an extended period, and melting conditions posing a risk of surface erosion do not exist. This inspection exception is applicable only during the period where melting conditions do not exist, and applies to the routine 7-day, 14-day and monthly inspections, as well as the post-storm-event inspections. When this inspection exclusion is implemented, the following information must be documented in accordance with the requirements in Part II:

i. dates when snow cover existed;

ii. date when construction activities ceased; and

iii. date melting conditions began.

5. Inspection Scope

a. Areas to be Inspected
When conducting a site inspection the following areas, if applicable, must be inspected for evidence of, or the potential for, pollutants leaving the construction site boundaries, entering the stormwater drainage system, or discharging to state waters:

i. construction site perimeter;

ii. all disturbed areas;

iii. designated haul routes;

iv. material and waste storage areas exposed to precipitation;

v. locations where stormwater has the potential to discharge offsite; and

vi. locations where vehicles exit the site.

b. Inspection Requirements

i. Visually verify whether all implemented control measures are in effective operational condition and are working as designed in their specifications to minimize pollutant discharges.

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 in accordance with Part IB.1.c.

c. Inspection Reports
The permittee must keep a record of all inspections conducted for each permitted site. Inspection reports must identify any incidents of noncompliance with the terms and conditions of this permit. Inspection records must be retained in accordance with Part II.O. and signed in accordance with Part I.A.3.f. 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 discharges of sediment or other pollutants from the site;

vii. location(s) of control measures needing maintenance;

viii. location(s) and identification of inadequate control measures;

ix. location(s) and identification of additional control measures are needed that were not in place at the time of inspection;

x. 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.

xi. deviations from the minimum inspection schedule as required in Part I.D.2.;

xii. 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 report shall contain a statement as required in Part I.A.3.f.

E. DEFINITIONS

For the purposes of this permit:

(1) Bypass - the intentional diversion of waste streams from any portion of a treatment facility in accordance with 40 CFR 122.41(m)(1)(i) and Regulation 61.2(12).

(2) Common Plan of Development or Sale - A contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules, but remain related. The Division has determined that "contiguous" means construction activities located in close proximity to each other (within ¼ mile). Construction activities are considered to be "related" if they share the same development plan, builder or contractor, equipment, storage areas, etc. "Common plan of development or sale" includes construction activities that are associated with the construction of field wide oil and gas permits for facilities that are related.

(3) Construction Activity - Ground surface disturbing and associated activities (land disturbance), which include, but are not limited to, clearing, grading, excavation, demolition, installation of new or improved haul roads and access roads, staging areas, stockpiling of fill materials, and borrow areas. Construction does not include routine maintenance to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. Activities to conduct repairs that are not part of routine maintenance or for replacement are construction activities and are not routine maintenance. Repaving activities where underlying and/or surrounding soil is exposed as part of the repaving operation are considered construction activities. Construction activity is from initial ground breaking to final stabilization regardless of ownership of the construction activities.

(4) Control Measure - Any best management practice or other method used to prevent or reduce the discharge of pollutants to state waters. Control measures include, but are not limited to, best management practices. Control measures can include other methods such as the installation, operation, and maintenance of structural controls and treatment devices.

(5) Control Measure Requiring Routine Maintenance - Any control measure that is still operating in accordance with its design and the requirements of this permit, but requires maintenance to prevent a breach of the control measure. See also inadequate control measure.

(6) Dedicated Asphalt, Concrete Batch Plants and Masonry Mixing Stations – are batch plants or mixing stations located on, or within ¼ mile of, a construction site and that provide materials only to that specific construction site.

(7) Final Stabilization - The condition reached when all ground surface disturbing activities at the site have been completed, and for all areas of ground surface disturbing activities where a uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.

(8) Good Engineering, Hydrologic and Pollution Control Practices: are methods, procedures, and practices that:
   a. Are based on basic scientific fact(s).
   b. Reflect best industry practices and standards.
   c. Are appropriate for the conditions and pollutant sources.
   d. Provide appropriate solutions to meet the associated permit requirements, including practice based effluent limits.

(9) Inadequate Control Measure - 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. See also Control Measure Requiring Routine Maintenance.

(10) Infeasible – Not technologically possible, or not economically practicable and achievable in light of best industry practices.

(11) Minimize - reduce or eliminate to the extent achievable using control measures that are technologically available and economically practicable and achievable in light of best industry practice.

(12) Municipality - A city, town, county, district, association, or other public body created by, or under, State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or a designated and approved management agency under section 208 of CWA (1987).

(13) Municipal Separate Storm Sewer System (MS4) - A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

   a) owned or operated by a State, city, town, county, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or a designated and approved management agency under section 208 of the CWA that discharges to state waters;

      i. designed or used for collecting or conveying stormwater;
      ii. are not a combined sewer; and
      iii. are not part of a Publicly Owned Treatment Works (POTW). See 5 CCR 1002-61.2(62).

(14) Municipal Stormwater Management Program - A stormwater program operated by a municipality, typically to meet the requirements of the municipalities MS4 discharge certification.

(15) Operator - The party that has operational control over day-to-day activities at a project site which are necessary to ensure compliance with the permit. This party is authorized to direct individuals at a site to carry out activities required by the permit.(e.g. the general contractor)

(16) Owner - The party that has overall control of the activities and that has funded the implementation of the construction plans and specifications. This is the party with ownership of, a long term lease of, or easements on the property on which the construction activity is occurring (e.g., the developer).

(17) Permittee(s) - The owner and operator named in the discharge certification issued under this permit for the construction site specified in the certification.

(18) Point Source - Any discernible, confined, and discrete conveyance, including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged. Point source does not include irrigation return flow. See 5 CCR 102-61.2(75).

(19) Pollutant - Dredged spoil, dirt, slurry, solid waste, incinerator residue, sewage, sewage sludge, garbage, trash, chemical waste, biological nutrient, biological material, radioactive material, heat, wrecked or discarded equipment, rock, sand, or any industrial, municipal or agricultural waste. See 5 CCR 1002-61.2(76).

(20) Presentation of credentials – a government issued form of identification, if in person; or (ii) providing name, position and purpose of inspection if request to enter is made via telephone, email or other form of electronic communication. A Permittee's non-response to a request to enter upon presentation of credentials constitutes a denial to such request, and may result in violation of the Permit.

(21) Process Water - Any water which, during manufacturing or processing, comes into contact with or results from the production of any raw material, intermediate product, finished product, by product or waste product.

(22) Public Emergency Related Site - a project initiated in response to an unanticipated emergency (e.g., mud slides, earthquake, extreme flooding conditions, disruption in essential public services), for which the related work requires immediate authorization to avoid imminent endangerment to human health or the environment, or to reestablish essential public services.

(23) Qualified Stormwater Manager - An individual knowledgeable in the principles and practices of erosion and sediment control and pollution prevention, and with 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 this permit.

(24) Qualifying Local Program - A municipal program for stormwater discharges associated with small construction activity that was formally approved by the division as a qualifying local program.

(25) Receiving Water - Any classified or unclassified surface water segment (including tributaries) in the State of Colorado into which stormwater associated with construction activities discharges. This definition includes all water courses, even if they are usually dry, such as borrow ditches, arroyos, and other unnamed waterways.

(26) Severe Property Damage - substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. See 40 CFR 122.41(m)(1)(ii).

(27) Significant Materials - Include, but not limited to, raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the permittee is required to report under section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with stormwater discharges.

(28) Small Construction Activity - The discharge of stormwater from construction activities that result in land disturbance of equal to, or greater than, one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale, if the larger common plan ultimately disturbs equal to, or greater than, one acre and less than five acres.

(29) Spill - An unintentional release of solid or liquid material which may pollute state waters.

(30) State Waters - means any and all surface and subsurface waters which are contained in or flow in or through this state, but does not include waters in sewage systems, waters in treatment works of disposal systems, waters in potable water distribution systems, and all water withdrawn for use until use and treatment have been completed.

(31) Steep Slopes: where a local government, or industry technical manual (e.g., stormwater BMP manual) has defined what is to be considered a “steep slope”, this permit’s definition automatically adopts that definition. Where no such definition exists, steep slopes are automatically defined as those that are 3:1 or greater.

(32) Stormwater - Precipitation runoff, snow melt runoff, and surface runoff and drainage. See 5 CCR 1002-61.2(103).

(33) Total Maximum Daily Loads (TMDLs) -The sum of the individual wasteload allocations (WLA) for point sources and load allocations (LA) for nonpoint sources and natural background. For the purposes of this permit, a TMDL is a calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources. A TMDL includes WLAs, LAs, and must include a margin of safety (MOS), and account for seasonal variations. See section 303(d) of the CWA and 40 C.F.R. 130.2 and 130.7.

(34) Upset - an exceptional incident in which there is unintentional and temporary noncompliance with permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation in accordance with 40 CFR 122.41(n) and Regulation 61.2(114).

F. MONITORING

The division may require sampling and testing, on a case-by-case basis. If the division requires sampling and testing, the division will send a notification to the permittee. Reporting procedures for any monitoring data collected will be included in the notification.

If monitoring is required, the following applies:

1. the thirty (30) day average must be determined by the arithmetic mean of all samples collected during a thirty (30) consecutive-day period; and

2. a grab sample, for monitoring requirements, is a single “dip and take” sample.

G. Oil and Gas Construction

Stormwater discharges associated with construction activities directly related to oil and gas exploration, production, processing, and treatment operations or transmission facilities are regulated under the Colorado Discharge Permit System Regulations (5 CCR 1002-61), and require coverage under this permit in accordance with that regulation. However, references in this permit to specific authority under the CWA do not apply to stormwater discharges associated with these oil and gas related construction activities, to the extent that the references are limited by the federal Energy Policy Act of 2005.

Part II: Standard Permit Conditions

A. DUTY TO COMPLY

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Water Quality Control Act and is grounds for:

a. enforcement action;

b. permit termination, revocation and reissuance, or modification; or

c. denial of a permit renewal application.

B. DUTY TO REAPPLY

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain authorization as required by Part I.A.3.k. of the permit.

C. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. DUTY TO MITIGATE

A permittee must take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. PROPER OPERATION AND MAINTENANCE

A permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by the permittee only when the operation is necessary to achieve compliance with the conditions of this permit. This requirement can be met by meeting the requirements for Part I.B., I.C., and I.D. above. See also 40 C.F.R. § 122.41(e).

F. PERMIT ACTIONS

This permit may be modified, revoked and reissued, or terminated for cause. The permittee request for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. Any request for modification, revocation, reissuance, or termination under this permit must comply with all terms and conditions of Regulation 61.8(8).

G. PROPERTY RIGHTS

In accordance with 40 CFR 122.41(g) and 5 CCR 1002-61, 61.8(9):

1. The issuance of a permit does not convey any property or water rights in either real or personal property, or stream flows or any exclusive privilege.

2. The issuance of a permit does not authorize any injury to person or property or any invasion of personal rights, nor does it authorize the infringement of federal, state, or local laws or regulations.
3. Except for any toxic effluent standard or prohibition imposed under Section 307 of the Federal act or any standard for sewage sludge use or disposal under Section 405(d) of the Federal act, compliance with a permit during its term constitutes compliance, for purposes of enforcement, with Sections 301, 302, 306, 318, 403, and 405(a) and (b) of the Federal act. However, a permit may be modified, revoked and reissued, or terminated during its term for cause as set forth in Section 61.8(8) of the Colorado Discharge Permit System Regulations.

H. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the division, within a reasonable time, any information which the division may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the division, upon request, copies of records required to be kept by this permit in accordance with 40 CFR 122.41(h) and/or Regulation 61.8(3)(q).

I. INSPECTION AND ENTRY

The permittee shall allow the division and the authorized representative, upon the presentation of credentials as required by law, to allow for inspections to be conducted in accordance with 40 CFR 122.41(i), Regulation 61.8(3), and Regulation 61.8(4):

1. to enter upon the permittee's premises where a regulated facility or activity is located or in which any records are required to be kept under the terms and conditions of this permit;
2. at reasonable times to have access to and copy any records required to be kept under the terms and conditions of this permit;
3. at reasonable times, inspect any monitoring equipment or monitoring method required in the permit; and
4. to enter upon the permittee's premises in a reasonable manner and at a reasonable time to inspect or investigate, any actual, suspected, or potential source of water pollution, or any violation of the Colorado Water Quality Control Act. The investigation may include: sampling of any discharges, stormwater or process water, taking of photographs, interviewing site staff on alleged violations and other matters related to the permit, and assessing any and all facilities or areas within the site that may affect discharges, the permit, or an alleged violation.

The permittee shall provide access to the division or other authorized representatives upon presentation of proper credentials. A permittee's non-response to a request to enter upon presentation of credentials constitutes a denial of such request, and may result in a violation of the permit.

J. MONITORING AND RECORDS

1. Samples and measurements taken for the purpose of monitoring must be representative of the volume and nature of the monitored activity.

2. The permittee must retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date the permit expires or the date the permittee's authorization is terminated. This period may be extended by request of the division at any time.

3. Records of monitoring information must include:
   a. The date, exact place, and time of sampling or measurements;
   b. The individual(s) who performed the sampling or measurements;
   c. The date(s) analyses were performed
   d. The individual(s) who performed the analyses;
   e. The analytical techniques or methods used; and
   f. The results of such analyses.

4. Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

K. SIGNATORY REQUIREMENTS

1. Authorization to Sign:

   All documents required to be submitted to the division by the permit must be signed in accordance with the following criteria:

   a. For a corporation: By a responsible corporate officer. For the purpose of this subsection, a responsible corporate officer means:

      i. a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or

      ii. the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

   b. For a partnership or sole proprietorship: By a general partner or the proprietor, respectively; or

   c. For a municipality, state, federal, or other public agency: By either a principal executive officer or ranking elected official. For purposes of this subsection, a principal executive officer of a federal agency includes

      i. (i) the chief executive officer of the agency, or

ii. (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency. (e.g., Regional Administrator of EPA)

2. Electronic Signatures

For persons signing applications for coverage under this permit electronically, in addition to meeting other applicable requirements stated above, such signatures must meet the same signature, authentication, and identity-proofing standards set forth at 40 CFR § 3.2000(b) for electronic reports (including robust second-factor authentication). Compliance with this requirement can be achieved by submitting the application using the Colorado Environmental Online Service (CEOS) system.

3. Change in Authorization to Sign

If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the division, prior to the re-authorization, or together with any reports, information, or applications to be signed by an authorized representative.

L. REPORTING REQUIREMENTS

1. Planned Changes

The permittee shall give advance notice to the division, in writing, of any planned physical alterations or additions to the permitted facility in accordance with 40 CFR 122.41(l) and Regulation 61.8(5)(a). Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.41(a)(1).

2. Anticipated Non-Compliance

The permittee shall give advance notice to the division, in writing, of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements. The timing of notification requirements differs based on the type of non-compliance as described in subparagraphs 5, 6, 7, and 8 below.

3. Transfer of Ownership or Control

The permittee shall notify the division, in writing, ten (10) calendar days in advance of a proposed transfer of the permit. This permit is not transferable to any person except after notice is given to the division.

a. Where a facility wants to change the name of the permittee, the original permittee (the first owner or operators) must submit a Notice of Termination.

b. The new owner or operator must submit an application. See also signature requirements in Part II.K, above.

c. A permit may be automatically transferred to a new permittee if:

   i. The current permittee notifies the Division in writing 30 calendar days in advance of the proposed transfer date; and

   ii. The notice includes a written agreement between the existing and new permittee(s) containing a specific date for transfer of permit responsibility, coverage and liability between them; and

   iii. The division does not notify the existing permittee and the proposed new permittee of its intent to modify, or revoke and reissue the permit.

   iv. Fee requirements of the Colorado Discharge Permit System Regulations, Section 61.15, have been met.

4. Monitoring reports

   Monitoring results must be reported at the intervals specified in this permit per the requirements of 40 CFR 122.41(l)(4).

5. Compliance Schedules

   Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule in the permit, shall be submitted on the date listed in the compliance schedule section. The fourteen (14) calendar day provision in Regulation 61.8(4)(n)(i) has been incorporated into the due date.

6. Twenty-four hour reporting

   In addition to the reports required elsewhere in this permit, 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:

   a. Circumstances leading to any noncompliance which may endanger health or the environment regardless of the cause of the incident;

   b. Circumstances leading to any unanticipated bypass which exceeds any effluent limitations in the permit;

   c. Circumstances leading to any upset which causes an exceedance of any effluent limitation in the permit;

d. Daily maximum violations for any of the pollutants limited by Part I of this permit. This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance.

e. The division may waive the written report required under subparagraph 6 of this section if the oral report has been received within 24 hours.

7. Other non-compliance

A permittee must report all instances of noncompliance at the time monitoring reports are due. If no monitoring reports are required, these reports are due at least annually in accordance with Regulation 61.8(4)(p). The annual report must contain all instances of non-compliance required under either subparagraph 5 or subparagraph 6 of this subsection.

8. Other information

Where a permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application, or in any report to the Permitting Authority, it has a duty to promptly submit such facts or information.

M. BYPASS

1. Bypass not exceeding limitations

The permittees may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of Part II.M.2 of this permit. See 40 CFR 122.41(m)(2).

2. Notice of bypass

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, the permittee must submit prior notice, if possible at least ten days before the date of the bypass. ee 40 CFR §122.41(m)(3)(i) and/or Regulation 61.9(5)(c).

b. Unanticipated bypass. The permittee must submit notice of an unanticipated bypass in accordance with Part II.L.6. See 40 CFR §122.41(m)(3)(ii) .

3. Prohibition of Bypass

Bypasses are prohibited and the division may take enforcement action against the permittee for bypass, unless:

i. the bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate backup equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

iii. proper notices were submitted to the division.

N. UPSET

1. Effect of an upset

An upset constitutes an affirmative defense to an action brought for noncompliance with permit effluent limitations if the requirements of Part II.N.2. of this permit are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review in accordance with Regulation 61.8(3)(j).

2. Conditions necessary for demonstration of an Upset

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed contemporaneous operating logs, or other relevant evidence that

a. an upset occurred and the permittee can identify the specific cause(s) of the upset;

b. the permitted facility was at the time being properly operated and maintained; and

c. the permittee submitted proper notice of the upset as required in Part II.L.6.(24-hour notice); and

d. the permittee complied with any remedial measure necessary to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment. In addition to the demonstration required above, a permittee who wishes to establish the affirmative defense of upset for a violation of effluent limitations based upon water quality standards shall also demonstrate through monitoring, modeling or other methods that the relevant standards were achieved in the receiving water.

3. Burden of Proof

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

O. RETENTION OF RECORDS

1. Post-Expiration or Termination Retention

Copies of documentation required by this permit, including records of all data used to complete the application for permit coverage to be covered by this permit, must be

retained for at least three years from the date that permit coverage expires or is terminated. This period may be extended by request of EPA at any time.

2. On-site Retention

   The permittee must retain an electronic version or hardcopy of the SWMP at the construction site from the date of the initiation of construction activities to the date of expiration or inactivation of permit coverage; unless another location, specified by the permittee, is approved by the division.

P. REOPENER CLAUSE

1. Procedures for modification or revocation

   Permit modification or revocation of this permit or coverage under this permit will be conducted according to Regulation 61.8(8).

2. Water quality protection

   If there is evidence indicating that the stormwater discharges authorized by this permit cause, have the reasonable potential to cause or contribute to an excursion above any applicable water quality standard, the permittee may be required to obtain an individual permit, or the permit may be modified to include different limitations and/or requirements.

Q. SEVERABILITY

The provisions of this permit are severable. If any provisions or the application of any provision of this permit to any circumstances, is held invalid, the application of such provision to other circumstances and the application of the remainder of this permit shall not be affected.

R. NOTIFICATION REQUIREMENTS

1. Notification to Parties

   All notification requirements, excluding information submitted using the CEOS portal, shall be directed as follows:

   a. Oral Notifications, during normal business hours shall be to:
      Clean Water Compliance Section
      Water Quality Control Division
      Telephone: (303) 692-3500

   b. Written notification shall be to:
      Clean Water Compliance Section
      Water Quality Control Division
      Colorado Department of Public Health and Environment
      WQCD-WQP-B2
      4300 Cherry Creek Drive South
      Denver, CO 80246-1530

S. RESPONSIBILITIES

1. Reduction, Loss, or Failure of Treatment Facility

   The permittee has the duty to halt or reduce any activity if necessary to maintain compliance with the effluent limitations of the permit. It shall not be a defense for a permittee in an enforcement action that it would be necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

T. Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject to under Section 311 (Oil and Hazardous Substance Liability) of the CWA.

U. Emergency Powers

Nothing in this permit shall be construed to prevent or limit application of any emergency power of the division.

V. Confidentiality

Any information relating to any secret process, method of manufacture or production, or sales or marketing data which has been declared confidential by the permittee, and which may be acquired, ascertained, or discovered, whether in any sampling investigation, emergency investigation, or otherwise, shall not be publicly disclosed by any member, officer, or employee of the Water Quality Control Commission or the division, but shall be kept confidential. Any person seeking to invoke the protection of of this section shall bear the burden of proving its applicability. This section shall never be interpreted as preventing full disclosure of effluent data.

W. Fees

The permittee is required to submit payment of an annual fee as set forth in the 2016 amendments to the Water Quality Control Act. Section 25-8-502 (1.1) (b), and the Colorado Discharge Permit System Regulations 5 CCR 1002-61, Section 61.15 as amended. Failure to submit the required fee when due and payable is a violation of the permit and will result in enforcement action pursuant to Section 25-8-601 et. seq., C.R.S.1973 as amended.

X. Duration of Permit

The duration of a permit shall be for a fixed term and shall not exceed five (5) years. If the permittee desires to continue to discharge, a permit renewal application shall be submitted at least ninety (90) calendar days before this permit expires. Filing of a timely and complete application shall cause the expired permit to continue in force to the effective date of the new permit. The permit's duration may be extended only through administrative extensions and not through interim modifications. If the permittee anticipates there will be no discharge after the expiration date of this permit, the division should be promptly notified so that it can terminate the permit in accordance with Part I.A.3.i.

Y. Section 307 Toxics

If a toxic effluent standard or prohibition, including any applicable schedule of compliance specified, is established by regulation pursuant to Section 307 of the Federal Act for a toxic pollutant which is present in the permittee's discharge and such standard or prohibition is more stringent than any limitation upon such pollutant in the discharge permit, the division

shall institute proceedings to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition

APPENDIX 3

Evaluation of Construction BMP's Form

Stormwater Field Inspection Form (Construction Projects)

El Paso County Colorado Stormwater Management Program
Phone (719) 520-6826 Fax (719) 520-6879
Email: johnchavez@elpasoco.com

General Information

Name of Project/Site:_____ESQCP#: _____
Address/Directions:_____
Name(s) of Onsite Representative(s): _____phone: _____

Permit Holder (If not permitted, Owner or Operator)

Owner Name: _____Name of Responsible Person: _____
Title of Responsible Person: _____Phone: _____
Address: _____
ECS Name: _____ECS Phone Number:_____

Inspector(s): _____Inspecting Agency:_____
Persons present:_____

Type of Inspection: Self Monitoring ☐ Initial ☐ Compliance ☐ Recon ☐ Other: _____
Date conducted: _____Pictures Taken? Yes ☐ No ☐
Construction start date? _____

Records Review

Copy of SWMP confirmed on site? Yes☐ No☐
SWMP Review:
1. Site description as required in the permit? Yes☐ No☐
   Notes: _____
2. Site map as required in the permit? Yes☐ No☐
   Notes:_____
3. BMPs for stormwater pollution prevention:
   a. Erosion and sediment controls as required in the permit? Yes☐ No☐
      Notes:_____
   b. Materials handling and spill prevention? Yes☐ No☐
      Notes: _____
4. Final Stabilization and long term stormwater management as required in the permit Yes☐ No☐
   Notes: _____
5. Other controls as required in the permit? Yes☐ No☐
   Notes: _____
6. Inspection and maintenance as required in the permit? Yes☐ No☐
   Notes: _____
   Inspection records kept? Yes☐ No☐
   Inspections conducted as required in the permit? Yes☐ No☐

Notes: _____

Site Inspection

BMPs implemented for vehicle tracking control? Yes☐ No☐
Notes: _____

BMPs implemented for sediment control? Yes☐ No☐
Notes: _____

BMPs implemented for erosion control? Yes☐ No☐
Notes: _____

BMPs implemented for materials handling, spill prevention, and spill cleanup? Yes☐ No☐
Notes: _____

BMPs implemented for good housekeeping? Yes☐ No☐
Notes: _____

Inspection and maintenance of stormwater management BMPs implemented per approved plan? Yes☐ No☐
Notes: _____

Evidence of offsite transport of sediment or other pollutants? Yes☐ No☐
Notes: _____

Evidence of offsite transport of sediment or other pollutants reaching state waters? Yes☐ No☐
Notes: _____

Evidence of discharges other than stormwater? Yes☐ No☐
Notes: _____

FIELD NOTES: _____

APPENDIX 4

SWMP Site Map

Figures 2, 3, and 4

SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	pls/acre
SIDEOATS GRAMA	*El Reno*	3.0
WESTERN WHEAT GRASS	*Barton*	2.5
SLENDER WHEAT GRASS	*Native*	2.0
LITTLE BLUESTEM	*Pastura*	2.0
SAND DROPSEED	*Native*	0.5
SWITCH GRASS	*Nebraska 28*	3.0
WEEPING LOVE GRASS	*Morpha*	1.0
		14.0 lbs

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.

NOTE:

CONTOURS SHOWN FOR MARKSHEFFEL ROAD ARE FROM ELPASO COUNTY DEPARTMENT OF PUBLIC SERVICES, HIGHWAY CONSTRUCTION PLANS OF PROPOSED MARKSHEFFEL ROAD.

SHADED AREA DENOTES PERMANENT EROSION BLANKET. CURLEX HEAVY DUTY EROSION CONTROL BLANKET BY AMERICAN EXCELSIOR OR EQUAL SHALL BE USED.

LEGEND

- SILT FENCE
- VTC — VEHICLE TRACKING CONTROL
- TSD — TEMPORARY SLOPE DRAIN
- EROSION CONTROL BLANKET
- RCS — ROUGH-CUT STREET CONTROL
- CWA — CONCRETE WASHOUT AREA
- TSB — TEMPORARY SEDIMENT BASIN

SEE DETAILS SHEET RG-4

PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

1. All earthwork required of this construction shall be completed in accordance with all applicable sections of the Project Specifications and Soil Investigation Report (Geotechnical Report).
2. Rubbish including timber, concrete rubble, trees, brush, and asphalt shall not be backfilled adjacent to any of the structures or be in the placement of any unclassified fill. The Contractor shall be responsible for the removal and hauling of such materials to a suitable spoil area. Costs associated with the removal of such materials shall be paid for as documented in the Project Specifications.
3. Excess excavation shall become the property of the Contractor and shall be disposed of at the Contractor's expense. The cost of haulage and spoiling of excess excavated materials shall be paid for as documented in the Project Specifications.
4. Water shall be used as a dust palliative as required and shall be included in the cost for earthwork item(s). No separate payment will be made for dust control associated with the site construction.
5. The road grades shall be cleared of vegetation and the topsoil stockpiled for later use.
6. All grading shall be in conformance with the Geotechnical Report for the area.
7. Placement of fill for roadway embankments shall be completed in conformance with the Geotechnical Report.
8. Grading contours shown on this plan are to final grade.
9. Compaction under filled areas, including roadway and detention basin embankments, shall be 95 percent of the maximum Standard Proctor Density (ASTM D698) at two (2) percent of optimum moisture content.
10. No rubble or debris shall be placed in the backfill under any of the proposed buildings, streets, curb & gutter, sidewalk and drainage structures or within five (5) feet of a building footprint. Properly graded rubble may be used in some locations as specified and verified by the Geotechnical Engineer.
11. Contractor is responsible for reviewing the site prior to bidding to verify site conditions.
12. Contractor is responsible for providing erosion control measures as approved by the El Paso County DSD Engineering Division and as may be required by the El Paso County Inspector.
13. All slopes equal to or greater than 3:1 shall require anchored soil retention blanket (SRB), Geocoir 700 or equal.
14. The Developer is responsible for maintaining erosion control measures until a mature stage of vegetation is established.
15. All soils used for fill must be approved by a representative of the Geotechnical Engineer.
16. All natural ground to receive fill must be properly scarified, watered and compacted prior to placing fill.
17. The Contractor is solely responsible for the design, maintenance and operation of any required dewatering system. The Contractor shall perform such independent investigation as he deems necessary to satisfy himself as to the subsurface groundwater conditions and unstable soil conditions to be encountered throughout the construction. Contractor shall coordinate the dewatering system with El Paso County when associated with public facilities.
18. No fill shall be placed, spread or rolled while it is frozen, thawing or during unfavorable weather conditions. When the work is interrupted by heavy rain, fill operations shall not be resumed until a representative of the Geotechnical Engineer indicates that the moisture content and density of the previously placed fill are as specified. Fill surfaces may be scarified and recompacted after rainfall if necessary, to obtain proper moisture density relation.
19. Additional erosion control structures and/or grading may be required at the time of construction.
20. Sediment removal for erosion control facilities shall be performed continuously for proper function.
21. Base mapping was provided by Pinnacle Land Surveying. The date of the last survey update was January 2014.
22. Proposed Construction Schedule:
    Begin Construction: Summer 2015
    End Construction: Autumn 2018
    Total Site Area = 245.4 Acres
23. Area to be disturbed = 172.8 Acres (est.).
    Existing 100-year runoff coefficient = 0.50
    Proposed 100-year runoff coefficient = 0.51
    Existing Hydrologic Soil Groups: B & C
    (B--Nelson-Tassel fine sandy loams; B--Stoneham sandy loam; C--Nunn clay loam)
24. Site is currently undeveloped and covered with native grasses on moderate to steep slopes (3%-18%).
25. Site is located in the West Fork Jimmy Camp Creek Drainage Basin.
26. No more than 25 acres is to be graded at a time. Disturbed area is to be reseeded and mulched prior to exposing additional area. The Contractor shall provide the County with a schedule of grading operation including phasing to adhere to the 25 acre requirement at the County Pre-Construction meeting.

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD EAST
STORMWATER MANAGEMENT PLAN
SITE MAP
EL PASO COUNTY, COLORADO

Project No.:	14044
Date:	February 2016
Design:	AWMc
Drawn:	NRK
Check:	AWMc
Revisions:	

SHEET

FIGURE 2

Figures 2-5.dwg/Dec 07, 2017

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD EAST
STORMWATER MANAGEMENT PLAN
SITE MAP
EL PASO COUNTY, COLORADO

Project No.:	14044
Date:	February 2016
Design:	AWMc
Drawn:	NRK
Check:	AWMc
Revisions:	

SHEET

FIGURE 3

Figures 2-5.dwg/Dec 07, 2017

GLEN AT WIDEFIELD EAST
STORMWATER MANAGEMENT PLAN
SITE MAP
EL PASO COUNTY, COLORADO

WIDEFIELD Investment Group

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Project No.:	14044
Date:	February 2016
Design:	AWMc
Drawn:	NRK
Check:	AWMc
Revisions:	

SHEET
FIGURE 4

Figure 4-Schedule 10, 2017

APPENDIX 5

Details of Construction BMPs

Figure 5

STAKING PATTERNS BY SLOPE

ECB–3, OUTSIDE OF DRAINAGEWAY

STAKING PATTERNS BY ECB TYPE

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

EROSION CONTROL BLANKET INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF ECB.
   –TYPE OF ECB (STRAW, STRAW–COCONUT, COCONUT, OR EXCELSIOR).
   –AREA, A, IN SQUARE YARDS OF EACH TYPE OF ECB.

2. 100% NATURAL AND BIODEGRADABLE MATERIALS ARE PREFERRED FOR RECPs, ALTHOUGH SOME JURISDICTIONS MAY ALLOW OTHER MATERIALS IN SOME APPLICATIONS.

3. IN AREAS WHERE ECBs ARE SHOWN ON THE PLANS, THE PERMITTEE SHALL PLACE TOPSOIL AND PERFORM FINAL GRADING, SURFACE PREPARATION, AND SEEDING AND MULCHING. SUBGRADE SHALL BE SMOOTH AND MOIST PRIOR TO ECB INSTALLATION AND THE ECB SHALL BE IN FULL CONTACT WITH SUBGRADE. NO GAPS OR VOIDS SHALL EXIST UNDER THE BLANKET.

4. PERIMETER ANCHOR TRENCH SHALL BE USED ALONG THE OUTSIDE PERIMETER OF ALL BLANKET AREAS.

5. JOINT ANCHOR TRENCH SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER (LONGITUDINALLY AND TRANSVERSELY) FOR ALL ECBs EXCEPT STRAW WHICH MAY USE AN OVERLAPPING JOINT.

6. INTERMEDIATE ANCHOR TRENCH SHALL BE USED AT SPACING OF ONE–HALF ROLL LENGTH FOR COCONUT AND EXCELSIOR ECBs.

7. OVERLAPPING JOINT DETAIL SHALL BE USED TO JOIN ROLLS OF ECBs TOGETHER FOR ECBs ON SLOPES.

8. MATERIAL SPECIFICATIONS OF ECBs SHALL CONFORM TO TABLE ECB–1.

9. ANY AREAS OF SEEDING AND MULCHING DISTURBED IN THE PROCESS OF INSTALLING ECBS SHALL BE RESEEDED AND MULCHED.

EROSION CONTROL BLANKET MAINTENANCE NOTES

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

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

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

4. ECBs SHALL BE LEFT IN PLACE TO EVENTUALLY BIODEGRADE, UNLESS REQUESTED TO BE REMOVED BY THE LOCAL JURISDICTION.

5. ANY ECB PULLED OUT, TORN, OR OTHERWISE DAMAGED SHALL BE REPAIRED OR REINSTALLED. ANY SUBGRADE AREAS BELOW THE GEOTEXTILE THAT HAVE ERODED TO CREATED A VOID UNDER THE BLANKET, OR THAT REMAIN DEVOID OF GRASS SHALL BE REPAIRED, RESEEDED AND MULCHED AND THE ECB REINSTALLED.

EROSION CONTROL BLANKET (ECB)

NTS

ROUGH CUT STREET CONTROL INSTALLATION NOTES

1. SEE PLAN VIEW FOR
   –LOCATION OF ROUGH CUT STREET CONTROL MEASURES.

2. ROUGH CUT STREET CONTROL SHALL BE INSTALLED AFTER A ROAD HAS BEEN CUT IN, AND WILL NOT BE PAVED FOR MORE THAN 14 DAYS OR FOR TEMPORARY CONSTRUCTION ROADS THAT HAVE NOT RECEIVED ROAD BASE.

ROUGH CUT STREET CONTROL INSPECTION AND MAINTENANCE NOTES

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

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

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

ROUGH CUT STREET CONTROL PLAN

SECTION A

SECTION B

TABLE RCS–1	
W (FT)	X (FT)
20–30	5
31–40	7
41–50	9
51–60	10.5
61–70	12

TABLE RCS–2	
LONGITUDINAL STREET SLOPE (%)	SPACING (FT)
<2	NOT TYPICALLY NEEDED
2	200
3	200
4	150
5	100
6	50
7	25
8	25

ROUGH-CUT STREET CONTROL (RCS)

NTS

CONCRETE WASHOUT AREA (CWA)

EPC STD SD_3-84 NTS

NOTE:

OTHER BMP's (DETAILS NOT SHOWN HEREON) MAY BE REQUIRED FOR THIS PROJECT. ANY CHANGES SHALL BE COORDINATED WITH EL PASO COUNTY ENGINEERING DIVISION INSPECTIONS, AND SHALL BE REFLECTED IN THIS SWMP.

SECTION A

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.

VEHICLE TRACKING CONTROL (VTC)

NTS

STANDARD EPC GRADING AND EROSION CONTROL NOTES

1. Construction may not commence until a Construction Permit is obtained from Development Services and a Preconstruction Conference is held with Development Services Inspections.
2. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off site waters, including wetlands.
3. Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations to regulations and standards must be requested, and approved in writing.
4. A separate Stormwater Management Plan (SWMP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. During construction the SWMP is the responsibility of the designated Stormwater Manager. The SWMP shall be located on site at all times and shall be kept up to date with work progress and changes in the field.
5. Once the ESQCP has been issued, the contractor may install the initial stage erosion and sediment control BMP's as indicated on the GEC. A preconstruction meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County DSD inspections staff.
6. Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within 21 calendar days after final grading, or earth disturbance, 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. And area that is going to remain an interim for more than 60 days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented and established.
7. Temporary soil erosion control facilities shall be removed and earth disturbance areas graded and stabilized with permanent soil erosion control measures pursuant to standards and specification prescribed in the DCM Volume II and the Engineering Criteria Manual (ECM) appendix I.
8. All persons engaged wit hearth disturbance shall implement and maintain acceptable soil erosion and sediment control measures including BMP's in conformance with the erosion control technical standards of the Drainage Criteria Manual (DCM) Volume II and in accordance with the Stormwater Management Plan (SWMP).
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 plans, the SWMP and the DCM Volume II and maintained throughout the duration of the earth disturbance operation.
10. Any earth disturbance shall be conducted in such a manner so as to effectively reduce accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time.
11. 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.
12. Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
13. Erosion control blanketing is to be used on slopes steeper than 3:1.
14. 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 El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
15. Vehicle tracking of soils and construction debris off-site shall be minimized. Materials tracked offsite shall be cleaned up and properly disposed of immediately.
16. Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
17. The owner, site developer, contractor, and/or their authorized agents shall be responsible for the removal of all constructions debris, dirt, trash, rock, sediment, and sand that may accumulate in the storm sewer or other drainage conveyance and stormwater appurtenances as a result of site development.
18. 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.
19. No chemicals are to be used by the contractor, which have the potential to be released in stormwater unless permission for the use of a specific chemical is granted in writing by the ECM Administrator. In granting the use of such chemicals, special conditions and monitoring may be required.
20. Bulk storage structures for petroleum products and other chemicals shall have adequate protection so as to contain all spills and prevent any spilled material from entering State Waters, including any surface or subsurface storm drainage system or facilities.
21. No person shall cause the impediment of stormwater flow in the flow line of the curb and gutter or in the ditchline.
22. Individuals shall comply with the "Colorado Water Quality Control Act" (Title 25, Article8, CRS), and the Clean Water Act" (33 USC 1344), in addition to the requirements included in the DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the Contractor prior to the construction (NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and laws, rules, or regulations of other Federal, State, or County Agencies, the more restrictive laws, rules, or regulations shall apply.
23. All construction traffic must enter/exit the site at approved construction access points.
24. Prior to actual construction the permitee shall verify the location of existing utilities.
25. A water source shall be available on site during earthwork operations and utilized as required to minimize dust from earthwork equipment and wind.
26. The soils report for this site entitled *Subsurface Soil Investigation The Glen at Widefield, Filing #6, Widefield, Colorado* has been prepared by Soil Testing and Engineering, Inc. and shall be considered a part of these plans.
27. At least ten days prior to the anticipated start of construction, for projects that will disturb 1 acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this grading and erosion control plan may be a part. For information or application materials contact:
    Colorado Department of Public Health and Environment
    Water Quality Control Division
    WQCD - Permits
    4300 Cherry Creek Drive South
    Denver, Colorado 80246-1530
    Attn: Permits Unit

TEMPORARY SEDIMENT BASIN "A"

A. 0.38 ac–ft REQUIRED TO SPILLWAY CREST.

B. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 1 COLUMN OF 5 $^{25}/_{32}$" ø HOLES.

C. 8' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN "B"

D. 2.62 ac–ft REQUIRED TO SPILLWAY CREST.

E. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 1 COLUMN OF 5 $^{11}/_{16}$" DIA. HOLES.

F. 28' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN "C"

G. 4.32 ac–ft REQUIRED TO SPILLWAY CREST.

H. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 3 COLUMNS OF $^{11}/_{16}$" DIA. HOLES.

I. 40' LONG SPILLWAY, 2' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

TEMPORARY SEDIMENT BASIN "D"

J. 5.12 ac–ft REQUIRED TO SPILLWAY CREST.

K. 8" PVC PERFORATED RISER PIPE, PERFORATIONS VERTICALLY SPACED 4" APART, 3 COLUMNS OF $^{11}/_{16}$" DIA. HOLES.

L. 45' LONG SPILLWAY, 1' DEPTH, LINED WITH 24" THICK TYPE 'M' RIPRAP TO TOE OF SLOPE.

SEDIMENT BASIN PLAN

SECTION A

TEMPORARY SEDIMENT BASIN (TSB)

NTS

SEDIMENT BASIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION OF SEDIMENT BASIN.
   –TYPE OF BASIN (STANDARD BASIN OR NONSTANDARD BASIN).
   –FOR STANDARD BASIN, BOTTOM WIDTH W, CREST LENGTH CL, AND HOLE DIAMETER, HD.
   –FOR NONSTANDARD BASIN, SEE CONSTRUCTION DRAWINGS FOR DESIGN OF BASIN INCLUDING RISER HEIGHT H, NUMBER OF COLUMNS N, HOLE DIAMETER HD AND PIPE DIAMETER D.

2. FOR STANDARD BASIN, BOTTOM DIMENSION MAY BE MODIFIED AS LONG AS BOTTOM AREA IS NOT REDUCED.

3. SEDIMENT BASINS SHALL BE INSTALLED PRIOR TO ANY OTHER LAND–DISTURBING ACTIVITY THAT RELIES ON ON BASINS AS AS A STORMWATER CONTROL.

4. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL FREE OF DEBRIS, ORGANIC MATERIAL, AND ROCKS OR CONCRETE GREATER THAN 3 INCHES AND SHALL HAVE A MINIMUM OF 15 PERCENT BY WEIGHT PASSING THE NO. 200 SIEVE.

5. EMBANKMENT MATERIAL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D698.

6. PIPE SCH 40 OR GREATER SHALL BE USED.

7. THE DETAILS SHOWN ON THESE SHEETS PERTAIN TO STANDARD SEDIMENT BASIN(S) FOR DRAINAGE AREAS LESS THAN 15 ACRES. SEE CONSTRUCTION DRAWINGS FOR EMBANKMENT, STORAGE VOLUME, SPILLWAY, OUTLET, AND OUTLET PROTECTION DETAILS FOR ANY SEDIMENT BASIN(S) THAT HAVE BEEN INDIVIDUALLY DESIGNED FOR DRAINAGE AREAS LARGER THAN 15 ACRES.

SEDIMENT BASIN MAINTENANCE NOTES

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

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

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

4. SEDIMENT ACCUMULATED IN BASIN SHALL BE REMOVED AS NEEDED TO MAINTAIN BMP EFFECTIVENESS, TYPICALLY WHEN SEDIMENT DEPTH REACHES ONE FOOT (I.E., TWO FEET BELOW THE SPILLWAY CREST).

5. SEDIMENT BASINS ARE TO REMAIN IN PLACE UNTIL THE UPSTREAM DISTURBED AREA IS STABILIZED AND GRASS COVER IS ACCEPTED BY THE LOCAL JURISDICTION.

6. WHEN SEDIMENT BASINS ARE REMOVED, ALL DISTURBED AREAS SHALL BE COVERED WITH TOPSOIL, SEEDED AND MULCHED OR OTHERWISE STABILIZED AS APPROVED BY LOCAL JURISDICTION.

SLOPE DRAIN INSTALLATION NOTES

1. SEE PLAN VIEW FOR:
   –LOCATION AND LENGTH OF SLOPE DRAIN
   –PIPE DIAMETER, D, AND RIPRAP SIZE, D50.

2. SLOPE DRAIN SHALL BE DESIGNED TO CONVEY PEAK RUNOFF FOR 2–YEAR 24–HOUR STORM AT A MINIMUM. FOR LONGER DURATION PROJECTS, LARGER MAY BE APPROPRIATE.

3. SLOPE DRAIN DIMENSIONS SHALL BE CONSIDERED MINIMUM DIMENSIONS; CONTRACTOR MAY ELECT TO INSTALL LARGER FACILITIES.

4. SLOPE DRAINS INDICATED SHALL BE INSTALLED PRIOR TO UPGRADIENT LAND–DISTURBING ACTIVITIES.

5. CHECK HEADWATER DEPTHS FOR TEMPORARY AND PERMANENT SLOPE DRAINS. DETAILS SHOW MINIMUM COVER; INCREASE AS NECESSARY FOR DESIGN HEADWATER DEPTH.

6. RIPRAP PAD SHALL BE PLACED AT SLOPE DRAIN OUTFALL.

7. ANCHOR PIPE BY COVERING WITH SOIL OR AN ALTERNATE SUITABLE ANCHOR MATERIAL.

SLOPE DRAIN 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 INLET AND OUTLET POINTS AFTER STORMS FOR CLOGGING OR EVIDENCE OF OVERTOPPING. BREACHES IN PIPE OR OTHER CONVEYANCE SHALL BE REPAIRED AS SOON AS PRACTICABLE IF OBSERVED.

5. INSPECT RIPRAP PAD AT OUTLET FOR SIGNS OF EROSION. IF SIGNS OF EROSION EXIST, ADDITIONAL ARMORING SHALL BE INSTALLED.

6. TEMPORARY SLOPE DRAINS ARE TO REMAIN IN PLACE UNTIL NO LONGER NEEDED, BUT SHALL BE REMOVED PRIOR TO THE END OF CONSTRUCTION. WHEN SLOPE DRAINS ARE REMOVED, THE DISTURBED AREA SHALL BE COVERED WITH TOP SOIL, SEEDED, MULCHED OR OTHERWISE STABILIZED IN A MANNER APPROVED BY THE LOCAL JURISDICTION.

TERMINATION OF RIPRAP
LINED SLOPE DRAIN

TEMPORARY SLOPE DRAIN PROFILE

SECTION A

TEMPORARY SLOPE DRAIN (TSD)

NTS

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.

SILT FENCE

JOIN
FIRST
ROTATE
SECOND
POSTS SHALL BE JOINED AS
SHOWN, THEN ROTATED 180 DEG.
IN DIRECTION SHOWN AND DRIVEN
INTO THE GROUND
POSTS SHALL OVERLAP
AT JOINTS SO THAT NO GAPS
EXIST IN SILT

APPENDIX 6

Soils Borings and Tests and Groundwater

Hepworth-Pawlak Geotechnical, Inc.
10302 South Progress Way
Parker, Colorado 80134
Phone: 303-841-7119
Fax: 303-841-7556
www.hpgeotech.com

PRELIMINARY GEOTECHNICAL INVESTIGATION
FOR PROPOSED DEVELOPMENT
THE GLEN AT WIDEFIELD
FILING NO. 7
WIDEFIELD, COLORADO

JOB NUMBER: 215292A

NOVEMBER 4, 2015

PREPARED FOR:
MR. J. RYAN WATSON
WIDEFIELD INVESTMENT GROUP
3 WIDEFIELD BOULEVARD
COLORADO SPRINGS, COLORADO 80911

TABLE OF CONTENTS

PURPOSE AND SCOPE OF STUDY 1
PROPOSED DEVELOPMENT 2
SITE CONDITIONS 2
FIELD EXPLORATION 3
SUBSURFACE CONDITIONS 3
General 3
Sandy Clay (CL): 3
Clayey Sand (SC): 4
Silty Sand (SM): 4
Claystone: 4
Laboratory Testing: 4
Groundwater: 5
GEOLOGIC SITE ASSESSMENT 6
Moisture Sensitive Soils 6
Earthquake Considerations 6
ENGINEERING ANALYSIS 6
PRELIMINARY DESIGN RECOMMENDATIONS 8
Site Grading 8
Site Preparation: 8
Suitability of On-Site Soil: 9
EXCAVATIONS: 9
FOUNDATIONS 10
FLOOR SLABS 11
DRAINAGE 11
Underdrains 11
SURFACE DRAINAGE AND EROSION CONTROL: 11
CONTINUING SERVICES 12
LIMITATIONS 12

FIGURE 1 SITE LOCATION
FIGURES 2a,2b BORING LOCATIONS
FIGURE 3-4 BORING LOGS
FIGURE 5a,5b CROSS SECTIONS
FIGURE 5 LEGEND AND NOTES
FIGURE 6-13 SWELL-COMPRESSION TEST RESULTS
FIGURE 14-15 GRADATION ANALYSIS

TABLE 1 SUMMARY OF LABORATORY TEST RESULTS

PURPOSE AND SCOPE OF STUDY

This report presents the findings of our preliminary geotechnical engineering study for the proposed residential development located at The Glen at Widefield, Filing No. 7. The site location is shown on Figure 1. The study was conducted to evaluate the potential influence of the site geology on the proposed development and to develop preliminary geotechnical engineering recommendations. The study was conducted in accordance with our agreement for professional engineering services to Widefield Investment Group dated September 9, 2015. Site specific geotechnical investigations should be conducted at each lot and within proposed roadways to determine the appropriate foundation type and construction considerations of each individual residence planned.

A review of prior geotechnical investigations conducted by Soil testing and Engineering, Inc. has been conducted. The following reports have been reviewed:

1. Preliminary Subsurface Soil Investigation, Sunrise Ridge, Phase II, Colorado Springs, Colorado, Job Number 80415, and Dated June 10, 1998
2. Preliminary Subsurface Soil Investigation, Marksheffel Road and Peaceful Valley Road, Job Number 90235, and Dated May 5, 1999
3. Preliminary Subsurface Soil Investigation, The Glen at Widefield, Filing 7, Widefield, Colorado, Job Number 060933, and dated April 16, 2007.

Additionally, the mapped geology shown in the following map was consulted:

1. Scott, G.R., Taylor, R.B., Epis, R.C., and Wobus, R.A., 1976, Geologic map of the Pueblo 1 degree x 2 degrees quadrangle, south-central Colorado: U.S. Geological Survey, Miscellaneous Field Studies Map MF-775, scale 1:187,500

In addition to the review of the available information listed above, a field exploration program consisting of a site reconnaissance and nine borings was conducted to obtain general information on subsurface conditions. Samples from the borings were tested in the laboratory to determine their engineering characteristics. The previous reports, along with the results of our geologic observations, field exploration, and laboratory testing were analyzed to develop a report on the potential geologic hazards and preliminary geotechnical recommendations. This report summarizes the data obtained during the study and presents our conclusions and preliminary recommendations.

PROPOSED DEVELOPMENT

We understand that this project is part of a larger proposed residential development to be located in the vicinity west of Marksheffel near the intersection with Peaceful Valley Road in El Paso County, Colorado. The scope of this study is limited to the area bound by Marksheffel Road to the east, The Fountain Corporate Boundary to the North (the northern border of Section 22, Township 15 South, Range 65 West), and the rerouted gas line easement to the west and south. This portion of the project has an area of about 53.5 acres, and will potentially include about 185 single family residences and 1.6 miles of roadway. We understand that the houses in this area will be single story units with no basements. As mentioned above, site specific geotechnical studies should be conducted after final grading and platting has been established.

SITE CONDITIONS

The project area is located to the northeast of the intersection of Marksheffel Road and Peaceful Valley Road. A detailed description of the project boundaries was given in the above section. In general, the western portion of the site is located on a ridge extending south. The ground slopes moderately to the east in this area. The eastern portion of the site (approximately 2/3 of the area) is flat with a very mild slope to the east. Based on the available USGS topographic maps, the elevation varies across the site from about 5680 to 5720 feet MSL. Jimmy camp creek is located about 1,200 feet east of the site at its nearest point.

The majority of the site was vacant at the time of our investigation, but several small well houses are located near the northwest corner, which will be outside of the considered development. Overhead power lines run along the east and north sides of the site. Vegetation on the site consists mostly of weeds and grass with some small deciduous trees, and prairie dog holes were noted throughout. A irrigation ditch was noted at the toe of the slope separating the ridge from the flatter area. Peaceful Valley Country Club Estates (Filing 1), is located just east of the project site.

FIELD EXPLORATION

The field exploration for this project was conducted on September 23 and 24, 2015. Nine exploratory borings were drilled with an all-terrain CME 550X drill rig equipped with an automatic hammer to evaluate the subsurface conditions in the soils. The boring locations are shown in Figure 2. The exploratory borings were logged by a representative of Hepworth-Pawlak Geotechnical, Inc.

Samples of the soils were taken with a nominal 2-inch I.D. California spoon sampler and 1-3/8 inch I.D. split spoon sampler. The samplers were driven into the subsoils at various depths with blows from a 140-pound hammer falling 30 inches. This test is similar to the standard penetration test described by ASTM Method D-1586. The penetration resistance values are an indication of the relative density or consistency of the subsoils. Depths at which the samples were taken and the penetration resistance values are shown on the Boring Logs, Figure 3 and 4. The samples were returned to our laboratory for review by the project engineer and testing.

SUBSURFACE CONDITIONS

GENERAL

Under a thin layer of topsoil up to about 1 foot thick, four major subsurface materials were identified in our investigation. These include sandy clay, clayey sand, silty sand, and claystone bedrock. Claystone was encountered at relatively shallow depths along the west side of the site, and dropped off steeply towards the east side, where it was encountered at depths of over 50 feet below the existing ground surface. A detailed discussion of each soil/bedrock type encountered follows.

<u>Sandy Clay (CL):</u>

Sandy clay was found under the topsoil in all nine borings and extended to depths of about 4 to 35 feet below the ground surface. Sandy clay cover was generally shallower at the west side of the site. The sandy clay was medium stiff to very stiff, with an average penetration resistance blow count of 15 that ranged from 6 to 38 blows required for 12 inches of sampler penetration. Swell-compression test results indicate the sandy clay has

a low to very high swell potential based on vertical expansion ranging from 0.3 to 9.1 percent under a surcharge of 1 ksf when wetted.

Clayey Sand (SC):

Clayey sand was encountered under the sandy clay in all Borings except Borings B-3 and B-4. The clayey sand was found to be loose to medium dense, with an average penetration resistance blow count of 11 that ranged from 6 to 18 blows required for 12 inches of sampler penetration. The clayey sand encountered was generally wet, and the samples tested had an in situ water content that ranged from 26.9 to 31.5 percent.

Silty Sand (SM):

Slightly silty to silty sand with some gravel was encountered below the clayey sand in all Borings except Borings B-3 and B-4. The silty sand was found to be medium dense to dense, with an average penetration resistance blow count of 26 that ranged from 13 to 42 blows required for 12 inches of sampler penetration. In situ water content ranging from 10.0 to 12.7 percent was recorded in the samples tested.

Claystone:

Claystone was found at depths as shallow as 4 feet below the ground surface at the west side of the site, and as deep as 53 feet elsewhere. It was generally hard to very hard, with an average penetration of 5½ inches after 50 blows. The sample of claystone taken at 4 feet at Boring B-4 was softer, with a blow count of 31 for 12 inches of sampler penetration.

LABORATORY TESTING:

Laboratory testing included moisture content, unit weight, Atterberg limits, sieve analysis, percent passing #200 sieve, swell-compression, and water soluble sulfate concentration. Detailed results of swell-compression testing are shown on Figures 6-13 and gradation analyses on Figures 14 and 15. Test results are shown on the boring logs, Figures 3 and 4, and are summarized in Table 1

The concentration of water-soluble sulfates in the samples tested ranged from 0.065 to 0.813 percent. According to the Portland Cement Association's publication "Design and Control of Concrete Mixtures, 14th Edition" sulfate concentrations between 0.2 and 2.0 percent represent a severe sulfate exposure to concrete. To limit the effects of sulfate attack, Type V concrete is recommended. Additionally, a water to cementitious material ratio not exceeding 0.42 is recommended.

GROUNDWATER:

Groundwater was generally found at a depth of about 20 feet below the ground surface when measured several days after drilling. The table below lists the specific depths at which ground water was encountered.

Boring	Water Depth at time of Drilling	Water Depth Several Days After Drilling	Cave Depth
B-1	(no water found)	21 feet	21.5 feet
B-2	22 feet	20 feet	20 feet
B-3	(no water found)	(no water found)	19 feet
B-4	(no water found)	(no water found)	14 feet
B-5	(omitted from drilling program)		
B-6	15 feet	(no water found)	20 feet
B-7	22 feet	22 feet	22 feet
B-8	(no water found)	22 feet	24 feet
B-9	44 feet	21 feet	22 feet
B-10	(no water found)	22 feet	26 feet

Our review of previous studies conducted by STE indicate that groundwater depths were significantly shallower in the past. Perched groundwater and water contained in lenses of relatively permeable sands within less permeable clays are likely to be encountered.

It is anticipated that the depth to ground water will fluctuate with time based on seasonal, climatic, and other factors including irrigation.

GEOLOGIC SITE ASSESSMENT

The geologic formations in the vicinity of the project area include Quaternary Piney Creek Alluvium, Colluvium, and Pierre Shale below a thin layer of colluvium on the western side of the proposed development. Geologic hazards include moisture sensitive soils.

MOISTURE SENSITIVE SOILS

Our laboratory testing shows that the clay layers and the Pierre Shale have a medium to very high expansion potential when wetted and some of the soils have a collapse potential. These conditions must be considered in the design of building foundations and road pavements. The previous reports issued by STE have noted the hazards and some of our borings have encountered them. Both compression and swell can be remediated by removal and replacement with suitable material. For the clay, replacement at moisture contents above optimum is a common method. More detailed exploration and testing is required to better define the limits and their effect on the development.

EARTHQUAKE CONSIDERATIONS

The project area could experience earthquake related ground shaking. Modified Mercalli Intensity VI ground shaking should be expected during a reasonable exposure time for the development, but the probability for stronger ground shaking is low. Intensity VI ground shaking is felt by most people and causes general alarm, but results in negligible damage to structures of good design and construction. Occupied structures should be designed to withstand moderately strong ground shaking with little or no damage, and not to collapse under stronger ground shaking. According to the 2003 IBC and local codes, the property is considered to be Site Class C where the overburden is less than 15 feet and Site Class D where the overburden is greater than 15 feet. The Seismic Design Category is considered to be B.

ENGINEERING ANALYSIS

Because of the relatively large area considered within the proposed development, different conditions were identified within different areas of the site. At the western portion, expansive clay over shallow expansive claystone will be the dominant subsurface materials encountered at the anticipated foundation levels. Overburden consisting of

collapsible to expansive soils will encountered throughout the remainder of the site. Though no exceedingly soft/loose areas were identified in our study, such conditions have been identified in past studies, and it is possible that areas requiring significant remediation will be identified when site specific studies are conducted. Particularly, if shallow groundwater is identified, additional fill placement may be necessary to elevate foundations to a suitable distance from the groundwater.

Generally, the moisture sensitive soils should be remediated under all roadways, utility infrastructure, paved walks, drives, and flatwork, and under foundations. This can be accomplished in large part by removing, moisture conditioning, and replacing the existing soils in controlled compacted lifts. Unsuitable material, which includes the expansive claystone bedrock and some highly expansive clay should not be used below foundations. Because of the shallow depth of the bedrock along the western portion of the site, deep foundations, such as drilled piers may be a more cost effective option than over-excavation and replacement. In areas where the existing expansive material is replaced with a more permeable granular material, a toe drain at the base of the fill will be necessary to prevent the accumulation of surface water at this interface.

Structural floors built above crawlspaces will perform the best in the moisture sensitive soils encountered, but if the increased risk of slab movement can be tolerated, on-grade slabs can be used for the garage areas provided the area below has been over-excavated and replaced with suitable material. A more detailed discussion of floor types has been provided in the *Floors* subsection of the *Preliminary Design Recommendations* section below.

We recommend that the potential homeowner be supplied with, read and follow the recommendations presented in the Colorado Geologic Survey's Special Publication 43 "Home Landscaping and Maintenance on Swelling Soil". This publication provides a thorough description of the construction of homes on expansive soil, and includes information about the additional maintenance and care required for such homes. In particular, information about surface drainage and irrigation should be reviewed.

Because high concentrations of water soluble sulfates were found, special cement will likely be necessary for concrete in contact with the native soils. Because special cement could potentially add substantial construction costs, additional testing during the site specific investigations is recommended to determine the extent of these high concentrations.

Roadways will require subgrade improvement, which could be accomplished via over-excavation and replacement, and/or the use of geogrid below the pavement section. Lime stabilization of the native soils with high sulfate concentrations is not recommended due to the potential formation of calcium-sulfate-aluminate-hydrates, and the soil heave associated with the formation of these crystalline compounds.

PRELIMINARY DESIGN RECOMMENDATIONS

Based on the subsurface conditioned encountered, and our understanding of the proposed development, the following preliminary design recommendations have been provided.

SITE GRADING

We anticipate relatively shallow cuts and fills. We should have the opportunity to review construction plans for consistency with our recommendations.

Site Preparation:

The following preliminary recommendations should be observed for site preparation.

1. Permanent cut and fill slopes should be no steeper than 3:1 (horizontal to vertical). Any man-made slopes higher than 10 feet should be evaluated for slope stability.
2. All unsuitable organic material, debris or soft soils should be removed from areas to receive fill. This applies particularly to the placement of fill on slopes. If grading creates any slope steeper than 4 horizontal to 1 vertical, the ground should be benched to provide a relatively level surface for compaction. The exposed soils should be scarified, moisture conditioned, and compacted to the same density as the overlying fill.

3. All fill and backfill should be approved by the geotechnical engineer, placed in uniform lifts with a thickness compatible with the type of compaction equipment being used, moisture conditioned within 0 to +3 percent of optimum moisture content for the clay soil, and ±2 percent of optimum for the sand soils. The soils should be compacted with the appropriate equipment for the lift thickness used. The following minimum percentages of the maximum dry density, as determined by ASTM D698 (standard Proctor), are considered suitable for the anticipated development.
    a) Below foundations……..95%
    b) Below slabs and pavements……95%
    c) Landscaped area fill……90%
    d) Retaining or Foundation Wall Backfill……..95%

Suitability of On-Site Soil:

The clay soils encountered in the borings were found to have a relatively high swell potential at their in-situ moisture content and density, and will likely be expansive when placed as fill. Moisture conditioning to optimum and above can reduce the swell potential, but will not eliminate the risk of heaving caused by expansive soils. For fills that contain these clay soils, we recommend Standard Proctor criteria (ASTM D698) as opposed to modified Proctor criteria (ASTM D1557), because its use generally yields fill at higher optimum moisture content at a lower density and hence a lower expansion potential. All soils proposed for use below slabs or foundations should be tested for suitability. Bedrock will not be suitable for placement under structures.

Borrow areas should be stripped and segregated so that the fill will be free of deleterious materials. The on-site soil should be processed so that the fill does not contain rock or soil fragments larger than 4 inches in diameter. Any soils imported to the site should be approved by the geotechnical engineer.

EXCAVATIONS:

The sandy clay overburden, and the bedrock encountered in our borings can be excavated with typical heavy duty excavation equipment. Relatively shallow excavations are

anticipated for the construction of the proposed residences, but deeper excavations may be required for utility trenches.

It is the responsibility of the Contractor to provide safe working conditions and to comply with the regulations in OSHA Standards, Excavations, 29CFS Part 1926. The on-site native clay will likely classify as "Type B" in accordance with OSHA regulations. The regulations allow slopes of 1:1 horizontal to vertical for Type B soils for temporary excavations less than 20 feet deep. Some of the hard native sandy clay and claystone or sandstone bedrock will classify as "Type A" in accordance with OSHA regulations. The regulation allows for slopes of ¾:1 for temporary excavations less than 20 feet deep. The native sands encountered below the clay will likely classify as "Type C" in accordance with OSHA regulations. The regulations allow slopes of 1½:1 horizontal to vertical (34°) for Type C soils for temporary excavations less than 20 feet deep. The presence of water, seepage, fissuring, vibrations or surcharge loads will require temporary excavation to have slopes flatter than those allowed by OSHA regulations. The Contractor's competent person should make decisions regarding cut slopes. A qualified Geotechnical engineer should observe any questionable slopes or conditions. Temporary shoring or trench boxes may be necessary. Trench cut slopes in cohesive soils and bedrock should stand at near vertical for a sufficient length of time to install any required temporary shoring unless adversely affected by groundwater seepage, vibrations or surcharge loads. Trenches cut in non-cohesive sand may not stand at a near vertical slope during the time required to install trench boxes, and these areas may require the trench to be sloped instead.

FOUNDATIONS

Considering the subsurface conditions encountered in our investigation and the nature of the proposed construction, either deep foundation systems or over-excavation and replacement should be utilized for proposed structures. Deep foundations consisting of typical drilled shaft piers will likely be suitable at the west side of the site. Helical piers bearing in the overburden materials will be necessary for areas where deep bedrock exists. Particularly in the east portion of the site, deep foundations will not likely be required if over-excavation and replacement is conducted.

These criteria are presented for preliminary planning purposes only. Actual design criteria should be established by drilling closely-spaced borings within each building footprint and performing laboratory testing.

FLOOR SLABS

Floor slabs present a difficult problem where expansive materials are near the proposed floor slab elevation because sufficient dead load cannot be imposed on them to resist the uplift pressure generated when the materials become wet and expand. The only positive method to control floor slab movement on these soils is to construct a structural floor system above a crawl space. The evaluation of mold hazards is beyond the scope of this study and H-P Geotech does not provide recommendations regarding mold mitigation.

Garage floors are subject to the same difficult soils conditions as described above, but are difficult to construct over crawlspaces due to the relatively high live loading conditions anticipated. Slab-on-grade construction can be used for the garage floors provided that the risk of distress resulting from floor slab movement is recognized and accepted by the builder/potential homeowner. In areas with high swell potential, over-excavation of the native soils, and replacement with suitable moisture conditioned soils will be required.

DRAINAGE

Underdrains

Though groundwater was found at relatively low elevations compared to those of the anticipated foundations, it has been known to be significantly higher in the past. Additionally, surface water infiltration due to storm events and irrigation will change the groundwater depth. Therefore, we recommend below-grade construction, including crawlspaces be protected from excessive wetting by an underdrain system. The drain also will act to prevent buildup of hydrostatic pressures behind foundation walls.

Surface Drainage and Erosion Control:

Moisture-sensitive and erodible subsoils were identified at this site. The satisfactory performance of foundations, floor slabs and pavements are directly related to positive surface and subsurface drainage systems to prevent subgrade wetting. Surface grades should be maintained such that irrigation, snowmelt and precipitation water will easily

run off away from the structures and pavement. A 10 percent slope adjacent to foundations is commonly used. Positive drainage away from all structures and roadways should be maintained.

Additionally, good surface drainage should be provided around all fill areas and cut slopes to direct surface runoff away from these areas. Slopes and other stripped areas should be protected against erosion by paving, re-vegetation or other means.

CONTINUING SERVICES

Two additional elements of geotechnical engineering service are important for the successful completion of this project.

1. Consultation with design professionals during the design phases. This is important so the intentions of our recommendations are properly incorporated in the design, and that any changes in the design concept properly consider geotechnical aspects. A design-level geotechnical study should be undertaken once siting and configuration of the project is final.
2. Observation and monitoring during construction. A geotechnical engineer from our firm should observe the excavation, earthwork, and foundation phases of the work to judge that subsurface conditions are compatible with those used in the analysis and design. During site grading, placement of fill should be observed and tested to confirm that the proper placement conditions have been achieved.

LIMITATIONS

This report has been prepared in accordance with generally accepted geotechnical engineering principles and practices in this area at this time. We make no warranty either express or implied. The conclusions and recommendations submitted in this report are based upon the data obtained from widely-spaced exploratory borings drilled at the locations indicated on Figure 2, the proposed type of construction and our experience in the area, and the review of previous studies conducted in the area. Our findings are preliminary in nature and include interpolation and extrapolation of the subsurface conditions identified at the exploratory borings and variations in the subsurface

conditions may not become evident until further exploration or excavation is performed. A site specific geotechnical study should be performed for each lot.

This report has been prepared for the exclusive use by our client for preliminary design purposes. We are not responsible for technical interpretations by others of our exploratory information which has not been described or documented in this report. As the project evolves, we should provide continued consultation and field services during construction to review and monitor the implementation of our recommendations, and to verify that the recommendations have been appropriately interpreted.

If you have any questions or if we can be of further service, please call. We appreciate the opportunity to have worked on this project.

Sincerely,
HEPWORTH - PAWLAK GEOTECHNICAL, INC.

Cuong Vu, Ph.D., P.E.

and

Arben Kalaveshi, P.E.

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 SITE LOCATION	FIG. 1

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 BORING LOCATIONS	FIG. 2

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 BORING LOCATIONS	FIG. 2a

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 BORING LOGS	FIG. 3

213116A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 BORING LOGS	FIG. 4

NOTES:

1. The materials shown and their boundaries have been inferred and interpreted from the boring data available and the surface conditions observed, and may differ from the actual subsurface conditions.
2. The surface topography end elevations are approximate.
3. The free water line shown is an extrapolation of the water level shown in boreholes when measured at least 1 day after drilling was completed.

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 SOIL CROSS SECTIONS	FIG. 4A

NOTES:

1. The materials shown and their boundaries have been inferred and interpreted from the boring data available and the surface conditions observed, and may differ from the actual subsurface conditions.
2. The surface topography end elevations are approximate.
3. The free water line shown is an extrapolation of the water level shown in boreholes when measured at least 1 day after drilling was completed.

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, Inc.	THE GLEN AT WIDEFIELD, FILING 7 SOIL CROSS SECTIONS	FIG. 5

LEGEND

TOPSOIL: Clay (CL), sandy, slightly moist to moist, brown, with grass/weed cover.

CLAY (CL), sandy, fine to medium grained, medium stiff to very stiff, medium plasticity, moist to wet, brown.

SAND (SC), clayey, fine to coarse grained, low plasticity, loose to medium dense, very moist moist to wet, brown.

SAND (SP-SM), silty, gravelly, fine to coarse grained, medium dense, moist, brown.

Claystone, fine grained, medium hard to very hard, moist, brown to blue.

17/12 Indicates 1⅜ inch I.D. Split Spoon sampler. 17/12 indicates 17 blows of a 140-pound hammer falling 30 inches were required to drive the sampler 12 inches.

17/12 Indicates 2-inch I.D. California sampler. 17/12 indicates 17 blows of a 140-pound hammer falling 30 inches were required to drive the sampler 12 inches.

27 Indicates depth of cave and number of days after drilling measurement was made.

27 Indicates depth of free water and number of days after drilling measurement was made.

NOTES:

1. FIeld work was conducted on September 23 and 24, 2015. The Boring was drilled and sampled using a truck mounted CME 550X All Terrain Drill Rig.
2. Location of borings shown on Figure 2 are approximate.
3. Elevations of borings were not measured during our site visit.
4. The lines between strata represent approximate boundaries and transitions may be gradual.
5. Laboratory Testing Results:
   MC=Moisture content (%).
   DD=Dry density (pcf).
   +4 = Percent of gravel fraction
   -200 = Percent of silt and clay fraction.
   LL = Liquid limit.
   PI = Plastic index.
   SP = Percent swell under a surcharge of 1,000 psf when wetted.
   WSS = Water Soluble Sulfates in Percent.

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 6

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 7

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 8

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 9

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 10

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 11

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 12

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD SWELL-COMPRESSION TEST RESULTS	FIG. 13

GRAVEL: 0% SAND: 57% SILT AND CLAY: 43%
LIQUID LIMIT: PLASTICITY INDEX:
SAMPLE OF: SAND (SC), clayey FROM: B2 @ 24 feet

GRAVEL: 16% SAND: 70% SILT AND CLAY: 14%
LIQUID LIMIT: PLASTICITY INDEX:
SAMPLE OF: SAND (SP-SM), gravelly, silty FROM: B2 @ 44 feet

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD GRADATION ANALYSIS	FIG. 14

GRAVEL: 13% SAND: 75% SILT AND CLAY: 12%
LIQUID LIMIT: PLASTICITY INDEX:
SAMPLE OF: SAND (SP-SM), gravelly, sandy FROM: B8 @ 39 feet

GRAVEL: 10% SAND: 78% SILT AND CLAY: 12%
LIQUID LIMIT: PLASTICITY INDEX:
SAMPLE OF: SAND (SP-SM), gravelly, silty FROM: B2 @ 44 feet

215292A	HEPWORTH-PAWLAK GEOTECHNICAL, INC.	WIDEFIELD GRADATION ANALYSIS	FIG. 15

HEPWORTH-PAWLAK GEOTECHNICAL, INC.

JOB NO. 215292A

PROJECT: WIDEFIELD

TABLE 1

SUMMARY OF LABORATORY TEST RESULTS

SAMPLE LOCATION		NATURAL MOISTURE CONTENT (%)	NATURAL DRY UNIT WEIGHT (PCF)	GRADATION			ATTERBERG LIMITS		SWELL/COMP WITH 1,000 psf SURCHARGE (%)	WATER SOLUBLE SULFATES (%)	SOIL OR BEDROCK TYPE (USCS CLASSIFICATION)
BORING	DEPTH (feet)			GRAVEL (%)	SAND (%)	SILT & CLAY (%)	LIQUID LIMIT (%)	PLASTIC INDEX (%)			
B-1	4	21.9	89			94	63	39	6.9		CLAY (CL), sandy
	9	14.3	111			75	51	34		0.07	CLAY (CL), sandy
	19	25.8	97			91	62	42	1.7		CLAY (CL), sandy
B-2	4	12.7	95			71			2.4		CLAY (CL), sandy
	14	16.4	103			68				0.675	CLAY (CL), sandy
	24	26.9	95	0	57	43					SAND (SM), silty
	44	12.7		16	70	14					SAND (SP-SM), gravelly, silty
B-3	4	6.4	95			62	33	19	2.1		CLAY (CL), sandy
	14	13.9	118			83			3.6		CLAYSTONE
B-4	4	15.3	113			91				0.813	CLAYSTONE
	9	13.5	114			66			2.5		CLAYSTONE
	14	13.9	118			83			2.3		CLAYSTONE
B-6	4	15.8	96			88			2.7		CLAY (CL), sandy
	14	17.3	108			78					CLAY (CL), sandy
	19	23.7	101			97			5.0		CLAY (CL), sandy
	29	31.5	90			41					SAND (SC), clayey
	54	13.7	119			40					CLAYSTONE
B-7	34	20.5	15								CLAY (CL), sandy
B-8	4	17.2	103			78			1.9		CLAY (CL), sandy
	14	19.6	104			79			0.6		CLAY (CL), sandy
	19	30.3	91			71					CLAY (CL), sandy
	39	11.8	120	13	75	12					SAND (SP-SM), gravelly, silty
B-9	4	18.2	87			91			9.1	0.065	CLAY (CL), sandy
	9	17.3	94			91					CLAY (CL), sandy
	34	35.3	87			98					CLAY (CL), sandy
	54	12.7				87					CLAYSTONE
B-10	4	12.9	86			66			1.7		CLAY (CL), sandy
	14	10.9	110			72			0.3	0.065	CLAY (CL), sandy
	19	22.9	93			65					CLAY (CL), sandy
	44	10.0	124	10	88	12					SAND (SC), clayey

APPENDIX 7

Operations and Maintenance Manual for Extended Detention Basin

Operations and Maintenance Manual
For
Extended Detention Basin

The Glen at Widefield Filing No. 7
Colorado Springs, Colorado

Prepared for:

Glen Development Company
c/o Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911
Phone: (719) 392-0194

Prepared by:

Kiowa
Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Kiowa Project No. 14044

February 2016

Extended Detention Basin

Maintenance Recommendations

An Extended Detention Basin (EDB) is a sedimentation basin designed to totally empty out sometime after stormwater runoff ends. Compared to a flood control detention basin, the extended basin uses a much smaller outlet that extends the emptying time for the more frequently occurring runoff events to facilitate pollutant removal. The basins are considered to be "dry" because they are designed not to have a significant permanent pool of water remaining between storm runoff events. However, EDBs may develop wetland vegetation and sometimes shallow pools in the bottom portions of the facilities.

Extended detention basins have low to moderate maintenance requirements. Routine and nonroutine maintenance is necessary to assure performance, enhance aesthetics, and protect structural integrity. The dry basins can result in nuisance complaints if not properly designed or maintained. Bio-degradable pesticides may be required to limit insect problems. Frequent debris removal and grass-mowing can reduce aesthetic complaints. If a shallow wetland or marshy area is included, mosquito breeding and nuisance odors could occur if the water becomes stagnant. Access to critical elements of the pond (inlet, outlet, spillway, and sediment collection areas) must be provided. The basic elements of the maintenance requirements are presented in Table EDB-1.

Table EDB-1
Extended Detention Basin Maintenance Considerations

Required Action	Maintenance Objective	Frequency of Action
Mowing	Occasional mowing to limit unwanted Vegetation. Maintain irrigated turf grass As 2 to 4 inches tall and nonirrigated native Turf grasses at 4 to 6 inches.	Routine – Depending on aesthetic requirements.
Debris and litter removal	Remove debris and litter from the entire Pond to minimize outlet clogging and And improve aesthetics. Outlet structure Trash racks should be clear of any blockage.	Routine – including just before annual storm seasons (that is, April and May) and Following significant rainfall Events.
Erosion and sediment control	Repair and revegetate eroded areas on slopes.	Nonroutine – Periodic and Repair as necessary based on Inspection.
Structural	Repair pond inlets, outlets, forebays, Low flow channel liners, and energy Dissipators whenever damage is discovered.	Nonroutine- Repair as needed based on regular inspections.
Inspections	Inspect basins to insure that the basin Continues to function as initially intended. Examine the outlet for clogging, erosion, Slumping, excessive sedimentation Levels, overgrowth, embankment and Spillway integrity, and damage to any Structural element.	Routine – Annual inspection Hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of Outlets.
Nuisance control	Address odor, insects, and overgrowth Issues associated with stagnant or Standing water in the bottom zone.	Nonroutine- Handle as necessary per inspection Or local complaints.

Operations and Maintenance Manual
For
Extended Detention Basin

The Glen at Widefield Filing No. 8
Colorado Springs, Colorado

Prepared for:

Glen Development Company
c/o Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911
Phone: (719) 392-0194

Prepared by:

Kiowa Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Kiowa Project No. 16014

August 2016

Extended Detention Basin

Maintenance Recommendations

An Extended Detention Basin (EDB) is a sedimentation basin designed to totally empty out sometime after stormwater runoff ends. Compared to a flood control detention basin, the extended basin uses a much smaller outlet that extends the emptying time for the more frequently occurring runoff events to facilitate pollutant removal. The basins are considered to be "dry" because they are designed not to have a significant permanent pool of water remaining between storm runoff events. However, EDBs may develop wetland vegetation and sometimes shallow pools in the bottom portions of the facilities.

Extended detention basins have low to moderate maintenance requirements. Routine and nonroutine maintenance is necessary to assure performance, enhance aesthetics, and protect structural integrity. The dry basins can result in nuisance complaints if not properly designed or maintained. Bio-degradable pesticides may be required to limit insect problems. Frequent debris removal and grass-mowing can reduce aesthetic complaints. If a shallow wetland or marshy area is included, mosquito breeding and nuisance odors could occur if the water becomes stagnant. Access to critical elements of the pond (inlet, outlet, spillway, and sediment collection areas) must be provided. The basic elements of the maintenance requirements are presented in Table EDB-1.

Table EDB-1
Extended Detention Basin Maintenance Considerations

Required Action	Maintenance Objective	Frequency of Action
Mowing	Occasional mowing to limit unwanted Vegetation. Maintain irrigated turf grass As 2 to 4 inches tall and nonirrigated native Turf grasses at 4 to 6 inches.	Routine – Depending on aesthetic requirements.
Debris and litter removal	Remove debris and litter from the entire Pond to minimize outlet clogging and And improve aesthetics. Outlet structure Trash racks should be clear of any blockage.	Routine – including just before annual storm seasons (that is, April and May) and Following significant rainfall Events.
Erosion and sediment control	Repair and revegetate eroded areas on slopes.	Nonroutine – Periodic and Repair as necessary based on Inspection.
Structural	Repair pond inlets, outlets, forebays, Low flow channel liners, and energy Dissipators whenever damage is discovered.	Nonroutine- Repair as needed based on regular inspections.
Inspections	Inspect basins to insure that the basin Continues to function as initially intended. Examine the outlet for clogging, erosion, Slumping, excessive sedimentation Levels, overgrowth, embankment and Spillway integrity, and damage to any Structural element.	Routine – Annual inspection Hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of Outlets.
Nuisance control	Address odor, insects, and overgrowth Issues associated with stagnant or Standing water in the bottom zone.	Nonroutine- Handle as necessary per inspection Or local complaints.

Operations and Maintenance Manual
For
Extended Detention Basin

The Glen at Widefield Filing No. 9
Colorado Springs, Colorado

Prepared for:

Glen Development Company
c/o Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911
Phone: (719) 392-0194

Prepared by:

Kiowa
Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Kiowa Project No. 16014

December 2017

Extended Detention Basin

Maintenance Recommendations

An Extended Detention Basin (EDB) is a sedimentation basin designed to totally empty out sometime after stormwater runoff ends. Compared to a flood control detention basin, the extended basin uses a much smaller outlet that extends the emptying time for the more frequently occurring runoff events to facilitate pollutant removal. The basins are considered to be "dry" because they are designed not to have a significant permanent pool of water remaining between storm runoff events. However, EDBs may develop wetland vegetation and sometimes shallow pools in the bottom portions of the facilities.

Extended detention basins have low to moderate maintenance requirements. Routine and nonroutine maintenance is necessary to assure performance, enhance aesthetics, and protect structural integrity. The dry basins can result in nuisance complaints if not properly designed or maintained. Bio-degradable pesticides may be required to limit insect problems. Frequent debris removal and grass-mowing can reduce aesthetic complaints. If a shallow wetland or marshy area is included, mosquito breeding and nuisance odors could occur if the water becomes stagnant. Access to critical elements of the pond (inlet, outlet, spillway, and sediment collection areas) must be provided. The basic elements of the maintenance requirements are presented in Table EDB-1.

Table EDB-1
Extended Detention Basin Maintenance Considerations

Required Action	Maintenance Objective	Frequency of Action
Mowing	Occasional mowing to limit unwanted Vegetation. Maintain irrigated turf grass As 2 to 4 inches tall and nonirrigated native Turf grasses at 4 to 6 inches.	Routine – Depending on aesthetic requirements.
Debris and litter removal	Remove debris and litter from the entire Pond to minimize outlet clogging and And improve aesthetics. Outlet structure Trash racks should be clear of any blockage.	Routine – including just before annual storm seasons (that is, April and May) and Following significant rainfall Events.
Erosion and sediment control	Repair and revegetate eroded areas on slopes.	Nonroutine – Periodic and Repair as necessary based on Inspection.
Structural	Repair pond inlets, outlets, forebays, Low flow channel liners, and energy Dissipators whenever damage is discovered.	Nonroutine- Repair as needed based on regular inspections.
Inspections	Inspect basins to insure that the basin Continues to function as initially intended. Examine the outlet for clogging, erosion, Slumping, excessive sedimentation Levels, overgrowth, embankment and Spillway integrity, and damage to any Structural element.	Routine – Annual inspection Hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of Outlets.
Nuisance control	Address odor, insects, and overgrowth Issues associated with stagnant or Standing water in the bottom zone.	Nonroutine- Handle as necessary per inspection Or local complaints.

Operations and Maintenance Manual
For
Extended Detention Basin

The Glen at Widefield Filing No. 10
Colorado Springs, Colorado

Prepared for:

Glen Development Company
c/o Widefield Investment Group
3 Widefield Boulevard
Colorado Springs, CO 80911
Phone: (719) 392-0194

Prepared by:

Kiowa Engineering Corporation

1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

Kiowa Project No. 19016

September 2019

Extended Detention Basin

Maintenance Recommendations

An Extended Detention Basin (EDB) is a sedimentation basin designed to totally empty out sometime after stormwater runoff ends. Compared to a flood control detention basin, the extended basin uses a much smaller outlet that extends the emptying time for the more frequently occurring runoff events to facilitate pollutant removal. The basins are considered to be "dry" because they are designed not to have a significant permanent pool of water remaining between storm runoff events. However, EDBs may develop wetland vegetation and sometimes shallow pools in the bottom portions of the facilities.

Extended detention basins have low to moderate maintenance requirements. Routine and nonroutine maintenance is necessary to assure performance, enhance aesthetics, and protect structural integrity. The dry basins can result in nuisance complaints if not properly designed or maintained. Bio-degradable pesticides may be required to limit insect problems. Frequent debris removal and grass-mowing can reduce aesthetic complaints. If a shallow wetland or marshy area is included, mosquito breeding and nuisance odors could occur if the water becomes stagnant. Access to critical elements of the pond (inlet, outlet, spillway, and sediment collection areas) must be provided. The basic elements of the maintenance requirements are presented in Table EDB-1.

Table EDB-1
Extended Detention Basin Maintenance Considerations

Required Action	Maintenance Objective	Frequency of Action
Mowing	Occasional mowing to limit unwanted Vegetation. Maintain irrigated turf grass As 2 to 4 inches tall and nonirrigated native Turf grasses at 4 to 6 inches.	Routine – Depending on aesthetic requirements.
Debris and litter removal	Remove debris and litter from the entire Pond to minimize outlet clogging and And improve aesthetics. Outlet structure Trash racks should be clear of any blockage.	Routine – including just before annual storm seasons (that is, April and May) and Following significant rainfall Events.
Erosion and sediment control	Repair and revegetate eroded areas on slopes.	Nonroutine – Periodic and Repair as necessary based on Inspection.
Structural	Repair pond inlets, outlets, forebays, Low flow channel liners, and energy Dissipators whenever damage is discovered.	Nonroutine- Repair as needed based on regular inspections.
Inspections	Inspect basins to insure that the basin Continues to function as initially intended. Examine the outlet for clogging, erosion, Slumping, excessive sedimentation Levels, overgrowth, embankment and Spillway integrity, and damage to any Structural element.	Routine – Annual inspection Hydraulic and structural facilities. Also check for obvious problems during routine maintenance visits, especially for plugging of Outlets.
Nuisance control	Address odor, insects, and overgrowth Issues associated with stagnant or Standing water in the bottom zone.	Nonroutine- Handle as necessary per inspection Or local complaints.

APPENDIX 8

Glen at Widefield Filing No. 10 - SWMP Amendment

Please also provide the anticipated date of final stabilization for this filing.

Glen at Widefield Filing No. 10 SWMP Amendment

An Objective of the Stormwater Management Plan (SWMP) is to function as a living document which can be updated and modified to suit current conditions over the life of a project's improvements. For this purpose, an amendment is provided herein to address improvements specific to Filing No. 10.

Checklist Items are carried forward below from the EPC 'STORMWATER MANAGEMENT PLAN CHECKLIST' to clarify impacts related to Filing No 10:

1. STORMWATER MANAGEMENT PLAN (SWMP)
   5. Phasing of improvements requires construction of off-site detention basin 'D'. Construction Drawings for the off-site area are provided with this amendment.
   6. Construction Schedule is indicated on the Filing 10 SWMP Exhibit.
   7. Estimates of Disturbance and Limits for Filing 10 are reflected on SWMP Exhibit.
   13. Spoils Areas are identified on Sheet 11 for Filing 10 improvements.
   14. Note: Groundwater is indicated up to a level 5670.00, which is just below the finish grade at the planned detention basin.
   17. Construction Site Boundaries for Filing No. 10 are provided with this amendment.

   delineate and label the construction site boundaries.

   17e. Refer to Sheet 11 for waste and spoils location(s).

2. ADDITIONAL REPORTS/PERMITS/DOCUMENTS
   a) Appendix 8 added to current and active SWMP to reflect Filing No 10 Specific Information (See SWMP Exhibit for Filing No. 10 & Sheet 11 of Construction Drawings).

Provide the following from the checklist:
-Per item#16 of the checklist: Provide description of all stream crossings located within the project area or a statement that no streams cross the project area.
-item 17d: areas of cut and fill
-item17f: location of dedicated asphalt/concrete batch plants. Note that the original SWMP indicated that this is unknown (page 9). If there are none please state it.
item 18: narrative description of all structural control measures used. The original SWMP description was specific to filing 7 (see page 7) please provide a description for this filing.

The Glen at Widefield No. 10 - SWMP Amendment

VICINITY MAP
SCALE: N.T.S.

0 100' 200'
SCALE: 1" = 100'

EXISTING PEACEFUL VALLEY ROAD IS INSTALLED TO MARKSCHEFFELE ROAD, BUT WITHOUT SIDEWALKS AND RAMPS.
MATCH SIDEWALK ASSEMBLY LEFT & RIGHT AND INSTALL 5' CONCRETE SIDEWALKS @ 2% SLOPE TOWARDS STREET SECTION
FEATHER GRADING AT OVERLOT AREAS TO BACK OF WALK TO AVOID RETAINING STORMWATER ON INDIVIDUAL LOTS (TYP.)
SEE SHEET 2 FOR STREET PLAN & PROFILE DESIGN DATA

INSTALL TEMPORARY SLOPE DRAIN FOR OVERLOT AREAS ASSOCIATED WITH FILING NO. 11 (GOLDEN BUFFS & PENNYCRESS DR ROUGH-CUT CORRIDORS) (INTERIM)

STORMWATER INFLOW TO FUTURE POND 'D' IS PLANNED AT THE TIME OF FILING 11 DEVELOPMENT (2 LOCATIONS)

INSTALL SILT FENCE AT TOP EDGE OF SLOPE OF THE EXISTING SEDIMENTATION BASIN AS SHOWN HEREON (INTERIM)

EXTENSION OF PENNYCRESS DRIVE NORTH IS PLANNED AT THE TIME OF FILING 11 DEVELOPMENT

SEE SHEET 11 FOR DETAIL AT SPILLWAY FINAL POND MPROVEMENTS (POND D) ARE PLANNED AT THE TIME OF FILING 11 DEVELOPMENT

PROVIDE EROSION CONTROL NETTING AS SHOWN HEREON (FINAL)

SEE SHEET 12 FOR DETAILS:
–POND OUTFALL STRUCTURES (FINAL)
–POND MAINT/ACCESS TRAIL (FINAL)
–TEMPORARY OUTFLOW DITCH FROM FILING 10 (INTERIM)

PERFORM MINOR RE-GRADING AT CUL-DE-SAC LOTS TO MATCH THE CURB ASSEMBLY AS SHOWN

MINOR RE-GRADING AT LOTS MATCH STREET ASSEMBLY BOTH SIDES

MATCH SIDEWALK ASSEMBLY LEFT & RIGHT AND INSTALL 5' CONCRETE SIDEWALKS @ 2% SLOPE TOWARDS STREET SECTION

MATCH ROADWAY ASSEMBLY LEFT & RIGHT
CONNECT / EXTEND PENNYCRESS DRIVE TO PEACEFUL VALLEY RD
SEE SHEET 4 FOR STREET PLAN & PROFILE DESIGN DATA

SEED MIX

AREAS DISTURBED BY THE EARTHWORK ACTIVITIES AND NOT RECEIVING OTHER TREATMENT SHALL BE PERMANENTLY REVEGETATED WITH THE FOLLOWING SEED MIX.

SPECIES	VARIETY	pls/acre
SIDEOATS GRAMA	*El Reno*	3.0
WESTERN WHEAT GRASS	*Barton*	2.5
SLENDER WHEAT GRASS	*Native*	2.0
LITTLE BLUESTEM	*Pastura*	2.0
SAND DROPSEED	*Native*	0.5
SWITCH GRASS	*Nebraska 28*	3.0
WEEPING LOVE GRASS	*Morpha*	1.0
		14.0 lbs

SEEDING APPLICATION: DRILL SEED 1/4" TO 1/2" INTO TOPSOIL. IN AREAS INACCESSIBLE TO A DRILL, HAND BROADCAST AT DOUBLE THE RATE AND RAKE 1/4" TO 1/2" INTO THE TOPSOIL. MULCHING APPLICATION: 1-1/2 TONS NATIVE HAY PER ACRE, MECHANICALLY CRIMPED INTO THE TOPSOIL.

EROSION CONTROL INSPECTION AND MAINTENANCE

A THOROUGH INSPECTION OF THE EROSION CONTROL PLAN/STORMWATER MANAGEMENT SYSTEM SHALL BE PERFORMED EVERY 14 DAYS AS WELL AS AFTER ANY RAIN OR SNOWMELT EVENT THAT CAUSES SURFACE EROSION:

* WHEN STRAW BALE BARRIERS HAVE SILTED UP TO HALF THEIR HEIGHT, THE SILT SHALL BE REMOVED, FINAL GRADE REESTABLISHED AND SLOPES RESEEDED IF NECESSARY. ANY STRAW BALES THAT HAVE SHIFTED OR DECAYED SHALL BE REPAIRED OR REPLACED.
* ANY ACCUMULATED TRASH OR DEBRIS SHALL BE REMOVED FROM OUTLETS.

AN INSPECTION AND MAINTENANCE LOG SHALL BE KEPT.

SHADED AREA DENOTES PERMANENT EROSION BLANKET. CURLEX HEAVY DUTY EROSION CONTROL BLANKET BY AMERICAN EXCELSIOR OR EQUAL SHALL BE USED.

EROSION CONTROL LEGEND

		PHASE
	SILT FENCE	(INTITIAL)
VTC	VEHICLE TRACKING CONTROL	(INTITIAL)
IP-1	INLET PROTECTION	(INITIAL) / (INTERIM)
TSD	TEMPORARY SLOPE DRAIN	(INITIAL) / (INTERIM)
ECN	EROSION CONTROL NETTING	(INTERIM) / (FINAL)
RCS	ROUGH-CUT STREET CONTROL	(INITIAL) / (INTERIM)
CWA	CONCRETE WASHOUT AREA	(INITIAL) / (INTERIM)
RS n	ROCK SOCK(S) (COUNT)	(INITIAL) / (INTERIM)

OPINION OF COST FOR EROSION CONTROL REQUIREMENTS
Additional Erosion Control for Glen at Widefield Filing No. 10

ITEM	QUANTITY	UNITS	PRICE	AMOUNT
PERMANENT SEEDING	3.0	AC	$800	$2,400.00
PERMANENT E.C. BLANKET	526	SY	$6	$3,156.00
VEHICLE TRACKING CONTROL	2	EA	$2,370	$4,740.00
INLET PROTECTION	2	EA	$167	$334.00
CONCRETE WASHOUT BASIN	1	EA	$900	$900.00
ROUGH CUT STREET CONTROL	1,170	LF	$2	$2,340.00
SILT FENCING	2,012	LF	$2.50	$5,030.00
			TOTAL	$18,900

LEGEND

LOT LINE
STREET R.O.W.
STREET CENTER LINE
PROPOSED WATER
PROPOSED WATER HYDRANT
PROPOSED WATER VALVE
PROPOSED SANITARY MH
PROPOSED SANITARY SEWER
PROPOSED STORM SEWER
PROPOSED STORM INLET
PROPOSED STORM FES
LIMITS OF DISTURBANCE
LIMITS OF PONDING (100-YR)
EX CURB & GUTTER WALK & RAMP SECTIONS
PRO CURB & GUTTER WALK & RAMP SECTIONS
EXISTING WATER
EXISTING WATER HYDRANT
EXISTING WATER VALVE
EXISTING SANITARY SEWER
EXISTING STORM INLET
EXISTING STORM SEWER
EXISTING 30" C.I.G. GAS MAIN

PROJECT SPECIFIC GRADING AND EROSION CONTROL NOTES

1. Stormwater discharges from construction sites shall not cause or threaten to cause pollution, contamination, or degradation of State Waters. All work and earth disturbance shall be done in a manner that minimizes pollution of any on-site or off-site waters, including wetlands.
2. Notwithstanding anything depicted in these plans in words or graphic representation, all design and construction related to roads, storm drainage and erosion control shall conform to the standards and requirements of the most recent version of the relevant adopted El Paso County standards, including the Land Development Code, the Engineering Criteria Manual, the Drainage Criteria Manual, and the Drainage Criteria Manual Volume 2. Any deviations from regulations and standards must be requested, and approved, in writing.
3. A separate Stormwater Management Plan (SMWP) for this project shall be completed and an Erosion and Stormwater Quality Control Permit (ESQCP) issued prior to commencing construction. Management of the SWMP during construction is the responsibility of the designated Qualified Stormwater Manager or Certified Erosion Control Inspector. The SWMP shall be located on site at all times during construction and shall be kept up to date with work progress and changes in the field.
4. Once the ESQCP is approved and a "Notice to Proceed" has been issued, the contractor may install the initial stage erosion and sediment control measures as indicated on the approved GEC. A Preconstruction Meeting between the contractor, engineer, and El Paso County will be held prior to any construction. It is the responsibility of the applicant to coordinate the meeting time and place with County staff.
5. Control measures must be installed prior to commencement of activities that could contribute pollutants to stormwater. Control measures for all slopes, channels, ditches, and disturbed land areas shall be installed immediately upon completion of the disturbance.
6. All temporary sediment and erosion control measures shall be maintained and remain in effective operating condition until permanent soil erosion control measures are implemented and final stabilization is established. All persons engaged in land disturbance activities shall assess the adequacy of control measures at the site and identify if changes to those control measures are needed to ensure the continued effective performance of the control measures. All changes to temporary sediment and erosion control measures must be incorporated into the Stormwater Management Plan.
7. Temporary stabilization shall be implemented on disturbed areas and stockpiles where ground disturbing construction activity has permanently ceased or temporarily ceased for longer than 14 days.
8. Final stabilization must be implemented at all applicable construction sites. Final stabilization is achieved when all ground disturbing activities are complete and all disturbed areas either have a uniform vegetative cover with individual plant density of 70 percent of pre-disturbance levels established or equivalent permanent alternative stabilization method is implemented. All temporary sediment and erosion control measures shall be removed upon final stabilization and before permit closure.
9. All permanent stormwater management facilities shall be installed as designed in the approved plans. Any proposed changes that affect the design or function of permanent stormwater management structures must be approved by the ECM Administrator prior to implementation.
10. Earth disturbances shall be conducted in such a manner so as to effectively minimize accelerated soil erosion and resulting sedimentation. All disturbances shall be designed, constructed, and completed so that the exposed area of any disturbed land shall be limited to the shortest practical period of time. Pre-existing vegetation shall be protected and maintained within 50 horizontal feet of a waters of the state unless shown to be infeasible and specifically requested and approved.
11. Compaction of soil must be prevented in areas designated for infiltration control measures or where final stabilization will be achieved by vegetative cover. Areas designated for infiltration control measures shall also be protected from sedimentation during construction until final stabilization is achieved. If compaction prevention is not feasible due to site constraints, all areas designated for infiltration and vegetation control measures must be loosened prior to installation of the control measure(s).
12. Any temporary or permanent facility designed and constructed for the conveyance of stormwater around, through, or from the earth disturbance area shall be a stabilized conveyance designed to minimize erosion and the discharge of sediment off site.
13. Concrete wash water shall be contained and disposed of in accordance with the SWMP. No wash water shall be discharged to or allowed to enter State Waters, including any surface or subsurface storm drainage system or facilities. Concrete washouts shall not be located in an area where shallow groundwater may be present, or within 50 feet of a surface water body, creek or stream.
14. During dewatering operations of uncontaminated ground water may be discharged on site, but shall not leave the site in the form of surface runoff unless an approved State dewatering permit is in place.
15. Erosion control blanketing or other protective covering shall be used on slopes steeper than 3:1.
16. Contractor shall be responsible for the removal of all wastes from the construction site for disposal in accordance with local and State regulatory requirements. No construction debris, tree slash, building material wastes or unused building materials shall be buried, dumped, or discharged at the site.
17. 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. Control measures may be required by El Paso County Engineering if deemed necessary, based on specific conditions and circumstances.
18. Tracking of soils and construction debris off-site shall be minimized. Materials tracked off-site shall be cleaned up and properly disposed of immediately.
19. The owner/developer shall be responsible for the removal of all construction debris, dirt, trash, rock, sediment, soil, and sand that may accumulate in roads, storm drains and other drainage conveyance systems and stormwater appurtenances as a result of site development.
20. 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.
21. No chemical(s) having the potential to be released in stormwater are to be stored or used onsite unless permission for the use of such chemical(s) is granted in writing by the ECM Administrator. In granting approval for the use of such chemical(s), special conditions and monitoring may be required.
22. Bulk storage of allowed petroleum products or other allowed liquid chemicals in excess of 55 gallons shall require adequate secondary containment protection to contain all spills onsite and to prevent any spilled materials from entering State Waters, any surface or subsurface storm drainage system or other facilities.
23. No person shall cause the impediment of stormwater flow in the curb and gutter or ditch except with approved sediment control measures.
24. Owner/developer and their agents shall comply with the "Colorado Water Quality Control Act" (Title 25, Article 8, CRS), and the "Clean Water Act" (33 USC 1344), in addition to the requirements of the Land Development Code, DCM Volume II and the ECM Appendix I. All appropriate permits must be obtained by the contractor prior to construction (1041, NPDES, Floodplain, 404, fugitive dust, etc.). In the event of conflicts between these requirements and other laws, rules, or regulations of other Federal, State, local, or County agencies, the most restrictive laws, rules, or regulations shall apply.
25. All construction traffic must enter/exit the site only at approved construction access points.
26. Prior to construction the permittee shall verify the location of existing utilities.
27. A water source shall be available on site during earthwork operations and shall be utilized as required to minimize dust from earthwork equipment and wind.
28. The soils report for this site has been prepared by Vivid Engineering Group, Inc. and shall be considered a part of these plans.
29. At least ten (10) days prior to the anticipated start of construction, for projects that will disturb one (1) acre or more, the owner or operator of construction activity shall submit a permit application for stormwater discharge to the Colorado Department of Public Health and Environment, Water Quality Division. The application contains certification of completion of a stormwater management plan (SWMP), of which this Grading and Erosion Control Plan may be a part. For information or application materials contact:
    Colorado Department of Public Health and Environment
    Water Quality Control Division
    WQCD - Permits
    4300 Cherry Creek Drive South
    Denver, CO 80246-1530
    Attn: Permits Unit
30. Base mapping was provided by Pinnacle Land Surveying. The date of the last survey update was May 2019.
31. Proposed Construction Schedule:
    Begin Construction: Spring 2020
    End Construction: Autumn 2020
    Total Site Area = 292.29 Acres
32. Area to be disturbed = 8.52 Acres (Filing 10 only).
    Existing 100-year runoff coefficient = 0.50
    Proposed 100-year runoff coefficient = 0.51
    Existing Hydrologic Soil Groups: B & C
    (B–Nelson-Tassel fine sandy loams; B–Stoneham sandy loam; C–Nunn clay loam)
33. Site is currently undeveloped and covered with native grasses on moderate to steep slopes (3%-18%).
34. Site is located in the West Fork Jimmy Camp Creek Drainage Basin.

TYPICAL WALK OUT HOME SECTION
GRADING FOR WALKOUT HOMES
NTS

TYPICAL LOT SECTION
FILL CONDITION
NTS

TYPICAL LOT SECTION
CUT CONDITION
NTS

TYPICAL LOT CROSS SECTIONS

Engineer of Record:
The Stormwater Management Plan was prepared under my direct supervision and is correct to the best of my knowledge and belief. Said Plan has been prepared acording to the criteria established by the County and State for Stormwater Management Plans.

Engineer of Record Signature Date

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719) 630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
STORMWATER MANAGEMENT PLAN
GRADING AND EROSION CONTROL
EL PASO, COUNTY

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	
1	01-02-20 1st Comments

SHEET
SWMP
of Sheets

SWMP Filing No 10 (Sheet 7).dwg/Feb 26, 20

A TYPICAL GRASS-LINED CHANNEL SECTION
SCALE: 1"=10'

CLASSIFICATION AND GRADATION OF RIPRAP			
RIPRAP DESIGNATION	% SMALLER THAN GIVEN SIZE BY WEIGHT	INTERMEDIATE ROCK DIMENSION (INCHES)	d50* (INCHES)
TYPE VL	70–100	12	
	50–70	9	
	35–50	6	6**
	2–10	2	
TYPE L	70–100	15	
	50–70	12	
	35–50	9	9**
	2–10	3	
TYPE M	70–100	21	
	50–70	18	
	35–50	12	12**
	2–10	4	

* d50=MEAN PARTICLE SIZE (INTERMEDIATE DIMENSION) BY WEIGHT.
** MIX VL, L AND M RIPRAP WITH 35% TOPSOIL (BY VOLUME) AND BURY WITH 4–6 INCHES OF TOPSOIL, ALL VIBRATION COMPACTED & REVEGETATE.
(TABLE MD-7: CLASSIFICATION AND GRADATION OF ORDINARY RIPRAP. UDFCD, DRAINAGE CRITERIA MANUAL, VOL. 1)

LOCATION	B	W	Y
SPILLWAY RUNDOWN	1'	10'	1'
OUTFALL PIPE RUNDOWN	3'	9'	1'

RIPRAP RUNDOWN DETAIL -
STORM OUTFALL AT MARKSHEFFEL ROAD
SCALE: NTS

PROFILE VIEW OF STORM OUTFALL

PROFILE VIEW OF TEMP OUTFLOW DITCH

TRICKLE CHANNEL
SCALE: 1"=1'

Kiowa Engineering Corporation
1604 South 21st Street
Colorado Springs, Colorado 80904
(719)630-7342

WIDEFIELD Investment Group

GLEN AT WIDEFIELD NO. 10
Proposed Basin 'D'
Filing 10 Portions Only
EL PASO, COUNTY, COLORADO

Project No.:	19016
Date:	September 27, 2019
Design:	MK
Drawn:	MJK
Check:	AWMc
Revisions:	
1 February 12, 2020	

SHEET
11
11 of 15 Sheets

SWMP Filing No 10 (Sheet 11).dwg/Feb 26, 2020

Stormwater Field Inspection Form (Construction Projects)

El Paso County Colorado Stormwater Management Program
Phone (719) 520-6826 Fax (719) 520-6879
Email: johnchavez@elpasoco.com

General Information

Name of Project/Site:_____ESQCP#: _____
Address/Directions:_____
Name(s) of Onsite Representative(s): _____phone: _____

Permit Holder (If not permitted, Owner or Operator)

Owner Name: _____Name of Responsible Person: _____
Title of Responsible Person: _____Phone: _____
Address: _____
ECS Name: _____ECS Phone Number:_____

Inspector(s): _____Inspecting Agency:_____
Persons present:_____

Type of Inspection: Self Monitoring ☐ Initial ☐ Compliance ☐ Recon ☐ Other: _____
Date conducted: _____Pictures Taken? Yes ☐ No ☐
Construction start date? _____

Records Review

Copy of SWMP confirmed on site? Yes☐ No☐
SWMP Review:
1. Site description as required in the permit? Yes☐ No☐
   Notes: _____
2. Site map as required in the permit? Yes☐ No☐
   Notes:_____
3. BMPs for stormwater pollution prevention:
   a. Erosion and sediment controls as required in the permit? Yes☐ No☐
      Notes:_____
   b. Materials handling and spill prevention? Yes☐ No☐
      Notes: _____
4. Final Stabilization and long term stormwater management as required in the permit Yes☐ No☐
   Notes: _____
5. Other controls as required in the permit? Yes☐ No☐
   Notes: _____
6. Inspection and maintenance as required in the permit? Yes☐ No☐
   Notes: _____
   Inspection records kept? Yes☐ No☐
   Inspections conducted as required in the permit? Yes☐ No☐

Notes: _____

Site Inspection

BMPs implemented for vehicle tracking control? Yes☐ No☐
Notes: _____

BMPs implemented for sediment control? Yes☐ No☐
Notes: _____

BMPs implemented for erosion control? Yes☐ No☐
Notes: _____

BMPs implemented for materials handling, spill prevention, and spill cleanup? Yes☐ No☐
Notes: _____

BMPs implemented for good housekeeping? Yes☐ No☐
Notes: _____

Inspection and maintenance of stormwater management BMPs implemented per approved plan? Yes☐ No☐
Notes: _____

Evidence of offsite transport of sediment or other pollutants? Yes☐ No☐
Notes: _____

Evidence of offsite transport of sediment or other pollutants reaching state waters? Yes☐ No☐
Notes: _____

Evidence of discharges other than stormwater? Yes☐ No☐
Notes: _____

FIELD NOTES: _____

SWMP_V2.pdf Markup Summary

Callout (2)

Subject: Callout
Page Label: 115
Lock: Locked
Author: Daniel Torres
Date: 4/13/2020 4:34:21 PM
Status:
Color:
Layer:
Space:

Please also provide the anticipated date of final stabilization for this filing.

Subject: Callout
Page Label: 115
Lock: Locked
Author: Daniel Torres
Date: 4/13/2020 4:34:26 PM
Status:
Color:
Layer:
Space:

delineate and label the construction site boundaries.

Text Box (1)

Subject: Text Box
Page Label: 115
Lock: Locked
Author: Daniel Torres
Date: 4/13/2020 4:34:22 PM
Status:
Color:
Layer:
Space:

Provide the following from the checklist:
-Per item#16 of the checklist: Provide description of all stream crossings located within the project area or a statement that no streams cross the project area.
-item 17d: areas of cut and fill
-item17f: location of dedicated asphalt/concrete batch plants. Note that the original SWMP indicated that this is unknown (page 9). If there are none please state it.
item 18: narrative description of all structural control measures used. The original SWMP description was specific to filing 7 (see page 7) please provide a description for this filing.