

**STORMWATER MANAGEMENT REPORT
FOR
URBAN COLLECTION AT PALMER VILLAGE**

**Prepared For:
Richmond American Homes
4350 S. Monaco Street
Denver, Colorado 80237**

**May 4, 2021
Project No. 25149.01**

**Prepared By:
JR Engineering, LLC
5475 Tech Center Drive, Suite 235
Colorado Springs, CO 80919
719-593-2593**

**Qualified Stormwater Manager:
Name: Eric Kubley
Company: Richmond American Homes
Address: 4350 S. Monaco Street
Denver, CO 80237**

**Contractor:
Name: TBD
Company: TBD
Address: TBD**

**PCD File No.:
SF-20-028**

Engineer's Certification

This Grading, Erosion, and Sediment Control Report was prepared under my direction and supervision, and is correct to the best of my knowledge and belief. If such work is performed in accordance with the Grading and Erosion Control Plan, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Glenn Ellis, Colorado P.E. 38861
For and On Behalf of JR Engineering, LLC

Date

Developer's/Owner's Certification

The owner will comply with the requirements of this Grading, Erosion, and Sediment Control Report including temporary BMP inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities outlined in this report require Colorado Discharge Permit System (CDPS) permitting for Stormwater discharges associated with Construction Activity.

Name of Owner/Developer

Authorized Signature

Date

TABLE OF CONTENTS

TABLE OF CONTENTS	iii
Introduction – Urban Collection at Palmer Village	1
Project Description	1
Site Description	1
Existing Site Conditions	1
Receiving Waters	1
Adjacent Areas	2
Soils	2
Stream Crossings	2
Description of Potential Pollutants	3
Soil Borings/Tests and Groundwater	3
Areas and Volume Statement	3
Stormwater Management Controls	3
SWMP Administrator	3
Erosion and Sediment Control	3
Structural Practices	4
Non-Structural Practices	6
Potential Pollutant Sources	7
Other Potential Pollution	9
Material Handling, and Spill Prevention and Response	10
Timing Schedule	10
Permanent Stabilization	11
Owner Inspection & Maintenance of Construction BMP'S	11
APPENDIX A – VICINITY MAP	13
APPENDIX B – SOILS MAPS	14
APPENDIX C – GRADING EROSION CONTROL PLANS AND DETAILS	15

Introduction – Urban Collection at Palmer Village

This document is the “Storm Water Management Plan for Urban Collection at Palmer Village.” It has been prepared to meet the regulatory requirements of El Paso County, the Colorado Department of Health - Water Quality Control Division, and to satisfy the provisions set forth by the Colorado Water Quality Control Act and Federal Water Pollution Control Act.

Project Description

The Urban Collection at Palmer Village site is in El Paso County and is a proposed private residential development for multi-family homes. The project includes grading, utility installation, drainage, asphalt roadways, concrete sidewalks and curb & gutter, and multiple housing structures. The total disturbance area created by the project is approximately 10.83 acres.

Site Description

A 100-unit residential development is proposed within the Palmer Village subdivision (totaling 10.83 acres) (hereby referred to as the “site”) per the corresponding approved Final Plat. The two tracts (M and N) along Constitution Avenue, east to Marksheffel Road will not be developed at this time. They are referenced in this plan only in the context of being included in the plat of the proposed development. Any development of these two tracts shall require separate grading and erosion control plans, and separate storm water management plans. The Site is undeveloped other than a sanitary sewer easement that follows the eastern border adjacent to Tract M.

Existing Site Conditions

The existing site is undeveloped and is covered by sparse native grasses, vegetation, some shrubs and trees, determined by an aerial inspection. The existing site, in general, slopes to the east at slopes ranging from 1% to 3%.

Receiving Waters

The site lies within the Sand Creek Drainage Basin based on the “Sand Creek Drainage Basin Planning Study” completed by Kiowa Engineering Corporation in January 1993. The Sand Creek Drainage Basin covers approximately 54 square miles and is divided into five major sub-basins: Sand Creek Mainstem, East Fork Sand Creek, and Central Tributary to East Fork, West Fork,

and East Fork Sub tributary. The site is within the East Fork Sand Creek sub-basin, as shown in Appendix A. The Sand Creek Basin discharges into Fountain Creek approximately 1.5 miles upstream of Academy Boulevard Bridge over Fountain Creek.

Adjacent Areas

The Site is located in the northeast quarter of Section 5, Township 14 South, Range 65 West of the Sixth Principal Meridian in the County of El Paso, State of Colorado. The Site is located immediately south of Constitution Avenue on the west and east side of Hannah Ridge Drive, extending to the east to Marksheffel Road. The site is bounded by Constitution Avenue to the north, Marksheffel Road to the east, Jessica Heights Filing No. 1 to the south, and the Cherokee Park Townhomes to the west. Refer to the vicinity map in Appendix A.

Soils

The proposed development site is comprised of variable sloping grasslands that generally slope east at approximately 3% on the east side of Hannah Ridge Drive. On the west side of Hannah Ridge Drive the land slopes at about 1% to the east, draining into the curb and gutter in Hannah Ridge Drive.

Soil characteristics are comprised of Blakeland loamy sand. NRCS rates this soil designation as Hydrologic Group A. Group A soils exhibit a high infiltration rate when thoroughly wet and consist chiefly of deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a high rate of water transmission and a low runoff potential. Eroded soil may adversely impact downstream drainage ways. BMPs will be installed and maintained to mitigate impacts due to soil erosion. Refer to the soil survey mapping in Appendix B.

Stream Crossings

There are no stream crossings through the site.

Description of Potential Pollutants

Proposed construction activities are not anticipated to generate any non-stormwater discharge.

- Concrete washout shall be placed on the site.
- Dewatering is not expected for the site.

Soil Borings/Tests and Groundwater

Currently no soil boring tests or groundwater tests have been made for this project.

Areas and Volume Statement

Urban Collection at Palmer Village site consists of 10.83 acres. The entire site will be disturbed with the proposed improvements. The construction will require approximately 23,000 cubic yards of fill, 16,600 cubic yards of cut, and a net fill volume of 6,400 cubic yards.

- Site Map - Refer to the attached maps for locations of BMPs and BMP Details including installation, maintenance, and inspection requirements.

Stormwater Management Controls

SWMP Administrator

The SWMP Administrator also known as Qualified Storm Water Manager will be Eric Kubley (722-977-3862) with Richmond American Homes. The SWMP Administrator shall be the individual(s), position, or title who is responsible for developing, implementing, maintaining, and updating the SWMP. The administrator will sufficiently qualified for the required duties per El Paso County Engineering Criteria Manual Appendix I.5. The activities and responsibilities of the administrator shall address all aspects of the facility's SWMP.

Erosion and Sediment Control

This project does not rely on control measures owned or operated by another entity. Erosion and sediment control measures that will be used during the project are as follows:

Structural Practices

Silt Fence

Purpose:

- To act as a barrier to interrupt runoff to allow sediment to settle out during construction operations.
- Used to filter shallow sheet flow.

Typical Applications:

- Perimeter control on lots or tracts
- Perimeter control around dirt stockpiles
- Utilized as a temporary feature.

Inlet Protection

Purpose:

- Intercept and filter sediment laden runoff and prevent it from entering storm sewer systems.

Typical Applications:

- For any type of storm drain inlet in streets, paved areas, or landscaped areas.
- Utilized as a temporary feature.

Outlet Protection

Purpose:

- To prevent scour at conveyance outlets by reducing the speed concentrated flows

Typical Applications:

- For any type of storm water conveyance outlet structures
- Utilized as a temporary feature.

Swale

Purpose:

- An earthen channel that conveys runoff.

Typical Applications:

- Along a construction perimeter to keep runoff on site

- At the top of a slope to direct runoff downstream
- Used as a temporary or permanent feature

Straw Bale Barrier (Check Dam)

Purpose:

- To act as a barrier to interrupt runoff to allow sediment to settle out during construction operations.

Typical Applications:

- Used in swales to prevent erosive velocities from developing

Erosion Control Blanket

Purpose:

- To protect soil from impact of precipitation and overland flow, and retain moisture for vegetation establishment.

Typical Applications:

- Can be installed on seeded areas for temporary use or can utilized for permeant use on landscape areas.

Sediment Basin

Purpose:

- To detain runoff long enough for sediment to settle out.

Typical Applications:

- Installed were a permanent detention basin is planned.
- In areas with more than one acre of disturbance
- Utilized as a temporary feature

Vehicle Tracking Control

Purpose:

- To reduce the amount of sediment leaving an area via vehicle's tires

Typical Applications:

- Long-term stockpiles (30days+)

- Construction access points
- On-site trailer parking/access

Stabilized Staging Area

Purpose:

- Designated onsite construction area for trailers, onsite construction parking, and material storage area.

Typical Applications:

- Material Storage
- Onsite Construction parking
- Temporary construction trailer parking

Non-Structural Practices

Temporary/Permanent Seeding

Purpose:

- To provide stabilization of disturbed soil

Typical Applications:

- Any disturbed areas
- Stockpiles
- Slopes

Mulching

Purpose:

- Apply to disturbed soils to reduce erosion by protecting bare soil from rainfall impact, increase infiltration, and reduce runoff.

Typical Applications:

- Use in conjunction with temporary or permanent seeding.
- Use as a means of temporary stabilization for areas that cannot be reseeded due to seasonal constraints
- Slopes

Potential Pollutant Sources

Potential pollution sources include; debris, emissions from construction vehicles, possible refueling incidents and accidental materials or chemical spills. Specific pollution components and their solutions are listed below:

- All exposed and stored soils – All exposed soils will be seeded and mulched upon completion of construction within the vicinity. Silt fence will be utilized to contain sediment deposited by runoff until seeding can take. Silt fence or a similar barrier should be installed as needed around long-term stockpiles (30 days+). Stockpiles that exceed 8 to 10 feet in height may require additional erosion protection by way of an additional row of silt. Vehicle Tracking Control should be installed at access points to minimize sediment deposition from vehicles exiting the site.
- Vehicle tracking of sediments – If sediment is tracked onto the street, a reasonable attempt shall be made to clean up sediment and mud deposits as soon as possible. A street sweeper may be used as necessary. Vehicle Tracking Control shall be installed at all vehicular access points to the site.
- Vehicle Tracking Control - The contractor will be responsible for placement of vehicle tracking control measures at the locations of site entrances. Vehicle tracking control measures include, but are not limited to: minimizing site access; street sweeping or scraping; tracking pads; graveled parking areas; wash racks; and contractor education. As well, if sediment is tracked onto the street, a reasonable attempt will be made to clean up any large deposits as soon as possible and if necessary, a street sweeper may be used.
- Management of contaminated soils – Appropriate measures will be taken to cleanup the cause of the contaminated soil. All contaminated soils must be disposed of offsite in an appropriate manner.
- Loading and unloading operations – Should a spill occur during a loading or unloading operation it shall be cleaned up immediately and the on-site personnel shall be contacted.

- Outdoor storage activities – Materials with potential to contaminate stormwater runoff will be stored so as to prevent/minimize exposure of toxic materials. Storage areas containing toxic materials shall be designated accordingly. Onsite areas used for material storage that are exposed to the elements, namely precipitation, shall be inspected for evidence of, or the potential for, pollutants entering the drainage system.
- Vehicle, equipment maintenance, and fueling – All designated fueling and maintenance areas shall be located a minimum of 100 feet from any drainage course whenever possible. If the fueling area is located on a pervious surface, the area shall be covered with a non-pervious lining so as to prevent soil contamination by way of infiltration. Any spillage shall be cleaned up immediately.
- Significant dust or particulate generating processes – Dust-reducing measures will be taken during construction until appropriate seeding and mulching can be placed. A water truck capable of misting soils susceptible to wind dispersion may be used.
- Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc. – Oil, grease, coolants, etc. that leak onto the soil or impervious surface should be cleaned up as soon as possible and on-site personnel notified.
- On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.) – Dumpsters will be utilized as needed to remove trash from the site. Any waste material found on-site or generated by construction activities will be disposed of in a manner that prevents polluting of storm water discharges. In the event that waste is to be stored on-site, it shall be in an area located a minimum of 100 feet from any drainage course whenever possible. Whenever waste is in a porous container, it shall be in an area enclosed by a 12-inch high compacted earthen ridge (or equal measure). If the enclosed waste area is located on porous soil, the area shall be covered with a non-porous lining to prevent soil contamination. Whenever precipitation is predicted, the waste shall be covered with a non-porous cover, anchored on all sides to prevent its removal by wind, in order to prevent precipitation from leaching out potential pollutants from the waste.

- Non-industrial waste sources such as worker trash and portable toilets – All portable toilets should be kept a minimum of 50 feet from state waters and 10 feet from storm water inlets. They will be secured at all four corners to prevent overturning and cleaned on a weekly basis. They will be inspected daily for spills.
- Landscaping Materials – Materials may be stored temporarily in the street until work is completed. If top-soil, mulch, or similar material is to be kept in the street or gutter overnight, containment measures should be taken to minimize any pollution discharge potential.
- Other areas or procedures where potential spills can occur – No other areas have been identified at this time.

Other Potential Pollution

Exact location of the following potential pollution sources will be determined and documented during construction.

- Concrete washout - The contractor will be responsible for placement of concrete washout area. They will be placed such that concrete washout activities do not result in the discharge of materials, or contribute pollutants to stormwater runoff.
- Batch Plant - A dedicated asphalt or concrete batch plant is not planned to be utilized. If plans change and at such time a batch plant is used it will be the responsibility of the contractor to update the SWMP report and plans in addition to receiving/obtaining all necessary permits.
- Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment – concrete truck/equipment washing will take place in a designated concrete wash-out area. Said area shall be placed a minimum of 100' from any drainage/water sources and shall serve to contain wash water generated by equipment

washing. Remnants of concrete and cement that are left behind at the concrete washout area(s) shall be transported and disposed of offsite.

Material Handling, and Spill Prevention and Response

There will be a designated individual on-site who will receive training on what to do when a hazardous spill occurs. There will be a small spill kit on-site containing clean-up supplies, emergency contact information, and report(s) to document occurrences.

Spills must be cleaned up as soon as possible and contaminated soil/materials must be properly disposed of off-site.

Timing Schedule

Development of the project site will follow standard construction sequencing characteristic of site construction. There will be no phasing for this project site. The anticipated start date is late spring 2021. The anticipated date of completion and final stabilization is fall 2021. Sequencing of development will commence in the following manner:

1. Installation of initial temporary erosion control measures as noted on the plans. Implementation of BMPs shall precede initial construction operations. The time schedule may vary depending on plan approvals and weather. The initial BMP's for this project shall include silt fencing as shown on the plans, vehicle tracking control at the staging entrance, a stabilized staging area, a concrete washout area, and installation of inlet protection around existing inlets that are subject to debris or sediment deposition.
2. Site clearing and grading will occur within the project limits.
3. Subgrade preparation and compaction for hardscaped areas.
4. Installation of underground utilities and connections to main lines.
5. Installation of concrete and asphalt pavement, along with curb and gutter, and following is structure development.
6. Install signs and permanent striping.
7. Installation of site landscaping and removal of temporary erosion controls and final site cleanup should not occur until site vegetation is fully restored. Once full site stabilization

has been achieved, all temporary BMP's should be removed and final site cleaning performed.

Permanent Stabilization

Seeding and mulching will be utilized to replace vegetation in areas where existing ground cover was disturbed. Seeding and mulching shall be per El Paso County requirements (See Engineering Criteria Manual, Chapter 3.4). Final Stabilization will be completed once construction activities have ceased and 70% of the vegetative cover for the site has been re-instated, as compared to pre-disturbance levels, or once equivalent permanent erosion control measures have been implemented (pavement, concrete, etc.).

Owner Inspection & Maintenance of Construction BMP'S

All necessary BMPs will be installed and maintained until the completion of the project. Long term stormwater management may begin once final stabilization of the site has been implemented.

Inspections of erosion & sediment control measures will occur every 14 days and within 24 hours of any precipitation or snowmelt 'event' that incurs runoff. The operator shall keep a record of inspections. Uncontrolled release of mud, muddy water, or measurable quantities of sediment found off the site shall be recorded with a brief explanation as to the measures taken to prevent future releases as well as any measure taken to clean up the sediment that has left the site. Any items in need of correction must occur as soon as possible to ensure continuous implementation of BMPs. Based on the results of the inspection and the description of potential pollutant sources, pollution prevention and control measures shall be revised and modified as appropriate as soon as practicable after such inspection. The SWMP Administrator must sign the inspection log.

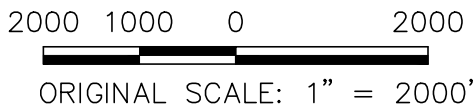
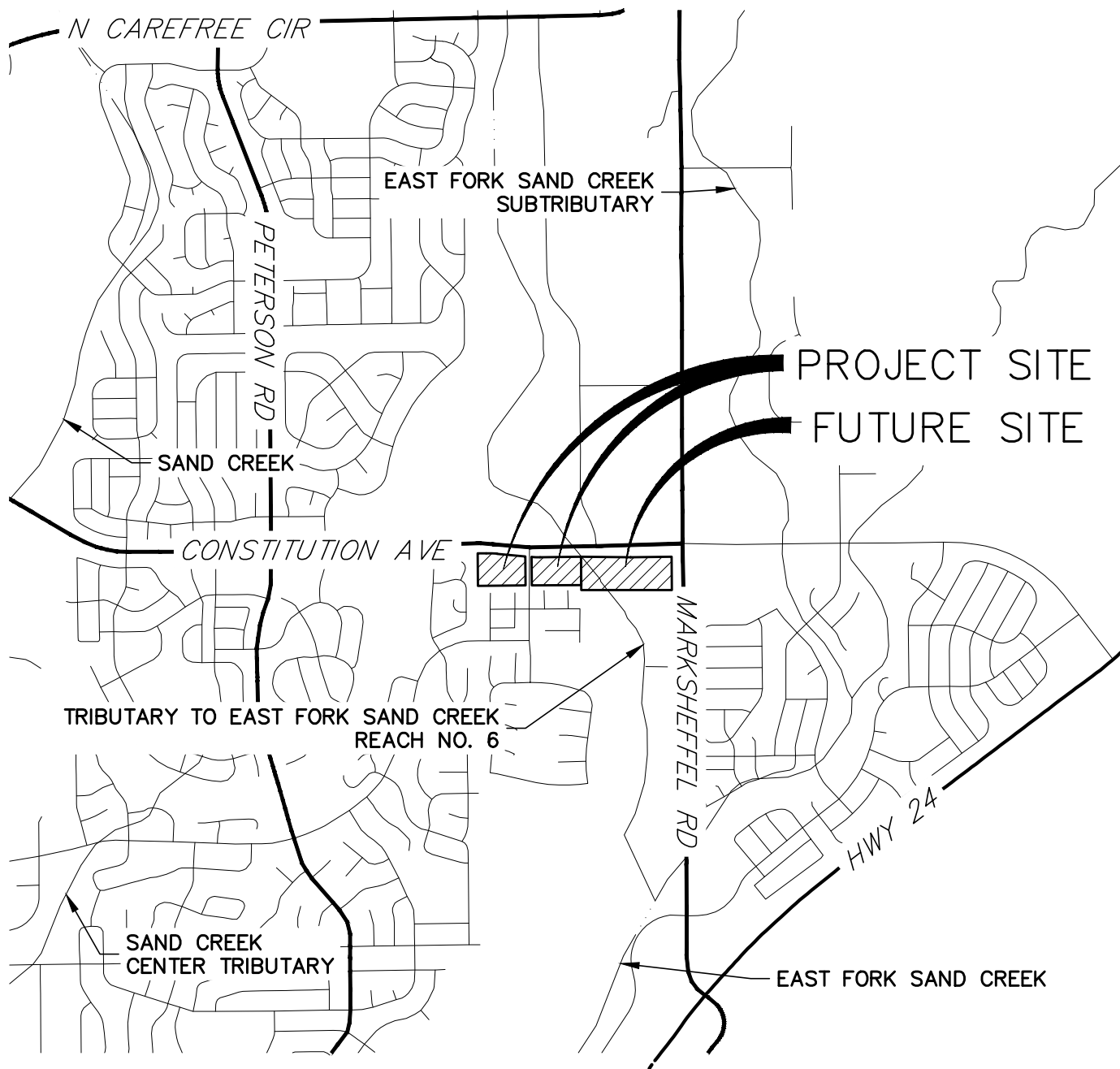
All temporary and permanent erosion and sediment control facilities shall be maintained and repaired as needed to assure continued performance of their intended function. Silt fences will require periodic replacement. Sediment traps and sediment basins shall be cleaned when accumulated sediments equal approximately one-half of trap storage capacity. Both sediment

basins will be converted to permanent detention and water quality ponds. Contractor shall remove sediment and debris that has been collected in basin depression to ensure that the basin meets the design grades of the permanent detention and water quality pond. The storm lines shall also be cleaned and free of sediment once the site becomes stabilized. Also, refer to the attached GESC Plans for additional installation, inspection, and maintenance requirements.

This report is a living document and is to be continuously reviewed and modified as part of the overall process of evaluating and managing stormwater quality issues on the site. The SWMP Administrator shall amend the SWMP when there is a change in design, construction, operation or maintenance of the site which would require the implementation of new or revised BMPs or if the SWMP proves to be ineffective in achieving the general objectives of controlling pollutants in the storm water discharges associated with construction activity or when BMPs are no longer necessary and are removed.

APPENDIX A – VICINITY MAP

X:\2510000.all\2514901\Drawings\Blocks\2514901_VicinityMap.dwg, Drainage, 5/29/2020 8:55:07 AM, CS



APPENDIX A: VICINITY MAP
 URBAN COLLECTION AT
 PALMER VILLAGE
 JOB NO. 25149.01
 06/01/2020
 SHEET 1 OF 1



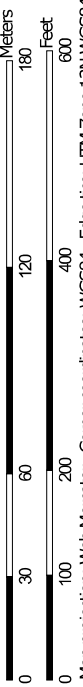
Centennial 303-740-9393 • Colorado Springs 719-593-2593
 Fort Collins 970-491-9888 • www.jrengineering.com

APPENDIX B – SOILS MAPS

Hydrologic Soil Group—El Paso County Area, Colorado
























Map Scale: 1:2,200 if printed on A landscape (11" x 8.5") sheet.



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

MAP LEGEND

Area of Interest (AOI)	
	Area of Interest (AOI)
Soils	
Soil Rating Polygons	
	A
	A/D
	B
	B/D
	C
	C/D
	D
	Not rated or not available
Soil Rating Lines	
	A
	A/D
	B
	B/D
	C
	C/D
	D
	Not rated or not available
Soil Rating Points	
	A
	A/D
	B
	B/D

MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: El Paso County Area, Colorado
 Survey Area Data: Version 17, Sep 13, 2019

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

Date(s) aerial images were photographed: Apr 15, 2011—Jun 17, 2014

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

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
8	Blakeland loamy sand, 1 to 9 percent slopes	A	11.3	100.0%
Totals for Area of Interest			11.3	100.0%

Description

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

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

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

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

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

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

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

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

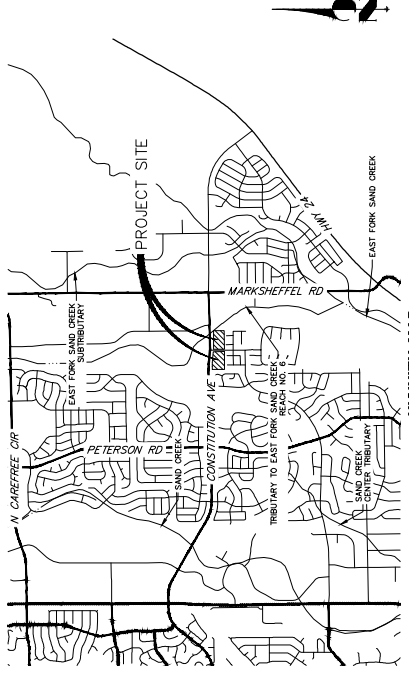
APPENDIX C – GRADING EROSION CONTROL PLANS AND DETAILS

URBAN COLLECTION AT PALMER VILLAGE

A PORTION OF THE NORTHEAST QUARTER OF SECTION 5
TOWNSHIP 14 SOUTH, RANGE 65 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF EL PASO, STATE OF COLORADO

GRADING AND EROSION CONTROL PLANS

PCD FILING NO: SF-20-028



SHEET INDEX

- 1 - COVER PAGE
- 2 - GRADING AND EROSION CONTROL PLAN
- 3 - BENCHMARK
- 4 - 5 - 6 - 7 - 8 - 9 - 10 -

BENCHMARK

BERNARD'S QUARTER OF SECTION 5, TOWNSHIP 14 SOUTH, RANGE 65 WEST, ASSUMED TO BEAR NORTH 89°02'52" EAST BETWEEN THE MONUMENTS SHOWN HEREOF.

BENCHMARK

5.2 INCH DIAMETER ALUMINUM CIP ON TOP OF THE SOUTH CURB OF FONY TRACT DRIVE APPROXIMATELY 250 FEET EASTERNLY OF THE CENTRELINE TO FEET EASTERNLY OF AN ELECTRICAL VAULT.
ELEVATION = 6223.04 (NOV 20)

ABBREVIATIONS

AD	AEROMATIC DIFFERENCE	IN	INTERSECTION
AE	ASBESTOS	INVT	INVERT
AR	ARCHITECT	IR	IRON
AS	ARCHITECT SOCIETY OF CIVIL ENGINEERS	IRCK	IRREGULAR BLOCK
ASB	ASBESTOS	LA	LANDSCAPE EASEMENT
ASBY	ASSEMBLY	LF	LINEAR FOOT
BB	BOX BASE	LS	LAND SURVEY
BN	BOUNDARY	LW	LETTER OF MAP REVISION
BR	BROWN	M	MATERIAL
BS	BLOW OFF VALVE	MA	MATERIAL
BV	BLOW OFF VALVE	MB	MATERIAL
BLVD	BOULEVARD	MDP	MASTER DEVELOPMENT PLAN
BNG	BOX NUT	MP	MANHOLE PLAN
BOV	BOX VALVE	MM	MANHOLE
BQ	BLOCK WARD	MMU	MANHOLE SUMP
BOV	BOULEVARD	MNS	MANHOLE SUMP
BOT	BOTTOM	MS	MATERIAL
BOV	BOX VALVE	MS	MATERIAL
BQ	BLOCK WARD	N	NORTH
BOV	BOULEVARD	NS	NON-REINFORCED CONCRETE
BOV	BOX VALVE	NR	NON-REINFORCED CONCRETE
BOV	BOX VALVE	NR	NON-REINFORCED CONCRETE
BOV	BOX VALVE	NR	NON-REINFORCED CONCRETE
BOV	BOX VALVE	NR	NON-REINFORCED CONCRETE

ID	Description	Unit	Quantity	Cost	
1	Installation	Unit	277	\$29,803.41	
2	Concrete Manhole Area	EA	5	\$1,500.00	
3	Outlet Protection	OP	EA	5	\$175.00
4	Outlet Protection	OP	EA	5	\$175.00
5	Outlet Protection	OP	EA	5	\$175.00
6	Temporary Staging Area	EA	5	\$500.00	
7	Temporary Staging Area	EA	5	\$500.00	
8	Temporary Staging Area	EA	5	\$500.00	
9	Check Basins	EA	5	\$26.00	
10	Stabilized Staging Area	EA	5	\$26.00	
11	Stabilized Staging Area	EA	5	\$26.00	
12	Stabilized Staging Area	EA	5	\$26.00	
13	Stabilized Staging Area	EA	5	\$26.00	
14	Stabilized Staging Area	EA	5	\$26.00	
15	Stabilized Staging Area	EA	5	\$26.00	
16	Stabilized Staging Area	EA	5	\$26.00	
17	Stabilized Staging Area	EA	5	\$26.00	
18	Stabilized Staging Area	EA	5	\$26.00	
19	Stabilized Staging Area	EA	5	\$26.00	
20	Stabilized Staging Area	EA	5	\$26.00	

OWNER/DEVELOPER STATEMENT

I, THE OWNER/DEVELOPER HAVE READ AND WILL COMPLY WITH ALL OF THE REQUIREMENTS SPECIFIED IN THE PLANS AND SPECIFICATIONS.

JASON POOK
RICHLAND AMERICAN HOMES
4359 S. MONACO STREET
DENVER, CO 80237

ENGINEER'S STATEMENT

JENIFER IRVINE, P.E.
DATE

ENGINEER'S STATEMENT
THIS GRADING AND EROSION CONTROL PLAN WAS PREPARED UNDER MY KNOWLEDGE AND BELIEF, SAID PLAN HAS BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR GRADING AND EROSION CONTROL PLANS AND I AM NOT PROVIDING ANY GUARANTEE OR WARRANTY BY ANY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARING THIS PLAN.

EL PASO COUNTY STATEMENT

THE COUNTY ENGINEER HAS REVIEWED THE GRADING AND EROSION CONTROL PLAN AND STATEMENT FOR COMPLIANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR EROSION CONTROL PLAN. THE COUNTY ENGINEER'S REVIEW IS LIMITED TO THE RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

CONTACTS

- OWNER/DEVELOPER
- ENGINEER/SURVEYOR
- FIRE PROTECTION DISTRICT
- WATER AND SEWER DISTRICT
- JURISDICTION

PREPARED FOR

RICHLAND AMERICAN HOMES
4359 S. MONACO STREET
DENVER, CO 80237

UNTIL SUCH TIME AS THESE DRAWINGS ARE APPROVED BY THE ARCHITECTURAL BOARD OF THE CITY OF DENVER FOR THE CITY OF DENVER'S USE. THESE DRAWINGS ARE APPROVED BY THE ARCHITECTURAL BOARD OF THE CITY OF DENVER FOR THE CITY OF DENVER'S USE.

DATE: 1/26/2021

DATE: 1/26/2021

DATE: 1/26/2021

DATE: 1/26/2021

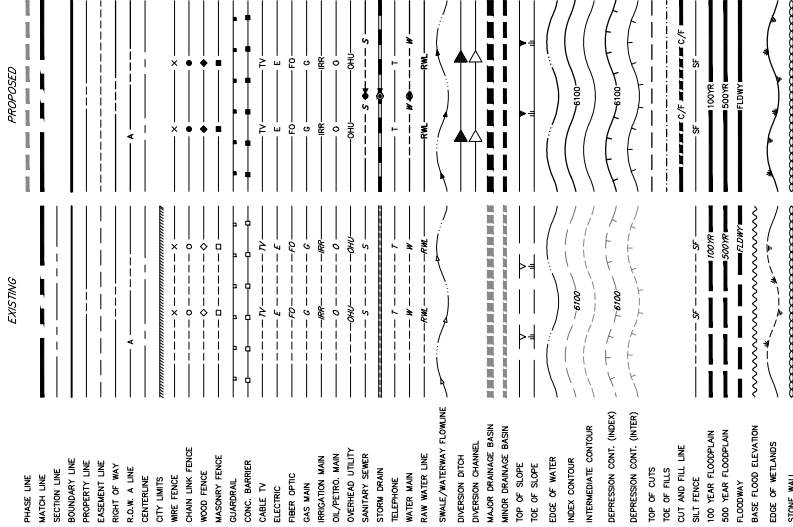
DATE: 1/26/2021

DATE: 1/26/2021

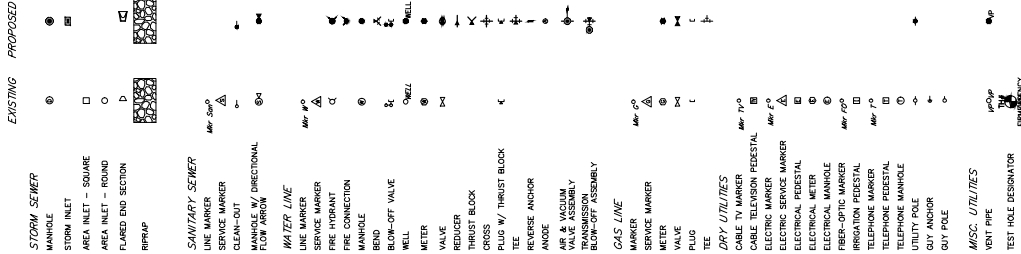
GRADING AND EROSION CONTROL STANDARD NOTES

1. CONTAMINATION 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 CHANNELS.
2. CONSTRUCTION SHALL BE CONDUCTED TO AVOID SOIL POLLUTION AND EROSION. CONSTRUCTION SHALL COMPLY WITH THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT EDITION OF THE RELEVANT JURISDICTION'S PAVED COUNTY STANDARDS, INCLUDING THE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED, AND APPROVED, IN WRITING.
3. THE STORMWATER MANAGEMENT PLAN (SWMP) FOR THIS PROJECT SHALL BE COMPLETED AND IN EFFECT AND A PERMITS AND EROSION CONTROL INSPECTOR 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 EROSION CONTROL PLAN HAS BEEN ISSUED, THE CONTRACTOR MAY INSTALL PERMITS AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR THE PROTECTION OF THE MEETING TIME AND PLACE WITH THE COUNTY STAFF.
5. CONTROL MEASURES MUST BE INSTALLED PRIOR TO COMMENCEMENT OF ACTIVITIES THAT COULD CONTRIBUTE POLLUTANTS INTO ANY WATERWAY OR RECEIVING WATERWAY. THESE MEASURES SHALL BE INSTALLED IMMEDIATELY UPON COMPLETION OF THE DISTURBANCE.
6. TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MAINTAINED AND REMAIN IN EFFECTIVE OPERATION UNTIL PERMANENT SOIL EROSION CONTROL MEASURES ARE IMPLEMENTED AND FINAL STABILIZATION MEASURES AT THE SITE AND IDENTIFY CHANGES TO THOSE CONTROL MEASURES ARE NEEDED TO ENSURE THE CONTROL MEASURES MUST BE INCORPORATED INTO THE STORMWATER MANAGEMENT PLAN.
7. TEMPORARY STABILIZATION SHALL BE IMPLEMENTED ON DISTURBED AREAS AND STOOPINGS WHERE GROUND DISTURBANCE 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 VEGETATION COVER WITH INDIVIDUAL PLANT DENSITY OF 75 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR VEGETATION COVER WITH INDIVIDUAL PLANT DENSITY OF 75 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED OR VEGETATION COVER WITH INDIVIDUAL PLANT DENSITY OF 75 PERCENT OF PRE-DISTURBANCE LEVELS ESTABLISHED.
9. ALL PERMANENT STORMWATER MANAGEMENT FACILITIES SHALL BE INSTALLED AS DESIGNED IN THE APPROVED PLANS. ANY CHANGES TO THESE FACILITIES SHALL BE APPROVED BY THE FIELD INSPECTOR PRIOR TO ANY REVISIONS.
10. EARTH DISTURBANCES SHALL BE CONDUCTED IN SUCH A MANNER SO AS TO EFFECTIVELY MINIMIZE ACCELERATED SOIL EROSION AND RESILIENT SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO AS TO PREVENT EROSION AND SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO AS TO PREVENT EROSION AND SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO AS TO PREVENT EROSION AND SEDIMENTATION. ALL DISTURBANCES SHALL BE DESIGNED, CONSTRUCTED, AND COMPLETED SO AS TO PREVENT EROSION AND SEDIMENTATION.
11. FINAL STABILIZATION MUST BE PROVIDED IN A MANNER THAT MEETS THE REQUIREMENTS OF THE STORMWATER MANAGEMENT PLAN. FINAL STABILIZATION MUST BE PROVIDED IN A MANNER THAT MEETS THE REQUIREMENTS OF THE STORMWATER MANAGEMENT PLAN. FINAL STABILIZATION MUST BE PROVIDED IN A MANNER THAT MEETS THE REQUIREMENTS OF THE STORMWATER MANAGEMENT PLAN.
12. ANY TEMPORARY OR PERMANENT FACILITY DESIGNED AND CONSTRUCTED FOR THE CONVEYANCE OF STORMWATER AROUND, UNDER, OR THROUGH A FACILITY SHALL BE DESIGNED AND CONSTRUCTED TO PREVENT EROSION AND SEDIMENTATION.
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 DRAIN INTO ANY WATERWAY. ANY SURFACE OR SUBSURFACE STORMWATER SHALL BE PRESENT, OR WITHIN 50 FEET OF A SURFACE WATER BODY, CREEK OR STREAM.
14. LEAVING THE SITE IN THE FORM OF SURFACE RUNOFF UNLESS AN APPROVED STATE DRAINING PERMIT IS IN PLACE.
15. EROSION CONTROL MEASURES OR OTHER PROTECTIVE COVERING SHALL BE USED ON SLOPES STEEPER THAN 3:1.
16. CONSTRUCTION SHALL BE CONDUCTED IN A MANNER THAT PREVENTS EROSION AND SEDIMENTATION FROM OCCURRING ON OR NEAR THE SITE. CONSTRUCTION SHALL BE CONDUCTED IN A MANNER THAT PREVENTS EROSION AND SEDIMENTATION FROM OCCURRING ON OR NEAR THE SITE.
17. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY. WASTE MATERIALS SHALL NOT BE TEMPORARILY PLACED OR STORED IN THE STREET, ALLEY, OR OTHER PUBLIC WAY.
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/CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, AND OTHER MATERIALS FROM THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL CONSTRUCTION DEBRIS, DIRT, TRASH, ROCK, AND OTHER MATERIALS FROM THE PROJECT SITE.
20. THE QUANTITY OF MATERIALS STORED ON THE PROJECT SITE SHALL BE LIMITED, AS MUCH AS PRACTICAL, TO THAT WHICH IS NECESSARY FOR THE PROJECT. MATERIALS SHALL BE STORED IN A NEAT, ORDERLY MANNER, WITH ORIGINAL MANUFACTURER'S LABELS.
21. NO CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMITTED BY THE USE OF SOIL CHEMICAL(S) BRAND NAMES AND INTERLOCKING CONTAINERS. CHEMICAL(S) HAVING THE POTENTIAL TO BE RELEASED IN STORMWATER ARE TO BE STORED OR USED ON-SITE UNLESS PERMITTED BY THE USE OF SOIL CHEMICAL(S) BRAND NAMES AND INTERLOCKING CONTAINERS.
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 ON-SITE AND TO PREVENT ANY LIQUID CHEMICALS FROM ENTERING STATE WATERS. ANY SURFACE OR SUBSURFACE STORMWATER SYSTEMS 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/CONTRACTOR AND THEIR AGENTS SHALL COMPLY WITH THE COLORADO WATER QUALITY CONTROL ACT (TITLE 26, COLORADO REV. STATUTE) AND THE LOCAL APPROXIMATELY 1. ALL APPROPRIATE PERMITS MUST BE OBTAINED BY THE CONTRACTOR PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL OR COUNTY AGENCIES, THE MOST RESTRICTIVE LAWS, RULES, OR REGULATIONS SHALL APPLY.
25. ALL CONSTRUCTION TRAFFIC MUST VERIFY THE LOCATION OF EXISTING UTILITY LOCATIONS.
26. PRIOR TO CONSTRUCTION THE PERMITTEE SHALL VERIFY THE LOCATION OF EXISTING UTILITY LOCATIONS.
27. A WATER SOURCE SHALL BE AVAILABLE ON SITE DURING BATHWORK OPERATIONS AND SHALL BE UTILIZED AS REQUIRED FOR THE PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF EXISTING UTILITY LOCATIONS.
28. THE SOURCE REPORT FOR THIS SITE HAS BEEN PREPARED BY ENTERT ENGINEERING, INC. (DATED 04/07/2020) 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 OR MORE ACRES OF LAND, THE PERMITTEE SHALL SUBMIT A STORMWATER MANAGEMENT PLAN (SWMP) 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 THE PROJECT AND EROSION CONTROL PLAN MAY BE A PART OF THE SUBMISSION OR APPLICATION (INTERESTED CONTACT: COLORADO DEPARTMENT OF PUBLIC HEALTH AND ENVIRONMENT, WATER QUALITY DIVISION, 1000 SOUTH WOODS PERMITS CENTER, DENVER, CO 80202-1520, ATRN: PERMITS UNIT).

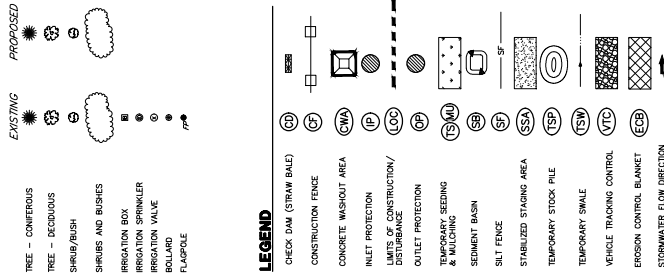
LAYER LINETYPE LEGEND



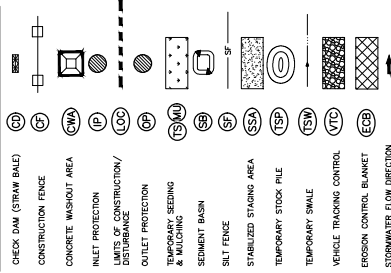
UTILITIES LEGEND



LANDSCAPE LEGEND



LEGEND



ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR.
ENGINEERING
GLEN D. ELLIS, P.E.
FOR AND ON BEHALF OF JR. ENGINEERING, INC.

FOR THE PROJECT OF PALMER VILLAGE
AT THE LOCATION OF PALMER VILLAGE
IN THE CITY OF DENVER, COLORADO
DATE: 07/26/21
DESIGNED BY: MCS
DRAWN BY: MCS
CHECKED BY: MCS

PREPARED FOR:
MCC HOLDINGS
4350 S MONACO STREET
DENVER, CO 80227
ATTN: JASON FROCK
720-977-5827

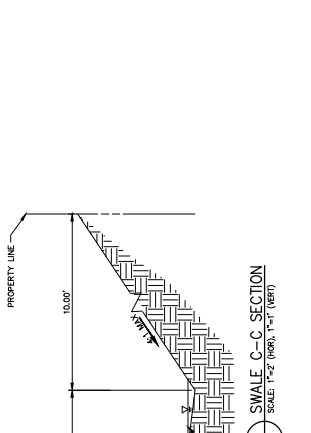
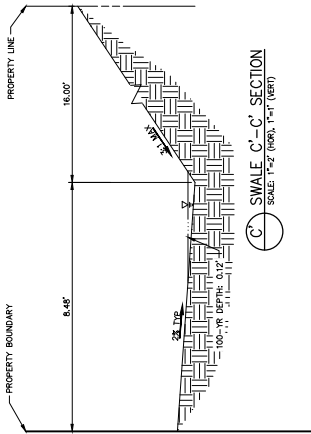
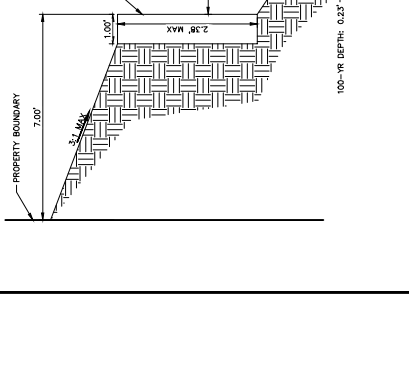
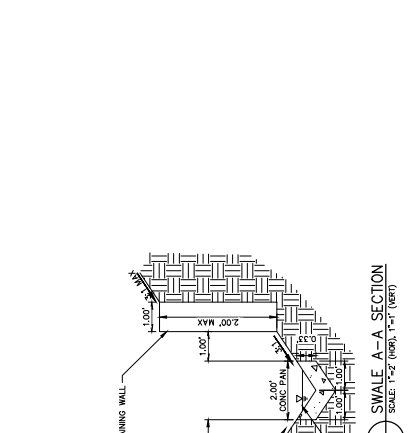
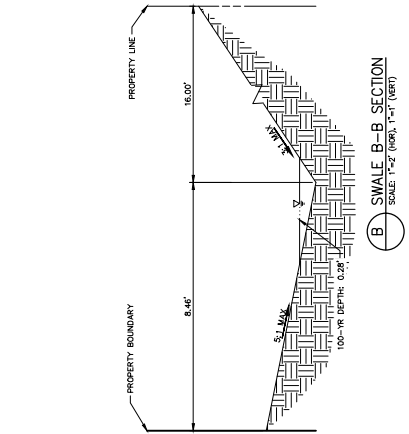
FOR THE PROJECT OF PALMER VILLAGE
AT THE LOCATION OF PALMER VILLAGE
IN THE CITY OF DENVER, COLORADO
DATE: 07/26/21
DESIGNED BY: MCS
DRAWN BY: MCS
CHECKED BY: MCS

FOR THE PROJECT OF PALMER VILLAGE
AT THE LOCATION OF PALMER VILLAGE
IN THE CITY OF DENVER, COLORADO
DATE: 07/26/21
DESIGNED BY: MCS
DRAWN BY: MCS
CHECKED BY: MCS

FOR THE PROJECT OF PALMER VILLAGE
AT THE LOCATION OF PALMER VILLAGE
IN THE CITY OF DENVER, COLORADO
DATE: 07/26/21
DESIGNED BY: MCS
DRAWN BY: MCS
CHECKED BY: MCS

PREPARED FOR
 MDC HOLDINGS
 RICHMOND AMERICAN HOMES
 4350 S MONACO STREET
 DENVER, CO 80227
 ATTN: JASON POK
 720-977-5827
 UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
 THESE DRAWINGS ARE APPROVED BY THE ENGINEER FOR THE PROJECT AND ON BEHALF OF JR ENGINEERS AND ARCHITECTS, P.C.
 GLENN D. ELLIS, P.E.,
 358651
 ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERS AND ARCHITECTS, P.C.
 Know what's below.
 Call before you dig.

JR ENGINEERING
 A Weathered Company
 Fort Collins 970-491-8888 • Colorado Springs 719-593-2583
 www.jr-engineering.com



SWALE SECTION NOTES
 1. ALL SWALE SECTIONS ARE FACING UPSTREAM (WEST).
 2. SURFACE FINISHES ARE TO BE DETERMINED BY OTHERS FOR PROPOSED SURFACE MATERIAL.

DESIGNED BY	MCS
DRAWN BY	MCS
CHECKED BY	
DATE	07/26/21
SCALE	1"=30'
H-SCALE	1"=30'
NO. REVISION	
BY	
DATE	

JR ENGINEERING
A Whelan Company
Central 303-740-0393 • Colorado Springs 719-593-2993
Fort Collins 970-491-9988 • www.jrengineering.com

MDC HOLDINGS
4350 S MONACO STREET
DENVER, CO 80227
ATTN: JASON POOK
720-977-5827

PREPARED FOR
RICHMOND AMERICAN HOMES
APPROVED BY THE
THREE SHANNONS ARE
APPROVED BY THE
ENGINEERS IN ENGINEERING
APPROVE THEIR USE
ONLY FOR THE PURPOSES
AUTHORIZED BY WRITER

ENGINEER'S STATEMENT
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
GEOFFREY D. ELLIS, P.E.
REGISTERED PROFESSIONAL ENGINEER
NO. 338881
STATE OF COLORADO

Know what's below.
Call before you dig.

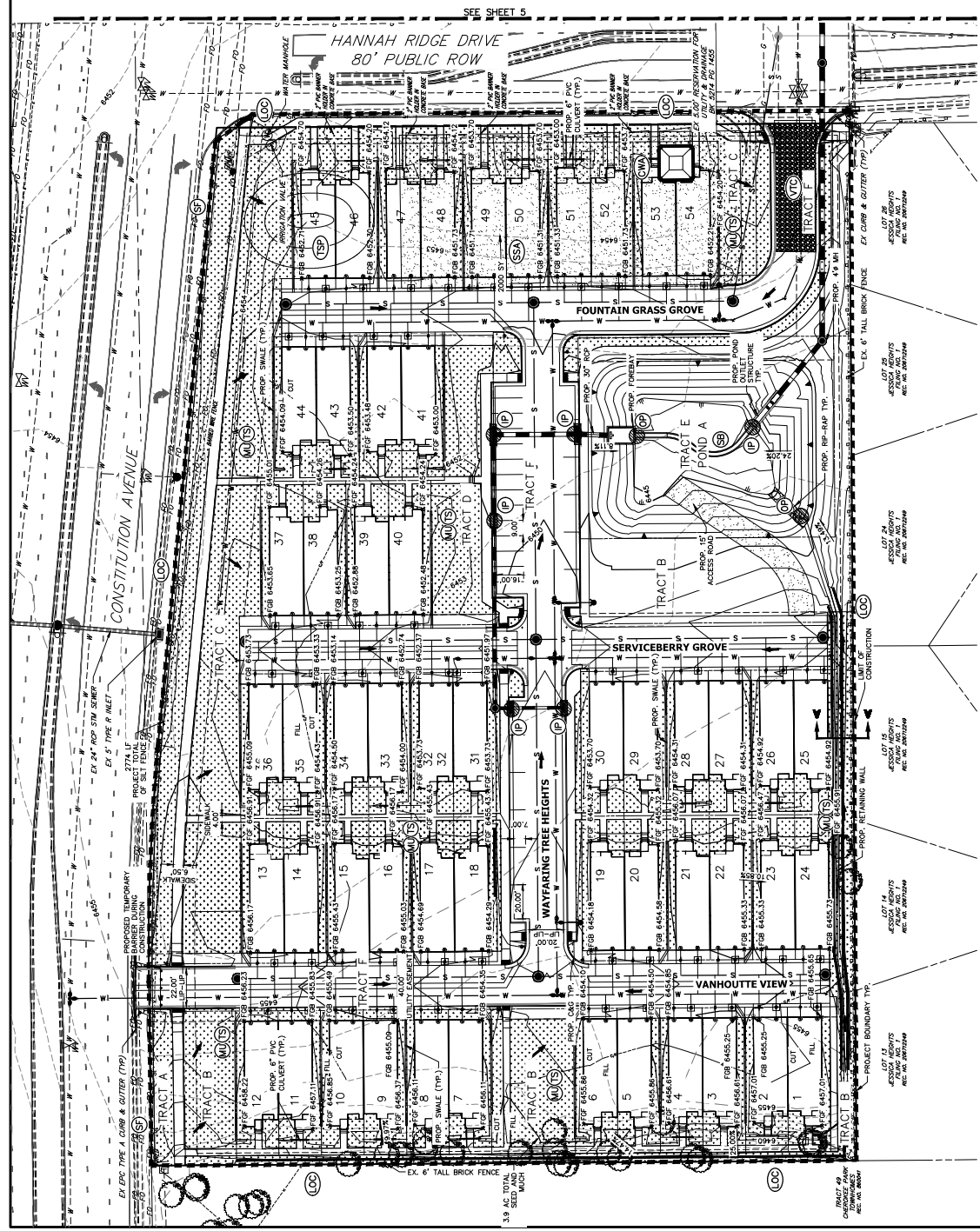
ORIGINAL SCALE: 1" = 30'
30 15 0 30 60

GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN NOTES

- SEE SHEETS 3-5 FOR LIMITS OF SEED AND MULCH AREAS, TOTAL AMOUNT TO RECEIVE. TEMPORARY SEED & MULCH IS 10.83 AC.
- ALL ROADWAY & DRIVE AREAS WILL BE ASPHALT.
- SEE STORM SEWER & POND IMPROVEMENT PLANS FOR DETAILED DESIGN OF PROPOSED
- POF= FINISHED GRADE @ FRONT OF BUILDING
- FPF= FINISHED GRADE @ REAR OF BUILDING
- THERE WILL BE NO PHASING FOR THIS PROJECT
- THE EXISTING VEGETATION CONSISTS OF NATIVE GRASSES, AND A FEW SHRUBS AND TREES.

LEGEND

- CHECK DAM (STRAW BALE)
- CONSTRUCTION FENCE
- CONCRETE WASHOUT AREA
- INLET PROTECTION
- LIMITS OF CONSTRUCTION/EXISTING VEGETATION
- OUTLET PROTECTION
- TEMPORARY SEEDING & MULCHING
- SEMENT BASIN
- SILT FENCE
- STABILIZED STAGING AREA
- TEMPORARY STOCK PILE
- TEMPORARY SWALE
- VEHICLE TRACKING CONTROL
- EROSION CONTROL BLANKET
- STORMWATER FLOW DIRECTION



THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY AND ALL WORK SHALL BE THE CAUSE OF ANY DAMAGE TO EXISTING UTILITIES AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

NO.	REVISION	DATE	BY
1	30"	07/26/21	MCS
2	30"		
3	30"		
4	30"		
5	30"		
6	30"		
7	30"		
8	30"		
9	30"		
10	30"		

H-SCALE: 1"=30'
 V-SCALE: 1"=3'
 ORIGINAL SCALE: 1"=30'
 Know what's below. Call before you dig.

ENGINEER'S STATEMENT

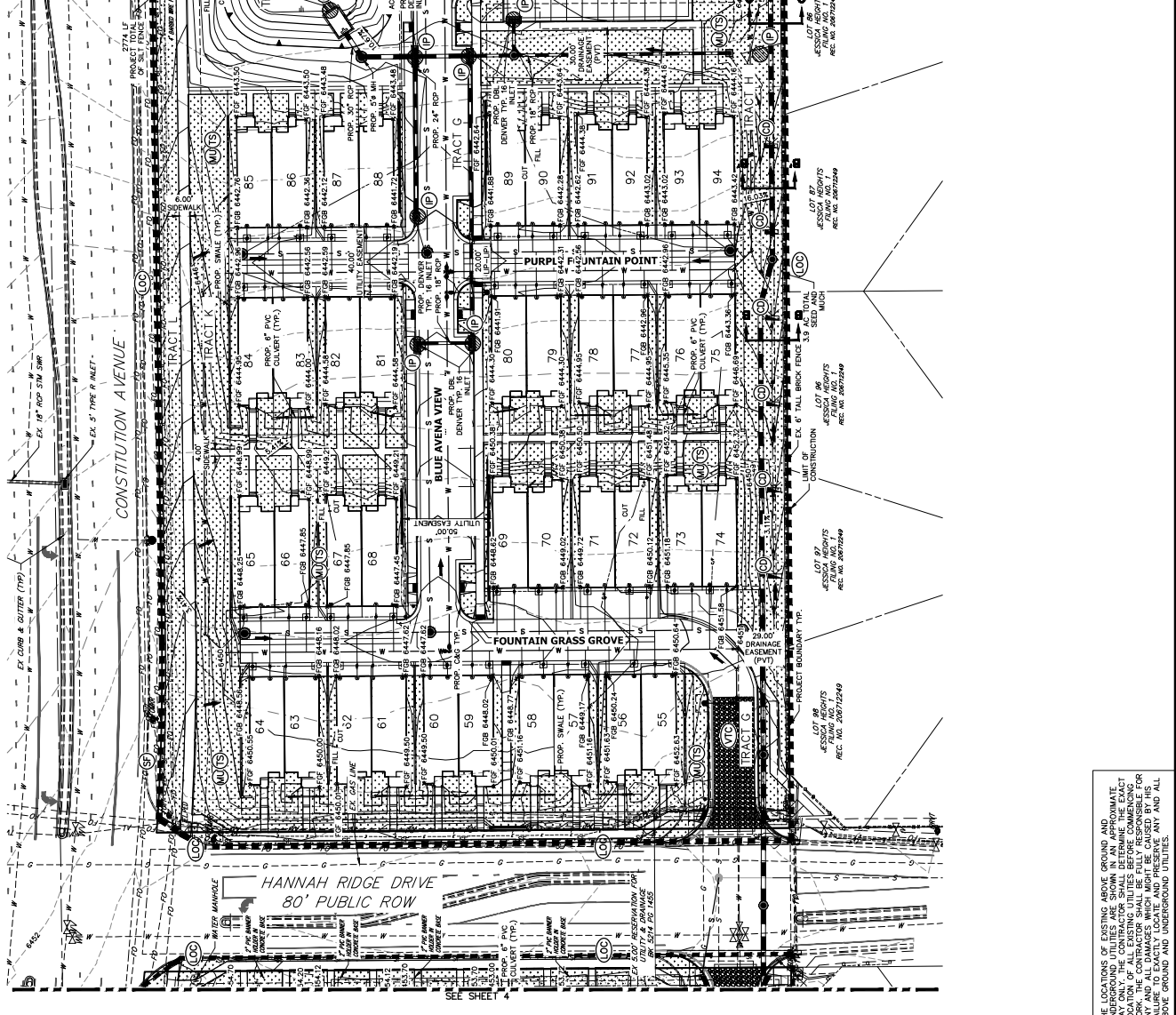
PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING, INC.
 I, GLEN D. ELLIS, P.E.,
 FOR AND ON BEHALF OF JR ENGINEERING, INC.

LEGEND

- 1. CHECK DAM (STRAW BALE)
- 2. CONSTRUCTION FENCE
- 3. CONCRETE WASHOUT AREA
- 4. INLET PROTECTION
- 5. LIMITS OF CONSTRUCTION/IMPROVEMENTS
- 6. OUTLET PROTECTION
- 7. TEMPORARY SEEDING & MULCHING
- 8. SEDIMENT BASIN
- 9. SILT FENCE
- 10. STABILIZED STAGING AREA
- 11. TEMPORARY STOCK PILE
- 12. TEMPORARY SWALE
- 13. VEHICLE TRACKING CONTROL
- 14. EROSION CONTROL BLANKET
- 15. STORMWATER FLOW DIRECTION

GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN NOTES

- SEE SHEETS 3-5 FOR LIMITS OF SEED AND MULCH AREAS, TOTAL AMOUNT TO RECEIVE TEMPORARY SEED & MULCH IS 10.83 AC.
- SEE SHEETS 3-5 FOR SHOWN AND PROPOSED EROSION CONTROL MEASURES.
- SEE SYSTEM SEVERITY & FLOOD IMPROVEMENT PLANS FOR DETAILED DESIGN OF PROPOSED IMPROVEMENTS.
- FSP= FINISHED GRADE @ FRONT OF BUILDING
- FBR= FINISHED GRADE @ REAR OF BUILDING
- THERE WILL BE NO PHASING FOR THIS PROJECT
- EXISTING VEGETATION CONSISTS OF NATIVE GRASSES, AND A FEW SHRUBS AND TREES.



SEE SHEET 4
 SEE SHEET 6
 THE LOCATIONS OF EXISTING ABOVE GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING ANY CONSTRUCTION. THE ENGINEER HAS CONDUCTED VISUAL SURVEYS AND ALL DAMAGES SHOULD BE FILED CAUSED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

DATE	07/26/21
DESIGNED BY	MCS
CHECKED BY	MCS
H-SCALE	1"=30'
V-SCALE	1"=3'
NO.	REVISION
BY	DATE

MDC HOLDINGS
 4350 S MONACO STREET
 DENVER, CO 80227
 ATTN: JASON POCK
 720-977-3827
 PREPARED FOR

J-R ENGINEERING
 A Member of the
 Central 303-740-8998 • Colorado Springs 719-592-2999
 Fort Collins 970-491-9999 • www.jrengr.com

UNTIL SUCH TIME AS APPROVED BY THE AGENCIES IN CHARGE OF THESE PERMITS ARE APPROVED BY THE AGENCIES FOR THE PURPOSES OF THE PERMITS. APPROVED BY WRITER AUTHORIZATION.

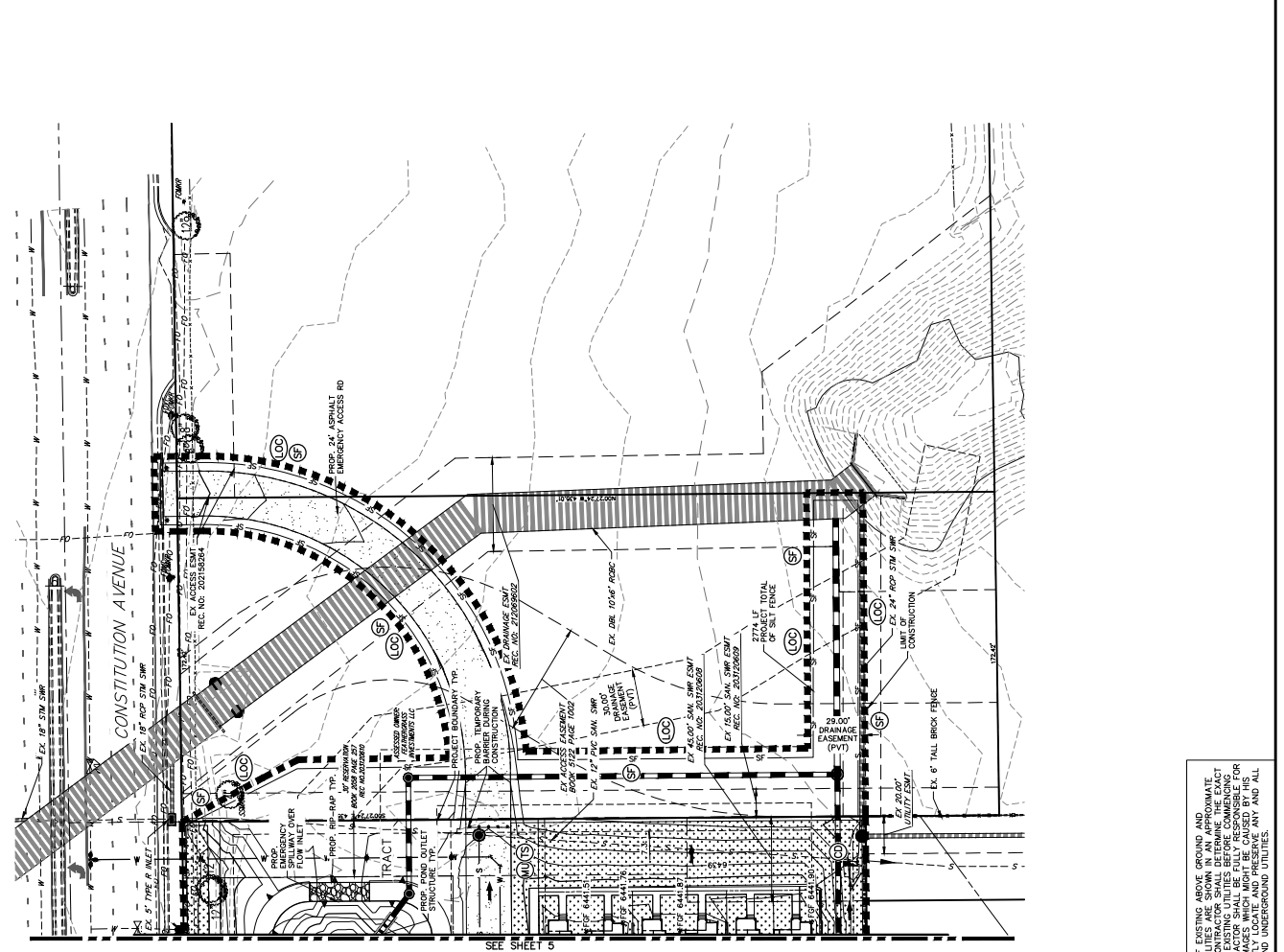
LEGEND

CONSTRUCTION FENCE	(SF)
CONCRETE WASHOUT AREA	(CA)
INLET PROTECTION	(IP)
OUTLET PROTECTION	(OP)
TEMPORARY SEEDING & MULCHING	(SM)
SEDIMENT BASIN	(SB)
SILT FENCE	(SF)
STABILIZED STAGING AREA	(SSA)
TEMPORARY STOCK PILE	(STP)
VEHICLE TRACKING CONTROL	(VTC)
EROSION CONTROL BLANKET	(ECB)
STORMWATER FLOW DIRECTION	(SFD)

GRADING, EROSION AND STORMWATER QUALITY CONTROL PLAN NOTES
 1. SEE SHEETS 3-5 FOR LIMITS OF SEED AND MULCH AREAS, TOTAL AMOUNT TO RECEIVE
 2. SEE SHEETS 3-5 FOR LIMITS OF SEED AND MULCH IS 10.83 AC.
 3. SEE STORM SEWER & FLOOD IMPROVEMENT PLANS FOR DETAILED DESIGN OF PROPOSED IMPROVEMENTS.
 4. FGP= FINISHED GRADE ● FRONT OF BUILDING
 5. FGR= FINISHED GRADE ○ REAR OF BUILDING
 6. THERE WILL BE NO PHASING FOR THIS PROJECT
 7. THE EXISTING VEGETATION CONSISTS OF NATIVE GRASSES, AND A FEW SHRUBS AND TREES.

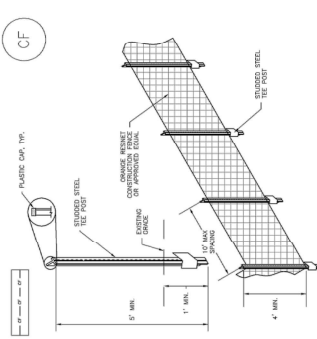


ENGINEER'S STATEMENT
 PREPARED UNDER MY DIRECT SUPERVISION AND ON BEHALF OF JR ENGINEERING
 GLEN D. ELLIS, P.E.
 FOR AND ON BEHALF OF JR ENGINEERING



THE LOCATIONS OF EXISTING GROUND AND UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE MANNER. THE EXISTING UTILITIES SHOWN ARE NOT A GUARANTEE OF LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING CONSTRUCTION. THE ENGINEER HAS CONDUCTED VISUAL SURVEY AND ALL DAMAGES SHOULD BE FILED CAUSED BY THIS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL ABOVE GROUND AND UNDERGROUND UTILITIES.

SM-3 Construction Fence (CF)



- CF-1. PLASTIC MESH CONSTRUCTION FENCE**
- CONSTRUCTION FENCE INSTALLATION NOTES
1. THE LOCATION OF CONSTRUCTION FENCE.
 2. CONSTRUCTION FENCE SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY.
 3. CONSTRUCTION FENCE SHALL BE COMPOSED OF GALVANIZED, CORROSION-RESISTANT MATERIAL.
 4. IF AT LEAST 18 INCHES HIGH, FENCE SHALL BE A POLYESTER FIBER SHEET.
 5. MAXIMUM SPACING FOR FENCE TIE PINS SHALL BE 12 INCHES.
 6. BOTTOM OF FENCE POST SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.

CF-2 Urban Drainage and Flood Control District
November 2010
Urban Storm Drainage Criteria Manual Volume 3

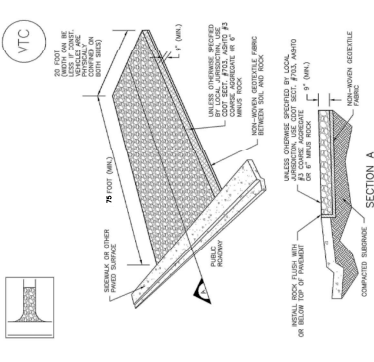
SM-3 Construction Fence (CF)

- CONSTRUCTION FENCE MAINTENANCE NOTES
1. INSPECT BUMP, LACK MOVEMENT AND MAINTAIN THEM IN EFFECTIVE OPERATING CONDITION.
 2. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 3. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 4. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 5. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 6. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 7. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 8. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 9. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 10. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.



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

SM-4 Vehicle Tracking Control (VTC)



VTC-1. AGGREGATE VEHICLE TRACKING CONTROL

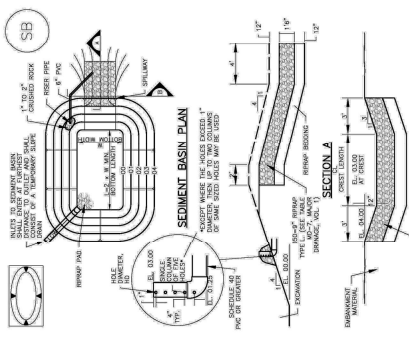
VTC-3 Urban Drainage and Flood Control District
November 2010
Urban Storm Drainage Criteria Manual Volume 3

SM-4 Vehicle Tracking Control (VTC)

- VEHICLE TRACKING CONTROL INSTALLATION NOTES
1. SEE PLAN VIEW FOR VEHICLE TRACKING CONTROL INSTALLATION NOTES.
 2. CONSTRUCTION SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY.
 3. CONSTRUCTION SHALL BE COMPOSED OF GALVANIZED, CORROSION-RESISTANT MATERIAL.
 4. IF AT LEAST 18 INCHES HIGH, FENCE SHALL BE A POLYESTER FIBER SHEET.
 5. MAXIMUM SPACING FOR FENCE TIE PINS SHALL BE 12 INCHES.
 6. BOTTOM OF FENCE POST SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.
 7. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 8. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 9. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 10. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.

VTC-6 Urban Drainage and Flood Control District
November 2010
Urban Storm Drainage Criteria Manual Volume 3

SC-7 Sediment Basin (SB)



- SC-7.1. SEDIMENT BASIN**
- SEDIMENT BASIN MAINTENANCE NOTES
1. SEE PLAN VIEW FOR SEDIMENT BASIN MAINTENANCE NOTES.
 2. CONSTRUCTION SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY.
 3. CONSTRUCTION SHALL BE COMPOSED OF GALVANIZED, CORROSION-RESISTANT MATERIAL.
 4. IF AT LEAST 18 INCHES HIGH, FENCE SHALL BE A POLYESTER FIBER SHEET.
 5. MAXIMUM SPACING FOR FENCE TIE PINS SHALL BE 12 INCHES.
 6. BOTTOM OF FENCE POST SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.
 7. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 8. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 9. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 10. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.

SC-8 Urban Drainage and Flood Control District
August 2013
Urban Storm Drainage Criteria Manual Volume 3

SC-7 Sediment Basin (SB)

TABLE SB-1. SIZE INFORMATION FOR STORMWATER SEDIMENT BASIN

Stormwater Basin Type	Stormwater Basin Length (ft)	Stormwater Basin Width (ft)	Stormwater Basin Depth (ft)	Stormwater Basin Volume (cu ft)
1	12	12	1	1728
2	12	12	2	3456
3	12	12	3	5184
4	12	12	4	6912
5	12	12	5	8640
6	12	12	6	10368
7	12	12	7	12096
8	12	12	8	13824
9	12	12	9	15552
10	12	12	10	17280
11	12	12	11	19008
12	12	12	12	20736
13	12	12	13	22464
14	12	12	14	24192
15	12	12	15	25920
16	12	12	16	27648
17	12	12	17	29376
18	12	12	18	31104
19	12	12	19	32832
20	12	12	20	34560
21	12	12	21	36288
22	12	12	22	38016

- SEDIMENT BASIN MAINTENANCE NOTES
1. SEE PLAN VIEW FOR SEDIMENT BASIN MAINTENANCE NOTES.
 2. CONSTRUCTION SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY.
 3. CONSTRUCTION SHALL BE COMPOSED OF GALVANIZED, CORROSION-RESISTANT MATERIAL.
 4. IF AT LEAST 18 INCHES HIGH, FENCE SHALL BE A POLYESTER FIBER SHEET.
 5. MAXIMUM SPACING FOR FENCE TIE PINS SHALL BE 12 INCHES.
 6. BOTTOM OF FENCE POST SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.
 7. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 8. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 9. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 10. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.

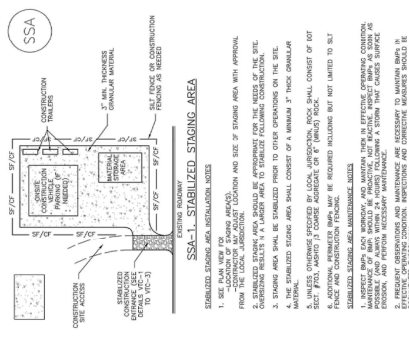
SC-9 Urban Drainage and Flood Control District
August 2013
Urban Storm Drainage Criteria Manual Volume 3

SC-7 Sediment Basin (SB)

- SEDIMENT BASIN MAINTENANCE NOTES
1. SEE PLAN VIEW FOR SEDIMENT BASIN MAINTENANCE NOTES.
 2. CONSTRUCTION SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY.
 3. CONSTRUCTION SHALL BE COMPOSED OF GALVANIZED, CORROSION-RESISTANT MATERIAL.
 4. IF AT LEAST 18 INCHES HIGH, FENCE SHALL BE A POLYESTER FIBER SHEET.
 5. MAXIMUM SPACING FOR FENCE TIE PINS SHALL BE 12 INCHES.
 6. BOTTOM OF FENCE POST SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.
 7. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 8. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 9. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 10. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.

SC-8 Urban Drainage and Flood Control District
August 2013
Urban Storm Drainage Criteria Manual Volume 3

SM-6 Stabilized Staging Area (SSA)



- SM-6.1. STABILIZED STAGING AREA**
- STABILIZED STAGING AREA INSTALLATION NOTES
1. SEE PLAN VIEW FOR STABILIZED STAGING AREA INSTALLATION NOTES.
 2. CONSTRUCTION SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITY.
 3. CONSTRUCTION SHALL BE COMPOSED OF GALVANIZED, CORROSION-RESISTANT MATERIAL.
 4. IF AT LEAST 18 INCHES HIGH, FENCE SHALL BE A POLYESTER FIBER SHEET.
 5. MAXIMUM SPACING FOR FENCE TIE PINS SHALL BE 12 INCHES.
 6. BOTTOM OF FENCE POST SHALL BE SECURELY FASTENED TO THE TOP, MIDDLE, AND BOTTOM OF EACH POST.
 7. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 8. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 9. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.
 10. MAINTAIN PROPER CLEARANCE FROM THE SURFACE OF THE ROADWAY TO THE TOP OF THE FENCE.

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

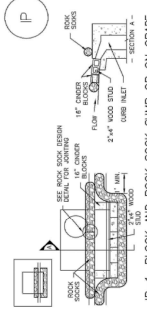
811 Know what's below. Call before you dig.

ENGINEER'S STATEMENT
I HAVE REVIEWED THE PROJECT AND I AM Satisfied WITH THE APPLICATION ON THIS PROJECT.

SCOTT D. ELIAS, P.E.
REGISTERED PROFESSIONAL ENGINEER
NO. 318661

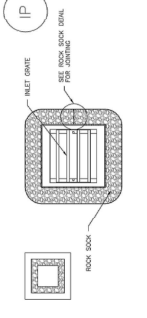
FOR AND ON BEHALF OF J.R. ENGINEERING

SC-6 Inlet Protection (IP)



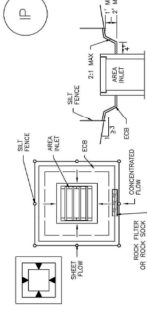
IP-1. BLOCK AND ROCK SOCK SUMP OR ON-GRADE INLET PROTECTION
GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

SC-6 Inlet Protection (IP)



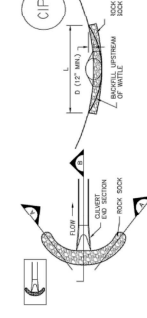
IP-3. ROCK SOCK SUMP/AREA INLET PROTECTION
GENERAL INLET PROTECTION INSTALLATION NOTES
1. THE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

SC-6 Inlet Protection (IP)



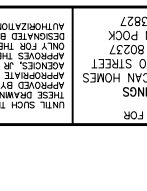
IP-5. EXCAVATION INLET PROTECTION
GENERAL INLET PROTECTION INSTALLATION NOTES
1. THE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

SC-6 Inlet Protection (IP)



IP-6. STRAW BALE FOR SUMP INLET PROTECTION
GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE STRAW BALE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

SC-6 Inlet Protection (IP)



IP-7. CULVERT INLET PROTECTION
GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR ROCK SOCK REQUIREMENTS AND JOINTS.

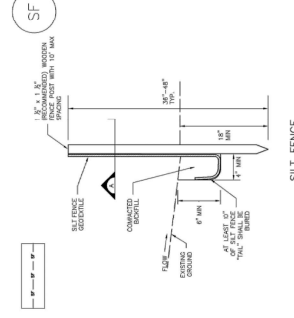
IP-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

SC-6 Inlet Protection (IP)

GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE DESIGN OF INLET PROTECTION.
2. TYPE OF INLET PROTECTION (IP) TO BE USED SHOULD BE DETERMINED BY ENGINEER.

IP-3 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

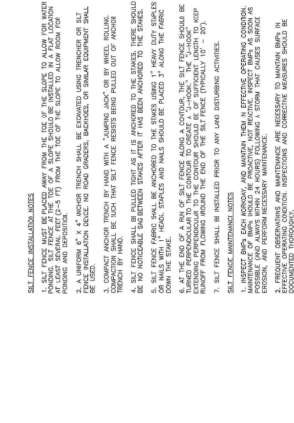
SC-1 Silt Fence (SF)



SILT FENCE INSTALLATION NOTES
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. SILT FENCE SHOULD BE PLACED AT AN ANGLE OF AT LEAST 15 DEGREES TO THE FLOW OF WATER.

IP-2 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

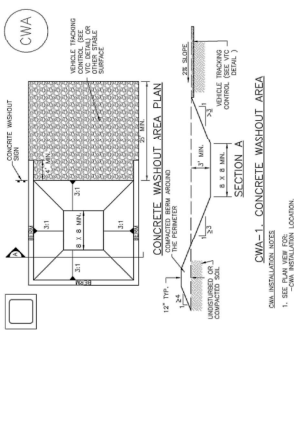
SC-1 Silt Fence (SF)



SILT FENCE INSTALLATION NOTES
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. SILT FENCE SHOULD BE PLACED AT AN ANGLE OF AT LEAST 15 DEGREES TO THE FLOW OF WATER.

IP-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

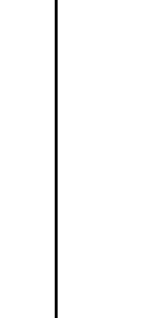
SC-1 Silt Fence (SF)



CWA-1. CONCRETE WASHOUT AREA
GENERAL INSTALLATION NOTES
1. SEE CWA-1 DESIGN DETAIL FOR CONCRETE WASHOUT AREA AND JOINTS.

IP-8 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

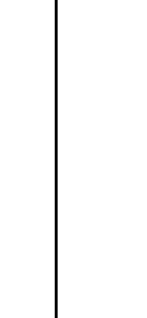
SC-6 Inlet Protection (IP)



IP-8. ROCK SOCK SUMP OR ON-GRADE INLET PROTECTION
GENERAL INLET PROTECTION INSTALLATION NOTES
1. SEE ROCK SOCK DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.

IP-4 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

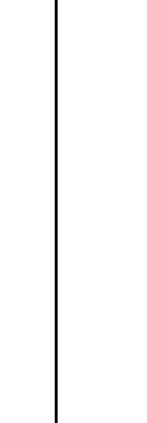
SC-1 Silt Fence (SF)



SILT FENCE INSTALLATION NOTES
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. SILT FENCE SHOULD BE PLACED AT AN ANGLE OF AT LEAST 15 DEGREES TO THE FLOW OF WATER.

IP-3 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

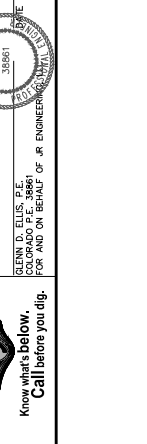
SC-1 Silt Fence (SF)



SILT FENCE INSTALLATION NOTES
1. SEE SILT FENCE DESIGN DETAIL FOR INSTALLATION REQUIREMENTS.
2. SILT FENCE SHOULD BE PLACED AT AN ANGLE OF AT LEAST 15 DEGREES TO THE FLOW OF WATER.

IP-6 Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3 August 2013

SC-1 Silt Fence (SF)



CWA-1. CONCRETE WASHOUT AREA
GENERAL INSTALLATION NOTES
1. SEE CWA-1 DESIGN DETAIL FOR CONCRETE WASHOUT AREA AND JOINTS.

J-R ENGINEERING logo and contact information: Central 303-740-0393 • Colorado Springs 719-693-2393

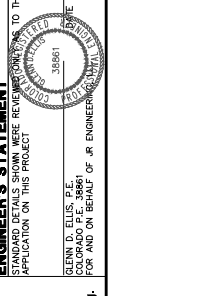
MDC HOLDINGS RICHMOND AMIRAN HOMES APPROVED BY THE ENGINEERS THESE DRAWINGS ARE UNTIL SUCH TIME AS APPROVED BY THE ENGINEERS ONLY FOR THE PURPOSES AUTHORIZATION. ATTN: JASON ROCK 720-977-5827

Table with columns: NO., REVISION, DATE, BY, DATE

REVISION DATE BY DATE

Table with columns: CHECKED BY, DESIGNED BY, DATE, SCALE

ENGINEER'S STATEMENT: I HAVE REVIEWED THESE DRAWINGS AND AM PREPARED TO SIGN AND SEAL THEM AS BEING ACCURATE AND COMPLETE FOR THE APPLICATION ON THIS PROJECT. GLENN D. ELIUS, P.E., P.E., FOR AND ON BEHALF OF J-R ENGINEERS, INC.



Know what's below. Call before you dig. 811 logo

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

Urban Drainage and Flood Control District Urban Storm Drainage Criteria Manual Volume 3

SPECIES (COMMON NAME)	SEASON	FRINGS OF PINE (COMMON NAME)		PLANTING DATE	PLANTING DENSITY (PLANTS/ACRE)
		FRINGS	WILLY		
1. SOUTHWEST WILLY	COOL	MARCH 15 - APRIL 30	20-30	12	12
2. SPRING WILLY	COOL	MARCH 15 - APRIL 30	20-30	12	12
3. WINTER WILLY	COOL	NOVEMBER 1 - DECEMBER 31	20-30	12	12
4. WILLY	WARM	MAY 15 - JULY 15	3-15	15-30	12
5. WILLY	WARM	MAY 15 - JULY 15	3-15	15-30	12
6. WILLY	WARM	MAY 15 - JULY 15	3-15	15-30	12
7. WILLY	WARM	MAY 15 - JULY 15	3-15	15-30	12
8. WILLY	COOL	SEPTEMBER 1 - DECEMBER 31	20-30	12	12
9. WILLY	COOL	SEPTEMBER 1 - DECEMBER 31	20-30	12	12
10. WILLY	COOL	SEPTEMBER 1 - DECEMBER 31	20-30	12	12

THIS TABLE TAKES INTO ACCOUNT RECOMMENDED ANNUAL GRASSES FOR THE REGION. THE TABLE IS FOR INFORMATION ONLY AND SHOULD BE USED IN CONSULTATION WITH A PROFESSIONAL ENGINEER OR ARCHITECT.

TABLE TS-1

TEMPORARY SEEDING NOTES

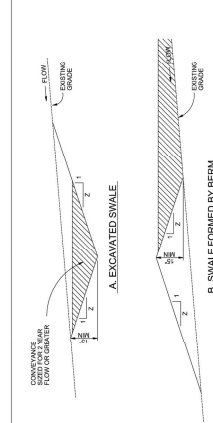
- INSTALLATION REQUIREMENTS**
1. SEEDING SHOULD BE DONE IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 2. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 3. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 4. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 5. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 6. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 7. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 8. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 9. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.
 10. SEEDING SHOULD BE DONE IN ALL AREAS WHERE EROSION CONTROL FABRIC IS NOT OCCURRING.

- MAINTENANCE REQUIREMENTS**
1. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 2. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 3. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 4. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 5. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 6. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 7. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 8. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 9. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.
 10. AREAS WHERE SEEDING IS NOT OCCURRING SHOULD BE COVERED WITH A LAYER OF EROSION CONTROL FABRIC.

Figure TS-1
Temporary Seeding Requirements

City of Colorado Springs Stormwater Quality

3-17

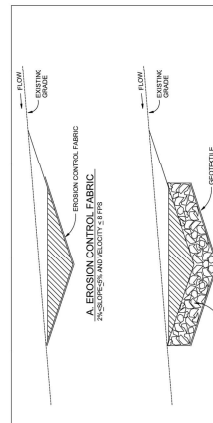


- TEMPORARY SWALE**
- INSTALLATION REQUIREMENTS**
1. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 2. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 3. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 4. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 5. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 6. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 7. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 8. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 9. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 10. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.

Figure TS-2
Temporary Swale Installation Requirements

City of Colorado Springs Stormwater Quality

3-10



- SWALE LINING**
- INSTALLATION REQUIREMENTS**
1. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 2. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 3. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 4. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 5. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 6. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 7. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 8. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 9. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 10. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.

Figure TS-3
Swale Linings Installation Requirements

City of Colorado Springs Stormwater Quality

3-11

Temporary Outlet Protection (TOP)

Description

Outlet protection helps to reduce erosion immediately downstream of a pipe, culvert, slope drain, window or other velocity flows. Typical outlet protection consists of a concrete curb or curb on one side, a grassed slope on the other, and a concrete curb on the opposite side.

Appropriate Uses

Outlet protection should be used when a concrete curb or curb on one side, a grassed slope on the other, and a concrete curb on the opposite side are not sufficient to prevent erosion.

Design and Installation

Outlet protection should be designed and installed in accordance with the following requirements:

- 1. Outlet protection should be installed in all areas where erosion is likely to occur.
- 2. Outlet protection should be installed in all areas where erosion is likely to occur.
- 3. Outlet protection should be installed in all areas where erosion is likely to occur.
- 4. Outlet protection should be installed in all areas where erosion is likely to occur.
- 5. Outlet protection should be installed in all areas where erosion is likely to occur.
- 6. Outlet protection should be installed in all areas where erosion is likely to occur.
- 7. Outlet protection should be installed in all areas where erosion is likely to occur.
- 8. Outlet protection should be installed in all areas where erosion is likely to occur.
- 9. Outlet protection should be installed in all areas where erosion is likely to occur.
- 10. Outlet protection should be installed in all areas where erosion is likely to occur.

Maintenance and Removal

Outlet protection should be maintained and removed in accordance with the following requirements:

- 1. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 2. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 3. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 4. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 5. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 6. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 7. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 8. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 9. Outlet protection should be maintained in all areas where erosion is likely to occur.
- 10. Outlet protection should be maintained in all areas where erosion is likely to occur.

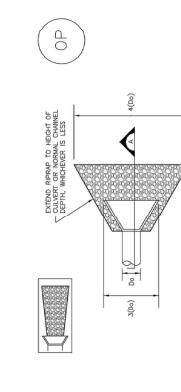
Outlet Protection	Yes	No
Function	Yes	No
Material	Yes	No
Construction	Yes	No
Maintenance	Yes	No
Site Management	Yes	No

Figure TS-1
Temporary Outlet Protection Requirements

City of Colorado Springs Stormwater Quality

3-14

Temporary Outlet Protection (TOP)



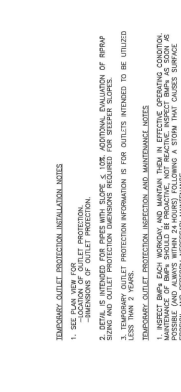
- TEMPORARY SWALE**
- INSTALLATION REQUIREMENTS**
1. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 2. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 3. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 4. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 5. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 6. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 7. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 8. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 9. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 10. TEMPORARY SWALES SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.

Figure TS-2
Temporary Swale Installation Requirements

City of Colorado Springs Stormwater Quality

3-10

Temporary Outlet Protection (TOP)



- SWALE LINING**
- INSTALLATION REQUIREMENTS**
1. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 2. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 3. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 4. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 5. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 6. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 7. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 8. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 9. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.
 10. SWALE LINING SHALL BE INSTALLED IMMEDIATELY AFTER THE EROSION CONTROL FABRIC IS INSTALLED.

Figure TS-3
Swale Linings Installation Requirements

City of Colorado Springs Stormwater Quality

3-11

PREPARED FOR
MDC HOLDINGS
RICHMOND AMERICAN HOMES
CENTER, CO 80227
4350 S MONACO STREET
DENVER, CO 80227
ATTN: JASON POCK
720-977-3827
AUTHORIZATION
UNTIL SUCH TIME AS
APPROVED BY THE
ENGINEER. THESE DRAWINGS ARE
THE PROPERTY OF MDC HOLDINGS
AND SHALL NOT BE REPRODUCED OR
COPIED IN ANY MANNER WITHOUT
THE WRITTEN AUTHORIZATION OF
MDC HOLDINGS.

REVISION
NO. N/A
DATE
BY
DATE

DESIGNED BY MCS
CHECKED BY MCS

DATE 07/26/21
SCALE N/A

PROJECT
URBAN COLLECTION AT
PALMER VILLAGE
GEC PLANS

SHEET 10 OF 10
JOB NO. 25164-01

TO THEIR
APPLICATION ON THIS PROJECT
ENGINEER'S STATEMENT
I, SCOTT W. WILSON, REGISTERED PROFESSIONAL ENGINEER, NO. 316861, STATE OF COLORADO, HEREBY CERTIFY THAT I AM THE ENGINEER OF RECORD FOR THE PROJECT.
GLENN D. ELLIS, P.E.,
REGISTERED PROFESSIONAL ENGINEER, NO. 316861, STATE OF COLORADO,
FOR AND ON BEHALF OF J.R. ENGINEERS, INC.

November 2010
Urban Storm Drainage Criteria Manual Volume 3
November 2010
Urban Storm Drainage Criteria Manual Volume 3

November 2010
Urban Storm Drainage Criteria Manual Volume 3

November 2010
Urban Storm Drainage Criteria Manual Volume 3

November 2010
Urban Storm Drainage Criteria Manual Volume 3

November 2010
Urban Storm Drainage Criteria Manual Volume 3