Storm Water Management Plan (SWMP)

For Construction Activities

Les Schwab Tire Center

Meridian Crossing Filing Number 1
Falcon, Colorado

Prepared for:

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Title: SWMP Administrator

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PPR 18-016

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I. Introduction

The objective of this Stormwater Management Plan (SWMP) is to identify, design, construct, and implement Best Management Practices (BMP's) to reduce to the greatest extent practical pollutants in storm water discharges during the construction of this project.

This SWMP includes, but is not limited to, all Erosion and Sediment Control Plans in the Contract Drawings including location maps, phasing drawings, detail sheets, and all applicable attachments: General Permit Application, Inspection Checklists, Logs, and Inactivation Notice. This SWMP is a living, breathing document with all updates and modifications during construction by authorized on-site personnel made part of the overall plan as they occur.

The EPA and local government agencies that oversee this project are:

Colorado Department of Public Health and Environment
Water Quality Control Division
WQCD-Permits
4300 Cherry Creek Drive South
Denver, Colorado 80246-1560
Ph. (303) 692-3517

El Paso County
2880 International Circle
Suite 110
Colorado Springs, Colorado 80910

II. Contact List of Operators

Prior to the commencement of earth disturbing activities, a Pre-Construction Meeting is to be held and the attached Pre-Construction Meeting Form will be fully executed listing all required contact names and numbers. Any subcontractor(s) required to be a co-permittee by local jurisdictions must be listed and provide a copy of their General Permit Application or co-permit to the owner and attached to this SWMP.

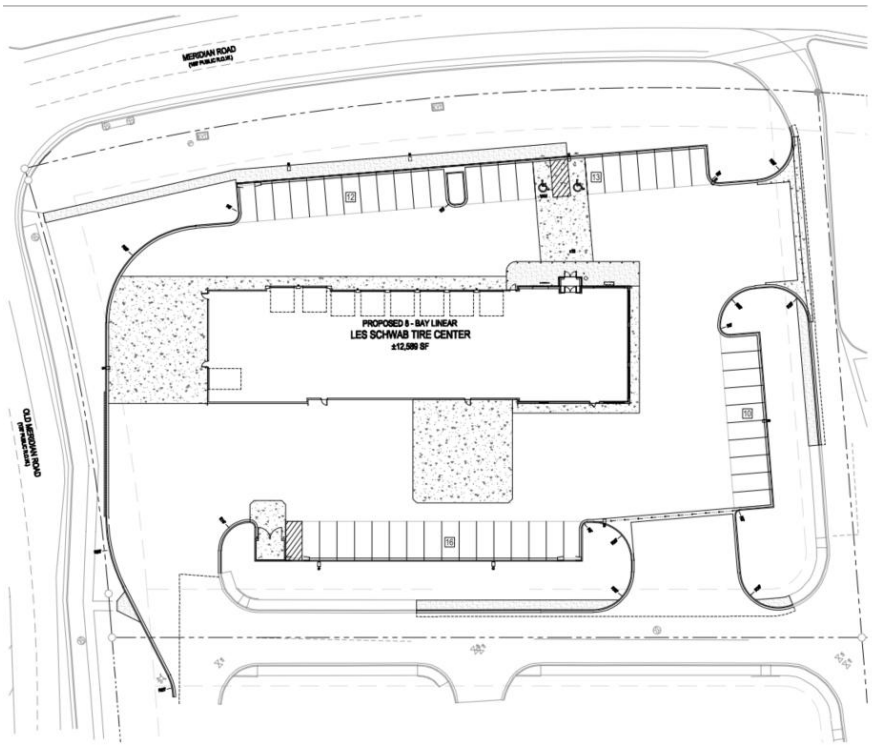
III. Project Description

A. Project Scope: The proposed development includes the construction of a 12,589 square foot Les Schwab Tire Center automotive service facility and the associated parking and landscape areas. The proposed building will be located centrally within the property, and will accommodate 8 service bays in addition to retail and shop space. Vehicle traffic will enter and exit the site via existing shared access drives providing connection to from Meridian Road.

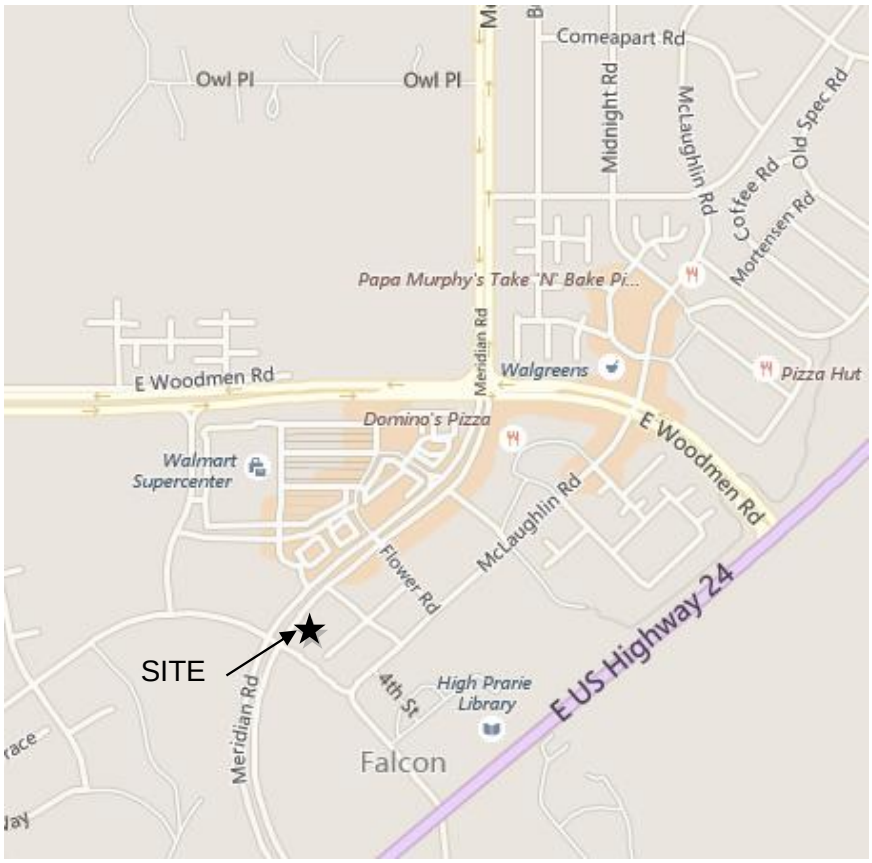
   No off-site construction is included within the proposed project.

B. Location and Maps: The site is located in Southeast Quarter of Section 32, Township 12 South, Range 64 West. More specifically, it is located Southeast of Meridian Road and the Northeast side of Old Meridian Road.

   Developments in the area include a Falcon Liquor Outlet to the East and a McDonalds Drive Thru Restaurant to the Northeast. There are additional retail commercial developments to the South and North of the site.



Site Plan



Vicinity Map

Galloway
Planning. Architecture. Engineering.

Erosion and sediment control construction drawings for this project are included in the attachments to this report. Please reference the following site drawings:

No.	Description	Date
C3.0	Erosion Control Plan	August 2018
C3.5	Erosion Control Details	August 2018

C. Site Area:

Site Area=	2.48 Acres ±
Offsite Disturbed Area=	0.27 Acres ±
Total Disturbed Area=	2.75 Acres±

D. Site Impervious Area: (% to total)

Before Development:	10 %
Post Development:	71 %

E. Runoff Volume:

Before Development:	22.0 (100-Year)
Post Development:	18.4 (100-Year)

F. Existing Site Topography/Use: The site is currently vacant and vegetation is native grasses, bare soil, and weeds making up approximately 90% of the site. The topography for the site generally slopes northwest at slopes ranging from 1% to 5%.

Storm water runoff either percolates on site or flows into the existing adjacent storm sewer system, eventually draining to St. Vrain Creek approximately 1.4 miles north of the site.

Per FEMA FIRM map 08041C0575-F dated March 17, 1997, the site is located within Flood Zone X, an area defined as being outside the 0.2% annual chance floodplain.

G. Site Soils: According to the NRCA National Cooperative Soil Survey – Web Soil Survey 2.0, site soils are made up of Blakeland Loamy Sand and Blakeland-Fluvaquentic Haplaquolls. These soils fall into Hydrologic soils group Type A. These soils are defined as having high infiltration rates.

H. Rainfall information:

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Total
Average rainfall in inches	.31	.35	.98	1.42	2.05	2.52	2.83	3.35	1.18	0.83	0.39	0.35	16.56

- The total average annual rainfall for the project area is: 16.56 inches
- The design rain event for this project is: 5.05-inch, 24-hour rainfall with a 100-year return interval

I. Name of Receiving Waters: Storm runoff either percolates on site, or overland flows into the adjacent Old Meridian Road storm system where it eventually discharges into an area retention pond approximately 1/4 miles south of the site, at Latitude 38˚55’55”N, Longitude 104˚36’50”W. Ultimate Receiving Waters are Falcon basin DPBS which is in a FEMA Designated Flood Plain.

J. Site Earthwork/Off-Site Borrow Location (If applicable):

The grading operations for this project will disturb approximately 2.48 acres. Cuts and fills ranging from -3 to +4 feet are expected during grading operations. The final grading could see a net fill of approximately 1,050 cubic yards. These quantities are approximate and do not include over-excavation or shrink/swell factors. The contractor is responsible for performing their own calculations for the earthwork. The Contractor is responsible for hauling and disposing of any excess cut in a manner compliant with all EPA and jurisdictional requirements. Once the grading is complete, the site will be stabilized with permanent landscaping as well as seeding and mulching. Refer to the project construction plans for location and limits of the grading operations.

<Location to be Determined, Contractor to Insert Location information below once determined.>

Additional information regarding borrow materials can be added at any time during the course of construction for this SWMP. An off-site borrow location for imported soil material that is solely designated to this project must be monitored under this SWMP. If the off-site borrow location services multiple locations it should have it's own NOI and SWMP by the owner/operator of the borrow location. The general contractor is responsible for verifying any and all sources of imported material to be within this SWMP.

K. Endangered Species: The CDPS General Permit does not require evaluation for Threatened and Endangered Species

L. Other Industrial Activities: None.

IV. Erosion and Sediment Controls

A. Sequence of Major Activities**:** BMP activities are anticipated to begin 10/9/18 up until final stabilization on 5/20/19. The order of activities will be as follows:

Phase 1

Implementation and installation of the following areas: trailer, parking, lay down, porta-potty, wheel wash, concrete washout, mason's area, fuel and material storage containers, solid waste containers, etc., immediately denote them on the site maps and note any changes in location as they occur throughout the construction phases.

1. *Install stabilized construction exit(s) and SWMP entrance sign.*
2. *Install silt fences on the site (clear only those areas necessary to install silt fence).*
3. *Prepare temporary parking and storage area.*

Halt all activities and contact the civil engineering consultant to perform inspection and certification of BMPs. General Contractor shall schedule and conduct storm water pre-construction meeting with engineer and all ground-disturbing contractors before proceeding with construction.

6. *Clear and grub the site as construction activities require.*
7. *Begin grading the site.*
8. *Start construction of building pad and structures*.

Phase II

1. *Temporarily seed, or apply erosion control blanket throughout construction, any denuded areas that will be inactive for 7 days or more.*
2. *Maintain silt fence, inlet protection and stabilized construction exits installed during Phase 1.*
3. *Install utilities, underdrains and storm sewers.*
4. *Install rip-rap around outlet structures as each structure is installed.*
5. *Install inlet protection around all storm sewer structures as each inlet structure is installed.*
6. *Permanently stabilize areas to be vegetated as they are brought to final grade.*
7. *Prepare site for paving.*
8. *Pave site.*
9. *Install appropriate inlet protection devices for paved areas as work progresses.*
10. *Complete grading and installation of permanent stabilization over all areas including out lots.*
11. *Contact civil engineering consultant after the site appears to be fully stabilized for an inspection.*
12. *Remove all temporary erosion and sediment control devices after approval of the civil engineering consultant and stabilize any areas disturbed by the removal of the BMP.*
13. *Continue daily inspection reports until the final daily inspection is signed off by the construction manager that the site is fully stabilized and the permit may be terminated.*

Note: the general contractor may complete construction-related activities concurrently only if all preceding BMPs have been completely installed. BMP-related steps in the above sequence are italicized for clarity.

B. Temporary Stabilization: Soil stockpiles and disturbed portions of the site where construction activity temporarily ceases are to be stabilized within **seven** days. Stabilization as defined in the above "Sequence of Major Activities." Straw mulch is to be tracked into place by machine, disked, or tackified to prevent blowing and washing away of the straw.

C. Dewatering: The area between check dams will not be allowed to discharge except through infiltration or by construction dewatering practices. Dewatering may also be necessary for on-site utility installations and foundation construction. Therefore, construction dewatering is anticipated and the General Contractor will be required to obtain a construction dewatering permit from Colorado Department of Health and Environment. The General Contractor will be required to submit a construction dewatering application at least 30 days prior to the anticipated date of discharge and pay the associated fees.

Discharges from dewatering operations must be directed through an appropriate pollution prevention/treatment measure, such as a pump discharge filter bag, sediment trap or sediment basin prior to being discharged from the site. Locations of pollution prevention/treatment measures shall be shown on the Site Maps once they are determined. Under no circumstances are discharges from dewatering operations to be discharged directly into streams, rivers, lakes or other areas off-site. Likewise, discharges into storm sewer systems that do not drain to a suitable on-site treatment facility, such as a basin, are also prohibited. Discharges from dewatering operations must also be conducted in a manner sufficient to prevent erosion from the discharge runoff.

D. Permanent Stabilization: Disturbed portions of the site where construction activities permanently cease are to be stabilized with permanent seed, mulch, sod, etc. per the final landscaping plan in the Construction Drawings. This permanent stabilization must occur within **seven** days of an area reaching final grade.

E. Structural Practices: The structural practices for this project include, but are not limited to, those specific items shown of the erosion and sediment control drawings listed in Section III. B. Other BMP's may be required or added with Owner's Civil Engineering Consultant's approval letter.
   1. General Best Method Practices (BMP's) are listed below:

      a. Diversion Ditches/Berms – They consist of temporary or permanent swales or dikes made of soil material, sometimes with impermeable liners, to control the flow of sediment laden surface water. Most of these BMP's will be coupled with check dams, sediment traps, and or basins.

      b. Check Dam – (Also known as Ditch Checks) Consists of rock, riprap, or other material designed to control concentrated flows of water in a ditch or swale. Water moving at a higher velocity will be pooled by a check dam to allow sediment to settle out before the surface water continues through the device.

      c. Construction Entrance – All access to and from the site will require the appropriately constructed access drive usually consisting of stone on top of a geotextile fabric. When conditions require, a truck wash station will also be utilized to prevent the tracking of sediment off site.

      d. Inlet protection – These devices may consist of a wood frame with silt fence fabric, straw bales, large rock or other pre-manufactured products designed to keep sediment-laden water from entering storm drain inlets.

      e. Sediment Basins / Traps – Consist of a depression created in the earth to collect sediment-laden surface water to allow settlement of suspended soil particles before storm water is allowed to exit the site. The size and construction of these devices are to be shown on the site-specific drawings. Accumulated sediment must be removed to maintain effectiveness.

      f. Silt Fence – This BMP consists of a synthetic permeable woven fabric that must only be used to control small surface water flows within this product's design capability. Silt fence must also be inspected and cleaned per the weekly checklist to maintain its effectiveness.

      g. Fiber Flocculent Tube (Wattles) - Wattles are placed at locations indicated on the Site Maps to capture any sediment being carried by overland flow across landscaped areas downhill of

an area being disturbed. Wattles shall be buried 2 to 4 inches below the surface and shall be supported by wood stakes on the downstream side.

V. Other Pollutant Controls

A. The following items are pollutant issues (outside of storm water sediment) during the construction process:

1. Dust Control - The general contractor will employ the use of water trucks or other dust control agents to reduce dust generated during construction to levels acceptable by local authorities and the owner's agent. Tackifiers may be used to hold soil in place and prevent dust. Manufacturer recommendations for application locations and rates must be used for dust control applications.

2. Concrete Waste (Washout from Ready Mix Trucks) - All concrete washouts will be in designated locations, noted by the general contractor on the job site erosion control plan. The concrete washout will be isolated and contained from storm water run-off. Excess liquid may be allowed to percolate into the ground on-site; it may not be discharged off site as runoff in any storm drainage conveyance. Off-site disposal, solids or liquids, only allowed to an appropriately licensed facility.

3. Equipment/Vehicle Maintenance – All on-site equipment shall receive regular maintenance by the contractors using the equipment to help prevent leaking of fluids or other pollutant discharges. The general contractor is responsible for overseeing that any onsite vehicle maintenance is handled appropriately and that all fluids and materials are disposed of properly.

4. Fuel Tanks – All onsite fuel tanks must meet all government standards including proper barriers for safety and containment of potential spills. The general contractor must note the location of any fuel tanks on the job site erosion control plan.

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

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

   In the event of an accidental spill, immediate action will be undertaken by the General Contractor to contain and remove the spilled material. All hazardous materials will be disposed of by the Contractor in the manner specified by federal, state and local regulations and by the manufacturer of such products. As soon as possible, the spill will be reported to the appropriate agencies. As required under the provisions of the Clean Water Act, any spill or discharge entering waters of the United States will be properly reported. The General Contractor will prepare a written record of any spill and associated clean-up activities of petroleum products or hazardous materials in excess of 1 gallon or reportable quantities, which ever is less. The General Contractor will provide notice to Owner immediately upon identification of a reportable spill.

   Any spills of petroleum products or hazardous materials in excess of Reportable Quantities as defined by EPA or the state or local agency regulations, shall be immediately reported to the EPA

National Response Center (1-800-424-8802) and the Colorado Department of Public Health and Environment (CDPHE) (1-877-518-5608).

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

The reportable quantity for hazardous materials can be found in 40 CFR 302 and http://a257.g.akamaitech.net/7/257/2422/08aug20031600/edocket.access.gpo.gov/cfr_2003/julqtr/pdf/40cfr302.6.pdf

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

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

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

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

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

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

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

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

6. Misc. Building Materials or Supplies – All materials that will become part of the permanent improvements are to be kept in sealed containers and maintained in an orderly fashion until installed. The general contractor will be responsible for monitoring any and all stockpiles of material and equipment on site.

7. Offsite Vehicle Tracking – Per the Structural Practices section, a stabilized construction entrance will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the

site are to be swept as necessary to remove any excess mud, dirt or rock tracked from the site. Dump trucks hauling loose material from the construction site are to be covered with a tarpaulin.

8. Sanitary Waste – All on site personnel are to utilize the temporary or permanent sanitary facilities provided on site by the general contractor. Sanitary waste is to be collected from the temporary/portable units a minimum of one time per week by a licensed sanitary waste management contractor, or as required by local regulation. The location of sanitary units is to be noted on the job site erosion control plan by the general contractor.

9. Solid Waste Material (Construction Debris) - No solid waste is to be allowed in storm water discharges. *On site burning or burying of waste material is prohibited.* All trash and construction debris from the site is to be deposited in dumpsters or proper hauling equipment. The dumpsters are to meet local and state solid waste management regulations and emptied as deemed necessary to an approved off site dump. The location of dumpsters is to be noted on the job site erosion control plan by the general contractor. All construction companies working on site will be responsible for the correct procedure in their waste disposal.

10. Non Stormwater Discharges - The General Permit for Storm Water Discharges Associated with Construction Activities prohibits most non-storm water discharges during the construction phase. Allowable non-storm water discharges that occur during construction on this project, which are covered by the General Permit, include:
    1. Emergency fire fighting activities;
    2. Un-contaminated springs;
    3. Landscape irrigation return flows.

    Construction dewatering water can not be discharged to surface waters or to storm sewer systems without separate permit coverage. The discharge of construction dewatering water to the ground, under specific conditions, may be allowed by the Stormwater Construction Permit when appropriate BMPs are implemented. Refer to section 4C for more information on dewatering.

    No other non-stormwater discharges are anticipated, or allowed by coverage of the CDPS General Permit.

11. Asphalt and Concrete Batch Plants – Shall not be permitted on-site.

VI. Inspection and Maintenance Procedures for Construction

A. The cornerstone of the maintenance procedure is the attached Inspection Report. Qualified owners representatives and general contractor site superintendents will be trained in the inspection and maintenance practices necessary for keeping the pollutant controls used in this SWMP in good working order. The site superintendent will be responsible for the daily oversight of the pollution controls along with the execution of the site inspection report in accordance with this SWMP. The owner's representative will also have periodic inspection requirements to ensure proper execution of site inspections and maintenance.

VII. Certification of Compliance with Federal, State, and Local Requirements

A. This Stormwater Management Plan reflects State of Colorado and County of El Paso Colorado requirements for storm water management and erosion and sediments control. This plan was prepared in accordance with the attached permit text. There are no other known applicable State or Federal requirements for sediment and erosion site plans (or permits); or storm water management site plans (or permits).

VIII. Post Construction Practices

A. Structures and Pollutants

1. The proposed development includes the construction of 12,589 square foot Les Schwab Tire Center automotive service facility and the associated parking and landscape areas. Storm runoff from the buildings, parking, and drive areas will be flow overland and via storm sewer pipes into an off-site stormwater pond.

2. The expected pollutants to be generated by this site should be typical of an automobile maintenance facility. Some of those sources include fluids from automobiles and trucks like oil, grease, fuel, antifreeze, and brake fluid, plus particulates created by or carried on vehicles and deposited on the site such as brake dust, rubber fragments from tires, and dirt picked up from or carried onto the site. In addition, trash generated by building occupants or blown onto the site may be found at times. Thermal pollution may also occur during rainfall events when the building roof or asphalt pavement is hot from significant sunlight prior to the rainfall.

3. The post construction measures used to minimize pollutants in waterways include regular monitoring and collection of trash and debris, and good housekeeping of delivered and stored operating/retail goods.

B. Maintenance Guidelines for Post Construction Operation

1. Maintenance of all storm water pollution prevention measures will be the responsibility of the on-site management staff. The maintenance guidelines consist mostly of good housekeeping measures. Any grassed or vegetated areas that experience erosion from rainfall events should be repaired and revegetated as soon as possible. Trash or litter should be picked up and properly disposed to prevent it from getting into the storm drainage system and downstream waterways. The detention and retention ponds will be monitored for sediment build up. Periodic removal of sediment should be done to keep the structures effective. Pavement areas should also be monitored for pollutants. Any large quantity of fluids such as oil, antifreeze, brake fluid, etc. found on the pavement should be reported to the office and the source determined, if possible, and removed from the site for maintenance or repair. Pavements should also be monitored for sediment coming from vegetated areas that drain onto the pavement. If sediment is found it should be cleaned off the pavement, and the source of the soil found and repaired as discussed above.

IX. Certification by Owner, General Contractor, and Engineer

A. OWNER'S STORMWATER MANAGEMENT PLAN CERTIFICATION

I certify under penalty of law this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated 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 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.

_____
Signature

_____
Printed Name

_____
Title

_____
Date:

B. GENERAL CONTRACTOR'S CERTIFICATION

I certify under penalty of law that I understand the terms and conditions of this Stormwater Management Plan and the permit text attached that authorizes the storm water discharges associated with industrial activity from the construction site identified as part of this certification.

An officer of the company or owner must sign.

_____
Signature

_____
Printed Name

_____
Title

_____
Date

C. ENGINEER'S CERTIFICATION

This report for the construction activities stormwater plan for Les Schwab Tire Center, Falcon, Colorado was prepared by me (or under my supervision) in accordance with the requirements of El Paso County and the Colorado Department of Public Health and Environment, and was designed to comply with the provisions thereof. I understand that El Paso County does not, and will not, assume liability for drainage facilities designed by others.

_____

Joseph D. Park
State of Colorado
No. 42470

Date _____

X. Attachments

- *General Permit Application* (State) and *Stormwater Construction Permit Application* (Local) ***(Contractor To Add)***
- *Final Permit, Colorado Discharge Permit System – Stormwater Certification* (State) ***(Contractor To Add)***
- *CDPS General Permit – Stormwater Discharges Associated with Construction Activity* ***(Contractor To Add)***
- Project Site Posting Document (For Construction Entrance)
- Pre-Construction Meeting Document (Includes contact list)
- Weekly Site Inspection Checklist
- Site Logs for Earthwork Activity, Spills, and EPA/Government Inspections
- Inactivation Notice ***(Contractor To Add)***
- Stormwater Management Plans
- Site Grading and Drainage Construction Drawings
- Landscape and Mitigation Plans

Construction Site Notice

For the CDPS General Permit

General Contractor Name:

_____

General Contractor Address:

_____

_____

_____

SWMP Administrator Contact/Number:

_____

_____

Project Name:

_____

_____

***The Stormwater Management Plan (SWMP) is on file in the field office.

Les Schwab Tire Center Stormwater Management Plan
Pre-Construction Meeting

Date: _____ Store Number/Location: _____

Attendees				
Description	**Name (Printed**	**Signature**	**Company/Firm**	**Phone #**
Required Attendees				
GC Superintendent				
GC Project Manager				
Les Schwab Tire Center				
Civil Engineer				
Additional Attendees				
Local EPA Rep				
Subcontractor				
Subcontractor				
Subcontractor				
Other				
Other				

All Stormwater Management Plans (SWMP) and Best Management Practices (BMP's) must be in place as required by local permitting authorities prior to the initiation of earth disturbing activity. The following items must be reviewed and checked off prior to earth disturbing work:

- ❑ A Copy of the *General Permit Application* (State)
- ❑ The original SWMP is on site and has been reviewed by all attendees.
- ❑ The proper sign, including a copies of the General Permit Application, *Final Permit, Colorado Discharge Permit System – Stormwater Certification* (State) is posted at the site entrance per the SWMP.
- ❑ All attendees acknowledge that the posted SWMP is a fluid document that must be updated in conjunction with the Field Inspection Reports.

Note any areas of the SWMP that need alterations or adjustments at this time:

_____
_____
_____
_____

Les Schwab Tire Center Stormwater Management Plan
Weekly Site Inspection Checklist

Summary of BMP (Best Management Practices)

Temporary Stabilization
This is the most effective BMP. All disturbed areas that will lie dormant for over [**7**] days must be stabilized within [**seven**] days of the date the area becomes inactive. The goal of temporary stabilization is to provide cover, quickly. Areas within [**50**] feet of a stream must be stabilized within [**two**] days of inactivity. This is accomplished by seeding with fast-growing grasses then covering with straw mulch. Apply only mulch between [**November 1**] and [**March 31**]. To minimize your costs of temporary stabilization, leave natural cover in place for as long as possible. Only disturb areas you intend to work within the next 21 days.

Construction Entrances
Construction entrances are installed to minimize off-site tracking of sediments. A heavy angular stone access drive must be installed at every point where vehicles enter or exit the site (reference the SWMP for designated locations). The SWMP must be updated if any alterations to construction entrances are made. Any track out of soil or sediment must be promptly swept up and must not be allowed to enter a storm drain system including drainage swales or ditches.

Sediment Ponds
This is the sediment control of choice for areas, which exceed the design capacity of silt fence or to control concentrated flows or runoff. There are two types of sediment ponds: sediment basins and sediment traps. A sediment trap is appropriate where the contributing drainage area is 10 acres or less. The outlet is an earthen embankment with a simple stone spillway. A sediment basin is appropriate for drainage areas larger than 10 acres. The outlet is an engineered riser pipe. Often a permanent storm water management pond, such as a retention or detention basin, can be modified to act as a sediment basin during construction. Reference the SWMP for size and location of sediment ponds. All sediment ponds, regardless of whether they are a trap or a basin and regardless of whether they will be come a permanent storm water pond, must provide a minimum storage of [**67**] cubic yards per acre of total contributing drainage area. Sediment ponds must be installed within [**seven**] days of first grubbing the area they control.

Silt Fence
This is a typically used at the perimeter of a disturbed area. It's only for small drainage areas on relatively flat slopes or around small soil storage piles. Not suitable where runoff is concentrated in a ditch, pipe, or through streams. For large drainage areas where flow is concentrated, collect runoff in diversion berms or channels and pass it through a sediment pond prior to discharging it from the site. As with all sediment controls, silt fence must be capable of ponding runoff so that sediment can settle out of suspension. Silt fence, in most cases, must be installed prior to earthwork on site and modified throughout the construction period. All silt fences must be labeled by station markings per the SWMP to better communicate areas of alteration and repair.

Inlet Protection
These must be installed on all yard drains and curb drains when these inlets do not drain to a sediment trap or basin. Even if there is a sediment trap or basin, inlet protection is still required, as it increases the overall sediment removal efficiency. If working properly, inlet protection will cause water to pond. If used on curb inlets, streets will flood temporarily during heavy storms. Reference the SWMP for locations and coordinate placement with the local governing authority before installing inlet protection that may affect public roads. Proper maintenance of inlet protection is required to allow the correct operation of the inlet protection.

Permanent Stabilization
All areas at final grade must be permanently stabilized within [**seven**] days of reaching final grade. This is usually accomplished by using seed and mulch, but special measures are sometimes required. This is particularly true in drainage ditches or on sleep slopes. Reference the SWMP and landscaping drawings for permanent stabilization methods for this Project. Permanent seeding should be done [**March 1**] to [**May 31**] and [**August 1**] to [**September 30**]. Dormant seeding can be done from [**November 20**] to [**March 15**]. At all other times of the year, the area should be temporarily stabilized until a permanent seeding can be applied.

Non-Sediment Pollution Control
Although sediment is the pollutant of greatest concern on most construction sites, there are other sources of pollution: storage tanks, concrete wash out, solid or liquid waste. Most of these BMPs are easy to implement with a little bit of planning and go a long way toward keeping your site clean and organized. Please be sure to inform all contractors how these BMPs and the SWMP affect their operations on the site, particularly those that will be working near a stream.

Outflow or Discharge Point(s)
Any pipe or concentrated storm water flow that leaves the disturbed property into an off-site storm system or surface stream, ditch, etc. Inspecting the discharge/outflow point(s) during or immediately after a rainfall or run-off event is a valuable tool in assessing the effectiveness of the site's BMPs to control sediment and pollution.

(See next page for Stormwater Management Plan Weekly Site Inspection Checklist)

Site Log for Earthwork Activities

Store Number/Location: _____
General Contractor: _____

This log is to document areas, dates, and durations for earthwork activities on the site. When possible corresponding notations are to be made on the job site Erosion Control Plans. Dates of temporary or permanent stabilization for a specific area should be highlighted.

Description of Area or Location: _____
Contractor(s) Performing Activity: _____
Start Date: _____ End Date: _____
Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):
_____
_____

Description of Area or Location: _____
Contractor(s) Performing Activity: _____
Start Date: _____ End Date: _____
Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):
_____
_____

Description of Area or Location: _____
Contractor(s) Performing Activity: _____
Start Date: _____ End Date: _____
Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):
_____
_____

Description of Area or Location: _____
Contractor(s) Performing Activity: _____
Start Date: _____ End Date: _____
Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):
_____
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Description of Area or Location: _____
Contractor(s) Performing Activity: _____
Start Date: _____ End Date: _____
Description of Activity (Clearing, Grading, Temporary or Permanent Stabilization):
_____
_____

Page ____ of ____

Site Spill Log

Store Number/Location: _____
General Contractor: _____

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

Date / Time of Spill:
_____
Name / Title: _____
Material Spilled and Approximate Quantity:
_____
_____
Weather Conditions: _____
Phase of Construction: _____(Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present:
_____
_____
Containment Actions Taken and Authorities Notified:
_____
_____
_____
_____
_____
_____

Date / Time of Spill: _____
Name / Title: _____
Material Spilled and Approximate Quantity:
_____
_____
Weather Conditions: _____
Phase of Construction: _____(Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present:
_____
_____
Containment Actions Taken and Authorities Notified:
_____
_____
_____
_____
_____
_____

Page ____ of ____

Les Schwab Tire Center SWMP
Site Visit Log for EPA/Government Officials

Store Number/Location: _____
General Contractor: _____

Any site visits or inspections must be reported to the owner's representative immediately, but no later than 24 hours of occurrence.

Date: _____ Name of Inspector: _____
Title and Agency of Inspector: _____
Weather Conditions: _____
Phase of Construction: _____(Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present:
_____
_____
Comments:
_____
_____
_____
_____

Date: _____ Name of Inspector: _____
Title and Agency of Inspector: _____
Weather Conditions: _____
Phase of Construction: _____(Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present:
_____
_____
Comments:
_____
_____
_____
_____

Date: _____ Name of Inspector: _____
Title and Agency of Inspector: _____
Weather Conditions: _____
Phase of Construction: _____(Clearing, Rough Grading, Building, Paving, Etc.)
Contractor(s) Representatives Present:
_____
_____
Comments:
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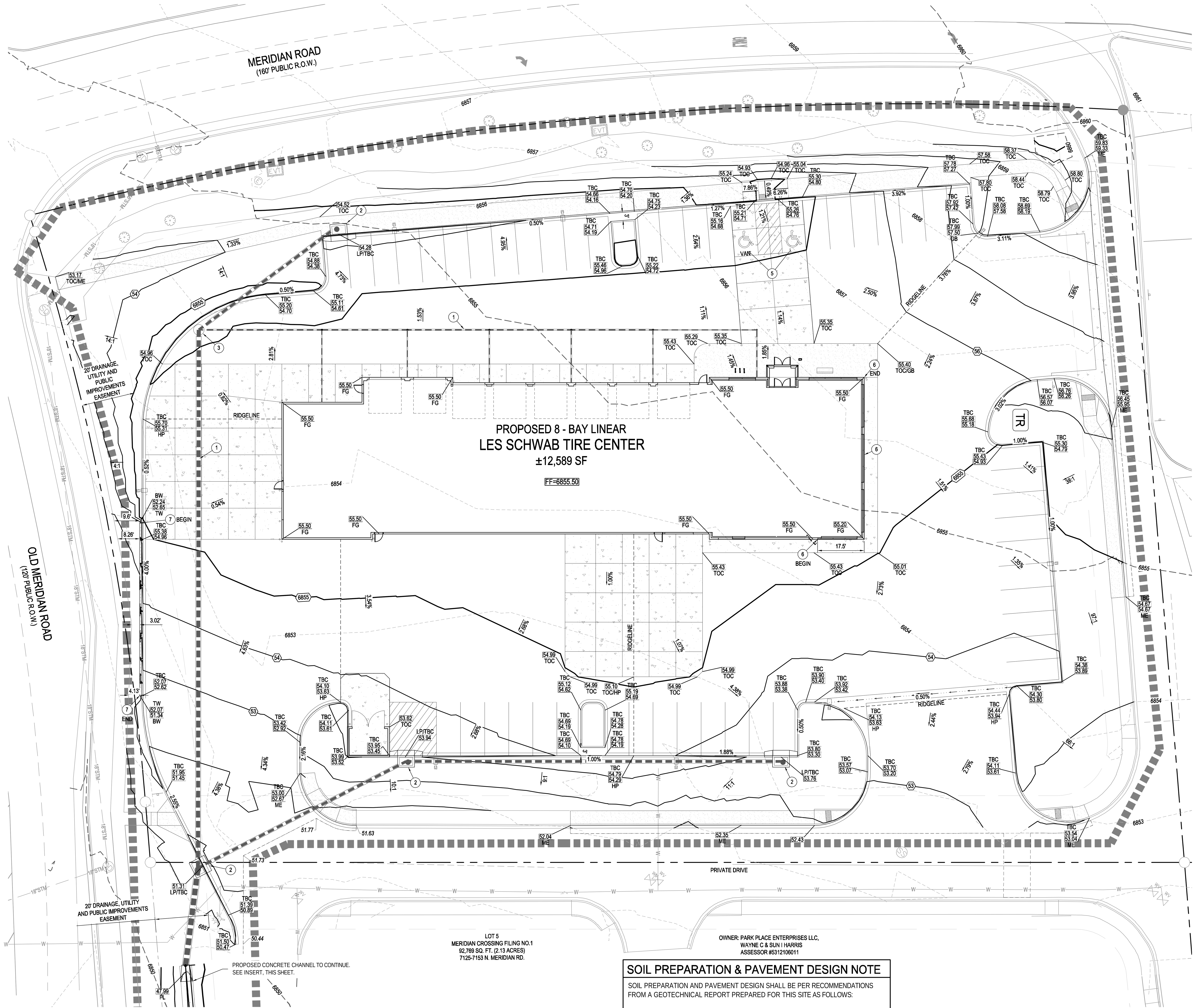
Page ____ of ____



GRADING SCHEDULE

1. PROPOSED STORM SEWER LINE.
2. PROPOSED STORM SEWER INLET.
3. PROPOSED STORM SEWER MANHOLE
4. PROPOSED CONNECTION TO EXISTING STORM SEWER MANHOLE.
5. A.D.A. PARKING. MAX SLOPE 2% IN ANY DIRECTION.
6. EXPOSED BUILDING FOUNDATION.
7. PROPOSED LANDSCAPE WALL. SEE DETAIL 6/C1.6.

N

SCALE: 1"=20'

SITE LEGEND

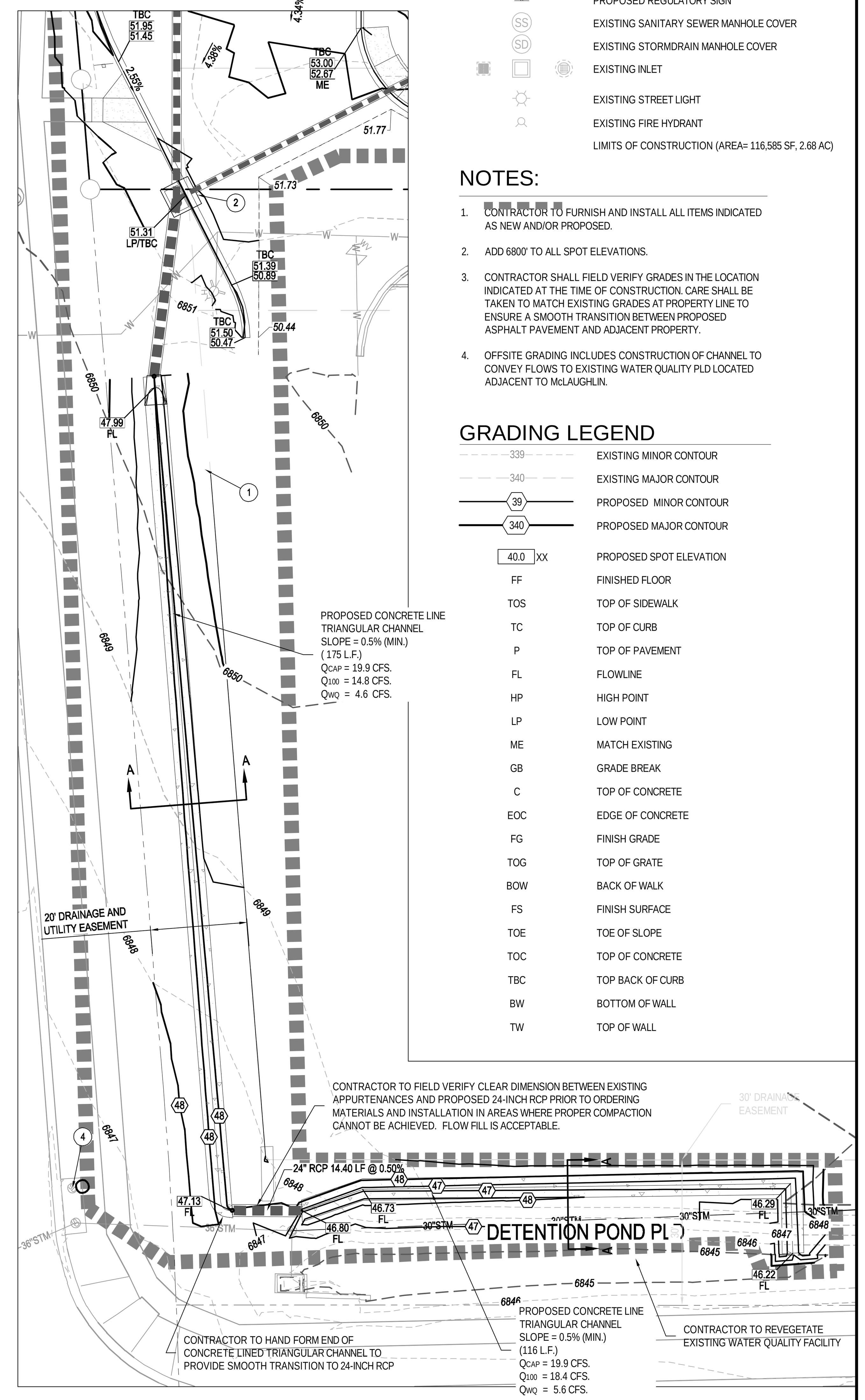
PROPERTY BOUNDARY LINE
ADJACENT PROPERTY BOUNDARY LINE
RIGHT OF WAY LINE
BUILDING SETBACK
EASEMENT BOUNDARY LINE
EXISTING TO REMAIN
EXISTING TO BE REMOVED
PROPOSED BY OTHERS
PROPOSED NEW
PROPOSED BIO-RETENTION BOUNDARY
EXISTING CURB & GUTTER TO REMAIN
EXISTING CURB & GUTTER TO BE REMOVED
PROPOSED CURB & GUTTER
PROPOSED CONCRETE PAVING
PROPOSED STANDARD DUTY ASPHALT PAVING
PROPOSED HEAVY DUTY ASPHALT PAVING
PROPOSED LANDSCAPE
PROPOSED SIDEWALK
SAWCUT LINE
6 PARKING COUNT
TR PROPOSED TRANSFORMER
PROPOSED SITE LIGHTING
RP PROPOSED BACKFLOW PREVENTER
M PROPOSED METER
DDC PROPOSED DOUBLE DETECTOR CHECK
PROPOSED SANITARY MANHOLE
PROPOSED REGULATORY SIGN
SS EXISTING SANITARY SEWER MANHOLE COVER
SD EXISTING STORMDRAIN MANHOLE COVER
EXISTING INLET
EXISTING STREET LIGHT
EXISTING FIRE HYDRANT
LIMITS OF CONSTRUCTION (AREA= 116,585 SF, 2.68 AC)

NOTES:

1. CONTRACTOR TO FURNISH AND INSTALL ALL ITEMS INDICATED AS NEW AND/OR PROPOSED.
2. ADD 6800' TO ALL SPOT ELEVATIONS.
3. CONTRACTOR SHALL FIELD VERIFY GRADES IN THE LOCATION INDICATED AT THE TIME OF CONSTRUCTION. CARE SHALL BE TAKEN TO MATCH EXISTING GRADES AT PROPERTY LINE TO ENSURE A SMOOTH TRANSITION BETWEEN PROPOSED ASPHALT PAVEMENT AND ADJACENT PROPERTY.
4. OFFSITE GRADING INCLUDES CONSTRUCTION OF CHANNEL TO CONVEY FLOWS TO EXISTING WATER QUALITY PLD LOCATED ADJACENT TO McLAUGHLIN.

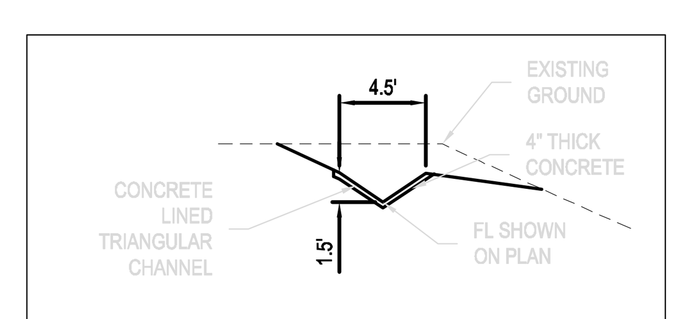
GRADING LEGEND

339	EXISTING MINOR CONTOUR
340	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
340	PROPOSED MAJOR CONTOUR
40.0 XX	PROPOSED SPOT ELEVATION
FF	FINISHED FLOOR
TOS	TOP OF SIDEWALK
TC	TOP OF CURB
P	TOP OF PAVEMENT
FL	FLOWLINE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
C	TOP OF CONCRETE
EOC	EDGE OF CONCRETE
FG	FINISH GRADE
TOG	TOP OF GRATE
BOW	BACK OF WALK
FS	FINISH SURFACE
TOE	TOE OF SLOPE
TOC	TOP OF CONCRETE
TBC	TOP BACK OF CURB
BW	BOTTOM OF WALL
TW	TOP OF WALL



STORM SEWER INSERT VIEW

SCALE: 1"=20'



SECTION A - A

CAUTION - NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE FIELD LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

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

BENCHMARK

THE NATIONAL GEODETIC SURVEY (NGS) MONUMENT DESIGNATION 'E 24', PID JK0239, WHICH HAS AN ELEVATION OF 6902.3 (NAVD 88 DATUM). THE STATION IS LOCATED ABOUT 7 MI (11.3 KM) SOUTHWEST OF PEYTON, 2 MI (3.2 KM) NORTHEAST OF FALCON AND ON U.S. HIGHWAY 24, IN THE SOUTHEAST 1/4 OF SECTION 32, T 12 S, R 64 W, AND AT U.S. HIGHWAY 24 MILEPOST 322.45. OWNERSHIP--EL PASO COUNTY PARK PROPERTY TO REACH THE STATION, GO TO THE INTERSECTION OF U.S. HIGHWAY 24 AND JUDGE ORR ROAD AND THE STATION IN THE NORTHEAST CORNER OF THE INTERSECTION THE STATION IS A STANDARD DISK SET IN A 25 CM SQUARE CONCRETE POST, PROJECTING 30 CM ABOVE THE GROUND. IT IS 26.8 M (87.9 FT) EAST-NORTHEAST FROM JUDGE ORR ROAD, 15.7 M (51.5 FT) FROM A DIRT ROAD TO A PRIVATE RESIDENCE, 0.8 M (2.6 FT) SOUTHWEST FROM A PLASTIC WITNESS POST, 0.7 M (2.3 FT) NORTH FROM A METAL WITNESS POST AND 0.6 M (2.0 FT) EAST FROM A FENCE CORNER.

NAVD88 ELEVATION = 6902.3'

BASIS OF BEARING

BEARINGS ARE BASED ON THE NORTHWESTERLY LINE OF MERIDIAN CROSSING FILING NO. 1, LOTS 1 & 2 AND IS ASSUMED TO BEAR N51°13'14"E.

LEGAL DESCRIPTION

ALL OF LOTS 3 AND 4, MERIDIAN CROSSING FILING NO. 1, SITUATED IN THE NORTHEAST QUARTER OF SECTION 12, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF FALCON, COUNTY OF EL PASO, STATE OF COLORADO.

SOIL PREPARATION & PAVEMENT DESIGN NOTE

SOIL PREPARATION AND PAVEMENT DESIGN SHALL BE PER RECOMMENDATIONS FROM A GEOTECHNICAL REPORT PREPARED FOR THIS SITE AS FOLLOWS:

GEOTECHNICAL ENGINEER: PICKERING, COLE & HIVENER, LLC.
PROJECT No.: 12.298.16
DATED: SEPTEMBER 27, 2016

THE CONTRACTOR MUST FULLY REVIEW THIS REPORT PRIOR TO CONSTRUCTION. INFORMATION IN THE GEOTECHNICAL REPORT SUPERSEDES ANY CONFLICTING INFORMATION CONTAINED IN THE CONSTRUCTION PLANS AND SPECIFICATIONS. REFER TO GENERAL STRUCTURAL NOTES FOR SPECIFIC SOIL PREPARATION AT SITE STRUCTURES.

NOTE: CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL INFORMATION FOR FINAL ACCEPTANCE OF WORK FOR ANY LOCAL, STATE OR FEDERAL AGENCY, UTILITY DISTRICT OR ANY OTHER AGENCY OR DISTRICT HAVING APPROVAL AUTHORITY OVER WORK. THIS INFORMATION MAY INCLUDE, BUT IS NOT LIMITED TO, AS-BUILT PLANS, CERTIFICATIONS, INSPECTIONS AND REPORTS.

SURVEYOR TO OBTAIN AUTOCAD FILE FROM ENGINEER AND VERIFY ALL HORIZONTAL CONTROL DIMENSIONING PRIOR TO CONSTRUCTION STAKING. SURVEYOR MUST VERIFY ALL BENCHMARK, BASIS OF BEARING AND DATUM INFORMATION TO ENSURE IMPROVEMENTS WILL BE AT THE SAME HORIZONTAL AND VERTICAL LOCATIONS SHOWN ON THE DESIGN CONSTRUCTION DRAWINGS. PRIOR TO CONSTRUCTION STAKING ANY DISCREPANCY MUST BE REPORTED TO OWNER AND ENGINEER PRIOR TO CONTINUATION OF ANY FURTHER STAKING OR CONSTRUCTION WORK.

H:\les schwab\co, falcon - lst000067 - sec meridian & old meridian\CADD\3 CD\lst0067_c2.0-grading plan.dwg - Jeff Palmer - 8/10/2018

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Colorado Springs, Co 80920
719.900.7220 O
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Tires LES SCHWAB

PRELIMINARY
NOT FOR BIDDING
NOT FOR CONSTRUCTION

LES SCHWAB TIRE CO.
PLANNING DOCUMENTS
MERIDIAN CROSSING FILING No. 1A
LOT 1

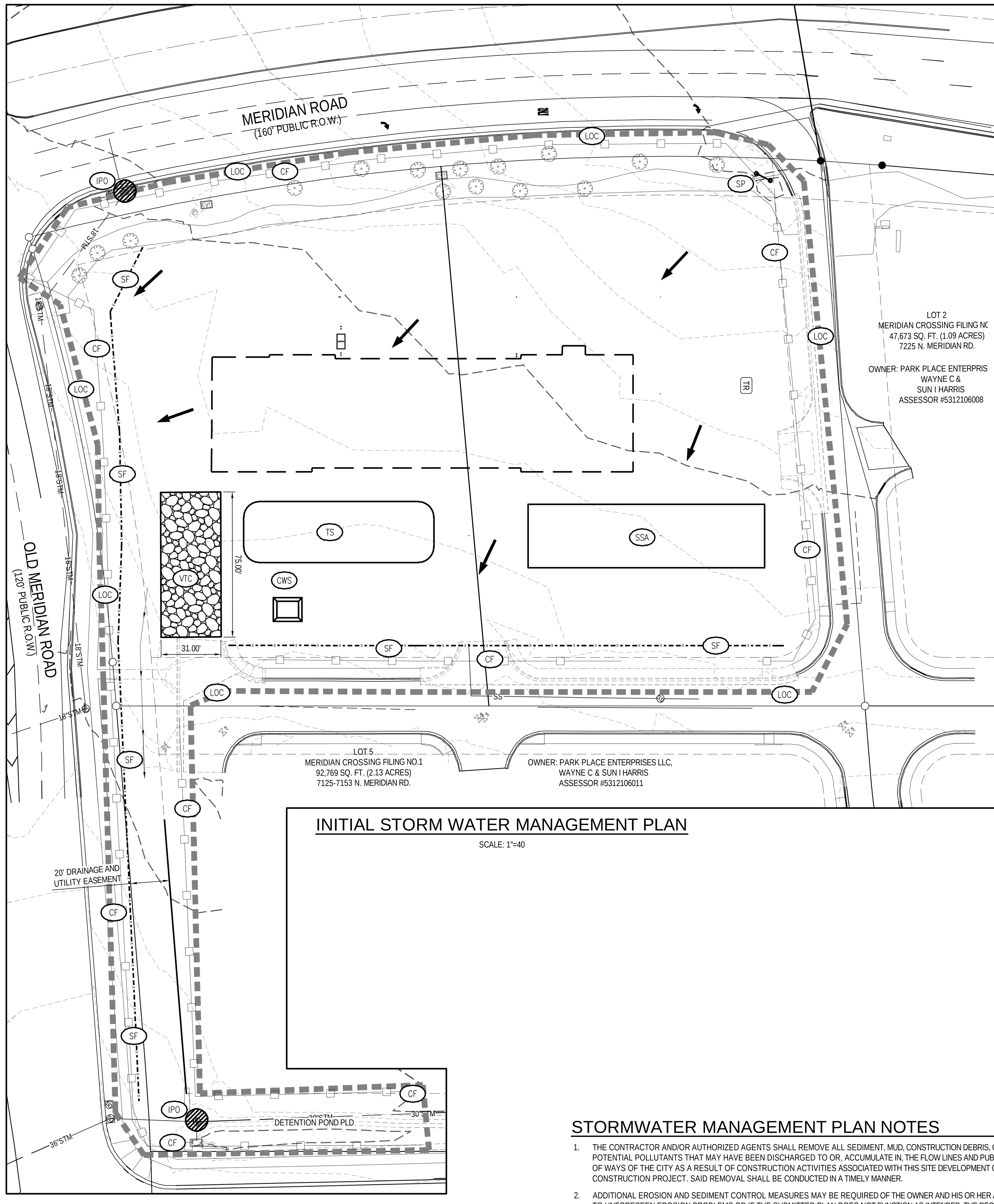
7105 N. MERIDIAN ROAD
FALCON, COLORADO

#	Date	Issue / Description	Init.
0	3/27/18	CLIENT SET	JDP
1	4/6/18	SDP SUBMITTAL	JDP
2	6/8/18	2ND SDP SUBMITTAL	JDP
3	8/7/18	BID SET	JDP
4	8/10/18	3RD SDP SUBMITTAL	JDP

Project No:	LST00067
Drawn By:	JRP
Checked By:	JDP
Date:	4/6/2018

GRADING PLAN

C2.0

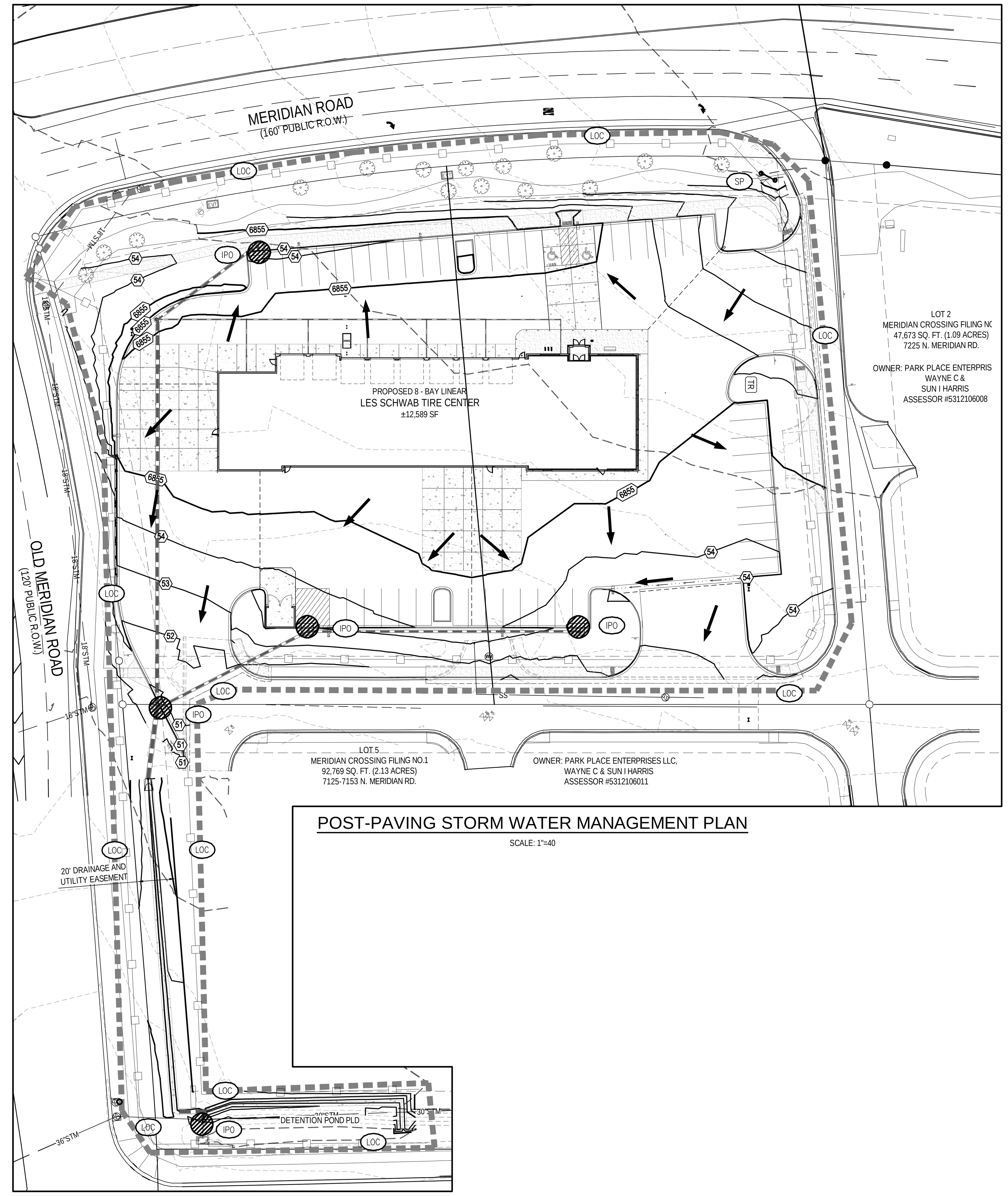


INITIAL STORM WATER MANAGEMENT PLAN

SCALE: 1"=40

N

SCALE: 1"=40'



POST-PAVING STORM WATER MANAGEMENT PLAN

SCALE: 1"=40

N

SCALE: 1"=40'

STORMWATER MANAGEMENT PLAN NOTES

1. THE CONTRACTOR AND/OR AUTHORIZED AGENTS SHALL REMOVE ALL SEDIMENT, MUD, CONSTRUCTION DEBRIS, OR OTHER POTENTIAL POLLUTANTS THAT MAY HAVE BEEN DISCHARGED TO OR, ACCUMULATE IN, THE FLOW LINES AND PUBLIC RIGHTS OF WAYS OF THE CITY AS A RESULT OF CONSTRUCTION ACTIVITIES ASSOCIATED WITH THIS SITE DEVELOPMENT OR CONSTRUCTION PROJECT. SAID REMOVAL SHALL BE CONDUCTED IN A TIMELY MANNER.
2. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES MAY BE REQUIRED OF THE OWNER AND HIS OR HER AGENTS DUE TO UNFORESEEN EROSION PROBLEMS OR IF THE SUBMITTED PLAN DOES NOT FUNCTION AS INTENDED. THE REQUIREMENTS OF THIS PLAN SHALL BE THE OBLIGATION OF THE PERMIT HOLDER UNTIL SUCH TIME AS THE PLAN IS PROPERLY COMPLETED AND THE PERMIT IS RELEASED.
3. THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION, EXCAVATION, TRENCHING, BORING, GRADING OR OTHER CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, ETC., RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
4. THE CONTRACTOR SHALL LOCATE, INSTALL, AND MAINTAIN ALL EROSION CONTROL AND WATER QUALITY "BEST MANAGEMENT PRACTICES" AS INDICATED IN THE APPROVED STORMWATER MANAGEMENT PLAN.
5. THE DEVELOPER, GENERAL CONTRACTOR, GRADING CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL INSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHTS OF WAY.
6. SOILS THAT WILL BE STOCKPILED FOR MORE THAN 30 DAYS SHALL BE PROTECTED FROM WIND AND WATER EROSION WITHIN 14 DAYS OF STOCKPILE CONSTRUCTION. IF STOCKPILES ARE LOCATED WITHIN 100 FEET OF A DRAINAGEWAY, ADDITIONAL SEDIMENT CONTROLS SUCH AS TEMPORARY DIKES OR SILT FENCE SHALL BE REQUIRED.
7. APPROVED EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES SHALL BE MAINTAINED AND KEPT IN GOOD REPAIR OF THE DURATION OF THIS PROJECT. ACCUMULATED SEDIMENT AND DEBRIS SHALL BE REMOVED FROM A BMP WHEN THE SEDIMENT OR DEBRIS ADVERSELY IMPACTS THE FUNCTIONING OF THE BMP.
8. THE CONTRACTOR SHALL PROTECT STORM DRAIN INLETS DIRECTLY DOWNSTREAM OF CONSTRUCTION AREA NOT NECESSARILY SHOWN ON THIS PLAN.
9. THE EXISTING VEGETATION OF THE SITE INCLUDES GRASSES AND WEEDS AND COVERS APPROXIMATELY 2.0 ACRES OF THE SITE.
10. TOTAL SITE AREA IS 2.49 AC.; EXPECTED AREA TO UNDERGO DISTURBANCE IS APPROXIMATELY 2.75 AC.
11. SOIL EROSION POTENTIAL IS LOW. POTENTIAL IMPACTS UPON DISCHARGE INCLUDES TYPICAL SOIL EROSION.
12. OTHER POTENTIAL POLLUTION SOURCES INCLUDE AUTOMOBILE MAINTENANCE, LOCATED AT BUILDING ON SITE.
13. MATERIAL HANDLING PROCEDURES ARE INDICATED IN THE APPROVED STORMWATER MANAGEMENT PLAN.
14. NO BATCH PLANTS ARE USED FOR THIS SITE.
15. OTHER STORM WATER POLLUTANT CONTROL PROCEDURES INCLUDE WASTE DISPOSAL AND OFFSITE SOIL TRACKING.
16. THERE ARE NO NON-STORMWATER COMPONENTS OF DISCHARGE ON PROJECT SITE, INCLUDING NATURAL SPRINGS, IRRIGATION DITCHES, ETC.
17. ULTIMATE RECEIVING WATERS ARE FALCON BASIN DPBS WHICH IS IN A FEMA DESIGNATED FLOODPLAIN.
18. EXISTING STORM WATER OUTFALL IS LOCATED $\frac{1}{4}$ MILES SOUTH OF THE SITE AT AN EXISTING RETENTION POND.
19. FINAL STABILIZATION INCLUDES PAVEMENT AND LANDSCAPING. LONG-TERM STORM WATER QUALITY IS OBTAINED BY ROUTING OF FLOWS THROUGH EXISTING WATER QUALITY POND PLD.
20. VEGETATIVE COVER DENSITY SHALL BE MINIMUM 70% OF PRE-DISTURBED LEVELS TO BE CONSIDERED STABILIZED.
21. CONTRACTOR TO INCLUDE SIGNATURE ON INSPECTION LOGS AND LOCATION OF SWMP RECORDS ON-SITE AT ALL TIMES IN ADDITION TO AUTHORITY HAVING JURISDICTION.

GRADING LEGEND

339	EXISTING MINOR CONTOUR
340	EXISTING MAJOR CONTOUR
39	PROPOSED MINOR CONTOUR
340	PROPOSED MAJOR CONTOUR
40.0 XX	PROPOSED SPOT ELEVATION
FF	FINISHED FLOOR
TOS	TOP OF SIDEWALK
TC	TOP OF CURB
P	TOP OF PAVEMENT
FL	FLOWLINE
HP	HIGH POINT
LP	LOW POINT
ME	MATCH EXISTING
GB	GRADE BREAK
C	TOP OF CONCRETE
EOC	EDGE OF CONCRETE
FG	FINISH GRADE

EROSION CONTROL LEGEND

	FLOW ARROW
LOC	LIMITS OF CONSTRUCTION (AREA= 119,912 SF, 2.75 AC)
LOD	LIMITS OF DISTURBANCE (AREA= 119,912 SF, 2.75 AC)
SF	SILT FENCE
CF	CONSTRUCTION FENCE
CWS	SMALL SITE CONCRETE WASHOUT AREA
TS	TEMPORARY STOCKPILE
VTC	VEHICLE TRACKING CONTROL/CONSTRUCTION ENTRANCE
ECB	EROSION CONTROL BLANKET
IPO	INLET PROTECTION
SP	SWMP SITE POSTING
SSA	STABILIZED STAGING AREA
DD	DIVERSION DITCH/BERM
SDP	SILT DIKE ON PAVEMENT
LS	LANDSCAPE AREA
RES	PORTABLE RESTROOM

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DUST CONTROL GENERAL NOTES

THE CITY ENGINEER MAY REQUIRE THE SUBMITTAL OF A DUST PREVENTION AND CONTROL PLAN FOR GRADING AND CONSTRUCTION AS DEEMED NECESSARY. AT THE VERY MINIMUM THE FOLLOWING CONDITIONS CONCERNING THE CONTROL OF GRADING AND CONSTRUCTION DUST SHALL BE ADHERED TO, AS WELL AS FOLLOWING SCAQMD REQUIREMENTS WITH REGARDS TO FUGITIVE DUST.

- FUGITIVE DUST EMISSIONS WILL BE CONTROLLED TWENTY-FOUR (24) HOURS A DAY, SEVEN (7) DAYS A WEEK, WHETHER OR NOT THERE IS CURRENT ACTIVITY ON THE SITE.
- THERE SHALL BE A 24-HOUR CONTACT NAME AND PHONE NUMBER FOR THE PERSON RESPONSIBLE FOR ENSURING THE CONTROL OF FUGITIVE DUST, WHETHER OR NOT THERE IS CURRENT ACTIVITY AT THE SITE.
- DUST CONTROL MEASURES SHALL INCLUDE, BUT ARE NOT LIMITED TO THE APPLICATION OF WATER OR DUST PALLIATIVES, THE INSTALLATION OF WIND FENCING, AND THE TREATMENT OF STAGING AREAS.
- WHEN AN ENTIRE PROJECT IS GRADED AND THE SUBSEQUENT CONSTRUCTION ON THE SITE IS TO BE COMPLETED IN PHASES, THE PORTION OF THE SITE NOT UNDER CONSTRUCTION SHALL BE TREATED WITH CHEMICAL STABILIZERS, OR PLANT MATERIALS AND AN IRRIGATION SYSTEM.

IF THE IMPORTING OR EXPORTING OF SOIL IS NECESSARY, DUST CONTROL SHALL INCLUDE PROCEDURES FOR THE CONTROL OF DUST RESULTING FROM THE LOADING, TRANSPORTATION AND UNLOADING OF SOIL FROM, TO OR WITHIN THE PROJECT AREA AND ON PUBLIC ROADWAYS.

INSPECTION AND MAINTENANCE PROCEDURES FOR CONSTRUCTION

THE CORNERSTONE OF THE MAINTENANCE PROCEDURE IS CONTAINED IN THE APPROVED STORMWATER MANAGEMENT PLAN. QUALIFIED OWNERS REPRESENTATIVES AND GENERAL CONTRACTOR SITE SUPERINTENDENTS WILL BE TRAINED IN THE INSPECTION AND MAINTENANCE PRACTICES NECESSARY FOR KEEPING THE POLLUTANT CONTROLS USED IN THE SWMP IN GOOD WORKING ORDER. THE SITE SUPERINTENDENT WILL BE RESPONSIBLE FOR THE DAILY OVERSIGHT OF THE POLLUTION CONTROLS ALONG WITH THE EXECUTION OF THE SITE INSPECTION REPORT IN ACCORDANCE WITH THE SWMP. THE OWNER'S REPRESENTATIVE WILL ALSO HAVE PERIODIC INSPECTION REQUIREMENTS TO ENSURE PROPER EXECUTION OF SITE INSPECTIONS AND MAINTENANCE.

NARRATIVE:

- DESCRIPTION OF BMPS TO BE USED, INCLUDING DIVERSION DITCHES / BERM, CHECK DAM, CONSTRUCTION ENTRANCE, INLET PROTECTION, SEDIMENT BASINS / TRAPS, SILT FENCE, AND FIBER FLOCCULENT TUBE (WATTLES) ARE INCLUDED IN THE APPROVED STORMWATER MANAGEMENT PLAN.
- DESCRITION OF NON-STRUCTURAL BMPS INCLUDING DUST CONTROL, CONCRETE WASTE, EQUIPMENT/VEHICLE MAINTANENCE, FUEL TANKS, HAZARDOUS WASTE MANAGEMENT AND SPILL REPORTING, BUILDING MATERIALS AND SUPPLIES, OFFSITE VEHICLE TRACKING, SANITARY WASTE, SOLID WASTE MATERIAL, AND NON STORMWATER DISCHARGED ARE INCLUDED IN THE APPROVED STORMWATER MANAGEMENT PLAN.
- DESCRIPTION OF CONSTRUCTION ACTIVITIES INCLUDING PRE (PHASE I) AND POST (PHASE II) SEQUENCING, TEMPORARY STABALIZATION, DEWATERING, AND PERMANENT STABILIZATION ARE INCLUDED IN THE APPROVED STORMWATER MANAGEMENT PLAN.

SWMP REVISION NOTE:

AT NEARLY EVERY SITE, THE IMPLEMENTED BMPS WILL HAVE TO BE MODIFIED TO ADAPT TO CHANGING SITE CONDITIONS, OR TO ENSURE THAT POTENTIAL POLLUTANTS ARE CONSISTENTLY AND PROPERLY MANAGED. THE POLLUTANT SOURCES AND MANAGEMENT PRACTICES AT A SITE MUST BE REVIEWED ON AN ONGOING BASIS (AND SPECIFICALLY DURING THE REQUIRED INSPECTIONS LISTED IN PART I.D.6 OF THE CDPHE STORMWATER CONSTRUCTION PERMIT). WHEN BMPS OR OTHER SITE CONDITIONS CHANGE, THE SWMP MUST BE MODIFIED TO ACCURATELY REFLECT THE ACTUAL FIELD CONDITIONS. EXAMPLES INCLUDE, BUT ARE NOT LIMITED TO, REMOVAL OF BMPS, IDENTIFICATION OF NEW POTENTIAL POLLUTANT SOURCES, ADDITION OF BMPS, MODIFICATION OF BMP INSTALLATION AND IMPLEMENTATION CRITERIA OR MAINTENANCE PROCEDURES, AND CHANGES IN ITEMS INCLUDED IN THE SITE MAP AND/OR DESCRIPTION. SWMP REVISIONS MUST BE MADE PRIOR TO CHANGES IN SITE CONDITIONS, EXCEPT FOR RESPONSIVE SWMP CHANGES, AS FOLLOWS:

- SWMP REVISIONS MUST BE MADE IMMEDIATELY AFTER CHANGES ARE MADE IN THE FIELD TO ADDRESS BMP INSTALLATION AND/OR IMPLEMENTATION ISSUES; OR
- SWMP REVISIONS MUST BE MADE AS SOON AS PRACTICABLE, BUT IN NO CASE MORE THAN 72 HOURS, AFTER CHANGE(S) IN BMP INSTALLATION AND/OR IMPLEMENTATION OCCUR AT THE SITE THAT REQUIRE DEVELOPMENT OF MATERIALS TO MODIFY THE SWMP (E.G., DESIGN OF RETENTION POND CAPACITY)

THE SWMP SHOULD BE VIEWED AS A "LIVING DOCUMENT" THAT IS CONTINUOUSLY BEING REVIEWED AND MODIFIED AS PART OF THE OVERALL PROCESS OF ASSESSING AND MANAGING STORMWATER QUALITY ISSUES AT THE SITE.

BENCHMARK

THE NATIONAL GEODETIC SURVEY (NGS) MONUMENT DESIGNATION 'E 24' , PID JK0239, WHICH HAS AN ELEVATION OF 6902.3 (NAVD 88 DATUM). THE STATION IS LOCATED ABOUT 7 MI (11.3 KM) SOUTHWEST OF PEYTON, 2 MI (3.2 KM) NORTHEAST OF FALCON AND ON U.S. HIGHWAY 24, IN THE SOUTHEAST 1/4 OF SECTION 32, T 12 S, R 64 W, AND AT U.S. HIGHWAY 24 MILEPOST 322.45. OWNERSHIP--EL PASO COUNTY PARK PROPERTY TO REACH THE STATION, GO TO THE INTERSECTION OF U.S. HIGHWAY 24 AND JUDGE ORR ROAD AND THE STATION IN THE NORTHEAST CORNER OF THE INTERSECTION THE STATION IS A STANDARD DISK SET IN A 25 CM SQUARE CONCRETE POST, PROJECTING 30 CM ABOVE THE GROUND. IT IS 26.8 M (87.9 FT) EAST-NORTHEAST FROM JUDGE ORR ROAD, 15.7 M (51.5 FT) FROM A DIRT ROAD TO A PRIVATE RESIDENCE, 0.8 M (2.6 FT) SOUTHWEST FROM A PLASTIC WITNESS POST, 0.7 M (2.3 FT) NORTH FROM A METAL WITNESS POST AND 0.6 M (2.0 FT) EAST FROM A FENCE CORNER.

NAVD88 ELEVATION = 6902.3'

LEGAL DESCRIPTION

ALL OF LOTS 3 AND 4, MERIDIAN CROSSING FILING NO. 1, SITUATED IN THE NORTHEAST QUARTER OF SECTION 12, TOWNSHIP 13 SOUTH, RANGE 65 WEST OF THE 6TH PRINCIPAL MERIDIAN, TOWN OF FALCON, COUNTY OF EL PASO, STATE OF COLORADO.

BASIS OF BEARING

BEARINGS ARE BASED ON THE NORTHWESTERLY LINE OF MERIDIAN CROSSING FILING NO. 1, LOTS 1 & 2 AND IS ASSUMED TO BEAR N51°13'14"E.

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Tires LES SCHWAB

PRELIMINARY
NOT FOR BIDDING
NOT FOR CONSTRUCTION

LES SCHWAB TIRE CO.
PLANNING DOCUMENTS
MERIDIAN CROSSING FILING No. 1A
LOT 1

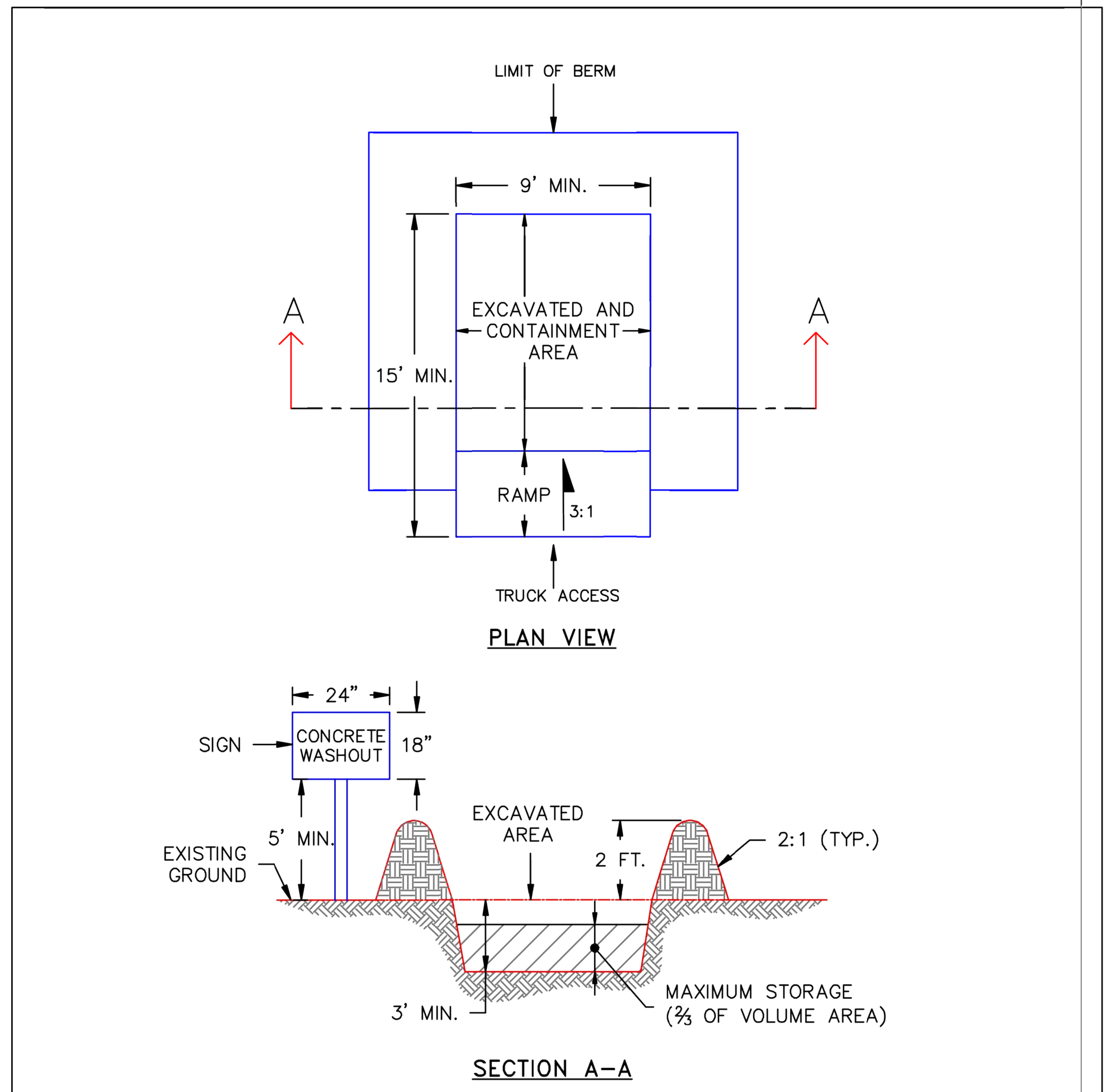
7105 N. MERIDIAN ROAD
FALCON, COLORADO

#	Date	Issue / Description	Init.
0	3/27/18	CLIENT SET	JDP
1	4/6/18	SDP SUBMITTAL	JDP
2	6/8/18	2ND SDP SUBMITTAL	JDP
3	8/7/18	BID SET	JDP
4	8/10/18	3RD SDP SUBMITTAL	JDP

Project No:	LST00067
Drawn By:	JDP
Checked By:	JDP
Date:	4/6/2018

EROSION CONTROL PLAN

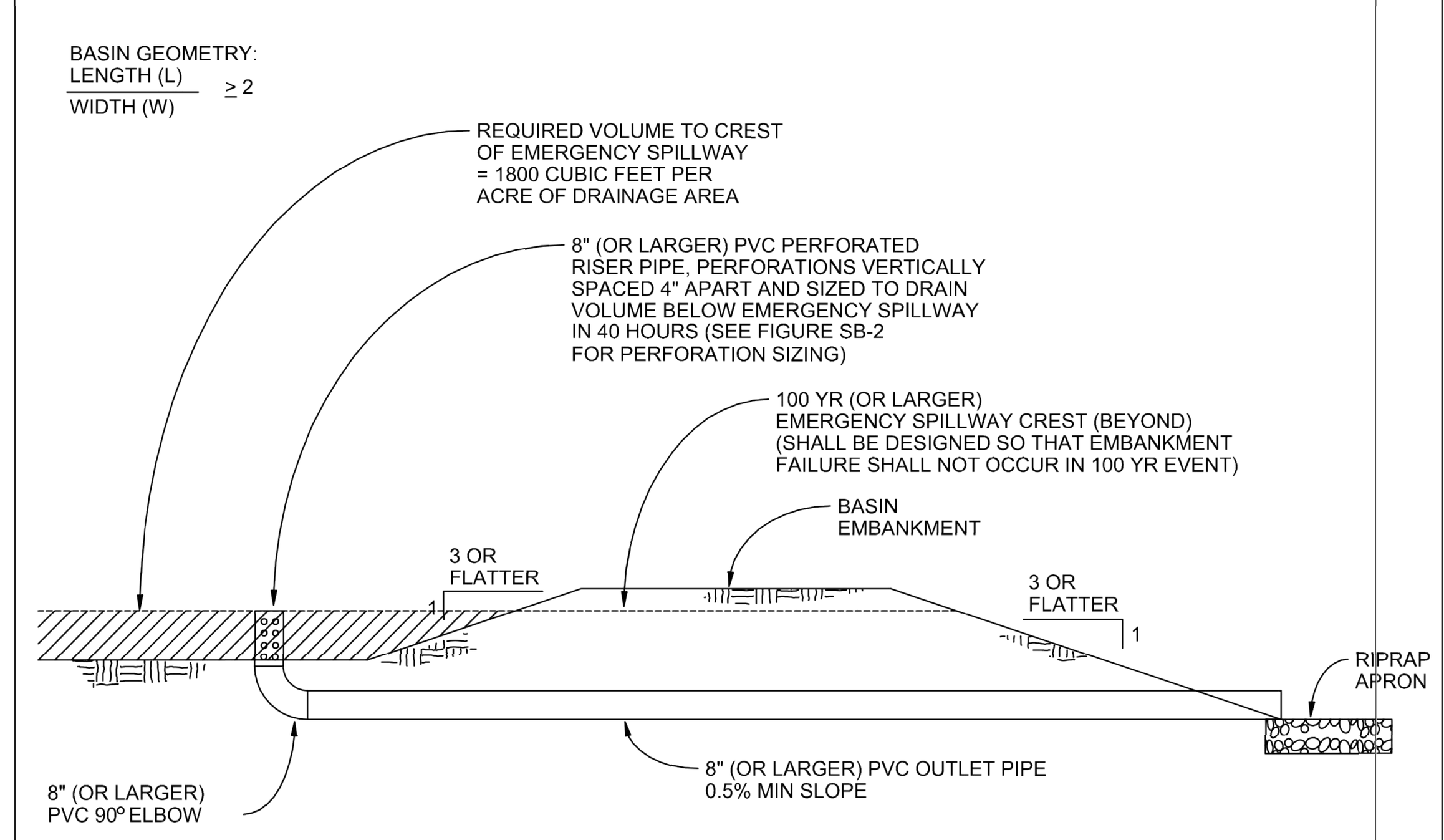
C3.0



NOTES:
1. SIGN MATERIAL, EXCAVATION, AND RESTORATION ARE INCLUDED IN THE COST OF THE CONCRETE WASHOUT STRUCTURE.
2. EROSION BALES MAY BE USED AS AN ALTERNATIVE FOR THE BERM.

1/1/08 DATE APPROVED:	Concrete Washout Structure	
John A. McCarty DEPARTMENT OF TRANSPORTATION	Standard Drawing	
	REVISION DATE: 7/17/07	FILE NAME: SD_3–84

EL PASO COUNTY DEPARTMENT OF TRANSPORTATION



SEDIMENT BASIN
NTS

SEDMENT BASIN NOTES

INSTALLATION REQUIREMENTS

1. SEDIMENT BASINS SHALL BE INSTALLED BEFORE ANY CLEARING AND/OR GRADING IS UNDERTAKEN.
2. THE AREA UNDER WHICH THE EMBANKMENT IS TO BE INSTALLED SHALL BE CLEARED, GRUBBED, AND STRIPPED OF ALL VEGETATION AND ROOT MAT.
3. THE OUTLET OF THE BASIN SHALL BE DESIGNED TO DRAIN ITS VOLUME IN 40 HOURS.
4. THE OUTLET IS TO BE LOCATED AT THE FURTHEST DISTANCE FROM THE INLET OF THE BASIN. BAFFLES MAY BE NEEDED TO INCREASE THE FLOW LENGTH AND SETTLING TIME.
5. EMBANKMENT MATERIAL SHALL CONSIST OF SOIL WITH A MINIMUM OF 15% PASSING A #200 SIEVE. EXCAVATED SOIL CAN BE USED IF IT MEETS THIS REQUIREMENT.
6. EMBANKMENT IS TO BE COMPACTED TO AT LEAST 90% OF MAXIMUM DENSITY AND WITHIN 2% OF OPTIMUM MOISTURE CONTENT ACCORDING TO ASTM D 698.
7. WHEN A BASIN IS INSTALLED NEAR A RESIDENTIAL AREA, FOR SAFETY REASONS, A SIGN SHALL BE POSTED AND THE AREA SECURED WITH A FENCE.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SEDIMENT BASINS AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. SEDIMENT BASINS SHALL BE CLEANED OUT BEFORE SEDIMENT HAS FILLED HALF THE VOLUME OF THE BASIN.
3. SEDIMENT BASINS SHALL REMAIN OPERATIONAL AND PROPERLY MAINTAINED UNTIL THE SITE AREA IS PERMANENTLY STABILIZED WITH ADEQUATE VEGETATIVE COVER AND/OR OTHER PERMANENT STRUCTURE AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SB-1
Sediment Basin
Construction Detail and Maintenance Requirements

3-32

Required Area per Row (in^2)

Design Volume (acre-ft)	Depth at Outlet (ft) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5
2	15.04	7.71	5.10	3.76	2.95	2.41	2.02	1.73
1	7.52	3.86	2.55	1.88	1.48	1.21	1.01	0.87
0.6	4.51	2.31	1.53	1.13	0.89	0.72	0.61	0.52
0.4	3.01	1.54	1.02	0.75	0.59	0.48	0.40	0.35
0.2	1.50	0.77	0.51	0.38	0.30	0.24	0.20	0.17
0.1	0.75	0.39	0.26	0.19	0.15	0.12	0.10	0.09
0.06	0.45	0.23	0.15	0.11	0.09	0.07	0.06	0.05
0.04	0.30	0.15	0.10	0.08	0.06	0.05	0.04	0.03
0.02	0.15	0.08	0.05	0.04	0.03	0.02	0.02	0.02
0.01	0.08	0.04	0.03	0.02	0.01	0.01	0.01	0.01

TABLE SB-1

Circular Perforation Sizing

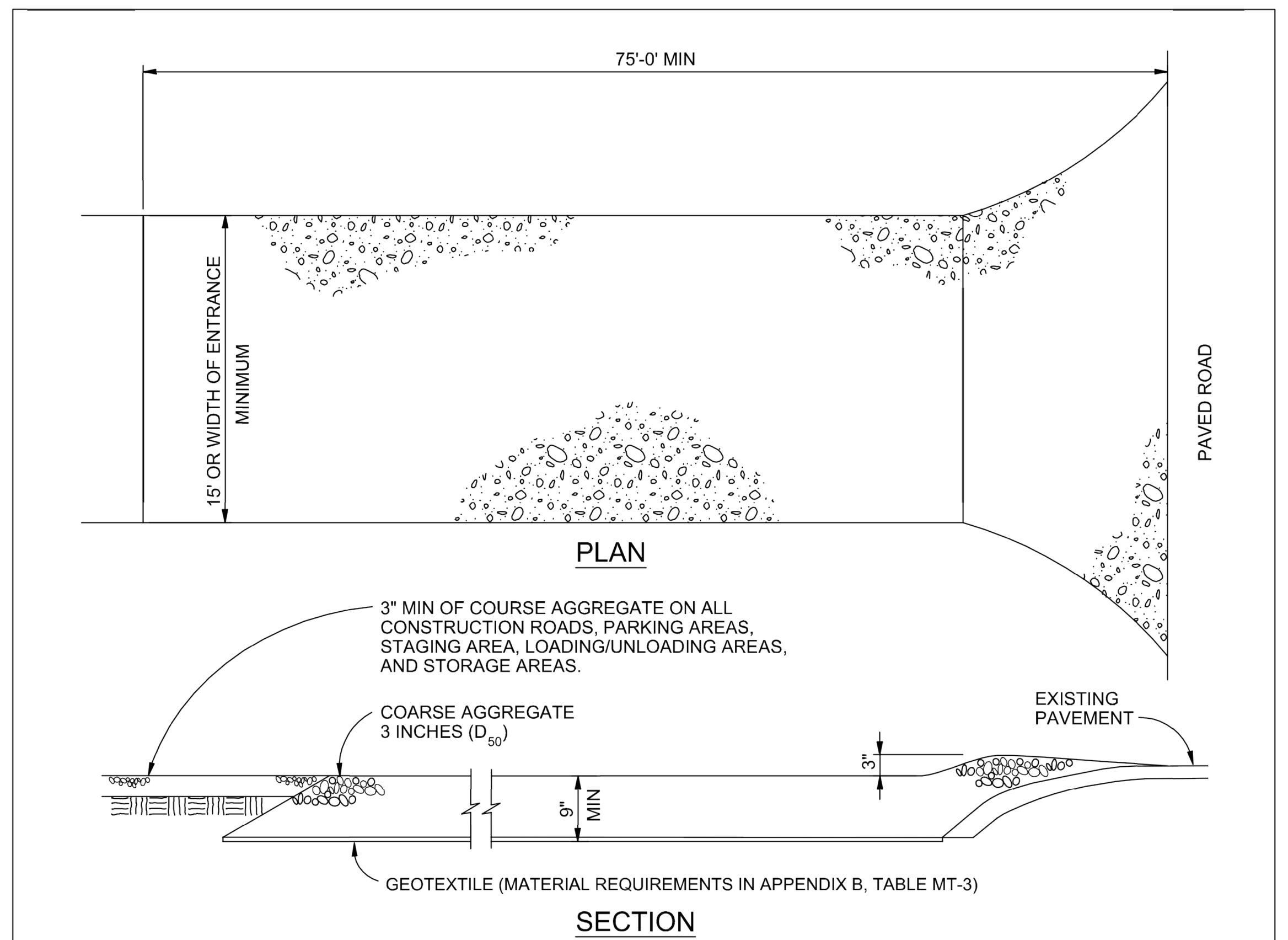
Hole Diameter (in)	Hole Diameter (in)	Area per Row (in^2) n = 1	n = 2	n = 3
1/4	0.250	0.05	0.10	0.15
5/16	0.313	0.08	0.15	0.23
3/8	0.375	0.11	0.22	0.33
7/16	0.438	0.15	0.30	0.45
1/2	0.500	0.20	0.39	0.59
9/16	0.563	0.25	0.50	0.75
5/8	0.625	0.31	0.61	0.92
11/16	0.688	0.37	0.74	1.11
3/4	0.750	0.44	0.88	1.33
7/8	0.875	0.60	1.20	1.80
1	1.000	0.79	1.57	2.36
1 1/8	1.125	0.99	1.99	2.98
1 1/4	1.250	1.23	2.45	3.68
1 3/8	1.375	1.48	2.97	4.45
1 1/2	1.500	1.77	3.53	5.30
1 5/8	1.625	2.07	4.15	6.22
1 3/4	1.750	2.41	4.81	7.22
1 7/8	1.875	2.76	5.52	8.28
2	2.000	3.14	6.28	9.42
n = Number of columns of perforations				
Minimum steel plate thickness		1/4"	5/16"	3/8"

TABLE SB-2

City of Colorado Springs
Stormwater Quality

Figure SB-2
Outlet Sizing
Application Techniques and Maintenance Requirements

3-33



VEHICLE TRACKING
NTS

VEHICLE TRACKING NOTES

INSTALLATION REQUIREMENTS

1. ALL ENTRANCES TO THE CONSTRUCTION SITE ARE TO BE STABILIZED PRIOR TO CONSTRUCTION BEGINNING.
2. CONSTRUCTION ENTRANCES ARE TO BE BUILT WITH AN APRON TO ALLOW FOR TURNING TRAFFIC, BUT SHOULD NOT BE BUILT OVER EXISTING PAVEMENT EXCEPT FOR A SLIGHT OVERLAP.
3. AREAS TO BE STABILIZED ARE TO BE PROPERLY GRADED AND COMPACTED PRIOR TO LAYING DOWN GEOTEXTILE AND STONE.
4. CONSTRUCTION ROADS, PARKING AREAS, LOADING/UNLOADING ZONES, STORAGE AREAS, AND STAGING AREAS ARE TO BE STABILIZED.
5. CONSTRUCTION ROADS ARE TO BE BUILT TO CONFORM TO SITE GRADES, BUT SHOULD NOT HAVE SIDE SLOPES OR ROAD GRADES THAT ARE EXCESSIVELY STEEP.

MAINTENANCE REQUIREMENTS

1. REGULAR INSPECTIONS ARE TO BE MADE OF ALL STABILIZED AREAS, ESPECIALLY AFTER STORM EVENTS.
2. STONES ARE TO BE REAPPLIED PERIODICALLY AND WHEN REPAIR IS NECESSARY.
3. SEDIMENT TRACKED ONTO PAVED ROADS IS TO BE REMOVED DAILY BY SHOVELING OR SWEEPING. SEDIMENT IS NOT TO BE WASHED DOWN STORM SEWER DRAINS.
4. STORM SEWER INLET PROTECTION IS TO BE IN PLACE, INSPECTED, AND CLEANED IF NECESSARY.
5. OTHER ASSOCIATED SEDIMENT CONTROL MEASURES ARE TO BE INSPECTED TO ENSURE GOOD WORKING CONDITION.

City of Colorado Springs
Stormwater Quality

Figure VT-2
Vehicle Tracking
Application Examples

3-54

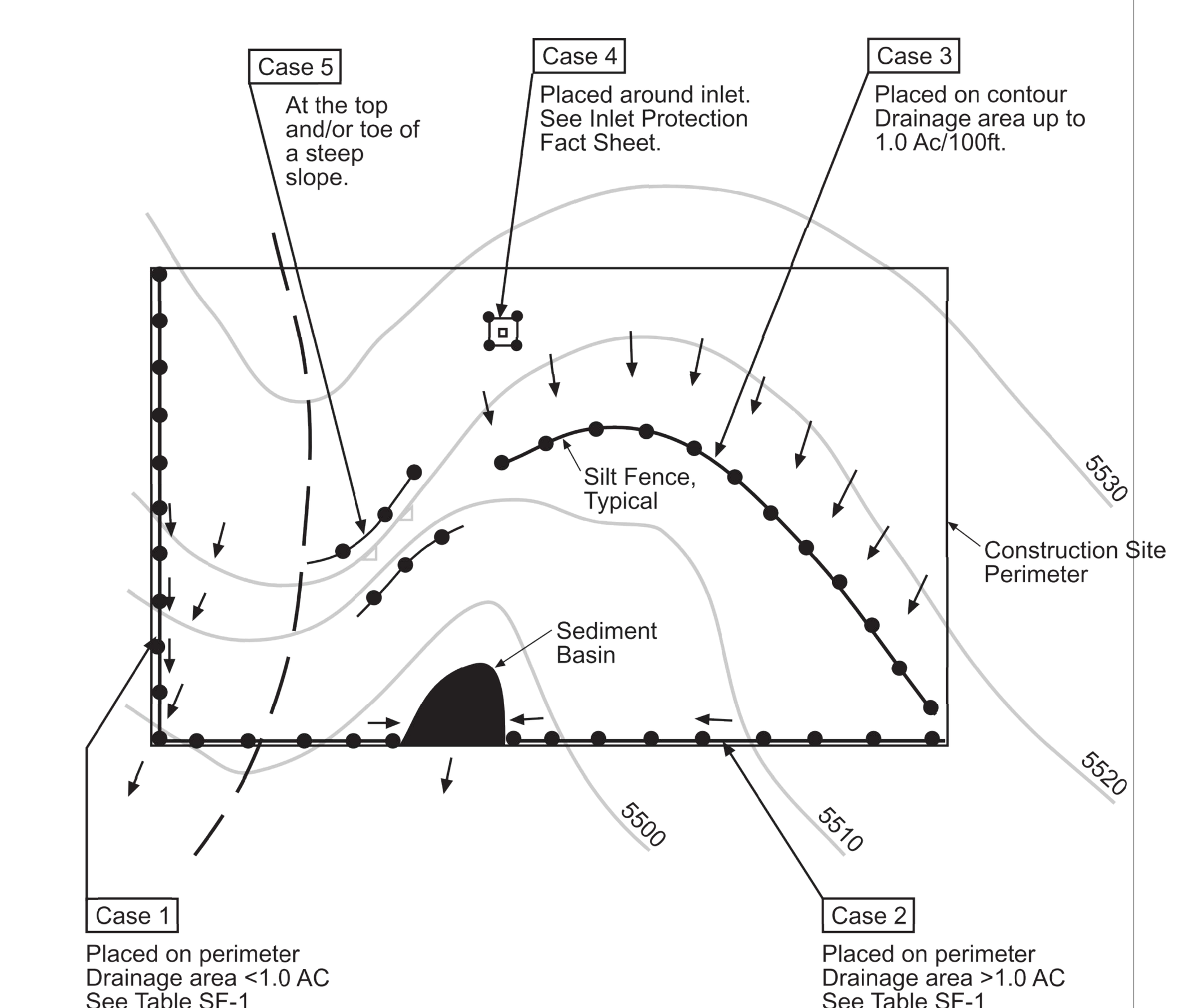


Table SF-1

Silt Fence Used as Perimeter Control	Case 1 DA < 0.25 AC	Case 1 0.25 < DA < 1 AC	Case 2 DA > 1.0 AC
Continuous Grade	OK (1)	OK (1)	OK (1)
Area of Concentrated Flow	OK	NO (2)	NO (3)

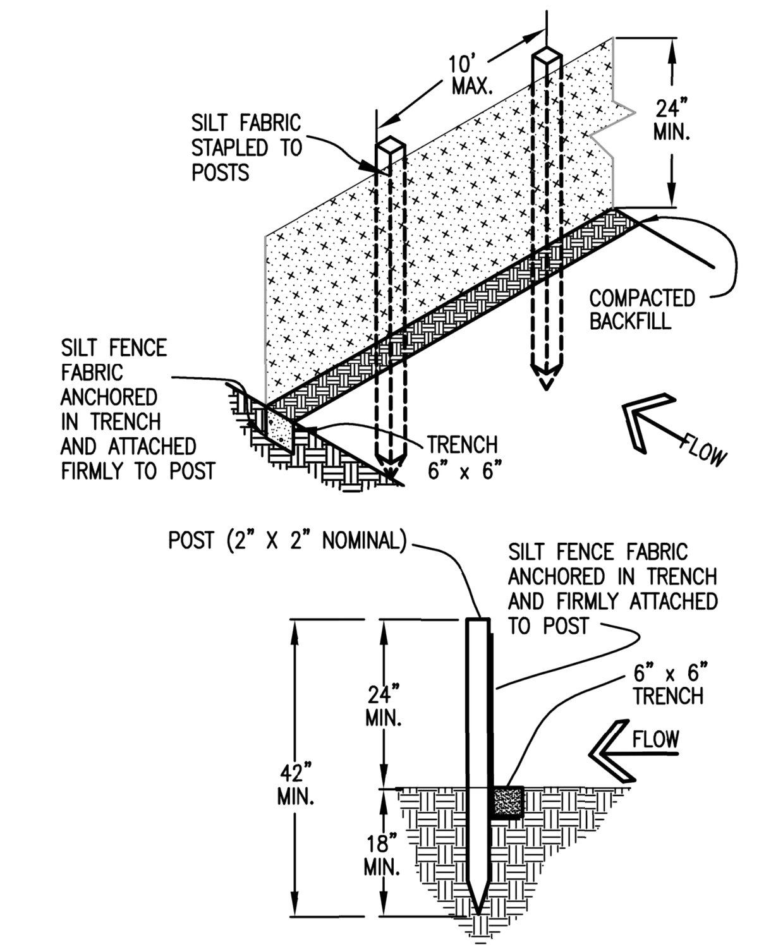
(1) Temporary Swale or Straw Bale Barrier may be used as alternative to a Silt Fence.
(2) Check Dam may also be used as alternative to Silt Fence at low point.
(3) Sediment Basin is required for concentrated flow from drainage areas > 1.0 AC.

City of Colorado Springs
Storm Water Quality

Figure SF-1
Silt Fence
Application Examples

DEN/M/153722.CS.CB/FigSF-1/9-99

3-35



SILT FENCE

SILT FENCE NOTES

INSTALLATION REQUIREMENTS

1. SILT FENCES SHALL BE INSTALLED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. WHEN JOINTS ARE NECESSARY, SILT FENCE GEOTEXTILE SHALL BE SPLICED TOGETHER ONLY AT SUPPORT POST AND SECURELY SEALED.
3. METAL POSTS SHALL BE "STUDDED TEE" OR "U" TYPE WITH MINIMUM WEIGHT OF 1.33 POUNDS PER LINEAR FOOT. WOOD POSTS SHALL HAVE A MINIMUM DIAMETER OR CROSS SECTION DIMENSION OF 2 INCHES.
4. THE FILTER MATERIAL SHALL BE FASTENED SECURELY TO METAL OR WOOD POSTS USING WIRE TIES, OR TO WOOD POSTS WITH 3/4" LONG #9 HEAVY-DUTY STAPLES. THE SILT FENCE GEOTEXTILE SHALL NOT BE STAPLED TO EXISTING TREES.
5. WHILE NOT REQUIRED, WIRE MESH FENCE MAY BE USED TO SUPPORT THE GEOTEXTILE. WIRE FENCE SHALL BE FASTENED SECURELY TO THE UPSLOPE SIDE OF THE POSTS USING HEAVY-DUTY WIRE STAPLES AT LEAST 3/4" LONG, TIE WIRES OR HOG RINGS. THE WIRE SHALL EXTEND INTO THE TRENCH A MINIMUM OF 6" AND SHALL NOT EXTEND MORE THAN 3' ABOVE THE ORIGINAL GROUND SURFACE.
6. ALONG THE TOE OF FILLS, INSTALL THE SILT FENCE ALONG A LEVEL CONTOUR AND PROVIDE AN AREA BEHIND THE FENCE FOR RUNOFF TO POND AND SEDIMENT TO SETTLE. A MINIMUM DISTANCE OF 5 FEET FROM THE TOE OF THE FILL IS RECOMMENDED.
7. THE HEIGHT OF THE SILT FENCE FROM THE GROUND SURFACE SHALL BE MINIMUM OF 24 INCHES AND SHALL NOT EXCEED 36 INCHES; HIGHER FENCES MAY INPOUND VOLUMES OF WATER SUFFICIENT TO CAUSE FAILURE OF THE STRUCTURE.

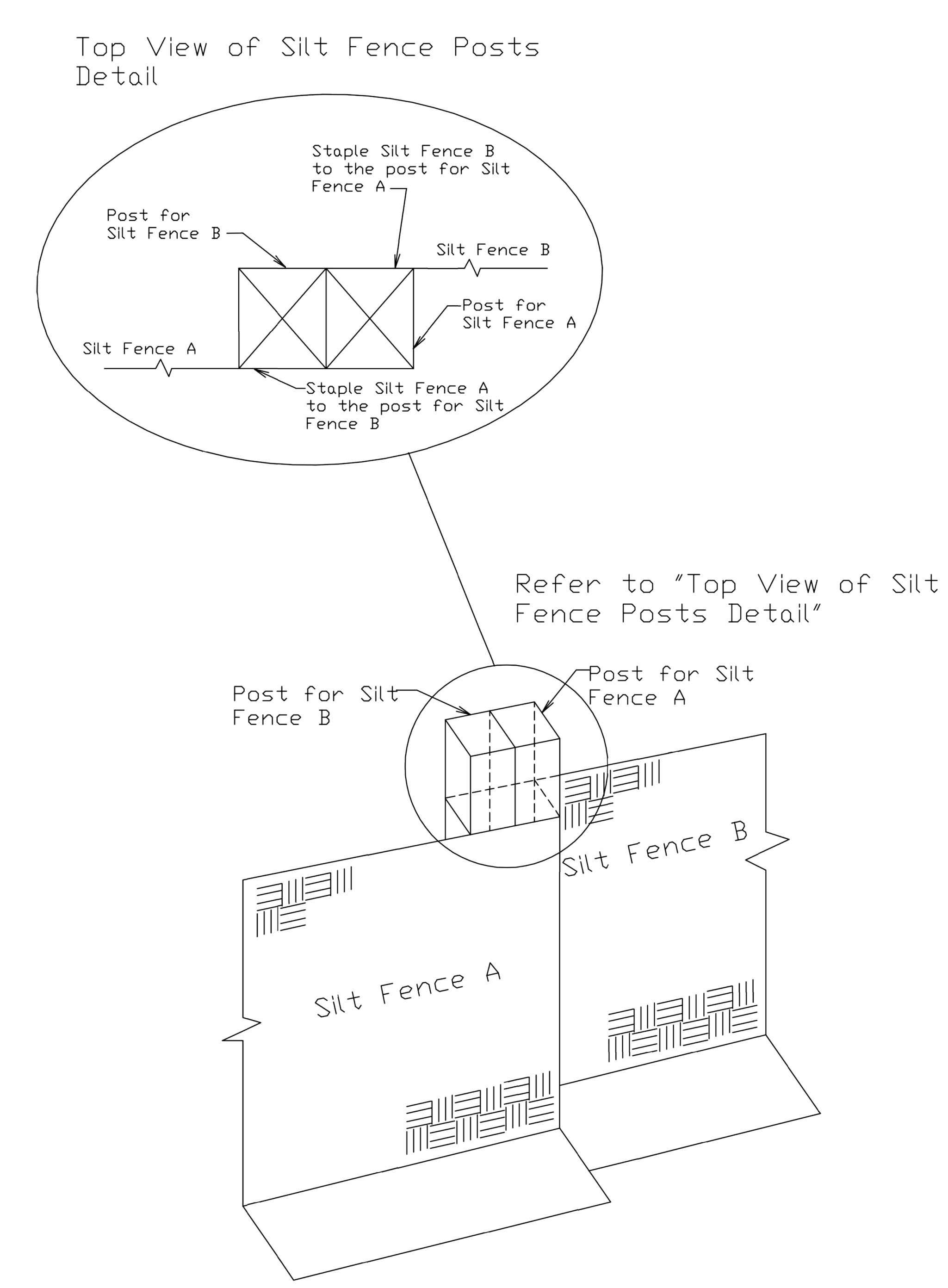
MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT SILT FENCES IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS OF NO RAINFALL. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE SILT FENCES SHALL BE PROMPTLY REPAIRED OR REPLACED.
2. SEDIMENT SHALL BE REMOVED FROM BEHIND SILT FENCE WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
3. SILT FENCES SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure SF-2
Silt Fence
Construction Detail and Maintenance Requirements

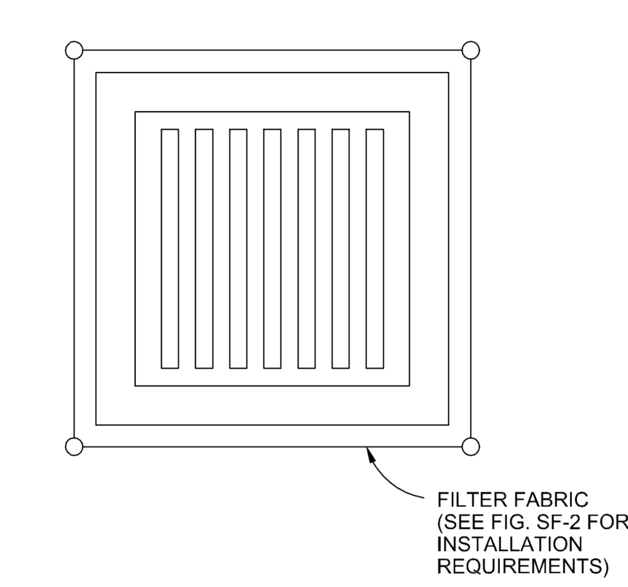
3-36



City of Colorado Springs
Stormwater Quality

Figure SF-3
Silt Fence Joint Tying
Construction Detail and Maintenance Requirements

3-37



FILTER FABRIC INLET PROTECTION
NTS

FILTER FABRIC INLET PROTECTION NOTES

INSTALLATION REQUIREMENTS

1. INLET PROTECTION SHALL BE INSTALLED IMMEDIATELY AFTER CONSTRUCTION OF INLET.
2. SEE SILT FENCE FIGURE SF-2 FOR INSTALLATION REQUIREMENTS.
3. POSTS ARE TO BE PLACED AT EACH CORNER OF THE INLET AND AROUND THE EDGES AT A MAXIMUM SPACING OF 3 FEET.

MAINTENANCE REQUIREMENTS

1. CONTRACTOR SHALL INSPECT INLET PROTECTION IMMEDIATELY AFTER EACH RAINFALL, AT LEAST DAILY DURING PROLONGED RAINFALL, AND WEEKLY DURING PERIODS NO RAINFALL.
2. DAMAGED, COLLAPSED, UNENTRENCHED OR INEFFECTIVE INLET PROTECTION SHALL BE PROMPTLY REPAIRED OR REPLACED.
3. SEDIMENT SHALL BE REMOVED FROM BEHIND FILTER FABRIC WHEN IT ACCUMULATES TO HALF THE EXPOSED GEOTEXTILE HEIGHT.
4. FILTER FABRIC PROTECTION SHALL BE REMOVED WHEN ADEQUATE VEGETATIVE COVER IS ATTAINED IN THE DRAINAGE AREA AS APPROVED BY THE CITY.

City of Colorado Springs
Stormwater Quality

Figure IP-1
Filter Fabric Inlet Protection
Construction Detail and Maintenance Requirements

3-25

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MERIDIAN CROSSING FILING No. 1A
LOT 1

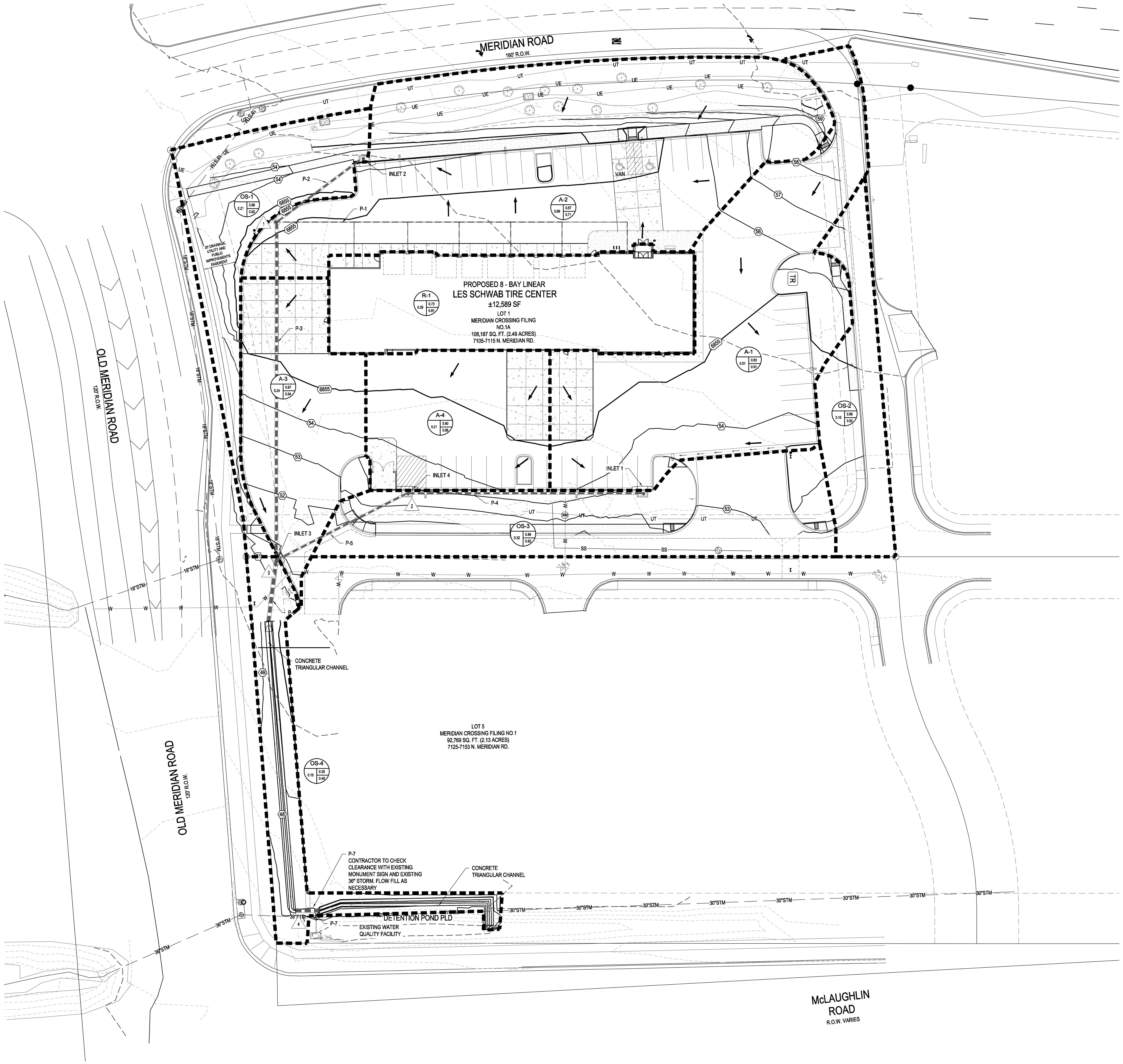
7105 N. MERIDIAN ROAD
FALCON, COLORADO

#	Date	Issue / Description	Init.
0	3/27/18	CLIENT SET	JDP
1	4/6/18	SDP SUBMITTAL	JDP
2	6/8/18	2ND SDP SUBMITTAL	JDP
3	8/7/18	BID SET	JDP
4	8/10/18	3RD SDP SUBMITTAL	JDP

Project No:	LST00067
Drawn By:	JRP
Checked By:	JDP
Date:	4/6/2018

EROSION CONTROL DETAILS

C3.5



DRAINAGE LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- EXISTING STORM SEWER
- PROPOSED STORM SEWER
- MAJOR BASIN BOUNDARY LINE
- FLOW ARROW
- EMERGENCY OVERFLOW LOCATION & DIRECTION
- EXISTING STORM SEWER
- MAJOR BASIN BOUNDARY LINE
- MINOR BASIN BOUNDARY LINE
- PROPERTY BOUNDARY
- DESIGN POINT
- BASIN DESIGNATION
- PEAK 5-YEAR RUNOFF COEFFICIENT
- PEAK 100-YEAR RUNOFF COEFFICIENT
- BASIN AREA IN ACRES
- DESIGN POINT

PIPE FLOW TABLE						
PIPE	DIAMETER (INCHES)	BASINS	TOTAL FLOW (CFS)	SLOPE (%)	CAPACITY (CFS)	PERCENT FULL
P-1	6	R-1	2.06	1.00%	0.73	82.0%
P-2	12	A-2	3.22	1.00%	4.98	61.4%
P-3 (DP1)	18	R-1, A-2	6.30	0.50%	10.39	58.9%
P-4	12	A-1	3.89	1.00%	4.98	70.2%
P-5 (DP2)	12	A-1, A-4	5.80	2.58%	8.00	66.4%
P-6 (DP3)	24	R-1, A-1-4, OS-1	14.80	0.50%	22.37	62.3%
P-7 (DP4)	24	R-1, A-1-4, OS1-4	18.40	0.50%	22.37	73.1%

N

SCALE: 1"=20'

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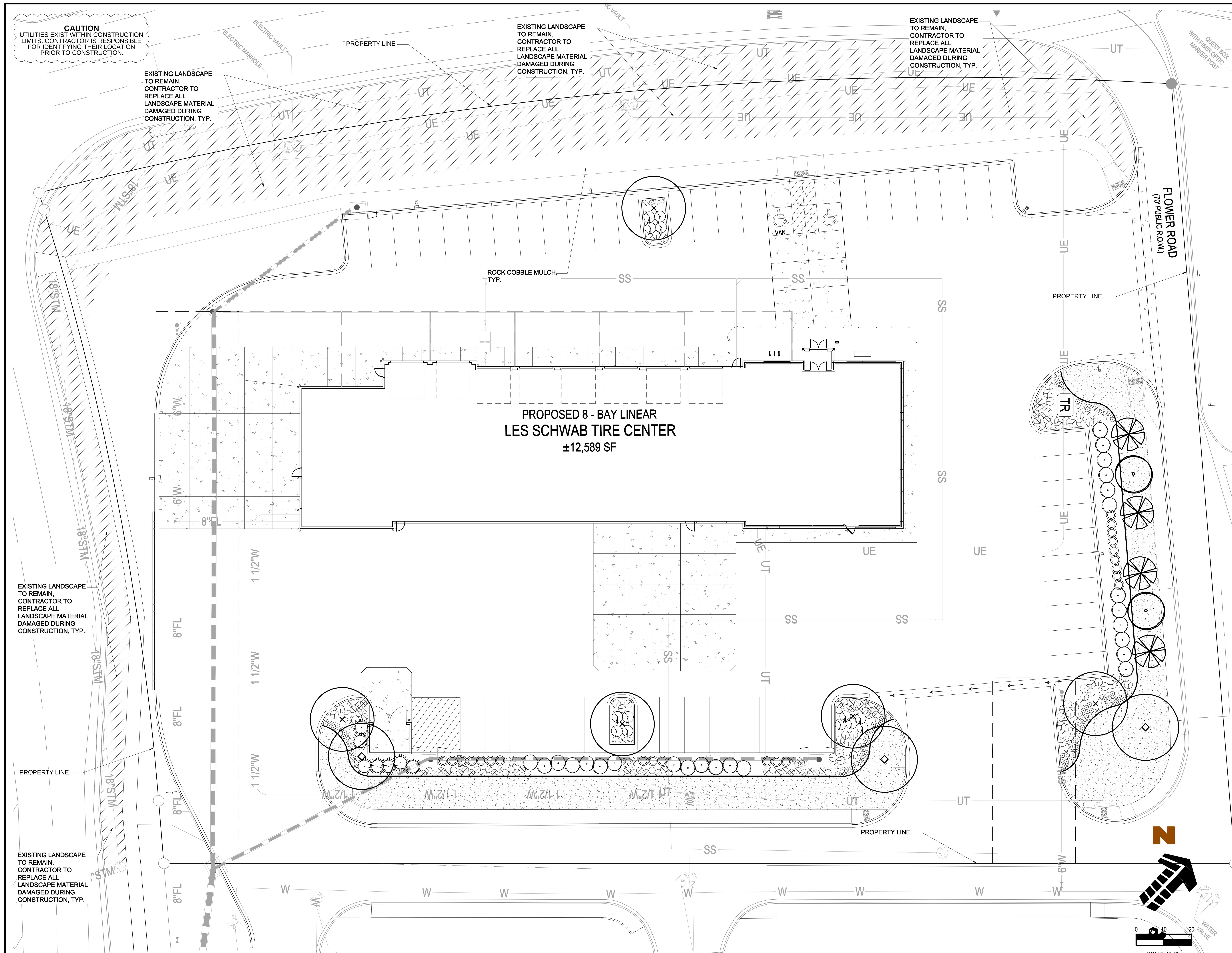
4	8/10/18	3RD SDP SUBMITTAL	JDP

Project No:	LST00067
Drawn By:	JRP
Checked By:	JDP
Date:	4/6/2018

DRAINAGE PLAN



PLANTING LEGEND

SYMBOL	LEGEND ABBREV.	BOTANIC NAME	COMMON NAME	PLANTING SIZE	QUANTITY	MATURE SIZE	REQUIRED PER CODE	WATER USE
OVERSTORY DECIDUOUS TREES								
	AMGR	AMELANCHIER X GRANDIFLORA	AUTUMN BRILLIANCE SERVICEBERRY	1.5" CAL. B&B	4	20' X 10'	11 TOTAL TREES	LOW
	GLSH	GLEDITSIA TRIACANTHOS VAR. INERMIS 'SHADEMASTER'	SHADEMASTER HONEYLOCUST	1.5" CAL. B&B	5	40' X 40'	11 TOTAL TREES	LOW
	QUMA	QUERCUS MACROCARPA	BUR OAK	1.5" CAL. B&B	3	50' X 40'	11 TOTAL TREES	LOW
	SYRE	SYRINGA RETICULATA	JAPANESE TREE LILAC	1.5" CAL. B&B	2	15' X 12'	11 TOTAL TREES	LOW
DECIDUOUS SHRUBS								
	PEAT	PEROVSKIA ATRIPLICIFOLIA	RUSSIAN SAGE	#5 CONTAINER 18"-24"	13	4' X 4'	N/A	LOW
	RORA	ROSA 'RADRAZZ'	KNOCK OUT ROSE	#5 CONTAINER 18"-24"	22	3' X 3'	N/A	LOW
EVERGREEN SHRUBS								
	EUIJ	EUONYMUS FORTUNEI 'IVORY JANE'	IVORY JANE EUONYMUS	#5 CONTAINER 18"-24"	25	3' X 6'	N/A	LOW
	JUME	JUNIPERUS X MEDIA 'SEA GREEN'	SEA GREEN JUNIPER	#5 CONTAINER 18"-24"	7	8' X 6'	N/A	LOW
ORNAMENTAL GRASSES AND PERENNIALS								
	CAKF	CALAMAGROSTIS ACUTIFLORA 'KARL FOERSTER'	FEATHER REED GRASS	#1 CONTAINER	23	4.5' X 2.0'	N/A	LOW
	COMO	COREOPSIS VERTICILLATA 'MOONBEAM'	MOONBEAM COREOPSIS	#1 CONTAINER	163	1.5' X 1.5'	N/A	LOW
	HESE	HELICTOTRICHON SEMPERVIRENS	BLUE AVENA GRASS	#1 CONTAINER	72	2' X 2'	N/A	LOW
	PEKR	PENNISETUM ORIENTALE 'KARLEY ROSE'	ORIENTAL FOUNTAIN GRASS	#1 CONTAINER	60	2' X 2'	N/A	LOW
SEED, MULCH AND MISCELLANEOUS								
	TURF	RTF SOD	SOD		5,457 SF	---	N/A	MODERATE
	MULCH	2" - 4" DIA. MULTI - COLOR ROCK MULCH W/ SHREDDED BARK MULCH RING, SEE MULCH NOTES	ROCK MULCH		3,997 SF	---	N/A	---
	STEEL EDGING				397 LF	---	N/A	---

5% LANDSCAPE REQUIREMENT

TOTAL SITE AREA: 108,187 SF	TOTAL LANDSCAPE AREA: 27,659 SF	% LANDSCAPE AREA PROVIDED: 25%

UTILITY NOTES

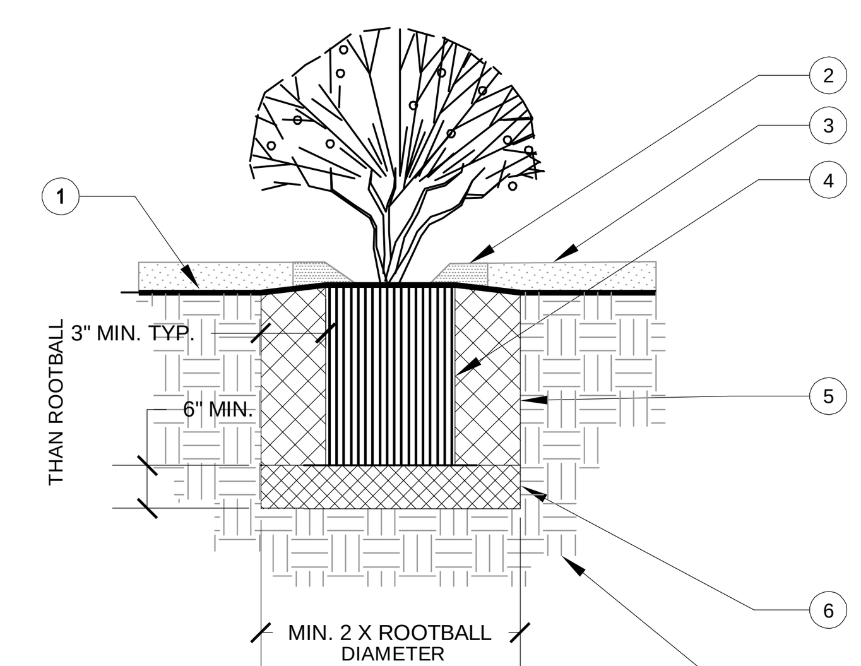
1. THE LANDSCAPE CONTRACTOR IS REQUIRED TO CONTACT THE COUNTY PUBLIC WORKS DEPARTMENT, AND ANY OTHER PUBLIC OR PRIVATE AGENCY NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION.
2. THIS DRAWING IS A PART OF A COMPLETE SET OF BID DOCUMENTS, SPECIFICATIONS, ADDITIONAL DRAWINGS, AND EXHIBITS. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE, AND REVIEWING ALL RELATED DOCUMENTS.
3. THE LOCATION OF THE ALL UNDERGROUND UTILITIES ARE LOCATED ON THE ENGINEERING DRAWINGS FOR THIS PROJECT. THE MOST CURRENT REVISION IS HERE IN MADE PART OF THIS DOCUMENT. UNDERGROUND UTILITIES EXIST THROUGHOUT THIS SITE AND MUST BE LOCATED PRIOR TO ANY CONSTRUCTION ACTIVITY. WHERE UNDERGROUND UTILITIES EXIST, FIELD ADJUSTMENT MAY BE NECESSARY AND MUST BE APPROVED BY A REPRESENTATIVE OF THE OWNER. NEITHER THE OWNER NOR THE LANDSCAPE ARCHITECT ASSUMES ANY RESPONSIBILITY WHATSOEVER, IN RESPECT TO THE CONTRACTORS ACCURACY IN LOCATING THE INDICATED PLANT MATERIAL, AND UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED WITHOUT REFERENCING THE ABOVE MENTIONED DOCUMENTS.

IRRIGATION CONCEPT

1. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL BY THE TIME OF FINAL INSPECTION. THE ENTIRE IRRIGATION SYSTEM SHALL BE INSTALLED BY A QUALIFIED IRRIGATION CONTRACTOR.
2. THE IRRIGATION SYSTEM SHALL TAP OFF BUILDING'S POTABLE WATER SERVICE AFTER THE WATER METER, BEFORE BUILDING'S DOUBLE CHECK VALVE.
3. THE IRRIGATION SYSTEM WILL OPERATE ON POTABLE WATER, AND THE SYSTEM WILL HAVE APPROPRIATE BACKFLOW PREVENTION DEVICES INSTALLED TO PREVENT CONTAMINATION OF THE POTABLE SOURCE.
4. ALL NON-TURF/SEED PLANTED AREAS WILL BE DRIP IRRIGATED. TURF SOD/SEED SHALL RECEIVE POP-UP SPRAY IRRIGATION FOR HEAD TO HEAD COVERAGE.
5. ALL PLANTS SHARING SIMILAR HYDROZONE CHARACTERISTICS SHALL BE PLACED ON A VALVE DEDICATED TO PROVIDE THE NECESSARY WATER REQUIREMENTS SPECIFIC TO THAT HYDROZONE.
6. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED, TO THE MAXIMUM EXTENT POSSIBLE, TO CONSERVE WATER BY USING THE FOLLOWING DEVICES AND SYSTEMS: MATCHED PRECIPITATION RATE TECHNOLOGY ON ROTOR AND SPRAY HEADS (WHEREVER POSSIBLE), RAIN SENSORS, AND SMART MULTI-PROGRAM COMPUTERIZED IRRIGATION CONTROLLERS FEATURING SENSORY INPUT CAPABILITIES.

LANDSCAPE GUARANTEE AND MAINTENANCE

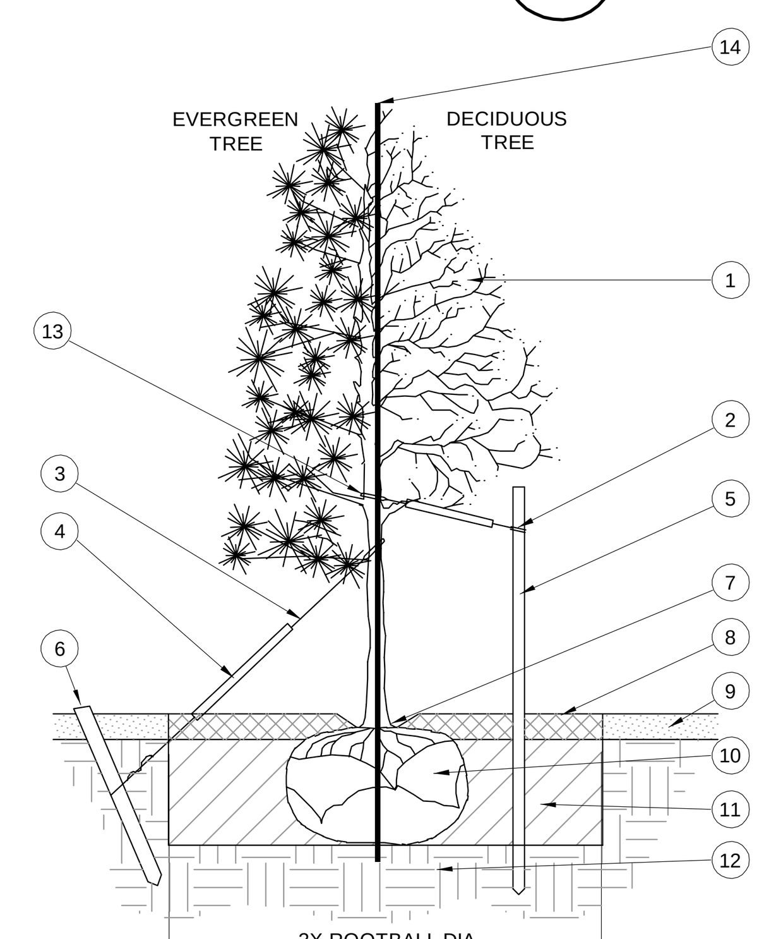
1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, SEEDED AREAS, AND IRRIGATION SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S ACCEPTANCE. THE CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE, ANY PLANTS WHICH DIE IN THAT TIME, OR REPAIR ANY PORTIONS OF THE IRRIGATION SYSTEM WHICH OPERATE IMPROPERLY.
2. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE LANDSCAPE IN A NEAT, CLEAN, AND HEALTHY CONDITION FOR A PERIOD OF 90 DAYS. THIS SHALL INCLUDE PROPER PRUNING, MOWING AND AERATION OF LAWNS, WEEDING, REPLACEMENT OF MULCH, REMOVAL OF LITTER, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. IRRIGATION SHALL BE MAINTAINED IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON AND TO MAXIMIZE WATER CONSERVATION. IF SITE OPENS DURING WINTER, TO AVOID FREEZE DAMAGE ON PLANTINGS, THE 90 DAYS SHOULD BEGIN AFTER ACCEPTANCE OF THE WORK.
3. DURING THE LANDSCAPE MAINTENANCE PERIOD, THE LANDSCAPE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES IN ALL LANDSCAPE AREAS AT THE MINIMUM SLOPE SPECIFIED IN THE GEOTECHNICAL REPORT. LANDSCAPE AREAS WHICH SETTLE AND CREATE THE POTENTIAL FOR PONDING SHALL BE REPAIRED TO ELIMINATE PONDING POTENTIAL AND BLEND IN WITH THE SURROUNDING GRADES. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GEOTECHNICAL REPORT, THE GRADING PLANS, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.



1. FINISH GRADE IN PLANTING AREA.
2. DOUBLE SHREDDED CEDAR BARK MULCH, 4" DEEP, INSTALLED TO 1.5X THE CONTAINER WIDTH OF ALL SHRUBS.
3. MULCH, SPECIFIED IN PLANTING LEGEND.
4. PLANT ROOT BALL. SET TOP ROOTBALL 2" ABOVE ADJECENT GRADE. IN BERMED AREAS SET ROOTBALL 2" ABOVE LOWER ADJECENT GRADE - INSTALL WATER RING (2 - 3" HT.)
5. BACKFILL MIX (PER PLANTING SPECIFICATIONS). AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS. JET BACKFILL WITH WATER TO ELIMINATE VOIDS.
6. COMPACTED BACKFILL MIX (75%).
7. UNDISTURBED NATIVE SOIL.

1 SHRUB AND PERENNIAL DETAIL

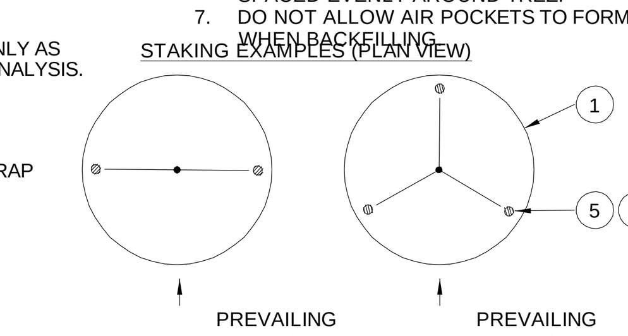
SCALE: NOT TO SCALE



1. TREE CANOPY.
2. NYLON TREE STRAPS AT ENDS OF WIRES - SECURE TO STAKE OR DEADMEN WITH NAILS.
3. 12 GAUGE GALVANIZED WIRE. SECURE TO TRUNK JUST ABOVE LOWEST MAJOR BRANCHES.
4. 24" X 3/4" P.V.C. MARKERS OVER WIRES.
5. PRESSURE-TREATED WOOD STAKE, 2" DIA. EXTEND STAKES 12" MIN. INTO UNDISTURBED SOIL.
6. PRESSURE-TREATED WOOD DEADMEN, TWO PER TREE (MIN.). BURY OUTSIDE OF PLANTING PIT AND 18" MIN. INTO UNDISTURBED SOIL.
7. TRUNK FLARE.
8. WOOD MULCH TREE RING 3' DIA MIN. TYPE AND DEPTH PER PLANS. DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
9. FINISH GRADE. SEE PLANTING PLAN FOR GROUND COVER TREATMENT
10. ROOT BALL-SEE NOTE 3, THIS DETAIL
11. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
12. UNDISTURBED NATIVE SOIL
13. SOFT VELCRO, OR OTHER FABRIC WRAP
14. CENTRAL LEADER, SEE CROWN OBSERVATION DETAIL

NOTES:
1. SCARIFY SIDES OF PLANTING PIT PRIOR TO SETTING TREE.
2. REMOVE EXCESS SOIL APPLIED ON TOP OF THE ROOTBALL THAT COVERS THE ROOT FLARE. THE PLANTING HOLE DEPTH SHALL BE SUCH THAT THE ROOTBALL RESTS ON UNDISTURBED SOIL, AND THE ROOT FLARE IS 3"-5" ABOVE FINISH GRADE.
3. CUT OFF BOTTOM 1/3 OF WIRE BASKET BEFORE PLACING TREE IN HOLE, CUT OFF AND REMOVE REMAINDER OF BASKET AFTER TREE IS SET IN HOLE, REMOVE ALL NYLON TIES, TWINE, ROPE, AND OTHER PACKING MATERIAL. REMOVE ALL BURLAP FROM AROUND ROOTBALL.
4. TREE WRAP IS NOT TO BE USED ON ANY NEW PLANTINGS, EXCEPT IN LATE FALL PLANTING SITUATIONS, AND ONLY THEN AFTER CONSULTATION WITH THE LANDSCAPE ARCHITECT. WHEN WRAPPING TREE, WRAP FROM TRUNK FLARE TO LOWEST MAJOR BRANCH.
5. REMOVE ALL NURSERY STAKES AFTER PLANTING.
6. FOR TREES OVER 3" CALIPER, USE THREE STAKES OR DEADMEN (AS APPROPRIATE), SPACED EVENLY AROUND TREE.
7. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.

STAKING EXAMPLES (PLAN VIEW)



2 TREE PLANTING DETAIL

SCALE: NOT TO SCALE

PLANTING NOTES

GENERAL
1. ALL WORK SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES, STANDARDS, AND SPECIFICATIONS.
2. LANDSCAPE DESIGN IS DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN TAKEOFFS AND QUANTITY CALCULATIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE LANDSCAPE LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN SHALL TAKE PRECEDENCE AND NOTIFY THE LANDSCAPE ARCHITECT OF THESE DISCREPANCIES. MINOR ADJUSTMENTS TO THE LANDSCAPE MATERIAL AND LOCATIONS MAY BE PROPOSED FOR CITY CONSIDERATION AT THE CONSTRUCTION DOCUMENT STAGE TO RESPOND TO MARKET AND FIELD CONDITIONS. HOWEVER, THERE SHALL BE NO REDUCTION IN THE NUMBER AND SIZE OF MATERIALS.
3. CONTRACTOR SHALL MAKE HIMSELF AWARE OF THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITIES AND/OR ANY INJURY TO ANY PERSON. THIS DRAWING IS PART OF A COMPLETE SET OF CONTRACT DOCUMENTS. UNDER NO CIRCUMSTANCES SHOULD THIS PLAN BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE AND REVIEW ALL RELATED PLANS AND DOCUMENTS.
4. ALL UTILITY EASEMENTS SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT.
5. THE CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY EXISTING PLANTS INDICATED AS "TO REMAIN". ANY SUCH PLANTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH THE SAME SPECIES, SIZE, AND QUANTITY AT THE CONTRACTOR'S OWN EXPENSE, AND AS ACCEPTABLE TO THE OWNER. REFER TO THE TREE PROTECTION NOTES ON THE PLANS (AS APPLICABLE).
6. LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND NOTIFY THE GENERAL CONTRACTOR IN WRITING OF UNSATISFACTORY CONDITIONS. IF SITE CONDITIONS OR PLANT AVAILABILITY REQUIRE CHANGES TO THE PLAN, THEN AN APPROVAL WILL BE OBTAINED FROM THE CITY. DO NOT PROCEED UNTIL CONDITIONS HAVE BEEN CORRECTED.
7. ALL CONSTRUCTION DEBRIS AND MATERIAL SHALL BE REMOVED AND CLEANED OUT PRIOR TO INSTALLATION OF TOPSOIL, TREES, SHRUBS, AND TURF.
8. FOR ALL INFORMATION ON SURFACE MATERIAL OF WALKS, DRIVES, AND PARKING LOTS, SEE THE SITE PLAN. SEE PHOTOMETRIC PLAN FOR FREE STANDING LIGHTING INFORMATION.
9. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT ONE WEEK PRIOR TO BEGINNING CONSTRUCTION.
10. WINTER WATERING SHALL BE AT THE EXPENSE OF THE CONTRACTOR UNTIL SUCH TIME AS FINAL ACCEPTANCE IS RECEIVED.
11. ALL LANDSCAPE CONSTRUCTION PRACTICES, WORKMANSHIP, AND ETHICS SHALL, BE IN ACCORDANCE WITH INDUSTRY STANDARDS SET FORTH IN THE CONTRACTORS HANDBOOK PUBLISHED BY THE COLORADO LANDSCAPE CONTRACTORS ASSOCIATION.
12. LANDSCAPE AND IRRIGATION WORK SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.

FINISH GRADING AND SOIL PREPARATION
13. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN FINISH GRADES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GEOTECHNICAL REPORT, THE GRADING PLANS, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.
14. AFTER FINISH GRADES HAVE BEEN ESTABLISHED, IT IS RECOMMENDED THAT THE CONTRACTOR SHALL HAVE SOIL SAMPLES TESTED BY AN ESTABLISHED SOIL TESTING LABORATORY FOR THE FOLLOWING: GENERAL SOIL FERTILITY, PH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ADSORPTION RATIO (SAR) AND BORON CONTENT. EACH SAMPLE SUBMITTED SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL. CONTRACTOR SHALL ALSO SUBMIT THE PROJECT'S PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES. THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): GENERAL SOIL PREPARATION AND BACKFILL MIXES, PRE-PLANT FERTILIZER APPLICATIONS, AND ANY OTHER SOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
15. THE CONTRACTOR SHALL RECOMMEND INSTALLATION OF SOIL AMENDMENTS AND FERTILIZERS PER THE SOILS REPORT FOR THE THE OWNER/OWNER'S REPRESENTATIVE CONSIDERATION.
16. AT A MINIMUM, ALL TOPSOIL SHALL BE AMENDED WITH NITROGEN STABILIZED ORGANIC AMENDMENT COMPOST AT A RATE OF 5.0 CUBIC YARDS AND AMMONIUM PHOSPHATE 16-20-0 AT A RATE OF 15 POUNDS PER THOUSAND SQUARE FEET OF LANDSCAPE AREA. COMPOST SHALL BE MECHANICALLY INTEGRATED INTO THE TOP 6" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING. GROUND COVER & PERENNIAL BED AREAS SHALL BE AMENDED AT A RATE OF 8 CUBIC FEET PER THOUSAND SQUARE FEET OF NITROGEN STABILIZED ORGANIC AMENDMENT AND 10 LBS. OF 12-12-12 FERTILIZER PER CU. YD., ROTOTILLED TO A DEPTH OF 8". NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED FOR ORGANIC AMENDMENTS.

PLANTING
17. ALL DECIDUOUS TREES SHALL HAVE FULL, WELL-SHAPED HEADS/ALL EVERGREENS SHALL BE UNSHEARED AND FULL TO THE GROUND; UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADER IS DAMAGED OR REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING.
18. ALL PLANTS WITHIN A SPECIES SHALL HAVE SIMILAR SIZE, AND SHALL BE OF A FORM TYPICAL FOR THE SPECIES. ANY PLANT DEEMED UNACCEPTABLE BY THE LANDSCAPE ARCHITECT SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND SHALL BE REPLACED WITH AN ACCEPTABLE PLANT OF LIKE TYPE AND SIZE AT THE CONTRACTOR'S OWN EXPENSE. ANY PLANTS APPEARING TO BE UNHEALTHY, EVEN IF DETERMINED TO STILL BE ALIVE, SHALL NOT BE ACCEPTED. THE LANDSCAPE ARCHITECT SHALL BE THE SOLE JUDGE AS TO THE ACCEPTABILITY OF PLANT MATERIAL.
19. ALL TREES SHALL BE GUYED AND WOOD STAKED AS PER DETAILS. NO 'T-STAKES' SHALL BE USED FOR TREES.
20. ALL PLANT MATERIALS SHALL BE TRUE TO TYPE, SIZE, SPECIES, QUALITY, AND FREE OF INJURY, BROKEN ROOT BALLS, PESTS, AND DISEASES, AS WELL AS CONFORM TO THE MINIMUM REQUIREMENTS DESCRIBED IN THE "AMERICAN STANDARD FOR NURSERY STOCK". FOLLOW GREENCO TREE PLANTING RECOMMENDATIONS FOR MINIMUM QUALITY REQUIREMENTS FOR TREES.
21. ALL TREE AND SHRUB BED LOCATIONS ARE TO BE STAKED OUT ON SITE FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
22. ALL TREES PLANTED ADJACENT TO PUBLIC AND/OR PEDESTRIAN WALKWAYS AND/OR SIGHT TRIANGLES SHALL BE PRUNED CLEAR OF ALL BRANCHES BETWEEN GROUND AND A HEIGHT OF EIGHT (8) FEET FOR THAT PORTION OF THE PLAN LOCATED OVER THE SIDEWALK AND/OR ROAD.
23. ALL TURF IS SPECIFIED THROUGH GREEN VALLEY TURF COMPANY, 13159 N. US HIGHWAY 85, LITTLETON, CO 80125, (303) 798-6764. RTF TALL FESCUE HAS BEEN APPROVED IN MANY JURISDICTIONS AS A LOW-MODERATE HYDROZONE PLANT MATERIAL. INSTALL AND MAINTAIN IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
24. ALL PLANT MATERIAL SHALL NOT BE PLANTED PRIOR TO INSTALLATION OF TOPSOIL.
25. ALL PLANT BEDS SHALL BE CONTAINED WITH STEEL EDGER. STEEL EDGER IS NOT REQUIRED ALONG CURBS, WALKS OR BUILDING FOUNDATIONS. ALL EDGING SHALL OVERLAP AT JOINTS A MINIMUM OF 6-INCHES, AND SHALL BE FASTENED WITH A MINIMUM OF 4 PINS PER EACH 10 FOOT SECTION. THE TOP OF ALL EDGING MATERIAL SHALL BE A ROLLED TOP AND 1/2 INCH ABOVE THE FINISHED GRADE OF ADJACENT LAWN OR MULCH AREAS. COLOR: BLACK.
26. THE DEVELOPER, HIS SUCCESSOR, OR ASSIGNEE SHALL BE RESPONSIBLE FOR ESTABLISHING AND CONTINUING A REGULAR PROGRAM OF MAINTENANCE FOR ALL LANDSCAPED AREAS. SEE LANDSCAPE GUARANTEE AND MAINTENANCE NOTE.
27. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF ALL FIRE HYDRANTS.
28. LANDSCAPE CONTRACTOR TO SUBMIT SAMPLES OF MISCELLANEOUS LANDSCAPING MATERIALS TO THE LANDSCAPE ARCHITECTS AND OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION, IE.; MULCH, EDGER, LANDSCAPE FABRIC, ETC.

MULCHING
29. ALL MULCH IS RECOMMENDED THROUGH SANTA FE SAND AND GRAVEL, 6601 S SANTA FE DRIVE, LITTLETON, CO 80120, (303) 794-5960
30. AFTER ALL PLANTING IS COMPLETE, THE CONTRACTOR SHALL INSTALL A MINIMUM 4" THICK LAYER OF MULCH AS SPECIFIED IN THE PLANTING LEGEND. INSTALL A 4" THICK RING OF DOUBLE SHREDDED CEDAR BARK MULCH AROUND ALL PLANT MATERIAL IN ROCK MULCH BEDS WHERE LANDSCAPING IS SHOWN ON THE PLANS. WOOD MULCH RING SIZE SHALL BE THE CONTAINER SIZE OF THE SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES. TREE RING SIZE SHALL BE GREEN INDUSTRIES OF COLORADO INDUSTRY STANDARD WIDTH.
31. ALL MULCH SHALL BE HARVESTED IN A SUSTAINABLE MANNER FROM A LOCAL SOURCE.
32. INSTALL DEWITT PRO-5 WEED BARRIER FABRIC UNDER ALL ROCK MULCH SHRUB BEDS SPECIFIED ON THE PLANS ONLY. NO LANDSCAPE FABRIC SHALL BE USED IN WOOD MULCH AREAS. NO PLASTIC WEED BARRIERS SHALL BE SPECIFIED.
33. ABSOLUTELY NO EXPOSED GROUND SHALL BE LEFT SHOWING ANYWHERE ON THE PROJECT AFTER MULCH HAS BEEN INSTALLED.
34. ALL PLANTING AREAS WITH LESS THAN A 4:1 GRADIENT SHALL RECEIVE A LAYER OF MULCH, TYPE AND DEPTH PER PLANS. SUBMIT 1 CUBIC FOOT SAMPLE OF MULCH (ONE SAMPLE PER TYPE) TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE MULCH SHALL BE SPREAD EVENLY THROUGHOUT ALL PLANTING AREAS EXCEPT SLOPES 4:1 OR STEEPER, OR AS OTHERWISE DENOTED ON THE PLAN. ABSOLUTELY NO EXPOSED GROUND SHALL REMAIN IN AREAS TO RECEIVE MULCH AFTER MULCH HAS BEEN INSTALLED.
35. ALL PLANTING AREAS ON SLOPES OVER 4:1 SHALL RECEIVE COCONUT FIBER EROSION CONTROL NETTING FROM ROLLS. NETTING SHALL BE #CT-125, AS MANUFACTURED BY NORTH AMERICAN GREEN (OR EQUAL). INSTALL AND STAKE PER MANUFACTURER'S SPECIFICATIONS. SEE ALSO THE CIVIL ENGINEER'S EROSION CONTROL PLAN.

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#	Date	Issue / Description	Init.
0	3/27/18	CLIENT SET	JDP
1	4/6/18	SDP SUBMITTAL	JDP
2	6/8/18	2ND SDP SUBMITTAL	JDP
3	8/7/18	BID SET	JDP
4	8/10/18	3RD SDP SUBMITTAL	JDP

Project No:	LST00067
Drawn By:	DTT
Checked By:	JDP
Date:	4/6/2018

LANDSCAPE PLAN

L1.1