

STORMWATER MANAGEMENT PLAN (SWMP)

for

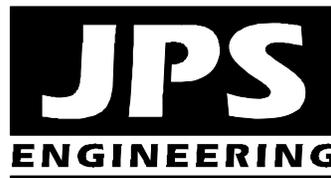
**ARACO ENTERPRISES LLC - BUILDING ADDITION
7470 SOUTHMOOR DRIVE, FOUNTAIN, CO**

Prepared for:

Araco Enterprises LLC
7470 Southmoor Drive
Fountain, CO 80817

October 24, 2019

Prepared by:



19 E. Willamette Ave.
Colorado Springs, CO 80903
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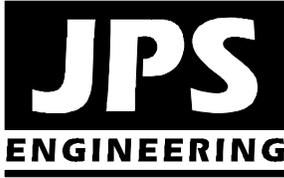
JPS Project No. 111705
PPR-19-__

**ARACO ENTERPRISES LLC – BUILDING ADDITION
STORMWATER MANAGEMENT PLAN (SWMP)
TABLE OF CONTENTS**

	<u>PAGE</u>
I. QUALIFIED STORMATER MANAGER.....	1
II. SPILL PREVENTION AND RESPONSE PLAN.....	2
III. MATERIALS HANDLING	3
IV. POTENTIAL SOURCES OF POLLUTION	4
V. IMPLEMENTATION OF CONTROL MEASURES	5
VI. SITE DESCRIPTION	7
VII. SITE MAP.....	7
VIII. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT	8
IX. INSPECTION REPORTS	8

FIGURES

Grading & Erosion Control (GEC) Plans



**ARACO ENTERPRISES – BUILDING ADDITION
7470 SOUTHMOOR DRIVE, FOUNTAIN, CO
STORMWATER MANAGEMENT PLAN (SWMP)**

August, 2019

I. QUALIFIED STORMWATER MANAGER

A. Qualified Stormwater Manager

Contractor: Araco Concrete Contractor, LLC
7470 Southmoor Drive
Fountain, CO 80817
Attn: Arturo Acosta (719)-576-1705
arturo@aracoconcrete.com

B. Applicant / Contact Information

Owner/Developer: Araco Enterprises LLC
7470 Southmoor Drive
Fountain, CO 80817
Attn: Arturo Acosta (719)-576-1705
arturo@aracoconcrete.com

Engineer: JPS Engineering, Inc.
19 E. Willamette Avenue
Colorado Springs, CO 80903
Attn: John P. Schwab, P.E. (719)-477-9429
john@jpsengr.com

II. SPILL PREVENTION AND RESPONSE PLAN

A. Spill Prevention and Response Procedures:

- The primary objective in responding to a spill is to quickly contain the material(s) and prevent or minimize their migration into storm water runoff and conveyance systems. If the release has impacted on-site storm water, it is critical to contain the released materials on site and prevent their release into receiving waters.
- Spill Response Procedures:
 - Notify site superintendent immediately when a spill, or the threat of a spill, is observed. The superintendent shall assess the situation and determine the appropriate response.
 - If spills represent an imminent threat of escaping on-site facilities and entering the receiving waters, site personnel shall respond immediately to contain the release and notify the superintendent after the situation has stabilized.
 - The site superintendent, or his designee, shall be responsible for completing a spill reporting form and for reporting the spill to the appropriate agency.
 - Spill response equipment shall be inspected and maintained as necessary to replace any materials used in spill response activities.
- Spill kits shall be on-hand at all fueling sites. Spill kit location(s) shall be reported to the SWMP Administrator.
- Absorbent materials shall be on-hand at all fueling areas for use in containing inadvertent spills. Containers shall be on-hand at all fueling sites for disposal of used absorbents.
- Recommended components of spill kits include the following:
 - Oil absorbent pads (one bale)
 - Oil absorbent booms (40 feet)
 - 55-gallon drums (2)
 - 9-mil plastic bags (10)
 - Personal protective equipment including gloves and goggles

B. Notification Procedures:

- In the event of an accident or spill, the SWMP Administrator shall be notified as a minimum.
- Depending on the nature of the spill material involved, the Colorado Department of Public Health and Environment (24-hour spill reporting line: 877-518-5608), downstream water users, or other agencies may also need to be notified.
- Any spill of oil which 1) violates water quality standards, 2) produces a “sheen” on a surface water, or 3) causes a sludge or emulsion, or any hazardous substance release, or hazardous waste release which exceeds the reportable quantity, must be reported immediately by telephone to the National Response Center Hotline at (800)-424-8802.

III. MATERIALS HANDLING

A. General Materials Handling Practices:

- Potential pollutants shall be stored and used in a manner consistent with the manufacturer's instructions in a secure location. To the extent practical, material storage areas should not be located near storm drain inlets and should be equipped with covers, roofs, or secondary containment as required to prevent storm water from contacting stored materials. Chemicals that are not compatible shall be stored and segregated areas so that spilled materials cannot combine and react.
- Disposal of materials shall be in accordance with the manufacturer's instructions and applicable local, state, and federal regulations.
- Materials no longer required for construction shall be removed from the site as soon as possible.

B. Adequate garbage, construction waste, and sanitary waste handling and disposal facilities shall be provided as necessary to keep the site clear of obstruction and BMPs clear and functional.

C. Specific Materials Handling Practices:

- All pollutants, including waste materials and demolition debris, that occur on-site during construction shall be handled in a way that does not contaminate storm water.
- All chemicals including liquid products, petroleum products, water treatment chemicals, and wastes stored on site shall be covered and contained and protected from vandalism.
- Maintenance and repair of all equipment and vehicles involving oil changes, hydraulic system drain down, de-greasing operations, fuel tank drain down and removal, and other activities which may result in the accidental release of contaminants, shall be conducted under cover during wet weather and on an impervious surface to prevent release of contaminants onto the ground. Materials spilled during maintenance operations shall be cleaned up immediately and properly disposed of.
- Wheel wash water shall be settled and discharged on site by infiltration. Wheel wash water shall not be discharged to the storm water system.
- Application of agricultural chemicals, including fertilizers and pesticides, shall be conducted in a manner and ad application rates that will not result in loss of chemical to storm water runoff. Follow manufacturer's recommendations for application rates and procedures.
- pH-modifying sources shall be managed to prevent contamination of runoff and storm water collected on site. The most common sources of pH-modifying materials are bulk cement, cement kiln dust (CKD), fly ash, new concrete washing and curing waters, waste streams generated from concrete grinding and sawing, exposed aggregate processes, and concrete pumping and mixer washout waters.

- D. Equipment maintenance and fueling: Contractor shall implement appropriate spill prevention and response procedures
- E. Concrete Wash Water: Unless confined in a pre-defined, bermed containment area, the cleaning of concrete truck delivery chutes is prohibited at the job site. The discharge of water containing waste cement to the storm drainage system is prohibited.

IV. POTENTIAL SOURCES OF POLLUTION

Potential pollutant sources will be addressed as follows:

POTENTIAL POLLUTION SOURCES

Potential Pollution Sources	Possible Site Contributions of Pollutants to Stormwater Discharges
All disturbed and stored soils	Stockpiles of fill from site excavations, topsoil stockpiles.
Vehicle tracking of sediments	See GEC Plans for vehicle entrance and exits. Vehicle tracking control pads will be installed and maintained at all construction access points.
Management of contaminated soils	No contaminated soils are expected to be encountered.
Loading and unloading operations	Loading and unloading of construction materials
Outdoor storage activities (building material, fertilizers, chemicals, etc.)	Stockpiles and equipment storage areas (no fertilizers, petroleum or chemical products will be stored on-site).
Vehicle and equipment maintenance and fueling	Fueling will occur on-site using mobile equipment (will not be stored on-site). Equipment maintenance will occur off-site.
Significant dust or particulate-generating processes	Vehicle tracking, soil removed from excavation, stockpiles.
Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, oils, etc.	All equipment maintenance will occur off-site. No fertilizers, pesticides, detergents, and/or solvents will be used or stored on-site.
On-site waste management practices (waste piles, liquid wastes, dumpsters, etc.)	All waste will be removed from site as soon as possible, and disposed of at a permitted off-site disposal site
Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment	Properly contained concrete washout areas may be designated and maintained within the site, based on construction phasing.
Dedicated asphalt and concrete batch plants	No dedicated asphalt or concrete batch plants are planned on-site.

Non-industrial waste sources such as worker trash and portable toilets	Worker trash will be removed from the site as soon as possible. Portable toilets will be utilized and maintained as required based on construction phasing.
Other areas or procedures where potential spills can occur	Petroleum releases from equipment are possible.

V. IMPLEMENTATION OF CONTROL MEASURES

Narrative Description of Appropriate Stormwater Controls and Measures

Construction Phasing

Phase 1 – Mobilization, Clearing & Grubbing Operations

Clearing and grubbing will be completed prior to initial overlot grading activities for this site. Perimeter control measures will be installed prior to the start of construction operations. These perimeter controls will include silt fencing and a vehicle tracking control pad.

Phase 2 – Earthwork, Road Grading, and Utility Installation

Major earthwork activities will include overlot grading, foundation over-excavation, backfill, and compaction, utility construction, and rough and final grading for site improvements.

Phase 3 – Building Construction and Final Grading Activities

This phase will include final grading of building sites and landscape areas. Appropriate temporary BMP's will be maintained until vegetation is re-established throughout the site.

Phase 4 – Stabilization

All disturbed areas within the project will be revegetated. The specific revegetation requirements will include the following:

- Landscape plantings – per approved landscape plans
- Native seeding – all other disturbed areas

Phase 5 – Removal of Temporary Control Measures

Temporary sediment control measures shall remain in place until vegetation has been adequately established to prevent erosion from storm runoff. Once adequate vegetation has been established, the temporary erosion control measures will be removed and disposed of off-site.

BMP's for Stormwater Pollution Prevention (See GEC Plans):

<u>Phase</u>	<u>BMP</u>
Clearing and Grubbing necessary for perimeter controls	VTC's
Initiation of perimeter controls	Silt Fence
Remaining clearing and grubbing	
Site Grading	IP
Extended detention basin (sediment basin during construction)	EDB / SB
Stabilization	SM
Removal of erosion control measures	

Proposed Sequence of Major Activities / Timing Schedule

The anticipated start and completion time period of the construction activities is from January, 2020 through September, 2020. The estimated schedule for erosion control activities is as follows:

- Install Initial BMP's: January, 2020
- Site Grading: January, 2020
- Seeding & Mulching: August, 2020
- Final Stabilization: September, 2021

Erosion and Sediment Controls:

- 1) Structural Practices / Control Measures (all structural Control Measures shall conform to ECM / DCM standards and details):
 - a. Silt fence at toe of slope along downstream limits of disturbed areas (see detail on Sh. C3)
 - b. Inlet protection (IP) at storm inlets (see detail on Sh. C3)
 - c. Sediment Basin (SB)
 - d. Extended Detention Basins (EDB); (see details on Sh. C1.1)
- 2) Non-Structural Practices:
 - Preserve existing vegetation beyond limits of work
 - Temporary seeding of areas to remain disturbed for significant periods of time
 - Permanent seeding/mulching (SM) upon completion of rough grading

Other Controls:

- Contractor shall dispose of all waste materials at a permitted off-site disposal site.
- Vehicle tracking pads will be installed at all access points to limit off-site soil tracking.
- Street Sweeping: Contractor shall perform street sweeping following storm events and as required to keep adjoining public streets clean.

VI. SITE DESCRIPTION

- A. Nature of Construction Activity
 - Araco Enterprises LLC is planning to construct a 6,000 square-foot Building Addition on the east side of their existing contractor's office building at 7470 Southmoor Drive in Fountain, Colorado. The project site (El Paso County Assessor's No. 65244-00-085) is an unplatted 4.2-acre developed parcel described as a tract in the Southeast Quarter of Section 24, Township 15 South, Range 66 West of the 6th P.M. The property is located along the southwest side of Southmoor Drive. The property is zoned M (Industrial). Site development activities will include site grading, utilities, building addition construction, internal roads, parking lots, and site landscaping.
- B. Proposed sequence of major activities:
 - Mobilization / implementation of BMP's
 - Clearing and grubbing
 - Rough grading
 - Final grading of building sites and parking areas
- C. Total site area = 4.2 acres; Projected disturbed area = 2.1 acres (approx.)
- D. Soil erosion potential and potential impacts upon discharge:
 - The majority of on-site soils are comprised of a combination of "Ellicott loamy coarse sand" and "Schamber-Razor complex," with a small area comprised of "Manzanola silty clay loam" soils along the southeast corner of the site. The majority of on-site soils are classified as Hydrologic Soils Group A (high infiltration rate; low to moderate erosion hazard).
 - Potential impacts upon discharge would include sedimentation closing and/or adversely affecting downstream waterways and habitat.
- E. Existing vegetation on site:
 - Native grasses and shrubs (approx. 70% coverage, based on site inspection)
- F. Allowable non-stormwater components of discharge: none anticipated
- G. Receiving water: Surface drainage from this site will flow southwesterly into the existing downstream drainage system which flows to Fountain Creek (ultimate receiving water). The stormwater outfall immediately downstream of the project site is an existing CDOT detention area within the Mesa Ridge Parkway right-of-way.
- H. Stream Crossings: There are no stream crossings located within the construction site boundary.

VII. SITE MAP

- SWMP Maps are provided on GEC Plans – Sheet C1
- Qualified Stormwater Manager shall update SWMP Maps as required based on field conditions throughout the project.
- Contractor shall update and annotate the SWMP Maps to show the location of the construction trailer, stabilized staging area, CWA, and other items as these locations are determined on site.

VIII. FINAL STABILIZATION AND LONG-TERM STORMWATER MANAGEMENT

- A. Permanent seeding will be provided to achieve long-term stabilization of the site.
- B. Seed Mix: “Foothills Mix” or approved equal:
- C. Seeding Application Rate: Drill seed 0.25” to 0.5” into the soil. In small areas not accessible to a drill, hand broadcast at double the rate and rake 0.25” to 0.5” into the soil. Apply seed at the following rates:
 - o Dryland: 20-25 lbs/acre
 - o Irrigated: 40 lbs/acre
- D. Soil Stabilization Practices:
 - o Mulching Application: Apply 1-1/2 tons of certified weed free hay per acre mechanically crimped into the soil in combination with an organic mulch tackifier. On slopes and ditches requiring a blanket, the blanket shall be placed in lieu of much and mulch tackifier.
- E. Soil Conditioning and Fertilizer Requirements:
 - o Soil conditioner, organic amendment shall be applied to all seeded areas at 3 CY / 1000 SF.
 - o Fertilizer shall consist of 90% fungal biomass (mycelium) and 10% potassium-magnesia with a grade of 6-1-3 or approved equal. Fertilizer shall be applied as recommended by seed supplier.
- F. Final stabilization is reached when all soil-disturbing activities at the site have been completed, and uniform vegetative cover has been established with an individual plant density of at least 70 percent of pre-disturbance levels, or equivalent permanent, physical erosion reduction methods have been employed.
- G. Structural Control Measures:
 - o Re-Seeding and Landscaping for site stabilization
 - o Permanent Stormwater Detention & Water Quality Basin A
- H. Non-Structural Control Measures:
 - o Proper Housekeeping Procedures
 - o Proper Spill Containment Procedures

IX. INSPECTION REPORTS

- A. Qualified Stormwater Manager: Designated Inspector shall be a Qualified Stormwater Manager per CDPHE criteria.
- B. Inspection Frequency:
 - o Contractor shall inspect BMPs bi-weekly as a minimum, and immediately (within 24 hours) after any precipitation or snowmelt event that causes surface erosion (i.e. that results in stormwater running across the ground), to ensure that BMPs are maintained in effective operating condition.

C. Inspection Procedures:

Site Inspection / Observation Items:

- Construction site perimeter and discharge points (including discharges into a storm sewer system)
- All disturbed areas
- Areas used for material / waste storage that are exposed to precipitation
- Other areas having a significant potential for stormwater pollution, such as demolition areas or concrete washout locations, or locations where vehicles enter or leave the site
- Erosion and sediment control measures identified in the SWMP
- Any other structural BMPs that may require maintenance, such as secondary containment around fuel tanks, or the condition of spill response kits.

D. Inspection Requirements:

- Determine if there is any evidence of, or potential for, pollutants entering the drainage system.
- Review BMPs to determine if they still meet design and operational criteria in the SWMP, and if they continue to adequately control pollutants at the site.
- Upgrade and/or revise any BMPs not operating in accordance with the SWMP and update the SWMP to reflect any revisions.

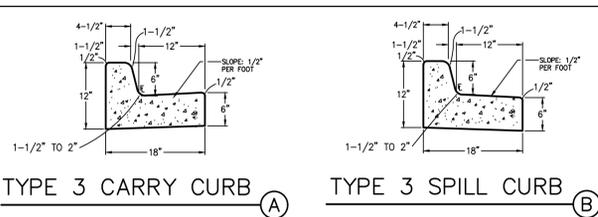
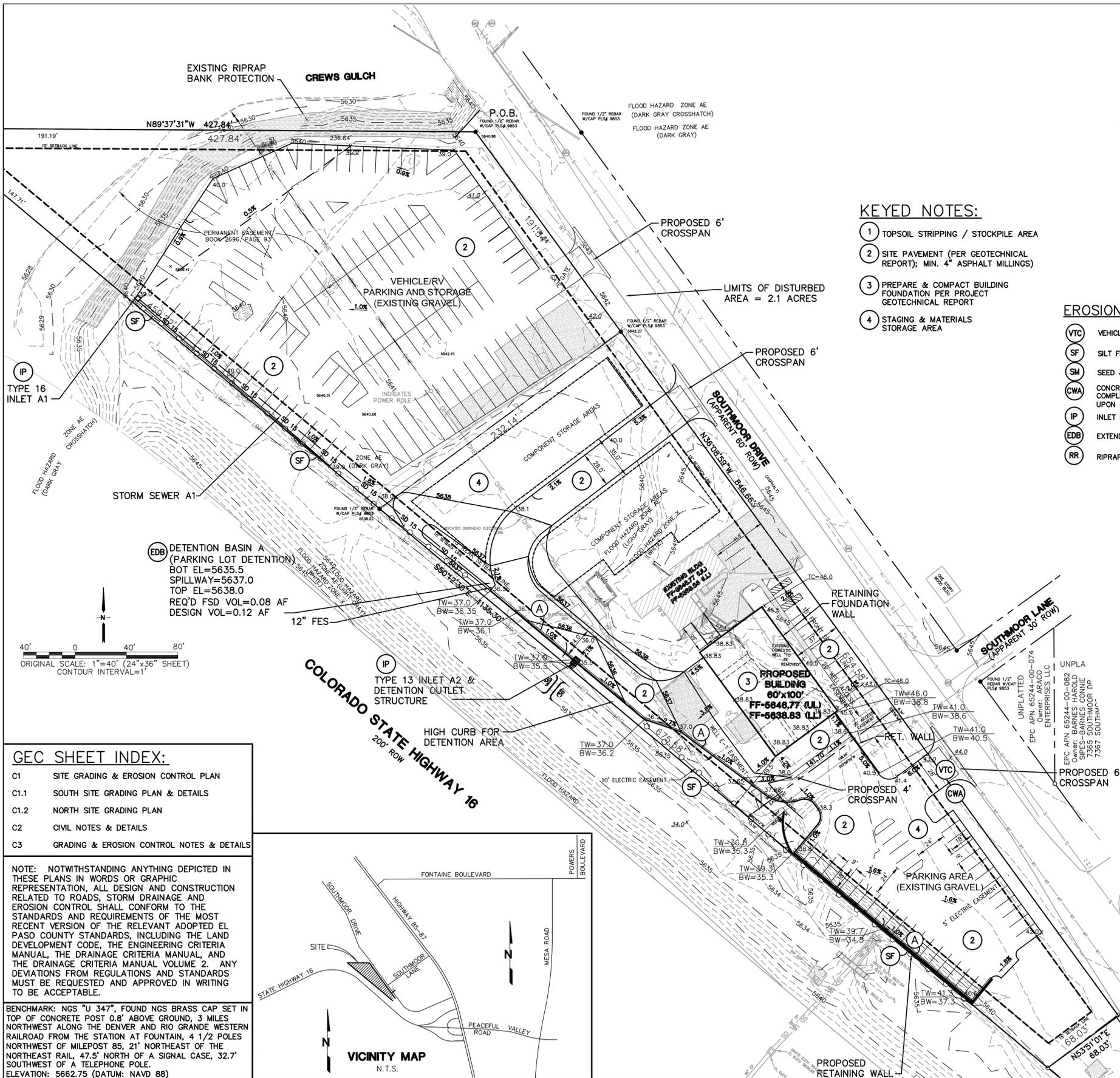
BMP Maintenance / Replacement and Failed BMPs:

- Contractor shall remove sediment that has been collected by perimeter controls, such as silt fence and inlet protection, on a regular basis to prevent failure of BMPs, and remove potential of sediment from being discharged from the site in the event of BMP failure.
- Removed sediment must be moved to an appropriate location where it will not become an additional pollutant source, and should never be placed in ditches or streams.
- Contractor shall update Erosion Control Plans / SWMP Maps and SWMP Plan as required with any new BMPs added during the construction period.
- Contractor shall address BMPs that have failed or have the potential to fail without maintenance or modifications, as soon as possible, immediately in most cases, to prevent discharge of pollutants.

E. Inspection Reports:

- Contractor shall maintain records of all inspection reports, including signed inspection logs, at the project site. SWMP records shall be located in the project trailer.
- Inspection logs shall be signed by the Qualified Stormwater Manager.
- Permittee shall document inspection results and maintain a record of the results for a period of 3 years following expiration or inactivation of permit coverage.

- Site inspection records shall include the following:
 - Inspection date
 - Name and title of personnel making the inspection, along with Inspector's signature
 - Location of discharges of sediment or other pollutants from the site
 - Location(s) of BMPs that need to be maintained
 - Location(s) of BMPs that failed to operate as designed or proved inadequate for a particular location
 - Location(s) where additional BMPs are needed that were not in place at the time of inspection
 - Deviations from the minimum inspection schedule
 - Notations regarding updates and revisions to SWMP Maps based on field conditions



HANDICAP ACCESS NOTES:

1. RAMPS ARE NOT TO BE PLACED IN HANDICAP ACCESS AISLES.
2. ACCESS AISLES MAY NOT EXCEED A 2% (1:48) SLOPE IN ANY DIRECTION.
3. HANDICAP RAMPS MAY NOT EXCEED A SLOPE OF 8% (1:12).
4. THE MINIMUM WIDTH FOR HANDICAPPED RAMPS IS 36 INCHES. THE SIDES OF RAMPS MAY NOT EXCEED A SLOPE OF 10% UNLESS PROTECTED WITH A HANDRAIL.
5. HANDICAPPED PARKING SHALL MEET ALL OTHER APPLICABLE CITY AND ADA CODE REQUIREMENTS.

- KEYED NOTES:**
- 1 TOPSOIL STRIPPING / STOCKPILE AREA
 - 2 SITE PAVEMENT (PER GEOTECHNICAL REPORT); MIN. 4" ASPHALT MILLINGS
 - 3 PREPARE & COMPACT BUILDING FOUNDATION PER PROJECT GEOTECHNICAL REPORT
 - 4 STAGING & MATERIALS STORAGE AREA

EROSION CONTROL LEGEND: LEGEND:

(VTC)	VEHICLE TRACKING CONTROL PAD	---	PROPOSED PROPERTY LINE
(SF)	SILT FENCE	---	EXISTING CONTOURS
(SM)	SEED & MULCH	---	PROPOSED CONTOURS
(CWA)	CONCRETE WASHOUT AREA (TO BE COMPLETELY CONTAINED & REMOVED UPON COMPLETION OF PROJECT)	x 31.5	EXISTING SPOT ELEVATIONS
(IP)	INLET PROTECTION	x 31.5	PROPOSED SPOT ELEVATIONS
(EDB)	EXTENDED DRAINAGE BASIN	-1.0%	PROPOSED GRADES
(RR)	RIPRAP APRON (5'Lx5'Wx2'D; d ₅₀ =12" RR)	DS →	ROOF DRAIN DOWNSPOUTS W/TRANSITION COUPLINGS & CONNECTION TO STORM DRAIN

DESIGN ENGINEER'S STATEMENT:

THESE DETAILED PLANS AND SPECIFICATIONS WERE PREPARED UNDER MY DIRECTION AND SUPERVISION. SAID PLANS AND SPECIFICATIONS HAVE BEEN PREPARED ACCORDING TO THE CRITERIA ESTABLISHED BY THE COUNTY FOR DETAILED ROADWAY, DRAINAGE, GRADING AND EROSION CONTROL PLANS AND SPECIFICATIONS, AND SAID PLANS AND SPECIFICATIONS ARE IN CONFORMITY WITH APPLICABLE MASTER DRAINAGE PLANS AND MASTER TRANSPORTATION PLANS. SAID PLANS AND SPECIFICATIONS MEET THE PURPOSES FOR WHICH THE PARTICULAR ROADWAY AND DRAINAGE FACILITIES ARE DESIGNED AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I ACCEPT RESPONSIBILITY FOR LIABILITY CAUSED BY NEGLIGENT ACTS, ERRORS OR OMISSIONS ON MY PART IN PREPARATION OF THESE DETAILED PLANS AND SPECIFICATIONS.

OWNER/DEVELOPER'S STATEMENT:

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

EL PASO COUNTY:

COUNTY PLAN REVIEW IS PROVIDED ONLY FOR GENERAL CONFORMANCE WITH COUNTY DESIGN CRITERIA. THE COUNTY IS NOT RESPONSIBLE FOR THE ACCURACY AND ADEQUACY OF THE DESIGN, DIMENSIONS, AND/OR ELEVATIONS WHICH SHALL BE CONFIRMED AT THE JOB SITE. THE COUNTY THROUGH THE APPROVAL OF THIS DOCUMENT ASSUMES NO RESPONSIBILITY FOR COMPLETENESS AND/OR ACCURACY OF THIS DOCUMENT.

FILED IN ACCORDANCE WITH THE REQUIREMENTS OF THE EL PASO COUNTY LAND DEVELOPMENT CODE, DRAINAGE CRITERIA MANUAL, AND ENGINEERING CRITERIA MANUAL AS AMENDED.

IN ACCORDANCE WITH ECM SECTION 1.12, THESE CONSTRUCTION DOCUMENTS WILL BE VALID FOR CONSTRUCTION FOR A PERIOD OF 2 YEARS FROM THE DATE SIGNED BY THE EL PASO COUNTY ENGINEER. IF CONSTRUCTION HAS NOT STARTED WITHIN THOSE 2 YEARS, THE PLANS WILL NEED TO BE RESUBMITTED FOR APPROVAL, INCLUDING PAYMENT OF REVIEW FEES AT THE PLANNING AND COMMUNITY DEVELOPMENT DIRECTOR'S DISCRETION.

JENNIFER IRVINE, P.E., COUNTY ENGINEER / ECM ADMINISTRATOR

PCD PROJECT NO. PPR-19-XX



19 E. Willamette Ave.
Colorado Springs, CO 80903
PH: 719-477-9429
FAX: 719-471-0766
www.jpsegr.com



CALL UTILITY NOTIFICATION CENTER OF COLORADO
1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MEMBER UTILITIES.

NO.	DATE	BY	REVISION
1	10/23/19	JPS	EPC SUBMITTAL

ARACO CONCRETE
7470 SOUTHMOOR DR., COLORADO SPRINGS, COLORADO 80817

SITE GRADING & EROSION CONTROL PLAN

HORZ. SCALE: 1"=40'	DRAWN: BJJ
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: LDC	CHECKED: JPS
CREATED: 6/21/19	LAST MODIFIED: 10/23/19
PROJECT NO: 111705	MODIFIED BY: BJJ
SHEET:	

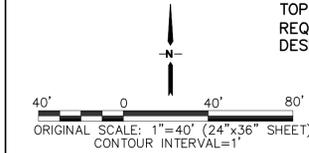
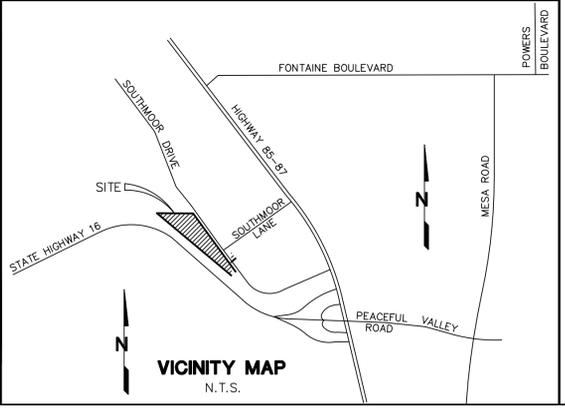
C1

GEC SHEET INDEX:

C1	SITE GRADING & EROSION CONTROL PLAN
C1.1	SOUTH SITE GRADING PLAN & DETAILS
C1.2	NORTH SITE GRADING PLAN
C2	CIVIL NOTES & DETAILS
C3	GRADING & EROSION CONTROL NOTES & DETAILS

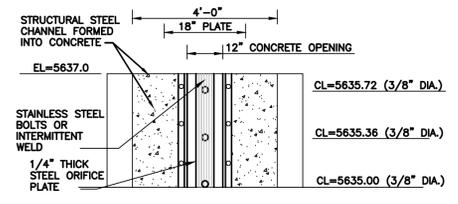
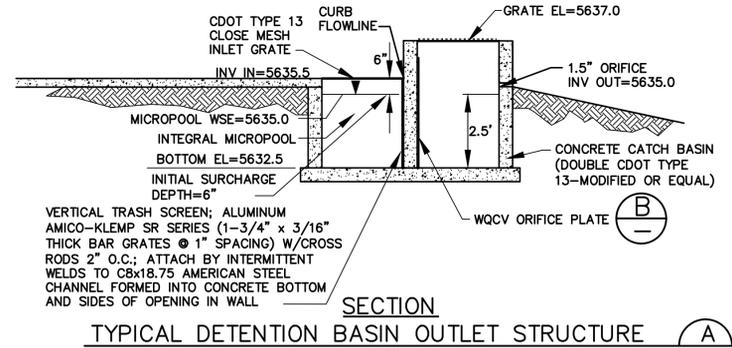
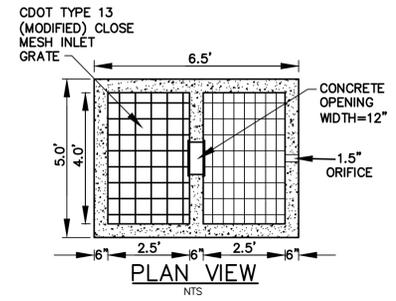
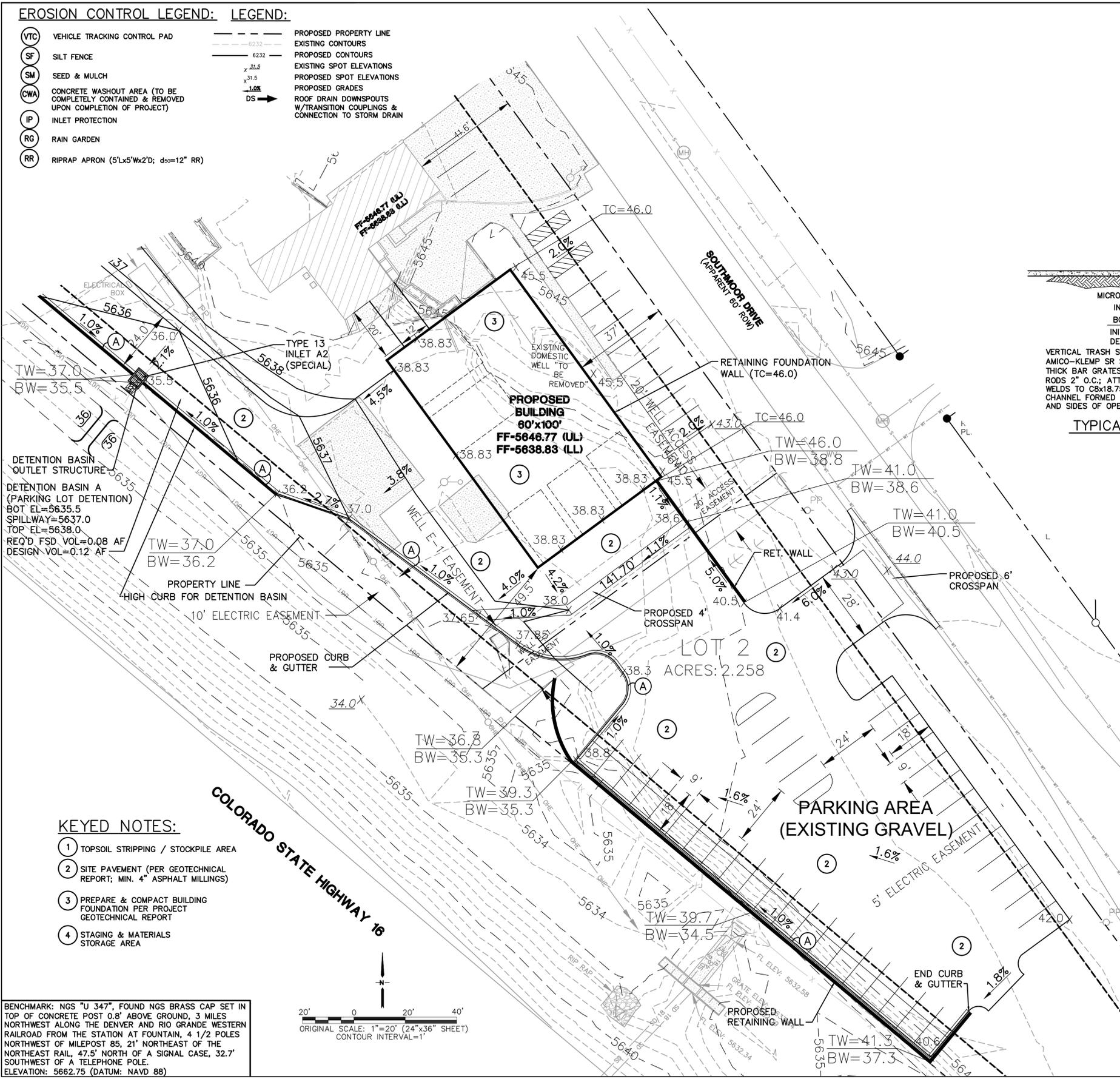
NOTE: NOTWITHSTANDING ANYTHING DEPICTED IN THESE PLANS IN WORDS OR GRAPHIC REPRESENTATION, ALL DESIGN AND CONSTRUCTION RELATED TO ROADS, STORM DRAINAGE AND EROSION CONTROL SHALL CONFORM TO THE STANDARDS AND REQUIREMENTS OF THE MOST RECENT VERSION OF THE RELEVANT ADOPTED EL PASO COUNTY STANDARDS, INCLUDING THE LAND DEVELOPMENT CODE, THE ENGINEERING CRITERIA MANUAL, THE DRAINAGE CRITERIA MANUAL, AND THE DRAINAGE CRITERIA MANUAL VOLUME 2. ANY DEVIATIONS FROM REGULATIONS AND STANDARDS MUST BE REQUESTED AND APPROVED IN WRITING TO BE ACCEPTABLE.

BENCHMARK: NGS "U 347", FOUND NGS BRASS CAP SET IN TOP OF CONCRETE POST 0.8' ABOVE GROUND, 3 MILES NORTHWEST ALONG THE DENVER AND RIO GRANDE WESTERN RAILROAD FROM THE STATION AT FOUNTAIN, 4 1/2 POLES NORTHWEST OF MILEPOST 85, 21' NORTHEAST OF THE NORTHEAST RAIL, 47.5' NORTH OF A SIGNAL CASE, 32.7' SOUTHWEST OF A TELEPHONE POLE.
ELEVATION: 5662.75 (DATUM: NAVD 88)

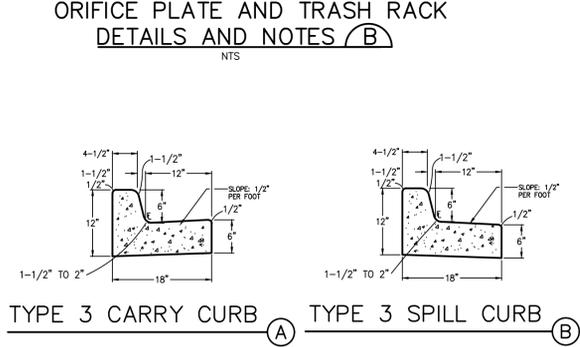


EROSION CONTROL LEGEND: LEGEND:

- (VTC) VEHICLE TRACKING CONTROL PAD
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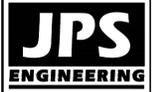
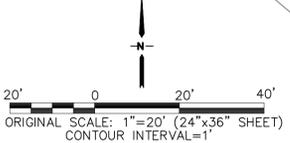


- ORIFICE PLATE NOTES:**
1. MINIMIZE THE NUMBER OF COLUMNS.
 2. PROVIDE GASKET MATERIAL BETWEEN THE ORIFICE PLATE AND CONCRETE.
 3. BOLT PLATE TO CONCRETE 12" MAX. ON CENTER.
- EURY AND WQCV TRASH RACKS:**
1. WELL-SCREEN TRASH RACKS (FOR CIRCULAR ORIFICES) SHALL BE STAINLESS STEEL AND SHALL BE ATTACHED BY INTERMITTENT WELDS ALONG THE EDGE OF THE MOUNTING FRAME.
 2. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.
- OVERFLOW TRASH RACKS:**
1. ALL TRASH RACKS SHALL BE MOUNTED USING STAINLESS STEEL HARDWARE AND PROVIDED WITH HINGED AND LOCKABLE OR BOLTABLE ACCESS PANELS.
 2. TRASH RACKS SHALL BE STAINLESS STEEL, ALUMINUM, OR STEEL. STEEL TRASH RACKS SHALL BE HOT DIP GALVANIZED AND MAY BE HOT POWDER COATED AFTER GALVANIZING.
 3. TRASH RACKS SHALL BE DESIGNED SUCH THAT THE DIAGONAL DIMENSION OF EACH OPENING IS SMALLER THAN THE DIAMETER OF THE OUTLET PIPE.
 4. STRUCTURAL DESIGN OF TRASH RACKS SHALL BE BASED ON FULL HYDROSTATIC HEAD WITH ZERO HEAD DOWNSTREAM OF THE RACK.



- KEYED NOTES:**
- 1 TOPSOIL STRIPPING / STOCKPILE AREA
 - 2 SITE PAVEMENT (PER GEOTECHNICAL REPORT; MIN. 4" ASPHALT MILLINGS)
 - 3 PREPARE & COMPACT BUILDING FOUNDATION PER PROJECT GEOTECHNICAL REPORT
 - 4 STAGING & MATERIALS STORAGE AREA

BENCHMARK: NGS "U 347", FOUND NGS BRASS CAP SET IN TOP OF CONCRETE POST 0.8' ABOVE GROUND, 3 MILES NORTHWEST ALONG THE DENVER AND RIO GRANDE WESTERN RAILROAD FROM THE STATION AT FOUNTAIN, 4 1/2 POLES NORTHWEST OF MILEPOST 85, 21' NORTHEAST OF THE NORTHEAST RAIL, 47.5' NORTH OF A SIGNAL CASE, 32.7' SOUTHWEST OF A TELEPHONE POLE.
ELEVATION: 5662.75 (DATUM: NAVD 88)



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Colorado Springs, CO 80903
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1-800-922-1987
CALL 2-BUSINESS DAYS IN ADVANCE BEFORE YOU DIG, GRADE, OR EXCAVATE FOR THE MEMBER UTILITIES.

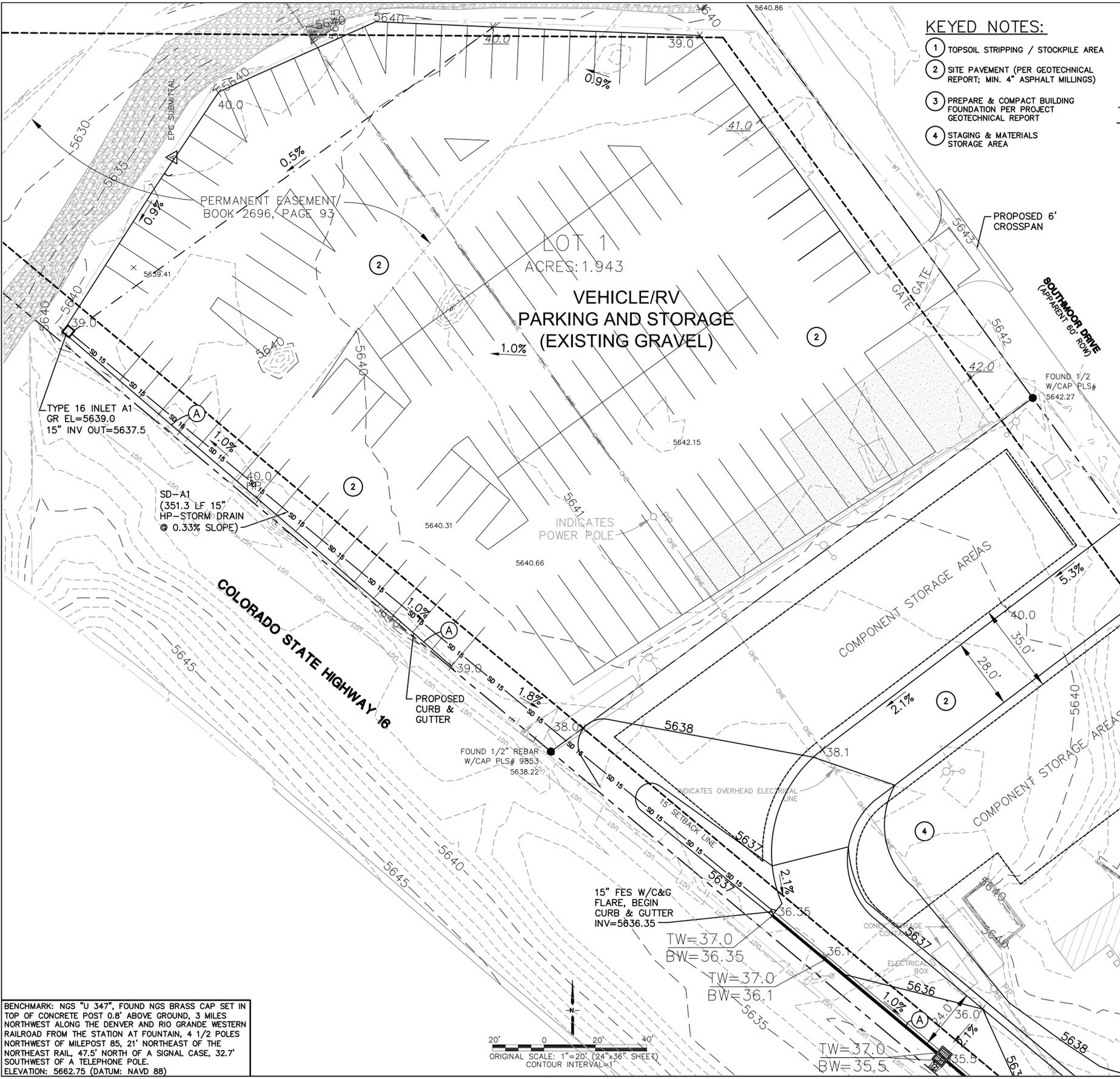
NO.	REVISION	BY	DATE
1	EPC SUBMITTAL	JPS	10/23/19

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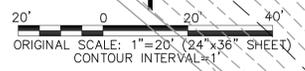
SOUTH SITE GRADING PLAN & DETAILS

HORZ. SCALE: 1"=20'	DRAWN: BJJ
VERT. SCALE: N/A	DESIGNED: JPS
SURVEYED: LDC	CHECKED: JPS
CREATED: 6/21/19	LAST MODIFIED: 10/23/19
PROJECT NO: 111705	MODIFIED BY: BJJ
SHEET:	C1.1

PCD PROJECT NO. PPR-19-XX

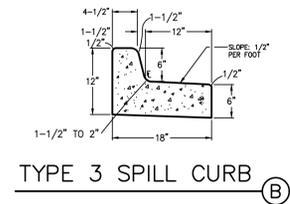
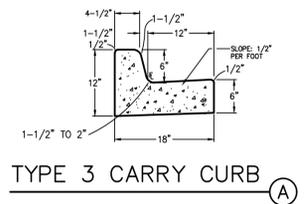


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KEYED NOTES:

- 1 TOPSOIL STRIPPING / STOCKPILE AREA
- 2 SITE PAVEMENT (PER GEOTECHNICAL REPORT; MIN. 4" ASPHALT MILLINGS)
- 3 PREPARE & COMPACT BUILDING FOUNDATION PER PROJECT GEOTECHNICAL REPORT
- 4 STAGING & MATERIALS STORAGE AREA



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NORTH SITE GRADING PLAN



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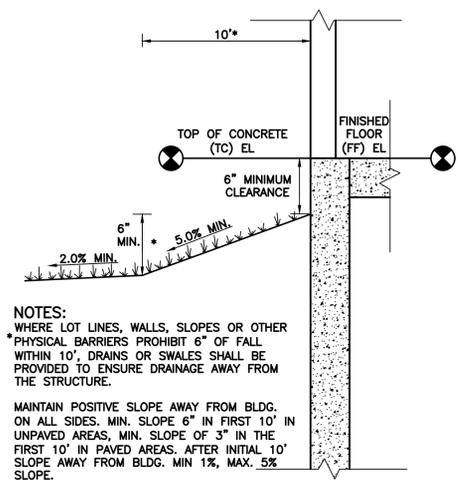
PCD PROJECT NO. PPR-19-XX

C1.2

GENERAL CIVIL NOTES:

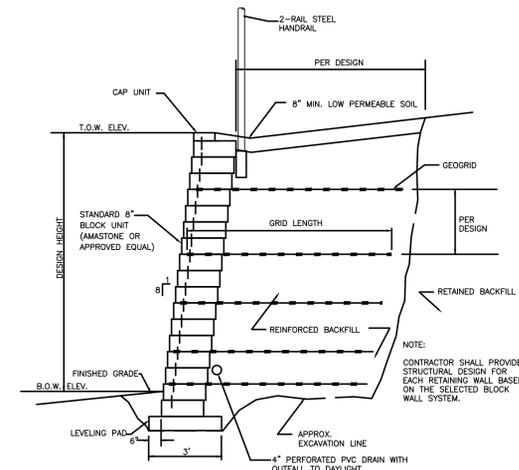
- All construction shall meet the following standards & specifications:
 - 2009 International Building Code,
 - Pikes Peak Regional Building Code, latest edition.
 - El Paso County Engineering Criteria Manual (ECM), latest edition.
 - Project Geotechnical Report.
- The contractor shall be responsible for the notification and field location of all existing utilities, whether shown on the plans or not, before beginning construction. Location of existing utilities shall be verified by the contractor prior to actual construction.
- The contractor shall have one (1) signed copy of these approved plans and one (1) copy of the appropriate design and construction standards and specifications at the job site at all times:
 - El Paso county engineering criteria manual.
- Storm drain pipe shall be rcp class iii with class c bedding unless otherwise noted.
- Stationing is at centerline unless otherwise noted. All elevations are at flowline unless otherwise noted. All dimensions are from face of curb unless otherwise noted. Lengths shown for storm sewer pipes are to center of manhole.
- Contractor shall coordinate with gas, electric, telephone and cable t.v. Utility suppliers for installation of all utilities. Minimum cover for all dry utilities shall be 36".
- Contractor shall remove and dispose of all existing structures, debris, waste and other unsuitable fill material found within the limits of excavation.
- Match into existing grades at 3:1 max cut and fill slopes.
- Revegetation of all disturbed areas shall be done with 4" topsoil and dry land grass seed after fine grading is complete ("foothills seed mix").
- Erosion control shall consist of silt fence and hay bales as shown on the drawing, and topsoil with grass seed, which will be watered until vegetation has been re-established.
- The erosion control measures outlined on this plan are the responsibility of the contractor to monitor and replace, regrade, and rebuild as necessary until vegetation is re-established.
- Contractor shall implement best management practices in a manner that will protect adjacent properties and public facilities from the adverse effects of erosion and sedimentation as a result of construction and earthwork activities within the project site.
- Additional erosion control measures may be required as determined by site conditions.
- The contractor will take the necessary precautions to protect existing utilities from damage due to this operation. Any damage to the utilities will be repaired at the contractor's expense, and any service disruption will be settled by the contractor.
- All backfill, sub-base, and/or base course material shall be compacted per the project geotechnical report and County specifications.
- Concrete used in curb and gutter, sidewalk, and crosspan construction shall meet County criteria.
- All finished grades shall have a minimum 1.0% slope to provide positive drainage.
- Contractor shall obtain all required permits prior to beginning work.

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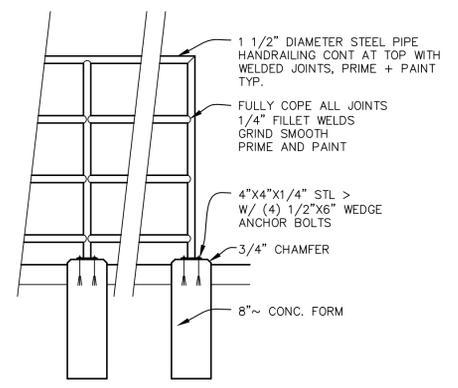
NOTES:
 WHERE LOT LINES, WALLS, SLOPES OR OTHER PHYSICAL BARRIERS PROHIBIT 6" OF FALL WITHIN 10', DRAINS OR SWALES SHALL BE PROVIDED TO ENSURE DRAINAGE AWAY FROM THE STRUCTURE.
 MAINTAIN POSITIVE SLOPE AWAY FROM BLDG. ON ALL SIDES. MIN. SLOPE 6" IN FIRST 10' IN UNPAVED AREAS, MIN. SLOPE OF 3" IN THE FIRST 10' IN PAVED AREAS. AFTER INITIAL 10' SLOPE AWAY FROM BLDG. MIN 1%, MAX. 5% SLOPE.

TYPICAL BUILDING DRAINAGE DETAIL C
 SCALE: NTS



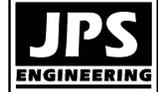
NOTE:
 CONTRACTOR SHALL PROVIDE STRUCTURAL DESIGN FOR EACH RETAINING WALL BASED ON THE SELECTED BLOCK WALL SYSTEM.

MODULAR BLOCK RETAINING WALL DETAIL D
 SCALE: NTS



HANDRAIL DETAIL E
 SCALE: NTS

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CIVIL NOTES & DETAILS

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VERT. SCALE:	N/A	DESIGNED:	JPS
SURVEYED:	LDC	CHECKED:	JPS
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PROJECT NO:	111705	MODIFIED BY:	BJJ

SHEET: C2

