

# Storm Water Pollution Prevention Plan

## For:

WB Alameda and San Pedro  
6100 Alameda NE Boulevard  
Albuquerque, NM 87113  
Google Earth Coordinates: 35.184184, -106.577120  
Project Telephone Number: 806-420-0696

## SWPPP Prepared For:

CKP Construction  
Todd Barbour  
Project Manager  
4600 I-40 West, Suite 302  
Amarillo, TX 79106  
806-420-0696  
tbarbour@ckpconstruction.com

## SWPPP Prepared By:

Inspections Plus  
504 El Paraiso Road NE, Suite B  
Albuquerque, New Mexico 87113  
505-344-9410  
bookkeeping@inspectionsplus.com

## SWPPP Preparation Date:

06/21/2023

## Estimated Project Dates:

**Start Date:** 07/17/2023

**End Date:** 01/31/2024

**TABLE OF CONTENTS**

<b>SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES</b> .....	<b>4</b>
1.1 OPERATOR(S)/SUBCONTRACTOR(S).....	4
1.2 STORM WATER TEAM.....	5
<b>SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING</b> .....	<b>7</b>
2.1 CONSTRUCTION SITE ESTIMATES.....	7
2.2 NATURE AND SEQUENCE OF CONSTRUCTION ACTIVITY.....	8
2.3 PHASE/SEQUENCE OF CONSTRUCTION ACTIVITY.....	10
2.4 SITE FEATURES AND SENSITIVE AREAS TO BE PROTECTED.....	11
2.5 MAPS.....	12
<b>SECTION 3: WATER QUALITY</b> .....	<b>13</b>
3.1 DISCHARGE INFORMATION.....	13
3.2 RECEIVING WATERS.....	13
3.3 IMPAIRED WATERS.....	14
3.4 HIGH WATER QUALITY.....	14
<b>SECTION 4: POLLUTION PREVENTION STANDARDS</b> .....	<b>15</b>
4.1 POTENTIAL SOURCES OF POLLUTION.....	15
4.2 ALLOWABLE NON-STORMWATER DISCHARGE MANAGEMENT.....	16
4.3 DEWATERING PRACTICES.....	17
4.4 NATURAL BUFFERS OR EQUIVALENT SEDIMENT CONTROLS.....	17
<b>SECTION 5: EROSION AND SEDIMENT CONTROLS</b> .....	<b>18</b>
5.1 MINIMIZE AREA OF DISTURBANCE.....	19
5.2 LINEAR SITE PERIMETER CONTROL EXEMPTION.....	24
5.3 FINAL STABILIZATION.....	24
<b>SECTION 6: POLLUTION PREVENTION</b> .....	<b>26</b>
6.1 SPILL PREVENTION AND RESPONSE.....	26
6.2 POLLUTION PREVENTION CONTROLS.....	31
<b>SECTION 7: SPECIAL CONDITIONS</b> .....	<b>35</b>
7.1 EMERGENCY RELATED PROJECTS.....	35
7.2 UIC CLASS 5 INJECTION WELLS.....	35
7.3 CHEMICAL TREATMENT.....	35
<b>SECTION 8: INSPECTIONS &amp; CORRECTIVE ACTIONS</b> .....	<b>36</b>
8.1 INSPECTIONS.....	36
8.2 CORRECTIVE ACTIONS.....	39
8.3 DELEGATION OF AUTHORITY.....	40
<b>SECTION 9: RECORDKEEPING</b> .....	<b>41</b>
9.1 RECORDKEEPING.....	41
9.2 LOG OF CHANGES TO THE SWPPP.....	42
<b>SECTION 10: CERTIFICATION</b> .....	<b>44</b>
<b>SECTION 11: SWPPP PREPARER CERTIFICATION</b> .....	<b>45</b>
<b>SWPPP APPENDICES</b> .....	<b>46</b>
APPENDIX A – SITE MAPS.....	47
APPENDIX B – NOI PERMIT.....	53
APPENDIX C – INSPECTION REPORT.....	54
APPENDIX D – CORRECTIVE ACTION REPORT.....	55
APPENDIX E – SUBCONTRACTOR CERTIFICATIONS, AGREEMENTS, AND DELEGATION OF AUTHORITY.....	56
APPENDIX F – TRAINING LOGS AND CERTIFICATIONS.....	58
APPENDIX G – ADDITIONAL INFORMATION.....	61
<i>Additional Permits</i> .....	62
<i>Endangered Species Certification</i> .....	63
<i>Historic Preservation</i> .....	65
<i>Permit Regulations-Applicable Federal, Tribal, State, or Local Programs</i> .....	66

*Bernalillo County Storm Water Ordinance*.....67  
*Fugitive Dust Plan*.....68  
*Soil Report*.....69  
*Correspondence*.....70  
*Out of Date Documentation (Site Maps, Expired Permits, Other)*.....71  
APPENDIX H – BMP INSTRUCTION AND DETAIL SPECIFICATIONS ..... 72  
APPENDIX I – CONSTRUCTION GENERAL PERMIT ..... 73

## SECTION 1: CONTACT INFORMATION/RESPONSIBLE PARTIES

### *1.1 Operator(s)/Subcontractor(s)*

All operators are required to put together a storm water team and list their individual responsibilities.

**Operator(s):**

CKP Construction

Todd Barbour

Project Manager

4600 I-40 West, Suite 302

Amarillo, TX 79106

806-420-0696

tbarbour@ckpconstruction.com

Area of Control: Demolition, development, vertical of a commercial site

**Emergency 24-Hour Contact:**

CKP Construction

Todd Barbour

806-420-0696

## 1.2 Storm Water Team

All operators are required to put together a storm water team and list their individual responsibilities.

### **Owner:**

Whataburger

Talal Medlej

Property Owner Contact

210-209-3908

tmedlej@wbhq.com

Responsibility: Oversees project development.

### **Operator:**

CKP Construction

Todd Barbour

Project Manager

806-420-0696

tbarbour@ckpconstruction.com

Responsibility: SWPPP Maintenance & Application. Oversees the completion and management of: Construction, BMP installation and maintenance, site stabilization measures, training for onsite personnel, oversees SWPPP preparation and approval of amendments, monitor third-party inspections, action items getting completed & marked off, and inspections.

CKP Construction

Chris Underwood

Site Superintendent

806-584-5743

cunderwood@ckpconstruction.com

Responsibility: Oversees the completion and management of: Construction, BMP installation and maintenance, site stabilization measures, spill response, inspections, monitor third-party inspections, and action items getting completed and marked off.

CKP Construction

Todd Barbour

Project Manager

806-420-0696

tbarbour@ckpconstruction.com

Responsibility: Installs and maintains stormwater & allowable non-stormwater BMPs

**SWPPP Inspector**

A qualified inspector from Inspections Plus, LLC

Inspections Plus

505-344-9410

Responsibility: Conducts stormwater inspections

**SWPPP Preparation:**

Compliance Specialists from Inspections Plus, LLC

505-797-4245

Responsibility: Prepares SWPPP documents

## SECTION 2: SITE EVALUATION, ASSESSMENT, AND PLANNING

### 2.1 *Construction Site Estimates*

The following are size estimates of the WB Alameda and San Pedro site:

Total project area	1.0 Acres
Construction site area to be disturbed	0.08 Acres
Maximum site area* to be disturbed at any one time	0.08 Acres

\*Includes on-site and off-site construction support areas.

## 2.2 Nature and Sequence of Construction Activity

Nature of Construction: CKP Construction will be doing demolition work, developing, and building a Whataburger fast food restaurant with a Drive-Thru at the WB Alameda and San Pedro location. Stormwater will drain to the Albuquerque City storm drain system.

Demolition of Structures: Removal of some paved parking areas, curbs, sidewalks and replacing according to the civil drawings for the new Whataburger fast food/drive through business and property. These activities to be done by CKP Construction. No structure built before 1980.

Development for a commercial project: Grading, excavation, installation of utilities, curbs & gutters, sidewalks, detention/retention ponds and asphalt paving to be done by CKP Construction.

Vertical construction for a commercial project: Grading, excavation for foundation, connecting utilities, vertical construction of a fast food restaurant with a Drive-Thru, construction of parking lot, and landscaping for final stabilization to be done by CKP Construction.

A NOI permit is required for the site because more than an acre will be disturbed, or the site is part of a common plan of development.

BMPs for all the above activities will be applied to the site when necessary and monitored by the on-site inspector. Additional BMPs will be added if needed.

### Off-Site Construction Support Activities

Are there any off-site construction support activities for this project:  Yes  No

### On-Site Construction Support Activities

Are there any on-site construction support activities for this project (i.e., equipment storage areas):  Yes  No

### Typical site business days and times

<input checked="" type="checkbox"/> Monday	Time: 7:00am-5:00pm	<input checked="" type="checkbox"/> Friday	Time: 7:00am-5:00pm
<input checked="" type="checkbox"/> Tuesday	Time: 7:00am-5:00pm	<input type="checkbox"/> Saturday	Time:
<input checked="" type="checkbox"/> Wednesday	Time: 7:00am-5:00pm	<input type="checkbox"/> Sunday	Time:
<input checked="" type="checkbox"/> Thursday	Time: 7:00am-5:00pm		



Is the project located in Indian country lands, or on a property of religious or cultural significance to an Indian Tribe?     Yes     No

If yes, provide the name of the Indian Tribe associated with the area of Indian country, or if not in Indian country, provide the name of the Indian Tribe associated with the property:

Not Applicable

---

Is this project considered a federal facility?     Yes     No

Is the project in response to a public emergency?     Yes     No

If yes, provide the cause of the public emergency, information substantiating its occurrence, and a description of the construction necessary to reestablish affected public services:

Not Applicable

---

## 2.3 Phase/Sequence of Construction Activity

### *General Schedule of Construction Activities*

Please refer to the inspections and the maps for details of current construction activities.

WB Alameda and San Pedro

#### Stage I - Site Preparations: Perimeter Boundary Sediment Controls Installed

- BMPs associated with this stage: Perimeter control(s): Silt Fence, Cut-back Curbs and/or Sidewalks (See SWPPP map in Appendix A for BMP locations).
- Stabilization methods for this stage: Any areas of exposed soil on site that are suspended from earth-disturbing activities, and will be undisturbed for more than fourteen days, to be temporarily stabilized within fourteen days with mulch or temporary seeding (alternative methods include, but are not limited to geotextiles, hydromulch, erosion control blankets, surface covers). Please refer to Section 5.1.12 for temporary stabilization.
- Estimated Start and End Dates for Stage I: 07/2023

#### Stage II - Demolition

- BMPs associated with this Stage: All previous controls will remain in place. Stockpile controls will be used as necessary. (See SWPPP map in Appendix A for BMP locations)
- Stabilization methods for this stage: Any areas of exposed soil on site that are suspended from earth-disturbing activities, and will be undisturbed for more than fourteen days, to be temporarily stabilized within fourteen days with mulch or temporary seeding (alternative methods include, but are not limited to geotextiles, hydromulch, erosion control blankets, surface covers). Please refer to Section 5.1.12 for temporary stabilization.
- Estimated Start and End Dates for Stage II: 07/2023 - 08/2023

#### Stage III - Clearing, Grading, and Excavation to Prepare for Construction Activities.

- BMPs associated with this stage: Perimeter controls, inlet protection: ERTEC Combo Guard, dust controls, track out controls, stockpiles, topsoil controls, soil compaction, and waste controls. (See SWPPP map in Appendix A for BMP locations)
- Stabilization methods for this stage: Any areas of exposed soil on site that are suspended from earth-disturbing activities, will be undisturbed for more than fourteen days, to be temporarily stabilized within fourteen days with mulch or temporary seeding (alternative methods include, but are not limited to geotextiles, hydromulch, erosion control blankets, surface covers). Please refer to Section 5.1.12 for temporary stabilization.
- Estimated Start and End Dates for Stage II: 08/2023 - 08/2023

**Stage IV - Development – Installation of Utilities, Curbs, Gutters, Sidewalks, and Parking Lots**

- BMPs associated with this stage: All previous controls will remain in place. Concrete washout and material storage controls will be used as necessary. (See SWPPP map in Appendix A for BMP locations)
- Stabilization methods for this stage: Any areas of exposed soil on site that are suspended from earth-disturbing activities, will be undisturbed for more than fourteen days, to be temporarily stabilized within fourteen days with mulch or temporary seeding (alternative methods include, but are not limited to geotextiles, hydromulch, erosion control blankets, surface covers). Please refer to Section 5.1.12 for temporary stabilization.
- Estimated Start and End Dates for Stage III: 08/2023 - 09/2023

**Stage V - Vertical Construction of commercial building**

- BMPs associated with this stage: All previous controls will remain in place. Paint/stucco washout will be used as necessary. (See SWPPP map in Appendix A for BMP locations)
- Stabilization methods for this stage: Any areas of exposed soil on site that are suspended from earth-disturbing activities, will be undisturbed for more than fourteen days, to be temporarily stabilized within fourteen days with mulch or temporary seeding (alternative methods include, but are not limited to geotextiles, hydromulch, erosion control blankets, surface covers). Please refer to Section 5.1.12 for temporary stabilization.
- Estimated Start and End Dates for Stage IV: 09/2023 - 01/2024

**Stage VI - Cessation of Construction Activities**

- BMPs associated with this Stage: Controls will be removed during this stage. Construction activities will cease, and vehicles and equipment will be removed. The site will be stabilized. Cut back curbs will remain in place until landscaping commences.
- Controls will be removed, and construction stopped. Cessation of activities for the entire site is estimated for: 01/2024
- Final stabilization methods: Landscaping and vegetation.

## ***2.4 Site Features and Sensitive Areas to be Protected***

Describe areas of sensitivity and unique site features including streams, stream buffers, wetlands, specimen trees, natural vegetation, steep slopes, or highly erodible soils that are to be preserved:

There is nothing on site that is sensitive or that requires special attention.

## 2.5 Maps

### General Location Maps

In accordance with Part 3.5.1 e) – A general location map (e.g., portion of a city or county map or similar scale) is attached in Appendix A:

### SWPPP BMP Maps

The SWPPP map is attached in Appendix A of this SWPPP.

For SWPPPs that are being managed on compliance|**GO** the site maps will be located in the documents section and site maps section of compliance|**GO**. On the map the inspectors record any changes to the BMPs. For BMP tracking purposes, they note and date when the BMP is installed or when a BMP is changed or removed. These notes and notes history stay with the individual icons on the site map and can be viewed on the map history report.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## SECTION 3: WATER QUALITY

### 3.1 Discharge Information

#### Description of storm sewer systems:

Does this site discharge Stormwater into a Municipal Separate Storm Sewer System (MS4)?  Yes  No

MS4 Operator that receives the discharge from the construction project: Bernalillo County.

Does this site's stormwater system connect to a detention or retention basin owned by others?  Yes  No

#### Wetlands:

Are there wetlands on site:  Yes  No

There are no wetlands on site according to site observations and the U.S. Fish and Wildlife website.

Resource: <http://www.fws.gov/nwi/>

### 3.2 Receiving Waters

#### Description of receiving waters:

The receiving water is Rio Grande River.

Please specify which tier your state or tribe has designated the receiving waters:

Category 1  Category 2  Category 3  Not Designated

#### Distance to receiving water:

The site is 21,450 feet from Rio Grande River.

#### Any Surface Water Crossings?

Yes  No

List all waters of the state located within one mile downstream of the discharge point of the site:

Rio Grande River

### 3.3 Impaired Waters

**Description of impaired waters or waters subject to TMDLs including waters within one mile of the site:**

Is Rio Grande River impaired?  Yes  No

If yes, complete the following:

Pollutants causing the impairment: Dissolved Oxygen, E. Coli, Mercury - Fish Consumption Advisory, Temperature. (If impairment is sediment and/or nutrients, then there are additional stabilization and site inspection requirements)

Has a TMDL been completed?  Yes  No

Pollutants for which there is a TMDL: E. Coli, Mercury - Fish Consumption Advisory

Resources:

<https://www.epa.gov/waterdata/surf-your-watershed>

**Description of additional precautions taken to minimize pollution effects if discharging to sediment or nutrient impaired waters:**

For sites that discharge to sediment or nutrient impaired waters then stabilization must be completed within 7 days of temporary or permanent cessation of earth disturbing activities. The site will also need to be inspected every 7 days and within 24 hours of a rainfall event of 0.5 inches or greater, or snowmelt runoff that is sufficient to cause a discharge.

### 3.4 High Water Quality

Is Rio Grande River designated as High Water Quality?  Yes  No

Resources:

[https://ofmpub.epa.gov/waters10/attains\\_index.home](https://ofmpub.epa.gov/waters10/attains_index.home)

**Description of additional precautions taken to minimize pollution effects if discharging to high-quality waters:**

For sites that discharge to a high-quality water, stabilization must be completed within 7 days of temporary or permanent cessation of earth disturbing activities. The site will also need to be inspected every 7 days and within 24 hours of a rainfall event of 0.5 inches or greater, or snowmelt runoff that is sufficient to cause a discharge.

## SECTION 4: Pollution Prevention Standards

### 4.1 Potential Sources of Pollution

The following chart listing identifies any and all potential sources of sediment and pollutants that may reasonably be expected to affect the quality of storm water discharges from this construction site. Potential Pollutant, pollutant source, whether or not it is present on site, and the location of any and all pollutants are indicated on the chart below. The SWPPP map identifies pollutant sources of sediment, erosion, material storage, trash bins, concrete washout bin and waters, other washout waters, and vertical construction areas whereby building materials utilized by trades below will be present. It is understood that construction vehicles that carry pollutants such as street vehicles, forklifts, skid loaders, large trucks, and tractors will be on many parts of the working site. Best Management Practices to manage and control these pollutants are found and described with details in this SWPPP.

Activities	Check with an X the activities that apply	Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Pesticides & Herbicides	Oil & Grease	Bacteria & Viruses	Trash, Debris, Solids	Other Pollutants
Clearing, grading, excavating, and un-stabilized areas	<input checked="" type="checkbox"/>	√							√	
Asphalt paving operations	<input checked="" type="checkbox"/>	√					√		√	
Concrete washout, stucco, and cement waste	<input checked="" type="checkbox"/>			√	√				√	
Structure construction, painting, cleaning	<input checked="" type="checkbox"/>			√	√				√	√
Demolition and debris disposal	<input checked="" type="checkbox"/>	√							√	
Dewatering operations	<input type="checkbox"/>	√							√	
Waterline flushing	<input checked="" type="checkbox"/>	√	√		√				√	√
Material Delivery and storage	<input checked="" type="checkbox"/>	√	√	√	√		√		√	√
Material use during building process	<input checked="" type="checkbox"/>		√	√	√		√		√	√
Solid waste disposal	<input checked="" type="checkbox"/>								√	√
Hazardous Waste, contaminated spills	<input type="checkbox"/>			√	√	√	√			√
Sanitary waste	<input checked="" type="checkbox"/>		√		√			√		
Vehicle/equipment fueling, maintenance, use and storage	<input checked="" type="checkbox"/>						√		√	√
Landscaping operations	<input checked="" type="checkbox"/>	√	√			√			√	√
<i>Describe others</i>	<input type="checkbox"/>									

## 4.2 Allowable Non-Stormwater Discharge Management

All discharges authorized by the permit and covered by this SWPPP are composed entirely of storm water associated with construction activities or are an authorized Non-Storm Water Discharge. Allowable non-stormwater discharges and the measures used to eliminate or reduce them and to prevent them from becoming contaminated are as follows:

Type of Allowable Non-Stormwater Discharge	Likely to be Present at Your Site?	
Discharges from emergency fire-fighting activities	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Fire hydrant flushings	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Landscape irrigation	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Waters used to wash vehicles and equipment	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Water used to control dust	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Potable water including uncontaminated water line flushings	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Routine external building wash down	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Pavement wash waters	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Uncontaminated air conditioning or compressor condensate	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Uncontaminated, non-turbid discharges of ground water or spring water	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Foundation or footing drains	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

For all yes answers above describe:

### 4.2.1 Pollutant Control Name: Chlorinated Water Flushing

Phase of Construction/Timing of Installation: Installation of utilities

Location: Where utilities are installed as needed.

Describe: Water lines will be flushed with chlorinated water in order to clean the water lines. The water from the water flushing will be contained on site and not allowed to enter the storm drain system. A hole will be dug on site to contain the water flushing. The hole will then act as a retention basin allowing water to either soak into the ground or evaporate into the air.

How to Maintain: Stop water flushing prior to filling up the hole.

### 4.2.2 Dust Control – Please refer to Section 5.

4.2.3 For landscape irrigation no other BMPs are needed other than perimeter controls. Please refer to Section 5.



### **4.3 Dewatering Practices**

#### **De-watering**

For dewatering off site or into a storm drain, a Dewatering Permit must be obtained. Also, the MS4 must be notified.

Will dewatering occur at the construction site?     Yes     No

### **4.4 Natural Buffers or Equivalent Sediment Controls**

#### **Natural Buffers (Within 50 feet of the project's earth disturbance)**

Are there surface waters within 50 feet of earth disturbance?     Yes     No

## SECTION 5: EROSION AND SEDIMENT CONTROLS

The following categories of BMP activity are BMPs that will be implemented to control pollutants in storm water discharges as details are provided in each area. The SWPPP map will include the BMPs that are located on site. The maps will be updated according to what is on site at the current time along with the notes about the specific BMPs.

For SWPPPs that are being managed on compliance | **GO** the site maps will be updated with the appropriate BMPs. The site maps are located in the site maps section in compliance | **GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## 5.1 Minimize Area of Disturbance

CGP Requirement	Example BMPs	BMPs Selected (Name and Reference Number if applicable)
Preserve vegetation where possible and direct storm water to vegetated areas when feasible (CGP 2.2.2.)	Phasing to minimize disturbance, signs/fences to protect areas not being disturbed.	5.1.1.a Minimize Area of Disturbance, 5.1.1.b Minimize Exposed Soils Through Phasing
Install sediment controls along perimeter areas that receive pollutant discharges (CGP 2.2.3).	Silt fence, fiber rolls, earth berms	5.1.2.a Cutback Curbs, 5.1.2.b Silt Fence
Minimize sediment track-out (CGP 2.2.4).	Restrict access, stabilize exits, track-out pads, tire washing station, clean-up sediments	5.1.3.a Stabilized Construction Exit, 5.1.3.b Street Sweeping
Manage stockpiles with perimeter controls and locate away from storm water conveyances (CGP 2.2.5.)	Sediment barriers downgradient, proper location, covered stockpiles, diverting storm water from stockpiles	5.1.4.a Stockpile Containment
Minimize dust (CGP 2.2.6.)	Water application, mulching, chemical dust suppression techniques	5.1.5.a Wetting with Water
Minimize steep slope disturbance (CGP 2.2.7.)	Erosion control blankets, tackifiers, protect slopes from disturbance	N/A
Preserve topsoil (CGP 2.2.8.)	Stockpile topsoil	5.1.7.a Topsoil Stockpiling
Minimize soil compaction where final cover is vegetation (CGP 2.2.9.)	Restrict vehicle access, recondition soils before seeding	5.1.8.a Remediation of Soils Prior to Landscaping
Protect storm drain inlets (CGP 2.2.10.)	Inserts, rock-filled bags, covers	5.1.9.a ERTEC Combo Guard
Slow down runoff with erosion controls and velocity dissipation devices (CGP 2.2.11.)	Check dams, riprap	N/A
Appropriately design any sediment basins or impoundments (CGP 2.2.12.)	Design to 2-year 24-hour storm or 3,600 cubic feet per acre drained, include design specifications	N/A

Follow requirements for any treatment chemicals (polymers, flocculants, coagulants, etc.) (CGP 2.2.13)	Store in leak proof containers and cover, proper training, minimize use	N/A
Stabilize exposed portions of site with 14 days of inactivity (CGP 2.2.14).	Seeding, erosion control blankets, gravel, hydromulch	N/A

**Minimize Area of Disturbance**

5.1.1.a Minimize Area of Disturbance

Phase of Construction/Timing of Installation: Throughout construction

Describe: The majority of the site will need to be disturbed for construction purposes. The SWPPP map(s) in Appendix A will show where the limit of disturbance is, and any areas of the site that will be preserved and protected.

Removal of vegetation will only progress in areas that will be disturbed as needed. The other areas outside of these limits will be left undisturbed.

How to Maintain: Put up perimeter controls and/or other barriers to prevent construction exceeding its limits.

Design Specifications and Drawings: Please refer to Appendix H.

5.1.1.b Minimize Exposed Soils Through Phasing

Phase of Construction/Timing of Installation: Throughout construction

Describe: Disturbance of any part of the site will only occur as needed. All other areas of the site will be left undisturbed. Construction will progress in this manner minimizing the exposed soils until disturbance is absolutely needed.

How to Maintain: Leave vegetation in place wherever possible.

Design Specifications and Drawings: Please refer to Appendix H.

**Perimeter Controls**

5.1.2.a Cutback Curbs

Phase of Construction/Timing of Installation: Once curbs are installed.

Describe: Cutback curbs are installed to capture sediment from storm water prior to the water running into the street.

How to Maintain: Cutback curbs need to be maintained when the cutback is filled to less than two inches.

Design Specifications and Drawings: Please refer to Appendix H.

5.1.2.b Silt Fence

Phase of Construction/Timing of Installation: Prior to construction.

Describe: Silt fence is installed to inhibit sediment-laden water, thus promoting

sedimentation and filtration.

How to Maintain: Silt fence requires maintenance when not properly attached to the stakes, when not properly entrenched, when capacity is over 50%, or when it is ripped.

Design Specifications and Drawings: Please refer to Appendix H.

### **Minimize Sediment Track-Out**

#### 5.1.3.a Stabilized Construction Exit

Phase of Construction/Timing of Installation: Prior to construction and throughout all phases.

Describe: A stabilized construction exit is used to prevent vehicles from tracking out sediment when leaving the site.

How to Maintain: The stabilized construction exit requires maintenance when the rock begins to fill in with mud or sediment.

Design Specifications and Drawings: Please refer to Appendix H.

#### 5.1.3.b Street Sweeping

Phase of Construction/Timing of Installation: Throughout all phases of construction.

Describe: Street sweeping is needed as construction vehicles track dirt onto the road.

How to Maintain: The streets will need to be swept as sediment is observed.

Design Specifications and Drawings: Please refer to Appendix H.

### **Manage Stockpiles**

#### 5.1.4.a Stockpile Containment

Phase of Construction/Timing of Installation: During excavation and grading

Describe: Stockpiles must be placed outside of natural buffers and away from any concentrated storm water flow such as storm water conveyances, storm drain inlets, and areas where storm water flows are concentrated. There must be a perimeter control placed along down-gradient areas from the stockpile. If stockpiles are not expected to be disturbed for more than 14 days, they will be covered or seeded.

How to Maintain: Provide cover or appropriate temporary stabilization for stockpiles that will be unused for 14 or more days and are stored in areas being inspected at a reduced frequency due to temporary stabilization or frozen conditions. Maintain the perimeter controls. Hosing down or sweeping soil or sediment from impervious surfaces into any storm water conveyance, storm drain inlet, or water of the state is prohibited. Contain and securely protect

stockpiles from wind. Water the stockpiles to form a crust in order to prevent dust.

Design Specifications and Drawings: Please refer to Appendix H.

### Minimize Dust

#### 5.1.5.a Wetting with Water

Phase of Construction/Timing of Installation: As needed, throughout the length of the project.

Describe: Either a water truck or water hose will be brought on site as needed and used to help minimize dust on site.

How to Maintain: If using a water truck, make sure water tank has adequate amounts of water. If using a water hose, make sure that the hose is firmly secured and does not have any leaks or holes.

Design Specifications and Drawings: Please refer to Appendix H.

### Minimize Steep Slope Disturbance

Slope protection is required in areas of the site that have steep slopes:

Does this site have steep slopes?

No       >3%       >15%

N/A

### Preserve Topsoil

#### 5.1.7.a Topsoil Stockpiling

Phase of Construction/Timing of Installation: During excavation and grading

Describe: Topsoil will be stockpiled and saved. Please see above for stockpiling controls. Topsoil will be replaced in areas to be landscaped. If additional topsoil is needed then it will be hauled in.

How to Maintain: Water the stockpiles to form a crust in order to prevent dust. Maintain the perimeter controls.

Design Specifications and Drawings: Please refer to Appendix H.

### Minimize Soil Compaction

#### 5.1.8.a Remediation of Soils Prior to Landscaping

Phase of Construction/Timing of Installation: Prior to landscaping

Describe: The soils will have remediation prior to landscaping to allow for infiltration of water following construction. Remediation will include rototilling the soil to break up the soil compaction and allow for better water infiltration.

Also, topsoil will be added to the landscape areas to increase the infiltration rate.

How to Maintain: Rototill the soil during the landscaping phase in areas where the soil has been compacted.

Design Specifications and Drawings: Please refer to Appendix H.

### **Protect Storm Drain Inlets**

#### 5.1.9.a ERTEC Combo Guard

Phase of Construction/Timing of Installation: Throughout the length of the project.

Describe: ERTEC Combo Guards filter out sediment from storm water as it enters the drains.

How to Maintain: Make sure it's secured with either gravel bags or zip ties during construction. Inspect regularly and clean when sediment accumulates around them. Remove upon project completion.

Design Specifications and Drawings: Please refer to Appendix H.

### **Slow Down Runoff with Erosion Controls and Velocity Dissipation Devices**

N/A

### **Sediment Basins or Impoundments**

N/A

### **Treatment Chemicals**

N/A

### **Inactivity Stabilization**

The extent necessary to prevent erosion in arid and semi-arid areas means for visually flat areas, temporary non-vegetative stabilization is not required (roughly from 0 percent up to 5 percent) unless an erosion concern exists. Areas with slopes roughly 5 percent to 20 percent must have, at minimum, controls to reduce storm water velocities to a point that erosion is controlled. Over a 20 percent slope requires soil surface stabilization. The amount of stabilization provided must increase commensurately with increasingly steeper slopes.

Is temporary non-vegetative stabilization required for this site (to qualify for no stabilization, slopes must be below 5% with no erosion concerns)?

Yes       No

N/A

## 5.2 Linear Site Perimeter Control Exemption

### Linear Activities

Is this project a linear project?  Yes  No

## 5.3 Final Stabilization

### Stabilization requirements

The description of procedures for final stabilization is listed below for areas not covered by permanent structures). If the final cover is vegetation, a uniform perennial vegetation that provides 70% or more of the vegetative cover that existed prior to earth-disturbing activities will be provided. Initiate the installation of stabilization measures on any areas of exposed soil on site that are permanently suspended from earth-disturbing activities, and will be undisturbed for more than fourteen days, prior to the end of the 14<sup>th</sup> day of inactivity. Complete the installation of stabilization measures as soon as practicable, but no later than 14 calendar days after the start of initial installation. Exception: Arid, semi-arid, and drought-stricken areas are required to be seeded/planted so that the before mentioned vegetative requirement is expected to be met within 3 years. Establishment of vegetation is not required; however, additional erosion controls may be needed. Both vegetative and non-vegetative stabilization techniques must be described.

### Sensitive or High-Quality Waters:

For sites that discharge to high-quality waters or to sediment or nutrient impaired waters: Stabilization must be completed within 7 days after stabilization has been initiated.

Does this site discharge to sediment or nutrient impaired waters?  Yes  No

For sites in arid, semi-arid, or drought-stricken areas:

Beginning date of the seasonally dry period: June

End date of the seasonally dry period: October

Schedule for initiating and completing vegetative stabilization: Stabilization will be completed within the time frame designated by the operator.

Describe the detailed plan for site stabilization:

Type of Stabilization: Vegetation/Landscaping

Implementation Schedule: Following construction activities within the time frame set by the MS4.

Location: Throughout pervious surfaces on site.



Type of Stabilization: Pavement

Implementation Schedule: Following construction activities within the time frame set by the MS4.

Location: Throughout designated areas on site.

For SWPPPs that are being managed on compliance | **GO** the site maps will be updated with implemented stabilization measures and are located in the documents section and the site maps section of compliance | **GO**.

If available, the landscaping plan for this site will be in Appendix A.

---

## SECTION 6: POLLUTION PREVENTION

### 6.1 Spill Prevention and Response

#### Spill Response Prevention and Control Plan

- Describe the spill prevention and control plan to include ways to reduce the chance of spills, stop the source of spills, contain and clean-up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control. (For more information, see *SWPPP Guide*, Chapter 5, P2 Principle 6.)
- Some projects/site may be required to develop a Spill Prevention Control and Countermeasure (SPCC) plan under a separate regulatory program (40 CFR 112). If you are required to develop an SPCC plan, or you already have one, you should include references to the relevant requirements from your plan.
- Also, see EPA's *Spill Prevention and Control Plan BMP Fact sheet* at <https://www.epa.gov/npdes/national-menu-best-management-practices-bmps-stormwater#constr>
- Spill controls must contain spills and be mobilized at the moment of need. The plan must include the materials and method of containment and for flowing liquid, cleanup, disposal and follow the minimum spill controls below.

Any discharges in 24 hours equal to or in excess of the reportable quantities listed in 40 CFR 117, 40 CFR 110, and 40 CFR 302, will be reported to the National Response Center and the Division of Water Quality (DWQ) as soon as practical after knowledge of the spill is known to the permittees. The permittee shall submit within 7 calendar days of knowledge of the release a written description of: the release (including the type and estimate of the amount of material released), the date that such release occurred, the circumstances leading to the release, and measures taken and/or planned to be taken. The Storm Water Pollution Prevention Plan must be modified within 14 calendar days of knowledge of the release to provide a description of the release, the circumstances leading to the release, and the date of the release. In addition, the plan must be reviewed to identify measures to prevent the reoccurrence of such releases and to respond to such releases, and the plan must be modified where appropriate.

Other than the below procedures and specifications for management of hazardous spill, absorbent/oil dry, sealable containers, plastic bags, and shovels/brooms are suggested minimum spill response items that should be at this location.

#### Designated Person on Site for Spill Clean-up and Response:

Todd Barbour  
Project Manager  
CKP Construction  
806-420-0696  
tbarbour@ckpconstruction.com

---

## EMERGENCY NUMBERS

**Reportable Quantity**

EPA National Response Center	800-424-8802
Bernalillo County Storm Water Contact/Public Works	505-848-1500
Bernalillo County Fire Department	505-468-1310
Bernalillo County Police Department	505-468-7140
Emergency	911

A list of hazardous material spill response companies is listed on the following pages.

Hazardous Material	Location of Spill	Reportable Quantity
Oils, fuel, hydraulic, brake fluid	Land/Water	25 gallons/ Visible Sheen
Refrigerant	Air	1 lb.
Antifreeze	Land/Water	13 gallons
Battery Acid	Land/Water	100 lbs.
Engine Degreaser Products	Land/Water	100 lbs.
Gasoline/Diesel Fuels	Land/Water	100 lbs.

---

## **SPILL RESPONSE PLAN**

Spills require action. Ensure your people are safe, then on-site equipment and property, then the environment.

- 1<sup>st</sup> Priority: Protect all People
- 2<sup>nd</sup> Priority: Protect Equipment and Property
- 3<sup>rd</sup> Priority: Protect the Environment

1. Make sure the spill area is safe to enter and that it does not pose an immediate threat to the health or safety of any person.
2. Stop the spill source. Refer to MSDS sheets so that the spilled material can be handled properly.
3. Check for hazards (flammable material, noxious fumes, cause of spill) - If flammable liquid, turn off engines and nearby electrical equipment. If serious hazards are present leave the area and call 911. LARGE SPILLS ARE LIKELY TO PRESENT A HAZARD.
4. Call co-workers and supervisors for assistance and to make them aware of the spill and potential dangers.
5. If possible, stop spill from entering storm drain (use absorbent or other material as necessary, close valve to drain, cover or plug drain)
6. Stop spill from spreading (use absorbent or containment materials)
7. If spilled material has entered a storm drain, then check oil/water interceptor or catch basins then notify the local city. Clean out the storm drain if possible. Do not spray spilled materials down the storm drain.
8. Clean up spilled material/absorbent (do not flush area with water) - If outside clean-up service is required, phone numbers of qualified clean-up companies is available on following pages.
9. Properly dispose of cleaned material/absorbent into secure container for disposal as hazardous waste
10. Make sure cleaned area is not slippery (if slippery, put down no-slip material or mark area with a "slippery when wet" sign)

**Spill Kit Information:**

Is there a spill kit on site?  Yes  No

Describe the spill kit: The spill kit will consist of absorbent pads, granular absorbents, socks, gloves, disposal bags, scoop or shovel, and a broom.

The information below is to assist in obtaining the correct materials and equipment for spill response and spill clean-up.

**Absorbents** – pads, pillows, booms, socks, dikes, rolls, and loose or particulate sorbents

1. Universal – absorbs – oils, water-based fluids, water, coolants, solvents, and most non-hazardous liquids.
2. Oil Only – Absorbs oils and repels water
3. Hazmat – Absorbs most fluids including corrosive liquids

**Containment:**

1. Spill Berm – A mobile containment boom – designed to contain a spill or protect an inlet
2. Drain Seals – Designed to seal an inlet to prevent any liquid from entering the inlet to allow for clean-up of the spill
3. Drain absorbents – designed to absorb oils while allowing water to pass through

**Tools (Non-sparking, chemical and corrosion resistant):**

1. Shovel – A shovel that does not produce sparks
2. Scoops – to clean up absorbents
3. Broom – sweep up absorbents
4. Squeegee
5. Plastic bags
6. Container – to hold the spill cleaned-up debris

**Personal Protective Equipment:**

1. Heavy Duty Gloves made of nitrile or neoprene
2. Safety Glasses or goggles that are chemical resistant
3. Disposable lab coat or apron
4. Boot covers

**Other Supplies (May be needed):**

1. Warning Tape or signs
2. Labels – to mark the cleaned-up equipment for disposal
3. Markers
4. MSDS

## **Hazardous Material Spill Reporting**

An online form can be found at the following link:

<https://www.nmstatelands.org/incident-report-form/>

New Mexico Environment Department  
1190 St. Francis Drive, Suite N4050  
Santa Fe, New Mexico 87505  
Emergency Line: 505-827-9329

## 6.2 Pollution Prevention Controls

CGP Requirements	Example BMPs	BMPs Selected (Name and Reference Number if applicable)
Equipment and vehicle fueling (CGP 2.3.1)	Spill kits, SPCCP, drip pans, locate activities away from conveyances, use secondary containment	6.2.1.a Mobile Fueling
Equipment and vehicle washing (CGP 2.3.2.)	Locating away from surface waters and storm water conveyances, directing wash waters to a sediment basin or sediment trap, using filtration devices	N/A
Storage, handling, and disposal of building products and waste (CGP 2.3.3.)	Cover (plastic sheeting / temporary roofs), secondary containment, leakproof containers, proper dumpsters, secured portable toilets, locate away from storm water conveyances	6.2.2.a Leakproof Dumpsters, 6.2.2.b Covered Cans or Bagging of Trash, 6.2.2.c Portable Toilets, 6.2.2.d Construction Materials Storage, 6.2.2.e Landscape Materials Storage
Washing of stucco, paint, concrete, form release oils, curing compounds, etc. (CGP 2.3.4.)	Leak proof containers, lined pits, locate away from storm water conveyances	6.2.3.a Portable Concrete Washout Bin, 6.2.3.b Paint, Stucco, and Other Materials Washout, 6.2.3.c Containment of Material Mixing, 6.2.3.d Containment and Cleanup of Concrete and/or Asphalt Slurry and Dust
Properly apply fertilizer (CGP 2.3.5)	Follow manufacture specifications, document deviations in applications, avoid applications to frozen ground, before heavy rains, or to storm water conveyances	N/A

### Equipment and Vehicle Fueling

#### 6.2.1.a Mobile Fueling

Phase of Construction/Timing of Installation: Throughout construction as needed

Describe: Vehicles may be fueled on site using a mobile fueler. Wheels will be chocked during fueling activities, a drip pan provided, and fueling activities will be manned at all times. Vehicles will not be topped off.

How to Maintain: Properly dispose of fuel drippings. Clean up spills immediately.

Design Specifications and Drawings: Please refer to Appendix H.

---

## Equipment and Vehicle Washing

N/A

## Storage, Handling, and Disposal of Building Products and Waste

### 6.2.2.a Leakproof Dumpsters

Phase of Construction/Timing of Installation: Beginning of construction

Describe: Dumpsters will be put into place for construction waste on site.

How to Maintain: Dumpster must be emptied prior to trash and debris going above the rim of the dumpster.

Design Specifications and Drawings: Please refer to Appendix H.

### 6.2.2.b Covered Cans or Bagging of Trash

Phase of Construction/Timing of Installation: Beginning of construction

Describe: All blowable trash or pollutant producing waste must be bagged for containment. Liquid or leachable waste must be bagged to prevent leaks from the container.

How to Maintain: Blowable trash must be contained and picked up when found on the ground in the construction site. Liquid or leachable waste must be contained, and if leak-proof dumpster used, repairs made if needed.

Design Specifications and Drawings: Please refer to Appendix H.

### 6.2.2.c Portable Toilets

Phase of Construction/Timing of Installation: Beginning of construction

Describe: Portable toilets will be placed in designated areas minimum of 10 feet from the street.

How to Maintain: Must be staked and 10 feet from the street to prevent spillage that could run into the storm drains.

Design Specifications and Drawings: Please refer to Appendix H.

### 6.2.2.d Construction Materials Storage

Phase of Construction/Timing of Installation: Prior to bringing construction materials on site.

Describe: A materials storage area will be designated on site and will be placed away from storm water conveyances. Liquid materials will be sealed properly and placed in secondary containment.

How to Maintain: All materials will be returned to designated area at the end of each day if not being used. Clean up any spills (please refer to Section 6.1) if necessary.

Design Specifications and Drawings: Please refer to Appendix H.



#### 6.2.2.e Landscape Materials Storage

Phase of Construction/Timing of Installation: Prior to bringing landscape materials on site.

Describe: Place landscaping materials away from impervious surfaces. If placing on impervious surfaces is unavoidable then a weighted fiber roll needs to be placed around them.

How to Maintain: Sweep streets if landscape materials get on the road.

Design Specifications and Drawings: Please refer to Appendix H.

### **Washing of Stucco, Paint, Concrete, Form Release Oils, Curing Compounds, Etc.**

#### 6.2.3.a Portable Concrete Washout Bin

Phase of Construction/Timing of Installation: Prior to pouring concrete.

Describe: Prefabricated bin to contain concrete washout waters.

How to Maintain: Must be water tight and emptied when it is 75% full to prevent spillage.

Design Specifications and Drawings: Please refer to Appendix H.

#### 6.2.3.b Paint, Stucco, and Other Materials Washout

Phase of Construction/Timing of Installation: Prior to painting, stucco work, etc.

Describe: Paint and other materials will be washed out in the concrete washout as long as they are not oil-based. If oil-based materials are used on site then they will be washed out in a separate container and the SWPPP updated.

How to Maintain: Must be leak-proof and emptied when it is 75% full to prevent spillage. Liquid wastes must not be dumped into storm sewers or waters of the state and must be disposed using one of three methods: 1) evaporate the waste and dispose of the residual solids with other solid waste, 2) have a liquid waste hauler for wash water haul it off and dispose of it, 3) settle it and pretreat it if necessary with arrangements to discharge the liquid waste to a treatment plant that has the ability to treat it and dispose of it.

Design Specifications and Drawings: Please refer to Appendix H.

#### 6.2.3.c Containment of Material Mixing

Phase of Construction/Timing of Installation: During material mixing operations such as concrete, paint, stucco, grout, etc.

Describe: Material mixing will be done in secondary containment.

How to Maintain: Clean up any spills immediately.

Design Specifications and Drawings: Please refer to Appendix H.

#### 6.2.3.d Containment and Cleanup of Concrete and/or Asphalt Slurry and Dust

Phase of Construction/Timing of Installation: During concrete and/or asphalt

cutting operations.

Describe: Dust will be contained with water. Dirt will be piled up on the inside of gutter check bags to catch any slurry. The gutter check bags will then catch the dirt. Slurry will then be disposed of in the concrete washout.

How to Maintain: Contain coolant waste on each project and remove dry cuttings and coolant waste at the end of each day, or prior to wet or windy conditions whichever comes first. The concrete cutting dust will be kept down with water. Contain slurry and dust from cutting with gutter check bags. Sweep up any remaining slurry and dust. All slurry and dust will be disposed of in the concrete washout bin.

Design Specifications and Drawings: Please refer to Appendix H.

### **Properly Apply Fertilizer**

N/A

## SECTION 7: SPECIAL CONDITIONS

### 7.1 *Emergency Related Projects*

Is this an emergency related project?  Yes  No

### 7.2 *UIC Class 5 Injection Wells*

No underground injection controls are to be installed on site.

### 7.3 *Chemical Treatment*

Will treatment chemicals be used at this construction site?  Yes  No

## SECTION 8: INSPECTIONS & CORRECTIVE ACTIONS

### 8.1 Inspections

#### Inspection Schedule and Procedures

##### Standard Frequency:

- At least once every 7 calendar days
- At least once every 14 calendar days and within 24 hours\* of the initial 0.25 inches of rain and at the end of the storm event, or discharge caused by snowmelt from a storm event that produces 3.25" or more of snow within a 24-hour period.

##### Increased Frequency (if applicable):

- At least once every 7 calendar days and within 24 hours\* of the initial 0.25 inches of rain and within 24 hours after the end of the storm event, or discharge caused by snowmelt from a storm event that produces 3.25" or more of snow within a 24-hour period. Increased frequency due to site discharging to a high-quality water or impaired receiving water.

##### Decreased Frequency (if applicable):

- At least once every 14 calendar days for the first month, then once a month. Decreased frequency due to the site having met temporary stabilization requirements (see part 2.2.14.a. of the Construction General Permit (CGP)). List beginning and ending dates of the period. Once construction activity resumes at a later date, the inspection frequency increases to the applicable requirements in Parts 4.2 and 4.3 of the CGP.
- At least once a month and within 24 hours\* of the initial 0.25 inches of rain and at the end of the storm event. Decreased frequency due to the site being in an arid area.
- At least once a month and within 24 hours\* of the initial 0.25 inches of rain and at the end of the storm event during the dry season: List months for dry season (Along the Wasatch Front: June, July, & August). Decreased frequency due to the site being in a semi-arid area.
- No inspections due to frozen conditions with land disturbance suspended (and where possible, having met stabilization requirements applicable to Part 2.2.14.a. of the CGP). Must have 3 months of continuous expected frozen conditions based on historical averages: List months of suspended inspections. If thawing conditions start to occur (as defined in Part 10 of the CGP), or if weather conditions make discharges likely, the regular inspection frequency applicable for the site (as described in Parts 4.2 and 4.3 of the CGP) must be resumed.
- Once per month due to frozen conditions with continued activities (and except for areas of the site where there are active construction activities, disturbed areas have met stabilization requirements applicable to Part 2.2.14.a.). Must have 3 months of continuous

*expected frozen conditions based on historical averages: List months of frozen conditions. If thawing conditions start to occur (as defined in Part 10 of the CGP), or if weather conditions make discharges likely, the regular inspection frequency applicable for the site (as described in Parts 4.2 and 4.3 of the CGP) must be resumed.*

Other:

Other (i.e., different city/county requirements): \_\_\_\_\_

For SWPPPs that are being managed on compliance|GO all inspections will be located in the inspection history section of compliance|GO.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

Inspections will be conducted on this project in accordance with applicable governing regulations, and individual municipal regulations. Inspections will be conducted by qualified inspectors from **Inspections Plus**. Where sites have been finally or temporarily stabilized, runoff is unlikely due to winter conditions (e.g., site covered with snow, ice, or frozen ground) inspections may be conducted monthly.

\*Inspections are only required during the project's normal working hours; however, a rainfall event can happen after business hours. If a regular inspection is scheduled to occur on a holiday, the inspection will occur within two days of the holiday. If a rain event occurs after hours on Friday, it does not need to be inspected until Monday.

\*\* "Within 24 hours of the occurrence of a storm event" means that you are required to conduct an inspection within 24 hours once a storm event has produced 0.5 inches, even if the storm event is still continuing. Thus, if you have elected to inspect bi-weekly in accordance with Part 4.1.2.b. and there is a storm event at your site that continues for multiple days, and each day of the storm produces 0.5 inches or more of rain, you are required to conduct an inspection within 24 hours of the first day of the storm and within 24 hours of after the end of the storm. Again, inspections are only required during the project's normal working hours.

For inspections that occur during rain that is causing a discharge from the site, a visual sample will be taken. Following the visual sample being taken at the discharge point, a Visual Monitoring Form will be filled out and kept with the inspection history. The Visual Monitoring Form will be used to drive action items if the water does not appear cleaned.

### **3. Weather Program Information**

For inspection being conducted on complianceGO:

WEATHER PROGRAM INFORMATION: The complianceGO weather program is a cutting-edge approach to meeting stormwater permit requirements for rain event inspections due to

precipitation and forecasts. We are utilizing the National Oceanic and Atmospheric Administration (NOAA) database.

Our RemoteSense weather technology uses NOAA's weather technology to pinpoint precipitation values down to 1 meter. We have automated NOAA data to notify users when forecast and precipitation thresholds have been reached to ensure ultimate stormwater compliance.

Whenever you perform an inspection in complianceGO, complianceGO goes to NOAA and grabs the current precipitation, showing the amount of precipitation for the past 24 hours. The historical precipitation shown on the inspection form is a 24-hour precipitation accumulation for the site for that date.

For inspections not being conducted on complianceGO a rain gauge will be located on site or tracking data will be utilized and reported in the inspection.

## 8.2 Corrective Actions

Corrective Actions must take place to address observed noncompliance conditions, such as: repair or replacement needed for stormwater controls (beyond normal maintenance requirements), installation of a stormwater control that was never installed, or was installed incorrectly, discharges from the site that exceed water quality standards, or the occurrence of a prohibited discharge (*CGP, Part 5*).

Responsive (Corrective) action item conditions will be identified in the inspection report and action log. Once identified and reported, responsible parties in section 1 will correct problems according to the Construction General Permit.

- The corrective action log should describe the repair, replacement, and maintenance of BMPs undertaken as a result of the inspections and maintenance procedures described above. Actions related to the findings of inspections should reference the specific inspection report.
- This log should also describe actions taken, date completed, and note the person that completed the work.

For SWPPPs that are being managed on compliance |**GO** the corrective action logs will be located in the inspection history section of compliance |**GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

### 8.3 Delegation of Authority

I, Customer SWPPP Contact, hereby designate the person or specifically described position below to be a duly authorized representative for the purpose of overseeing compliance with environmental requirements, including the Construction General Permit, at the Project Name construction site. The designee is authorized perform and sign Site Inspections and After Rain Event Inspections.

INSPECTIONS PLUS Site Inspector  
INSPECTIONS PLUS  
504 El Paraiso Rd NE Ste B  
Albuquerque, NM 87113  
505-344-9410

By signing this authorization, I confirm that I meet the requirements to make such a designation as set forth in Appendix I of EPA’s Construction General Permit (CGP), and that the designee above meets the definition of a “duly authorized representative” as set forth in Appendix I.

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

Customer SWPPP Contact: \_\_\_\_\_

SWPPP Customer: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_

SWPPP Date: \_\_\_\_\_



---

## SECTION 9: RECORDKEEPING

### 9.1 *Recordkeeping*

The following is a list of records that need to be kept with the SWPPP document for your project site available for inspectors to review during and for at least 3 years after completion of the project:

- Dates of grading, construction activity (covered in Section 2)
- Dates when major grading activities occur
- A copy of the Construction General Permit (weblink attached in Appendix I)
- The signed and certified NOI form or permit application form (attached in Appendix B)
- Inspection reports
- Records relating to endangered species and historic preservation
- Delineation of Responsibilities
- Delegation Letter
- Responsive (Corrective) Action Logs
- SWPPP Certification
- Updated site SWPPP map
- Dates when construction activities temporarily or permanently cease on a portion of the site
- Dates when an area is either temporarily or permanently stabilized.

For SWPPPs that are being managed on compliance|**GO** all records will be located in the documents/permits tab, or inspection history section of compliance|**GO**. The method for documenting will be done by updating the SWPPP Map located in the Site Maps section of complianceGO. On the map the inspectors record any changes to the BMPs. They note and date when the BMP is installed or when a BMP is changed or removed. These notes and notes history stay with the individual icons on the site map and can be viewed on the map history report.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## ***9.2 Log of Changes to the SWPPP***

The amendment log will record changes and updates to the SWPPP. These changes and updates will include additions of new BMPs, replacement of failed BMPs, significant changes in the activities or their timing on the project, changes in personnel, changes in inspection and maintenance procedures, updates to site maps, and so on.

For SWPPPs that are being managed on compliance|**GO** the SWPPP Amendment Log will be located in the documents section in compliance|**GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## SWPPP Amendment Log

The SWPPP Map updates and amendments are noted and dated on the SWPPP Map. All other amendments to the SWPPP document will be noted on this log.

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Date	Description of the Amendment	SWPPP Section	Amendment Requested By	Amendment Prepared By

## **SECTION 10: CERTIFICATION**

For SWPPPs that are being managed on compliance|**GO** the Certification Pages, Agreements, Delegation of Authority, or other signed SWPPP pages will be located in the documents section in compliance|**GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## **SECTION 11: SWPPP PREPARER CERTIFICATION**

For SWPPPs that are being managed on compliance | **GO**, the signed SWPPP Preparer Certification will be located in the documents section in compliance | **GO**

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

SWPPP Preparer certifications may be viewed here: <https://goo.gl/7SLEbW>

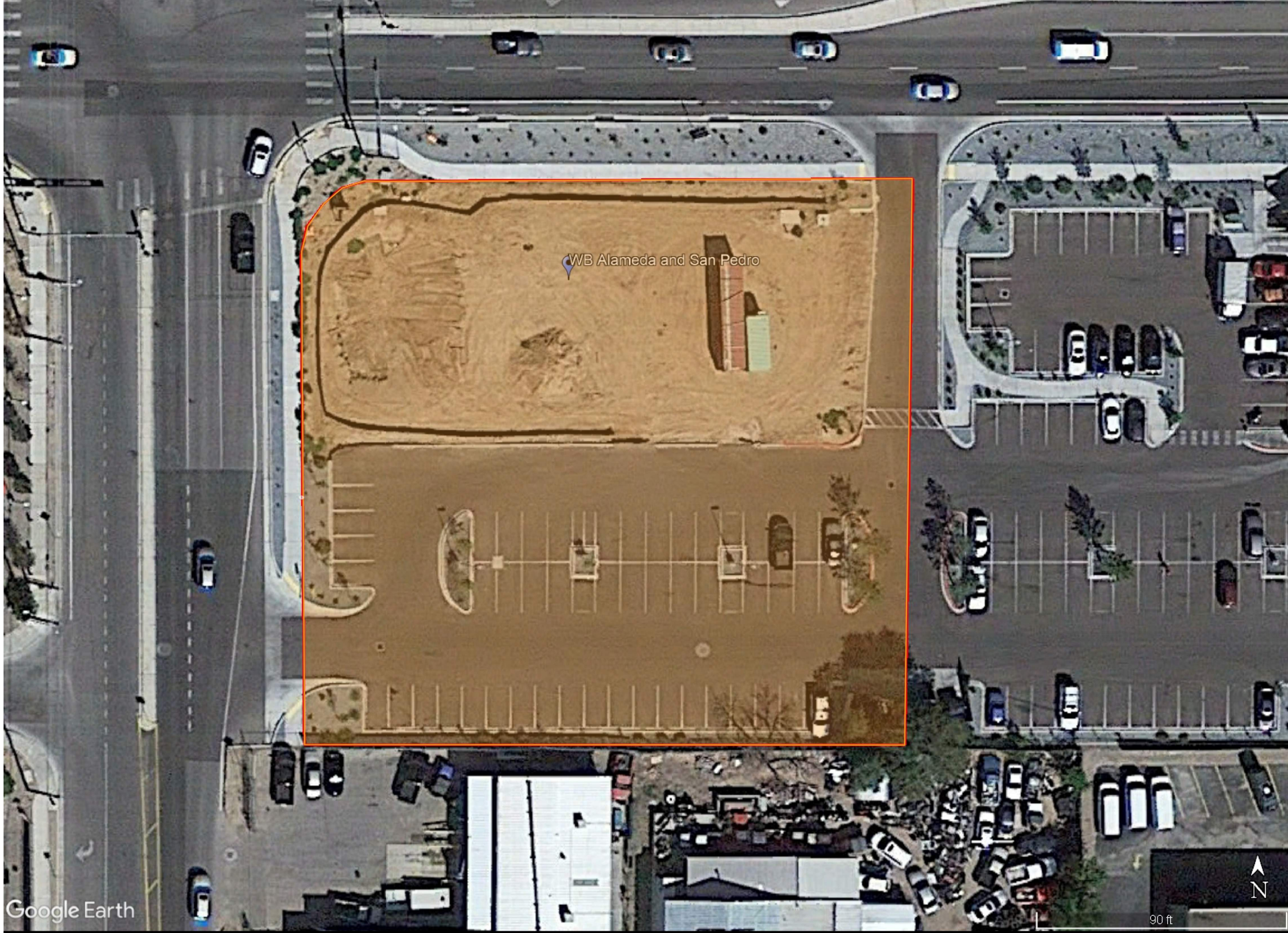
## **SWPPP APPENDICES**

For SWPPPs that are being managed on compliance|**GO** any additional SWPPP documentation that is needed or required will be in the documents and permits sections of compliance|**GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## *Appendix A – Site Maps*

### Preconstruction Existing Vegetation Map



WB Alameda and San Pedro







 Asphalt, concrete, lawns, trees and/or shrubs (1)

Latitude: 35.184184  
Longitude: -106.577120

## Waters Within One Mile Downstream of the Site Map

**Impaired Streams**  
2024 DRAFT (1 of 2)

**AU ID:** NM-2105\_51

**TEMP LENGTH:** Null

**WATER NAME:** Rio Grande (Tijeras Arroyo to Alameda Bridge)

**IMPAIRMENTS:** - Dissolved Oxygen|Escherichia Coli (E. Coli)|Mercury - Fish Consumption Advisory|PCBS - Fish Consumption Advisory|Temperature

[Zoom to](#)

Length: 21,449.79 ft  
Lon: -106.5756°, Lat: 35.19257°



 Receiving Water - Rio Grande River (2)

Latitude: 35.184184

 Water Flow (1)

Longitude: -106.577120

 Project Site (1)

## SWPPP BMP Maps

\*Note: Original civil files were used as a reference only. Modifications made by Inspections Plus based on information provided by the operator and site conditions. This SWPPP Map is a living document subject to change based on site needs. BMPs that are no longer necessary will be deactivated and shown in gray on the maps. Please refer to the Site Maps section in complianceGO for the most up-to-date maps. For residential sites, individual lots will be updated with track out, waste collection, and materials storage BMPs as construction begins on each lot.

For SWPPPs that are being managed on compliance|GO the site maps will be located in the documents section and the site maps section of compliance|GO.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

### **Map Notes:**

BMPs will be installed according to the phase of construction, and the BMP specifications found in Appendix H of the SWPPP. BMPs will be monitored and may change throughout construction. Any changes to the BMPs need to be shown on the site maps. Any additional BMPs that are needed will be determined during regular inspections and installed according to specifications.

The locations of the NOI permit, portable toilets, trash bins, concrete washout, and other BMPs may change throughout the duration of construction. Their location will be updated on the SWPPP map when necessary.

Upon project completion and confirmed termination of the permit, temporary measures will be removed, and the site properly cleaned prior to release of the site to the owner.

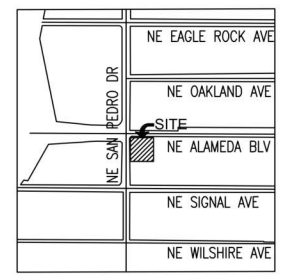
### **BMPs Utilized, But Not Shown**

- Chlorinated Water Flushing
- Preserve Topsoil
- Minimize Soil Compaction
- Bagging of Lightweight Trash
- Cleanup of Concrete and/or Asphalt Slurry and Dust
- Landscaping for Final Stabilization

# WHATABURGER

## TOPOGRAPHIC SURVEY & REMOVAL PLAN

6100 NE ALAMEDA BLVD, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3 EAST  
BERNALILLO COUNTY, NEW MEXICO.



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP



5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL: 480.588.7226 FAX: 480.299.3534



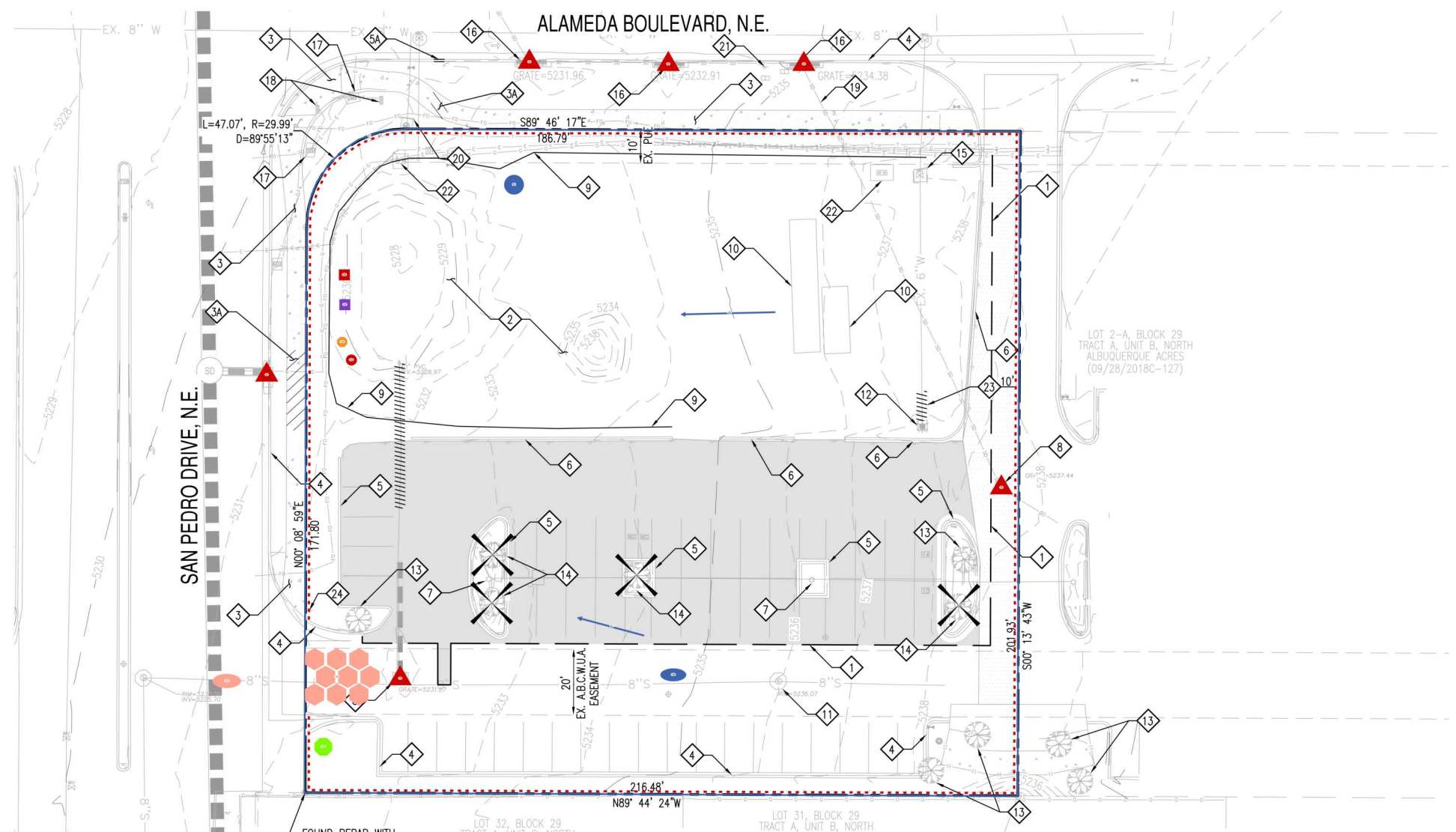
**811**  
CALL NM ONE-CALL SYSTEM SEVEN  
(7) DAYS PRIOR TO ANY EXCAVATION

PROJECT: WHATABURGER NM SEC. ALAMEDA BLVD NE & SAN PEDRO AVE NE  
LOCATION: 6100 ALAMEDA BLVD NE ALBUQUERQUE, NM

DRAWN: GA	05/09/2023
DESIGNED: LP	05/09/2023
QC:	
FINAL QC:	
PROJ. MGR.: AF	05/09/2023
DATE:	05/26/2023
ISSUED FOR:	PERMITS
REVISION NO.:	DATE:
△	
△	
△	
JOB NO.:	210907
SHEET TITLE:	

**TOPOGRAPHIC SURVEY & REMOVAL PLAN**

PAGE NO. 4 OF 14 SHEET NO. C1.00

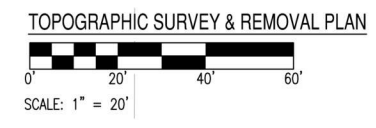


**EXISTING LEGEND:**

--- XXXX ---	EX. MAJOR CONTOURS	EX. S	SEWER LINE	--- CB ---	STORM DRAIN LINE	○	SIGN
--- XXXX ---	EX. MINOR CONTOURS	○	SEWER MANHOLE	--- CB ---	--- CB ---	○	STREET LIGHT
---	CENTERLINE	EX. W	WATER LINE	○	STORM MANHOLE	FO	FIBER OPTIC LINE
---	EASEMENT LINE AS NOTED	WV	WATER VALVE	---	GAS LINE	○	CHAINLINK FENCE
		+	FIRE HYDRANT	---	IRR	---	IRRIGATION LINE

MONUMENT "10\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,524,123.885 US SURVEY FEET  
E= 1,542,565.263 US SURVEY FEET  
PLUBLISHED EL=5222.09 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999665042  
DELTA ALPHA ANGLE=-0°11'19.42"

A.G.R.S. MONUMENT "9\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,521,497.624 US SURVEY FEET  
E= 1,542,501.428 US SURVEY FEET  
PLUBLISHED EL=5232.47 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999664563  
DELTA ALPHA ANGLE=-0°11'19.69"



- REMOVAL CONSTRUCTION KEY NOTES**
- 1 SAWCUT EXISTING PAVEMENT TO PROVIDE STRAIGHT VERTICAL EDGES, FREE FROM IRREGULARITIES. MIN 2' FROM GUTTER.
  - 2 CLEAR SITE, REMOVE VEGETATION AND DEBRIS WITHIN LIMITS OF CONSTRUCTION.
  - 3 PROTECT EXISTING SIDEWALK.
  - 3A REMOVE AND REPLACE EXISTING SIDEWALK.
  - 4 PROTECT EXISTING VERTICAL CURB AND GUTTER.
  - 5 REMOVE EXISTING VERTICAL CURB AND GUTTER.
  - 5A REMOVE AND REPLACE EXISTING VERTICAL CURB AND GUTTER.
  - 6 REMOVE EXISTING VERTICAL CURB.
  - 7 REMOVE EXISTING LIGHT POLE.
  - 8 PROTECT EXISTING CATCH BASIN.
  - 9 REMOVE EXISTING FENCE.
  - 10 REMOVE EXISTING STORAGE CONTAINER.
  - 11 PROTECT EXISTING MANHOLE.
  - 12 REMOVE & RELOCATE EXISTING FIRE HYDRANT.
  - 13 PROTECT EXISTING TREE.
  - 14 REMOVE EXISTING TREE.
  - 15 PROTECT EXISTING WATER VALVE.
  - 16 PROTECT EXISTING CURB INLET.
  - 17 PROTECT TRAFFIC SIGNAL BOX.
  - 18 PROTECT TRAFFIC LIGHT.
  - 19 PROTECT EXISTING STORM LINE.
  - 20 PROTECT EXISTING WATER METER.
  - 21 PROTECT EXISTING SIGN.
  - 22 EXISTING PULL BOX TO BE REMAINED.
  - 23 REMOVE EXISTING WATER LINE. LENGTH PER PLAN.
  - 24 REMOVE EXISTING SIGN.

**REMOVAL LEGEND:**














---	SAWCUT LINE
---	LOD
---	LIMIT OF DISTURBANCE
---	CENTERLINE
	PIPE REMOVAL
---	PAVEMENT REMOVAL
---	CONCRETE REMOVAL
X	TREE REMOVAL

NOTE:  
REFER TO SHEET C0.10 FOR GENERAL REMOVAL NOTES

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.



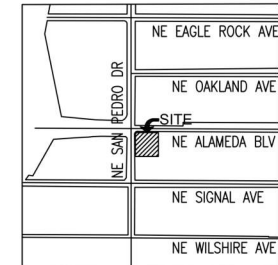
Latitude: 35.184184  
Longitude: -106.577120

-  Pre-Construction Water Flow/Slope (2)
-  Property Boundary & Limit of Disturbance (1)
-  Silt Fence (1)
-  ERTEC Combo Guard (6)
-  NOI/Site Notice Posting (1)
-  Material Storage (1)
-  Spill Kit - near Material Storage (1)
-  Dumpster (1)
-  Portable Toilet - MUST be at least 10 ft. from any impervious surface (1)
-  Street Sweeping (1)
-  Water Truck (1)
-  Debris Stockpile (1)
-  Stabilized Construction Entrance/Exit (1)

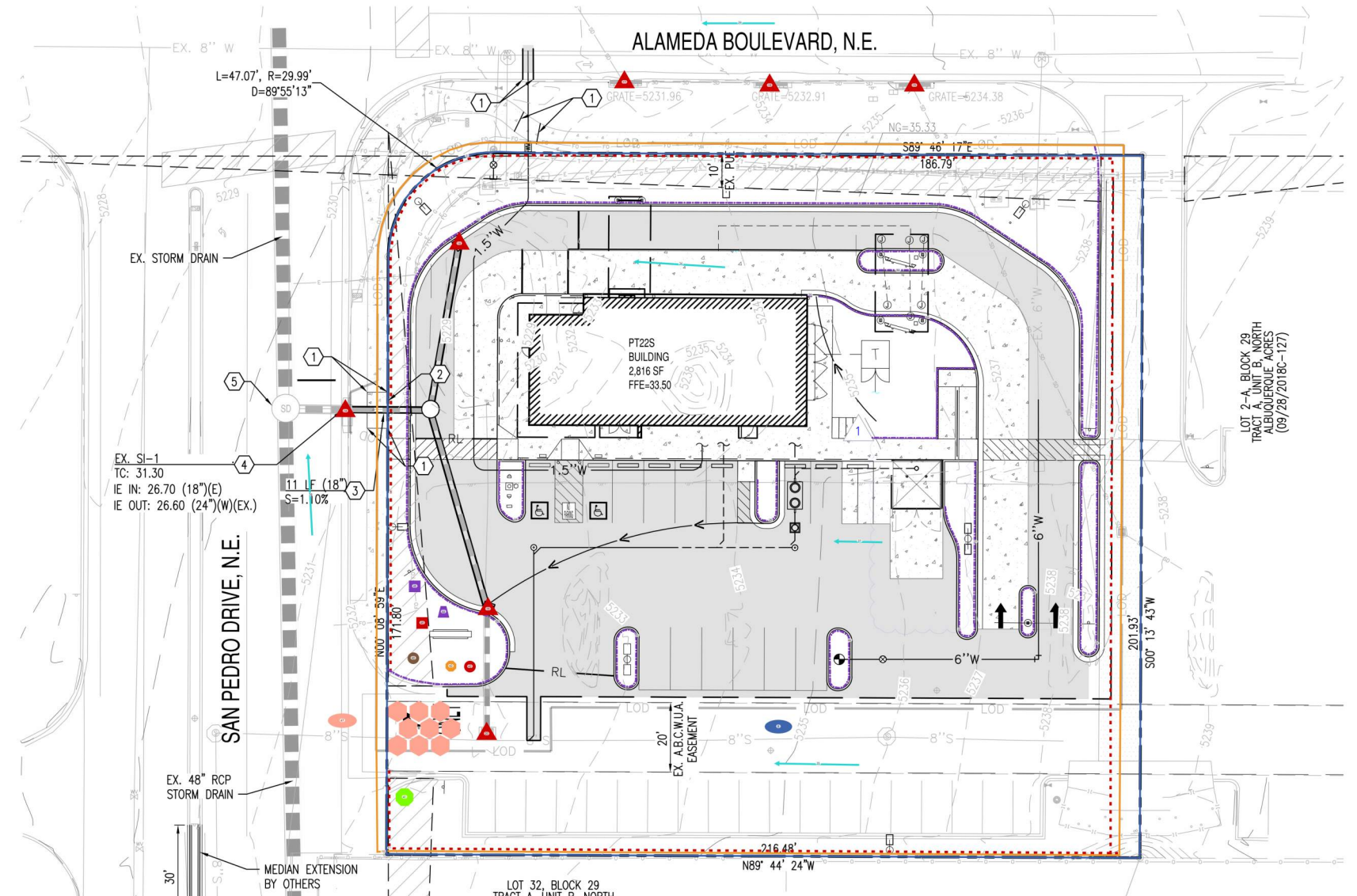
# WHATABURGER

## OFF-SITE GRADING AND DRAINAGE PLAN

6100 ALAMEDA BLVD NE, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3 EAST  
BERNALILLO COUNTY, NEW MEXICO.



800 E. GELBING DRIVE SUITE 101, SCOTTSDALE, ARIZONA 85260  
WWW.AZSEG.COM TEL: 480.988.7266 FAX: 480.269.9534



### GRADING CONSTRUCTION KEY NOTES

- ① MATCH EXISTING GRADE; CONTRACTOR TO VERIFY IN FIELD ALL GRADES PRIOR TO CONSTRUCTION ACTIVITIES AND CONTACT ENGINEER IN CASE OF ANY DISCREPANCIES.
- ② REMOVE AND REPLACE EXISTING SIDEWALK AS REQUIRED FOR UTILITY CONSTRUCTION. REMOVE TO NEAREST JOINT.
- ③ FURNISH AND INSTALL REINFORCED CLASS III CONCRETE PIPE, LENGTH, SIZE AND SLOPE PER PLAN.
- ④ CONNECT PIPE TO EXISTING PUBLIC STORM INLET.
- ⑤ EXISTING PUBLIC 8' DIA MANHOLE.

NOTE:  
INVERT ELEVATIONS TO BE VERIFIED IN FIELD.

### EXISTING LEGEND:

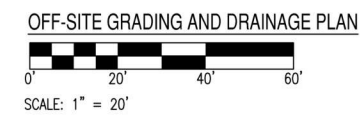
---XXXX---	EX. MAJOR CONTOURS	EX. S	SEWER LINE	---S---	STORM DRAIN LINE	○	SIGN
---XXXX---	EX. MINOR CONTOURS	○	SEWER MANHOLE	CB	STORM CATCH BASIN	○	STREET LIGHT
TC-XX.XX GE-XXXX	EX. SPOT ELEVATION	EX. W	WATER LINE	○	STORM MANHOLE	○	TREE
---	EASEMENT LINE AS NOTED	WV	WATER VALVE	○	GAS LINE	○	ROAD CENTERLINE
		⊕	FIRE HYDRANT	---	FENCE	---	

### PROPOSED GRADING LEGEND:

G=XX.XX	GUTTER ELEVATION, TC = G+0.5'	---	PROPERTY LINE	LOC	LIMIT OF ONSITE CONSTRUCTION	○	STORM MANHOLE	---	CONCRETE PAVEMENT
P=XX.XX	PAVEMENT ELEVATION	---	CURB AND GUTTER	→	FLOW ARROW	○	WATER METER	---	HEAVY DUTY PAVEMENT
C=XX.XX	CONCRETE ELEVATION	RL	VERTICAL CURB	□	CATCH BASIN	○	GATE VALVE	---	STORM INLET
			RIDGELINE	---	STORM PIPE	○	FIRE HYDRANT		

MONUMENT "10\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,524,123.885 US SURVEY FEET  
E= 1,542,565.263 US SURVEY FEET  
PUBLISHED EL=5222.09 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999665042  
DELTA ALPHA ANGLE=-0°11'19.42"

A.G.R.S. MONUMENT "9\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,521,497.624 US SURVEY FEET  
E= 1,542,501.428 US SURVEY FEET  
PUBLISHED EL=5232.47 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999664563  
DELTA ALPHA ANGLE=-0°11'19.69"



CALL NM ONE-CALL  
SYSTEM SEVEN (7) DAYS  
PRIOR TO ANY EXCAVATION

NO.	DATE	DESCRIPTION	CONTRACTOR
AS-BUILT INFORMATION			
WORK STAKED BY:	DATE:		
INSPECTOR'S ACCEPTANCE BY:	DATE:		
FIELD VERIFICATION BY:	DATE:		
DRAWINGS CORRECTED BY:	DATE:		
DESIGNED BY: SO			
DRAWN BY: ER			
CHECKED BY: SC			
DATE	05/2023		

	CITY OF ALBUQUERQUE DEPARTMENT OF MUNICIPAL DEVELOPMENT ENGINEERING DIVISION	
	OFF-SITE GRADING & DRAINAGE PLAN	
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. <b>Z-99</b>
		CITY PROJECT NO. <b>PR-2018-001346</b>
		SHEET NO. <b>C3.01</b>

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.





Latitude: 35.184184  
Longitude: -106.577120

-  Pre/Post-Construction Water Flow/Slope (5)
-  Cut-back Curbs and/or Sidewalks (14)
-  Silt Fence (5)
-  Limit of Disturbance (2)
-  Property Boundary (1)
-  Stabilized Construction Entrance/Exit (1)
-  Water Truck (1)
-  ERTEC Combo Guard (7)
-  Stockpiles (1)
-  NOI/Site Notice Posting (1)
-  Material Storage (1)
-  Spill Kit - near Material Storage (1)
-  Portable Concrete Washout Bin w/ Sign (1)
-  Dumpster (1)
-  Portable Toilet - MUST be at least 10 ft. from any impervious surface (1)
-  Street Sweeping (1)

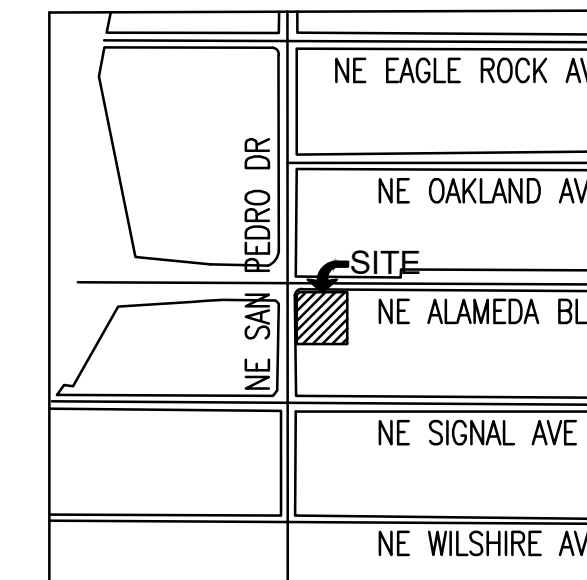
## Site Plan(s) and Details

# WHATABURGER

## SITE PLAN

6100 ALAMEDA NE BLVD, ALBUQUERQUE, NM  
LOT 1-A, BLOCK 29, TRACT A, UNIT B OF NORTH  
BERNALILLO COUNTY, NEW MEXICO.

S/T/R  
13 11N 3E  
**VICINITY MAP**  
SCALE 1:800



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP



5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL: 480.586.7226 FAX: 480.259.3534



CALL NM ONE-CALL SYSTEM SEVEN  
(7) DAYS PRIOR TO ANY EXCAVATION

PROJECT: WHATABURGER NM  
SEC ALAMEDA BLVD NE  
& SAN PEDRO AVE NE  
LOCATION: 6100 ALAMEDA BLVD NE  
ALBUQUERQUE, NM

DRAWN: GA 05/09/2023  
DESIGNED: LP 05/09/2023  
QC:  
FINAL QC:  
PROJ. MGR.: AF 05/09/2023  
DATE: 05/26/2023

ISSUED FOR: PERMITS

REVISION NO.: DATE:  
1 TRASH ENCLOSURE UPDATE 05/26/2023

JOB NO.: 210907  
SHEET TITLE:

**SITE PLAN**

PAGE NO.: 5 OF 14  
SHEET NO.: C2.00

### SITE PLAN KEYNOTES:

- 1A 6" VERTICAL CURB PER GRADING PLANS.
- 1B 6" CURB AND GUTTER PER GRADING PLANS.
- 1C TURNDOWN SIDEWALK PER GRADING PLANS.
- 2 ACCESSIBLE RAMP PER DET. 8/C2.11.
- 2A ACCESSIBLE RAMP PER DET. 9/C2.11.
- 2B ACCESSIBLE RAMP PER DET. 10/C2.11.
- 2C LOADING ZONE PER GRADING PLANS.
- 3 CONCRETE SIDEWALK, PER C.O.A. STD. DET. DWG. 2430 WIDTH PER PLAN.
- 4 EXISTING SIDEWALK TO REMAIN.
- 5 EXISTING TRASH ENCLOSURE.
- 6 PROVIDE PAINTED ADA SYMBOL PER DET. 1/C2.10.
- 7 PROVIDE 4" WIDE WHITE PAINTED STRIPING, TYP.
- 8 PROVIDE 6' WIDE PEDESTRIAN PATHWAY WITH 4" WIDE YELLOW PAINT, AT 45' 2 FEET O.C PER DET. 13/C2.11.
- 8A PROVIDE 8' WIDE PEDESTRIAN PATHWAY AT ACCESSIBLE PARKING WITH 4" WIDE YELLOW PAINT, AT 45' 2 FEET O.C.
- 9 INSTALL 6" STEEL BOLLARDS PER DET. 3/C2.10.
- 10A PROVIDE HEAVY DUTY ASPHALT PAVEMENT PER CIVIL PLANS.
- 10B CONCRETE PAVEMENT PER GRADING PLANS.
- 10C EXISTING ASPHALT.
- 11 INSTALL ACCESSIBLE PARKING SIGN PER DET. 2/C2.10.
- 12 INSTALL DRIVE-THRU CLEARANCE BAR PER ARCHITECTURAL PLANS.
- 13 INSTALL DRIVE-THRU MENU BOARD. PER STRUCTURAL PLANS DET. D1/SS.1.
- 14 PROVIDE RESTAURANT CANOPY PER ARCHITECTURAL PLANS.
- 15 RELOCATED FIRE HYDRANT LOCATION.
- 16 INSTALL 28' HIGH FLAG POLE BY G.C.
- 17 INSTALL FREE STANDING MAILBOX BY G.C.
- 18 INSTALL BIKE RACK (4 SPACES). PER DET. 5/C2.10.
- 19 REMOVE AND REPLACE SIDEWALK. WIDTH PER PLAN.
- 21 FURNISH AND INSTALL WHEEL STOP PER DET. 4/C2.10.
- 22 PROPOSED "TRASH ENCLOSURE" WITH 6-CUBIC YARD VIP COMPACTOR, DRAIN TO GREASE INTERCEPTOR PER APPROVED SOLID WASTE PLANS.
- 23 INSTALL LIGHT POLE PER ELECTRICAL PLAN.
- 24 MOTORCYCLE PARKING (2 SPACES).
- 25 ELECTRIC VEHICLE PARKING (2 SPACES).
- 26 GREASE INTERCEPTOR PER UTILITY PLANS.
- 27 PROPOSED MONUMENT SIGN LOCATION.
- 28 INSTALL MENU BOARD CANOPY PER ARCHITECTURAL PLAN A6.8.
- 29 PROPOSED "PEDESTRIAN WARNING + 15MPH SPEED" SIGN PER C.O.A. STD. DET. 2600-401 & 2600-404
- 30 SIGHT LINE TRIANGLE.
- 31 ELECTRICAL CABINET.
- 32 MOTORCYCLE PARKING ONLY SIGN.
- 33 FUTURE CHARGING STATION LOCATION.
- 34 CURB TRANSITION FROM 6" TO 0" PER CIVIL PLANS.
- 35 PROPOSED 30" STOP SIGN AT DRIVEWAY. PER C.O.A. STD. DWG. 2600-601
- 36 PROVIDE PAINTED ADA ACCESS AISLE SYMBOL PER DET. 7/C2.11.
- 37 PROVIDE DIRECTIONAL LANE PAVEMENT MARKINGS PER DET. 11/C2.11.
- 38 PROPOSED "ONE WAY" SIGN, PER C.O.A. STD. DET. 2600-603.
- 39 PROPOSED "DO NOT ENTER" SIGN, PER C.O.A. STD. DET. 2600-603.
- 40 PROPOSED "NO LEFT EXIT" SIGN PER C.O.A. STD. DET. 2600-701.
- 41 PROVIDE "RIGHT TURN ONLY" PAVEMENT MARKING PER C.O.A. STD. DET. 2600-105.
- 42 PROVIDE STOP LINE WITH 12" WIDE WHITE PAINT.
- 43 PROVIDE DIVIDING LINE WITH 4" WIDE YELLOW PAINT.

### SITE PLAN NOTES

1. DEVELOPMENT AND USE OF THIS SITE WILL CONFORM TO ALL APPLICABLE CODES AND ORDINANCES.
2. FIRE LANES SHALL BE ESTABLISHED AND PROPERLY DESIGNATED IN ACCORDANCE WITH THE LOCAL MUNICIPALITY AND LOCAL FIRE DEPARTMENT REQUIREMENTS.
3. ALL NEW OR RELOCATED UTILITIES WILL BE PLACED UNDERGROUND.
4. ALL ROOFTOP EQUIPMENT AND SATELLITE DISHES SHALL BE SCREENED TO THE HEIGHT OF THE TALLEST EQUIPMENT.
5. ALL SERVICE AREAS SHALL BE SCREENED TO CONCEAL TRASH CONTAINERS, LOADING DOCKS, TRANSFORMERS, BACKFLOW PREVENTERS AND OTHER MECHANICAL OR ELECTRICAL EQUIPMENT FROM EYE LEVEL ADJACENT TO ALL PUBLIC STREETS.
6. IF APPLICABLE, PEDESTRIAN ACCESS ROUTES ARE PROVIDED IN COMPLIANCE WITH THE LATEST ADA STANDARDS. ALL RAMPS MUST MEET ADA ACCESSIBILITY GUIDELINES (ADAAG) STANDARDS, 2% MAX CROSS SLOPES, AND 5% MAXIMUM LONGITUDINAL SLOPES. TRUNCATED DOMES, AS DETECTABLE WARNINGS, ARE REQUIRED, AS SHOWN IN PLANS, ON ALL SITE RAMPS AND WALKS THAT CROSS A VEHICULAR WAY PER ADAAG CHAPTER 7.
7. PIPE BOLLARDS SHALL BE INSTALLED IN TRAFFIC AND LOADING AREAS AS REQUIRED TO PROTECT BUILDING CORNERS, RECEIVING AREAS, HYDRANTS, TRANSFORMERS, METERS, GENERATORS, COMPACTORS, STEPS, AND RAILINGS, AS NECESSARY.
8. ALL SIGNAGE REQUIRES SEPARATE APPROVAL AND PERMITS.
9. A MINIMUM 6-FOOT HORIZONTAL SEPARATION BETWEEN WATER AND SEWER PIPELINES WILL BE MAINTAINED.
10. OWNERS OF PROPERTY ADJACENT TO THE PUBLIC RIGHT-OF-WAY WILL HAVE THE RESPONSIBILITY FOR MAINTAINING ALL LANDSCAPING WITHIN THE RIGHT-OF-WAY IN ACCORDANCE WITH APPROVED PLANS.

### SIGHT DISTANCE NOTE

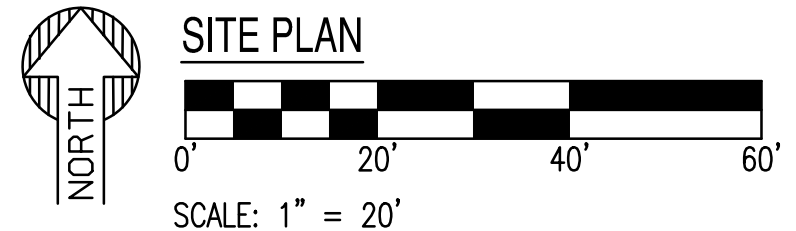
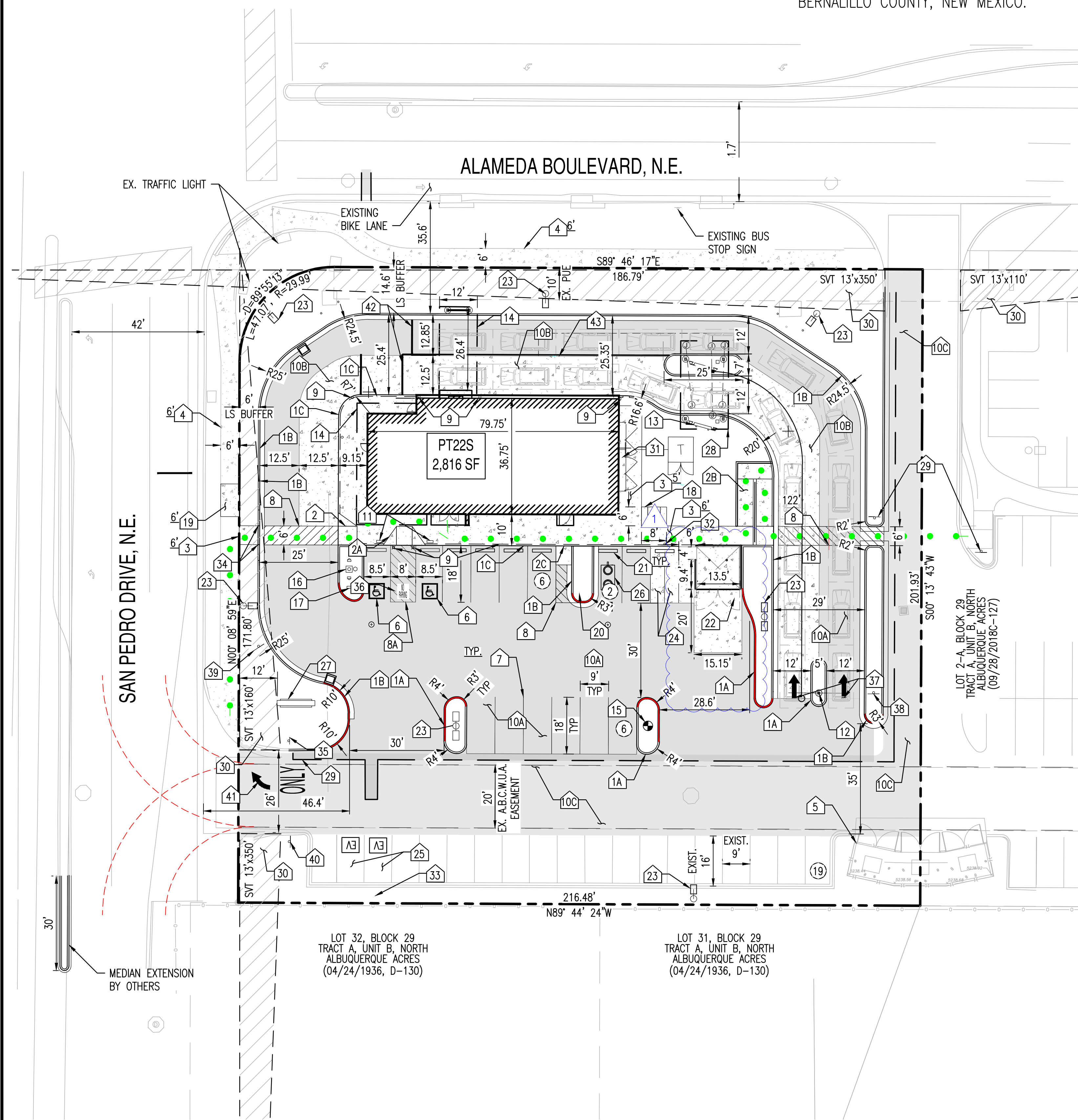
LANDSCAPING, FENCING AND SIGNING WILL NOT INTERFERE WITH CLEAR SIGHT REQUIREMENTS. THEREFORE, SIGNS, WALLS, TREES, AND SHRUBBERY BETWEEN 3 AND 8 FEET TALL (AS MEASURED FROM THE GUTTER PAN) WILL NOT BE ACCEPTABLE IN THE CLEAR SIGHT TRIANGLE.

DEVELOPMENT SUMMARY TABLE:			
PROJECT ADDRESS:	6100 ALAMEDA BLVD NE, ALBUQUERQUE, NM		
PROJECT DESCRIPTION:	PROPOSED WHATABURGER W/ DRIVE THRU		
UPC:	101806 428134 810229		
ZONING:	NR-BP		
LOT SIZE:	43,565 SF	1.00 AC	
PROPOSED USE:	RESTAURANT W/ DRIVE THROUGH		
BUILDING AREA:	2,816 SF		
MAX BUILDING HEIGHT:	ALLOWED	PROPOSED	
RESTAURANT BUILDING:	50 FT.	22 FT.	
LOT STANDARDS:	REQUIRED	PROPOSED	
MIN LOT WIDTH:	100 FT.	± 186 FT.	
PARKING REQUIREMENT:	REQUIRED	PROPOSED	
VEHICLE (2,965 SF/1,000 SF x 8):	23		
ADA SPACES:	2	33	INCL. 2 EV SPACES
EV SPACES:	2		2 ADA SPACES
MOTORCYCLE (1 PER 25 SPACES):	2	2	
BICYCLE SPACES:	3	4	
MINIMUM BUILDING SETBACKS:	REQUIRED	PROPOSED	
FRONT (ALAMEDA BLVD NE):	10 FT.	± 36 FT.	
SIDE (SAN PEDRO ROAD NE):	10 FT.	± 31 FT.	
REAR (SOUTH SIDE):	10 FT.	± 119.5 FT.	
MINIMUM LANDSCAPE BUFFER:	REQUIRED	PROPOSED	
FRONT (ALAMEDA BLVD NE):	10 FT.	± 10 FT.	
SIDE (SAN PEDRO ROAD NE):	6 FT.	± 22 FT.	WHERE PARKING LOTS ADJACENT TO LOT EDGE
REAR (SOUTH SIDE):	6 FT.	± 6 FT.	

- 39 PROPOSED "DO NOT ENTER" SIGN, PER C.O.A. STD. DET. 2600-603.
- 40 PROPOSED "NO LEFT EXIT" SIGN PER C.O.A. STD. DET. 2600-701.
- 41 PROVIDE "RIGHT TURN ONLY" PAVEMENT MARKING PER C.O.A. STD. DET. 2600-105.
- 42 PROVIDE STOP LINE WITH 12" WIDE WHITE PAINT.
- 43 PROVIDE DIVIDING LINE WITH 4" WIDE YELLOW PAINT.

### PROPOSED LEGEND:

	VERTICAL CURB		CONCRETE PAVEMENT/SIDEWALK
	CURB AND GUTTER		HEAVY DUTY PAVEMENT
	PARKING COUNT		EXISTING PAVEMENT
	PAVEMENT STRIPING		ACCESSIBLE PEDESTRIAN PATH
	FIRE HYDRANT		28'/48' FIRE ACCESS TURN RADIUS
	TRANSFORMER		RED PAINTED FIRE CURB RE: DET. 6/C2.10



SITE PLAN

SCALE: 1" = 20'

LOT 32, BLOCK 29  
TRACT A, UNIT B, NORTH  
ALBUQUERQUE ACRES  
(04/24/1936, D-130)

LOT 31, BLOCK 29  
TRACT A, UNIT B, NORTH  
ALBUQUERQUE ACRES  
(04/24/1936, D-130)

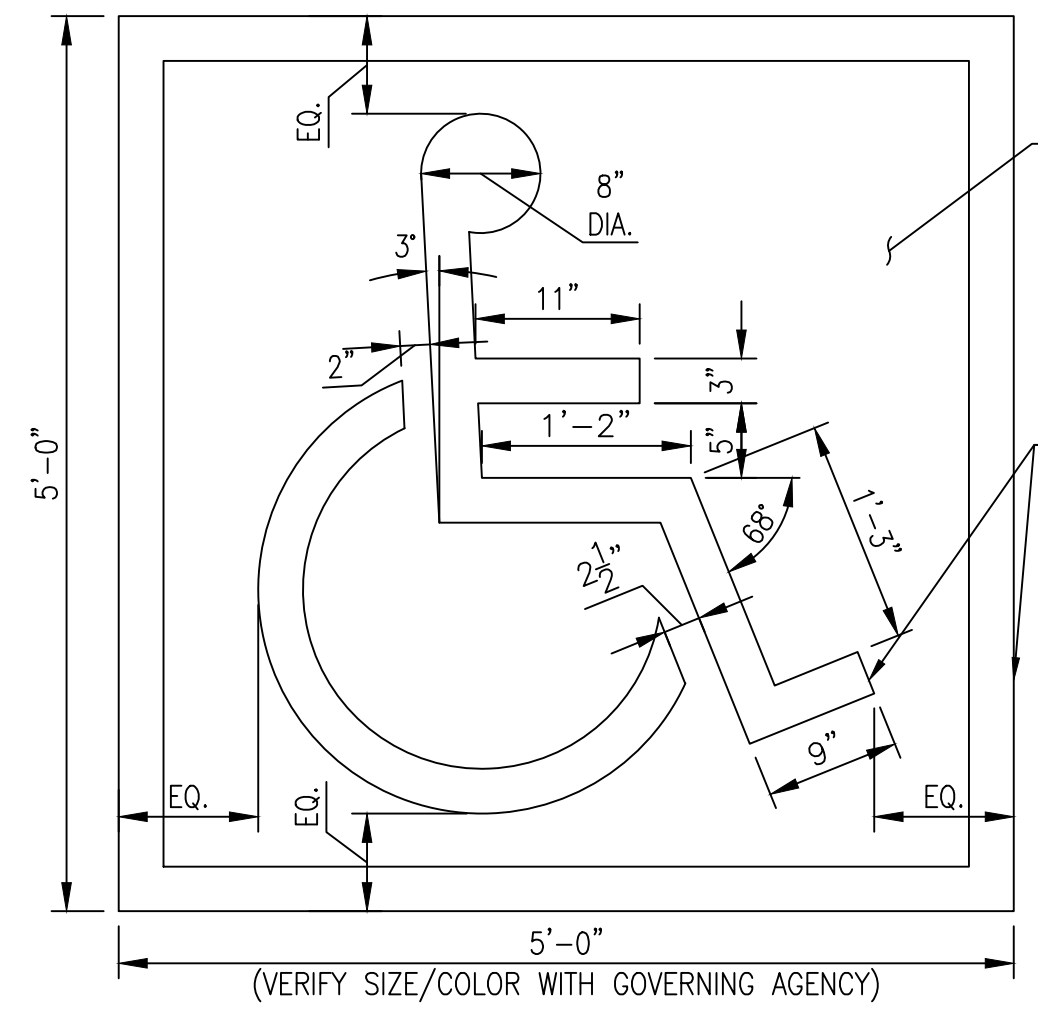
MEDIAN EXTENSION  
BY OTHERS

SAN PEDRO DRIVE, N.E.

ALAMEDA BOULEVARD, N.E.

LOT 2-A, BLOCK 29  
TRACT A, UNIT B, NORTH  
ALBUQUERQUE ACRES  
(09/28/2018C-127)

PT22S  
2,816 SF



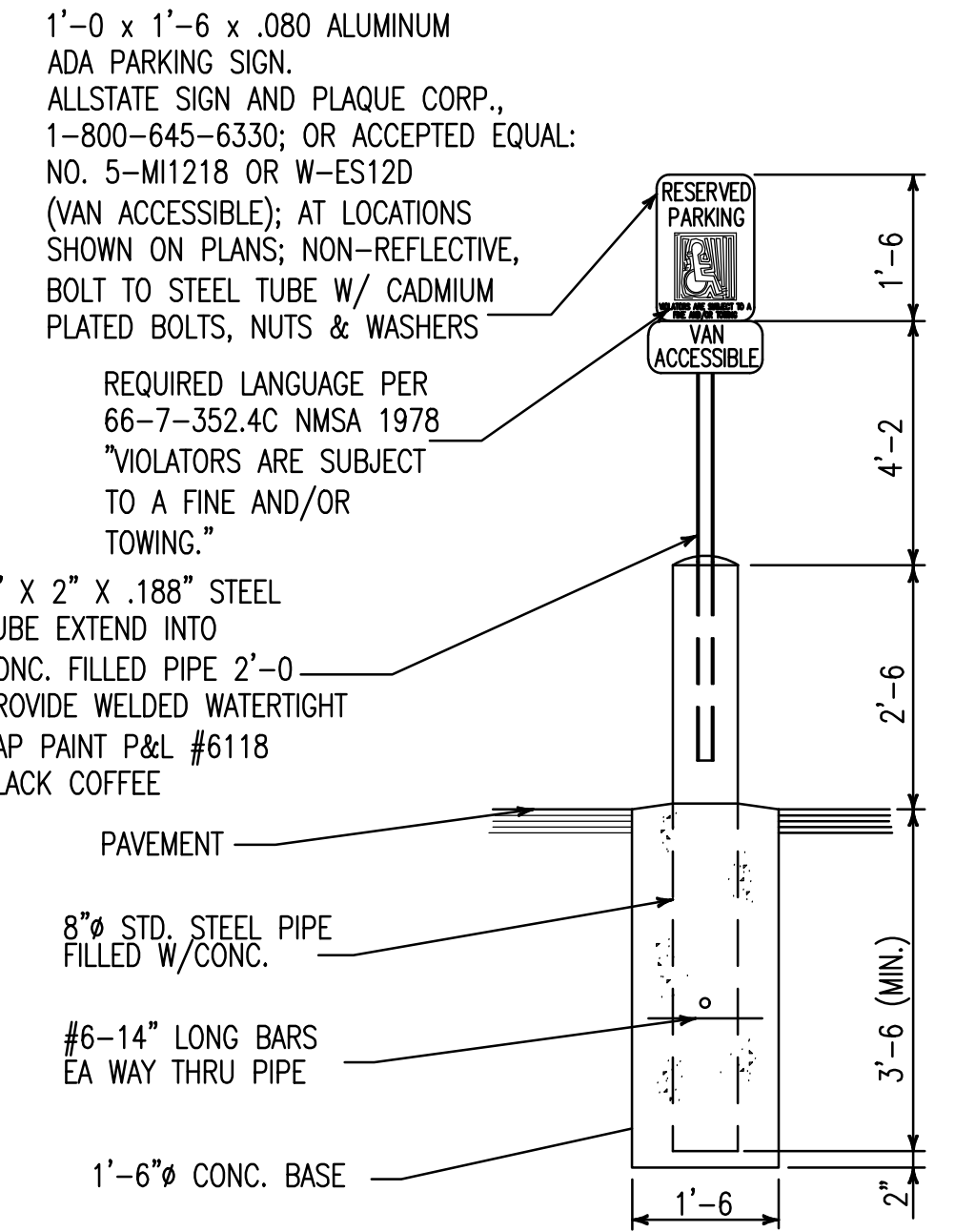
FIELD HANDICAP BLUE NUMBER 15090, FEDERAL STANDARD 595A OR EQUAL

SYMBOL: YELLOW HIGHWAY, PAINT (2) COATS 3" WIDE, TYP.

**SYMBOL OF ACCESSIBILITY**



1



1'-0 x 1'-6 x .080 ALUMINUM ADA PARKING SIGN.  
ALLSTATE SIGN AND PLAQUE CORP.,  
1-800-645-6330; OR ACCEPTED EQUAL:  
NO. 5-M11218 OR W-ES12D  
(VAN ACCESSIBLE); AT LOCATIONS SHOWN ON PLANS; NON-REFLECTIVE,  
BOLT TO STEEL TUBE W/ CADMIUM PLATED BOLTS, NUTS & WASHERS

REQUIRED LANGUAGE PER 66-7-352.4C NMSA 1978  
"VIOLATORS ARE SUBJECT TO A FINE AND/OR TOWING."

2" X 2" X .188" STEEL TUBE EXTEND INTO CONC. FILLED PIPE 2'-0"  
PROVIDE WELDED WATERTIGHT CAP PAINT P&L #6118 BLACK COFFEE

PAVEMENT

8" Ø STD. STEEL PIPE FILLED W/ CONC.

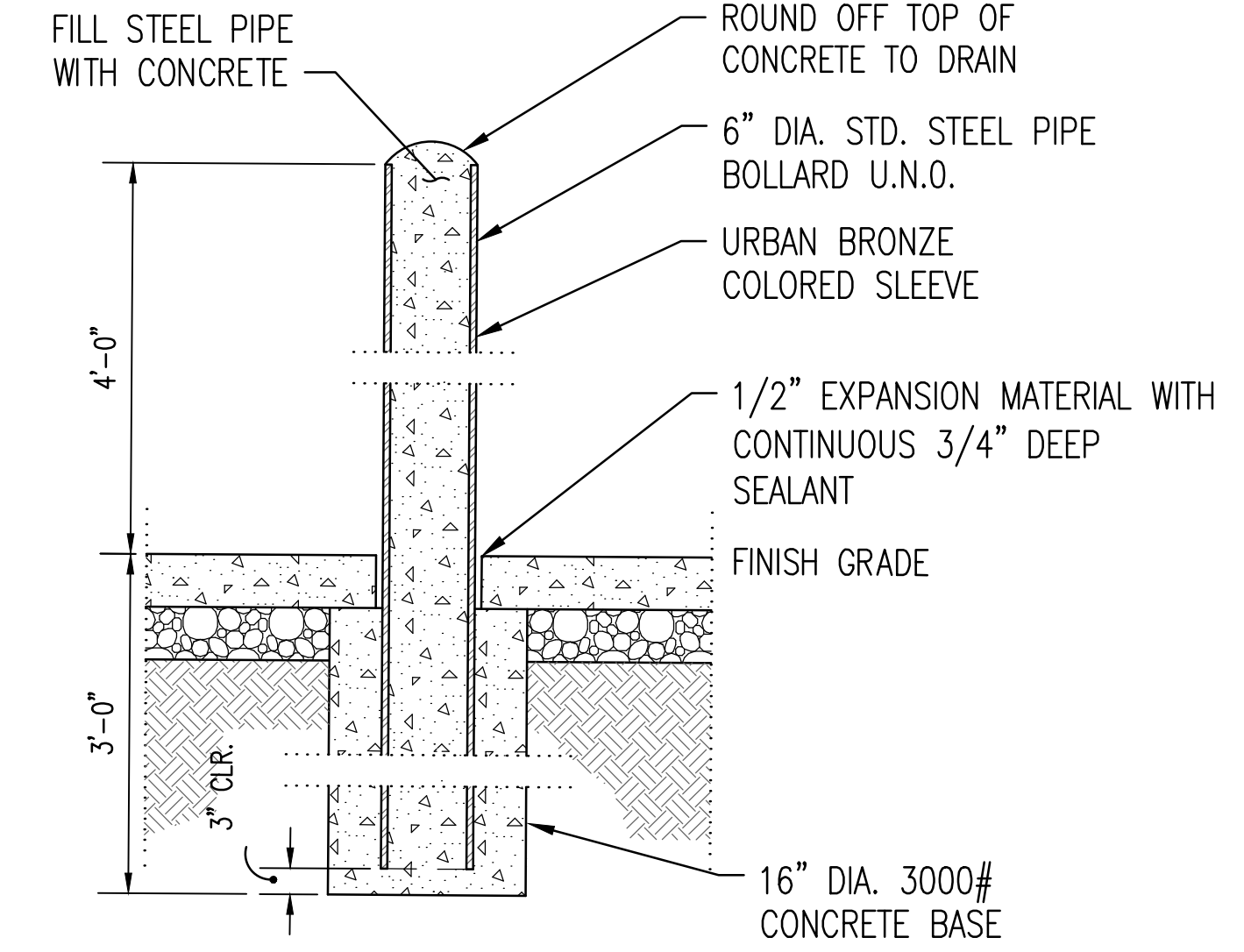
#6-14" LONG BARS EA WAY THRU PIPE

1'-6" Ø CONC. BASE

**ACCESSIBLE PARKING SIGN**



2



FILL STEEL PIPE WITH CONCRETE

ROUND OFF TOP OF CONCRETE TO DRAIN

6" DIA. STD. STEEL PIPE BOLLARD U.N.O.

URBAN BRONZE COLORED SLEEVE

1/2" EXPANSION MATERIAL WITH CONTINUOUS 3/4" DEEP SEALANT

FINISH GRADE

16" DIA. 3000# CONCRETE BASE

**STEEL PIPE BOLLARD IN CONCRETE**  
N.T.S.



3



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

**SUSTAINABILITY ENGINEERING GROUP**

**SEG**



5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL: 480.588.7226 FAX: 480.591.3534



CALL NM ONE-CALL SYSTEM SEVEN (7) DAYS PRIOR TO ANY EXCAVATION

PROJECT: WHATABURGER NM SEC ALAMEDA BLVD NE & SAN PEDRO AVE NE  
LOCATION: 6100 ALAMEDA BLVD NE ALBUQUERQUE, NM

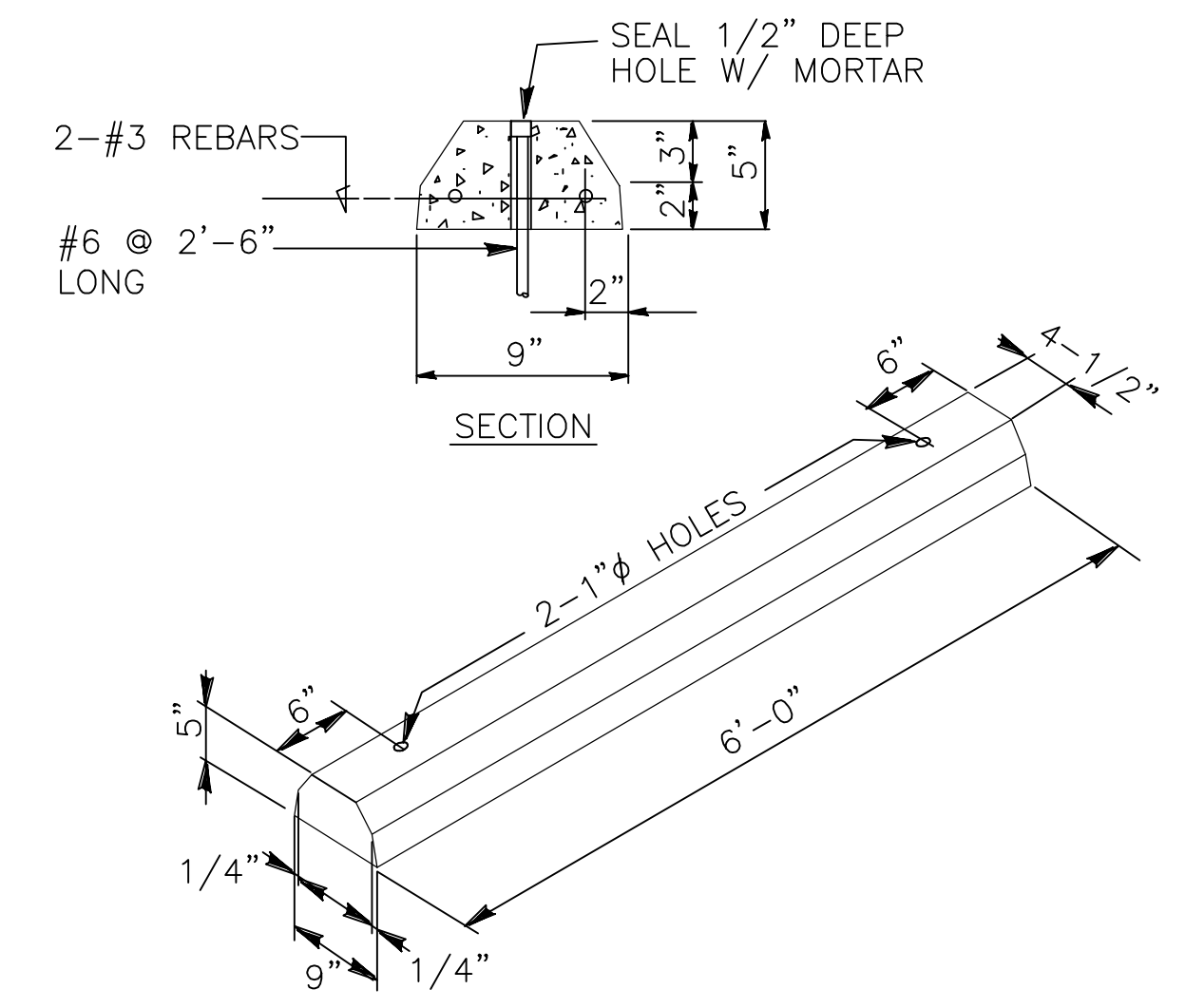
DRAWN: GA 05/09/2023  
DESIGNED: LP 05/09/2023  
QC: \_\_\_\_\_  
FINAL QC: \_\_\_\_\_  
PROJ. MGR: AF 05/09/2023  
DATE: 05/26/2023  
ISSUED FOR: PERMITS

REVISION NO.	DATE

JOB NO.: 210907  
SHEET TITLE:

**SITE PLAN DETAILS**

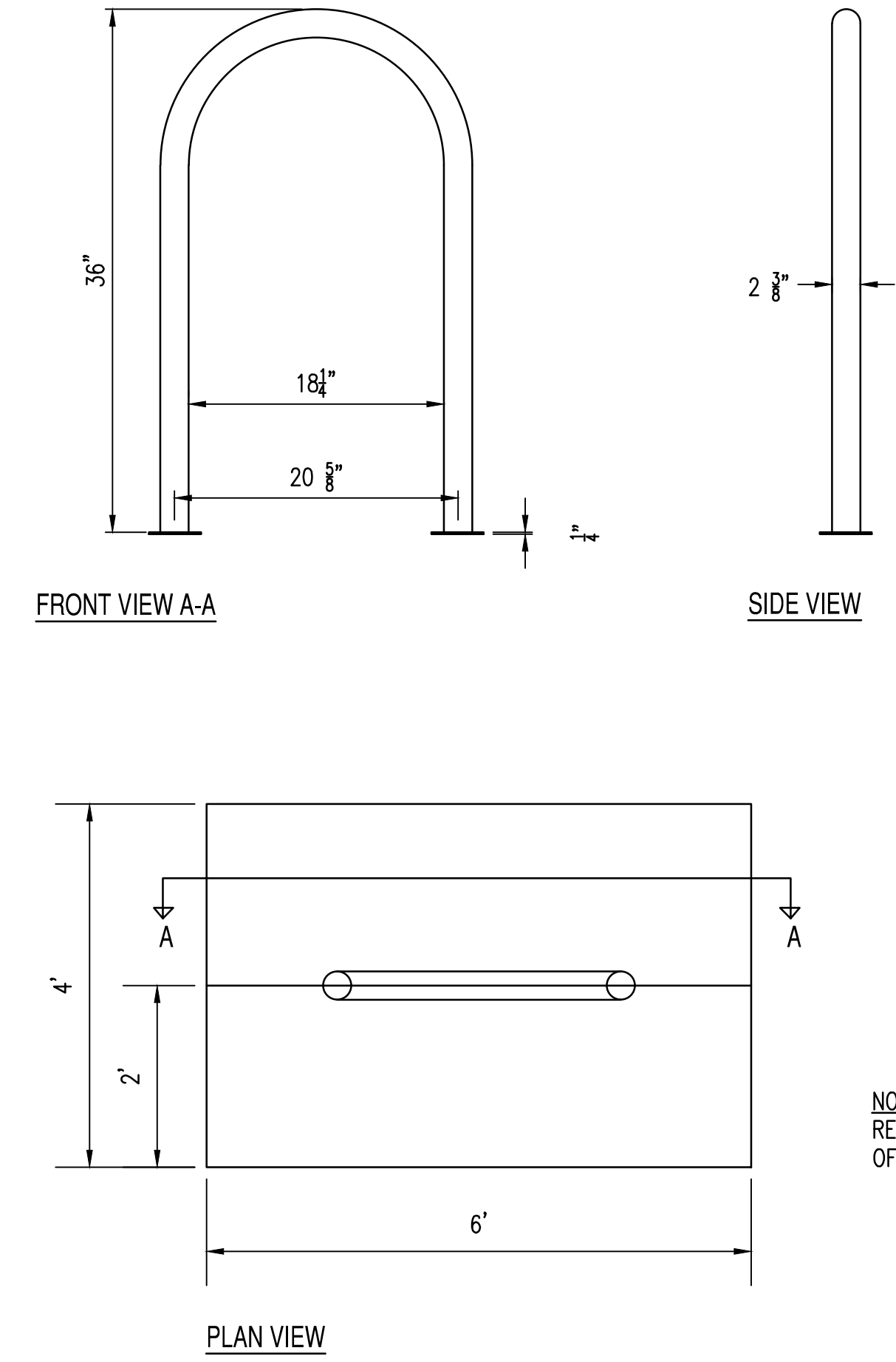
PAGE NO.: 6 OF 14  
SHEET NO.: C2.10



**PRECAST CONCRETE WHEEL STOP**  
N.T.S.



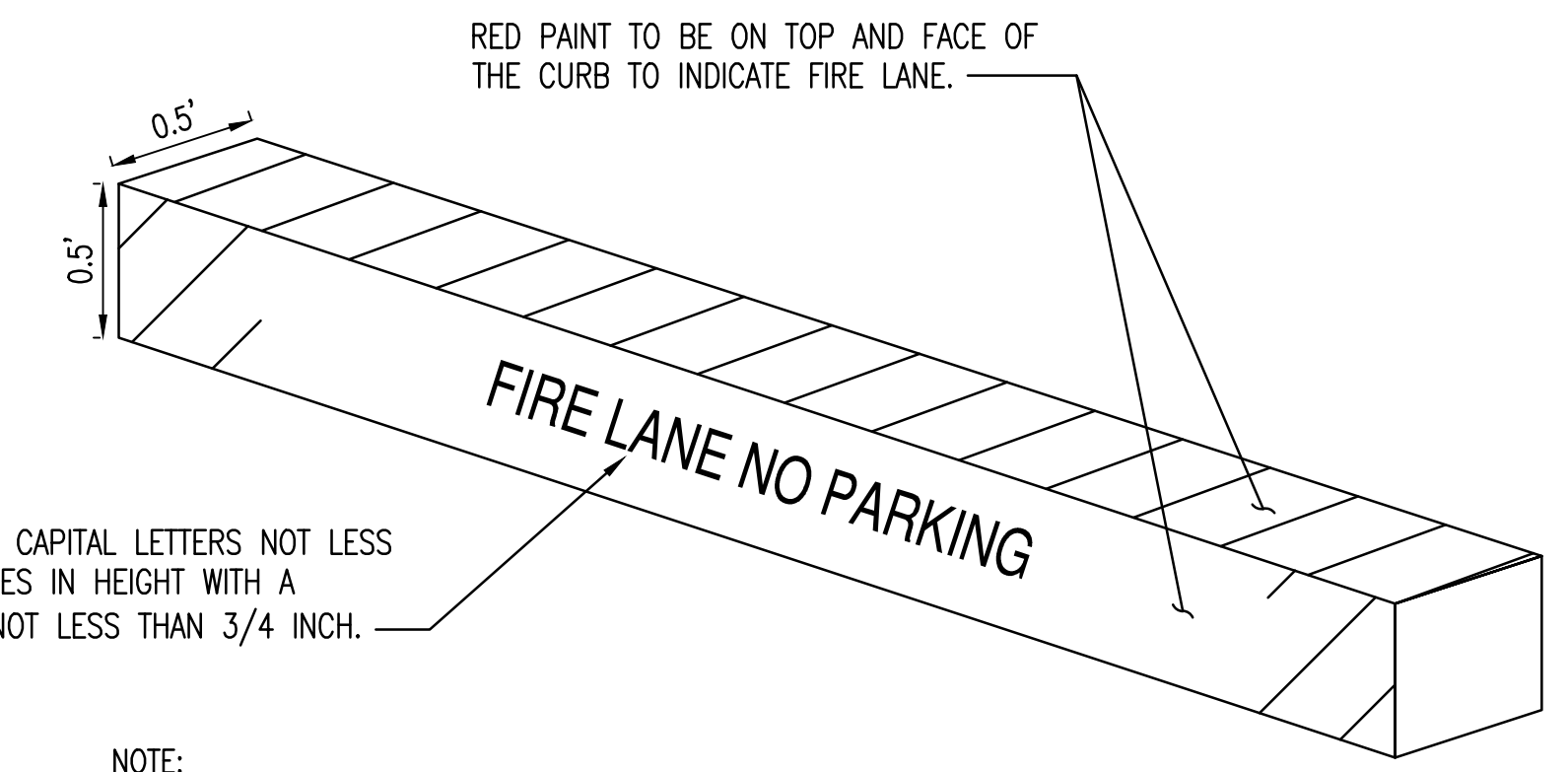
4



**BICYCLE RACK**



5



WHITE BLOCK CAPITAL LETTERS NOT LESS THAN 5 INCHES IN HEIGHT WITH A STROKE OF NOT LESS THAN 3/4 INCH.

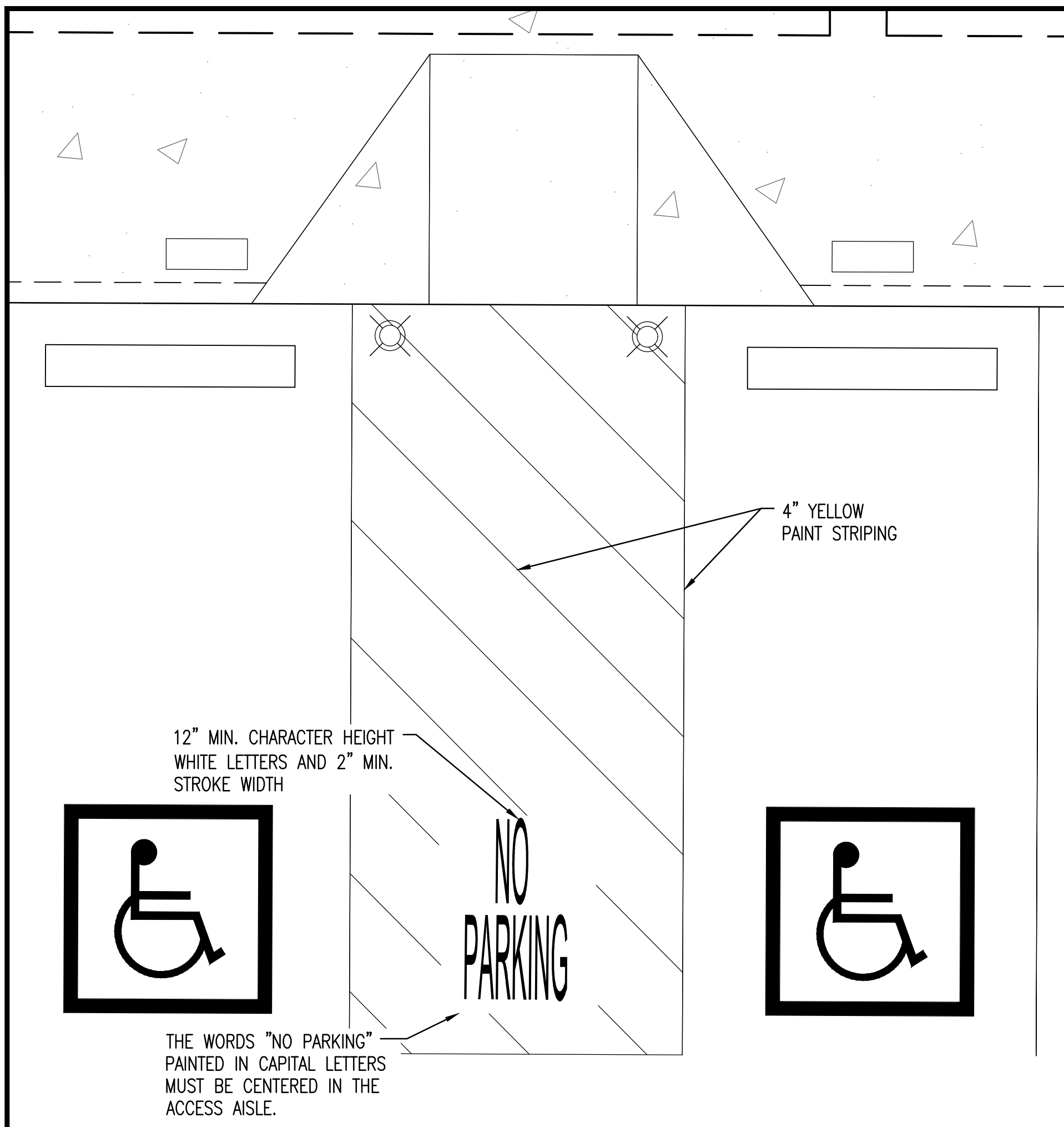
NOTE:  
"NO PARKING-FIRE LANE" SHALL BE MARKED EVERY 15- FEET ALONG THE LENGTH OF THE FIRE LANE. ALL SIGNS AND MARKINGS SHALL BE AT EXPENSE OF THE OWNER, LESSEE, OR PERSON IN CONTROL OF THE PROPERTY.

**RED PAINTED FIRE CURB**



6

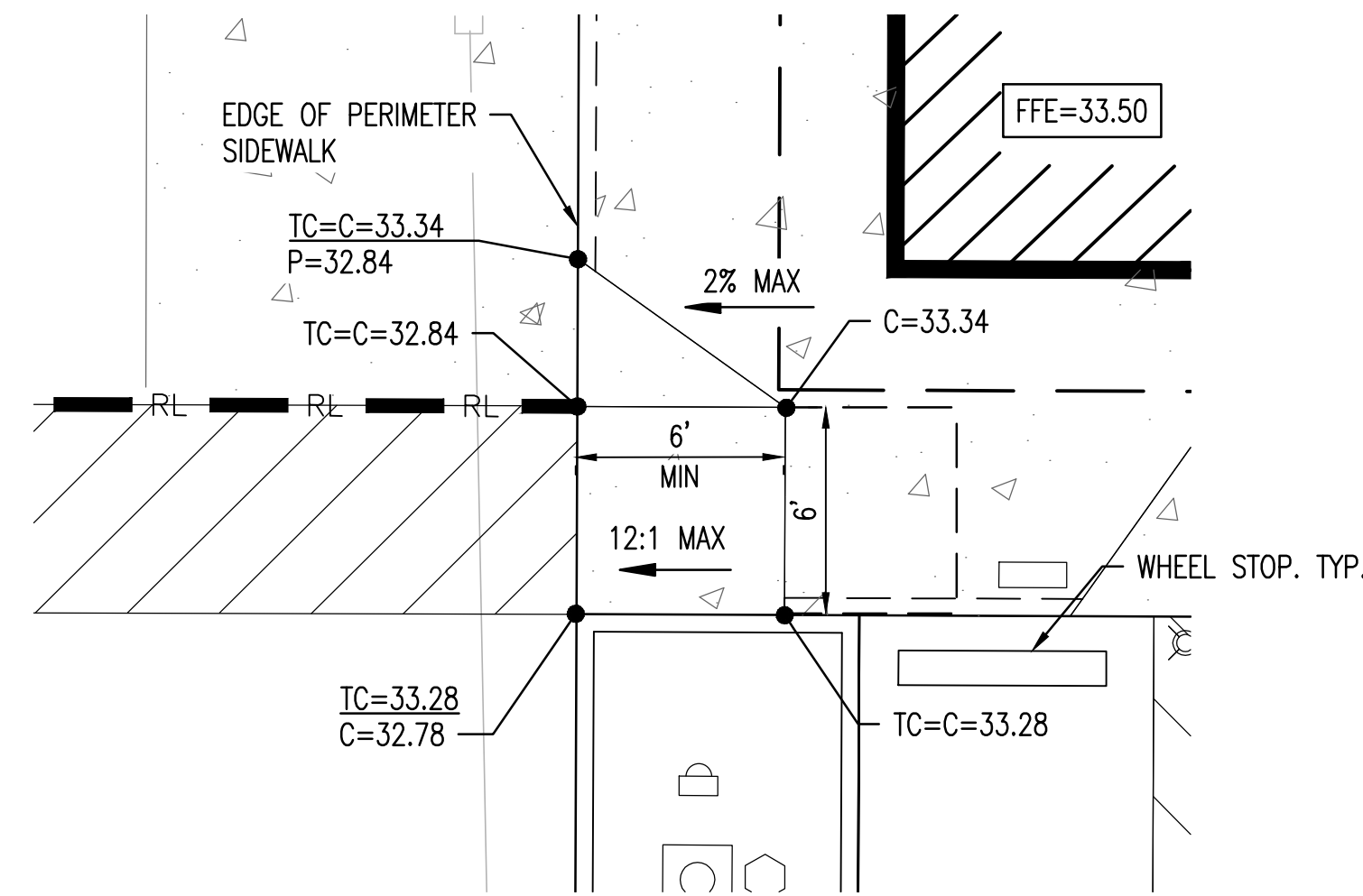
THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.



ADA ACCESS AISLE



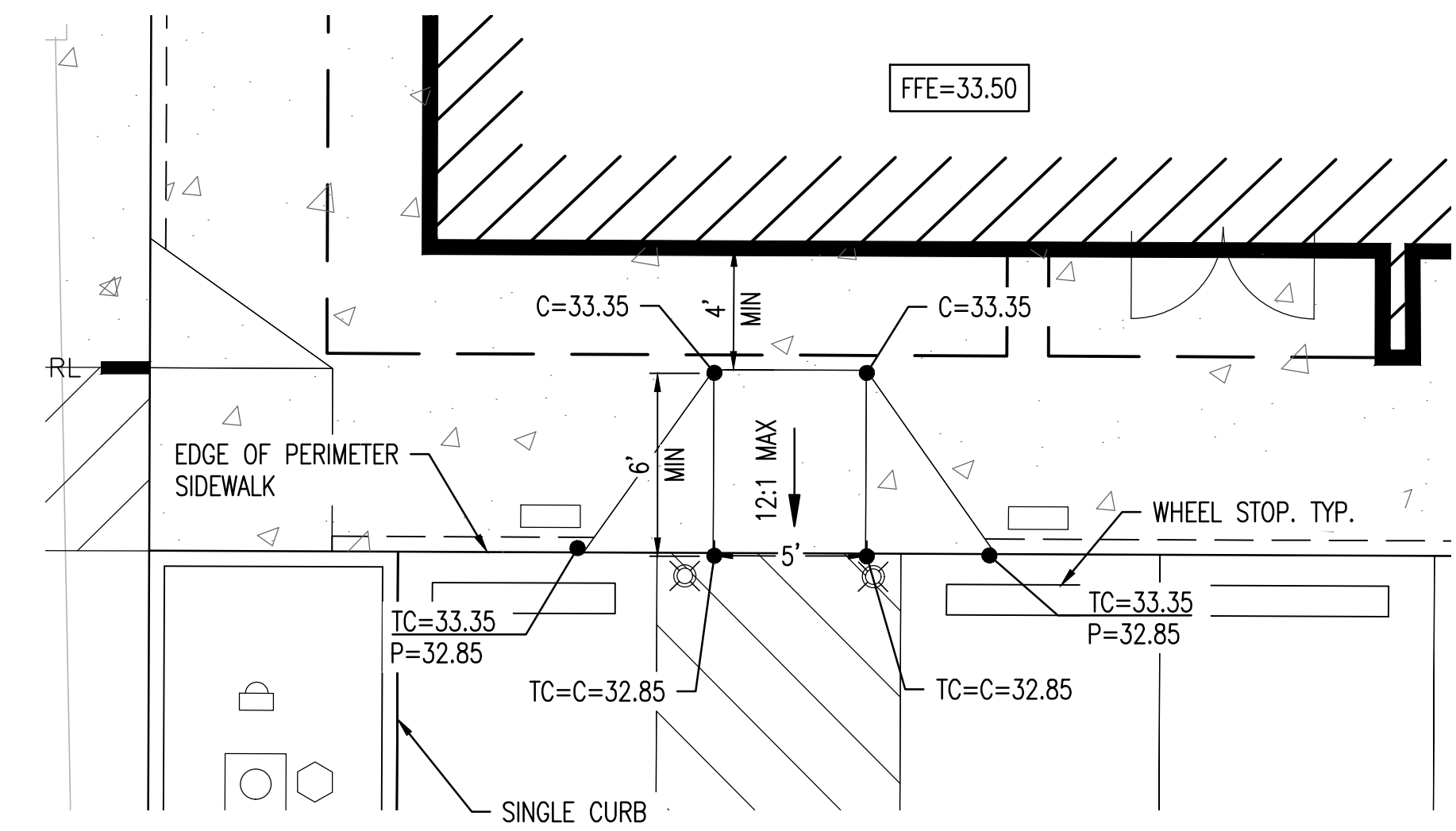
7



ADA ACCESSIBLE RAMP



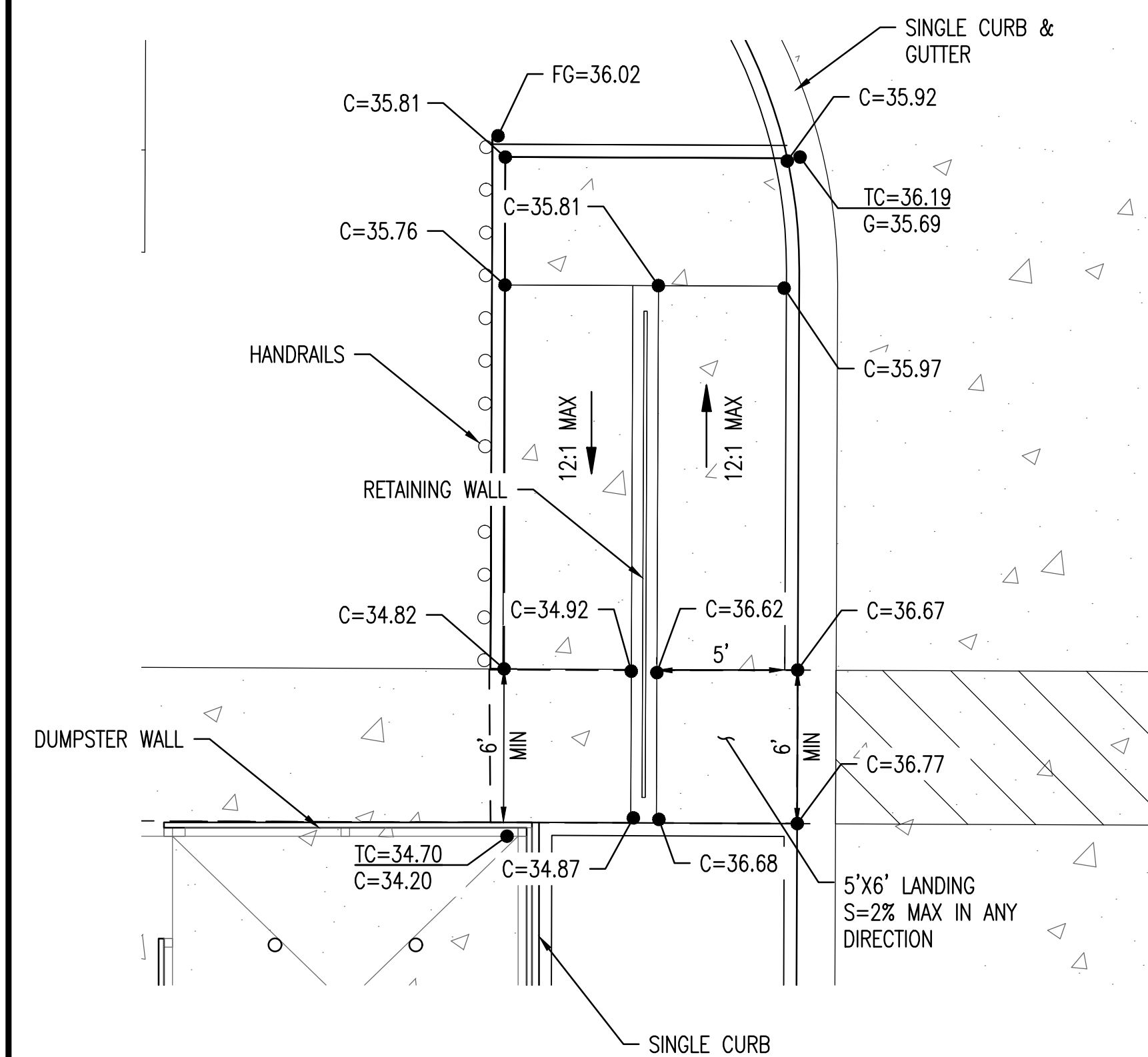
8



ADA ACCESSIBLE RAMP



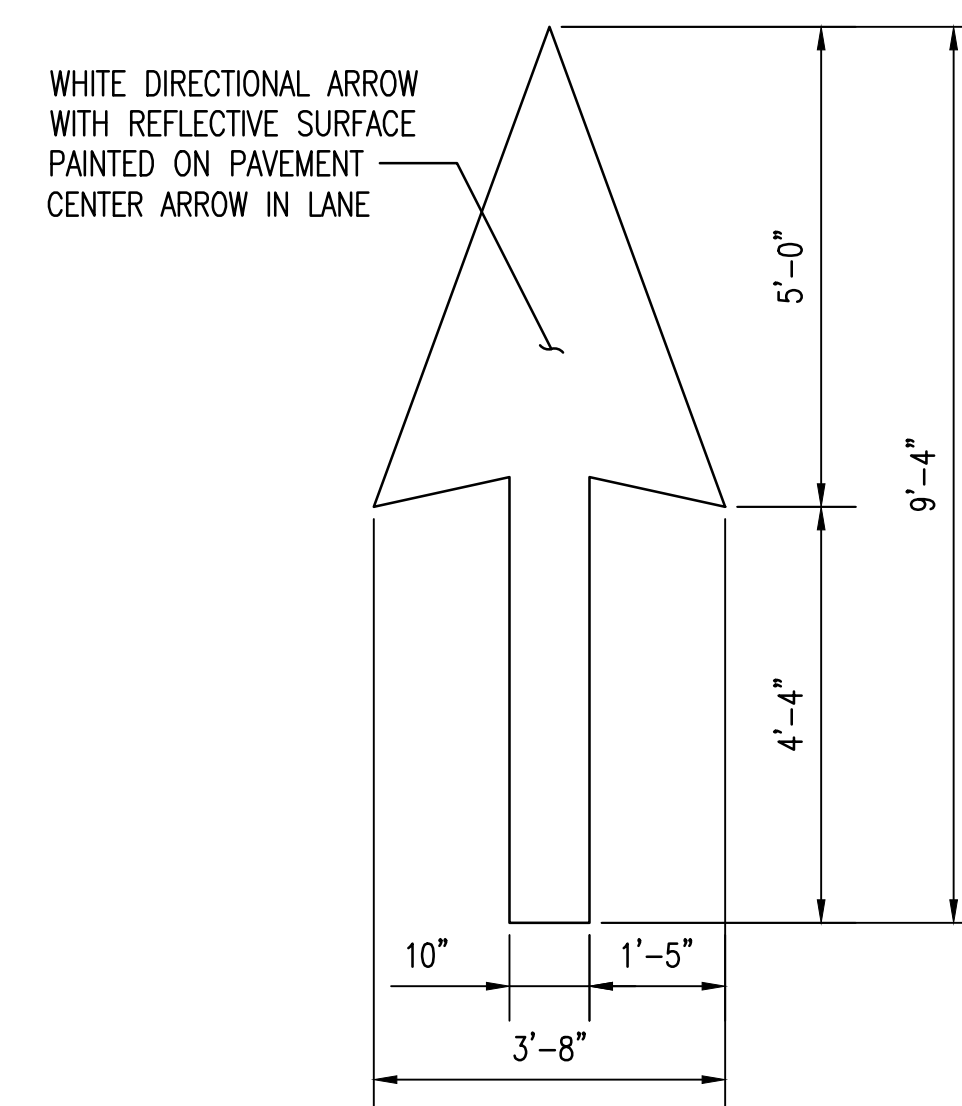
9



ADA ACCESSIBLE RAMP



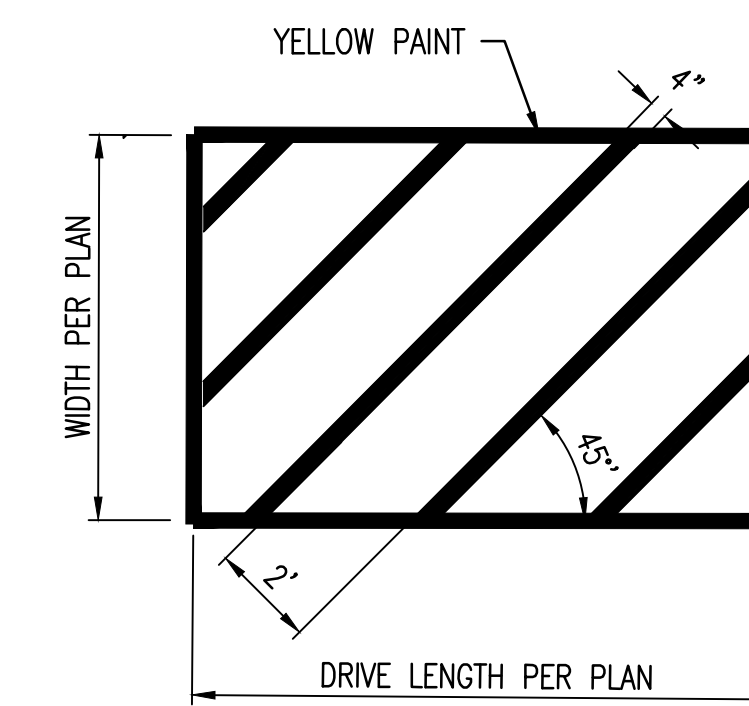
10



DIRECTIONAL ARROW



11



CROSSWALK STRIPING DETAIL  
N.T.S.



12



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP

SEG



5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL: 480.588.7226 FAX: 480.591.3534



CALL NM ONE-CALL SYSTEM SEVEN (7) DAYS PRIOR TO ANY EXCAVATION

PROJECT WHATABURGER NM SEC ALAMEDA BLVD NE & SAN PEDRO AVE NE	LOCATION 6100 ALAMEDA BLVD NE ALBUQUERQUE, NM
DRAWN: GA	05/09/2023
DESIGNED: LP	05/09/2023
QC:	
FINAL QC:	
PROJ. MGR.: AF	05/09/2023
DATE:	05/26/2023
ISSUED FOR:	PERMITS

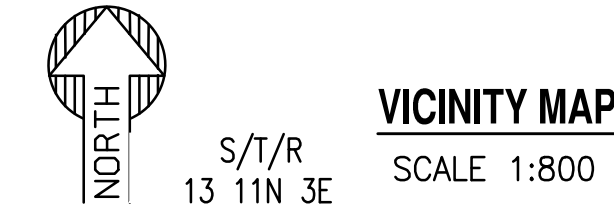
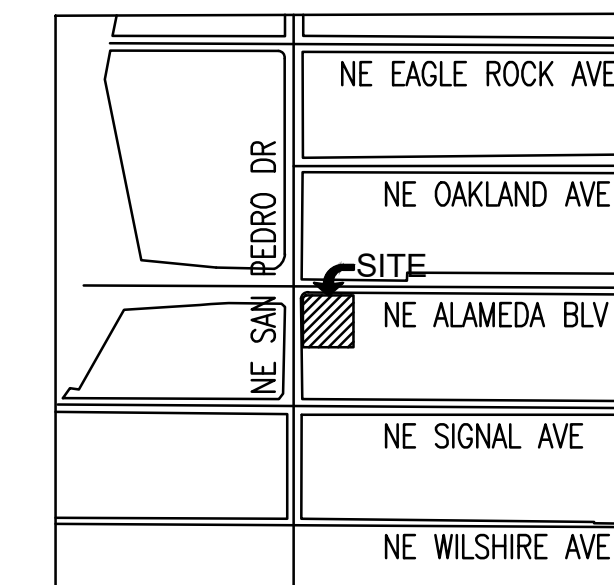
REVISION NO.:	DATE:
JOB NO.:	210907
SHEET TITLE:	

SITE PLAN DETAILS

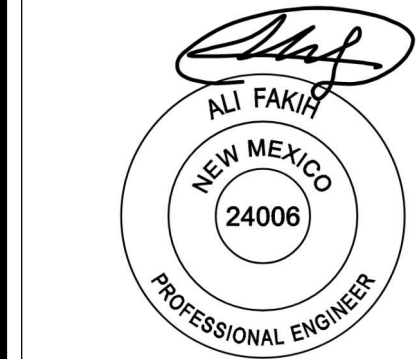
THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.

# WHATABURGER TOPOGRAPHIC SURVEY & REMOVAL PLAN

6100 NE ALAMEDA BLVD, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3 EAST  
BERNALILLO COUNTY, NEW MEXICO.



VICINITY MAP  
S/T/R  
13 11N 3E  
SCALE 1:800



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP

SEG



CALL NM ONE-CALL SYSTEM SEVEN  
(7) DAYS PRIOR TO ANY EXCAVATION

PROJECT: WHATABURGER NM  
SEC ALAMEDA BLVD NE  
& SAN PEDRO AVE NE  
LOCATION: 6100 ALAMEDA BLVD NE  
ALBUQUERQUE, NM

DRAWN: GA 05/09/2023  
DESIGNED: LP 05/09/2023  
QC: \_\_\_\_\_  
FINAL QC: \_\_\_\_\_  
PROJ. MGR.: AF 05/09/2023  
DATE: 05/26/2023

ISSUED FOR: PERMITS

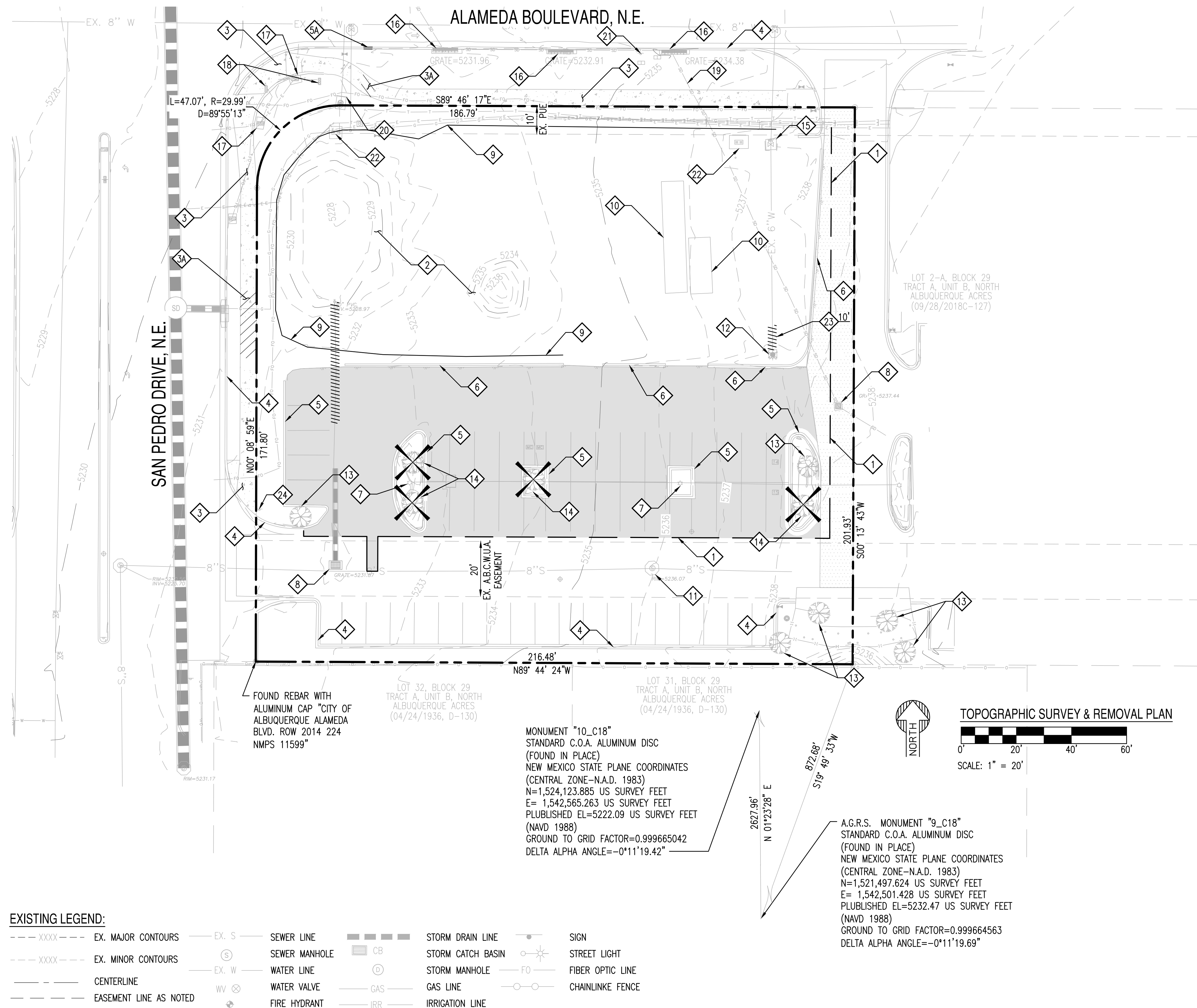
REVISION NO.	DATE

JOB NO.: 210907

SHEET TITLE:

TOPOGRAPHIC SURVEY  
& REMOVAL PLAN

PAGE NO.: 4 OF 14  
SHEET NO.: C1.00



### REMOVAL CONSTRUCTION KEY NOTES

- 1 SAWCUT EXISTING PAVEMENT TO PROVIDE STRAIGHT VERTICAL EDGES, FREE FROM IRREGULARITIES. MIN 2' FROM GUTTER.
- 2 CLEAR SITE, REMOVE VEGETATION AND DEBRIS WITHIN LIMITS OF CONSTRUCTION.
- 3 PROTECT EXISTING SIDEWALK.
- 3A REMOVE AND REPLACE EXISTING SIDEWALK.
- 4 PROTECT EXISTING VERTICAL CURB AND GUTTER.
- 5 REMOVE EXISTING VERTICAL CURB AND GUTTER.
- 5A REMOVE AND REPLACE EXISTING VERTICAL CURB AND GUTTER.
- 6 REMOVE EXISTING VERTICAL CURB.
- 7 REMOVE EXISTING LIGHT POLE.
- 8 PROTECT EXISTING CATCH BASIN.
- 9 REMOVE EXISTING FENCE.
- 10 REMOVE EXISTING STORAGE CONTAINER.
- 11 PROTECT EXISTING MANHOLE.
- 12 REMOVE & RELOCATE EXISTING FIRE HYDRANT.
- 13 PROTECT EXISTING TREE.
- 14 REMOVE EXISTING TREE.
- 15 PROTECT EXISTING WATER VALVE.
- 16 PROTECT EXISTING CURB INLET.
- 17 PROTECT TRAFFIC SIGNAL BOX.
- 18 PROTECT TRAFFIC LIGHT.
- 19 PROTECT EXISTING STORM LINE.
- 20 PROTECT EXISTING WATER METER.
- 21 PROTECT EXISTING SIGN.
- 22 EXISTING PULL BOX TO BE REMAINED.
- 23 REMOVE EXISTING WATER LINE. LENGTH PER PLAN.
- 24 REMOVE EXISTING SIGN.

### REMOVAL LEGEND:

- SAWCUT LINE
- LOD — LIMIT OF DISTURBANCE
- CENTERLINE
- ||||| PIPE REMOVAL
- ▒ PAVEMENT REMOVAL
- ▨ CONCRETE REMOVAL
- ✕ TREE REMOVAL

NOTE:  
REFER TO SHEET C0.10 FOR GENERAL REMOVAL NOTES

### EXISTING LEGEND:

- |                                 |                         |                              |                          |
|---------------------------------|-------------------------|------------------------------|--------------------------|
| --- XXXX --- EX. MAJOR CONTOURS | EX. S --- SEWER LINE    | --- CB --- STORM DRAIN LINE  | ○ SIGN                   |
| --- XXXX --- EX. MINOR CONTOURS | ○ S --- SEWER MANHOLE   | --- CB --- STORM CATCH BASIN | ○ SL --- STREET LIGHT    |
| --- --- CENTERLINE              | EX. W --- WATER LINE    | ○ SM --- STORM MANHOLE       | FO --- FIBER OPTIC LINE  |
| --- --- EASEMENT LINE AS NOTED  | WV --- WATER VALVE      | --- GAS --- GAS LINE         | ○ CL --- CHAINLINK FENCE |
|                                 | --- FH --- FIRE HYDRANT | --- IRR --- IRRIGATION LINE  |                          |

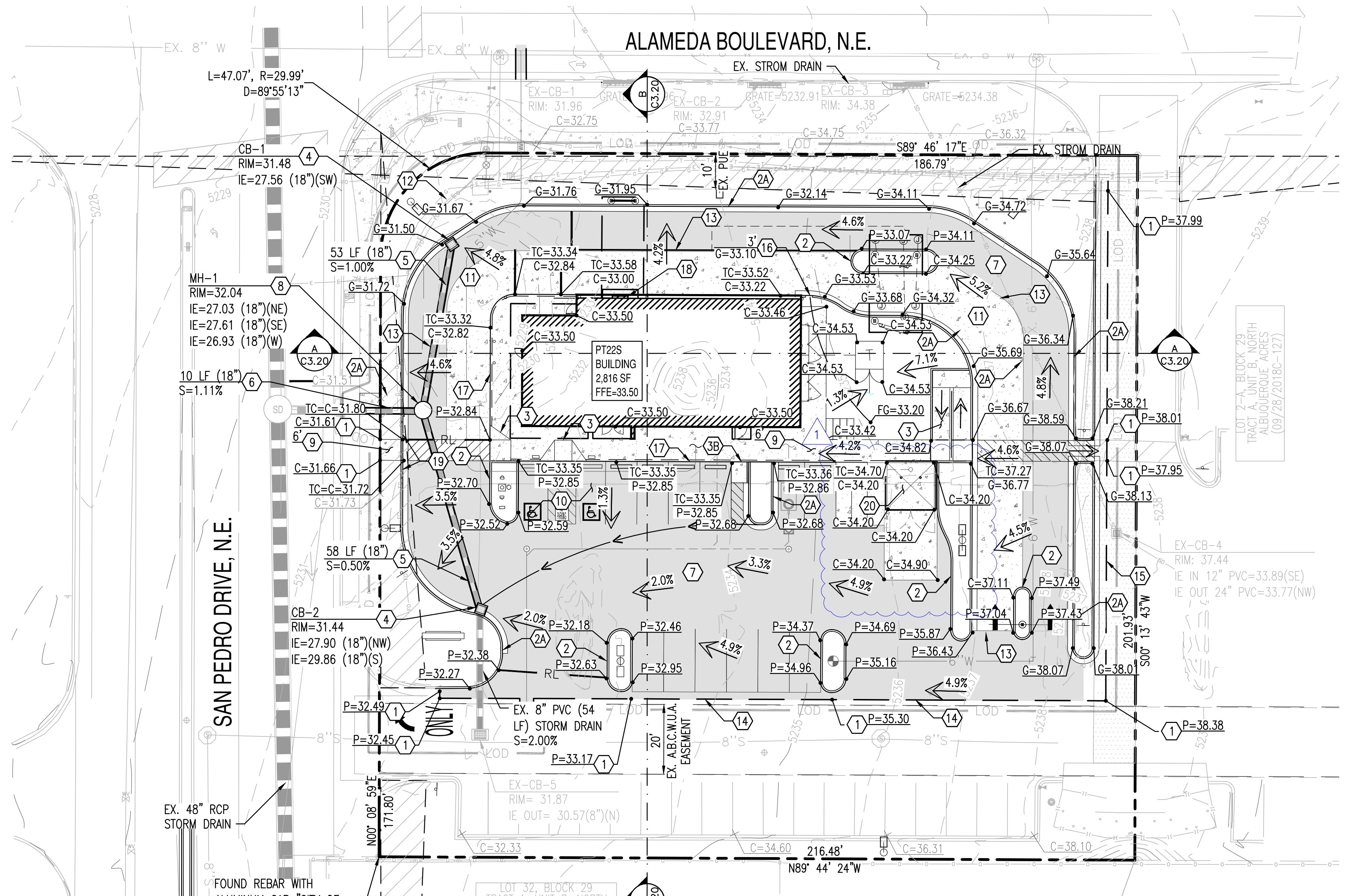
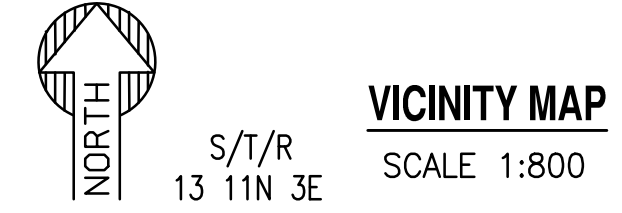
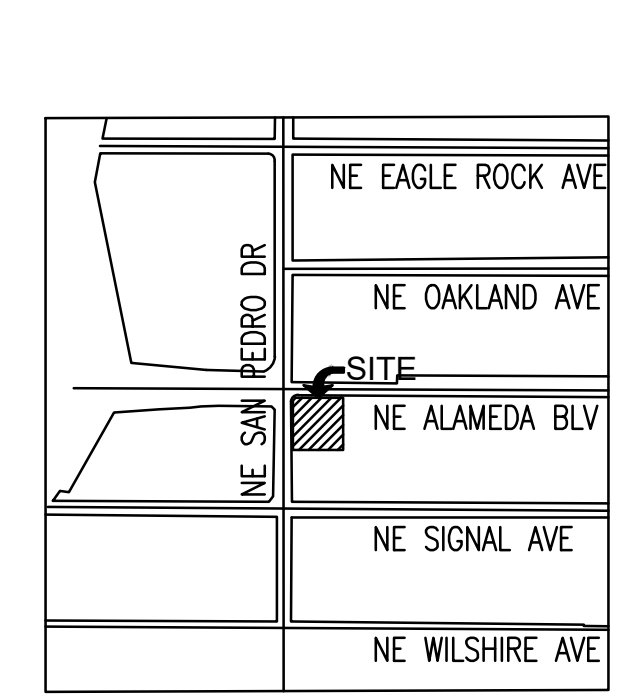
THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.

## Grading and Drainage Plan(s) and Details

# WHATABURGER

## GRADING AND DRAINAGE PLAN

6100 ALAMEDA BLVD NE, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3 EAST  
BERNALILLO COUNTY, NEW MEXICO.



### GRADING CONSTRUCTION KEY NOTES

- 1 MATCH EXISTING GRADE; CONTRACTOR TO VERIFY IN FIELD ALL GRADES PRIOR TO CONSTRUCTION ACTIVITIES AND CONTACT ENGINEER IN CASE OF ANY DISCREPANCIES.
- 2 CONSTRUCT 6" HEADER CURB PER C.O.A. STD. DWG. 2415C
- 2A CONSTRUCT 6" CURB AND GUTTER PER C.O.A. STD DWG 2415A.
- 3 CONSTRUCT ADA RAMP. PER SITE PLANS.
- 3B CONSTRUCT DELIVERY RAMP PER DET. 2/C3.10.
- 4 FURNISH AND INSTALL NYLOPLAST DRAIN BASIN WITH 30" RISER AND 2'X2' STEEL GRATE PER DET. 13/C3.11 & 14/C3.11.
- 5 FURNISH AND INSTALL HDPE DOUBLE WALL PIPE, CLASS 100; LENGTH, SIZE AND SLOPE PER PLAN.
- 6 FURNISH AND INSTALL REINFORCED CLASS III CONCRETE PIPE, LENGTH, SIZE AND SLOPE PER PLAN.
- 7 CONSTRUCT HEAVY DUTY PAVEMENT PER DETAIL 5/C3.10.
- 8 FURNISH AND INSTALL 4" MANHOLE PER C.O.A. 220B.
- 9 CONSTRUCT CONCRETE SIDEWALK PER C.O.A. STD DWG 2430. WIDTH PER PLAN.
- 10 CONSTRUCT PAVEMENT WITH 2% MAXIMUM SLOPE IN ANY DIRECTION AT ACCESSIBLE PARKING STALLS AND 2% MAXIMUM CROSS SLOPE AT ADA ACCESSIBLE ROUTE.
- 11 CONSTRUCT CONCRETE PAVEMENT PER DETAIL 6/C3.10.
- 12 CAUTION! PROTECT EXISTING GAS AND POWER UTILITIES.
- 13 PAVING TRANSITION PER DET. 7/C3.10.
- 14 TRANSITION TO EXISTING PAVEMENT PER DET. 1/C3.10.
- 15 SAWCUT, REMOVE AND REPLACE EXISTING PAVEMENT.
- 16 CONSTRUCT 3' CURB OPENING PER DET. 3/C3.10.
- 17 TURN DOWN SIDEWALK. PER STRUCTURAL PLANS DET. A2/S3.1.
- 18 TURN DOWN SLAB. PER STRUCTURAL PLANS DET. C2/S3.1.
- 19 5' CURB TRANSITION FROM 6" TO 0" REVEAL. PER DET. 9/C3.10.
- 20 CONSTRUCT TRASH ENCLOSURE WITH SANITARY SEWER DRAIN. REFER TO ARCHITECTURAL PLANS.

**EXISTING CONDITIONS AND PROPOSED DEVELOPMENT:**  
THE EXISTING SITE IS PARTIALLY DEVELOPED. THE SOUTHERN PORTION OF THE PROPERTY INCLUDES A PARKING LOT WITH LANDSCAPE ISLANDS WHILE THE NORTH AREA REMAINS UNDEVELOPED WITH AN EXISTING DRAINAGE POND, DIRT PILES AND STORAGE CONTAINER. DRAINAGE STRUCTURES, SEWER AND WATER LINES, AND DRY UTILITIES SUCH AS POWER, GAS AND ELECTRICITY EXIST WITHIN THE SITE. LOT ELEVATION DROP FROM 1,238' AT THE EAST PROPERTY LINE TO ABOUT 1,232' AT THE WEST PROPERTY LINE.

THE PROJECT WILL CONSIST IN THE DEMOLITION OF MOST OF THE EXISTING SOUTH PARKING LOT AND THE CONSTRUCTION OF A FAST FOOD RESTAURANT (2,816 SF) WITH A DRIVE-THRU, PARKING AREA, AND DESIGNATED LANDSCAPE.

### PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY NOTICE TO CONTRACTOR

(SPECIAL ORDER 19 ~ "S0-19")

1. BUILD SIDEWALK CULVERT PER COA STD DWG 2236. WORK IS PERMITTED AND INSPECTED BY DMD CONSTRUCTION SERVICES DIVISION.
2. AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL, DIAL "811" [OR (505) 260-1990] FOR THE LOCATION OF EXISTING UTILITIES.
5. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
6. BACKFILL COMPACTION SHALL BE 95%.
7. MAINTENANCE OF THE FACILITY SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY BEING SERVED.
8. WORK ON ARTERIAL STREETS MAY BE REQUIRED ON A 24-HOUR BASIS.
9. FOR EXCAVATION AND BARRICADING INSPECTIONS, CONTACT DMD CONSTRUCTION SERVICES DIVISION.

### EXISTING LEGEND:

---XXXX---	EX. MAJOR CONTOURS	EX. S	SEWER LINE	---	STORM DRAIN LINE	+	SIGN
---XXXX---	EX. MINOR CONTOURS	⊙	SEWER MANHOLE	CB	STORM CATCH BASIN	+	STREET LIGHT
TC:XX.XX GE:XX.XX	EX. SPOT ELEVATION	EX. W	WATER LINE	⊙	STORM MANHOLE	+	TREE
---	EASEMENT LINE AS NOTED	WV	WATER VALVE	⊙	GAS LINE	+	ROAD CENTERLINE
		+	FIRE HYDRANT	---	FENCE	---	

### PROPOSED GRADING LEGEND:

G=XX.XX	GUTTER ELEVATION, TC = G+0.5'	---	PROPERTY LINE	---	LOC	---	LIMIT OF ONSITE CONSTRUCTION	⊙	STORM MANHOLE	---	CONCRETE PAVEMENT
P=XX.XX	PAVEMENT ELEVATION	---	CURB AND GUTTER	---	---	---	FLOW ARROW	⊙	WATER METER	---	HEAVY DUTY PAVEMENT
C=XX.XX	CONCRETE ELEVATION	---	VERTICAL CURB	---	---	---	CATCH BASIN	⊙	GATE VALVE	---	STORM INLET
		---	RIDGELINE	---	---	---	STORM PIPE	+	+	---	

MONUMENT "10\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE--N.A.D. 1983)  
N=1,524,123.885 US SURVEY FEET  
E=1,542,565.263 US SURVEY FEET  
PLUBLISHED EL=5222.09 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999665042  
DELTA ALPHA ANGLE=-0°11'19.42"

A.G.R.S. MONUMENT "9\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE--N.A.D. 1983)  
N=1,521,497.624 US SURVEY FEET  
E=1,542,501.428 US SURVEY FEET  
PLUBLISHED EL=5232.47 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999664563  
DELTA ALPHA ANGLE=-0°11'19.69"

NOTE:  
INVERT ELEVATIONS TO BE VERIFIED IN FIELD.

ALLIANCE  
NEW MEXICO  
24006  
PROFESSIONAL ENGINEER

EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP

SEG

5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL. 480.586.7226 FAX. 480.259.3534

WHATABURGER

811

CALL NM ONE-CALL SYSTEM SEVEN  
(7) DAYS PRIOR TO ANY EXCAVATION

PROJECT: WHATABURGER NM SEC ALAMEDA BLVD NE & SAN PEDRO AVE NE

LOCATION: 6100 ALAMEDA BLVD NE ALBUQUERQUE, NM

DATE: 05/26/2023

ISSUED FOR: PERMITS

REVISION NO.: DATE:

1	TRASH ENCLOSURE UPDATE	05/26/2023
---	------------------------	------------

JOB NO.: 210907

SHEET TITLE: GRADING AND DRAINAGE PLAN

PAGE NO.: 8 OF 14

SHEET NO.: C3.00

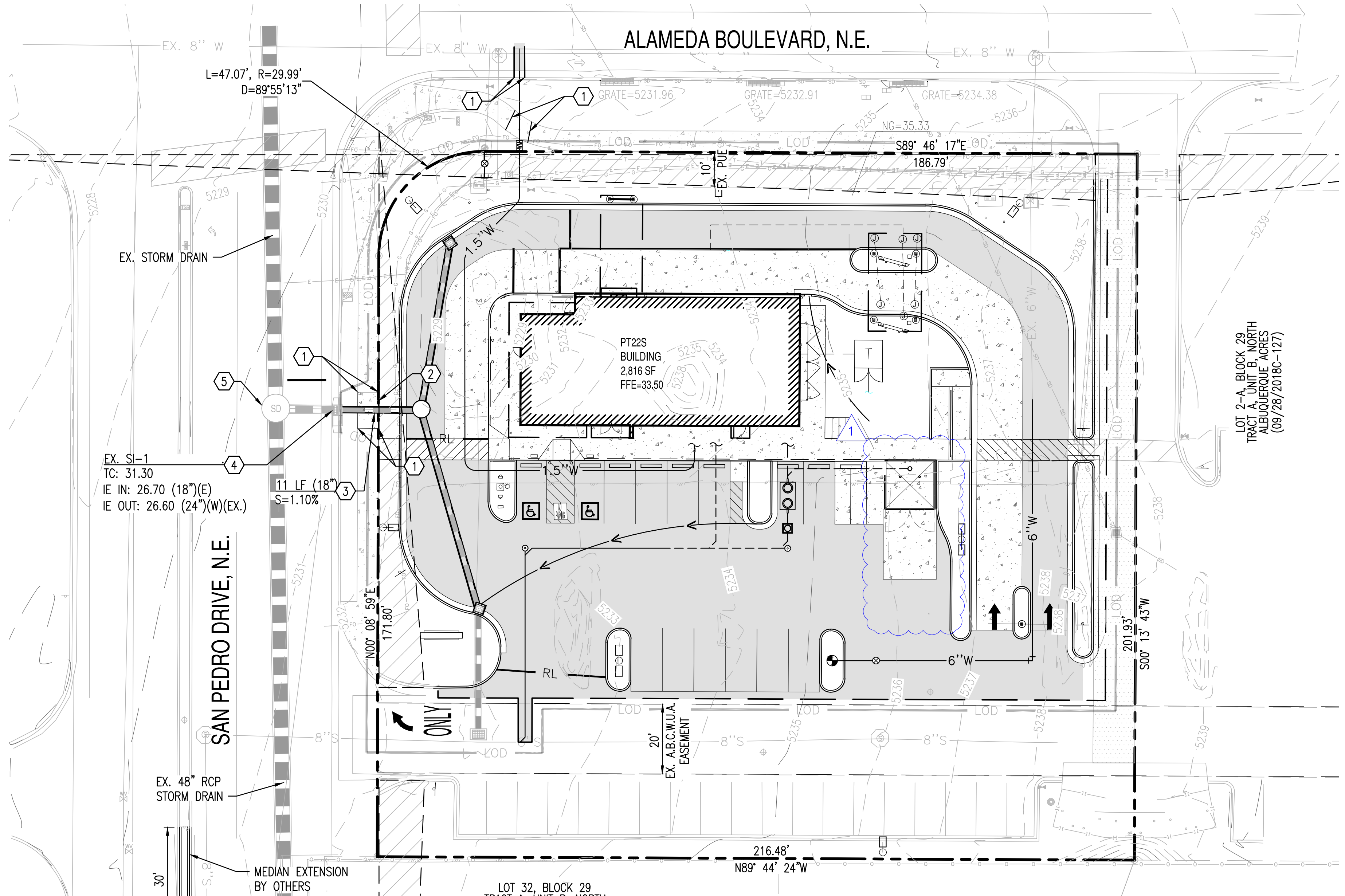
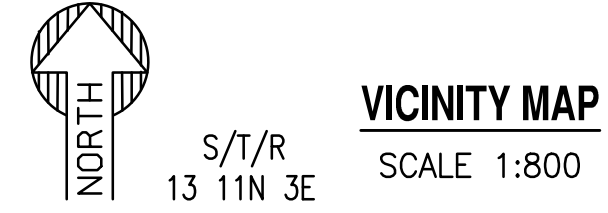
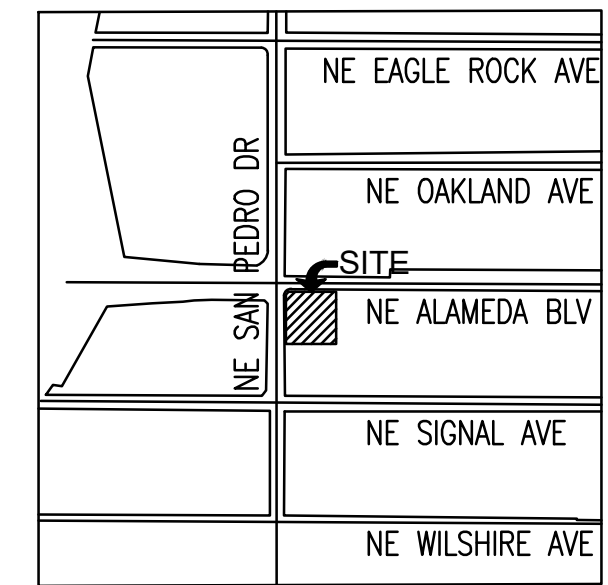
THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.



# WHATABURGER

## OFF-SITE GRADING AND DRAINAGE PLAN

6100 ALAMEDA BLVD NE, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3 EAST  
BERNALILLO COUNTY, NEW MEXICO.



### GRADING CONSTRUCTION KEY NOTES

- ① MATCH EXISTING GRADE; CONTRACTOR TO VERIFY IN FIELD ALL GRADES PRIOR TO CONSTRUCTION ACTIVITIES AND CONTACT ENGINEER IN CASE OF ANY DISCREPANCIES.
- ② REMOVE AND REPLACE EXISTING SIDEWALK AS REQUIRED FOR UTILITY CONSTRUCTION. REMOVE TO NEAREST JOINT.
- ③ FURNISH AND INSTALL REINFORCED CLASS III CONCRETE PIPE, LENGTH, SIZE AND SLOPE PER PLAN.
- ④ CONNECT PIPE TO EXISTING PUBLIC STORM INLET.
- ⑤ EXISTING PUBLIC 8" DIA MANHOLE

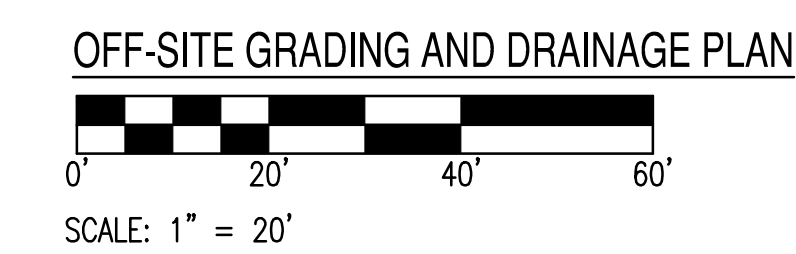
NOTE:  
INVERT ELEVATIONS TO BE VERIFIED IN FIELD.

LOT 2-A, BLOCK 29  
TRACT A, UNIT C, NORTH  
ALBUQUERQUE ACRES  
(09/28/2018C-127)

LOT 32, BLOCK 29  
TRACT A, UNIT B, NORTH  
ALBUQUERQUE ACRES  
(04/24/1936, D-130)

MONUMENT "10\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,524,123.885 US SURVEY FEET  
E= 1,542,565.263 US SURVEY FEET  
PUBLISHED EL=5222.09 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999665042  
DELTA ALPHA ANGLE=-0°11'19.42"

A.G.R.S. MONUMENT "9\_C18"  
STANDARD C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,521,497.624 US SURVEY FEET  
E= 1,542,501.428 US SURVEY FEET  
PUBLISHED EL=5232.47 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999664563  
DELTA ALPHA ANGLE=-0°11'19.69"



### EXISTING LEGEND:

- |                      |                        |       |               |          |                   |   |                 |
|----------------------|------------------------|-------|---------------|----------|-------------------|---|-----------------|
| ---XXXX---           | EX. MAJOR CONTOURS     | EX. S | SEWER LINE    | ---CB--- | STORM DRAIN LINE  | ⊙ | SIGN            |
| ---XXXX---           | EX. MINOR CONTOURS     | ⊙     | SEWER MANHOLE | CB       | STORM CATCH BASIN | ⊙ | STREET LIGHT    |
| TC:XX.XX<br>GE:XX.XX | EX. SPOT ELEVATION     | EX. W | WATER LINE    | ⊙        | STORM MANHOLE     | ⊙ | TREE            |
| ---                  | EASEMENT LINE AS NOTED | ⊙     | FIRE HYDRANT  | ⊙        | GAS VALVE         | ⊙ | ROAD CENTERLINE |

### PROPOSED GRADING LEGEND:

- |         |                                  |     |                 |     |     |     |                                 |   |               |     |                     |
|---------|----------------------------------|-----|-----------------|-----|-----|-----|---------------------------------|---|---------------|-----|---------------------|
| G=XX.XX | GUTTER ELEVATION,<br>TC = G+0.5' | --- | PROPERTY LINE   | --- | LOC | --- | LIMIT OF ONSITE<br>CONSTRUCTION | ⊙ | STORM MANHOLE | --- | CONCRETE PAVEMENT   |
| P=XX.XX | PAVEMENT ELEVATION               | --- | CURB AND GUTTER | --- | --- | --- | FLOW ARROW                      | ⊙ | WATER METER   | --- | HEAVY DUTY PAVEMENT |
| C=XX.XX | CONCRETE ELEVATION               | --- | VERTICAL CURB   | --- | --- | --- | CATCH BASIN                     | ⊙ | GATE VALVE    | --- | STORM INLET         |
|         |                                  | --- | RIDGELINE       | --- | --- | --- | STORM PIPE                      | ⊙ | FIRE HYDRANT  |     |                     |

CONSULTANTS

8200 E. GELDING DRIVE SUITE 101, SCOTTSDALE, ARIZONA 85260  
WWW.AZSEG.COM TEL: 480.588.7226 FAX: 480.298.3634

BENCH MARKS

EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION <td> </td>	
		CONTRACTOR <td> </td>	
		INSPECTOR'S ACCEPTANCE BY: <td> </td>	
		FIELD VERIFICATION BY: <td> </td>	
		DRAWINGS CORRECTED BY: <td> </td>	

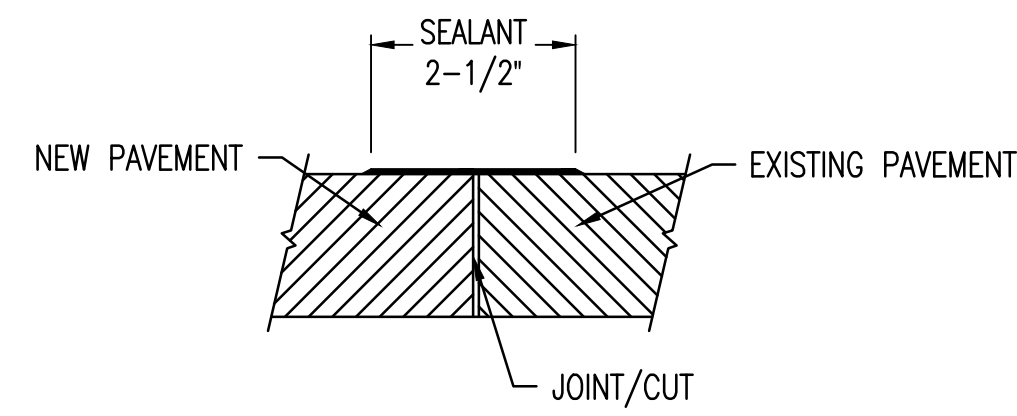
DESIGNED BY: SO  
DRAWN BY: ER  
CHECKED BY: SC  
DATE: 05/2023

CITY OF ALBUQUERQUE  
DEPARTMENT OF MUNICIPAL DEVELOPMENT  
ENGINEERING DIVISION

OFF-SITE GRADING & DRAINAGE  
PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. <b>Z-99</b>
		CITY PROJECT NO. <b>PR-2018-001346</b>
		SHEET NO. <b>C3.01</b>

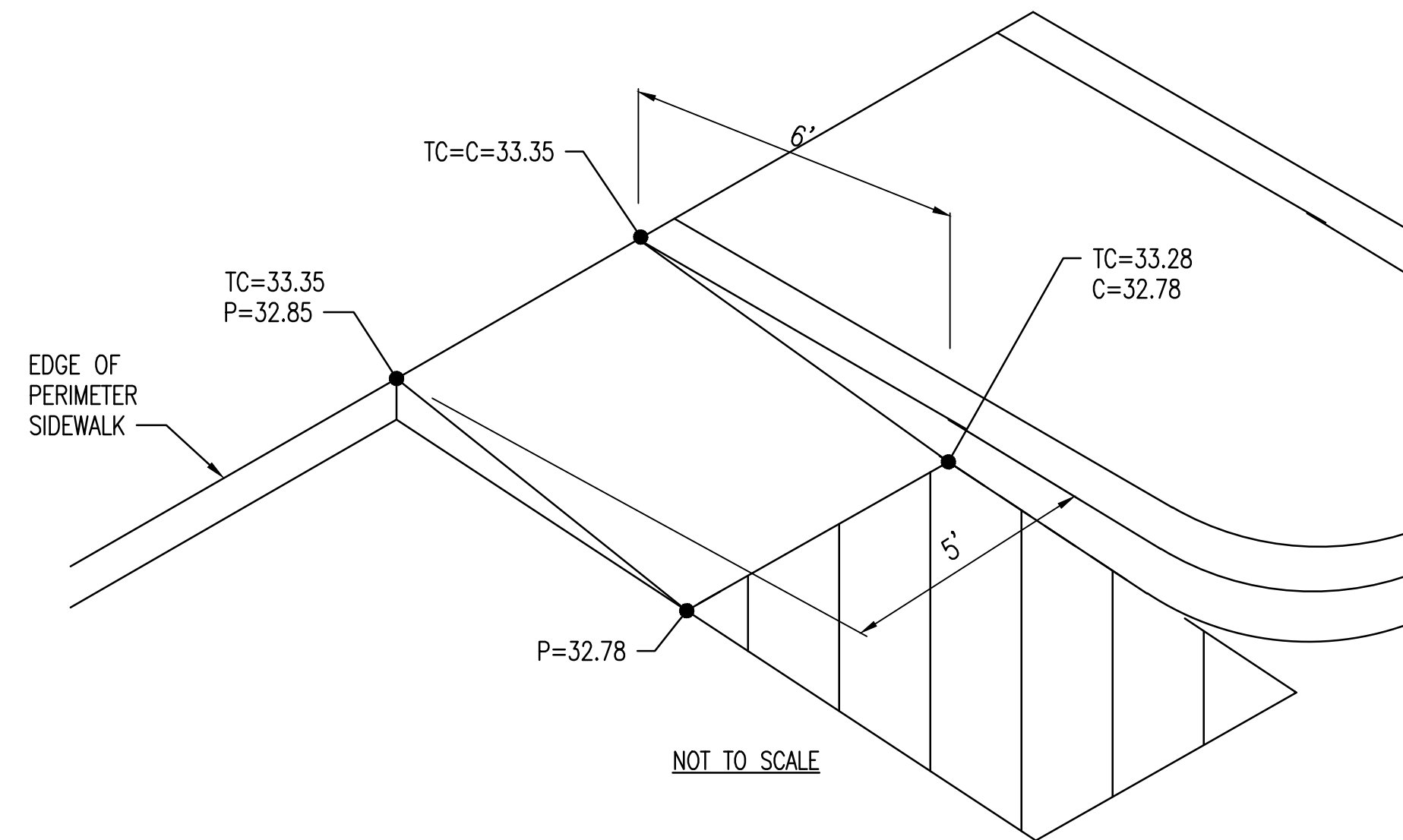
THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.



TRANSITION TO EXISTING PAVEMENT



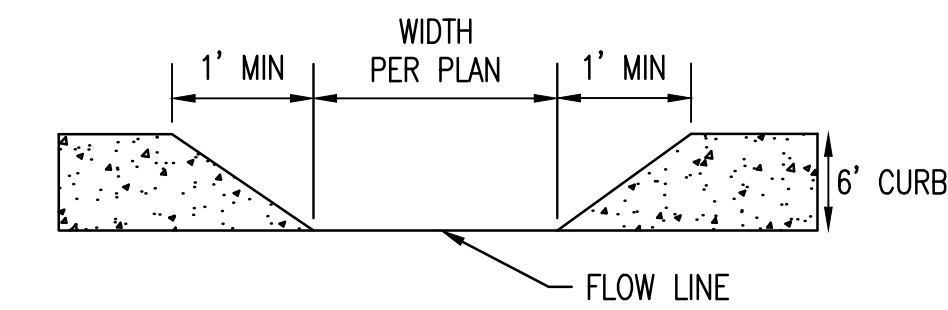
1



DELIVERY RAMP



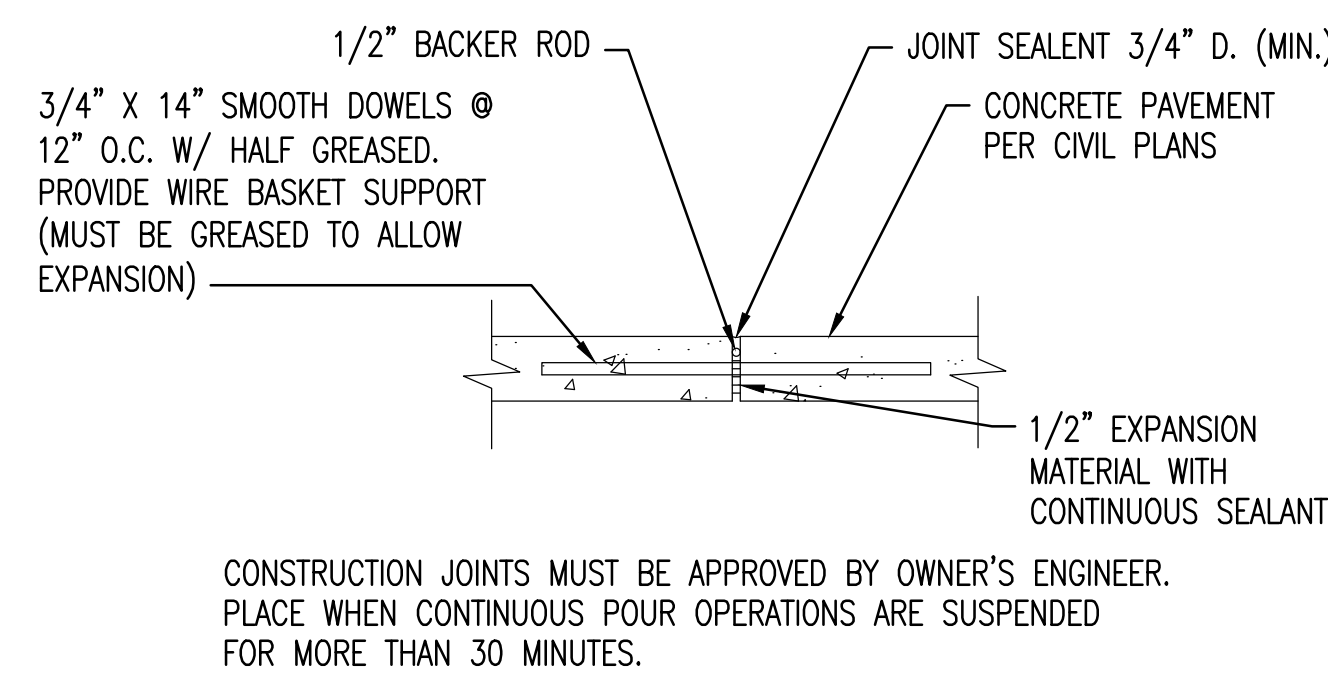
2



CURB OPENING



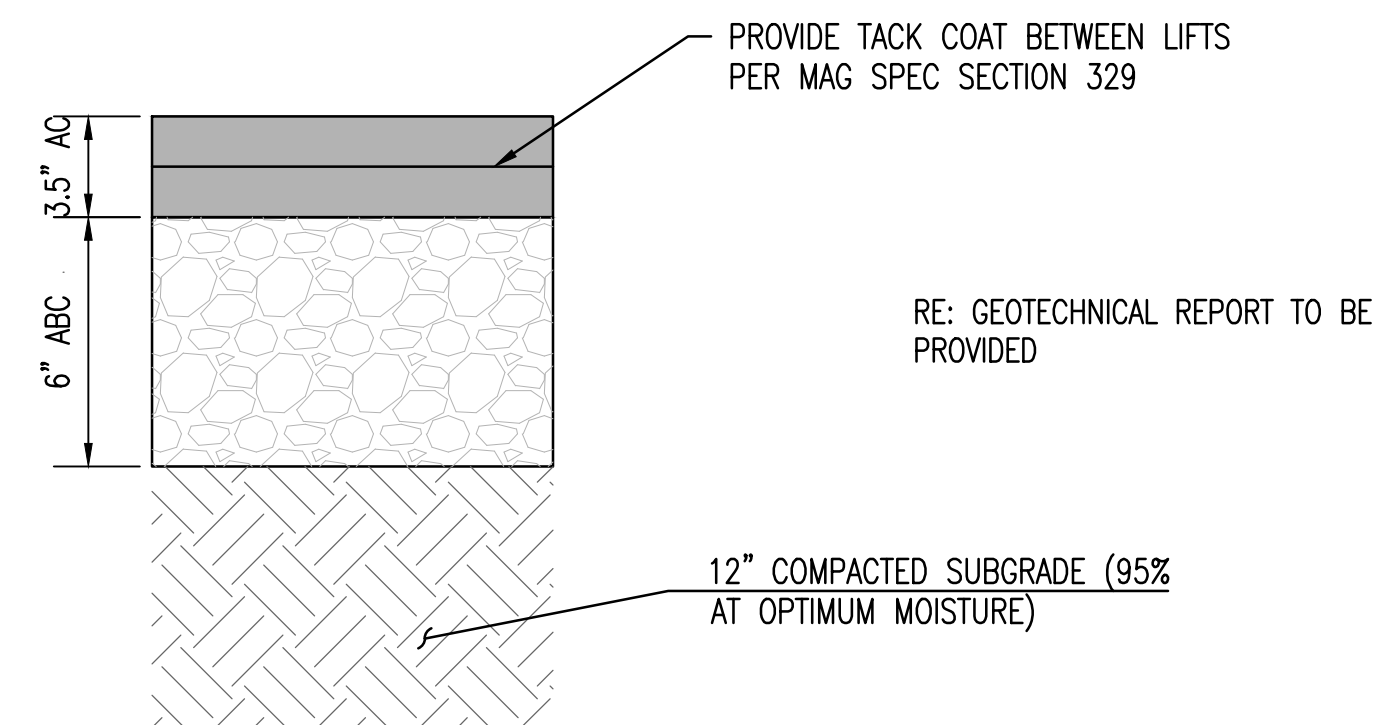
3



CONSTRUCTION JOINT



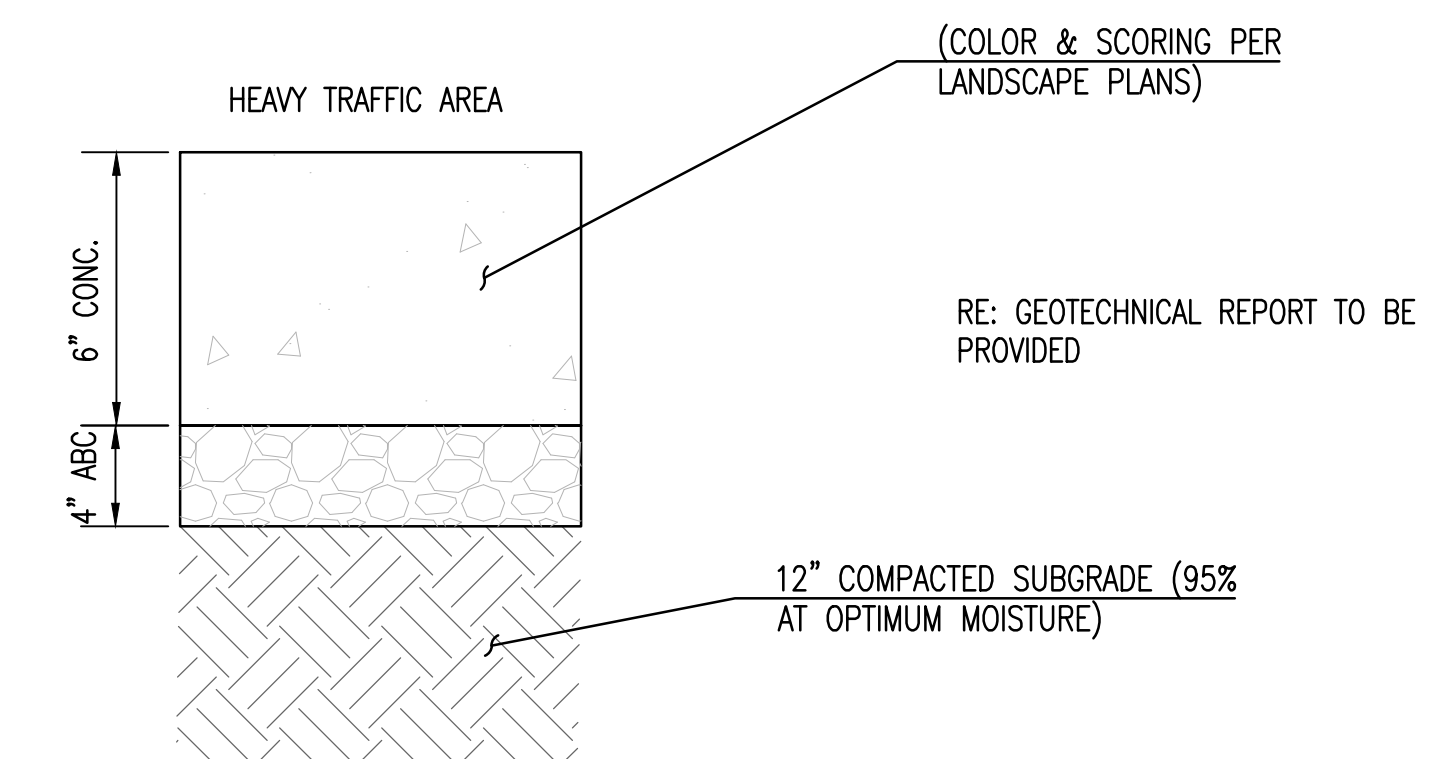
4



ASPHALT PAVEMENT SECTION



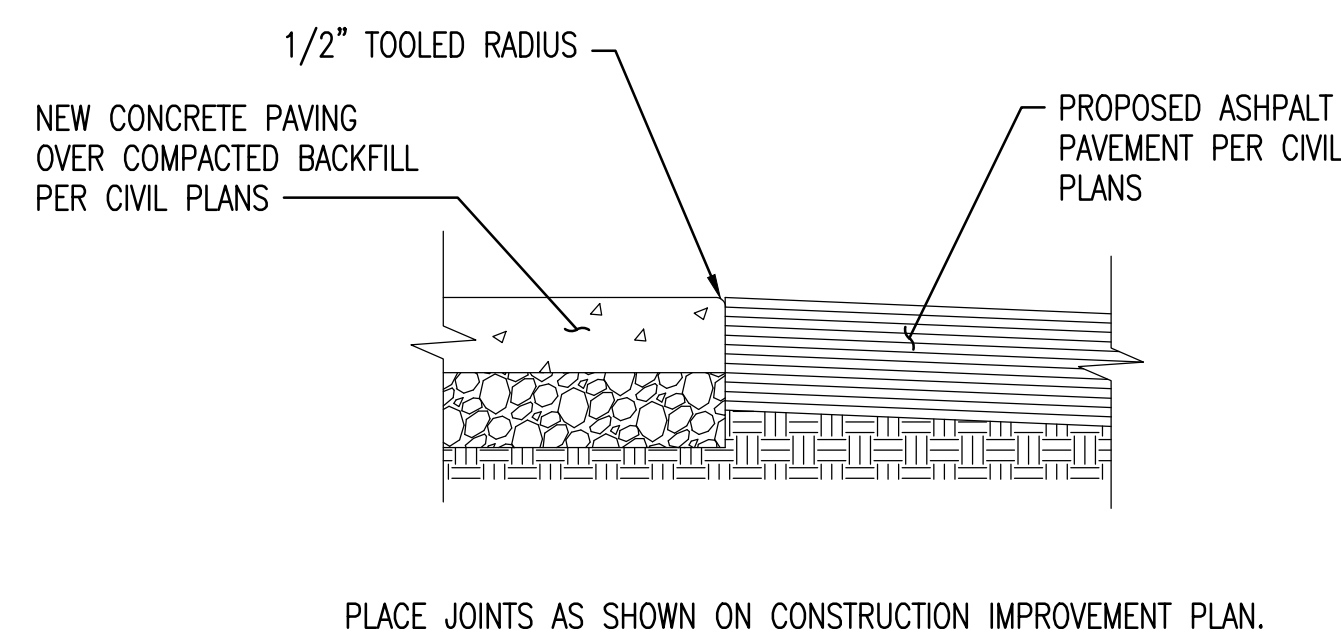
5



CONCRETE PAVEMENT SECTION



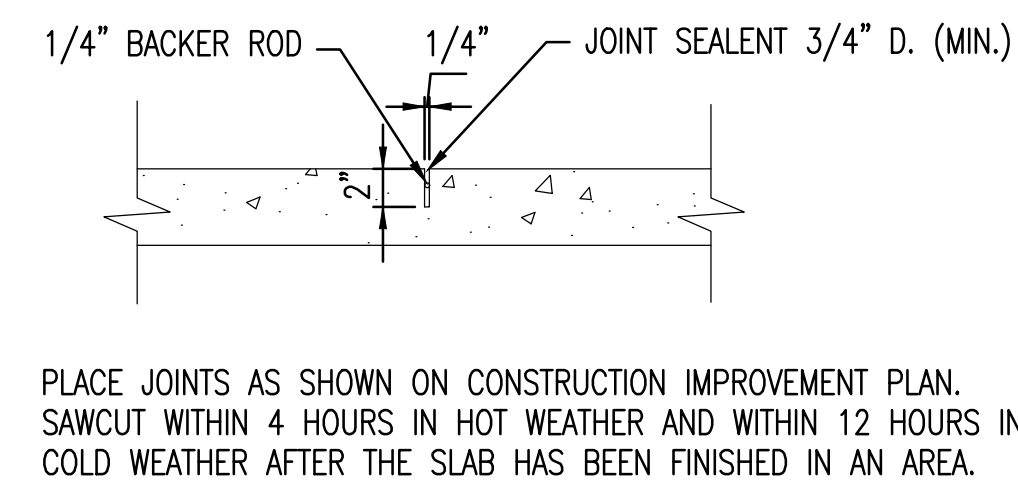
6



PAVING TRANSITION



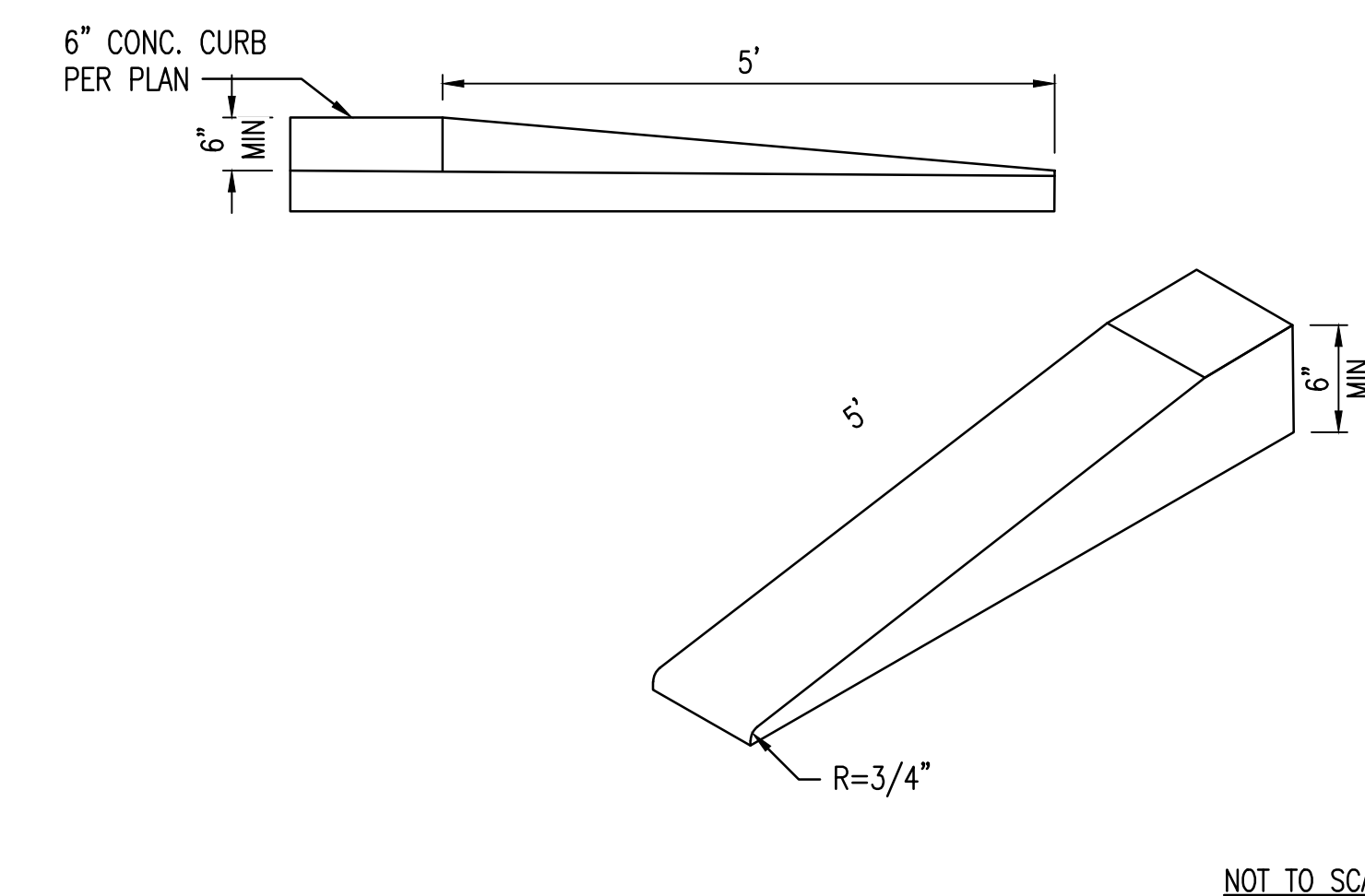
7



CONTROL JOINT



8



5' CURB TRANSITION 6" TO 0"



9



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP



5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL: 480.588.7226 FAX: 480.591.3534



CALL NM ONE-CALL SYSTEM SEVEN (7) DAYS PRIOR TO ANY EXCAVATION

PROJECT: WHATABURGER NM  
SEC ALAMEDA BLVD NE & SAN PEDRO AVE NE  
LOCATION: 6100 ALAMEDA BLVD NE ALBUQUERQUE, NM

DRAWN: GA 05/09/2023  
DESIGNED: LP 05/09/2023  
QC: \_\_\_\_\_  
FINAL QC: \_\_\_\_\_  
PROJ. MGR: AF 05/09/2023  
DATE: 05/28/2023

ISSUED FOR: PERMITS

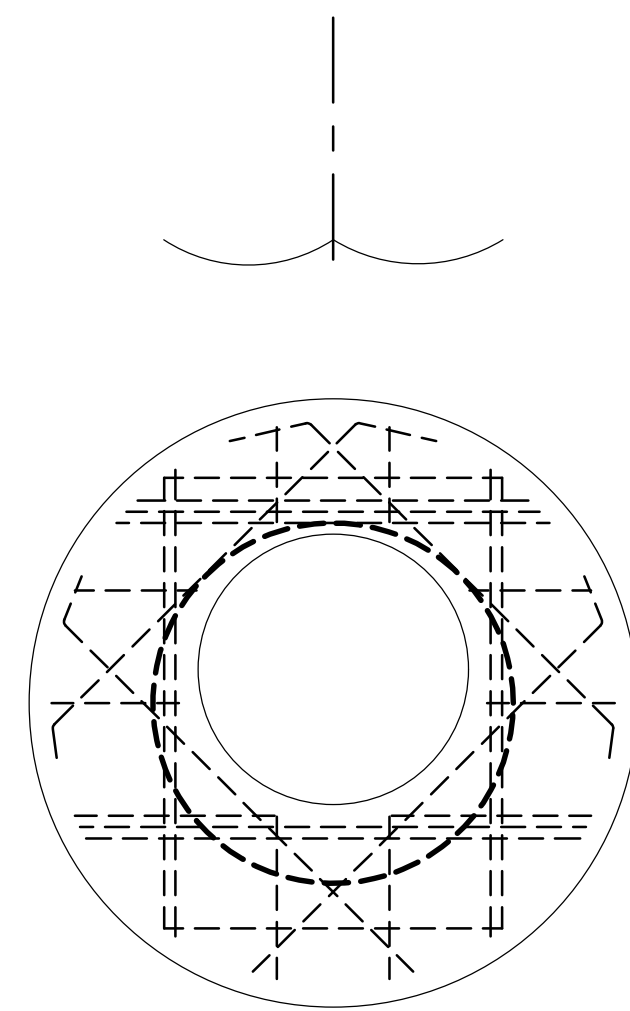
REVISION NO.:	DATE:

JOB NO.: 210907

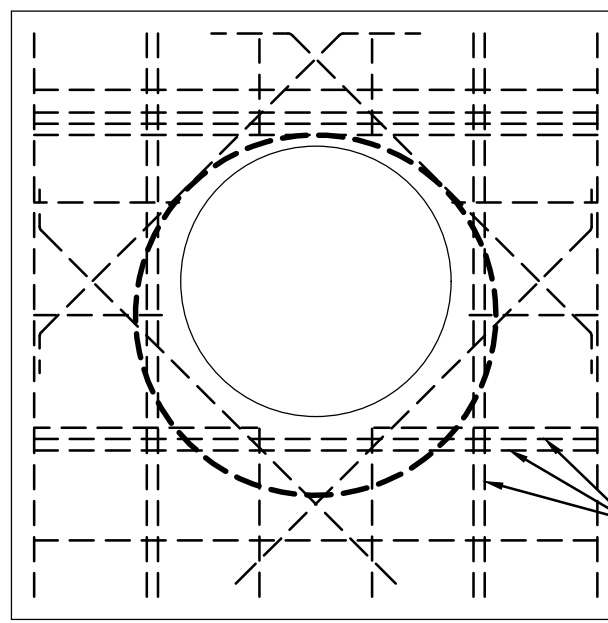
SHEET TITLE:

GRADING AND DRAINAGE DETAILS

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.



REINFORCING TABLE				
Ø CMP RISER	A	Ø B	REINFORCING	**BEARING PRESSURE (PSF)
24"	Ø 4' 4x4'	26"	#5 @ 10" OCEW #5 @ 10" OCEW	2,540 1,900
30"	Ø 4'-6" 4'-6" x 4'-6"	32"	#5 @ 10" OCEW #5 @ 9" OCEW	2,260 1,670
36"	Ø 5' 5' x 5'	38"	#5 @ 9" OCEW #5 @ 8" OCEW	2,060 1,500
42"	Ø 5'-6" 5'-6" x 5'-6"	44"	#5 @ 8" OCEW #5 @ 8" OCEW	1,490 1,370
48"	Ø 6' 6' x 6'	50"	#5 @ 7" OCEW #5 @ 7" OCEW	1,210 1,270

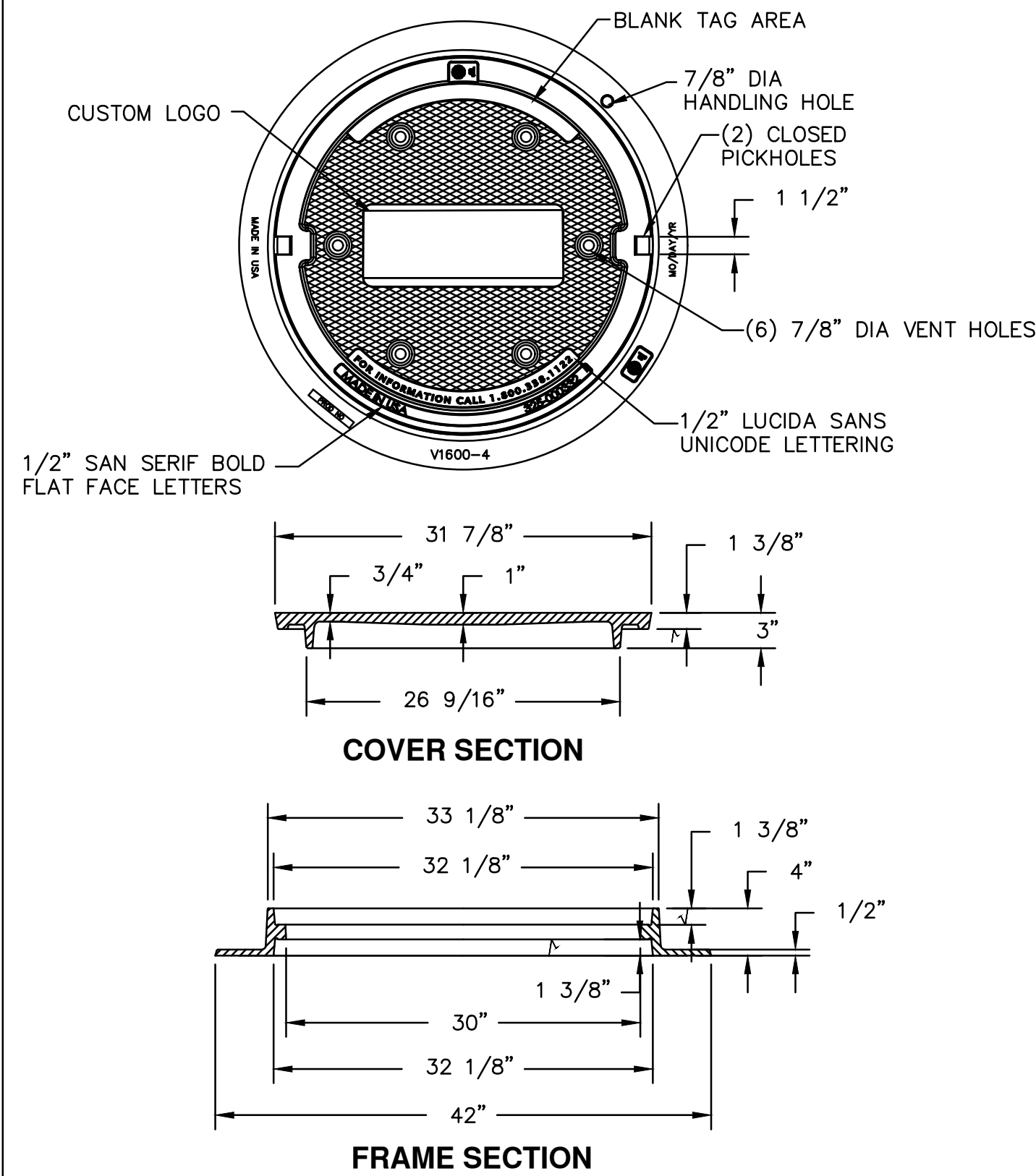


INTERRUPTED BAR REPLACEMENT, SEE NOTE 6.

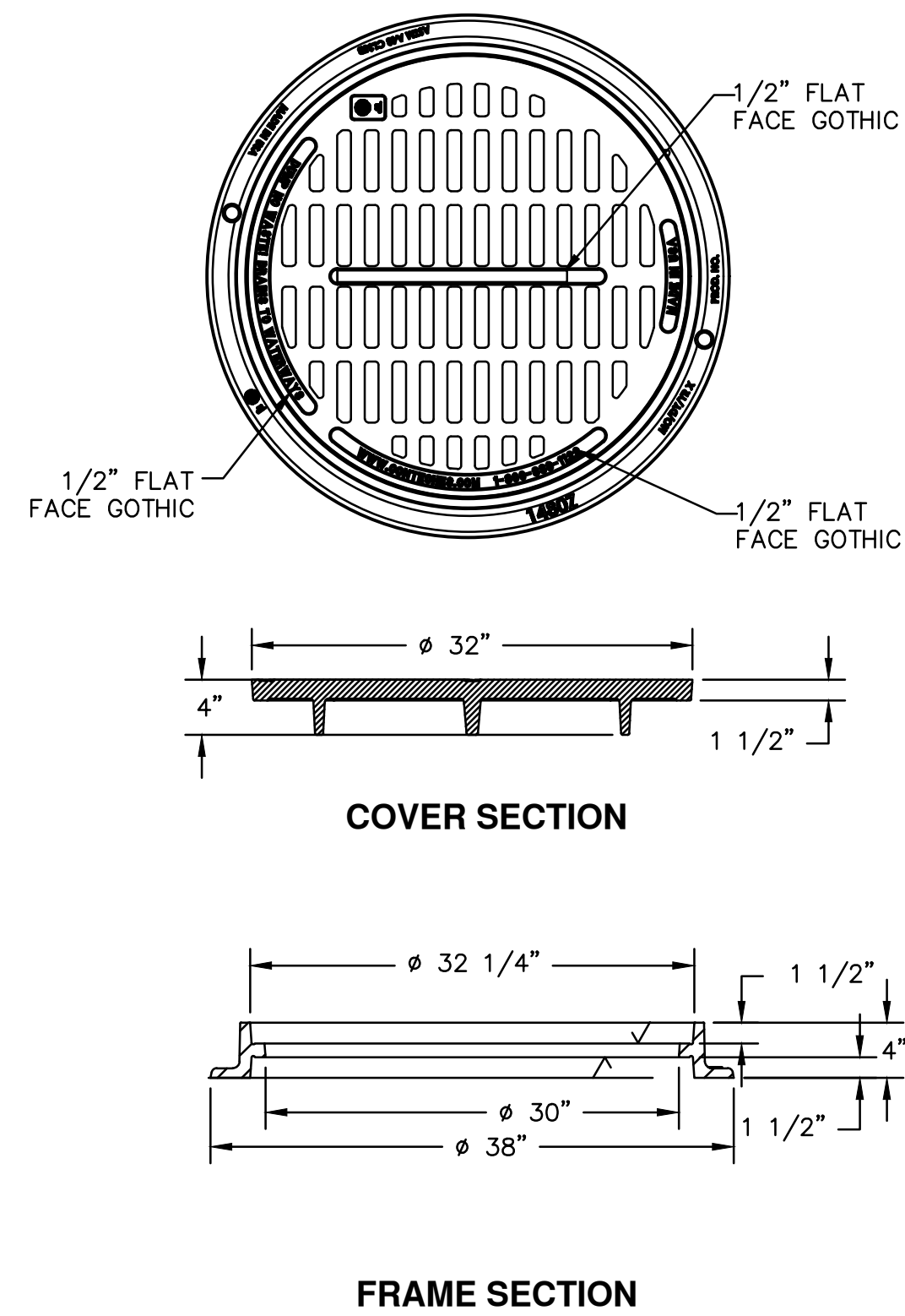
**NOTES:**

- DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION AND ACI 350.
- DESIGN LOAD HS25.
- EARTH COVER = 1' MAX.
- CONCRETE STRENGTH = 4,000 psi
- REINFORCING STEEL = ASTM A615, GRADE 60.
- PROVIDE ADDITIONAL REINFORCING AROUND OPENINGS EQUAL TO THE BARS INTERRUPTED, HALF EACH SIDE. ADDITIONAL BARS TO BE IN THE SAME PLANE.
- TRIM OPENING WITH DIAGONAL #4 BARS, EXTEND BARS A MINIMUM OF 12" BEYOND OPENING, BEND BARS AS REQUIRED TO MAINTAIN BAR COVER.
- PROTECTION SLAB AND ALL MATERIALS TO BE PROVIDED AND INSTALLED BY CONTRACTOR.
- DETAIL DESIGN BY DELTA ENGINEERS, ARCHITECTS AND LAND SURVEYORS, ENDWELL, NY.

**30"x4" REVERSIBLE FRAME & SOLID COVER**



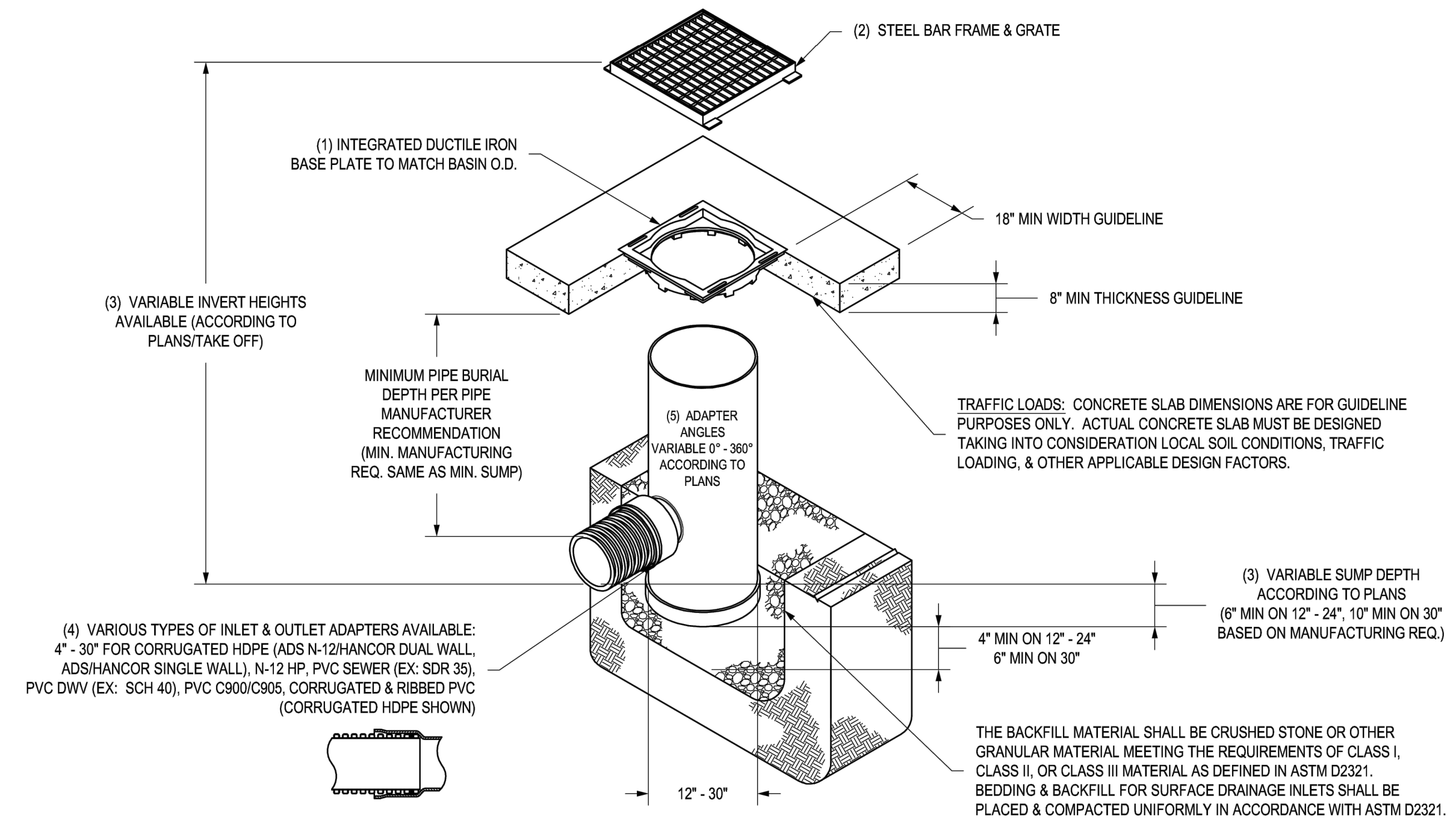
**30"x4" REVERSIBLE FRAME & GRATE**



RISER DETAIL



**NYLOPLAST DRAIN BASIN WITH 2 FT X 2 FT STEEL BAR GRATE**



- 12' - 30' BASE PLATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
- FRAME & GRATE SHALL BE STEEL PER ASTM A36.
- DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS.
- DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D2212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL, N-12 HP, & PVC SEWER (4" - 24").
- ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
- STEEL BAR GRATE SHALL MEET H-20 LOAD RATING.

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY	EBC	MATERIAL
DATE	03-22-10	
REVISED BY	NMH	PROJECT NO./NAME
DATE	03-16-16	
DWG SIZE	A	SCALE 1:40 SHEET 1 OF 1

**Nyloplast**  
3130 VERONA AVE  
BUFORD, GA 30518  
PHN (770) 932-2443  
FAX (770) 932-2490  
www.nyloplast-us.com

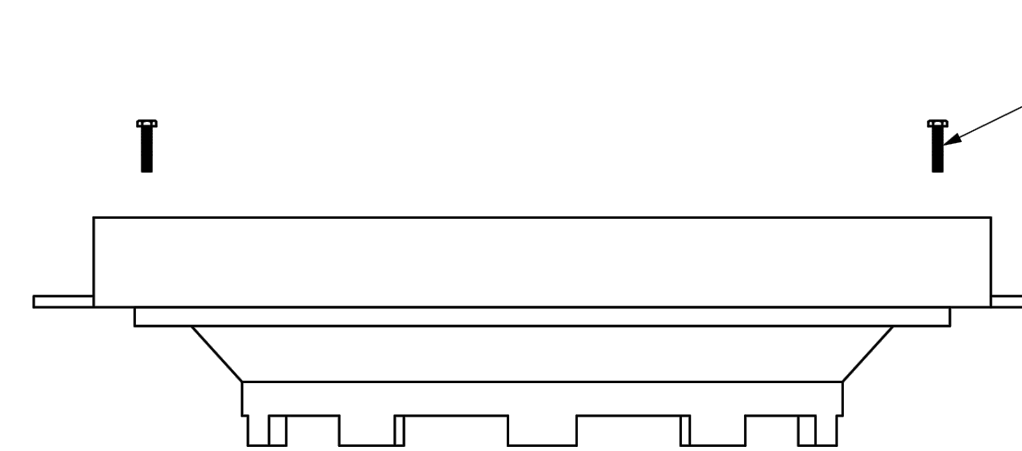
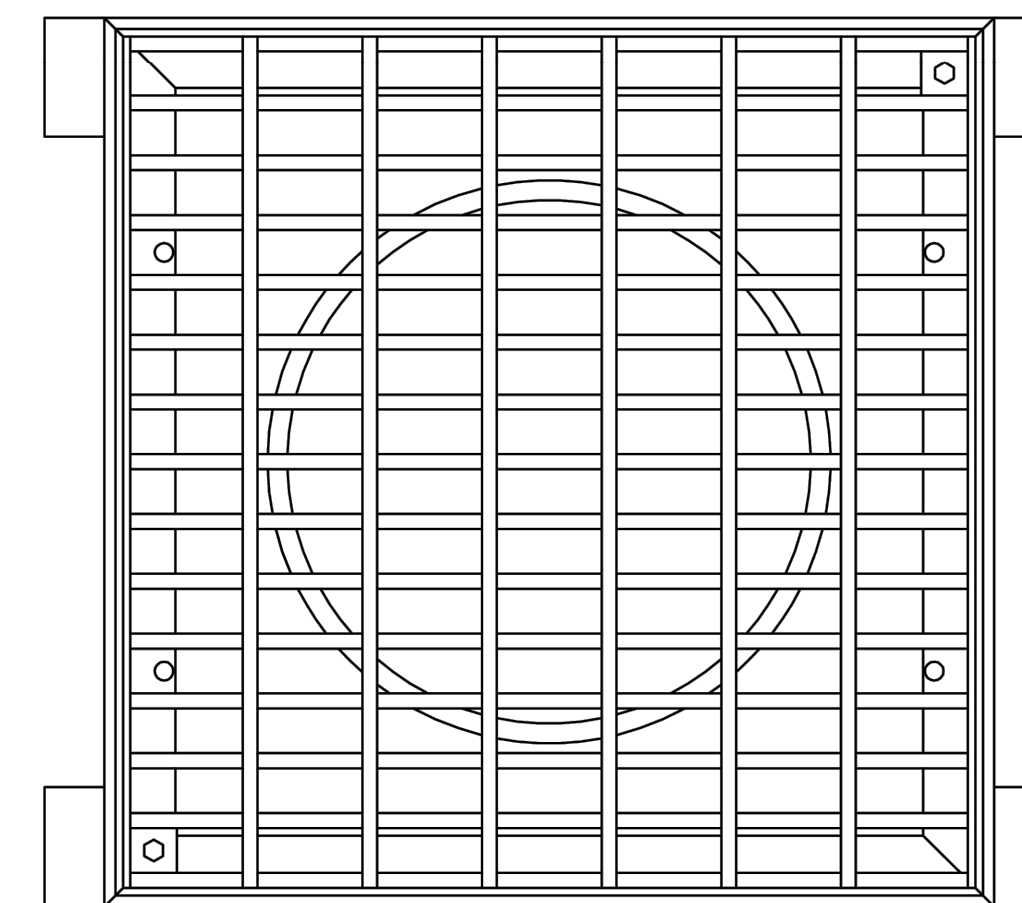
TITLE  
DRAIN BASIN WITH 2 FT X 2 FT STEEL BAR GRATE  
QUICK SPEC INSTALLATION DETAIL

DWG NO. 7001-110-394 REV D

NYLOPLAST DRAIN BASIN



3299CGSQSBL



NOTE: LOCATION OF LOCKING DEVICE MAY VARY

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

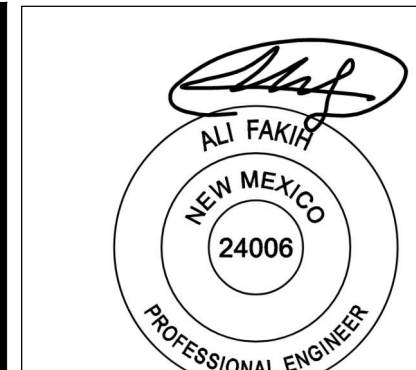
DRAWN BY	EBC	MATERIAL
DATE	03-02-06	
REVISED BY	CCA	PROJECT NO./NAME
DATE	09-03-13	
DWG SIZE	A	SCALE 1:8 SHEET 1 OF 1

**Nyloplast**  
3130 VERONA AVE  
BUFORD, GA 30518  
PHN (770) 932-2443  
FAX (770) 932-2490  
www.nyloplast-us.com

TITLE  
2 FT X 2 FT STEEL BAR LOCKING GRATE ASSEMBLY

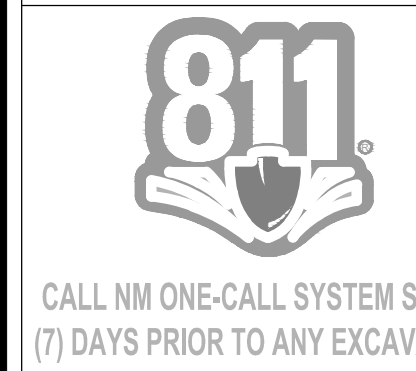
DWG NO. 7001-110-236 REV D

NYLOPLAST GRATE



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

SUSTAINABILITY  
ENGINEERING  
GROUP



CALL NM ONE-CALL SYSTEM SEVEN (7) DAYS PRIOR TO ANY EXCAVATION

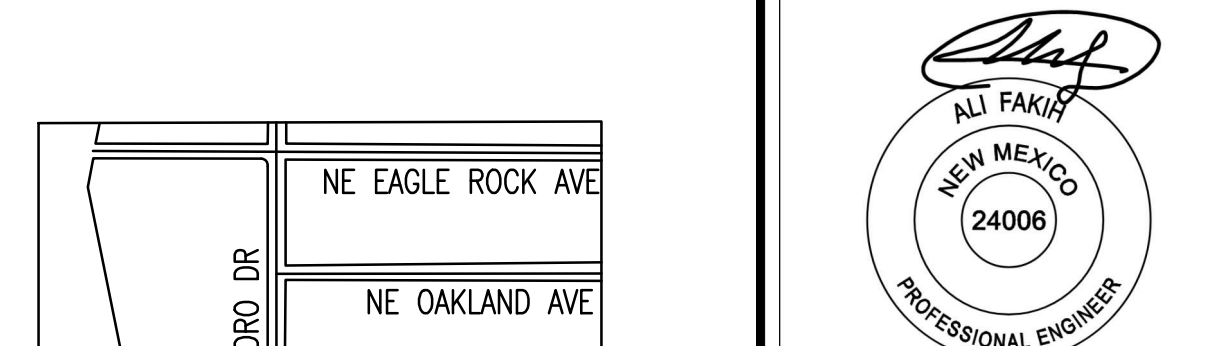
PROJECT	WHATABURGER NM SEC ALAMEDA BLVD NE & SAN PEDRO AVE NE	LOCATION	6100 ALAMEDA BLVD NE ALBUQUERQUE, NM
DRAWN	GA	DATE	05/09/2023
DESIGNED	LP	DATE	05/09/2023
QC			
FINAL QC			
PROJ. MGR.	AF	DATE	05/09/2023
ISSUED FOR:	PERMITS		
REVISION NO.:		DATE:	
JOB NO.:	210907		
SHEET TITLE:	GRADING AND DRAINAGE DETAILS		

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.

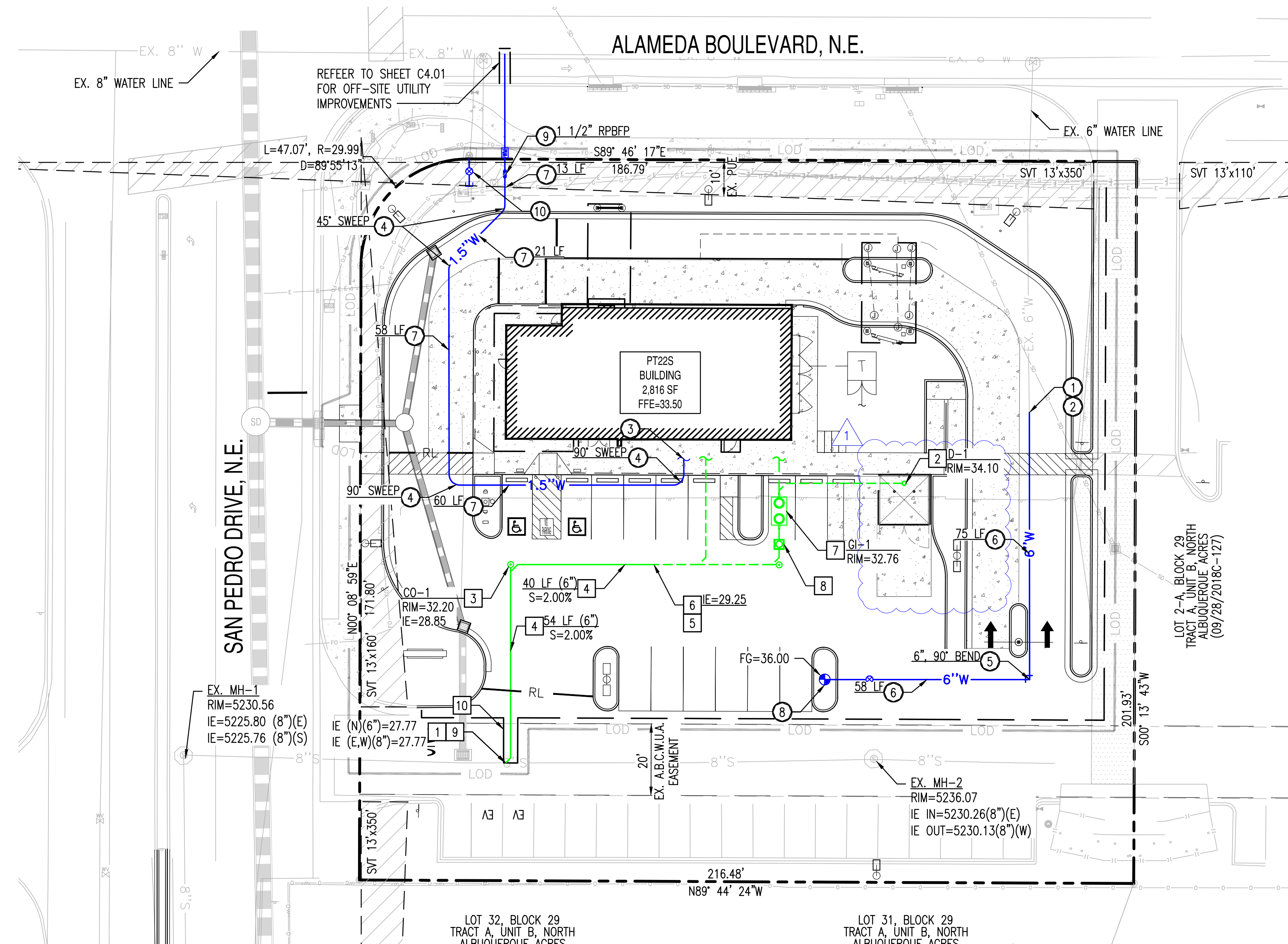
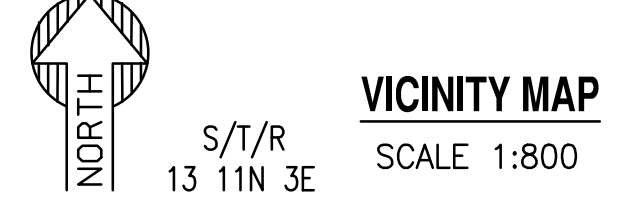
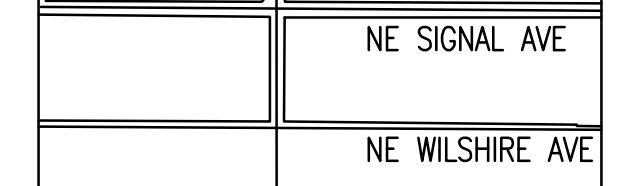
## Utility Plan(s) and Details

# WHATABURGER UTILITY PLAN

6100 NE ALAMEDA BLVD, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3  
EAST, BERNALILLO COUNTY, NEW MEXICO.



EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023



### WATER CONSTRUCTION KEY NOTES

- 1 CONTRACTOR TO VERIFY SIZE AND LOCATION OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.
- 2 CONNECT TO EXISTING SERVICE MAIN.
- 3 DOMESTIC CONNECTION TO BUILDING, REFER TO MEP PLAN FOR CONTINUATION.
- 4 FURNISH AND INSTALL TYPE "K" COPPER SWEEP, SIZE TO MATCH WATER LINE. ANGLE PER PLAN.
- 5 FURNISH AND INSTALL FITTING, SIZE & ANGLE PER PLAN. WITH RESTRAINED JOINTS PER AWWA C110.
- 6 FURNISH AND INSTALL 6" DUCTILE IRON PIPE, CLASS 350, CEMENT MORTAR LINED, MAINTAIN 3' MINIMUM COVER. PROVIDE POLY WRAP. LENGTH PER PLAN.
- 7 FURNISH AND INSTALL TYPE "K" 1 1/2" COPPER PIPE, LENGTH PER PLAN.
- 8 INSTALL RELOCATED FIRE HYDRANT, PER C.O.A. STD. DWG. 2340.
- 9 FURNISH AND INSTALL REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTION ASSEMBLY PER C.O.A. STD. DWG. 2385, SIZE PER PLAN.
- 10 FURNISH AND INSTALL 1" PRESSURE VACUUM BREAKER PER C.O.A. STD. DWG. 2388.

### SEWER CONSTRUCTION KEY NOTES

- 1 CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING SANITARY SEWER LINE BEFORE PROCEEDING WITH TRENCHING. CONTRACTOR SHALL CONTACT ENGINEER IF EXISTING SEWER ELEVATION IS HIGHER THAN PROPOSED TIE-IN INVERT PRIOR TO ANY CONSTRUCTION ACTIVITY.
- 2 TRASH ENCLOSURE SANITARY DRAIN BY BUILDING CONTRACTOR.
- 3 FURNISH AND INSTALL SEWER CLEAN-OUT
- 4 FURNISH AND INSTALL PVC SCH-40 SEWER LINE. S= 2.00% MINIMUM. SIZE, LENGTH AND SLOPE PER PLAN. MAINTAIN 4' MINIMUM COVER.
- 5 REFER TO MEP PLANS FOR CONTINUATION.
- 6 PROVIDE PLUG AND MARKER FOR SEWER STUB
- 7 GREASE INTERCEPTOR BY BUILDING CONTRACTOR.
- 8 SAMPLE WELL BY BUILDING CONTRACTOR.
- 9 FURNISH AND INSTALL WYE. MATCH SIZE WITH PLAN.
- 10 SAWCUT, REMOVE AND REPLACE EXISTING PAVEMENT.

### PROPOSED UTILITY LEGEND:

---	PROPERTY LINE	⊕	FIRE HYDRANT	—	CAP
- - -	EASEMENT LINE	⊕	FDC	~	BUILDING CONNECTION
— 8"W —	WATER LINE	⊕	WATER METER	⊕	SEWER CLEAN OUT
— 8"S —	SEWER LINE	⊕	BACK FLOW PREVENTER		

### EXISTING LEGEND:

---	CENTERLINE	— EX. S —	SEWER LINE	---	STORM DRAIN LINE	⊕	SIGN
- - -	EASEMENT LINE AS NOTED	⊕	SEWER MANHOLE	---	STORM CATCH BASIN	⊕	STREET LIGHT
⊕	CHAINLINK FENCE	— EX. W —	WATER LINE	⊕	STORM MANHOLE	⊕	FIBER OPTIC LINE
⊕	TREE	⊕	WATER VALVE	---	GAS LINE	---	
		⊕	FIRE HYDRANT	---	IRRIGATION LINE		

MONUMENT "10\_C18"  
STANDAR C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,524,123.885 US SURVEY FEET  
E= 1,542,565.263 US SURVEY FEET  
PLUBLISHED EL=5222.09 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999665042  
DELTA ALPHA ANGLE=-0°11'19.42"

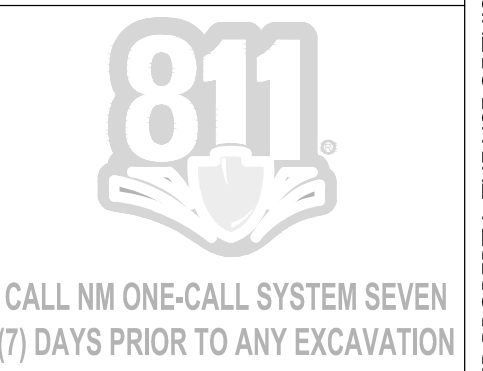
A.G.R.S. MONUMENT "9\_C18"  
STANDAR C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,521,497.624 US SURVEY FEET  
E= 1,542,501.428 US SURVEY FEET  
PLUBLISHED EL=5232.47 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999664563  
DELTA ALPHA ANGLE=-0°11'19.69"



SUSTAINABILITY  
ENGINEERING  
GROUP



5240 N 16TH STREET, SUITE 105 PHOENIX, ARIZONA 85016  
WWW.AZSEG.COM TEL: 480.586.7226 FAX: 480.259.3534



PROJECT WHATABURGER NM SEC ALAMEDA BLVD NE & SAN PEDRO AVE NE	LOCATION 6100 ALAMEDA BLVD NE ALBUQUERQUE, NM
--	---

DRAWN	GA	05/09/2023
DESIGNED	LP	05/09/2023
QC		
FINAL QC		
PROJ. MGR.	AF	05/09/2023
DATE:	05/26/2023	

ISSUED FOR:  
PERMITS

REVISION NO.:	DATE:
1	TRASH ENCLOSURE UPDATE 05/26/2023
2	
3	

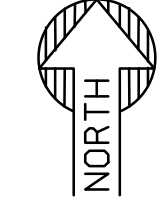
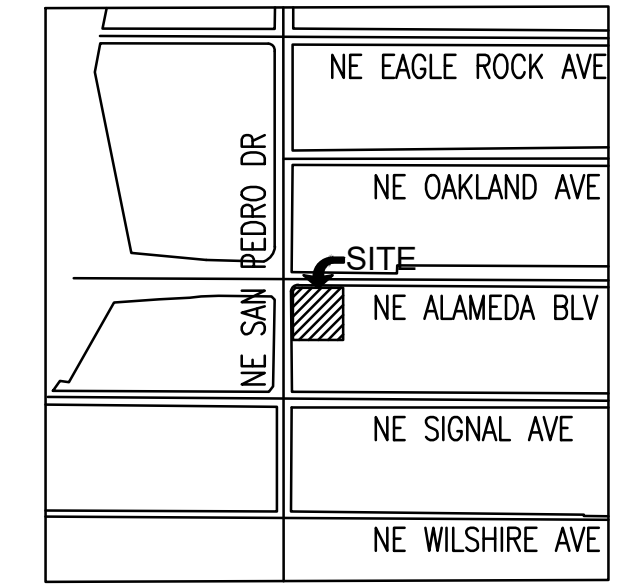
JOB NO.: 210907  
SHEET TITLE:

### UTILITY PLAN

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.

# WHATABURGER OFF-SITE UTILITY PLAN

6100 NE ALAMEDA BLVD, ALBUQUERQUE, NM  
A PORTION OF SECTION 13, TOWNSHIP 11 NORTH, RANGE 3  
EAST, BERNALILLO COUNTY, NEW MEXICO.



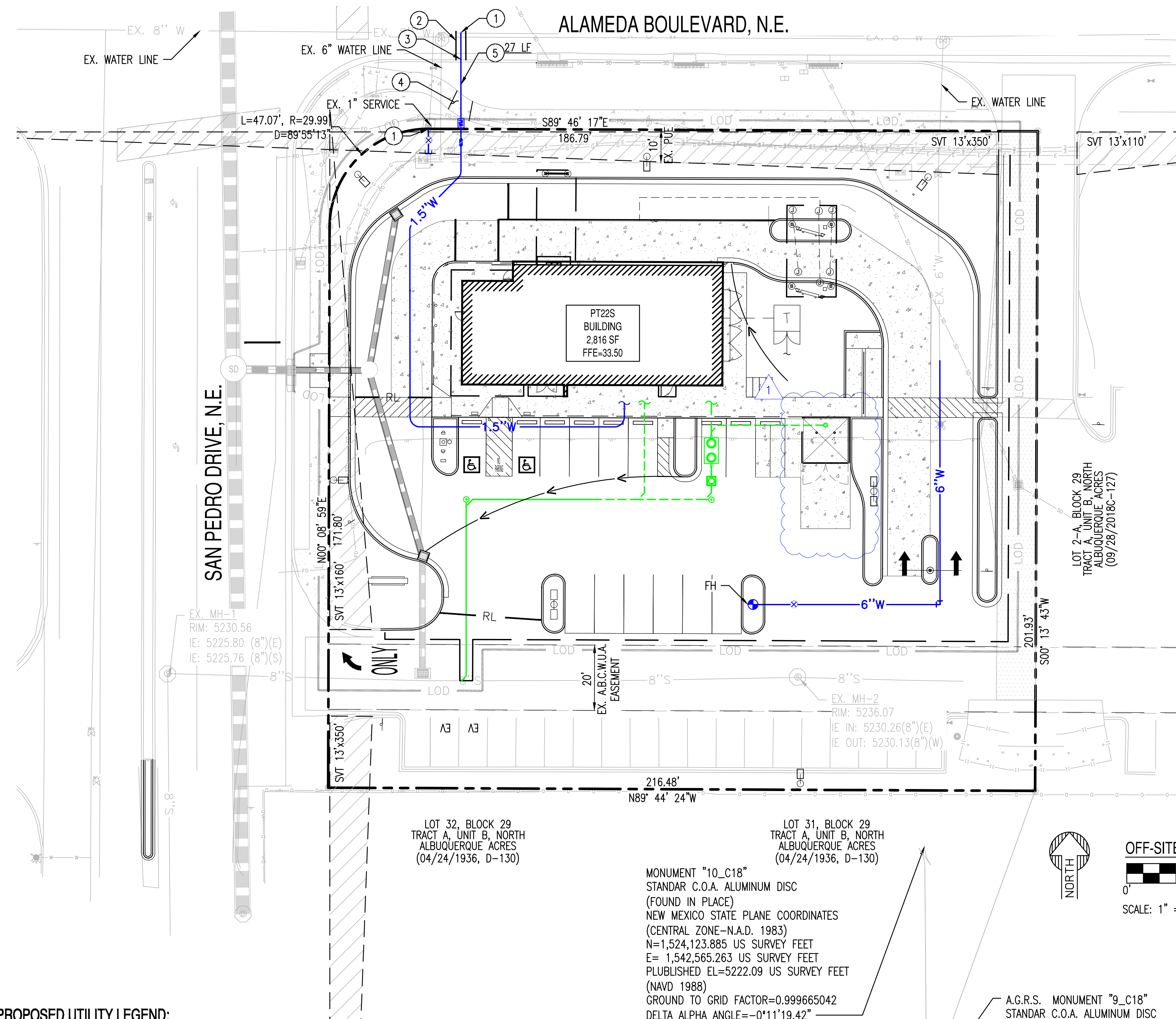
S/T/R  
13 11N 3E

VICINITY MAP  
SCALE 1:800



CONSULTANTS

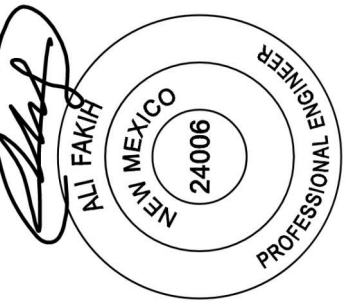
8290 E GELDING DRIVE SUITE 101, SCOTTSDALE, ARIZONA 85260  
WWW.AZSEG.COM TEL: 480.588.7226 FAX: 480.293.3534



### WATER CONSTRUCTION KEY NOTES

- CONTRACTOR TO VERIFY SIZE AND LOCATION OF EXISTING WATER LINE PRIOR TO CONSTRUCTION.
- SAWCUT, REMOVE AND REPLACE EXISTING PAVEMENT, FOR UTILITY TRENCHING PER C.O.A. STD. DWG. 2465.
- REMOVE AND REPLACE EXISTING VERTICAL CURB AND GUTTER, TO NEAREST JOINT AS REQUIRED FOR UTILITY INSTALLATION.
- REMOVE AND REPLACE EXISTING SIDEWALK, TO NEAREST JOINT AS REQUIRED FOR UTILITY INSTALLATION.
- FURNISH AND INSTALL TYPE "K" 1 1/2" COPPER DOMESTIC SERVICE CONNECTION AND METER BOX, PER C.O.A. STD. DWG. 2363, LENGTH PER PLAN.

BENCH MARKS



SEAL

EXPIRATION DATE: 12-31-2024  
SIGNATURE DATE: 05-26-2023

NO.	DATE	DESCRIPTION	BY
		AS-BUILT INFORMATION	
		CONTRACTOR	
		WORK STAKED BY:	
		INSPECTOR'S ACCEPTANCE BY:	
		FIELD VERIFICATION BY:	
		DRAWINGS CORRECTED BY:	
		DATE:	
		DATE:	
		DATE:	
		DATE:	

DESIGNED BY: SO	DRAWN BY: ER	CHECKED BY: SC	DATE: 05/2023
CITY OF ALBUQUERQUE DEPARTMENT OF MUNICIPAL DEVELOPMENT ENGINEERING DIVISION			
OFF-SITE UTILITY PLAN			
DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. <b>Z-99</b>	
		CITY PROJECT NO. <b>PR-2018-001346</b>	
		SHEET NO. <b>C4.01</b>	

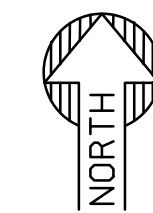
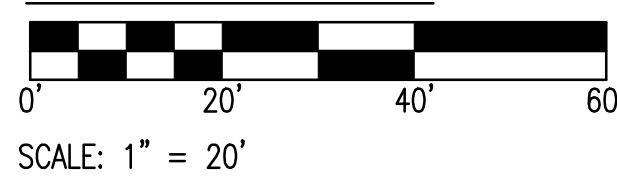
### PROPOSED UTILITY LEGEND:

- PROPERTY LINE
- EASEMENT LINE
- 8"W WATER LINE
- 8"S SEWER LINE
- WATER METER
- BACK FLOW PREVENTER

### EXISTING LEGEND:

- CENTERLINE
- EASEMENT LINE AS NOTED
- CHAINLINK FENCE
- TREE
- EX. S SEWER LINE
- SEWER MANHOLE
- EX. W WATER LINE
- WATER VALVE
- FIRE HYDRANT
- STORM DRAIN LINE
- CB STORM CATCH BASIN
- SM STORM MANHOLE
- GAS GAS LINE
- IRR IRRIGATION LINE
- SIGN
- STREET LIGHT
- FO FIBER OPTIC LINE

### OFF-SITE UTILITY PLAN



LOT 32, BLOCK 29  
TRACT A, UNIT B, NORTH  
ALBUQUERQUE ACRES  
(04/24/1936, D-130)

LOT 31, BLOCK 29  
TRACT A, UNIT B, NORTH  
ALBUQUERQUE ACRES  
(04/24/1936, D-130)

MONUMENT "10\_C18"  
STANDAR C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,524,123.885 US SURVEY FEET  
E= 1,542,565.263 US SURVEY FEET  
PUBLISHED EL=5222.09 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999665042  
DELTA ALPHA ANGLE=-0°11'19.42"

A.G.R.S. MONUMENT "9\_C18"  
STANDAR C.O.A. ALUMINUM DISC  
(FOUND IN PLACE)  
NEW MEXICO STATE PLANE COORDINATES  
(CENTRAL ZONE-N.A.D. 1983)  
N=1,521,497.624 US SURVEY FEET  
E= 1,542,501.428 US SURVEY FEET  
PUBLISHED EL=5232.47 US SURVEY FEET  
(NAVD 1988)  
GROUND TO GRID FACTOR=0.999664563  
DELTA ALPHA ANGLE=-0°11'19.69"



CALL NM ONE-CALL  
SYSTEM SEVEN (7) DAYS  
PRIOR TO ANY EXCAVATION



CITY OF ALBUQUERQUE  
DEPARTMENT OF MUNICIPAL DEVELOPMENT  
ENGINEERING DIVISION

OFF-SITE  
UTILITY PLAN

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	ZONE MAP NO. <b>Z-99</b>
		CITY PROJECT NO. <b>PR-2018-001346</b>
		SHEET NO. <b>C4.01</b>

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND THE PROPERTY OF SUSTAINABILITY ENGINEERING GROUP, AND SHALL REMAIN THEIR PROPERTY. THE USE OF THIS DRAWING SHALL BE RESTRICTED TO THE ORIGINAL SITE FOR WHICH IT IS PREPARED AND PUBLICATION THEREOF IS EXPRESSLY LIMITED TO SUCH USE.

## *Appendix B – NOI Permit*

### NOI and NOT Permit

For SWPPPs that are being managed on compliance | **GO** the Notice of Intent (NOI) permit will be in the permits section in compliance | **GO**. Please notify the contact person for the operator found on the NOI in order to access this information if needed.

The NOI permit must be filed with the EPA by accessing the following website:

<https://npdes-ereporting.epa.gov/net-cgp/action/login>

For SWPPPs that are being managed on compliance | **GO** the Notice of Termination (NOT) will be located in the permits section in compliance | **GO**. Please notify the contact person for the operator found on the NOI in order to access this information if needed.

The NOT can be filed by completing the form electronically on the NeT Storm Water Database <https://npdes-ereporting.epa.gov/net-cgp/action/login>.

For SWPPPs that are being managed on compliance | **GO** all permits will be in the permits or documents section of compliance | **GO**. Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## *Appendix C – Inspection Report*

### Inspection Reports

For SWPPPs that are being managed on compliance | **GO** all inspections will be in the inspection history section of compliance | **GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

A copy of the Inspection and Visual Monitoring form can be accessed via the following link:

[https://drive.google.com/file/d/0Bx\\_Y1vgmRG3UVEF2Q09nTDF3LUE/view?usp=sharing](https://drive.google.com/file/d/0Bx_Y1vgmRG3UVEF2Q09nTDF3LUE/view?usp=sharing)



## *Appendix D – Corrective Action Report*

### Maintenance of Controls

Responsive (Corrective) action items will be identified in the inspection report and action log. Once identified and reported, responsible parties in Section 1 will correct problems according to the Construction General Permit.

For SWPPPs that are being managed on compliance | **GO** the corrective action logs will be located in the inspection history section of compliance | **GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## *Appendix E – Subcontractor Certifications, Agreements, and Delegation of Authority*

For SWPPPs that are being managed on compliance|**GO** the subcontractor certification pages, agreements, delegation of authority, or other signed SWPPP pages will be located in the documents section in compliance|**GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

---

SUBCONTRACTOR CERTIFICATION  
STORMWATER POLLUTION PREVENTION PLAN

Project Number: \_\_\_\_\_

Project Title: \_\_\_\_\_

Operator(s): \_\_\_\_\_

As a subcontractor, you are required to comply with the Stormwater Pollution Prevention Plan (SWPPP) for any work that you perform on-site. Any person or group who violates any condition of the SWPPP may be subject to substantial penalties or loss of contract. You are encouraged to advise each of your employees working on this project of the requirements of the SWPPP. A copy of the SWPPP is available for your review at the office trailer.

Each subcontractor engaged in activities at the construction site that could impact stormwater must be identified and sign the following certification statement:

**I certify under the penalty of law that I have read and understand the terms and conditions of the SWPPP for the above designated project and agree to follow the BMPs and practices described in the SWPPP.**

This certification is hereby signed in reference to the above-named project:

Company: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

Type of construction service to be provided: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

Date: \_\_\_\_\_

## *Appendix F – Training Logs and Certifications*

### **STAFF TRAINING REQUIREMENTS.**

Prior to the commencement of earth-disturbing activities or pollutant-generating activities, whichever occurs first, the individual responsible for training must ensure and document that the Stormwater Team listed in Section 1.1 of the SWPPP, and onsite personnel understand the requirements of the permit and their specific responsibilities with respect to the following:

- The permit deadlines associated with installation, maintenance, and removal of storm water controls and with stabilization.
- The location of all storm water controls on the site required by the Construction General Permit and how they are to be maintained.
- The proper procedures to follow with respect to the Construction General Permit's pollution prevention requirements; and
- When and how to conduct inspections, record applicable findings, and take corrective actions.

For SWPPPs that are being managed on compliance | **GO** the training log will be located in the documents section of compliance | **GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## Training Log

Project Name: \_\_\_\_\_

Project Location: \_\_\_\_\_

Date	Name of Attendee	Company	Training Topic	Instructor

## **Inspector Qualifications**

The 2022 CGP requires that an inspector has one of the following qualifications or the equivalent as determined by the State: RSI, CPESC, CPSWQ, CESSWI, CISEC, NICET, or UDOT ECS.

Inspector qualifications may be viewed on the following page.

## *Appendix G – Additional Information*

Appendix G includes:

- Additional Permits
- Endangered Species Certification
- Historic Preservation
- Permit Regulations-Applicable Federal, Tribal, State, or Local Programs
- MS4 Stormwater Ordinance
- Fugitive Dust Plan
- Soil Report
- Correspondence
- Out of Date SWPPP documents

---

## Additional Permits

For SWPPPs that are being managed on compliance | **GO** any additional permits will be located in the documents and/or permits sections in compliance | **GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

- |  |   |  |
|--|---|--|
| a. Will the site have a Stream Alteration Permit?  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| b. Will the site have a 404(d) wetland permits?  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| c. Does the site have an SPCC?   | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| d. Will the Site have a Dewatering Permit?   | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| e. Does the site have a Land Disturbance Permit or another city stormwater permit? TESCP | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |



---

## Endangered Species Certification

The US Fish and Wildlife Service has available a list of endangered species by state. The list for NM was found at the below website and is also listed on the following page.

<http://criticalhabitat.fws.gov/>

<http://ecos.fws.gov/ecos/indexPublic.do>

The protection of endangered species for this site falls under the following criterion as outlined in the Construction General Permit:

- Criterion A:** No ESA-listed species and/or designated critical habitat present in this site's action area.  
*Supporting Documentation:*
- Publicly available species list. Documentation can be found on the following page.
  - Other source: <http://criticalhabitat.fws.gov/>
- Criterion B:** Eligibility requirements met by another operator under the 2022 CGP.
- Supporting documentation as required by Appendix D of the CGP can be found on the following page.
- Criterion C:** Discharges not likely to result in any short- or long-term adverse effects to ESA-listed species and/or designated critical habitat.
- Supporting documentation as required by Appendix D of the CGP can be found on the following page.
- Criterion D:** Coordination with USFWS and/or NMFS has successfully concluded.
- Supporting documentation as required by Appendix D of the CGP can be found on the following page.
- Criterion E:** ESA Section 7 consultation has successfully concluded.
- Supporting documentation as required by Appendix D of the CGP can be found on the following page.
- Criterion F:** Issuance of Section 10 permit.
- Supporting documentation as required by Appendix D of the CGP can be found on the following page.

### Contacts:

U.S. Fish and Wildlife Service: 1-800-344-9453

New Mexico Department of Game and Fish: 505-476-8000

US Fish and Wildlife Service: 801-975-3330 Ext.126

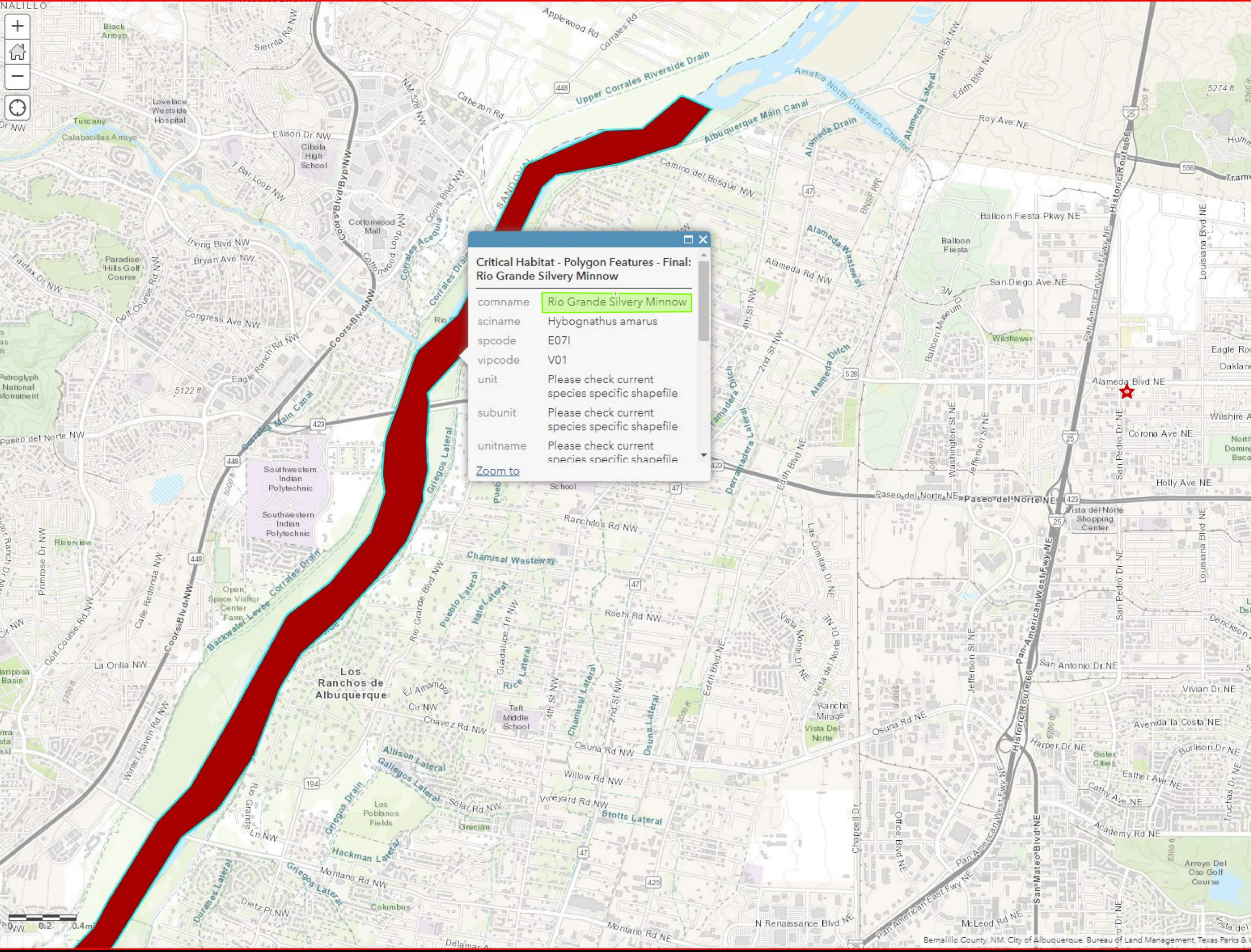


0 0.2 0.4mi

**Critical Habitat - Polygon Features - Final:  
Rio Grande Silvery Minnow**

comname	Rio Grande Silvery Minnow
sciname	Hybognathus amarus
spcode	E07I
vipcode	V01
unit	Please check current species specific shapefile
subunit	Please check current species specific shapefile
unitname	Please check current species specific shapefile

[Zoom to](#)



---

## Endangered and Threatened Species in Bernalillo County as listed by the US Fish and Wildlife Service.

The following list is of endangered and threatened species in Bernalillo County. The list also includes species of concern, and species receiving special management to keep them off of the federal threatened and endangered species list.

### Bernalillo County

Group	Name	Status
Insects	Monarch butterfly ( <i>Danaus plexippus</i> )	Candidate
Mammals	New Mexico meadow jumping mouse ( <i>Zapus hudsonius luteus</i> )	Endangered
Fishes	Rio Grande Silvery Minnow ( <i>Hybognathus amarus</i> )	Endangered
Birds	Yellow-billed Cuckoo ( <i>Coccyzus americanus</i> )	Threatened
Birds	Southwestern willow flycatcher ( <i>Empidonax traillii extimus</i> )	Endangered
Birds	Sprague's pipit ( <i>Anthus spragueii</i> )	Resolved Taxon
Birds	Mexican spotted owl ( <i>Strix occidentalis lucida</i> )	Threatened

## Historic Preservation

Are there any historic sites on or near the construction site?

Yes       No

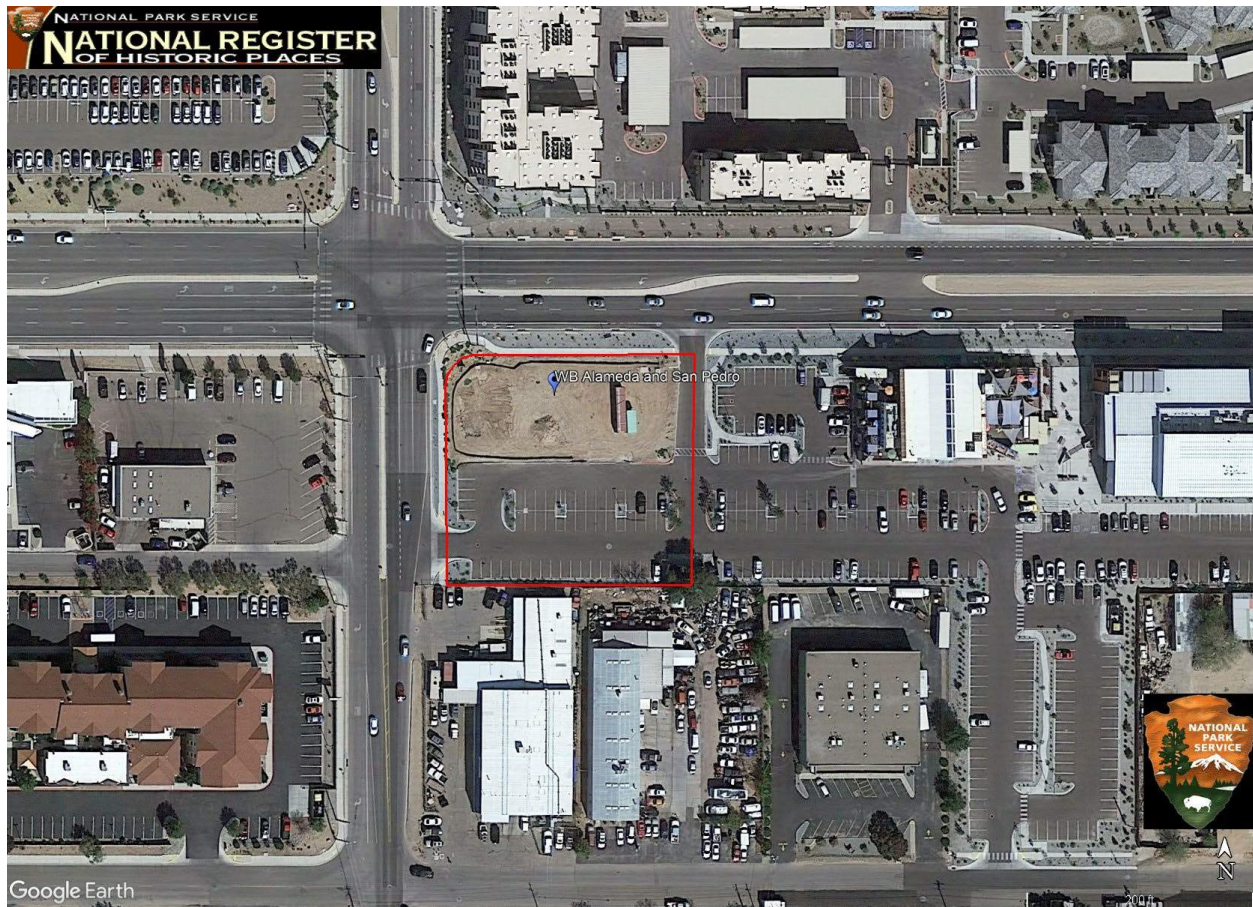
Describe how this determination was made:

- If any registered historic properties are present on or near the facility, they will be marked with a purple circle on the map below.
- There are no historic properties on or near the site.

This project will not have a negative environmental impact on a federally listed historic site as certified in the Historic Preservation Report. A list of State and Nationally Registered Historic Sites is included as part of this section. See the following websites:

<http://nrhp.focus.nps.gov/natreg/docs/Download.html>

<http://www.nationalregisterofhistoricplaces.com/state.html>



## Permit Regulations-Applicable Federal, Tribal, State, or Local Programs

**Specific requirements that are different or unique from the State of NM are outlined below.**

### **Bernalillo County Requirements:**

<https://www.bernco.gov/public-works/public-works-services/water-wastewater-stormwater/stormwater/epa-regulation-of-stormwater-in-bernalillo-county/>

## Bernalillo County Storm Water Ordinance

For SWPPPs that are being managed on compliance | **GO** the local MS4 Regulations will be in the documents section of compliance | **GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

Go to the following link to access the MS4 stormwater ordinance:

<https://www.bernco.gov/public-works/public-works-services/water-wastewater-stormwater/report-water-waste/>

## Fugitive Dust Plan

For SWPPPs that are being managed on compliance|**GO** the Fugitive Dust Plan (if required) will be located in the documents section in compliance|**GO**.

Please notify the contact person for the operator found on the NOI in order to access this information if needed.

## Soil Report





United States  
Department of  
Agriculture

**NRCS**

Natural  
Resources  
Conservation  
Service

A product of the National  
Cooperative Soil Survey,  
a joint effort of the United  
States Department of  
Agriculture and other  
Federal agencies, State  
agencies including the  
Agricultural Experiment  
Stations, and local  
participants

# Custom Soil Resource Report for Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico

## WB Alameda and San Pedro - Inspections Plus - Albuquerque



# Preface

---

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist ([http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2\\_053951](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951)).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

# Contents

---

<b>Preface</b> .....	2
<b>How Soil Surveys Are Made</b> .....	5
<b>Soil Map</b> .....	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	12
Map Unit Descriptions.....	12
Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico.....	14
EmB—Embudo gravelly fine sandy loam, 0 to 5 percent slopes.....	14
EtC—Embudo-Tijeras complex, 0 to 9 percent slopes.....	15
<b>References</b> .....	18

# How Soil Surveys Are Made

---

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

## Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

## Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

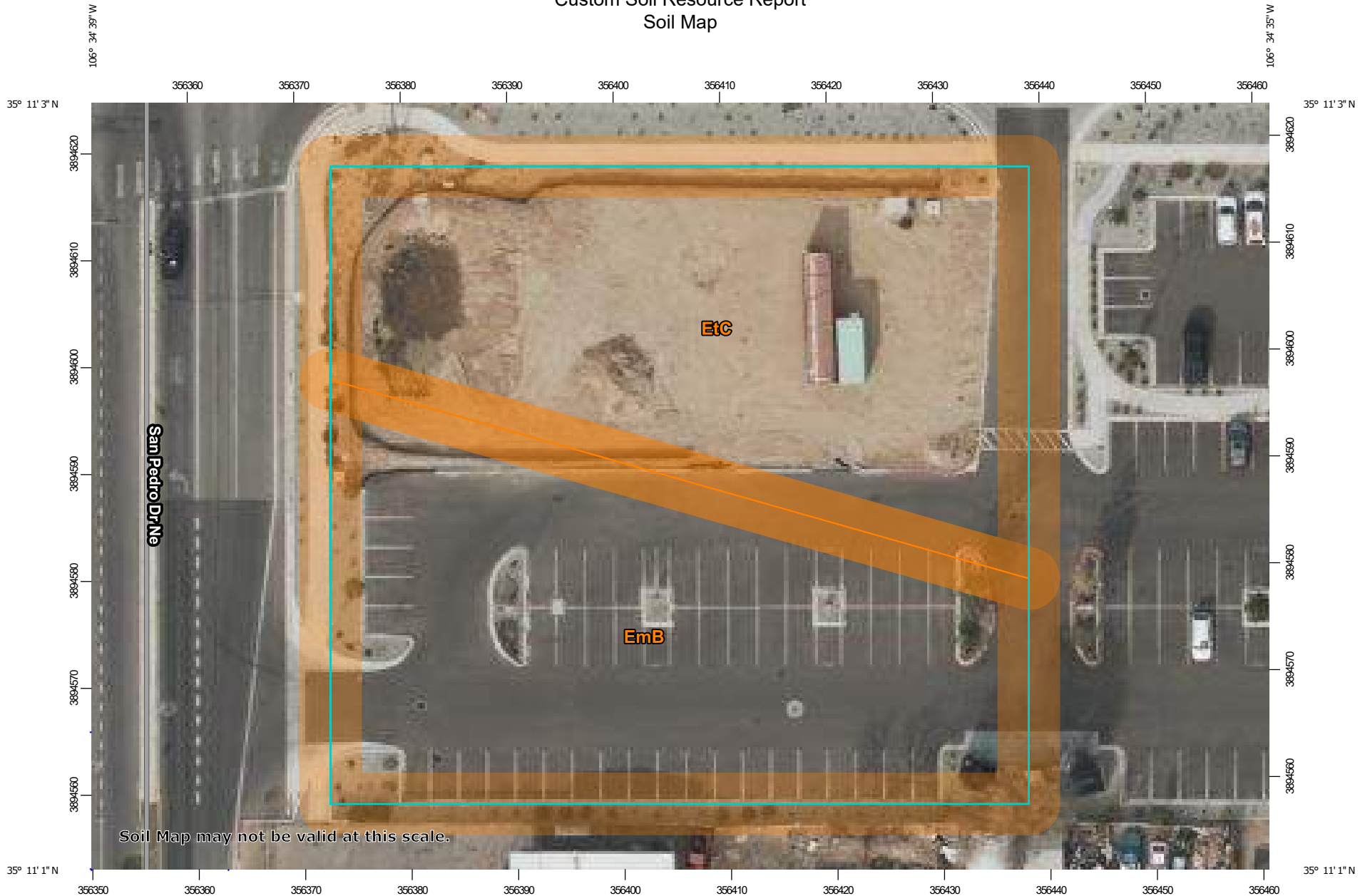
# Soil Map

---

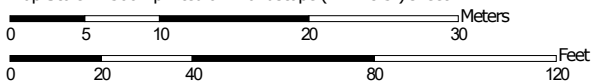
The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



# Custom Soil Resource Report Soil Map



Map Scale: 1:506 if printed on A landscape (11" x 8.5") sheet.



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

### MAP LEGEND




















**Area of Interest (AOI)**







Area of Interest (AOI)

**Soils**


-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points

**Special Point Features**






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features


**Water Features**

-  Streams and Canals

**Transportation**

-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads

**Background**

-  Aerial Photography

### MAP INFORMATION

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

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

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

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

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

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

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

Soil Survey Area: Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico  
 Survey Area Data: Version 17, Sep 8, 2022

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

Date(s) aerial images were photographed: Nov 22, 2020—Jan 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background

**MAP LEGEND**

**MAP INFORMATION**

imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
EmB	Embudo gravelly fine sandy loam, 0 to 5 percent slopes	0.5	50.9%
EtC	Embudo-Tijeras complex, 0 to 9 percent slopes	0.5	49.1%
<b>Totals for Area of Interest</b>		<b>1.0</b>	<b>100.0%</b>

## Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

## Custom Soil Resource Report

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

## Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico

### EmB—Embudo gravelly fine sandy loam, 0 to 5 percent slopes

#### Map Unit Setting

*National map unit symbol:* 1vws  
*Elevation:* 4,850 to 7,000 feet  
*Mean annual precipitation:* 7 to 16 inches  
*Mean annual air temperature:* 48 to 60 degrees F  
*Frost-free period:* 130 to 195 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Embudo and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Embudo

##### Setting

*Landform:* Terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from igneous and sedimentary rock

##### Typical profile

*H1 - 0 to 4 inches:* gravelly fine sandy loam  
*H2 - 4 to 20 inches:* gravelly sandy loam  
*H3 - 20 to 60 inches:* stratified very gravelly loamy coarse sand to extremely gravelly loamy sand

##### Properties and qualities

*Slope:* 0 to 5 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* RareNone  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Low (about 3.4 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Ecological site:* R042BE051NM - Sandy, Cool Desert Grassland  
*Hydric soil rating:* No

**Minor Components**

**Millett**

*Percent of map unit:* 5 percent  
*Ecological site:* R035XG114NM - Gravelly  
*Hydric soil rating:* No

**Tesajo**

*Percent of map unit:* 5 percent  
*Ecological site:* R035XG114NM - Gravelly  
*Hydric soil rating:* No

**Tijeras**

*Percent of map unit:* 5 percent  
*Ecological site:* R042BE051NM - Sandy, Cool Desert Grassland  
*Hydric soil rating:* No

**EtC—Embudo-Tijeras complex, 0 to 9 percent slopes**

**Map Unit Setting**

*National map unit symbol:* 1vwt  
*Elevation:* 2,700 to 7,000 feet  
*Mean annual precipitation:* 5 to 16 inches  
*Mean annual air temperature:* 48 to 70 degrees F  
*Frost-free period:* 130 to 250 days  
*Farmland classification:* Not prime farmland

**Map Unit Composition**

*Embudo and similar soils:* 50 percent  
*Tijeras and similar soils:* 35 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

**Description of Embudo**

**Setting**

*Landform:* Terraces  
*Landform position (three-dimensional):* Tread  
*Down-slope shape:* Concave  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from igneous and sedimentary rock

**Typical profile**

*H1 - 0 to 4 inches:* gravelly fine sandy loam  
*H2 - 4 to 20 inches:* gravelly sandy loam  
*H3 - 20 to 60 inches:* stratified gravelly loamy coarse sand to very gravelly loamy sand

**Properties and qualities**

*Slope:* 0 to 5 percent  
*Depth to restrictive feature:* More than 80 inches

## Custom Soil Resource Report

*Drainage class:* Well drained  
*Runoff class:* Very low  
*Capacity of the most limiting layer to transmit water (Ksat):* High (2.00 to 6.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* Rare/None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 7 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Low (about 3.4 inches)

### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7e  
*Hydrologic Soil Group:* A  
*Ecological site:* R042BE051NM - Sandy, Cool Desert Grassland  
*Hydric soil rating:* No

### Description of Tijeras

#### Setting

*Landform:* Fan remnants  
*Down-slope shape:* Linear  
*Across-slope shape:* Linear  
*Parent material:* Alluvium derived from igneous and sedimentary rock

#### Typical profile

*H1 - 0 to 4 inches:* gravelly fine sandy loam  
*H2 - 4 to 14 inches:* sandy clay loam  
*H3 - 14 to 19 inches:* gravelly sandy loam  
*H4 - 19 to 60 inches:* stratified very gravelly sand to very gravelly sandy loam

#### Properties and qualities

*Slope:* 1 to 9 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Well drained  
*Runoff class:* Medium  
*Capacity of the most limiting layer to transmit water (Ksat):* Moderately high to high (0.60 to 2.00 in/hr)  
*Depth to water table:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 5 percent  
*Maximum salinity:* Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)  
*Sodium adsorption ratio, maximum:* 2.0  
*Available water supply, 0 to 60 inches:* Low (about 5.2 inches)

#### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 7c  
*Hydrologic Soil Group:* B  
*Ecological site:* R042BE051NM - Sandy, Cool Desert Grassland  
*Hydric soil rating:* No



**Minor Components**

**Tesajo**

*Percent of map unit: 5 percent*

*Ecological site: R035XG114NM - Gravelly*

*Hydric soil rating: No*

**Millett**

*Percent of map unit: 5 percent*

*Ecological site: R035XG114NM - Gravelly*

*Hydric soil rating: No*

**Wink**

*Percent of map unit: 5 percent*

*Ecological site: R042BE052NM - Loamy, Cool Desert Grassland*

*Hydric soil rating: No*

# References

---

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_054262](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262)
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053577](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577)
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053580](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580)
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2\\_053374](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374)
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

## Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2\\_054242](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242)

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. [http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2\\_053624](http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624)

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_052290.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf)

## Correspondence

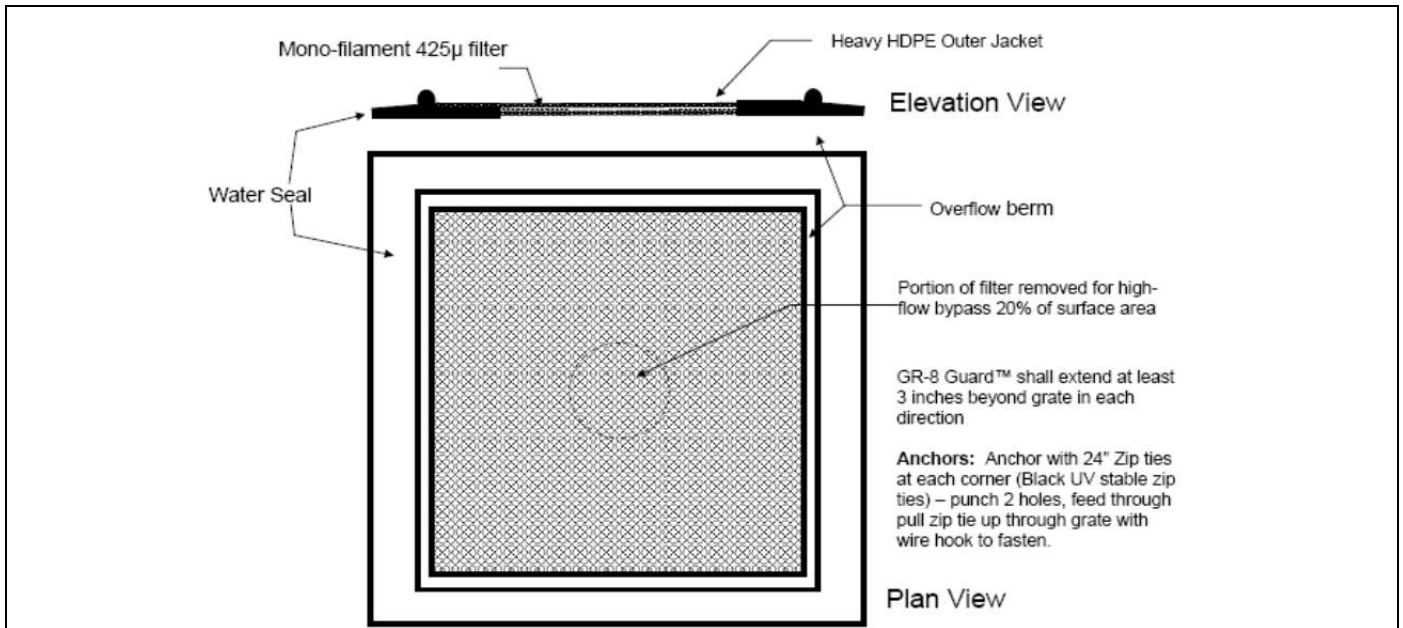
## Out of Date Documentation (Site Maps, Expired Permits, Other)

## ***Appendix H – BMP Instruction and Detail Specifications***

BMP Specifications that will be used on the site are inserted in this section.

# SWPPP Binder Insert - Drain Inlet Protection

## ERTEC GR8 Guard™



### Definition – ERTEC GR8 Guard™

A temporary or semi-permanent sediment and debris filter made of high density polyethylene (HDPE) with a perimeter berm and an integrated filter designed to protect drain inlets which have rectangular or round grates. Place device over the grate near where soil is disturbed.

### Purpose

Storm drain inlet protection is used to intercept sediment laden water at the grate opening and prevent sediment and debris and associated pollutants from entering the storm water underground pipe systems. The system reduces water velocity which causes heavier soil particles to fall out above ground. While allowing flow through the module, the barrier filters certain smaller sized particles from suspension and prevents them from flowing through the device and into the pipes. Advantages are that it is effective, durable, re-usable, easily installed and cleaned.

### Conditions Where the Practice Applies

It is recommended for use over openings with small drainage areas. Generally, the drainage areas should be less than 1/3 acre and the total for inlets in series should be 1 acre or less with slopes flatter than 5 percent in the contributing drainage area.

### Design Criteria

- Filter: Apparent Opening Size (AOS) = 425 micron. Flow rate (ASTM D-4491) = 145 gpm/ft<sup>2</sup>.
- Bypass: GR8 Guard must provide a filter-free area for bypass of high flows.
- Perimeter Berm: GR8 Guard must have at minimum a 1" perimeter berm.
- Outer Jacket Material: HDPE. For detailed characteristics contact ERTEC. Module weight = 3 to 8 lbs. Unit height = 1.5". Length and width should be 4 inches longer and wider if rectangular, or 4 inches larger in diameter than grate size. Service temperature (deg F) = -30 to 160.
- Place GR8 Guard so that edges extend at least 3 inches past each edge of the grate.
- Install: **Placement:** Select correct size as per ERTEC installation guide. DO NOT remove grate. Place GR8 Guard™ on top of grate. GR8 Guard shall extend at least 3 inches beyond grate in each direction. **Anchor methods:** A) Attach with 16 gauge tie-wire. Cut wire to 18" lengths. At each corner of GR8 Guard, feed one end of wire down through GR8 Guard, around grate bar, and back up thru GR8 Guard. Above ground, twist wires several times and snip off excess. Check installation guidelines for alternative installation methods. **Clean:** Accumulation of leaves, debris and sediment can cause backups! Clean after every storm, or as necessary. **Protect:** In stop-and-go traffic areas where exposed to constant tire abuse, it is useful to place traffic cones or delineators on or near GR8 Guard to discourage run-overs. GR8 Guard stands up to run-overs well, but does not survive long in constant stop-and-start traffic.

### Maintenance

Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Clean periodically to provide an adequate sediment holding capacity. Debris shall be removed daily and sediment shall be removed when the sediment accumulation reaches 1 inch. Removed sediment and debris shall be incorporated in the project at designated locations or disposed-of outside the project or in conformance with requirements.



**ERTEC**®

GR8 Guard™  
ERTEC Environmental Systems  
[www.ertecsystems.com](http://www.ertecsystems.com)  
Toll Free: 866-521-0724

# Concrete, paint, stucco and other washout guidance

## National Pollutant Discharge Elimination System/State Disposal System Construction Stormwater Permit requirements

Use this guidance for managing all liquid and solid wastes generated by washout operations (concrete, stucco, paint, form release oils, curing compounds, and other construction materials) related to construction activity on National Pollutant Discharge Elimination System/State Disposal System (NPDES/SDS) construction stormwater permitted sites. To protect water quality, the NPDES Construction Stormwater Permit requires best management practices (BMPs) for concrete and other washout wastes on construction sites.

### Background

The chutes of concrete mixers and hoppers of concrete pumps are typically rinsed out after delivery of concrete. Tools, hand mixers and wheel barrows are also washed to prevent hardening. Hardened concrete is relatively benign. However, liquid concrete wash water is a caustic material due to a high pH and it contains hazardous metals such as chromium. These materials can leach into the ground and contaminate groundwater. The high pH can inhibit plant growth and harm aquatic life if the runoff migrates to a lake or stream. Solids from liquid waste that are improperly disposed of can clog storm drain pipes and cause flooding. In order to comply with the prohibition of discharging any materials other than treated stormwater, there must be a means to prevent the discharge of washout water from the cleanup of stucco, paint, form release oils, curing compounds, and other construction materials.

The Minnesota Pollution Control Agency (MPCA) believes that groundwater and surface water can be protected from liquid concrete and other washout wastes through proper use of BMPs at NPDES/SDS construction stormwater permitted sites. Installing washout facilities not only prevents pollution but also is a matter of good housekeeping at a construction site.

### Washout at construction sites

Washout facilities are used to contain all concrete and liquid wash water generated by the construction activity. Liquid and solid washout wastes must be contained in a leak-proof container and cannot contact the ground. The washout containers should be covered to prevent exposure to rainfall and potential overflow.

Washout facilities should also be used for cleaning other cementitious (cement-like) construction materials from tools and equipment such as stucco, mortar, plaster and grout. Depositing the wash water into a container allows evaporation and hardening to occur for easier disposal and to prevent runoff of liquids.



Recover and recycle wash water back into the truck



Remove and dispose of hardened concrete waste appropriately, according to federal, state, and local requirements. If disposing into a waste container on site, the container must be of sufficient size to contain the waste materials.

There are circumstances where concrete washout may be allowed onto a prepared compacted road bed. This allowance is intended for slip form paving type machines that cannot be readily moved off the paving area to a washout station. The area where wash water will flow onto must be compacted and will be paved over the next day. There must be a barrier of some type to keep the wash water on the compacted road bed until it dries. This allowance is not intended for truck washouts.

A concrete washout sign must be installed at each temporary washout facility to inform the site personnel to use the designated facilities. The facility should be located close to the concrete pouring or mixing operation and be easily accessible by concrete mix trucks. It is also important to locate the facility so that spills or overflows will be directed away from storm drain inlets, curb and gutters, water conveyances or surface waters. The facility will need to be inspected regularly for leaks, damage, or potential overflow and receive regular maintenance.

## Washing of applicators and containers used for paint, concrete, or other materials

The permittee must comply with the prohibition of discharges other than stormwater (Part V.C) that includes the washout and cleanout of stucco, paint, concrete, form release oils, curing compounds, and other construction materials. The permittee must provide effective containment for all liquid and solid wastes generated by washout operations and provide an effective means to eliminate the discharge of these wastes to the site or receiving waters. To comply, the permittee should evaluate and incorporate methods in the Stormwater Pollution Prevention Plan to prevent these discharges such as:

1. Direct all wash water into a leak-proof container or leak-proof pit. The container or pit must be designed so that no overflows can occur due to inadequate sizing or precipitation;
2. Handle washout or cleanout wastes as follows:
  - Do not dump liquid wastes in storm sewers
  - Dispose of liquid wastes properly
  - Remove and dispose of hardened concrete waste consistent with the handling of other construction wastes
3. Locate any washout or cleanout activities as far away as possible from surface waters and stormwater inlets or conveyances, and, to the extent practicable, designate areas to be used for these activities and conduct such activities only in these areas.



Self-contained washout facility

## Best management practices

There are many BMP options for disposal of liquid and solid wastes from washout activities. Many ready mix trucks are now equipped with the ability to collect chute wash water and solids and return them to the concrete plant for recycling or re-use.

Services are also available for hire that deliver a prefabricated washout container to collect concrete chute rinse water as well as wash water from tools and equipment generated on-site. Some services provide the containers alone without providing maintenance and disposal of materials, while other companies offer complete service that includes delivery of containers and regular pickups of solid and



Concrete washout service

liquid waste materials. If these options are not available, the site owner and contractor can install a washout containment facility. A leak-proof container can be purchased or constructed onsite using an impermeable plastic or vinyl liner. The operators at the site will need to ensure no rips or tears develop in the liners or the liner will need to be replaced. Washout facilities should be designed to promote evaporation where feasible to harden the concrete or other washout wastes for disposal as a solid waste. Hardened concrete can also be crushed for reuse as a construction material. However, if stored liquids have not evaporated and the washout is nearing capacity, vacuum and dispose of the waste in an approved manner. The local municipal wastewater treatment plant may be contacted to determine if there are special disposal requirements for concrete or other washout waters at their facility.

If the waste is stored onsite, remove the liquids or cover the washout facility before predicted rainstorms to prevent overflows. Companies that offer prefabricated and watertight washout containers generally offer a vacuum service to remove the liquid material. In case of a spill, immediately contain the spread of the spill, recover spilled materials, clean up the area and properly dispose of materials. Hardened concrete solids can be removed whole or broken up first depending on the type of equipment available on-site. In accordance with Minn. R. 7035.2860, subp. 4, item 1; the hardened concrete can be used as a substitute for conventional aggregate. If the material is not utilized in accordance with the standing beneficial use determination referenced above, up to 0.5 cubic yards of concrete washout solids may be managed on-site. If concrete washout solids are buried on-site, they should be at least two feet below the surface and must not be buried in the groundwater table. Quantities larger than 0.5 cubic yards of concrete washout solids must either be managed with the rest of the sites solid wastes or obtain an approval from the MPCA's Solid Waste program for other beneficial use options.

## Road construction concrete cutting or grinding slurry

Other operations on-site such as saw cutting, coring, grinding and grooving or construction of exposed-aggregate concrete surfaces may generate a similar liquid wastewater. Process wastewater generated by these operations cannot be discharged into any of the nation's waterways. The MPCA recommends that liquid and solid wastes generated by these operations be handled in accordance with the fact sheet *Road Construction Concrete Slurry Guidance* found at

## Local requirements

In addition to state requirements, please note that there may be city, county or watershed management organization requirements that may be more stringent than those found in the NPDES/SDS Construction Stormwater Permit.

## Definitions

*Concrete-chute rinse-off water:* Liquid wastes generated when a ready mix truck operator washes non-structural concrete materials off the chutes used to deliver concrete to a project.

## STUCCO WORK & PAINTING



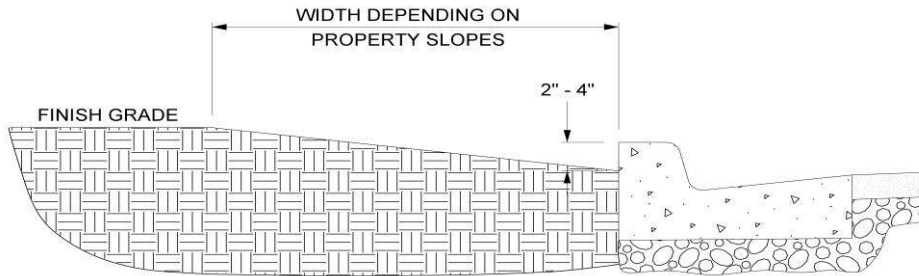
### *Description*

Stucco work and painting are activities that include the use of hazardous materials. These materials are toxic to fish and the aquatic environment and require proper handling and disposal to minimize or eliminate discharges to gutters, storm drains, and watercourses. Extra care with these types of wastes must be required on every construction site.

### *Control Measures*

All materials should be placed, during work activity on plastic sheets large enough to contain drips and spills. Provide secondary containment in paint mixing and cleanup areas. After work has completed, sheets should be rolled in on themselves and placed in a waste receptacle designated to receive this type of waste. All leftover paint needs to be removed from the site, or disposed of in a paint washout bin designed to contain paint. There are services available that supply these specialized paint washout bins and retrieve them when full.

Never allow paint and/or stucco to be washed into a gutter, on the ground or into a storm drain inlet.



**APPLICATIONS**

- Manufacturing
- Material Handling
- Vehicle Maintenance
- Construction
- Commercial Activities
- Roadways
- Waste Containment
- Housekeeping Practices

**DESCRIPTION:**

Temporary sediment trap formed by excavation behind the curb. The purpose is to intercept sediment laden runoff from the site during construction and retain sediment onsite.

**APPROACH:**

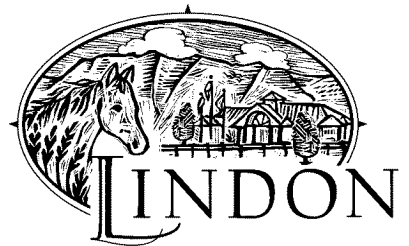
- A cutback curb is installed when discharge from the site runs over the curb causing sediment to enter the roadway.
- Cutback curbs should be implemented in conjunction with other BMPs whenever possible and should not be used to replace other feasible BMPs.
- Cutback curbs should typically be installed at the site entrance when access is needed.
- The depth may be required to increase if more sediment storage is necessary.
- Other sediment traps, such as V ditches or depressed park strips, may also be acceptable.
- Excavate soil behind curb to a depth of 2-4 inches.
- The cutback could be implemented behind a sidewalk if sidewalk exists.

**LIMITATIONS:**

- Only remains effective for a limited time. Should not be used as a primary control measure for more than 4 months.
- Only applicable when the site is sloped towards the curb such that runoff overtops the curb.
- On severe slopes, the cutback may become ineffective and may also compromise the integrity of the curb. Therefore, a cutback should not be installed on a slope that exceeds 5%.

**MAINTENANCE:**

- Inspect monthly and after significant rainfall.
- Clean out excess sediment as required.
- Allow sediment laden water to infiltrate before cleaning.



**TARGETED POLLUTANTS**

- Sediment
- Nutrients
- Heavy Metals
- Toxic Materials
- Oxygen Demanding Substances
- Oil & Grease
- Floatable Materials
- Bacteria & Viruses

- High Impact
- Medium Impact
- Low or Unknown Impact

**IMPLEMENTATION REQUIREMENTS**

- Capital Costs
- O&M Costs
- Maintenance
- Training

- High
- Medium
- Low



# Wind Erosion Control

## WEC-1 Dust Control

Definition	Dust control is a practice used to reduce the air transport of dust during construction activities by stabilizing exposed surfaces and minimizing activities that suspend or track dust particles.
Purpose	Control dust so dust does not infiltrate into stormwater and does not cause discomfort or nuisance to occupants of the Project site or neighboring properties.
Conditions Where the Practice Applies	<p>Wind erosion control BMPs should be applied to all construction earth disturbing activities, including the following construction activities:</p> <ul style="list-style-type: none"> <li>• Construction vehicle traffic on unpaved surfaces.</li> <li>• Drilling and blasting activities.</li> <li>• Sediment tracking onto paved roads.</li> <li>• Soils and debris storage piles.</li> <li>• Batch drop from front-end loaders.</li> <li>• Areas with unstabilized soil.</li> <li>• Final grading/site stabilization.</li> </ul>
Specifications: Design and Installation	<p><u>Preventive Measures:</u></p> <ul style="list-style-type: none"> <li>• Schedule construction activities to minimize exposed area.</li> <li>• Quickly stabilize exposed soils.</li> <li>• Identify and stabilize key access points prior to construction.</li> <li>• Minimize the impact of dust by anticipating the direction of prevailing winds.</li> <li>• Direct most construction traffic to stabilized roadways within the Project site.</li> <li>• Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.</li> <li>• All distribution equipment should be equipped with a positive means of shutoff.</li> <li>• Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the Project.</li> <li>• Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.</li> <li>• Provide covers for haul trucks transporting materials that contribute to dust.</li> <li>• Provide for wet suppression or chemical stabilization of exposed soils.</li> <li>• Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances.</li> <li>• Stabilize inactive construction sites using BMPs such as vegetation.</li> <li>• Limit the amount of areas disturbed by clearing and earth moving operations by scheduling these activities in phases.</li> <li>• Cover stockpiles with plastics and make sure they are secure.</li> </ul>

Sources include EPA, SWRCB, Caltrans, CASQA

**Wind Erosion Control**



# Wind Erosion Control

## WEC-1 Dust Control

### Maintenance & Inspection

- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, and weekly throughout the life of the Project.
- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- Check areas protected to ensure coverage.
- Most dust control measures require frequent, often daily, or multiple times per day attention.

**DESCRIPTION:**

Employee training, like equipment maintenance, is a method by which to implement BMPs. Employee training should be used in conjunction with all other BMPs as part of the facility's SWPPP.

The specific employee training aspects of each of the source controls are highlighted in the individual information sheets. The focus of this information sheet is more general, and includes the overall objectives and approach for assuring employee training in stormwater pollution prevention. Accordingly, the organization of this information sheet differs somewhat from the other information sheets in this chapter.

**OBJECTIVES:**

Employee training should be based on four objectives:

- ◆ Promote a clear identification and understanding of the problem, including activities with the potential to pollute stormwater;
- ◆ Identify solutions (BMPs);
- ◆ Promote employee ownership of the problems and the solutions; and
- ◆ Integrate employee feedback into training and BMP implementation.

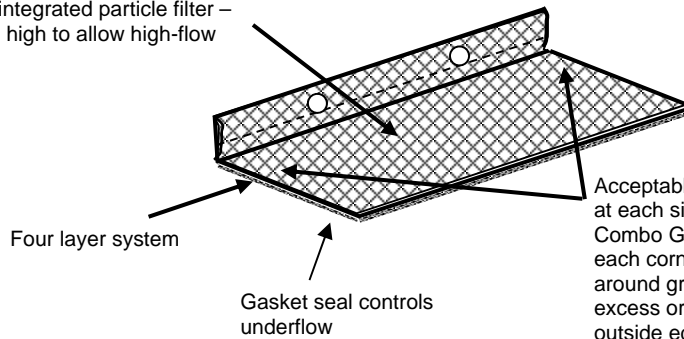
**APPROACH:**

- ◆ Integrate training regarding stormwater quality management with existing training programs that may be required for your business by other regulations.
- ◆ Businesses that are not regulated in Federal, State, or local regulations, may use the information in this handbook to develop a training program to reduce their potential to pollute stormwater.
- ◆ Employee training is a vital component of many of the individual source control BMPs included in this manual.

# SWPPP Binder Insert - Curb & Grate Inlet Protection

## ERTEC Combo Guard™

425 micron integrated particle filter – set 2 inches high to allow high-flow bypass



Acceptable Anchor Methods: a) install gravel bags at each side – half on and half off the edge of the Combo Guard or b) attach with 16 gauge tie-wire at each corner of CG. Feed wire down thru CG, around grate bar and back up. Twist and snip excess or c) fasten with concrete anchors/nails at outside edges

Product Designation	Grate Size
CG 28x22	Fits 23" by 19" Grate
CG 48x22	Fits 36" x 18" and 36" x 20" and 40" x 17" Grates
CG 48x27	Fits 40" x 24" Grate
CG 48x30	Fits 42" x 28" Grate
Custom sizes available upon request	

### Definition – ERTEC Combo Guard™

A temporary sediment filter made of high density polyethylene with an integrated filter. During construction, place device over the grate and curb opening of the drain inlet near disturbed soil. Anchor with 2 Gravel Bags, or alternately black UV stable cable ties (16 to 24"), or alternately concrete anchors/masonry nails. Anchor so that water cannot flow behind vertical component.

### Purpose

Storm drain inlet protection intercepts sediment laden water at the curb and grate opening and minimizes the sediment, associated pollutants and debris from entering the storm water underground pipe systems. The system reduces water velocity which causes heavier soil particles to be deposited above ground. While allowing flow through the module, the barrier filters certain smaller sized particles from suspension and prevents them from flowing through the device and into the pipes. Heavy flows are passed over the top of the filter or through the bypass openings. Advantages are that it is effective, durable, re-usable, easily installed and cleaned.

### Conditions Where the Practice Applies

It is recommended for use over curb & grate openings with small drainage areas. Generally, the drainage areas should be less than 1/3 acre and the total for inlets in series should be 1 acre or less with slopes flatter than 5 percent in the contributing drainage area.

### Design Criteria

- Geo-textile Filter: Apparent Opening Size (AOS) = 425 micron integrated particle filter. Flow rate (ASTM D-4491) = 145 gpm/ft<sup>2</sup>. Provide a bypass over the top.
- Outer Jacket Material: HDPE. For detailed characteristics contact ERTEC. Module weight = 3 to 5 lbs. Module height = 6.0". Module length/opening size protected varies as per the chart above – according to grate size. Service temperature (deg F) = -30 to 160.
- Install system with the vertical section covering the curb inlet and the horizontal section covering the grate. Alternate anchor methods listed above. If using gravel bags - place ½ to ½ full gravel bags containing clean, pea-sized graded gravel on each end of the cover and butt the bags tightly against the curb to keep water in the gutter from flowing behind the filter (do not use sandbags). The bag should be durable enough to last the period of intended use. If the storm inlet opening exceeds 42" in length, overlap one module by 6" over side of adjoining module for a continuous run until the desired length is achieved. Anchor on top of the overlap as necessary.

### Maintenance

Perform maintenance as required. Inspect following rainfall events and at least daily during prolonged rainfall. Maintain to provide an adequate sediment holding capacity. Debris shall be removed daily and sediment shall be removed when the sediment accumulation reaches 2 inches. Removed sediment shall be incorporated in the project at designated locations or disposed-of outside the project or in conformance with requirements. Remove the device after final stabilization has been achieved.



**Combo Guard™**  
 © 2006-2015 ERTEC  
[www.ertecsystems.com](http://www.ertecsystems.com)  
 Toll Free: 866-521-0724





# Non-Stormwater Management

## NSM-7 Paving and Grinding

Definition	Procedures and practices for conducting paving, saw cutting, and grinding operations to minimize the transport of pollutants to the stormdrain system and to the Project site perimeter.
Purpose	Prevent the discharge of pollutants from paving operations, using measures to prevent runoff and runoff pollution, properly disposing of wastes, and training employees and subcontractors.
Conditions Where the Practice Applies	These procedures are implemented where paving, surfacing, resurfacing, grinding, or saw cutting, may pollute stormwater runoff or discharge to the stormdrain system or watercourses.
Specifications: Design and Installation	<p><u>General</u></p> <ul style="list-style-type: none"> <li>• Avoid paving during the wet season when feasible.</li> <li>• Reschedule paving and grinding activities if rain is in the forecast.</li> <li>• Train employees and subcontractors in pollution prevention and reduction.</li> <li>• Store materials away from stormdrains and drainage courses to prevent stormwater runoff, see WM – 1 Material Delivery and Storage.</li> <li>• Protect drainage courses, particularly in areas with a grade, by employing BMPs to divert runoff or to trap and filter sediment.</li> <li>• If paving involves an onsite mixing plant, follow the stormwater permitting requirements for industrial activities.</li> <li>• Stockpile material removed from roadways away from drain inlets, drainage ditches, and watercourses. These materials should be stored consistent with WM – 5 Stockpile Management.</li> <li>• Disposal of PCC and AC waste should be in conformance with WM – 3 Temporary Concrete Washout and Waste Management.</li> <li>• Do not wash sweepings from exposed aggregate concrete into a stormdrain system. Collect and return to aggregate base stockpile or dispose of properly.</li> </ul>

### Saw Cutting, Grinding, and Pavement Removal

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade stormdrains during saw cutting to contain slurry.
- When paving involves AC, the following steps should be implemented to prevent the discharge of grinding residue, uncompacted or loose AC, task coats, equipment cleaners, or unrelated paving materials:
  - Minimize sand and gravel from new asphalt from getting into stormdrains, streets, and creeks by sweeping.
  - Old or spilled asphalt must be recycled or disposed as approved by the University's Representative.

Sources include EPA, SWRCB, Caltrans, CASQA  
**Non-Stormwater Management**



# Non-Stormwater Management

## NSM-7 Paving and Grinding

- AC grindings, pieces, or chunks used in embankments or shoulder backing must not be allowed to enter any stormdrain or watercourses. Install an erosion control BMP until the structure is stabilized or permanent controls are in place.
- Collect and remove all broken asphalt and recycle when practical; otherwise, dispose of properly.
- Any AC chunks and pieces used in embankments must be placed above the water table and covered by at least 1 foot of material.
- Do not allow saw-cut slurry to enter stormdrains or watercourses. Residue from grinding operations should be picked up by means of a vacuum attachment to the grinding machine, should not be allowed to flow across the pavement, and should not be left on the surface of the pavement. See also WM – 3 Temporary Concrete Washout and Waste Management.
- Dig out activities should not be conducted in the rain.
- Collect pavement dig out material by mechanical or manual methods. This material may be recycled if approved by the University’s Representative for use as shoulder backing or base material at locations approved by the University’s Representative.
- When approved by the University’s Representative, stockpile material removed from roadways away from stormdrain inlets, drainage ditches, and watercourses and stored consistent with WM – 5 Stockpile Management.
- Disposal or use of AC grindings shall be approved by the University’s Representative. See also WM – 3 Temporary Concrete Washout and Waste Management.

### Asphalt Concrete Paving

- If paving involves asphaltic cement concrete, follow these steps:
  - Do not allow sand or gravel placed over new asphalt to wash into stormdrains, streets, or watercourses. Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM – 2 Trash Containment.
  - Old asphalt must be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

### Portland Cement Concrete Paving

- Do not wash sweepings from exposed aggregate concrete into a stormdrain system. Collect and return to aggregate base stockpile or dispose of properly.
- Allow aggregate rinse to settle. Then allow rinse water to dry in a temporary pit as described in WM – 3 Temporary Concrete Washout and Waste Management.
- Do not allow saw-cut Portland Concrete Cement (PCC) slurry to enter stormdrains or watercourses.

Sources include EPA, SWRCB, Caltrans, CASQA  
**Non-Stormwater Management**



# Non-Stormwater Management

## NSM-7 Paving and Grinding

### Sealing Operations

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate must not be allowed to enter any stormdrain or water courses. Apply temporary perimeter controls until structure is stabilized.
- Drainage inlet structures and manholes shall be covered with filter fabric during application of seal coat, tack coat, slurry seal, and/or fog seal. Once these coats are complete remove the filter fabric and install approved stormdrain inlet protection.
- Seal coat, tack coat, slurry seal, or fog seal shall not be applied if rainfall is predicted to occur during the application or curing period.

### Paving Equipment

- Leaks and spills from paving equipment can contain toxic levels of heavy metals and oil and grease. Place drip pans or absorbent materials under paving equipment when not in use. Clean up spills with absorbent materials rather than burying. See NSM – Vehicle and Equipment Practices and WM – 6 Spill Prevention and Control.
- Substances used to coat asphalt transport trucks, asphalt trucks, and asphalt spreading equipment shall not contain soap and shall be non-foaming and non-toxic.
- Place plastic materials under asphaltic concrete (AC) paving equipment while not in use, to catch and/or contain drips and leaks.
- Paving equipment parked onsite shall be parked over plastic to prevent soil contamination.
- Clean asphalt-coated equipment offsite whenever possible. When cleaning dry, hardened asphalt from equipment, manage hardened asphalt debris as described in WM – 2 Trash Containment. Any cleaning onsite shall follow NSM – 3 Vehicle and Equipment Practices.

### Thermoplastic Striping

- All thermoplastic striper and pre-heater equipment shutoff valves shall be inspected to ensure that they are working properly to prevent leaking thermoplastic from entering the stormdrain inlets, the stormwater drainage system, or watercourses.
- The pre-heater shall be filled carefully to prevent splashing or spilling of hot thermoplastic. Leave six inches of space at the top of the pre-heater container when filling thermoplastic to allow room for material to move when the vehicle is deadheaded.
- Contractor shall not pre-heat, transfer, or load thermoplastic near stormdrain inlets or watercourses.
- Clean truck beds daily of loose debris and melted thermoplastic. Thermoplastic

Sources include EPA, SWRCB, Caltrans, CASQA  
**Non-Stormwater Management**



# Non-Stormwater Management

## NSM-7 Paving and Grinding

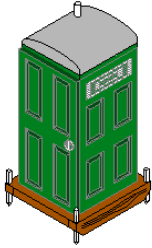
waste shall be disposed of properly.

### Raised/Recessed Pavement Marker Application and Removal

- Do not transfer or load bituminous material near stormdrain inlets, the stormwater drainage system, or watercourses.
- Melting tanks shall be loaded with care and not filled to beyond six inches from the top to leave room for splashing when vehicle is deadheaded.
- When servicing or filling melting tanks, ensure all pressure is released before removing lids to avoid spills.
- On large scale Projects, use mechanical or manual methods to collect excess bituminous material from the roadway after removal of markers.
- Waste shall be disposed of properly.

### Maintenance & Inspection

- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, and weekly throughout the life of the Project.
- Inspect and maintain machinery regularly to minimize leaks and drips.
- Ensure that employees and subcontractors are implementing appropriate measures during paving operations.
- Keep ample supplies of drip pans or absorbent materials onsite.



# Waste Management

## WM-4 Sanitary Waste Management

Definition	Practices and procedures such as providing convenient, well-maintained facilities, and arranging for regular service and disposal prevents the discharge of pollutants to stormwater from sanitary and septic waste.
Purpose	Proper sanitary and septic waste management prevent the discharge of pollutants to stormwater from sanitary and septic waste.
Conditions Where the Practice Applies	Sanitary septic waste management practices are suitable for use at all construction sites that use temporary or portable sanitary and septic waste systems.
Specifications: Design and Installation	Sanitary or septic wastes should be treated or disposed of in accordance with state and local requirements. In many cases, one contract with a local facility supplier will be all that it takes to make sure sanitary wastes are properly disposed.

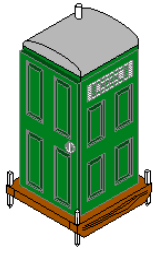
### Storage and Disposal Procedures

- Temporary sanitary facilities should be located away from drainage facilities, watercourses, the Project perimeter, and from traffic circulation. When there is a risk of high winds, temporary sanitary facilities should be secured (staked down or tied to a sturdy structure) to prevent overturning.
- Temporary sanitary facilities should be located on a permeable surface at all times. If a temporary sanitary facility needs to be placed on an impermeable surface than it must be placed in an overflow pan or bin.
- Wastewater should not be discharged or buried within the Project site.
- Only reputable, licensed sanitary and septic waste haulers should be used.
- Sanitary facilities should be located in a convenient location.
- Untreated raw wastewater should never be discharged or buried.
- Temporary septic systems should treat wastes to appropriate levels before discharging.
- Sanitary and septic facilities should be maintained in good working order by a licensed service.
- Regular waste collection by a licensed hauler should be arranged before facilities are full. Sanitary and septic facilities should never overflow.

### Education

- Educate employees, subcontractors, and suppliers on sanitary and septic waste storage and disposal procedures.
- Educate employees, subcontractors, and suppliers of potential dangers to humans and the environment from sanitary and septic wastes.
- Instruct employees, subcontractors, and suppliers in identification of sanitary and

Sources include EPA, SWRCB, Caltrans, CASQA  
**Waste Management**



# Waste Management

## WM-4 Sanitary Waste Management

septic waste.

- Hold regular meetings to discuss and reinforce disposal procedures (incorporate into regular safety meetings).
- Establish a continuing education program to indoctrinate new employees.

### Maintenance & Inspection

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, and weekly throughout the life of the Project.
- Arrange for regular waste collection.
- If high winds are expected, portable sanitary facilities must be secured with spikes to prevent over turning.

# Secondary Containment

**Minimum Measure:** Prevent accidental releases or spills

**Subcategory:** Fuels and Oils / Hazardous Materials



## Secondary Containment

Secondary containment is a safeguard measure used to prevent accidental releases or spills of toxic or hazardous substances to the environment (water, soil & air). Secondary containment can be a structure that is chemically compatible to hold a release and remain liquid tight until clean up occurs. Secondary containment can also be an engineered means to redirect a spill away from water or other sensitive receptor to a temporary diversion system.

### **I. What is required?**

Fuel tanks stored on site must have secondary containment and all other spill sources that may be a threat to human health or the environment must have secondary containment. The phrase “may be a threat” is subjective, and without prescriptive regulatory guidance, PEs and Ecology inspectors use professional judgment to determine the necessary and reasonable secondary containment requirements that fit each individual circumstance.

Permit or specification language does not have exemption language that allows projects to deviate from the requirements when secondary containment is impractical. However, PEs has the authority to modify Standard

Specification requirements as reasonably necessary, whether to allow for deviations or to increase protection measures in high risk situations.

## II. What needs secondary containment?

### Requirements

Secondary containment requirements are not straightforward and regulatory guidance is not black and white. This is a good thing, because secondary containment should be adjusted to match site specific conditions without unnecessarily increasing project costs.

The NPDES Permit **requires** secondary containment for:

1. On-site fueling tanks (except double walled tanks)  
**NOTE:** Even though “Doubled-walled tanks do not require additional secondary containment,” extra preventative measures may still be necessary with high risk construction activities in environmentally sensitive areas.
2. Chemicals, liquid products, petroleum products, and other materials that **have the potential** to pose a threat to human health or the environment. (*This is a **subjective and left to interpretation** based on Other Factors described below*).

The 401 or HPA Permits **may require more stringent** secondary containment for in water or over water work activities.

Regulatory inspectors in the Northwest Region typically expect the following materials and work activities to always have secondary containment:

- Fuel tanks (single walled)
- Fuel transfer activities, for both mobile and stationary areas
- Volumes of stored or used liquid located adjacent/up gradient to water, where there is a reasonable potential of a worst case scenario spill could reach water. Examples such as:
  - Large volumes stored in drums and tanks
  - Large volumes used in large generators and pumps, hydraulic power packs
  - Moderate volumes located directly near water (within 5-10 ft) or unprotected drainage system that directly discharges to water
- Storage of material that may potentially pose a threat to

Single Walled Fuel Tanks



Material Storage



Fuel Transfers





human health or the environment that is not in constant or regular daily use (i.e., general good housekeeping practices following Ecology's BMPs)

## Other Factors

Multiple other factors must be considered when deciding what needs secondary containment. To assess spill risks, evaluate the project and the surrounding environment and consider worst case scenarios.

Consider how things could fail and how to prevent or protect in event of a failure.

Consider the location, type and quantity of stored materials or any risky construction activities (e.g., fueling) and take into account the topography (slope and gradient) and the proximity to water or other environmentally sensitive areas. Could a worst case scenario spill reach water?

Apply practicality and use common sense when enforcing secondary containment requirements. Use "worst case" to assess risk, but apply the knowledge listed below to establish reasonable means to manage the risk. Recognize that there is only so much energy, time, and money to expend to achieve full compliance on a project. Make a good faith effort to control pollution sources and require what is reasonable based on the project specific circumstances and environmental conditions.

Consider the following factors when making a judgment call pertaining to secondary containment:

1. Surrounding environment
2. Timeframe in use
3. Condition of equipment
4. Security and vandalism
5. Weather
6. Available manpower
7. Equipment and materials

## Surrounding Environment

1. Is the work located over water, or below the Ordinary High Water Line?
2. Is the work or storage area located near environmentally sensitive areas, such as
  - a) stormwater systems and ditches that discharge directly to water or wetlands?
  - b) shallow groundwater or protected drinking water aquifers?
3. What is the distance of the nearest waterway or drainage system?
4. Will rain/stormwater come in contact with chemicals, fuels, or other hazardous materials used or stored on the project

*Spill + Water = BIG/MULTIPLE FINES*

If the project is near water or other sensitive receptor, you may need to apply increased protections. It is not *only* about secondary containment, because other measures like using pristine equipment, increased maintenance and inspection, enhanced security, and increased man power should also be considered in lieu of or together with varied levels of secondary containment needs.

## Timeframe in Use

1. Will the spill source be on the project for a long period of time?
2. Would the containment structure become susceptible to wear and tear?

### *Long Term Project = Increased Risk*

Depending on the project location, increased security of the project, storage and staging areas (i.e., fencing & lightening) may be needed. Don't forget the IFC requirements for fittings, devices and padlocks that prevent malicious tampering or siphoning.

Consider increasing the robustness of containment to increase the durability and resistance of wear and tear and exposure to weather elements over time. Or, ensure regular inspection, maintenance and replacement of containment throughout the entire project.

## Condition of Equipment

1. Is equipment relatively new and/or in good condition?
2. Based on experience, is there a reasonable potential for equipment failure?
3. Does the equipment have unprotected high pressure hoses and valves?
4. Could high vibrations or friction cause increase wear and tear on containment structure?

### *Portable Pump*



### *Equipment Must Be Maintained*

Secondary containment is not an option for leaking equipment. Equipment should always be inspected and maintained; otherwise it should be removed from the job site. Leaking equipment usually results in violations.

Many spills are a result of sprays from hydraulic hoses due to damage, chaffing, sharp bend points, broken fittings or maintenance /testing. Hoses should be protected from damage. Some hydraulic power packs have built in secondary containment.

Inspections, tests, maintenance and repair are the first lines of defense against spills. If these are not performed appropriately, or the nature of the work is in environmentally sensitive areas, add or increase secondary containment protection measures. Otherwise, if the first lines of defense are faithfully carried out, secondary containment of equipment may not be necessary.

## Security and Vandalism

1. Is the project located in an area easily accessible by pedestrians?
2. Is there a high rate of crime in the project area?
3. Does the project and designated areas have adequate fencing and lighting?
4. Does equipment and storage tanks have protection measures, such as
  - a) devices, such as Power Cord and Plug Locks, oil pump starters
  - b) padlocks on pumps or hoses to secure to hanger
  - c) anti-siphoning device
  - d) self closing nozzles
  - e) automatic shut off valves
  - f) locks on drain or other valves

*Fencing*



*Electrical Locks*



*AST Fill Port Lock*



*Alarm Systems*



*Cap Lock*



*Emergency Shut-Off Valve*



*Locking Container*



## Weather

1. Is construction work occurring during the raining season?
2. Could extreme hot or cold temperatures cause plastic or structures to become brittle or fracture

*Weathered Plastic*



*Plastic Cover*



*Cover with Containment Pallet*



### *How's the Weather?*

Increase protection measures to prevent storm water from coming in contact with hazardous substances stored or used on the project. Otherwise, storm water polluted with chemicals must be diverted with drainage controls, contained, and sampled to determine proper disposal (See Ecology BMP C153, page 4-46).

Ecology BMP C153, page 4-46 directs that during the wet weather season (Oct 1 – April 30), each secondary containment facility shall be covered during non-working days, prior to and during rain events.

Areas with [increased rainfalls](#) (e.g., Quillayute & Quinault ) must consider whether the 110% containment capacity can adequately hold a spill plus precipitation. A cover system may be a more effective means of protection.

Extreme cold or hot temperatures may cause some plastics to crack or melt. If unexpected extreme weather conditions occur, increase the frequency of inspections, maintenance, repair and replacement of plastic secondary containment systems. If extreme conditions are typical for the project area (i.e., summer months in Yakima or winter months in Spokane), then contact product manufactures for recommendations on materials that are capable of withstanding those conditions. Learn the minimum and maximum temperatures the material can tolerate.

### Available Manpower

1. Is there a commitment of man power to conduct regular frequent inspections?
2. Is there staff on hand who are trained and experienced in spill response?

#### *Trained staff on hand?*

Increase protective measures if there is a lack of staff or expertise to conduct inspections, maintenance, documentation, and spill response actions. Consider stronger durability, increased capacity, fail safe diversions, cover, added spill kits, and increased security.

### Equipment and Materials

1. Is there an adequate supply of equipment and materials to quickly control and remove any quantity of spills?
2. Is the equipment and materials located where they are immediately available?

#### *Enough materials on hand?*

#### *Equipment available?*

Secondary containment methods must be added or enhanced to compensate for the lack of equipment or materials that are used to immediately control, contain, and/or remove spilled product and associated contaminated media.

Secondary containment should be appropriately constructed based on the surrounding environment and specific project circumstances. Sometimes, other preventative measures can be used in lieu of secondary containment, as approved by the PE. Following the same rationale described in the IFC Section 3404.2.10, secondary containment can be altered or even waived based on site specific circumstances. For example, secondary containment can be avoided all together if materials are not stored on the project and only brought on site for immediate use on an as needed basis (e.g., mobile fuel trucks instead of temporary above ground tanks). On the other hand, although not required, secondary containment may be reasonable for double-walled fuel tanks, such as a tank located in a high construction traffic zone, with little or no security and placed immediately up gradient and adjacent to a water body.

PEs and inspectors must rely on their professional judgment and use their discretion to determine what is reasonable. HazMat Specialists are available to assess spill risks and provide recommendations. If the PE determines that secondary containment is not practical or necessary, the PE should be prepared to present a rational argument that demonstrates the PE is aware of the circumstance and has considered the predicted flow direction, rate of flow, and total quantity and whether the worst case scenario spill could reasonably be expected to reach a water body; And/or describe alternative measures that provide equivalent environmental protection.

### III. How should secondary containment be built and maintained?

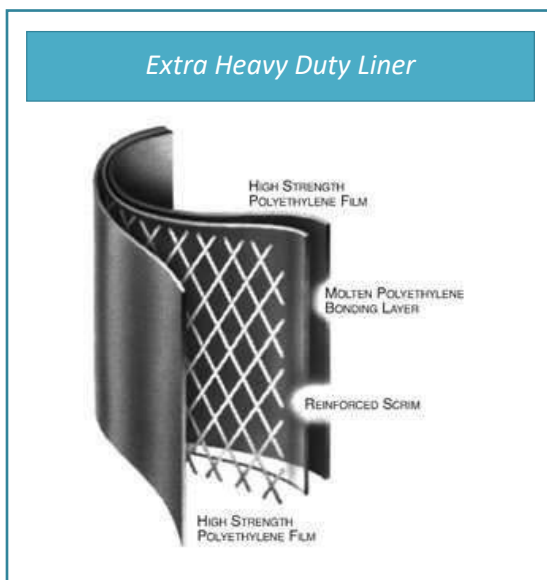
It isn't always easy to assess whether secondary containment is adequate. The proper method of secondary containment is a matter of good engineering practice, thus there is no approved specific method. A few pointers are provided to help evaluate a containment system's ability to effectively hold a spill for at least 72 hours. Types of secondary containment are driven by the following primary variables:

1. Chemical Type
2. 72 Hour Spill Holding Timeframe
3. Quantity
4. Surface Topography
5. Vibration Damage
6. Frequency of Inspection and Maintenance

#### Chemical Type

The type of chemical dictates what material is chemically compatible to hold a spill without disintegrating or breaking through, thus being considered "impervious." Vendors of spill response and containment equipment can help determine products that will properly contain various chemical substances.

Petroleum products (gasoline, diesel, hydraulic oil, etc.) are the primary chemicals stored or used on most projects. Typical products used to contain petroleum spills include temporary structures such as pop-up pools or materials like plastic sheeting used as a liner in containment systems.



Plastic sheeting is made in various thicknesses. A thickness of 20-25 mil is recommended for temporary containment liners that is expected to last one to two years. A 6 mil thickness punctures or tears easily, but it may be effective for short term durations, with little wear and tear and not exposed to extreme hot or cold environments.

Polyvinyl Chloride (PVC) plastic sheeting liners can be made to resist oils, alcohols, hydrocarbons, waste products and other corrosive liquids. PVC liners are lightweight, flexible and best used where soil conditions are stable with minimal amount of sharp rocks. PVC's flexibility allows for stretching to help prevent stress cracking, which may occur with High Density Polyethylene (HDPE). PVC has a wide range of thicknesses available, from 6 to 45 mils or more.

High Density Polyethylene (HDPE) essentially does the same as PVC, but is slightly stiffer which may provide increased durability and resistance properties.

## 72-Hour Spill Holding Timeframe

[Ecology's BMP C153](#) requires that containment must hold a spill for at least **72 hours** in order to be considered "sufficiently impervious." The 72 hour standard first came from EPA's attempt to define "sufficiently impervious" in [40 CFR Part 112](#) (Oil Pollution Prevention regulation). The rationale was that a containment system that is impervious to oil for 72 hours would allow time for discovery and removal of an oil discharge in most cases. In the 2002 rule revisions the proposed EPA 72 hour standard was withdrawn; however Ecology continues to maintain the 72 hour standard per BMP C153. Ecology expects spill cleanup work to start immediately once a spill is discovered and in most cases be completely cleaned up within 72 hours.

For storage of large quantities of chemicals other than petroleum, consider asking the product supplier to specify in writing that the containment system meets Ecology's 72 hour impermeability standard. If there is a justifiable reason that clean up cannot feasibly occur within 72 hours of a spill (highly uncommon), provide additional protection measures (i.e., increased inspections, limit quantities stored, etc.) and then consider more robust products that exceed the 72 hour standard.

## Quantity

The NPDES permit and amended Specification 1-07.15(1) requires the capacity to equal 110% of the volume contained in the largest tank (or container) within the containment structure. The extra 10% is intended to accommodate precipitation and a safeguard against miscalculations.

Ecology's Spill Prevention, Preparedness and Response Program began creating a new Excel tool to help calculate containment volumes. For more information or a copy of this calculation tool, contact the Ecology Spills Program at 360-407-6458. For area calculations, see EPA example at: <http://www.epa.gov/region6/6sf/sfsites/oil/samppln.htm>

### *BMP C153*

"Secondary containment facilities shall be impervious to the materials stored therein for a minimum contact time of 72 hours"

### *EPA Example Calculation*

Formula: **(volume of single largest tank + 10%) x 0.1337 cubic feet/gallon**

Question: **What is the area of the minimum containment volume for a 25,000 gallon fuel tank?**

Calculation:  
**25,000 gal + 10% = 27,500**  
**27,500 x 0.1337 = 3676.75**

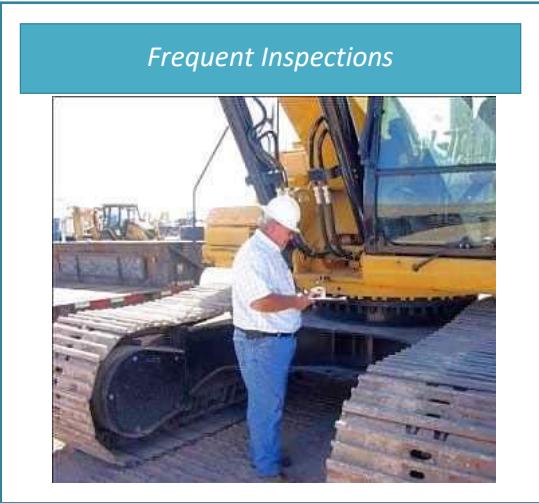
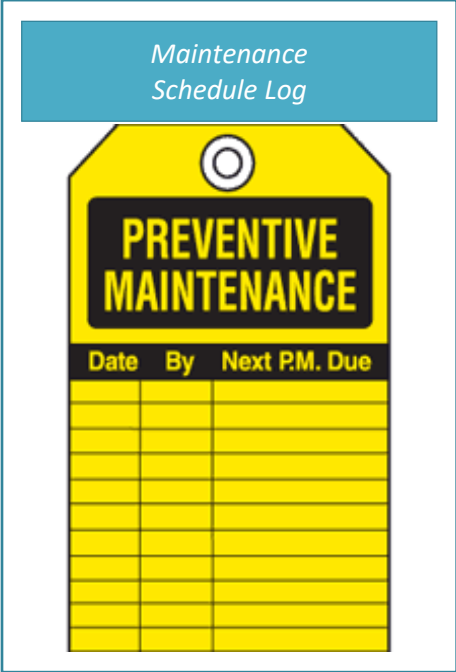
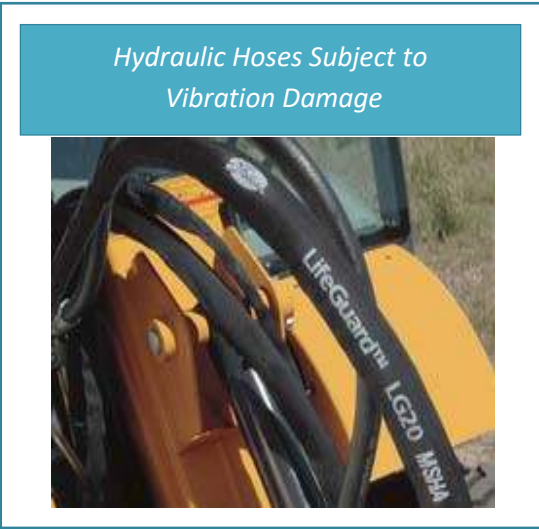
# Surface Topography

Secondary containment should be as level as possible. If using plastic sheeting, the surface should be clear of rocks and debris that could puncture the material. If a containment structure must be placed on a slope, the downhill side of the structure wall must be taller. Ecology’s Excel tool (mentioned above) also helps calculate dimensions of secondary containment walls on slopes.



# Vibration Damage

Increase protection if operating equipment is subject to vibration. Use thicker material, vibration dampening, and require more frequent inspections.



## Frequency of Inspection and Maintenance

The frequency of inspection and maintenance depends on several variables as described above. Inspection and maintenance should be regular, routine and documented as necessary.



#### IV. What encourages compliance?

Good communication is the best means to encourage compliance. When a regulatory inspector is assigned to a project, increase your chances of a positive outcome by clarifying gray areas in advance with respect to how the inspector might interpret the permit conditions. Ask for clarifications. Inspections are designed to help and the Contractor maintain legal compliance. Do not be afraid to ask for technical assistance, whether it be from Ecology or your HazMat Specialist. Working together is important and discussions to improve the situation are encouraged.

To prevent the most common spill violations, projects should

- i) follow their Spill Prevention, Control and Countermeasures (SPCC) Plan,
- ii) give more attention to secondary containment needs, and
- iii) encourage better housekeeping practices.

Unfortunately sometimes, there is a lack of resources or commitment to comply with the requirements. Some projects lack the manpower, equipment and material to expeditiously follow the SPCC plan or permit requirements. When a contractor fails to comply with a PE's repeated attempts to correct a problem, here are a few suggestions.

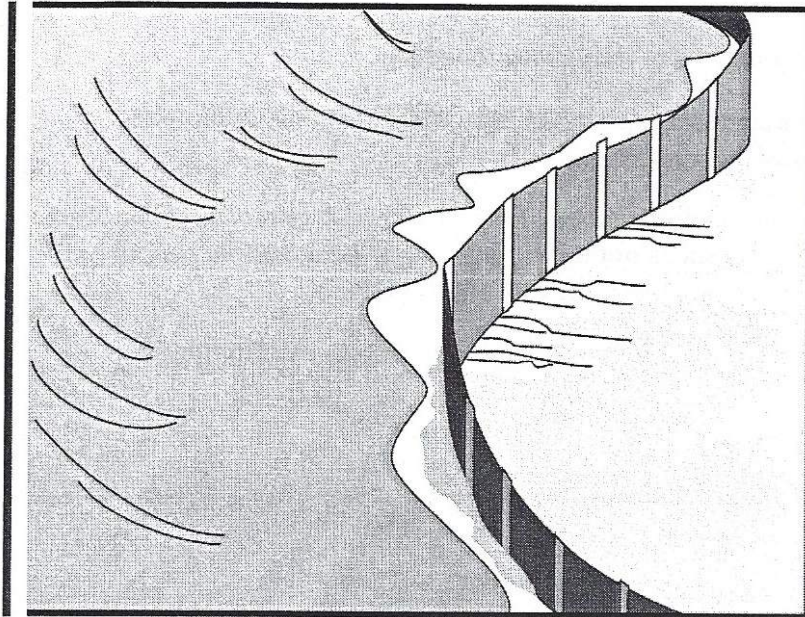
- i) Remind staff and Contractors about the significant costs and fines associated with spills. In addition to construction delays and clean up costs, there are significant fines. Under water quality regulations, a spill to water is \$10,000 to \$100,000 per day **per violation**. Damage to habitat may also result in a Natural Resource Damage Assessment fine. For habitat protected under the Endangered Species Act, damage or "taking" of habitat may result in civil penalties up to \$25,000 per violation. There can be many violations in a single spill incident.
- ii) Call the HazMat Specialist to conduct an internal assessment, where the specialist works directly with the PE and then the PE uses the report to communicate and encourage compliance
- iii) Call local fire marshal, who enforces the International Fire Code
- iv) Call Ecology's spill prevention program to request an informal assessment
- v) Utilize some of the following Standard Specification "hammers" to contractually force compliance:
- vi) **1-05.1 Authority of the Engineer** – The Engineer and Project Engineer can suspend all or part of the Contract Work. can also use other resources to complete the Work.
- vii) **1-05.2 Authority of Assistants and Inspectors** – Inspectors are not authorized to accept or approve any Work not meeting the intent of the Contract. Inspectors have the authority to reject defective material and suspend Work that is being done improperly, subject to the final decision of the PE.
  - Compliance with environmental laws and regulations is part of the Contract.



- viii) **1-05.6 Inspection of Work and Materials** – The Engineer can order the Contractor to remove and replace materials used without inspection. The Contractor shall correct any substandard Work or materials. The Engineer will reject unsuitable Work or materials or materials even though previously inspected or paid for.
- This condition allows to reject secondary containment structures, systems or BMPs that are not installed properly.
- ix) **1-05.7 Removal of Defective and Unauthorized Work** – will not pay for unauthorized or defective Work. This is anything that doesn't conform to the Contract, Work done beyond the lines and grades set by the Plans or Engineer, or extra Work and materials furnished without the Engineer's approval.
- This applies to improper secondary containment structures, systems or BMPs.
- x) **1-05.13 Superintendents, Labor, and Equipment of Contractor** – The Engineer can, with written statement, remove a superintendent from the project for failing repeatedly to follow the Engineers written or oral orders, directions, instructions, or determinations. This also applies to other employees of the Contractor.
- Poor environmental performance caused by the Contractor, whether chronic or acute, does not have to be tolerated.
- xi) **1-08.1 Subcontracting** – Approval to subcontract shall not relieve the Contractor's responsibility to carry out the Contract or to relieve the Contractor of any obligation or liability under the Contract. In addition, the Engineer can request the Subcontractor to be removed from the project.
- xii) **1-08.6 Suspension of Work** – The Engineer may suspend all or any part of the Work if unsuitable weather prevents satisfactory and timely performance of the Work, if the Contractor does not comply with the Contract, or it is in the public interest.

Suspending work is usually a last resort effort, but it does catch the Contractor's attention because they are responsible for any lost working days.

\*Information obtained from Washington State Department of Transportation



### Description and Purpose

A silt fence is made of a filter fabric that has been entrenched, attached to supporting poles, and sometimes backed by a plastic or wire mesh for support. The silt fence detains sediment-laden water, promoting sedimentation behind the fence.

### Suitable Applications

Silt fences are suitable for perimeter control, placed below areas where sheet flows discharge from the site. They should also be used as interior controls below disturbed areas where runoff may occur in the form of sheet and rill erosion. Silt fences are generally ineffective in locations where the flow is concentrated and are only applicable for sheet or overland flows. Silt fences are most effective when used in combination with erosion controls. Suitable applications include:

- Along the perimeter of a project.
- Below the toe or down slope of exposed and erodible
- Along streams and channels.
- Around temporary spoil areas and stockpiles.
- Below other small cleared areas.

### Limitations

- Do not use in streams, channels, drain inlets, or anywhere flow is concentrated.

### Objectives

EC	Erosion Control
SE	Sediment Control
TR	Tracking Control
WE	Wind Erosion Control
<b>NS</b>	Non-Stormwater Management Control
WM	Waste Management and Material; Pollution Control

Legend:

**O** Primary Objective

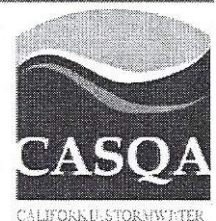
**IKI** Secondary Objective

### Targeted Constituents

Sediment  
Nutrients  
Trash  
Metals  
Bacteria  
Oil and Grease  
Organics

### Potential Alternatives

SE-5 Fiber Rolls  
SE-6 Gravel Bag Berm  
SE-8 Sandbag Barrier  
SE-9 Straw Bale Barrier



- Do not use in locations where ponded water may cause flooding.
- Do not place fence on a slope, or across any contour line. If not installed at the same elevation throughout, silt fences will create erosion.
- Filter fences will create a temporary sedimentation pond on the upstream side of the fence and may cause temporary flooding. Fences not constructed on a level contour will be overtopped by concentrated flow resulting in failure of the filter fence.
- Improperly installed fences are subject to failure from undercutting, overlapping, or collapsing.

Not effective unless trenched and keyed in.

Not intended for use as mid-slope protection on slopes greater than 4:1

Do not allow water depth to exceed 1.5 ft. at any point.

### Implementation

#### *General*

A silt fence is a temporary sediment barrier consisting of filter fabric stretched across and attached to supporting posts, entrenched, and, depending upon the strength of fabric used, supported with plastic or wire mesh fence. Silt fences trap sediment by intercepting and detaining small amounts of sediment-laden runoff from disturbed areas in order to promote sedimentation behind the fence.

Silt fences are preferable to straw bale barriers in many cases. Laboratory work at the Virginia Highway and Transportation Research Council has shown that silt fences can trap a much higher percentage of suspended sediments than can straw bales. While the failure rate of silt fences is lower than that of straw bale barriers, there are many instances where silt fences have been improperly installed. The following layout and installation guidance can improve performance and should be followed:

- Use principally in areas where sheet flow occurs.
- Don't use in streams, channels, or anywhere flow is concentrated. Don't use silt fences to divert flow.
- Don't use below slopes subject to creep, slumping, or landslides.
- Select filter fabric that retains 85% of soil by weight, based on sieve analysis, but that is not finer than an equivalent opening size of 70.
- Install along a level contour, so water does not pond more than 1ft at any point along the silt fence.
- The maximum length of slope draining to any point along the silt fence should be 200 ft or less.
- The maximum slope perpendicular to the fence line should be 1:1.

- Provide sufficient room for runoff to pond behind the fence and to allow sediment removal equipment to pass between the silt fence and toes of slopes or other obstructions. About 1200 ft<sup>2</sup> of ponding area should be provided for every acre draining to the fence.
- Turn the ends of the filter fence uphill to prevent stormwater from flowing around the fence.
- Leave an undisturbed or stabilized area immediately down slope from the fence where feasible.
- Silt fences should remain in place until the disturbed area is permanently stabilized.

### *Design and Layout*

Selection of a filter fabric is based on soil conditions at the construction site (which affect the equivalent opening size (EOS) fabric specification) and characteristics of the support fence (which affect the choice of tensile strength). The designer should specify a filter fabric that retains the soil found on the construction site yet that it has openings large enough to permit drainage and prevent clogging. The following criteria is recommended for selection of the equivalent opening size:

1. If 50 percent or less of the soil, by weight, will pass the U.S. Standard Sieve No. 200, select the EOS to retain 85% of the soil. The EOS should not be finer than EOS 70.
2. For all other soil types, the EOS should be no larger than the openings in the U.S. Standard Sieve No. 70 except where direct discharge to a stream, lake, or wetland will occur, then the EOS should be no larger than Standard Sieve No. 100.

To reduce the chance of clogging, it is preferable to specify a fabric with openings as large as allowed by the criteria. No fabric should be specified with an EOS smaller than U.S. Standard Sieve No. 100. If 85% or more of a soil, by weight, passes through the openings in a No. 200 sieve, filter fabric should not be used. Most of the particles in such a soil would not be retained if the EOS was too large and they would clog the fabric quickly if the EOS were small enough to capture the soil.

The fence should be supported by a plastic or wire mesh if the fabric selected does not have sufficient strength and bursting strength characteristics for the planned application (as recommended by the fabric manufacturer). Filter fabric material should contain ultraviolet inhibitors and stabilizers to provide a minimum of six months of expected usable construction life at a temperature range of 0 °F to 120 °F.

- Layout in accordance with attached figures.
- For slopes steeper than 2:1 (H:V) and that contain a high number of rocks or large dirt clods that tend to dislodge, it may be necessary to install additional protection immediately adjacent to the bottom of the slope, prior to installing silt fence. Additional protection may be a chain link fence or a cable fence.
- For slopes adjacent to sensitive receiving waters or Environmentally Sensitive Areas (ESAs), silt fence should be used in conjunction with erosion control BMPs.

***Materials***

V

- Silt fence fabric should be woven polypropylene with a minimum width of 36 in. and a minimum tensile strength of 100 lb force. The fabric should conform to the requirements in ASTM designation D4632 and should have an integral reinforcement layer. The reinforcement layer should be a polypropylene, or equivalent, net provided by the manufacturer. The permittivity of the fabric should be between  $0.1 \text{ sec}^{-1}$  and  $0.15 \text{ sec}^{-1}$  in conformance with the requirements in ASTM designation D4491.
- Wood stakes should be commercial quality lumber of the size and shape shown on the plans. Each stake should be free from decay, splits or cracks longer than the thickness of the stake or other defects that would weaken the stakes and cause the stakes to be structurally unsuitable.
- Staples used to fasten the fence fabric to the stakes should be not less than 1.75 in. long and should be fabricated from 15 gauge or heavier wire. The wire used to fasten the tops of the stakes together when joining two sections of fence should be 9 gauge or heavier wire. Galvanizing of the fastening wire will not be required.
- There are new products that may use prefabricated plastic holders for the silt fence and use bar reinforcement instead of wood stakes. If bar reinforcement is used in lieu of wood stakes, use number four or greater bar. Provide end-protection for any exposed bar reinforcement.

***Installation Guidelines***

Silt fences are to be constructed on a level contour. Sufficient area should exist behind the fence for ponding to occur without flooding or overtopping the fence.

- A trench should be excavated approximately 6 in. wide and 6 in. deep along the line the proposed silt fence.
- Bottom of the silt fence should be keyed-in a minimum of 12 in.
- Posts should be spaced a maximum of 6 ft. apart and driven securely into the ground a minimum of 18 in. or 12 in. below the bottom of the trench.
- When standard strength filter fabric is used, a plastic or wire mesh support fence should be fastened securely to the upslope side of posts using heavy-duty wire staples at least 1 in. long. The mesh should extend into the trench. When extra-strength filter fabric and closer post spacing are used, the mesh support fence may be eliminated. Filter fabric should be purchased in a long roll, then cut to the length of the barrier. When joints are necessary, filter cloth should be spliced together only at a support post, with a minimum 6 in. overlap and both ends securely fastened to the post.
- The trench should be backfilled with compacted native material.
- Construct silt fences with a setback of at least 3 ft. from the toe of a slope. Where a silt fence is determined to be not practicable due to specific site conditions, the silt fence may be constructed at the toe of the slope, but should be constructed as far from the toe of the slope as practicable. Silt fences close to the toe of the slope will be less effective and difficult to maintain.

- Construct the length of each reach so that the change in base elevation along the reach does not exceed  $\sqrt{3}$  the height of the barrier; in no case should the reach exceed 500 ft.

### Costs

- Average annual cost for installation and maintenance (assumes 6 month useful life): \$7 per lineal foot (\$850 per drainage acre). Range of cost is \$3.50 - \$9.10 per lineal foot.

### Inspection and Maintenance

- Inspect-BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- Repair undercut silt fences.
- Repair or replace split, torn, slumping, or weathered fabric. The lifespan of silt fence fabric is generally 5 to 8 months.
- Silt fences that are damaged and become unsuitable for the intended purpose should be removed from the site of work, disposed of, and replaced with new silt fence barriers.
- Sediment that accumulates in the BMP must be periodically removed in order to maintain BMP effectiveness. Sediment should be removed when the sediment accumulation reaches one-third of the barrier height. Sediment removed during maintenance may be incorporated into earthwork on the site or disposed at an appropriate location.
- Silt fences should be left in place until the upstream area is permanently stabilized. Until then, the silt fence must be inspected and maintained.
- Holes, depressions, or other ground disturbance caused by the removal of the silt fences should be backfilled and repaired.

### References

Manual of Standards of Erosion and Sediment Control Measures, Association of Bay Area Governments, May 1995.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas, United States Environmental Protection Agency, 2002.

Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Work Group-Working Paper, USEPA, April 1992.

Sedimentation and Erosion Control Practices, and Inventory of Current Practices (Draft), UESPA, 1990.

Southeastern Wisconsin Regional Planning Commission (SWRPC). Costs of Urban Nonpoint Source Water Pollution Control Measures. Technical Repo I No. 31. Southeastern Wisconsin Regional Planning Commission, Waukesha, WI. 1991

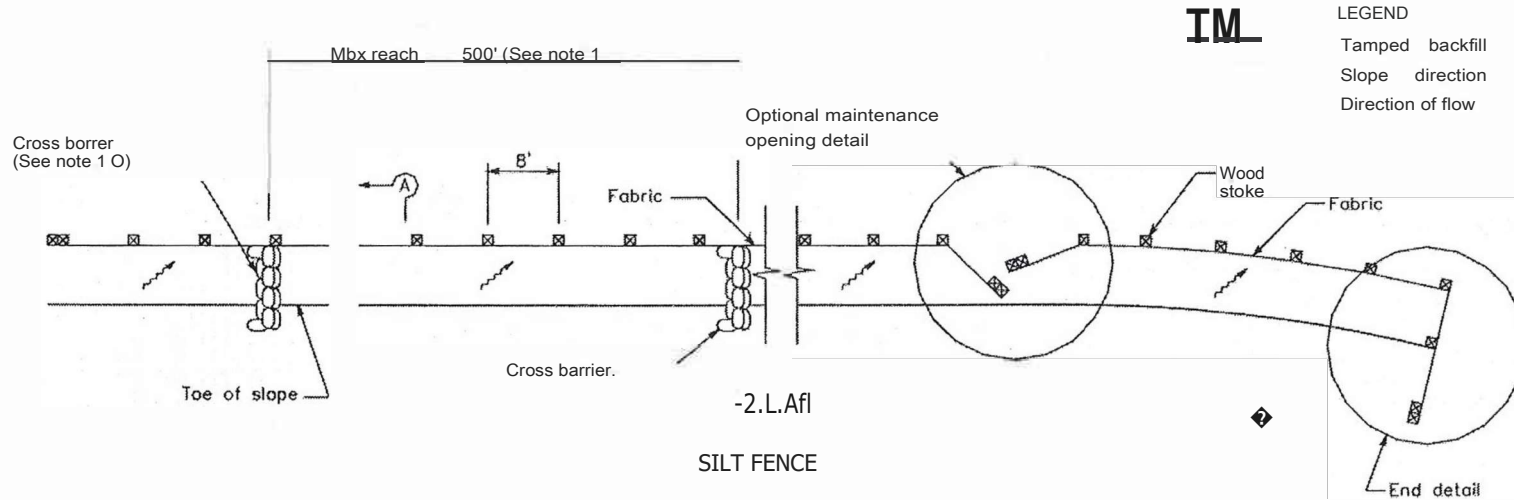
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Stormwater Management Manual for The Puget Sound Basin, Washington State Department of Ecology, Public Review Draft, 1991.

U.S. Environmental Protection Agency (USEPA). Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices. U.S. Environmental Protection Agency, Office of Water, Washington, DC, 1992.

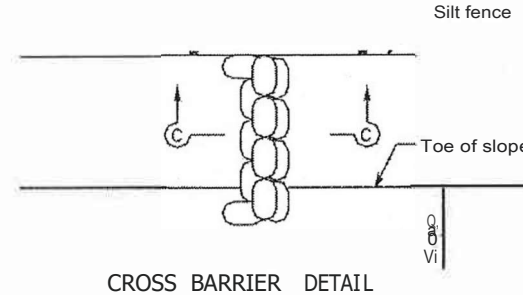
Water Quality Management Plan for the Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.



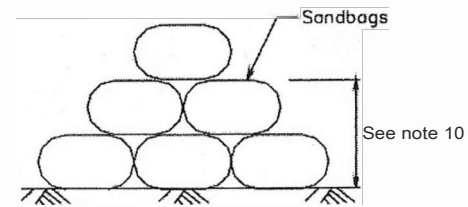


NOTES

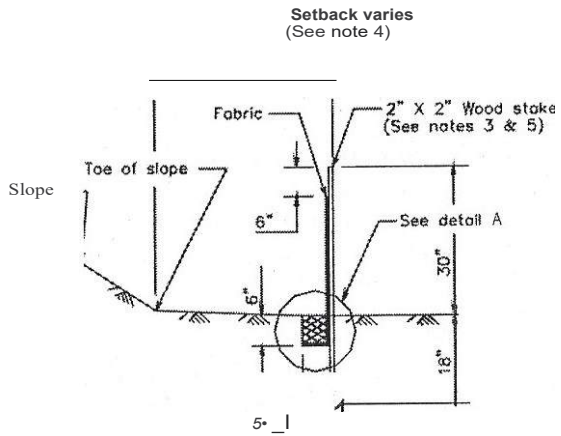
1. Construct the length of each reach so that the change in base elevation along the reach does not exceed 1/3 the height of the linear barrier, in no case shall the reach length exceed 500'.
2. The last 8'-0" of fence shall be turned up slope.
3. Stake dimensions are normal.
4. Dimension may vary to fit field condition.
5. Stakes shall be spaced at 8'-0" maximum and shall be positioned on downstream side of fence.
6. Stakes to overlap and fence fabric to fold around each stake one full turn. Secure fabric to stake with 4 staples.
7. Stakes shall be driven tightly together to prevent potential flow-through of sediment at joint. The tops of the stakes shall be secured with wire.
8. For end stake, fence fabric shall be folded around two stakes one full turn and secured with 4 staples.
9. Minimum 4 staples per stake. Dimensions shown are typical.
10. Cross barriers shall be a minimum of 1/3 and a maximum of 1/2 the height of the linear barrier.
11. Maintenance openings shall be constructed in a manner to ensure sediment remains behind silt fence.
12. Joining sections shall not be placed at sump locations.
13. Sandbag rows and byers shall be offset to eliminate gaps.



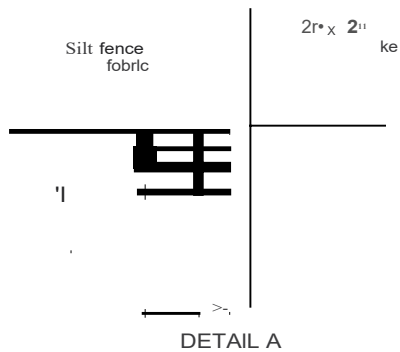
CROSS BARRIER DETAIL



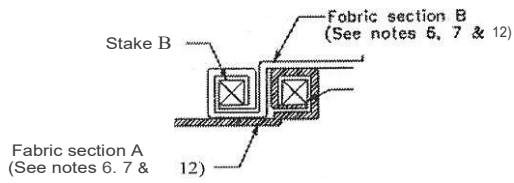
SECTION C-C



SECTION A-A



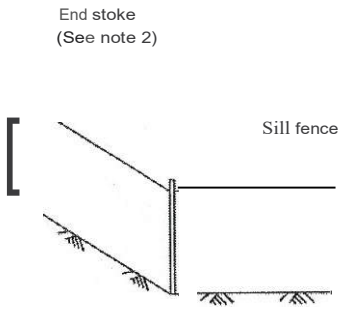
DETAIL A



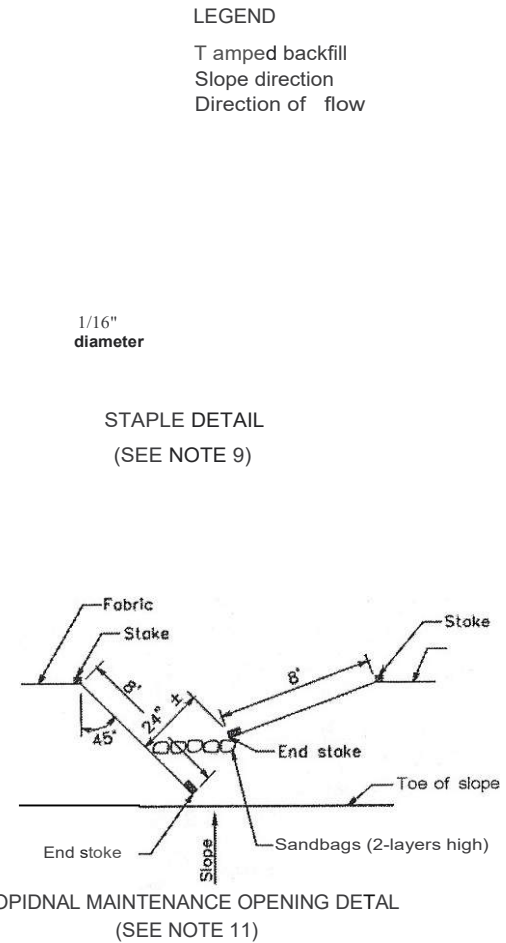
JOINING SECTION DETAIL (TOP VIEW)

Fabric (See note 12)  
 2" x 2" wood stake (See note 3)  
 1/16" diameter

END STAKE DETAIL (TOP VIEW)

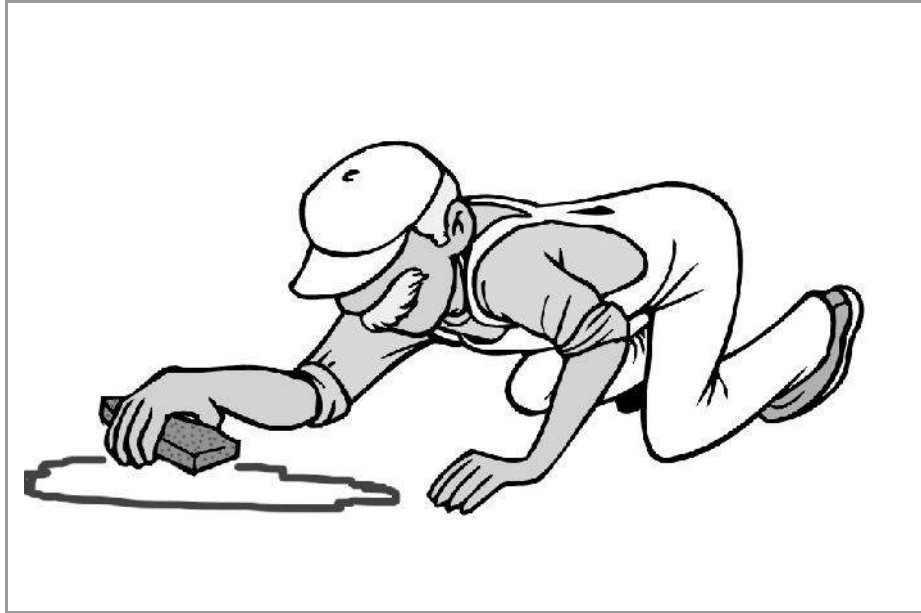


END DETAIL



OPIDNAL MAINTENANCE OPENING DETAIL (SEE NOTE 11)

LEGEND  
 T amped backfill  
 Slope direction  
 Direction of flow

**DESCRIPTION:**

Practices to clean-up leakage/spillage of on-site materials that may be harmful to receiving waters.

**APPLICATION:**

All sites

**GENERAL:**

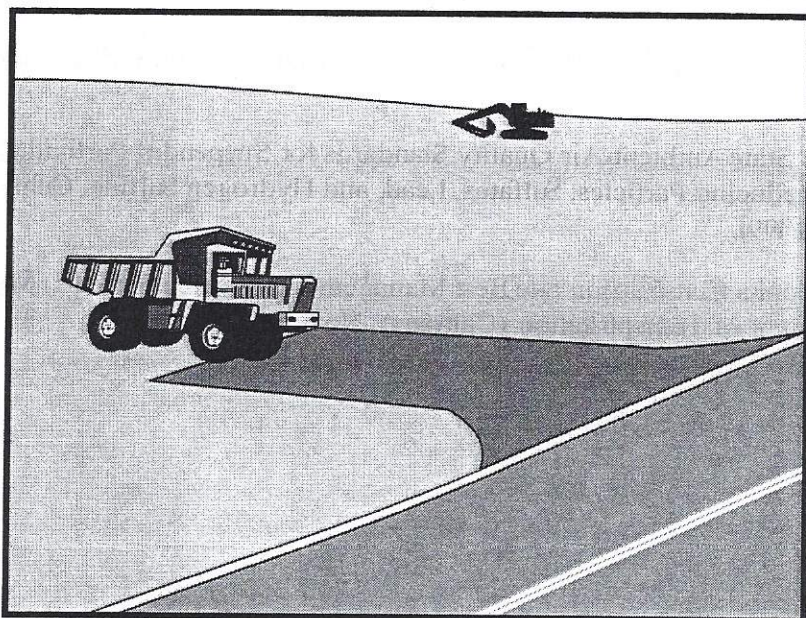
- ◆ Store controlled materials within a storage area.
- ◆ Educate personnel on prevention and clean-up techniques.
- ◆ Designate an Emergency Coordinator responsible for employing preventative practices and for providing spill response.
- ◆ Maintain a supply of clean-up equipment on-site and post a list of local response agencies with phone numbers.

**METHODS:**

- ◆ Clean-up spills/leaks immediately and remediate cause.
- ◆ Use as little water as possible. **NEVER HOSE DOWN OR BURY SPILL CONTAMINATED MATERIAL.**
- ◆ Use rags or absorbent material for clean-up. Excavate contaminated soils. Dispose of clean-up material and soil as hazardous waste.
- ◆ Document all spills with date, location, substance, volume, actions taken and other pertinent data.
- ◆ Contact the Salt Lake County Health Department (313-6700) for any spill of reportable quantity.

# Utah RSI Manual

## Stabilized Construction Entrance/Exit TC-1



### Description and Purpose

A stabilized construction access is defined by a point of entrance/exit to a construction site that is stabilized to reduce the tracking of mud and dirt onto public roads by construction vehicles.

### Suitable Applications

Use at construction sites:

- Where dirt or mud can be tracked onto public roads.
- Adjacent to water bodies.
- Where poor soils are encountered.
- Where dust is a problem during dry weather conditions.

### Limitations

- Entrances and exits require periodic top dressing with additional stones.
- This BMP should be used in conjunction with street sweeping on adjacent public right of way.
- Entrances and exits should be constructed on level ground only.
- Stabilized construction entrances are rather expensive to construct and when a wash rack is included, a sediment trap of some kind must also be provided to collect wash water runoff.

### Objectives

EC	Erosion Control	!KI
SE	Sediment Control	!KI
TC	Tracking Control	O
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

Legend:

O Primary Objective

!KI Secondary Objective

### Targeted Constituents

Sediment  
Nutrients  
Trash  
Metals  
Bacteria  
Oil and Grease  
Organics

### Potential Alternatives

None



## **Implementation**

### ***General***

A stabilized construction entrance is a pad of aggregate underlain with filter cloth located at any point where traffic will be entering or leaving a construction site to or from a public right of way, street, alley, sidewalk, or parking area. The purpose of a stabilized construction entrance is to reduce or eliminate the tracking of sediment onto public rights of way or streets. Reducing tracking of sediments and other pollutants onto paved roads helps prevent deposition of sediments into local storm drains and production of airborne dust.

Where traffic will be entering or leaving the construction site, a stabilized construction entrance should be used. NPDES permits require that appropriate measures be implemented to prevent tracking of sediments onto paved roadways, where a significant source of sediments is derived from mud and dirt carried out from unpaved roads and construction sites.

Stabilized construction entrances are moderately effective in removing sediment from equipment leaving a construction site. The entrance should be built on level ground. Advantages of the Stabilized Construction Entrance/Exit is that it does remove some sediment from equipment and serves to channel construction traffic in and out of the site at specified locations. Efficiency is greatly increased when a washing rack is included as part of a stabilized construction entrance/exit.

### ***Design and Layout***

- Construct on level ground where possible.
- Select 3 to 6 in. diameter stones.
- Use minimum depth of stones of 12 in. or as recommended by soils engineer.
- Construct length of 50 ft minimum, and 30 ft minimum width.
- Rumble racks constructed of steel panels with ridges and installed in the stabilized entrance/exit will help remove additional sediment and to keep adjacent streets clean.
- Provide ample turning radii as part of the entrance.
- Limit the points of entrance/exit to the construction site.
- Limit speed of vehicles to control dust.
- Properly grade each construction entrance/exit to prevent runoff from leaving the construction site.
- Route runoff from stabilized entrances/exits through a sediment trapping device before discharge.
- Design stabilized entrance/exit to support heaviest vehicles and equipment that will use it.
- Select construction access stabilization (aggregate, asphaltic concrete, concrete) based on longevity, required performance, and site conditions. Do not use asphalt concrete (AC) grindings for stabilized construction access/roadway.

# Utah RSI Manual

## Stabilized Construction Entrance/Exit TC-1

- If aggregate is selected, place crushed aggregate over geotextile fabric to at least 12 in. depth, or place aggregate to a depth recommended by a geotechnical engineer. A crushed aggregate greater than 3 in. but smaller than 6 in. should be used.
- Designate combination or single purpose entrances and exits to the construction site.
- Require that all employees, subcontractors, and suppliers utilize the stabilized construction access.
- Implement SE-7, Street Sweeping and Vacuuming, as needed.
- All exit locations intended to be used for more than a two-week period should have stabilized construction entrance/exit BMPs.

### Inspection and Maintenance

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMPs are under way, inspect weekly during the rainy season and of two-week intervals in the non-rainy season to verify continued BMP implementation.
- Inspect local roads adjacent to the site daily. Sweep or vacuum to remove visible accumulated sediment.
- Remove aggregate, separate and dispose of sediment if construction entrance/exit is clogged with sediment.
- Keep all temporary roadway ditches clear.
- Check for damage and repair as needed.
- Replace gravel material when surface voids are visible.
- Remove all sediment deposited on paved roadways within 24 hours.
- Remove gravel and filter fabric at completion of construction

### Costs

Average annual cost for installation and maintenance may vary from \$1,200 to \$4,800 each, averaging \$2,400 per entrance. Costs will increase with addition of washing rack, and sediment trap. With wash rack, costs range from \$1,200 - \$6,000 each, averaging \$3,600 per entrance.

### References

Manual of Standards of Erosion and Sediment Control Measures, Association of Bay Area Governments, May 1995.

National Management Measures to Control Nonpoint Source Pollution from Urban Areas, USEPA Agency, 2002.

Proposed Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Work Group Working Paper, USEPA, April 1992.

# Stabilized Construction Entrance/Exit TC-1

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

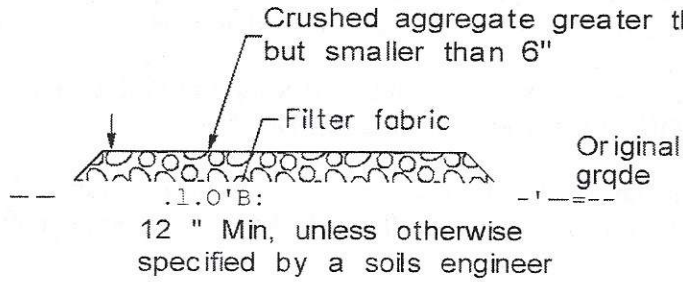
Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75, Washington State Department of Ecology, February 1992.

Virginia Erosion and Sedimentation Control Handbook, Virginia Department of Conservation and Recreation, Division of Soil and Water Conservation, 1991.

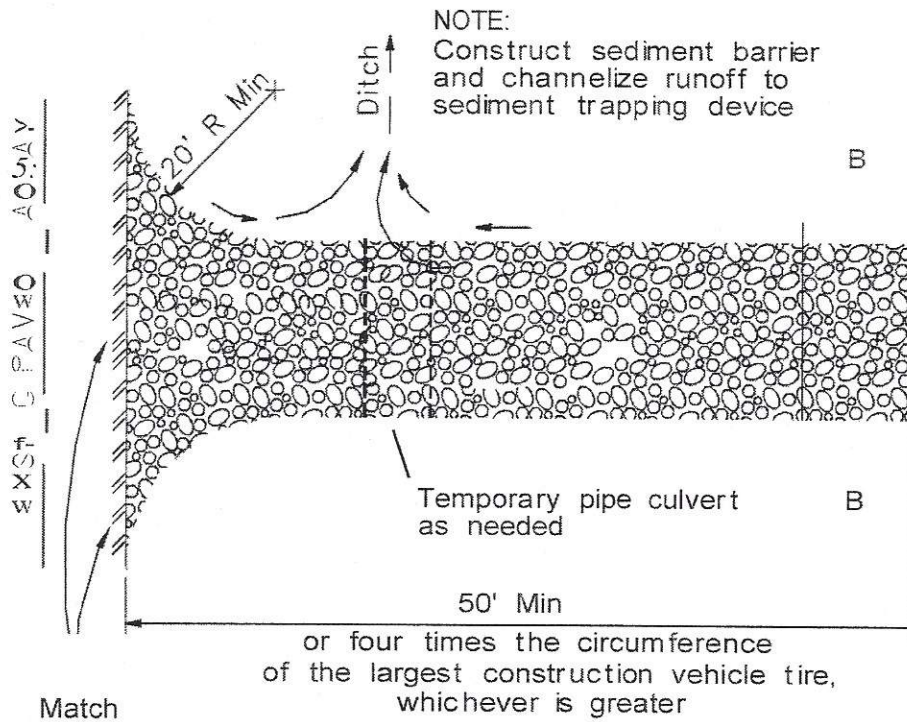
Guidance Specifying Management Measures for Nonpoint Pollution in Coastal Waters, EPA 840-B-9-002, USEPA, Office of Water, Washington, DC, 1993.

Water Quality Management Plan for the Lake Tahoe Region, Volume II, Handbook of Management Practices, Tahoe Regional Planning Agency, November 1988.

Utah RSI Manual  
**Stabilized Construction Entrance/Exit TC-1**



**SECTION B-B**  
 NTS

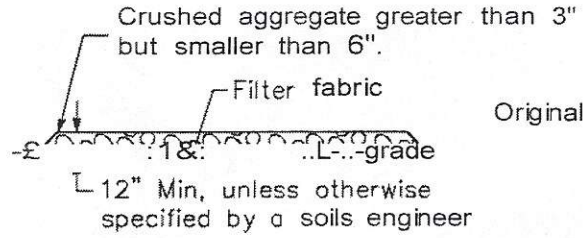


Width as required to accommodate anticipated traffic

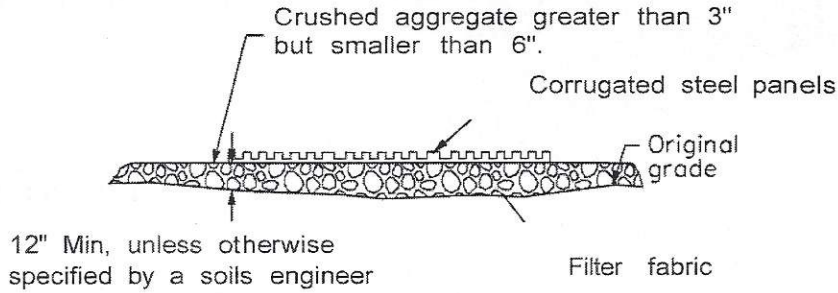
**PLAN**  
 NTS



# Stabilized Construction Entrance/Exit TC-1

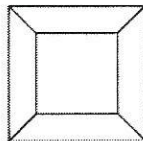


**SECTION B-B**  
NTS

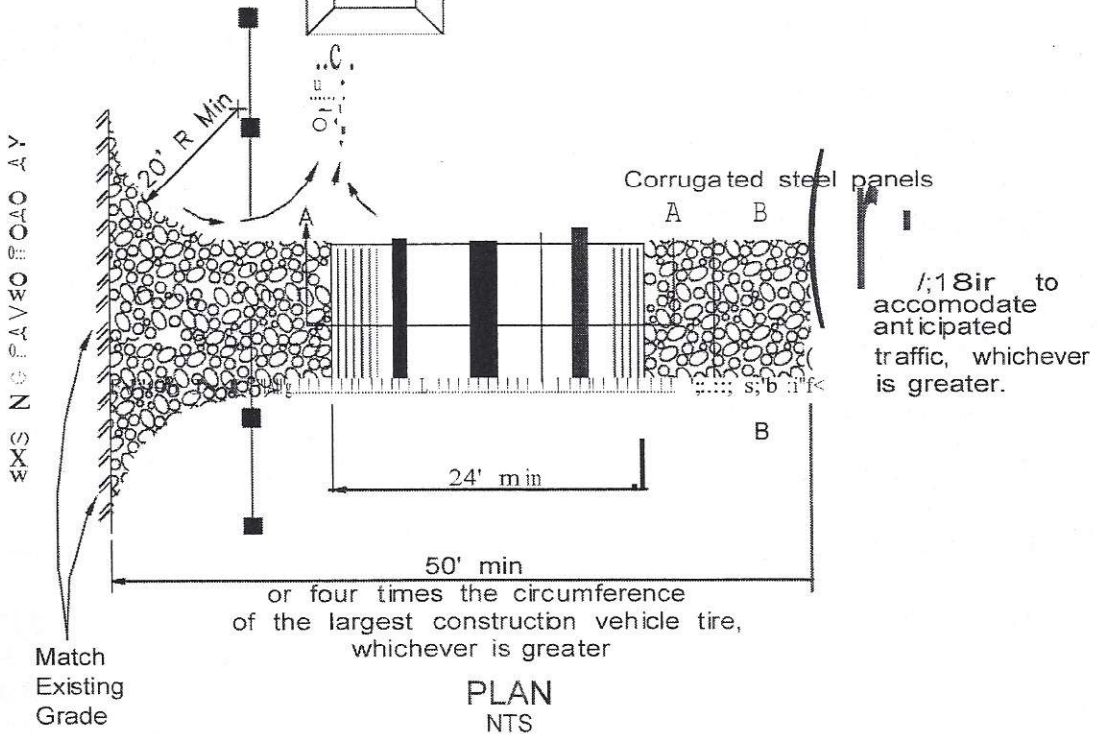


**SECTION A-A**  
NOT TO SCALE

NOTE:  
Construct sediment barrier and channelize runoff to sediment trapping device



Sediment trapping device





# Waste Management

## WM-5 Stockpile Management

Definition	Stockpile Management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, paving materials such as Portland Cement Concrete (PCC) rubble, Asphalt Concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called “cold mix” asphalt), and pressure treated wood.
Purpose	To prevent air and stormwater pollution from stockpiles of various construction materials.
Conditions Where the Practice Applies	Implement in all Projects that stockpile soil and other materials.
Specifications: Design and Installation	<p>Protection of stockpiles is a year-round requirement. To properly manage stockpiles:</p> <ul style="list-style-type: none"> <li>• Locate stockpiles a minimum of 50 feet away from concentrated flows of stormwater, stormdrain inlets, and the site perimeter.</li> <li>• Protect all stockpiles from stormwater runoff using a temporary perimeter sediment barrier such as gravel bags, fiber rolls, or cutback curb.</li> <li>• Protect all stockpiles from stormwater and wind erosion by completely covering with some type of tarp or covering. Secure the tarp with stakes or gravel bags to ensure the tarp does not blow off or expose any portion of the stockpile. Stockpiles must be covered at all times.</li> <li>• Implement wind erosion control practices as appropriate on all stockpiled material. For specific information, see WEC – 1 Dust Control.</li> <li>• Manage stockpiles of contaminated soil in accordance with WM – 8 Contaminated Soil Management.</li> <li>• Place bagged materials in the material storage area, in secondary containment, and under cover.</li> </ul>

### Protection of Non-Active Stockpiles

Non-active stockpiles of the identified materials should be protected further as follows:

#### *Soil Stockpiles*

- Soil stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.

#### *Stockpiles of Portland Cement Concrete Rubble, Asphalt Concrete, Asphalt Concrete Rubble, Aggregate Base, or Aggregate Sub Base*

- The stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.

#### *Stockpiles of “Cold Mix”*

- Soil stockpiles should be placed on and covered with plastic or comparable

Sources include EPA, SWRCB, Caltrans, CASQA

**Waste Management**



# Waste Management

## WM-5 Stockpile Management

material at all times.

*Stockpiles/Storage of Pressure Treated Wood with Copper, Chromium, and Arsenic or Ammonical, Copper, Zinc, and Arsenate*

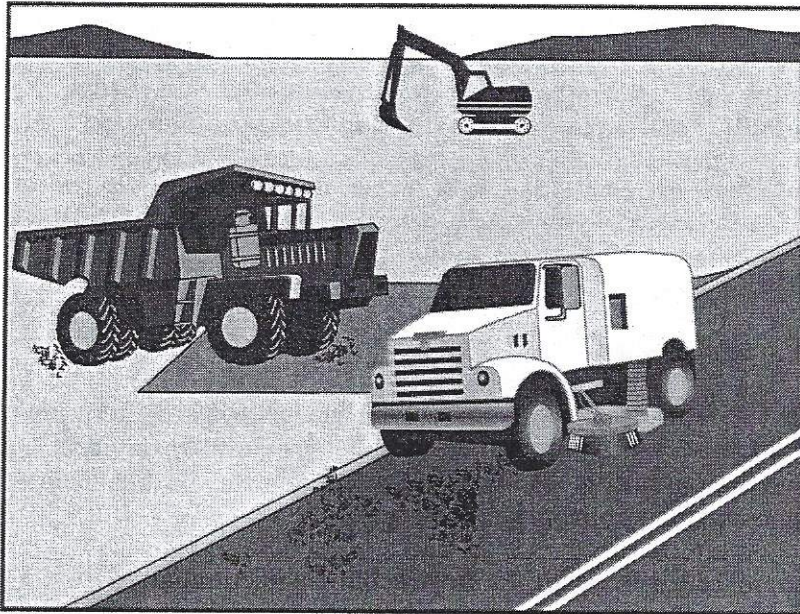
- Treated wood should be covered with plastic or comparable material at all times.

### Protection of Active Stockpiles

- All stockpiles should be covered and protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of “cold mix” should be placed on and covered with plastic or comparable material prior to the onset of precipitation.

### Maintenance & Inspection

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities.
- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, and weekly throughout the life of the Project.
- Repair and/or replace perimeter controls and covers as needed to keep them functioning properly. Ensure stockpiles are covered at all times and that the covers are properly secured or weighted down.



### Description and Purpose

Street sweeping and vacuuming includes use of self-propelled and walk-behind equipment to remove sediment from streets and roadways, and to clean paved surfaces in preparation for final paving. Sweeping and vacuuming prevents sediment from the project site from entering storm drains or receiving waters.

### Suitable Applications

Sweeping and vacuuming are suitable anywhere sediment is tracked from the project site onto public or private paved streets and roads, typically at points of egress. Sweeping and vacuuming are also applicable during preparation of paved surfaces for final paving.

### Limitations

Sweeping and vacuuming may not be effective when sediment is wet or when tracked soil is caked (caked soil may need to be scraped loose).

### Implementation

- Controlling the number of points where vehicles can leave the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.
- Inspect potential sediment tracking locations daily.
- Visible sediment tracking should be swept or vacuumed on a daily basis.

### Objectives

EC	Erosion Control	
SE	Sediment Control	!Kl
TR	Tracking Control	O
WE	Wind Erosion Control	
NS	Non-Stormwater Management Control	
WM	Waste Management and Materials Pollution Control	

#### Legend:

- O Primary Objective  
!Kl Secondary Objective

### Targeted Constituents

Sediment  
Nutrients  
Trash  
Metals  
Bacteria  
Oil and Grease  
Organics

### Potential Alternatives

None



# Utah RSI Manual

## SE-7 Street Sweeping and Vacuuming

- Do not use kick brooms or sweeper attachments. These tend to spread the dirt rather than remove it.
- If not mixed with debris or trash, consider incorporating the removed sediment back into the project

### Costs

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from \$8/hour (3 yd<sup>3</sup> hopper) to \$88/hour (9 yd<sup>3</sup> hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent dumping.

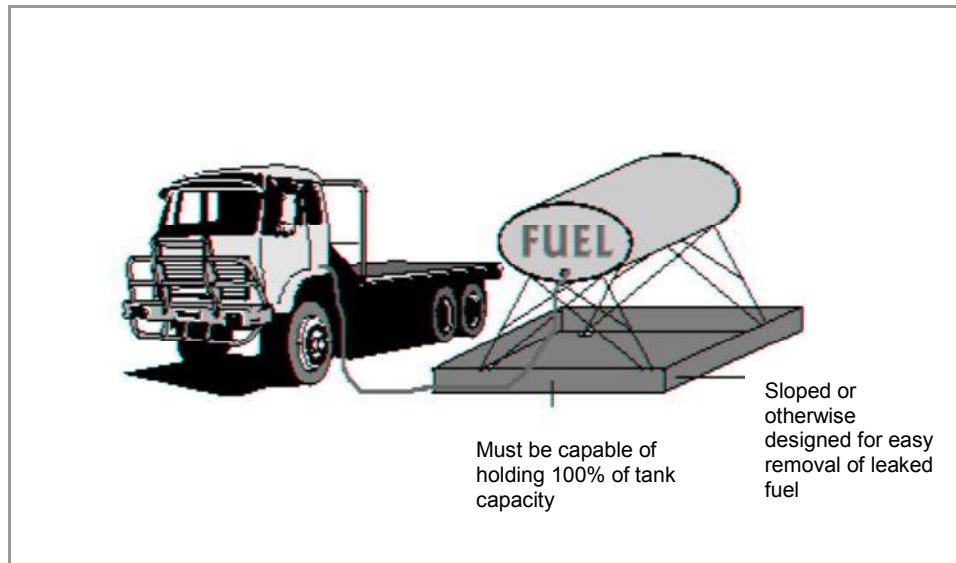
### Inspection and Maintenance

- Inspect BMPs prior to forecast rain, daily during extended rain events, after rain events, weekly during the rainy season, and at two-week intervals during the non-rainy season.
- When actively in use, points of ingress and egress must be inspected daily.
- When tracked or spilled sediment is observed outside the construction limits, it must be removed at least daily. More frequent removal, even continuous removal, may be required in some jurisdictions.
- Be careful not to sweep up any unknown substance or any object that may be potentially hazardous.
- Adjust brooms frequently; maximize efficiency of sweeping operations.
- After sweeping is finished, properly dispose of sweeper wastes at an approved dumpsite.

### References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000.

Labor Surcharge and Equipment Rental Rates, State of California Department of Transportation (Caltrans), April 1, 2002 - March 31, 2003.

**DESCRIPTION:**

Prevent fuel spills and leaks, and reduce their impacts to storm water by using off-site facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors.

**INSTALLATION/APPLICATION:**

- ◆ Use off-site fueling stations as much as possible. Fueling vehicles and equipment outdoors or in areas where fuel may spill/leak onto paved surfaces or into drainage pathways can pollute storm water. If you fuel a large number of vehicles or pieces of equipment, consider using an off-site fueling station. These areas are better equipped to handle fuel and spills properly. Performing this work off-site can also be economical by eliminating the need for a separate fueling area at your site.
- ◆ If fueling must occur on-site, use designated areas, located away from drainage courses, to prevent the runoff of storm water and the runoff of spills. Discourage  topping-off  of fuel tanks.
- ◆ Always use secondary containment, such as a drain pan or drop cloth, when fueling to catch spills/leaks. Place a stockpile of spill cleanup materials where it will be readily accessible. Use adsorbent materials on small spills rather than hosing down or burying the spill. Remove the adsorbent materials promptly and dispose of properly.
- ◆ Carry out all Federal and State requirements regarding stationary above ground storage tanks. (40 CF Sub. J) Avoid mobile fueling of mobile construction equipment around the site; rather, transport the equipment to designated fueling areas. With the exception of tracked equipment such as bulldozers and perhaps forklifts, most vehicles should be able to travel to a designated area with little lost time. Train employees and subcontractors in proper fueling and cleanup procedures.

**LIMITATIONS:**

Sending vehicles/equipment off-site should be done in conjunction with Stabilized Construction Entrance.

**MAINTENANCE:**

- ◆ Keep ample supplies of spill cleanup materials on-site.
- ◆ Inspect fueling areas and storage tanks on a regular schedule.

# Waste Management

Definition	Provide designated waste collection areas and containers, arranging for regular disposal, and training employees and subcontractors.
Purpose	Prevent or reduce the discharge of pollutants to stormwater from solid, leachable, or construction waste.

## Conditions Where the Practice Applies

This BMP is suitable for construction sites where the following wastes are generated or stored:

- Solid waste generated from trees and shrubs removed during land clearing, demolition of existing structures (rubble), and building construction.
- Packaging materials including wood, paper, and plastic.
- Scrap or surplus building materials including scrap metals, rubber, plastic, glass pieces, and masonry products.
- Domestic wastes including food containers such as beverage cans, coffee cups, paper bags, plastic wrappers, and cigarettes.
- Construction wastes including brick, mortar, timber, steel and metal scraps, pipe and electrical cuttings, non-hazardous equipment parts, Styrofoam and other materials used to transport and package construction materials.
- Planting wastes, including vegetative material, plant containers, and packaging materials.

## Specifications: Design and Installation

The following steps will help keep a clean site and reduce stormwater pollution:

- Select designated waste collection areas onsite.
- Provide an adequate number of containers to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Arrange for regular waste collection. Do not allow containers to overflow.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are not disposed of in dumpsters designated for construction debris.
- Trash receptacles should be provided in the Contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Dumpsters of sufficient size and number should be provided to contain the solid waste generated by the Project.

- Stormwater run-on should be prevented from contacting stored solid waste through the use of berms, dikes, or other temporary diversion structures or through the use of measures to elevate waste from site surfaces.
- Solid waste storage areas should be, where possible, located at least 50 feet from drainage facilities and watercourses and should not be located in areas prone to flooding or ponding.

#### Education

- Have the Contractor's superintendent or representative oversee and enforce proper solid waste management procedures and practices.
- Instruct employees and subcontractors on identification of solid waste and hazardous waste. Hazardous waste must not be disposed of in dumpsters.
- Educate employees and subcontractors on solid waste storage and disposal procedures. Include bagging of blowable trash.
- Hold regular meetings to discuss and reinforce disposal procedures.
- Require that employees and subcontractors follow solid waste handling and storage procedures.
- Prohibit littering by employees, subcontractors, and visitors.
- Minimize production of solid waste materials whenever possible.

#### Collection, Storage, and Disposal

- Littering on the Project site is prohibited.
- To prevent clogging of the stormwater drainage system, litter and debris removal from drain gates, trash racks, and ditch lines should be a priority.
- Trash receptacles from work areas within the construction limits of the Project site should be collected, regardless of whether the litter was generated by the Contractor, the public, or others. Collected litter and debris shall not be placed in or next to storm drain inlets, stormwater drainage systems, watercourses, or near the site perimeter.
- Full dumpsters should be removed from the Project site and the contents should be disposed of properly by trash hauling contractor.
- Construction material visible to the public should be stored or stacked in an orderly manner.
- Dispose of planting waste in dumpsters.
- Segregate potentially hazardous waste from non-hazardous construction site waste.
- Make sure that toxic liquid wastes (used oils, solvents, and paints) and chemicals (acids, pesticides, additives, curing compounds) are NOT disposed of in dumpsters designated for construction debris.
- Make sure that demolition materials containing hazardous wastes are NOT disposed of in dumpsters designated for construction debris.
- For disposal of hazardous waste, have hazardous waste hauled to an appropriate disposal and/or recycling facility.
- Salvage or recycle useful vegetation debris, packaging and surplus building materials when

Sources include EPA, SWRCB, Caltrans, CASQA,  
University of California, Santa Barbara

#### **Waste Management**



practical. For example, trees and shrubs from land clearing can be used as a brush barrier or converted into wood chips, then used as mulch on graded areas. Wood pallets, cardboard boxes, and construction scraps can also be recycled.

- Collect site trash daily and dispose in the dumpster, throughout the life of the Project, especially during the rainy and windy conditions.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.
- Remove solid waste promptly since erosion and sediment control devices tend to collect litter.
- Bag any waste that can leak out of the dumpster.
- Bag all blowable trash so that it is contained within the dumpster.
- Arrange for regular waste collection.

#### Maintenance & Inspection

- Inspect and verify that activity based BMPs are in place prior to the commencement of associated activities.
- Inspect BMPs daily during extended rain events, after rain events, and weekly throughout the life of the Project.
- Inspect construction waste area regularly.
- Monitor employees, subcontractors, and visitors and ensure no littering.
- Check erosion and sediment controls for the accumulation of trash or debris.
- Inspect dumpsters to be sure that blowable trash is bagged.
- Inspect the dumpsters for leaks or signs of liquid waste in the dumpsters.
- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling Contractor.
- Clean up immediately if a container does spill.

## *Appendix I – Construction General Permit*

### 2022 Construction General Permit Regulations

The 2022 Construction General Permit can be viewed here:

<https://www.epa.gov/npdes/2022-construction-general-permit-cgp>