

STORMWATER POLLUTION PREVENTION PLAN

for

Aquifer Storage and Recovery Site Expansion
Seaside, California

RISK LEVEL 1

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Start of Construction

Aug 15, 2018

Completion of Construction

December 31, 2018

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SWPPP Certification Statement by Qualified SWPPP Developer (QSD)

Project Name: Aquifer Storage and Recovery Site Expansion

Project Number/ID

“This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below.”

QSD Signature

Date

QSD Name

QSD Certificate Number

Title and Affiliation

Telephone Number

Email

Discharger or Legally Responsible Person

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Aquifer Storage and Recovery Site Expansion Project

Project Number/ID

"I certify under penalty of law that this document and all Attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, 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."

David Stoldt

Legally Responsible Person [if organization]

Signature of [Authorized Representative of] Legally
Responsible Person or Approved Signatory

Date

Name of [Authorized Representative of] Legally
Responsible Person or Approved Signatory

Telephone Number

Amendment Log

Project Name: Aquifer Storage and Recovery Site Expansion

Project Number/ID [if applicable] _____

Table 1.1: SWPPP Amendment Log

| Amendment No. | Date | Brief Description of Amendment, include section and page number | Prepared and Approved By |
|---------------|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|
| 1 | 10/26/2018 | Install fiber rolls (wattles) instead of silt fence in areas along General Moore Blvd where concrete slurry prohibits installation of silt fence Changes made to: <ol style="list-style-type: none"> 1. Cover Page 2. Appendix B Site Map 3. Appendix D Amendment Log 4. Appendix H Fact Sheet 5. Table 3.1 | Name: Rupeet Malhotra QSD#23276 |
| | | | Name: QSD# |
| | | | Name: QSD# |
| | | | Name: QSD# |
| | | | Name: QSD# |
| | | | Name: QSD# |
| | | | Name: QSD# |
| | | | Name: QSD# |

Section 1 SWPPP Requirements

1.1 INTRODUCTION

The Aquifer Storage and Recovery Site Expansion (ASR Site Expansion) comprises approximately 2 acres and is located in an area bounded between General Jim Moore Boulevard, Eucalyptus Road, and Austin Road in Seaside, California. The property is owned by Fort Ord Reuse Authority (FORA) and is being developed by the Monterey Peninsula Water Management District (MPWMD). The projects location is shown on the Site Map in Appendix B.

This Stormwater Pollution Prevention Plan (SWPPP) is designed to comply with California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (General Permit) Order No. 2009-0009-DWQ as amended in 2010 and 2012 (NPDES No. CAS000002) and modified by 2010-0014-DWQ and 2012-006-DWQ issued by the State Water Resources Control Board (State Water Board).

The Contractor or MPWMD shall designate a Qualified SWPPP Practitioner (QSP) to implement the provisions of the SWPPP and the Construction Site Monitoring Program (CSMP), and shall comply with the narrative and numeric effluent standards listed below:

1. Narrative

- Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
- Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT (Best 'economically Available Technology) for toxic and non-conventional pollutants and BCT (Best Conventional "pollution control" Technology) for conventional pollutants.

2. Numeric

- Risk Level 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

The Contractor shall notify the Owner if the QSP is no longer associated with the work. The Owner shall be notified within 24 hours and a qualified replacement named within 72 hours. The replacement QSP shall meet the Permit certification requirements.

The QSP shall have the training described in Section 5 of this SWPPP and shall be listed on the SMARTS system prior to the start of construction. The Legally Responsible Person (LRP) shall ensure that SWPPPs for all traditional project sites are developed and amended or revised by the Qualified SWPPP Developer (QSD).

The QSP is responsible for erosion control on the site and shall supplement the erosion control plan shown on Construction Document where the facilities shown on the Construction Documents are not preventing erosion. The QSP shall make corrective measures as soon as erosion is observed and shall report these measures to the QSD by email within 24 hours.

This SWPPP has been prepared following the SWPPP Template provided on the California Stormwater Quality Association Stormwater *Best Management Practice Handbook Portal: Construction* (CASQA, 2012). In accordance with the General Permit, Section XIV, this SWPPP is designed to address the following objectives:

- All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and other activities associated with construction activity are controlled;
- Where not otherwise required to be under a Regional Water Quality Control Board (Regional Water Board) permit, all non-stormwater discharges are identified and either eliminated, controlled, or treated;
- Site BMPs are effective and result in the reduction or elimination of pollutants in stormwater discharges and authorized non-stormwater discharges from construction activity to the Best Available Technology/Best Control Technology (BAT/BCT) standard; Calculations and design details as well as BMP controls for are complete and correct, (see Appendices A and R); and
- Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.
- Identify post-construction BMPs, which are those measures to be installed during construction that are intended to reduce or eliminate pollutants after construction is completed. See Section 3.4 for post –construction BMPs.
- Identify and provide methods to implement BMP inspection, visual monitoring, and Construction Site Monitoring Program (CSMP) requirements to comply with the General Permit.

Rain Event Action Plan (REAP)

In addition to the narrative and numeric effluent standards listed above, the discharger shall also have the contractor's QSP develop and implement a Rain Event Action Plan (REAP), which is an additional Risk Level 2 requirement. A template of the REAP is included in Appendix J.

1. Additional Risk Level 2 Requirement: The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at <http://www.srh.noaa.gov/forecast>).
2. The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).
3. The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:
 - a. Site Address
 - b. Calculated Risk Level (2 or 3)

- c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
 - d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
 - e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number
4. The discharger shall ensure a QSP include in the REAP, at a minimum, the following project phase information:
 - a. Activities associated with each construction phase
 - b. Trades active on the construction site during each construction phase
 - c. Trade contractor information
 - d. Suggested actions for each project phase
 5. The discharger shall ensure a QSP develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:
 - a. Site Address
 - b. Calculated Risk Level (2 or 3)
 - c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
 - d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
 - e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number
 - f. Trades active on site during Inactive Construction
 - g. Trade contractor information
 - h. Suggested actions for inactive construction sites
 6. The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.
 7. The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

1.2 PERMIT REGISTRATION DOCUMENTS

Required Permit Registration Documents (PRDs) shall be submitted to the State Water Board via the Stormwater Multi Application and Report Tracking System (SMARTS) by the Legally Responsible Person (LRP), or authorized personnel (i.e., Approved Signatory) under the direction of the LRP. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the Clean Water Act and the California Water Code. The project-specific PRDs include:

1. Notice of Intent (NOI);
2. Risk Assessment (Construction Site Sediment and Receiving Water Risk Determination);
3. Site Map;

4. Annual Fee;
5. Signed Certification Statement (LRP Certification is provided electronically with SMARTS PRD submittal); and
6. SWPPP.

Site Maps can be found in Appendix B. A copy of the submitted PRDs shall also be kept in Appendix C along with the Waste Discharge Identification (WDID) confirmation.

1.3 SWPPP AVAILABILITY AND IMPLEMENTATION

The QSP shall make the SWPPP available at the construction site during working hours (see Section 7.5 of CSMP for working hours) while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone. (CGP Section XIV.C)

The SWPPP shall be implemented concurrently with the start of ground disturbing activities and remain in effect until a Notice of Termination for the site is approved by the Regional Water Quality Control Board.

1.4 SWPPP AMENDMENTS

The SWPPP should be revised when:

- If there is a General Permit violation.
- When there is a reduction or increase in total disturbed acreage (General Permit Section II Part C).
- BMPs do not meet the objectives of reducing or eliminating pollutants in stormwater discharges.

Additionally, the SWPPP shall be amended when:

- There is a change in construction or operations which may affect the discharge of pollutants to surface waters, groundwater(s), or a municipal separate storm sewer system (MS4);
- When there is a change in the project duration that changes the project's risk level; or
- When deemed necessary by the QSD. All changes shall be made by the QSD as formal amendments to the SWPPP.

The following items shall be included in each amendment:

- Who requested the amendment;
- The location of proposed change;
- The reason for change;
- The original BMP proposed, if any; and
- The new BMP proposed.

Amendment shall be logged at the front of the SWPPP and certification kept in Appendix D. The SWPPP text shall be revised, replaced, and/or hand annotated as necessary to properly convey the amendment. SWPPP amendments must be made by a QSD.

1.5 RETENTION OF RECORDS

The QSP is required to maintain a paper or electronic copy of all required records throughout construction, and provide copies of these reports to the LRP when requested during the job and at the end of the job. The LRP shall retain a copy of all required records for three years from the date generated or the date submitted to the State Water Board or Regional Water Boards, whichever is the latter. A copy of these records shall be maintained at the Site and within Appendix O of this SWPPP until construction is complete. Records assisting in the determination of compliance with the General Permit shall be made available within a reasonable time, to the Regional Water Board, State Water Board or U.S. Environmental Protection Agency (EPA) upon request. Requests by the Regional Water Board for retention of records for a period longer than three years shall be adhered to.

1.6 REQUIRED NON-COMPLIANCE REPORTING

If a General Permit discharge violation occurs the QSP shall immediately notify the LRP. The LRP shall include information on the violation with the Annual Report. Corrective measures will be implemented immediately following identification of the discharge or written notice of non-compliance from the Regional Water Board. Discharges and corrective actions must be documented and include the following items:

- The date, time, location, nature of operation and type of unauthorized discharge.
- The cause or nature of the notice or order.
- The control measures (BMPs) deployed before the discharge event, or prior to receiving notice or order.
- The date of deployment and type of control measures (BMPs) deployed after the discharge event, or after receiving the notice or order, including additional measures installed or planned to reduce or prevent re-occurrence.

Reporting requirements for Numeric Action Levels (NALs) exceedances are discussed in Section 7.7.2.7.

1.7 ANNUAL REPORT

The QSP is responsible for preparing certifying, and electronically submitting an Annual Report no later than September 1st of each year. Reporting requirements are identified in Section XVI of the General Permit and include (but are not limited to) providing a summary of:

- 1) Sampling and analysis results including laboratory reports, analytical methods and reporting limits and chain of custody forms (if applicable to this Risk Level 1 site);
- 2) Corrective actions and compliance activities, including those not implemented;
- 3) Violations of the General Permit;
- 4) Date, time, place, and name(s) of the inspector(s) for all sampling, inspections, and field measurement activities;
- 5) Visual observation and sample collection exception records; and
- 6) Training documentation of all personnel responsible for General Permit compliance activities.

The LRP is responsible for certifying the Annual Report via SMARTS, and is required to retain paper copies of all submitted documents for a period of 3 years after the Notice of Termination is accepted.

1.8 CHANGES TO PERMIT COVERAGE

The Construction General Permit allow a permittee to reduce or increase the total acreage covered under the General Permit when: a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, shall be logged at the front of the SWPPP and certification of SWPPP amendments are to be kept in Appendix D. Updated PRDs submitted electronically via SMARTS can be found in Appendix E.

1.9 CONSTRUCTION SITE MONITORING PROGRAM

The QSP is to implement the Construction Site Monitoring Program (CSMP) in accordance with the requirements found in Appendix N. The CSMP is included in this SWPPP in Section 7.

1.10 NOTICE OF TERMINATION

A Notice of Termination (NOT) must be submitted electronically by the LRP via SMARTS to terminate coverage under the General Permit. The NOT must include a final Site Map and representative photographs of the project site that demonstrate final stabilization has been achieved. The NOT shall be submitted within 90 days of completion of construction. The Regional Water Board will consider a construction site complete when the conditions of the General Permit, Section II.D have been met and final stabilization in the form of the following is achieved:

- The site will not pose any additional sediment discharge risk than it did prior to construction activity.
- All construction related equipment, materials and any temporary BMPs no longer needed are removed from the site.
- Post-construction storm water management measures are installed, and a long-term maintenance plan that is designed for a minimum of five years has been developed.

The NOT must demonstrate through photos that the project meets all of the requirements of Section II.D.1 of the General Permit by the 70% final cover method (no computational proof required).

1.11 CONTRACTOR ACTIVITIES LOCATION MAP

Locations of storage areas for waste, vehicles, service, loading/unloading of materials, access (entrance/exits) points to construction site, fueling, and water storage, water transfer for dust control and compaction practices shall be shown on this map and updated regularly by the QSP. All updates of the Contractor Activities Location Map shall be included in Appendix S.

Section 2 Project Information

2.1 PROJECT AND SITE DESCRIPTION

2.1.1 Site Description

The ASR Well site comprises approximately 2 acres and is located at an area bounded by the City of Seaside and General Jim Moore Blvd to the west, the historical impact area to the east, Eucalyptus Road to the north and additional former Fort Ord property to the south, in Seaside, California. The property is owned by Fort Ord Reuse Authority (FORA) and is being developed by the Monterey Peninsula Water Management District (MPWMD). The project site is located approximately 2.3 miles east of the city of Sand City, and US Highway 1. The project site is located approximately 2.6 miles east of the Monterey Bay. The project is located at $121^{\circ}49'11.80''\text{W}/36^{\circ}37'11.52''\text{N}$ and is identified on the Site Map in Appendix B.

2.1.2 Existing Conditions

As of the initial date of this SWPPP, the project site is an area of dune sands with a history of military activities due to the site formerly being used for defense purposes (former Fort Ord lands). The project site was previously used by the United States Army for Munitions training operations conducted at the former Fort Ord. Historic sources of contamination include remnants of army Munitions and Explosives of Concern (MEC). Environmental cleanup activities are being conducted at this site under the Environmental Services Cooperative Agreement (ESCA) between FORA and the U.S. Army. Once these activities are complete, the land will be conveyed to the City of Seaside (City).

2.1.3 Existing Drainage

The project site is gently sloped to the southwest. The elevation of the project site ranges from 331 to 355 feet above mean sea level (msl). Surface drainage at the site currently is limited and storm water percolates into the native sandy soil (Dune Sands) of the area. Stormwater discharges, from the site, are not considered direct discharges, as defined by the State Water Board into Monterey Bay. Existing site topography, drainage patterns, and stormwater conveyance systems are shown on the Site Plan in Appendix B.

Stormwater from the area percolates into the Salinas Valley Groundwater Basin, Seaside Sub-Basin. The aquifer is not listed for any water quality impairment.

2.1.4 Geology and Groundwater

The site is underlain by the Seaside Groundwater Basin, which consists of a sequence of three aquifers that overlie the Monterey Formation. The three aquifers include the deepest Santa Margarita Aquifer, the middle Paso Robles Aquifer, and the shallowest (topmost) Dune Sands Aquifer. The underlying soil is typically brown/yellow sand with silt or very fine grained sand (SC/SP) up to a depth of 10 feet (based upon soil borings by (Pacific Crest Engineering, 2008, 2016). Groundwater was not encountered beneath the site up to approximately 51 feet below ground surface. The general groundwater gradient is toward the coast (west by southwest).

2.1.5 Project Description

Project grading will occur on approximately 0.77 acres of the project, which comprises approximately 41 percent of the total area. The limits of grading are shown on the Erosion Control Plan in Appendix R. Grading will include both cut and fill activities, with the total graded material estimated to be 2,180 cubic yards. No fill material will be imported during grading activities. Graded materials are expected to be balanced onsite. Soil will be stockpiled at locations decided upon by contractor in the field; tentative locations are shown on the Site Plan in Appendix B. Construction activities include expansion of the existing backflush pit / percolation basin; construction of secondary ingress/egress routes; construction of a sound attenuation enclosure; placement of a truck offloading pad; installation of underground piping and fencing.

2.1.6 Developed Condition

Post construction surface drainage is expected to percolate into the sandy soil as it is intercepted by the ground. A small portion of the runoff that falls on the paved areas will be collected in drainage swales and percolated.

Post construction drainage patterns and conveyance systems are presented on the Erosion Control Plan in Appendix R.

Table 2.1 Construction Site Estimates

| | | |
|----------------------------------------|-------------|-------|
| Construction site area | <u>0.77</u> | Acres |
| Percent impervious before construction | <u>0.07</u> | % |
| Runoff coefficient before construction | <u>0.1</u> | |
| Percent impervious after construction | <u>0.08</u> | % |
| Runoff coefficient after construction | <u>0.15</u> | |

2.2 PERMITS AND GOVERNING DOCUMENTS

In addition to the General Permit, the following documents have been taken into account while preparing this SWPPP

- Regional Water Quality Control Board requirements (Land Application for well development and aquifer testing)
- FORA Right of Entry
- Approvals and Permits from City of Seaside that include
 - Encroachment Permit (for work in General Jim Moore Blvd)
 - Grading Permits
 - Soil Management Plan (ESCA On-Call Construction Support Plan)

- Seaside Basin Monitoring and Management Plan
- Contract Documents that include the Special Conditions, technical specifications and design drawings (prepared by Pueblo Water Resources)
- Air Quality Regulations and Permits
- Federal Endangered Species Act
- National Historic Preservation Act/Requirements of the State Historic Preservation Office
- State of California Endangered Species Act

2.3 STORMWATER RUN-ON FROM OFFSITE AREAS

There is no anticipated offsite run-on to this construction site because the site is undeveloped, upland areas are vegetated with maritime chaparral, and stormwater runoff infiltrates the soil upon interception. The soils are hydrologic soil Group A, NRCS curve number 35.

2.4 FINDINGS OF THE CONSTRUCTION SITE SEDIMENT AND RECEIVING WATER RISK DETERMINATION

A construction site risk assessment has been performed for the project and the resultant risk level is Risk Level 1.

The risk level was determined through the use of the EPA's individual method for Sediment Risk and Site Specific Analysis to determine the Receiving Water Risk. The risk level is based on project duration, location, proximity to impaired receiving waters and soil conditions. A copy of the Risk Level determination submitted on SMARTS with the PRDs is included in Appendix C.

Table 2.2 and Table 2.3 summarize the sediment and receiving water risk factors and document the sources of information used to derive the factors.

Table 2.2 Summary of Sediment Risk

| RUSLE Factor | Value | Method for establishing value |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-------------------------------------------------------------------------------------------------------------------------------|
| R | 9.31 | EPA's Rainfall Erosivity Calculator (uses site location and project duration) |
| K | 0.1 | Site Specific K Factor (using data from Boring logs and Erickson triangular nomograph for soil erodibility (K) factor) |
| LS | 0.74 | LS Factors for Construction Sites (Table from Renard et al, 1997) |
| Total Predicted Sediment Loss (tons/acre) | | 0.68 |
| Overall Sediment Risk Low Sediment Risk < 15 tons/ acre Medium Sediment Risk >= 15 and < 75 tons/acre High Sediment Risk >= 75 tons/acre | | <input checked="" type="checkbox"/> Low <input type="checkbox"/> Medium <input type="checkbox"/> High |

Runoff from the project site discharges to a percolation depression tributary to the Seaside Groundwater Basin.

Table 2.3 Summary of Receiving Water Risk

| Receiving Water Name | 303(d) Listed for Sediment Related Pollutant ⁽¹⁾ | TMDL for Sediment Related Pollutant ⁽¹⁾ | Beneficial Uses of COLD, SPAWN, and MIGRATORY ⁽¹⁾ |
|------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Seaside Groundwater Basin | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No |
| Overall Receiving Water Risk | | | <input checked="" type="checkbox"/> Low <input type="checkbox"/> High |
| (1) If yes is selected for any option the Receiving Water Risk is High | | | |

Risk Level 1 sites are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent limitations require stormwater discharges associated with construction activity to minimize or prevent pollutants in stormwater and authorized non-stormwater through the use of controls, structures, and best management practices. This SWPPP has been prepared to address Risk Level 1 requirements (General Permit Attachment C).

2.5 CONSTRUCTION SCHEDULE

The site sediment risk was determined based on construction taking place between August 15, 2018 to November 30, 2018. Modification or extension of the schedule (start and end dates) may affect risk determination and permit requirements. The LRP shall contact the QSD if the schedule changes during construction to address potential impact to the SWPPP. The estimated schedule for planned work can be found in Appendix F.

Listed below are the identified phases of construction and their proposed start dates:

| | |
|----------------------------|--------------------------------------------------|
| August 15, 2018 (or later) | Site grading, trenching and utility installation |
| August 20, 2018 (or later) | Expansion of Percolation Basin |

2.6 POTENTIAL CONSTRUCTION ACTIVITY AND POLLUTANT SOURCES

The following is a list of example construction materials and activities that have the potential to contribute pollutants, other than sediment, to storm water run-off:

- Vehicle fluids, including oil, grease, petroleum, and coolants
- Asphaltic emulsions associated with asphalt concrete paving operations
- Cement materials associated with Portland cement concrete (PCC) paving operations, trench installation and utility installation
- Base and subbase material
- Joint and curing compounds
- Concrete curing compounds
- Paints
- Solvents, thinners, and acids
- Raw landscaping materials and wastes (topsoil, plant materials, herbicides, fertilizers, mulch, pesticides)
- BMP materials (sandbags)
- Treated lumber (materials and waste)
- PCC rubble
- General litter

Construction activities that have the potential to contribute sediment to storm water discharges include:

- Clearing and grubbing operations
- Grading operations
- Excavation operations
- Landscaping operations
- Painting

The QSP is required to maintain an ongoing and active list of potential pollutant sources, construction activities, and identify areas of the site where additional BMPs are necessary to reduce or prevent pollutants in discharges. This "SWPPP Construction Site Pollutant Checklist" must be consistent with the Material Safety Data Sheets (MSDS) for the project. It is recommended that the SWPPP and MSDS be kept together at the site office, together with the Stormwater Management Plan.

Appendix G includes a template for list of construction activities and associated materials that are anticipated to be used onsite. These activities and associated materials will or could potentially contribute pollutants, other than sediment, to stormwater runoff.

The anticipated activities and associated pollutants were used in Section 3 to select the Best Management Practices for the project. Location of anticipated pollutants and associated BMPs are shown on the Erosion Control Plans in Appendix R.

For sampling requirements for non-visible pollutants associated with construction activity please refer to Section 7.7.1. For a full and complete list of onsite pollutants, refer to the Material Safety Data Sheets (MSDS), which are retained onsite at the construction trailer.

2.7 IDENTIFICATION OF NON-STORMWATER DISCHARGES

Non-stormwater discharges consist of discharges which do not originate from precipitation events. The General Permit provides allowances for specified non-stormwater discharges that do not cause erosion or carry other pollutants.

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit and listed in the SWPPP, or authorized under a separate NPDES permit, are prohibited. No known non-stormwater discharges are authorized from this project site.

Activities at this site that may result in unauthorized non-stormwater discharges include:

- Vehicle and equipment cleaning, fueling and maintenance
- Saw-cutting
- Drilling
- Boring
- AC and PCC grinding
- AC and PCC recycling
- Concrete mixing
- Crushing
- Painting
- Mortar mixing
- Air-blown mortar

Steps will be taken, including the implementation of appropriate BMPs, to ensure that unauthorized discharges are eliminated, controlled, disposed, or treated on-site.

Discharges of construction materials and wastes, such as fuel or paint, resulting from dumping, spills, or direct contact with rainwater or stormwater runoff, are also prohibited.

2.8 REQUIRED SITE MAP INFORMATION

The construction project's Site Map(s) showing the project location, surface water boundaries, geographic features, construction site perimeter and general topography and other requirements identified in Attachment B of the General Permit is located in Appendix B and Appendix R. Table 2.5 identifies Map or Sheet Nos. where required elements are illustrated.

Table 2.5 Required Map Information

| Included on Map/Plan Sheet No. ⁽¹⁾ | Required Element |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Erosion Control Plan/1 | The project's surrounding area (vicinity) |
| Erosion Control Plan/1 | Site layout |
| Erosion Control Plan/1 | Construction site boundaries |
| Erosion Control Plan/1 | Drainage areas |
| Erosion Control Plan/1 | Discharge locations |
| Erosion Control Plan/1 | Sampling locations |
| Erosion Control Plan/1 | Areas of soil disturbance (temporary or permanent) |
| Erosion Control Plan/1 | Active areas of soil disturbance (cut or fill) |
| Erosion Control Plan/1 | Locations of runoff BMPs |
| Erosion Control Plan/ 1 | Locations of erosion control BMPs |
| Erosion Control Plan/ 1 | Locations of sediment control BMPs |
| NA | ATS location (if applicable) |
| NA | Locations of sensitive habitats, watercourses, or other features which are not to be disturbed |
| NA | Locations of all post construction BMPs |
| Location to be decided in the field by the Contractor | Waste storage areas |
| Location to be decided in the field by the Contractor | Vehicle storage areas |
| Location to be decided in the field by the Contractor | Material storage areas |
| Erosion Control Plan/1 | Entrance and Exits |
| Location to be decided in the field by the Contractor | Fueling Locations |

Notes: (1) Indicate maps or drawings that information is included on (e.g., Vicinity Map, Site Map, Drainage Plans, Grading Plans, Progress Maps, etc.)

Section 3 Best Management Practices

3.1 SCHEDULE FOR BMP IMPLEMENTATION

The QSP is required to install BMPs as shown on the Erosion Control Plans included in Appendix R and implement/install the BMPs listed in this section of the SWPPP. The Contractor shall modify the Erosion Control Plan to reflect the phase of construction and the weather conditions.

The Contractor shall install BMPs before the site is disturbed (e.g., to provide protection during grading operations or to reduce or minimize pollution from historic areas of contamination during construction). The erosion control plan shall be implemented year round.

A BMP Consideration Checklist has been provided in Appendix H, followed by the Fact Sheets for the BMPs that are recommended for this project, which are included in the following sections. BMPs will be installed in a sequence to follow the progress of demolition and construction. As each area of the site is disturbed, BMPs will be installed to conform to the specific site requirements. In general, the project will have limited areas exposed at any time. Where practical, construction will occur during dry periods. The site BMP implementation schedule is shown in Table 3.1, and described in the subsequent sections.

Table 3.1 BMP Implementation Schedule

| | BMP | Implementation | Duration |
|-------------------------|---------------------------------------------|-------------------------|---------------------------------|
| Erosion Control | EC-1, Scheduling | Prior to Construction | Entirety of Project |
| | EC-2, Preservation of Existing Vegetation | Start of Construction | Entirety of Project |
| | EC-4, Hydroseeding | End of Construction | Post construction |
| | EC-7, Geotextiles and Mats | During the Construction | During certain field activities |
| | EC-16, Non-Vegetative Stabilization | End of Construction | Post construction |
| Sediment Control | SE-1, Silt Fence | Start of Construction | Entirety of Project |
| | SE- 5, Fiber Rolls | Start of Construction | Entirety of Project |
| | SE-7, Street Sweeping and Vacuuming | Start of Construction | Entirety of Project |
| | SE-8, Sandbag Barrier | Start of Construction | Entirety of Project |
| | SE-10, Storm Drain Inlet Protection | Start of Construction | Entirety of Project |
| Tracking Control | TC-1, Stabilized Construction Entrance/Exit | Start of Construction | Entirety of Project |
| | TC-3, Entrance/Outlet Tire Wash | Start of Construction | Entirety of Project |
| Wind Erosion | WE-1, Wind Erosion Control | Start of Construction | Entirety of Project |

3.2 EROSION AND SEDIMENT CONTROL

Erosion and sediment controls are required by the General Permit to provide effective reduction or elimination of sediment related pollutants in stormwater discharges and authorized non-stormwater discharges from the Site. Applicable BMPs are identified in this section for erosion control, sediment control, tracking control, and wind erosion control.

3.2.1 Erosion Control

Erosion control, also referred to as soil stabilization, consists of source control measures that are designed to prevent soil particles from detaching and becoming transported in stormwater runoff. Erosion control BMPs protect the soil surface by covering and/or binding soil particles.

This construction project will implement the following practices to provide effective temporary and final erosion control during construction:

1. Preserve existing vegetation where required and when feasible.

2. The area of soil disturbing operations shall be controlled such that the Contractor is able to implement erosion control BMPs quickly and effectively.
3. Stabilize non-active areas within 14 days of cessation of construction activities or sooner if stipulated by local requirements.
4. Control erosion in concentrated flow paths by applying geotextiles and mats, and straw bales.
5. Prior to the completion of construction, apply permanent erosion control and stabilization methods such as hydroseeding and other non-vegetative stabilization methods to remaining disturbed soil areas.

Sufficient erosion control materials shall be maintained onsite to allow implementation in conformance with this SWPPP.

The following temporary erosion control BMP selection table indicates the BMPs that shall be implemented to control erosion on the construction site. Fact Sheets for temporary erosion control BMPs are provided in Appendix H.

Table 3.2 Temporary Erosion Control BMPs

| CASQA Fact Sheet | BMP Name | Meets a Minimum Requirement ⁽¹⁾ | BMP Used | | If not used, state reason |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------|----------|----|-------------------------------|
| | | | YES | NO | |
| EC-1 | Scheduling | ✓ | X | | |
| EC-2 | Preservation of Existing Vegetation | ✓ | X | | |
| EC-3 | Hydraulic Mulch | ✓ ⁽²⁾ | | X | Not applicable at the site. |
| EC-4 | Hydroseed | ✓ ⁽²⁾ | X | | |
| EC-5 | Soil Binders | ✓ ⁽²⁾ | | X | Not applicable at the site. |
| EC-6 | Straw Mulch | ✓ ⁽²⁾ | | X | Not applicable at the site. |
| EC-7 | Geotextiles and Mats | ✓ ⁽²⁾ | X | | |
| EC-8 | Wood Mulching | ✓ ⁽²⁾ | | X | Not applicable at the site. |
| EC-9 | Earth Dike and Drainage Swales | ✓ ⁽³⁾ | | X | Not applicable at the site. |
| EC-10 | Velocity Dissipation Devices | | X | | |
| EC-11 | Slope Drains | | | X | Not applicable at the site. |
| EC-12 | Stream Bank Stabilization | | | X | Not applicable at the site. |
| EC-14 | Compost Blankets | ✓ ⁽²⁾ | | X | Not applicable at the site. |
| EC-15 | Soil Preparation-Roughening | | | X | Not applicable at the site. |
| EC-16 | Non-Vegetated Stabilization | ✓ ⁽²⁾ | X | | |
| WE-1 | Wind Erosion Control | ✓ | X | | |
| Alternate BMPs Used: | | | | | If used, state reason: |
| | | | | | |
| | | | | | |
| ⁽¹⁾ Applicability to a specific project shall be determined by the QSD. ⁽²⁾ The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements. ⁽³⁾ Run-on from offsite shall be directed away from all disturbed areas, diversion of offsite flows may require design/analysis by a licensed civil engineer and/or additional environmental permitting | | | | | |

These temporary erosion control BMPs shall be implemented in conformance with the following guidelines and as outlined in the BMP Factsheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

EC-1 Scheduling

A portion of the work requiring soil disturbance may occur in the winter months. If possible, the majority of the soil disturbance (pipeline/utility trenching, site grading) will be scheduled for the dry season.

EC-2 Preservation of Existing Vegetation

Existing vegetation at the site will be preserved and protected where practical.

EC-4 Hydroseeding

Vegetation that is disturbed as a result of the land disturbance and construction will be replaced by hydroseeding after the construction ends.

EC-7 Geotextiles and Mats

The contractors will use geotextiles and/or mats as needed to provide stable surfaces for drilling equipment.

EC-16 Non-Vegetated Stabilization

Post construction, the well sites will be stabilized using non-vegetated stabilization methods such as asphaltic pavement.

3.2.2 Sediment Controls

Sediment controls are temporary or permanent structural measures that are intended to complement the selected erosion control measures and reduce sediment discharges from active construction areas. Sediment controls are designed to intercept and settle out soil particles that have been detached and transported by the force of water.

The following sediment control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary sediment control BMPs are provided in Appendix H.

Table 3.3 Temporary Sediment Control BMPs, Tracking Control BMPs and Wind Erosion Control BMPs

| CASQA Fact Sheet | BMP Name | Meets a Minimum Requirement ⁽¹⁾ | BMP used | | If not used, state reason |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------------|-------------|--------|--------------------------------------------------|
| | | | Y ES | N O | |
| SE-1 | Silt Fence | ✓ ^{(2) (3)} | X | | |
| SE-2 | Sediment Basin | | | X | Not applicable at the site. No runoff to capture |
| SE-3 | Sediment Trap | | | X | Not applicable at the site. No runoff to capture |
| SE-4 | Check Dams | | | X | Not applicable at the site. |
| SE-5 | Fiber Rolls | ✓ ⁽²⁾⁽³⁾ | | X | |
| SE-6 | Gravel Bag Berm | ✓ ⁽³⁾ | | X | |
| SE-7 | Street Sweeping | ✓ | X | | |
| SE-8 | Sandbag Barrier | | X | | |
| SE-9 | Straw Bale Barrier | | | X | Not applicable at the site. |
| SE-10 | Storm Drain Inlet Protection | ✓ RL2&3 | X | | |
| SE-11 | ATS | | | X | Not applicable at the site. |
| SE-12 | Manufactured Linear Sediment Controls | | | X | Not applicable at the site. |
| SE-13 | Compost Sock and Berm | ✓ ⁽³⁾ | | X | Not applicable at the site. |
| SE-14 | Biofilter Bags | ✓ ⁽³⁾ | | X | Not applicable at the site. |
| TC-1 | Stabilized Construction Entrance and Exit | ✓ | X | | |
| TC-2 | Stabilized Construction Roadway | | | X | Not applicable at the site. |
| TC-3 | Entrance Outlet Tire Wash | | X | | |
| WE-1 | Wind Erosion Control | | X | | |
| Alternate BMPs Used: | | | | | If used, state reason: |
| | | | | | |
| ⁽¹⁾ Applicability to a specific project shall be determined by the QSD | | | | | |
| ⁽²⁾ The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements | | | | | |
| ⁽³⁾ Risk Level 2 & 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope | | | | | |

These temporary sediment control BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over

standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

SE-1 Silt Fence

Refer to the plans for silt fence installation and maintenance. In general, silt fence shall be installed around the perimeter of any disturbed area on the Project site. Silt fence shall be installed at the perimeter of the project and around any temporary spoil areas and material stockpiles.

A silt fence is a temporary sediment barrier consisting of woven geotextile stretched across and attached to supporting posts, trenched-in 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 proposed on top of slopes to reduce the potential for wind to carry sediment from disturbed soils. Silt fences shall remain in place until the disturbed area is permanently stabilized, after which, the silt fence shall be removed and properly disposed of.

SE-7 Street Sweeping and Vacuuming

Power brooms will be used for street sweeping. Sweeping will occur daily in areas with construction activities where needed.

SE-10 Storm Drain Inlet Protection

Refer to the plans for locations of storm drain inlets which require protection.

Storm drain inlet protection consisting of a fiber roll around a storm drain, drop inlet, or curb inlet will be used. In areas where fiber rolls are unable to be installed, the QSP may use gravel bag berms around the storm drain structure. Storm drain inlet protection measures temporarily pond runoff before it enters the storm drain, allowing sediment to settle. Temporary geotextile storm drain inserts attach underneath storm drain grates to capture and filter storm water.

3.2.3 Tracking Control

Tracking control consists of preventing or reducing the tracking of sediment off-site by vehicles leaving the construction area. Street Sweeping and Vacuuming (SE-7) is also a tracking control practice. All sites must have a stabilized construction entrance and implement controls to prevent off-site tracking of sediment or other loose construction-related materials. These controls should be inspected daily.

Attention to control of tracking sediment off site is essential, as dirty streets and roads near a construction site create a nuisance to the public and can generate complaints to elected officials and regulators. These complaints often result in immediate inspections and regulatory actions. The QSP will implement the following practices for effective sediment tracking control during construction:

- Stabilize all construction entrances and exits to prevent the off-site tracking of loose construction/landscape materials.
- Implement/install the tracking control BMPs listed below.

Table 3.4 Temporary Tracking Control BMPs

| CASQA Fact Sheet | BMP Name | Meets a Minimum Requirement ⁽¹⁾ | BMP used | | If not used, state reason |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------------------------|----------|----|-------------------------------|
| | | | YES | NO | |
| TC-1 | Stabilized Construction Entrance and Exit | ✓ | X | | |
| TC-2 | Stabilized Construction Roadway | | | X | Not applicable at the site. |
| TC-3 | Entrance Outlet Tire Wash | | | X | Not applicable at the site. |
| Alternate BMPs Used: | | | | | If used, state reason: |
| | | | | | |
| ⁽¹⁾ Applicability to a specific project shall be determined by the QSD ⁽²⁾ The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements ⁽³⁾ Risk Level 2 & 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope | | | | | |

Tracking Control BMPs

The California Stormwater BMP Handbook - Construction contains fact sheets for tracking control BMPs. The table below indicates the tracking control BMPs that are required, because they are certain to be needed, and those that should be implemented as needed.

TC-1 Stabilized Construction Entrance and Exit

A construction entrance/exit shall be provided as shown on plans. The existing driveway from General Jim Moore Blvd onto the site shall be used as the construction entrance/exit. A new paved driveway entrance from General Jim Moore Blvd will be constructed as part of this project. That driveway will not be used for construction traffic.

3.2.4 Wind Erosion Control

Wind erosion control consists of applying water or other dust palliatives to prevent or minimize dust nuisance.

Other BMPs that control wind erosion are EC-1 through EC-8, and EC-14 through EC-16. Be advised that some of the dust palliatives/chemical dust suppression agents may have potential water quality impacts.

The QSP will implement the following practices for effective wind erosion control during construction:

- Good housekeeping to prevent wind erosion of materials on site.

- Implement/install the wind erosion control BMP listed below and described in the Fact Sheet in Appendix H.

Wind Erosion Control BMP

The California Stormwater BMP Handbook - Construction contains a fact sheet for wind erosion control BMPs. As indicated in the table below, the wind erosion control BMPs are required.

Table 3.5 Temporary Wind Erosion Control BMPs

| CASQA Fact Sheet | BMP Name | Meets a Minimum Requirement ⁽¹⁾ | BMP used | | If not used, state reason |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------------------------|----------|----|---------------------------|
| | | | YES | NO | |
| WE-1 | Wind Erosion Control | | X | | |
| Alternate BMPs Used: | | | | | If used, state reason: |
| | | | | | |
| ⁽¹⁾ Applicability to a specific project shall be determined by the QSD ⁽²⁾ The QSD shall ensure implementation of one of the minimum measures listed or a combination thereof to achieve and maintain the Risk Level requirements ⁽³⁾ Risk Level 2 & 3 shall provide linear sediment control along toe of slope, face of slope, and at the grade breaks of exposed slope | | | | | |

3.3 NON-STORMWATER CONTROLS AND WASTE AND MATERIALS MANAGEMENT

3.3.1 Non-Stormwater Controls

Non-stormwater discharges into storm drainage systems or waterways, which are not authorized under the General Permit, are prohibited. Non-stormwater discharges for which a separate NPDES permit is required by the local Regional Water Board are prohibited unless coverage under the separate NPDES permit has been obtained for the discharge. The selection of non-stormwater BMPs is based on the list of construction activities with a potential for non-stormwater discharges identified in Section 2.7 of this SWPPP.

The following non-stormwater control BMP selection table indicates the BMPs that shall be implemented to control sediment on the construction site. Fact Sheets for temporary non-stormwater control BMPs are provided in Appendix H.

Table 3.6 Temporary Non-Stormwater BMPs

| CASQA Fact Sheet | BMP Name | Meets a Minimum Requirement ⁽¹⁾ | BMP used | | If not used, state reason |
|-----------------------------------------------------------------------------------|---------------------------------------|--------------------------------------------|------------------------|----|-----------------------------|
| | | | YES | NO | |
| NS-1 | Water Conservation Practices | ✓ | X | | |
| NS-2 | Dewatering Operation | | | X | Not applicable at the site. |
| NS-3 | Paving and Grinding Operation | | X | | |
| NS-4 | Temporary Stream Crossing | | | X | Not applicable at the site. |
| NS-5 | Clear Water Diversion | | | X | Not applicable at the site. |
| NS-6 | Illicit Connection/Discharge | ✓ | | X | Not applicable at the site. |
| NS-7 | Potable Water/Irrigation | | X | | |
| NS-8 | Vehicle and Equipment Cleaning | ✓ | | X | Not applicable at the site. |
| NS-9 | Vehicle and Equipment Fueling | ✓ | X | | |
| NS-10 | Vehicle and Equipment Maintenance | ✓ | X | | |
| NS-11 | Pile Driving Operation | | | X | Not applicable at the site. |
| NS-12 | Concrete Curing | | X | | |
| NS-13 | Concrete Finishing | | X | | |
| NS-14 | Material and Equipment Use Over Water | | | X | Not applicable at the site. |
| NS-15 | Demolition Removal Adjacent to Water | | | X | Not applicable at the site. |
| NS-16 | Temporary Batch Plants | | | X | Not applicable at the site. |
| Alternate BMPs Used: | | | If used, state reason: | | |
| | | | | | |
| ⁽¹⁾ Applicability to a specific project shall be determined by the QSD | | | | | |

Non-stormwater BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

NS-1 Water Conservation Practices

Practice suitable for all construction sites where water is used, including piped water, metered water, trucked water, and water from a reservoir.

The following practices shall be implemented:

- Keep water equipment in good working condition.
- Stabilize water truck filling area.
- Repair water leaks promptly.
- Washing of vehicles and equipment on the construction site is discouraged.
- Avoid using water to clean construction areas. If water must be used for cleaning or surface preparation, surface shall be swept and vacuumed first to remove dirt. This will minimize amount of water required.
- Direct construction water runoff to areas where it can soak into the ground or be collected and reused.
- Authorized non-stormwater discharges to the storm drain system, channels, or receiving waters are acceptable with the implementation of appropriate BMPs.
- Lock water tank valves to prevent unauthorized use.

NS-3 Paving and Grinding Operation

General

- Project will avoid paving during the rainy season. Paving and grinding activities will be rescheduled if rain is forecasted.
- Employees and sub-contractors will be trained in pollution prevention and reduction.
- Disposal of PCC (Portland cement concrete) and AC (asphalt concrete) waste shall be in conformance with WM-8, Concrete Waste Management.

Saw Cutting, Grinding, and Pavement Removal

Since this Project requires Saw Cutting, Grinding and Pavement Removal, the following shall be implemented:

- Shovel or vacuum saw-cut slurry and remove from site. Cover or barricade storm drains during saw cutting to contain slurry.
- When paving involves AC, the following steps shall be implemented to prevent the discharge of grinding residue, uncompacted or loose AC, tack coats, equipment cleaners, or unrelated paving materials:
 - AC grindings, pieces, or chunks used in embankments or shoulder backing shall not be allowed to enter any storm drains or watercourses. Install inlet protection and perimeter controls until area is stabilized (i.e. cutting, grinding or other removal activities are complete and loose material has been properly removed and

disposed of) or permanent controls are in place. Examples of temporary perimeter controls can be found in the Erosion Controls and Sediment Controls Section.

- Collect and remove all broken asphalt and recycle when practical. Old or spilled asphalt shall be recycled or disposed of properly.
- Do not allow saw-cut slurry to enter storm drains or watercourses. Residue from grinding operations shall be picked up by a vacuum attachment to the grinding machine, or by sweeping, shall not be allowed to flow across the pavement, and shall not be left on the surface of the pavement. See also WM-8, Concrete Waste Management.
- Pavement removal activities shall not be conducted in the rain.
- Collect removed pavement material by mechanical or manual methods. This material may be recycled for use as shoulder backing or base material.
- If removed pavement material cannot be recycled, transport the material back to an approved storage site.

Asphaltic Concrete Paving

Since this Project requires Asphaltic Concrete Paving, the following shall be implemented:

- Do not allow sand or gravel placed over new asphalt to wash into storm drains, streets, or creeks.
- Vacuum or sweep loose sand and gravel and properly dispose of this waste by referring to WM- 5, Solid Waste Management.
- Old asphalt shall be disposed of properly. Collect and remove all broken asphalt from the site and recycle whenever possible.

Portland Cement Concrete Paving

Since this Project requires Portland Cement Concrete Paving, the following shall be implemented:

- Do not wash sweepings from exposed aggregate concrete into a storm drain system. Collect waste materials by dry methods, such as sweeping or shoveling, and return to aggregate base stockpile or dispose of properly. Allow aggregate rinse to settle. Then, either allow rinse water to dry in a temporary pit as described in WM-8, Concrete Waste Management, or pump the water to the sanitary sewer if authorized by the local wastewater authority.

Sealing Operations

- During chip seal application and sweeping operations, petroleum or petroleum covered aggregate shall not be allowed to enter any storm drain or water courses. Apply temporary perimeter controls until structure is stabilized (i.e. all sealing operations are complete and cured and loose materials have been properly removed and disposed).
- Inlet protection (SE-10, Storm Drain Inlet Protection) shall be used during application of seal coat, tack coat, slurry seal, and fog seal.
- 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 and dispose of in accordance with the applicable regulations. See NS-10, Vehicle and Equipment Maintenance, WM-4, Spill Prevention and Control.
- Substances used to coat asphalt transport trucks and asphalt spreading equipment shall not contain soap and shall be non-foaming and non-toxic.
- 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-5, Solid Waste Management. Any cleaning onsite shall follow NS-8, Vehicle and Equipment Cleaning.

NS-7 Potable Water/Irrigation

Potable water will be brought at the site and maintained in the following manner:

- Direct water from offsite sources around or through a construction site, where feasible, in a way that minimizes contact with the construction site.
- Shut off the water source to broken lines, sprinklers, or valves as soon as possible to prevent excess water flow.

NS-9 Vehicle and Equipment Fueling

Vehicle equipment fueling procedures are designed to prevent fuel spills and leaks, and reduce or eliminate contamination of stormwater. This can be accomplished by using offsite facilities, fueling in designated areas only, enclosing or covering stored fuel, implementing spill controls, and training employees and subcontractors in proper fueling procedures.

Implementation recommendations:

- Use offsite fueling stations as much as possible. These businesses are better equipped to handle fuel and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate fueling area at a site.
- Discourage “topping-off” of fuel tanks.
- Absorbent spill cleanup materials and spill kits shall be available in fueling areas and on fueling trucks. Other options to washing equipment onsite include contracting with either an offsite or mobile commercial be disposed of properly after use.
- Drip pans or absorbent pads shall be used during vehicle and equipment fueling, unless the fueling is performed over an impermeable surface in a dedicated fueling area.
- Use absorbent materials on small spills. Do not hose down or bury the spill. Remove the adsorbent materials promptly and dispose of properly.
- 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 large excavators, most vehicles shall be able to travel to a designated area with little lost time.

- Train employees and subcontractors in proper fueling and cleanup procedures.
- When fueling must take place onsite, designate an area away from drainage courses to be used. Fueling areas shall be identified in the SWPPP.
- Dedicated fueling areas shall be protected from stormwater run-on and runoff, and shall be located at least 50 ft away from downstream drainage facilities and watercourses. Fueling must be performed on level-grade areas.
- Protect fueling areas with berms and dikes to prevent run-on, runoff, and to contain spills.
- Nozzles used in vehicle and equipment fueling shall be equipped with an automatic shutoff to control drips. Fueling operations shall not be left unattended.
- Use vapor recovery nozzles to help control drips as well as air pollution where required by Air Quality Management District (AQMD).
- Federal, state, and local requirements shall be observed for any stationary above ground storage tanks.

NS-10 Vehicle and Equipment Maintenance

Prevent or reduce the contamination of stormwater resulting from vehicle and equipment maintenance by running a “dry and clean site”. The best option would be to perform maintenance activities at an offsite facility. If this option is not available, then work should be performed in designated areas only, while providing cover for materials stored outside, checking for leaks and spills, and containing and cleaning up spills immediately. Employees and subcontractors must be trained in proper procedures.

Implementation recommendations:

- Use offsite repair shops as much as possible. These businesses are better equipped to handle vehicle fluids and spills properly. Performing this work offsite can also be economical by eliminating the need for a separate maintenance area.
- If maintenance must occur onsite, use designated areas, located away from drainage courses. Dedicated maintenance areas shall be protected from stormwater run-on and runoff, and shall be located at least 50 ft from downstream drainage facilities.
- Drip pans or absorbent pads shall be used during vehicle and equipment maintenance work that involves fluids, unless the maintenance work is performed over an impermeable surface in a dedicated maintenance area.
- Place a stockpile of spill cleanup materials where it will be readily accessible. All fueling trucks and fueling areas are required to have spill kits and/or use other spill protection devices.
- Use adsorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
- Inspect onsite vehicles and equipment daily at startup for leaks, and repair immediately.
- Keep vehicles and equipment clean; do not allow excessive build-up of oil and grease.
- Segregate and recycle wastes, such as greases, used oil or oil filters, antifreeze, cleaning solutions, automotive batteries, hydraulic and transmission fluids. Provide secondary containment and covers for these materials if stored onsite.
- Train employees and subcontractors in proper maintenance and spill cleanup procedures.

- Drip pans or plastic sheeting shall be placed under all vehicles and equipment placed on docks, barges, or other structures over water bodies when the vehicle or equipment is planned to be idle for more than 1 hour.
- For long-term projects, consider using portable tents or covers over maintenance areas if maintenance cannot be performed offsite.
- Consider use of new, alternative greases and lubricants, such as adhesive greases, for chassis lubrication and fifth-wheel lubrication.
- Properly dispose of used oils, fluids, lubricants, and spill cleanup materials.
- Do not place used oil in a dumpster or pour into a storm drain or watercourse.
- Properly dispose of or recycle used batteries.
- Do not bury used tires.

NS-12 Concrete Curing

Concrete and its associated curing materials have basic chemical properties that can raise the pH of water to levels outside of the permitted range. Discharges of stormwater and non-stormwater exposed to concrete during curing may have a high pH and may contain chemicals, metals, and fines. Proper procedures and care should be taken when managing concrete curing materials to prevent them from coming into contact with stormwater flows, which could result in high pH discharge.

Implementation recommendations:

Chemical Curing

- Avoid over spray of curing compounds.
- Minimize the drift by applying the curing compound close to the concrete surface. Apply an amount of compound that covers the surface, but does not allow any runoff of the compound.
- Use proper storage and handling techniques for concrete curing compounds. Refer to WM-1, Material Delivery and Storage.
- Protect drain inlets prior to the application of curing compounds.
- Refer to WM-4, Spill Prevention and Control.

Water Curing for Retaining Walls, and other Structures

- Direct cure water away from inlets and watercourses to collection areas for evaporation or other means of removal in accordance with all applicable permits. See WM-8 Concrete Waste Management.
- Collect cure water at the top of slopes and transport to a concrete waste management area in a non-erosive manner. See EC-9 Earth Dikes and Drainage Swales, and EC-10, Velocity Dissipation Devices.
- Utilize wet blankets or a similar method that maintains moisture while minimizing the use and possible discharge of water.

Education

- Educate employees, subcontractors, and suppliers on proper concrete curing techniques to

prevent contact with discharge as described herein. Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete curing procedures.

NS-13 Concrete Finishing

Concrete finishing methods are used for paint removal, curing compound removal, and final surface finish appearances. Methods include sand blasting, shot blasting, grinding, or high pressure water blasting. Stormwater and non-stormwater exposed to concrete finishing by-products may have a high pH and may contain chemicals, metals, and fines. Proper procedures and implementation of appropriate BMPs can minimize the impact that concrete-finishing methods may have on stormwater and non-stormwater discharges.

Implementation recommendations:

- Collect and properly dispose of water from high-pressure water blasting operations.
- Collect contaminated water from blasting operations at the top of slopes. Transport or dispose of contaminated water while using BMPs such as those for erosion control. Refer to EC-9, Earth
- Dikes and Drainage Swales, and EC-10, Velocity Dissipation Devices.
- Direct water from blasting operations away from inlets and watercourses to collection areas for infiltration or other means of removal (dewatering). Refer to NS-2 Dewatering Operations.
- Protect inlets during sandblasting operations. Refer to SE-10, Storm Drain Inlet Protection.
- Refer to WM-8, Concrete Waste Management for disposal of concrete debris.
- Minimize the drift of dust and blast material as much as possible by keeping the blasting nozzle close to the surface.
- When blast residue contains a potentially hazardous waste, refer to WM-6, Hazardous Waste Management.

Education

Educate employees, subcontractors, and suppliers on proper concrete finishing techniques to prevent contact with discharge as described herein. Arrange for the QSP or the appropriately trained contractor's superintendent or representative to oversee and enforce concrete finishing procedures.

3.3.2 Materials Management and Waste Management

Materials management control practices consist of implementing procedural and structural BMPs for handling, storing and using construction materials to prevent the release of those materials into stormwater discharges. The amount and type of construction materials to be utilized at the Site will depend upon the type of construction and the length of the construction period. The materials may be used continuously, such as fuel for vehicles and equipment, or the materials may be used for a discrete period, such as soil binders for temporary stabilization.

Waste management consist of implementing procedural and structural BMPs for handling, storing and ensuring proper disposal of wastes to prevent the release of those wastes into stormwater discharges.

Materials and waste management pollution control BMPs shall be implemented to minimize stormwater contact with construction materials, wastes and service areas; and to prevent materials and wastes from being discharged off-site. The primary mechanisms for stormwater contact that shall be addressed include:

- Direct contact with precipitation
- Contact with stormwater run-on and runoff
- Wind dispersion of loose materials
- Direct discharge to the storm drain system through spills or dumping
- Extended contact with some materials and wastes, such as asphalt cold mix and treated wood products, which can leach pollutants into stormwater.

A list of construction activities is provided in Section 2.6. The following Materials and Waste Management BMP selection table indicates the BMPs that shall be implemented to handle materials and control construction site wastes associated with these construction activities. Fact Sheets for Materials and Waste Management BMPs are provided in Appendix H.

Table 3.7 Temporary Materials Management BMPs

| CASQA Fact Sheet | BMP Name | Meets a Minimum Requirement ⁽¹⁾ | BMP used | | If not used, state reason |
|------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------|----------|------------------------|---------------------------|
| | | | YES | NO | |
| WM-01 | Material Delivery and Storage | ✓ | X | | |
| WM-02 | Material Use | ✓ | X | | |
| WM-03 | Stockpile Management | ✓ | X | | |
| WM-04 | Spill Prevention and Control | ✓ | X | | |
| WM-05 | Solid Waste Management | ✓ | X | | |
| WM-06 | Hazardous Waste Management | ✓ | X | | |
| WM-07 | Contaminated Soil Management | ✓ | X | | |
| WM-08 | Concrete Waste Management | ✓ | X | | |
| WM-09 | Sanitary-Septic Waste Management | ✓ | X | | |
| WM-10 | Liquid Waste Management | ✓ | X | | |
| Alternate BMPs Used: | | | | If used, state reason: | |
| | | | | | |
| ⁽¹⁾ Applicability to a specific project shall be determined by the QSD. | | | | | |

Material management BMPs shall be implemented in conformance with the following guidelines and in accordance with the BMP Fact Sheets provided in Appendix H. If there is a conflict between documents, the Site Map will prevail over narrative in the body of the SWPPP or guidance in the BMP Fact Sheets. Site specific details in the Site Map prevail over standard details included in the Site Map. The narrative in the body of the SWPPP prevails over guidance in the BMP Fact Sheets.

WM-1 Material Delivery and Storage

The following steps shall be taken to minimize risk:

- Chemicals must be stored in water tight containers with appropriate secondary containment or in a storage shed.
- When a material storage area is located on bare soil, the area shall be lined and bermed.
- Use containment pallets or other practical and available solutions, such as storing materials within newly constructed buildings or garages, to meet material storage requirements.
- Stack erodible landscape material on pallets and cover when not in use.
- Contain all fertilizers and other landscape materials when not in use.
- Temporary storage areas shall be located away from vehicular traffic.
- Material Safety Data Sheets (MSDS) shall be available on-site for all materials stored that have the potential to effect water quality.
- Construction site areas shall be designated for material delivery and storage.
- Material delivery and storage areas shall be located away from waterways, if possible.
 - Avoid transport near drainage paths or waterways.
 - Surround with earth berms or other appropriate containment BMP. See EC-9, Earth Dikes and Drainage Swales.
 - Place in an area that will be paved.
- Storage of reactive, ignitable, or flammable liquids must comply with the fire codes of the area. Contact the local Fire Marshal to review site materials, quantities, and proposed storage area to determine specific requirements. See the Flammable and Combustible Liquid Code, NFPA30.
- An up to date inventory of materials delivered and stored onsite shall be kept. Hazardous materials storage onsite shall be minimized.
- Hazardous materials shall be handled as infrequently as possible.
- Keep ample spill cleanup supplies appropriate for the materials being stored. Ensure that cleanup supplies are in a conspicuous, labeled area.
- Employees and subcontractors shall be trained on the proper material delivery and storage practices.
- Employees trained in emergency spill cleanup procedures must be present when dangerous materials or liquid chemicals are unloaded.
- If significant residual materials remain on the ground after construction is complete, properly remove and dispose of materials and any contaminated soil. See WM-7, Contaminated Soil Management. If the area is to be paved, pave as soon as materials are removed to stabilize the soil.

Material Storage Areas and Practices

- Liquids, petroleum products, and substances listed in 40 CFR Parts 110, 117, or 302 shall be stored in approved containers and drums and shall not be overfilled. Containers and drums shall be placed in temporary containment facilities for storage.
- A temporary containment facility shall provide for a spill containment volume able to contain precipitation from a 25 year storm event, plus the greater of 10% of the aggregate volume of all containers or 100% of the capacity of the largest container within its boundary, whichever is greater.
- A temporary containment facility shall be impervious to the materials stored therein for a minimum contact time of 72 hours.
- A temporary containment facility shall be maintained free of accumulated rainwater and spills. In the event of spills or leaks, accumulated rainwater and spills shall be collected and placed into drums. These liquids shall be handled as a hazardous waste unless testing determines them to be non-hazardous. All collected liquids or non-hazardous liquids shall be sent to an approved disposal site.
- Sufficient separation shall be provided between stored containers to allow for spill cleanup and emergency response access.
- Incompatible materials, such as chlorine and ammonia, shall not be stored in the same temporary containment facility.
- Materials shall be covered prior to, and during rain events.
- Materials shall be stored in their original containers and the original product labels shall be maintained in place in a legible condition. Damaged or otherwise illegible labels shall be replaced immediately.
- Bagged and boxed materials shall be stored on pallets and shall not be allowed to accumulate on the ground. To provide protection from wind and rain throughout the rainy season, bagged and boxed materials shall be covered during non-working days and prior to and during rain events.
- Stockpiles shall be protected in accordance with WM-3, Stockpile Management.
- Materials shall be stored indoors within existing structures or completely enclosed storage sheds when available.
- Proper storage instructions shall be posted at all times in an open and conspicuous location.
- An ample supply of appropriate spill cleanup material shall be kept near storage areas.
- Also see WM-6, Hazardous Waste Management, for storing of hazardous wastes.

Material Delivery Practices

Keep an accurate, up-to-date inventory of material delivered and stored onsite.
 Arrange for employees trained in emergency spill cleanup procedures to be present when dangerous materials or liquid chemicals are unloaded.

Spill Cleanup

- Contain and clean up any spill immediately.
- Properly remove and dispose of any hazardous materials or contaminated soil if significant residual materials remain on the ground after construction is complete. See WM-7, Contaminated

- Soil Management.
- See WM-4, Spill Prevention and Control, for spills of chemicals and/or hazardous materials. If spills or leaks of materials occur that are not contained and could discharge to surface waters, non-visible sampling of site discharge may be required. Refer to the General Permit or to your project specific Construction Site Monitoring Plan to determine if and where sampling is required.

WM-2 Material Use

The following steps shall be taken to minimize risk:

- Minimize use of hazardous materials onsite.
- Follow manufacturer instructions regarding uses, protective equipment, ventilation, flammability, and mixing of chemicals.
- Train personnel who use pesticides. The California Department of Pesticide Regulation and
- County Agricultural Commissioners license pesticide dealers, certify pesticide applicators, and conduct onsite inspections.
- Train employees and subcontractors in proper material use.
- Supply Material Safety Data Sheets (MSDS) for all materials.
- Dispose of latex paint and paint cans, used brushes, rags, absorbent materials, and drop cloths, when thoroughly dry and are no longer hazardous, with other construction debris.
- Do not remove the original product label; it contains important safety and disposal information. Use the entire product before disposing of the container.
- Mix paint indoors or in a containment area. Never clean paintbrushes or rinse paint containers into a street, gutter, storm drain, or watercourse. Dispose of any paint thinners, residue, and sludge(s) that cannot be recycled, as hazardous waste.
- For water-based paint, clean brushes to the extent practicable, and rinse to a drain leading to a sanitary sewer where permitted, or contain for proper disposal off site. For oil-based paints, clean brushes to the extent practicable, and filter and reuse thinners and solvents.
- Use recycled and less hazardous products when practical. Recycle residual paints, solvents, nontreated lumber, and other materials.
- Use materials only where and when needed to complete the construction activity. Use safer alternative materials as much as possible. Reduce or eliminate use of hazardous materials onsite when practical.
- Document the location, time, chemicals applied, and applicator's name and qualifications.
- Keep an ample supply of spill cleanup material near use areas. Train employees in spill cleanup procedures.
- Avoid exposing applied materials to rainfall and runoff unless sufficient time has been allowed for them to dry.
- Discontinue use of erodible landscape material within 2 days prior to a forecasted rain event and materials shall be covered and/or bermed.
- Provide containment for material use areas such as masons' areas or paint mixing/preparation areas to prevent materials/pollutants from entering stormwater.

WM-3 Stockpile Management

Stockpiling of material is anticipated at the construction site. Contractor shall cover all stockpiles that are not being used at the end of the day. Stockpiles not used for 14 days shall be considered inactive and shall be protected using the methods listed in WM-3 Stockpile Management. Dust control measures will be implemented on any stockpiled materials.

WM-4 Spill Prevention and Control

Employees will be trained to identify the type of spill (Minor, Semi-Significant or Significant/Hazardous), and respond accordingly. Spills will not be cleaned up using water. The spills will be cleaned up using materials specified for the type of spill. The used clean up material and the recovered materials no longer suitable for the intended purpose will be disposed off site as per the applicable regulations. Regular meetings will be held to discuss these procedures as continuing education for new employees. Keep material or waste storage areas clean, well-organized, and equipped with enough cleanup supplies for the material being stored. Implement spill and leak prevention procedures for chemicals and hazardous substances stored on the job site. Whenever you spill or leak chemicals or hazardous substances at the job site, you are responsible for all associated cleanup costs and related liability. Report minor, semi-significant, and significant or hazardous spills to the WPC manager. The WPC manager must notify the Engineer immediately. As soon as it is safe, contain and clean up spills of petroleum materials and sanitary and septic waste substances listed under 40 CFR, Parts 110, 117, and 302.

Minor Spills

Minor spills consist of quantities of oil, gasoline, paint, or other materials that are small enough to be controlled by a 1st responder upon discovery of the spill.

Clean up a minor spill using the following procedures:

1. Contain the spread of the spill
2. Recover the spilled material using absorption
3. Clean the contaminated area
4. Dispose of the contaminated material and absorbents promptly and properly under "Waste Management" of these special provisions

Semi-Significant Spills

Semi-significant spills consist of spills that can be controlled by a 1st responder with help from other personnel.

Clean up a semi-significant spill immediately using the following procedures:

1. Contain the spread of the spill.
2. On paved or impervious surfaces, encircle and recover the spilled material with absorbent materials. Do not allow the spill to spread widely.
3. If the spill occurs on soil, contain the spill by constructing an earthen dike and dig up the contaminated soil for disposal.
4. If the spill occurs during precipitation, cover the spill with 10-mil plastic sheeting or other material to prevent contamination of runoff.

5. Dispose of the contaminated material promptly and properly under "Waste Management" of these special provisions.

Significant or Hazardous Spills

Significant or hazardous spills consist of spills that cannot be controlled by job site personnel. Immediately notify qualified personnel of a significant or hazardous spill. Take the following steps:

1. Do not attempt to clean up the spill until qualified personnel have arrived
2. Notify the Engineer and follow up with a report
3. Obtain the immediate services of a spill contractor or hazardous material team
4. Notify local emergency response teams by dialing 911 and county officials by using the emergency phone numbers retained at the job site
5. Notify the California Emergency Management Agency State Warning Center.
6. Notify the National Response Center at (800) 424-8802 regarding spills of Federal reportable quantities under 40 CFR 110, 119, and 302
7. Notify other agencies as appropriate, including:
 - Fire Department
 - Public Works Department
 - Coast Guard
 - Highway Patrol
 - City Police or County Sheriff's Department
 - Department of Toxic Substances
 - California Division of Oil and Gas
 - Cal/OSHA
 - Regional Water Resources Control Board
8. Prevent a spill from entering stormwater runoff before and during cleanup activities. Do not bury or wash the spill with water.

WM-5 Solid Waste Management

The following steps shall be taken to help keep a clean site and reduce stormwater pollution:

- Select designated waste collection areas onsite.
- Inform trash-hauling contractors that the site will accept only watertight dumpsters for onsite use.
- Inspect dumpsters for leaks and repair any dumpster that is not watertight.
- Locate containers in a covered area or in a secondary containment.
- Provide an adequate number of containers with lids or covers that can be placed over the container to keep rain out or to prevent loss of wastes when it is windy.
- Plan for additional containers and more frequent pickup during the demolition phase of construction.
- Collect site trash daily, especially during rainy and windy conditions.
- Remove solid waste promptly since erosion and sediment control devices tend to collect litter.
- 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.

- Do not hose out dumpsters on the construction site. Leave dumpster cleaning to the trash hauling contractor.
- Arrange for regular waste collection before containers overflow.
- Clean up immediately if a container does spill.
- Make sure that construction waste is collected, removed, and disposed of only at authorized disposal areas.

Regular meetings will be held to discuss these procedures as continuing education for new employees.

Collection, Storage, and Disposal

- Littering on the project site is prohibited.
- To prevent clogging of the storm drainage system, litter and debris removal from drainage grates, trash racks, and ditch lines is a priority.
- Trash receptacles shall be provided in the contractor's yard, field trailer areas, and at locations where workers congregate for lunch and break periods.
- Litter from work areas within the construction limits of the project site shall be collected and placed in watertight dumpsters at least weekly, 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 stormwater drainage systems, or watercourses.
- Dumpsters of sufficient size and number shall be provided to contain the solid waste generated by the project.
- Full dumpsters shall be removed from the project site and the contents shall be disposed of by the trash hauling contractor.
- Construction debris and waste shall be removed from the site biweekly or more frequently as needed.
- Construction material visible to the public shall be stored or stacked in an orderly manner.
- Stormwater run-on shall 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 shall be located at least 50 ft from drainage facilities and watercourses and shall not be located in areas prone to flooding or ponding.
- Except during fair weather, construction and highway planting waste not stored in watertight dumpsters shall be securely covered from wind and rain by covering the waste with tarps or plastic.
- 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.
- For disposal of hazardous waste, see WM-6, Hazardous Waste Management. Have hazardous waste hauled to an appropriate disposal and/or recycling facility.
- Salvage or recycle useful vegetation debris, packaging and surplus building materials when 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.

WM-6 Hazardous Waste Management

Hazardous Waste Management will be implemented as per the contract specifications for any requirements pertaining to handling of contaminated material. Any waste generated will be stored in watertight containers and stored in a location approved by the Engineer until it is disposed of by a licensed hazardous waste transporter.

WM-7 Contaminated Soil Management

Prevent or reduce the discharge of pollutants to stormwater from contaminated soil and highly acidic or alkaline soils by conducting pre-construction surveys, inspecting excavations regularly, and remediating contaminated soil promptly. Look for contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris. Prevent leaks and spills. Contaminated soil can be expensive to treat and dispose of properly. However, addressing the problem before construction is much less expensive than after the structures are in place. The contractor may further identify contaminated soils by investigating:

- Past site uses and activities
- Detected or undetected spills and leaks
- Acid or alkaline solutions from exposed soil or rock formations high in acid or alkaline forming elements
- Contaminated soil as evidenced by discoloration, odors, differences in soil properties, abandoned underground tanks or pipes, or buried debris.
- Suspected soils should be tested at a certified laboratory

WM-8 Concrete Waste Management

Concrete waste will be handled in accordance with contract documents. Collect and dispose of Portland concrete, AC, or HMA waste at locations where saw-cutting, coring, grinding, grooving or hydro-concrete demolition of Portland cement concrete, AC or HMA create a residue or slurry. Concrete waste will be collected and disposed as appropriate portable washout bins. If any spilled material is observed, the spilled material shall be removed and placed into the concrete washout bin. WM-4 Spill Prevention and Control BMPs shall be implemented in case of any spill.

WM-9 Sanitary/Septic Waste Management

Sanitary or septic wastes shall be treated or disposed of in accordance with state and local requirements. The sanitary facilities shall be located at least 50 feet away from storm drains. The weekly QSP inspection shall include a review of sanitary facilities and disposal shall be monitored.

3.4 POST CONSTRUCTION STORMWATER MANAGEMENT MEASURES

Post construction BMPs are permanent measures installed during construction, designed to reduce or eliminate pollutant discharges from the site after construction is completed.

This site is located in an area subject to a Phase I or Phase II Municipal Separate Storm Sewer System (MS4) permit approved Stormwater Management Plan. ☒ Yes ☐ No

The following source control post construction BMPs to comply with General Permit Section XIII.B and local requirements have been identified for the site:

- TBD

A plan for the post construction funding and maintenance of these BMPs has been developed to address at minimum five years following construction. The post construction BMPs that are described above shall be funded and maintained by the LRP. If required, post construction funding and maintenance will be submitted with the NOT.

Section 4 BMP Inspection, Maintenance, and Rain Event Action Plans

4.1 BMP INSPECTION AND MAINTENANCE

The General Permit requires routine weekly inspections of BMPs, along with inspections before, during, and after qualifying rain events. A BMP inspection checklist must be filled out for inspections and maintained on-site with the SWPPP. The inspection checklist includes the necessary information covered in Section 7.6. A blank inspection checklist can be found in Appendix I. Completed checklists shall be kept in CSMP Attachment 2 “Monitoring Records.

BMPs shall be maintained regularly to ensure proper and effective functionality. If necessary, corrective actions shall be implemented within 72 hours of identified deficiencies and associated amendments to the SWPPP shall be prepared by the QSD.

Specific details for maintenance, inspection, and repair of Construction Site BMPs can be found in the BMP Factsheets in Appendix H.

4.2 RAIN EVENT ACTION PLANS

Rain Event Action Plans (REAPs) are not required for Risk Level 1 projects.

Section 5 Training

Appendix L identifies the QSPs for the project. To promote stormwater management awareness specific for this project, periodic training of job-site personnel shall be included as part of routine project meetings (e.g. daily/weekly tailgate safety meetings), or task specific trainings as needed.

The QSP shall be responsible for providing this information at the meetings, and subsequently completing the training logs shown in Appendix K, which identifies the site-specific stormwater topics covered as well as the names of site personnel who attended the meeting. Tasks may be delegated to trained employees by the QSP provided adequate supervision and oversight is provided. Training shall correspond to the specific task delegated including: SWPPP implementation; BMP inspection and maintenance; and record keeping.

Documentation of training activities (formal and informal) is retained in SWPPP Appendix K.

Section 6 Responsible Parties and Operators

6.1 RESPONSIBLE PARTIES

Approved Signatories who are responsible for SWPPP implementation and have authority to sign permit-related documents are listed below. Written authorizations from the LRP for these individuals are provided in Appendix L. The Approved Signatories assigned to this project are:

| Name | Title | Phone Number |
|------------------|-----------------|--------------|
| Maureen Hamilton | Project Manager | 831-658-5622 |

QSPs identified for the project are identified in Appendix L. The QSP shall have primary responsibility and significant authority for the implementation, maintenance and inspection/monitoring of SWPPP requirements. The QSP will be available at all times throughout the duration of the project. Duties of the QSP include but are not limited to:

- Implementing all elements of the General Permit and SWPPP, including but not limited to:
 - Ensuring all BMPs are implemented, inspected, and properly maintained;
 - Performing non-stormwater and stormwater visual observations and inspections;
 - Performing non-stormwater and storm sampling and analysis, as required;
 - Performing routine inspections and observations;
 - Implementing non-stormwater management, and materials and waste management activities such as: monitoring discharges; general Site clean-up; vehicle and equipment cleaning, fueling and maintenance; spill control; ensuring that no materials other than stormwater are discharged in quantities which will have an adverse effect on receiving waters or storm drain systems; etc.;
- The QSP may delegate these inspections and activities to an appropriately trained employee, but shall ensure adequacy and adequate deployment.
- Ensuring elimination of unauthorized discharges.
- The QSPs shall be assigned authority by the LRP to mobilize crews in order to make immediate repairs to the control measures.
- Coordinate with the Contractor(s) to assure all of the necessary corrections/repairs are made immediately and that the project complies with the SWPPP, the General Permit and approved plans at all times.
- Notifying the LRP or Authorized Signatory immediately of off-site discharges or other non-compliance events.

6.2 CONTRACTORS LIST

Contractor

| | |
|---------------------------------|-------------------------------------------------|
| Name: | TBD |
| Title: | |
| Company: | Granite Rock Company |
| Address: | 5225 Hellyer Ave, Suite 220, San Jose, CA 95138 |
| Phone Number: Number (24/7): | (408) 574-1400 |

Qualified SWPPP Practitioner

| | |
|---------------------------------|------------------------------------------|
| Name: | TBD |
| Title: | |
| Company: | Granite Rock Company |
| Address: | 350 Technology Dr, Watsonville, CA 95077 |
| Phone Number: Number (24/7): | (831) 768-2700 |
| Assigned inspector: | QSP, TBD |
| Contact phone: | |
| Alternate inspector: | QSP, TBD |
| Contact phone: | TBD |

Sampling Analysis / Laboratory

| | |
|-------------------------------|-----|
| Laboratory Name: | TBD |
| Street Address: | |
| City/ State / Zip: | |
| Telephone Number: | |
| Point of Contact: | TBD |
| ELAP Certification Number: | |

Sample Collection Contractor / Personnel

| | |
|---------------------------------|----------|
| Name: | TBD |
| Title: | |
| Company: | |
| Address: | |
| Phone Number: Number (24/7): | |
| Assigned inspector: | QSP, TBD |
| Contact phone: | |
| Alternate inspector: | QSP, TBD |
| Contact phone: | TBD |

Section 7 Construction Site Monitoring Program

7.1 Purpose

This Construction Site Monitoring Program was developed to address the following objectives:

1. To demonstrate that the site is in compliance with the Discharge Prohibitions and Numeric Action Levels (NALs) of the Construction General Permit;
2. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
3. To determine whether immediate corrective actions, additional Best Management Practices (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in stormwater discharges and authorized non-stormwater discharges;
4. To determine whether BMPs included in the SWPPP and REAP are effective in preventing or reducing pollutants in stormwater discharges and authorized non-stormwater discharges.

7.2 Applicability of Permit Requirements

This project has been determined to be a Risk Level 1 project. The General Permit identifies the following types of monitoring as being applicable for a Risk Level 1 project.

Risk Level 1

- Visual inspections of Best Management Practices (BMPs);
- Visual monitoring of the site related to qualifying storm events;
- Visual monitoring of the site for non-stormwater discharges;
- Sampling and analysis of construction site runoff for non-visible pollutants when applicable; and
- Sampling and analysis of construction site runoff as required by the Regional Water Board when applicable.

7.3. Weather and Rain Event Tracking

Visual monitoring and inspections requirements of the General Permit are triggered by a qualifying rain event. The General Permit defines a qualifying rain event as any event that produces ½ inch of precipitation. A minimum of 48 hours of dry weather will be used to distinguish between separate qualifying storm events.

7.3.1 Weather Tracking

The QSP should daily consult the National Oceanographic and Atmospheric Administration (NOAA) for the weather forecasts. These forecasts can be obtained at <http://www.srh.noaa.gov/>. Weather reports should be printed and maintained with the SWPPP in CSMP Attachment 1 “Weather Reports”.

7.3.2 Rain Gauges

The QSP shall install 1 rain gauge on the project site. Locate the gauge in an open area away from obstructions such as trees or overhangs. Mount the gauge on a post at a height of 3 to 5 feet with the gauge extending several inches beyond the post. Make sure that the top of the gauge is level. Make sure the post is not in an area where rainwater can indirectly splash from sheds, equipment, trailers, etc.

The rain gauge shall be read daily during normal site scheduled hours. The rain gauge should be read at approximately the same time every day and the date and time of each reading recorded. Log rain gauge readings in CSMP Attachment 1 “Weather Records”. Follow the rain gauge instructions to obtain accurate measurements.

Once the rain gauge reading has been recorded, accumulated rain shall be emptied and the gauge reset. For comparison with the site rain gauge, the nearest appropriate governmental rain gauge(s) is located at DEL RAY OAKS.

7.4 Monitoring Locations

Monitoring locations are shown on the Erosion Control Plan in Appendix R. Monitoring locations are described in the Sections 7.6 and 7.7.

Whenever changes in the construction site might affect the appropriateness of sampling locations, the sampling locations shall be revised accordingly. All such revisions shall be implemented as soon as feasible and the SWPPP amended. Temporary changes that result in a one-time additional sampling location do not require a SWPPP amendment.

7.5 Safety and Monitoring Exemptions

Safety practices for sample collection will be in accordance with the Contractor’s Health and Safety Plan. This project is not required to collect samples or conduct visual observations (inspections) under the following conditions:

- During dangerous weather conditions such as flooding and electrical storms.
- Outside of scheduled site business hours.

Scheduled site business hours are: 7:00 a.m. to 5:00 p.m., Monday-Friday. 24-hour operations during well drilling and development.

If monitoring (visual monitoring or sample collection) of the site is unsafe because of the dangerous conditions noted above then the QSP shall document the conditions for why an exception to performing the monitoring was necessary. The exemption documentation shall be filed in CSMP Attachment 2 “Monitoring Records”.

7.6 Visual Monitoring

Visual monitoring includes observations and inspections. Inspections of BMPs are required to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Visual observations of the site are required to observe storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources.

Table 7.1 identifies the required frequency of visual observations and inspections. Inspections and observations will be conducted at the locations identified in Section 7.6.5.

Table 7.1 Summary of Visual Monitoring and Inspections

| Type of Inspection | Frequency |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| <i>Routine Inspections</i> | |
| BMP Inspections | Weekly ¹ |
| BMP Inspections – Tracking Control | Daily |
| Non-Stormwater Discharge Observations | Quarterly during daylight hours |
| <i>Rain Event Triggered Inspections</i> | |
| Site Inspections Prior to a Qualifying Event | Within 48 hours of a qualifying event ² |
| BMP Inspections During an Extended Storm Event | Every 24-hour period of a rain event ³ |
| Site Inspections Following a Qualifying Event | Within 48 hours of a qualifying event ² |
| ¹ Most BMPs must be inspected weekly; those identified above must be inspected more frequently. ² Inspections are required during scheduled site operating hours. ³ Inspections are required during scheduled site operating hours regardless of the amount of precipitation on any given day. | |

7.6.1 Routine Observations and Inspections

Routine site inspections and visual monitoring are necessary to ensure that the project is in compliance with the requirements of the Construction General Permit.

7.6.1.1 Routine BMP Inspections

Inspections of BMPs are conducted weekly to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

Tracking control BMPs are inspected daily.

7.6.1.2 Non-Stormwater Discharge Observations

Each drainage area will be inspected for the presence of or indications of prior unauthorized and authorized non-stormwater discharges. Inspections for non-stormwater discharges will be conducted quarterly. Inspections will record:

- Presence or evidence of any non-stormwater discharge (authorized or unauthorized);
- Pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.); and
- Source of discharge.

7.6.2 Rain-Event Triggered Observations and Inspections

Visual observations of the site and inspections of BMPs are required prior to a qualifying rain event; following a qualifying rain event, and every 24-hour period during a qualifying rain event. Pre-rain inspections will be conducted after consulting NOAA and determining that a precipitation event with a 50% or greater probability of precipitation has been predicted.

7.6.2.1 Visual Observations Prior to a Forecasted Qualifying Rain Event

Within 48-hours prior to a qualifying event a stormwater visual monitoring site inspection will include observations of the following locations:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly implemented;
- Any stormwater storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

BMP inspections and visual monitoring will be triggered by a NOAA quantitative predicted forecast (QPF) that indicates ½-inch or more of rain will occur in the project area.

7.6.2.2 BMP Inspections During an Extended Storm Event

During an extended rain event BMP inspections will be conducted to identify and record:

- BMPs that are properly installed;
- BMPs that need maintenance to operate effectively;
- BMPs that have failed; or
- BMPs that could fail to operate as intended.

If the construction site is not accessible during the rain event, the visual inspections shall be performed at all relevant outfalls, discharge points, downstream locations. The inspections should record any projected maintenance activities.

7.6.2.3 Visual Observations Following a Qualifying Rain Event

Within 48 hours following a qualifying rain event (0.5 inches of rain) a stormwater visual monitoring site inspection is required to observe:

- Stormwater drainage areas to identify any spills, leaks, or uncontrolled pollutant sources;
- BMPs to identify if they have been properly designed, implemented, and effective;
- Need for additional BMPs;
- Discharge of stored or contained rain water.

7.6.3 Visual Monitoring Procedures

Visual monitoring shall be conducted by the QSP (see Section 6: Contractors) or staff trained by and under the supervision of the QSP. Their training qualifications are provided in Appendix K.

Stormwater observations shall be documented on the *Visual Inspection Field Log Sheet* (see CSMP Attachment 3 “Example Forms”). BMP inspections shall be documented on the site specific BMP inspection checklist. Any photographs used to document observations will be referenced on stormwater site inspection report and maintained with the Monitoring Records in Attachment 2.

The QSP shall within 3 days of the inspection submit copies of the completed inspection report to QSD. The completed reports will be kept in CSMP Attachment 2 “Monitoring Records”.

7.6.4 Visual Monitoring Follow-Up and Reporting

Correction of deficiencies identified by the observations or inspections, including required repairs or maintenance of BMPs, shall be initiated and completed as soon as possible.

If identified deficiencies require design changes, including additional BMPs, the implementation of changes will be initiated within 72 hours of identification and be completed as soon as possible. When design changes to BMPs are required, the SWPPP shall be amended to reflect the changes.

Deficiencies identified in site inspection reports and correction of deficiencies will be tracked on the *Inspection Field Log Sheet* or *BMP Inspection Report* and shall be submitted to the QSP and shall be kept in CSMP Attachment 2 “Monitoring Records”.

The QSP shall within 3 days of the inspection submit copies of the completed *Inspection Field Log Sheet* or *BMP Inspection Report* with the corrective actions to QSD.

Results of visual monitoring must be summarized and reported in the Annual Report.

7.6.5 Visual Monitoring Locations

The inspections and observations identified in Sections 7.6.1 and 7.6.2 will be conducted at the locations identified in this section.

BMP locations are shown on the Site Maps in SWPPP Appendix R.

There is 1 drainage area on the project site and the contractor’s yard, staging areas, and storage areas. Drainage areas are shown on the Erosion Control Plan in Appendix R and Table 7.2 identifies each drainage area by location.

Table 7.2 Site Drainage Areas

| Location No. | Location |
|---------------------|-------------------------------|
| DA-1 | At the paved site of ASR Well |
| | |

There are no stormwater storage or containment areas on the project site.

There is 1 discharge location on the project site. Site stormwater discharge location(s) are shown on the Erosion Control Plan in Appendix R and Table 7.3 identifies each stormwater discharge location.

Table 7.3 Site Stormwater Discharge Locations

| Location No. | Location |
|---------------------|--------------------------------------------------------------|
| SWD-1 | Discharge from DA-1 (See Erosion Control Plan in Appendix R) |
| | |

7.7 Water Quality Sampling and Analysis

7.7.1 Sampling and Analysis Plan for Non-Visible Pollutants in Stormwater Runoff Discharges

This Sampling and Analysis Plan for Non-Visible Pollutants describes the sampling and analysis strategy and schedule for monitoring non-visible pollutants in stormwater runoff discharges from the project site.

Sampling for non-visible pollutants will be conducted when (1) a breach, leakage, malfunction, or spill is observed; and (2) the leak or spill has not been cleaned up prior to the rain event; and (3) there is the potential for discharge of non-visible pollutants to surface waters or drainage system.

The following construction materials, wastes, or activities, as identified in Section 2.6, are potential sources of non-visible pollutants to stormwater discharges from the project. Storage, use, and operational locations are shown on the Site Maps in Appendix B.

Materials

- Vehicle fluids, including oil, grease, petroleum, and coolants
- Asphaltic emulsions associated with asphalt concrete paving operations
- Cement materials associated with Portland cement concrete (PCC) paving operations, trench installation and utility installation
- Base and subbase material
- Joint and curing compounds
- Concrete curing compounds
- Paints
- Solvents, thinners, and acids
- Raw landscaping materials and wastes (topsoil, plant materials, herbicides, fertilizers, mulch, pesticides)
- BMP materials (sandbags)
- Treated lumber (materials and waste)
- PCC rubble
- General litter

Activities

- Clearing and grubbing operations
- Grading operations
- Utility excavation operations
- Well drilling and development operations
- Landscaping operations
- Painting

There are NO existing site features that may be potential sources of non-visible pollutants to stormwater discharges from the project.

No soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil will be used on the project site.

7.7.1.1 Sampling Schedule

Samples for the potential non-visible pollutant(s) and a sufficiently large unaffected background sample shall be collected during the first two hours of discharge from rain events that result in a sufficient discharge for sample collection. Samples shall be collected during the site's scheduled hours and shall be collected regardless of the time of year and phase of the construction.

Collection of discharge samples for non-visible pollutant monitoring will be triggered when any of the following conditions are observed during site inspections conducted prior to or during a rain event.

- Materials or wastes containing potential non-visible pollutants are not stored under watertight conditions. Watertight conditions are defined as (1) storage in a watertight container, (2) storage under a watertight roof or within a building, or (3) protected by temporary cover and containment that prevents stormwater contact and runoff from the storage area.
- Materials or wastes containing potential non-visible pollutants are stored under watertight conditions, but (1) a breach, malfunction, leakage, or spill is observed, (2) the leak or spill is not cleaned up prior to the rain event, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- A construction activity, including but not limited to those in Section 2.6, with the potential to contribute non-visible pollutants (1) was occurring during or within 24 hours prior to the rain event, (2) BMPs were observed to be breached, malfunctioning, or improperly implemented, and (3) there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.
- Soil amendments that have the potential to change the chemical properties, engineering properties, or erosion resistance of the soil have been applied, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

- Stormwater runoff from an area contaminated by historical usage of the site has been observed to combine with stormwater runoff from the site, and there is the potential for discharge of non-visible pollutants to surface waters or a storm drain system.

7.7.1.2 Sampling Locations

Sampling locations are based on proximity to planned non-visible pollutant storage, occurrence or use; accessibility for sampling, and personnel safety. Planned non-visible pollutant sampling locations are shown on the Erosion Control Plan in Appendix R and include the locations identified in Tables 7.4 through 7.5.

One sampling location has been identified for the collection of samples of runoff from planned material and waste storage areas and areas where non-visible pollutant producing construction activities are planned.



Table 7.4 Non-Visible Pollutant Sample Locations – Project Site

| Sample Location Number | Sample Location Description | Sample Location Latitude and Longitude (Decimal Degrees) |
|-------------------------------|-----------------------------------------------|---------------------------------------------------------------------|
| NV-1 | Discharge location from paved driveway | 121°49'04.04"W/36°37'10.46"N |

1 sampling location(s) has been identified for the collection of an uncontaminated sample of runoff as a background sample for comparison with the samples being analyzed for non-visible pollutants. This location(s) was selected such that the sample will not have come in contact with the operations, activities, or areas identified in Section 7.7.1 or with disturbed soils areas.

Table 7.5 Non-Visible Pollutant Sample Locations – Background (Unaffected Sample)

| Sample Location Number | Sample Location | Sample Location Latitude and Longitude (Decimal Degrees) |
|-------------------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|
| BGD-1 | TBD ; <i>Select sampling location upstream of the location where site activities are planned</i> | 121°49'04.04"W/36°37'10.46"N |

7.7.1.3 Monitoring Preparation

Non-visible pollutant samples will be collected by the Contractor, QSP, or his trained sampling personnel listed in Section 6. The QSP or his/her designee will contact Monterey Bay Analytical Services 24 hours prior to a predicted rain event or for an unpredicted event, as soon as a rain event begins if one of the triggering conditions is identified during an inspection to ensure that adequate sample collection personnel and supplies for monitoring non-visible pollutants are available and will be mobilized to collect samples on the project site in accordance with the sampling schedule. An adequate stock of monitoring supplies and equipment for monitoring non-visible pollutants will be available on the project site prior to a sampling event. Monitoring supplies and equipment will be stored in a cool temperature environment that will not come into contact with rain or direct sunlight. Sampling personnel will be available to collect samples in accordance with the sampling schedule. Supplies maintained at the project site will include, but are not limited to, clean powder-free nitrile gloves, sample collection equipment, coolers, appropriate number and volume of sample bottles, identification labels, re-sealable storage bags, paper towels, personal rain gear, ice, and *Effluent Sampling Field Log Sheets* and Chain of Custody (CoC) forms, which are provided in CSMP Attachment 3 “Example Forms”

7.7.1.4 Analytical Constituents

Table 7.6 lists the specific sources and types of potential non-visible pollutants on the project site and the water quality indicator constituent(s) for that pollutant.

Table 7.6 Potential Non-Visible Pollutants and Water Quality Indicator Constituents

| Pollutant Source | Pollutant | Water Quality Indicator Constituent |
|-------------------------|---------------------|--------------------------------------------|
| Asphalt Work | Asphaltic materials | VOCs |
| Cleaning | Acids | pH |

7.7.1.5 Sample Collection

Samples of discharge shall be collected at the designated non-visible pollutant sampling locations shown on the Erosion Control Plan in Appendix R or in the locations determined by observed breaches, malfunctions, leakages, spills, operational areas, soil amendment application areas, and historical site usage areas that triggered the sampling event.

Grab samples shall be collected and preserved in accordance with the methods identified in the Table, “Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants” provided in Section 7.7.1.6. Only the QSP, or personnel trained in water quality sampling under the direction of the QSP shall collect samples.

Sample collection and handling requirements are described in Section 7.7.7.

7.7.1.6 Sample Analysis

Samples shall be analyzed using the analytical methods identified in the Table 7.11, by Monterey Bay Analytical Services. Laboratory address and point of contact information is listed in Section 6. Samples will be picked up by Laboratory Courier.

Table 7.7 Sample Collection, Preservation and Analysis for Monitoring Non-Visible Pollutants

| Constituent | Analytical Method | Minimum Sample Volume | Sample Containers | Sample Preservation | Reporting Limit | Maximum Holding Time |
|-----------------------|----------------------------------|-------------------------|--------------------------------|---------------------|-----------------|------------------------------|
| pH | SM 4500H+B EPA 9040C/ 9045D | 100 ml 100 ml | 250 ml P 250 ml P | None None | 6.5 – 8.5 | - 14 days |
| Turbidity | SM 2130B | 100 ml | 250 ml P | None | 250 NTU | 48 Hr |
| VOCs | EPA 8015 EPA 8021 EPA 8260 | 40 ml 40 ml 40 ml | 3X 40 ml 3X40 ml 3X40 ml | HCL HCL HCL | | 14 days 14 days 14days |
| Notes: <div></div> | | | | | | |

7.7.1.7 *Data Evaluation and Reporting*

The QSP shall complete an evaluation of the water quality sample analytical results.

Runoff/downgradient results shall be compared with the associated upgradient/unaffected results and any associated run-on results. Should the runoff/downgradient sample show an increased level of the tested analyte relative to the unaffected background sample, which cannot be explained by run-on results, the BMPs, site conditions, and surrounding influences shall be assessed to determine the probable cause for the increase.

As determined by the site and data evaluation, appropriate BMPs shall be repaired or modified to mitigate discharges of non-visible pollutant concentrations. Any revisions to the BMPs shall be recorded as an amendment to the SWPPP.

The General Permit prohibits the storm water discharges that contain hazardous substances equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4. The results of any non-stormwater discharge results that indicate the presence of a hazardous substance in excess of established reportable quantities shall be immediately reported to the Regional Water Board and other agencies as required by 40 C.F.R. §§ 117.3 and 302.4.

Results of non-visible pollutant monitoring shall be reported in the Annual Report.

7.7.2 *Sampling and Analysis Plan for pH and Turbidity in Stormwater Runoff Discharges*

Sampling and analysis of runoff for pH and turbidity is not required for Risk Level 1 projects unless one of the sampling triggers listed in Section 7.7.1 occurs.

7.7.3 *Sampling and Analysis Plan for pH, Turbidity, and SSC in Receiving Water*

This project is not subject to Receiving Water Monitoring.

7.7.3.1 *Sampling Schedule and Locations*

This project is not subject to Receiving Water Monitoring.

7.7.4 *Sampling and Analysis Plan for Non-Stormwater Discharges*

This project is not subject to the non-stormwater sampling and analysis requirements of the General Permit because it is a Risk Level 1 project, unless triggered by a leak or spill as listed in Section 7.7.1.

7.7.5 *Sampling and Analysis Plan for Other Pollutants Required by the Regional Water Board*

The Regional Water Board has not specified monitoring for additional pollutants.

7.7.6 *Training of Sampling Personnel*

Sampling personnel shall be trained to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring program (SWAMP) 2008 Quality Assurance Program Plan (QAPrP). Training records of designated contractor sampling personnel are provided in Appendix K.

The stormwater sampler(s) and alternate(s) have received the following stormwater sampling training: TBD

| Name | Training |
|-----------------------------------------------------------------------------------|-----------------|
|  | (LIST) |
|  | (LIST) |

The stormwater sampler(s) and alternates have the following stormwater sampling experience:

| Name | Experience |
|-------------------------------------------------------------------------------------|-------------------|
|  | (LIST) |
|  | (LIST) |

7.7.7 *Sample Collection and Handling*

7.7.7.1 *Sample Collection*

Samples shall be collected at the designated sampling locations shown on the Site Maps and listed in the preceding sections. Samples shall be collected, maintained and shipped in accordance with the SWAMP 2008 Quality Assurance Program Plan (QAPrP).

Grab samples shall be collected and preserved in accordance with the methods identified in preceding sections.

To maintain sample integrity and prevent cross-contamination, sample collection personnel shall follow the protocols below.

- Collect samples (for laboratory analysis) only in analytical laboratory-provided sample containers;
- Wear clean, powder-free nitrile gloves when collecting samples;
- Change gloves whenever something not known to be clean has been touched;
- Change gloves between sites;
- Decontaminate all equipment (e.g. bucket, tubing) prior to sample collection using a trisodium phosphate water wash, distilled water rinse, and final rinse with distilled water. (Dispose of wash and rinse water appropriately, i.e., do not discharge to storm drain or receiving water). Do not decontaminate laboratory provided sample containers;

- Do not smoke during sampling events;
- Never sample near a running vehicle;
- Do not park vehicles in the immediate sample collection area (even non-running vehicles);
- Do not eat or drink during sample collection; and
- Do not breathe, sneeze, or cough in the direction of an open sample container.

The most important aspect of grab sampling is to collect a sample that represents the entire runoff stream. Typically, samples are collected by dipping the collection container in the runoff flow paths and streams as noted below.

- For small streams and flow paths, simply dip the bottle facing upstream until full.
- For larger stream that can be safely accessed, collect a sample in the middle of the flow stream by directly dipping the mouth of the bottle. Once again making sure that the opening of the bottle is facing upstream as to avoid any contamination by the sampler.
- For larger streams that cannot be safely waded, pole-samplers may be needed to safely access the representative flow.
- Avoid collecting samples from ponded, sluggish or stagnant water.
- Avoid collecting samples directly downstream from a bridge as the samples can be affected by the bridge structure or runoff from the road surface.

Note, that depending upon the specific analytical test, some containers may contain preservatives. These containers should **never** be dipped into the stream, but filled indirectly from the collection container.

7.7.7.2 Sample Handling

Turbidity and pH measurements must be conducted immediately. Do not store turbidity or pH samples for later measurement.

Samples for laboratory analysis must be handled as follows. Immediately following sample collection:

- Cap sample containers;
- Complete sample container labels;
- Sealed containers in a re-sealable storage bag;
- Place sample containers into an ice-chilled cooler;
- Document sample information on the *Effluent Sampling Field Log Sheet*; and
- Complete the CoC.

All samples for laboratory analysis must be maintained between 0-6 degrees Celsius during delivery to the laboratory. Samples must be kept on ice, or refrigerated, from sample collection through delivery to the laboratory. Place samples to be shipped inside coolers with ice. Make sure the sample bottles are well packaged to prevent breakage and secure cooler lids with packaging tape.

Ship samples that will be laboratory analyzed to the analytical laboratory right away. Hold times are measured from the time the sample is collected to the time the sample is analyzed. The General Permit requires that samples be received by the analytical laboratory within 48 hours of the physical sampling (unless required sooner by the analytical laboratory).

7.7.7.3 Sample Documentation Procedures

All original data documented on sample bottle identification labels, *Effluent Sampling Field Log Sheet*, and CoCs shall be recorded using waterproof ink. These shall be considered accountable documents. If an error is made on an accountable document, the individual shall make corrections by lining through the error and entering the correct information. The erroneous information shall not be obliterated. All corrections shall be initialed and dated.

Duplicate samples shall be identified consistent with the numbering system for other samples to prevent the laboratory from identifying duplicate samples. Duplicate samples shall be identified in the *Effluent Sampling Field Log Sheet*.

Sample documentation procedures include the following:

Sample Bottle Identification Labels: Sampling personnel shall attach an identification label to each sample bottle. Sample identification shall uniquely identify each sample location.

Field Log Sheets: Sampling personnel shall complete the *Effluent Sampling Field Log Sheet* and *Receiving Water Sampling Field Log Sheet* for each sampling event, as appropriate.

Chain of Custody: Sampling personnel shall complete the CoC for each sampling event for which samples are collected for laboratory analysis. The sampler will sign the CoC when the sample(s) is turned over to the testing laboratory or courier.

7.8 Active Treatment System Monitoring

An Active Treatment System (ATS) will be deployed on the site?

☐ Yes ☒ No

This project does not require a project specific Sampling and Analysis Plan for an ATS because deployment of an ATS is not planned.

7.9 Bioassessment Monitoring

This project is not subject to bioassessment monitoring because it is not a Risk Level 3 project.

7.10 Watershed Monitoring Option

This project is not participating in a watershed monitoring option.

7.11 Quality Assurance and Quality Control

An effective Quality Assurance and Quality Control (QA/QC) plan shall be implemented as part of the CSMP to ensure that analytical data can be used with confidence. QA/QC procedures to be initiated include the following:

- Field logs;
- Clean sampling techniques;
- CoCs;
- QA/QC Samples; and
- Data verification.

Each of these procedures is discussed in more detail in the following sections.

7.11.1 Field Logs

The purpose of field logs is to record sampling information and field observations during monitoring that may explain any uncharacteristic analytical results. Sampling information to be included in the field log include the date and time of water quality sample collection, sampling personnel, sample container identification numbers, and types of samples that were collected. Field observations should be noted in the field log for any abnormalities at the sampling location (color, odor, BMPs, etc.). Field measurements for pH and turbidity should also be recorded in the field log. A Visual Inspection Field Log, and an Effluent Sampling Field Log Sheet are included in CSMP Attachment 3 “Example Forms”.

7.11.2 Clean Sampling Techniques

Clean sampling techniques involve the use of certified clean containers for sample collection and clean powder-free nitrile gloves during sample collection and handling. As discussed in Section 7.7.7, adoption of a clean sampling approach will minimize the chance of field contamination and questionable data results.

7.11.3 Chain of Custody

The sample CoC is an important documentation step that tracks samples from collection through analysis to ensure the validity of the sample. Sample CoC procedures include the following:

- Proper labeling of samples;
- Use of CoC forms for all samples; and
- Prompt sample delivery to the analytical laboratory.

Analytical laboratories usually provide CoC forms to be filled out for sample containers. An example CoC is included in CSMP Attachment 3 “Example Forms”.

7.11.4 QA/QC Samples

QA/QC samples provide an indication of the accuracy and precision of the sample collection; sample handling; field measurements; and analytical laboratory methods. The following types of QA/QC will be conducted for this project:

☒ Field Duplicates at a frequency of 1 duplicate minimum per sampling event.
(Required for all sampling plans with field measurements or laboratory analysis)

☐ 7.11.4.1 Field Duplicates

Field duplicates provide verification of laboratory or field analysis and sample collection. Duplicate samples shall be collected, handled, and analyzed using the same protocols as primary samples. The sample location where field duplicates are collected shall be randomly selected from the discharge locations. Duplicate samples shall be collected immediately after the primary sample has been collected. Duplicate samples must be collected in the same manner and as close in time as possible to the original sample. Duplicate samples shall not influence any evaluations or conclusion.

7.11.4.2 Equipment Blanks

Equipment blanks provide verification that equipment has not introduced a pollutant into the sample. Equipment blanks are typically collected when:

- New equipment is used;
- Equipment that has been cleaned after use at a contaminated site;
- Equipment that is not dedicated for surface water sampling is used; or
- Whenever a new lot of filters is used when sampling metals.

7.11.4.3 *Field Blanks*

Field blanks assess potential sample contamination levels that occur during field sampling activities. De-ionized water field blanks are taken to the field, transferred to the appropriate container, and treated the same as the corresponding sample type during the course of a sampling event.

7.11.4.4 *Travel Blanks*

Travel blanks assess the potential for cross-contamination of volatile constituents between sample containers during shipment from the field to the laboratory. De-ionized water blanks are taken along for the trip and held unopened in the same cooler with the VOC samples.

7.11.5 *Data Verification*

After results are received from the analytical laboratory, the QSP shall verify the data to ensure that it is complete, accurate, and the appropriate QA/QC requirements were met. Data must be verified as soon as the data reports are received. Data verification shall include:

- Check the CoC and laboratory reports.
Make sure all requested analyses were performed and all samples are accounted for in the reports.
- Check laboratory reports to make sure hold times were met and that the reporting levels meet or are lower than the reporting levels agreed to in the contract.
- Check data for outlier values and follow up with the laboratory.
Occasionally typographical errors, unit reporting errors, or incomplete results are reported and should be easily detected. These errors need to be identified, clarified, and corrected quickly by the laboratory. The QSP should especially note data that is an order of magnitude or more different than similar locations, or is inconsistent with previous data from the same location.
- Check laboratory QA/QC results.
EPA establishes QA/QC checks and acceptable criteria for laboratory analyses. These data are typically reported along with the sample results. The QSP shall evaluate the reported QA/QC data to check for contamination (method, field, and equipment blanks), precision (laboratory matrix spike duplicates), and accuracy (matrix spikes and laboratory control samples). When QA/QC checks are outside acceptable ranges, the laboratory must flag the data, and usually provides an explanation of the potential impact to the sample results.
- Check the data set for outlier values and, accordingly, confirm results and re-analyze samples where appropriate.
Sample re-analysis should only be undertaken when it appears that some part of the QA/QC resulted in a value out of the accepted range. Sample results may not be discounted unless the analytical laboratory identifies the required QA/QC criteria were not met and confirms this in writing.

Field data including inspections and observations must be verified as soon as the field logs are received, typically at the end of the sampling event. Field data verification shall include:

- Check field logs to make sure all required measurements were completed and appropriately documented;
- Check reported values that appear out of the typical range or inconsistent; Follow-up immediately to identify potential reporting or equipment problems, if appropriate, recalibrate equipment after sampling;
- Verify equipment calibrations;
- Review observations noted on the field logs; and
- Review notations of any errors and actions taken to correct the equipment or recording errors.

7.12 Records Retention

All records of stormwater monitoring information and copies of reports (including Annual Reports) must be retained for a period of at least three years from date of submittal or longer if required by the Regional Water Board.

Results of visual monitoring, field measurements, and laboratory analyses must be kept in the SWPPP along with CoCs, and other documentation related to the monitoring.

Records are to be kept onsite while construction is ongoing. Records to be retained include:

- The date, place, and time of inspections, sampling, visual observations, and/or measurements, including precipitation;
- The individual(s) who performed the inspections, sampling, visual observation, and/or field measurements;
- The date and approximate time of field measurements and laboratory analyses;
- The individual(s) who performed the laboratory analyses;
- A summary of all analytical results, the method detection limits and reporting limits, and the analytical techniques or methods used;
- Rain gauge readings from site inspections;
- QA/QC records and results;
- Calibration records;
- Visual observation and sample collection exemption records;
- The records of any corrective actions and follow-up activities that resulted from analytical results, visual observations, or inspections; and
- NAL Exceedance Reports.

CSMP Attachment 1: Weather Reports

CSMP Attachment 2: Monitoring Records

CSMP Attachment 3: Example Forms

| Rain Gauge Log Sheet | | | | |
|-------------------------|-----------------|----------|----------------------------|--------|
| Construction Site Name: | | | | |
| WDID #: | | | | |
| Date (mm/dd/yy) | Time (24-hr) | Initials | Rainfall Depth (Inches) | Notes: |
| | | | | |
| | | | | |
| | | | | |
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| Risk Level 1 Visual Inspection Field Log Sheet | | | | | | |
|------------------------------------------------------------------------|---------------------------------|----------------------------------------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------|---------------------------------------------------|
| Date and Time of Inspection: | | | | Report Date: | | |
| Inspection Type: | <input type="checkbox"/> Weekly | <input type="checkbox"/> Before predicted rain | <input type="checkbox"/> During rain event | <input type="checkbox"/> Following qualifying rain event | <input type="checkbox"/> Contained stormwater release | <input type="checkbox"/> Quarterly non-stormwater |
| Site Information | | | | | | |
| Construction Site Name: | | | | | | |
| Construction stage and completed activities: | | | | | Approximate area of exposed site: | |
| Weather and Observations | | | | | | |
| Date Rain Predicted to Occur: | | | | Predicted % chance of rain: | | |
| Estimate storm beginning: _____ (date and time) | | Estimate storm duration: _____ (hours) | | Estimate time since last storm: _____ (days or hours) | | Rain gauge reading: _____ (inches) |
| Observations: If yes identify location | | | | | | |
| Odors | | Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| Floating material | | Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| Suspended Material | | Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| Sheen | | Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| Discolorations | | Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| Turbidity | | Yes <input type="checkbox"/> No <input type="checkbox"/> | | | | |
| Site Inspections | | | | | | |
| Outfalls or BMPs Evaluated | | | Deficiencies Noted | | | |
| (add additional sheets or attached detailed BMP Inspection Checklists) | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Photos Taken: | Yes <input type="checkbox"/> | No <input type="checkbox"/> | Photo Reference IDs: | | | |
| Corrective Actions Identified (note if SWPPP/REAP change is needed) | | | | | | |
| | | | | | | |
| Inspector Information | | | | | | |
| Inspector Name: | | | | Inspector Title: | | |
| Signature: | | | | | Date: | |

| NAL Exceedance Evaluation Summary Report | | Page ___ of ___ |
|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| Project Name | | |
| Project WDID | | |
| Project Location | | |
| Date of Exceedance | | |
| Type of Exceedance | NAL Daily Average <input type="checkbox"/> pH <input type="checkbox"/> Turbidity <input type="checkbox"/> Other (specify) _____ | |
| Measurement or Analytical Method | <input type="checkbox"/> Field meter (Sensitivity: _____) <input type="checkbox"/> Lab method (specify) _____ (Reporting Limit: _____) (MDL: _____) | |
| Calculated Daily Average | <input type="checkbox"/> pH _____ pH units <input type="checkbox"/> Turbidity _____ NTU | |
| Rain Gauge Measurement | _____ Inches | |
| Compliance Storm Event | _____ inches (5-year, 24-hour event) | |
| Visual Observations on Day of Exceedance | | |

| NAL Exceedance Evaluation Summary Report | | Page ____ of ____ |
|-------------------------------------------------------------|----------------------------------|-------------------|
| Description of BMPs in Place at Time of Event | | |
| Initial Assessment of Cause | | |
| Corrective Actions Taken (deployed after exceedance) | | |
| Additional Corrective Actions Proposed | | |
| Report Completed By | <hr/> (Print Name, Title) | |
| Signature | <hr/> | |

CHAIN-OF-CUSTODY**DATE:****Lab ID:**

| | | | | | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|----------------------|------------------|-------------|--------------|-----------------------------------------------------------------------|--|--|--|---------------|--|--|
| DESTINATION LAB: ATTN: ADDRESS: Office Phone: Cell Phone: | | | | | | | REQUESTED ANALYSIS | | | | Notes: | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| SAMPLED BY: | | | | | | | | | | | | | |
| Contact: | | | | | | | | | | | | | |
| Project Name | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| Client Sample ID | Sample Date | Sample Time | Sample Matrix | Container | | | | | | | | | |
| | | | | # | Type | Pres. | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| SENDER COMMENTS: | | | | | | | RELINQUISHED BY | | | | | | |
| | | | | | | | Signature: Print: Company: Date: | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| LABORATORY COMMENTS: | | | | | | | RECEIVED BY | | | | | | |
| | | | | | | | Signature: Print: Company: Date: | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |

CSMP Attachment 4: Field Meter Instructions

| Average Watershed Slope (%) | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Sheet Flow Length (ft) | 0.2 | 0.5 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 20.0 | 25.0 | 30.0 | 40.0 | 50.0 | 60.0 | |
| <3 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.35 | 0.36 | 0.38 | 0.39 | 0.41 | 0.45 | 0.48 | 0.53 | 0.58 | 0.63 | |
| 6 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.37 | 0.41 | 0.45 | 0.49 | 0.56 | 0.64 | 0.72 | 0.85 | 0.97 | 1.07 | |
| 9 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.38 | 0.45 | 0.51 | 0.56 | 0.67 | 0.80 | 0.91 | 1.13 | 1.31 | 1.47 | |
| 12 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.39 | 0.47 | 0.55 | 0.62 | 0.76 | 0.93 | 1.08 | 1.37 | 1.62 | 1.84 | |
| 15 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.40 | 0.49 | 0.58 | 0.67 | 0.84 | 1.04 | 1.24 | 1.59 | 1.91 | 2.19 | |
| 25 | 0.05 | 0.07 | 0.10 | 0.16 | 0.21 | 0.26 | 0.31 | 0.36 | 0.45 | 0.57 | 0.71 | 0.85 | 0.98 | 1.24 | 1.56 | 1.86 | 2.41 | 2.91 | 3.36 | |
| 50 | 0.05 | 0.08 | 0.13 | 0.21 | 0.30 | 0.38 | 0.46 | 0.54 | 0.70 | 0.91 | 1.15 | 1.40 | 1.64 | 2.10 | 2.67 | 3.22 | 4.24 | 5.16 | 5.97 | |
| 75 | 0.05 | 0.08 | 0.14 | 0.25 | 0.36 | 0.47 | 0.58 | 0.69 | 0.91 | 1.20 | 1.54 | 1.87 | 2.21 | 2.86 | 3.67 | 4.44 | 5.89 | 7.20 | 8.37 | |
| 100 | 0.05 | 0.09 | 0.15 | 0.28 | 0.41 | 0.55 | 0.68 | 0.82 | 1.10 | 1.46 | 1.88 | 2.31 | 2.73 | 3.57 | 4.59 | 5.58 | 7.44 | 9.13 | 10.63 | |
| 150 | 0.05 | 0.09 | 0.17 | 0.33 | 0.50 | 0.68 | 0.86 | 1.05 | 1.43 | 1.92 | 2.51 | 3.09 | 3.68 | 4.85 | 6.30 | 7.70 | 10.35 | 12.75 | 14.89 | |
| 200 | 0.06 | 0.10 | 0.18 | 0.37 | 0.57 | 0.79 | 1.02 | 1.25 | 1.72 | 2.34 | 3.07 | 3.81 | 4.56 | 6.04 | 7.88 | 9.67 | 13.07 | 16.16 | 18.92 | |
| 250 | 0.06 | 0.10 | 0.19 | 0.40 | 0.64 | 0.89 | 1.16 | 1.43 | 1.99 | 2.72 | 3.60 | 4.48 | 5.37 | 7.16 | 9.38 | 11.55 | 15.67 | 19.42 | 22.78 | |
| 300 | 0.06 | 0.10 | 0.20 | 0.43 | 0.69 | 0.98 | 1.28 | 1.60 | 2.24 | 3.09 | 4.09 | 5.11 | 6.15 | 8.23 | 10.81 | 13.35 | 18.17 | 22.57 | 26.51 | |
| 400 | 0.06 | 0.11 | 0.22 | 0.48 | 0.80 | 1.14 | 1.51 | 1.90 | 2.70 | 3.75 | 5.01 | 6.30 | 7.60 | 10.24 | 13.53 | 16.77 | 22.95 | 28.60 | 33.67 | |
| 600 | 0.06 | 0.12 | 0.24 | 0.56 | 0.96 | 1.42 | 1.91 | 2.43 | 3.52 | 4.95 | 6.67 | 8.45 | 10.26 | 13.94 | 18.57 | 23.14 | 31.89 | 39.95 | 47.18 | |
| 800 | 0.06 | 0.12 | 0.26 | 0.63 | 1.10 | 1.65 | 2.25 | 2.89 | 4.24 | 6.03 | 8.17 | 10.40 | 12.69 | 17.35 | 23.24 | 29.07 | 40.29 | 50.63 | 59.93 | |
| 1000 | 0.06 | 0.13 | 0.27 | 0.69 | 1.23 | 1.86 | 2.55 | 3.30 | 4.91 | 7.02 | 9.57 | 12.23 | 14.96 | 20.57 | 27.66 | 34.71 | 48.29 | 60.84 | 72.15 | |

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

| | | |
|--------------------------------------------------------------------------|-----------|-----------------------|
| Method used to calculate LS | | |
| Length of sheet flow along the diagonal of the 100ft X 100 ft square pad | 116.00 ft | |
| High point elevation | 341 ft | eastern corner of pad |
| Low point elevation | 335 ft | western corner of pad |
| Watershed slope (%) | 5% | |
| Using Sheet Flow Length = 116 ft and watershed slope = 5%, LS value = | 0.74 | |

CSMP Attachment 5: Supplemental Information

Section 8 References

State Water Resources Control Board (2009). Order 2009-0009-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

State Water Resources Control Board (2010). Order 2010-0014-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

State Water Resources Control Board (2012). Order 2012-0006-DWQ, NPDES General Permit No. CAS000002: National Pollutant Discharges Elimination System (NPDES) California General Permit for Storm Water Discharge Associated with Construction and Land Disturbing Activities. Available on-line at:

http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml.

Pacific Crest Engineering Inc. (2004). Percolation Test Results, General Jim Moore Boulevard and Eucalyptus Road, Seaside California

Pacific Crest Engineering, Inc. (2016). Geotechnical Investigations, Design Phase, Groundwater Recharge Injection Well Facilities, Pure Water Monterey Project, Seaside, California

CASQA 2009, *Stormwater BMP Handbook Portal: Construction*, November 2009, www.casqa.org

Appendix A: Calculations

| | A | B | C | D | E | F | G |
|----|-------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------------------|---|---|---|
| 1 | Version 8/17/2011 | | | | | | |
| 2 | | Risk Determination Worksheet | | | | | |
| 3 | | | | | | | |
| 4 | | | Step 1 | Determine Sediment Risk via one of the options listed: | | | |
| 5 | | | | 1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map | | | |
| 6 | | | | 2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data | | | |
| 7 | | | Step 2 | Determine Receiving Water Risk via one of the options listed: | | | |
| 8 | | | | 1. GIS map of Sediment Sensitive Watersheds provided | | | |
| 9 | | | | 2. Site Specific Analysis (support documentation required) | | | |
| 10 | | | Step 3 | Determine Combined Risk Level | | | |

| | A | B | C |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------|
| 1 | Sediment Risk Factor Worksheet | | Entry |
| 2 | A) R Factor | | |
| 3 | Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site. | | |
| 4 | http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm | | |
| 5 | R Factor Value | | 9.31 |
| 6 | B) K Factor | | |
| 7 | The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. | | |
| 8 | Site-specific K factor guidance | | |
| 9 | K Factor Value | | 0.1 |
| 10 | C) LS Factor (weighted average, by area, for all slopes) | | |
| 11 | The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction. | | |
| 12 | LS Table | | |
| 13 | LS Factor Value | | 0.74 |
| 14 | | | |
| 15 | Watershed Erosion Estimate (=R_xK_xLS) in tons/acre | | 0.6867056 |
| 16 | Site Sediment Risk Factor | | Low |
| 17 | Low Sediment Risk: < 15 tons/acre | | |
| 18 | Medium Sediment Risk: >=15 and <75 tons/acre | | |
| 19 | High Sediment Risk: >= 75 tons/acre | | |
| 20 | | | |

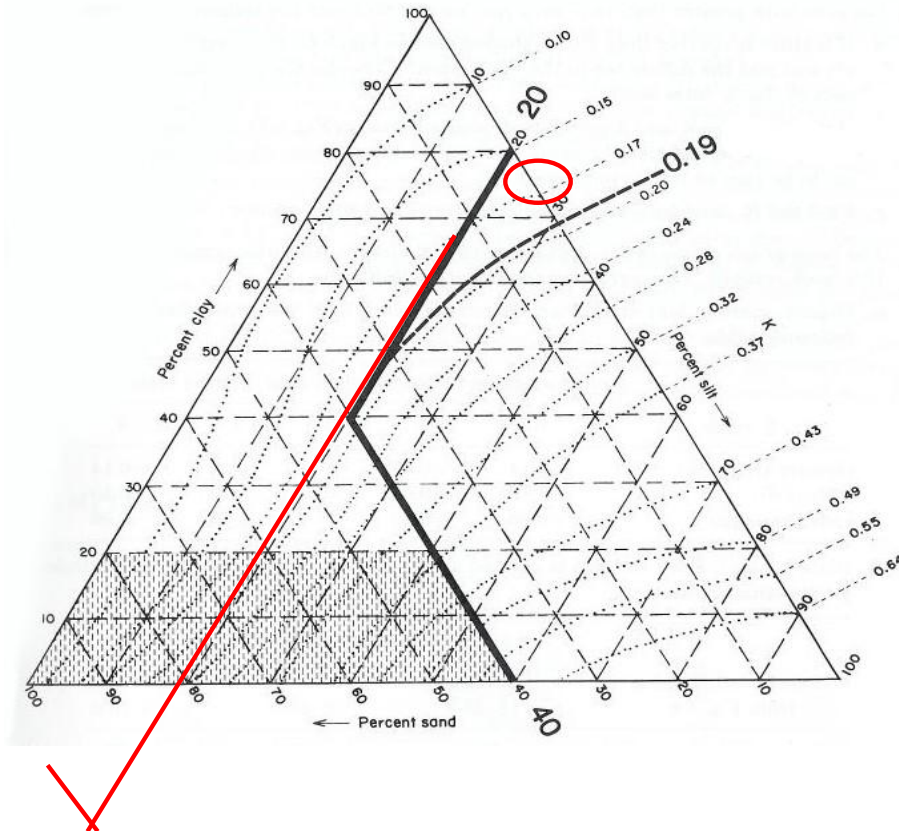
| Receiving Water (RW) Risk Factor Worksheet | | Entry | Score |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------|-------|
| A. Watershed Characteristics | | yes/no | |
| A.1. Does the disturbed area discharge (either directly or indirectly) to a 303(d)-listed waterbody impaired by sediment (For help with impaired waterbodies please visit the link below) or has a USEPA approved TMDL implementation plan for sediment ?: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml OR | | no | Low |
| A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan) http://www.waterboards.ca.gov/waterboards_map.shtml | | | |
| Region 1 Basin Plan Region 2 Basin Plan Region 3 Basin Plan Region 4 Basin Plan Region 5 Basin Plan Region 6 Basin Plan Region 7 Basin Plan Region 8 Basin Plan Region 9 Basin Plan | | | |

Combined Risk Level Matrix

| | | <u>Sediment Risk</u> | | |
|--------------------------------|------|----------------------|---------|---------|
| | | Low | Medium | High |
| <u>Receiving Water Risk</u> | Low | Level 1 | Level 2 | |
| | High | Level 2 | | Level 3 |
| Project Sediment Risk: Low | | | | |
| Project RW Risk: Low | | | | |
| Project Combined Risk: Level 1 | | | | |

Soil Erodibility Factor (K)

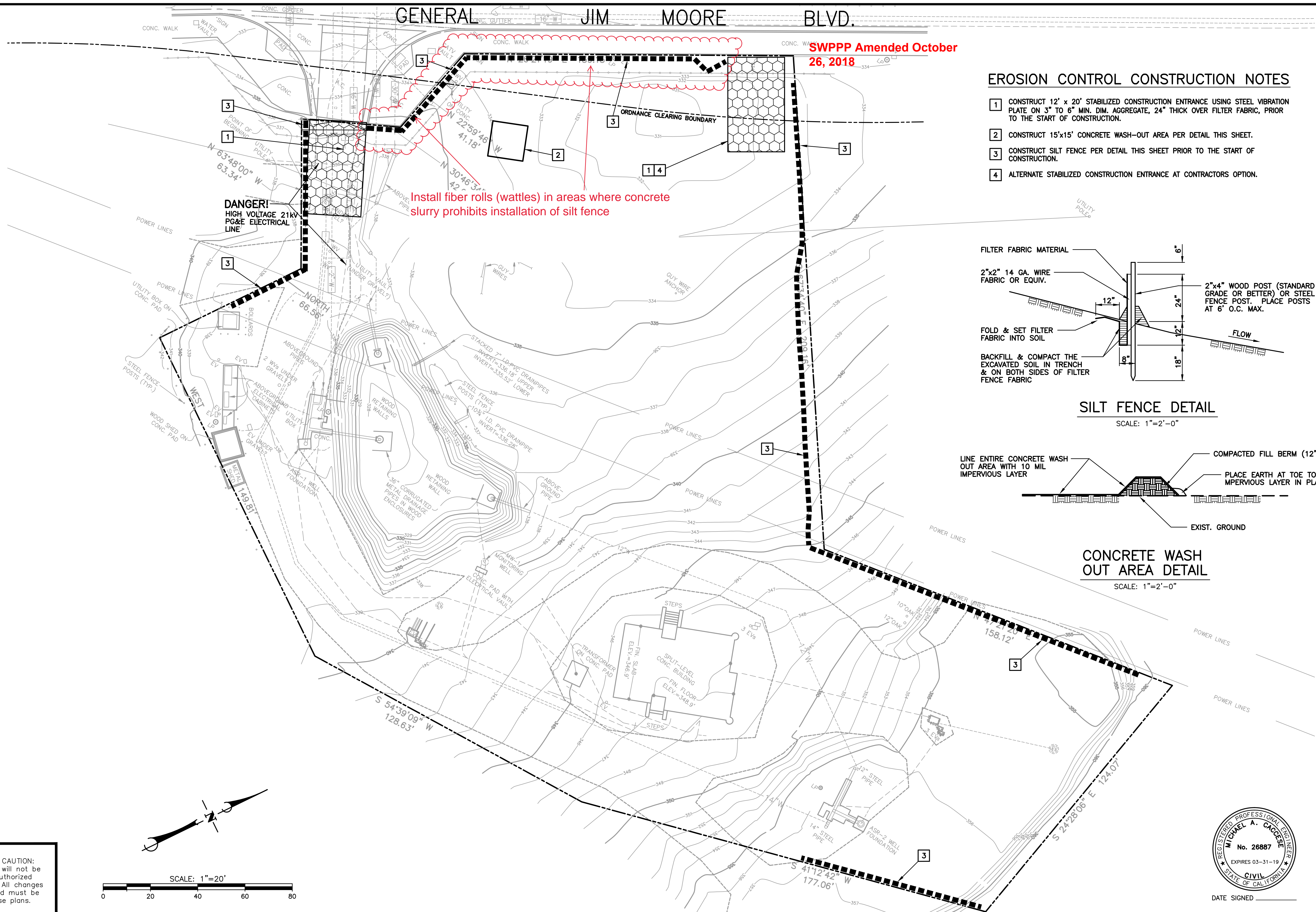
The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.

The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability). *Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.*

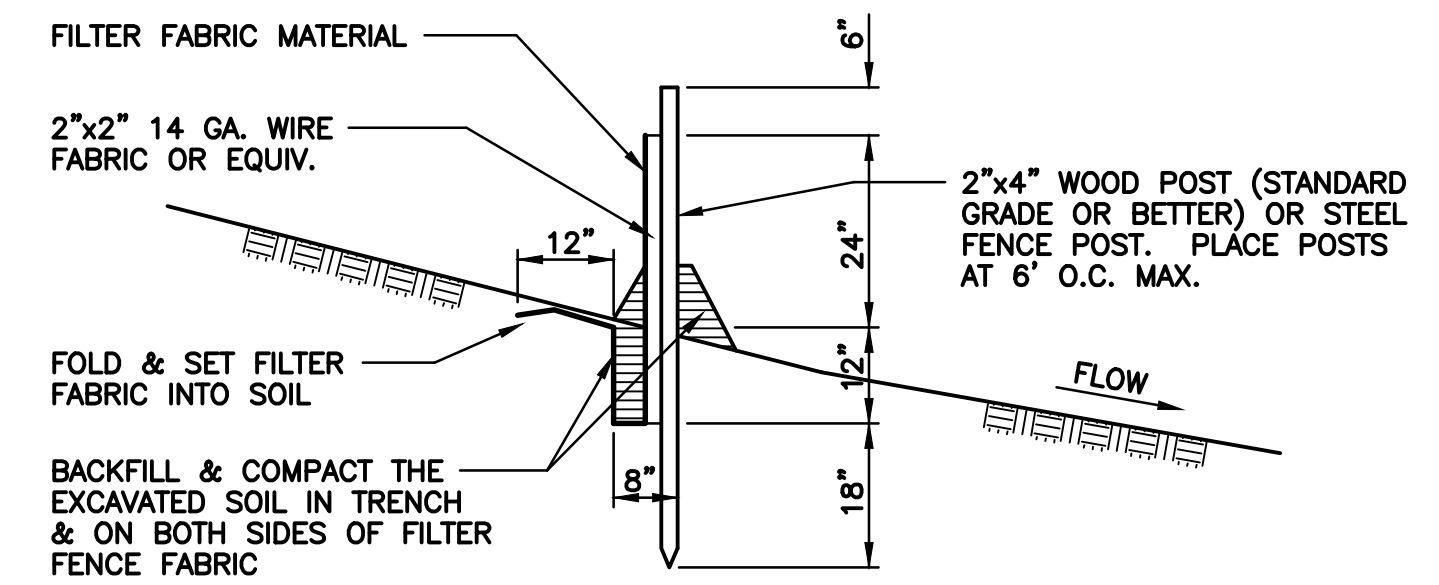
Appendix B: Site Maps



SWPPP Amended October
26, 2018

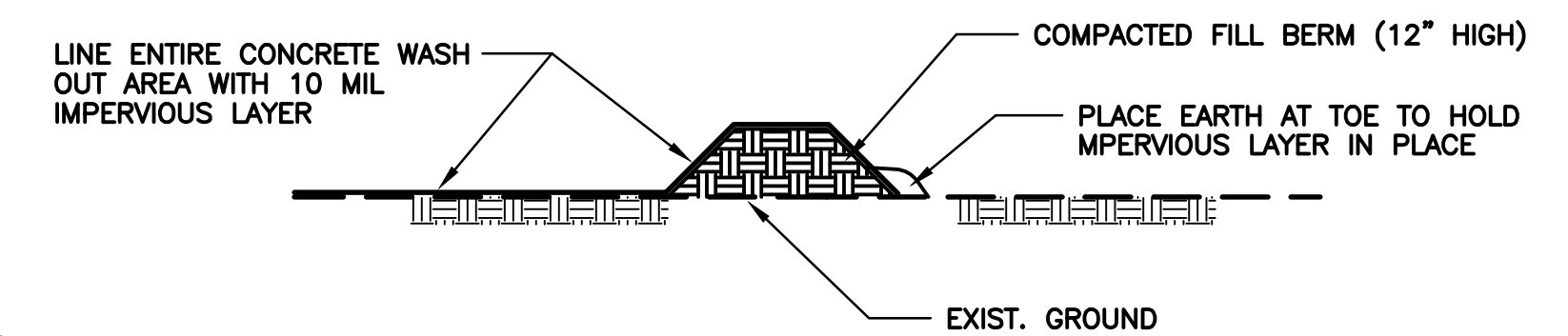
EROSION CONTROL CONSTRUCTION NOTES

- 1 CONSTRUCT 12' x 20' STABILIZED CONSTRUCTION ENTRANCE USING STEEL VIBRATION PLATE ON 3" TO 6" MIN. DIM. AGGREGATE, 24" THICK OVER FILTER FABRIC, PRIOR TO THE START OF CONSTRUCTION.
- 2 CONSTRUCT 15'x15' CONCRETE WASH-OUT AREA PER DETAIL THIS SHEET.
- 3 CONSTRUCT SILT FENCE PER DETAIL THIS SHEET PRIOR TO THE START OF CONSTRUCTION.
- 4 ALTERNATE STABILIZED CONSTRUCTION ENTRANCE AT CONTRACTORS OPTION.



SILT FENCE DETAIL

SCALE: 1"=2'-0"



CONCRETE WASH OUT AREA DETAIL

SCALE: 1"=2'-0"

UNAUTHORIZED CHANGES & USES CAUTION:
The engineer preparing these plans will not be responsible for, or liable for, unauthorized changes to or uses of these plans. All changes to the plans must be in writing and must be approved by the preparer of these plans.

SCALE: 1"=20'
0 20 40 60 80

| REV | DATE | BY | DESCRIPTION |
|-----|---------|-----|----------------|
| A | 8/24/18 | MAC | ISSUED FOR BID |

SCALE:
HOR. N/A
VER. N/A

WARNING
0 1/2 1
IF THIS BAR DOES NOT MEASURE 1" THEN DRAWING IS NOT TO SCALE

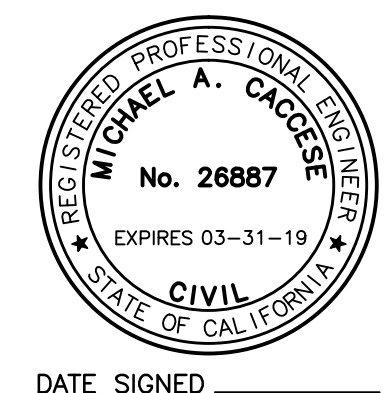
DESIGNED SPT
DRAWN TLA
CHECKED MAC

MAC Design Associates
CIVIL ENGINEERING * LAND PLANNING * BRIDGE DESIGN
1933 CLIFF DRIVE, SUITE 6, SANTA BARBARA, CALIF. 93109 (805) 957-4748

PUEBLO
water resources

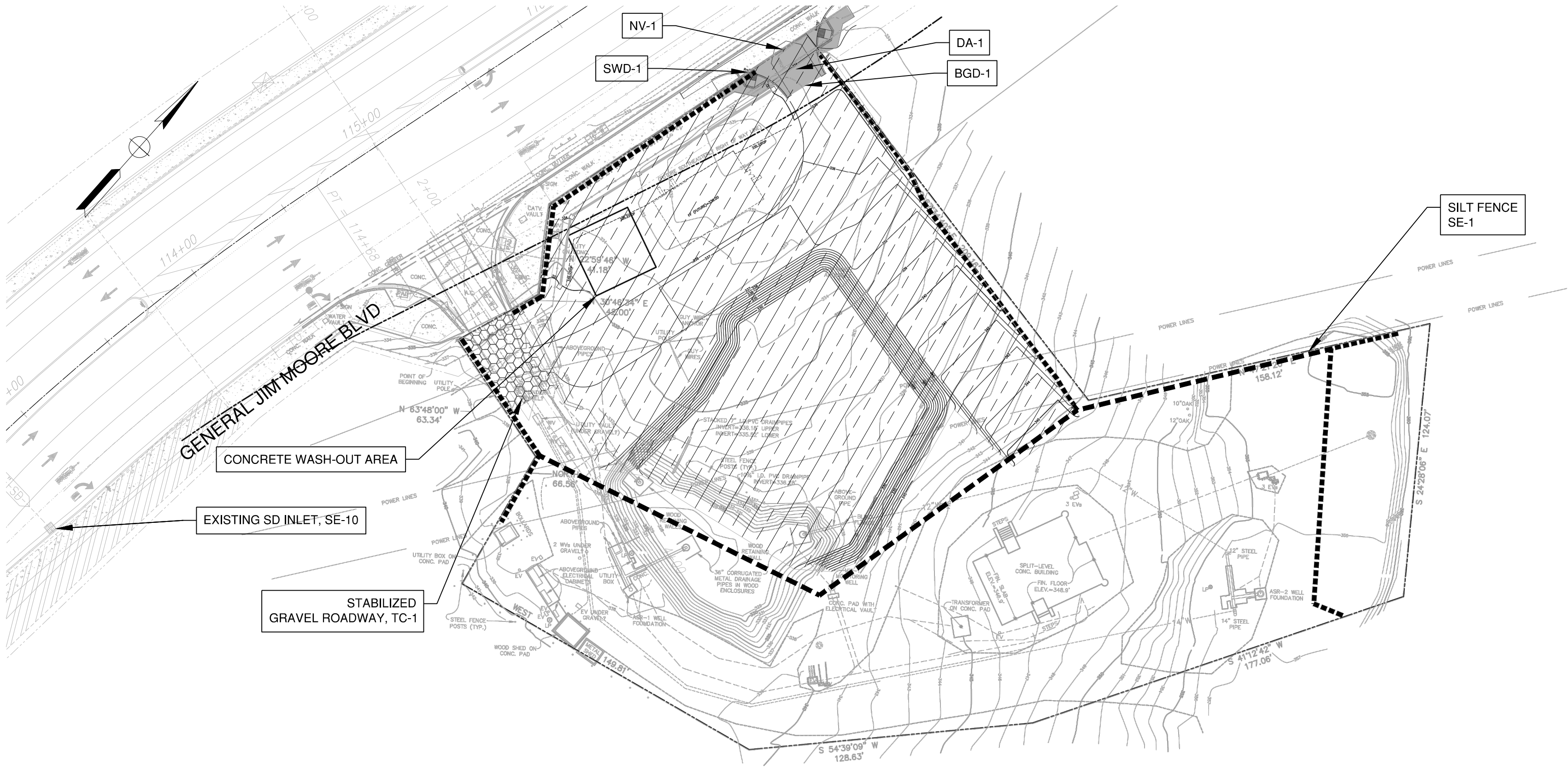
Pueblo Water Resources
4478 Market St., Suite 705
Ventura, CA 93003
(805) 644-0470

EROSION CONTROL
MONTEREY PENINSULA WATER MANAGEMENT DISTRICT
SANTA MARGARITA ASR FACILITY SITE EXPANSION
1910 GENERAL JIM MOORE BOULEVARD



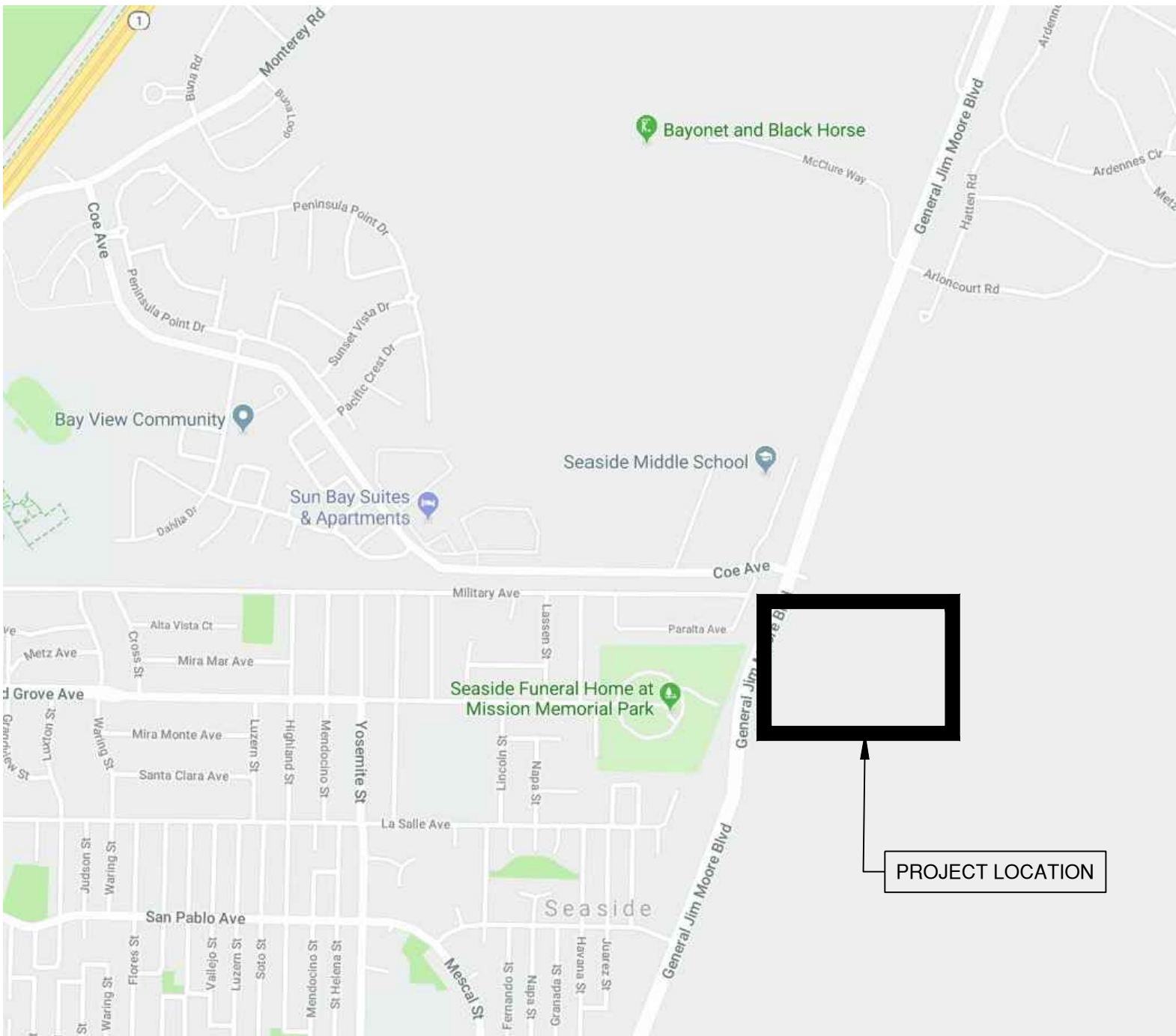
DATE SIGNED _____

PROJECT NO.
W.O. 0451
9 of 9



PLAN VIEW

SCALE: 1" = 40'



VICINITY MAP

SCALE: NTS

LEGEND: SWPPP STRUCTURAL STORMWATER BMP's

| SYMBOL | BMP NUMBER | BMP NAME | SYMBOL | BMP NUMBER | BMP NAME |
|--------|------------|---------------------------------------|--------|------------|-----------------------------------|
| | TC-1 | STABILIZED CONSTRUCTION ENTRANCE/EXIT | | WM-1 | MATERIAL DELIVERY AND STORAGE |
| | EC-2 | PRESERVATION OF EXISTING VEGETATION | | WM-2 | MATERIAL USE |
| | EC-4 | HYDROSEEDING | | WM-3 | STOCKPILE MANAGEMENT |
| | EC-7 | GEOTEXTILE AND MATS | | WM-4 | SPILL PREVENTION AND CONTROL |
| | EC-9 | GRASSY DRAINAGE SWALES | | WM-8 | CONCRETE WASTE MANAGEMENT |
| | EC-16 | NON-VEGETATIVE STABILIZATION | | NS-9 | VEHICLE AND EQUIPMENT FUELING |
| | SE-1 | SILT FENCE | | NS-10 | VEHICLE AND EQUIPMENT MAINTENANCE |
| | SE-7 | STREET SWEEPING AND VACUUMING | | | AREA OF SOIL DISTURBANCE |
| | SE-8 | SAND BAG BARRIER | | | NEW IMPERVIOUS AREA |
| | SE-10 | STORM DRAIN INLET PROTECTION | | | |
| | WE-1 | WIND EROSION CONTROL | | | |

NOTE:

- SEE CASQA CALIFORNIA STORMWATER BMP HANDBOOK-CONSTRUCTION FOR BMP DESCRIPTIONS AND DETAILS.
- WASTE STORAGE AREAS, VEHICLE STORAGE AREAS AND MATERIAL STORAGE AREAS TO BE DETERMINED BY CONTRACTOR.
- SAND BAGS WILL BE USED WHERE ANCHORING OF SILT FENCE IS NOT FEASIBLE

GENERAL NOTES

- THE EROSION CONTROL MEASURES ARE TO BE OPERATIONAL DURING THE RAINY SEASON, OCTOBER 1 TO APRIL 15. BY OCTOBER 1, GRADING AND INSTALLATION OF STORM DRAINAGE AND EROSION CONTROL FACILITIES WILL NEED TO BE COMPLETED AND EROSION CONTROL PLANTING WILL NEED TO BE ESTABLISHED. PERIMETER CONTROLS (SILT FENCES) ARE REQUIRED YEAR-ROUND FOR EARTHWORK AREAS.
- PIPE CULVERTS, STANDARD DROP INLETS, UNDERGROUND STORM DRAINAGE PIPE, AND APPURTENANCES SHALL BE CONSTRUCTED PRIOR TO WINTERIZATION, AND WILL REMAIN AS PERMANENT TRACT IMPROVEMENTS.
- CHANGES TO THIS EROSION AND SEDIMENT CONTROL PLAN SHALL BE MADE TO MEET FIELD CONDITIONS ONLY WITH THE APPROVAL OF OR AT THE DIRECTION OF THE MONTEREY PENINSULA WATER MANAGEMENT DISTRICT (MPWMD).
- DURING THE RAINY SEASON, ALL PAVED AREAS SHALL BE KEPT CLEAR OF EARTH MATERIAL AND DEBRIS. THE SITE SHALL BE MAINTAINED SO AS TO MINIMIZE SEDIMENT-LADEN RUNOFF TO ANY STORM DRAINAGE SYSTEM.
- SEED AND MULCH ARE TO BE PLACED ON ALL DISTURBED SLOPES STEEPER THAN 2% AND HIGHER THAN 3 FEET, AND TO ALL CUT AND FILL SLOPES WITHIN OR ADJACENT TO PUBLIC RIGHTS OF WAY AND AS DIRECTED BY THE DISTRICT. SEED PLACED DURING MAY AND SEPTEMBER SHALL BE IRRIGATED AS NECESSARY TO ESTABLISH GROWTH BY OCTOBER 1.
- SEE CONTRACTOR'S SWPPP FOR RESPONSIBLE PARTY AND APPLICABLE FACILITY LOCATIONS AND DETAILS.
- THE DISTRICT'S INSPECTOR AND/OR THE CITY BUILDING OFFICIAL SHALL STOP OPERATIONS DURING PERIODS OF INCLEMENT WEATHER IF HE OR SHE DETERMINES THAT EROSION PROBLEMS ARE NOT BEING CONTROLLED ADEQUATELY.
- ALL GRADING SHALL CONFORM TO THE SEASIDE MUNICIPAL CODE, SECTION 15.32, STANDARDS TO CONTROL EXCAVATION, GRADING, CLEARING AND EROSION, AND THE CALIFORNIA BUILDING CODE.
- NO VEGETATION REMOVAL OR GRADING WILL BE ALLOWED WHICH WILL RESULT IN SILTATION OF WATER COURSES OR UNCONTROLLABLE EROSION.
- IT SHALL BE THE RESPONSIBILITY OF THE OWNER AND THE PERMITTEE TO ENSURE THAT EROSION DOES NOT OCCUR FROM AN ACTIVITY DURING OR AFTER PROJECT CONSTRUCTION. ADDITIONAL MEASURES, BEYOND THOSE SPECIFIED, MAY BE REQUIRED AS DEEMED NECESSARY TO CONTROL ACCELERATED EROSION. (MCC 16.12.100)
- ALL ON-SITE EROSION CONTROL FACILITIES SHALL BE PROPERLY MAINTAINED BY THE OWNERS FOR THE LIFE OF THE PROJECT SO THAT THEY DO NOT BECOME NUISANCES WITH STAGNANT WATER, HEAVY ALGAE GROWTH, INSECT BREEDING, ODORS, DISCARDED DEBRIS, AND/OR SAFETY HAZARDS. VEGETATIVE MAINTENANCE MAY INCLUDE MOWING, FERTILIZATION, IRRIGATION AND/OR RESEEDING. (SMC 15.32.180 M)
- DURING CONSTRUCTION THE OWNER/APPLICANT SHALL SCHEDULE AN INSPECTION WITH THE CITY OF SEASIDE TO INSPECT DRAINAGE DEVICE INSTALLATION, REVIEW THE MAINTENANCE AND EFFECTIVENESS OF BMPs INSTALLED, AS WELL AS, TO VERIFY THAT POLLUTANTS OF CONCERN ARE NOT DISCHARGED FROM THE SITE.

MAINTENANCE NOTES

SILT FENCES

- SILT FENCES AND FILTER BARRIERS SHALL BE INSPECTED IMMEDIATELY AFTER EACH SIGNIFICANT RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE OR FILTER BARRIER DECOMPOSES OR BECOMES INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER IS STILL NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS THAT REMAIN IN PLACE AFTER REMOVAL OF THE SILT FENCE OR FILTER BARRIER SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE AND SEEDED.
- SILT FENCES ARE TO BE KEYED IN.

GRAVEL INLET SEDIMENT TRAP

- THE STRUCTURE SHALL BE INSPECTED AFTER EACH SIGNIFICANT RAIN AND REPAIRS MADE AS NEEDED.
- SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHOULD BE DEPOSITED IN A SUITABLE AREA, IN A MANNER THAT WILL NOT PROMOTE EROSION.
- STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREAS HAS BEEN PROPERLY STABILIZED.

CONSTRUCTION ENTRANCE

- THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND.
- WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. THIS SHALL BE DONE AT AN AREA STABILIZED WITH CRUSHED STONE, WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN.

| NO | REVISIONS | DATE | APPR |
|----|-----------|------|------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |

MONTEREY PENINSULA WATER
MANAGEMENT DISTRICT
5 HARRIS COURT BUILDING G
MONTEREY, CA 93940
(831)658-5600

Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
3 Quail Run Circle, Suite 101
Salinas, CA 93907-2348
(831) 883-4848



ASR FACILITY SITE EXPANSION
EROSION CONTROL PLAN

| | |
|----------|-----------|
| DATE: | JULY 2018 |
| SCALE: | AS SHOWN |
| DESIGN: | RM |
| DRAWN: | CJM |
| CHECKED: | AAS |

SHEET
1

Appendix C: Permit Registration Documents

Permit Registration Documents included in this Appendix

| | |
|---|---------------------------------|
| Y | Permit Registration Document |
| Y | Notice of Intent |
| Y | Risk Assessment |
| Y | Certification |
| | Post Construction Water Balance |
| Y | Copy of Annual Fee Receipt |
| | ATS Design Documents |
| Y | Site Map, see Appendix B |

| | A | B | C | D | E | F | G |
|----|-------------------|-------------------------------------|---------------|------------------------------------------------------------------------------------------------|---|---|---|
| 1 | Version 8/17/2011 | | | | | | |
| 2 | | Risk Determination Worksheet | | | | | |
| 3 | | | | | | | |
| 4 | | | Step 1 | Determine Sediment Risk via one of the options listed: | | | |
| 5 | | | | 1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map | | | |
| 6 | | | | 2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data | | | |
| 7 | | | Step 2 | Determine Receiving Water Risk via one of the options listed: | | | |
| 8 | | | | 1. GIS map of Sediment Sensitive Watersheds provided | | | |
| 9 | | | | 2. Site Specific Analysis (support documentation required) | | | |
| 10 | | | Step 3 | Determine Combined Risk Level | | | |

| | A | B | C |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------------|
| 1 | Sediment Risk Factor Worksheet | | Entry |
| 2 | A) R Factor | | |
| 3 | Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site. | | |
| 4 | http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm | | |
| 5 | R Factor Value | | 9.31 |
| 6 | B) K Factor | | |
| 7 | The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. | | |
| 8 | Site-specific K factor guidance | | |
| 9 | K Factor Value | | 0.1 |
| 10 | C) LS Factor (weighted average, by area, for all slopes) | | |
| 11 | The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction. | | |
| 12 | LS Table | | |
| 13 | LS Factor Value | | 0.74 |
| 14 | | | |
| 15 | Watershed Erosion Estimate (=RxKxLS) in tons/acre | | 0.6867056 |
| 16 | Site Sediment Risk Factor | | Low |
| 17 | Low Sediment Risk: < 15 tons/acre | | |
| 18 | Medium Sediment Risk: >=15 and <75 tons/acre | | |
| 19 | High Sediment Risk: >= 75 tons/acre | | |
| 20 | | | |

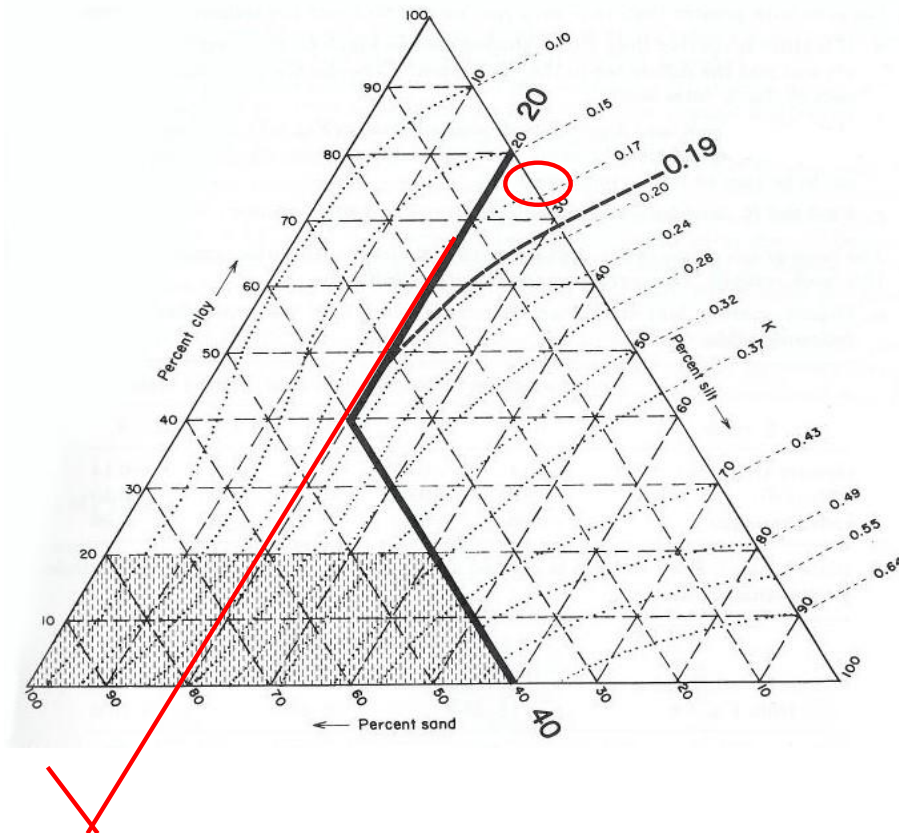
| Receiving Water (RW) Risk Factor Worksheet | | Entry | Score |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--------|-------|
| A. Watershed Characteristics | | yes/no | |
| A.1. Does the disturbed area discharge (either directly or indirectly) to a 303(d)-listed waterbody impaired by sediment (For help with impaired waterbodies please visit the link below) or has a USEPA approved TMDL implementation plan for sediment ?: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml OR | | no | Low |
| A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? (For help please review the appropriate Regional Board Basin Plan) http://www.waterboards.ca.gov/waterboards_map.shtml | | | |
| Region 1 Basin Plan Region 2 Basin Plan Region 3 Basin Plan Region 4 Basin Plan Region 5 Basin Plan Region 6 Basin Plan Region 7 Basin Plan Region 8 Basin Plan Region 9 Basin Plan | | | |

Combined Risk Level Matrix

| | | <u>Sediment Risk</u> | | |
|--------------------------------|------|----------------------|---------|---------|
| | | Low | Medium | High |
| <u>Receiving Water Risk</u> | Low | Level 1 | Level 2 | |
| | High | Level 2 | | Level 3 |
| Project Sediment Risk: Low | | | | |
| Project RW Risk: Low | | | | |
| Project Combined Risk: Level 1 | | | | |

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.

The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability). *Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.*

| Average Watershed Slope (%) | | | | | | | | | | | | | | | | | | | | |
|---------------------------------|------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| Sheet Flow Length (ft) | 0.2 | 0.5 | 1.0 | 2.0 | 3.0 | 4.0 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 | 14.0 | 16.0 | 20.0 | 25.0 | 30.0 | 40.0 | 50.0 | 60.0 | |
| <3 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.35 | 0.36 | 0.38 | 0.39 | 0.41 | 0.45 | 0.48 | 0.53 | 0.58 | 0.63 | |
| 6 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.37 | 0.41 | 0.45 | 0.49 | 0.56 | 0.64 | 0.72 | 0.85 | 0.97 | 1.07 | |
| 9 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.38 | 0.45 | 0.51 | 0.56 | 0.67 | 0.80 | 0.91 | 1.13 | 1.31 | 1.47 | |
| 12 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.39 | 0.47 | 0.55 | 0.62 | 0.76 | 0.93 | 1.08 | 1.37 | 1.62 | 1.84 | |
| 15 | 0.05 | 0.07 | 0.09 | 0.13 | 0.17 | 0.20 | 0.23 | 0.26 | 0.32 | 0.40 | 0.49 | 0.58 | 0.67 | 0.84 | 1.04 | 1.24 | 1.59 | 1.91 | 2.19 | |
| 25 | 0.05 | 0.07 | 0.10 | 0.16 | 0.21 | 0.26 | 0.31 | 0.36 | 0.45 | 0.57 | 0.71 | 0.85 | 0.98 | 1.24 | 1.56 | 1.86 | 2.41 | 2.91 | 3.36 | |
| 50 | 0.05 | 0.08 | 0.13 | 0.21 | 0.30 | 0.38 | 0.46 | 0.54 | 0.70 | 0.91 | 1.15 | 1.40 | 1.64 | 2.10 | 2.67 | 3.22 | 4.24 | 5.16 | 5.97 | |
| 75 | 0.05 | 0.08 | 0.14 | 0.25 | 0.36 | 0.47 | 0.58 | 0.69 | 0.91 | 1.20 | 1.54 | 1.87 | 2.21 | 2.86 | 3.67 | 4.44 | 5.89 | 7.20 | 8.37 | |
| 100 | 0.05 | 0.09 | 0.15 | 0.28 | 0.41 | 0.55 | 0.68 | 0.82 | 1.10 | 1.46 | 1.88 | 2.31 | 2.73 | 3.57 | 4.59 | 5.58 | 7.44 | 9.13 | 10.63 | |
| 150 | 0.05 | 0.09 | 0.17 | 0.33 | 0.50 | 0.68 | 0.86 | 1.05 | 1.43 | 1.92 | 2.51 | 3.09 | 3.68 | 4.85 | 6.30 | 7.70 | 10.35 | 12.75 | 14.89 | |
| 200 | 0.06 | 0.10 | 0.18 | 0.37 | 0.57 | 0.79 | 1.02 | 1.25 | 1.72 | 2.34 | 3.07 | 3.81 | 4.56 | 6.04 | 7.88 | 9.67 | 13.07 | 16.16 | 18.92 | |
| 250 | 0.06 | 0.10 | 0.19 | 0.40 | 0.64 | 0.89 | 1.16 | 1.43 | 1.99 | 2.72 | 3.60 | 4.48 | 5.37 | 7.16 | 9.38 | 11.55 | 15.67 | 19.42 | 22.78 | |
| 300 | 0.06 | 0.10 | 0.20 | 0.43 | 0.69 | 0.98 | 1.28 | 1.60 | 2.24 | 3.09 | 4.09 | 5.11 | 6.15 | 8.23 | 10.81 | 13.35 | 18.17 | 22.57 | 26.51 | |
| 400 | 0.06 | 0.11 | 0.22 | 0.48 | 0.80 | 1.14 | 1.51 | 1.90 | 2.70 | 3.75 | 5.01 | 6.30 | 7.60 | 10.24 | 13.53 | 16.77 | 22.95 | 28.60 | 33.67 | |
| 600 | 0.06 | 0.12 | 0.24 | 0.56 | 0.96 | 1.42 | 1.91 | 2.43 | 3.52 | 4.95 | 6.67 | 8.45 | 10.26 | 13.94 | 18.57 | 23.14 | 31.89 | 39.95 | 47.18 | |
| 800 | 0.06 | 0.12 | 0.26 | 0.63 | 1.10 | 1.65 | 2.25 | 2.89 | 4.24 | 6.03 | 8.17 | 10.40 | 12.69 | 17.35 | 23.24 | 29.07 | 40.29 | 50.63 | 59.93 | |
| 1000 | 0.06 | 0.13 | 0.27 | 0.69 | 1.23 | 1.86 | 2.55 | 3.30 | 4.91 | 7.02 | 9.57 | 12.23 | 14.96 | 20.57 | 27.66 | 34.71 | 48.29 | 60.84 | 72.15 | |

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

| | | |
|--------------------------------------------------------------------------|-----------|-----------------------|
| Method used to calculate LS | | |
| Length of sheet flow along the diagonal of the 100ft X 100 ft square pad | 116.00 ft | |
| High point elevation | 341 ft | eastern corner of pad |
| Low point elevation | 335 ft | western corner of pad |
| Watershed slope (%) | 5% | |
| Using Sheet Flow Length = 116 ft and watershed slope = 5%, LS value = | 0.74 | |

SWPPP Certification Statement by Qualified SWPPP Developer (QSD)

Project Name: Aquifer Storage and Recovery Site Expansion (ASR)

Project Number/ID

“This Stormwater Pollution Prevention Plan and Attachments were prepared under my direction to meet the requirements of the California Construction General Permit (SWRCB Orders No. 2009-009-DWQ as amended by Order 2010-0014-DWQ and Order 2012-0006-DWQ). I certify that I am a Qualified SWPPP Developer in good standing as of the date signed below.”

Rupeet Malhotra
QSD Signature

July 18, 2018

Date

Rupeet Malhotra

QSD Name

23276

QSD Certificate Number

Associate Engineer, Schaaf and Wheeler

Title and Affiliation

8148838214

Telephone Number

rmalhotra@swsv.com

Email

Discharger or Legally Responsible Person

Approval and Certification of the Stormwater Pollution Prevention Plan

Project Name: Aquifer Storage and Recovery Site Expansion Project

Project Number/ID

"I certify under penalty of law that this document and all Attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, to the best of my knowledge and belief, the information submitted is, 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."

David Stoldt

Legally Responsible Person [if organization]

Signature of [Authorized Representative of] Legally
Responsible Person or Approved Signatory

Date

Name of [Authorized Representative of] Legally
Responsible Person or Approved Signatory

Telephone Number

Appendix D: SWPPP Amendments

SWPPP Amendment No. 1

Project Name: Aquifer Storage and Recovery Site Expansion

Project Number: _____

Appendix E: Submitted Changes to PRDs

Log of Updated PRDs

The General Permit allows for the reduction or increase of the total acreage covered under the General Permit when a portion of the project is complete and/or conditions for termination of coverage have been met; when ownership of a portion of the project is purchased by a different entity; or when new acreage is added to the project.

Modified PRDs shall be filed electronically within 30 days of a reduction or increase in total disturbed area if a change in permit covered acreage is to be sought. The SWPPP shall be modified appropriately, with revisions and amendments recorded in **Appendix C**. Updated PRDs submitted electronically via SMARTS can be found in this Appendix.

This appendix includes all of the following updated PRDs (check all that apply):

- ☐ Revised Notice of Intent (NOI);
- ☐ Revised Site Map;
- ☐ Revised Risk Assessment;
- ☐ New landowner's information (name, address, phone number, email address); and
- ☐ New signed certification statement.

Legally Responsible Person [if organization]

Signature of [Authorized Representative of] Legally
Responsible Person or Approved Signatory

Date

Name of [Authorized Representative of] Legally
Responsible Person or Approved Signatory

Telephone Number

Appendix F: Construction Schedule

Appendix G: Construction Activities, Materials Used, and Associated Pollutants

Table G.1 Construction Activities and Associated Pollutants

| Phase | Activity | Associated Materials or Pollutants | Pollutant Category⁽¹⁾ |
|------------------------------------------|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| Grading and Land Development | Concrete/ Masonry | Cement and brick dust | |
| | | Colored chalks | |
| | | Concrete curing compounds | |
| | | Glazing compounds | |
| | | Surfaces cleaners | |
| | | Saw cut slurries | |
| | | Tile cutting | |
| | Removal of existing structures | Demolition of asphalt, concrete, masonry, framing, roofing, metal structures. | Metals, Oil and Grease, Synthetic Organics |
| | Solid waste | Litter, trash and debris Vegetation | Gross Pollutants |
| Streets and Utilities Phase | Vehicle and equipment use | Equipment operation Equipment maintenance Equipment washing Equipment fueling | Oil and Grease |
| | Solid waste | Litter, trash and debris Vegetation | Gross Pollutants |
| Landscaping and Site Stabilization Phase | Liquid waste | Wash waters Irrigation line testing/flushing | Metals, Synthetic Organics |
| | Painting | Paint thinners, acetone, methyl ethyl ketone, stripper paints, lacquers, varnish, enamels, turpentine, gum spirit, solvents, dyes, stripping pigments and sanding | Metals, Synthetic Organics |
| | Planting / Vegetation Management | Vegetation control (pesticides/herbicides) Planting Plant maintenance Vegetation removal | Nutrients, Metals, Synthetic Organics |
| | Soil preparation/amendments | Use of soil additives/amendments | Nutrients |

⁽¹⁾ Categories per CASQA BMP Handbook (i.e., Sediment, Nutrients, Bacteria and Viruses, Oil and Grease, Metals, Synthetic Organics, Pesticides, Gross Pollutants, and Vector Production)

*Appendix H: CASQA Stormwater BMP Handbook Portal:
Construction Fact Sheets*

Appendix I: BMP Inspection Form

BMP INSPECTION REPORT

| | | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------|
| Date and Time of Inspection: | | Date Report Written: | | |
| Inspection Type: (Circle one) | <i>Weekly Complete Parts I, II, III and VII</i> | <i>Pre-Storm Complete Parts I, II, III, IV and VII</i> | <i>During Rain Event Complete Parts I, II, III, V, and VII</i> | <i>Post-Storm Complete Parts I, II, III, VI and VII</i> |
| Part I. General Information | | | | |
| Site Information | | | | |
| Construction Site Name: | | | | |
| Construction stage and completed activities: | | | Approximate area of site that is exposed: | |
| Photos Taken: (Circle one) | Yes | No | Photo Reference IDs: | |
| Weather | | | | |
| Estimate storm beginning: (date and time) | | Estimate storm duration: (hours) | | |
| Estimate time since last storm: (days or hours) | | Rain gauge reading and location: (in) | | |
| Is a "Qualifying Event" predicted or did one occur (i.e., 0.5" rain with 48-hrs or greater between events)? (Y/N) If yes, summarize forecast: | | | | |
| Exemption Documentation (explanation required if inspection could not be conducted). Visual inspections are not required outside of business hours or during dangerous weather conditions such as flooding or electrical storms. | | | | |
| | | | | |
| Inspector Information | | | | |
| Inspector Name: | | | Inspector Title: | |
| Signature: | | | Date: | |
| | | | | |
| Part II. BMP Observations. Describe deficiencies in Part III. | | | | |

| Minimum BMPs for Risk Level 1 Sites | Failures or other short comings (yes, no, N/A) | Action Required (yes/no) | Action Implemented (Date) |
|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|--------------------------|---------------------------|
| Good Housekeeping for Construction Materials | | | |
| Inventory of products (excluding materials designed to be outdoors) | | | |
| Stockpiled construction materials not actively in use are covered and bermed | | | |
| All chemicals are stored in watertight containers with appropriate secondary containment, or in a completely enclosed storage shed | | | |
| Construction materials are minimally exposed to precipitation | | | |
| BMPs preventing the off-site tracking of materials are implemented and properly effective | | | |
| Good Housekeeping for Waste Management | | | |
| Wash/rinse water and materials are prevented from being disposed into the storm drain system | | | |
| Portable toilets are contained to prevent discharges of waste | | | |
| Sanitation facilities are clean and with no apparent for leaks and spills | | | |
| Equipment is in place to cover waste disposal containers at the end of business day and during rain events | | | |
| Discharges from waste disposal containers are prevented from discharging to the storm drain system / receiving water | | | |
| Stockpiled waste material is securely protected from wind and rain if not actively in use | | | |
| Procedures are in place for addressing hazardous and non-hazardous spills | | | |
| Appropriate spill response personnel are assigned and trained | | | |
| Equipment and materials for cleanup of spills is available onsite | | | |
| Washout areas (e.g., concrete) are contained appropriately to prevent discharge or infiltration into the underlying soil | | | |
| Good Housekeeping for Vehicle Storage and Maintenance | | | |
| Measures are in place to prevent oil, grease, or fuel from leaking into the ground, storm drains, or surface waters | | | |
| All equipment or vehicles are fueled, maintained, and stored in a designated area with appropriate BMPs | | | |
| Vehicle and equipment leaks are cleaned immediately and disposed of properly | | | |

| Part II. BMP Observations Continued. Describe deficiencies in Part III. | | | |
|--------------------------------------------------------------------------------|------------------------------------------------|--------------------------|---------------------------|
| Minimum BMPs for Risk Level 1 Sites | Adequately designed, implemented and effective | Action Required (yes/no) | Action Implemented (Date) |

| | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--|--|
| | (yes, no, N/A) | | |
| Good Housekeeping for Landscape Materials | | | |
| Stockpiled landscape materials such as mulches and topsoil are contained and covered when not actively in use | | | |
| Erodible landscape material has not been applied 2 days before a forecasted rain event or during an event | | | |
| Erodible landscape materials are applied at quantities and rates in accordance with manufacturer recommendations | | | |
| Bagged erodible landscape materials are stored on pallets and covered | | | |
| Good Housekeeping for Air Deposition of Site Materials | | | |
| Good housekeeping measures are implemented onsite to control the air deposition of site materials and from site operations | | | |
| Non-Stormwater Management | | | |
| Non-Stormwater discharges are properly controlled | | | |
| Vehicles are washed in a manner to prevent non-stormwater discharges to surface waters or drainage systems | | | |
| Streets are cleaned in a manner to prevent unauthorized non-stormwater discharges to surface waters or drainage systems. | | | |
| Erosion Controls | | | |
| Wind erosion controls are effectively implemented | | | |
| Effective soil cover is provided for disturbed areas inactive (i.e., not scheduled to be disturbed for 14 days) as well as finished slopes, open space, utility backfill, and completed lots | | | |
| The use of plastic materials is limited in cases when a more sustainable, environmentally friendly alternative exists. | | | |
| Sediment Controls | | | |
| Perimeter controls are established and effective at controlling erosion and sediment discharges from the site | | | |
| Entrances and exits are stabilized to control erosion and sediment discharges from the site | | | |
| Sediment basins are properly maintained | | | |
| Run-On and Run-Off Controls | | | |
| Run-on to the site is effectively managed and directed away from all disturbed areas. | | | |
| Other | | | |
| Are the project SWPPP and BMP plan up to date, available on-site and being properly implemented? | | | |
| | | | |

Part III. Descriptions of BMP Deficiencies

| Deficiency | Repairs Implemented: Note - Repairs must begin within 72 hours of identification and, complete repairs as soon as possible. | |
|------------|--------------------------------------------------------------------------------------------------------------------------------|--------|
| | Start Date | Action |
| 1. | | |
| 2. | | |
| 3. | | |
| 4. | | |

Part IV. Additional Pre-Storm Observations. Note the presence or absence of floating and suspended materials, sheen, discoloration, turbidity, odors, and source(s) of pollutants(s).

| | |
|---------------------------------------------------------------------------------------------------------------------------|--------------|
| | Yes, No, N/A |
| Do stormwater storage and containment areas have adequate freeboard? If no, complete Part III. | |
| Are drainage areas free of spills, leaks, or uncontrolled pollutant sources? If no, complete Part VII and describe below. | |
| Notes: | |
| | |
| Are stormwater storage and containment areas free of leaks? If no, complete Parts III and/or VII and describe below. | |
| Notes: | |
| | |
| | |

Part V. Additional During Storm Observations. If BMPs cannot be inspected during inclement weather, list the results of visual inspections at all relevant outfalls, discharge points, and downstream locations. Note odors or visible sheen on the surface of discharges. Complete Part VII (Corrective Actions) as needed.

| Outfall, Discharge Point, or Other Downstream Location | |
|--------------------------------------------------------|-------------|
| Location | Description |
| | |
| Location | Description |
| | |

| | |
|----------|-------------|
| Location | Description |
| Location | Description |
| Location | Description |
| Location | Description |
| Location | Description |
| Location | Description |

Part VI. Additional Post-Storm Observations. Visually observe (inspect) stormwater discharges at all discharge locations within two business days (48 hours) after each qualifying rain event, and observe (inspect) the discharge of stored or contained stormwater that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Complete Part VII (Corrective Actions) as needed.

| Discharge Location, Storage or Containment Area | Visual Observation |
|-------------------------------------------------|--------------------|
| | |
| | |
| | |
| | |
| | |

Part VII. Additional Corrective Actions Required. Identify additional corrective actions not included with BMP Deficiencies (Part III) above. Note if SWPPP change is required.

| Required Actions | Implementation Date |
|------------------|---------------------|
| | |
| | |
| | |

Appendix J: Project Specific Rain Event Action Plan Template

NOT APPLICABLE

Appendix K: Training Reporting Form

Trained Contractor Personnel Log

Stormwater Management Training Log and Documentation

Project Name: _____

WDID #: _____

Stormwater Management Topic: (check as appropriate)

- | | |
|----------------------------------------------------|---------------------------------------------------------------------------|
| <input type="checkbox"/> Erosion Control | <input type="checkbox"/> Sediment Control |
| <input type="checkbox"/> Wind Erosion Control | <input type="checkbox"/> Tracking Control |
| <input type="checkbox"/> Non-Stormwater Management | <input type="checkbox"/> Waste Management and Materials Pollution Control |
| <input type="checkbox"/> Stormwater Sampling | |

Specific Training Objective: _____

Location: _____

Date: _____

Instructor: _____

Telephone: _____

Course Length (hours): _____

Attendee Roster (Attach additional forms if necessary)

| Name | Company | Phone |
|------|---------|-------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

As needed, add proof of external training (e.g., course completion certificates, credentials for QSP, QSD).

Appendix L: Responsible Parties

Legally Responsible Person (LRP)

| Name | Title | Phone Number |
|--------------|-----------------------|---------------------|
| David Stoldt | General Manager MPWMD | (831) 658-5601 |

OPTIONAL

Authorization of Approved Signatories

Project Name: _____

WDID #: _____

| Name of Personnel | Project Role | Company | Signature | Date |
|-------------------|--------------|---------|-----------|------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

LRP's Signature

Date

LRP Name and Title

Telephone Number

Identification of QSP

Project Name: _____

WDID #: _____

The following are QSPs associated with this project

| Name of Personnel ⁽¹⁾ | Company | Date |
|----------------------------------|---------|------|
| | | |

(1) If additional QSPs are required on the job site add additional lines and include information here

Authorization of Data Submitters

Project Name: _____

WDID #: _____

| Name of Personnel | Project Role | Company | Signature | Date |
|-------------------|--------------|---------|-----------|------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Approved Signatory's Signature

Date

Approved Signatory
Name and Title

Telephone Number

Appendix M: Contractors and Subcontractors

Contractor

| | |
|---------------------------------|-------------------------------------------------|
| Name: | TBD |
| Title: | |
| Company: | Granite Rock Company |
| Address: | 5225 Hellyer Ave, Suite 220, San Jose, CA 95138 |
| Phone Number: Number (24/7): | (408) 574-1400 |

Qualified SWPPP Practitioner

| | |
|---------------------------------|------------------------------------------|
| Name: | TBD |
| Title: | |
| Company: | Granite Rock Company |
| Address: | 350 Technology Dr, Watsonville, CA 95077 |
| Phone Number: Number (24/7): | (831) 768-2700 |
| Assigned inspector: | QSP, TBD |
| Contact phone: | |
| Alternate inspector: | QSP, TBD |
| Contact phone: | TBD |

Sampling Analysis / Laboratory

| | |
|-------------------------------|-----|
| Laboratory Name: | TBD |
| Street Address: | |
| City/ State / Zip: | |
| Telephone Number: | |
| Point of Contact: | TBD |
| ELAP Certification Number: | |

Sample Collection Contractor / Personnel

| | |
|---------------------------------|----------|
| Name: | TBD |
| Title: | |
| Company: | |
| Address: | |
| Phone Number: Number (24/7): | |
| Assigned inspector: | QSP, TBD |
| Contact phone: | |
| Alternate inspector: | QSP, TBD |
| Contact phone: | TBD |

Appendix N: Construction General Permit

ATTACHMENT C RISK LEVEL 1 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 1 dischargers shall comply with the narrative effluent standards listed below:
 - a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.
 - b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.
2. Numeric – Risk Level 1 dischargers are not subject to a numeric effluent standard.

B. Good Site Management "Housekeeping"

1. Risk Level 1 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 1 dischargers shall implement the following good housekeeping measures:
 - a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

- c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).
 - d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).
 - e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.
2. Risk Level 1 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:
- a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.
 - b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.
 - c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.
 - d. Cover waste disposal containers at the end of every business day and during a rain event.
 - e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.
 - f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.
 - g. Implement procedures that effectively address hazardous and non-hazardous spills.
 - h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:
 - i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

- ii. Appropriate spill response personnel are assigned and trained.
 - i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.
3. Risk Level 1 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:
- a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.
 - b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.
 - c. Clean leaks immediately and disposing of leaked materials properly.
4. Risk Level 1 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:
- a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.
 - b. Contain fertilizers and other landscape materials when they are not actively being used.
 - c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.
 - d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.
 - e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.
5. Risk Level 1 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 1 dischargers shall do the following:

- a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.
 - b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.
 - c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.
 - d. Ensure retention of sampling, visual observation, and inspection records.
 - e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.
6. Risk Level 1 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

C. Non-Storm Water Management

1. Risk Level 1 dischargers shall implement measures to control all non-storm water discharges during construction.
2. Risk Level 1 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.
3. Risk Level 1 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 1 dischargers shall implement effective wind erosion control.
2. Risk Level 1 dischargers shall provide effective soil cover for inactive¹ areas and all finished slopes, open space, utility backfill, and completed lots.
3. Risk Level 1 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 1 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
2. On sites where sediment basins are to be used, Risk Level 1 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

F. Run-on and Runoff Controls

Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 1 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.
2. Risk Level 1 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended

¹ Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 1 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.
4. For each inspection required, Risk Level 1 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.
5. Risk Level 1 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:
 - a. Inspection date and date the inspection report was written.
 - b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.
 - c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.
 - d. A description of any BMPs evaluated and any deficiencies noted.
 - e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.
 - f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.
 - g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.
 - h. Photographs taken during the inspection, if any.
 - i. Inspector's name, title, and signature.

H. Rain Event Action Plan

Not required for Risk Level 1 dischargers.

I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

| Risk Level | Visual Inspections | | | | | Sample Collection | |
|------------|-------------------------------------|-----------------|------|-----------------|------------|-----------------------|-----------------|
| | Quarterly Non-storm Water Discharge | Pre-storm Event | | Daily Storm BMP | Post Storm | Storm Water Discharge | Receiving Water |
| | | Baseline | REAP | | | | |
| 1 | X | X | | X | X | | |

1. Construction Site Monitoring Program Requirements

- a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.
- b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Programs to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.
- c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. Objectives

The CSMP shall be developed and implemented to address the following objectives:

- a. To demonstrate that the site is in compliance with the Discharge Prohibitions;

- b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;
- c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and
- d. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events

- a. Risk Level 1 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.
- b. Risk Level 1 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of $\frac{1}{2}$ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.
- c. Risk Level 1 dischargers shall conduct visual observations (inspections) during business hours only.
- d. Risk Level 1 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.
- e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 1 dischargers shall visually observe (inspect):
 - i. All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.
 - ii. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

- iii. Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.
- f. For the visual observations (inspections) described in e.i and e.iii above, Risk Level 1 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.
- g. Within two business days (48 hours) after each qualifying rain event, Risk Level 1 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.
- h. Risk Level 1 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. Risk Level 1 – Visual Observation Exemptions

- a. Risk Level 1 dischargers shall be prepared to conduct visual observation (inspections) until the minimum requirements of Section I.3 above are completed. Risk Level 1 dischargers are not required to conduct visual observation (inspections) under the following conditions:
 - i. During dangerous weather conditions such as flooding and electrical storms.
 - ii. Outside of scheduled site business hours.
- b. If no required visual observations (inspections) are collected due to these exceptions, Risk Level 1 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

5. Risk Level 1 – Monitoring Methods

Risk Level 1 dischargers shall include a description of the visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures in the CSMP.

6. Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements

a. Visual Monitoring Requirements:

- i. Risk Level 1 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.
- ii. Risk Level 1 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).
- iii. Risk Level 1 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 1 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

7. Risk Level 1 – Non-Visible Pollutant Monitoring Requirements

- a. Risk Level 1 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.
- b. Risk Level 1 dischargers shall ensure that water samples are large enough to characterize the site conditions.
- c. Risk Level 1 dischargers shall collect samples at all discharge locations that can be safely accessed.
- d. Risk Level 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.
- e. Risk Level 1 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the

presence of pollutants identified in the pollutant source assessment required (Risk Level 1 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

- f. Risk Level 1 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.
- g. Risk Level 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.²
- h. Risk Level 1 dischargers shall keep all field /or analytical data in the SWPPP document.

8. Risk Level 1 – Particle Size Analysis for Project Risk Justification

Risk Level 1 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

9. Risk Level 1 – Records

Risk Level 1 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 1 dischargers shall retain all records on-site while construction is ongoing. These records include:

- a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.
- b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.
- c. The date and approximate time of analyses.
- d. The individual(s) who performed the analyses.

² For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

- e. A summary of all analytical results from the last three years, the method detection limits and reporting units, and the analytical techniques or methods used.
- f. Rain gauge readings from site inspections.
- g. Quality assurance/quality control records and results.
- h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.6 above).
- i. Visual observation and sample collection exception records (see Section I.4 above).
- j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

INSTRUCTIONS

- *Include a copy of the General Permit, or reference permanent location of General Permit that is kept on the construction site.*

Appendix O: Retention of Records / Construction Records

Appendix P: Agency Approvals and Miscellaneous Documents

*Appendix Q: Test Methods, Detection Limits,
Reporting Units, Applicable NALs and
NELs*

Appendix R: Erosion Control Plans

Appendix S: Contractor Activities Location Map
