# CITY OF BURBANK GRADING AND DRAINAGE PLAN 801-817 S 6TH STREET

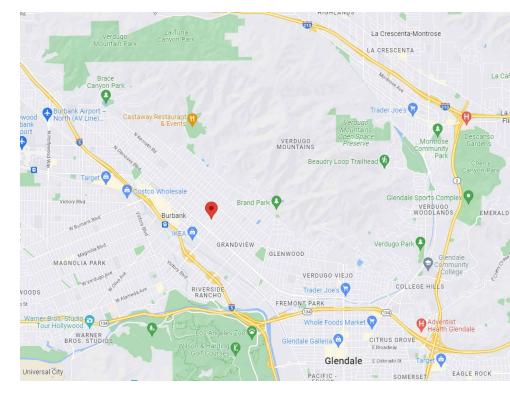
### **GENERAL NOTES:**

- 1. ALL WORK SHALL BE DONE UNDER THE DIRECTION OF A REGISTERED CIVIL ENGINEER. DURING AND UPON COMPLETION OF THE WORK, A CERTIFICATE SIGNED BY A REGISTERED CIVIL ENGINEER SHALL BE FILED WITH THE CITY ENGINEER CERTIFYING THAT ALL WORK HAS BEEN COMPLETED IN ACCORDANCE WITH THIS PERMIT AND THE WHITTIER MUNICIPAL CODE. INCLUDED WITH THIS CERTIFICATE SHALL BE A MAP SHOWING THE ELEVATIONS OF THE LOTS AND SLOPES OF ALL BANKS, AS CONSTRUCTED.
- 2. DURING ALL GRADING OPERATIONS, ADEQUATE PROTECTION SHALL BE PROVIDED FOR ADJOINING PROPERTY OR PROPERTY LOCATED AT LOWER ELEVATIONS WHERE EROSION MAY CAUSE DAMAGE OR NUISANCE. PROTECTION SHALL ALSO BE PROVIDED FOR ADJOINING PUBLIC WAYS. A DESILTING BASIN SHALL BE MAINTAINED ON THE PROPERTY AT ALL TIMES TO RETAIN ALL DIRT AND SILT WITHIN THE PROPOSED DEVELOPMENT BOUNDARIES. THE APPLICANT SHALL SUBMIT A PLAN IN WRITING SPECIFYING THE MANNER IN WHICH PROTECTION WILL BE PROVIDED FOR THE ADJOINING PROPERTIES.
- 3. A COMPREHENSIVE GENERAL LIABILITY INSURANCE CERTIFICATE SHALL BE PRESENTED TO THE CITY ENGINEER SHOWING SAME TO BE IN EFFECT FOR NOT LESS THAN \$500,000 COMBINED SINGLE LIMIT OCCURRENCE. THE APPLICANT SHALL FURNISH THE CITY WITH A CERTIFICATE CONTAINING A THIRTY (30) DAY CANCELLATION NOTICE CLAUSE AND SHALL NAME THE CITY AS ADDITIONAL INSURED.
- 4. A SURETY BOND OR CASH DEPOSIT IN THE SUM OF \$\_\_\_\_\_\_ SHALL BE PROVIDED TO THE CITY ENGINEER GUARANTEEING THE COMPLETION OF THE EXCAVATION WORK SHOWN ON THE GRADING PLAN AND IN THE MANNER THE COMPLETION OF THE EXCAVATION WORK SHOWN ON THE GRADING PLAN AND IN THE MANNER SPECIFIED IN THE GRADING PERMIT. THE FOLLOWING WORK SHALL BE COVERED BY THIS BOND:
- a. THE COMPLETION OF THE EXCAVATION WORK AS SHOWN ON THE GRADING PLAN AND IN THE MANNER SPECIFIED IN THE GRADING PERMIT AND UNDER THE CONDITIONS SET FOR THE APPROVAL OF THE DEVELOPMENT.
- b. INSTALLATION OF PAVED DRAINS AS SHOWN ON THE APPROVED GRADING PLAN.
- c. CONSTRUCTION OF DRAINAGE PIPES, CONDUITS, AND DRAINAGE STRUCTURES AS SHOWN ON THE APPROVED GRADING PLAN AND AS REQUIRED BY THE GRADING PERMIT.
- d. THE PROTECTION OF ALL SLOPES IMMEDIATELY UPON COMPLETION WITH SEEDING OR OTHER FORMS OF APPROVED EROSION CONTROL DEVICE.
- e. THE IMPROVEMENT OF ALL STREETS AS REQUIRED BY THE TENTATIVE APPROVAL OF THE DEVELOPMENT.
- 5. THE GRANTING OF THIS PERMIT SHALL NOT BE CONSTRUED TO AUTHORIZE APPLICANT TO DO GRADING WORK OUTSIDE THE BOUNDARIES OF THE PROPERTY OWNED BY THE APPLICANT. EVIDENCE OF PERMISSION TO WORK ON ADJOINING PROPERTIES SHALL BE SUBMITTED IN WRITING TO THE CITY ENGINEER BEFORE DOING ANY WORK ON SUCH PROPERTY.
- 6. NO WORK SHALL BE DONE BETWEEN THE HOURS OF 6:00 P.M. AND 7:00 A.M. OR ON SUNDAYS.
- ALL RETAINING WALLS SHALL BE CONSTRUCTED UNDER PERMIT FROM THE CITY OF WHITTIER BUILDING DEPARTMENT.
- 8. ALL DRIVEWAY APRONS SHALL BE APPROVED BY THE TRAFFIC ENGINEER AND CONSTRUCTED UNDER PERMIT FROM THE CITY OF WHITTIER PUBLIC WORKS DEPARTMENT.
- 9. DUST SHALL BE CONTROLLED BY SPRINKLING AS REQUIRED BY THE CITY ENGINEER.
- 10. BEFORE EXPORTING ANY DIRT FROM THE SITE, A PERMIT SHALL BE OBTAINED FROM THE DIRECTOR OF PUBLIC WORKS OF THE CITY OF WHITTIER.
- 11. ADDITIONAL CONDITIONS MAY BE IMPOSED FROM TIME TO TIME BY THE CITY ENGINEER TO ALLEVIATE TRAFFIC AND NUISANCE CONDITIONS.
- 12. CUT SLOPES: THE MAXIMUM ALLOWABLE STEEPNESS OF CUT SLOPES IS 2:1. STEEPER SLOPES MAY BE PERMITTED BY THE CITY ENGINEER ONLY AFTER INVESTIGATION AND RECOMMENDATION BY A SOILS ENGINEER OR GEOLOGIST THAT THE PROPOSED STEEPER SLOPE WILL BE STABLE AND NOT CREATE HAZARD. AN APPROVED DRAINAGE DITCH SHALL BE CONSTRUCTED ACROSS THE TOP OF ALL CUT SLOPES.
- 13. FILL SLOPES: THE ALLOWABLE SLOPE FOR FILL BANKS IS 2:1 MAXIMUM.
- 14. COMPACTION OF FILLS:
- a. ALL FILLS SHALL BE COMPACTED TO A MINIMUM OF 90% OF THE MAXIMUM DRY DENSITY OF THE SOIL AND CERTIFICATES FROM AN ACCREDITED LABORATORY OR CIVIL ENGINEER SHOWING THE DEGREE OF COMPACTION SHALL BE PROVIDED THE CITY ENGINEER AND BUILDING SUPERINTENDENT, TOGETHER WITH A TABULATION OF THE PERCENT COMPACTION OBTAINED IN THEIR VARIOUS TESTS AND A PLAN SHOWING THE LOCATION OF THE TESTS.
- b. COMPACTION MAY BE REDUCED TO A MINIMUM OF 85% WITHIN THE OUTER EIGHT INCHES OF FILL SLOPE SURFACES, WHEN COMPARATIVE EFFORT SIMILAR TO GRID ROLLING IS USED ON THE SURFACE, OR
- c. COMPACTION MAY BE LESS THAN 90% IF THE FILL IS NOT INTENDED TO SUPPORT STRUCTURES AND COMPACTION IS NOT OTHERWISE REQUIRED FOR SAFETY. PRIOR APPROVAL WILL BE REQUIRED FROM THE CITY ENGINEER FOR COMPACTION OF LESS THAN 90%.
- d. SLOPE SURFACES MAY BE SCARIFIED OR TOP SOIL ADDED, PROVIDED SUCH LOOSE MATERIALS ARE NOT OVER THREE INCHES THICK.
- 15. DRAINAGE FROM ALL LOTS SHALL BE CARRIED TO THE CURB LINE IN A MANNER THAT WILL PREVENT DAMAGE TO THE PROPOSED IMPROVEMENTS.
- 16. COMPACTION METHODS:
- a. THE SPACE OVER WHICH FILLS ARE TO BE MADE SHALL FIRST BE CLEARED OF ALL TRASH, BRUSH, TREES, STUMPS, TIMBER, OR DEBRIS AND SHALL BE SCARIFIED.
- b. WHEN AN EXISTING FILL IS TO BE WIDENED OR A NEW FILL IS TO BE MADE, THE NEW MATERIAL SHALL BE BONDED TO THE OLD BY PLOWING DEEP LONGITUDINAL FURROWS.
- c. ALL FILLING SHALL BE DONE WITH GOOD SOUND EARTH OR GRAVEL, AND NO OIL CAKE, MACADAM, BITUMINOUS PAVEMENT, CONCRETE OR OTHER LUMPY MATERIAL SHALL BE USED IN THE FULL UNLESS THE SAME IS SCATTERED AND THE LUMPS DO NOT EXCEED FOUR (4) INCHES IN DIAMETER AND ARE NOT PLACED WITHIN ONE (1) FOOT OF SUB-GRADE.
- d. SLOPE BENCHING (5 FEET MINIMUM WIDTH) SHALL BE REQUIRED WHERE FILLS ARE PLACED ON A NATURAL GRADE EXCEEDING FIVE (5) FEET HORIZONTAL TO ONE (1) FOOT VERTICAL.

## **BEST MANAGEMENT PRACTICE NOTES**

- 1. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORMWATER FROM THE PROJECT SITE AT ALL TIMES
- 2. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
- 3. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
- 4. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- 5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
- TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
- 7. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- 8. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
- 9. "I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ENSURE 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 SUBMITTING FALSE AND/ OR INACCURATE INFORMATION, FAILING TO UPDATE THE ESCP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/ OR ADEQUATELY IMPLEMENT THE ESCP MAY RESULT IN REVOCATION OF GRADING AND/ OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW."

| PRINT NAME |   |        |
|------------|---|--------|
| (          | OWNER OR AUTHORIZED AGENT OF THE OWNER) |        |
|            |   |        |
| SIGNATURE  |   | _ DATE |
| (          | OWNER OR AUTHORIZED AGENT OF THE OWNER) |        |





## LEGAL DESCRIPTION:

THE LAND REFERRED TO IN THIS SURVEY IS SITUATED IN THE STATE OF CALIFORNIA, COUNTY OF LOS ANGELES, AND IS DESCRIBED AS FOLLOWS:

LOTS 28, 29, 30 AND 31 OF TRACT 6694, IN THE CITY OF BURBANK, COUNTOF LOS ANGELES AS SHOWN ON MAP RECORDED IN BOOK 77 PAGE 55 OF MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 5621-026-008, 5621-026-009, 5621-026-024

LAND AREA:

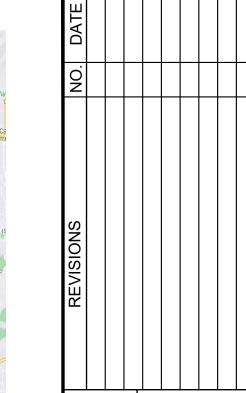
CONTAINING A TOTAL AREA OF 25,404.67 SQ. FT., OR 0.5832 ACRES, MORE OR LESS.

## **BASIS OF BEARINGS:**

THE BEARING NORTH 48° 45' 00" WEST, ON THE CENTERLINE OF 6TH STREET AS SHOWN ON TRACT NUMBER 6694 MAP BOOK 77 PAGE 55, IN THE CITY OF BURBANK, COUNTY OF LOS ANGELES, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

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| EROSION & SEDIMENT CONTROL DETAIL (CASQA BMP # WE-1)        | ESCP-6 |



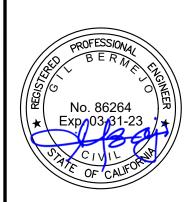
MR. JOHN M. GERRO

PROJECT ADDRE

SENERAL GRADING NOT INDEX OF SHEET

NGINEERING & SURVEYING, INC
VIL ENGINEERING - STRUCTURAL - LAND SURVEYING
2 KATELLA AVENUE SUITE 210, LOS ALAMITOS, CA 90720
L. NO.: 714-576-7725 EMAIL: info@zenithcels.com

PREPARED UNDER THE DIRECT SUPERVISION OF:



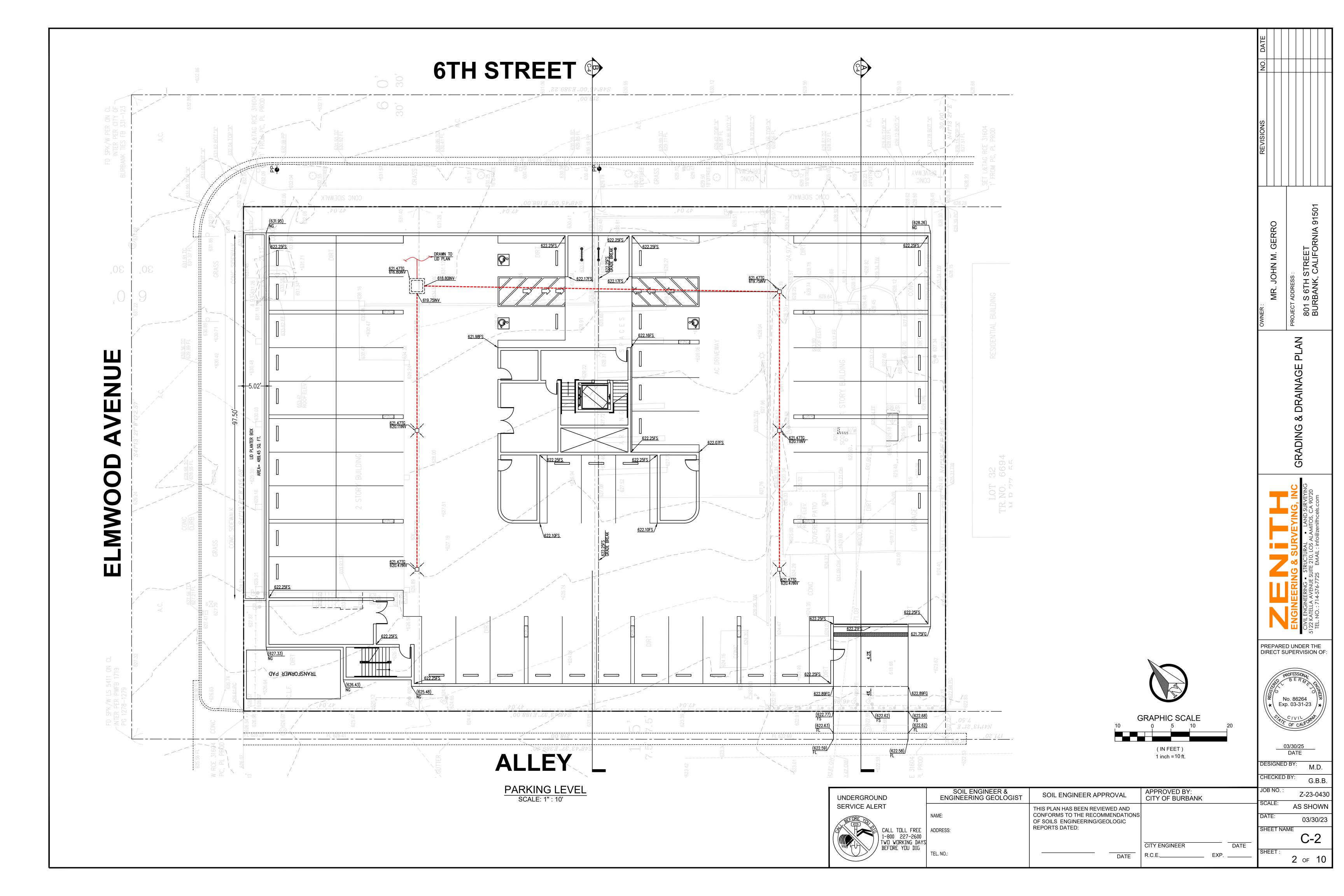
03/30/25 DATE

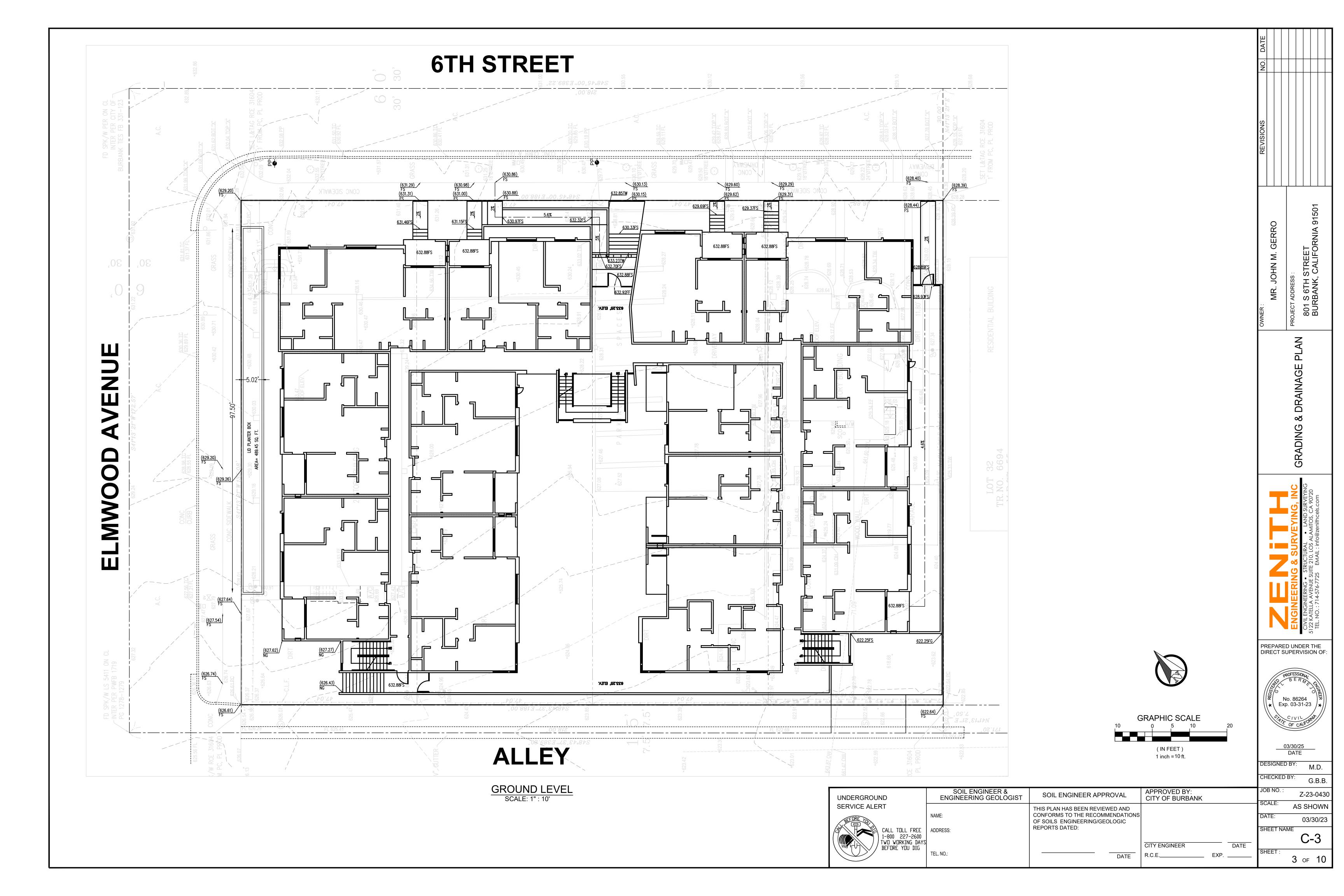
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|             | JOB NO. :   | Z-23-04 |
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|             | DATE:       | 03/30/2 |
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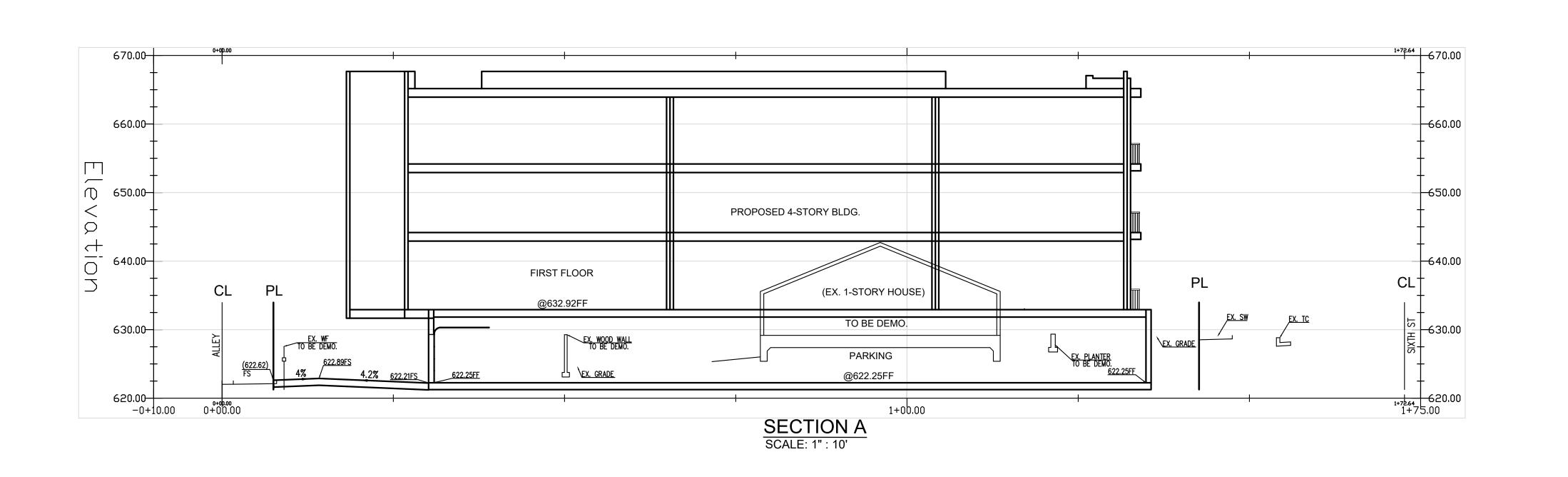
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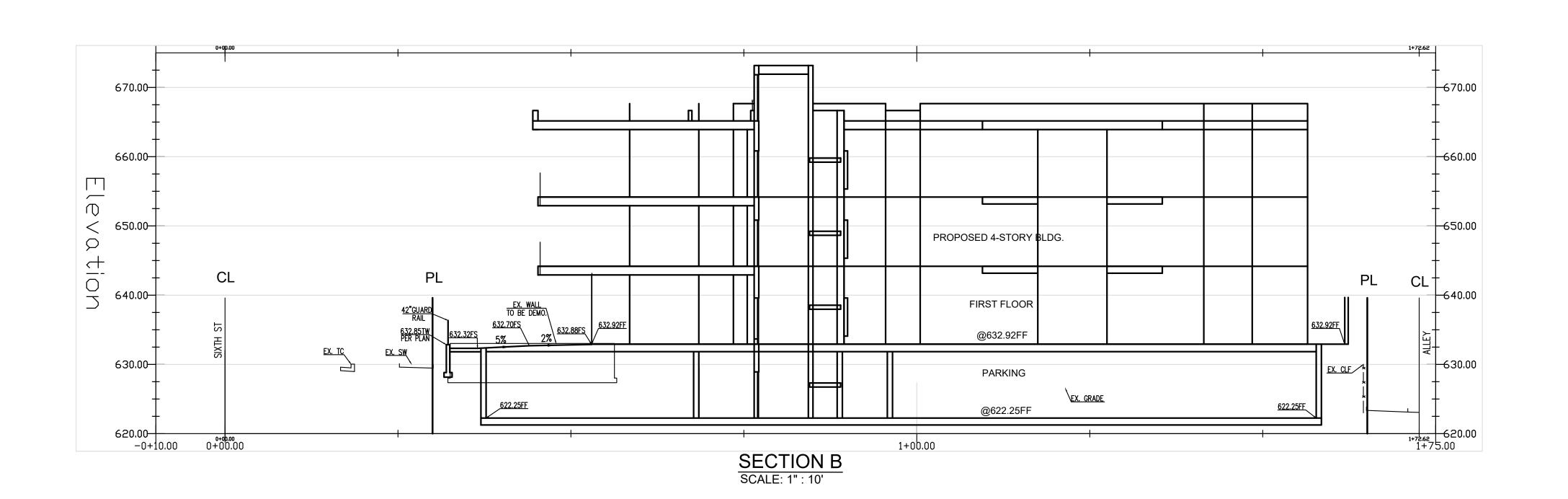
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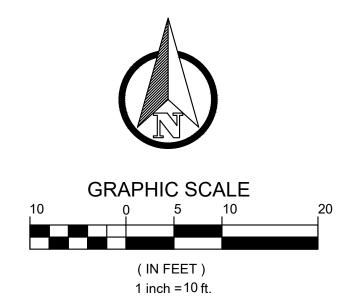
SOIL ENGINEER & APPROVED BY: SOIL ENGINEER APPROVAL **UNDERGROUND ENGINEERING GEOLOGIST** CITY OF BURBANK SERVICE ALERT THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO THE RECOMMENDATIONS OF SOILS ENGINEERING/GEOLOGIC REPORTS DATED: CALL TOLL FREE 1-800 227-2600 TWO WORKING DAYS CITY ENGINEER BEFORE YOU DIG DATE











CITY ENGINEER

SOIL ENGINEER & ENGINEERING GEOLOGIST

ADDRESS:

UNDERGROUND SERVICE ALERT

CALL TOLL FREE
1-800 227-2600
TWO WORKING DAYS
BEFORE YOU DIG

SOIL ENGINEER APPROVAL

THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO THE RECOMMENDATIONS OF SOILS ENGINEERING/GEOLOGIC REPORTS DATED:

DATE

|   |                                 | ENGINE<br>CIVIL ENGINE<br>5122 KATELLA,<br>TEL. NO.: 71-  |
|---|---------------------------------|---|
|   |                                 | PREPARED UNDER THE DIRECT SUPERVISION OF:   |
| G | SRAPHIC SCALE  0 5 10 20        | PROFESSIONAL BERMAN BANCH BERMAN BAN BERMAN BERMAN BERMAN BERMAN BERMAN BERMAN BERMAN BERMAN BERMAN |
|   | (IN FEET)<br>1 inch =10 ft.     | <u>03/30/25</u><br>DATE   |
|   |                                 | DESIGNED BY: M.D.   |
|   |                                 | CHECKED BY: G.B.B.  |
|   | APPROVED BY:<br>CITY OF BURBANK | JOB NO. : Z-23-0430   |
|   |                                 | SCALE: AS SHOWN   |
| 3 |                                 | DATE: 03/30/23  |

SHEET NAME

4 of 10

SHEET:

DATE

MR. JOHN M. GERRO

SECTIONS AND DETAILS

# EROSION AND SEDIMENT CONTROL PLAN (ESCP) GENERAL NOTES

| 1. | IN CASE OF EMERGENCY, CALL _ | GIL B. BERMEJO             | AT PHONE NO            | 714-576-7725      | -                     |
|----|------------------------------|----------------------------|------------------------|-------------------|-----------------------|
| 2. | TOTAL DISTURBED AREA         | 0.5832 AC                  | WDID # N/A             |                   | _                     |
|    | I. RISK LEVEL MORE THAN      | I 1 ACRE 1 2 3 (CIRCLE ONE | AS DETERMINED BY STATE | GENERAL PERMIT FO | OR SITES GREATER THAN |

**ACRE** 

- 3. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
- 4. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
- 5. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY. ALL LOOSE SOILS AND DEBRIS THAT MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE STABILIZED OR REMOVED FROM THE SITE ON A DAILY BASIS.
- 6. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF
- A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM. PUMPING AND DRAINING OF ALL BASINS AND DRAINAGE DEVICES MUST COMPLY MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.
- 8. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE AND CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS ON SITE.
- 9. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL.
- 10. STORM WATER POLLUTION AND EROSION CONTROL DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES, THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL IF REQUESTED BY THE BUILDING OFFICIAL.
- 11. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITES AT ALL TIMES.
- 12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
- 13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
- 14. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOILS AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
- 15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
- 16. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 50% OR GREATER PROBABILITY OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL (COPIES OF THE SELF-INSPECTION CHECK LIST AND INSPECTION LOGS ARE AVAILABLE UPON REQUEST).
- 17. TRASH AND CONSTRUCTION-RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
- 18. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
- 19. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
- 20. AS THE ENGINEER/QSD OF RECORD, I HAVE SELECTED APPROPRIATE BMPS TO EFFECTIVELY MINIMIZE THE NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE PROJECT OWNER AND CONTRACTOR ARE AWARE THAT THE SELECTED BMPS MUST BE INSTALLED, MONITORED, AND MAINTAINED TO ENSURE THEIR EFFECTIVENESS.

| GIL B. BERMEJO               | _ |      |
|------------------------------|---|------|
| CIVIL ENGINEER/QSD SIGNATURE |   | DATE |

## 21. THE FOLLOWING NOTES MUST BE ON PLANS.

AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER, "I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH THE SYSTEM DESIGNED TO ENSURE THAT A 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 SUBMITTING FALSE AND/ OR INACCURATE INFORMATION, FAILING TO UPDATE THE ESCP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/OR ADEQUATELY IMPLEMENT THE ESCP MAY RESULT IN REVOCATION OF GRADING AND/OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW."

| OWNER OR AUTHORIZED REPRESENTATIVE(PERMITTEE) | DATE |
|---|------|
|   |      |

22. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY AS REQUIRED BY THE STATE CONSTRUCTION GENERAL PERMIT. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.

# BEST MANAGEMENT PRACTICE NOTES

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| PRINT NAM | IE                                       |
|-----------|--|
|           | (OWNER OR AUTHORIZED AGENT OF THE OWNER) |

(OWNER OR AUTHORIZED AGENT OF THE OWNER)

THE FOLLOWING BMP'S AS OUTLINED IN, BUT NOT LIMITED TO, THE BEST MANAGEMENT PRACTICE HANDBOOK, CALIFORNIA STORMWATER QUALITY TASK FORCE, SACRAMENTO, CALIFORNIA 2009, OR THE LATEST REVISED EDITION, MAY APPLY DURING THE CONSTRUCTION OF THIS PROJECT(ADDITIONAL MEASURES MAY BE REQUIRED IF DEEMED APPROPRIATE BY COUNTY INSPECTORS.)

## EROSION CONTROL

EC1 - SCHEDULING

EC2 - PRESERVATION OF EXISTING VEGETATION EC3 - HYDRAULIC MULCH

EC4 - HYDROSEEDING

EC5 - SOIL BINDERS

EC6 - STRAW MULCH

EC7 - GEOTEXTILES AND MATS EC8 - WOOD MULCHING

EC9 - EARTH DIKES AND DRAINAGE SWALES

EC10 - VELOCITY DISSIPATION DEVICE

EC11 - SLOPE DRAINS

EC12 - STREAMBANK STABILIZATION

EC13 - POLYACRYLAMIDE

# TEMPORARY SEDIMENTS CONTROL

SE1 - SILT FENCE SE2 - SEDIMENT BASIN

SE3 - SEDIMENT TRAP

SE4 - CHECK DAM

SE5 - FIBER ROLLS

SE6 - GRAVEL BAG BERM SE7 - STREET SWEEPING AND VACCUMING

SE8 - SAND BAG BARRIER

SE9 - STORM DRAIN INLET PROTECTION

WIND EROTION CONTROL

WE1 - WIND EROSION CONTROL

## EQUIPMENT TRACKING CONTROL

TC1 - STABILIZED CONSTRUCTION ENTRANCE TC2 - STABILIZED CONSTRUCTION ROADWAY TC3 - ENTRANCE/OUTLET TIRE TRASH

# NON-STORMWATER MANAGEMENT

NS1 - WATER CONSTRUCTION PRACTICE

NS2 - DEWATERING OPERATIONS

NS3 - PAVING AND GRINDING OPERATIONS NS4 - TEMPORARY STREAM CROSSING

NS5 - CLEAR WATER DIVERSION

NS6 - ILLICIT CONNECTION/DISCHARGE

NS7 - POTABLE WATER/ IRRIGATION

NS8 - VEHICLE AND EQUIPMENT CLEANING

NS9 - VEHICLE AND EQUIPMENT FUELING

NS10 - VEHICLE AND EQUIPMENT MAINTENANCE

NS11 - PILE DRIVING OPERATIONS

NS12 - CONCRETE CURING

NS13 - CONCRETE FINISHING

NS14 - MATERIAL AND EQUIPMENT USE

NS15 - DEMOLISION ADJACET TO WATER

NS16 - TEMPORARY BATCH PLANTS

## WASTE MANAGEMENT AND MATERIAL POLLUTION CONTROL

WM1 - MATERIAL DELIVERY AND STORAGE

WM2 - MATERIAL USE

WM3 - STOCKPILE MANAGEMENT

WM4 - SPILL PRESERVATION AND CONTROL WM5 - SOLID WASTE MANAGEMENT

WM6 - HAZARDOUS WASTE MANAGEMENT

WM7 - CONTAMINATION SOIL MANAGEMENT

WM8 - CONCRETE WASTE MANAGEMENT

WM9 - SANITARY/SEPTIC WASTE MANAGEMENT

WM10 - LIQUID WASTE MANAGEMENT

# **UNDERGROUND** SERVICE ALERT CALL TOLL FREE 1-800 227-2600 TWO WORKING DAYS BEFORE YOU DIG

SOIL ENGINEER & APPROVED BY: SOIL ENGINEER APPROVAL **ENGINEERING GEOLOGIST** CITY OF BURBANK THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO THE RECOMMENDATIONS OF SOILS ENGINEERING/GEOLOGIC REPORTS DATED: CITY ENGINEER

DATE

R.C.E.\_\_\_

PREPARED UNDER THE

DIRECT SUPERVISION OF No. 86264 Exp. 03-31-23

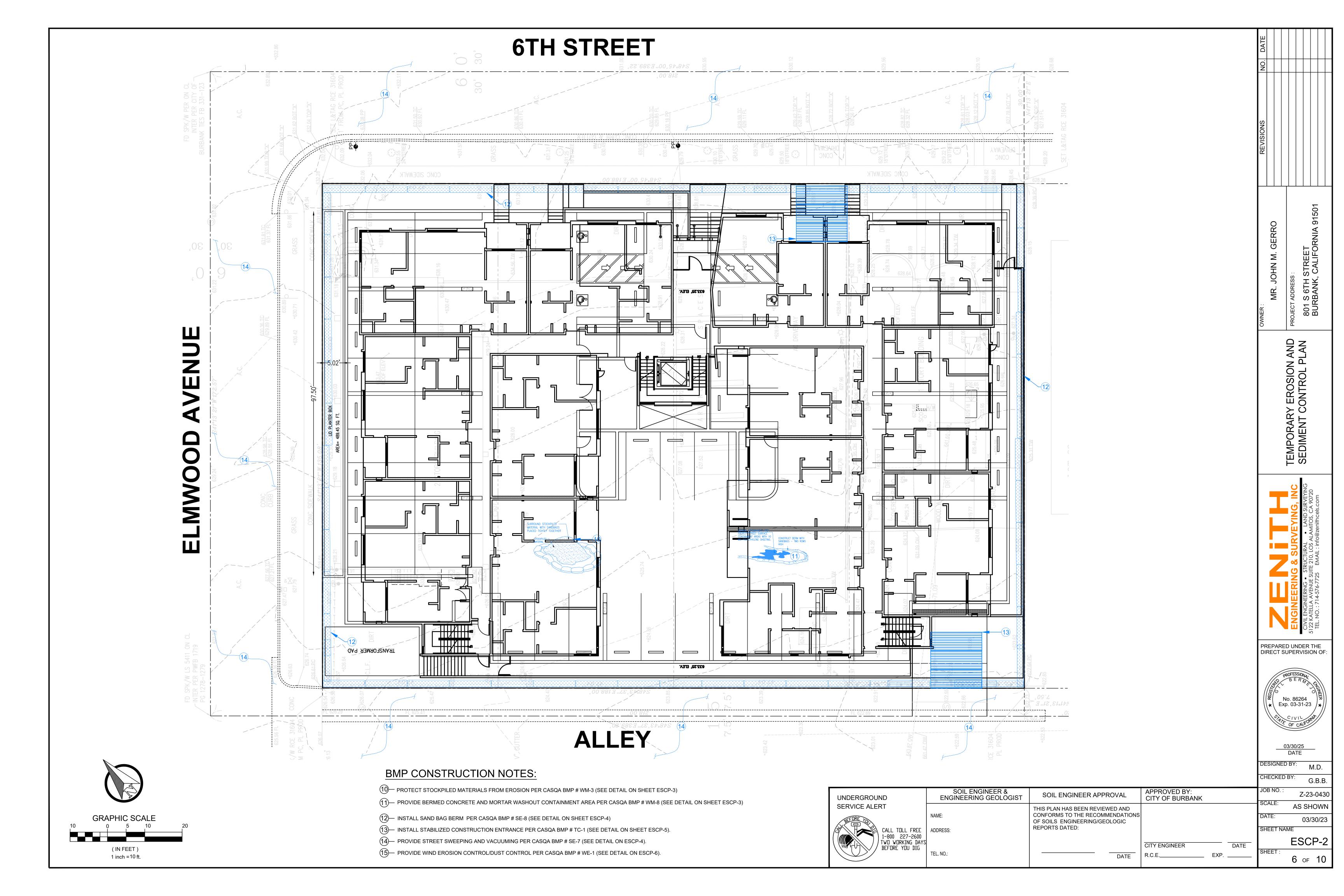
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DESIGNED BY: CHECKED BY: G.B.B. Z-23-0430 SCALE: **AS SHOWN** 03/30/23 SHEET NAME ESCP-1 DATE

5 of 10

SHEET

EXP.



Categories

**EC** Erosion Control

SE Sediment Control

TC Tracking Control

WE Wind Erosion Control

☑ Primary Category

▼ Secondary Category

**Targeted Constituents** 

**Potential Alternatives** 

Sediment

Nutrients

Bacteria

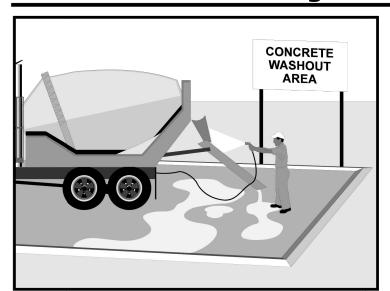
Oil and Grease

Non-Stormwater

Management Control

Waste Management and

Materials Pollution Control



### **Description and Purpose**

Prevent the discharge of pollutants to stormwater from concrete waste by conducting washout onsite or offsite in a designated area, and by employee and subcontractor training.

The General Permit incorporates Numeric Effluent Limits (NEL) and Numeric Action Levels (NAL) for pH (see Section 2) of this handbook to determine your project's risk level and if you are subject to these requirements).

Many types of construction materials, including mortar, concrete, stucco, cement and block and their associated wastes have basic chemical properties that can raise pH levels outside of the permitted range. Additional care should be taken when managing these materials to prevent them from coming into contact with stormwater flows and raising pH to levels outside the accepted range.

### **Suitable Applications**

Concrete waste management procedures and practices are implemented on construction projects where:

- Concrete is used as a construction material or where concrete dust and debris result from demolition activities.
- Slurries containing portland cement concrete (PCC) are generated, such as from saw cutting, coring, grinding, grooving, and hydro-concrete demolition.



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# **Concrete Waste Management**

- Concrete trucks and other concrete-coated equipment are washed onsite.
- Mortar-mixing stations exist.
- Stucco mixing and spraying.
- See also NS-8, Vehicle and Equipment Cleaning.

### Limitations

Offsite washout of concrete wastes may not always be possible.

Multiple washouts may be needed to assure adequate capacity and to allow for evaporation.

# The following steps will help reduce stormwater pollution from concrete wastes:

- Incorporate requirements for concrete waste management into material supplier and subcontractor agreements.
- Store dry and wet materials under cover, away from drainage areas. Refer to WM-1, Material Delivery and Storage for more information.
- Avoid mixing excess amounts of concrete.
- Perform washout of concrete trucks in designated areas only, where washout will not reach
- Do not wash out concrete trucks into storm drains, open ditches, streets, streams or onto the ground. Trucks should always be washed out into designated facilities.
- Do not allow excess concrete to be dumped onsite, except in designated areas.
- For onsite washout:
- On larger sites, it is recommended to locate washout areas at least 50 feet from storm drains, open ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.
- Washout wastes into the temporary washout where the concrete can set, be broken up, and then disposed properly.
- Washout should be lined so there is no discharge into the underlying soil.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile or dispose in the trash.
- See typical concrete washout installation details at the end of this fact sheet.

■ Educate employees, subcontractors, and suppliers on the concrete waste management techniques described herein.

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**Concrete Waste Management** 

waste management procedures.

Concrete Demolition Wastes

Concrete Slurry Wastes

Transit Truck Washout Procedures, below).

operators to utilize the proper facilities.

generated by washout operations.

Arrange for contractor's superintendent or representative to oversee and enforce concrete

Discuss the concrete management techniques described in this BMP (such as handling of

Stockpile concrete demolition waste in accordance with BMP WM-3, Stockpile Management.

Dispose of or recycle hardened concrete waste in accordance with applicable federal, state or

PCC and AC waste should be collected and disposed of or placed in a temporary concrete

washout facility (as described in Onsite Temporary Concrete Washout Facility, Concrete

A foreman or construction supervisor should monitor onsite concrete working tasks, such as

Residue from grinding operations should be picked up by means of a vacuum attachment to

the grinding machine or by sweeping. Saw cutting residue should not be allowed to flow

■ Concrete slurry residue should be disposed in a temporary washout facility (as described in

Onsite Temporary Concrete Washout Facility, Concrete Transit Truck Washout Procedures,

drain inlets, open drainage facilities, and watercourses. Each facility should be located away

below) and allowed to dry. Dispose of dry slurry residue in accordance with WM-5, Solid

across the pavement and should not be left on the surface of the pavement. See also NS-3,

saw cutting, coring, grinding and grooving to ensure proper methods are implemented.

■ Saw-cut concrete slurry should not be allowed to enter storm drains or watercourses.

Paving and Grinding Operations; and WM-10, Liquid Waste Management.

Onsite Temporary Concrete Washout Facility, Transit Truck Washout

from construction traffic or access areas to prevent disturbance or tracking.

■ Temporary concrete washout facilities should be located a minimum of 50 ft from storm

A sign should be installed adjacent to each washout facility to inform concrete equipment

Temporary concrete washout facilities should be constructed above grade or below grade at

and maintained in sufficient quantity and size to contain all liquid and concrete waste

the option of the contractor. Temporary concrete washout facilities should be constructed

PCC and AC waste should not be allowed to enter storm drains or watercourses.

concrete waste and washout) with the ready-mix concrete supplier before any deliveries are

# **Concrete Waste Management**

**WM-8** 

# ■ Temporary washout facilities should have a temporary pit or bermed areas of sufficient

**WM-8** 

■ Temporary washout facilities should be lined to prevent discharge to the underlying ground or surrounding area.

volume to completely contain all liquid and waste concrete materials generated during

- Washout of concrete trucks should be performed in designated areas only.
- Only concrete from mixer truck chutes should be washed into concrete wash out.
- Concrete washout from concrete pumper bins can be washed into concrete pumper trucks and discharged into designated washout area or properly disposed of or recycled offsite.
- Once concrete wastes are washed into the designated area and allowed to harden, the concrete should be broken up, removed, and disposed of per WM-5, Solid Waste Management. Dispose of or recycle hardened concrete on a regular basis.
- Temporary Concrete Washout Facility (Type Above Grade)
- Temporary concrete washout facility (type above grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft; however, smaller sites or jobs may only need a smaller washout facility. With any washout, always maintain a sufficient quantity and volume to contain all liquid and concrete waste generated by washout operations.
- Materials used to construct the washout area should conform to the provisions detailed in their respective BMPs (e.g., SE-8 Sandbag Barrier).

- Plastic lining material should be a minimum of 10 mil in polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the

- Alternatively, portable removable containers can be used as above grade concrete washouts. Also called a "roll-off"; this concrete washout facility should be properly sealed to prevent leakage, and should be removed from the site and replaced when the container reaches 75% capacity.
- Temporary Concrete Washout Facility (Type Below Grade)
- Temporary concrete washout facilities (type below grade) should be constructed as shown on the details at the end of this BMP, with a recommended minimum length and minimum width of 10 ft. The quantity and volume should be sufficient to contain all liquid and concrete waste generated by washout operations.
- Lath and flagging should be commercial type.
- Plastic lining material should be a minimum of 10 mil polyethylene sheeting and should be free of holes, tears, or other defects that compromise the impermeability of the

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**Categories** 

**EC** Erosion Control

TC Tracking Control

WE Wind Erosion Control NS Non-Stormwater

☑ Primary Category

▼ Secondary Category

**Targeted Constituents** 

**Potential Alternatives** 

Bacteria

Organics

Oil and Grease

Management Control

Materials Pollution Control

Waste Management and ✓

**WM-3** 

### **Concrete Waste Management WM-8**

- The base of a washout facility should be free of rock or debris that may damage a plastic

# Removal of Temporary Concrete Washout Facilities

- When temporary concrete washout facilities are no longer required for the work, the hardened concrete should be removed and properly disposed or recycled in accordance with federal, state or local regulations. Materials used to construct temporary concrete washout facilities should be removed from the site of the work and properly disposed or recycled in accordance with federal, state or local regulations..
- Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities should be backfilled and repaired.

All of the above are low cost measures. Roll-off concrete washout facilities can be more costly than other measures due to removal and replacement; however, provide a cleaner alternative to traditional washouts. The type of washout facility, size, and availability of materials will determine the cost of the washout.

## **Inspection and Maintenance**

- BMPs must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- Temporary concrete washout facilities should be maintained to provide adequate holding capacity with a minimum freeboard of 4 in. for above grade facilities and 12 in. for below grade facilities. Maintaining temporary concrete washout facilities should include removing and disposing of hardened concrete and returning the facilities to a functional condition. Hardened concrete materials should be removed and properly disposed or recycled in accordance with federal, state or local regulations.
- Washout facilities must be cleaned, or new facilities must be constructed and ready for use once the washout is 75% full.
- Inspect washout facilities for damage (e.g. torn liner, evidence of leaks, signage, etc.). Repair all identified damage.

## References

Blueprint for a Clean Bay: Best Management Practices to Prevent Stormwater Pollution from Construction Related Activities; Santa Clara Valley Nonpoint Source Pollution Control Program,

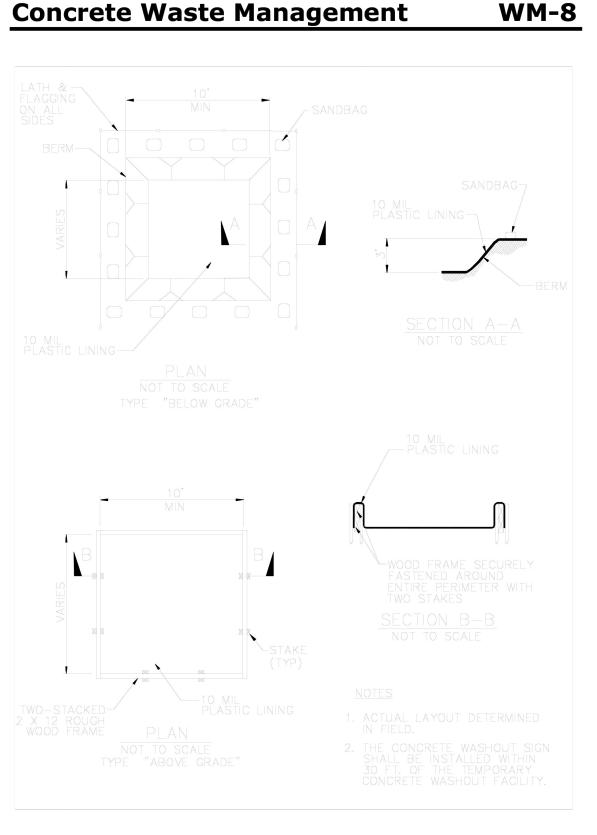
Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), November 2000, Updated March

Stormwater Management for Construction Activities; Developing Pollution Prevention Plans and Best Management Practice, EPA 832-R-92005; USEPA, April 1992.

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**WM-8** 

**WM-8** 



Construction

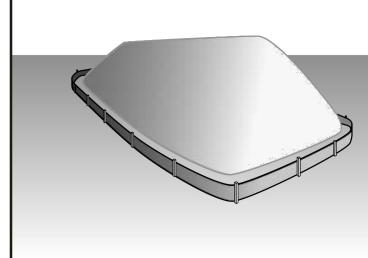
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# **Concrete Waste Management**

**WM-8** 

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**Stockpile Management** 



**Description and Purpose** 

Stockpile management procedures and practices are designed to reduce or eliminate air and stormwater pollution from stockpiles of soil, soil amendments, sand, paving materials such as portland cement concrete (PCC) rubble, asphalt concrete (AC), asphalt concrete rubble, aggregate base, aggregate sub base or pre-mixed aggregate, asphalt minder (so called "cold mix" asphalt), and pressure treated wood.

### **Suitable Applications** Implement in all projects that stockpile soil and other loose

materials. Limitations

Plastic sheeting as a stockpile protection is temporary and

consider use of plastic tarps with nylon reinforcement

hard to manage in windy conditions. Where plastic is used,

## which may be more durable than standard sheeting. Plastic sheeting can increase runoff volume due to lack of

- infiltration and potentially cause perimeter control failure. Plastic sheeting breaks down faster in sunlight.
- The use of Plastic materials and photodegradable plastics should be avoided.

**Implementation** Protection of stockpiles is a year-round requirement. To properly manage stockpiles:



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JOHN M. MR.

EORION & SEDIMENT CONTROL DETAILS (CASQA BMP # WM-8)

PREPARED UNDER THE

DIRECT SUPERVISION OF: No. 86264 Exp. 03-31-23 /\*

DESIGNED BY: M.D. CHECKED BY: G.B.B.

03/30/25

Z-23-0430 **AS SHOWN** 03/30/23

SHEET NAME ESCP-3

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- On larger sites, a minimum of 50 ft separation from concentrated flows of stormwater, drainage courses, and inlets is recommended.
- All stockpiles are required to be protected immediately if they are not scheduled to be used within 14 days.
- Protect all stockpiles from stormwater runon using temporary perimeter sediment barriers such as compost berms (SE-13), temporary silt dikes (SE-12), fiber rolls (SE-5), silt fences (SE-1), sandbags (SE-8), gravel bags (SE-6), or biofilter bags (SE-14). Refer to the individual fact sheet for each of these controls for installation information.
- Implement wind erosion control practices as appropriate on all stockpiled material. For specific information, see WE-1, Wind Erosion Control.
- Manage stockpiles of contaminated soil in accordance with WM-7, Contaminated Soil Management.
- Place bagged materials on pallets and under cover.
- Ensure that stockpile coverings are installed securely to protect from wind and rain.
- Some plastic covers withstand weather and sunlight better than others. Select cover materials or methods based on anticipated duration of use.

Protection of Non-Active Stockpiles

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

- Soil stockpiles should be covered or protected with soil stabilization measures and a temporary perimeter sediment barrier at all times.
- Temporary vegetation should be considered for topsoil piles that will be stockpiled for extended periods.

Stockpiles of Portland cement concrete rubble, asphalt concrete, asphalt concrete rubble, aggregate base, or aggregate sub base

 Stockpiles should be covered and protected with a temporary perimeter sediment barrier at all times.

## Stockpiles of "cold mix"

■ Cold mix stockpiles should be placed on and covered with plastic sheeting or comparable material at all times and surrounded by a berm.

### Stockpiles of fly ash, stucco, hydrated lime

■ Stockpiles of materials that may raise the pH of runoff (i.e., basic materials) should be covered with plastic and surrounded by a berm.

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# **Stockpile Management**

Stockpiles/Storage of wood (Pressure treated with chromated copper arsenate or ammoniacal

WM-3

■ Treated wood should be covered with plastic sheeting or comparable material at all times and surrounded by a berm.

### Protection of Active Stockpiles

Active stockpiles of the identified materials should be protected as follows:

- All stockpiles should be covered and protected with a temporary linear sediment barrier prior to the onset of precipitation.
- Stockpiles of "cold mix" and treated wood, and basic materials should be placed on and covered with plastic sheeting or comparable material and surrounded by a berm prior to the
- The downstream perimeter of an active stockpile should be protected with a linear sediment barrier or berm and runoff should be diverted around or away from the stockpile on the upstream perimeter.

### Costs

For cost information associated with stockpile protection refer to the individual erosion or sediment control BMP fact sheet considered for implementation (For example, refer to SE-1 Silt Fence for installation of silt fence around the perimeter of a stockpile.)

### **Inspection and Maintenance**

- Stockpiles must be inspected in accordance with General Permit requirements for the associated project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the conclusion of rain events.
- It may be necessary to inspect stockpiles covered with plastic sheeting more frequently during certain conditions (for example, high winds or extreme heat).
- Repair and/or replace perimeter controls and covers as needed to keep them functioning
- Sediment shall be removed when it reaches one-third of the barrier height.

### References

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual, State of California Department of Transportation (Caltrans), March 2003.

Sandbag Barrier

as recycled concrete or asphalt..

**Inspection and Maintenance** 

conclusion of rain events.

degradation of the bags.

References

These costs are based upon vendor research.

Reshape or replace sandbags as needed.

Repair washouts or other damage as needed.

reaches one-third of the barrier height.

Transportation (Caltrans), July 2002.

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California Stormwater BMP Handbook

■ Fill Material: All sandbag fill material should be non-cohesive, Class 3 (Caltrans Standard Specification, Section 25) permeable material free from clay and deleterious material, such

Empty sandbags cost \$0.25 - \$0.75. Average cost of fill material is \$8 per yd<sup>3</sup>. Additional labor

■ BMPs must be inspected in accordance with General Permit requirements for the associated

project type and risk level. It is recommended that at a minimum, BMPs be inspected weekly, prior to forecasted rain events, daily during extended rain events, and after the

■ Sandbags exposed to sunlight will need to be replaced every two to three months due to

Sediment that accumulates behind the BMP should be periodically removed in order to

■ Remove sandbags when no longer needed and recycle sand fill whenever possible and

maintain BMP effectiveness. Sediment should be removed when the sediment accumulation

properly dispose of bag material. Remove sediment accumulation, and clean, re-grade, and

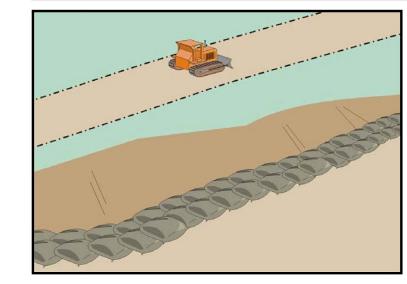
Standard Specifications for Construction of Local Streets and Roads, California Department of

Stormwater Quality Handbooks - Construction Site Best Management Practices (BMPs) Manual,

Erosion and Sediment Control Manual, Oregon Department of Environmental Quality, February

is required to fill the bags. Pre-filled sandbags are more expensive at \$1.50 - \$2.00 per bag.

# **Sandbag Barrier**



## **Description and Purpose**

A sandbag barrier is a series of sand-filled bags placed on a level contour to intercept or to divert sheet flows. Sandbag barriers placed on a level contour pond sheet flow runoff, allowing sediment to settle out.

### **Suitable Applications** Sandbag barriers may be suitable:

- As a linear sediment control measure:
- Below the toe of slopes and erodible slopes.
- As sediment traps at culvert/pipe outlets.
- Below other small cleared areas.
- Along the perimeter of a site.
- Down slope of exposed soil areas.
- Around temporary stockpiles and spoil areas.
- Parallel to a roadway to keep sediment off paved areas.
- Along streams and channels.
- As linear erosion control measure:
- Along the face and at grade breaks of exposed and erodible slopes to shorten slope length and spread runoff as sheet

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# **Sandbag Barrier**

- At the top of slopes to divert runoff away from disturbed slopes.

- As check dams across mildly sloped construction roads.

SE-8

Categories

EC Erosion Control

SE Sediment Control

TC Tracking Control

WE Wind Erosion Control

Non-Stormwater

☑ Primary Category

Secondary Category

**Targeted Constituents** 

**Potential Alternatives** 

Sediment

Nutrients

Trash

Metals

Bacteria

Organics

Oil and Grease

SE-1 Silt Fence

SE-5 Fiber Rolls

SE-6 Gravel Bag Berm

SE-8

SE-14 Biofilter Bags

Management Control

Waste Management and

Materials Pollution Control

- It is necessary to limit the drainage area upstream of the barrier to 5 acres.
- Sandbags are not intended to be used as filtration devices.
- Easily damaged by construction equipment.
- Degraded sandbags may rupture when removed, spilling sand.
- Sand is easily transported by runoff if bag is damaged or ruptured.
- Installation can be labor intensive.
- Durability of sandbags is somewhat limited and bags may need to be replaced when installation is required for longer than 6 months. When used to detain concentrated flows, maintenance requirements increase.
- Burlap should not be used for sandbags.

### Implementation

### General

A sandbag barrier consists of a row of sand-filled bags placed on a level contour. When appropriately placed, a sandbag barrier intercepts and slows sheet flow runoff, causing temporary ponding. The temporary ponding allows sediment to settle. Sand-filled bags have limited porosity, which is further limited as the fine sand tends to quickly plug with sediment, limiting or completely blocking the rate of flow through the barrier. If a porous barrier is desired, consider SE-1, Silt Fence, SE-5, Fiber Rolls, SE-6, Gravel Bag Berms or SE-14, Biofilter Bags. Sandbag barriers also interrupt the slope length and thereby reduce erosion by reducing the tendency of sheet flows to concentrate into rivulets which erode rills, and ultimately gullies, into disturbed, sloped soils. Sandbag barriers are similar to gravel bag berms, but less porous. Generally, sandbag barriers should be used in conjunction with temporary soil stabilization controls up slope to provide effective erosion and sediment control.

### Design and Layout

Locate sandbag barriers on a level contour.

■ When used for slope interruption, the following slope/sheet flow length combinations apply: - Slope inclination of 4:1 (H:V) or flatter: Sandbags should be placed at a maximum interval of 20 ft, with the first row near the slope toe.

Slope inclination between 4:1 and 2:1 (H:V): Sandbags should be placed at a maximum interval of 15 ft. (a closer spacing is more effective), with the first row near the slope toe.

Slope inclination 2:1 (H:V) or greater: Sandbags should be placed at a maximum interval of 10 ft. (a closer spacing is more effective), with the first row near the slope toe.

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# **Sandbag Barrier**

SE-8

- Turn the ends of the sandbag barrier up slope to prevent runoff from going around the
- Allow sufficient space up slope from the barrier to allow ponding, and to provide room for sediment storage.
- For installation near the toe of the slope, sand bag barriers should be set back from the slope toe to facilitate cleaning. Where specific site conditions do not allow for a set-back, the sand bag barrier may be constructed on the toe of the slope. To prevent flows behind the barrier, bags can be placed perpendicular to a berm to serve as cross barriers.
- Drainage area should not exceed 5 acres.
- Stack sandbags at least three bags high.
- Butt ends of bags tightly.
- Overlap butt joints of row beneath with each successive row.
- Use a pyramid approach when stacking bags.
- In non-traffic areas

- Height = 18 in. maximum

- Top width = 24 in. minimum for three or more layer construction
- Side slope = 2:1 (H:V) or flatter
- In construction traffic areas
- Height = 12 in. maximum
- Top width = 24 in. minimum for three or more layer construction.
- Side slopes = 2:1 (H:V) or flatter.
- See typical sandbag barrier installation details at the end of this fact sheet.

- **Sandbag Material:** Sandbag should be woven polypropylene, polyethylene or polyamide fabric, minimum unit weight of 4 ounces/yd2, Mullen burst strength exceeding 300 lb/in2 in conformance with the requirements in ASTM designation D3786, and ultraviolet stability exceeding 70% in conformance with the requirements in ASTM designation D4355. Use of burlap is not an acceptable substitute, as sand can more easily mobilize out of burlap.
- Sandbag Size: Each sand-filled bag should have a length of 18 in., width of 12 in., thickness of 3 in., and mass of approximately 33 lbs. Bag dimensions are nominal, and may vary based on locally available materials.

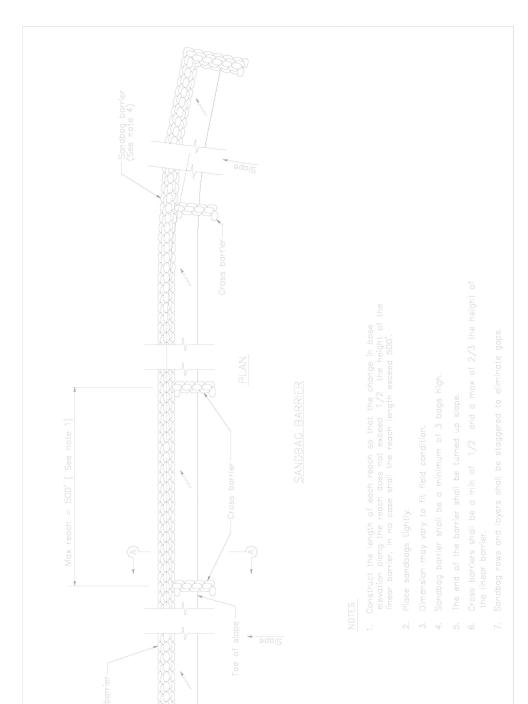
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State of California Department of Transportation (Caltrans), March 2003.

SE-8

# **Sandbag Barrier**



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# **Sandbag Barrier**

SE-8

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SOIL ENGINEER & SOIL ENGINEER APPROVAL **ENGINEERING GEOLOGIST** REPORTS DATED:

CITY OF BURBANK THIS PLAN HAS BEEN REVIEWED AND CONFORMS TO THE RECOMMENDATIONS OF SOILS ENGINEERING/GEOLOGIC CITY ENGINEER EXP. DATE

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SE-8

JOHN M. MR.

EORION & SEDIMENT CONTROL DETAILS ASQA BMP # WM-3 & SE

DIRECT SUPERVISION OF:

03/30/25

DESIGNED BY: M.D. CHECKED BY: G.B.B.

**AS SHOWN** 03/30/23 SHEET NAME

SHEET 8 of 10



**Description and Purpose** 

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

## **Suitable Applications**

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

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

### Implementation Controlling the number of points where vehicles can leave

the site will allow sweeping and vacuuming efforts to be focused, and perhaps save money.

Visible sediment tracking should be swept or vacuumed on

a daily basis. Do not use kick brooms or sweeper attachments. These

grindings for stabilized construction access/roadway.

greater than 3 in. but smaller than 6 in. should be used.

■ Implement SE-7, Street Sweeping and Vacuuming, as needed.

Inspect potential sediment tracking locations daily.

tend to spread the dirt rather than remove it.

California Stormwater BMP Handbook

**Stabilized Construction Entrance/Exit TC-1** 

■ Select construction access stabilization (aggregate, asphaltic concrete, concrete) based on

longevity, required performance, and site conditions. Do not use asphalt concrete (AC)

■ If aggregate is selected, place crushed aggregate over geotextile fabric to at least 12 in. depth, or place aggregate to a depth recommended by a geotechnical engineer. A crushed aggregate

■ Require that all employees, subcontractors, and suppliers utilize the stabilized construction

All exit locations intended to be used for more than a two-week period should have stabilized

■ Designate combination or single purpose entrances and exits to the construction site.



- SE Sediment Control TC Tracking Control
- **WE** Wind Erosion Control Non-Stormwater Management Control
- Waste Management and Materials Pollution Control

☑ Primary Objective ■ Secondary Objective

# **Targeted Constituents**

# Organics

**Potential Alternatives** 

Oil and Grease

# **Street Sweeping and Vacuuming**

■ If not mixed with debris or trash, consider incorporating the removed sediment back into the project

SE-7

Rental rates for self-propelled sweepers vary depending on hopper size and duration of rental. Expect rental rates from \$58/hour (3 yd3 hopper) to \$88/hour (9 yd3 hopper), plus operator costs. Hourly production rates vary with the amount of area to be swept and amount of sediment. Match the hopper size to the area and expect sediment load to minimize time spent

### **Inspection and Maintenance**

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

November 2009

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

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

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# National Management Measures to Control Nonpoint Source Pollution from Urban Areas,

**Stabilized Construction Entrance/Exit TC-1** 

USEPA Agency, 2002.

Stormwater Quality Handbooks Construction Site Best Management Practices (BMPs) Manual,

Stormwater Management of the Puget Sound Basin, Technical Manual, Publication #91-75,

Virginia Erosion and Sedimentation Control Handbook, Virginia Department of Conservation

Guidance Specifying Management Measures for Nonpoint Pollution in Coastal Waters, EPA

### construction entrance/exit BMPs. **Inspection and Maintenance**

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

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

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

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

State of California Department of Transportation (Caltrans), November 2000.

Washington State Department of Ecology, February 1992.

and Recreation, Division of Soil and Water Conservation, 1991.

840-B-9-002, USEPA, Office of Water, Washington, DC, 1993. Water Quality Management Plan for the Lake Tahoe Region, Volume II, Handbook of

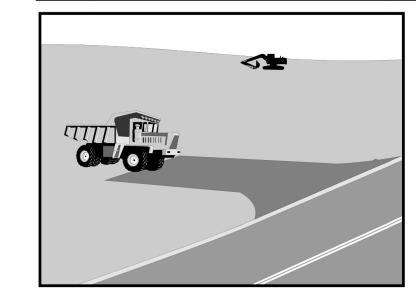
Management Practices, Tahoe Regional Planning Agency, November 1988.

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# **Stabilized Construction Entrance/Exit TC-1**



**Description and Purpose** 

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

### **Suitable Applications** Use at construction sites:

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

### Limitations

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

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**Categories** EC Erosion Control SE Sediment Control TC Tracking Control

WE Wind Erosion Control Non-Stormwater Management Control

WM Waste Management and Materials Pollution Control

☑ Primary Objective ■ Secondary Objective

## **Targeted Constituents**

Sediment

Bacteria Oil and Grease Organics

# **Potential Alternatives**



■ Route runoff from stabilized entrances/exits through a sediment trapping device before

■ Use minimum depth of stones of 12 in. or as recommended by soils engineer.

Rumble racks constructed of steel panels with ridges and installed in the stabilized

entrance/exit will help remove additional sediment and to keep adjacent streets clean.

Construct length of 50 ft minimum, and 30 ft minimum width.

Provide ample turning radii as part of the entrance.

Limit speed of vehicles to control dust.

Limit the points of entrance/exit to the construction site.

■ Properly grade each construction entrance/exit to prevent runoff from leaving the

**Stabilized Construction Entrance/Exit TC-1** 

A stabilized construction entrance is a pad of aggregate underlain with filter cloth located at any

point where traffic will be entering or leaving a construction site to or from a public right of way,

street, alley, sidewalk, or parking area. The purpose of a stabilized construction entrance is to

Where traffic will be entering or leaving the construction site, a stabilized construction entrance

should be used. NPDES permits require that appropriate measures be implemented to prevent

tracking of sediments onto paved roadways, where a significant source of sediments is derived

Advantages of the Stabilized Construction Entrance/Exit is that it does remove some sediment

locations. Efficiency is greatly increased when a washing rack is included as part of a stabilized

from equipment and serves to channel construction traffic in and out of the site at specified

reduce or eliminate the tracking of sediment onto public rights of way or streets. Reducing

tracking of sediments and other pollutants onto paved roads helps prevent deposition of

Stabilized construction entrances are moderately effective in removing sediment from

equipment leaving a construction site. The entrance should be built on level ground.

sediments into local storm drains and production of airborne dust.

from mud and dirt carried out from unpaved roads and construction sites.

General

construction entrance/exit.

Construct on level ground where possible.

■ Select 3 to 6 in. diameter stones.

Design and Layout

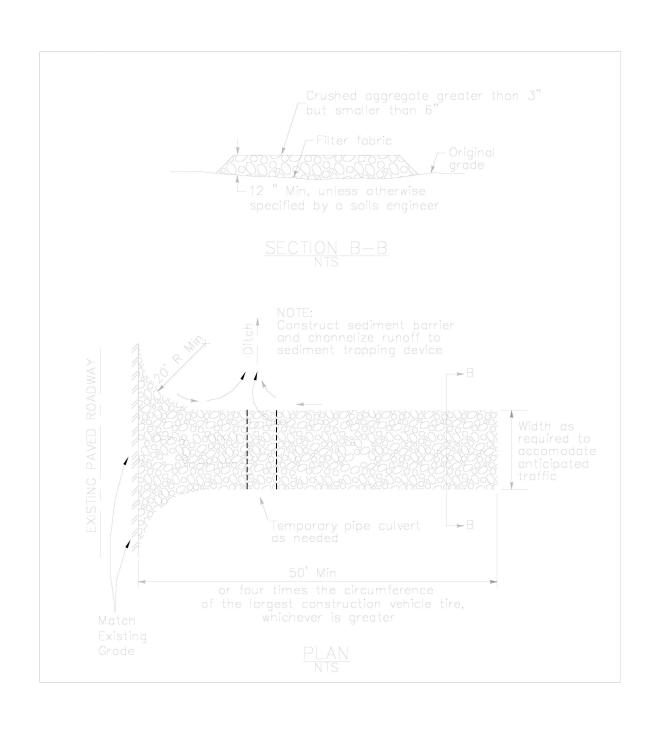
Design stabilized entrance/exit to support heaviest vehicles and equipment that will use it.

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# **Stabilized Construction Entrance/Exit TC-1**

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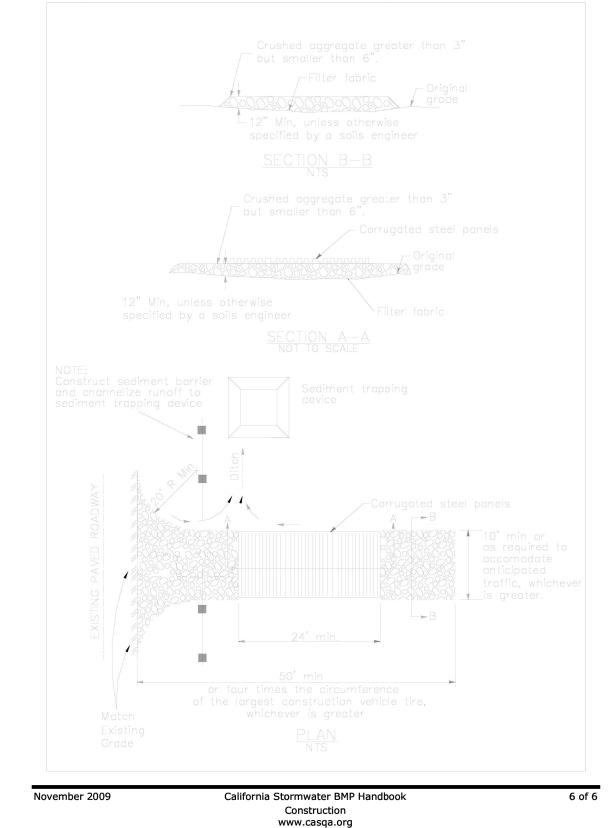


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**UNDERGROUND** 

SERVICE ALERT

# **Stabilized Construction Entrance/Exit TC-1**



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JOHN M. MR.

PREPARED UNDER THE DIRECT SUPERVISION OF:

No. 86264 Exp. 03-31-23 /\*

03/30/25

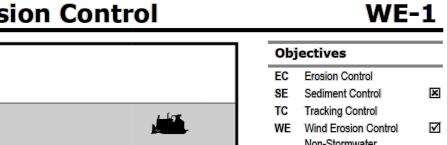
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SCALE: **AS SHOWN** 03/30/23

SHEET NAME ESCP-5

SHEET 9 of 10

## **Wind Erosion Control**



- SE Sediment Control TC Tracking Control
- NS Non-Stormwater Management Control
- WM Waste Management and Materials Pollution Control

☑ Primary Objective ■ Secondary Objective

**Targeted Constituents** 

**Potential Alternatives** 

Metals

Bacteria

Organics

Oil and Grease

### **Description and Purpose**

Wind erosion or dust control consists of applying water or other dust palliatives as necessary to prevent or alleviate dust nuisance generated by construction activities. Covering small stockpiles or areas is an alternative to applying water or other dust palliatives.

## Suitable Applications

Wind erosion control BMPs are suitable during the following construction activities:

- Construction vehicle traffic on unpaved roads
- Drilling and blasting activities
- Sediment tracking onto paved roads
- Soils and debris storage piles
- Batch drop from front-end loaders
- Areas with unstabilized soil
- Final grading/site stabilization

 Watering prevents dust only for a short period and should be applied daily (or more often) to be effective.

Over watering may cause erosion.



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# **Wind Erosion Control**

WE-1

Caltrans, Standard Specifications, Sections 10, "Dust Control"; Section 17, "Watering"; and Section 18, "Dust Palliative".

Prospects for Attaining the State Ambient Air Quality Standards for Suspended Particulate Matter (PM10), Visibility Reducing Particles, Sulfates, Lead, and Hydrogen Sulfide, California Air Resources Board, April 1991.

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

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### WE-1 Wind Erosion Control

- Oil or oil-treated subgrade should not be used for dust control because the oil may migrate into drainageways and/or seep into the soil.
- Effectiveness depends on soil, temperature, humidity, and wind velocity.
- Chemically treated sub grades may make the soil water repellant, interfering with long-term infiltration and the vegetation/re-vegetation of the site. Some chemical dust suppressants may be subject to freezing and may contain solvents and should be handled properly.
- Asphalt, as a mulch tack or chemical mulch, requires a 24-hour curing time to avoid adherence to equipment, worker shoes, etc. Application should be limited because asphalt surfacing may eventually migrate into the drainage system.
- In compacted areas, watering and other liquid dust control measures may wash sediment or other constituents into the drainage system.

### Implementation

### General

California's Mediterranean climate, with short wet seasons and long hot dry seasons, allows the soils to thoroughly dry out. During these dry seasons, construction activities are at their peak, and disturbed and exposed areas are increasingly subject to wind erosion, sediment tracking and dust generated by construction equipment.

Dust control, as a BMP, is a practice that is already in place for many construction activities. Los Angeles, the North Coast, and Sacramento, among others, have enacted dust control ordinances for construction activities that cause dust to be transported beyond the construction

Recently, the State Air Resources Control Board has, under the authority of the Clean Air Act, started to address air quality in relation to inhalable particulate matter less than 10 microns (PM-10). Approximately 90 percent of these small particles are considered to be dust. Existing dust control regulations by local agencies, municipal departments, public works department, and public health departments are in place in some regions within California.

Many local agencies require dust control in order to comply with local nuisance laws, opacity laws (visibility impairment) and the requirements of the Clean Air Act. The following are measures that local agencies may have already implemented as requirements for dust control

- Construction and Grading Permits: Require provisions for dust control plans.
- Opacity Emission Limits: Enforce compliance with California air pollution control laws.
- Increase Overall Enforcement Activities: Priority given to cases involving citizen complaints.
- Maintain Field Application Records: Require records of dust control measures from

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■ Stormwater Pollution Prevention Plan: (SWPPP): Integrate dust control measures into

# Wind Erosion Control

### **Dust Control Practices**

Dust control BMPs generally stabilize exposed surfaces and minimize activities that suspend or track dust particles. The following table shows dust control practices that can be applied to site conditions that cause dust. For heavily traveled and disturbed areas, wet suppression (watering), chemical dust suppression, gravel asphalt surfacing, temporary gravel construction entrances, equipment wash-out areas, and haul truck covers can be employed as dust control applications. Permanent or temporary vegetation and mulching can be employed for areas of occasional or no construction traffic. Preventive measures would include minimizing surface areas to be disturbed, limiting onsite vehicle traffic to 15 mph, and controlling the number and activity of vehicles on a site at any given time.

|  | DUST CONTROLPRACTICES   |          |                                  |                                 |                      |                |  |                         |  |
|--|-------------------------|----------|----------------------------------|---------------------------------|----------------------|----------------|--|-------------------------|--|
| SITE CONDITION                               | Permanent<br>Vegetation | Mulching | Wet<br>Suppression<br>(Watering) | Chemical<br>Dust<br>Suppression | Gravel or<br>Asphalt | Silt<br>Fences | Temporary Gravel<br>Construction<br>Entrances/Equipment<br>Wash Down | Haul<br>Truck<br>Covers | Minimize<br>Extent of<br>Disturbed<br>Area |
| Disturbed Areas<br>not Subject to<br>Traffic | x                       | x        | х                                | Х                               | x                    |                |  |                         | x  |
| Disturbed Areas<br>Subject to Traffic        |                         |          | x                                | X                               | x                    |                | X  |                         | x  |
| Material Stock Pile<br>Stabilization         |                         |          | x                                | x                               |                      | x              |  |                         | x  |
| Demolition                                   |                         |          | x                                |                                 |                      |                | X  | x                       |  |
| Clearing/<br>Excavation                      |                         |          | x                                | X                               |                      | х              |  |                         | x  |
| Truck Traffic on<br>Unpaved Roads            |                         |          | x                                | х                               | x                    |                | x  | х                       |  |
| Mud/Dirt Carry<br>Out                        |                         |          |                                  |                                 | X                    |                | х  |                         |  |

### Additional preventive measures include:

- Schedule construction activities to minimize exposed area (EC-1, Scheduling).
- Quickly stabilize exposed soils using vegetation, mulching, spray-on adhesives, calcium chloride, sprinkling, and stone/gravel layering.
- Identify and stabilize key access points prior to commencement of construction.
- Minimize the impact of dust by anticipating the direction of prevailing winds.
- Direct most construction traffic to stabilized roadways within the project site.
- Water should be applied by means of pressure-type distributors or pipelines equipped with a spray system or hoses and nozzles that will ensure even distribution.
- All distribution equipment should be equipped with a positive means of shutoff.
- Unless water is applied by means of pipelines, at least one mobile unit should be available at all times to apply water or dust palliative to the project.

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WE-1

WE-1

## **Wind Erosion Control**

- If reclaimed waste water is used, the sources and discharge must meet California Department of Health Services water reclamation criteria and the Regional Water Quality Control Board requirements. Non-potable water should not be conveyed in tanks or drain pipes that will be used to convey potable water and there should be no connection between potable and non-potable supplies. Non-potable tanks, pipes, and other conveyances should be marked, "NON-POTABLE WATER - DO NOT DRINK."
- Materials applied as temporary soil stabilizers and soil binders also generally provide wind erosion control benefits.
- Pave or chemically stabilize access points where unpaved traffic surfaces adjoin paved roads.
- Provide covers for haul trucks transporting materials that contribute to dust.
- Provide for wet suppression or chemical stabilization of exposed soils.
- Provide for rapid clean up of sediments deposited on paved roads. Furnish stabilized construction road entrances and vehicle wash down areas.
- Stabilize inactive construction sites using vegetation or chemical stabilization methods.
- Limit the amount of areas disturbed by clearing and earth moving operations by scheduling

For chemical stabilization, there are many products available for chemically stabilizing gravel roadways and stockpiles. If chemical stabilization is used, the chemicals should not create any adverse effects on stormwater, plant life, or groundwater.

Installation costs for water and chemical dust suppression are low, but annual costs may be quite high since these measures are effective for only a few hours to a few days.

### **Inspection and Maintenance**

- Inspect and verify that activity-based BMPs are in place prior to the commencement of associated activities. While activities associated with the BMP are under way, inspect weekly during the rainy season and at two-week intervals in the non-rainy season to verify continued BMP implementation.
- Check areas protected to ensure coverage.
- Most dust control measures require frequent, often daily, or multiple times per day

### References

Best Management Practices and Erosion Control Manual for Construction Sites, Flood Control District of Maricopa County, Arizona, September 1992.

California Air Pollution Control Laws, California Air Resources Board, 1992.

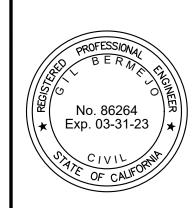
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EORION & SEDIMENT CONTROL DETAILS (CASQA BMP # WE-1)

PREPARED UNDER THE DIRECT SUPERVISION OF:



03/30/25 DATE

DESIGNED BY: M.D. CHECKED BY: G.B.B. Z-23-0430

03/30/23

ESCP-6

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