



PUBLIC NOTICE

**U.S. ARMY CORPS OF ENGINEERS
LOS ANGELES DISTRICT**

BUILDING STRONG®

**APPLICATION FOR PERMIT
517 & 521 Pacific Avenue Shoreline Stabilization Project**

Public Notice/Application No.: SPL-2016-00726-RRS

Project: 517 & 521 Pacific Avenue Shoreline Stabilization Project

Comment Period: June 9, 2017 through July 10, 2017

Project Manager: Robert Smith; (760) 602-4831; Robert.R.Smith@usace.army.mil

Co-Applicants

Ron Lucker and David Winkler
517 and 521 Pacific Avenue
Solana Beach, CA 92075

Contact

Walter Crampton
TerraCosta Consulting Group
4455 Murphy Canyon Road, Suite 200
(858) 573-6900
San Diego, California 92123-4379

Location

Along the bluffs and coastline in the City of Solana Beach (City), California and in the Pacific Ocean and adjacent to 517 and 521 Pacific Avenue within the county of San Diego, CA (at: 32.998 North latitude, -117.277 West).

Activity

Construct the 517 and 521 Pacific Avenue Shoreline Stabilization Project which includes a 140 foot (ft.) long by 20 ft. wide concrete seawall along the bluff in Solana Beach which extends an existing seawall built in 1997 which is also adjacent to a concrete sandbag wall. The development would protect the above residential properties and would be located on city-owned beach open to the public and the city-owned bluff face of an 80 ft.-high coastal bluff fronting two existing single family residences at 517 and 521 Pacific Avenue Shoreline Stabilization Project. The upland bluff behind the 521 residence also includes a planting plan on the bluff above the seawall. The applicant in coordination with the City shall require that the residences at 517 & 521 Pacific Avenue contribute to an In-lieu Fee Program. This contribution will address impacts to the sand volume from denial of sand to the littoral cell. Also Tide Beach Park, one of the City's primary beach parks and access ways, is located directly south of the project site. (See attached drawings). Impacts to navigable waters of the United States would be approximately 2,800 square ft. For more information see Additional Information section below.

Interested parties are hereby notified an application has been received for a Department of the Army permit for the activity described herein and shown on the attached drawing(s). We invite you to review today's public notice and provide views on the proposed work. By providing substantive, site-specific comments to the Corps Regulatory Division, you provide information that supports the Corps' decision-making process. All comments received during the comment period become part of the record and will be considered in the decision.

This permit will be issued, issued with special conditions, or denied under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Comments should be mailed to:

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS
REGULATORY DIVISION
ATTN: Robert Smith
Carlsbad Field Office
5900 La Place Ct., Suite 100
Carlsbad, CA 92008

Alternatively, comments can be sent electronically to: Robert.R.Smith@usace.army.mil

The mission of the U.S. Army Corps of Engineers Regulatory Program is to protect the Nation's aquatic resources, while allowing reasonable development through fair, flexible and balanced permit decisions. The Corps evaluates permit applications for essentially all construction activities that occur in the Nation's waters, including wetlands. The Regulatory Program in the Los Angeles District is executed to protect aquatic resources by developing and implementing short- and long-term initiatives to improve regulatory products, processes, program transparency, and customer feedback considering current staffing levels and historical funding trends.

Corps permits are necessary for any work, including construction and dredging, in the Nation's navigable water and their tributary waters. The Corps balances the reasonably foreseeable benefits and detriments of proposed projects, and makes permit decisions that recognize the essential values of the Nation's aquatic ecosystems to the general public, as well as the property rights of private citizens who want to use their land. The Corps strives to make its permit decisions in a timely manner that minimizes impacts to the regulated public.

During the permit process, the Corps considers the views of other Federal, state and local agencies, interest groups, and the general public. The results of this careful public interest review are fair and equitable decisions that allow reasonable use of private property, infrastructure development, and growth of the economy, while offsetting the authorized impacts to the waters of the United States. The permit review process serves to first avoid and then minimize adverse effects of projects on aquatic resources to the maximum practicable extent. Any remaining unavoidable adverse impacts to the aquatic environment are offset by compensatory mitigation requirements, which may include restoration, enhancement, establishment, and/or preservation of aquatic ecosystem system functions and services.

Evaluation Factors

The decision whether to issue a permit will be based on an evaluation of the probable impact including cumulative impacts of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit, which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof. Factors that will be considered include conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shoreline erosion and accretion, recreation, water

supply and conservation, water quality, energy needs, safety, food production and, in general, the needs and welfare of the people. In addition, if the proposal would discharge dredged or fill material, the evaluation of the activity will include application of the EPA Guidelines (40 CFR Part 230) as required by Section 404 (b)(1) of the Clean Water Act.

The Corps of Engineers is soliciting comments from the public; Federal, state, and local agencies and officials; Indian tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

Preliminary Review of Selected Factors

EIS Determination- A preliminary determination has been made an environmental impact statement is not required for the proposed work.

Water Quality- The applicant is required to obtain water quality certification, under Section 401 of the Clean Water Act, from the California Regional Water Quality Control Board. Section 401 requires any applicant for an individual Section 404 permit provide proof of water quality certification to the Corps of Engineers prior to permit issuance.

Coastal Zone Management- The applicant has certified the proposed activity would comply with and would be conducted in a manner consistent with the approved State Coastal Zone Management Program. For those projects in or affecting the coastal zone, the Federal Coastal Zone Management Act requires that prior to issuing the Corps authorization for the project, the applicant must obtain concurrence from the California Coastal Commission the project is consistent with the State's Coastal Zone Management Plan.

Essential Fish Habitat- Essential Fish Habitat (EFH), as defined by the Magnuson-Stevens Fishery Conservation and Management Act, occurs within the project area and EFH is affected by the proposed project. The Corps of Engineers preliminary determination indicates the proposed activity would adversely affect EFH. Therefore, formal consultation under Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation and Management Act (Act) is required. This notice initiates the EFH consultation requirements of the Act. In order to comply with the Act, pursuant to 50 CFR 600.920(e)(3), I am providing, enclosing, or otherwise identifying the following information:

1. Description of the proposed action: See project description on page 5 of this public notice.
2. Onsite inspection information: See baseline information on page 5 of this public notice.
3. Analysis of the potential adverse effects on EFH: The existing EFH consists of an intertidal beach zone that abuts a Torrey Sandstone bluff with sea caves that is adjacent to the hard reefs just offshore and tide pools. The two residences above the project are single family residences that taper down to the steep bluff that has caves scoured out at ground level. The nearshore areas adjacent to the project area include hard reef with surf grasses and kelp. The project will not have any direct

impacts to the surfgrass or the subtidal zones just offshore. Also due to potential turbidity from the minor grading and equipment impacts, grading the temporary berm, and access grading there would be minor temporary impacts to EFH. No direct impacts to eelgrass, surfgrass, or reefs are anticipated as these areas are further out in the nearshore areas which are in the subtidal zone but monitoring will be required to ensure that such impacts do not occur.

4. Proposed minimization, conservation, or mitigation measures: The applicant's proposed project would have pre-construction and post-construction monitoring to evaluate changes to the environment. Impacts will be minimized by the use of preventive barriers, tarps, and off-site disposal and storage of equipment. In addition, an onsite contractor will be instructed to visually monitor the project area. To insure water quality, post-construction monitoring will be implemented by May 1st of each third year from the date of approval and for the life of the structure. Monitoring reports will be prepared by a licensed geologist, civil engineer, or geotechnical engineer. As part of each monitoring report an evaluation of the condition and performance of the approved shoreline protective device. This will include an assessment of whether weathering and/or damage has occurred that could adversely impact the future performance of the device and consequentially the surrounding waters in this area. Weathering and/or damage to the bluff could be experienced, so appropriate corrective procedures would be administered such as surface preparation of the existing bluff face along with coloring and texturing of the bluff to match the existing bluff. Every 5 years the shoreline protective device will be reevaluated to determine if it is still needed. See page 5 and 6 for detailed minimization and mitigation measures. .

5. Conclusions regarding effects of the proposed project on EFH: Project would have temporary adverse effects to EFH habitat due to equipment, grading, noise, and turbidity impacts.

Therefore, it is my initial determination the proposed activity may adversely affect and would have an adverse impact on EFH or federally managed fisheries (Coastal pelagic and Pacific Groundfish Fishery Management Plans) in California waters. My final determination relative to project impacts and the need for mitigation measures is subject to review by and coordination with the NOAA Fisheries. If I do not receive written comments (regular mail or e-mail) within the 30-day notification period, I may assume concurrence by NOAA Fisheries that no mitigation measures are necessary.

Cultural Resources- The latest version of the National Register of Historic Places has been consulted and this site is not listed. This review constitutes the extent of cultural resources investigations by the District Engineer, and he is otherwise unaware of the presence of such resources.

Endangered Species- Preliminary determinations indicate the proposed activity would not affect federally-listed endangered or threatened species, or their critical habitat. Therefore, formal consultation under Section 7 of the Endangered Species Act does not appear to be required at this time.

Public Hearing- Any person may request, in writing, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for public hearing shall state with particularity the reasons for holding a public hearing.

Proposed Activity for Which a Permit is Required

The proposed 140 ft. long shotcrete seawall will be constructed, per the attached drawings, using vehicles, trucks, and grading equipment within the intertidal beach construction zone of the Pacific Ocean along and under a bluff shoreline that currently receives wave run up at various tidal cycles. The project will extend into a 40 ft. construction zone (may also include a temporary berm) that would be partially below the High Tide line of 6.91 ft. MLLW datum in some places. The project would have temporary impacts to approximately 2,800 square of navigable waters of the U.S that does not contain eelgrass, surf grass, or kelp but is adjacent to hard reefs in the nearshore environment. Proposed development will be consistent with the marine and water quality protection policies of the Coastal Act and the City of Solana Beach certified Land Use Policies to insure that all environmental impacts will be minimized to the maximum extent feasible. Best management practices (BMPs) will be employed throughout the duration of the proposed project with the following BMPs:

- 1) Ensuring that the color and texture of the structure shall be compatible with the existing bluff.
- 2) Submittal of a detailed monitoring plan of the bluff and the structures above the project using proper mean high tide line monitoring with a licensed surveyor.
- 3) Submittal of as-built drawings after construction.
- 4) Monitoring requirement for monitoring reports to be submitted each third year by a licensed geologist, civil engineer, or geotechnical engineer to document if any weathering damage has occurred and an analysis of erosion trends, annual retreat, or rate of retreat of the bluff.

Basic Project Purpose- The basic project purpose comprises the fundamental, essential, or irreducible purpose of the proposed project, and is used by the Corps to determine whether the applicant's project is water dependent (i.e., requires access or proximity to or siting within the special aquatic site to fulfill its basic purpose). Establishment of the basic project purpose is necessary only when the proposed activity would discharge dredged or fill material into a special aquatic site (e.g., wetlands, pool and riffle complex, mudflats, coral reefs). Because no fills are proposed within special aquatic sites, identification of the basic project purpose is not necessary. While the project would not discharged dredged or fill material into a special aquatic site, the basic project purpose is shoreline stabilization which is considered water dependent.

Overall Project Purpose- The overall project purpose serves as the basis for the Corps' 404(b)(1) alternatives analysis and is determined by further defining the basic project purpose in a manner that more specifically describes the applicant's goals for the project, and which allows a reasonable range of alternatives to be analyzed. The overall project purpose for the proposed project is to provide adequate shore protection to protect public safety and to protect adjacent private properties located on the bluffs in Solana Beach.

Additional Project Information

Baseline information- The project is located southwest of the street address on the bluff/beach side of the parcel in Solana Beach west of Pacific Avenue and is shown in the Existing Condition Site Plan. The project area extends +/- 140ft of exposed bluff between the existing seawalls on either side. The addition of a seawall barrier is necessary to maintain stability of the bluff by preventing further erosion of bluff material which is primarily Torrey Sandstone. If the bluff is not protected it could fail

and cause damage to residences residing on top of the bluff. Failure of the bluff could cause soil and property to slide into the adjacent navigable waters. Some failures have already occurred recently.

This project is intended to cover the exposed bluff in order to prevent further erosion of supportive bluff material that could lead to bluff failure and potential public safety issues from bluff failures. The addition of this seawall will cover +/-140 ft. and serve to connect the already present seawalls on either side of the exposed bluff. The existing bluff has sea caves and some scrub vegetation along the upper slopes behind the residences and the rear yards of the two residences (517 & 521 Pacific Avenue) have ice plant, patios, block walls, bare dirt, and three stairways. The shoreline area is also used by recreational surfers and swimmers and beachcombers and is just north of a major beach access stairway where the public gains access to the beach areas and where both dogs and people frequent this area. The nearshore hard and soft reefs are westward of the project site and is also known as the "Table Tops" surf area and the bluffs and project site are directly adjacent to where the surfers access this surf spot. The area just south of the project site also functions as a regular beach use site for sunbathers and dog walking.

Project description- The project, per the attached drawings, involves the construction of a 140 ft. long, 32 ft. high, and 30 in. thick shotcrete seawall on the beach and bluff fronting 517 and 521 Pacific Avenue in the city of Solana Beach in San Diego County, CA. The project will be built per the attached drawings as prepared by Terra Costa Consulting Group and dated December 31, 2017 and includes shotcreting, air-placed concrete with epoxy coated reinforcement for the wall construction, multi-strand earthen anchors, and a top 5 ft. layer of erodible concrete fill on the top layer above the new seawall. The proposed seawall will connect to an existing tieback shotcrete seawall to the north and an existing concrete sandbag seawall to the south. The new seawall will have a wave deflector at the top of the seawall and tiebacks into the existing Torrey Sandstone bluff with wall drains, concrete infill, erodible concrete top layer, and a 30 ft. construction zone with public safety barriers. Also proposed, is the installation of hydro seed and container plantings on the geogrid slope below the northern property.

Proposed Mitigation- The proposed mitigation may change as a result of comments received in response to this public notice, the applicant's response to those comments, and/or the need for the project to comply with the 404(b)(1) Guidelines. In consideration of the above, the proposed mitigation sequence (avoidance/minimization/compensation), as applied to the proposed project is summarized below:

Avoidance: Proposed development will be consistent with the marine and water quality protection policies of the Coastal Act and the City of Solana Beach certified Land Use Policies to insure that all environmental impacts will be minimized to the maximum extent feasible. Best Management Practices (BMP) will be employed throughout the duration of the proposed project. To prevent the discharge of concrete materials, such as shotcrete or any other construction byproducts, onto the sandy beach and/or from entering coastal waters, the contractor shall, at minimum, comply with the following BMP's. No direct eelgrass or surfgrass or reef impacts are expected.

1. Shotcrete pouring/pumping activities: During all concrete pumping activities, tarps shall be used below the concrete pump hopper to prevent accidental discharge of any spilled concrete onto the beach sands or into coastal waters. Tarps shall be of sufficient size to capture any spilled concrete material.

2. Shotcrete/concrete application: During all concrete placement activities, care shall be taken to prevent the discharge of concrete materials onto the beach sand and/or into coastal waters. Tarps of sufficient size shall be placed at the base of all shotcrete/concrete placement areas to completely capture all excess concrete and/or shotcrete rebound and prevent contact with the beach sands and/or coastal waters.

3. Off-site disposal: All concrete and/or other construction byproducts collected shall be properly contained and disposed of off-site in a legal manner. All washout of concrete pumping equipment shall be back into the concrete ready-mix truck at the completion of the concrete placement for off-site disposal.

Minimization: In addition to the use of preventive barriers, tarps, and off-site disposal and storage of equipment to avoid impacts, an onsite contractor will be instructed to visually monitor the project area. In the event that preventive barriers and off-site disposal/storage of equipment does not contain the potential for environmental impacts, the contractor will be instructed to stop, slow, or modify the work effort to maintain environmental compliance.

Compensation: The applicant in coordination with the City shall require that the residences at 517 & 521 Pacific Avenue contribute to an In-lieu Fee Program. This contribution will address impacts to the sand volume from denial of sand to the littoral cell. Over the course of the 20 year sand supply mitigation period, the proposed seawall extension results in the retention of about 2,489 cubic yards of beach quality sand. At estimated sand cost of \$16.29 per cubic yard; this sand would have a value of \$40,546. The beach area itself and degradation of public access to and along the beach that would be impacted due to encroachment (350 sq. ft.) and the area impacted by estimated passive erosion over the 20 year mitigation period (1,120 sq. ft.) will be mitigated through the City of Solana Beach interim in-lieu deposit fee, which requires the applicant to pay an interim deposit fee of \$140,000.

Proposed Special Conditions

No special conditions are proposed at this time.

For additional information please call Robert Smith of my staff at (760) 602-4831 or via e-mail at Robert.R.Smith@usace.army.mil. This public notice is issued by the Chief, Regulatory Division.



Regulatory Program Goals:

- To provide strong protection of the nation's aquatic environment, including wetlands.
- To ensure the Corps provides the regulated public with fair and reasonable decisions.
- To enhance the efficiency of the Corps' administration of its regulatory program.

**DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, U.S. ARMY CORPS OF ENGINEERS**

Carlsbad Field Office
5900 La Place Ct., Suite 100
Carlsbad, CA 92008

WWW.SPL.USACE.ARMY.MIL/MISSIONS/REGULATORY

517 & 521 PACIFIC AVENUE SHORELINE STABILIZATION PROJECT

GENERAL NOTES

- THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS FIELD SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA.
- NEITHER THE OWNER NOR THE ENGINEER WILL ENFORCE SAFETY MEASURES OR REGULATIONS, INCLUDING SHIELDING AND HEALTH STANDARDS, LAWS AND REGULATIONS, LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT AND PRESERVE ALL EXISTING UTILITIES, AND TO MAINTAIN RECORDS OF ALL UTILITIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA.
- THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO ENSURE THAT ALL UTILITIES SERVICES WILL REMAIN FUNCTIONAL DURING THE CONSTRUCTION PERIOD.
- THE CONTRACTOR SHALL OBTAIN AND MAINTAIN ALL NECESSARY PERMITS OF APPLICABLE AGENCIES, INCLUDING THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA.
- OSHA REQUIREMENTS SHALL CONFORM TO ALL LOCAL CODES, ORDINANCES, RESTRICTIONS AND REGULATIONS.
- THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL EXISTING FACILITIES, THE LOCATIONS OF ALL EXISTING UTILITIES, AND ALL OTHER CONDITIONS PRIOR TO COMMENCING CONSTRUCTION.
- ALL CONSTRUCTION ON THE PLANS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES IN CASE OF CONFLICT.
- WHERE NO CONSTRUCTION DETAILS ARE SHOWN OR NOTED FOR ANY PART OF THE WORK, SUCH DETAILS SHALL BE THE SAME AS FOR SIMILAR WORK SHOWN ON THE PLANS OR THE SAN DIEGO REGIONAL DRAWINGS.
- UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMOVAL OF ALL EXISTING UTILITIES, AND SHALL PROVIDE ALL NECESSARY TEMPORARY SIGNS, WARNING DEVICES, AND BARRICADES.
- THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO LOCATE AND PROTECT ANY EXISTING UTILITIES, AND SHALL PROVIDE ALL NECESSARY TEMPORARY SIGNS, WARNING DEVICES, AND BARRICADES BEFORE EXCAVATING, VERIFY LOCATION OF UNDERGROUND UTILITIES.
- UNDERGROUND SERVICE ALERTS: 800-227-2800
 - CITY OF SOLANA BEACH PUBLIC WORKS: 858-720-2470
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS BEFORE STARTING WORK, AND HE SHALL NOTIFY THE ENGINEER IMMEDIATELY OF ANY DISCREPANCIES.
- CONSTRUCTION SHALL BE RESPONSIBLE TO ENVIRONMENTAL AGENCIES. THESE PLANS OR FIELD STAKES, THE CONTRACTOR SHALL REQUEST AN INTERPRETATION BEFORE DOING ANY WORK IN AN AREA WHERE THERE ARE ANY DISCREPANCIES BETWEEN THESE PLANS AND THE FIELD STAKES. THE CONTRACTOR SHALL REQUEST AN INTERPRETATION BEFORE DOING ANY WORK IN AN AREA WHERE THERE ARE ANY DISCREPANCIES BETWEEN THESE PLANS AND THE FIELD STAKES.
- THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AT (858) 573-6900 48 HOURS PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL KEEP ACCURATE AND LEGIBLE RECORDS ON A SET OF PROJECT BLUELINE PRINTS OF ALL CHANGES OF WORK WHICH OCCUR DURING PROJECT CONSTRUCTION TO THE ENGINEER. IN THE EVENT OF A DISCREPANCY, THE CONTRACTOR SHALL DELIVER THIS AS BUILT INFORMATION REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT-OF-WAY.
- APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK TO BE PERFORMED UNTIL A VALID PERMIT HAS BEEN ISSUED.
- ALL OPERATIONS CONDUCTED ON THE PREMISES, INCLUDING THE WARMING UP, REPAIR, ARRIVAL, DEPARTURE, OR REMOVAL OF EQUIPMENT, SHALL BE CONDUCTED IN ACCORDANCE WITH THE CITY OF SOLANA BEACH ORDINANCES AND REGULATIONS. ALL OPERATIONS SHALL BE CONDUCTED BETWEEN 7:00 A.M. AND 7 P.M. EACH DAY, MONDAY THROUGH FRIDAY AND NO LATE-NIGHT OR OVERNIGHT WORK WITHOUT THE WRITTEN PERMISSION OF THE CITY ENGINEER.
- NOTWITHSTANDING THE MANHOLE STANDARDS SET FORTH IN THE EXCAVATION AND GRADING CODE, AND NOTWITHSTANDING THE APPROVAL OF THESE GRADING PLANS, THE PERMITTEE IS RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES AND FOR THE PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT AND PRESERVE ALL EXISTING UTILITIES, AND TO MAINTAIN RECORDS OF ALL UTILITIES. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE STATE OF CALIFORNIA.
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EROSION CONTROL NOTES

- STORM WATER AND NON-STORM WATER DISCHARGE CONTROL, BEST MANAGEMENT PRACTICES SHALL BE DEVELOPED AND IMPLEMENTED TO MANAGE STORM WATER AND NON-STORM WATER DISCHARGES FROM THE SITE AT ALL TIMES DURING EXCAVATION AND GRADING ACTIVITIES.
- EROSION AND SEDIMENT CONTROL, EROSION PREVENTION SHALL BE EMPLOYED AS THE MOST APPROPRIATE MEASURE FOR KEEPING SEDIMENT ON SITE DURING EXCAVATION AND GRADING ACTIVITIES. SEDIMENT CONTROLS SHALL BE USED AS A SUPPLEMENT TO EROSION PREVENTION FOR KEEPING SEDIMENT ON SITE.
- EROSION CONTROL ON SLOPES SHALL BE MITIGATED BY INSTALLING LANDSCAPING AS PER APPROVED LANDSCAPE PLANS.
- THE TOPS OF ALL SLOPES SHALL BE DINED OR TRENCHED TO PREVENT WATER FLOWING DOWN THE SLOPES.
- THE CONTRACTOR SHALL REPAIR ANY ERODED SLOPES AS DIRECTED BY THE OFFICE OF THE CITY ENGINEER.
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OWNER DEVELOPER CERTIFICATE

WE, DAVID PERLES AND RONALD LUCKER, AS OWNERS OF THE PROPERTIES DESCRIBED HEREIN, ACKNOWLEDGE THESE PLANS HAVE BEEN PREPARED AT OUR DIRECTION WITH OUR FULL KNOWLEDGE AND UNDERSTANDING OF THE INFORMATION AND CONDITIONS CONTAINED HEREIN AND AS ATTACHED BY REFERENCE ON THIS GRADING PLAN.

IT IS AGREED THAT FIELD CONDITIONS MAY REQUIRE CHANGES TO THESE PLANS. SUCH CHANGES, ALTERATIONS, OR ADDITIONS TO THESE PLANS, INCLUDING THE DETERMINATION OF NECESSARY AND DESIRABLE FOR THE PROPER COMPLETION OF THE IMPROVEMENTS.

WE FURTHER AGREE TO CONDUCT WORK ON ANY IMPROVEMENTS SHOWN ON THESE PLANS PERMIT AND TO PURSUE SUCH WORK ACTIVELY ON EVERY NORMAL WORKING DAY, WITHIN THE PERIOD OF THE PERMIT, AND TO BE RESPONSIBLE FOR ANY OTHER WORK ASSOCIATED WITH THIS PROJECT OR UNDER OUR CONTROL.

ENGINEER OF WORK CERTIFICATE

WALTER CRAMPTON HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN AND THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS AND CITY OF SOLANA BEACH RESOLUTION NO. _____.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY ENGINEER DOES NOT CONSTITUTE A REVIEW ONLY AND DOES NOT RELIEVE ME OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

STANDARD REQUIREMENTS

ALL WORK, UNLESS OTHERWISE SPECIFIED, SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION AND SUPPLEMENTS OF THE STANDARD SPECIFICATIONS FOR STANDARD DRAWINGS AND CITY OF SOLANA BEACH ENGINEERING CONSTRUCTION STANDARDS.

ASSESSOR PARCEL NUMBERS / ADDRESSES

283-041-14-00 - 517 PACIFIC AVENUE
 283-041-04-00 - 521 PACIFIC AVENUE
 283-041-28-00 - 521 PACIFIC AVENUE

WORK TO BE DONE

THE PROJECT SHALL CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS AND SPECIFICATIONS: SHORELINE STABILIZATION PROJECT AS SHOWN ON SHORELINE PROTECTION DRAWINGS.

UPON COMPLETION OF THE WORK, THE ENTIRE SITE SHALL BE CLEARED OF EQUIPMENT, UNUSED MATERIALS, AND RUBBISH SO AS TO PRESENT A SATISFACTORY, CLEAN, AND NEAT APPEARANCE TO THE ADJACENT PROPERTY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NECESSARY TO PERFORM THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

ENGINEER OF WORK AS-BUILT CERTIFICATE

I, **WALTER CRAMPTON**, HEREBY DECLARE THAT THE PREPARATION OF THESE AS-BUILT DRAWINGS AND THAT THE INFORMATION SHOWN IS BASED ON ACTUAL SITE INVESTIGATIONS TO THE BEST OF MY KNOWLEDGE AND EXPERIENCE. THE INFORMATION SHOWN ON THESE PLANS PROVIDE AN ACCURATE AND CORRECT REPRESENTATION OF THE AS-BUILT CONDITIONS.

SCORED: 245
 DATE: 12-31-15
 C.E. NUMBER: 3890 MURPHY CANYON ROAD, SUITE 200, SAN DIEGO, CA 92123
 TELEPHONE: (858) 573-6900

SHEET INDEX

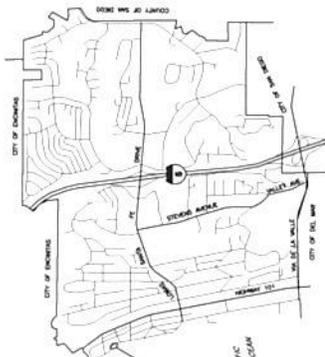
SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ADDITIONAL NOTES
3	ADDITIONAL NOTES
4	EXISTING CONDITION SITE PLAN
5	SITE PLAN
6	CROSS SECTIONS & WALL PROFILE
7	WALL DETAILS
8	SITE ACCESS / STAGING & PHASING

SEAWALL PLANS

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	ADDITIONAL NOTES
3	ADDITIONAL NOTES
4	EXISTING CONDITION SITE PLAN
5	SITE PLAN
6	CROSS SECTIONS & WALL PROFILE
7	WALL DETAILS
8	SITE ACCESS / STAGING & PHASING

LANDSCAPE PLANS

SHEET NO.	DESCRIPTION
1	LANDSCAPE PLANS TITLE SHEET
2	PLANTING PLAN
3	PLANTING NOTES, LIST & DETAILS
4	PLANTING SPECIFICATIONS
5	PLANTING SPECIFICATIONS
6	TEMPORARY IRRIGATION PLAN
7	TEMPORARY IRRIGATION NOTES & LEGEND
8	TEMPORARY IRRIGATION SPECIFICATIONS



VICINITY MAP
 NOT TO SCALE

COASTAL COMMISSION PERMIT NO.

ENGINEER OF WORK
 By: **WALTER F. CRAMPTON**, Date: 12-31-15
 Drawn By: **R.E.E. 23392**, Exp: 12/31/17

CITY APPROVED CHANGES

APPROVED FOR APPROVAL
 By: _____, Date: _____

APPROVED FOR CONSTRUCTION
 By: **Mohammed Samir, C.E. Engineer**, Date: _____
 R.E.E. 37148, Exp: 08-30-18

CITY OF SOLANA BEACH
 TITLE SHEET FOR
517 & 521 PACIFIC AVENUE
SHORELINE STABILIZATION PROJECT

ENGINEER OF WORK
 ENGINEERS & GEODETISTS
 3890 MURPHY CANYON ROAD, SUITE 200
 SAN DIEGO, CALIFORNIA 92123
 (858) 573-6900

TERRACOSTA CONSULTING GROUP
 ENGINEERS & GEODETISTS
 3890 MURPHY CANYON ROAD, SUITE 200
 SAN DIEGO, CALIFORNIA 92123
 (858) 573-6900

ENGINEERING DEPARTMENT
 DRAWING NO. SBGR-
 SHEET 1 OF 8

SOIL ENGINEER AS-BUILT CERTIFICATE

TO THE BEST OF MY KNOWLEDGE AND EXPERIENCE THE GRADING CONDITIONS WITH THAT HAVE BEEN IDENTIFIED IN THE FINAL SOILS REPORT FOR THE PROJECT ONE COMPLETE COPY OF ANY CHANGES OR DEVIATIONS FROM THE PLANS DUE TO UNFORSEEN FIELD CONDITIONS HAVE BEEN SUBMITTED TO THE OFFICE OF THE CITY ENGINEER.

SCORED: 245
 DATE: 12-31-15
 C.E. NUMBER: 3890 MURPHY CANYON ROAD, SUITE 200, SAN DIEGO, CA 92123
 TELEPHONE: (858) 573-6900

SOIL ENGINEER CERTIFICATE

I, **WALTER CRAMPTON**, A REGISTERED GEOTECHNICAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS, HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS FOR THE SHORELINE STABILIZATION PROJECT SITE WAS MADE BY ME OR UNDER MY DIRECTION BETWEEN THE DATES FEBRUARY 2008 AND JULY 2015. I HAVE REVIEWED THE PROJECT DESIGN AND GRADING SHOWN HEREIN, IS ACCURATE AND CORRECT REPRESENTATION OF THE AS-BUILT CONDITIONS. THE INFORMATION SHOWN ON THESE PLANS PROVIDE AN ACCURATE AND CORRECT REPRESENTATION OF THE AS-BUILT CONDITIONS.

SCORED: 245
 DATE: 12-31-15
 C.E. NUMBER: 3890 MURPHY CANYON ROAD, SUITE 200, SAN DIEGO, CA 92123
 TELEPHONE: (858) 573-6900



SPECIAL NOTES

- AERIAL PHOTOGRAMMETRICALLY-PREPARED TOPOGRAPHIC MAPS ARE CONSIDERED LESS ACCURATE ON STEEP TO NEAR-VERTICAL SLOPES SUCH AS THOSE FOUND ON THIS PROJECT. MICROFORM AERIAL OVERLIGHT ON JUNE 18, 1998 AND EXISTING CONDITIONS SHEET MAPS FROM THE SAN DIEGO PLANS DIVISION, CONTRACTOR SHALL VERIFY THE ACCURACY OF THESE MAPS BY VISUAL CHECK AND LOCATION, INCLUDING OVERLOOKS, WOODS, AND ANCHORS, AND MAKE NECESSARY MODIFICATIONS TO THE MAPS. ANY CHANGES TO THE MAPS SHALL BE INDICATED BY RED LINES AND NOTED IN THE SCHEDULED START OF CONSTRUCTION TO PERMIT FIELD DESIGN CHANGES AS MAY BE REQUIRED.
- A TIE-BACK WALL IS TO BE CONSTRUCTED TO CONTROL FUTURE EROSION OF THE EXISTING SEA CLIFF. THE TIE-BACK WALL SHALL BE CONSTRUCTED IN 1998 IN THE LOWER HALF OF THE SEACREST. PREPARATION OF THE EXISTING CLIFF FACE, TONNOROCK, AND REINFORCING INTO FORMATION MATERIALS, INCLUDING OF STRUCTURE, SHALL BE COMPLETED PRIOR TO THE START OF CONSTRUCTION. SPOTCRETE TO CONFORM TO THESE SURFACES. THE SPOTCRETE SHALL BE PLACED IN A MANNER THAT WILL PROTECT THE EXISTING WALLS AND CLIFF FACE. THE SPOTCRETE SHALL BE PLACED OR OTHERWISE SHAPED TO CONFORM TO THE NATURAL GEOLOGIC FORMATION. THE SPOTCRETE SHALL BE USED TO PROVIDE A MOTTLER NATURAL APPEARANCE SIMILAR IN COLOR TO THAT OF THE ADJACENT ROCK.
- THE FACE OF THE EXISTING SEA CLIFF SHALL BE TRIMMED AND KNIBBED AND THIS THAT MIGHT ADVERSELY AFFECT THE PLACEMENT OF REINFORCING STEEL AND SPOTCRETE. THE QUANTITY OF SPOTCRETE TO BE PLACED SHALL BE DETERMINED BY THE CONTRACTOR ONLY THAT NECESSARY FOR EXCAVATION OF THE REWAYS AND FOR THE PLACEMENT OF REINFORCING STEEL AND SPOTCRETE. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE A COMPLETED FACING CONCRETE ON ANCHORED WALLS HAVE AN ALKALINITY OF 12.0 TO 12.5. THE CONTRACTOR SHALL ADVISE THE DESIGNER OF THE ADJACENT AND COLOR IN ASK WITH THAT ADVANCE INFORMATION. THE CONTRACTOR SHALL PROVIDE A TREE-FORM SURFACE FOR ANY OF THE WALL ELEMENTS. THE INTENT IS TO PROVIDE A TREE-FORM LANTERN DOORWAY SURFACE.
- THE COLOR AND TEXTURE OF THE PROPOSED SEAWALL SHALL BE COMPATIBLE WITH THE NEARBY UNIMPROVED MARINE BLUFFS. THE CONTRACTOR SHALL PROVIDE A TREE-FORM LANTERN DOORWAY SURFACE FOR ANY OF THE WALL ELEMENTS. THE INTENT IS TO PROVIDE A TREE-FORM LANTERN DOORWAY SURFACE.
- ANY EXISTING PERMANENT IRRIGATION SYSTEM LOCATED ON THE SUBJECT SITES THAT DRAIN ANYWHERE ON OR OVER THE BLUFF TOP FACE SHALL BE REMOVED OR CAPPED.
- ALL BLUFT FROM IMPROVED SURFACES ON THE TOP OF THE BLUFF EDGE SHALL BE COLLECTED AND DIRECTED AWAY FROM THE BLUFF EDGE TOWARD THE STREET.

2.01 AIR-PLACED CONCRETE (I.E. SHOTCRETE) - CONTINUED

- AGGREGATES SHALL BE NORMAL WEIGHT
- CONCRETE ADMIXTURES SHALL UTILIZE EITHER CHEMICAL STABILIZERS OR MINERAL OXIDES TO PRODUCE AN EARTHEN COLOR OF THE CURED CONCRETE OF APPROXIMATELY THE SAME COLOR AS THE EXISTING CONCRETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING APPROVAL FROM THE ARCHITECT FOR THE COLOR OF THE CURED CONCRETE. THE MIX SHALL INCLUDE THE FOLLOWING MATERIALS PER CUBIC YARD OF CONCRETE:
 - TYPE V PORTLAND CEMENT 200 LBS
 - TYPE F FLY ASH 180 LBS
- SAND FOR CONCRETE SHALL MEET WITH GRADATION REQUIREMENTS OF ASTM C-143. MAXIMUM ALLOWABLE SLUMP SHALL BE 4 INCHES. IN ACCORDANCE WITH THE MIX SHALL INCLUDE THE FOLLOWING MATERIALS PER CUBIC YARD OF CONCRETE:
 - TYPE V PORTLAND CEMENT 200 LBS
 - TYPE F FLY ASH 180 LBS
- REINFORCEMENT SHALL CONFORM TO ASTM A618, GRADE 60 AND MEET THE REQUIREMENTS OF SSPC SECTION 201-1. ALL REINFORCEMENT SHALL BE EPOXY COATED.
- CONCRETE SHALL BE PRODUCED IN A READY MIX PLANT IN ACCORDANCE WITH ASTM C-94.

2.02 EPOXY-COATED REINFORCEMENT

- ALL STEEL REINFORCING USED ON THIS PROJECT SHALL BE EPOXY COATED.
- REINFORCEMENT SHALL BE SHOP FABRICATED PRIOR TO COATING AND SHALL CONFORM TO THE REQUIREMENTS OF ASTM A 784.
- VISIBLE VOIDS IN THE COATING, REGARDLESS OF CAUSE, SHALL BE PATCHED IF THE TOTAL AREA OF VOIDS EXCEEDS 0.2% OF THE SURFACE AREA OF THE BARS THAT REQUIRE COATING WITH AN APPROVED PATCH MATERIAL SUPPLIED BY THE EPOXY FABRICATOR. BARS WHICH REQUIRE SURFACE PATCHING IN EXCESS OF 5% OF THE TOTAL SURFACE AREA OF THE BAR WILL BE REJECTED.
- ALL STEERING, HANDLING, COATED BARS SHALL HAVE PROTECTED CONTACT AREAS FOR THE EPOXY COATING. THE COATING SHALL BE APPLIED TO THE ENTIRE SURFACE OF THE BAR. BARS THAT REQUIRE COATING SHALL BE IDENTIFIED BY A RED MARKER OR A PLASTIC BRIDGE 20 AS TO PREVENT BAR-TO-BAR ABRASION FROM SAOS IN THE BAR BUNDLE.
- COMPENSATION FOR REINFORCING AND EPOXY-COATED REINFORCING SHALL BE INCLUDED IN THE CONTRACTOR'S TAKE PRICING. PRODUCTS AND NO ADDITIONAL COMPENSATION SHALL BE ALLOWED THEREAFTER.

2.03 MULTI-STRAND EARTH ANCHORS

- ANCHOR RODS
 - TONNOROCKS, INCLUDING ANCHOR WEDGES AND WEDGE PLATES, SHALL BE DOUBLE-CORROSION PROTECTION SYSTEM AS INDICATED ON THE DRAWINGS.
 - ANCHORAGE SYSTEMS, INCLUDING TENDONS NOT SPECIFICALLY IDENTIFIED IN ASTM A618 SHALL BE IDENTIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE TYPE, SIZE, AND EQUIVALENT IN TERMS OF LOAD CAPACITY, SERVICEABILITY AND CORROSION RESISTANCE TO THAT SPECIFIED HEREIN.
- ANCHOR BEARING PLATES AND ASSEMBLIES
 - ALL BEARING PLATE ASSEMBLIES INCLUDING TENDONS SHALL BE HOT DIPPED IN AN ANCHORING SOLUTION. THE MINIMUM WEIGHT OF COATING SHALL BE 2.0 OZ/50 SQ FT.
- ANCHORAGE & SHEATHING ENCAPSULATION CABOT
 - GROUT SHALL CONFORM TO SECTION 201-1 OF THE SSPC EXCEPT AS MODIFIED BELOW.
 - GROUT SHALL CONSIST OF A CEMENT-WATER MATURE OR SAND-CEMENT - WATER MATURE. THE CONTRACTOR SHALL SELECT MATERIALS SUITABLE FOR THE ANCHOR RODS. SHEATHING AND GROUT INSTALLATION EQUIPMENT AND PROCEDURES TO BE USED SHALL BE IDENTIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE TYPE, SIZE, AND EQUIVALENT IN TERMS OF LOAD CAPACITY, SERVICEABILITY AND CORROSION RESISTANCE TO THAT SPECIFIED HEREIN.

2.04 ERODIBLE CONCRETE

- MATERIALS CEMENT SHALL CONFORM TO ASTM C-150, TYPE V PORTLAND CEMENT. THE MAXIMUM ALLOWABLE SLUMP SHALL BE 4 INCHES. IN ACCORDANCE WITH THE MIX SHALL INCLUDE THE FOLLOWING MATERIALS PER CUBIC YARD OF CONCRETE:
 - TYPE V PORTLAND CEMENT 200 LBS
 - TYPE F FLY ASH 180 LBS
- SAND FOR CONCRETE SHALL MEET WITH GRADATION REQUIREMENTS OF ASTM C-143. MAXIMUM ALLOWABLE SLUMP SHALL BE 4 INCHES. IN ACCORDANCE WITH THE MIX SHALL INCLUDE THE FOLLOWING MATERIALS PER CUBIC YARD OF CONCRETE:
 - TYPE V PORTLAND CEMENT 200 LBS
 - TYPE F FLY ASH 180 LBS
- REINFORCEMENT SHALL CONFORM TO ASTM A618, GRADE 60 AND MEET THE REQUIREMENTS OF SSPC SECTION 201-1. ALL REINFORCEMENT SHALL BE EPOXY COATED.
- CONCRETE SHALL BE PRODUCED IN A READY MIX PLANT IN ACCORDANCE WITH ASTM C-94.

2.05 CONSTRUCTION MATERIALS

- CONCRETE SHALL CONFORM TO ASTM C150 TYPE V.
 - WATER CONTENT SHALL BE THE MINIMUM NECESSARY FOR PROPER PLACEMENT BUT THE WATER-CEMENT RATIO SHALL NOT EXCEED 0.45.
 - A NONSHRINK OR EXPANSIVE ADMIXTURE MAY BE USED TO ELIMINATE SHRINKAGE OF THE ANCHORED TONE DROUT. OTHER ADMIXTURES CONFORMING TO ASTM C494, WHICH ACCELERATE THE STRENGTH OF THE GROUT, CALCIUM CHLORIDE, AND ADMIXTURES CONTAINING CHLORIDES SHALL BE PROHIBITED. ADMIXTURES SHALL NOT BE USED WITH EACH OTHER SO THAT THE DESIRABLE EFFECTS OF ALL ADMIXTURES USED WILL BE MAINTAINED. THE CONTRACTOR SHALL PROVIDE THE TYPE, SIZE, AND EQUIVALENT IN TERMS OF LOAD CAPACITY, SERVICEABILITY AND CORROSION RESISTANCE TO THAT SPECIFIED HEREIN.
- ANCHOR BEARING PLATES AND ASSEMBLIES
 - ALL BEARING PLATE ASSEMBLIES INCLUDING TENDONS SHALL BE HOT DIPPED IN AN ANCHORING SOLUTION. THE MINIMUM WEIGHT OF COATING SHALL BE 2.0 OZ/50 SQ FT.
- ANCHORAGE & SHEATHING ENCAPSULATION CABOT
 - GROUT SHALL CONFORM TO SECTION 201-1 OF THE SSPC EXCEPT AS MODIFIED BELOW.
 - GROUT SHALL CONSIST OF A CEMENT-WATER MATURE OR SAND-CEMENT - WATER MATURE. THE CONTRACTOR SHALL SELECT MATERIALS SUITABLE FOR THE ANCHOR RODS. SHEATHING AND GROUT INSTALLATION EQUIPMENT AND PROCEDURES TO BE USED SHALL BE IDENTIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE THE TYPE, SIZE, AND EQUIVALENT IN TERMS OF LOAD CAPACITY, SERVICEABILITY AND CORROSION RESISTANCE TO THAT SPECIFIED HEREIN.

2.06 GRADING NOTES

- THE CONTRACTOR IS REQUIRED TO DRAINAGE AS NECESSARY TO THE LINES AND GRADICES SHOWN TO CONSTRUCT THE RETAINING STRUCTURES.
- THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AND PREVENT POONDING OF WATER ON THE CONTROL SURFACE. WATER SHALL BE DRAINAGE TO ADJACENT AREAS. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AND PREVENT POONDING OF WATER ON THE CONTROL SURFACE. WATER SHALL BE DRAINAGE TO ADJACENT AREAS.
- ALL EARTHWORK SHALL BE PERFORMED IN ACCORDANCE WITH "SECTION 300-EARTHWORK" OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (2009 EDITION) UNLESS OTHERWISE NOTED.
- CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AND PREVENT POONDING OF WATER ON THE CONTROL SURFACE. WATER SHALL BE DRAINAGE TO ADJACENT AREAS.
- ALL TREES, BRUSH, GRASS AND OTHER OBSTRUCTION MATERIAL SHALL BE COLLECTED AND DISPOSED OF OFF SITE BY THE CONTRACTOR SO AS TO LEAVE THE AREAS THAT WILL BE CONSTRUCTED WITH A NEAT AND FINISHED APPEARANCE FREE FROM UNDESIRABLE DEBRIS.

PART 1 - SPECIAL PROVISIONS

- STANDARDS AND PERMIT REQUIREMENTS
 - ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (2009 EDITION) UNLESS OTHERWISE NOTED.
 - CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AND PREVENT POONDING OF WATER ON THE CONTROL SURFACE. WATER SHALL BE DRAINAGE TO ADJACENT AREAS.
 - ALL TREES, BRUSH, GRASS AND OTHER OBSTRUCTION MATERIAL SHALL BE COLLECTED AND DISPOSED OF OFF SITE BY THE CONTRACTOR SO AS TO LEAVE THE AREAS THAT WILL BE CONSTRUCTED WITH A NEAT AND FINISHED APPEARANCE FREE FROM UNDESIRABLE DEBRIS.
- THE OWNER HAS OBTAINED THE NECESSARY PERMITS FROM THE CITY OF SOLANA BEACH AND THE CALIFORNIA COASTAL COMMISSION. THE CONTRACTOR SHALL PERFORM ANY CONSTRUCTION IN ACCORDANCE WITH THE PERMITS, NOTICED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE COST OF THE SAME. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR THE COST OF THE SAME.

1.02 SHOP DRAWINGS

- IN ADDITION TO THE ITEMS DESCRIBED IN THE SSPC SHOP DRAWINGS, SPECIFICATIONS, AND/OR CATALOG, CUTS SHALL BE SUBMITTED FOR THE FOLLOWING:
 - TIE-BACK WALL SYSTEMS COMPONENTS
 - CEMENT CONCRETE PRODUCTS REINFORCING STEEL, ETC.
- ALL SUBMITTALS SHALL BE MADE IN 2 COPIES, ONE OF WHICH WILL BE RETURNED TO THE CONTRACTOR.

PART 2 - CONSTRUCTION MATERIALS

2.01 AIR-PLACED CONCRETE (I.E. SHOTCRETE)

EXCEPT AS OTHERWISE INDICATED BELOW, SHOTCRETING MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF SSPC 201-1 PORTLAND CEMENT CONCRETE.

- CEMENT SHALL CONFORM TO ASTM C150, TYPE V.
- SAND SHALL BE WASHED AND MEET THE FOLLOWING GRADATION LIMITS.

GRADE SIZE	% PASSING
NO. 4 (4.75 mm)	100
NO. 10 (2.0 mm)	100
NO. 20 (0.85 mm)	100
NO. 40 (0.425 mm)	100
NO. 60 (0.25 mm)	100
NO. 100 (0.15 mm)	100
NO. 200 (0.075 mm)	100

FINENESS MODULUS: 2.7 TO 3.1
MOISTURE CONTENT: 3% TO 6%

- CONCRETE SHALL ACHIEVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 5,000 PSI.

COASTAL COMMISSION PERMIT NO.

ENGINEER OF WORK

By: MILLER E. CAMPION Date: 3-7-17

By: R.C.L. 23792 Date: Exp. 12/31/17

CITY APPROVED CHANGES

APP'D DATE: _____

RECOMMENDED FOR APPROVAL

By: _____ Date: _____

By: _____ Date: _____

APPROVED FOR CONSTRUCTION

By: _____ Date: _____

By: _____ Date: _____

BEACH MARK

SEE DETAILED BLOCK ANCHOR LIFT

TERRACOSTA CONSULTING GROUP

3895 AIRPORT CANYON ROAD, SUITE 200
SAN DIEGO, CALIFORNIA 92123
(609) 513-8800

CITY OF SOLANA BEACH

517 & 521 PACIFIC AVENUE
SHORELINE STABILIZATION PROJECT

PROFESSIONAL ENGINEER

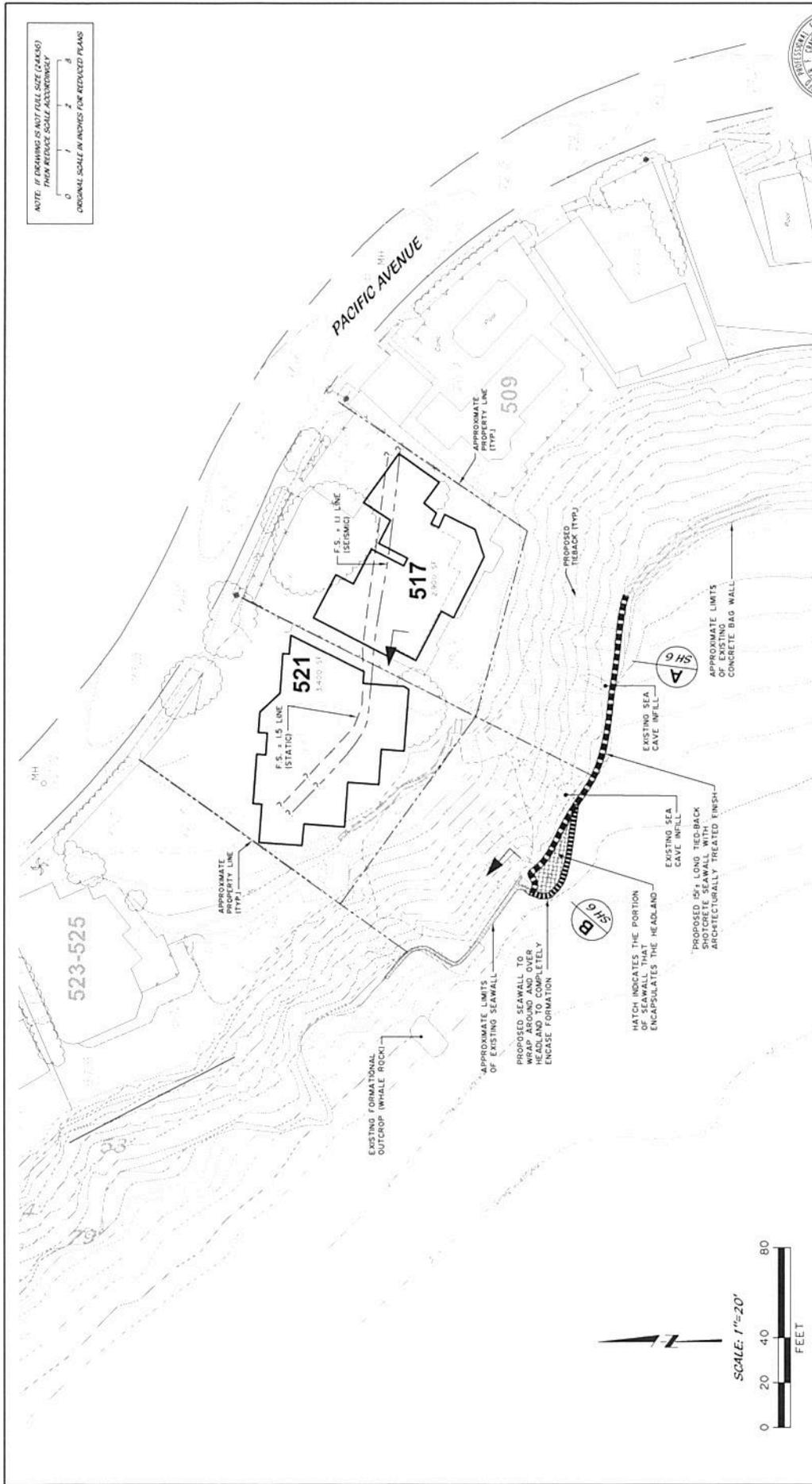
No. 37393
Exp. 12/31/17
CIVIL

ENGINEERING DEPARTMENT

DRIVING NO. SBGR-

SHEET 2 OF 8

NOTE: IF DRAWING IS NOT FULL SIZE (24x36) FROM THESE SHEETS, ALL DIMENSIONS SHALL BE AS SHOWN ON THESE SHEETS.
ORIGINAL SCALE IN INCHES FOR REVISED PLANS



TERRACOSTA CONSULTING GROUP
ENGINEERS & GEOLOGISTS
3090 MURPHY CANYON ROAD, SUITE 200
SAN DIEGO, CALIFORNIA 92133
(619) 533-9999

SITE PLAN
SCALE: 1"=20'



SANTA FE IRRIGATION DISTRICT
By: _____ Date: _____
District Engineer

SOLANA BEACH FIRE DEPARTMENT		CITY APPROVED CHANGES		CITY APPROVED FOR APPROVAL		APPROVED FOR CONSTRUCTION		BENCH MARK		ENGINEERING DEPARTMENT	
By: _____	Date: _____	By: _____	Date: _____	By: _____	Date: _____	By: _____	Date: _____	By: _____	Date: _____	By: _____	Date: _____
Fire Chief		Engineer of Work		Recommended for Approval		Approved for Construction		Bench Mark		City Plan for	
		By: MALTER I. COMPTON	Exp. 3-2-21					[SEE DETAILED BLOCK ABOVE LEFT]		CITY OF SOLANA BEACH	
		By: _____	Exp. _____							517 & 521 PACIFIC AVENUE	
		By: _____	Exp. _____							SHORELINE STABILIZATION PROJECT	
											SDGR -
											SHEET 5 OF 8

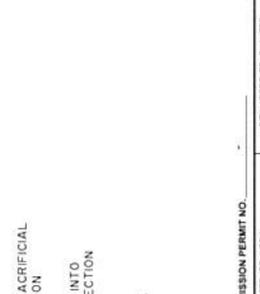
NOTE: IF DRAWING IS NOT FILED (SEE DRAWING) FROM REVERSE SCALE ACCORDINGLY ORIGINAL SCALE IN INCHES FOR REDUCED PLANS



TYPICAL WALL DRAIN SECTION
NOT TO SCALE



TYPICAL WALL DRAIN DETAIL
NOT TO SCALE



MARKER - DETAIL
NO SCALE



TERRACOSTA CONSULTING GROUP
ENGINEERS & GEOLOGISTS
3890 WILSON CANYON ROAD, SUITE 200
SAN DIEGO, CALIFORNIA 92123
(619) 579-8888

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
517 & 521 PACIFIC AVENUE
SHORELINE STABILIZATION PROJECT

WALL DETAILS FOR

BENCH MARK
SEE DETAILED BLOCK ABOVE LEFT

APPROVED FOR CONSTRUCTION
By: Michael S. Sanchez, C.E.
R.C.E. 31745 Exp. 04-30-18

RECOMMENDED FOR APPROVAL
By: _____ Date: _____
By: _____ Date: _____

CITY APPROVED CHANGES
IMPD DATE: _____
By: _____ Date: _____
By: _____ Date: _____

ENGINEER OF WORK
By: WALTER T. CAMPBELL Date: 3-2-17
R.C.E. 23792 Exp. 12/31/17

SANTA FE IRRIGATION DISTRICT
By: _____ Date: _____
District Engineer

SOLANA BEACH FIRE DEPARTMENT
By: _____ Date: _____
Fire Chief

COASTAL COMMISSION PERMIT NO. _____
By: _____ Date: _____
District Engineer

DRIVING NO. _____
SBBR - _____
SHEET 7 OF 8

BENCH MARK
COORDINATES: 115 31-177' MARK 504 132 00 FOUR THIRTEENS 31 108 1184'
ELEVATION: 5.00 FT. (1.524 M) FROM THE MEAN SEA LEVEL
THIS MARK IS TO BE USED FOR THE PURPOSES OF THE PROJECT AND IS NOT TO BE USED FOR ANY OTHER PURPOSES.
DATE: 03-19-2018 10:46 AM

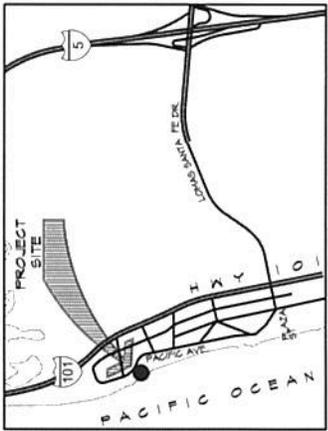
SEAWALL MAINTENANCE, REPAIR AND EXTENSION FOR: 517-521 PACIFIC AVENUE SLOPE PRE-VEGETATION PLANS

GENERAL LANDSCAPE NOTES:

1. THESE PLANS SHALL BE CONSIDERED TO BE THE FINAL CONTRACT SET FOR THE PROJECT. ANY CHANGES TO THE PLANS SHALL BE MADE BY THE LANDSCAPE ARCHITECT. THE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CITY OF SOLANA BEACH AND THE CALIFORNIA DEPARTMENT OF WATER RESOURCES. THE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CALIFORNIA DEPARTMENT OF WATER RESOURCES. THE LANDSCAPE ARCHITECT SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE CALIFORNIA DEPARTMENT OF WATER RESOURCES.
2. OWNER SHALL HAVE THE RE-VEGETATION OR SEAWALL REPAIRS COMPLETED AS SOON AS POSSIBLE AFTER THE COMPLETION OF THE SEAWALL REPAIRS. THE RE-VEGETATION OR SEAWALL REPAIRS SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF THE SEAWALL REPAIRS. THE RE-VEGETATION OR SEAWALL REPAIRS SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF THE SEAWALL REPAIRS.
3. ALL PLANTING SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF THE SEAWALL REPAIRS. THE PLANTING SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF THE SEAWALL REPAIRS.
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5. ALL PLANTING SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF THE SEAWALL REPAIRS. THE PLANTING SHALL BE COMPLETED WITHIN 60 DAYS OF THE COMPLETION OF THE SEAWALL REPAIRS.

IRRIGATION NOTES:

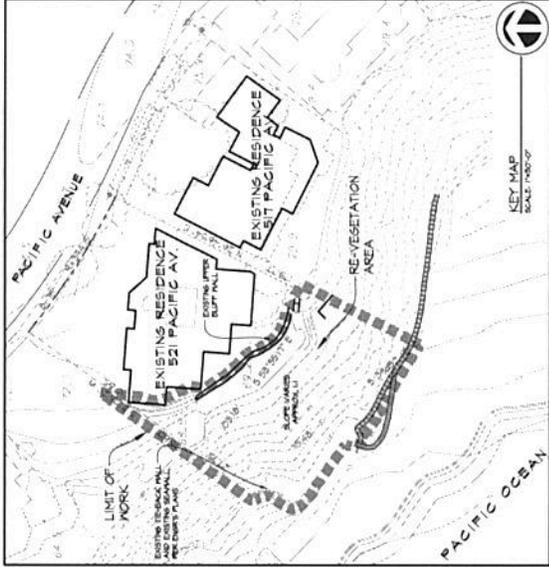
1. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE IRRIGATION DESIGN MANUAL, 4TH EDITION, PUBLISHED BY THE IRRIGATION ENGINEERS SOCIETY OF AMERICA. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLED IN ACCORDANCE WITH THE IRRIGATION DESIGN MANUAL, 4TH EDITION, PUBLISHED BY THE IRRIGATION ENGINEERS SOCIETY OF AMERICA.
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VICINITY MAP
NOT TO SCALE



PHOTO EXHIBIT
NOT TO SCALE



SCOPE OF WORK

- EXISTING SLOPE (APPROX. 11) TO BE MOSTLY PLANTED 10,000 SF (0.241 ACRES).
- ALL EXISTING VEGETATION TO REMAIN AND TO BE PROTECTED DURING CONSTRUCTION.
- ALL NEW SLOPE (SHRUB) PLANTINGS TO BE PLANTED AND COMPLETELY HYDROSEEDED AT INDICATED PERIOD(S) OF THE YEAR PRIOR TO REGION'S RAINY SEASON.
- TEMPORARY HAND-WATER CONTROLLED DRIP IRRIGATION SHALL BE INSTALLED FOR ALL NEW CONTAINER PLANTS FOR ESTABLISHMENT PURPOSES.
- TEMPORARY KINGSCREEN TO BE INSTALLED FOR NATIVE ESTABLISHMENT.

OWNER AND CONTRACTOR SHALL COMPLY WITH CITY OF SOLANA BEACH MUNICIPAL CODE TITLE 17, AS A FIRST ITEM OF WORK, OWNER SHALL HIRE LIFEGUARD SUPPORT FOR THE BEACH AREA IMMEDIATELY BELOW THE PROJECT SITE FOR ANY TIME WORK IS OCCURRING ON THE BLUFF ABOVE. THERE SHALL BE A MEETING WITH THE LIFEGUARD STAFF TO COORDINATE THIS, TO ADDRESS ANY CONCERNS FOR THE DURATION OF THE PROJECT. IN ADDITION, THE AREA BELOW THE SEAWALL SHALL BE NOTED OFF WITH CAUTION TAPE TO A CLEAR DISTANCE FROM THE BASE SATISFACTORY TO THE LIFEGUARD.

AS A SECOND ITEM OF WORK, CONTRACTOR SHALL PROVIDE THE LANDSCAPE ARCHITECT WITH A COMPOSITE SOIL SAMPLE FROM THE PROJECT SITE. SOIL SAMPLES WILL BE PROCESSED BY THE LANDSCAPE ARCHITECT. ACTUAL SOIL AMENDMENTS WILL BE BASED ON THE RESULTS OF THE LAB TEST OF THIS SAMPLE. THE AMENDMENT SPECIFICATIONS HAVE BEEN COMPILED SO AS TO COVER MOST CONTINGENCIES FOR AMENDMENT, THEREBY ELIMINATING THE POSSIBILITY OF A CHANGE IN COST.

REFERENCE DRAWINGS
521 PACIFIC AVENUE SEAWALL MAINTENANCE, REPAIR AND EXTENSION PLANS BY TERRACOSTA CONSULTING GROUP, ENGINEERS AND GEOLOGIST, PLANS DATED 10/27/09 AND 2/26/15.
SITE ADDRESS
521 PACIFIC AVENUE, SOLANA BEACH, CALIFORNIA 92075

TOPOGRAPHY SOURCE
TERRACOSTA CONSULTING GROUP, ENGINEERS AND GEOLOGIST, PLANS DATED 10/27/09
BENCHMARK
SEE BELOW LEFT CORNER

TOTAL REVEGETATION AREA
10,000 SF, 0.241 ACRES

ASSESSORS PARCEL NUMBER
APN: 263-041-04-00 AND 263-041-26-00

EXISTING LEGAL DESCRIPTION
LOTS 04, 1, 26 PAGE 041 BOOK: 263

LANDSCAPE PLAN SHEET INDEX

SHEET 1
SHEET 2
SHEET 3
SHEET 4
SHEET 5
SHEET 6
SHEET 7
SHEET 8



DAVID REED
LANDSCAPE ARCHITECTS
ARCHITECTS
10000 S. PACIFIC AVENUE
SUITE 200
SOLANA BEACH, CA 92075
TEL: 949.486.1234
WWW.DREED.COM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
517-521 PACIFIC AVENUE SEAWALL
MAINTENANCE, REPAIR & EXTENSION

APPROVED FOR APPROVAL: _____ DATE: _____
APPROVED FOR CONSTRUCTION: _____ DATE: _____
RECOMMENDED FOR APPROVAL: _____ DATE: _____

COASTAL COMMISSION PERMIT NO. 6-08-122
LANDSCAPE ARCHITECT OF WORK: _____ CITY APPROVED CHANGES: _____ APPI DATE: _____
DESIGN BY: DAVID REED DATE: 3-7-17
DRAWN BY: R.L.A.: 1942 EXP: 09/26/17

SOLANA BEACH FIRE DEPARTMENT
SANTA FE IRRIGATION DISTRICT
By: _____ Date: _____
District Engineer: _____

SBGR- SHEET 1 OF 8

