

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

2375 Northside Drive, Suite 100, San Diego, CA 92108  
Phone (619) 516-1990 • Fax (619) 516-1994  
<http://www.waterboards.ca.gov/sandiego/>

**Clean Water Act Section 401 Water Quality Certification  
and Waste Discharge Requirements  
for Discharge of Dredged and/or Fill Materials**

**PROJECT: College Boulevard Reach A and Detention Basin BJ  
Certification Number R9-2014-0080  
WDID: 9000002734**

Reg. Meas. ID: 397247  
Place ID: 807683  
Party ID: 547579  
Person ID: 547580

**APPLICANT: Bent-West LLC  
5796 Armada Drive, Suite 300  
Carlsbad, CA 92008**

**ACTION:**

<input type="checkbox"/> Order for Low Impact Certification	<input type="checkbox"/> Order for Denial of Certification
<input checked="" type="checkbox"/> Order for Technically-conditioned Certification	<input type="checkbox"/> Enrollment in Isolated Waters Order No. 2004-004-DWQ
<input checked="" type="checkbox"/> Enrollment in SWRCB GWDR Order No. 2003-017-DWQ	

**PROJECT DESCRIPTION**

An application dated May 25, 2014 was submitted by Bent-West LLC (hereinafter Applicant), for Water Quality Certification pursuant to section 401 of the Clean Water Act (United States Code (USC) Title 33, section 1341) for the proposed College Boulevard Reach A and Detention Basin BJ Project (Project). The California Regional Water Quality Control Board, San Diego Region (San Diego Water Board) deemed the application to be complete on July 14, 2016. The Applicant proposes to discharge dredged or fill material to waters of the United States and/or State associated with construction activity at the Project site. The Applicant has also applied for a Clean Water Act section 404 permit from the United States Army Corps of Engineers for the Project (USACE File No. SPL-2014-00339-WSZ).

The Project is located within the City of Carlsbad, San Diego County, California at the intersection of College Boulevard and Cannon Road, connects College Boulevard with El Camino Real. The Project center reading is located at latitude 33.154719 and longitude -117.286905. The Applicant has paid all required application fees for this Certification in the amount of \$17,550.00. On an annual basis, the Applicant shall also pay all active discharge fees and post discharge monitoring fees, as appropriate<sup>1</sup>. On July 14, 2016, the San Diego

<sup>1</sup> The Applicant shall pay an annual active discharge fee each fiscal year or portion of a fiscal year during which discharges occur until the regional water board or the State Water Resources Control Board (State Water Board) issues a Notice of Completion of Discharges Letter to the discharger. Dischargers shall pay an annual post-discharge monitoring fee each fiscal year or portion of a fiscal year commencing with the first fiscal year following the fiscal year in which the regional water board or State Water Board issued a Notice of Completion of Discharges Letter to the discharger, but continued water quality  
*(footnote continued on next page)*

Water Board provided public notice of the Project application pursuant to California Code of Regulations, title 23, section 3858 by posting information describing the Project on the San Diego Water Board's web site and providing a period of twenty-one days for public review and comment. No comments were received.

The Applicant proposes to construct two public improvements; a major arterial roadway (College Boulevard Reach A) and a detention basin (Basin BJ). College Boulevard Reach A will complete a north-south link between College Boulevard at Cannon Road and El Camino Real. The new roadway will be a divided four lane public roadway. The road will be 82 feet wide with an 18-foot wide landscaped median. The extension will be approximately 3,000 feet in length.

Basin BJ is a planned stormwater control detention basin located at the northeast end of College Boulevard Reach A at the intersection of Cannon Road and College Boulevard. The 5.5 acres basin is designed to hold 23 acre feet of floodwaters under the 100 year storm event. The basin will be constructed by pulling back the one existing bank of Little Encinas Creek and lowering the adjacent area grade to allow for overbank flooding and peak flow storage. No grading is proposed within Little Encinas Creek.

The Project will convert approximately 11.2 acres of pervious ground cover to impervious surfaces. Runoff leaving the developed Project area would be significantly greater in volume, velocity, peak flow rate, and duration than pre-development runoff from the same area without mitigation. Post-construction best management practices (BMPs) to manage and control the effects of these runoff increases will consist of bioretention treatment basins. These BMPs will be designed, constructed, and maintained to meet City of Carlsbad Low Impact Development (LID) Capture Volume and hydromodification treatment requirements.

The Project application includes a description of the design objective, operation, and degree of treatment expected to be attained from equipment, facilities, or activities (including construction and post-construction BMPs) to treat waste and reduce runoff or other effluents which may be discharged. Compliance with the Certification conditions will help ensure that construction and post-construction discharges from the Project will not cause on-site or off-site downstream erosion, damage to downstream properties, or otherwise damage stream habitats in violation of water quality standards in the *Water Quality Control Plan for the San Diego Basin (9)* (Basin Plan).

Project construction will permanently impact 0.31 acre (1,300 linear feet) of streambed waters of the United States and/or State. The Applicant reports that the Project purpose cannot be practically accomplished in a manner which would avoid or result in less adverse impacts to aquatic resources considering all potential practicable alternatives, such as the potential for alternate available locations, designs, reductions in size, configuration or density.

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*(footnote continued from previous page)*

monitoring or compensatory mitigation monitoring is required. Dischargers shall pay the annual post-discharge monitoring fee each fiscal year until the regional water board or the State Water Board issues a Notice of Project Complete Letter to the discharger. Additional information regarding fees can be found electronically at the following location:

[http://www.waterboards.ca.gov/water\\_issues/programs/cwa401/docs/dredgefillcalculator.xlsx](http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/dredgefillcalculator.xlsx)

The Applicant reports that compensatory mitigation for the permanent loss of 0.31 acre of jurisdictional waters will be achieved through the re-establishment and enhancement, of 0.81 acres (962 linear feet) of waters of the United States and/or State. All waters of the United States and/or State receiving temporary discharges of fill material will be restored upon removal of the fill. Mitigation for discharges of fill material to waters of the United States and/or State will be completed by the Applicant at onsite in Agua Hedionda Creek located in the Agua Hedionda hydrologic sub-area (HSA 904.30) at a minimum compensation ratio of 2.6:1 (area mitigated:area impacted).

Detailed written specifications and work descriptions for the compensatory mitigation project including, but not limited to, the geographic boundaries of the project, timing, sequence, monitoring, maintenance, ecological success performance standards and provisions for long-term management and protection of the mitigation areas are described in the *College Boulevard Reach A and Basin BJ Project Mitigation Plan* (Mitigation Plan), dated March 26, 2015. San Diego Water Board acceptance of the Mitigation Plan applies only to the Project described in this Certification and must not be construed as approval for other current or future projects that are planning to use additional acreage at the site for mitigation. The Mitigation Plan is incorporated in this Certification by reference as if set forth herein. The Mitigation Plan provides for implementation of compensatory mitigation which offsets adverse water quality impacts attributed to the Project in a manner that protects and restores the abundance, types and conditions of aquatic resources and supports their beneficial uses. Implementation of the Mitigation Plan will reduce significant environmental impacts to resources within the San Diego Water Board's purview to a less than significant level. Based on all of these considerations, the Mitigation Plan will adequately compensate for the loss of beneficial uses and habitat within waters of the United States and/or State attributable to the Project.

Additional Project details are provided in Attachments 1 through 5 of this Certification.

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### Attachments:

- 1. Definitions**
- 2. Project Location Maps**
- 3. Project Site Plans**
- 4. Mitigation Figures**
- 5. CEQA Mitigation Monitoring and Reporting Program**

## I. STANDARD CONDITIONS

Pursuant to section 3860 of title 23 of the California Code of Regulations, the following three standard conditions apply to all water quality certification actions:

- A. This Certification action is subject to modification or revocation upon administrative or judicial review, including review and amendment pursuant to section 13330 of the Water Code and chapter 28, article 6 (commencing with title 23, section 3867), of the California Code of Regulations.
- B. This Certification action is not intended and shall not be construed to apply to any discharge from any activity involving a hydroelectric facility and requiring a Federal Energy Regulatory Commission (FERC) license or an amendment to a FERC license unless the pertinent Certification application was filed pursuant to California Code of Regulations title 23, section 3855 subdivision (b), and that application specifically identified that a FERC license or amendment to a FERC license for a hydroelectric facility was being sought.
- C. This Certification action is conditioned upon total payment of any fee required under title 23, chapter 28 (commencing with section 3830) of California Code of Regulations and owed by the applicant.

## II. GENERAL CONDITIONS

- A. **Term of Certification.** Water Quality Certification No. R9-2014-0080 (Certification) shall expire upon a) the expiration or retraction of the Clean Water Act section 404 (33 USC Title 33, section 1344) permit issued by the U.S. Army Corps of Engineers for this Project, or b) five (5) years from the date of issuance of this Certification, whichever occurs first.
- B. **Duty to Comply.** The Applicant must comply with all conditions and requirements of this Certification. Any Certification noncompliance constitutes a violation of the Water Code and is grounds for enforcement action or Certification termination, revocation and reissuance, or modification.
- C. **General Waste Discharge Requirements.** The requirements of this Certification are enforceable through Water Quality Order No. 2003-0017-DWQ, *Statewide General Waste Discharge Requirements for Discharges of Dredged or Fill Material that have Received State Water Quality Certification* (Water Quality Order No. 2003-0017-DWQ). This provision shall apply irrespective of whether a) the federal permit for which the Certification was obtained is subsequently retracted or is expired, or b) the Certification is expired. Water Quality Order No. 2003-0017-DWQ is accessible at:

[http://www.waterboards.ca.gov/water\\_issues/programs/cwa401/docs/generalorders/gowdr401regulated\\_projects.pdf](http://www.waterboards.ca.gov/water_issues/programs/cwa401/docs/generalorders/gowdr401regulated_projects.pdf)

- D. Project Conformance with Application.** All water quality protection measures and BMPs described in the application and supplemental information for water quality certification are incorporated by reference into this Certification as if fully stated herein. Notwithstanding any more specific conditions in this Certification, the Applicant shall construct, implement and comply with all water quality protection measures and BMPs described in the application and supplemental information. The conditions within this Certification shall supersede conflicting provisions within the application and supplemental information submitted as part of this Certification action.
- E. Project Conformance with Water Quality Control Plans or Policies.** Notwithstanding any more specific conditions in this Certification, the Project shall be constructed in a manner consistent with the Basin Plan and any other applicable water quality control plans or policies adopted or approved pursuant to the Porter Cologne Water Quality Act (Division 7, commencing with Water Code Section 13000) or section 303 of the Clean Water Act (33 USC section 1313). The Basin Plan is accessible at:
- [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/index.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/basin_plan/index.shtml)
- F. Project Modification.** The Applicant must submit any changes to the Project, including Project operation, which would have a significant or material effect on the findings, conclusions, or conditions of this Certification, to the San Diego Water Board for prior review and written approval. If the San Diego Water Board is not notified of a significant change to the Project, it will be considered a violation of this Certification.
- G. Certification Distribution Posting.** During Project construction, the Applicant must maintain a copy of this Certification at the Project site. This Certification must be available at all times to site personnel and agencies. A copy of this Certification shall also be provided to any contractor or subcontractor performing construction work, and the copy shall remain in their possession at the Project site.
- H. Inspection and Entry.** The Applicant must allow the San Diego Water Board or the State Water Resources Control Board, and/or their authorized representative(s) (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents as may be required under law, to:
1. Enter upon the Project or Compensatory Mitigation site(s) premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Certification;
  2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Certification;
  3. Inspect, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Certification; and

4. Sample or monitor, at reasonable times, for the purposes of assuring Certification compliance, or as otherwise authorized by the Clean Water Act or Water Code, any substances or parameters at any location.
- I. **Enforcement Notification.** In the event of any violation or threatened violation of the conditions of this Certification, the violation or threatened violation shall be subject to any remedies, penalties, process or sanctions as provided for under State law. For purposes of section 401(d) of the Clean Water Act, the applicability of any State law authorizing remedies, penalties, process or sanctions for the violation or threatened violation constitutes a limitation necessary to assure compliance with the water quality standards and other pertinent requirements incorporated into this Certification.
  - J. **Certification Actions.** This Certification may be modified, revoked and reissued, or terminated for cause including but not limited to the following:
    1. Violation of any term or condition of this Certification;
    2. Monitoring results indicate that continued Project activities could violate water quality objectives or impair the beneficial uses of Agua Hedionda Creek, Little Encinas Creek, or its tributaries;
    3. Obtaining this Certification by misrepresentation or failure to disclose fully all relevant facts;
    4. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and
    5. Incorporation of any new or revised water quality standards and implementation plans adopted or approved pursuant to the Porter-Cologne Water Quality Control Act or section 303 of the Clean Water Act.

The filing of a request by the Applicant for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Certification condition.
  - K. **Duty to Provide Information.** The Applicant shall furnish to the San Diego Water Board, within a reasonable time, any information which the San Diego Water Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Certification or to determine compliance with this Certification.
  - L. **Property Rights.** This Certification does not convey any property rights of any sort, or any exclusive privilege.
  - M. **Petitions.** Any person aggrieved by this action of the San Diego Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with the California Code of Regulations, title 23, sections 3867 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after

the date of this Certification. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:  
[http://www.waterboards.ca.gov/public\\_notices/petitions/water\\_quality](http://www.waterboards.ca.gov/public_notices/petitions/water_quality) or will be provided upon request.

### III. CONSTRUCTION BEST MANAGEMENT PRACTICES

- A. **Approvals to Commence Construction.** The Applicant shall not commence Project construction until all necessary federal, State, and local approvals are obtained.
- B. **Personnel Education.** Prior to the start of the Project, and annually thereafter, the Applicant must educate all personnel on the requirements in this Certification, pollution prevention measures, spill response measures, and BMP implementation and maintenance measures.
- C. **Spill Containment Materials.** The Applicant must, at all times, maintain appropriate types and sufficient quantities of materials on-site to contain any spill or inadvertent release of materials that may cause a condition of pollution or nuisance if the materials reach waters of the United States and/or State.
- D. **General Construction Storm Water Permit.** Prior to start of Project construction, the Applicant must, as applicable, obtain coverage under, and comply with, the requirements of State Water Resources Control Board Water Quality Order No. 2009-0009-DWQ, the *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activity*, (General Construction Storm Water Permit) and any reissuance. If Project construction activities do not require coverage under the General Construction Storm Water Permit, the Applicant must develop and implement a runoff management plan (or equivalent construction BMP plan) to prevent the discharge of sediment and other pollutants during construction activities.
- E. **Waste Management.** The Applicant must properly manage, store, treat, and dispose of wastes in accordance with applicable federal, state, and local laws and regulations. Waste management shall be implemented to avoid or minimize exposure of wastes to precipitation or storm water runoff. The storage, handling, treatment, or disposal of waste shall not create conditions of pollution, contamination or nuisance as defined in Water Code section 13050. Upon Project completion, all Project generated debris, building materials, excess material, waste, and trash shall be removed from the Project site(s) for disposal at an authorized landfill or other disposal site in compliance with federal, state and local laws and regulations.
- F. **Waste Management.** Except for a discharge permitted under this Certification, the dumping, deposition, or discharge of trash, rubbish, unset cement or asphalt, concrete, grout, damaged concrete or asphalt, concrete or asphalt spoils, wash water, organic or earthen material, steel, sawdust or other construction debris waste from Project activities directly into waters of the United States and or State, or adjacent to such waters in any manner which may permit its being transported into the waters, is prohibited.



- G. **Downstream Erosion.** Discharges of concentrated flow during construction or after Project completion must not cause downstream erosion or damage to properties or stream habitat.
- H. **Construction Equipment.** All equipment must be washed prior to transport to the Project site and must be free of sediment, debris, and foreign matter. All equipment used in direct contact with surface water shall be steam cleaned prior to use. All equipment using gas, oil, hydraulic fluid, or other petroleum products shall be inspected for leaks prior to use and shall be monitored for leakage. Stationary equipment (e.g., motors, pumps, generator, etc.) shall be positioned over drip pans or other types of containment.
- I. **Process Water.** Water containing mud, silt, or other pollutants from equipment washing or other activities, must not be discharged to waters of the United States and/or State or placed in locations that may be subjected to storm water runoff flows. Pollutants discharged to areas within a stream diversion must be removed at the end of each work day or sooner if rain is predicted.
- J. **Surface Water Diversion.** All surface waters, including ponded waters, must be diverted away from areas of active grading, construction, excavation, vegetation removal, and/or any other activity which may result in a discharge to the receiving water. Diversion activities must not result in the degradation of beneficial uses or exceedance of the receiving water quality objectives. Any temporary dam or other artificial obstruction constructed must only be built from materials such as clean gravel which will cause little or no siltation. Normal flows must be restored to the affected stream immediately upon completion of work at that location.
- K. **Re-vegetation and Stabilization.** All areas that have 14 or more days of inactivity must be stabilized within 14 days of the last activity. The Applicant shall implement and maintain BMPs to prevent erosion of the rough graded areas. After completion of grading, all areas must be re-vegetated with native species appropriate for the area. The re-vegetation palette must not contain any plants listed on the California Invasive Plant Council Invasive Plant Inventory, which can be accessed at <http://www.cal-ipc.org/ip/inventory/>.
- L. **Hazardous Materials.** Except as authorized by this Certification, substances hazardous to aquatic life including, but not limited to, petroleum products, unused cement/concrete, asphalt, and coating materials, must be prevented from contaminating the soil and/or entering waters of the United States and/or State. BMPs must be implemented to prevent such discharges during each Project activity involving hazardous materials.
- M. **Vegetation Removal.** Removal of vegetation must occur by hand, mechanically, or through application of United States Environmental Protection Agency (USEPA) approved herbicides deployed using applicable BMPs to minimize adverse effects to beneficial uses of waters of the United States and/or State. Discharges related to the

application of aquatic pesticides within waters of the United States must be done in compliance with State Water Resources Control Board Water Quality Order No. 2004-0009-DWQ, the *Statewide General National Pollution Discharge Elimination System Permit for the Discharge of Aquatic Weed Control in Waters of the United States*, and any subsequent reissuance as applicable.

- N. **Limits of Disturbance.** The Applicant shall clearly define the limits of Project disturbance to waters of the United States and/or State using highly visible markers such as flag markers, construction fencing, or silt barriers prior to commencement of Project construction activities within those areas.
- O. **On-site Qualified Biologist.** The Applicant shall designate an on-site qualified biologist to monitor Project construction activities within or adjacent to waters of the United States and/or State to ensure compliance with the Certification requirements. The biologist shall be given the authority to stop all work on-site if a violation of this Certification occurs or has the potential to occur. Records and field notes of the biologist's activities shall be kept on-site and made available for review upon request by the San Diego Water Board.
- P. **Beneficial Use Protection.** The Applicant must take all necessary measures to protect the beneficial uses of waters of Agua Hedionda Creek and Little Encinas Creek. This Certification requires compliance with all applicable requirements of the Basin Plan. If at any time, an unauthorized discharge to surface waters (including rivers or streams) occurs or monitoring indicates that the Project is violating, or threatens to violate, water quality objectives, the associated Project activities shall cease immediately and the San Diego Water Board shall be notified in accordance with Notification Requirement VII.A of this Certification. Associated Project activities may not resume without approval from the San Diego Water Board.
- Q. **Groundwater Dewatering.** If groundwater dewatering is required for the Project, the Applicant shall enroll in and comply with the requirements of San Diego Water Board Order No. R9-2015-0013, NPDES No. CAG919003, *General Waste Discharge Requirements For Groundwater Extraction Discharges to Surface Waters within the San Diego Region* or its successor permit.

#### IV. POST-CONSTRUCTION BEST MANAGEMENT PRACTICES

- A. **Post-Construction Discharges.** The Applicant shall not allow post-construction discharges from the Project site to cause or contribute to on-site or off-site erosion or damage to properties or stream habitats.
- B. **Storm Drain Inlets.** All storm drain inlet structures within the Project boundaries must be stamped or stenciled (or equivalent) with appropriate language prohibiting non-storm water discharges.
- C. **Post-Construction BMP Design.** The Project must be designed to comply with the most current Standard Storm Water Mitigation and Hydromodification Plans for the City of Carlsbad. Post-construction BMPs for the Project are described in the *Major*

*Stormwater Management Plan (SWMP)*. The SWMP is incorporated by this reference as if set forth in full herein.

**D. Post-Construction BMP Implementation.** All post-construction BMPs must be constructed, functional, and implemented prior to completion of Project construction, occupancy, and/or planned use, and maintained in perpetuity. The post construction BMPs must include those described in the SWMP, dated December 5, 2013, prepared on behalf of the Applicant by Hunsaker and Associates; or any subsequent version of the SWMP approved by City of Carlsbad.

**E. Post-Construction BMP Maintenance.** The post construction BMPs must be designed, constructed, and maintained in accordance with the most recent California Storm Water Quality Association (CASQA)<sup>2</sup> guidance. The Applicant shall:

1. No less than two times per year, assess the performance of the BMPs to ensure protection of the receiving waters and identify any necessary corrective measures;
2. Perform inspections of BMPs, at the beginning of the wet season no later than October 1 and the end of the wet season no later than April 1, for standing water, slope stability, sediment accumulation, trash and debris, and presence of burrows;
3. Regularly perform preventative maintenance of BMPs, including removal of accumulated trash and debris, as needed to ensure proper functioning of the BMPs;
4. Identify and promptly repair damage to BMPs; and
5. Maintain a log documenting all BMP inspections and maintenance activities. The log shall be made available to the San Diego Water Board upon request.

## **V. PROJECT IMPACTS AND COMPENSATORY MITIGATION**

**A. Project Impact Avoidance and Minimization.** The Project must avoid and minimize adverse impacts to waters of the United States and/or State to the maximum extent practicable.

**B. Project Impacts and Compensatory Mitigation.** Unavoidable Project impacts to Agua Hedionda Creek, Little Encinas Creek, and its unnamed tributaries within the Carlsbad Watershed must not exceed the type and magnitude of impacts described in the table below. At a minimum, compensatory mitigation required to offset unavoidable temporary and permanent Project impacts to waters of the United States and/or State must be achieved as described in the table below:

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<sup>2</sup> California Storm Water Quality Association (*California Storm Water BMP Handbook, New Development and Redevelopment 2003*), available on-line at: <http://www.cabmphandbooks.org/> [Accessed on January 15, 2012]

	Impacts (acres)	Impacts (linear ft.)	Mitigation for Impacts (acres)	Mitigation Ratio (area mitigated :area impacted)	Mitigation for Impacts (linear ft.)	Mitigation Ratio (linear feet mitigated :linear feet impacted)
<b>Permanent Impacts</b>						
Stream Channel	0.31	1,300	0.31 Re-Establishment 0.50 Enhancement <sup>1</sup>	2.6:1	962	0.74:1
<b>Temporary Impacts</b>						
	None	None	NA <sup>2</sup>		NA	

1. Project mitigation re-establishment and enhancement is onsite in Agua Hedionda Creek.
2. All areas of temporary impacts must be restored to pre-project contours and re-vegetated with native species

- C. Compensatory Mitigation Plan Implementation.** The Applicant must fully and completely implement the Mitigation Plan; any deviations from, or revisions to, the Mitigation Plan must be pre-approved by the San Diego Water Board.
- D. Compensatory Mitigation Plan Implementation Plan Revisions.** Prior to the start of construction, the Applicant must submit a revised Mitigation Plan that includes California Rapid Assessment Method and bioassessment monitoring as part of the ecological evaluation.
- E. Performance Standards.** Compensatory mitigation required under this Certification shall be considered achieved once it has met the ecological success performance standards contained in the Mitigation Plan (Section 8, Performance Standards) to the satisfaction of the San Diego Water Board.
- F. Compensatory Mitigation Site Design.** The compensatory mitigation site(s) shall be designed to be self-sustaining once performance standards have been achieved. This includes minimization of active engineering features (e.g., pumps) and appropriate siting to ensure that natural hydrology and landscape context support long-term sustainability in conformance with the following conditions:
1. Most of the channels through the mitigation sites shall be characterized by equilibrium conditions, with no evidence of severe aggradation or degradation;
  2. As viewed along cross-sections, the channel and buffer area(s) shall have a variety of slopes, or elevations, that are characterized by different moisture gradients. Each sub-slope shall contain physical patch types or features that contribute to irregularity in height, edges, or surface and to complex topography overall; and

3. The mitigation sites shall have a well-developed plant community characterized by a high degree of horizontal and vertical interspersions among plant zones and layers.

**G. Temporary Project Impact Areas.** The Applicant must restore all areas of temporary impacts and all other areas of temporary disturbance which could result in a discharge or a threatened discharge of pollutants to waters of the United States and/or State. Restoration must include grading of disturbed areas to pre-project contours and re-vegetation with native species. The Applicant must implement all necessary BMPs to control erosion and runoff from areas associated with the Project.

**H. Long-Term Management and Maintenance.** The compensatory mitigation site(s) must be managed, protected, and maintained, in perpetuity, in conformance with the long-term management plan and the final ecological success performance standards identified in the Mitigation Plan. The aquatic habitats, riparian areas, buffers and uplands that comprise the mitigation site(s) must be protected in perpetuity from land-use and maintenance activities that may threaten water quality or beneficial uses within the mitigation area(s) in a manner consistent with the following requirements:

1. Any maintenance activities on the mitigation site(s) that do not contribute to the success of the mitigation site(s) and enhancement of beneficial uses and ecological functions and services are prohibited;
2. Maintenance activities must be limited to the removal of trash and debris, removal of exotic plant species, replacement of dead native plant species, and remedial measures deemed necessary for the success of the compensatory mitigation project;
3. The Mitigation site(s) must be maintained, in perpetuity, free of perennial exotic plant species including, but not limited to, pampas grass, giant reed, tamarisk, sweet fennel, tree tobacco, castor bean, and pepper tree. Annual exotic plant species must not occupy more than 5 percent of the mitigation site(s); and
4. If at any time a catastrophic natural event (e.g., fire, flood) causes damage(s) to the mitigation site(s) or other deficiencies in the compensatory mitigation project, the Applicant must take prompt and appropriate action to repair the damage(s) including replanting the affected area(s) and address any other deficiencies. The San Diego Water Board may require additional monitoring by the Applicant to assess how the compensatory mitigation site(s) or project is responding to a catastrophic natural event.

**H. Timing of Mitigation Site Construction.** The construction of proposed mitigation must be concurrent with project grading and completed no later than 9 months following the start of Project construction. Delays in implementing mitigation must be compensated for by an increased mitigation implementation of 10% of the cumulative compensatory mitigation for each month of delay.

- I. **Mitigation Site(s) Preservation Mechanism.** Within 90 days from the issuance of this Certification, the Applicant must provide the San Diego Water Board with a draft preservation mechanism (e.g. deed restriction, conservation easement, etc.) that will protect all mitigation areas and their buffers in perpetuity. Within 12 months of the start of Project construction, the Applicant must submit proof of a completed final preservation mechanism that will protect all mitigation areas and their buffers in perpetuity. The conservation easement, deed restriction, or other legal limitation on the mitigation properties must be adequate to demonstrate that the sites will be maintained without future development or encroachment on the sites which could otherwise reduce the functions and values of the sites for the variety of beneficial uses of waters of the United States and/ or State that it supports. The legal limitation must prohibit, without exception, all residential, commercial, industrial, institutional, and transportation development, and any other infrastructure development that would not maintain or enhance the wetland and streambed functions and values of the sites. The preservation mechanism must clearly prohibit activities that would result in soil disturbance or vegetation removal, other than the removal of non-native vegetation. Other infrastructure development to be prohibited includes, but is not limited to, additional utility lines, maintenance roads, and areas of maintained landscaping for recreation.

## VI. MONITORING AND REPORTING REQUIREMENTS

- A. **Representative Monitoring.** Samples and measurements taken for the purpose of monitoring under this Certification shall be representative of the monitored activity.
- B. **Monitoring Reports.** Monitoring results shall be reported to the San Diego Water Board at the intervals specified in section VI of this Certification.
- C. **Monitoring and Reporting Revisions.** The San Diego Water Board may make revisions to the monitoring program at any time during the term of this Certification and may reduce or increase the number of parameters to be monitored, locations monitored, the frequency of monitoring, or the number and size of samples collected.
- D. **Records of Monitoring Information.** Records of monitoring information shall include:
  1. The date, exact place, and time of sampling or measurements;
  2. The individual(s) who performed the sampling or measurements;
  3. The date(s) analyses were performed;
  4. The individual(s) who performed the analyses;
  5. The analytical techniques or methods used; and
  6. The results of such analyses.

- E. Discharge Commencement Notification.** The Applicant must notify the San Diego Water Board in writing **at least 5 days prior** to the start of Project construction.
- F. California Rapid Assessment Method.** California Rapid Assessment Method (CRAM)<sup>3</sup> monitoring must be performed to assess the current and potential ecological conditions (ecological integrity) of the impact site and proposed compensatory mitigation site(s). These conditions reflect the overall level of ecological function of an aquatic resource. Prior to initiating Project construction, the Applicant shall develop a monitoring plan to implement California Rapid Assessment Method (CRAM) monitoring. The Applicant must conduct a quantitative function-based assessment of the health of wetland/streambed habitat, using the appropriate CRAM module for each aquatic resource type, to establish pre-project baseline conditions, set CRAM success criteria, and assess the mitigation site(s) progress towards meeting the success criteria. CRAM monitoring must be conducted prior to the start of Project construction authorized under this Certification and at years 3 and 5 following construction completion. The CRAM monitoring results shall be submitted with the respective Annual Project Progress Report. An evaluation, interpretation, and tabulation of all CRAM assessment data shall be submitted with the Final Project Completion Report.
- G. Benthic Macroinvertebrate Community Analysis.** The Applicant shall conduct bioassessment monitoring, as described in this section, to assess the success of mitigation areas, whenever applicable, using benthic macroinvertebrate community data. Bioassessment shall include: 1) the collection and reporting of benthic macroinvertebrate data; and 2) the collection and reporting of physical habitat data. Bioassessment using benthic macroinvertebrates shall be conducted in wadeable streams with sufficient flow during the index period. In this context, streams shall be defined as streams with surface water flow present during the appropriate index period<sup>4</sup>. Wadeable streams shall be defined as streams that can be safely waded in order to be sampled for benthic invertebrates during the appropriate index period. If the appropriate sampling period lies outside the index period, such as in intermittent streams, please contact the San Diego Water Board.
1. **Field Methods.** Bioassessment monitoring must be performed using the SWAMP field methods specified in *Standard Operating Procedures for the Collection of Field Data for Bioassessment of California Wadeable Streams: Benthic Macroinvertebrates, Algae, and Physical Habitat, SOP 004, May 2016*<sup>5</sup> (SOP, Ode 2016) or any updates of these methods. The Applicants shall conduct, concurrently with all required benthic macroinvertebrate collections, the "Full" suite of physical habitat characterization measurements as specified in the SOP.

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<sup>3</sup> The most recent versions of the California Rapid Assessment Method (CRAM) for Wetlands and additional information regarding CRAM can be accessed at <http://www.cramwetlands.org/>

<sup>4</sup> The appropriate index period can be found electronically at the following location: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/docs/constpermits/cgp\\_biomap.pdf](http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/cgp_biomap.pdf)

<sup>5</sup> The SOP can be found electronically at the following location: [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/bioassessment/docs/combined\\_sop\\_2016.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/bioassessment/docs/combined_sop_2016.pdf)

2. **Laboratory Methods.** Benthic macroinvertebrates shall be identified using the SWAMP laboratory methods specified in *Standard Operating Procedures for Laboratory Processing and Identification of Benthic Macroinvertebrates in California*<sup>6</sup> (Laboratory SOP, Woodard et al. 2012) or any updates of these methods. Standard Taxonomic Effort (STE) Level II of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT) is required. Quality control samples are required for 10% of the samples each year and Quality Assurance samples must be analyzed by the Aquatic Bioassessment Laboratory of the California Department of Fish and Wildlife.
3. **Data Analysis.** Analysis of benthic macroinvertebrate data shall be conducted using scoring tools including but not limited to the *California Stream Condition Index*<sup>7</sup> (CSCI, Rehn et al., 2015, SWAMP-TM-2015-0002).
4. **Data Storage.** Benthic macroinvertebrate data and physical habitat data shall be submitted to the California Environmental Data Exchange Network<sup>8</sup> (CEDEN).
5. **Monitoring Sites.** All monitoring sites shall be approved by staff at the San Diego Water Board before sampling is initiated and must meet the following conditions:
  - a. **Mitigation Sites.** At a minimum, bioassessment monitoring for mitigation areas must be performed at three sites (assessment stations) in Agua Hedionda Creek before Project initiation, and then in years three and five following start of Project construction, during the established "index period" for the Carlsbad watershed. The first assessment station is the reference station, which must be located upstream of the mitigation site(s) in a reference area; the second assessment station must be located within the mitigation site(s); and the third assessment station must be located downstream of the mitigation site(s). The reference station upstream of the mitigation site(s) must be located and sampled concurrently with the second and third assessment stations. Reference stations shall be defined as stations that show minimally disturbed conditions.
6. **Monitoring Reports.** An evaluation, interpretation and tabulation of the benthic macroinvertebrate community analysis must be submitted prior to **March 1** with the respective Annual Project Monitoring Report.

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<sup>6</sup> The Laboratory SOP can be found electronically at the following location:  
[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/bmi\\_lab\\_sop\\_final.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/bmi_lab_sop_final.pdf)

<sup>7</sup> The *California Stream Condition Index* can be found electronically at the following location:  
[http://www.waterboards.ca.gov/water\\_issues/programs/swamp/bioassessment/docs/csci\\_tech\\_memo.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/bioassessment/docs/csci_tech_memo.pdf)

<sup>8</sup> The California Environmental Data Exchange Network can be found electronically at the following location:  
<http://www.ceden.org/>



- H. **Geographic Information System Data.** The Applicant must submit Geographic Information System (GIS) shape files of the Project impact sites within 30 days of the start of project construction and GIS shape files of the Project mitigation sites within 30 days of mitigation installation. All impact and mitigation site shape files must be polygons. Two GPS readings (points) must be taken on each line of the polygon and the polygon must have a minimum of 10 points. GIS metadata must also be submitted.
- I. **Annual Project Progress Reports.** The Applicant must submit annual Project progress reports describing status of BMP implementation, compensatory mitigation, and compliance with all requirements of this Certification to the San Diego Water Board prior to **March 1** of each year following the issuance of this Certification, until the Project has reached completion. The Annual Project Progress Reports must contain compensatory mitigation monitoring information sufficient to demonstrate how the compensatory mitigation project is progressing towards accomplishing its objectives and meeting its performance standards. Annual Project Progress Reports must be submitted even if Project construction has not begun. The monitoring period for each Annual Project Progress Report shall be January 1<sup>st</sup> through December 31<sup>st</sup> of each year. Annual Project Progress Reports must include, at a minimum, the following:
1. **Project Status and Compliance Reporting.** The Annual Project Progress Report must include the following Project status and compliance information:
    - a. The names, qualifications, and affiliations of the persons contributing to the report;
    - b. The status, progress, and anticipated schedule for completion of Project construction activities including the installation and operational status of best management practices project features for erosion and storm water quality treatment;
    - c. A description of Project construction delays encountered or anticipated that may affect the schedule for construction completion; and
    - d. A description of each incident of noncompliance during the annual monitoring period and its cause, the period of the noncompliance including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
  2. **Compensatory Mitigation Monitoring Reporting.** Mitigation monitoring information must be submitted as part of the Annual Project Progress Report for a period of not less than five years, sufficient to demonstrate that the compensatory mitigation project has accomplished its objectives and met ecological success performance standards contained in the Mitigation Plan. Following Project implementation the San Diego Water Board may reduce or waive compensatory mitigation monitoring requirements upon a determination that performance standards have been achieved. Conversely the San Diego Water Board may extend

the monitoring period beyond five years upon a determination that the performance standards have not been met or the compensatory mitigation project is not on track to meet them. The Annual Project Progress Report must include the following compensatory mitigation monitoring information:

- a. Names, qualifications, and affiliations of the persons contributing to the report;
- b. An evaluation, interpretation, and tabulation of the parameters being monitored, including the results of the Mitigation Plan monitoring program, and all quantitative and qualitative data collected in the field;
- c. A description of the following mitigation site(s) characteristics:
  - i. Detritus cover;
  - ii. General topographic complexity;
  - iii. General upstream and downstream habitat and hydrologic connectivity; and
  - iv. Source of hydrology
- d. Monitoring data interpretations and conclusions as to how the compensatory mitigation project(s) is progressing towards meeting performance standards and whether the performance standards have been met;
- e. A description of the progress toward implementing a plan to manage the compensatory mitigation project after performance standards have been achieved to ensure the long term sustainability of the resource in perpetuity, including a discussion of long term financing mechanisms, the party responsible for long term management, and a timetable for future steps;
- f. Qualitative and quantitative comparisons of current mitigation conditions with pre-construction conditions and previous mitigation monitoring results;
- g. Stream photo documentation, including all areas of permanent and temporary impact, prior to and after mitigation site construction. Photo documentation must be conducted in accordance with guidelines posted at [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/401\\_certification/docs/401c/401PhotoDocRB9V713.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/401c/401PhotoDocRB9V713.pdf). In addition, photo documentation must include Geographic Positioning System (GPS) coordinates for each of the photo points referenced;
- h. The results of the California Rapid Assessment Method (CRAM) monitoring required under section VI.F of this Certification;
- i. The results of the Benthic Macroinvertebrate Community Analysis monitoring required under section VI.G of this Certification;

- k. A survey report documenting boundaries of the compensatory mitigation site(s).
- J. **Final Project Completion Report.** The Applicant must submit a Final Project Completion Report to the San Diego Water Board **within 30 days of completion of the Project.** The final report must include the following information:
1. Date of construction initiation;
  2. Date of construction completion;
  3. BMP installation and operational status for the Project;
  4. As-built drawings of the Project, no bigger than 11"X17";
  5. Photo documentation of implemented post-construction BMPs and all areas of permanent and temporary impacts, prior to and after project construction. Photo documentation must be conducted in accordance with guidelines posted at [http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/401\\_certification/docs/401c/401PhotoDocRB9V713.pdf](http://www.waterboards.ca.gov/sandiego/water_issues/programs/401_certification/docs/401c/401PhotoDocRB9V713.pdf). In addition, photo documentation must include Global Positioning System (GPS) coordinates for each of the photo points referenced; and
  6. An evaluation, interpretation, and tabulation of all California Rapid Assessment Method (CRAM) and benthic macroinvertebrate community assessment data collected throughout the term of Project construction in accordance with section VI.F and VI.G of this Certification.
- K. **Reporting Authority.** The submittal of information required under this Certification, or in response to a suspected violation of any condition of this Certification, is required pursuant to Water Code section 13267 and 13383. Civil liability may be administratively imposed by the San Diego Water Board for failure to submit information pursuant to Water Code sections 13268 or 13385.
- L. **Electronic Document Submittal.** The Applicant must submit all reports and information required under this Certification in electronic format via e-mail to [SanDiego@waterboards.ca.gov](mailto:SanDiego@waterboards.ca.gov). Documents over 50 megabytes will not be accepted via e-mail and must be placed on a disc and delivered to:

California Regional Water Quality Control Board  
San Diego Region  
Attn: 401 Certification No. R9-2014-0080:807683:amonji  
2375 Northside Drive, Suite 100  
San Diego, California 92108

Each electronic document must be submitted as a single file, in Portable Document Format (PDF), and converted to text searchable format using Optical Character

Recognition (OCR). All electronic documents must include scanned copies of all signature pages; electronic signatures will not be accepted. Electronic documents submitted to the San Diego Water Board must include the following identification numbers in the header or subject line: Certification No. R9-2014-0080:807683:amoni.

**M. Document Signatory Requirements.** All applications, reports, or information submitted to the San Diego Water Board must be signed as follows:

1. For a corporation, by a responsible corporate officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or proprietor, respectively.
3. For a municipality, or a state, federal, or other public agency, by either a principal executive officer or ranking elected official.
4. A duly authorized representative may sign applications, reports, or information if:
  - a. The authorization is made in writing by a person described above.
  - b. The authorization specifies either an individual or position having responsibility for the overall operation of the regulated activity.
  - c. The written authorization is submitted to the San Diego Water Board Executive Officer.

If such authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the Project, a new authorization satisfying the above requirements must be submitted to the San Diego Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative.

**N. Document Certification Requirements.** All applications, reports, or information submitted to the San Diego Water Board must be certified as follows:

*"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."*

## **VII. NOTIFICATION REQUIREMENTS**

**A. Twenty Four Hour Non-Compliance Reporting.** The Applicant shall report any noncompliance which may endanger health or the environment. Any such information

## VII. NOTIFICATION REQUIREMENTS

- A. **Twenty Four Hour Non-Compliance Reporting.** The Applicant shall report any noncompliance which may endanger health or the environment. Any such information shall be provided orally to the San Diego Water Board within **24 hours** from the time the Applicant becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Applicant becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected; the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The San Diego Water Board, or an authorized representative, may waive the written report on a case-by-case basis if the oral report has been received within 24 hours.
- B. **Hazardous Substance Discharge.** Except as provided in Water Code section 13271(b), any person who, without regard to intent or negligence, causes or permits any hazardous substance or sewage to be discharged in or on any waters of the State, shall as soon as (a) that person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the County of San Diego, in accordance with California Health and Safety Code section 5411.5 and the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State toxic disaster contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.17), and immediately notify the State Water Board or the San Diego Water Board of the discharge. This provision does not require reporting of any discharge of less than a reportable quantity as provided for under subdivisions (f) and (g) of section 13271 of the Water Code unless the Applicant is in violation of a Basin Plan prohibition.
- C. **Oil or Petroleum Product Discharge.** Except as provided in Water Code section 13272(b), any person who without regard to intent or negligence, causes or permits any oil or petroleum product to be discharged in or on any waters of the State, or discharged or deposited where it is, or probably will be, discharged in or on any waters of the State, shall, as soon as (a) such person has knowledge of the discharge, (b) notification is possible, and (c) notification can be provided without substantially impeding cleanup or other emergency measures, immediately notify the California Office of Emergency Services of the discharge in accordance with the spill reporting provision of the State oil spill contingency plan adopted pursuant to Government Code Title 2, Division 1, Chapter 7, Article 3.7 (commencing with section 8574.1). This requirement does not require reporting of any discharge of less than 42 gallons unless the discharge is also required to be reported pursuant to Clean Water Act section 311, or the discharge is in violation of a Basin Plan prohibition.
- D. **Anticipated Noncompliance.** The Applicant shall give advance notice to the San Diego Water Board of any planned changes in the Project or the Compensatory Mitigation project which may result in noncompliance with Certification conditions or requirements.

- E. **Commencement of Construction Notification.** The Applicant must notify the San Diego Water Board in writing **at least 5 days prior** to the start of initial Project construction ground disturbance
- F. **Transfers.** This Certification is not transferable in its entirety or in part to any person or organization except after notice to the San Diego Water Board in accordance with the following terms:
1. **Transfer of Property Ownership:** The Applicant must notify the San Diego Water Board of any change in ownership of the Project area. Notification of change in ownership must include, but not be limited to, a statement that the Applicant has provided the purchaser with a copy of the Section 401 Water Quality Certification and that the purchaser understands and accepts the certification requirements and the obligation to implement them or be subject to liability for failure to do so; the seller and purchaser must sign and date the notification and provide such notification to the San Diego Water Board **within 10 days of the transfer of ownership.**
  2. **Transfer of Mitigation Responsibility:** Any notification of transfer of responsibilities to satisfy the mitigation requirements set forth in this Certification must include a signed statement from an authorized representative of the new party (transferee) demonstrating acceptance and understanding of the responsibility to comply with and fully satisfy the mitigation conditions and agreement that failure to comply with the mitigation conditions and associated requirements may subject the transferee to enforcement by the San Diego Water Board under Water Code section 13385, subdivision (a). Notification of transfer of responsibilities meeting the above conditions must be provided to the San Diego Water Board **within 10 days of the transfer date.**
  3. **Transfer of Post-Construction BMP Maintenance Responsibility:** The Applicant assumes responsibility for the inspection and maintenance of all post-construction structural BMPs until such responsibility is legally transferred to another entity. At the time maintenance responsibility for post-construction BMPs is legally transferred the Applicant must submit to the San Diego Water Board a copy of such documentation and must provide the transferee with a copy of a long-term BMP maintenance plan that complies with manufacturer specifications. The Applicant must provide such notification to the San Diego Water Board within **10 days** of the transfer of BMP maintenance responsibility.

Upon properly noticed transfers of responsibility, the transferee assumes responsibility for compliance with this Certification and references in this Certification to the Applicant will be interpreted to refer to the transferee as appropriate. Transfer of responsibility does not necessarily relieve the Applicant of responsibility for compliance with this Certification in the event that a transferee fails to comply.

## VIII. CALIFORNIA ENVIRONMENTAL QUALITY ACT COMPLIANCE

- A. The City of Carlsbad is the Lead Agency under the California Environmental Quality Act (CEQA) (Public Resources Code section 21000, et seq.) section 21067, and CEQA

Guidelines (California Code of Regulations, title 14, section 15000 et seq.) section 15367, for the Final Environmental Impact Report (EIR) titled Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4, and Detention Basins (State Clearing House Number 99111082). The Lead Agency has determined the Project will have a significant effect on the environment and mitigation measures were made a condition of the Project.

- B. The San Diego Water Board is a Responsible Agency under CEQA (Public Resources Code section 21069; CEQA Guidelines section 15381). The San Diego Water Board has considered the Lead Agency's EIR and finds that the Project as proposed will have a significant effect on resources within the San Diego Water Board's purview.
- C. The San Diego Water Board has required mitigation measures as a condition of this Certification to avoid or reduce the environmental effects of the Project to resources within the Board's purview to a less than significant level.
- D. The Lead Agency has adopted a mitigation monitoring and reporting program pursuant to Public Resources Code section 21081.6 and CEQA Guidelines section 15097 to ensure that mitigation measures and revisions to the Project identified in the FEIR are implemented. The Mitigation Monitoring and Reporting Program (MMRP) is included and incorporated by reference in Attachment 5 to this Certification. The Applicant shall implement the Lead Agency's MMRP described in the MND, as it pertains to resources within the San Diego Water Board's purview. The San Diego Water Board has imposed additional MMRP requirements as specified in sections V and VI of this Certification.
- E. As a Responsible Agency under CEQA, the San Diego Water Board will file a Notice of Determination in accordance with CEQA Guidelines section 15096 subdivision (i).

**IX. SAN DIEGO WATER BOARD CONTACT PERSON**

Alan Monji, Environmental Scientist  
Telephone: 619-521-3968  
Email: [Alan.Monji@waterboards.ca.gov](mailto:Alan.Monji@waterboards.ca.gov)

## X. WATER QUALITY CERTIFICATION

I hereby certify that the proposed discharge from the **College Boulevard Reach A and Detention Basin BJ** (Certification No. R9-2014-0080) will comply with the applicable provisions of sections 301 ("Effluent Limitations"), 302 ("Water Quality Related Effluent Limitations"), 303 ("Water Quality Standards and Implementation Plans"), 306 ("National Standards of Performance"), and 307 ("Toxic and Pretreatment Effluent Standards") of the Clean Water Act. This discharge is also regulated under State Water Board Order No. 2003-0017-DWQ, "*Statewide General Waste Discharge Requirements for Dredged or Fill Discharges that have Received State Water Quality Certification (General WDRs)*," which requires compliance with all conditions of this Water Quality Certification. Please note that enrollment under Order No. 2003-017-DWQ is conditional and, should new information come to our attention that indicates a water quality problem, the San Diego Water Board may issue individual waste discharge requirements at that time.

Except insofar as may be modified by any preceding conditions, all Certification actions are contingent on (a) the discharge being limited to, and all proposed mitigation being completed in strict compliance with, the applicants' Project description and/or the description in this Certification, and (b) compliance with all applicable requirements of the Basin Plan.

I, David W. Gibson, Executive Officer, do hereby certify the forgoing is a full, true, and correct copy of Certification No. R9-2014-0080 issued on January 27, 2017.

  
\_\_\_\_\_  
DAVID W. GIBSON  
Executive Officer  
San Diego Water Board

27 January 2017  
Date



# ATTACHMENT 1

## DEFINITIONS

**Activity** - when used in reference to a permit means any action, undertaking, or project including, but not limited to, construction, operation, maintenance, repair, modification, and restoration which may result in any discharge to waters of the state.

**Buffer** - means an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, streams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.

**California Rapid Assessment Method (CRAM)** - is a wetland assessment method intended to provide a rapid, scientifically-defensible and repeatable assessment methodology to monitor status and trends in the conditions of wetlands for applications throughout the state. It can also be used to assess the performance of compensatory mitigation projects and restoration projects. CRAM provides an assessment of overall ecological condition in terms of four attributes: landscape context and buffer, hydrology, physical structure and biotic structure. CRAM also includes an assessment of key stressors that may be affecting wetland condition and a "field to PC" data management tool (eCRAM) to ensure consistency and quality of data produced with the method.

**Compensatory Mitigation Project** - means compensatory mitigation implemented by the Applicant as a requirement of this Certification (i.e., applicant -responsible mitigation), or by a mitigation bank or an in-lieu fee program.

**Discharge of dredged material** – means any addition of dredged material into, including redeposit of dredged material other than incidental fallback within, the waters of the United States and/or State.

**Discharge of fill material** – means the addition of fill material into waters of the United States and/or State.

**Dredged material** – means material that is excavated or dredged from waters of the United States and/or State.

**Ecological Success Performance Standards** – means observable or measurable physical (including hydrological), chemical, and/or biological attributes that are used to determine if a compensatory mitigation project meets its objectives.

**Enhancement** – means the manipulation of the physical, chemical, or biological characteristics of an aquatic resource to improve a specific aquatic resource function(s). Enhancement results in the gain of selected aquatic resource function(s), but may also lead to a decline in other aquatic resource function(s). Enhancement does not result in a gain in aquatic resource area.

**Establishment** – means the manipulation of the physical, chemical, or biological characteristics present to develop an aquatic resource that did not previously exist. Creation results in a gain in aquatic resource area.

**Fill material** – means any material used for the primary purpose of replacing an aquatic area with dry land or of changing the bottom elevation of a water body.

**Isolated wetland** – means a wetland with no surface water connection to other aquatic resources.

**Mitigation Bank** – means a site, or suite of sites, where resources (e.g., wetlands, streams, riparian areas) are restored, established, enhanced, and/or preserved for the purpose of providing mitigation for impacts authorized by this Certification.

**Preservation** - means the removal of a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources. This term includes activities commonly associated with the protection and maintenance of aquatic resources through the implementation of appropriate legal and physical mechanisms. Preservation does not result in a gain of aquatic resource area or functions.

**Re-establishment** - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/ historic functions to a former aquatic resource. Re-establishment results in rebuilding a former aquatic resource and results in a gain in aquatic resource area and functions.

**Rehabilitation** - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of repairing natural/ historic functions to a degraded aquatic resource. Rehabilitation results in a gain in aquatic resource function, but does not result in a gain in aquatic resource area.

**Restoration** - means the manipulation of the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories: re-establishment and rehabilitation.

**Start of Project Construction** - For the purpose of this Certification, "start of Project construction" means to engage in a program of on-site construction, including site clearing, grading, dredging, landfilling, changing equipment, substituting equipment, or even moving the location of equipment specifically designed for a stationary source in preparation for the fabrication, erection or installation of the building components of the stationary source within waters of the United States and/or State.

**Uplands** - means non-wetland areas that lack any field-based indicators of wetlands or other aquatic conditions. Uplands are generally well-drained and occur above (i.e., up-slope) from nearby aquatic areas. Wetlands can, however, be entirely surrounded by uplands. For example, some natural seeps and constructed stock ponds lack aboveground hydrological connection to other aquatic areas. In the watershed context, uplands comprise the landscape matrix in which aquatic areas form. They are the primary sources of sediment, surface runoff, and associated chemicals that are deposited in aquatic areas or transported through them.

**Water quality objectives and other appropriate requirements of state law** – means the water quality objectives and beneficial uses as specified in the appropriate water quality control plan(s); the applicable provisions of sections 301, 302, 303, 306, and 307 of the Clean Water Act; and any other appropriate requirement of state law.

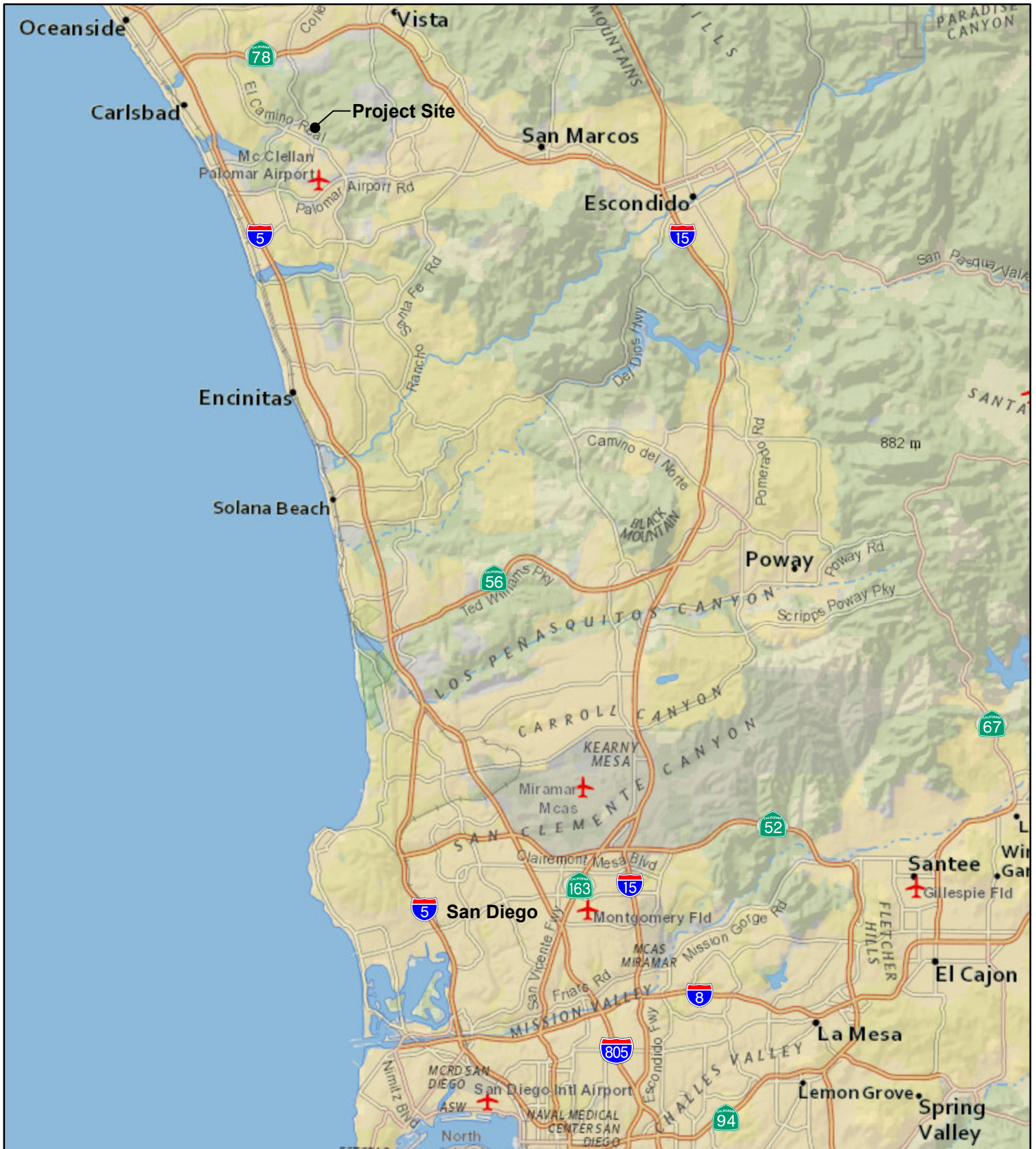
**Waters of the State** - means any surface water or groundwater, including saline waters, within the boundaries of the State. [Water Code section 13050, subd. (e)].



## **ATTACHMENT 2**

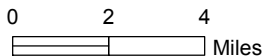
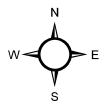
### **LOCATION MAPS AND FIGURES**

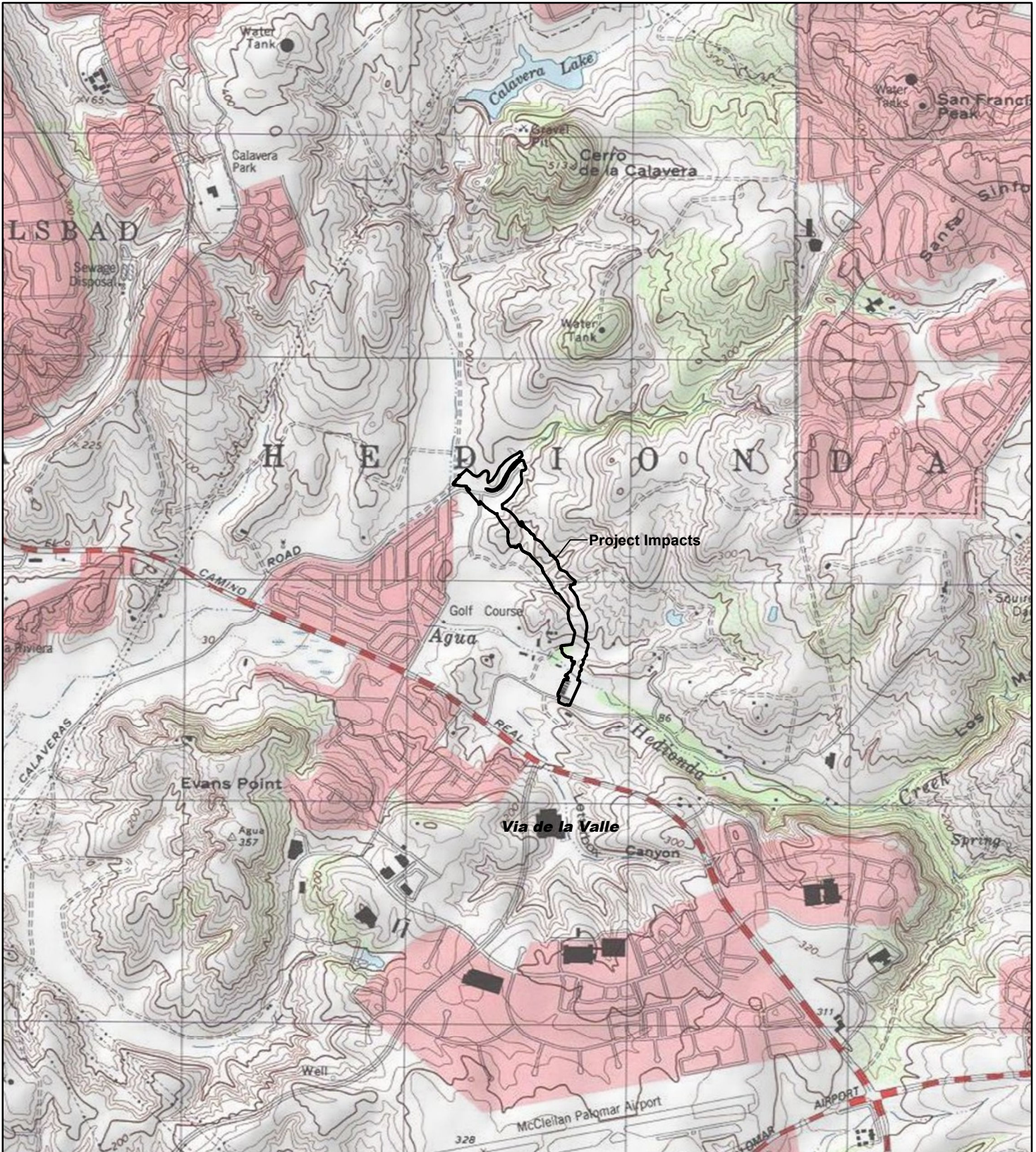
1. Alden Environmental, Inc., Regional Location College Boulevard Reach A and Detention Basin BJ Project
2. Alden Environmental, Inc., Project Location College Boulevard Reach A and Detention Basin BJ Project



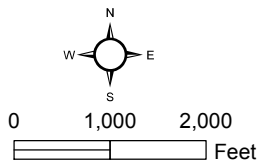
## Regional Location

COLLEGE BOULEVARD REACH A  
AND DETENTION BASIN BJ PROJECT





Source: USGS Quads (San Luis Rey) Copyright:© 2013  
National Geographic Society, i-cubed



**ALDEN**  
ENVIRONMENTAL, INC

### Project Location

COLLEGE BOULEVARD REACH A  
AND DETENTION BASIN BJ PROJECT

### **ATTACHMENT 3**

#### **PROJECT FIGURES**

1. Alden Environmental, Inc., 2014 Updated Corps Jurisdictional Features, College Boulevard Reach A and Detention Basin BJ Project.
2. Hunsaker and Associates, Improvement and Grading Plans for College Boulevard, Sheets 1-30.





⬭ Project Impacts  
 Cross Sections  
A Drainage ID  
 Photo Locations  
~ Non-wetland Waters of the U.S.  
**Wetlands**  
● Arundo  
● Freshwater Marsh  
● Southern Coast Live Oak Riparian Forest  
● Southern Willow Scrub  
● Sycamore Woodland

Source: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

  
 0      150      300  
 Feet  
 1:3600



**2014 Updated  
 Corps Jurisdictional Features**  
 COLLEGE BOULEVARD REACH A  
 AND DETENTION BASIN BJ PROJECT

GENERAL NOTES

- 1. THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING IMPROVEMENTS SHOWN ON THIS SET OF PLANS.
2. APPROVAL OF THIS PLAN DOES NOT LESSEN OR WAIVE ANY PORTION OF THE CARLSBAD MUNICIPAL CODE, RESOLUTION OF CONDITIONAL APPROVAL, CITY STANDARDS OR OTHER ADDITIONAL DOCUMENTS LISTED HEREON AS THEY MAY PERTAIN TO THIS PROJECT. THE ENGINEER IN THE PERMITS CHARGE SHALL REVISE THESE PLANS WHEN NON-COMFORMANCE IS DISCOVERED.
3. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER OR ENGINEER-OF-WORK FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
4. A RIGHT-OF-WAY PERMIT FROM THE CITY ENGINEER WILL BE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY PRIOR TO PERMIT ISSUANCE. A CERTIFICATE OF INSURANCE MUST BE FILED NAMING THE CITY OF CARLSBAD AS AN ADDITIONAL INSURED ON THE PERMITTEE'S POLICY IN THE MINIMUM AMOUNT OF \$1,000,000.00 FOR EACH OCCURRENCE OF LIABILITY. THE INSURANCE COMPANY WRITING THE POLICY MUST HAVE A RATING OF "A-" OR BETTER AND A SIZE CATEGORY OF CLASS V OR BETTER AS ESTABLISHED BY "BEST'S" KEY RATING GUIDE.
5. NO WORK SHALL BE COMMENCED UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
6. REVISION OF THESE PLANS MAY BE REQUIRED IF THE PROPOSED IMPROVEMENTS ARE NOT CONSTRUCTED PRIOR TO THE DEADLINE DATE OF THE IMPROVEMENT AGREEMENT.
7. NO REVISIONS WILL BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE CITY ENGINEER, NOTED WITHIN THE REVISION BLOCK, ON THE APPROPRIATE SHEET OF THE PLANS AND TITLE SHEET.
8. ORIGINAL DRAWINGS SHALL BECOME THE PROPERTY OF THE CITY UPON BEING SIGNED BY THE CITY ENGINEER.
9. THE ORIGINAL DRAWING SHALL BE REVISED TO REFLECT AS-BUILT CONDITIONS BY THE ENGINEER-OF-WORK PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
10. ACCESS FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED TO THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
11. WHERE TRENCHES ARE WITHIN CITY EASEMENTS, A SOILS REPORT COMPRISED OF: (A) SUMMARY SHEET, (B) LABORATORY WORK SHEETS AND (C) COMPACTION CURVES, SHALL BE SUBMITTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. THE SOILS REPORT WILL BE SUBMITTED TO THE CITY ENGINEERING INSPECTOR WITHIN TWO WORKING DAYS OF COMPLETION OF FIELD TESTS. THE WRITTEN FIELD COMPACTION REPORT(S) SHALL BE IMMEDIATELY SUBMITTED TO THE CITY ENGINEERING INSPECTOR UPON COMPLETION OF THE FIELD TESTS.
12. A PRECONSTRUCTION MEETING SHALL BE HELD AT THE SITE PRIOR TO THE BEGINNING OF WORK AND SHALL BE ATTENDED BY ALL REPRESENTATIVES RESPONSIBLE FOR CONSTRUCTION, INSPECTION, SUPERVISION, TESTING AND ALL OTHER ASPECTS OF THE WORK. THE SCHEDULE FOR THE MEETING BY CALLING (760) 438-3891 AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING CONSTRUCTION. APPROVED DRAWINGS MUST BE AVAILABLE PRIOR TO SCHEDULING.
13. ALL INSPECTION REQUESTS OTHER THAN FOR PRECONSTRUCTION MEETING WILL BE MADE BY CALLING THE ENGINEERING 24-HOUR INSPECTION REQUEST LINE AT (760) 438-3891. INSPECTION REQUESTS MUST BE RECEIVED PRIOR TO 2:00 P.M. ON THE DAY BEFORE THE INSPECTION IS NEEDED. INSPECTIONS WILL BE MADE THE NEXT WORK DAY UNLESS YOU REQUEST OTHERWISE. REQUESTS MADE AFTER 2:00 P.M. WILL BE SCHEDULED FOR TWO FULL WORK DAYS LATER.
14. THE OWNER AND/OR APPLICANT THROUGH THE DEVELOPER AND/OR CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
15. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING SLOPING OR OTHER PROVISIONS TO BE MADE OF WORKER PROTECTION FROM THE HAZARD OF CAVING DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8 CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER AT THE CONTRACTORS EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
16. IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK ZONE DURING CONSTRUCTION, OPERATIONS WILL CEASE IMMEDIATELY, AND THE PERMITTEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITTEE HAS RECEIVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
17. ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO, INCLUDING WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR OPERATION OF TRUCKS, EARTHMOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND SUNSET EACH DAY, MONDAY THROUGH FRIDAY. NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON WEEKENDS OR HOLIDAYS. (A LIST OF CITY HOLIDAYS IS AVAILABLE AT THE ENGINEERING DEPARTMENT COUNTER.)
18. ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTE OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
19. NO BLASTING SHALL BE COMMENCED WITHOUT A CITY ENGINEER APPROVED BLASTING PROGRAM AND BLASTING PERMIT.
20. THE EXISTENCE AND LOCATION OF UTILITY STRUCTURES AND FACILITIES SHOWN ON THE CONSTRUCTION PLANS WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. ATTENTION IS CALLED TO THE POSSIBLE EXISTENCE OF OTHER UTILITY FACILITIES OR STRUCTURES NOT SHOWN OR IN A LOCATION DIFFERENT FROM THAT SHOWN ON THE PLANS. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN ON THE PLANS AND ANY OTHER EXISTING FACILITIES OR STRUCTURES NOT SHOWN.
21. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVEGROUND AND UNDERGROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF THE CONSTRUCTION TO PERMIT THE REVISIONS OF THE CONSTRUCTION PLANS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED WORK.
22. THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST TWO FULL WORKING DAYS PRIOR TO STARTING CONSTRUCTION NEAR THEIR FACILITIES AND SHALL COORDINATE WORK WITH A COMPANY REPRESENTATIVE.
23. IN ACCORDANCE WITH THE CITY SUSMP ALL STORM DRAIN INLETS CONSTRUCTED BY THIS PLAN SHALL INCLUDE "STENCILS" BE ADDED TO PROHIBIT WASTE DISCHARGE DOWNSTREAM. STENCILS SHALL ADDED TO THE SATISFACTION OF THIS CITY ENGINEER.

STREET NOTES

- 1. ACTUAL STRUCTURAL SECTIONS WILL BE DETERMINED AFTER "R" VALUE TESTS HAVE BEEN CONDUCTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOIL MECHANICS. ON THE PREPARED BASEMENT SOIL THE "R" VALUE TESTS AND THE ENGINEERED STRUCTURAL SECTION MUST BE SUBMITTED TO THE ENGINEERING INSPECTOR FOR REVIEW AND APPROVAL A MINIMUM OF TWO (2) CITY WORKING DAYS BEFORE THE WORK BEGINS.
2. STREET LIGHTS SHALL BE INSTALLED AS SHOWN ON THESE PLANS. UNDERGROUND CONDUIT RUNS, SERVICE POINTS AND HAND-HOLES SHALL BE SHOWN ON THE "AS-BUILT" PLANS. NO DIRECT BURIAL STREET LIGHT FOUNDATIONS WILL BE ALLOWED. ALL LUMINAIRES SHALL BE "CUT OFF" TYPE.
3. ALL UNDERGROUND UTILITIES AND LATERALS SHALL BE INSTALLED PRIOR TO CONSTRUCTION OF CURBS, CROSS GUTTERS OR SURFACING OF STREETS.
4. PUBLIC STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE WITH A MINIMUM D-LOAD OF 1,350. FOR PRIVATE STORM DRAIN PIPES, UP TO 15" PVC MAY BE UTILIZED PROVIDED DEPTH IS LESS THAN 15 FEET AND BACKFILLED WITH 3/4" ROCK PER SDRSD S-4 TYPE "C" AND PIPE MEETS ASTM STANDARD 3034 FOR SDR 35 SOLID WALL PIPE.
5. WHERE AN EXISTING PIPE LINE IS TO BE ABANDONED IT SHALL BE REMOVED WITHIN TWENTY FEET OF BUILDING OR STREET AREAS AND REPLACED WITH PROPERLY COMPACTED SOILS. IN OTHER AREAS THE PIPE WILL BE PLUGGED WITH CONCRETE OR REMOVED AS APPROVED BY THE CITY ENGINEER.
6. WHEELCHAIR RAMPS SHALL BE INSTALLED PER REQUIREMENTS OF TITLE 24, CALIFORNIA ADMINISTRATIVE CODE.
7. STREET TREES SHALL BE INSTALLED PER THE CITY OF CARLSBAD LANDSCAPE MANUAL.
8. FIRE HYDRANT MARKERS SHALL BE PLACED IN THE STREET WITHIN THE LIMITS OF WORK OF THIS PLAN PER SDRS DWG M19.
9. ALL SURVEY MONUMENTS AND POINTS THAT ARE DISTURBED BY THIS WORK SHALL BE RE-ESTABLISHED, PERPETUATED, AND DOCUMENTED PER THE PROFESSIONAL LAND SURVEYORS ACT.
10. TWO (2) SETS OF SURVEY (CUT) SHEETS SHALL BE PROVIDED TO THE CITY ENGINEERING INSPECTOR.
11. IN ACCORDANCE WITH THE CITY STORM WATER STANDARDS, ALL STORM DRAIN INLETS SHALL BE "STENCILED" TO PROHIBIT ILLICIT DISCHARGES DOWNSTREAM. STENCILS SHALL BE PROVIDED TO THE SATISFACTION OF THE CITY ENGINEER.

SEWER NOTES

- 1. SEWER MAIN AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF CARLSBAD ENGINEERING STANDARDS (LATEST EDITION), VOLUME 1 - GENERAL DESIGN STANDARDS, CHAPTER 6-DESIGN CRITERIA FOR GRAVITY SEWER LINES AND APPURTENANCES, AND VOLUME 3 - STANDARD DRAWINGS AND NOTES AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION (GREEN BOOK).
2. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE DIVISION OF INDUSTRIAL SAFETY BEFORE ANY EXCAVATION AND SHALL ADHERE TO ALL PROVISIONS OF THE STATE CONSTRUCTION SAFETY ORDERS.
3. BEFORE ANY CONNECTION TO THE DISTRICT'S EXISTING SYSTEM, A PERMIT SHALL BE OBTAINED FROM THE DISTRICT. IT MUST BE SIGNED AND APPROVED BY THE DISTRICT'S ENGINEER AND SUPERINTENDENT.
4. BEFORE CONSTRUCTION BEGINS IN ANY PUBLIC RIGHT OF WAY, A CITY RIGHT OF WAY PERMIT SHALL BE REQUIRED.
5. THE CONTRACTOR SHALL NOTIFY THE CITY OF CARLSBAD ENGINEERING INSPECTION 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION. (TELEPHONE NO. [760] 438-3891)

WATER NOTES

- 1. WATER & RECYCLED WATER MAIN AND APPURTENANCES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE "CITY OF CARLSBAD ENGINEERING STANDARDS" (LATEST EDITION) VOLUMES 2 & 3.
2. THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM THE DIVISION OF INDUSTRIAL SAFETY BEFORE ANY EXCAVATION AND SHALL PROVIDE PROOF OF OSHA NOTIFICATION AND SHALL ADHERE TO ALL PROVISIONS OF THE STATE CONSTRUCTION SAFETY ORDERS.
3. BEFORE ANY CONNECTION OR SHUT DOWN OF VALVES ON EXISTING C.M.W.D. LINES, A PERMIT SHALL BE OBTAINED FROM THE C.M.W.D. OFFICE AND MUST BE SIGNED AND APPROVED BY THE CITY OF CARLSBAD'S DEPUTY CITY ENGINEER AND THE UTILITY OPERATIONS' PUBLIC WORKS MANAGER.
4. A PRECONSTRUCTION CONFERENCE MEETING SHALL BE HELD A MINIMUM OF 7 DAYS BEFORE CONSTRUCTION BEGINS. THE CONTRACTOR SHALL NOTIFY THE CITY OF CARLSBAD ENGINEERING INSPECTION 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION. TELEPHONE NO. (760) 438-3891 FOR SCHEDULING.
5. THE CONTRACTOR SHALL NOTIFY THE CITY OF CARLSBAD ENGINEERING INSPECTION DEPARTMENT 48 HOURS PRIOR TO STARTING WORK SO THAT INSPECTION MAY BE PROVIDED - TELEPHONE NO. (760)438-3891.
6. NO TREES OR STRUCTURES SHALL BE ALLOWED IN THE WATER LINE EASEMENT. ALL EXISTING TREES AND STRUCTURES SHALL BE REMOVED PRIOR TO COMMENCEMENT OF WORK - ANY EXCEPTIONS SHALL REQUIRE WRITTEN PERMISSION FROM THE DISTRICT ENGINEER.
7. ALL BURIED COPPER PIPING AND APPURTENANCES SHALL BE PROTECTED BY MEANS OF CATHODIC PROTECTION. IF DEVELOPER/OWNER CONDUCTS A SOILS TEST REPORT AND DEMONSTRATES THAT PROTECTION CAN BE PERFORMED IN ANOTHER MANNER, THE DISTRICT ENGINEER WILL CONSIDER AN ALTERNATIVE FORM OF PROTECTION.
8. THE EXACT HORIZONTAL AND VERTICAL ALIGNMENT AND TYPE OF MATERIALS OF THE FIRE LINE LOCATED BETWEEN THE DETECTOR CHECK VALVE AND BUILDING SHALL BE DETERMINED BY THE CITY OF CARLSBAD FIRE MARSHAL.
9. ALL POTABLE WATER AND RECYCLED WATER SERVICES SHALL BE 1" AND ALL METERS SHALL BE 5/8" (UNLESS OTHERWISE NOTED ON PLANS).
10. ALL WATER METER BOXES SHALL BE 17" X 30" X 12" POLYMER CONCRETE AS MANUFACTURED BY ARMORCAST OR EQUAL.
11. MINIMUM SPACING BETWEEN POTABLE WATER LATERALS AND SEWER SERVICES SHALL BE 10 FEET.
12. THE TOP OF WATER METER BOXES SHALL BE FLUSH WITH THE FINISHED SURFACE GRADE.
13. CONSTRUCTION OF WATER MAINS AND RECYCLED WATER MAINS SHALL ADHERE TO THE "CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS" PUBLISHED BY THE STATE OF CALIFORNIA'S DEPARTMENT OF HEALTH SERVICES.
14. AXIAL DEFLECTION OF THE PIPE JOINTS ARE NOT ALLOWED. THE USE OF A HIGH-DEFLECTION COUPLING AT A PIPE JOINT MAY BE PERMITTED BY THE INSPECTOR ON A CASE BY CASE BASIS NOT TO EXCEED 4 DEGREES TOTAL DEFLECTION PER COUPLING (2 DEGREES/EACH GASKET). USE CERTAINTED "VINYL-IRON" H.D. FOR CSO.
15. PRIOR TO BACKFILL, INSTALL TRACER WIRE ON TOP OF PVC PIPE AND SECURE IN PLACE WITH 2-INCH WIDE PLASTIC ADHESIVE TAPE AT MAXIMUM 10-FOOT INTERVALS. RUN TRACER WIRE CONTINUOUSLY ALONG PIPE AND TERMINATE IN ADJACENT VALVE BOXES FOR BURIED ASSEMBLIES OR BURIED VALVES. WHERE BURIED SPLICES OCCUR, USE AN ELECTRICAL SPLICE KIT CONSISTING OF A SPLIT BOLT CONNECTOR, MOLD AND A TWO PART ENCAPSULATING EPOXY RESIN SUCH AS SCOTCHCAST, OR CITY APPROVED EQUAL. PROVIDE 24 INCHES OF COILED WIRE AT ACCESS POINTS FOR ATTACHMENT OF PIPE LOCATING EQUIPMENT. EACH INSTALLED RUN OF PIPE SHALL BE CAPABLE OF BEING LOCATED USING THE TRACER WIRE. PROTECT WIRE INSULATION FROM DAMAGE DURING INSTALLATION AND BACKFILLING. USE AWG NO.8 STRANDED COPPER WIRE WITH HIGH MOLECULAR WEIGHT POLYETHYLENE (HMW/PE) INSULATION SPECIFICALLY DESIGNED FOR DIRECT BURIAL IN CORROSIVE SOIL OR WATER. POLYETHYLENE INSULATION SHALL CONFORM TO ASMT D1248, TYPE 1, CLASS C. WIRES WITH CUT OR DAMAGED INSULATION ARE NOT ACCEPTABLE AND REPLACEMENT OF THE ENTIRE WIRE WHICH HAS BEEN DAMAGED WILL BE REQUIRED AT THE CONTRACTOR'S EXPENSE.

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PROJECT LOCATION

THIS PROJECT IS LOCATED WITHIN ASSESSORS PARCEL NO. 168-050-19, 168-050-35, 168-050-36, 168-050-42, 168-050-58, 209-070-13, 209-060-65, 209-060-72, AND 209-060-58. THE CALIFORNIA COORDINATE INDEX OF THIS PROJECT IS N 1928 E 6288

LEGAL DESCRIPTION

THAT PORTION OF LOT "B" IN RANCHO AGUA HEDIONDA, IN THE CITY OF CARLSBAD, COUNTY OF SAN DIEGO, STATE OF CALIFORNIA, ACCORDING TO MAP THEREOF NO. 823 FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON NOVEMBER 16, 1896 DESCRIBED IN A GRANT DEED RECORDED JULY 9, 1962 AS FILE/PAGE NO. 116406 OF OFFICIAL RECORDS, EXCEPT THEREFROM THAT PORTION THEREOF DESCRIBED IN A GRANT DEED RECORDED NOVEMBER 19, 1965 AS FILE/PAGE NO. 210231 OF OFFICIAL RECORDS. ALSO INCLUDING PORTIONS OF LOT "D" AND "E" OF SAID MAP NO. 823, DESCRIBED IN A GRANT DEED RECORDED SEPTEMBER 7, 1995, AS DOC. #1995-00100176 OF OFFICIAL RECORDS. ALSO INCLUDING A PORTION OF LOT "B" OF SAID MAP NO. 823, DESCRIBED IN A GRANT DEED RECORDED SEPTEMBER 7, 1995, AS DOC. #1995-0398027 OF OFFICIAL RECORDS.

REFERENCE DRAWINGS

- CALAVERA HILLS IMPROVEMENTS 390-9
CALAVERA HILLS TO EL CAMINO REAL SEWER IMPROVEMENTS 92-406
CANNON RD AND COLLEGE BLVD WATER TRANSMISSION MAIN PLANS 404-7
TERRACES AT SUNNY CREEK IMPROVEMENTS 361-6
AGUA HEDIONDA TRUNK SEWER CONSTRUCTION PLANS 361-6E
CANNON ROAD 459-9C
EC SOUTH/NORTH SEWER 445-6
LANDSCAPE PLANS 456-3G

LEGEND OF ABBREVIATIONS

- AVA AIR VACUUM VALVE EVC END VERTICAL CURB
BC BEGIN CURVE FL FLOW LINE
BO BLOW OFF FS FINISHED SURFACE
BVC BEGIN VERTICAL CURVE GB GRADE BREAK
BW BOTTOM OF WALL GV GATE VALVE
C&G CURB & GUTTER HP HIGH POINT
CB CURB KNU KNUCKLE STATIONING
CC CENTER OF CUL-DE-SAC LT LEFT
CDS CUL-DE-SAC STATIONING LP LOW POINT
CF CENTER FACE MAR MANUAL AIR RELEASE ASSEMBLY
CL CENTERLINE MH MANHOLE
CTB CEMENT TREATED BASE MVC MODIFIED VERTICAL CURVE
DWB DRIVEWAY N.T.S. NOT TO SCALE
EC END CURVE PCC POINT OF COMPOUND CURVE
EOP EDGE OF PAVEMENT PCR POINT OF CURB RETURN
FW PUSH ON JOINT TW TOP OF WALL
VPI VERTICAL POINT OF INTERSECTION

SOILS ENGINEER'S CERTIFICATE

I WILLIAM D. OLSON & MICHAEL D. JENSEN, A REGISTERED (CIVIL/GEOTECHNICAL) ENGINEER OF THE STATE OF CALIFORNIA, PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS, HEREBY CERTIFY THAT A SAMPLING AND STUDY OF THE SOIL CONDITIONS PREVALENT WITHIN THIS SITE WAS MADE BY LEIGHTON & ASSOCIATES OR UNDER LEIGHTON & ASSOCIATES DIRECTION BETWEEN THE DATES OF 04-14-1999 AND 10-14-1999, UPDATED 08-07-08, BRIDGE REPORT 10-15-08, GEOTECHNICAL UPDATE LETTER DATED 12-15-14 & UPDATED FOUNDATION REPORT FOR COLLEGE BOULEVARD BRIDGE DATED 5-28-15. TWO COPIES OF THESE SOILS REPORTS COMPILED FROM THIS STUDY, WITH MY RECOMMENDATIONS HAVE BEEN SUBMITTED TO THE OFFICE OF THE CITY ENGINEER. FURTHERMORE, I HAVE REVIEWED THESE GRADING PLANS AND OPINE THAT THE RECOMMENDATIONS INCLUDED IN THE SOILS REPORTS FOR THIS PROJECT HAVE BEEN INCORPORATED IN THE GRADING PLANS AND SPECIFICATIONS.

SIGNED: WILLIAM D. OLSEN DATE:
RCE 45283 EXP. 9/30/16

SIGNED: MICHAEL D. JENSEN DATE:
CEG 2457 EXP. 7/31/16

LEAD DEVELOPER CERTIFICATE

I (WE) HEREBY CERTIFY THAT A REGISTERED SOILS ENGINEER OR GEOLOGIST HAS BEEN OR WILL BE RETAINED TO SUPERVISE OVER-ALL GRADING ACTIVITY AND ADVISE ON THE COMPACTION AND STABILITY IF THIS SITE. IF THIS PROJECT/DEVELOPMENT IS SUBJECT TO A STATE-REGULATED SWPPP, I (WE) ALSO AGREE A QUALIFIED SWPPP PRACTITIONER (QSP) HAS BEEN OR WILL BE RETAINED TO SUPERVISE IMPLEMENTATION OF THE SWPPP IN ACCORDANCE WITH THE CALIFORNIA CONSTRUCTION ORDER AND MUNICIPAL PERMIT, LATEST VERSION.

DENNIS O'BRIEN MANAGING MEMBER DATE
CANTARINI, LLC 5796 ARMADA DRIVE, SUITE 300
(760) 602-5850 CARLSBAD, CA 92008

"DECLARATION OF RESPONSIBLE CHARGE"

I HEREBY DECLARE THAT I AM THE ENGINEER OF WORK FOR THIS PROJECT, THAT I HAVE EXERCISED RESPONSIBLE CHARGE OVER THE DESIGN OF THE PROJECT AS DEFINED IN SECTION 6703 OF THE BUSINESS AND PROFESSIONS CODE, AND THAT THE DESIGN IS CONSISTENT WITH CURRENT STANDARDS.

I UNDERSTAND THAT THE CHECK OF PROJECT DRAWINGS AND SPECIFICATIONS BY THE CITY OF CARLSBAD DOES NOT RELIEVE ME, AS ENGINEER OF WORK, OF MY RESPONSIBILITIES FOR PROJECT DESIGN.

BY: FIRM: HUNSAKER & ASSOCIATES
ADDRESS: 9707 WAPLES STREET
CITY, ST.: SAN DIEGO, CA
TELEPHONE: (658) 558-4500



RAYMOND L. MARTIN DATE:
RCE 48670 EXP. 6/30/16

BENCH MARK DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)
LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE
RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 172771
ELEVATION: 246.43 NGVD 1929

IMPORTANT NOTICE

SECTION 4216/4217 OF THE GOVERNMENT CODE REQUIRES A DIGALERT IDENTIFICATION NUMBER BE ISSUED BEFORE A PERMIT TO EXCAVATE WILL BE VALID. FOR YOUR DIGALERT I.D. NUMBER CALL UNDERGROUND SERVICE ALERT AT: TOLL FREE 1-800-422-4133 TWO WORKING DAYS BEFORE YOU DIG

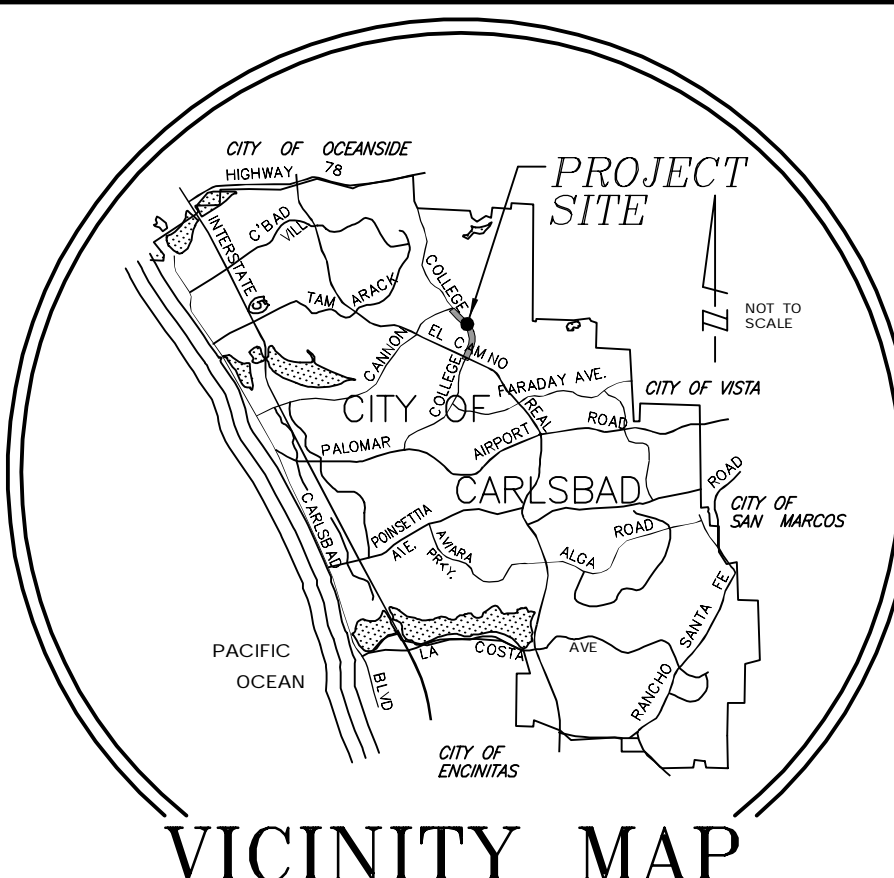
SOURCE OF TOPOGRAPHY

TOPOGRAPHY SHOWN ON THESE PLANS BY PHOTO GEODETIC CORPORATION USING PHOTOGRAPHY METHOD ON OCTOBER 27, 2005

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS THE CALIFORNIA COORDINATE SYSTEM - 1983, ZONE VI, 1991.35 EPOCH, NORTH AMERICAN DATUM OF 1983 (NAD83). GRID BEARINGS BETWEEN STATION 108 AND STATION 105 AS SAID COORDINATES ARE PUBLISHED IN THE CITY OF CARLSBAD SURVEY CONTROL NETWORK ESTABLISHED BY RECORD OF SURVEY MAP NO. 17271, FILED IN THE OFFICE OF THE SAN DIEGO COUNTY RECORDER ON FEBRUARY 8, 2002. IE: N68°14'31"W AS SHOWN HEREON

Table with columns for CARLSBAD MUNICIPAL WATER DIST., CARLSBAD FIRE DEPARTMENT, and REVISIONS. Includes fields for REQUIREMENTS, BLDG. SPRINKLED, DATE, and INITIAL.



WORK TO BE DONE

- THE IMPROVEMENT WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS, CURRENT AT THE TIME OF CONSTRUCTION, AS DIRECTED BY THE CITY ENGINEER.
1. CARLSBAD MUNICIPAL CODE.
2. CITY OF CARLSBAD ENGINEERING STANDARDS.
3. THIS SET OF PLANS.
4. RES. NO. 5112 DATED JANUARY 2, 2002; 5749, 5753-5756; DATED OCTOBER 20, 2004; & RES. NO. 6330-6333 DATED SEPT. 19, 2007; RES. NO. 6825, 6829, 6833 & 6834 DATED OCTOBER 19, 2011., MS 09-04 DECISION LETTER DATED MARCH 27, 2012 & RES. NO. 7102, 7104, 7105, DATED JUNE 3, 2015.
5. THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREEN BOOK).
6. SOILS REPORT AND RECOMMENDATIONS BY LEIGHTON & ASSOCIATES DATED 05/03/04 & UPDATE LETTERS DATED NOV 7, 2008, DEC 15, 2014 & BRIDGE REPORT DATED 10/15/08, AND UPDATED APR 8, 2015.
7. THE SAN DIEGO AREA REGIONAL STANDARD DRAWINGS AND AS MAY BE MODIFIED BY THE CITY OF CARLSBAD ENGINEERING STANDARDS.
8. FINAL PROGRAM EIR'S 02-02, 98-02 & 09-01 AND THE ASSOC. MITIGATION MONITORING & REPORTING PROGRAMS
9. STORM WATER POLLUTION PREVENTION PLAN SW14-445. PREPARED BY: HUNSAKER & ASSOCIATES, DATED MARCH 26, 2014. WQID NO. ...
10. STORM WATER MANAGEMENT PLAN (SWMP 13-22). PREPARED BY: HUNSAKER & ASSOCIATES, DATED OCTOBER 5, 2015
11. CALIFORNIA STORM WATER QUALITY ASSOCIATION, STORM WATER BEST MANAGEMENT PRACTICE CONSTRUCTION HANDBOOK AND STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION, CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP) MANUAL.
12. CALTRANS STANDARD DRAWINGS

LEGEND table with columns: STD. DWG., SYMBOL, BOND QUANTITY. Lists items like SUBDIVISION BOUNDARY, PROPERTY LINE, EASEMENT LINE, A.C. PAVING/BASE, GRIND AND OVERLAY, MEDIAN PAVING, TRENCH RESURFACING, etc.

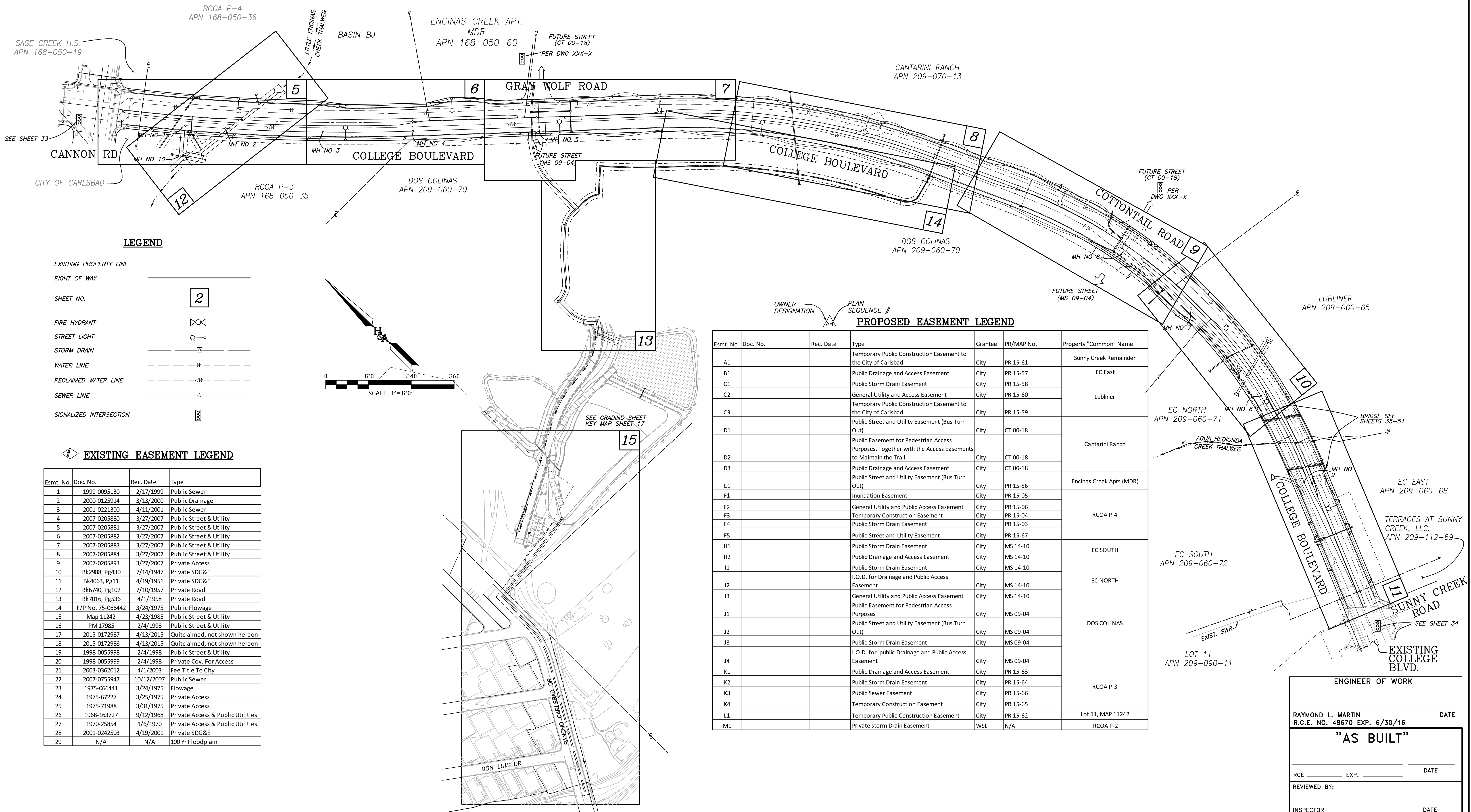
POST-CONSTRUCTION BMP TABLE

Table with columns: STORM WATER REQUIREMENTS THAT APPLY, EXEMPT FROM HYDROMODIFICATION, BIORETENTION FACILITY, WATER QUALITY, HYDROMOD, SUSMP PROJECT PRIORITY.

\* CITY OF CARLSBAD/CMWD STANDARD DRAWING
\*\* COUNTY OF SAN DIEGO REGIONAL STANDARD DRAWING
\*\*\* AS MODIFIED BY THE CITY OF CARLSBAD STANDARDS
\*\*\*\* FOR METER SIZE/ SPECS REFER TO IRRIGATION SHEETS 54-59

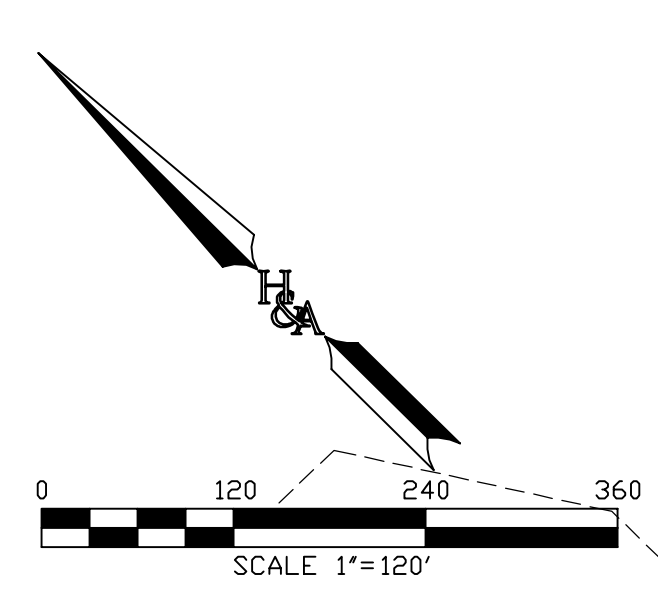
"AS BUILT" section containing signature lines for RCE, EXP., DATE, REVIEWED BY, INSPECTOR, DATE, SHEET 1, CITY OF CARLSBAD ENGINEERING DEPARTMENT, SHEETS 73, IMPROVEMENT & GRADING PLANS FOR: COLLEGE BOULEVARD TITLE SHEET, APPROVED JASON S. GELDERT, CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE, DWN BY, CHKD BY, RWVD BY, PROJECT NO. CT 00-18, DRAWING NO. 456-3G.

HUNSAKER & ASSOCIATES SAN DIEGO, INC. PLANNING 9707 Waples Street, San Diego, Ca 92121. ENGINEERING PH: (658) 558-4500. FAX: (658) 558-1414. SURVEYING



**LEGEND**

- EXISTING PROPERTY LINE
- RIGHT OF WAY
- SHEET NO. 2
- FIRE HYDRANT
- STREET LIGHT
- STORM DRAIN
- WATER LINE
- RECLAIMED WATER LINE
- SEWER LINE
- SIGNALIZED INTERSECTION



**EXISTING EASEMENT LEGEND**

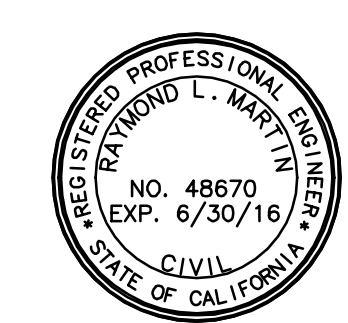
Esmt. No.	Doc. No.	Rec. Date	Type
1	1999-0095130	2/17/1999	Public Sewer
2	2000-0125914	3/13/2000	Public Drainage
3	2001-0221300	4/11/2001	Public Sewer
4	2007-0205880	3/27/2007	Public Street & Utility
5	2007-0205881	3/27/2007	Public Street & Utility
6	2007-0205882	3/27/2007	Public Street & Utility
7	2007-0205883	3/27/2007	Public Street & Utility
8	2007-0205884	3/27/2007	Public Street & Utility
9	2007-0205893	3/27/2007	Private Access
10	Bk2988, Pg430	7/14/1947	Private SDG&E
11	Bk4063, Pg11	4/19/1951	Private SDG&E
12	Bk6740, Pg102	7/10/1957	Private Road
13	Bk7016, Pg536	4/1/1958	Private Road
14	F/P No. 75-066442	3/24/1975	Public Flowage
15	Map 11242	4/23/1985	Public Street & Utility
16	PM 17985	2/4/1998	Public Street & Utility
17	2015-0172987	4/13/2015	Quitclaimed, not shown hereon
18	2015-0172986	4/13/2015	Quitclaimed, not shown hereon
19	1998-0055998	2/4/1998	Public Street & Utility
20	1998-0055999	2/4/1998	Private Cov. For Access
21	2003-0362012	4/1/2003	Fee Title To City
22	2007-0755947	10/12/2007	Public Sewer
23	1975-066441	3/24/1975	Flowage
24	1975-67227	3/25/1975	Private Access
25	1975-71988	3/31/1975	Private Access
26	1968-163727	9/12/1968	Private Access & Public Utilities
27	1970-25854	1/6/1970	Private Access & Public Utilities
28	2001-0242503	4/19/2001	Private SDG&E
29	N/A	N/A	100 Yr Floodplain

**PROPOSED EASEMENT LEGEND**

Esmt. No.	Doc. No.	Rec. Date	Type	Grantee	PR/MAP No.	Property "Common" Name
A1			Temporary Public Construction Easement to the City of Carlsbad	City	PR 15-61	Sunny Creek Remainder
B1			Public Drainage and Access Easement	City	PR 15-57	EC East
C1			Public Storm Drain Easement	City	PR 15-58	Lubliner
C2			General Utility and Access Easement	City	PR 15-60	
C3			Temporary Public Construction Easement to the City of Carlsbad	City	PR 15-59	Cantarini Ranch
D1			Public Street and Utility Easement (Bus Turn Out)	City	CT 00-18	
D2			Public Easement for Pedestrian Access Purposes, Together with the Access Easements to Maintain the Trail	City	CT 00-18	Encinas Creek Apts (MDR)
D3			Public Drainage and Access Easement	City	CT 00-18	
E1			Public Street and Utility Easement (Bus Turn Out)	City	PR 15-56	RCOA P-4
F1			Inundation Easement	City	PR 15-05	
F2			General Utility and Public Access Easement	City	PR 15-06	EC SOUTH
F3			Temporary Construction Easement	City	PR 15-04	
F4			Public Storm Drain Easement	City	PR 15-03	EC NORTH
F5			Public Street and Utility Easement	City	PR 15-67	
H1			Public Storm Drain Easement	City	MS 14-10	EC NORTH
H2			Public Drainage and Access Easement	City	MS 14-10	
I1			Public Storm Drain Easement	City	MS 14-10	DOS COLINAS
I2			I.O.D. for Drainage and Public Access Easement	City	MS 14-10	
I3			General Utility and Public Access Easement	City	MS 14-10	RCOA P-3
J1			Public Easement for Pedestrian Access Purposes	City	MS 09-04	
J2			Public Street and Utility Easement (Bus Turn Out)	City	MS 09-04	Lot 11, MAP 11242
J3			Public Storm Drain Easement	City	MS 09-04	
J4			I.O.D. for public Drainage and Public Access Easement	City	MS 09-04	RCOA P-2
K1			Public Drainage and Access Easement	City	PR 15-63	
K2			Public Storm Drain Easement	City	PR 15-64	
K3			Public Sewer Easement	City	PR 15-66	
K4			Temporary Construction Easement	City	PR 15-65	
L1			Temporary Public Construction Easement	City	PR 15-62	
M1			Private storm Drain Easement	WSL	N/A	

**INDEX MAP**

**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC  
PLANNING 9707 Waples Street  
ENGINEERING San Diego, Ca 92121  
SURVEYING PH(619)558-4500 FAX(619)558-1414



DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

**ENGINEER OF WORK**  
RAYMOND L. MARTIN  
R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

**CITY OF CARLSBAD**  
ENGINEERING DEPARTMENT

IMPROVEMENT & GRADING PLANS FOR:  
**COLLEGE BOULEVARD**  
INDEX MAP

APPROVED JASON S. GELDELT  
CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE \_\_\_\_\_

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 SHEETS 73  
CHKD BY: \_\_\_\_\_  
RWVD BY: \_\_\_\_\_ DRAWING NO. 456-3G

**ENGINEER'S SPECIAL NOTES:**

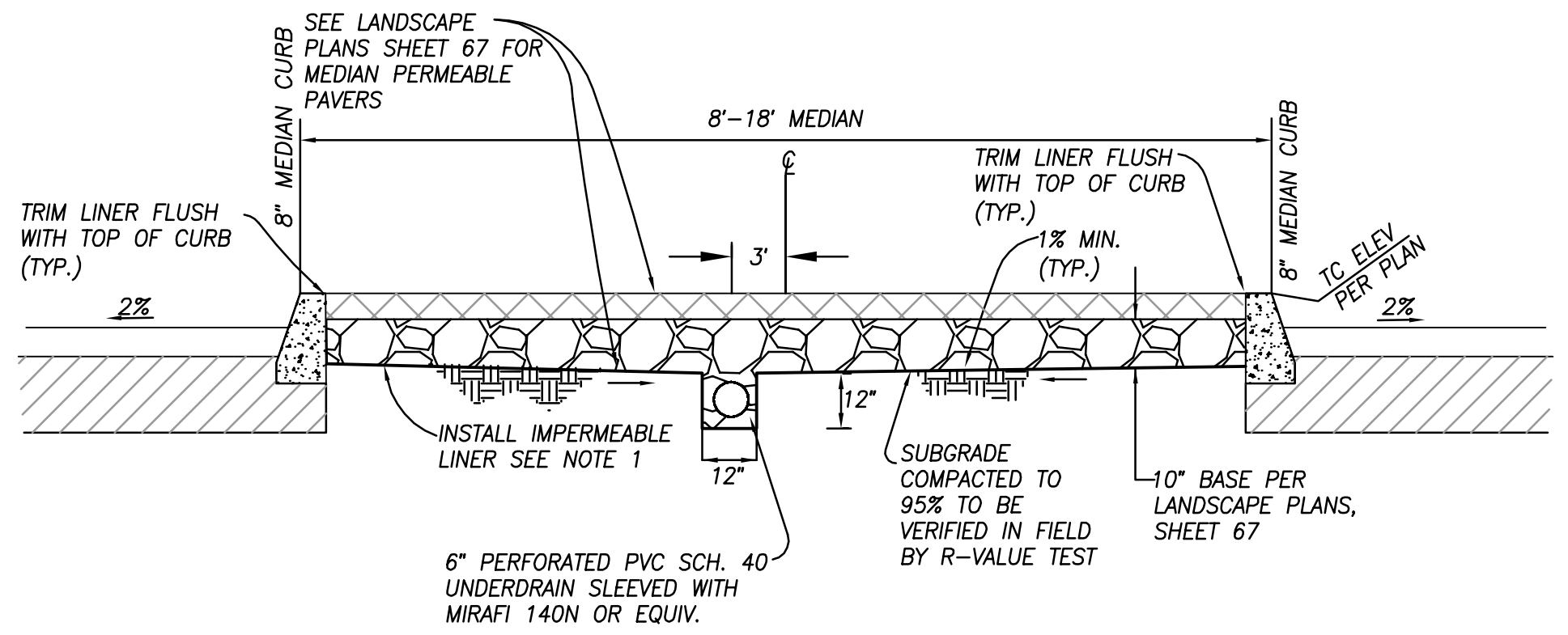
- NEITHER THE OWNER, NOR THE ENGINEER OF WORK WILL ENFORCE SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
- CONTRACTOR HAS SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE TO INSURE THAT ALL SLOPES, STREETS, UTILITIES, AND STORM DRAINS ARE BUILT IN ACCORDANCE WITH THESE PLANS. IF THERE IS ANY QUESTION REGARDING THESE PLANS OR FIELD STAKES, THE CONTRACTOR SHALL REQUEST AN INTERPRETATION BEFORE DOING ANY WORK BY CALLING THE ENGINEER OF WORK AT (858) 558-4500.
- THE CONTRACTOR SHALL VERIFY ALL STAKES FOR ACCURACY AGAINST APPROVED PLANS, PRIOR TO TRENCHING OR FORMING AND SHALL BEAR THE COST OF ALL REWORK THAT RESULTS FROM PROCEEDING USING INCORRECT STAKES THAT ARE NOT VALIDATED BY THE CONTRACTOR PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL ALSO TAKE THE NECESSARY STEPS TO PROTECT THE PROJECT AND ADJACENT PROPERTY FROM ANY EROSION AND SILTATION THAT MIGHT RESULT FROM HIS OPERATIONS BY APPROPRIATE MEANS (GRAVEL BAGS, HAY BALES, TEMPORARY DESILTING BASINS, DIKES, SHORING, ETC.) UNTIL SUCH TIME THE PROJECT IS COMPLETED AND ACCEPTED FOR MAINTENANCE BY THE OWNER.
- THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES SHOWN HEREON WERE OBTAINED BY A SEARCH OF THE AVAILABLE RECORDS. TO THE BEST OF OUR KNOWLEDGE, THERE ARE NO OTHER EXISTING UTILITIES EXCEPT AS SHOWN ON THESE PLANS. BEFORE EXCAVATING FOR THIS CONTRACT, THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL UNDERGROUND UTILITIES AFFECTING THE WORK, WHETHER SHOWN ON THE PLANS OR NOT. SPECIFIC ATTENTION SHALL BE MADE IN AREAS WHERE THE PROPOSED IMPROVEMENTS MEET EXISTING UTILITIES. CONTRACTOR SHALL NOTIFY THE ENGINEER OF WORK OF ANY DEVIATIONS PRIOR TO ORDERING MATERIALS FOR THE PROJECT, AND ALLOW SUFFICIENT TIME FOR REVISION TO THESE PLANS IF AS-BUILT LOCATION OF EXISTING UTILITIES REQUIRE CHANGES TO THE DESIGN.
- CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT EXISTING ABOVE GROUND AND UNDERGROUND IMPROVEMENTS SHOWN HEREON AS WELL AS EXISTING UTILITIES NOT SHOWN HEREON. CONTRACTOR SHALL REPAIR OR REPLACE ITEMS REQUIRED TO REMAIN IN PLACE WHICH ARE DAMAGED, DURING THE COMPLETION OF THE WORK, TO THE SATISFACTION OF THE APPROPRIATE AGENCY.
- WHERE TRENCHES ARE ADJACENT TO FUTURE BUILDING SITES, A LICENSED SOILS ENGINEER SHALL BE RETAINED BY THE OWNER TO COMPLETE NECESSARY TESTING TO CERTIFY THAT TRENCH BACKFILL WAS COMPACTED AS DIRECTED IN THE PRELIMINARY SOILS REPORT.
- THESE PLANS SHOW THE MINIMUM IMPROVEMENT REQUIRED BY THE APPROVING AUTHORITY IN ORDER TO OBTAIN PROJECT APPROVAL. FIELD CONDITIONS MAY DICTATE ADDITIONAL IMPROVEMENTS. THE COST OF ANY ADDITIONAL IMPROVEMENTS SHALL BE BORNE BY THE CONTRACTOR. ANY ADDITIONAL TESTING BY THE SOILS ENGINEER OR OTHER PROFESSIONALS SHALL BE COMPLETED AT THE CONTRACTOR EXPENSE.
- PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION, WHICHEVER OCCURS FIRST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF WORK IN WRITING, WHENEVER THESE PLANS SEEM UNCLEAR.
- THE CONTRACTOR SHALL NOTIFY THE SURVEYORS 48 HOURS PRIOR TO BACKFILLING TRENCHES FOR ALL NEW UTILITIES. THE SURVEYOR SHALL OBTAIN NECESSARY FIELD SHOTS TO PROVIDE THE ENGINEER OF WORK WITH A LETTER OF CERTIFICATION STATING THAT ALL IMPROVEMENTS ARE CONSTRUCTED IN SUBSTANTIAL CONFORMANCE WITH THE LINES AND GRADES SHOWN HEREON. THE CERTIFICATION SHALL INCLUDE ALL ITEMS REQUIRED BY THE APPROVING AUTHORITY.
- THE GENERAL CONTRACTOR IS REQUIRED TO KEEP AND MAINTAIN A SIGNED SET OF THESE PLANS ON SITE AT ALL TIMES FOR USE BY THE ENGINEER OF WORK, SOILS ENGINEER AND THE CITY INSPECTOR. THE GENERAL CONTRACTOR'S SUPERINTENDANT IS REQUIRED TO UPDATE SAID PLANS WITH AS-BUILT ON A DAILY BASIS AS WORK PROGRESSES. SAID PLANS SHALL BE CERTIFIED BY THE SUPERINTENDENT AS ACCURATE AND COMPLETE UPON COMPLETION OF THE PROJECT, AND BECOME THE PROPERTY OF THE ENGINEER OF WORK.
- THE SOILS REPORT AND ALL THE SUPPLEMENTS THEREOF ARE INCORPORATED INTO AND MADE A PART OF THIS PLAN. ALL CONSTRUCTION SHALL CONFORM WITH AND BE SUBJECT TO ANY TESTING OR INSPECTION REQUIREMENTS IN THE REPORT.
- CONTRACTOR SHALL INSTALL THRUST BLOCKS AT ALL ANGLE POINTS AND TEES IN WATER SYSTEMS PURSUANT TO THE APPROPRIATE WATER DISTRICT STANDARD.
- CONTRACTOR SHALL SUBMIT AN AS-BUILT PLAN INDICATING ALL STREET LIGHT CONDUIT RUNS, ACCESS POINTS, HAND HOLES AND SERVICE POINTS PRIOR TO ENERGIZING THE SYSTEM.

**SPECIAL STORM DRAIN NOTES:**

- STORM DRAIN PROFILES SHOW A GRAPHICAL REPRESENTATION OF THE CALCULATED HGL DURING THE DESIGN STORM, AS REQUIRED BY THE CITY. THE CALCULATED HGL CAN BE FOUND IN THE APPROVED STORM DRAINAGE REPORT ON FILE AT THE OFFICE OF THE CITY ENGINEER. ENGINEER IS NOT RESPONSIBLE FOR USE OF THE HGL SHOWN HEREON, BY OTHERS, WHEN MAKING ADDITIONAL CONNECTIONS OR REALIGNING THE SYSTEM. CHANGES TO THE SYSTEM, REQUIRE APPROVAL OF A REGISTERED ENGINEER RESPONSIBLE FOR THE REVISIONS.
- STORM DRAIN PIPES DESIGNATED AS HAVING THE HGL AT OR ABOVE THE PIPE SOFFIT SHALL BE CONSTRUCTED WITH WATER TIGHT JOINTS WITH AMERON REINFORCE CONCRETE PIPE WITH REINFORCED THERMOSETTING RESIN (RTR) COUPLING OR EQUAL FOR THE ENTIRE REACH. COUPLING SHALL MEET THE REQUIREMENTS OF ASTM C76, C361, AND C443.
- STORM DRAIN PIPES WITH VELOCITIES EXCEEDING 20 FEET PER SECOND SHALL HAVE A MINIMUM COVER OF 1-1/2 INCH OVER THE INVERT REINFORCING STEEL. THE CONCRETE DESIGN STRENGTH IN THESE REACHES SHALL BE  $f_c = 5,000$  PSI. FOR VELOCITIES EXCEEDING 30 FEET PER SECOND, USE  $f_c = 6,000$  PSI.

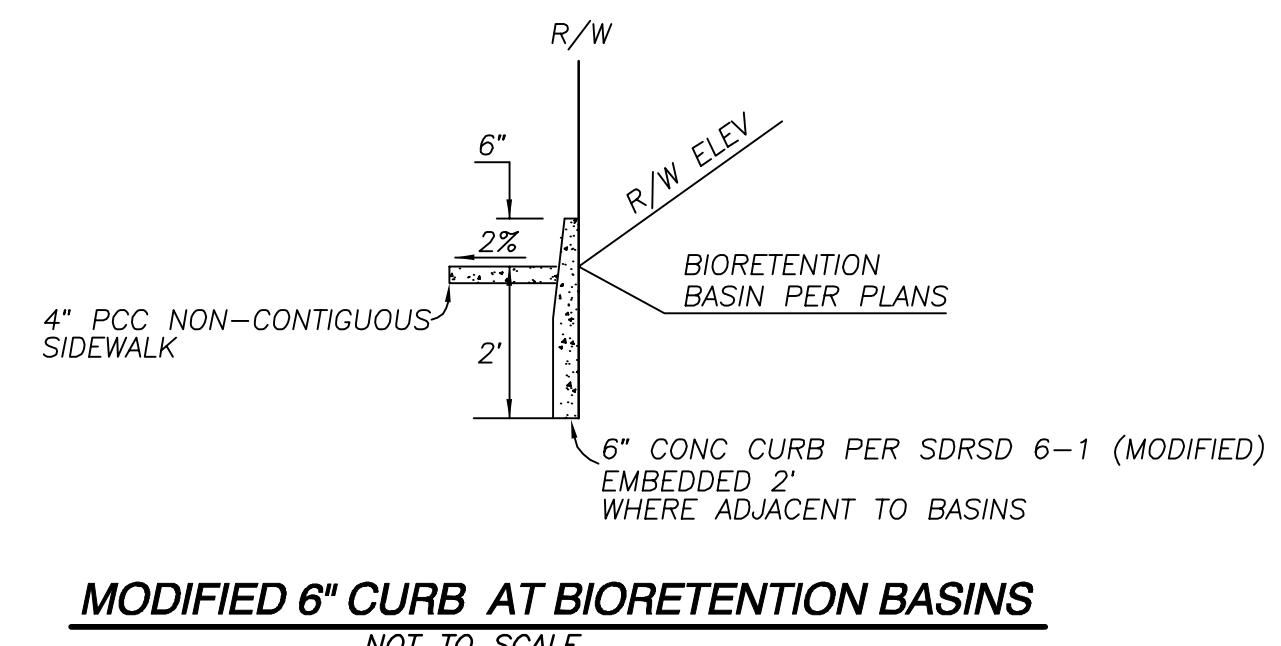
**ENGINEER'S ACCESSIBILITY NOTES:**

- MEANDERING SIDEWALK SHALL MEET WALK GRADE AND LANDING REQUIREMENTS OF CBC 11B, MAXIMUM RUNNING GRADE SHALL NOT EXCEED 5.0%.
  - PROVIDE LEVEL LANDING WITH 2% MAXIMUM CROSSFALL IN ALL DIRECTIONS AT CHANGES IN GRADE WHERE INDICATED ON PLANS.
- TRANSITION FROM SIDEWALK TO WALKS ON BRIDGE MUST NOT HAVE AN ELEVATION CHANGE EXCEEDING 1/4" VERTICAL OR 1/2" BEVELED, OTHERWISE A TRANSITION PLATE WILL BE NEEDED.
- CONTRACTOR SHALL WIDEN SIDEWALK AT STREET LIGHTS OR OTHER VERTICAL FACILITIES TO PROVIDE MINIMUM 48" CLEARANCE OR TO THE SATISFACTION OF THE CITY ENGINEER.

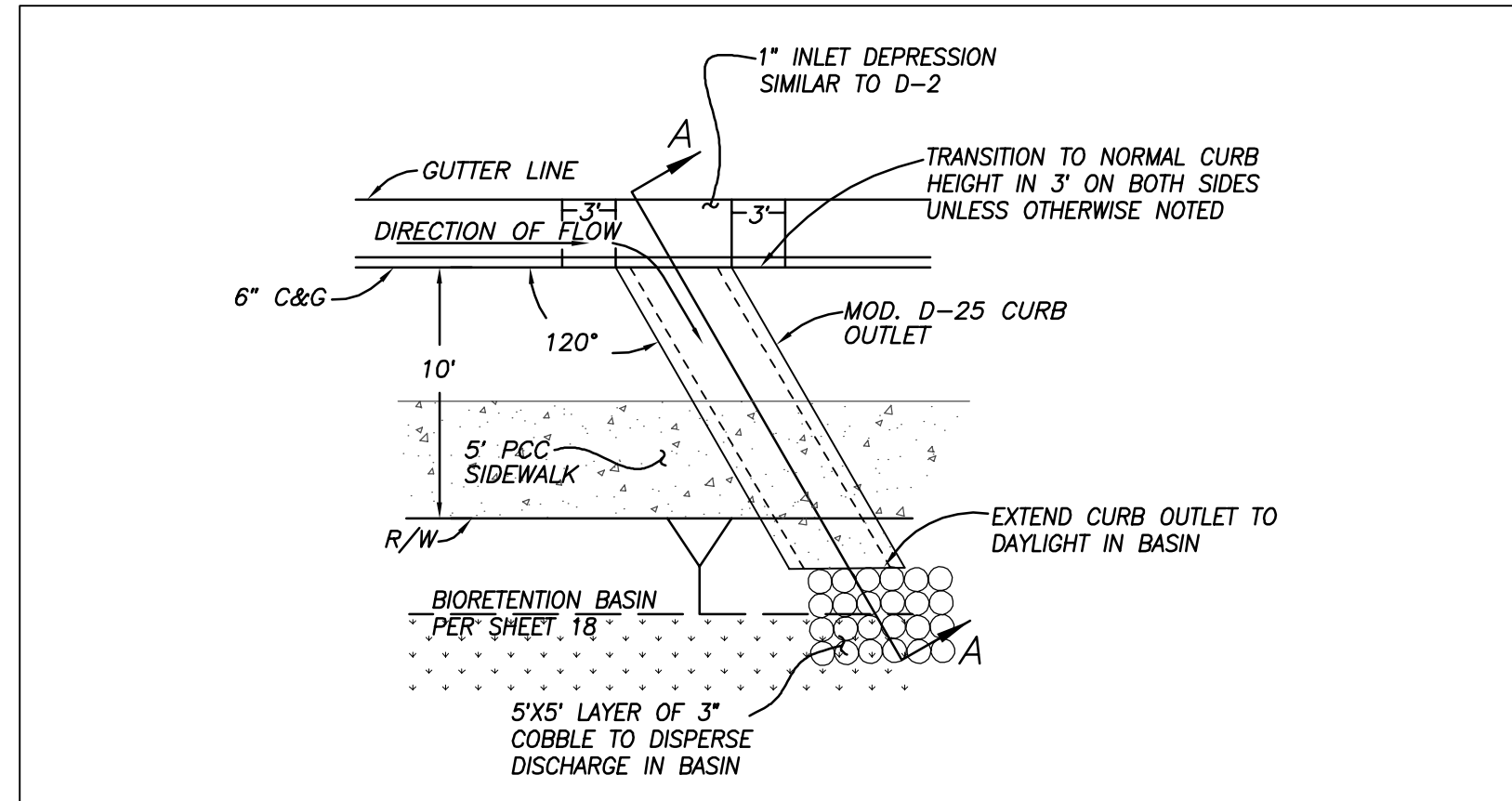


**DETAIL-PERVIOUS PAVERS IN MEDIAN**

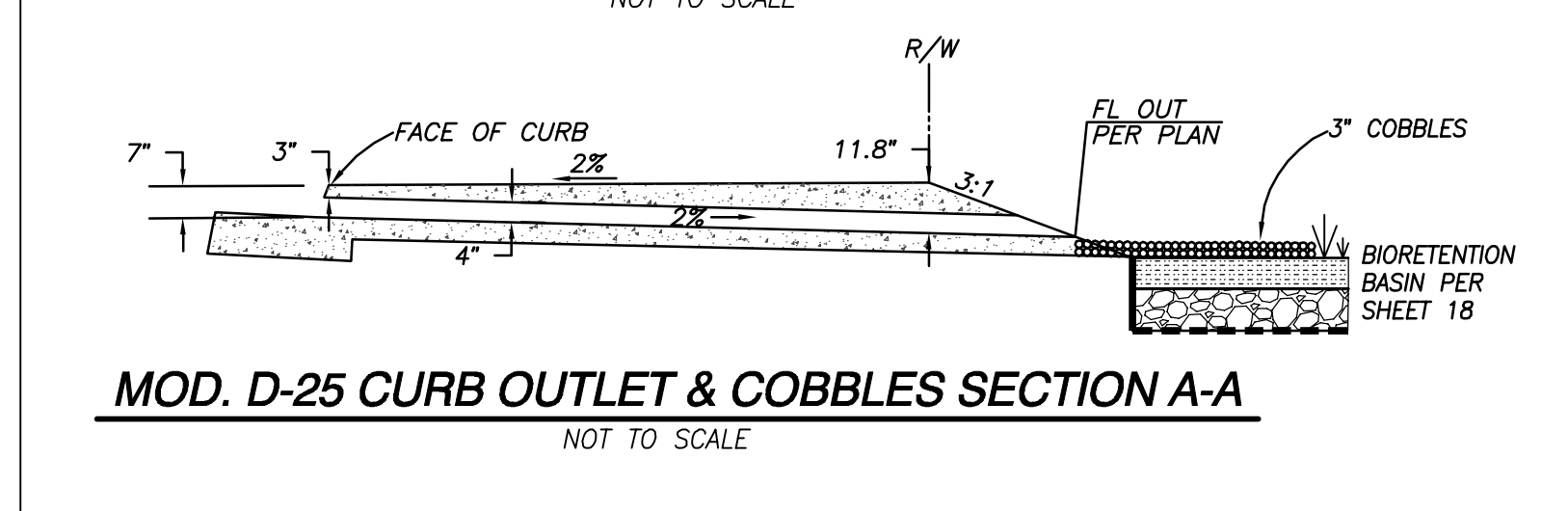
- NOTES:
- IMPERMEABLE LINER SHALL BE 30MIL PVC LINER, SPECIFIC GRAVITY (ASTM D792): 120 (MIN.), TENSILE (ASTM D 882): 73 (LB/IN-WIDTH, MIN.), ELONGATION AT BREAK (ASTM D882): 380 (%MIN.), MODULUS (ASTM D 882): 30 (LB/IN-WIDTH, MIN.), TEAR RESISTANCE (ASTM D 1004): 30 (LB/IN, MI).
  - SEE LANDSCAPE PLANS SHEET 67 FOR MEDIAN PAVER INFORMATION AND LAYOUT OF TYPICAL PLANTERS



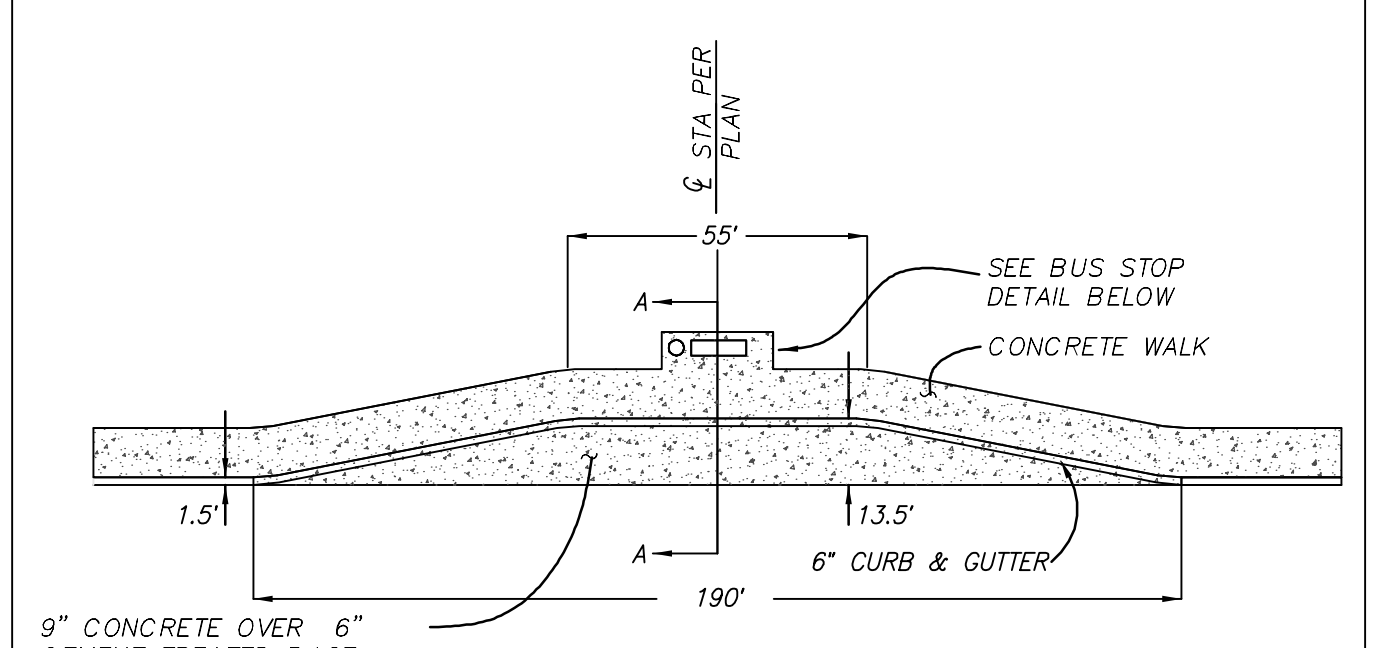
**MODIFIED 6" CURB AT BIORETENTION BASINS**



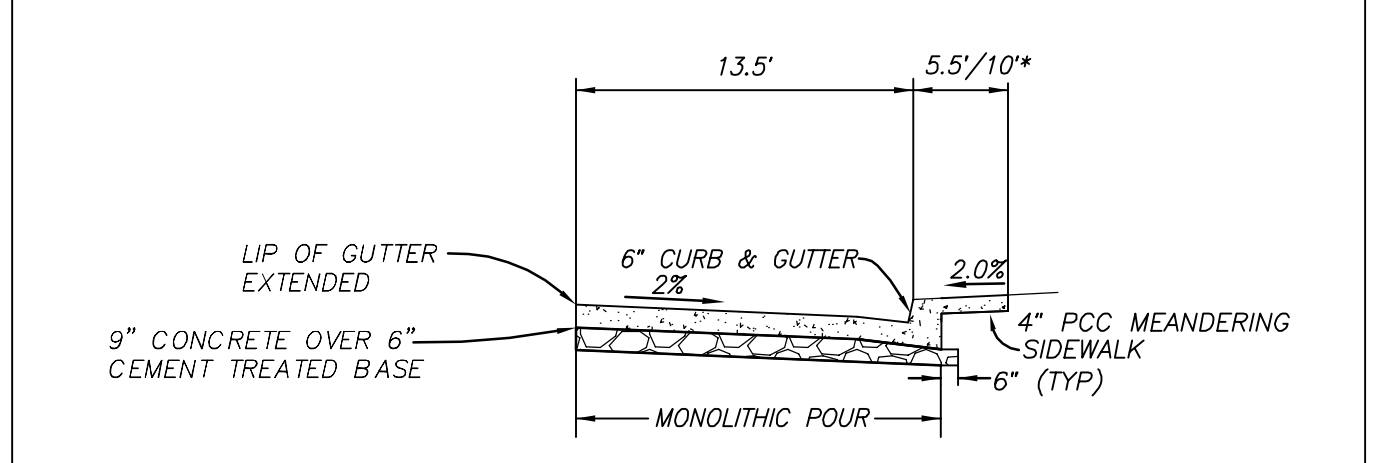
**MOD. D-25 CURB OUTLET & COBBLES DETAIL**



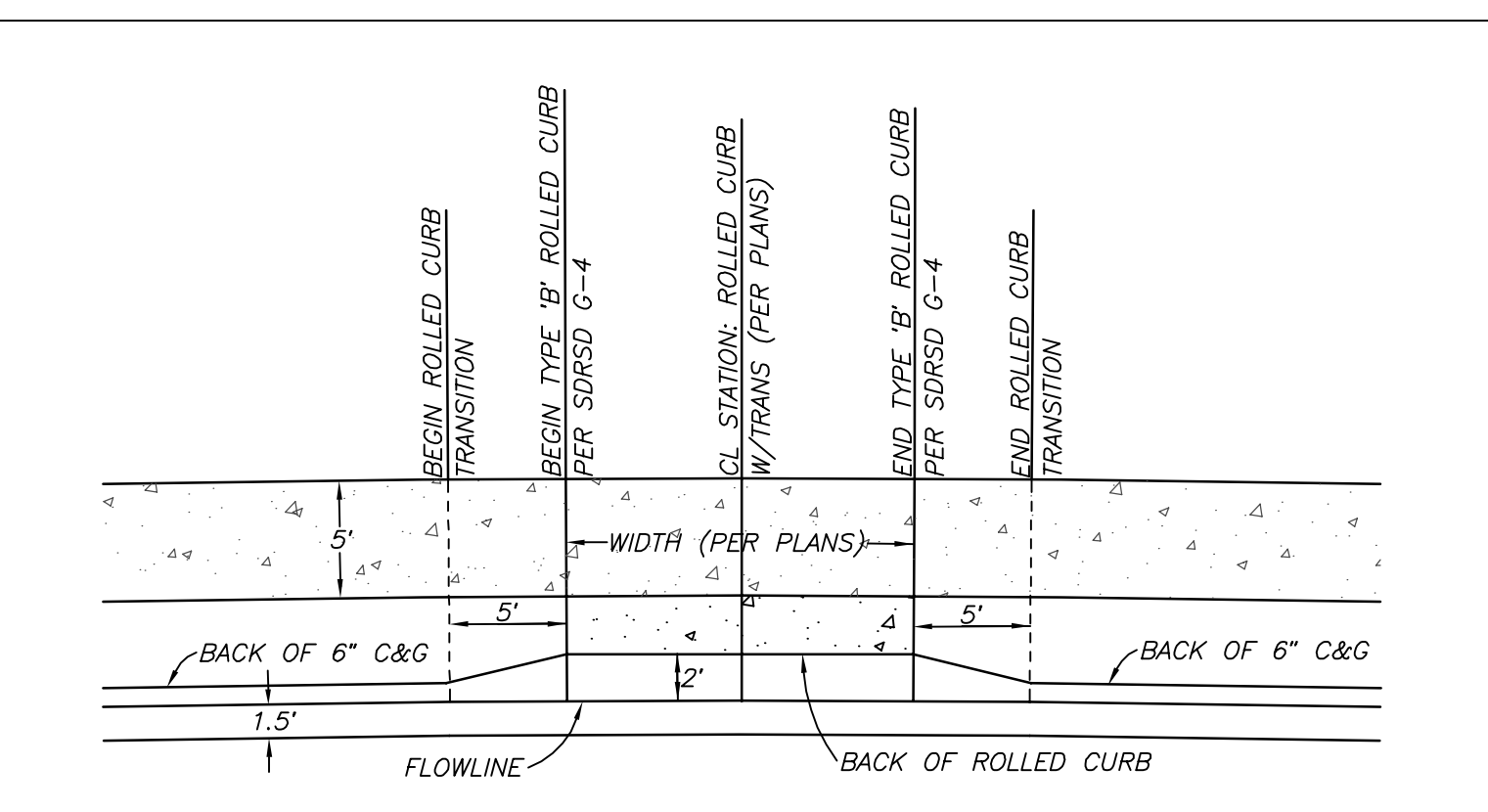
**MOD. D-25 CURB OUTLET & COBBLES SECTION A-A**



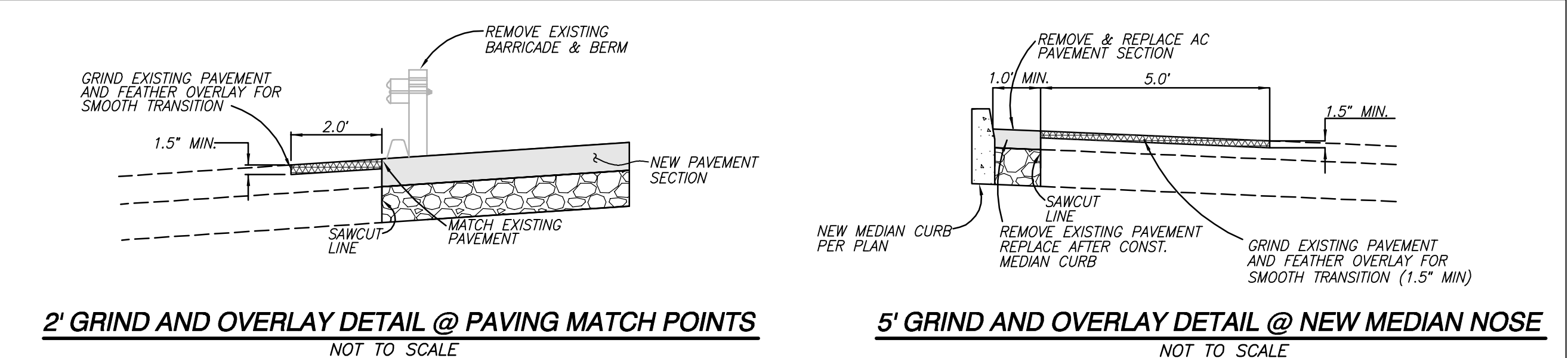
**BUS TURNOUT DETAIL**



**BUS TURNOUT SECTION A-A**

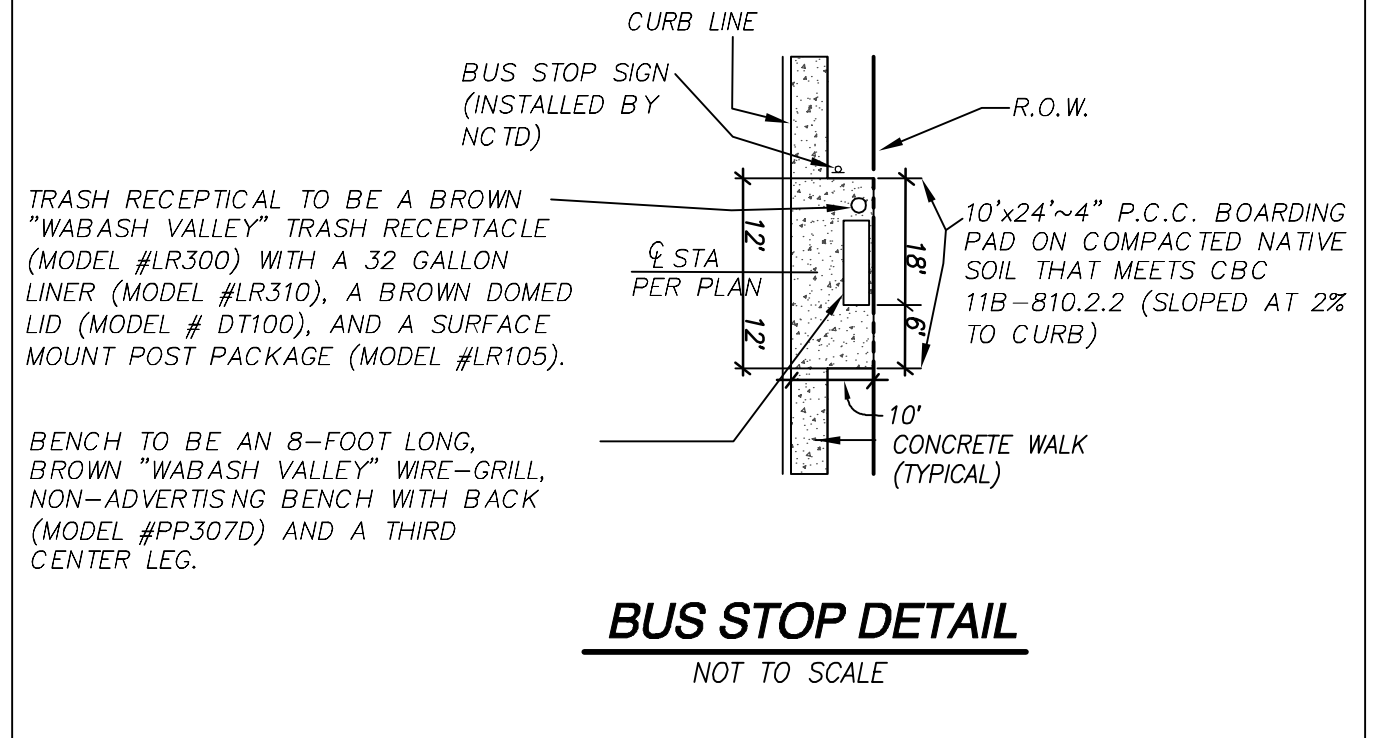


**ROLLED CURB W/ TRANSITION DETAIL**

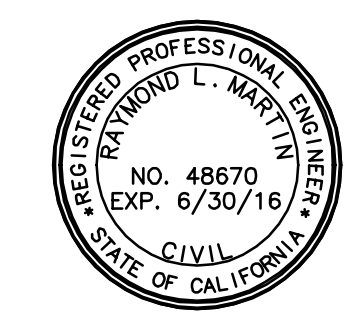


**2' GRIND AND OVERLAY DETAIL @ PAVING MATCH POINTS**

**5' GRIND AND OVERLAY DETAIL @ NEW MEDIAN NOSE**



**BUS STOP DETAIL**

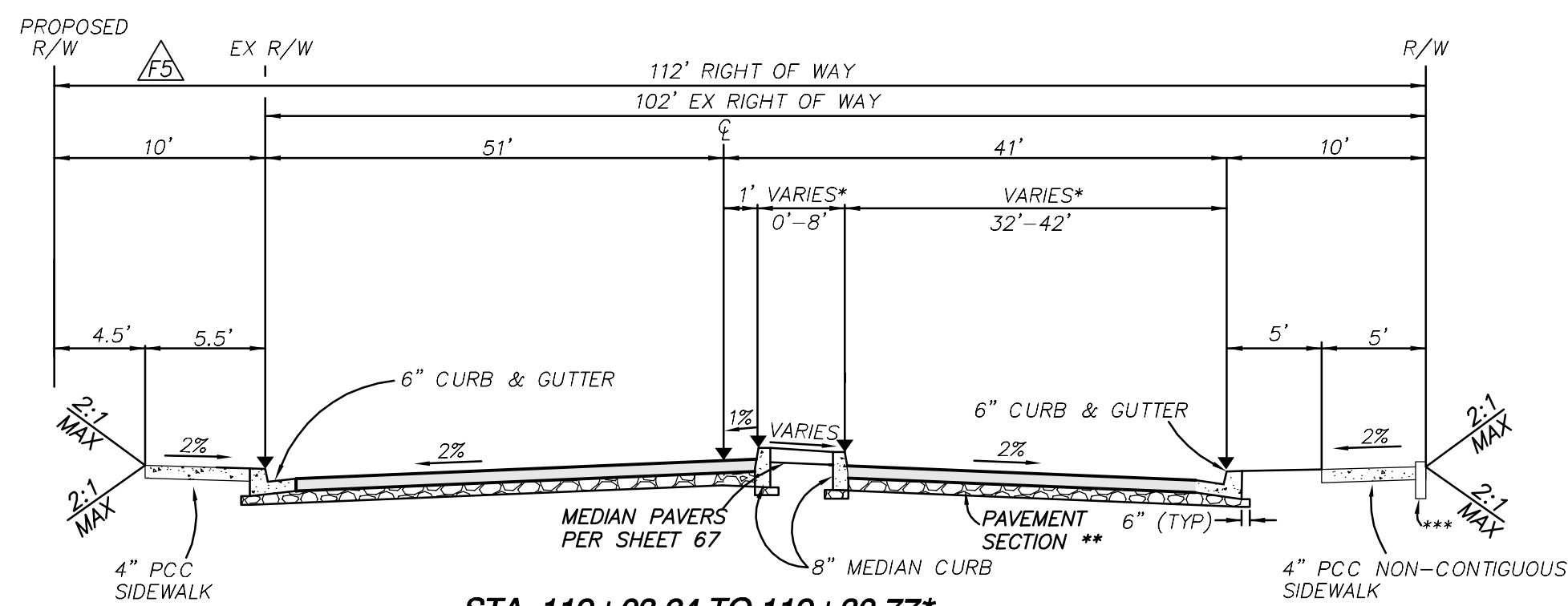


ENGINEER OF WORK  
 RAYMOND L. MARTIN DATE  
 R.C.E. NO. 48670 EXP. 6/30/16  
**"AS BUILT"**  
 RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

SHEET 3 CITY OF CARLSBAD SHEETS 73  
 ENGINEERING DEPARTMENT  
 IMPROVEMENT & GRADING PLANS FOR:  
**COLLEGE BOULEVARD**  
 CONSTRUCTION NOTES AND TYPICAL SECTIONS  
 APPROVED JASON S. GELDELT  
 CITY ENGINEER RCE 6.3912 EXP. 09/30/16 DATE  
 DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
 CHKD BY: \_\_\_\_\_  
 RWVD BY: \_\_\_\_\_

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

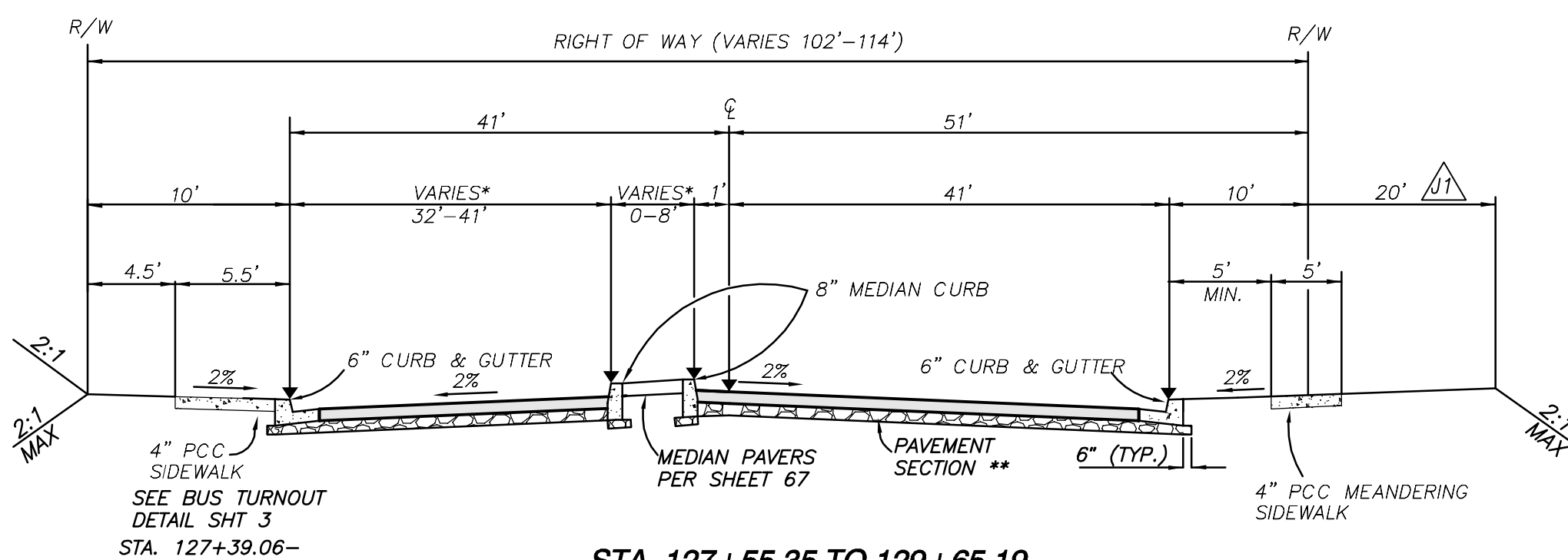
**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.  
 PLANNING 9707 Waples Street  
 ENGINEERING San Diego, Ca 92121  
 SURVEYING PH858558-4500 - FX858558-1414



**STA. 119+03.24 TO 119+30.77\***

**STA. 119+30.77 TO 121+33.68**

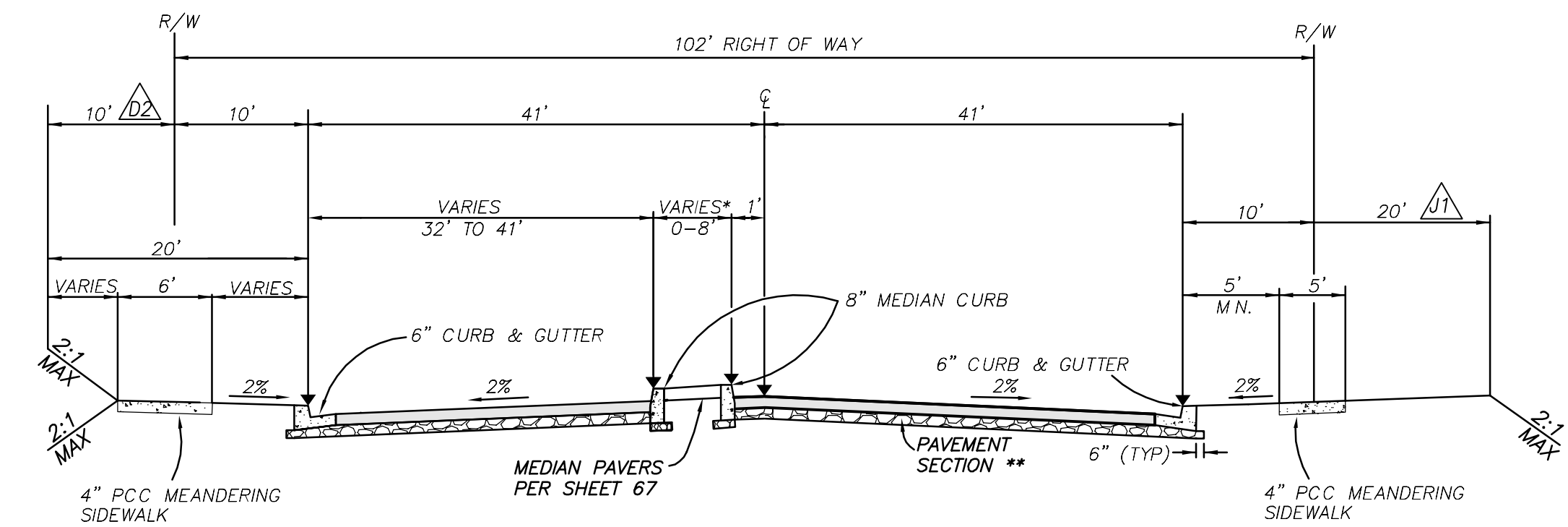
\* TRANSITION MEDIAN FROM 0' TO 8'  
 \*\*\* 6" CURB & DEPPENED FOOTING STA 119+30 TO 126+80 PER DETAIL SHT. 3



**STA. 127+55.35 TO 129+65.19**

**STA. 129+65.19 TO 130+12.67\***

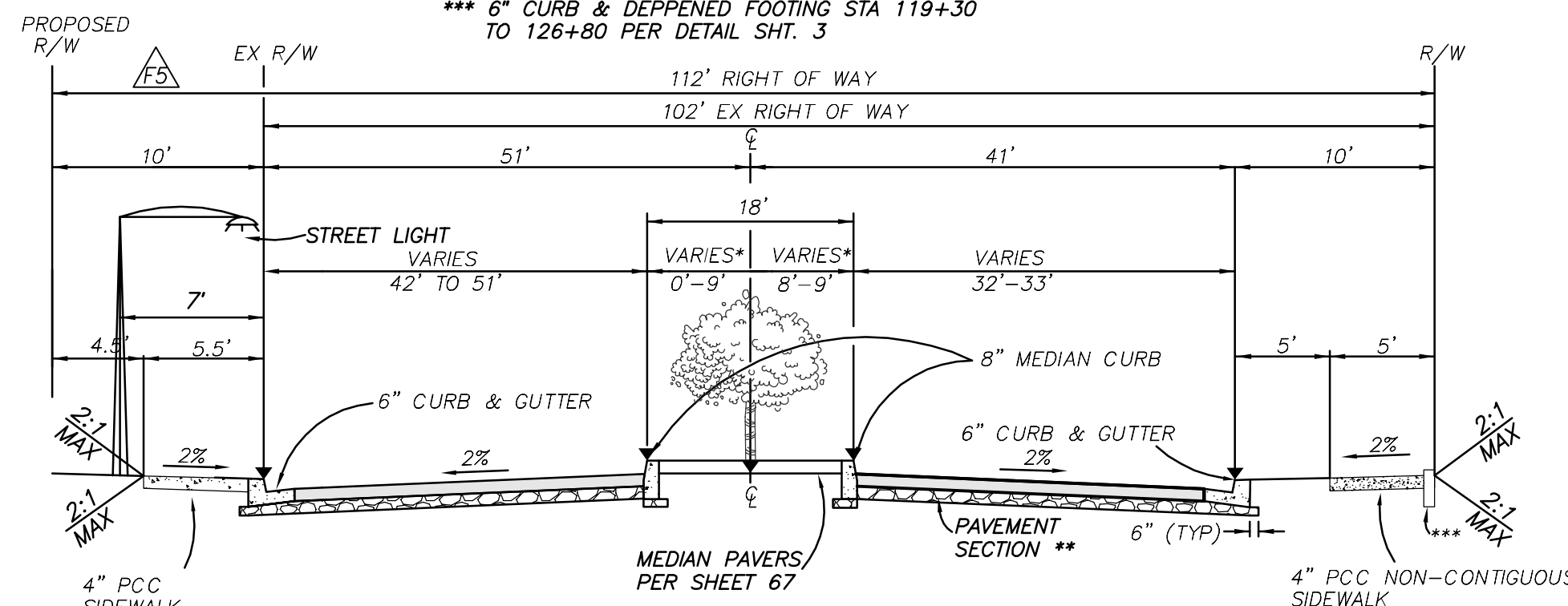
TRANSITION MEDIAN FROM 8' TO 0'



**STA. 143+53.50 TO 144+73.50\***

**STA. 144+73.50 TO 147+19.05**

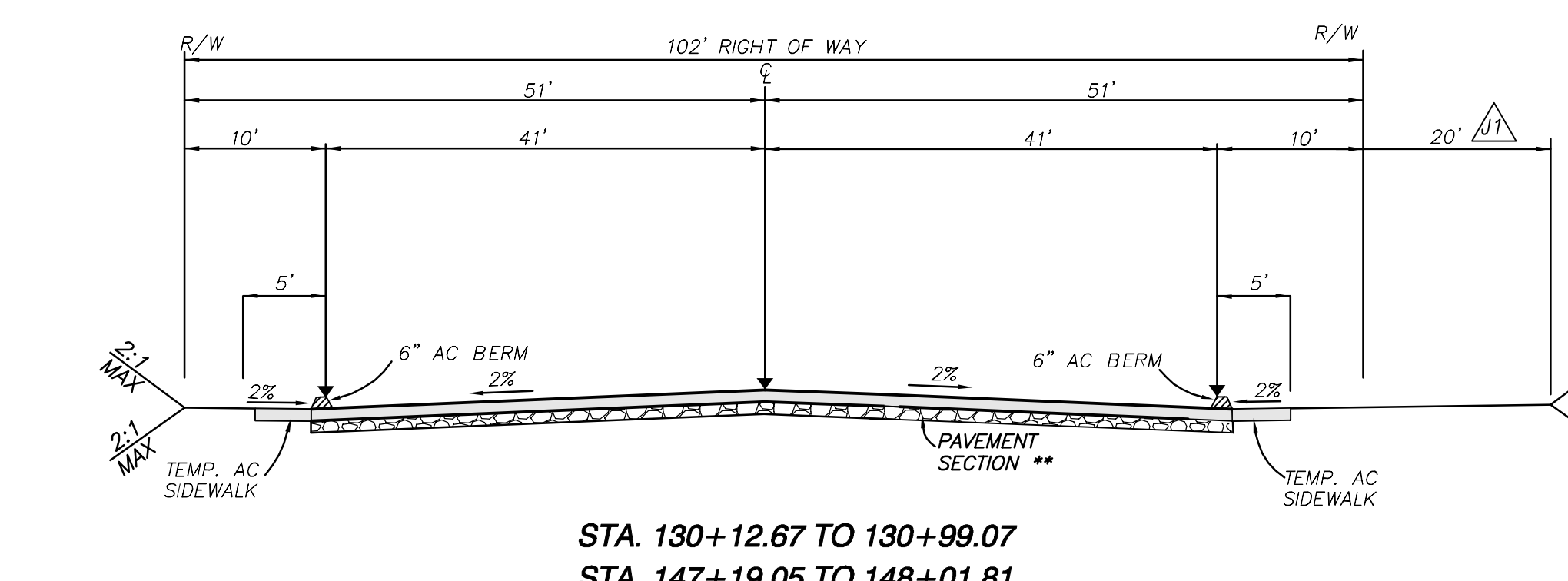
\* TRANSITION MEDIAN FROM 18' TO 8' LEFT OF CENTERLINE



**STA. 121+33.68 TO 122+53.89\***

**STA. 122+53.89 TO 124+09.02**

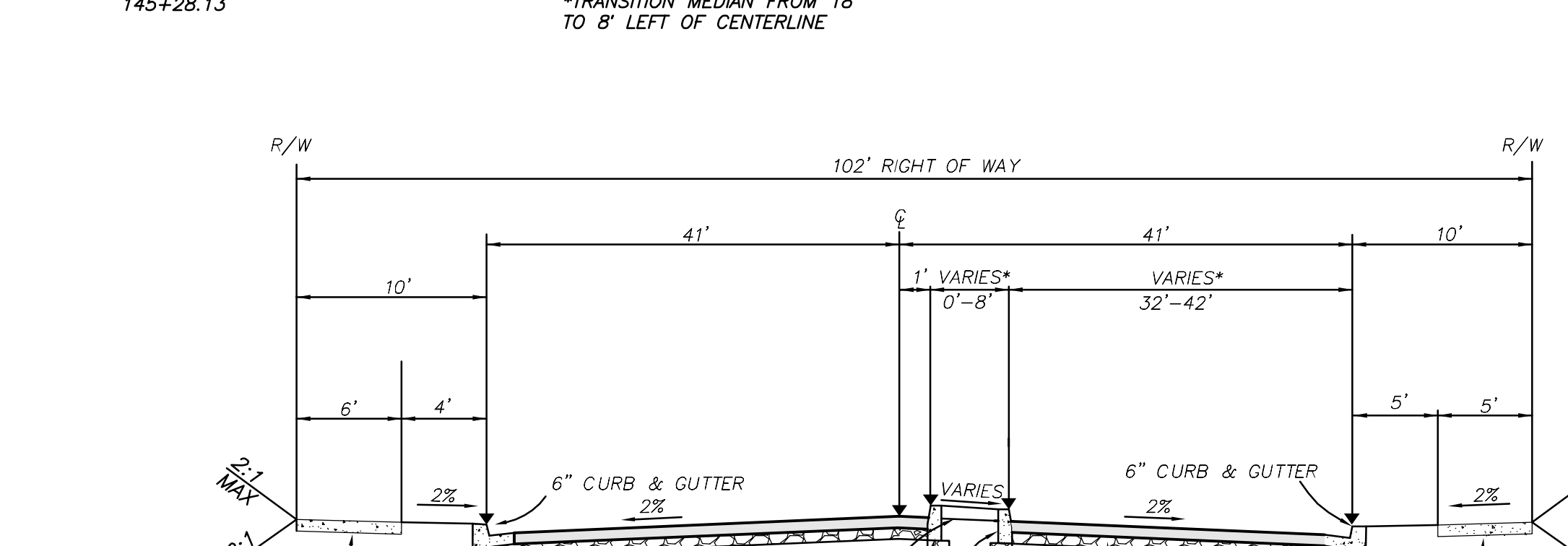
\* TRANSITION MEDIAN TO 18'  
 \*\*\* 6" CURB & DEPPENED FOOTING STA 119+30 TO 126+80 PER DETAIL SHT. 3



**STA. 130+12.67 TO 130+99.07**

**STA. 147+19.05 TO 148+01.81**

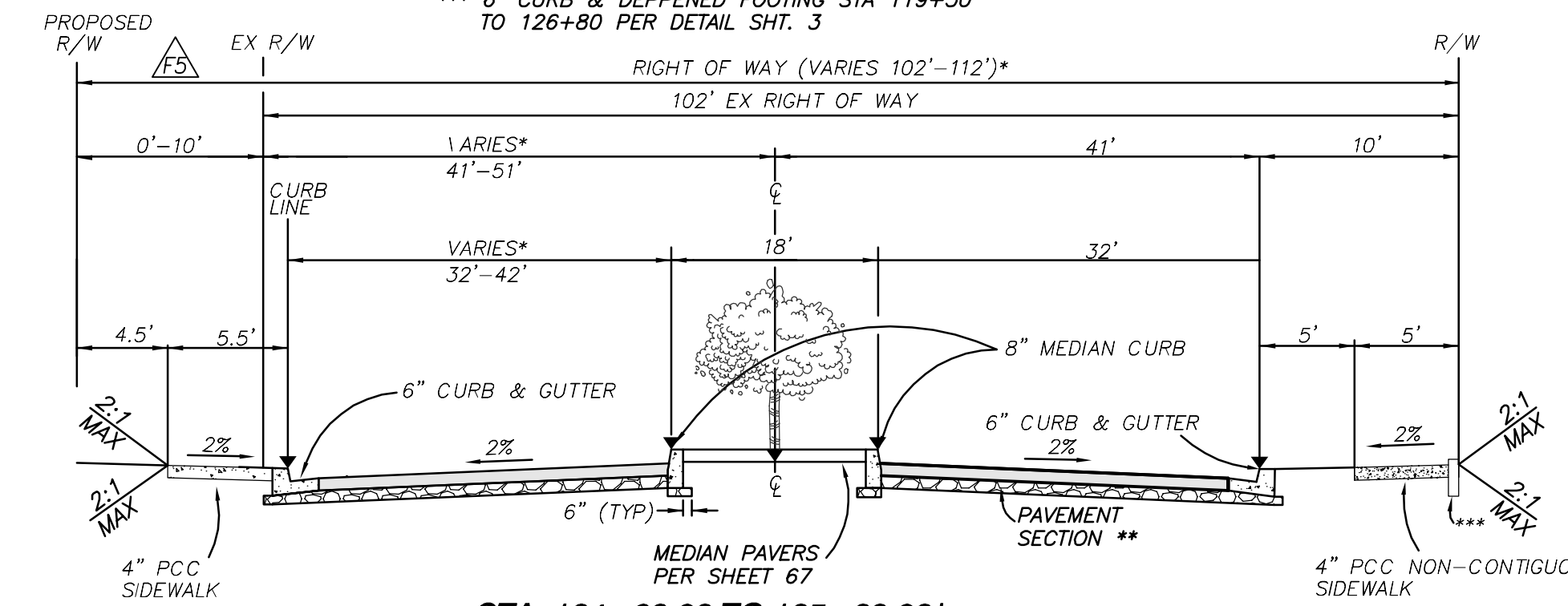
(SECTION THROUGH FUTURE INTERSECTIONS)



**STA. 148+01.81 TO 148+49.60\***

**STA. 148+49.60 TO 150+51.37**

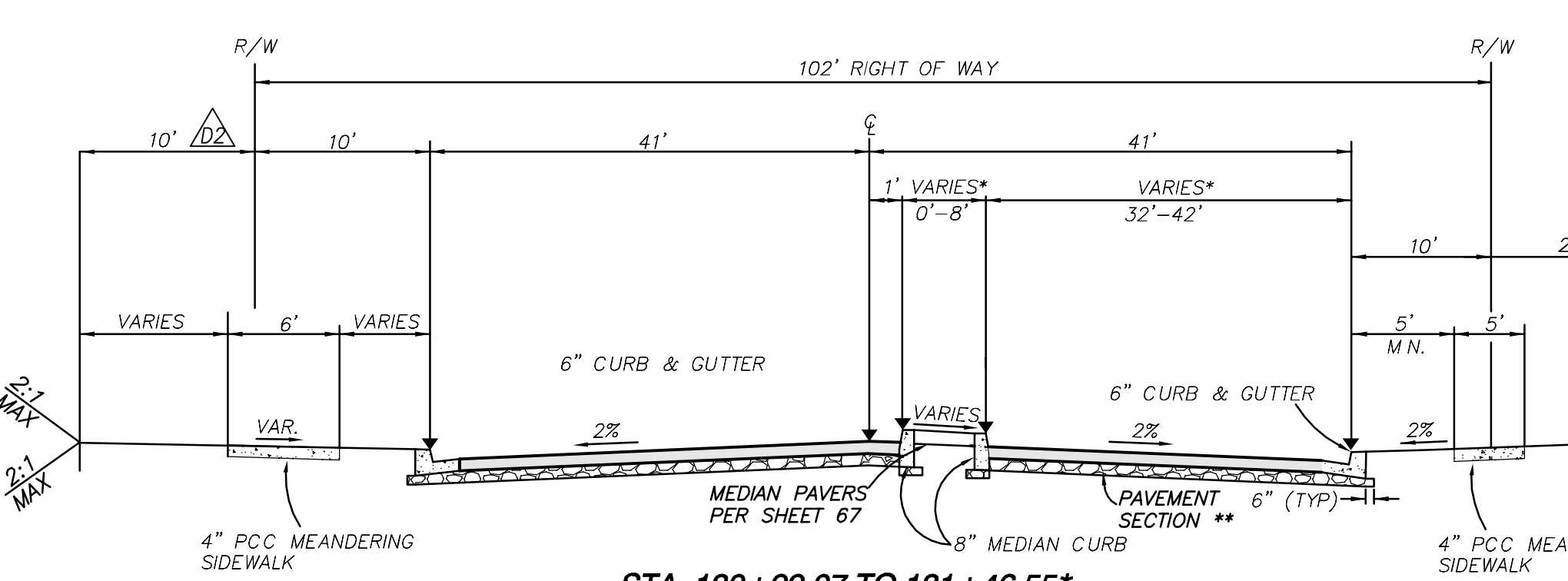
\* TRANSITION MEDIAN FROM 0' TO 8'



**STA. 124+09.02 TO 125+29.02\***

**STA. 125+29.02 TO 126+35.35**

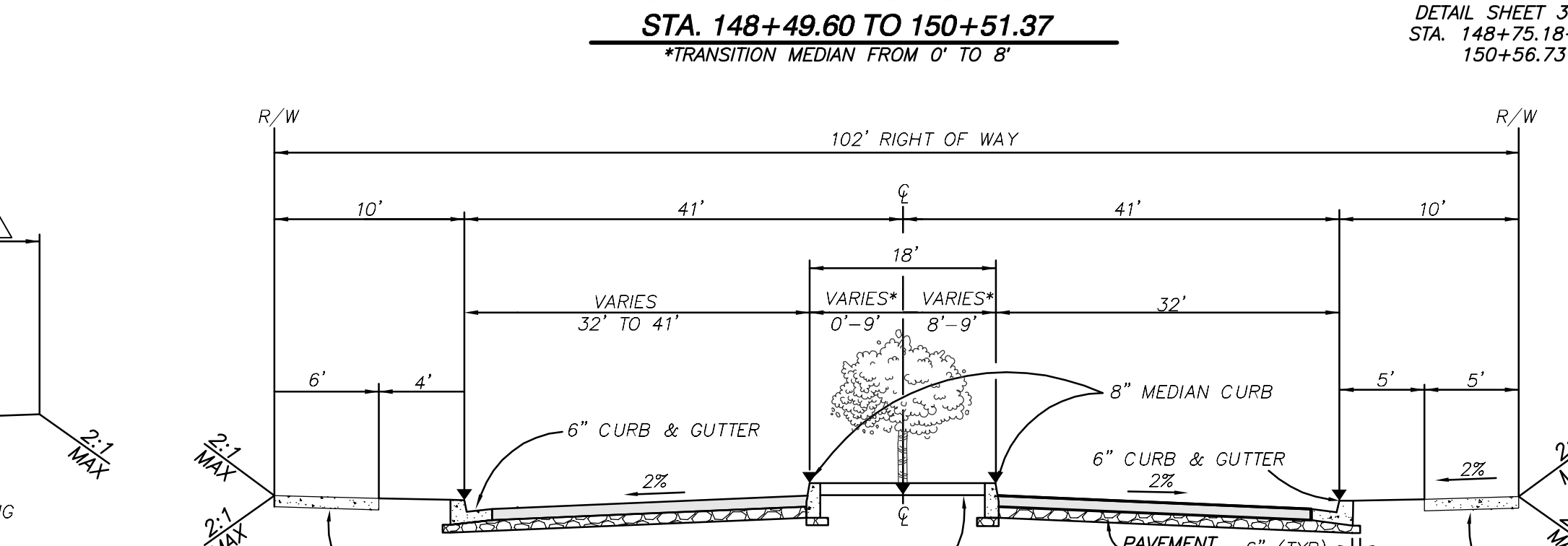
\* TRANSITION OF LEFT FROM 51' TO 41'  
 \*\*\* 6" CURB & DEPPENED FOOTING STA 119+30 TO 126+80 PER DETAIL SHT. 3



**STA. 130+99.07 TO 131+46.55\***

**STA. 131+46.55 TO 133+32.65**

\* TRANSITION MEDIAN FROM 0' TO 8'



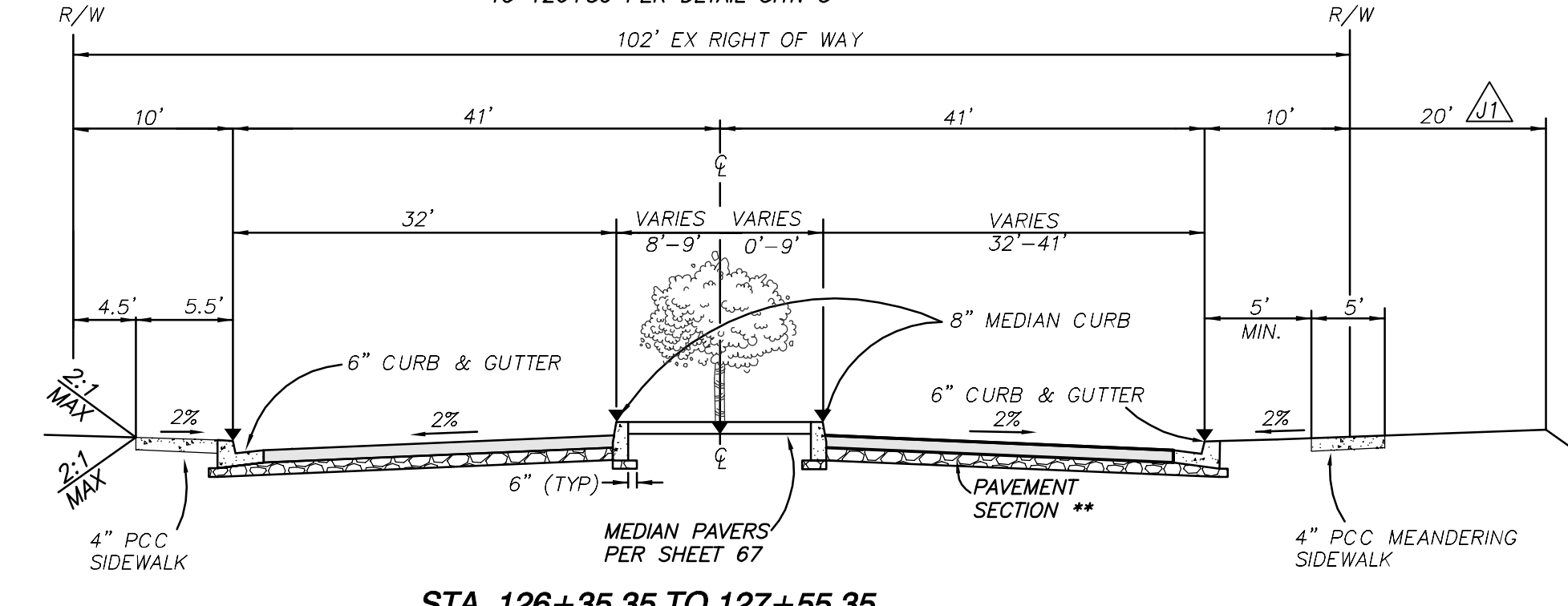
**STA. 150+51.37 TO 151+71.37\***

**STA. 151+71.37 TO 153+74.51**

**STA. 156+05.76 TO 156+30.79**

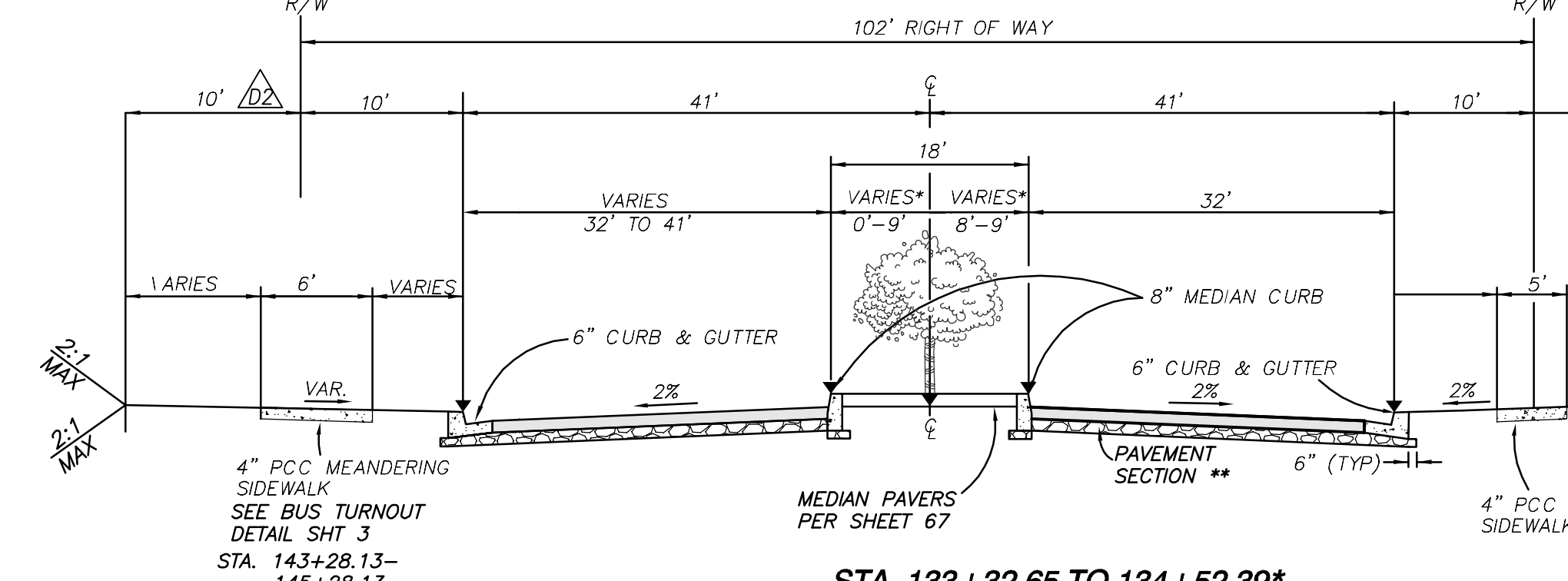
\* TRANSITION MEDIAN TO FROM 8' TO 18'

**STA. 153+74.51 TO 156+05.76 IS PROPOSED BRIDGE**



**STA. 126+35.35 TO 127+55.35**

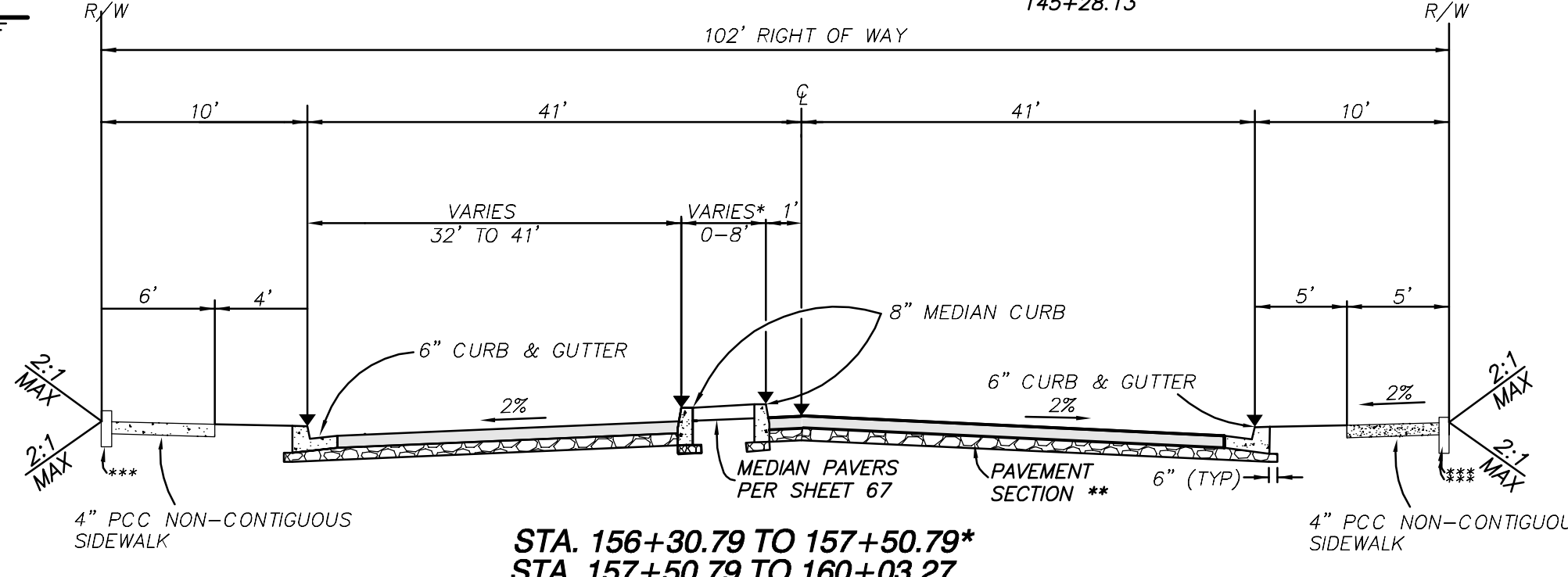
TRANSITION MEDIAN FROM 18' TO 8' LEFT OF CENTERLINE



**STA. 133+32.65 TO 134+52.39\***

**STA. 134+52.39 TO 143+53.50**

\* TRANSITION MEDIAN TO 18'



**STA. 156+30.79 TO 157+50.79\***

**STA. 157+50.79 TO 160+03.27**

\* TRANSITION MEDIAN TO FROM 18' TO 8'

\*\*\* 6" CURB & DEPPENED FOOTING STA 156+85 TO 159+40 (LT SIDE)

157+15 TO 158+85 (RT SIDE)

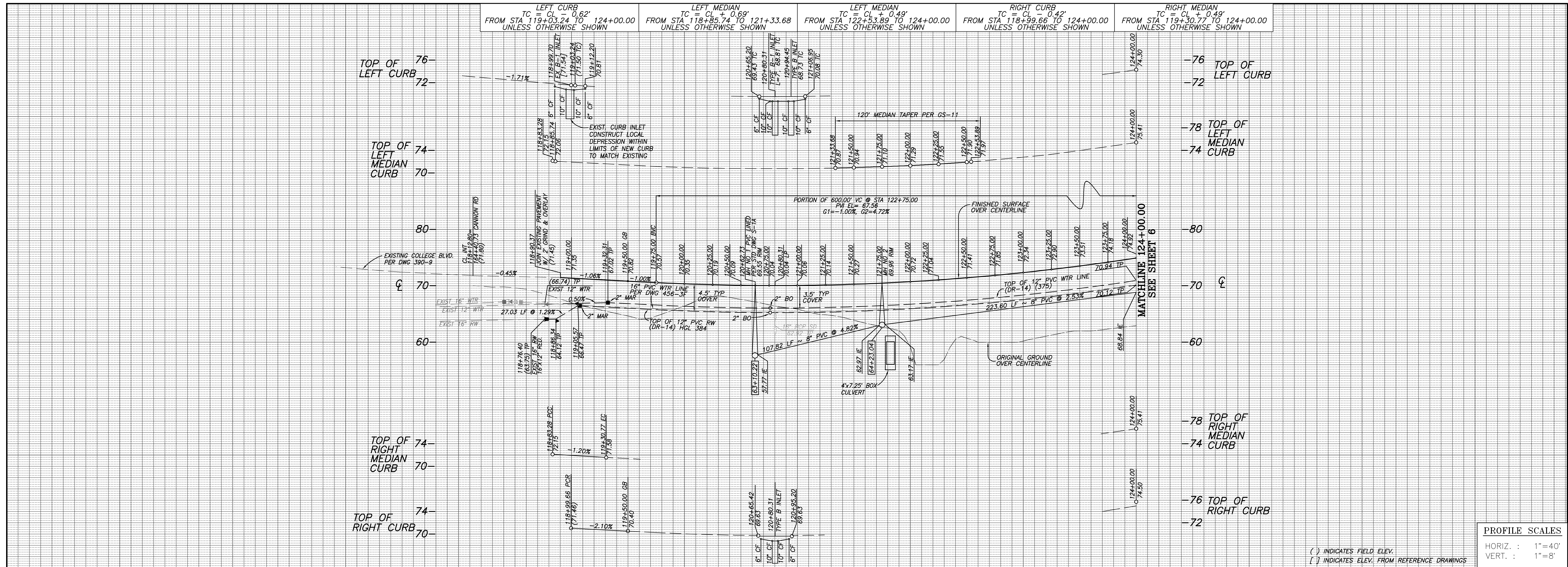
**TYPICAL SECTIONS ~ COLLEGE BOULEVARD**  
 TI=8.5 NOT TO SCALE  
 ▼ DENOTES ELEVATION SHOWN IN PROFILE STRUCTURAL SECTION.  
 \*\* 5" AC/6" AB MIN. PAVEMENT SECTION  
 SEE STREET NOTE 1 REGARDING REQUIREMENTS TO DETERMINE FINAL SECTION.  
 DESIGN SPEED = 50 MPH



**ENGINEER OF WORK**  
 RAYMOND L. MARTIN DATE  
 R.C.E. NO. 48670 EXP. 6/30/16  
**"AS BUILT"**  
 RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE  
 REVIEWED BY: \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE

**CITY OF CARLSBAD**  
 ENGINEERING DEPARTMENT SHEETS 73  
**COLLEGE BOULEVARD**  
 APPROVED JASON S. GELDERT  
 CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE  
 DWN BY: \_\_\_\_\_ PROJECT NO. \_\_\_\_\_ DRAWING NO. \_\_\_\_\_  
 CHKD BY: \_\_\_\_\_ CT 00-18 456-3G  
 RWVD BY: \_\_\_\_\_

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



**PROFILE SCALES**  
 HORIZ. : 1"=40'  
 VERT. : 1"=8'

( ) INDICATES FIELD ELEV.  
 [ ] INDICATES ELEV. FROM REFERENCE DRAWINGS

**CENTERLINE DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 37°51'01" W	5500.00'	540.22'	
2 5°37'40"			

**CURB DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 5°10'30"	5449.00'	492.15'	6" TYPE G C&G
2 8°18'34"	5541.00'	504.07'	6" TYPE G C&G
3 2°34'59"	5501.00'	247.99'	8" MEDIAN CURB
4 120° TAPER.....PER CARLSBAD STD DWG GS-11			8" MEDIAN CURB
5 1°31'20"	5491.00'	145.87'	8" MEDIAN CURB
6 180°00'00"	2.50'	7.15'	8" MEDIAN CURB
7 NOSE TAPER.....PER CARLSBAD STD DWG GS-11			8" MEDIAN CURB
8 4°53'17"	5509.00'	470.00'	8" MEDIAN CURB

**WATER DATA (375)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 82°57'32" W	55.37'	12" PVC DR-14	
2 5°02'38"	5476.00'	482.08'	12" PVC DR-14

\* USE 20' LENGTHS WITH UP TO 15% RANDOM (MIN 10') SECTIONS PER CITY OF CARLSBAD ENGINEERING STANDARDS - VOLUME III, CHAPTER 6, DIVISION 15, SECTION 15064, PARTS 3.1 & 3.5.

**RECYCLED WATER DATA (384)**

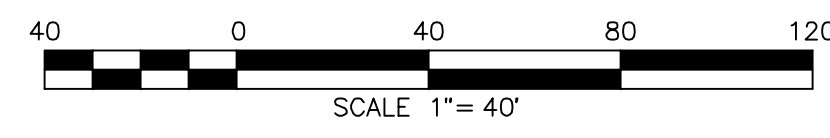
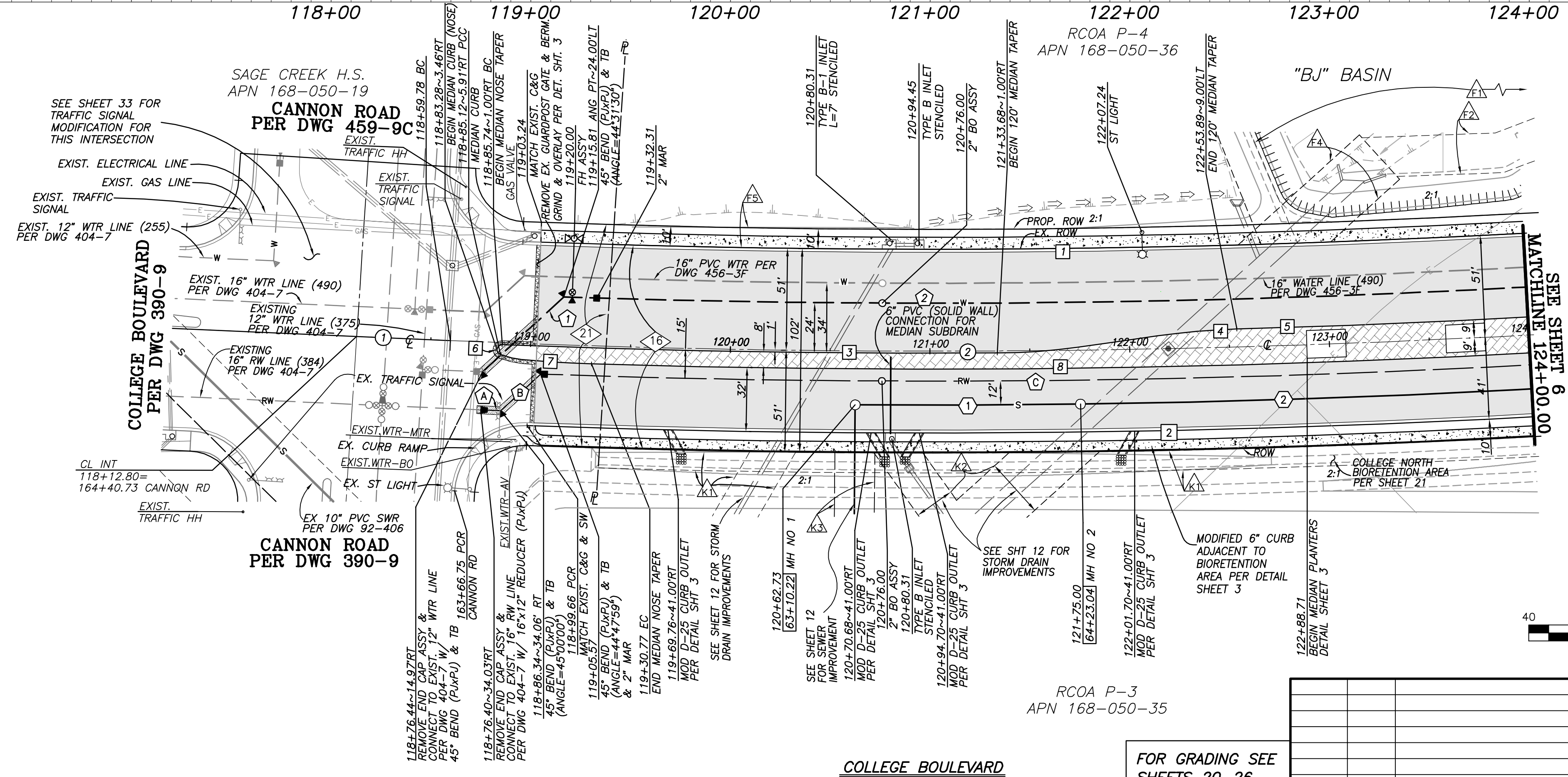
BEARING/Delta	RADIUS	LENGTH	REMARKS
A N 37°51'01" W	10.00'	12" PVC DR-14	
B N 82°51'01" W	27.03'	12" PVC DR-14	
C 5°09'03"	5515.00'	495.78'	12" PVC DR-14

\* USE 20' LENGTHS WITH UP TO 15% RANDOM (MIN 10') SECTIONS PER CITY OF CARLSBAD ENGINEERING STANDARDS - VOLUME III, CHAPTER 6, DIVISION 15, SECTION 15064, PARTS 3.1 & 3.5.

**SEWER DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 1°10'11"	5527.00'	112.82'	8" PVC SDR-35
2 2°20'38"	5527.00'	226.10'	8" PVC SDR-35

SEE SHEET 12 FOR OFF STREET SEWER AND STORM DRAIN



- ◊ EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- △ PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

STENCIL ALL INLETS PER CASQA SD-13, "NO DUMPING, DRAIN TO OCEAN"



**ENGINEER OF WORK**

RAYMOND L. MARTIN DATE  
 R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE EXP. DATE  
 REVIEWED BY: DATE  
 INSPECTOR DATE

SHEET 5 CITY OF CARLSBAD SHEETS 73  
 ENGINEERING DEPARTMENT

IMPROVEMENT PLANS FOR:  
**COLLEGE BOULEVARD**  
 PLAN & PROFILE STA. 118+12.80-124+00.00

APPROVED JASON S. GELDERT  
 CITY ENGINEER RCE 6.3912 EXP. 09/30/16 DATE

DWN BY: PROJECT NO. DRAWING NO.  
 CT 00-18 456-3G  
 CHKD BY: RWMD BY:

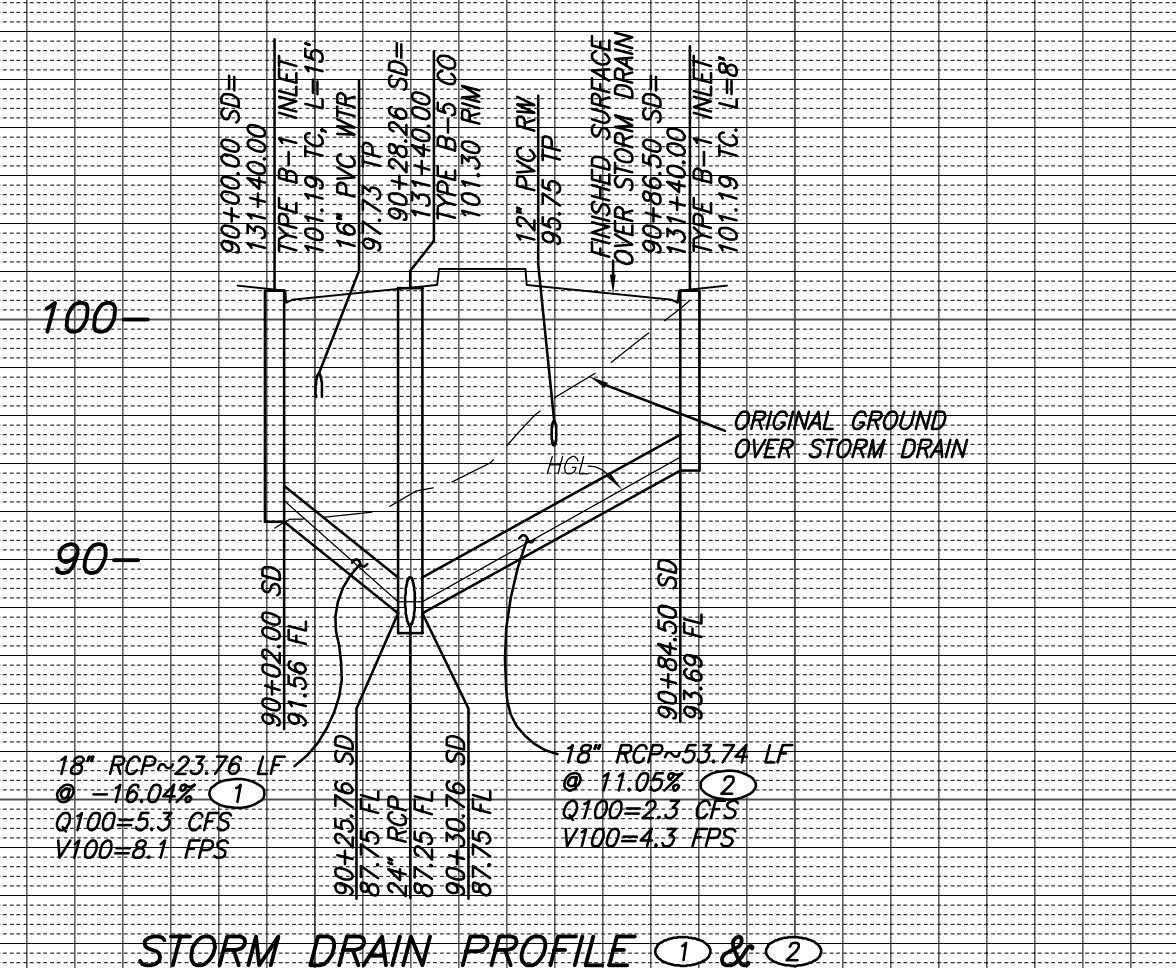
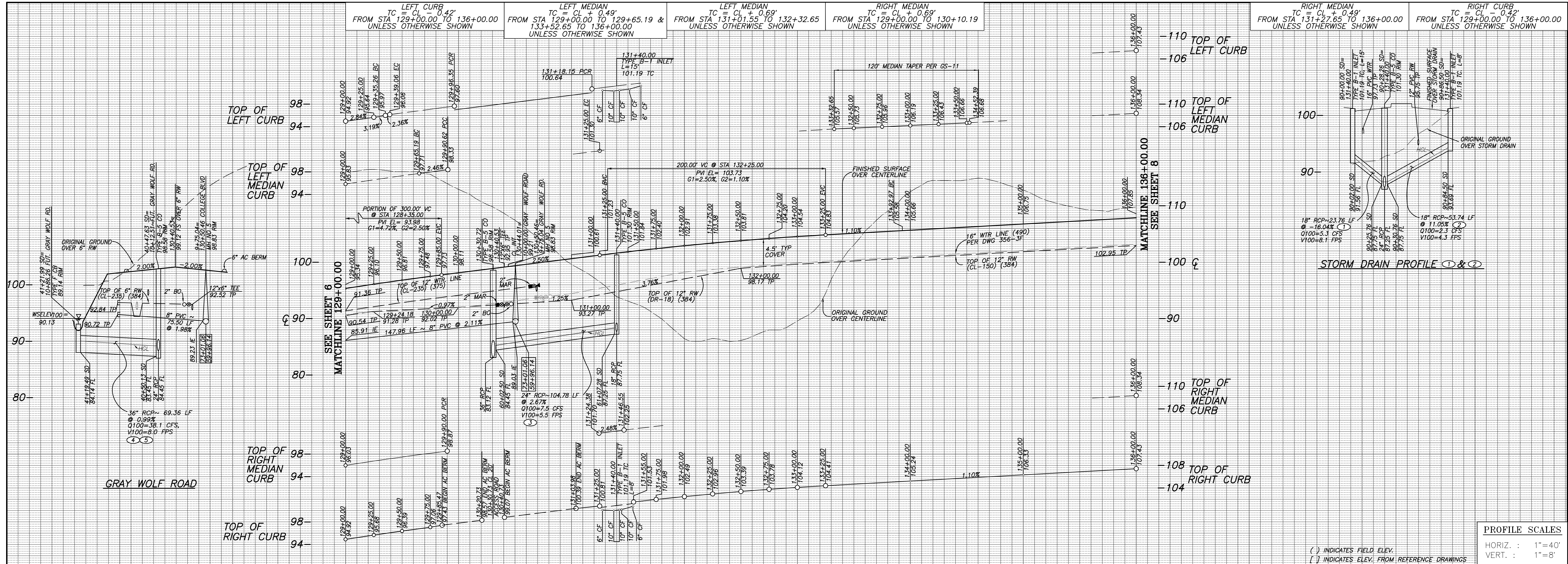
RCOA P-3 APN 168-050-35

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

FOR GRADING SEE SHEETS 20-26







**CENTERLINE DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 46°34'31\" W		144.01'	
2 N 46°34'31\" W		348.97'	
3 5°55'51\"	2000.00'	207.03'	
4 N 53°18'35\" E		51.77'	GRAY WOLF ROAD

**CURB DATA**

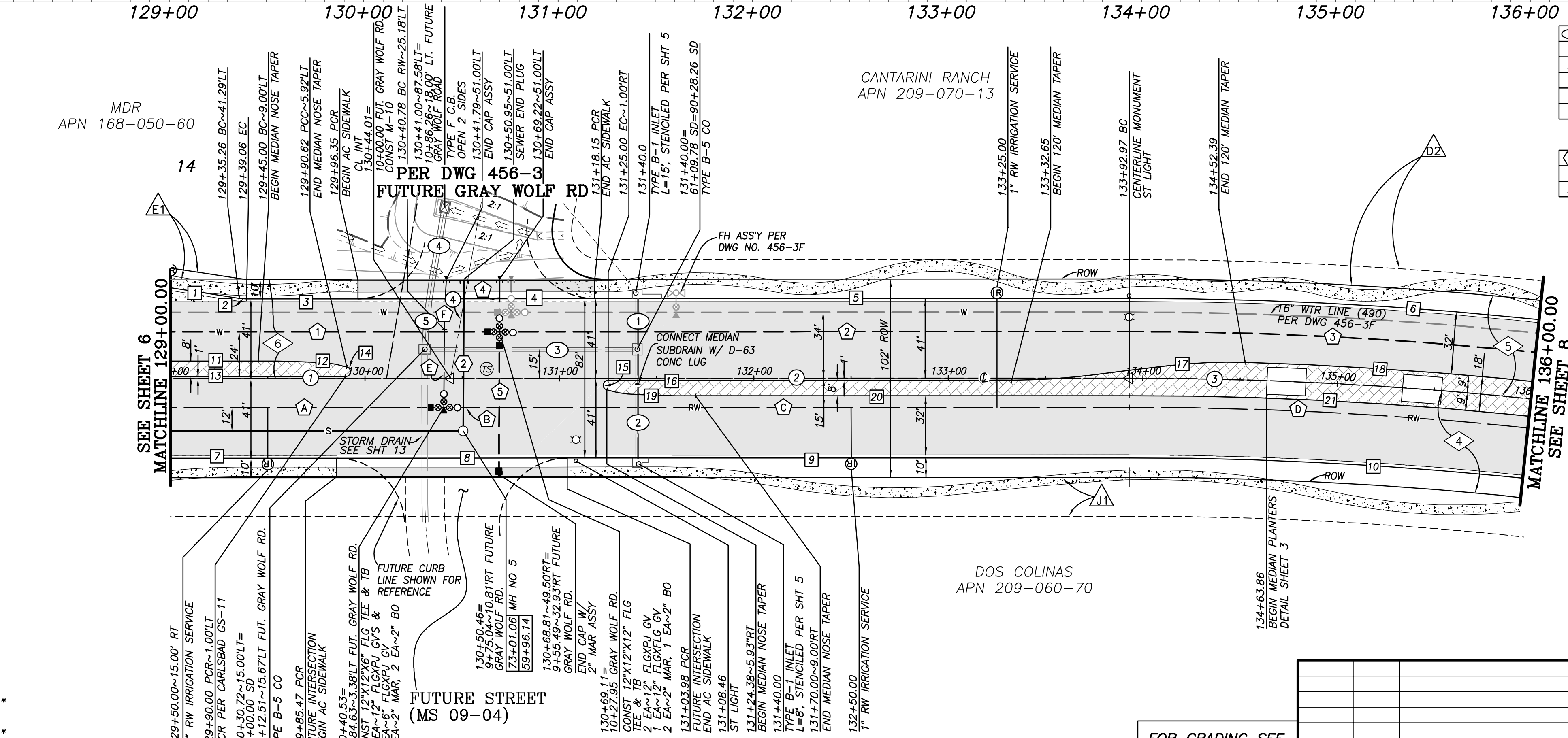
BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 37°50'21\" W	35.67'	35.67'	6\" TYPE G C&G
2 8°44'10\"	25.00'	3.81'	6\" TYPE G C&G
3 N 46°34'31\" W		57.29'	6\" TYPE G C&G
4 N 46°34'31\" W		121.81'	6\" AC BERM
5 N 46°34'31\" W		274.82'	6\" TYPE G C&G
6 5°55'51\"	2041.00'	211.27'	6\" TYPE G C&G
7 N 46°34'31\" W		85.47'	6\" TYPE G C&G
8 N 46°34'31\" W		118.53'	6\" AC BERM
9 N 46°34'31\" W		288.99'	6\" TYPE G C&G
10 5°55'51\"	1959.00'	202.78'	6\" TYPE G C&G
11 N 46°34'31\" W		45.00'	8\" MEDIAN CURB
12 NOSE TAPER...PER CARLSBAD STD DWG GS-11			8\" MEDIAN CURB
13 N 46°34'31\" W		90.00'	8\" MEDIAN CURB
14 165°38'26\"	2.50'	7.23'	8\" MEDIAN CURB
15 165°38'26\"	2.50'	7.23'	8\" MEDIAN CURB
16 N 46°33'53\" W		207.65'	8\" MEDIAN CURB
17 120\" TAPER...PER CARLSBAD STD DWG GS-11			8\" MEDIAN CURB
18 4°13'44\"	2009.00'	148.28'	8\" MEDIAN CURB
19 NOSE TAPER...PER CARLSBAD STD DWG GS-11			8\" MEDIAN CURB
20 N 46°34'31\" W		222.97'	8\" MEDIAN CURB
21 5°55'51\"	1991.00'	206.10'	8\" MEDIAN CURB

**WATER DATA (375)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 46°34'31\" W	169.11'	12\" PVC DR-14	
2 N 46°34'31\" W	323.86'	12\" PVC DR-14	
3 5°55'51\"	2024.00'	12\" PVC DR-14	
4 N 43°39'31\" E	27.00'	12\" PVC DR-18	
5 N 43°39'31\" E	73.50'	12\" PVC DR-18	

**RECYCLED WATER DATA (384)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
A N 46°34'31\" W	140.53'	12\" PVC DR-14	
B N 46°34'31\" W	34.41'	12\" DIP CL-350	
C N 46°34'31\" W	318.04'	12\" PVC DR-18	
D 5°55'51\"	1985.00'	12\" PVC DR-18	
E N 43°47'40\" E	40.18'	6\" PVC DR-18	
F 3°42'06\"	400.00'	6\" PVC DR-18	



**STORM DRAIN DATA**

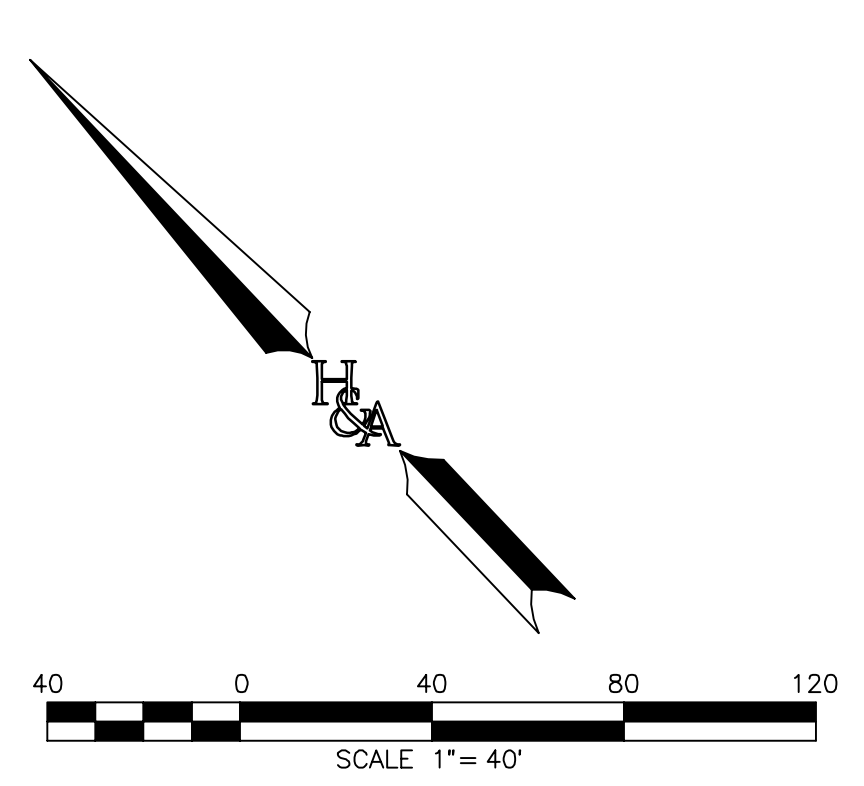
BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 43°25'29\" E		23.76'	18\" RCP 1350-D
2 N 43°25'29\" E		53.74'	18\" RCP 1350-D
3 N 46°33'53\" W		104.78'	24\" RCP 1350-D
4 N 53°18'35\" E		35.13'	36\" RCP 1350-D
5 6°45'47\"	290.00'	34.23'	36\" RCP 1350-D

**SEWER DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 46°34'31\" W		150.46'	8\" PVC SDR-35
2 N 43°47'40\" E		78.00'	8\" PVC SDR-35

**PROFILE SCALES**  
 HORIZ. : 1\"=40'  
 VERT. : 1\"=8'

EXISTING EASEMENT DESIGNATOR, SEE SHEET 2  
 PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2



**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.  
 9707 Waples Street  
 San Diego, CA 92121  
 PH: 619-581-4500 FAX: 619-581-4144

**ENGINEER OF WORK**  
 RAYMOND L. MARTIN  
 R.C.E. NO. 48670 EXP. 6/30/16  
 DATE

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

SHEET 7  
**CITY OF CARLSBAD**  
 ENGINEERING DEPARTMENT  
 SHEETS 73

IMPROVEMENT PLANS FOR:  
**COLLEGE BOULEVARD**  
 PLAN & PROFILE STA. 129+00.00-136+00.00

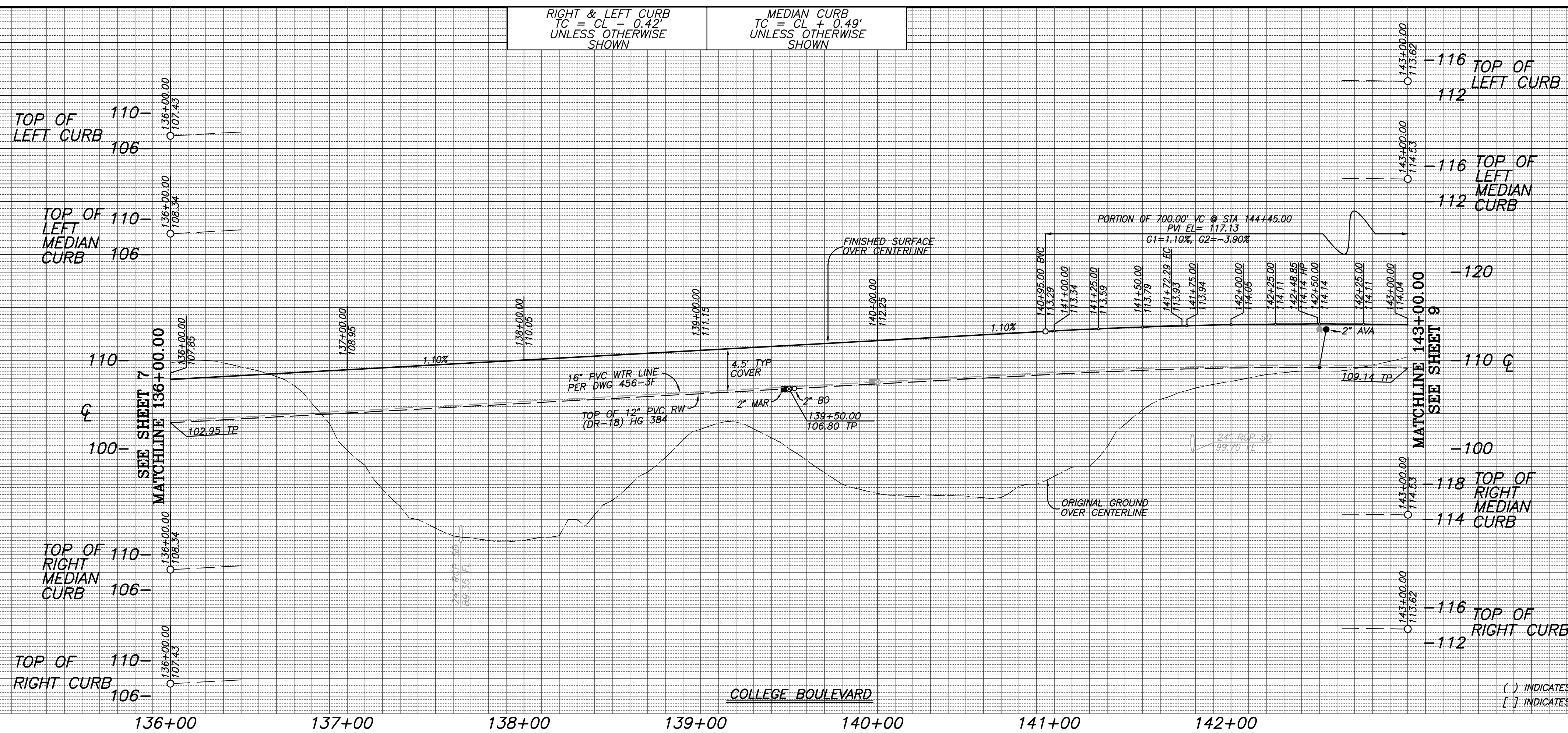
APPROVED \_\_\_\_\_ JASON S. GELDERT  
 CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE \_\_\_\_\_

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
 CHKD BY: \_\_\_\_\_  
 RWVD BY: \_\_\_\_\_

**FOR GRADING SEE SHEETS 20-26**

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL





**PROFILE SCALES**

HORIZ. : 1" = 40'  
VERT. : 1" = 8'

( ) INDICATES FIELD ELEV.  
[ ] INDICATES ELEV. FROM REFERENCE DRAWINGS

**CENTERLINE DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 16°23'42"	2000.00'	572.29'	
2 N 24°14'58" W		127.71'	

**CURB DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 16°23'42"	2041.00'	584.02'	6" TYPE G C&G
2 N 24°14'58" W		127.71'	6" TYPE G C&G
3 16°23'42"	2009.00'	574.87'	8" MEDIAN CURB
4 N 24°14'58" W		127.71'	8" MEDIAN CURB
5 16°23'42"	1991.00'	569.72'	8" MEDIAN CURB
6 N 24°14'58" W		127.71'	8" MEDIAN CURB
7 16°23'42"	1959.00'	560.56'	6" TYPE G C&G
8 N 24°14'58" W		127.71'	6" TYPE G C&G

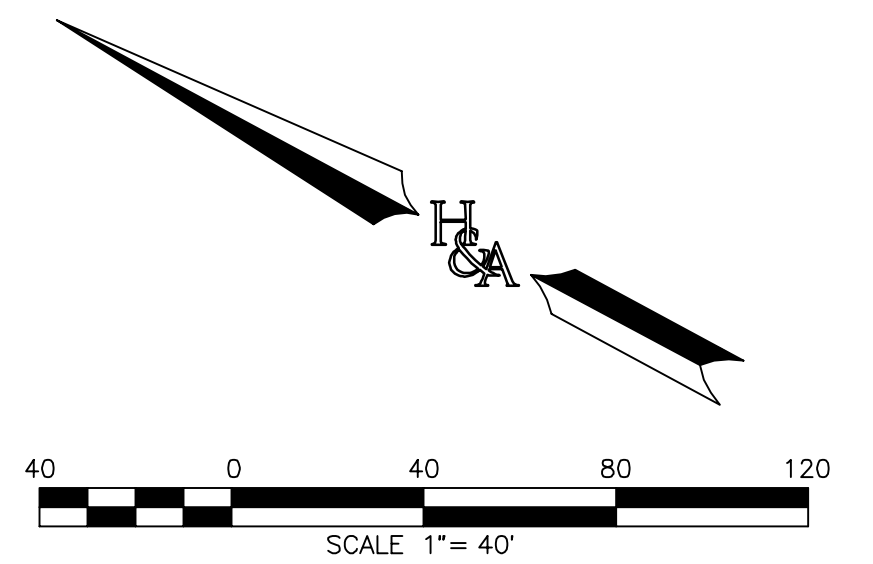
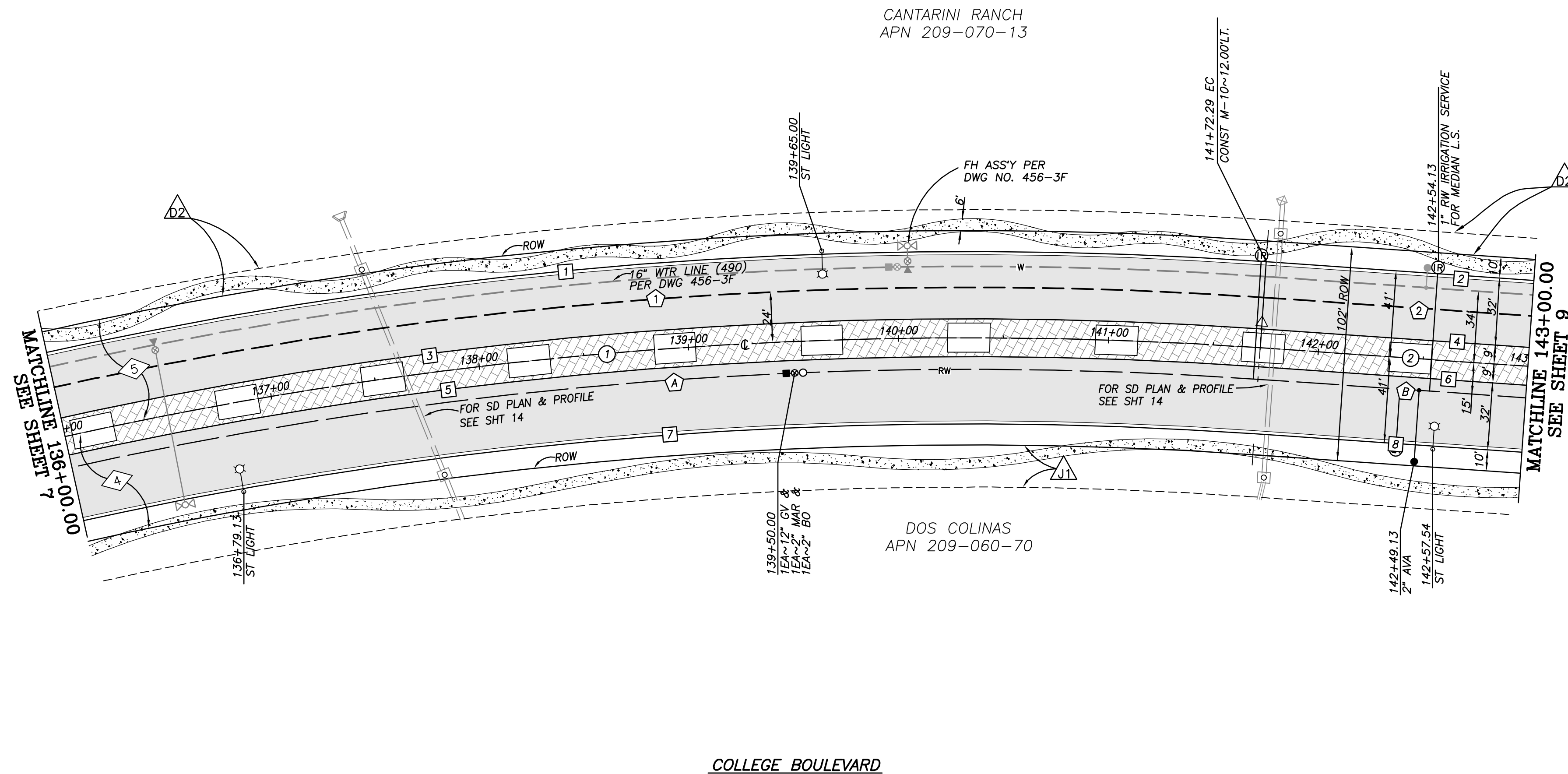
**WATER DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 16°23'42"	2024.00'	579.17'	12" PVC DR-14
2 N 24°14'58" W		127.71'	12" PVC DR-14

**RECYCLED WATER DATA (384)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
A 16°23'42"	1985.00'	568.00'	12" PVC DR-18
B N 24°14'58" W		127.71'	12" PVC DR-18

\* USE 20' LENGTHS WITH UP TO 15% RANDOM (MIN 10') SECTIONS PER CITY OF CARLSBAD ENGINEERING STANDARDS - VOLUME III, CHAPTER 6, DIVISION 15, SECTION 15064, PARTS 3.1 & 3.5.



**ENGINEER OF WORK**

RAYMOND L. MARTIN DATE  
R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

SHEET 8 CITY OF CARLSBAD SHEETS 73  
ENGINEERING DEPARTMENT

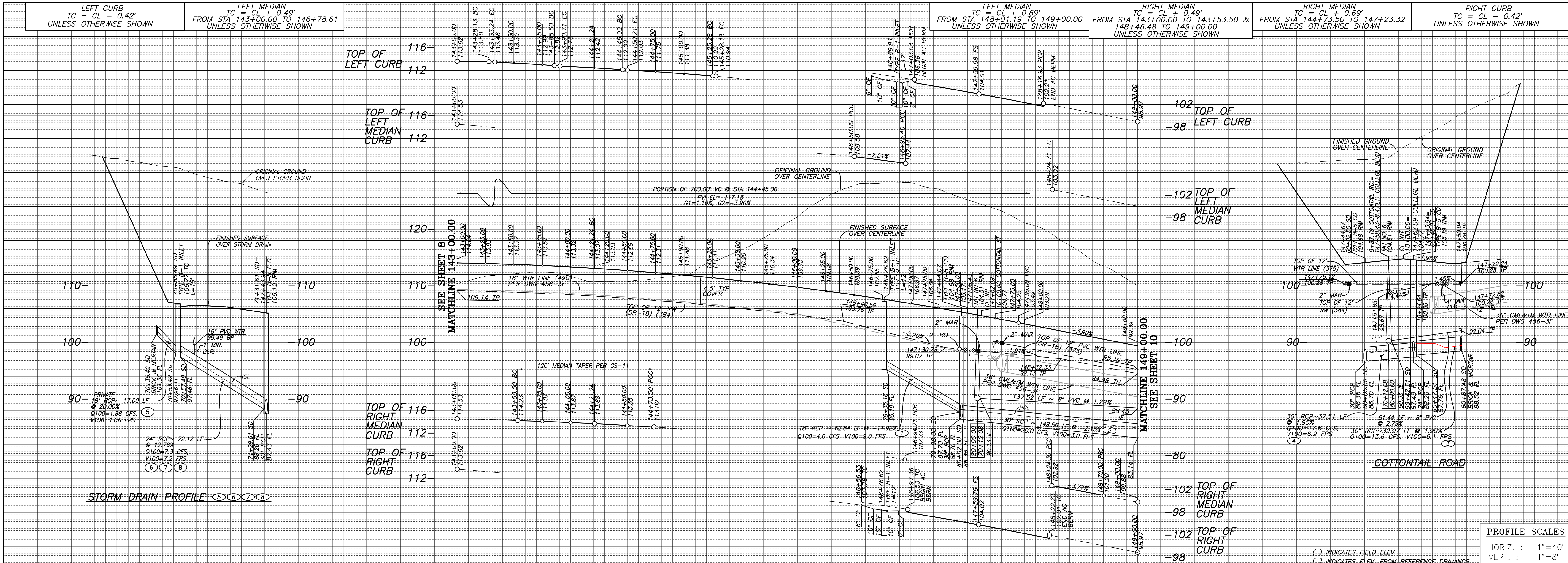
IMPROVEMENT PLANS FOR:  
**COLLEGE BOULEVARD**  
PLAN & PROFILE STA. 136+00.00-143+00.00  
APPROVED JASON S. GELDERT  
CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE  
DWN BY: \_\_\_\_\_ PROJECT NO. DRAWING NO.  
CHKD BY: \_\_\_\_\_ CT 00-18 456-3G  
RWVD BY: \_\_\_\_\_

FOR GRADING SEE SHEETS 16-26

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



PLANNING 9707 Waples Street  
ENGINEERING San Diego, Ca 92121  
SURVEYING PH(619)558-4500 FX(619)558-1414



**CENTERLINE DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 24°14'58" W		121.24'	
2 13°56'58"	1400.00'	340.85'	
3 5°38'39"	1400.00'	137.91'	
4 N 78°00'00" E		51.02'	COTTONTAIL ROAD

**CURB DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 24°14'58" W		28.13'	6" TYPE G C&G
2 11°48'18"	25.00'	5.15'	6" TYPE G C&G
3 N 36°03'16" W		53.49'	6" TYPE G C&G
4 11°48'18"	25.00'	5.15'	6" TYPE G C&G
5 N 24°14'58" W		30.52'	6" TYPE G C&G
6 1°00'47"	1453.00'	25.69'	6" TYPE G C&G
7 10°05'53"	25.00'	4.41'	6" TYPE G C&G
8 N 13°08'18" W		78.41'	6" TYPE G C&G
9 6°44'11"	25.00'	2.94'	6" TYPE G C&G
10 7°09'29"	1441.00'	180.03'	6" TYPE G C&G
11 3°23'59"	1441.00'	85.50'	6" TYPE G C&G
12 N 24°14'58" W		121.24'	8" MEDIAN CURB
13 10°15'28"	1409.00'	252.24'	8" MEDIAN CURB
14 NOSE TAPER.....PER CARLSBAD STD DWG GS-11			8" MEDIAN CURB
15 DELTA = 180°00'00"	2.50'	7.15'	8" MEDIAN CURB
16 DELTA = 180°00'00"	2.50'	7.45'	8" MEDIAN CURB
17 3°54'58"	1399.00'	95.62'	8" MEDIAN CURB
18 N 24°14'58" W		53.50'	8" MEDIAN CURB
19 120' TAPER.....PER CARLSBAD STD DWG GS-11			8" MEDIAN CURB
20 9°56'54"	1401.00'	243.26'	8" MEDIAN CURB
21 NOSE TAPER.....PER CARLSBAD STD DWG GS-11			8" MEDIAN CURB
22 2°03'46"	1391.00'	50.08'	8" MEDIAN CURB
23 N 24°14'58" W		121.24'	6" TYPE G C&G
24 11°18'02"	1359.00'	268.04'	6" TYPE G C&G
25 5°06'37"	1359.00'	121.21'	6" AC BERM
26 3°10'58"	1359.00'	75.49'	6" TYPE G C&G
27 12°16'28"	25.00'	5.29'	6" TYPE G C&G
28 N6°26'49"E		19.19'	6" TYPE G C&G
29 6°36'18"	1017.68'	117.32'	TEMP 6" AC BERM

**WATER DATA (375)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 24°14'58" W		121.24'	12" PVC DR-18
2 6°26'36"	1424.00'	160.14'	12" PVC DR-18
3 9°23'18"	307.53'	50.39'	12" PVC DR-18
4 13°27'05"	215.63'	50.62'	12" PVC DR-18
5 3°55'19"	1434.00'	98.16'	12" PVC DR-18
6 5°12'29"	1434.00'	130.29'	12" PVC DR-18
7 N 78°00'00" E		17.01'	12" PVC DR-18
8 N 78°00'00" E		85.06'	12" PVC DR-18

**SEWER DATA**

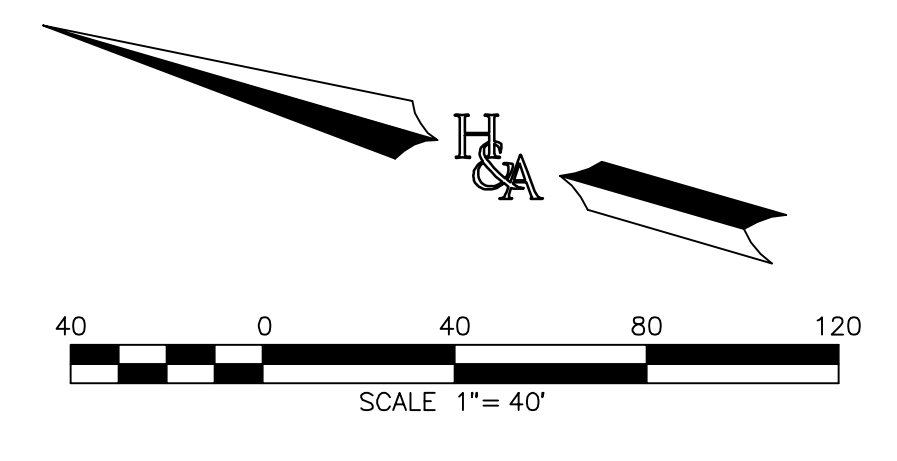
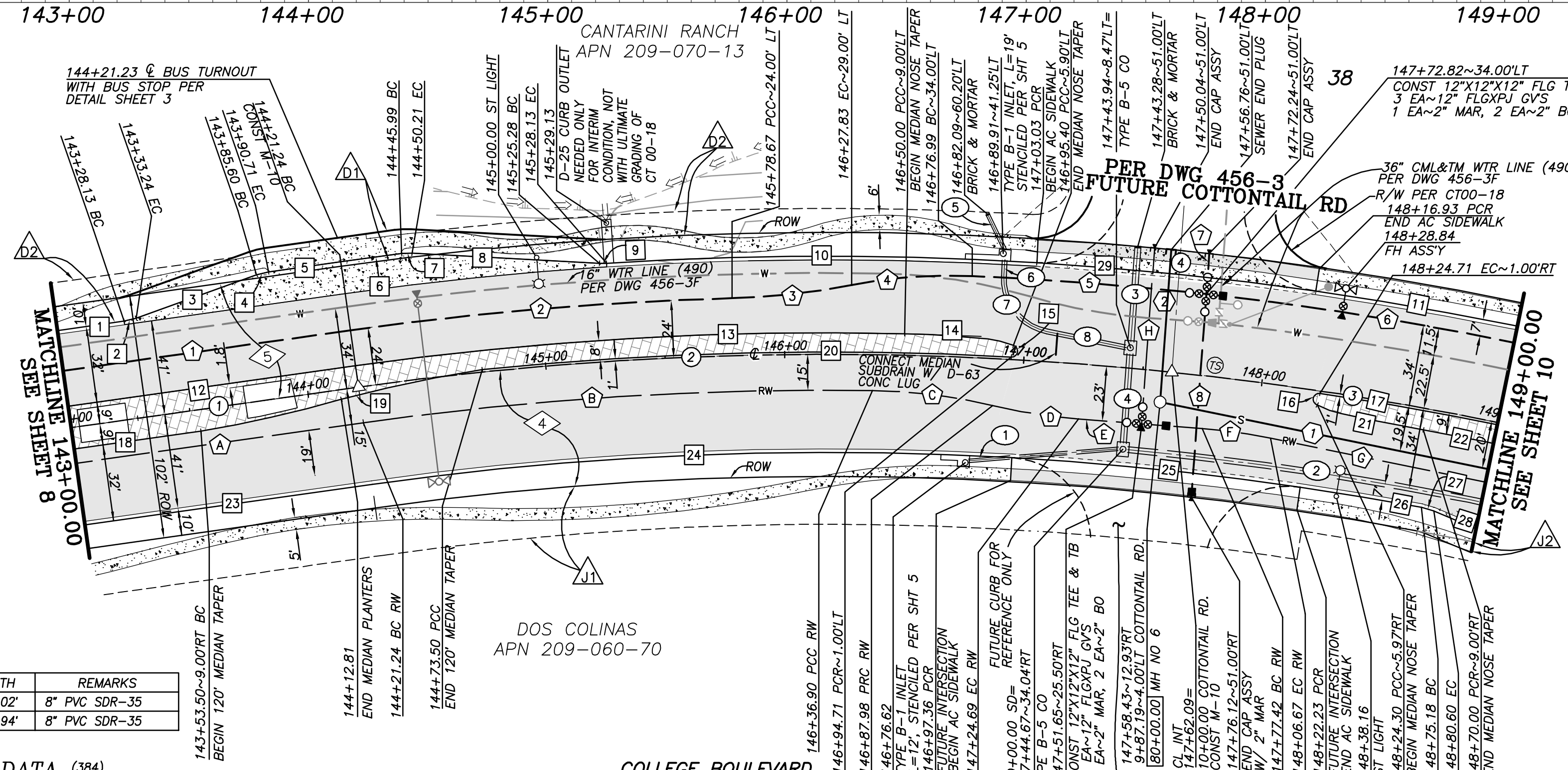
BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 4°39'21" W		140.02'	8" PVC SDR-35
2 N 78°00'00" E		63.94'	8" PVC SDR-35

**RECYCLED WATER DATA (384)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
A N 24°14'58" W		121.24'	12" PVC DR-18
B 8°49'34"	1385.00'	213.35'	12" PVC DR-18
C 12°38'44"	230.00'	50.76'	12" PVC DR-18
D 9°03'11"	230.00'	36.34'	12" PVC DR-18
E N 11°49'50" W		51.89'	12" PVC DR-18
F 7°10'29"	230.00'	28.80'	12" PVC DR-18
G N 4°39'21" W		91.77'	12" PVC DR-18
H N 78°00'00" E		73.76'	12" PVC DR-18

**STORM DRAIN DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 20°48'10" W		62.84'	18" RCP 1350-D
2 6°16'24"	1366.00'	149.56'	30" RCP 1350-D
3 N 78°00'00" E		39.97'	30" RCP 1350-D
4 N 78°00'00" E		37.51'	30" RCP 1350-D
5 N 7°58'48" E		17.00'	18" RCP 1350-D (PVI)
6 N 76°44'46" E		6.57'	24" RCP 1350-D
7 81°29'23"		32.00'	24" RCP 1350-D
8 N 4°44'37" W		33.55'	24" RCP 1350-D



**PROFILE SCALES**  
 HORIZ. : 1"=40'  
 VERT. : 1"=8'

**ENGINEER OF WORK**  
 RAYMOND L. MARTIN  
 R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

SHEET 9 CITY OF CARLSBAD ENGINEERING DEPARTMENT SHEETS 73

IMPROVEMENT PLANS FOR:  
**COLLEGE BOULEVARD**  
 PLAN & PROFILE STA. 143+00.00-149+00.00

APPROVED JASON S. GELDELT  
 CITY ENGINEER RCE\_63912 EXP. 09/30/16 DATE \_\_\_\_\_

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
 CHKD BY: \_\_\_\_\_  
 RWVD BY: \_\_\_\_\_

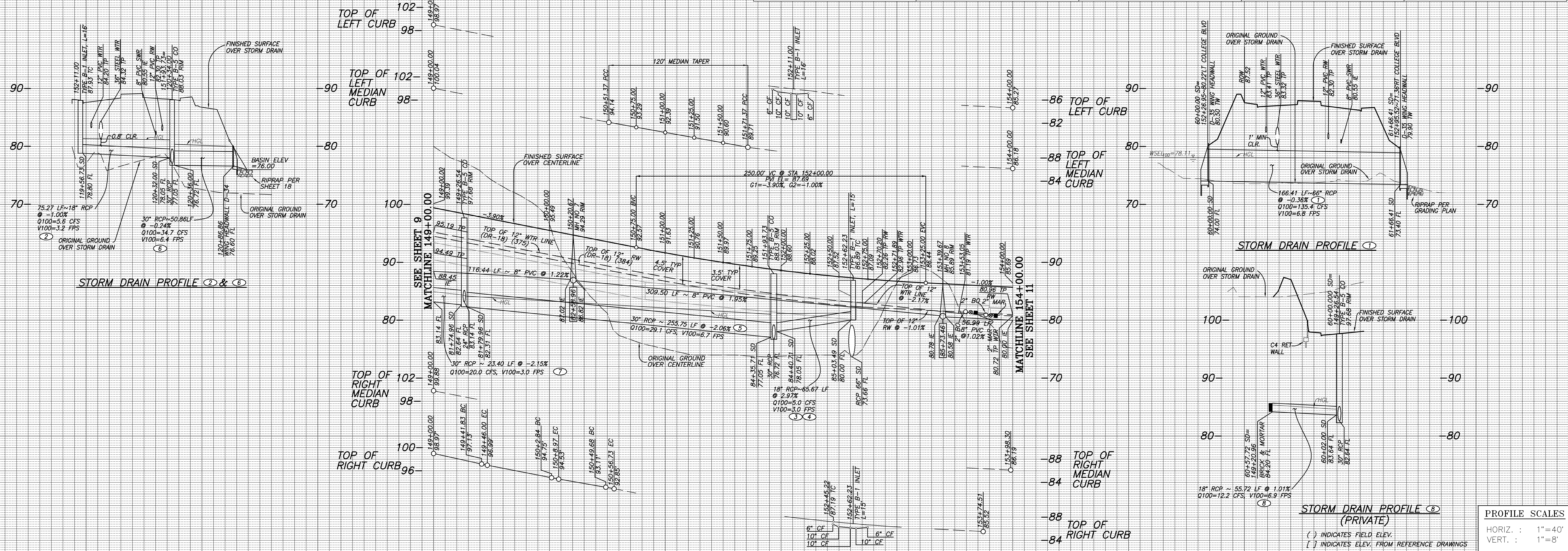
DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	OTHER APPROVAL	DATE	INITIAL	CITY APPROVAL

**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.

PLANNING 9707 Waples Street  
 ENGINEERING San Diego, CA 92121  
 SURVEYING PH(619)558-4500 FAX(619)558-1414



LEFT CURB TC = CL + 0.42' FROM STA 149+00.00 TO 154+00.00  
 LEFT MEDIAN TC = CL + 0.69' FROM STA 149+00.00 TO 150+51.37 UNLESS OTHERWISE SHOWN  
 LEFT MEDIAN TC = CL + 0.49' FROM STA 151+71.37 TO 154+00.00 UNLESS OTHERWISE SHOWN  
 RIGHT MEDIAN TC = CL + 0.49' UNLESS OTHERWISE SHOWN  
 RIGHT CURB TC = CL - 0.42' FROM STA 149+00.00 TO 153+74.51 UNLESS OTHERWISE SHOWN



**CENTERLINE DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
20°27'46"	1400.00'	500.00'	

**CURB DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
4°21'11"	1441.00'	109.48'	6" TYPE G C&G
0°58'58"	1441.00'	24.72'	TYPE B ROLLED CURB
13°43'34"	1441.00'	345.21'	6" TYPE G C&G
0°52'29"	1441.00'	22.00'	TYPE B ROLLED CURB
0°31'33"	1441.00'	13.22'	6" TYPE G C&G
6°11'41"	1399.00'	151.26'	8" MEDIAN CURB
120° TAPER	PER CARLSBAD STD DWG GS-11		8" MEDIAN CURB
9°21'25"	1409.00'	230.10'	8" MEDIAN CURB
20°19'20"	1391.00'	493.38'	8" MEDIAN CURB
N 6°28'49" E		41.02'	6" TYPE G C&G
9°13'12"	25.00'	4.02'	6" TYPE G C&G
2°19'46"	1347.00'	54.70'	6" TYPE G C&G
13°38'52"	25.00'	5.96'	6" TYPE G C&G
N 14°05'40" W		40.69'	6" TYPE G C&G
15°51'11"	25.00'	6.92'	6" TYPE G C&G
6°44'40"	1359.00'	159.97'	6" TYPE G C&G
0°55'39"	1359.00'	22.00'	TYPE B ROLLED CURB
5°19'55"	1359.00'	126.47'	6" TYPE G C&G

**WATER DATA (375)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
13°18'03"	1434.00'	332.89'	12" PVC DR-18
5°48'06"	1434.00'	145.20'	12" PVC DR-18
N 7°41'29" W		9.22'	12" PVC DR-18
1°01'12"	1437.50'	25.59'	12" PVC RJ DR14

**SEWER DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
4°50'05"	1380.00'	118.94'	8" PVC SDR-35
13°03'27"	1380.00'	314.50'	8" PVC SDR-35
2°28'09"	1380.50'	59.49'	8" PVC RJ DR14

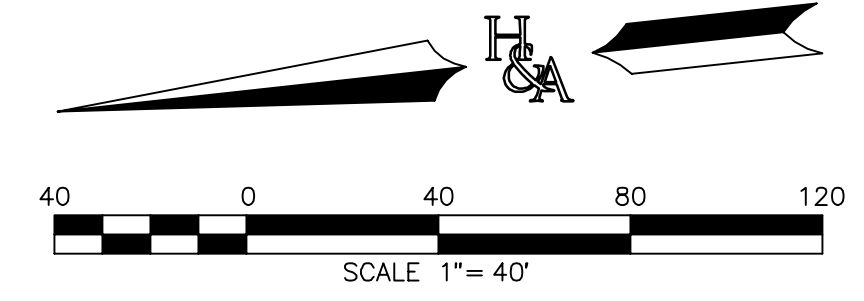
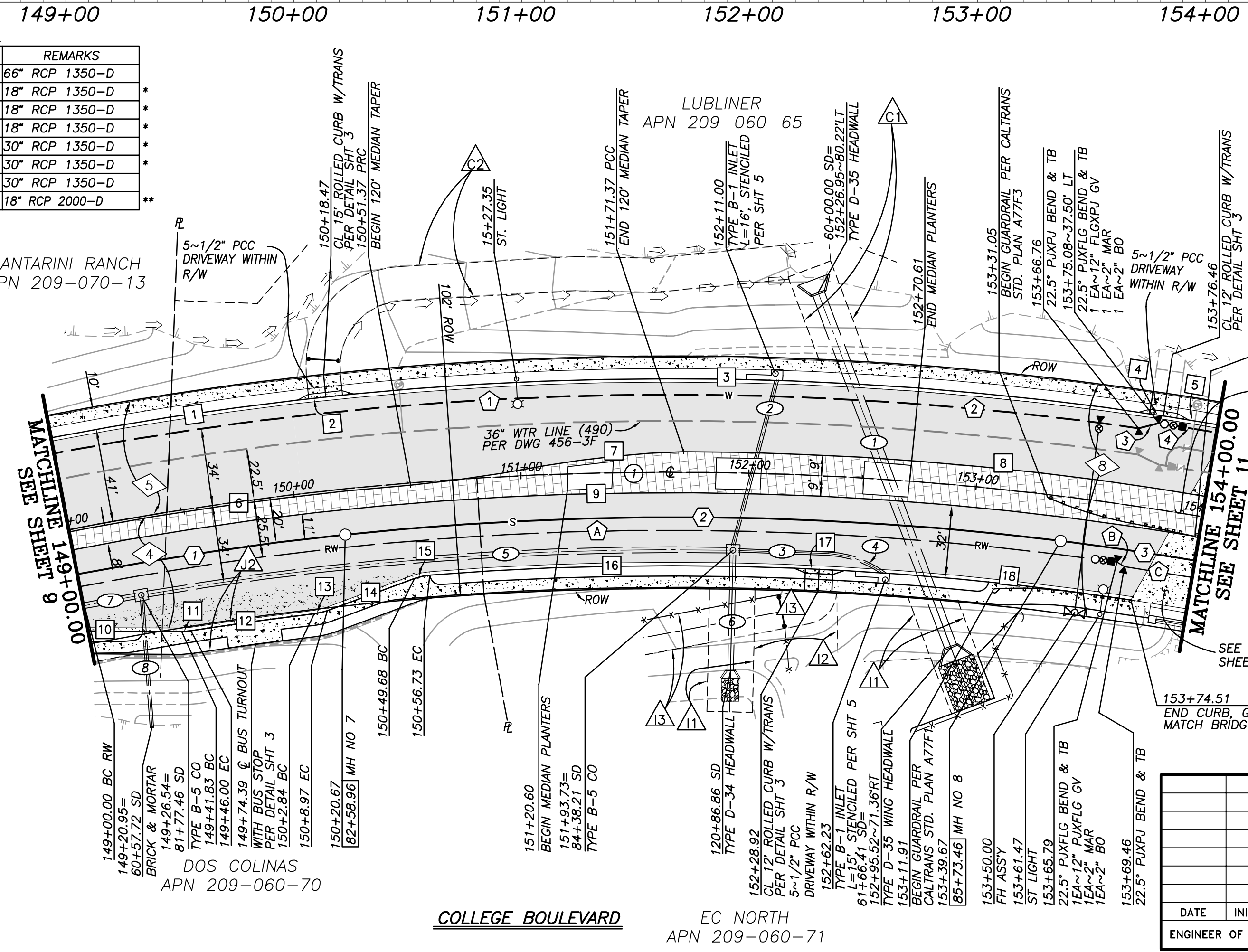
**RECYCLED WATER DATA (384)**

BEARING/Delta	RADIUS	LENGTH	REMARKS
19°03'45"	1374.50'	457.30'	12" PVC DR-18
N 3°03'26" E		3.91'	12" PVC RJ DR14
1°14'59"	1373.00'	29.95'	12" PVC RJ DR14

**STORM DRAIN DATA**

BEARING/Delta	RADIUS	LENGTH	REMARKS
N 75°42'50" E		166.41'	66" RCP 1350-D
N 68°59'21" W		75.27'	18" RCP 1350-D
1°39'01"	1366.00'	39.35'	18" RCP 1350-D
33°30'29"	45.00'	26.32'	18" RCP 1350-D
15°18'14"	1366.00'	255.75'	30" RCP 1350-D
N 82°38'04" W		50.86'	30" RCP 1350-D
0°58'53"	1366.00'	23.40'	30" RCP 1350-D
N 88°11'22" W		55.72'	18" RCP 2000-D

\* WATER - TIGHT JOINTS REQUIRED, SEE PROFILE  
 \*\* PRIVATELY MAINTAINED



FOR GRADING AND ACCESS ROAD SEE SHEET 26

EXISTING EASEMENT DESIGNATOR, SEE SHEET 2  
 PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2



ENGINEER OF WORK  
 RAYMOND L. MARTIN DATE  
 R.C.E. NO. 48670 EXP. 6/30/16

"AS BUILT"

RCE EXP. DATE  
 REVIEWED BY: DATE  
 INSPECTOR DATE

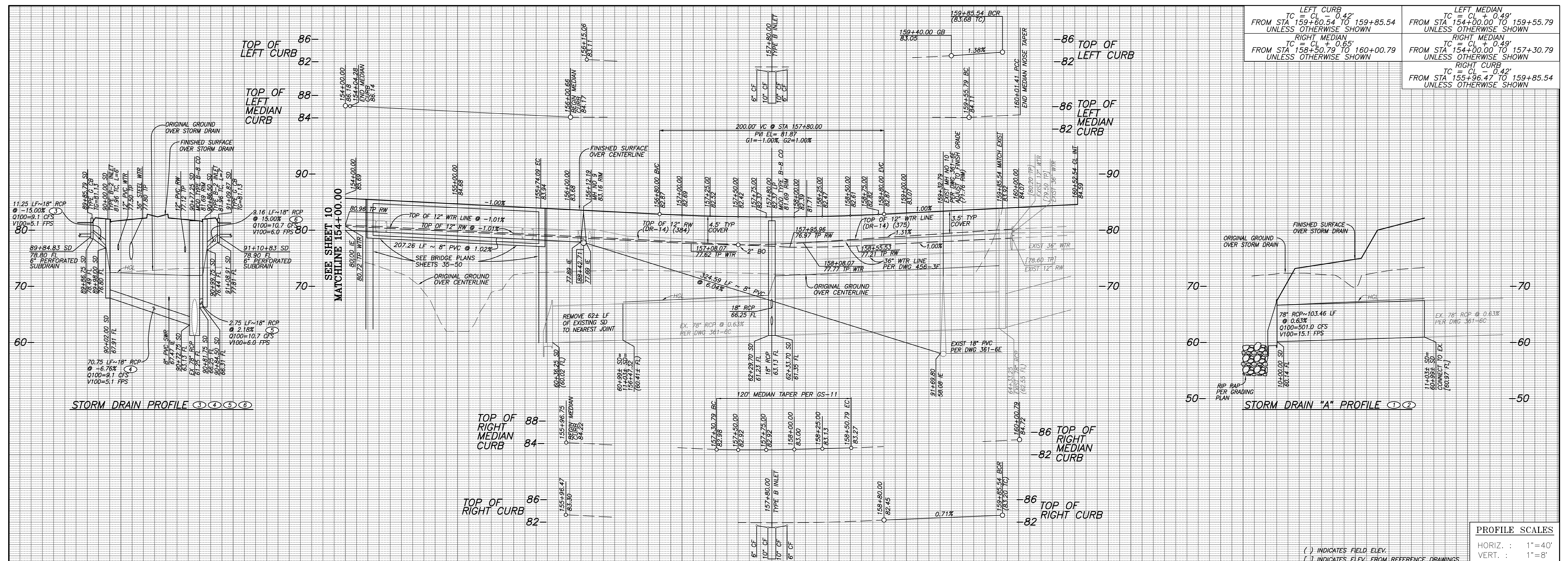
SHEET 10 CITY OF CARLSBAD SHEETS 73  
 ENGINEERING DEPARTMENT

IMPROVEMENT PLANS FOR:  
 COLLEGE BOULEVARD  
 PLAN & PROFILE STA. 149+00.00-154+00.00

APPROVED JASON S. GELDEBT  
 CITY ENGINEER RCE 6.3912 EXP. 09/30/16 DATE

DWN BY: PROJECT NO. DRAWING NO.  
 CT 00-18 456-3G

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



LEFT CURB TC = CL + 0.42' FROM STA 159+60.54 TO 159+85.54 UNLESS OTHERWISE SHOWN	LEFT MEDIAN TC = CL + 0.49' FROM STA 154+00.00 TO 159+55.79 UNLESS OTHERWISE SHOWN
RIGHT MEDIAN TC = CL + 0.85' FROM STA 158+50.79 TO 160+00.79 UNLESS OTHERWISE SHOWN	RIGHT CURB TC = CL + 0.42' FROM STA 159+85.54 TO 159+85.54 UNLESS OTHERWISE SHOWN

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 7°07'29"	1400.00'	174.09'	
2 N 22°55'54" E		478.45'	

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 22°55'54" E		370.49'	6" TYPE G C&G
2 N 22°55'50" E		355.14'	8" MEDIAN CURB
3 NOSE TAPER...PER CARLSBAD STD DWG GS-11		34.05'	8" MEDIAN CURB
4 N 22°56'20" E		34.05'	8" MEDIAN CURB
5 120' TAPER...PER CARLSBAD STD DWG GS-11		34.05'	8" MEDIAN CURB
6 N 22°55'54" E		250.00'	8" MEDIAN CURB
7 N 22°55'54" E		389.08'	6" TYPE G C&G
8 0°11'56"	1441.58'	5.00'	6" TYPE G C&G
9 0°10'31"	1409.00'	4.31'	6" TYPE G C&G
10 165°38'26"	2.50'	7.23'	8" MEDIAN CURB

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 7°07'29"	1437.50'	178.75'	12" PVC RJ DR14
2 N 22°55'54" E		57.06'	12" PVC RJ DR14
3 N 45°25'54" E		9.15'	12" PVC DR-14
4 N 22°55'54" E		246.57'	12" PVC DR-14
5 2°39'54"	300.00'	13.95'	12" PVC DR-14
6 N 25°35'48" E		72.07'	12" PVC DR-14
7 2°39'54"	300.00'	13.95'	12" PVC DR-14
8 N 22°55'54" E		8.02'	12" PVC DR-14

BEARING/Delta	RADIUS	LENGTH	REMARKS
A 7°07'29"	1373.00'	170.73'	12" PVC RJ DR14
B N 22°55'54" E		57.97'	12" PVC RJ DR14
C N 11°40'54" E		7.69'	12" PVC DR-14
D N 22°55'54" E		191.47'	12" PVC DR-14
E 3°35'59"	200.00'	12.57'	12" PVC DR-14
F N 19°19'56" E		75.03'	12" PVC DR-14
G 3°35'58"	200.00'	12.56'	12" PVC DR-14
H N 22°55'54" E		94.09'	12" PVC DR-14

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 7°07'29"	1380.50'	171.66'	8" PVC RJ DR14
2 N 22°55'54" E		38.10'	8" PVC RJ DR14
3 N 19°59'40" E		329.59'	8" PVC SDR-35

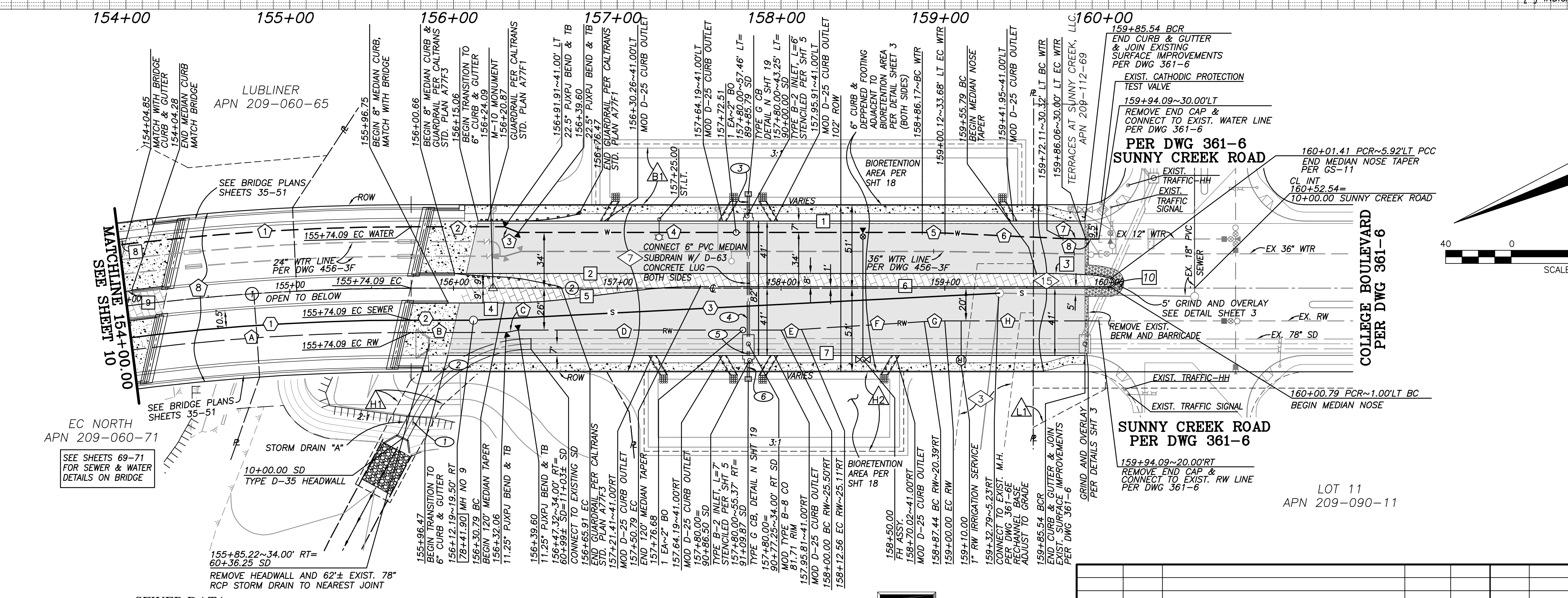
USE 20' LENGTHS WITH UP TO 15% RANDOM (MIN 10') SECTIONS PER CITY OF CARLSBAD ENGINEERING STANDARDS - VOLUME III, CHAPTER 6, DIVISION 15, SECTION 15064, PARTS 3.1 & 3.5.

AWWA C900 DR14 CERTA-LOK RJ, COLOR BLUE

WATER - TIGHT JOINTS REQUIRED

FOR GRADING SEE SHEETS 16-26

AWWA C900 DR14 CERTA-LOK RJ, COLOR GREEN



EXISTING EASEMENT DESIGNATOR, SEE SHEET 2

PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

SCALE 1"=40'

REGISTERED PROFESSIONAL ENGINEER  
RAYMOND L. MARTIN  
NO. 48670  
EXP. 6/30/16  
CIVIL  
STATE OF CALIFORNIA

ENGINEER OF WORK  
RAYMOND L. MARTIN  
R.C.E. NO. 48670 EXP. 6/30/16

"AS BUILT"

REVIEWED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTOR: \_\_\_\_\_ DATE: \_\_\_\_\_

SHEET 11 CITY OF CARLSBAD ENGINEERING DEPARTMENT SHEETS 73

IMPROVEMENT PLANS FOR:  
**COLLEGE BOULEVARD**  
PLAN & PROFILE STA. 154+00.00-160+52.54

APPROVED: JASON S. GELDERT

CITY ENGINEER RCE\_63912 EXP\_09/30/16 DATE

DWN BY: \_\_\_\_\_ PROJECT NO. CT00-18 DRAWING NO. 456-3G

CHKD BY: \_\_\_\_\_

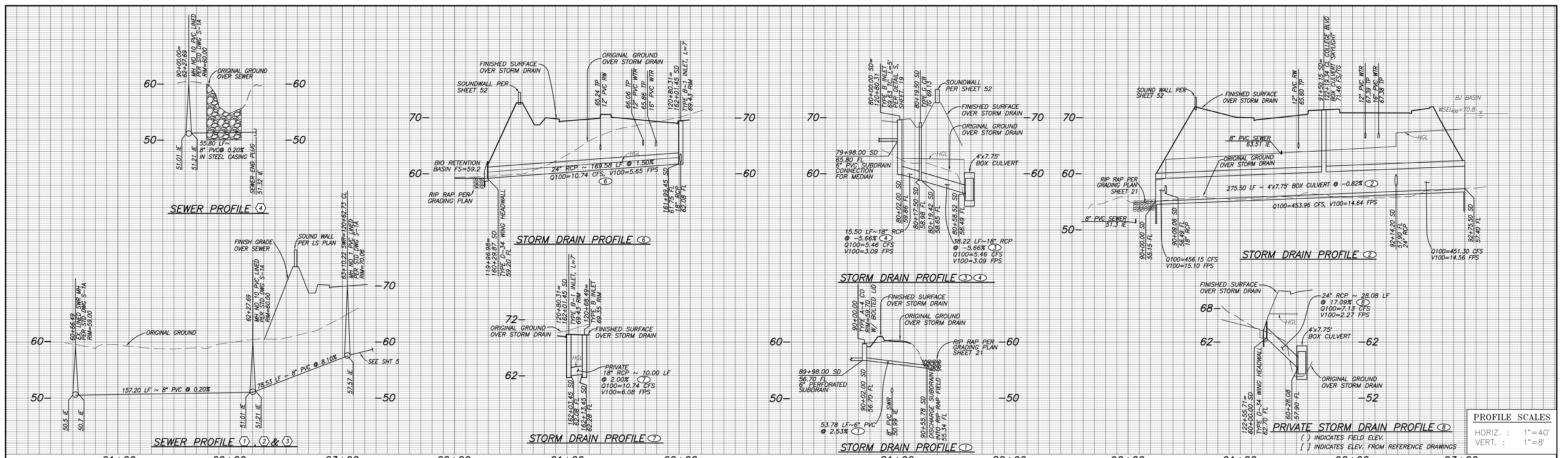
RVWD BY: \_\_\_\_\_

DATE INITIAL REVISION DESCRIPTION DATE INITIAL DATE INITIAL

ENGINEER OF WORK OTHER APPROVAL CITY APPROVAL

**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.

PLANNING 9707 Waples Street  
ENGINEERING San Diego, CA 92121  
SURVEYING PH(619)558-4500-FX(619)558-1414



**SEWER DATA**

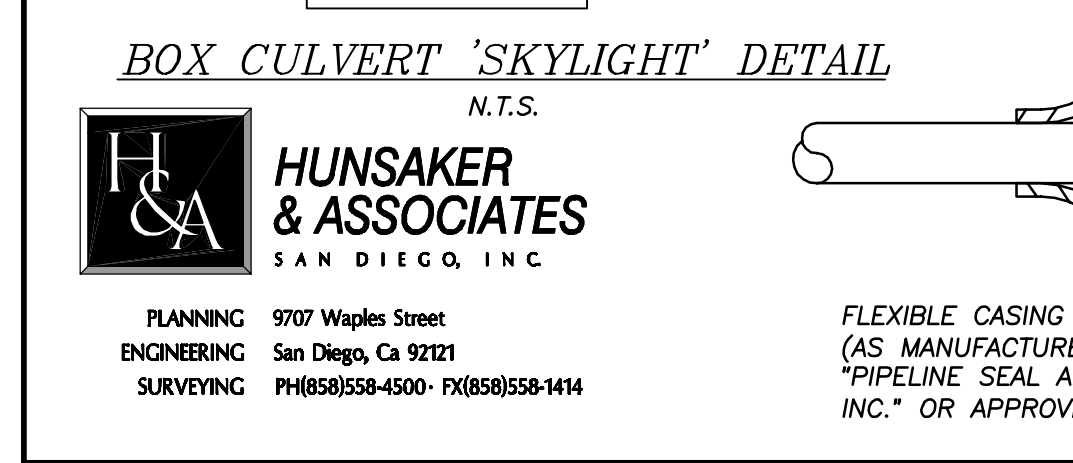
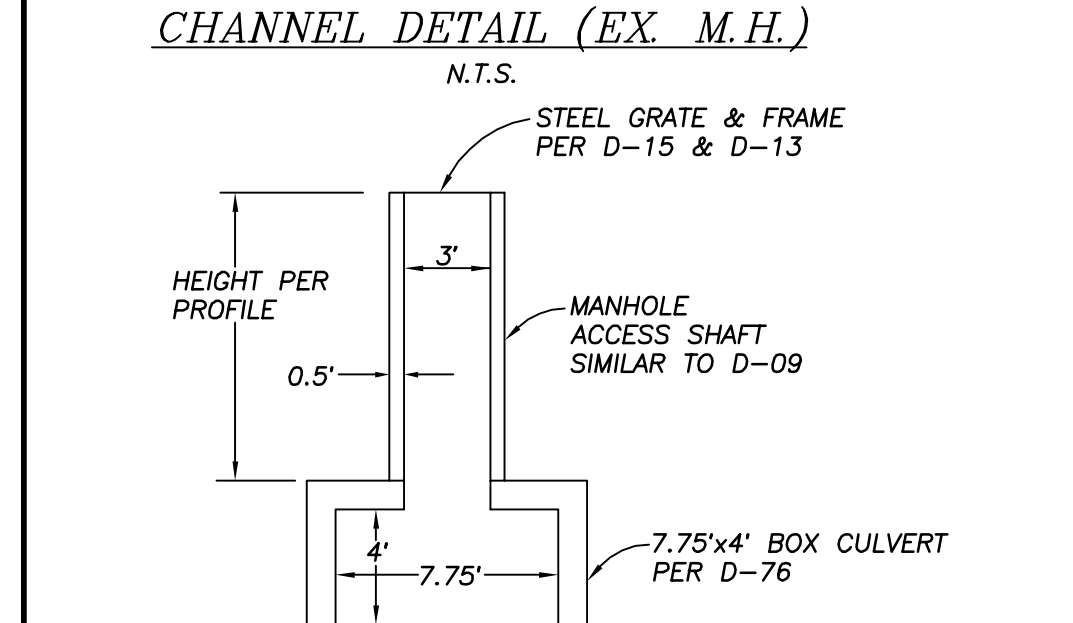
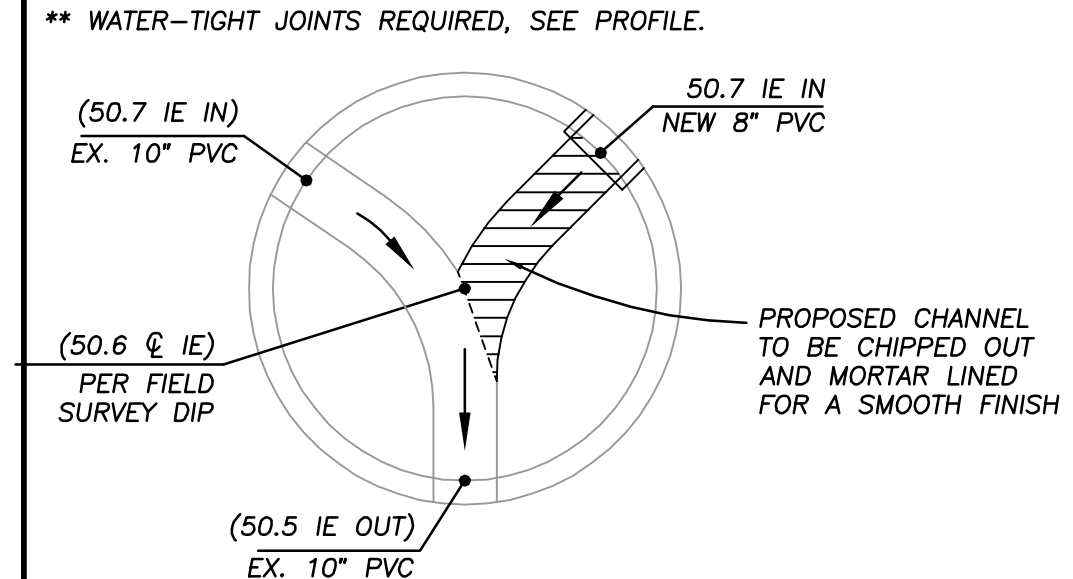
BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 26°14'23"	200.00'	91.59'	8" PVC SDR-35
2 N 88°39'35" W		69.61'	8" PVC SDR-35
3 N 50°03'30" E		82.53'	8" PVC SDR-35
4 N 33°13'48" W		57.80'	8" PVC SDR-35*

\*USE STEEL SEWER PIPE CASING PER DETAIL BELOW

**STORM DRAIN DATA**

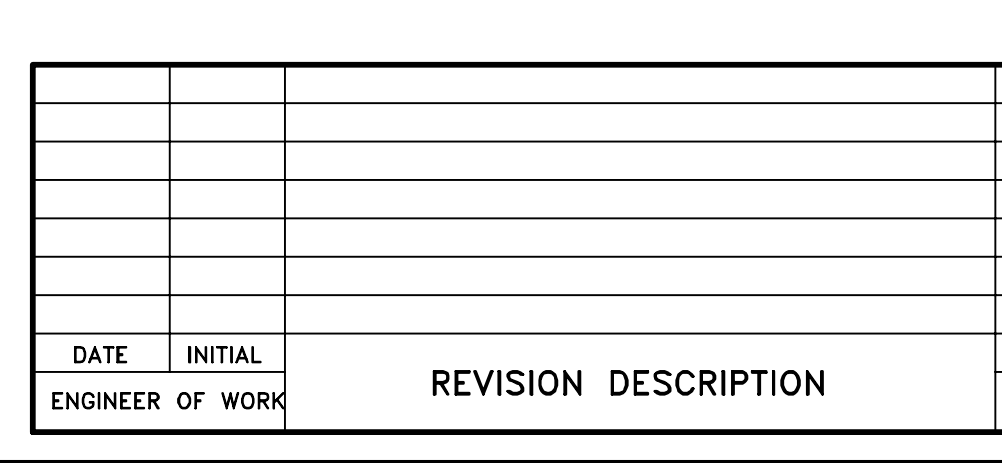
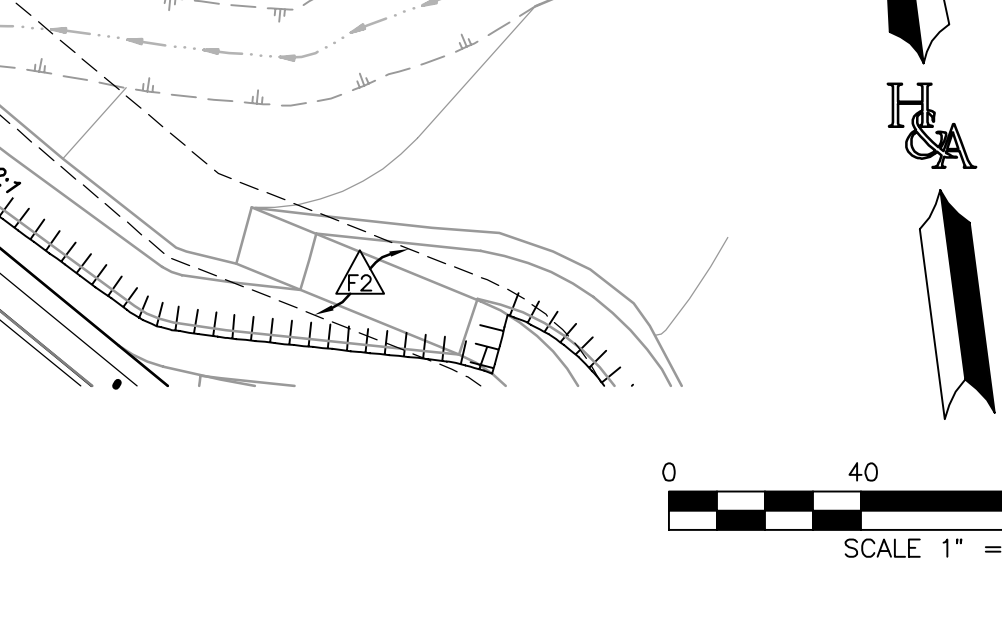
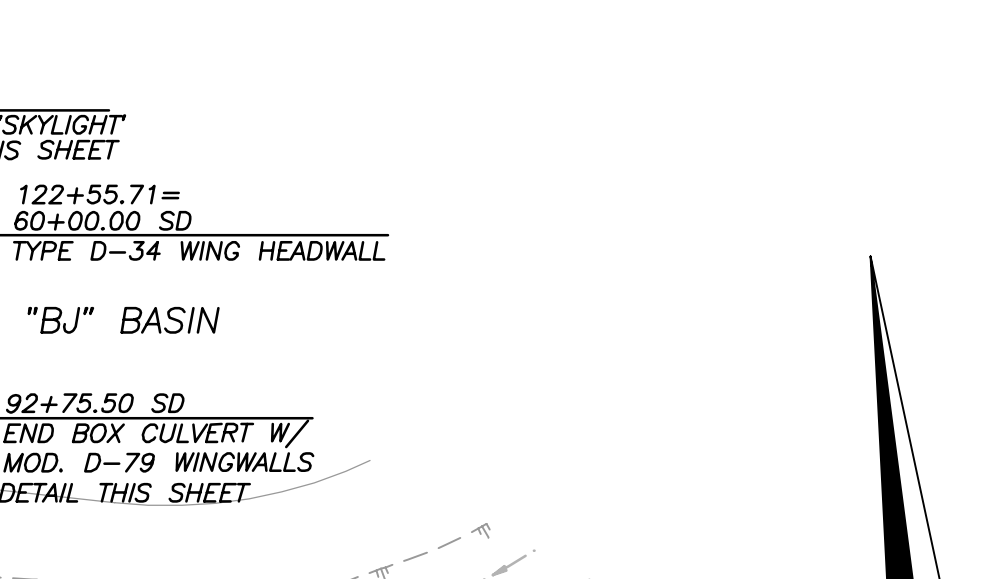
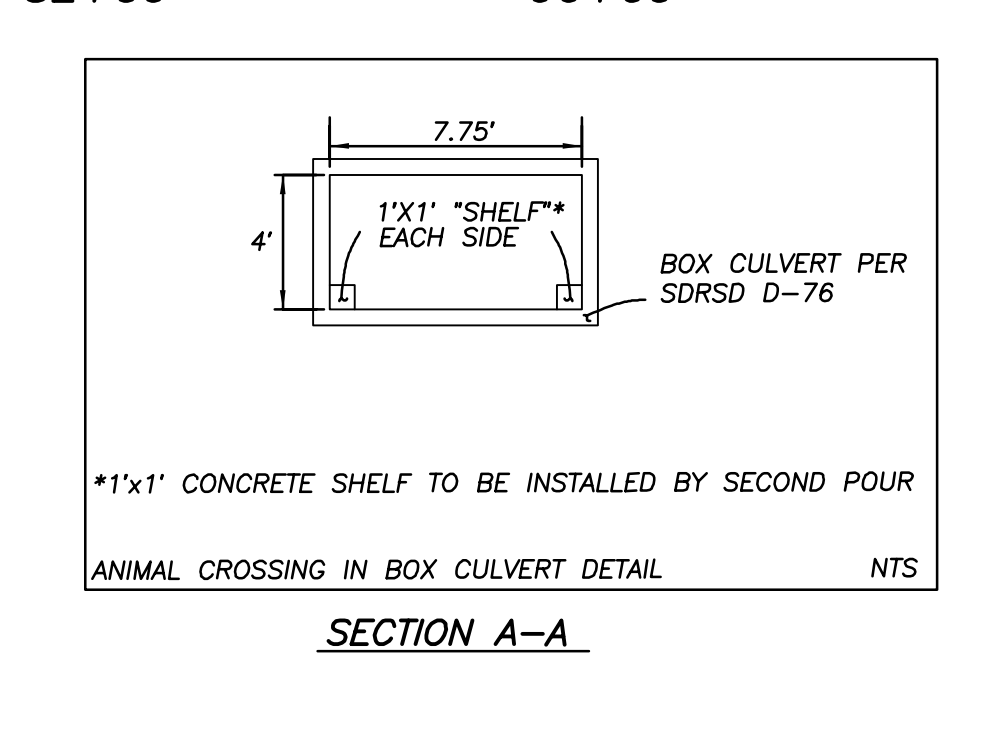
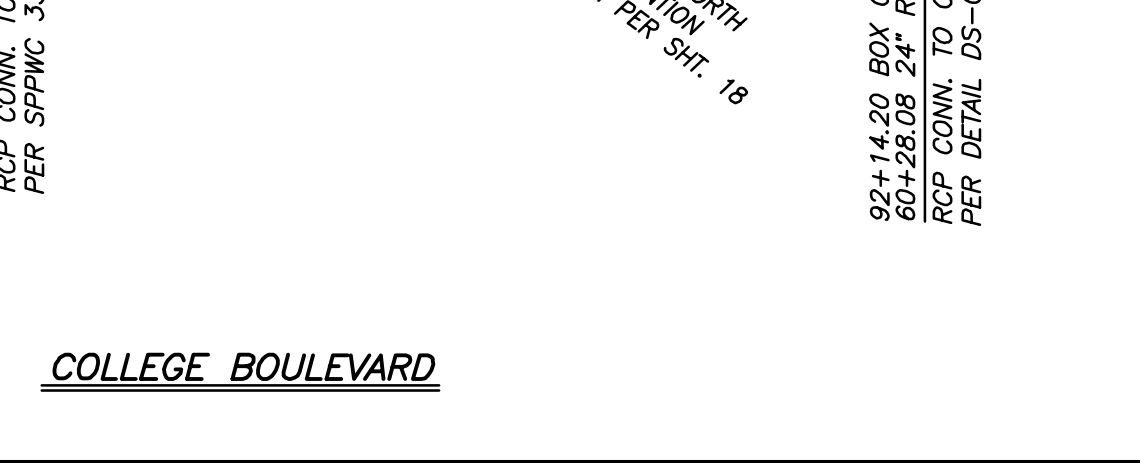
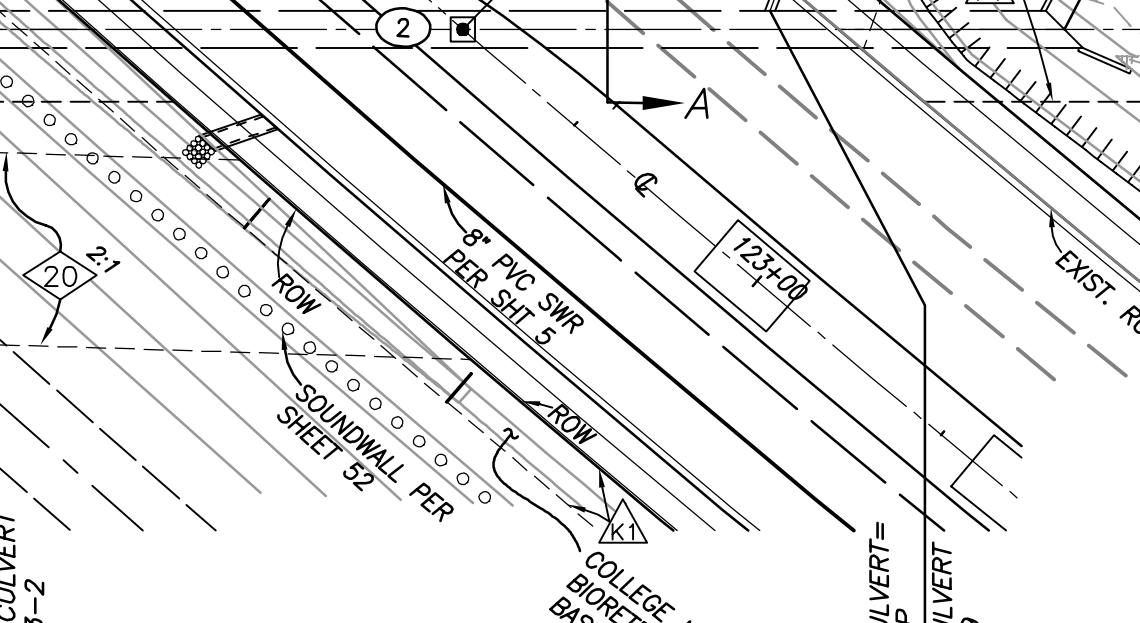
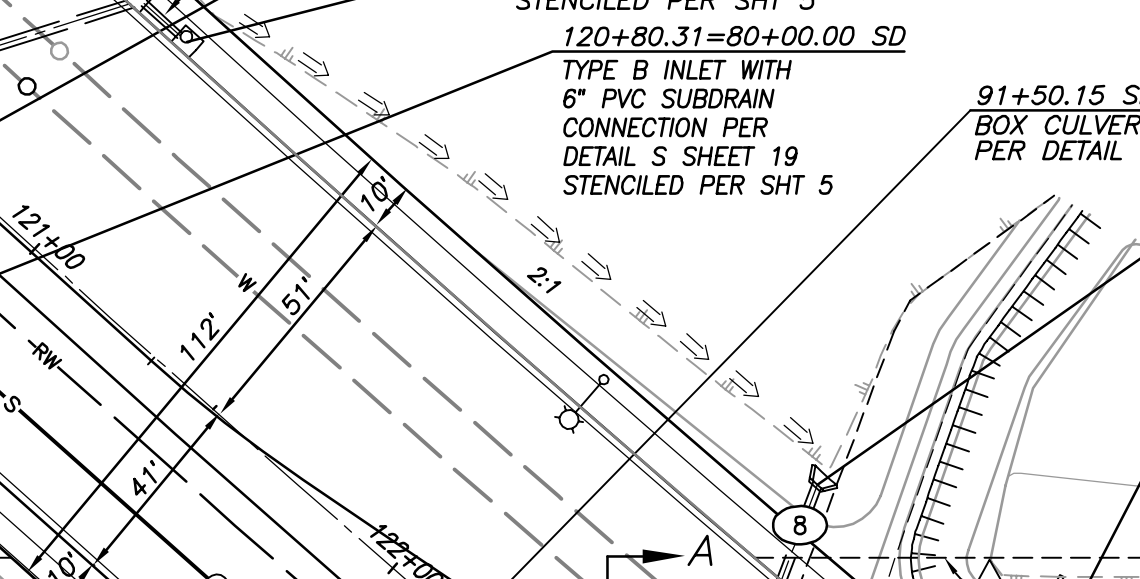
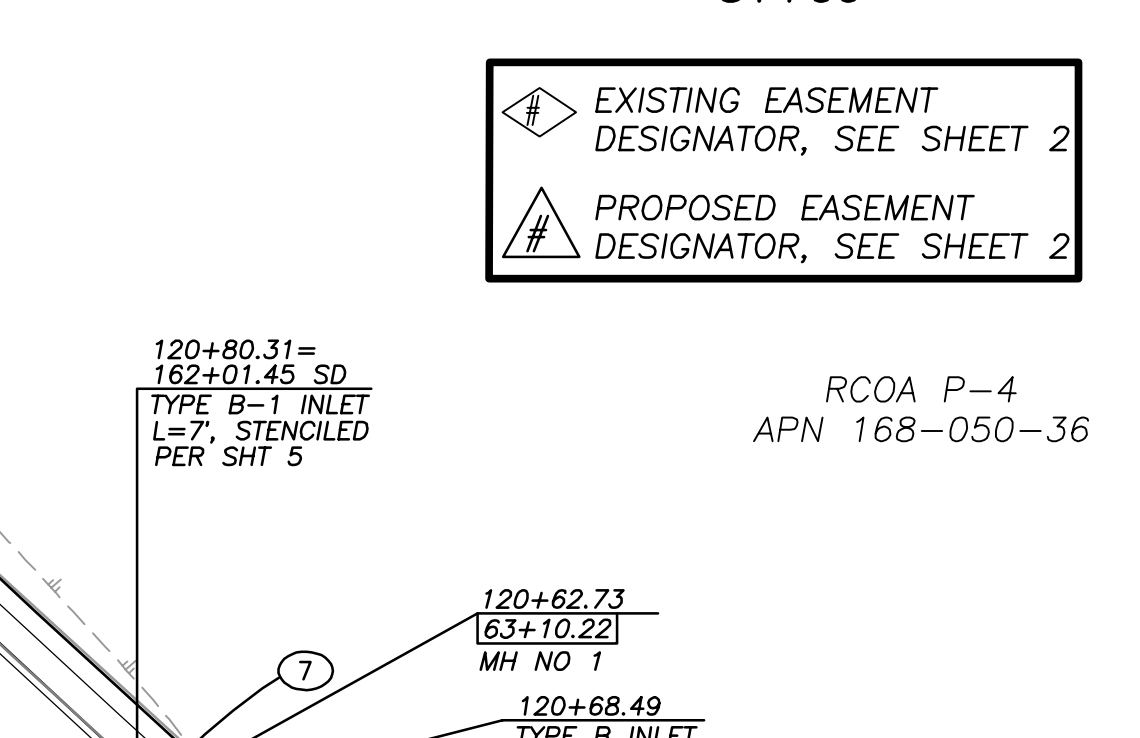
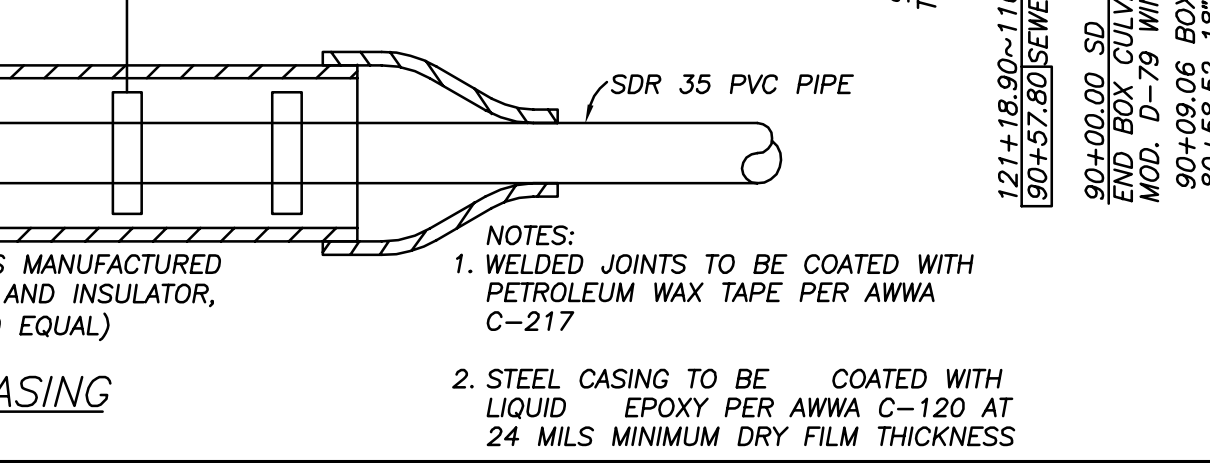
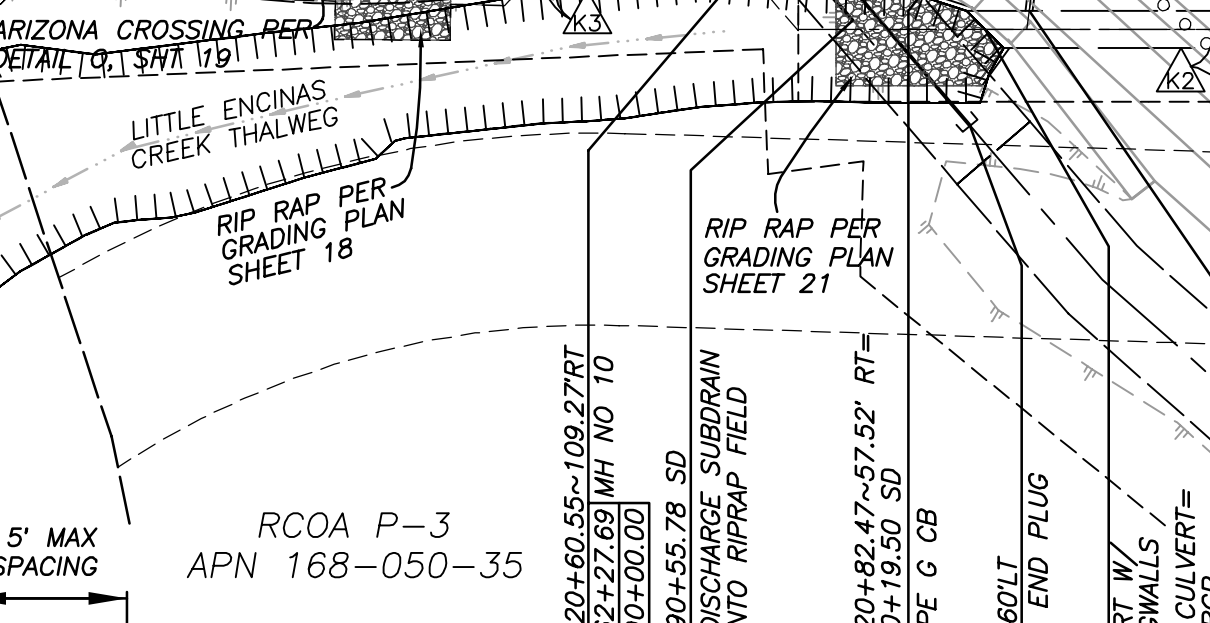
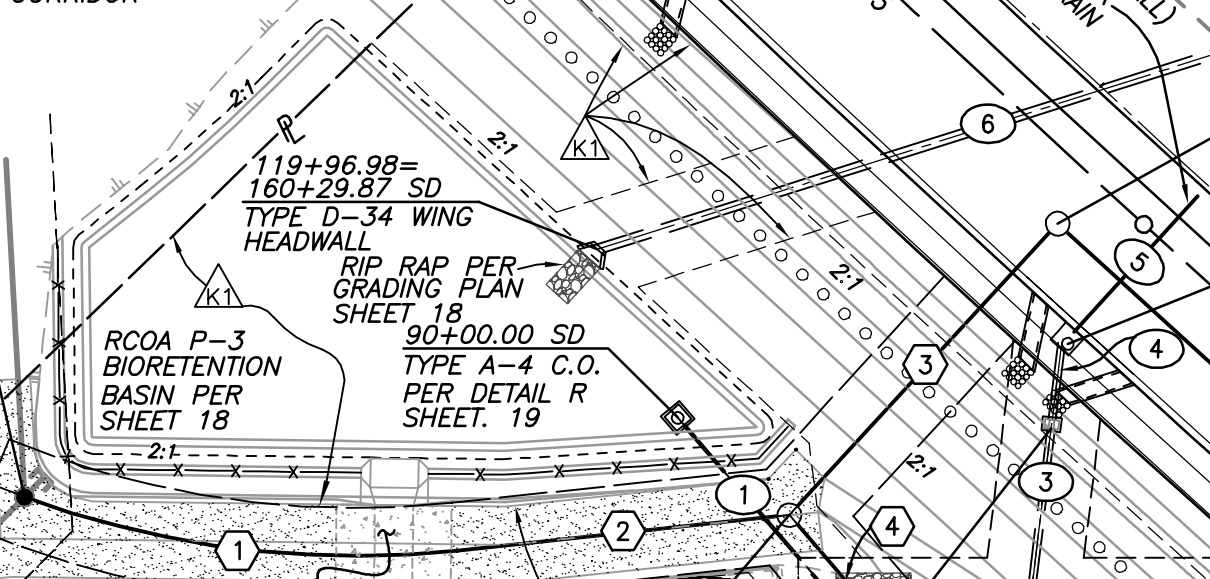
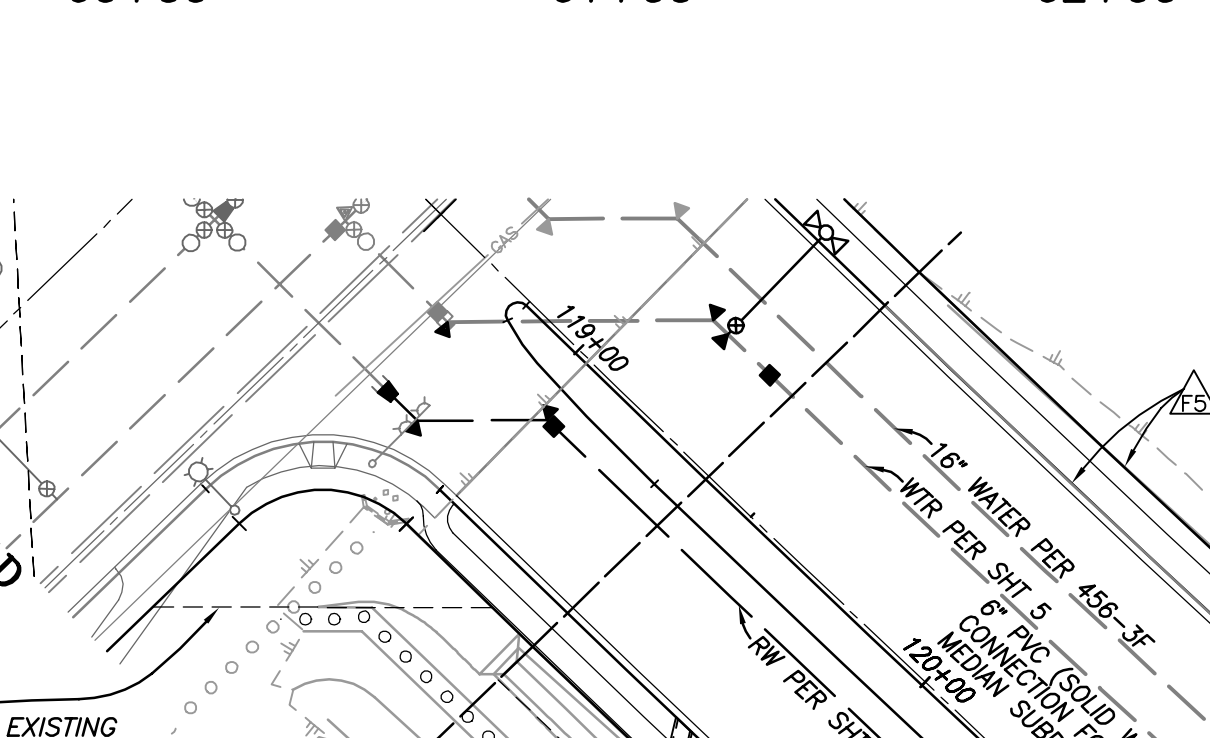
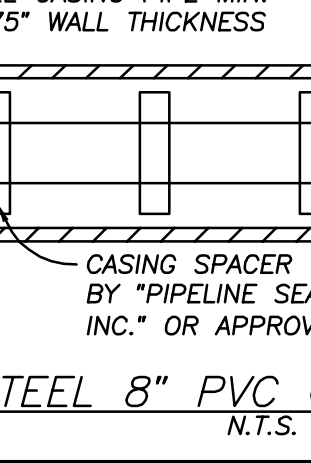
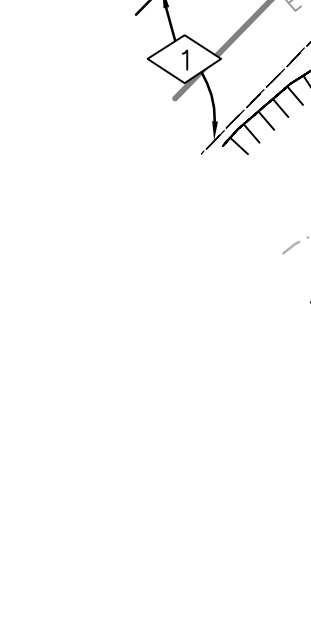
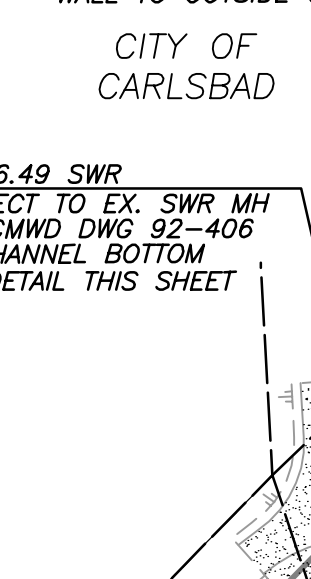
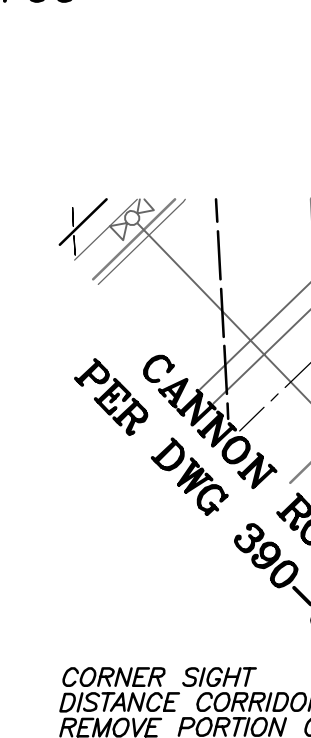
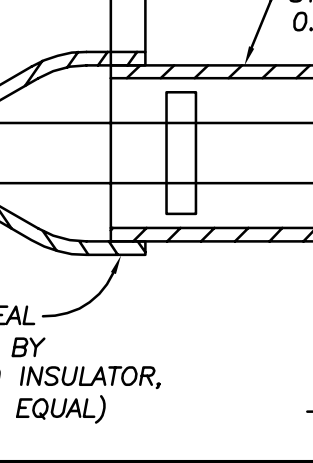
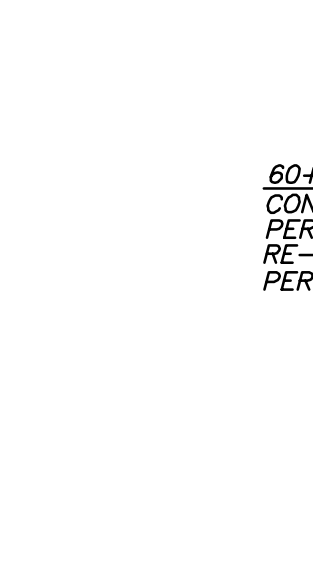
BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 33°22'38" W		53.78'	6" PVC SDR 35
2 N 82°35'08" W		275.50'	4"x7.75" BOX CULVERT
3 N 14°18'05" E		38.22'	18" RCP 1350-D
4 N 14°18'05" E		15.50'	18" RCP 1350-D
5 N 49°51'08" E		38.25'	6" PVC
6 N 79°51'08" E		169.58'	24" RCP 1350-D
7 N 40°10'26" W		10.00'	18" RCP 1350-D
8 N 27°45'48" E		28.08'	24" RCP 1350-D

\* PRIVATELY MAINTAINED  
\*\* WATER-TIGHT JOINTS REQUIRED, SEE PROFILE.



**SEWER PROFILE 1, 2 & 3**

61+00 62+00 63+00

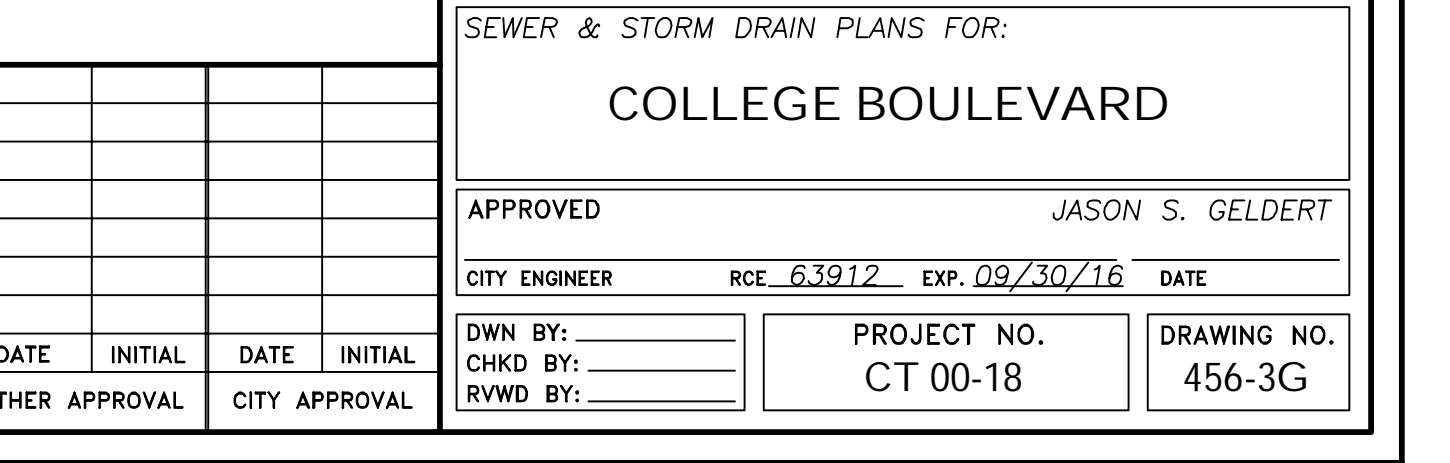
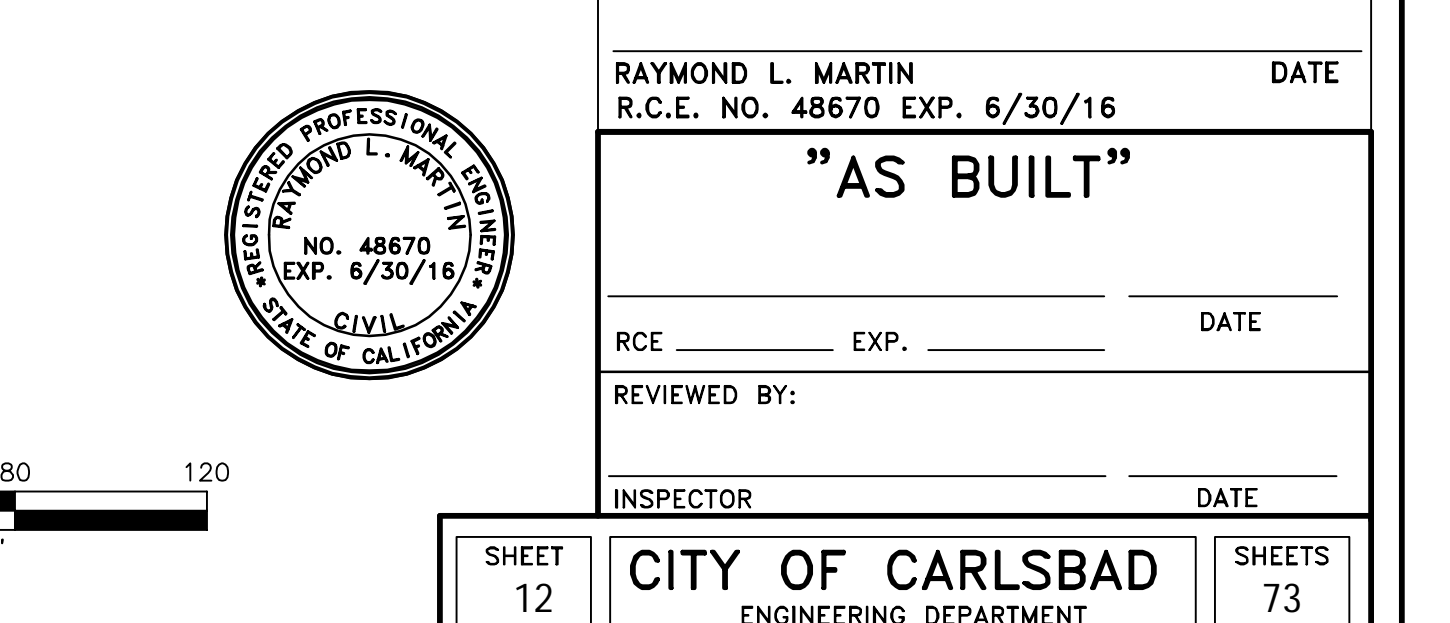
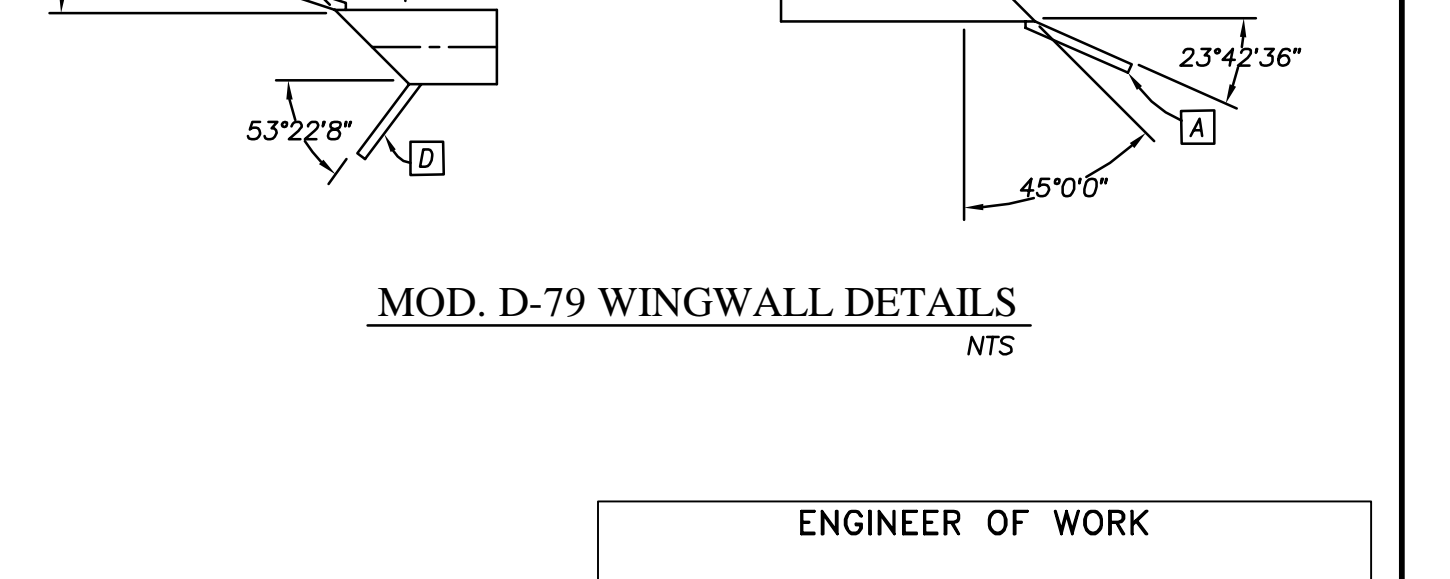
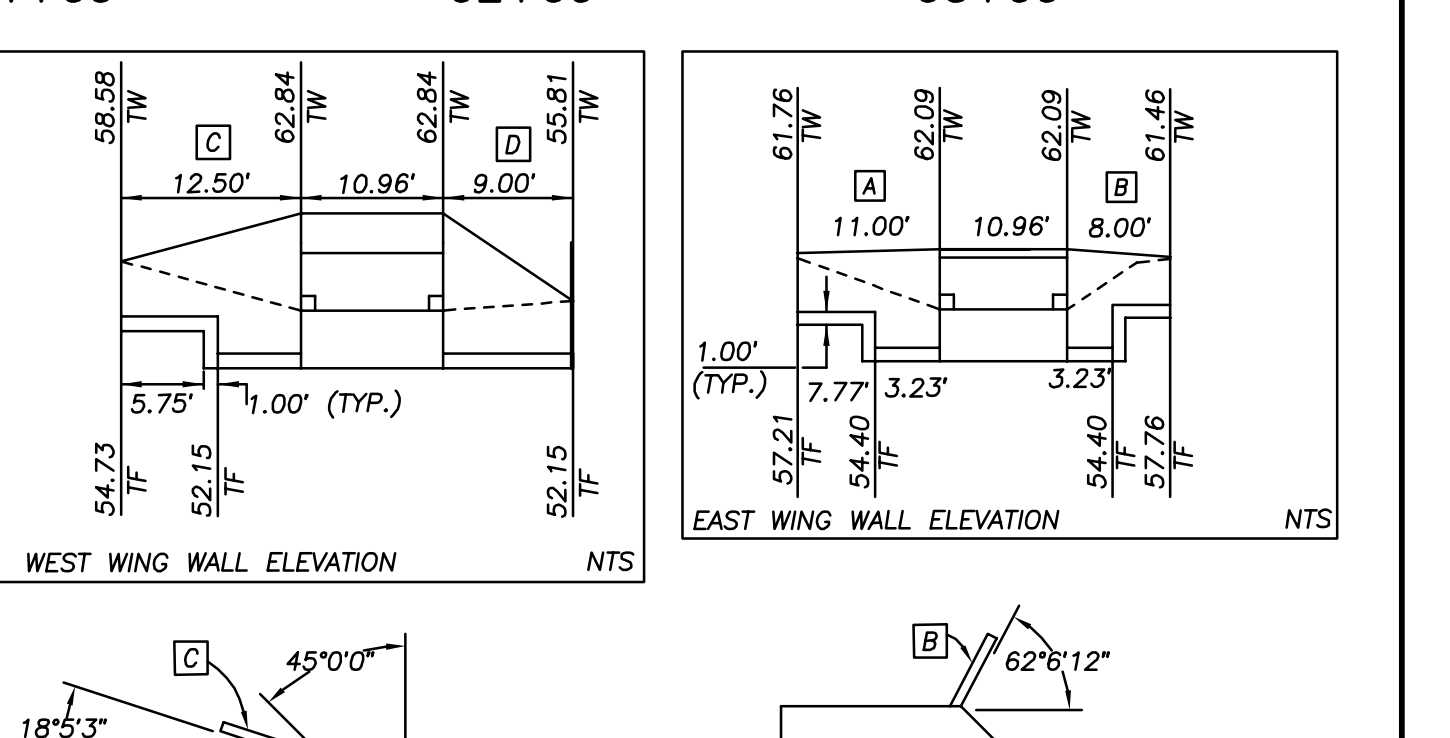


**NOTES:**

- WELDED JOINTS TO BE COATED WITH PETROLEUM WAX TAPE PER AWWA C-217
- STEEL CASING TO BE COATED WITH LIQUID EPOXY PER AWWA C-120 AT 24 MILS MINIMUM DRY FILM THICKNESS

**REVISION DESCRIPTION**

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	REVISION DESCRIPTION



**ENGINEER OF WORK**

RAYMOND L. MARTIN  
R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_

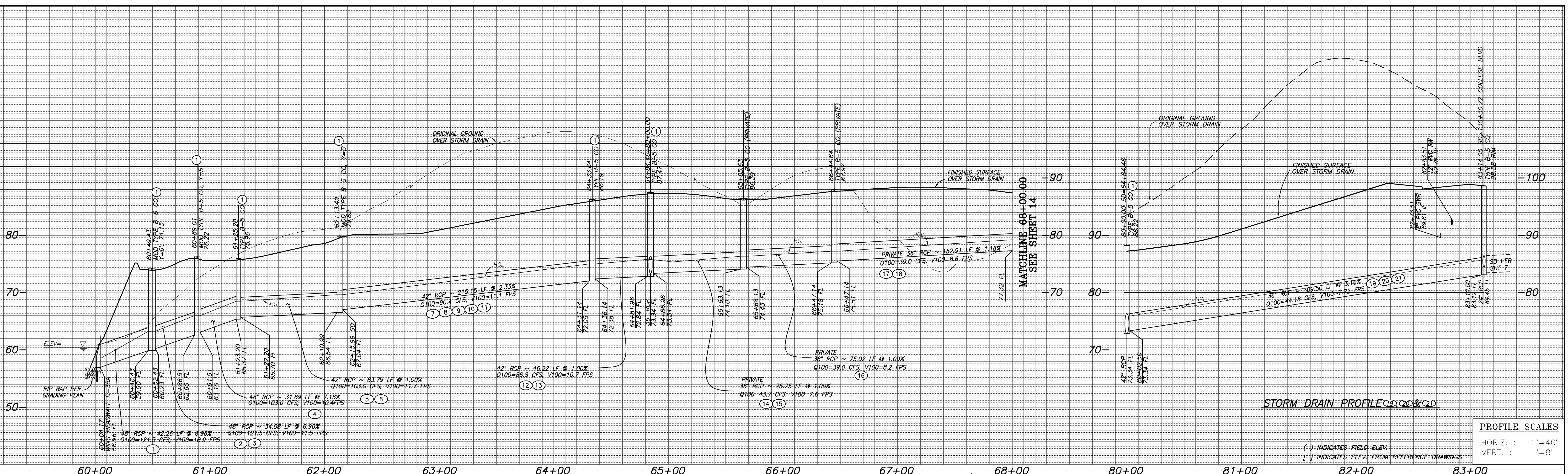
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

**CITY OF CARLSBAD**  
ENGINEERING DEPARTMENT

SEWER & STORM DRAIN PLANS FOR:  
**COLLEGE BOULEVARD**

APPROVED: JASON S. GELDERT  
CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE \_\_\_\_\_

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
CHKD BY: \_\_\_\_\_  
RWED BY: \_\_\_\_\_

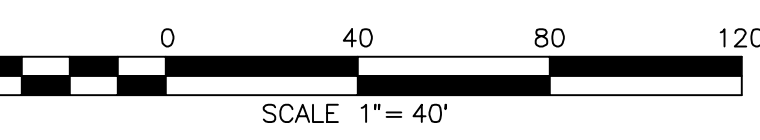
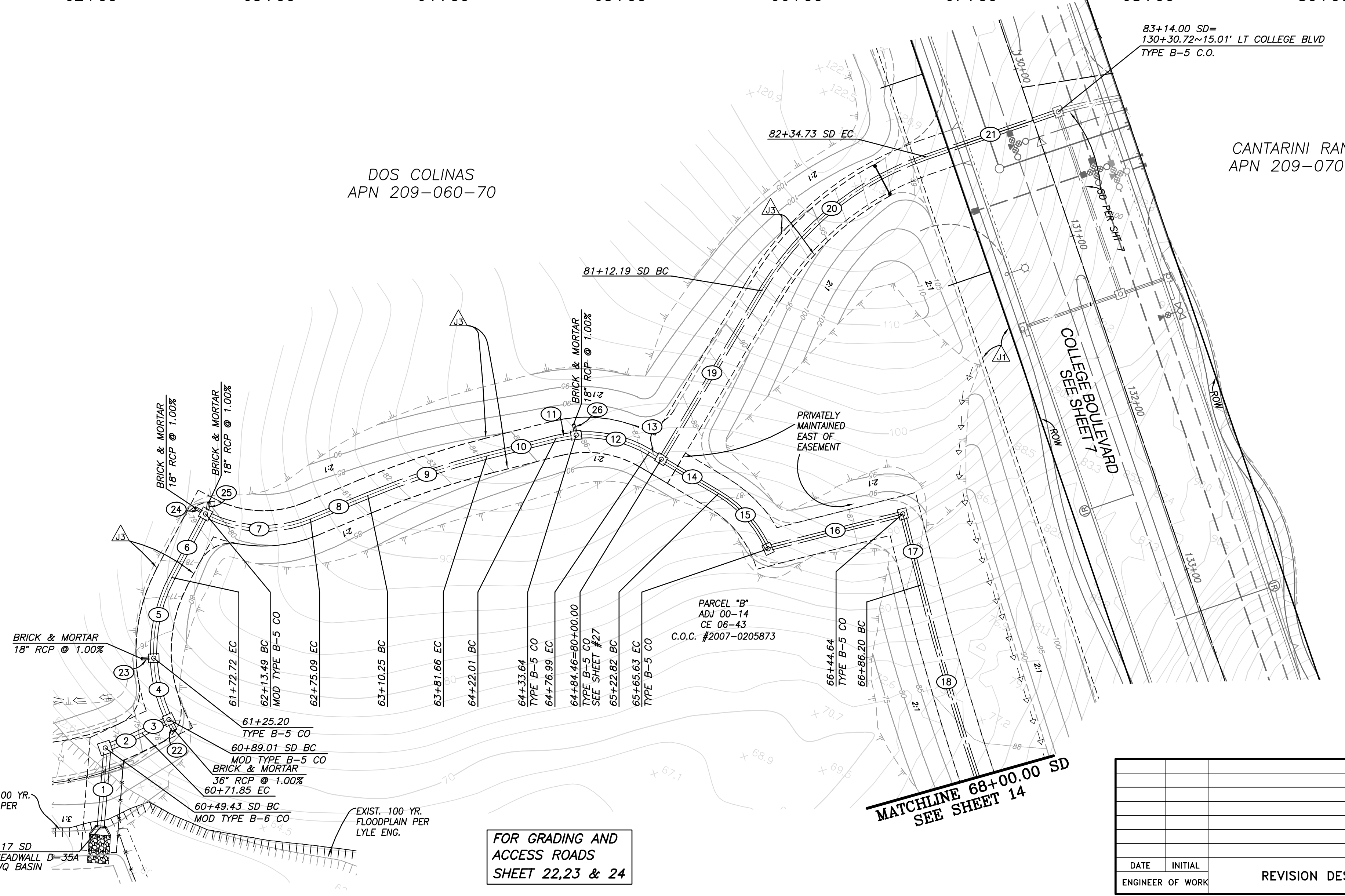


**PROFILE SCALES**  
 HORIZ. : 1"=40'  
 VERT. : 1"=8'

**STORM DRAIN DATA**

BEARING/DELTA	RADIUS	LENGTH	REMARKS
1 N 22°52'42" W		42.26'	48" RCP 1350-D
2 6°57'18"	160.00'	19.42'	48" RCP 1350-D
3 N 35°56'00" E	90.00'	14.66'	48" RCP 1350-D
4 20°10'23"	90.00'	31.69'	48" RCP 1350-D
5 28°58'43"	90.00'	45.52'	42" RCP 1350-D
6 N 0°11'00" E		38.27'	42" RCP 1350-D
7 48°22'20"	70.00'	59.10'	42" RCP 1350-D
8 N 39°53'00" E		35.16'	42" RCP 1350-D
9 8°11'00"	500.00'	71.41'	42" RCP 1350-D
10 N 48°04'00" E		40.35'	42" RCP 1350-D
11 7°28'36"	70.00'	9.13'	42" RCP 1350-D
12 33°25'45"	70.00'	40.84'	42" RCP 1350-D
13 N 86°56'00" W		5.38'	42" RCP 1350-D
14 N 86°56'00" W		35.46'	36" RCP 1350-D
15 32°58'52"	70.00'	40.29'	36" RCP 1350-D
16 N 48°04'00" E		75.02'	36" RCP 1350-D
17 N 41°56'00" W		39.07'	36" RCP 1350-D
18 4°04'35"	1600.00'	113.84'	36" RCP 1350-D
19 N 3°04'00" E		109.69'	36" RCP 1350-D
20 40°21'00"	174.00'	122.54'	36" RCP 1350-D
21 N 43°25'00" E		77.27'	36" RCP 1350-D
22 2°32'47"	90.00'	4.00'	18" PVC 1350-D
23 N 59°55'45" E		4.00'	36" PVC 1350-D
24 3°16'27"	70.00'	4.00'	18" PVC 1350-D
25 N 18°36'25" W		4.00'	18" PVC 1350-D
26 N 40°04'18" W		4.00'	18" PVC 1350-D

\*\*PRIVATELY MAINTAINED



① NOTE:  
 ACCESS ROAD PAVING SHOWN HEREON IS INTERIM SURFACE. FUTURE DOS COLINAS DEVELOPMENT WILL RAISE GRADE 9" ABOVE INTERIM CONDITION. SET MH CONE TO ALLOW ADDITIONAL 9" EXTENSION IN THE FUTURE.

- ◊ EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- ▲ PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.  
 PLANNING 9707 Waples Street  
 ENGINEERING San Diego, Ca 92121  
 SURVEYING PH(619)558-4500 FAX(619)558-1414

PROPOSED 100 YR. FLOODPLAIN PER LYLE ENG.  
 60+04.17 SD WING HEADWALL D=354 WEST WQ BASIN

FOR GRADING AND ACCESS ROADS SHEET 22,23 & 24

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

**ENGINEER OF WORK**  
 RAYMOND L. MARTIN  
 R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

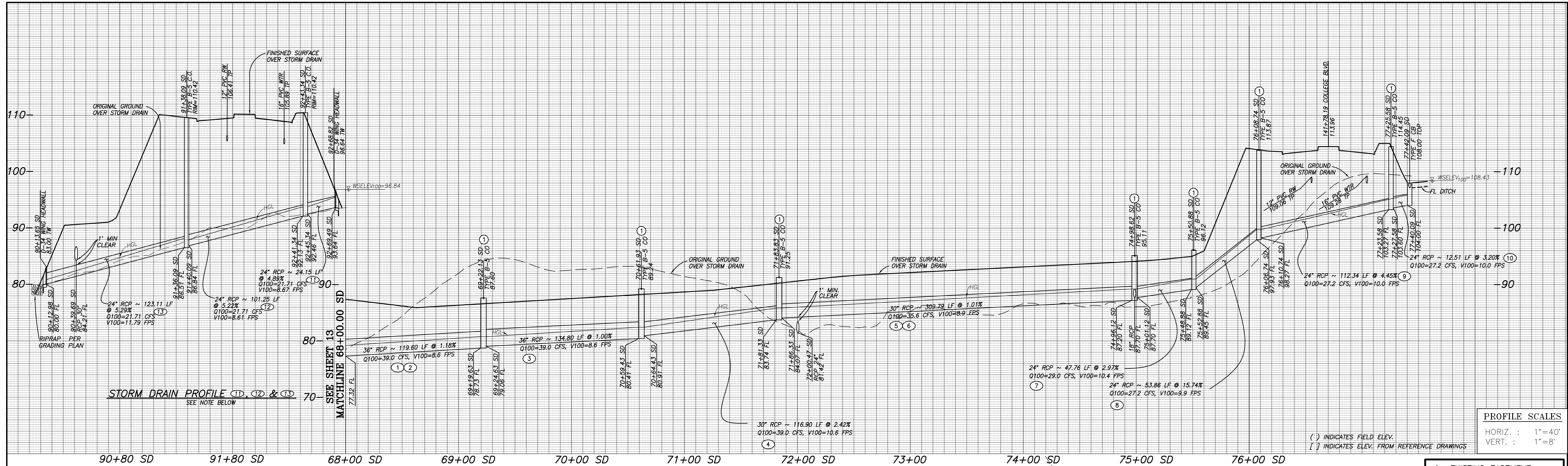
**CITY OF CARLSBAD**  
 ENGINEERING DEPARTMENT

STORM DRAIN PLANS FOR:  
**COLLEGE BOULEVARD**

APPROVED: JASON S. GELBERT  
 CITY ENGINEER RCE\_63912 EXP. 09/30/16 DATE \_\_\_\_\_

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
 CHKD BY: \_\_\_\_\_  
 RWVD BY: \_\_\_\_\_



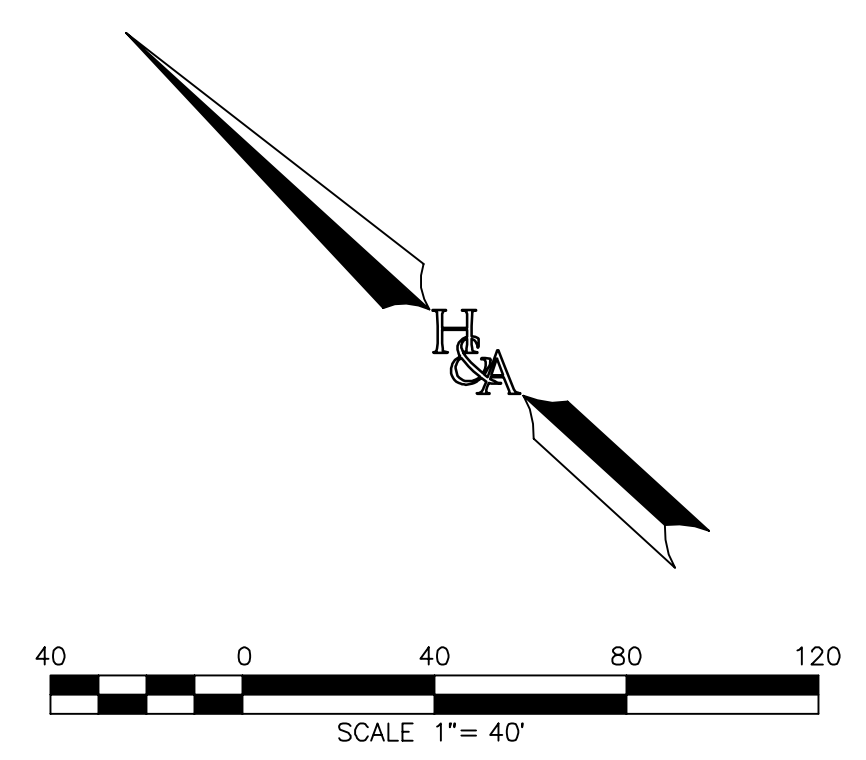
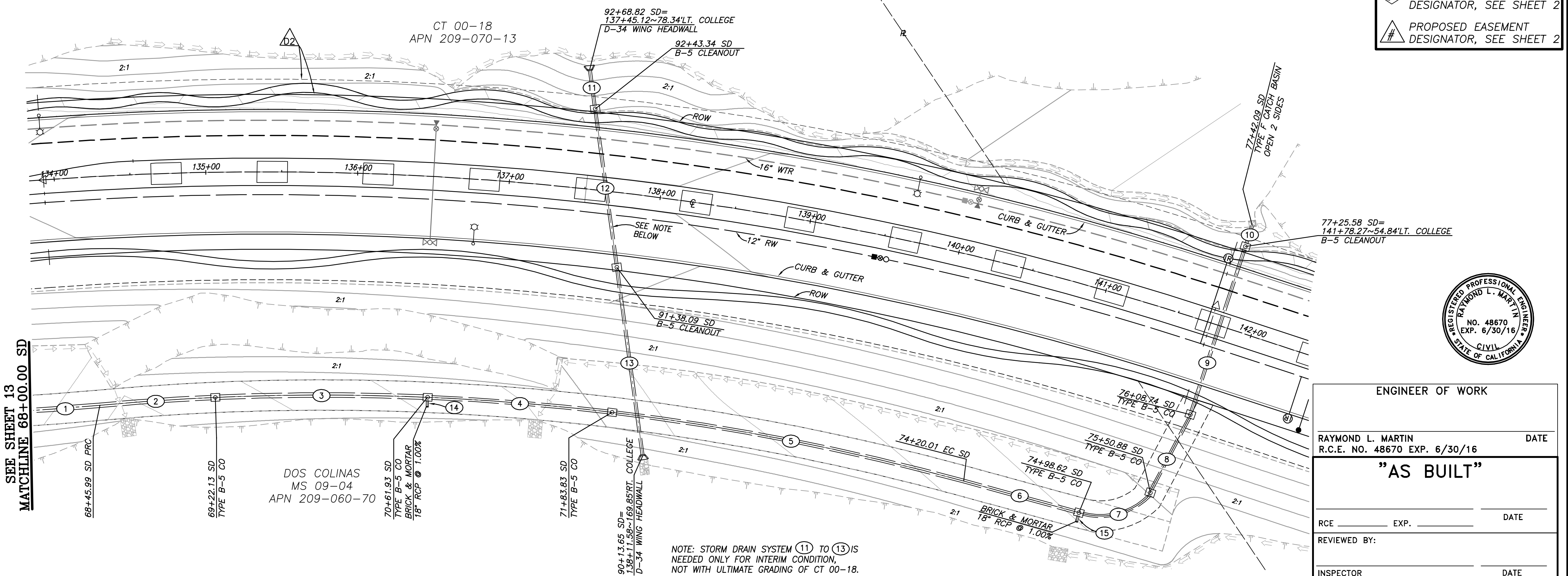


**STORM DRAIN DATA**

NO.	BEARING/DELTA	RADIUS	LENGTH	REMARKS
1	1°38'45"	1600.00'	45.96'	36" RCP 1350-D
2	2°38'13"	1600.00'	73.64'	36" RCP 1350-D
3	4°49'38"	1600.00'	134.80'	36" RCP 1350-D
4	4°11'10"	1600.00'	116.90'	30" RCP 1350-D
5	8°22'05"	1600.00'	233.68'	30" RCP 1350-D
6	N 27°06'00" W		76.11'	30" RCP 1350-D
7	60°48'29"	45.00'	47.76'	24" RCP 1350-D
8	N 75°23'57" E		53.86'	24" RCP 1350-D
9	N 65°45'02" E		112.34'	24" RCP 1350-D
10	N 65°45'02" E		12.51'	24" RCP 1350-D
11	N 39°48'00" E		24.15'	24" RCP 1350-D
12	N 39°48'00" E		101.25'	24" RCP 1350-D
13	N 39°48'00" E		123.11'	24" RCP 1350-D
14	N 50°01'16" E		4.00'	18" RCP 1350-D
15	N 62°53'55" E		4.00'	18" RCP 1350-D

SEE NOTE BELOW

\* INSTALL WATER TIGHT JOINTS  
\*\* PRIVATELY MAINTAINED



NOTE: ACCESS ROAD PAVING SHOWN HEREON IS INTERIM SURFACE. FUTURE DOS COLINAS DEVELOPMENT WILL RAISE GRADE 9" ABOVE INTERIM CONDITION. SET MH CONE TO ALLOW ADDITIONAL 9" EXTENSION IN THE FUTURE.

**FOR GRADING AND ACCESS ROADS SEE SHEETS 24**

**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.

PLANNING 9707 Waples Street  
ENGINEERING San Diego, Ca 92121  
SURVEYING PH(619)558-4300 FAX(619)558-1414

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

**ENGINEER OF WORK**  
RAYMOND L. MARTIN  
R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

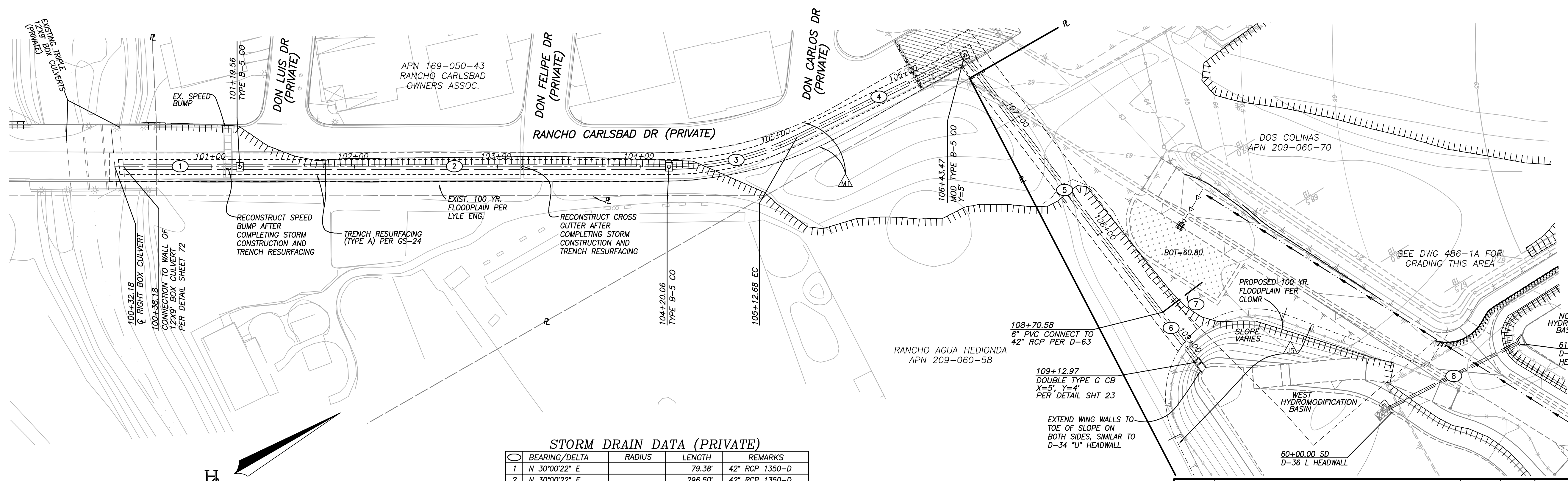
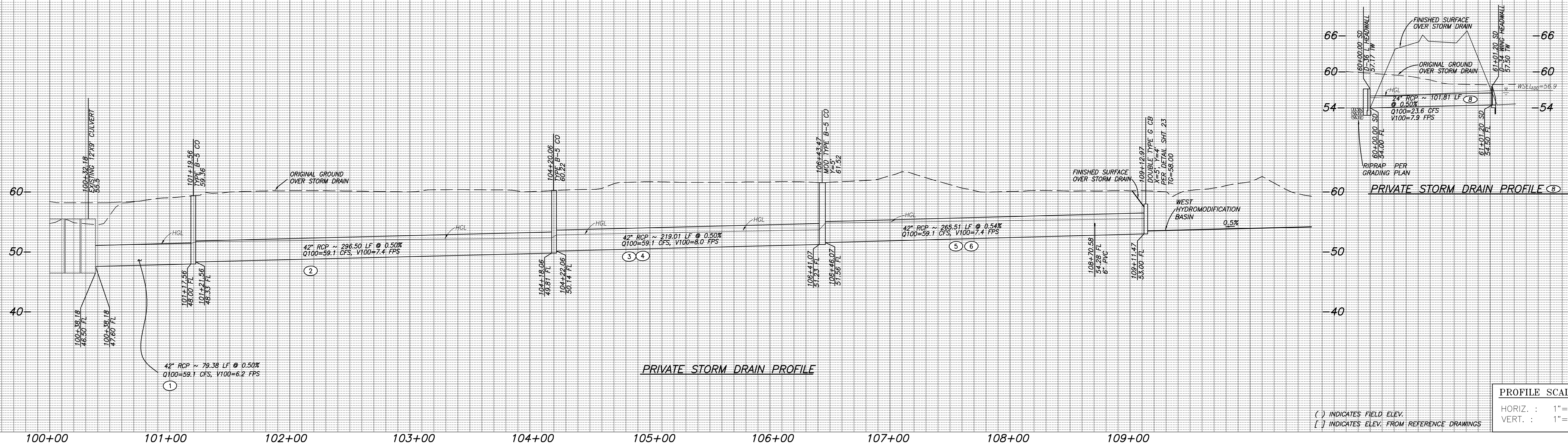
**CITY OF CARLSBAD**  
ENGINEERING DEPARTMENT

APPROVED JASON S. GELDELT  
CITY ENGINEER RCE 6.3912 EXP. 09/30/16 DATE \_\_\_\_\_

SHEET 14 CITY OF CARLSBAD SHEETS 73  
ENGINEERING DEPARTMENT

STORM DRAIN PLANS FOR:  
**COLLEGE BOULEVARD**

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18  
CHKD BY: \_\_\_\_\_ EXP. 09/30/16  
RWVD BY: \_\_\_\_\_ DRAWING NO. 456-3G



- EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2



ENGINEER OF WORK

RAYMOND L. MARTIN DATE

R.C.E. NO. 48670 EXP. 6/30/16

**"AS BUILT"**

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_

REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_

INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

SHEET 15 CITY OF CARLSBAD SHEETS 73

ENGINEERING DEPARTMENT

STORM DRAIN PLANS FOR:

**COLLEGE BOULEVARD**

APPROVED JASON S. GELBERT

CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G

CHKD BY: \_\_\_\_\_

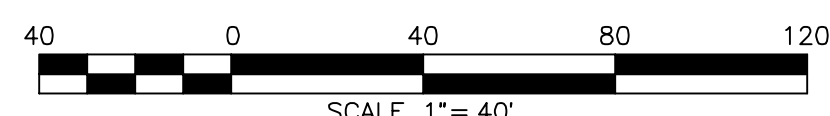
RWD BY: \_\_\_\_\_

FOR GRADING SEE SHEETS 16-26

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.

PLANNING 9707 Waples Street  
 ENGINEERING San Diego, Ca 92121  
 SURVEYING PH(619)598-4500 - FX(619)598-4141





GRADING NOTES

(IN ADDITION TO THE REQUIREMENTS OF CHAPTER 15.16 OF THE CARLSBAD MUNICIPAL CODE.)

- 1. THIS PLAN SUPERSEDES ALL OTHER PLANS PREVIOUSLY APPROVED BY THE CITY OF CARLSBAD REGARDING GRADING SHOWN ON THIS SET OF PLANS.
2. APPROVAL OF THESE PLANS DOES NOT RELIEVE THE DEVELOPER OR ENGINEER OF WORK FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
3. CITY APPROVAL OF PLANS DOES NOT RELIEVE THE DEVELOPER OR ENGINEER OF WORK FROM RESPONSIBILITY FOR THE CORRECTION OF ERRORS AND OMISSIONS DISCOVERED DURING CONSTRUCTION. ALL PLAN REVISIONS SHALL BE PROMPTLY SUBMITTED TO THE CITY ENGINEER FOR APPROVAL.
4. A RIGHT-OF-WAY PERMIT FROM THE CITY ENGINEER WILL BE REQUIRED FOR ANY WORK IN THE PUBLIC RIGHT OF WAY PRIOR TO PERMIT ISSUANCE. A CERTIFICATE OF INSURANCE MUST BE FILED NAMING THE CITY OF CARLSBAD AS AN ADDITIONAL INSURED ON THE PERMITTEE'S POLICY IN THE MINIMUM AMOUNT OF \$1,000,000.00 FOR EACH OCCURRENCE OF LIABILITY. THE INSURANCE COMPANY WRITING THE POLICY MUST HAVE A RATING OF "A-" OR BETTER AND A SIZE CATEGORY OF CLASS V OR BETTER AS ESTABLISHED BY "BESTS" KEY RATING GUIDE.
5. UNLESS EXEMPTED BY SECTION 301.(b)5 OF THE UNIFORM BUILDING CODE, RETAINING WALLS OUTSIDE OF PUBLIC RIGHT OF WAY REQUIRE SEPARATE PERMITS FROM THE BUILDING DEPARTMENT.
6. NO WORK SHALL BE COMMENCED UNTIL ALL PERMITS HAVE BEEN OBTAINED FROM THE CITY AND OTHER APPROPRIATE AGENCIES.
7. APPROVAL OF THESE PLANS BY THE CITY ENGINEER DOES NOT AUTHORIZE ANY WORK OR GRADING TO BE PERFORMED UNTIL THE PROPERTY OWNERS' PERMISSION HAS BEEN OBTAINED AND A VALID GRADING PERMIT HAS BEEN ISSUED.
8. NO REVISIONS WILL BE MADE TO THESE PLANS WITHOUT THE WRITTEN APPROVAL OF THE CITY ENGINEER, NOTED WITHIN THE REVISION BLOCK, ON THE APPROPRIATE SHEET OF THE PLANS AND THE TITLE SHEET.
9. ORIGINAL DRAWINGS SHALL BECOME THE PROPERTY OF THE CITY UPON BEING SIGNED BY THE CITY ENGINEER.
10. THE ORIGINAL DRAWING SHALL BE REVISED TO REFLECT AS-BUILT CONDITIONS BY THE ENGINEER-OF-WORK PRIOR TO FINAL ACCEPTANCE OF THE WORK BY THE CITY.
11. ACCESS FOR FIRE AND OTHER EMERGENCY VEHICLES SHALL BE MAINTAINED TO THE PROJECT SITE AT ALL TIMES DURING CONSTRUCTION.
12. WHERE TRENCHES ARE WITHIN CITY EASEMENTS, A SOILS REPORT COMPRISED OF: (A) SUMMARY SHEET, (B) LABORATORY WORK SHEETS AND (C) COMPACTION CURVES, SHALL BE SUBMITTED BY A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA, PROMISING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. THE SOILS REPORT WILL BE SUBMITTED TO THE CITY ENGINEERING INSPECTOR WITHIN TWO WORKING DAYS OF THE COMPLETION OF FIELD TESTS.
13. A SOILS COMPACTION REPORT AND COMPLIANCE VERIFICATION REGARDING ADHERENCE TO RECOMMENDATIONS OUTLINED IN THE SOILS REPORT IS REQUIRED PRIOR TO THE ISSUANCE OF A BUILDING PERMIT. ALL CONTROLLED GRADING SHALL BE DONE UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER OF THE STATE OF CALIFORNIA PRINCIPALLY DOING BUSINESS IN THE FIELD OF APPLIED SOILS MECHANICS. ALL FILL OR FUTURE FILL AREAS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF CARLSBAD STANDARD SPECIFICATIONS AND THE "EARTHWORK SPECIFICATIONS" ATTACHED TO THE PRELIMINARY SOILS INVESTIGATION. DAILY FIELD COMPACTION REPORTS WILL BE SUBMITTED TO THE PROJECT INSPECTOR.
14. A PRECONSTRUCTION MEETING SHALL BE HELD AT THE SITE PRIOR TO THE BEGINNING OF WORK AND SHALL BE ATTENDED BY ALL REPRESENTATIVES RESPONSIBLE FOR CONSTRUCTION, INSPECTION, SUPERVISION, TESTING AND ALL OTHER ASPECTS OF THE WORK. THE CONTRACTOR SHALL REQUEST A PRECONSTRUCTION MEETING BY CALLING THE INSPECTION LINE AT (760) 438-3891 AT LEAST FIVE(5) WORKING DAYS PRIOR TO STARTING CONSTRUCTION. THE CONTRACTOR WILL THEN BE CONTACTED BY THE PROJECT INSPECTOR TO COORDINATE A DATE AND TIME FOR THE PRECONSTRUCTION MEETING. APPROVED MEETING TIMES MUST BE AVAILABLE PRIOR TO SCHEDULING A GRADING PERMIT WILL BE PROVIDED BY THE PROJECT INSPECTOR AT THE MEETING.
15. ALL INSPECTION REQUESTS OTHER THAN FOR PRECONSTRUCTION MEETING WILL BE MADE BY CALLING THE ENGINEERING 24-HOUR INSPECTION REQUEST LINE AT (760) 438-3891. INSPECTION REQUESTS MUST BE RECEIVED PRIOR TO 2:00 P.M. ON THE DAY BEFORE THE INSPECTION IS NEEDED. INSPECTIONS WILL BE MADE THE NEXT WORK DAY UNLESS YOU REQUEST OTHERWISE. REQUESTS MADE AFTER 2:00 P.M. WILL BE SCHEDULED FOR TWO FULL WORK DAYS LATER.
16. THE OWNER AND/OR APPLICANT THROUGH THE DEVELOPER AND/OR CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS AND REGULATIONS.
17. THE CONTRACTOR SHALL CONFORM TO LABOR CODE SECTION 6705 BY SUBMITTING A DETAIL PLAN TO THE CITY ENGINEER AND/OR CONCERNED AGENCY SHOWING THE DESIGN OF SHORING, BRACING, SLOPING OR OTHER PROVISIONS TO BE MADE OF WORKER PROTECTION FROM THE HAZARD OF CAVING GROUND DURING THE EXCAVATION OF SUCH TRENCH OR TRENCHES OR DURING THE PIPE INSTALLATION THEREIN. THIS PLAN MUST BE PREPARED FOR ALL TRENCHES FIVE FEET (5') OR MORE IN DEPTH AND APPROVED BY THE CITY ENGINEER AND/OR CONCERNED AGENCY PRIOR TO EXCAVATION. IF THE PLAN VARIES FROM THE SHORING SYSTEM STANDARDS ESTABLISHED BY THE CONSTRUCTION SAFETY ORDERS, TITLE 8 CALIFORNIA ADMINISTRATIVE CODE, THE PLAN SHALL BE PREPARED BY A REGISTERED ENGINEER AT THE CONTRACTORS EXPENSE. A COPY OF THE OSHA EXCAVATION PERMIT MUST BE SUBMITTED TO THE INSPECTOR PRIOR TO EXCAVATION.
18. NO BLASTING SHALL BE PERFORMED UNTIL A VALID BLASTING PERMIT HAS BEEN OBTAINED FROM THE CITY OF CARLSBAD. SUBMIT APPLICATION FOR BLASTING PERMIT WELL IN ADVANCE OF THE SCHEDULING OF BLASTING OPERATIONS.
19. IF ANY ARCHAEOLOGICAL RESOURCES ARE DISCOVERED WITHIN ANY WORK AREA DURING CONSTRUCTION OPERATIONS, WILL CEASE IMMEDIATELY, AND THE PERMITEE WILL NOTIFY THE CITY ENGINEER. OPERATIONS WILL NOT RESTART UNTIL THE PERMITEE HAS RECEIVED WRITTEN AUTHORITY FROM THE CITY ENGINEER TO DO SO.
20. ALL OPERATIONS CONDUCTED ON THE SITE OR ADJACENT THERETO, INCLUDING WARMING UP, REPAIR, ARRIVAL, DEPARTURE OR OPERATION OF TRUCKS, EARTH-MOVING EQUIPMENT, CONSTRUCTION EQUIPMENT AND ANY OTHER ASSOCIATED GRADING EQUIPMENT SHALL BE LIMITED TO THE PERIOD BETWEEN 7:00 A.M. AND 6:00 P.M. EACH DAY, MONDAY THRU FRIDAY AND NO EARTHMOVING OR GRADING OPERATIONS SHALL BE CONDUCTED ON WEEKNENDS OR HOLIDAYS. (A LIST OF CITY HOLIDAYS IS AVAILABLE AT THE ENGINEERING DEPARTMENT COUNTER.)
21. ALL OFF-SITE HAUL ROUTES SHALL BE SUBMITTED BY THE CONTRACTOR TO THE CITY ENGINEER FOR APPROVAL TWO FULL WORKING DAYS PRIOR TO BEGINNING OF WORK.
22. IMPORT MATERIAL SHALL BE OBTAINED FROM, AND WASTE MATERIAL SHALL BE DEPOSITED AT, A SITE APPROVED BY THE CITY ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEBRIS OR DAMAGE OCCURRING ALONG THE HAUL ROUTES OR ADJACENT STREETS AS A RESULT OF THE GRADING OPERATION.
23. BRUSH SHALL BE REMOVED ONLY WITHIN THE AREA TO BE GRADED. NO TREES ARE TO BE REMOVED UNLESS SPECIFICALLY NOTED ON THE PLAN.
24. ALL AREAS SHALL BE GRADED TO DRAIN. GRADING RESULTING IN THE PONDING OF WATER IS NOT PERMITTED. ALL EARTHEN SWALES AND DITCHES SHALL HAVE A MINIMUM ONE PERCENT SLOPE.
25. THESE PLANS ARE SUBJECT TO A SIGNED AND APPROVED SET OF EROSION CONTROL PLANS. EROSION CONTROL SHALL BE AS SHOWN AND AS APPROVED BY THE CITY ENGINEER OR AS DIRECTED BY THE PROJECT INSPECTOR.
26. ALL SLOPES SHALL BE TRIMMED TO A FINISH GRADE TO PRODUCE A UNIFORM SURFACE AND CROSS SECTION. THE SITE SHALL BE LEFT IN A NEAT AND ORDERLY CONDITION. ALL STONES, ROOTS OR OTHER DEBRIS SHALL BE REMOVED AND DISPOSED OF AT A SITE APPROVED BY THE CITY ENGINEER.
27. ALL SLOPES SHALL BE IRRIGATED, STABILIZED, PLANTED AND/OR HYDROSEEDDED WITHIN TEN (10) DAYS OF THE TIME WHEN EACH SLOPE IS BROUGHT TO GRADE AS SHOWN ON THE APPROVED GRADING PLANS.
28. LANDSCAPING SHALL BE ACCOMPLISHED ON ALL SLOPES AND PADS AS REQUIRED BY THE CITY OF CARLSBAD LANDSCAPE MANUAL. THE LANDSCAPING PLANS FOR THIS PROJECT DRAWING NO. \_\_\_\_\_, AND/OR AS DIRECTED BY THE CITY ENGINEER OR PLANNING DIRECTOR.
29. THE OWNER/APPLICANT SHALL INSURE THAT ALL CONTRACTORS SHALL COORDINATE THE WORK OF THESE GRADING PLANS WITH THAT SHOWN ON BOTH THE LANDSCAPE AND IRRIGATION PLANS AND THE IMPROVEMENT PLANS AS REQUIRED FOR THIS WORK IN ACCORDANCE WITH THE LANDSCAPE MANUAL TIME REQUIREMENTS.

- 30. STORM DRAIN PIPE SHALL BE REINFORCED CONCRETE PIPE WITH A MINIMUM D-LOAD OF 1,350. FOR PRIVATE STORM DRAIN PIPES, UP TO 15" PVC MAY BE UTILIZED PROVIDED DEPTH IS LESS THAN 15 FEET AND BACKFILLED WITH 3/4" ROCK PER SDRSD S-4 TYPE "C" AND PIPE MEETS ASTM STANDARD 3034 FOR SDR 35 SOLID WALL PIPE.
31. WHERE AN EXISTING PIPE LINE IS TO BE ABANDONED AS A RESULT OF THE GRADING OPERATION, IT SHALL BE REMOVED WITHIN TWENTY FEET OF BUILDING OR STREET AREAS AND REPLACED WITH PROPERLY COMPACTED SOILS. IN OTHER AREAS THE PIPE WILL BE PLUGGED WITH CONCRETE OR REMOVED AS APPROVED BY THE CITY ENGINEER.
32. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING FACILITIES (ABOVE GROUND AND UNDER GROUND) WITHIN THE PROJECT SITE SUFFICIENTLY AHEAD OF GRADING TO PERMIT THE REVISION OF THE GRADING PLANS IF IT IS FOUND THAT THE ACTUAL LOCATIONS ARE IN CONFLICT WITH THE PROPOSED GRADING.
33. THE CONTRACTOR SHALL NOTIFY AFFECTED UTILITY COMPANIES (SEE BELOW) AT LEAST 2 FULL WORKING DAYS PRIOR TO STARTING GRADING NEAR THEIR FACILITIES AND SHALL COORDINATE THE WORK WITH A COMPANY REPRESENTATIVE.
UNDERGROUND SERVICE ALERT (800) 422-4133 (800) 660-7343 (800) 892-0123 (760) 438-7741 (760) 434-2980 (760) 438-2722
TIME WARNER CABLE
CITY OF CARLSBAD (STREETS & STORM DRAIN)
CARLSBAD MUNICIPAL WATER DISTRICT

- 34. PERMIT COMPLIANCE REQUIREMENTS:
A. FOR CONTROLLED GRADING- THE APPLICANT HIRES A CIVIL ENGINEER, SOILS ENGINEER, AND/OR GEOLOGIST TO GIVE TECHNICAL ADVICE, OBSERVE AND CONTROL THE WORK IN PROGRESS [15.16.120(A)8] CARLSBAD MUNICIPAL CODE.
B. PRIOR TO FINAL APPROVAL OF A GRADING PERMIT- THE FOLLOWING REPORTS MUST BE SUBMITTED TO THE CITY ENGINEER VIA THE PROJECT INSPECTOR [15.16.120(A)10] CARLSBAD MUNICIPAL CODE:
(1) FINAL REPORT BY SUPERVISING GRADING ENGINEER STATING ALL GRADING IS COMPLETE, ALL EROSION CONTROL, SOPE PLANTING AND IRRIGATION ARE INSTALLED IN CONFORMANCE WITH CITY CODE AND THE APPROVED PLANS (OBTAIN SAMPLE OF COMPLIANCE LETTER FROM CITY ENGINEERING DEPARTMENT).
(2) AS-BUILT GRADING PLAN.
(3) REPORT FROM THE SOILS ENGINEER, WHICH INCLUDES RECOMMENDED SOIL BEARING CAPACITIES, A STATEMENT AS TO THE EXPANSIVE QUALITY OF THE SOIL, AND SUMMARIES OF FIELD AND LABORATORY TESTS. THE REPORT SHALL ALSO INCLUDE A STATEMENT BY THE SOILS ENGINEER THAT THE GRADING WAS DONE IN ACCORDANCE WITH THE REQUIREMENTS AND RECOMMENDATIONS OUTLINED IN THE PRELIMINARY SOILS REPORT AND ANY SUPPLEMENTS THERETO.
(4) REPORT WITH AS-BUILT GEOLOGIC PLAN, IF REQUIRED BY THE CITY.
35. UNLESS A GRADING PERMIT FOR THIS PROJECT IS ISSUED WITHIN ONE (1) YEAR AFTER THE CITY ENGINEERS APPROVAL, THESE PLANS MAY BE REQUIRED TO BE RESUBMITTED FOR PLANCHECK. PLANCHECK FEES WILL BE REQUIRED FOR ANY SUCH RECHECK.
36. IN ACCORDANCE WITH THE CITY SUSMP, ALL STORM DRAIN INLETS CONSTRUCTED BY THIS PLAN SHALL INCLUDE "STENCILS" BE ADDED TO PROHIBIT WASTE DISCHARGES DOWNSTREAM. STENCILS SHALL BE ADDED TO THE SATISFACTION OF THE CITY ENGINEER.

EROSION CONTROL NOTES

- 1. IN CASE EMERGENCY WORK IS REQUIRED, CONTACT STEVE POWELL AT (760) 602-5850.
2. EQUIPMENT AND WORKERS FOR EMERGENCY WORK SHALL BE MADE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON. ALL NECESSARY MATERIALS SHALL BE STOCKPILED ON SITE AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF TEMPORARY DEVICES WHEN RAIN IS EMINENT.
3. FOR PROJECTS COVERED BY STATE SWPPP/WQID, IN ACCORDANCE WITH THE CONSTRUCTION QUALIFIED SWPPP PRACTITIONER (QSP) SHALL UPDATE AND MAINTAIN THE WATER POLLUTION CONTROL (WPC) PLAN TO ADDRESS UPDATED SITE CONDITIONS OF THE PROJECT SITE AND THE UPDATED WPC PLAN AND UPDATED SWPPP SHALL BE KEPT AT THE PROJECT SITE AND MADE AVAILABLE TO THE CITY INSPECTOR. ADDITIONAL CONSTRUCTION BMP'S BEYOND THE ORIGINAL APPROVED SWPPP SHALL BE PROVIDED TO ADDRESS SITE CONDITIONS NOT ANTICIPATED. THE QSP SHALL REPORT BMP DEFICIENCIES TO THE CITY INSPECTOR. THE QSP SHALL OBTAIN APPROVAL FROM THE QUALIFIED SWPPP DEVELOPER AND THE CITY INSPECTOR REGARDING ANY SIGNIFICANT CHANGES TO BMP DEPLOYMENT.
4. THE CONTRACTOR SHALL RESTORE ALL EROSION CONTROL DEVICES TO WORKING ORDER TO THE SATISFACTION OF THE CITY ENGINEER AFTER EACH RUN-OFF PRODUCING RAINFALL. THE CONTRACTOR SHALL INSTALL ADDITIONAL EROSION CONTROL MEASURES AS MAY BE REQUIRED BY THE CITY ENGINEER DUE TO UNCOMPLETED GRADING OPERATIONS OR UNFORESEEN CIRCUMSTANCES WHICH MAY ARISE.
5. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATERS CREATE A HAZARDOUS CONDITION.
6. ALL EROSION CONTROL MEASURES PROVIDED PER THE APPROVED GRADING PLAN SHALL BE INCORPORATED HEREON.
7. GRADED AREAS AROUND THE PROJECT PERIMETER MUST DRAIN AWAY FROM THE FACE OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY.
8. ALL REMOVABLE PROTECTIVE DEVICES SHOWN SHALL BE IN PLACE AT THE END OF EACH WORKING DAY WHEN THE FIVE (5) DAY RAIN PROBABILITY FORECAST EXCEEDS FORTY PERCENT (40%). SILT AND OTHER DEBRIS SHALL BE REMOVED AFTER EACH RAINFALL.
9. ALL GRAVEL BAGS SHALL BE BURLAP TYPE WITH 3/4 INCH MINIMUM AGGREGATE.
10. SHOULD GERMINATION OF HYDROSEEDDED SLOPES FAIL TO PROVIDE EFFECTIVE COVERAGE OF GRADED SLOPES (90% COVERAGE) PRIOR TO NOVEMBER 15, THE SLOPES SHALL BE STABILIZED BY PUNCH STRAW INSTALLED IN ACCORDANCE WITH SECTION 35.023 OF THE EROSION AND SEDIMENT CONTROL HANDBOOK OF THE DEPARTMENT OF CONSERVATION, STATE OF CALIFORNIA.

TEMPORARY EROSION CONTROL PLANTING AND IRRIGATION

ALL PERMANENT AND TEMPORARY EROSION CONTROL PLANTING AND IRRIGATION SHALL BE INSTALLED AND MAINTAINED AS REQUIRED IN SECTION 212 OF THE STANDARD SPECIFICATIONS AND THE FOLLOWING:

- A. HYDROSEEDING SHALL BE APPLIED TO:
1. ALL SLOPES THAT ARE GRADED 6:1 (HORIZONTAL TO VERTICAL) OR STEEPER WHEN THEY ARE:
a. THREE FEET OR MORE IN HEIGHT AND ADJACENT TO A PUBLIC WALL OR STREET.
b. ALL SLOPES 4 FEET OR MORE IN HEIGHT.
2. AREAS GRADED FLATTER THAN 6:1 WHEN ANY OF THE FOLLOWING CONDITIONS EXIST:
a. NOT SCHEDULED FOR IMPROVEMENTS (CONSTRUCTION OR GENERAL LANDSCAPING) WITHIN 60 DAYS OF ROUGH GRADING.
b. IDENTIFIED BY THE PARKS AND RECREATION DIRECTOR AS HIGHLY VISIBLE TO THE PUBLIC.
c. HAVE ANY SPECIAL CONDITION IDENTIFIED BY THE CITY ENGINEER THAT WARRANTS IMMEDIATE TREATMENT.
B. HYDROSEEDDED AREAS SHALL BE IRRIGATED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:
1. ALL SLOPES THAT ARE GRADED 6:1 OR STEEPER AND THAT ARE:
a. THREE TO EIGHT FEET IN HEIGHT SHALL BE IRRIGATED BY HAND WATERING FROM QUICK COUPLERS, HOSE BIBS OR A CONVENTIONAL SYSTEM OF LOW PRECIPITATION SPRINKLER HEADS PROVIDING 100% COVERAGE.
b. GREATER THAN 8 FEET IN HEIGHT SHALL BE WATERED BY A CONVENTIONAL SYSTEM OF LOW PRECIPITATION SPRINKLER HEADS PROVIDING 100% COVERAGE.
2. AREAS SLOPED LESS THAN 6:1 SHALL BE IRRIGATED AS APPROVED BY THE CITY ENGINEER, PRIOR TO HYDROSEEDING. THE DEVELOPER SHALL SUBMIT A PROPOSED SCHEME TO PROVIDE IRRIGATION TO THE CITY ENGINEER. THE PROPOSAL SHALL BE SPECIFIC REGARDING THE NUMBERS, TYPES AND COSTS OF THE ELEMENTS OF THE PROPOSED SYSTEM.
3. IRRIGATION SHALL MAINTAIN THE MOISTURE LEVEL OF THE SOIL AT THE OPTIMUM LEVEL FOR THE GROWTH OF THE HYDROSEEDDED GROWTH.
C. HYDROSEEDING MIX SHALL CONSIST OF ALL OF THE FOLLOWING:
1. SEED MIX SHALL CONSIST OF NO LESS THAN:
a. 20 lbs. PER ACRE OF ROSE CLOVER
b. 20 lbs. PER ACRE OF ZORRO FESCUE
c. 3 lbs. PER ACRE OF SCHOLAR GRASS CALIFORNICA
d. 4 lbs. PER ACRE OF ACHILLEA MILLEFOLIA
e. 3 lbs. PER ACRE OF ALYSSUM (CARPET OF SNOW)
f. 1/2 lb. PER ACRE OF DIMORPHOLECA
g. ITEMS c,d,e, and f OF THIS SUBSECTION MAY BE OMITTED ON LOCATIONS WHERE THE AREA BEING HYDROSEEDDED IS NOT VISIBLE FROM EITHER A PUBLIC STREET OR RESIDENTIAL STRUCTURES.
h. ITEM a OF THIS SUBSECTION MUST BE INOCULATED WITH A NITROGEN FIXING BACTERIA AND APPLIED DRY EITHER BY DRILLING OR BROADCASTING BEFORE HYDROSEEDING.
i. ALL SEED MATERIALS SHALL BE TRANSPORTED TO THE JOBSITE IN UNOPENED CONTAINERS WITH THE CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE CERTIFICATION TAG ATTACHED TO, OR PRINTED ON SAID CONTAINERS.
j. NON-PHYTO-TOXIC WETTING AGENTS MAY BE ADDED TO THE HYDROSEED SLURRY AT THE DISCRETION OF THE CONTRACTOR.
2. TYPE 1 MULCH APPLIED AT THE RATE OF NO LESS THAN 2000 lbs PER ACRE. TYPE 6 MULCH (STRAW) MAY BE SUBSTITUTED, ALL OR PART, FOR HYDRAULICALLY APPLIED FIBER MATERIAL. WHEN STRAW IS USED IT MUST BE ANCHORED TO THE SLOPE BY MECHANICALLY PUNCHING NO LESS THAN 50% OF THE STRAW INTO THE SOIL.
3. FERTILIZER CONSISTING OF AMMONIUM PHOSPHATE SULFATE, 16-20-0, WITH 15% SULPHUR APPLIED AT THE RATE OF 500 lbs. PER ACRE.
D. AREAS TO BE HYDROSEEDDED SHALL BE PREPARED PRIOR TO HYDROSEEDING BY:
1. ROUGHENING THE SURFACE TO BE PLANTED BY ANY OR A COMBINATION OF:
a. TRACK WALKING SLOPES STEEPER THAN 6:1
b. HARROWING AREAS 6:1 OR FLATTER THAT ARE SUFFICIENTLY FRABLE.
c. RIPPING AREAS THAT WILL NOT BREAK UP USING ITEMS a OR b ABOVE.
2. CONDITIONING THE SOILS SO THAT IT IS SUITABLE FOR PLANTING BY:
a. ADJUSTING THE SURFACE SOIL MOISTURE TO PROVIDE A DAMP BUT NOT SATURATED SEED BED.
b. THE ADDITION OF SOIL AMENDMENTS, PH ADJUSTMENT, LEACHING COVERING SALINE SOILS TO PROVIDED VIABLE CONDITIONS FOR GROWTH.
E. HYDROSEEDDED AREAS SHALL BE MAINTAINED TO PROVIDE A VIGOROUS GROWTH UNTIL THE PROJECT IS PERMANENTLY LANDSCAPED OR, FOR AREAS WHERE HYDROSEEDING IS THE THE PERMANENT LANDSCAPING, UNTIL THE PROJECT IS COMPLETED AND ALL BONDS RELEASED.

EARTHWORK BOND QUANTITIES

Table with columns: CUT, ADJUSTED FILL, IMPORT, REMEDIAL. Values: CUT: 229,800 CY, ADJUSTED FILL: 229,800 CY, IMPORT: 0 CY, REMEDIAL: 201,700 CY. ADJUSTED FILL QUANTITIES REFLECT THE EFFECT OF SHRINKAGE AND BULKING

WORK TO BE DONE (GRADING)

THE GRADING WORK SHALL CONSIST OF THE CONSTRUCTION OF ALL CUTS AND FILLS, REMEDIAL GRADING, DRAINAGE FACILITIES, EROSION CONTROL FACILITIES, AND PLANTING OF PERMANENT LANDSCAPING AND PREPARATION OF AS-BUILT GRADING PLANS, AS-BUILT GEOLOGIC MAPS AND REPORTS, ALL AS SHOWN OR REQUIRED ON THIS SET OF PLANS AND THE CITY STANDARDS, SPECIFICATIONS, REQUIREMENTS, RESOLUTIONS AND ORDINANCES CITED ON THESE PLANS. THE GRADING WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS, CURRENT AT THE TIME OF CONSTRUCTION, AS DIRECTED BY THE CITY ENGINEER. ALL REFERENCED CODES AND STANDARDS SHOWN ON SHEET 1 APPLY. SEE SHEET 1 FOR ADDITIONAL ITEMS COMMON TO IMPROVEMENTS

LEGEND

Table with columns: DESCRIPTION, STD. DWG., SYMBOL, BOND QUANTITY. Includes items like EXISTING CREEK FLOWLINE, EXISTING/PROPOSED 100 YR FLOODPLAIN, EXISTING STORM DRAIN, STORM DRAIN PER THIS PLAN SET, NO 2 BACKING RIP RAP, 1 TON RIP RAP, 2 TON RIP RAP, SPOT ELEVATIONS, CUT/FILL LINE, DAYLIGHT LINE, SLOPE EMBANKMENT (2:1 MAX.), EXISTING CONTOUR, FINISH CONTOUR, V DITCH, J DITCH, BROW DITCH, AC SWALE, 6" PERFORATED SUBDRAIN PIPE, SPLASH WALL, RETAINING WALL, SOUND WALL DETAIL SHEET 52, ARTICULATE CEMENT BLOCK SLOPE PROTECTION, ALL WEATHER ACCESS ROAD, SECONDARY OVERFLOW ACCESS ROAD, BIORETENTION AREA, ACCESS GATE, FENCE, ORANGE CONSTRUCTION FENCE, CUT-OFF WALLS.

\*PER CONDITIONAL LETTER OF MAP REVISION REQUEST FOR COLLEGE BOULEVARD DATED JUNE 2015 PREPARED BY LYLE ENGINEERING



ENGINEER OF WORK

RAYMOND L. MARTIN DATE
RCE NO 48670 EXP. 6/30/16

BENCH MARK

DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)
LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE
RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271
ELEVATION: 246.43 NGVD 1929

"AS BUILT"

RCE EXP. DATE
REVIEWED BY:
INSPECTOR DATE

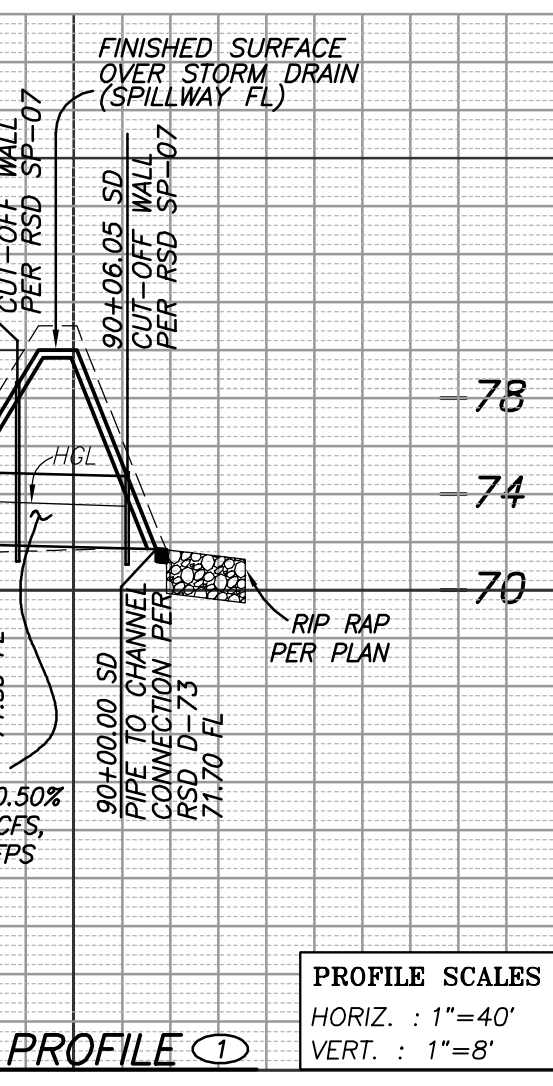
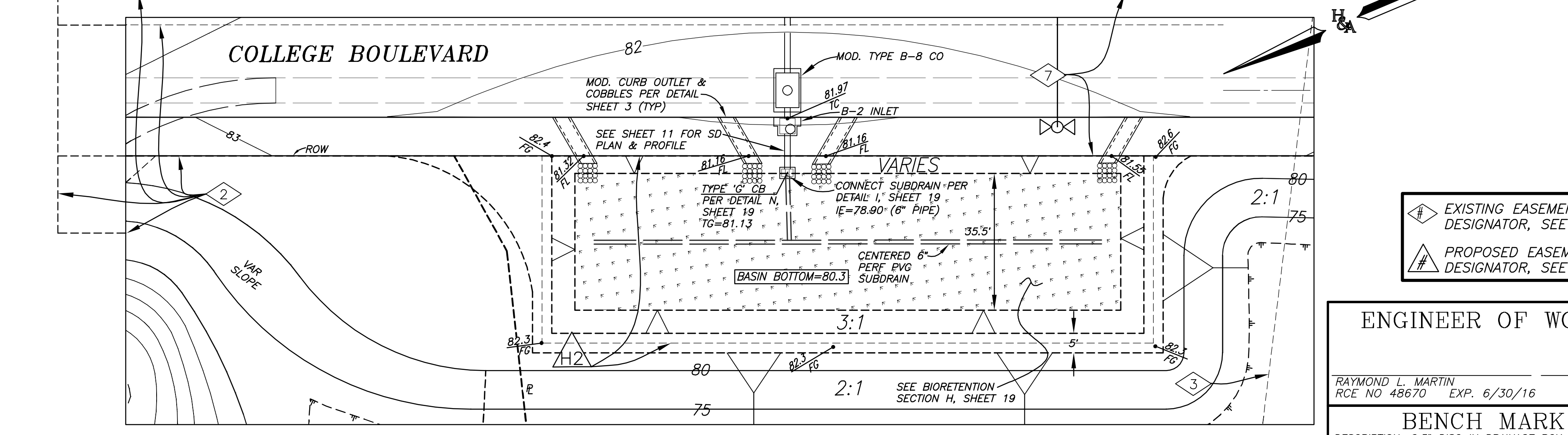
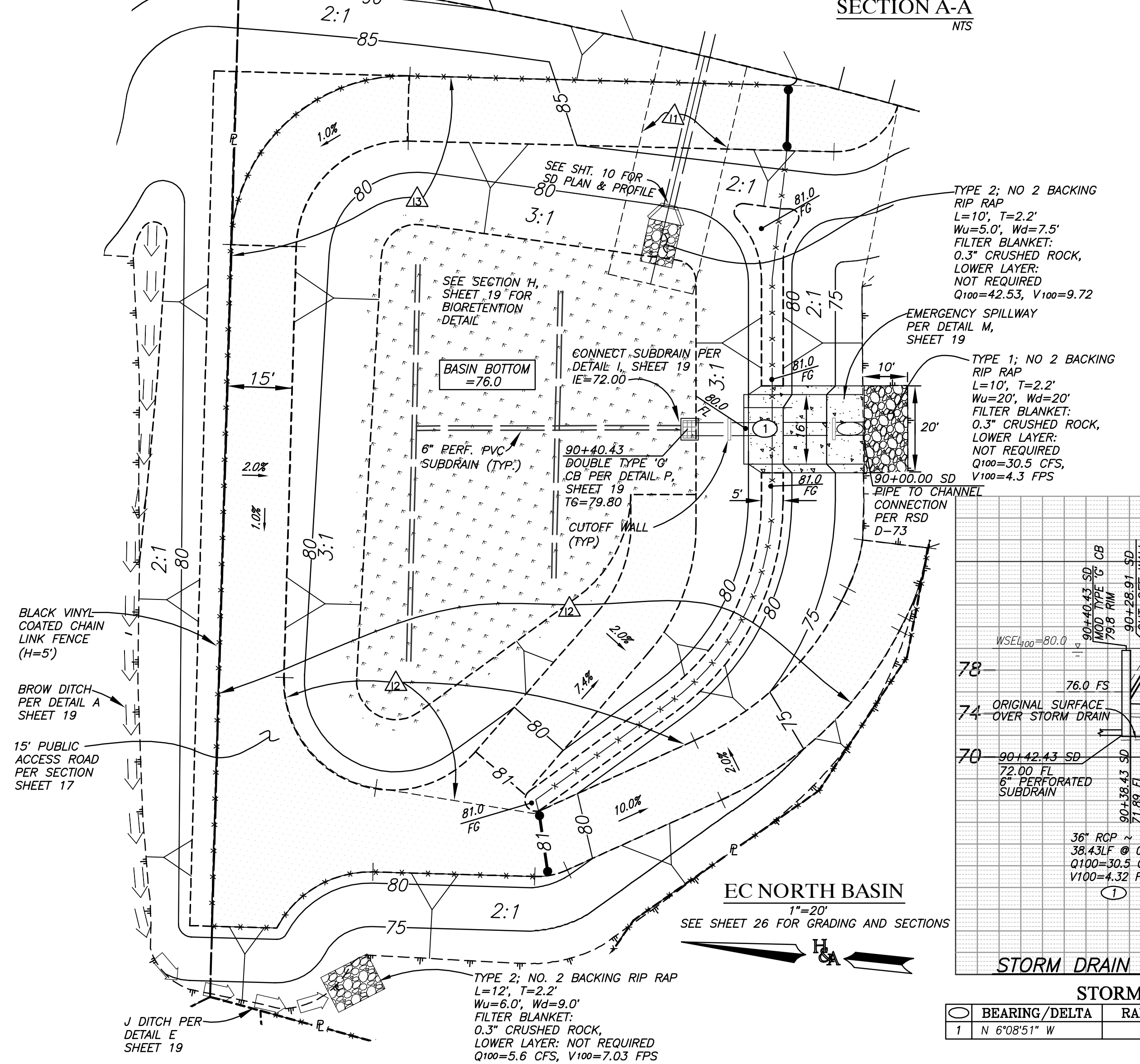
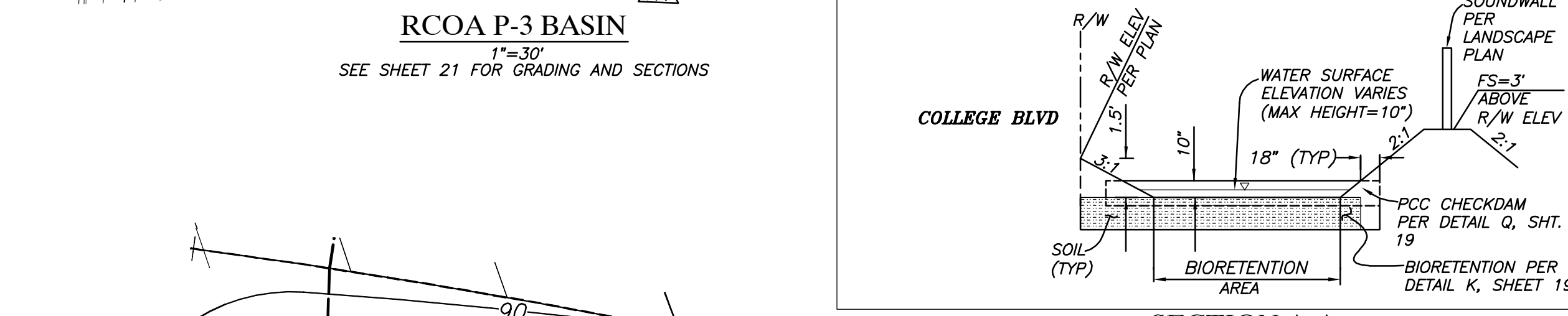
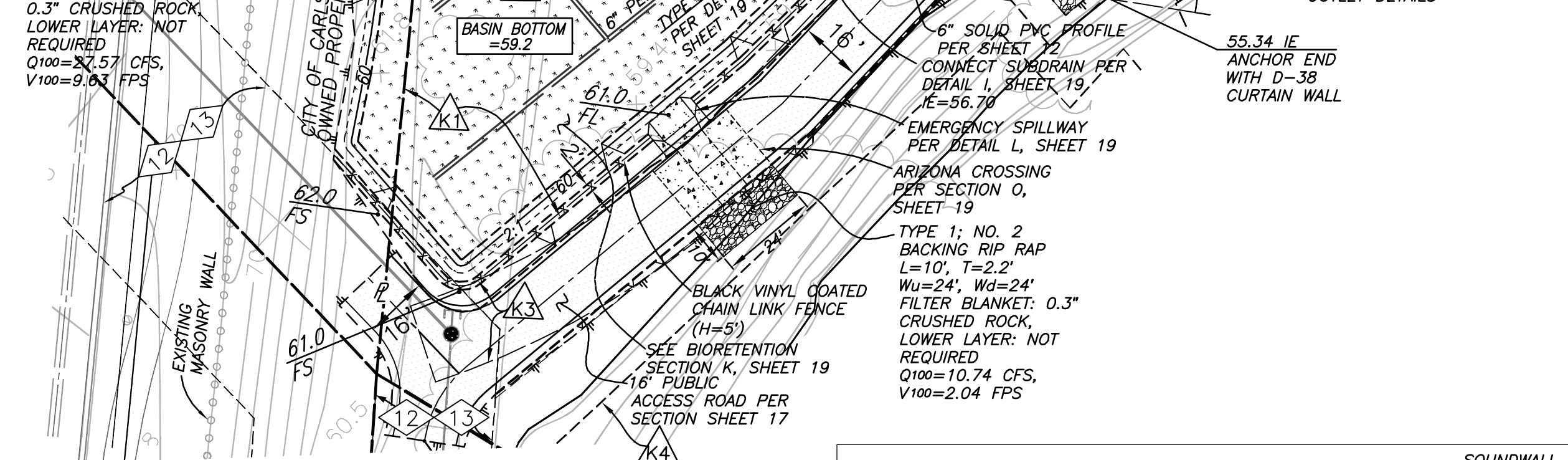
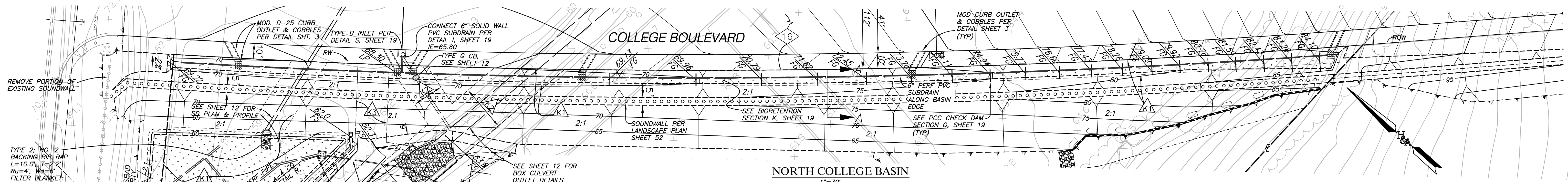
SHEET 16 CITY OF CARLSBAD ENGINEERING DEPARTMENT SHEETS 73

ROUGH GRADING NOTES & LEGEND FOR: COLLEGE BOULEVARD
APPROVED: JASON S. GELDEIT
CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE
DWN BY: PROJECT NO. CT 00-18 DRAWING NO. 456-3G
CHKD BY:
RVWD BY:



Table with columns: DATE, INITIAL, REVISION DESCRIPTION, DATE, INITIAL, OTHER APPROVAL, CITY APPROVAL. Includes a grid for revisions.





STORM DRAIN DATA

BEARING/Delta	RADIUS	LENGTH	REMARKS
1 N 6°08'51" W		38.43'	36" RCP

BIORETENTION BASIN DIMENSIONS

BASIN	CL II PERM. BASE DEPTH	MIN SURFACE AREA (SQ FT)	SURFACE AREA PROVIDED (SQ FT)	ORIFICE SIZE	BIORETENTION LIMITS ELEV
RCOA P-3	12"	8,110	8,134	1~3/4"	60.90
NORTH COLLEGE	12"	7,367	7,400	1~3/4"	VARIES
EC SOUTH	12"	4,957	5,025	1~11/16"	80.30
EC EAST	12"	5,818	5,834	1~3/4"	80.30
EC NORTH	30"	12,548	13,000	2"	76.83

SEE DWG 456-3L FOR LANDSCAPING & IRRIGATION OF BIORETENTION BASINS

REVISION DESCRIPTION

DATE	INITIAL	DATE	INITIAL

- EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

ENGINEER OF WORK

RAYMOND L. MARTIN  
RCE NO 48670 EXP. 6/30/16 DATE

BENCH MARK  
DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
ELEVATION: 246.43 NGVD 1929

"AS BUILT"

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

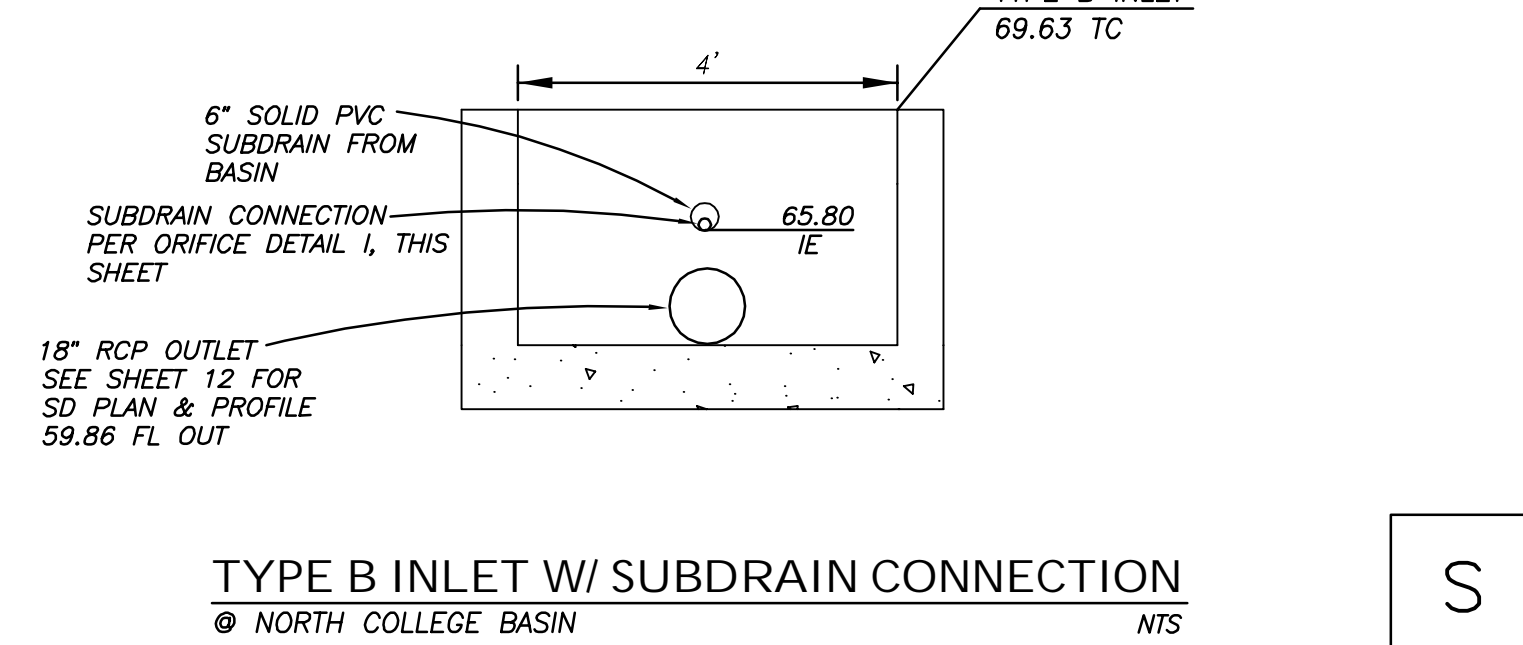
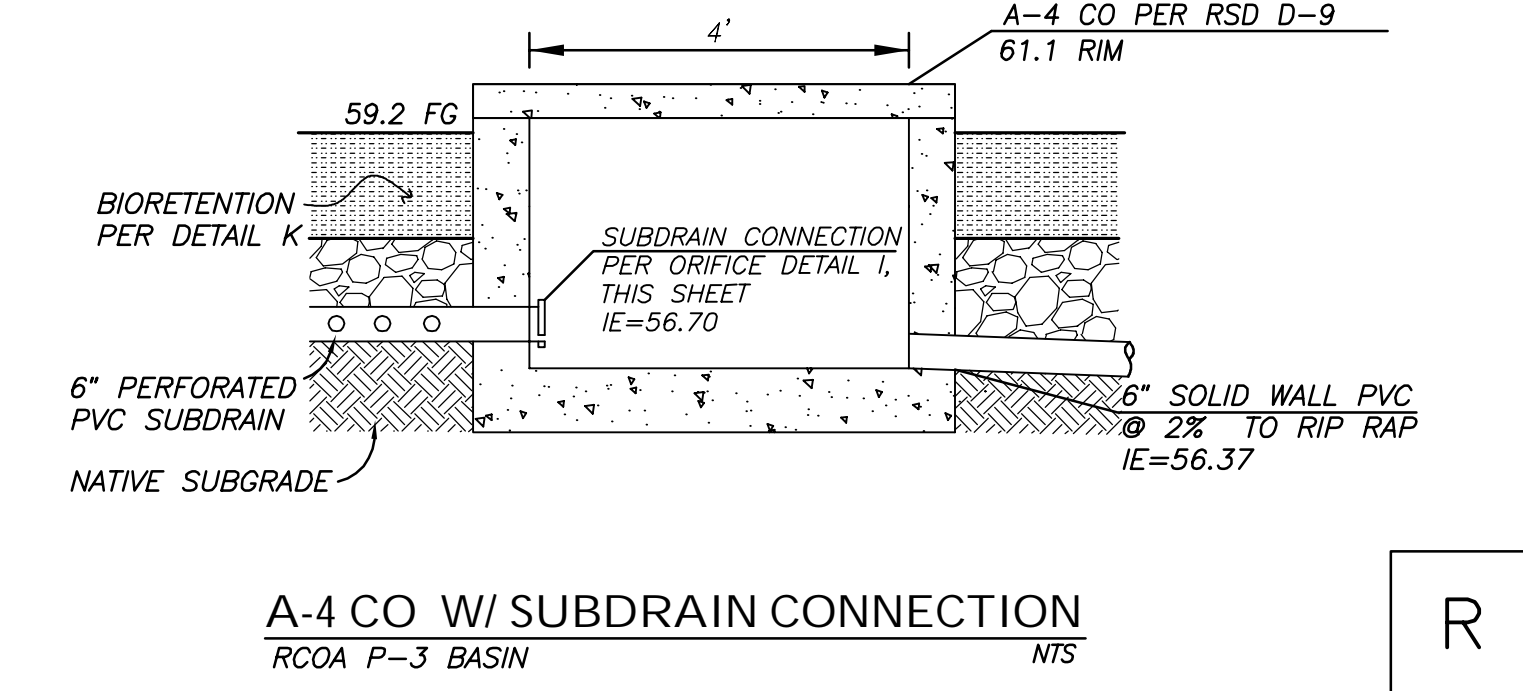
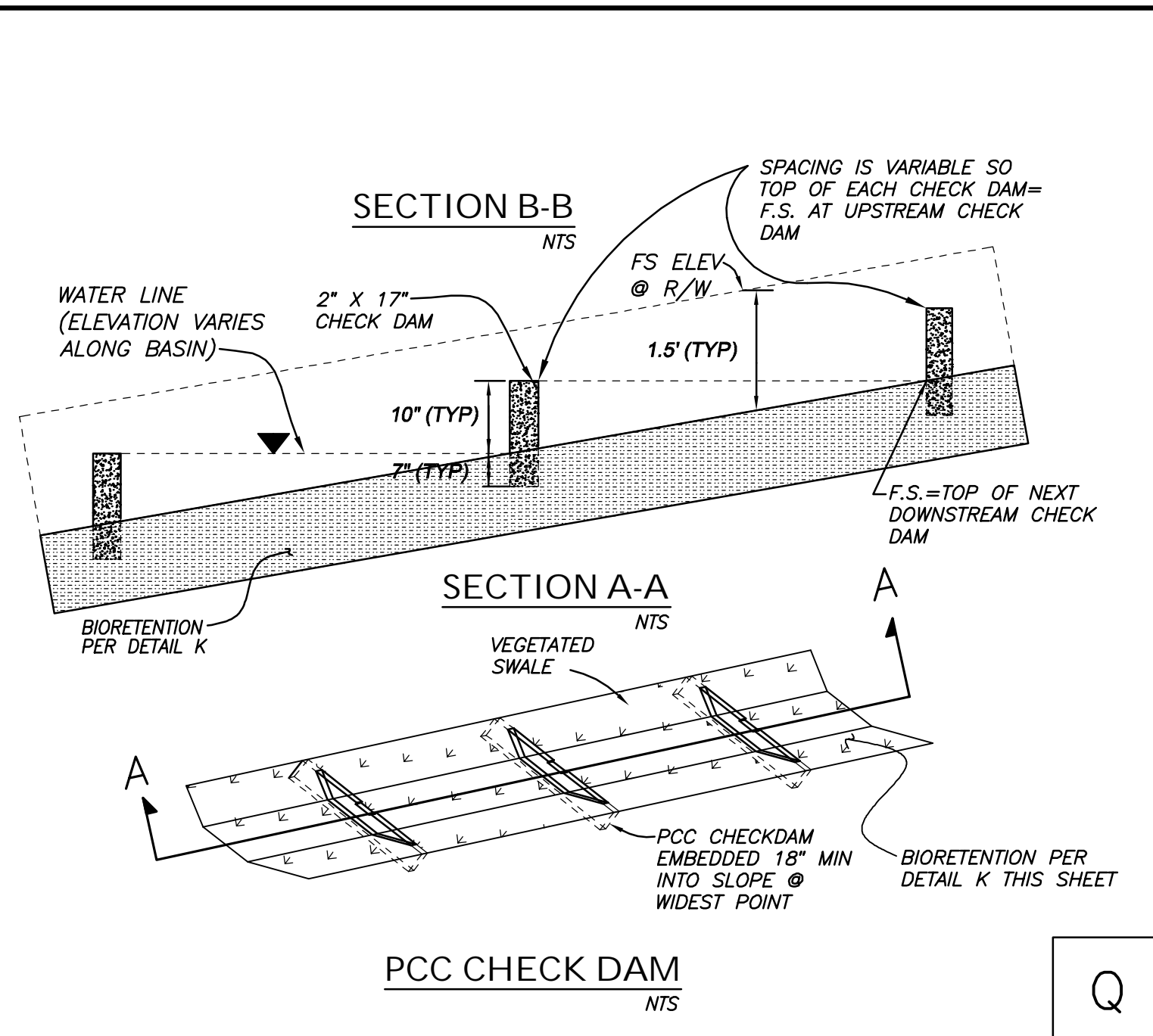
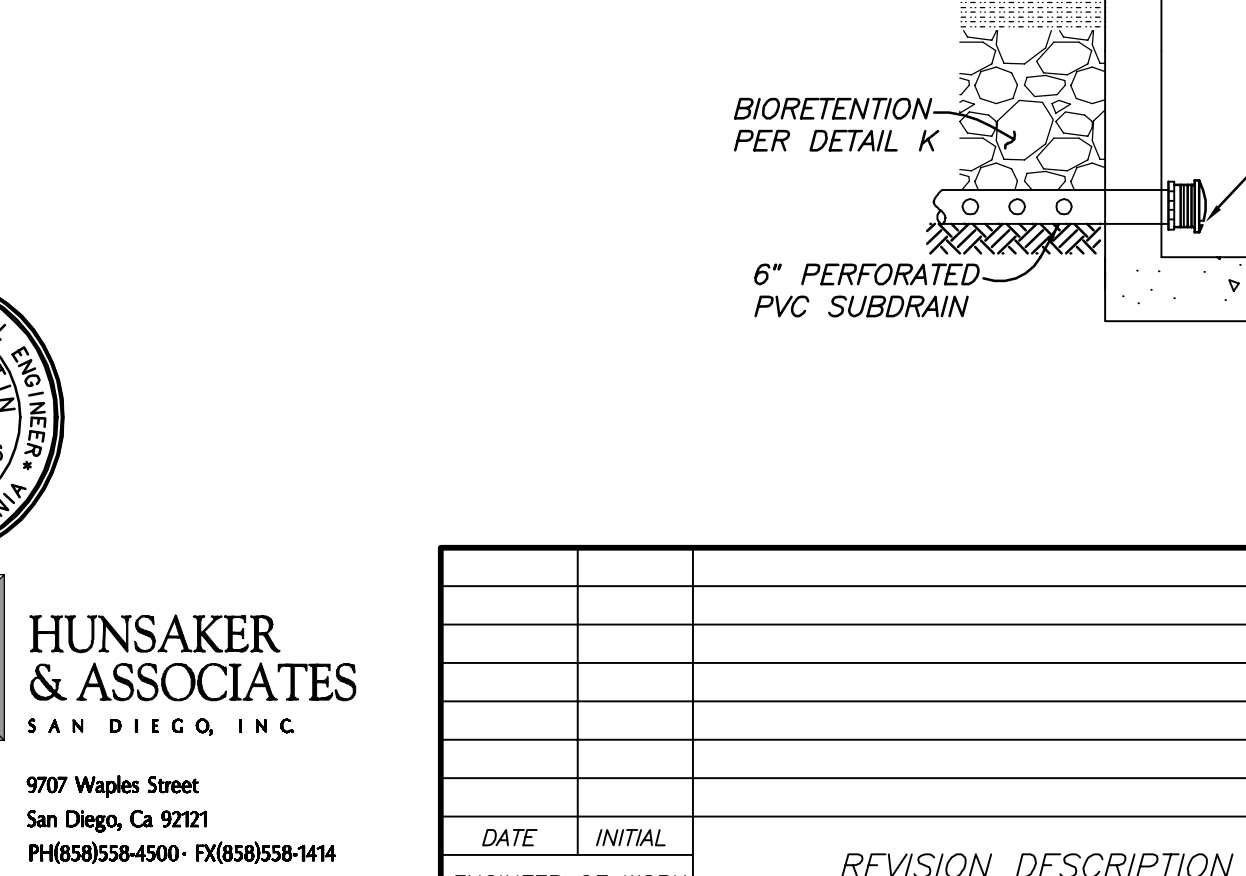
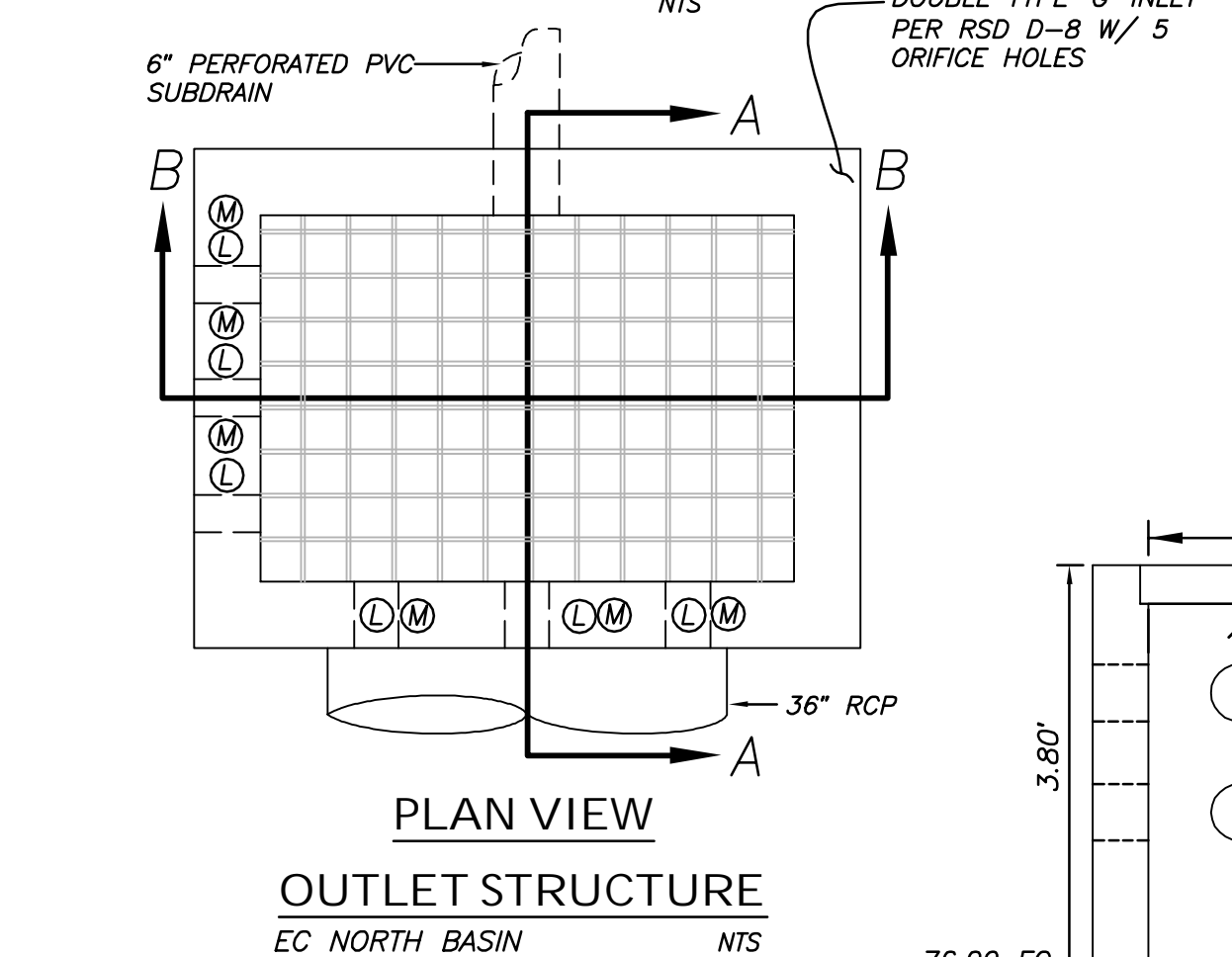
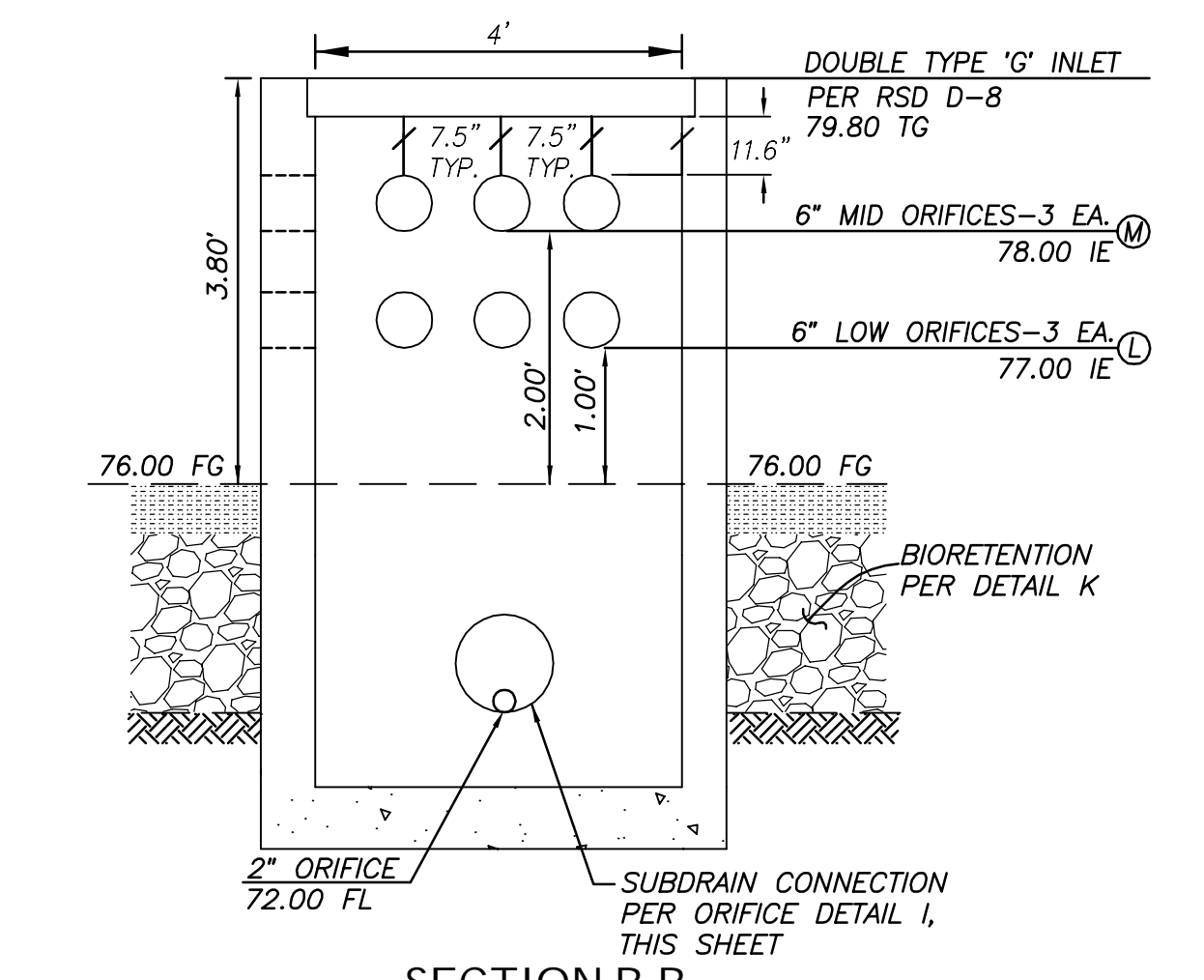
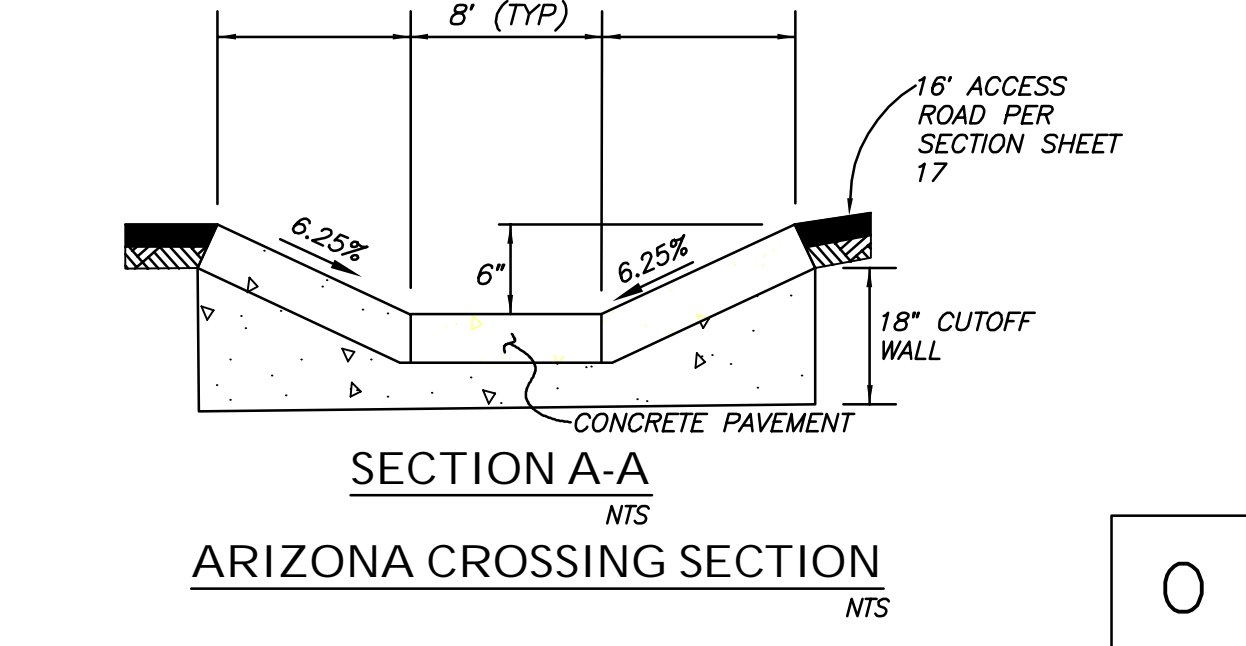
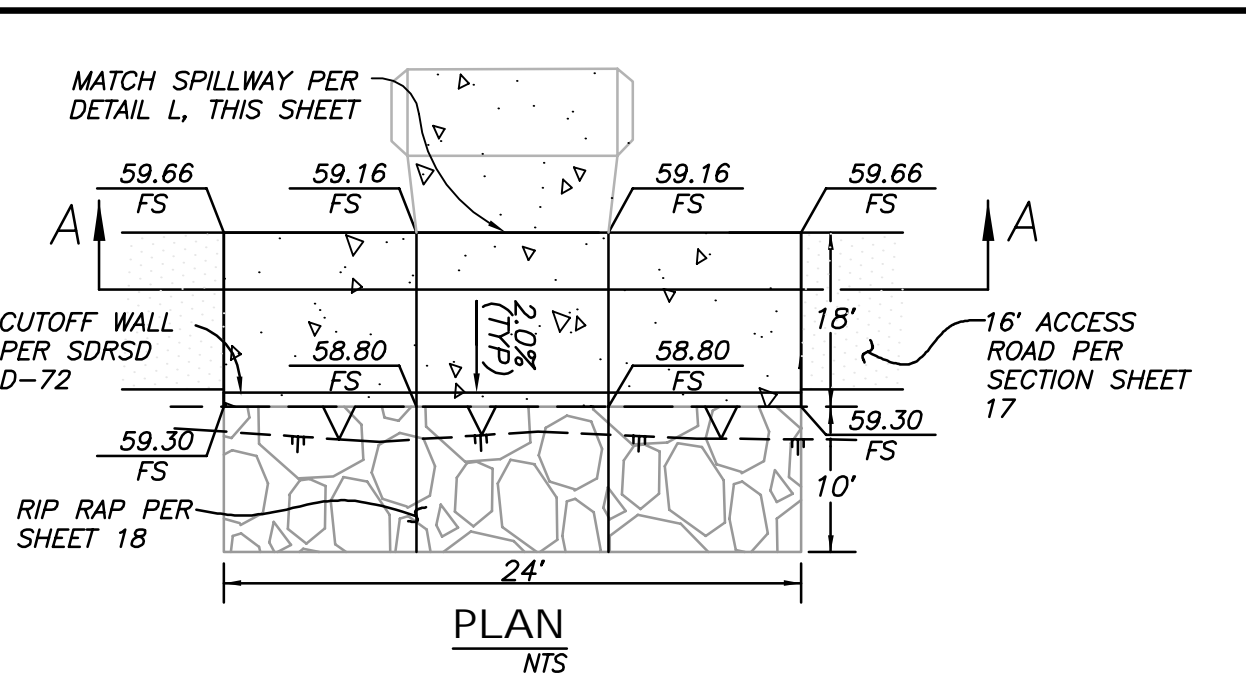
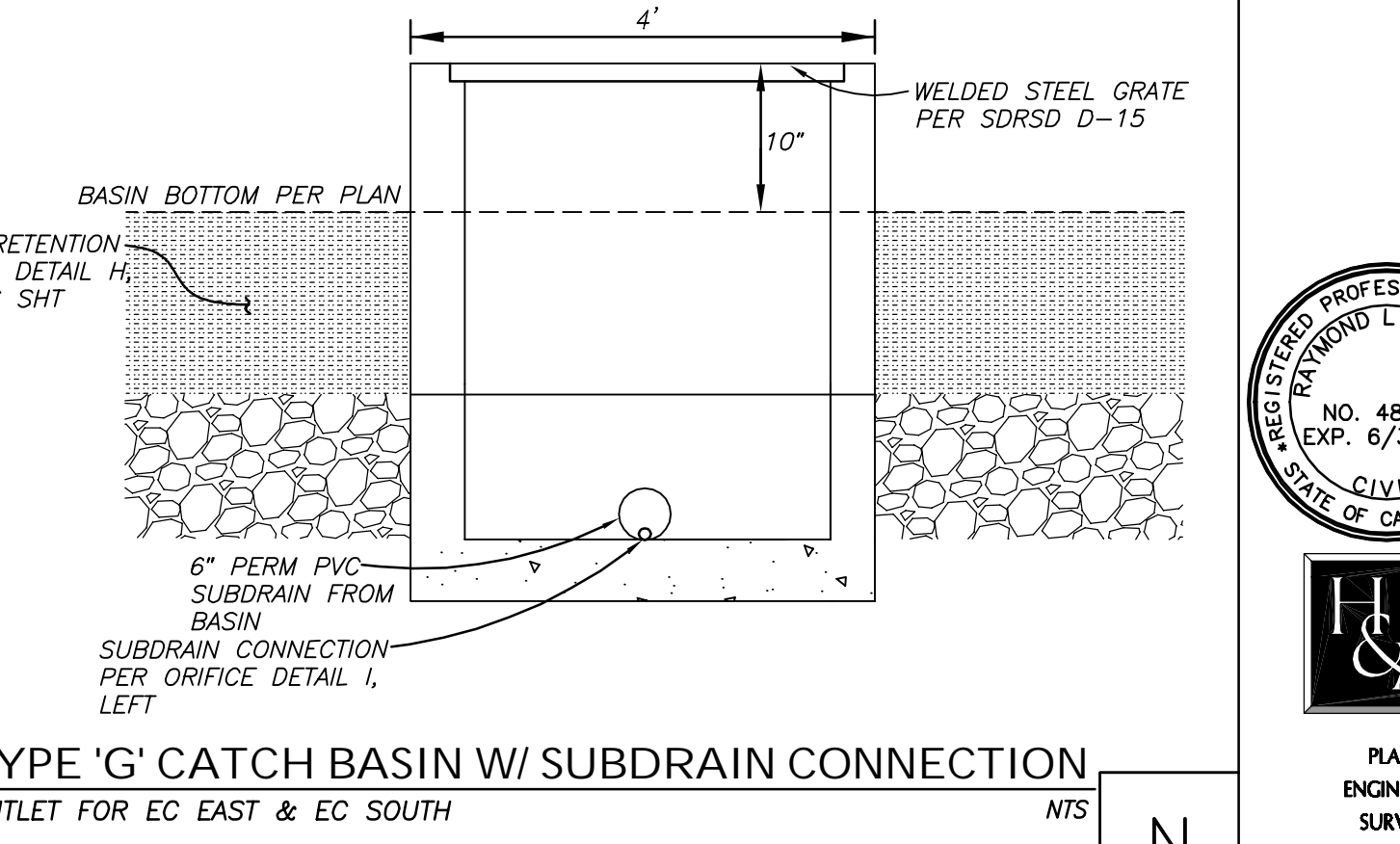
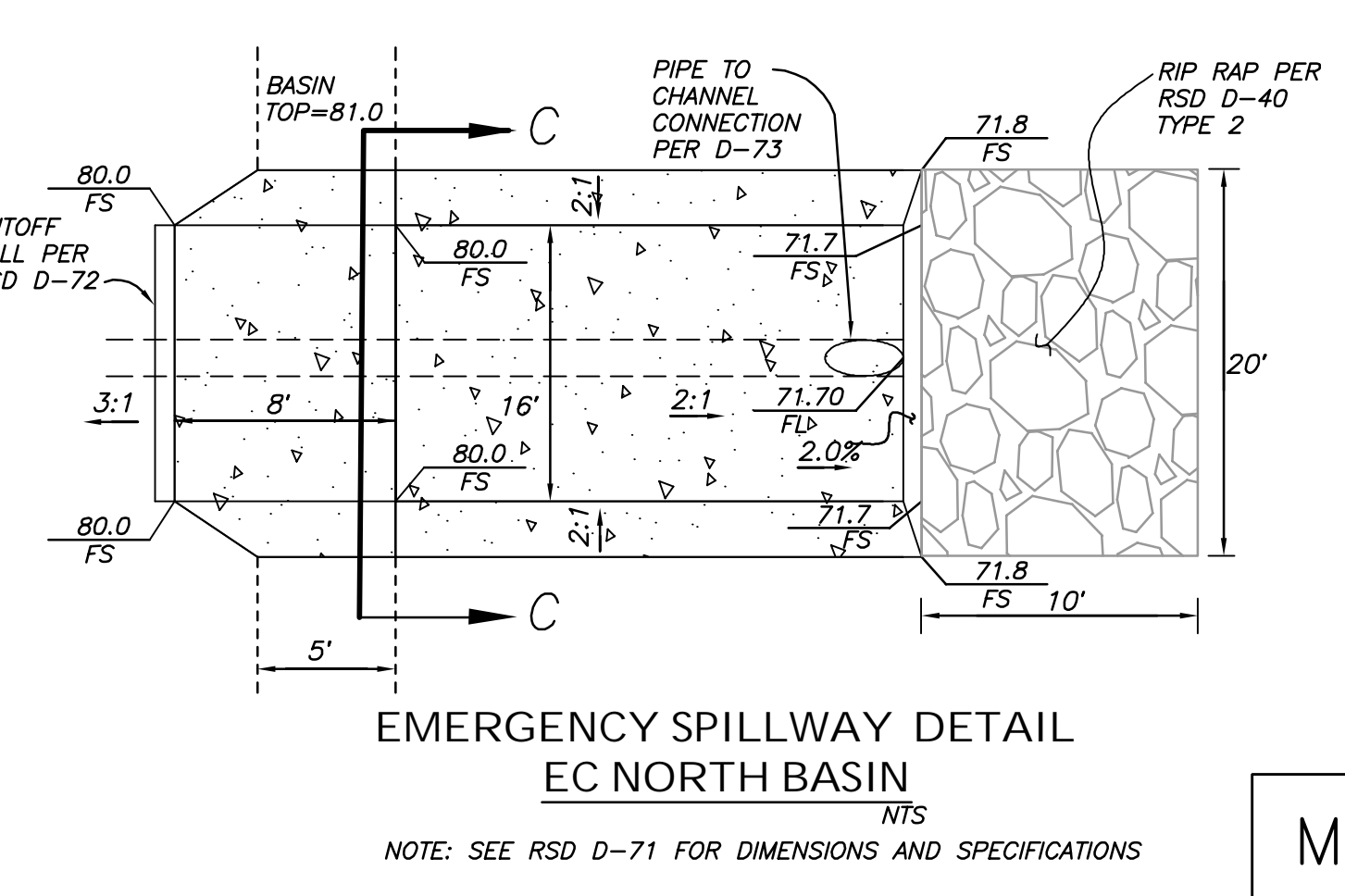
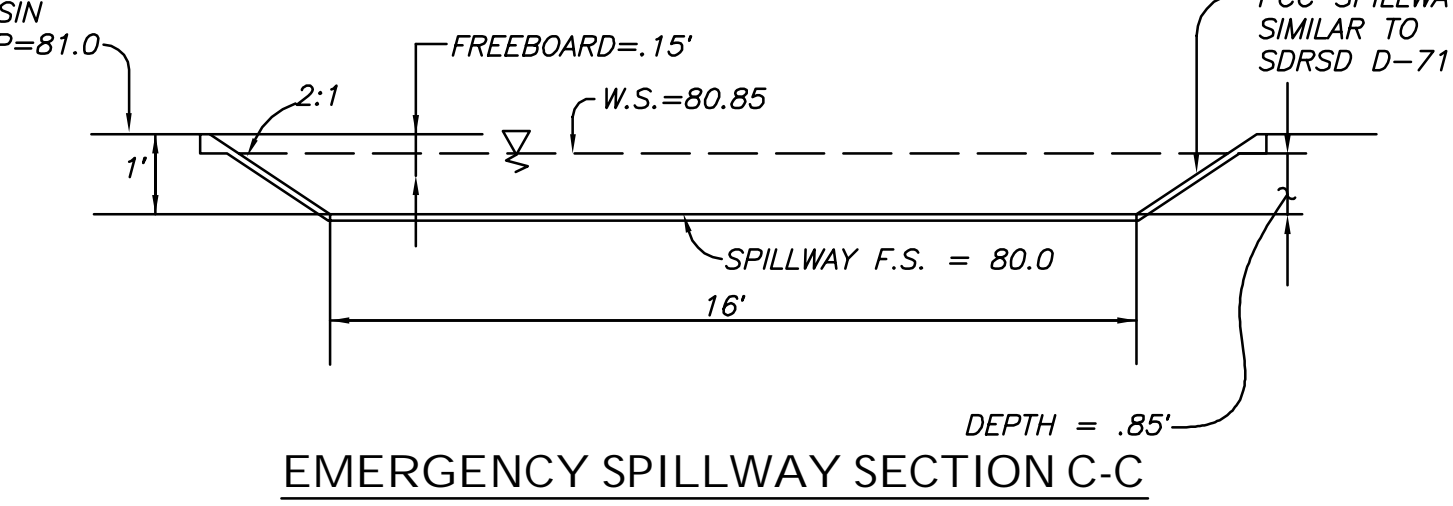
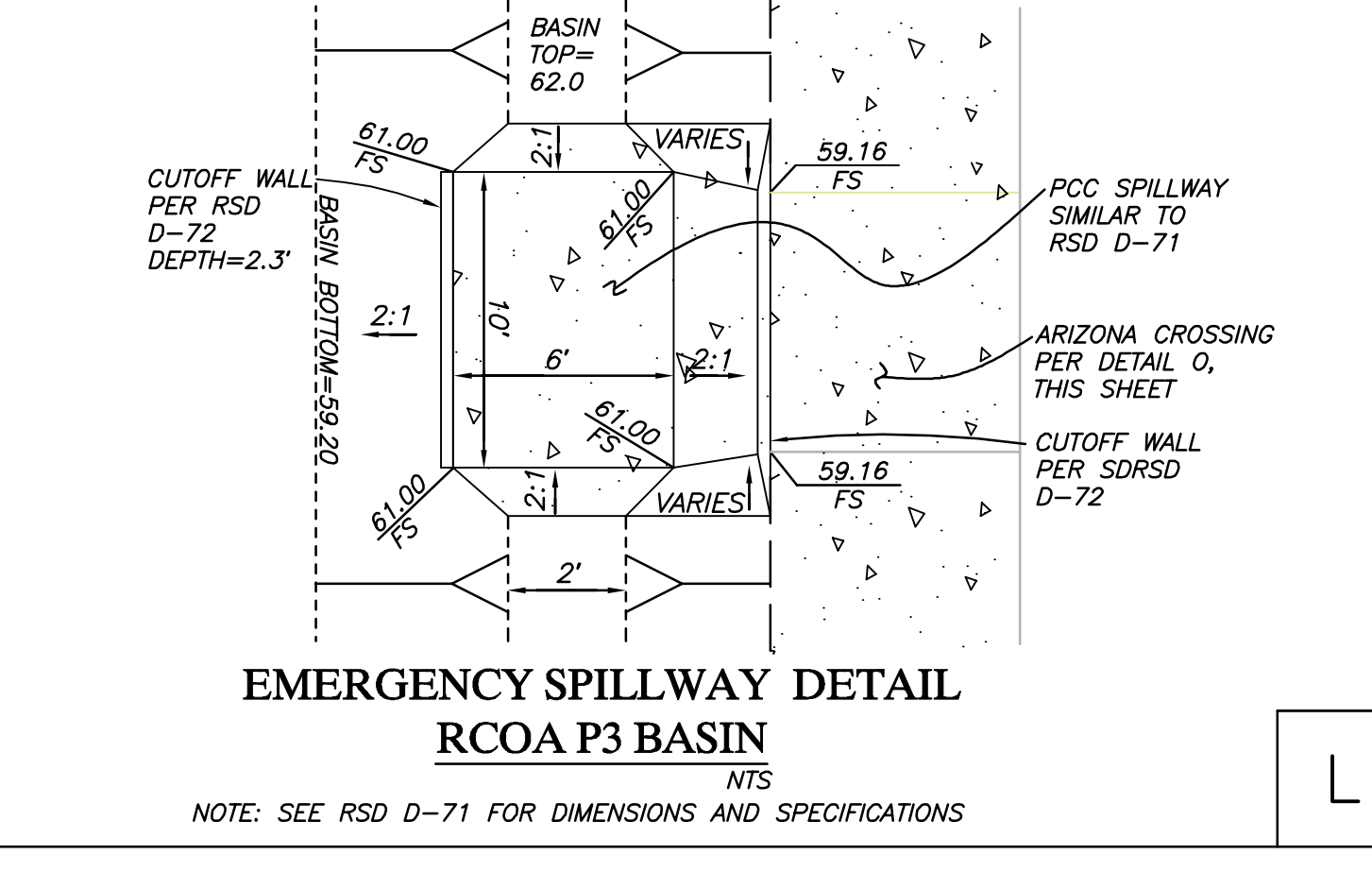
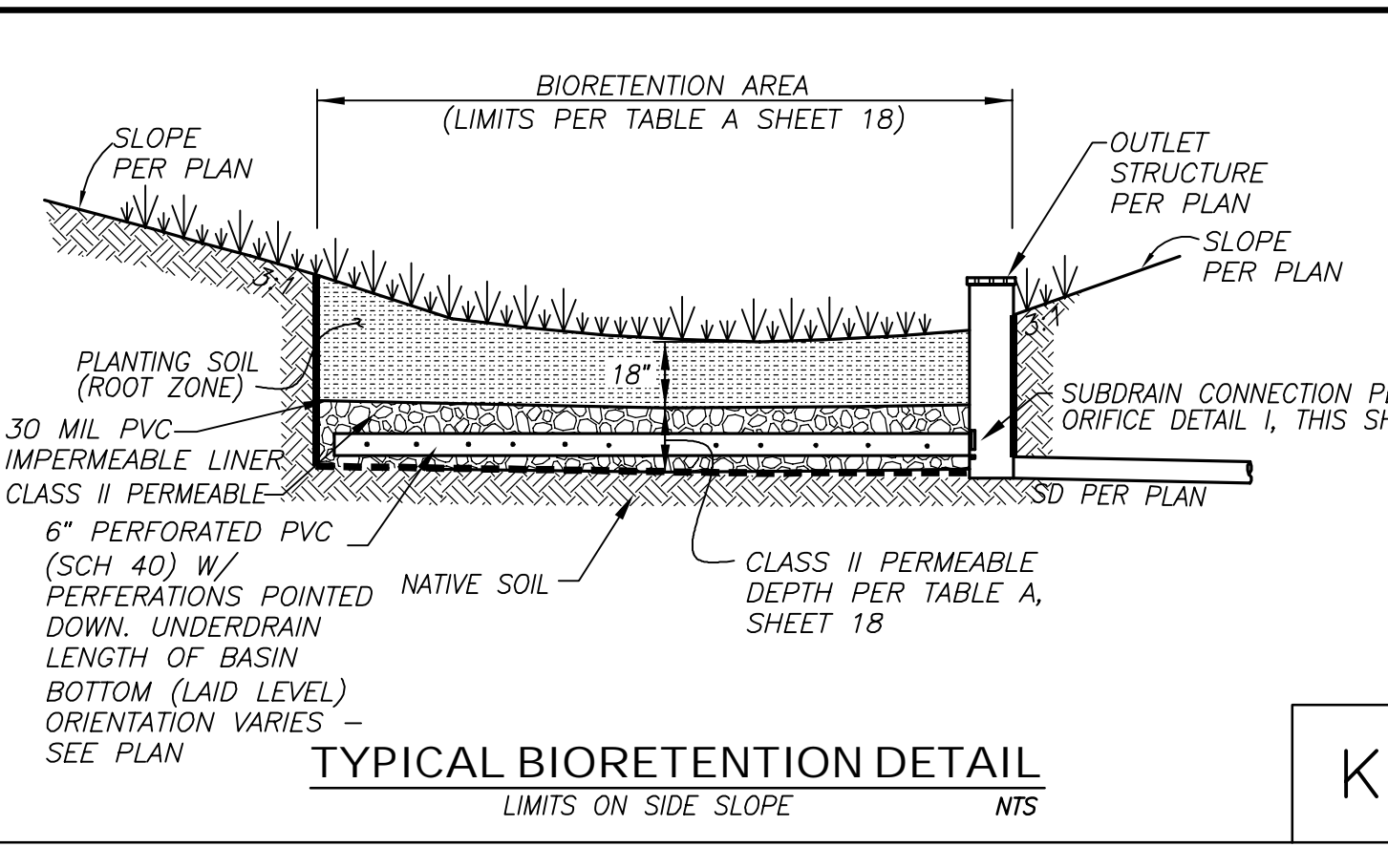
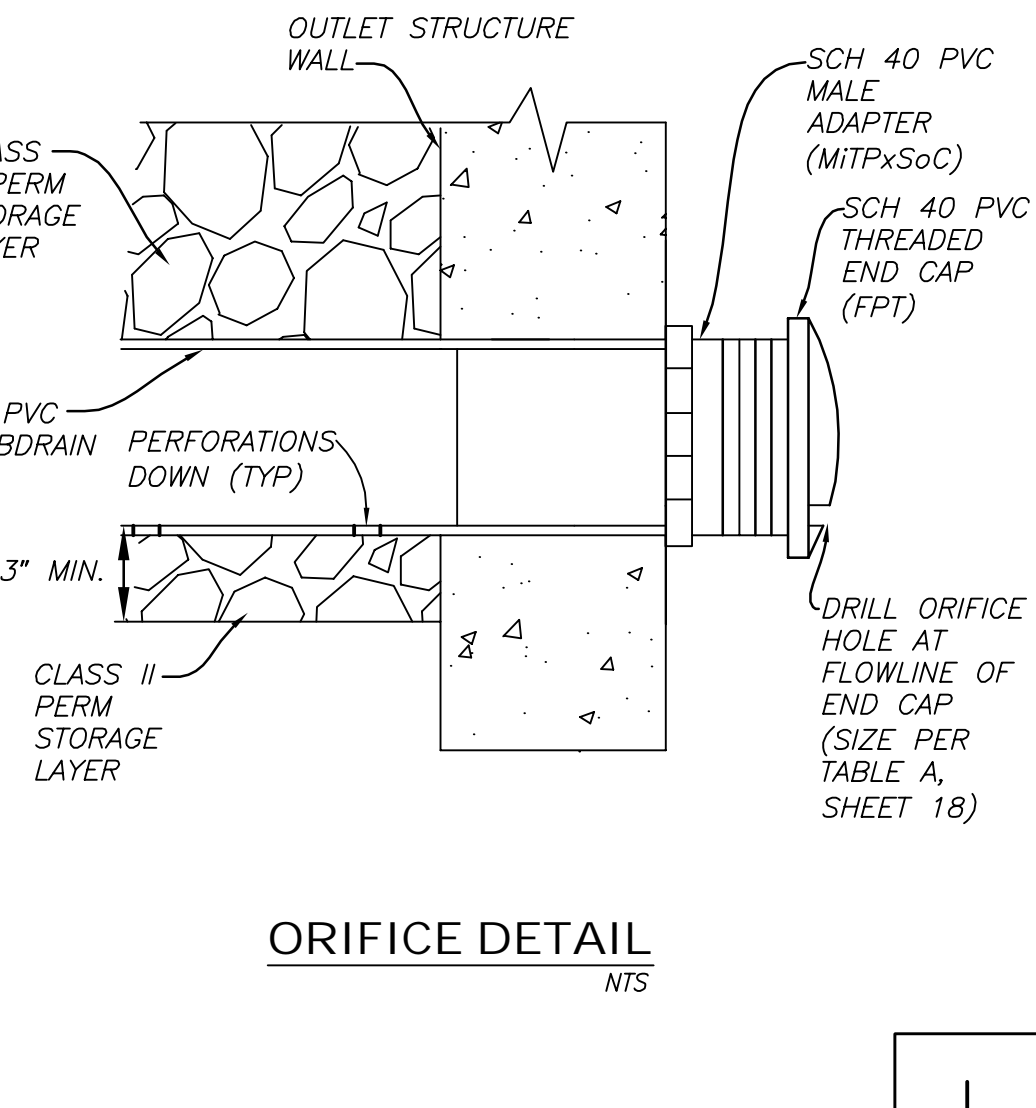
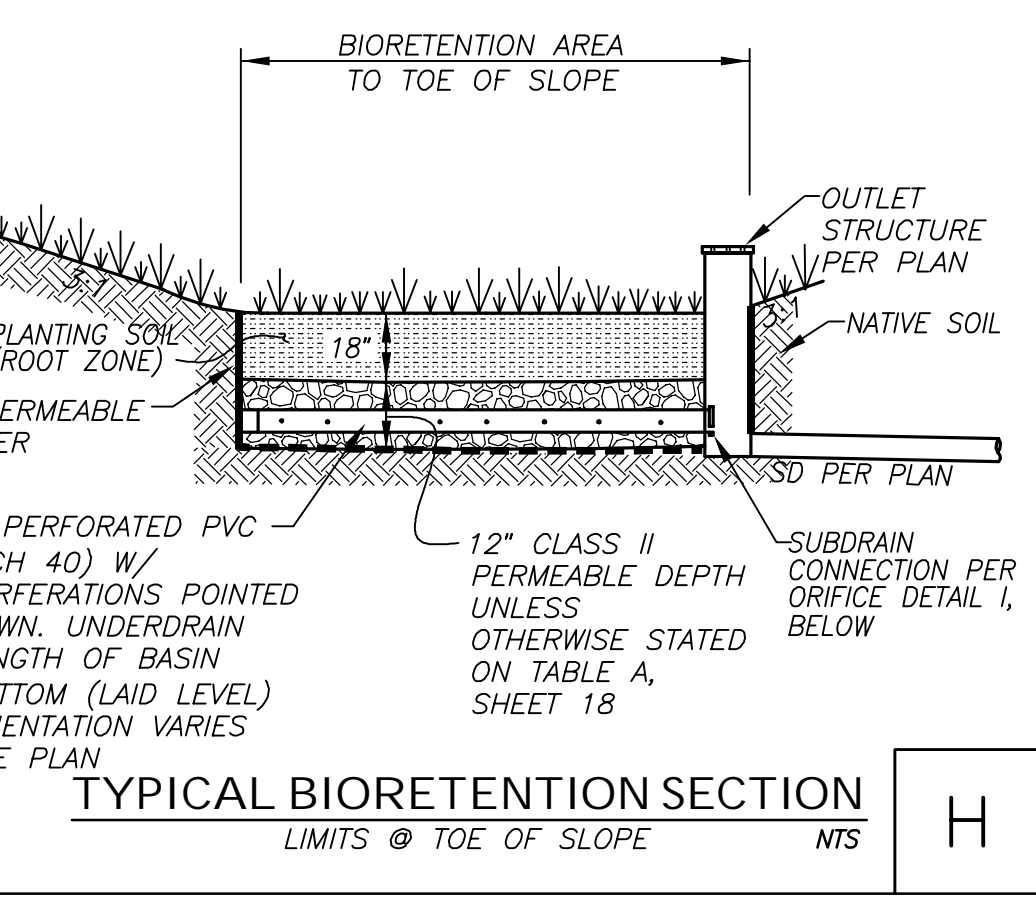
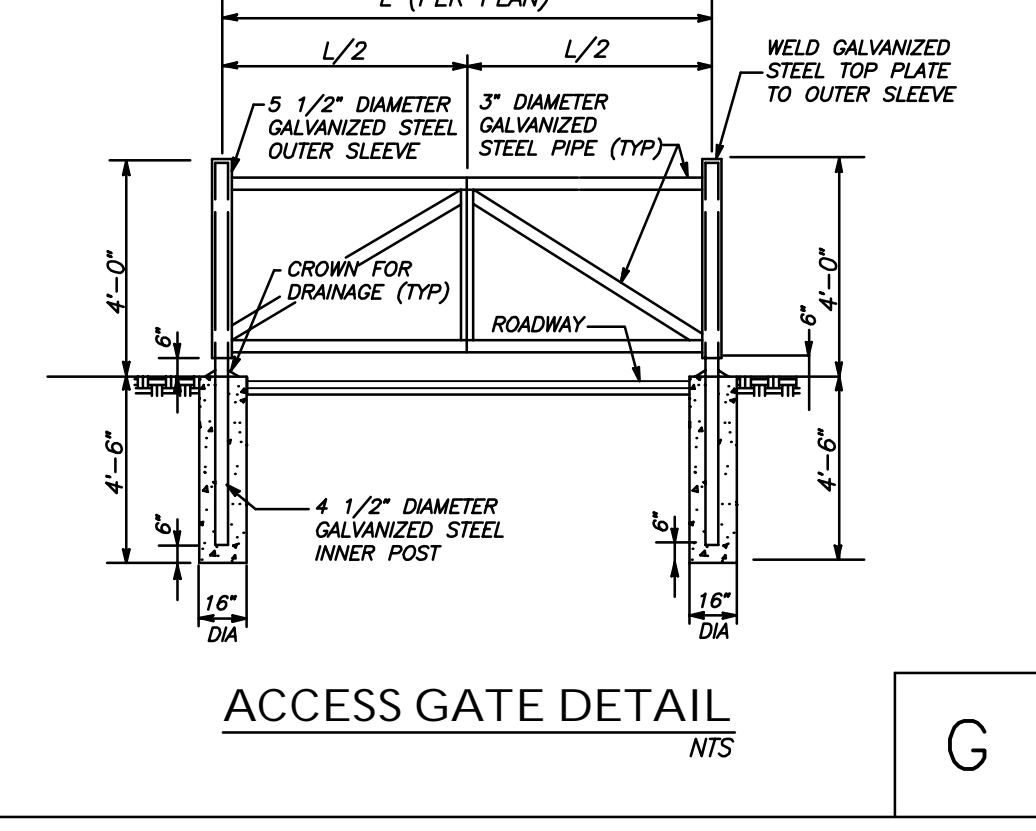
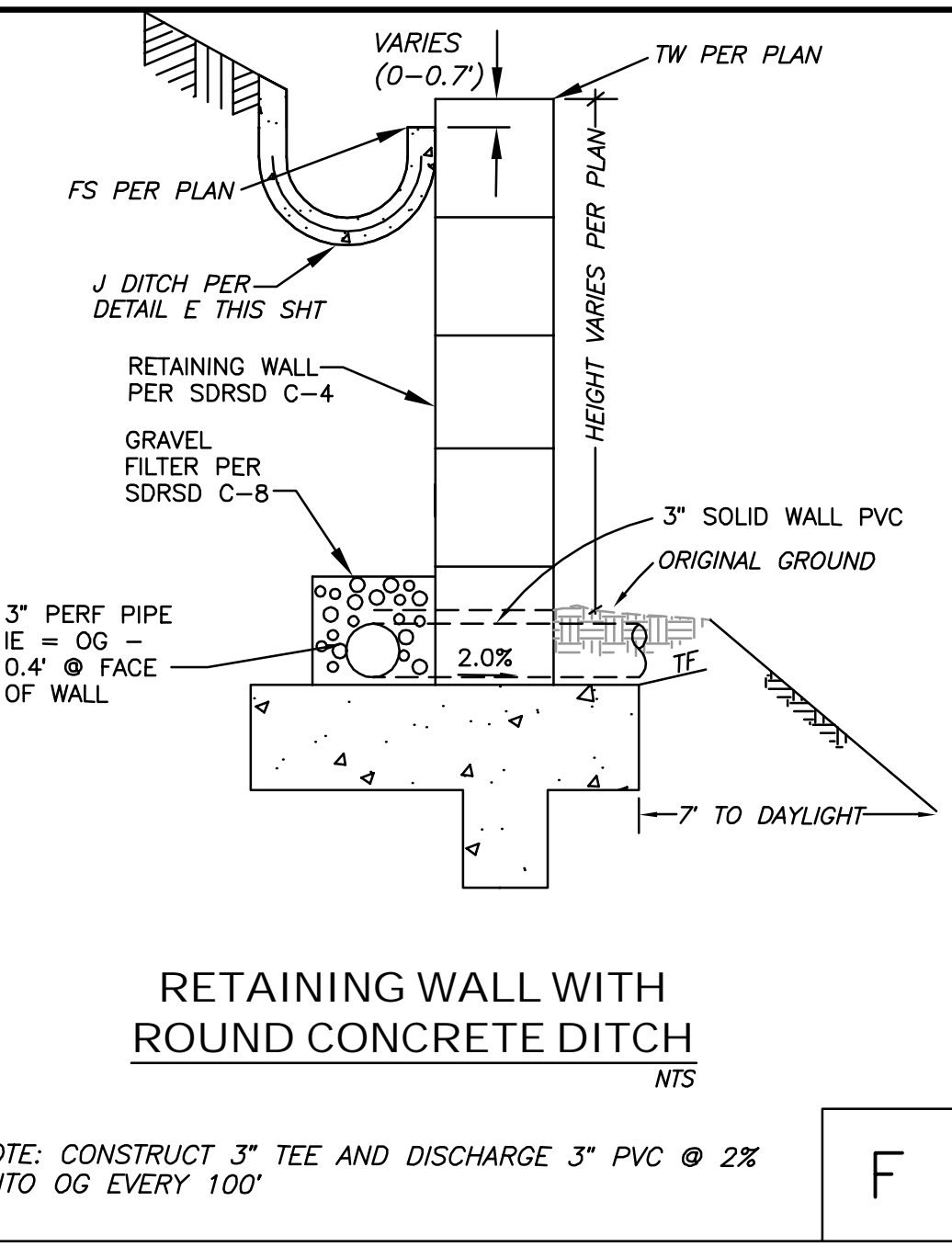
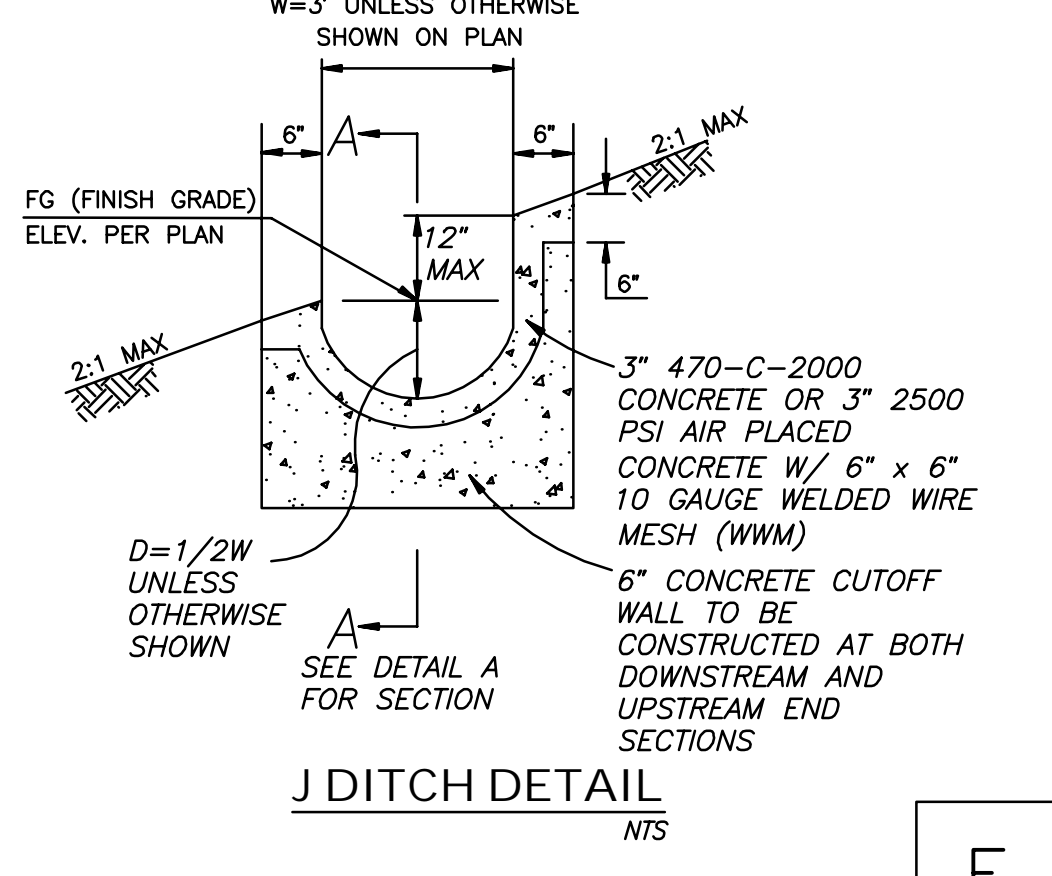
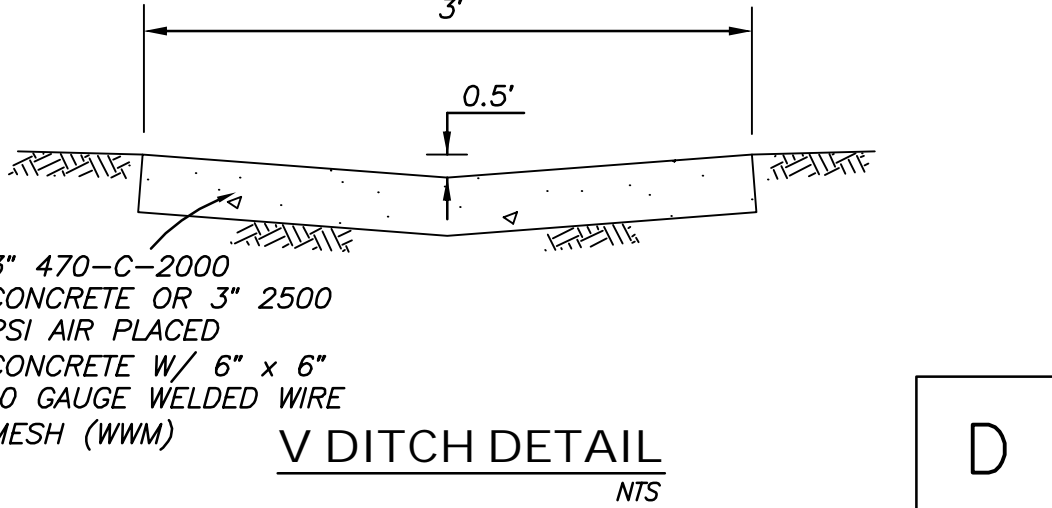
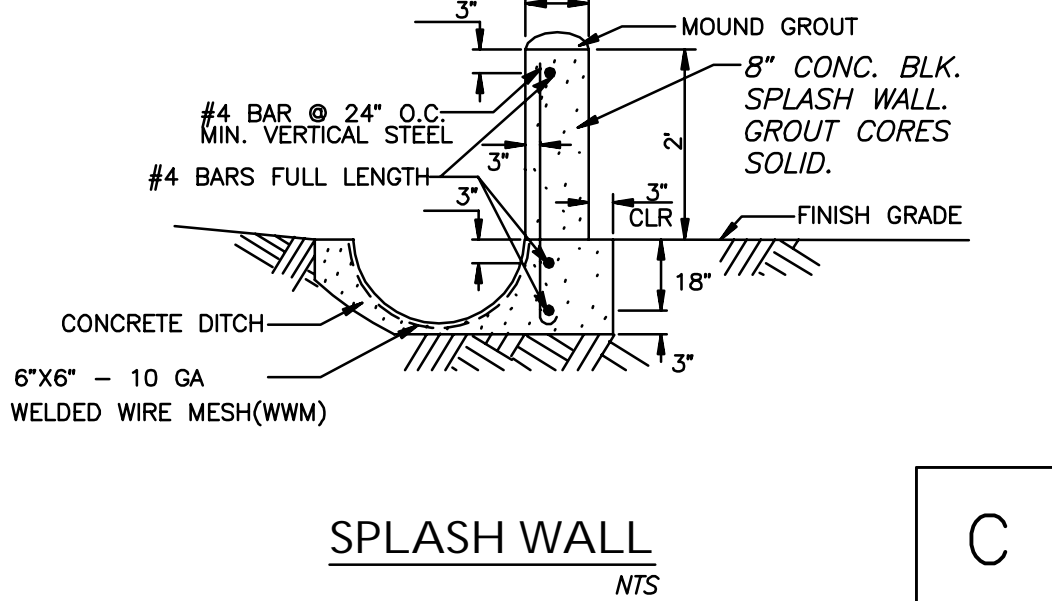
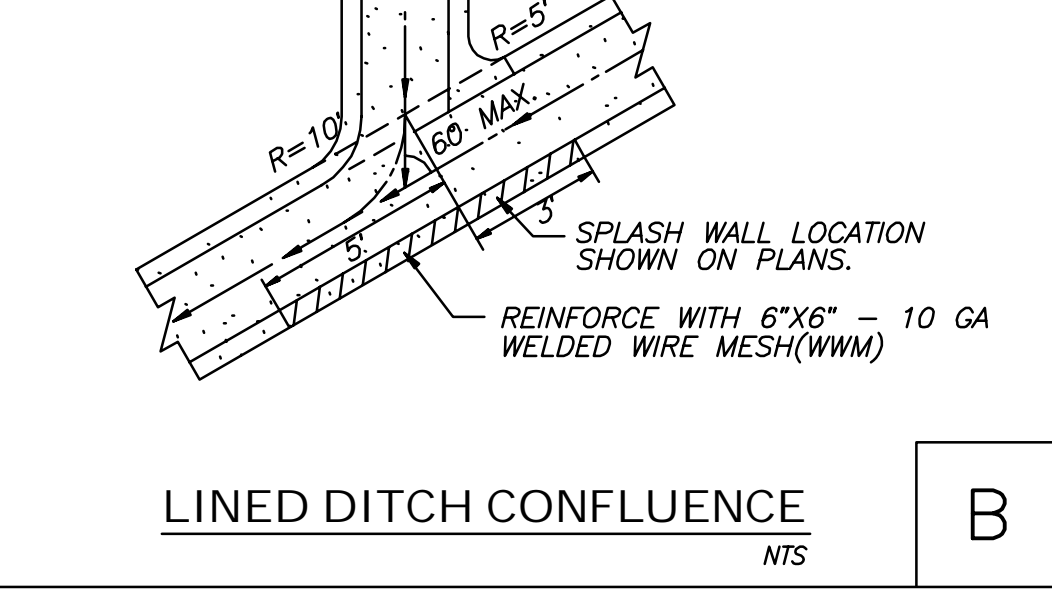
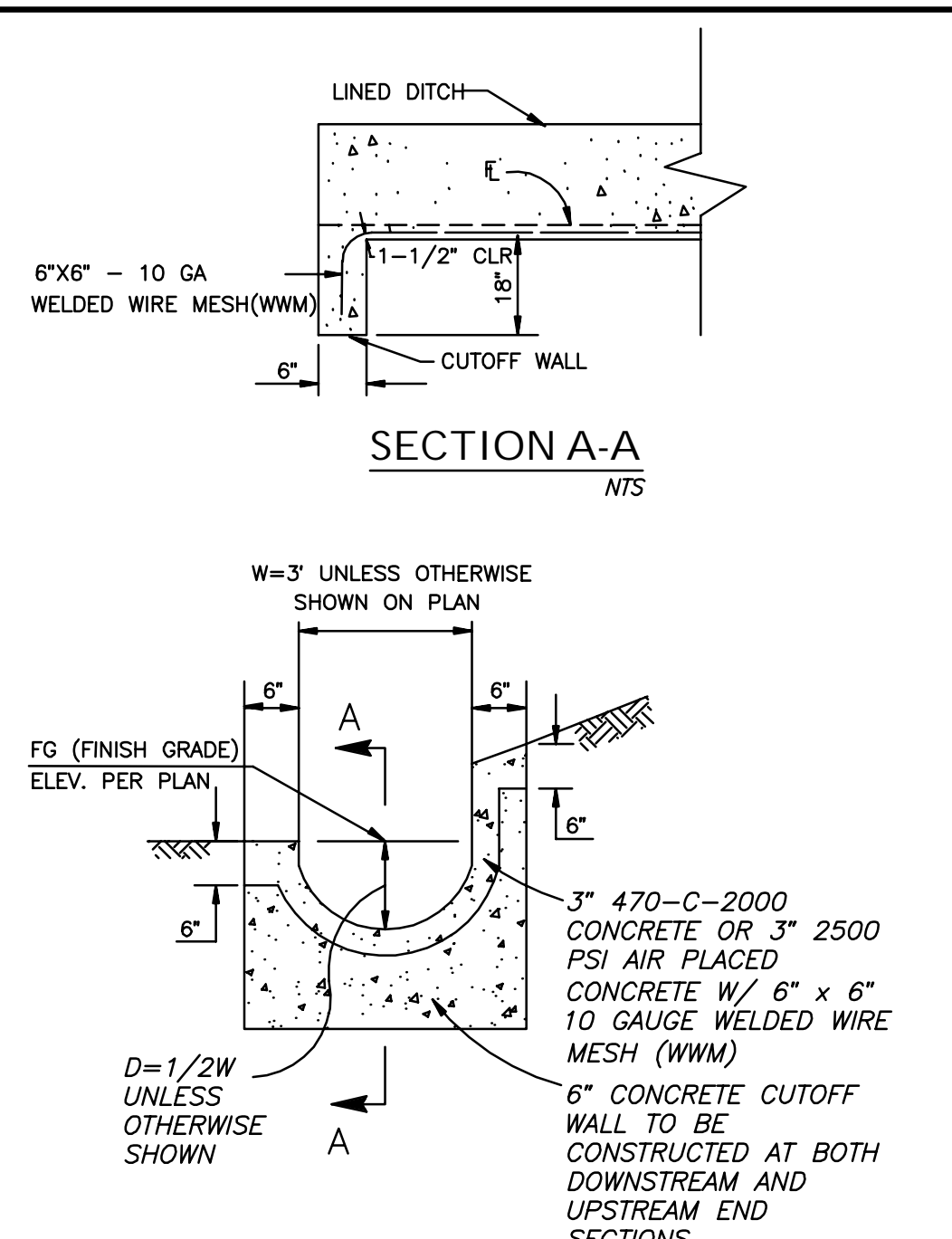
SHEET 18 CITY OF CARLSBAD SHEETS 73  
ENGINEERING DEPARTMENT

BIORETENTION BASIN DETAILS FOR:  
COLLEGE BOULEVARD

APPROVED: JASON S. GELDERT  
DATE

CITY ENGINEER RCE\_63912 EXP. 09/30/16 DATE

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
CHKD BY: \_\_\_\_\_  
RWD BY: \_\_\_\_\_



**ENGINEER OF WORK**  
RAYMOND L. MARTIN  
RCE NO 48670 EXP. 6/30/16 DATE \_\_\_\_\_

**BENCH MARK**  
DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
ELEVATION: 246.43 NGVD 1929

**"AS BUILT"**

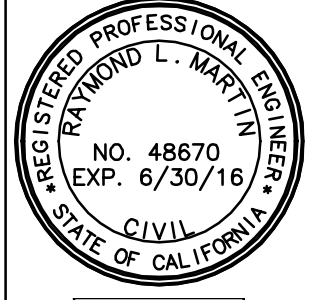
RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_ DATE \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

**CITY OF CARLSBAD**  
ENGINEERING DEPARTMENT

GRADING AND BIORETENTION DETAILS FOR:  
**COLLEGE BOULEVARD**

APPROVED: JASON S. GELDERT  
CITY ENGINEER RCE\_63912 EXP. 09/30/16 DATE \_\_\_\_\_

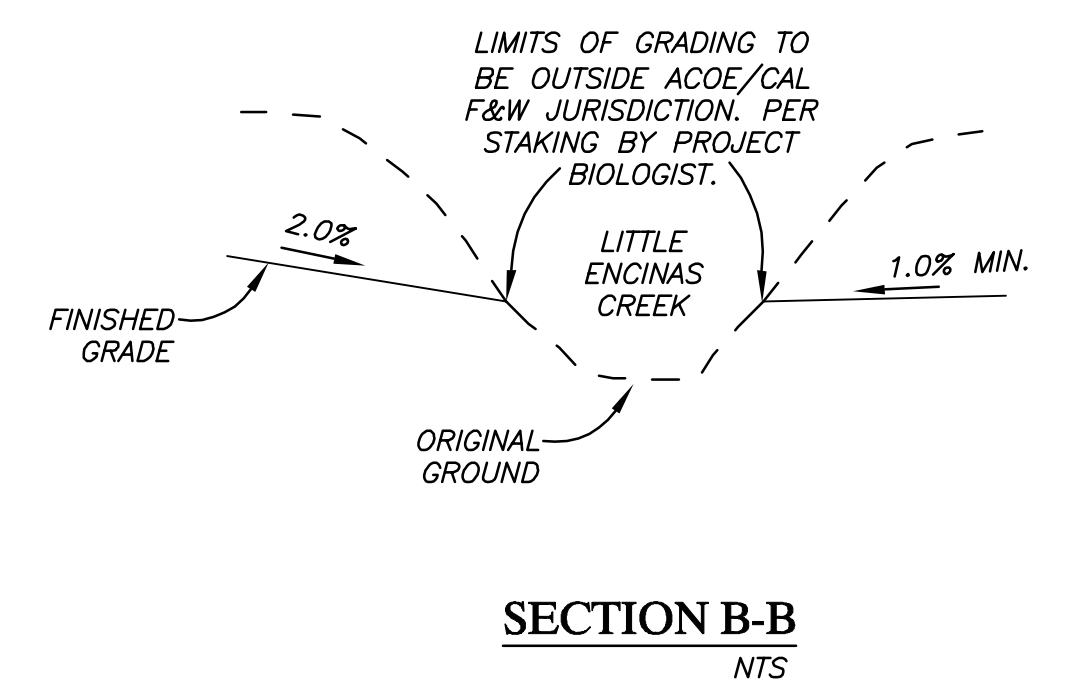
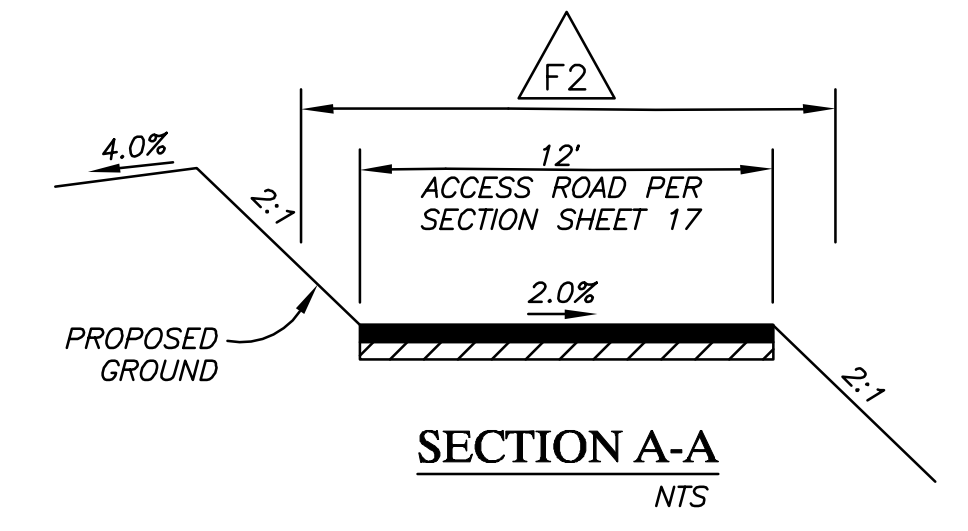
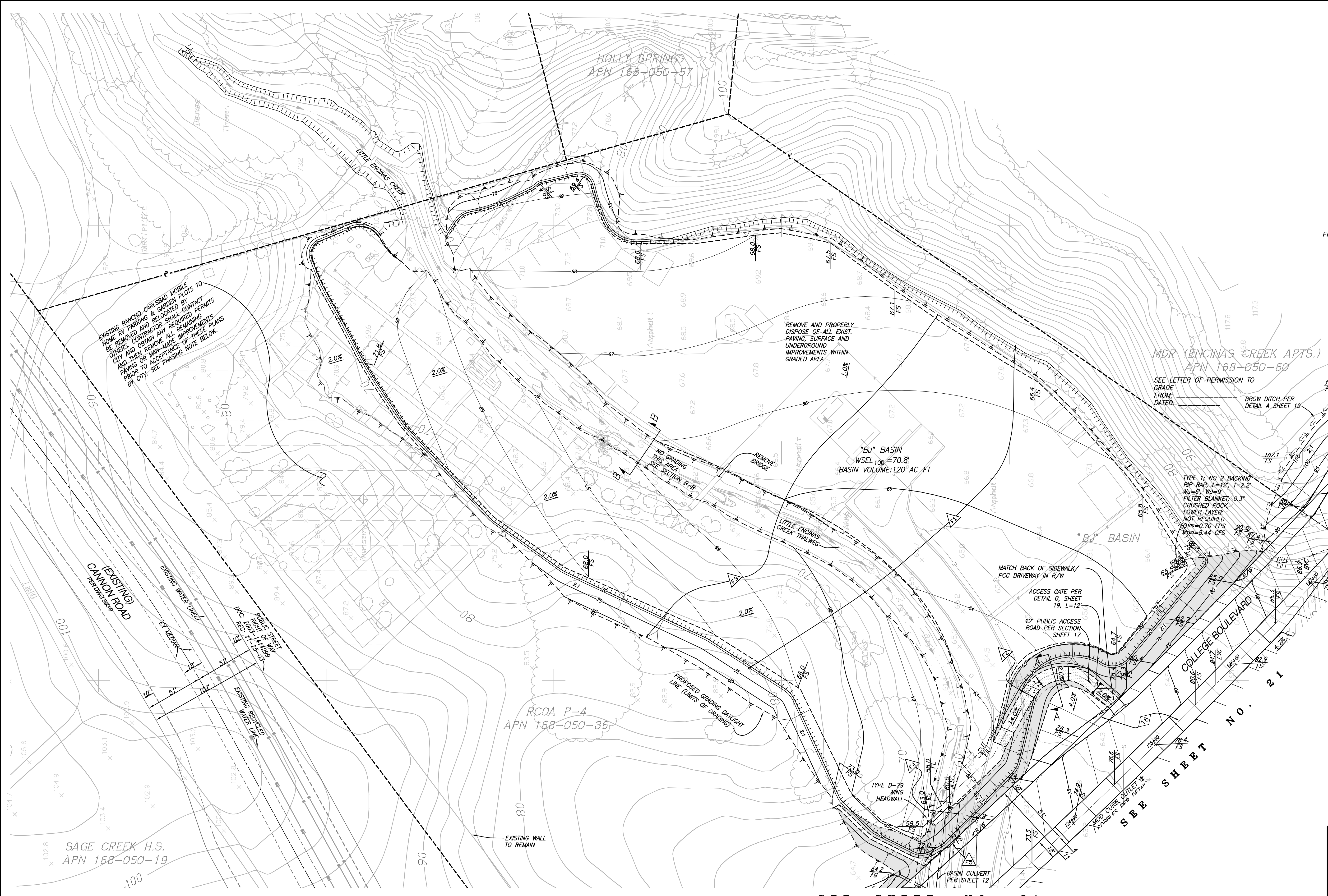
DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
CHKD BY: \_\_\_\_\_  
RWVD BY: \_\_\_\_\_



**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.

PLANNING 9707 Waples Street  
ENGINEERING San Diego, Ca 92121  
SURVEYING PH(619)558-4500 FX(619)558-1414

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL

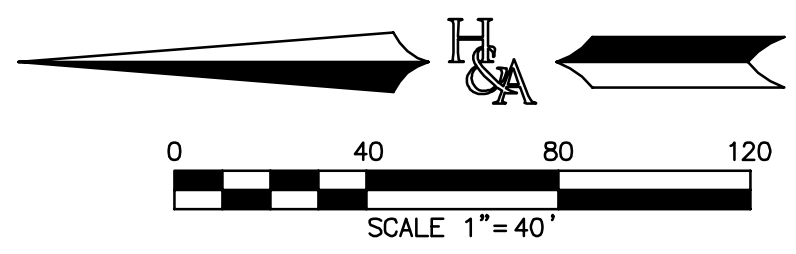


SEE SHEET NO. 22

SEE SHEET NO. 21

- EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

**CONTRACTOR PHASING NOTE:**  
 NO WORK MAY COMMENCE ON APN 168-050-36 PER RMHP 96-01D/MS-09-04 PRIOR TO RELOCATION OF EXISTING RV STORAGE AND GARDENS PER DWG 486-1A BY OTHERS AND PERMISSION TO GRADE PROVIDED BY OWNER OF APN 168-050-36 (RCOA)



**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.  
 PLANNING 9707 Whales Street  
 ENGINEERING San Diego, CA 92121  
 SURVEYING PH(619)584-4000 FAX(619)584-1414

TREATMENT CONTROL BMP TABLE		
DESCRIPTION	QUANTITY	MAINTENANCE

**ENGINEER OF WORK**  
 RAYMOND L. MARTIN  
 RCE NO 48670 EXP. 6/30/16 DATE



**BENCH MARK**  
 DESCRIPTION: 2" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
 LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
 RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
 ELEVATION: 246.43 NGVD 1929

**"AS BUILT"**

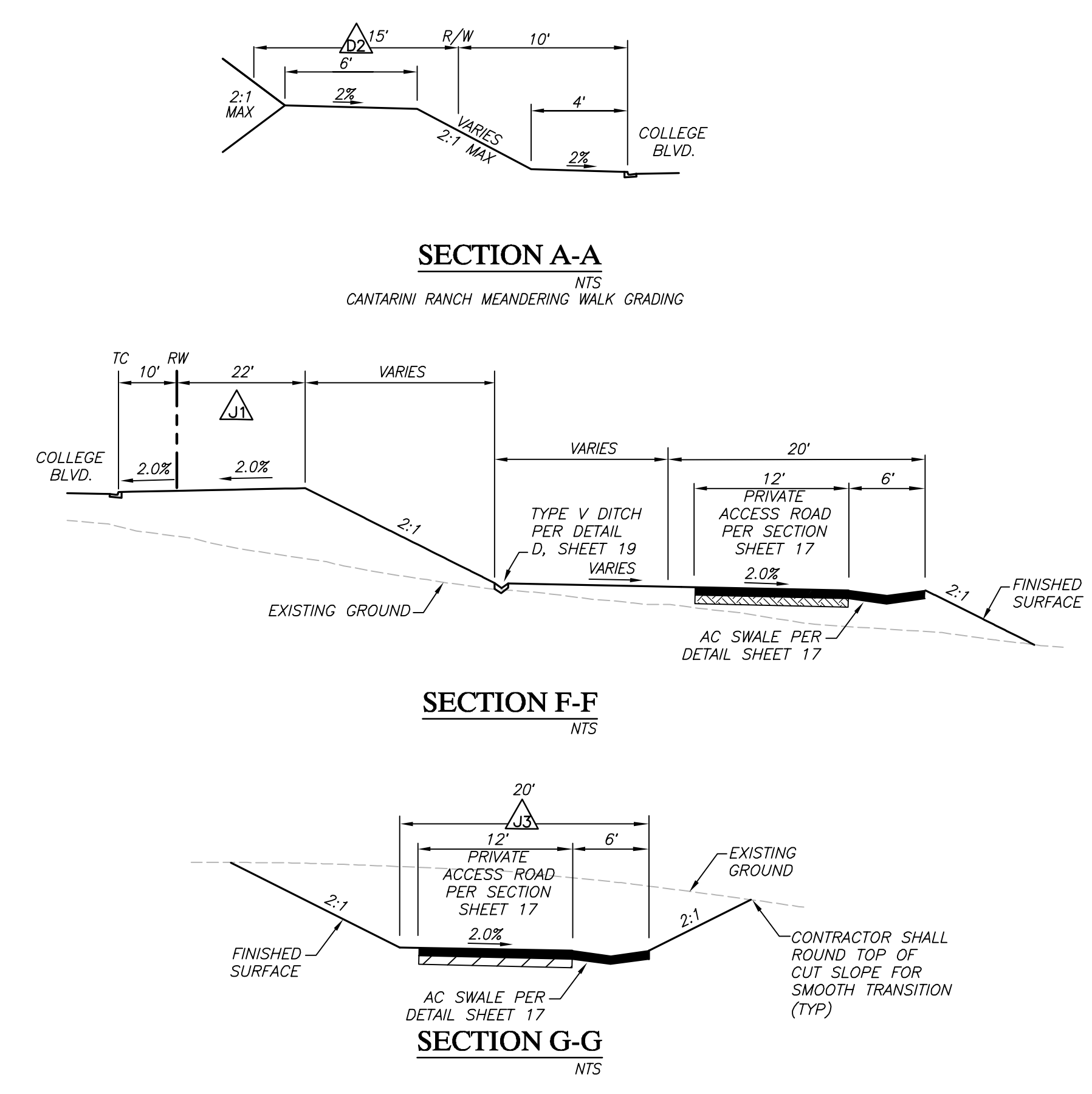
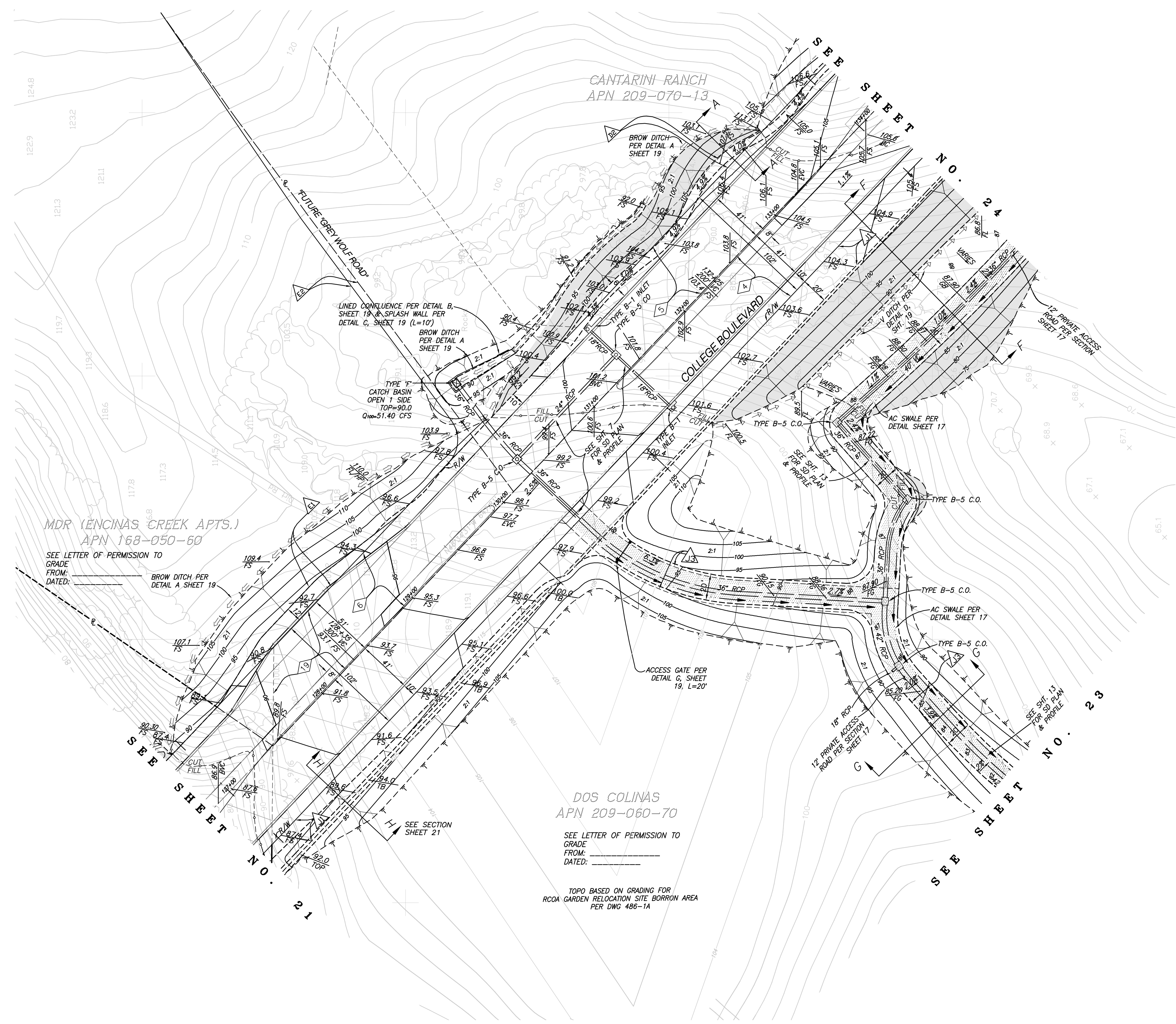
RCE	EXP.	DATE
REVIEWED BY:		
INSPECTOR		DATE

DATE	INITIAL	DATE	INITIAL

REVISION DESCRIPTION

SHEET 20	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 73
ROUGH GRADING PLANS FOR: <b>COLLEGE BOULEVARD</b>		
APPROVED: JASON S. GELDERT		
CITY ENGINEER RCE_63912 EXP. 09/30/16 DATE		
DWN BY:	PROJECT NO. CT 00-18	DRAWING NO. 456-3G
CHKD BY:		
RWVD BY:		





MDR (ENCINAS CREEK APTS.)  
APN 168-050-60

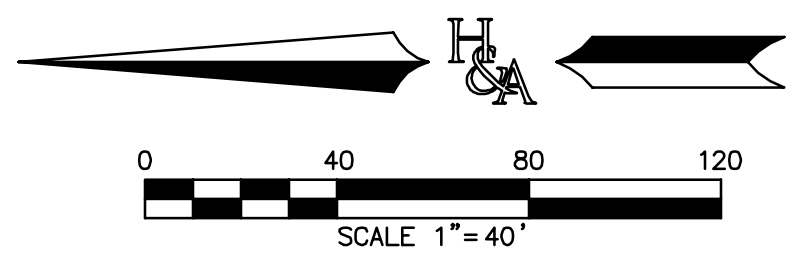
SEE LETTER OF PERMISSION TO GRADE FROM: \_\_\_\_\_ DATED: \_\_\_\_\_

DOS COLINAS  
APN 209-060-70

SEE LETTER OF PERMISSION TO GRADE FROM: \_\_\_\_\_ DATED: \_\_\_\_\_

TOPO BASED ON GRADING FOR RCOA GARDEN RELOCATION SITE BORROR AREA PER DWG 486-1A

- EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2



**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.  
PLANNING 9707 Winkler Street  
ENGINEERING San Diego, CA 92121  
SURVEYING PH(619)598-4900 FAX(619)598-1414

TREATMENT CONTROL BMP TABLE		
DESCRIPTION	QUANTITY	MAINTENANCE

ENGINEER OF WORK  
RAYMOND L. MARTIN  
RCE NO 48670 EXP. 6/30/16 DATE

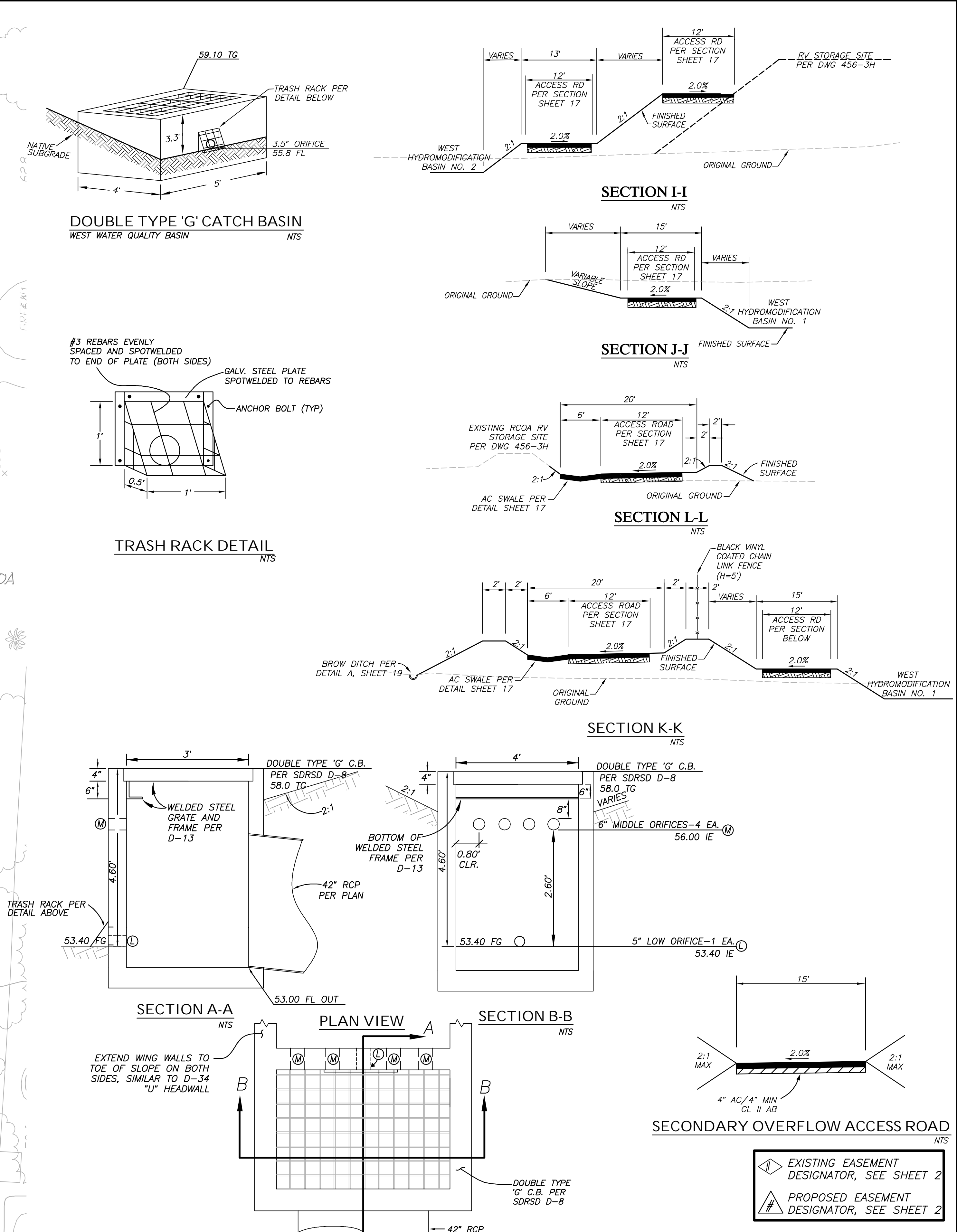
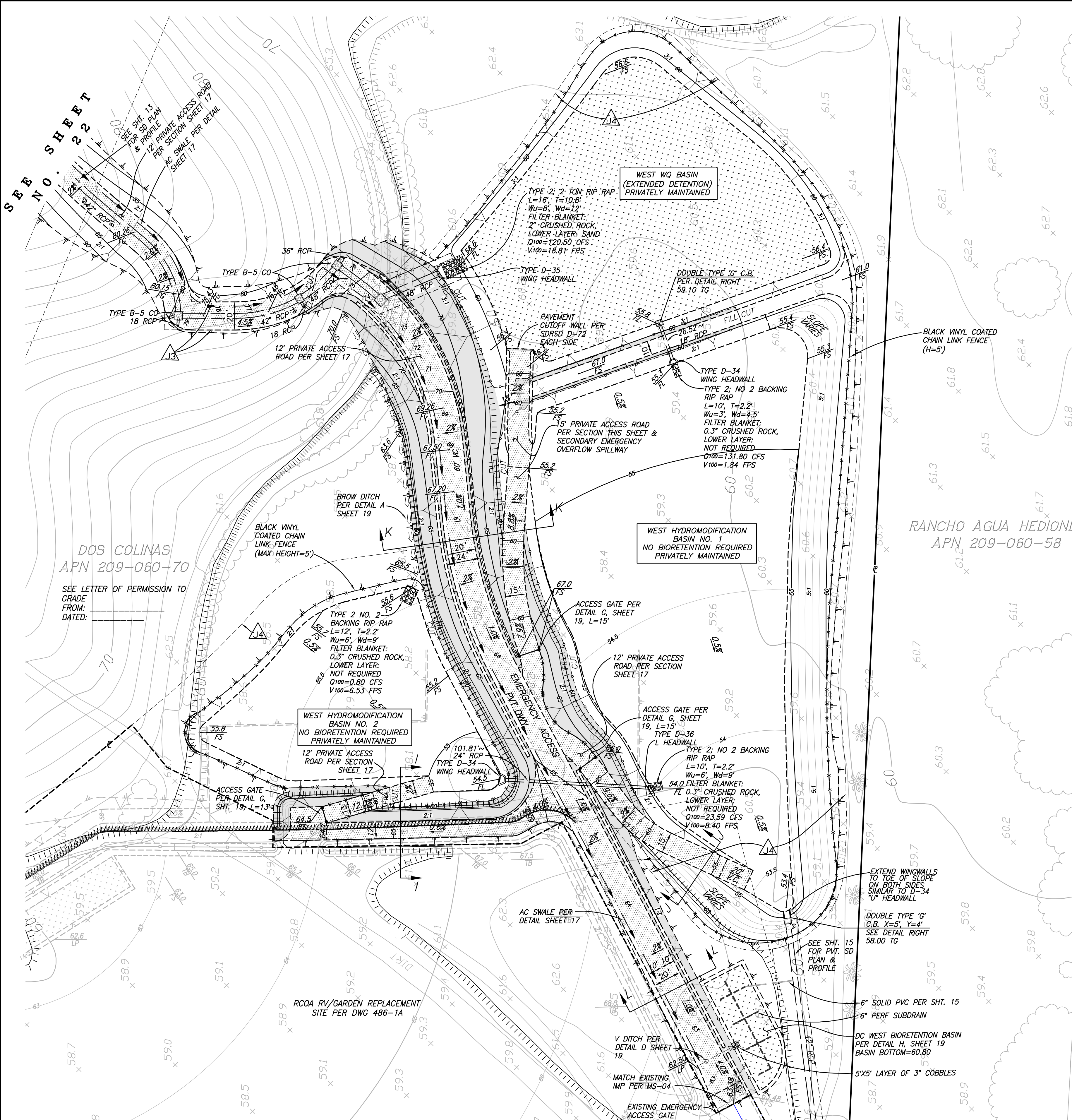
**BENCH MARK**  
DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
ELEVATION: 246.43 NGVD 1929

"AS BUILT"  
RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE  
REVIEWED BY: \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE

DATE	INITIAL	DATE	INITIAL

REVISION DESCRIPTION

SHEET 22	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 73
ROUGH GRADING PLANS FOR: <b>COLLEGE BOULEVARD</b>		
APPROVED: JASON S. GELDERT		
CITY ENGINEER RCE_63912 EXP. 09/30/16 DATE		
DWN BY: _____	PROJECT NO. CT 00-18	DRAWING NO. 456-3G
CHKD BY: _____		
RWVD BY: _____		



**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.

PLANNING: 9707 Winkler Street  
 ENGINEERING: San Diego, Ca 92121  
 SURVEYING: PH(619)558-4500 FAX(619)558-1414

**ENGINEER OF WORK**

RAYMOND L. MARTIN  
 RCE NO 48670 EXP. 6/30/16

DATE

**CITY OF CARLSBAD**  
ENGINEERING DEPARTMENT

ROUGH GRADING PLANS FOR:  
**COLLEGE BOULEVARD**

APPROVED: JASON S. GELDERT  
 DATE

CITY ENGINEER RCE\_63912 EXP. 09/30/16

DWN BY: PROJECT NO. CT 00-18  
 CHKD BY: DRAWING NO. 456-3G  
 RVWD BY:

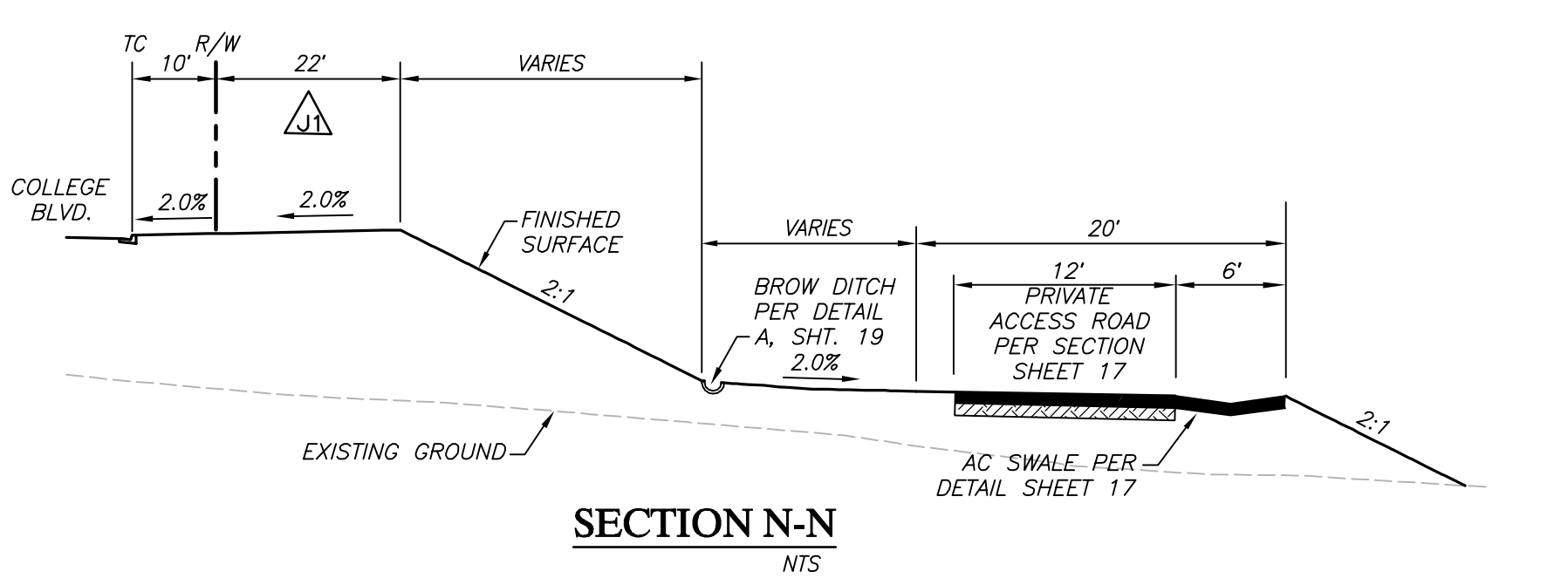
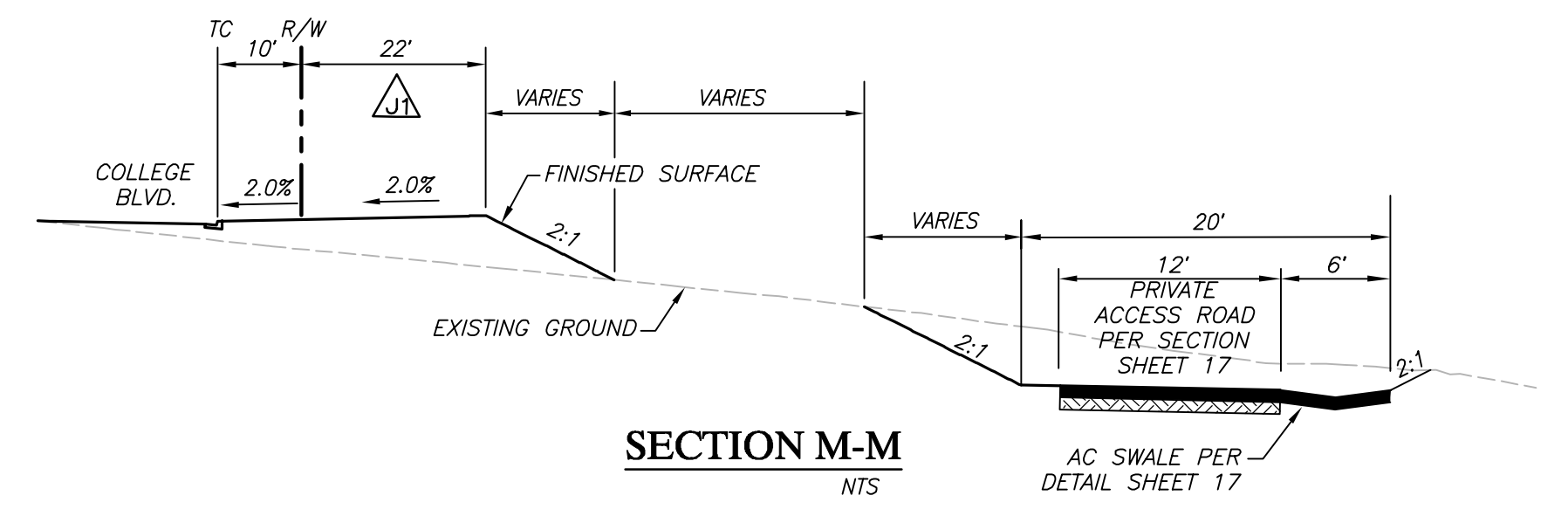
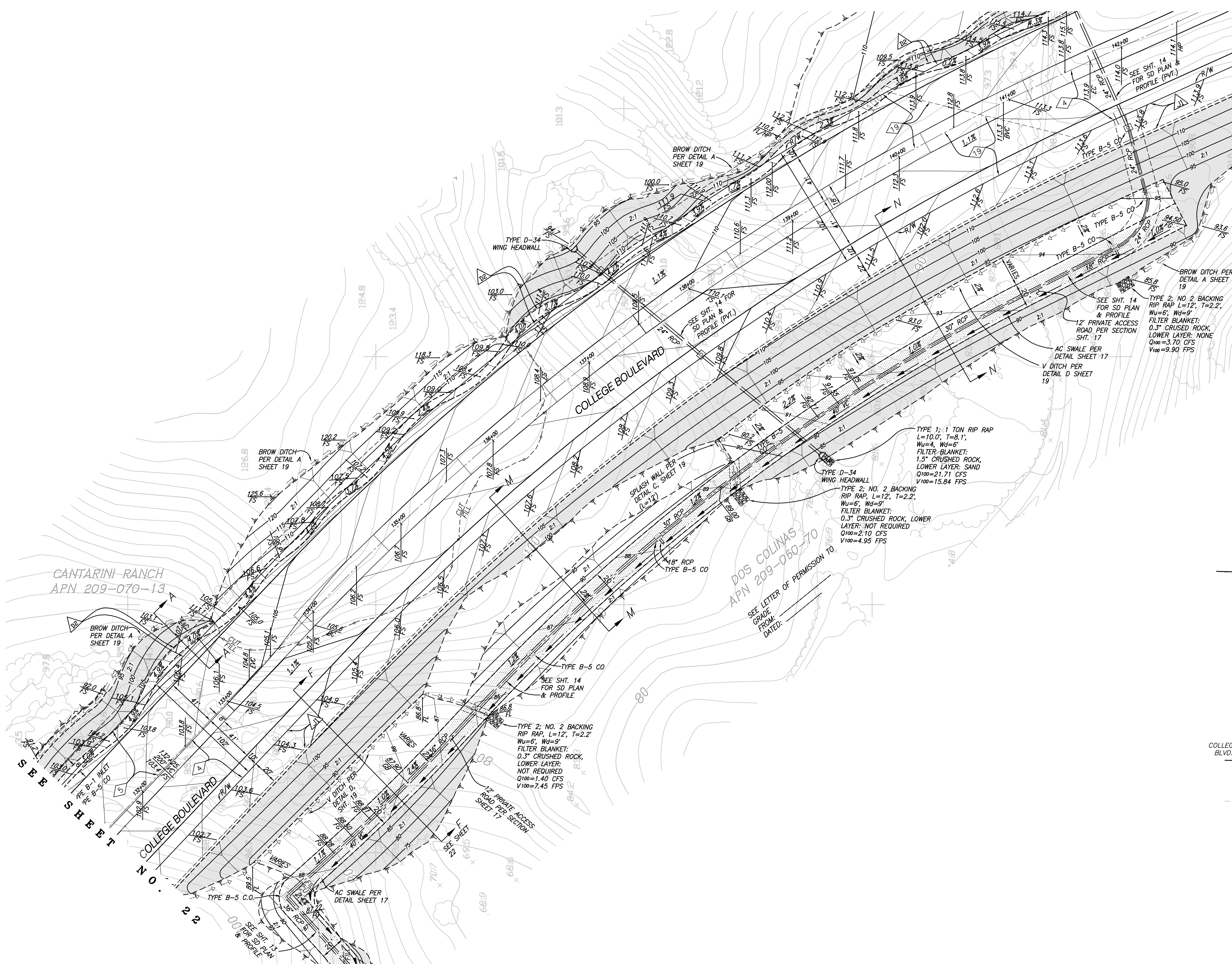
DATE	INITIAL	DATE	INITIAL

REVISION DESCRIPTION

DATE INITIAL DATE INITIAL

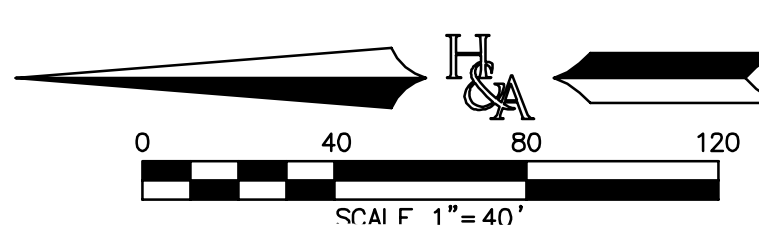
OTHER APPROVAL CITY APPROVAL





EXISTING EASEMENT DESIGNATOR, SEE SHEET 2  
 PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

**HUNSAKER & ASSOCIATES**  
 SAN DIEGO, INC.  
 9707 Winkles Street  
 San Diego, CA 92121  
 PH: (619) 558-4500 FAX: (619) 558-1414



**ENGINEER OF WORK**  
 RAYMOND L. MARTIN  
 RCE NO 48670 EXP. 6/30/16 DATE

**BENCH MARK**  
 DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
 LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
 RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
 ELEVATION: 246.43 NGVD 1929

**"AS BUILT"**  
 RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE  
 REVIEWED BY: \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE

DATE	INITIAL	REVISION DESCRIPTION

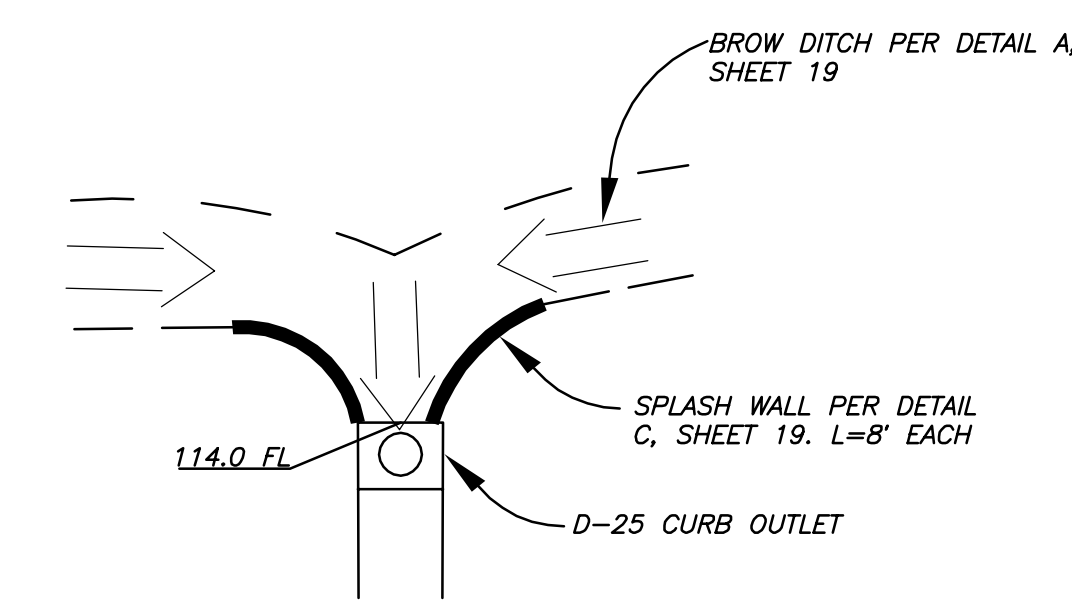
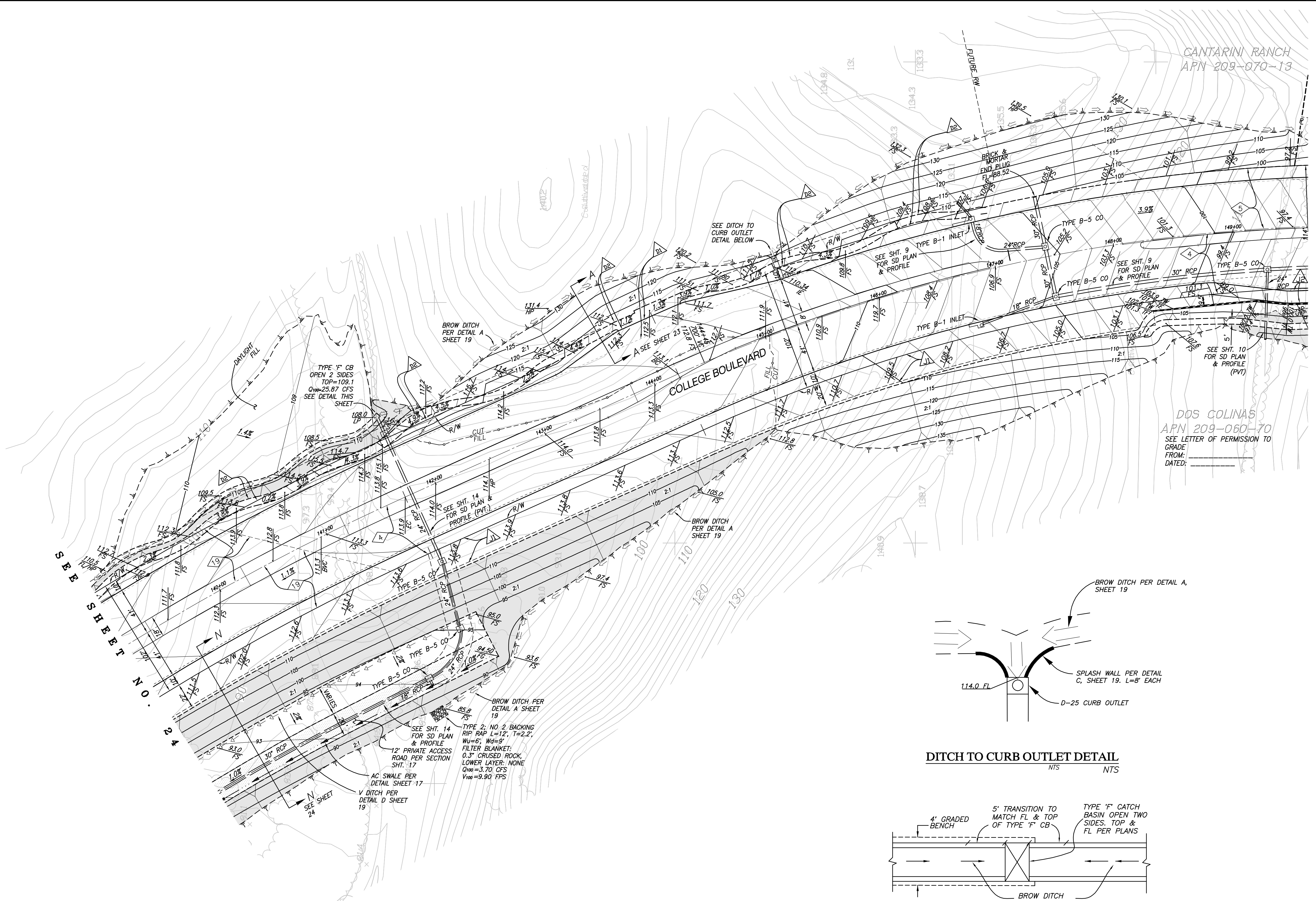
SHEET 24	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 73
ROUGH GRADING PLANS FOR: <b>COLLEGE BOULEVARD</b>		
APPROVED: JASON S. GELDERT		
CITY ENGINEER RCE_63912 EXP. 09/30/16 DATE		
DWN BY: _____	PROJECT NO. <b>CT 00-18</b>	DRAWING NO. 456-3G
CHKD BY: _____		
RWD BY: _____		

CANTARINI RANCH  
APN 209-070-13

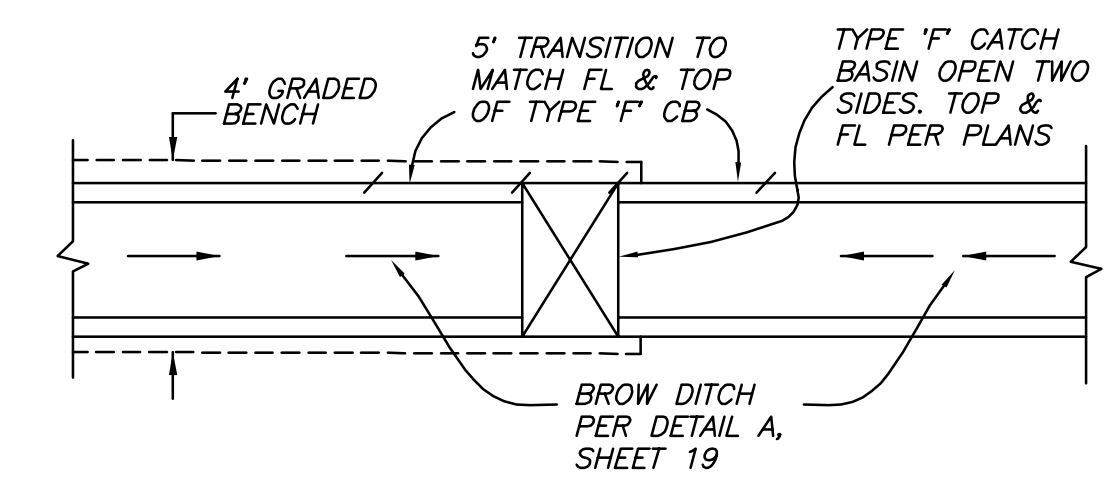
SEE SHEET NO. 26

DOS COLINAS  
APN 209-060-70  
SEE LETTER OF PERMISSION TO  
GRADE  
FROM:  
DATED:

SEE SHEET NO. 24

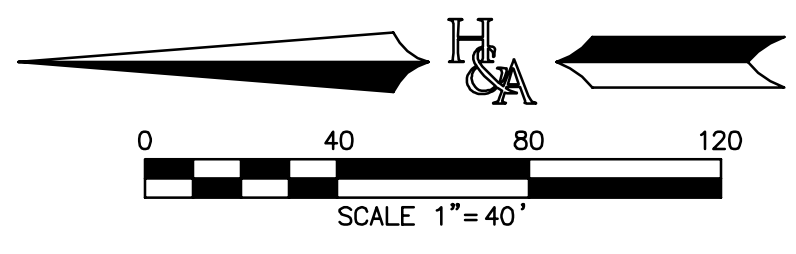


DITCH TO CURB OUTLET DETAIL  
NTS NTS



GRADING DETAIL FOR TYPE 'F' CB  
N.T.S.

- ◊ EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- ▲ PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2



**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.  
PLANNING 9707 Winkler Street  
ENGINEERING San Diego, Ca 92121  
SURVEYING PH(619)558-4500 FAX(619)558-4414



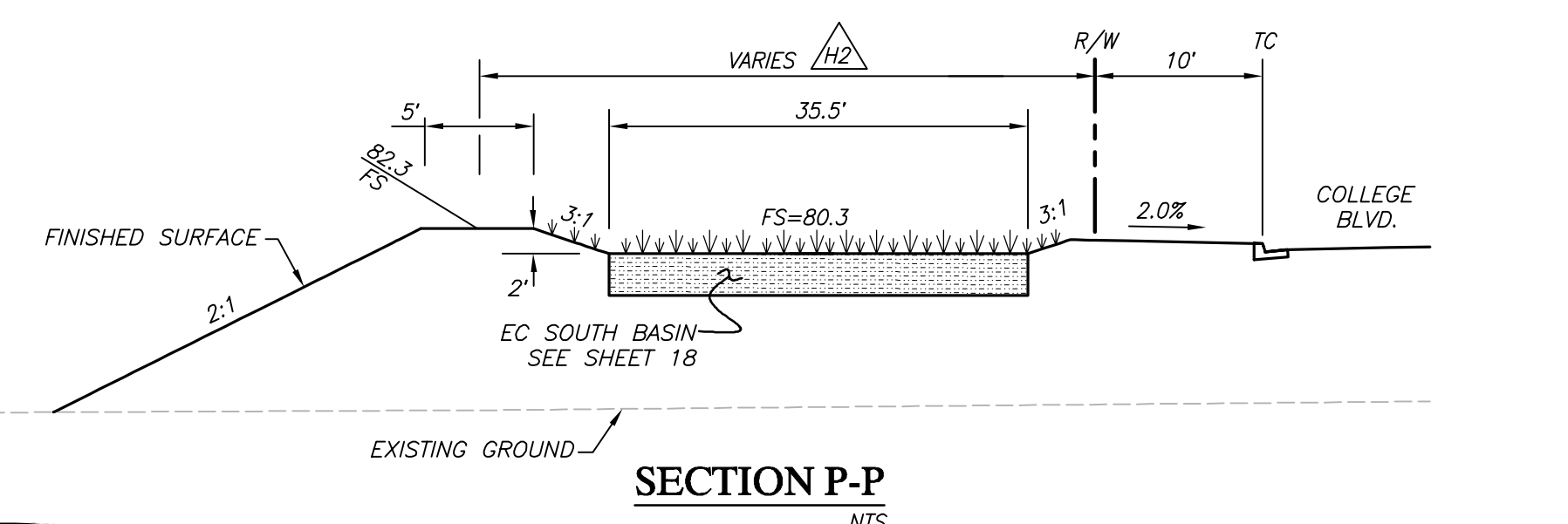
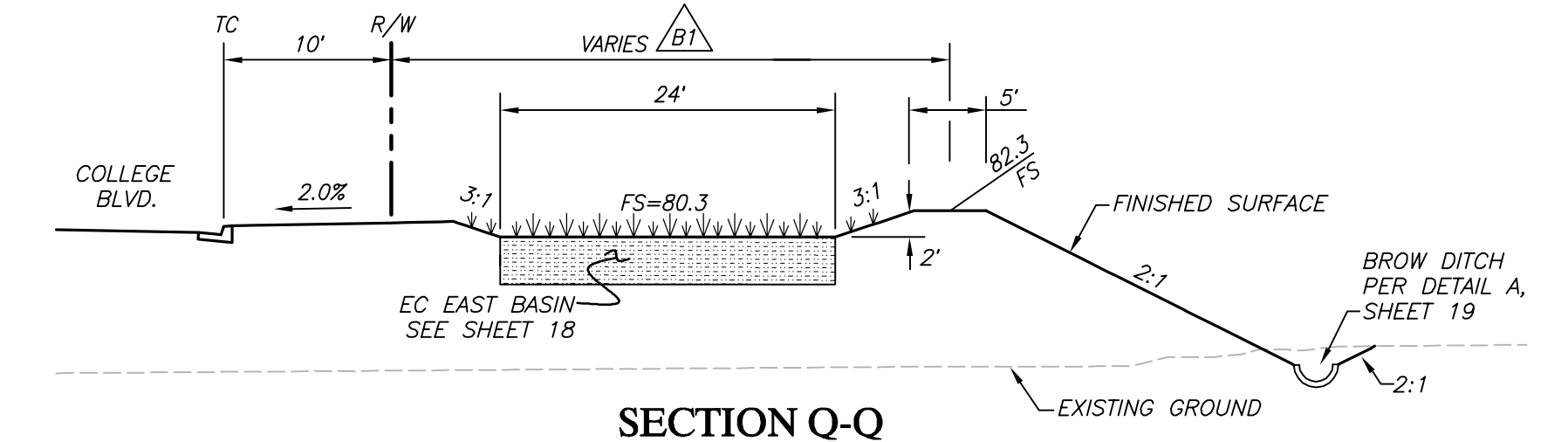
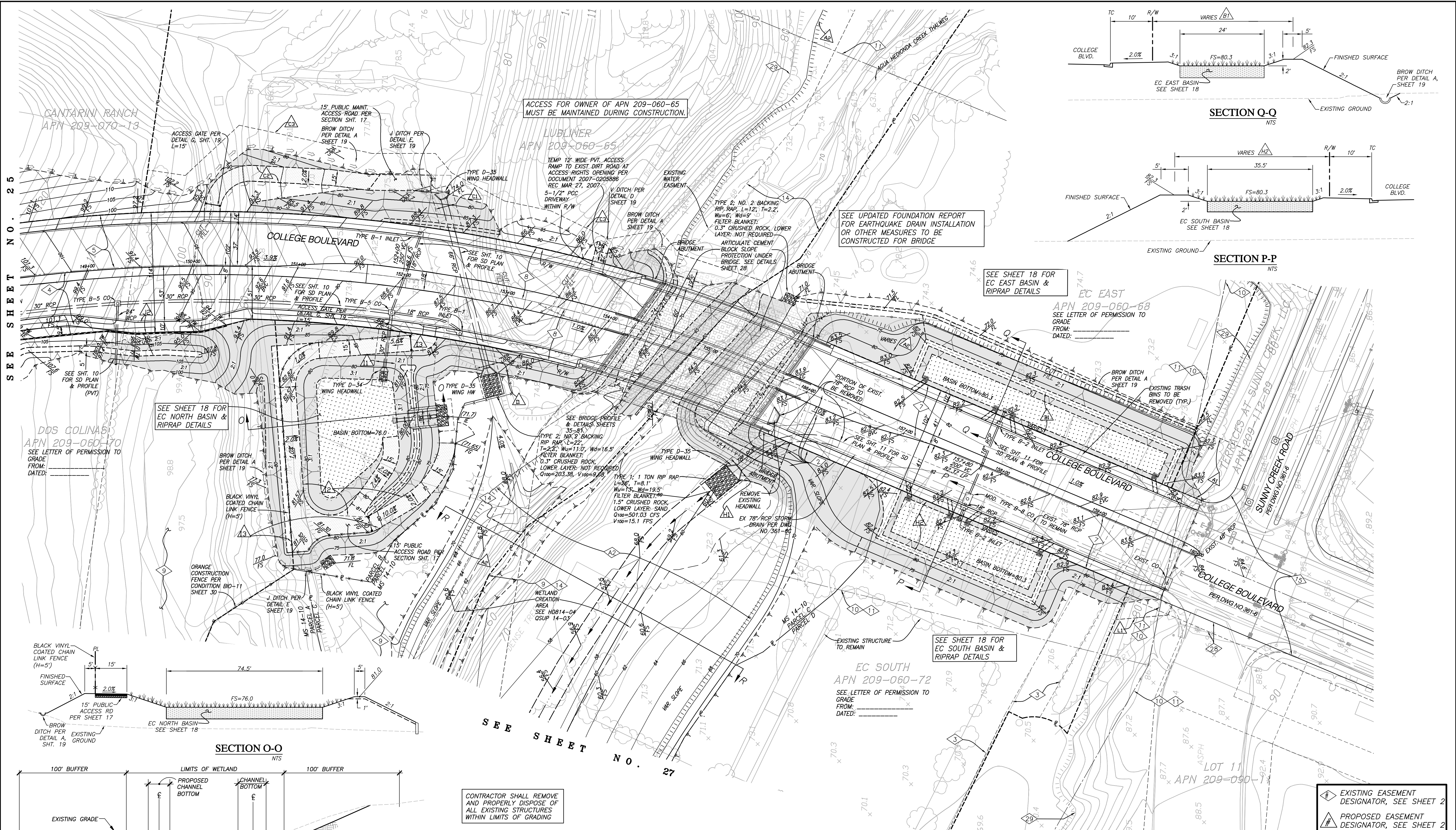
**ENGINEER OF WORK**  
RAYMOND L. MARTIN  
RCE NO 48670 EXP. 6/30/16 DATE

**BENCH MARK**  
DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
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ELEVATION: 246.43 NGVD 1929

**"AS BUILT"**  
RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE  
REVIEWED BY: \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE

DATE	INITIAL	DATE	INITIAL

SHEET 25	CITY OF CARLSBAD ENGINEERING DEPARTMENT	SHEETS 73
ROUGH GRADING PLANS FOR: <b>COLLEGE BOULEVARD</b>		
APPROVED: JASON S. GELDERT		
CITY ENGINEER RCE_63912 EXP. 09/30/16 DATE		
DWN BY: _____	PROJECT NO. <b>CT 00-18</b>	DRAWING NO. <b>456-3G</b>
CHKD BY: _____		
RWVD BY: _____		

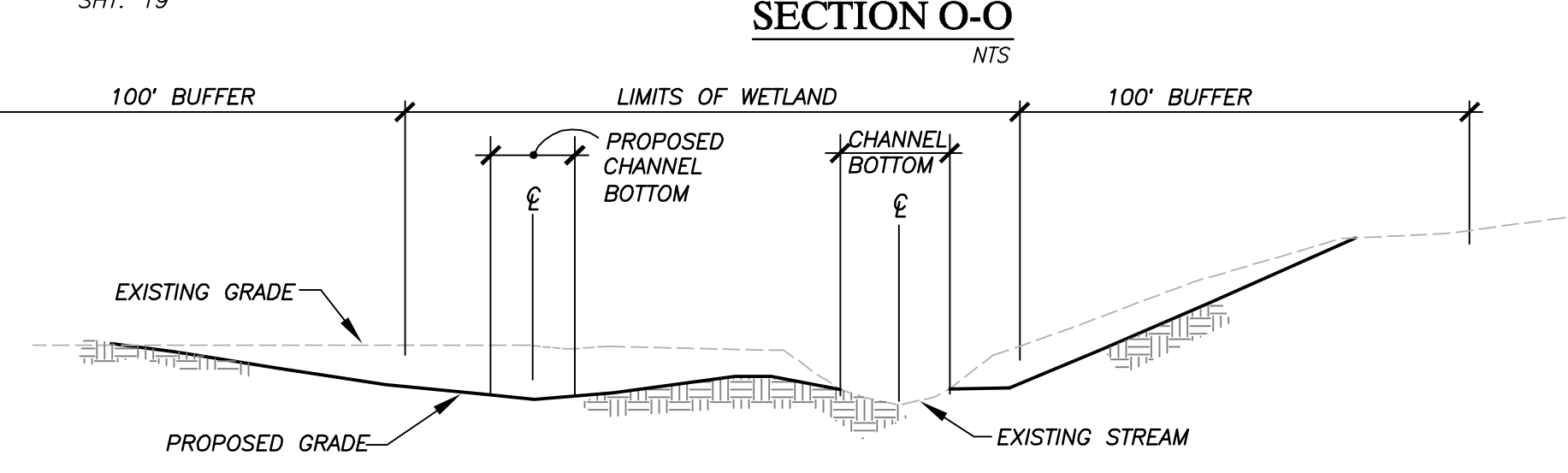
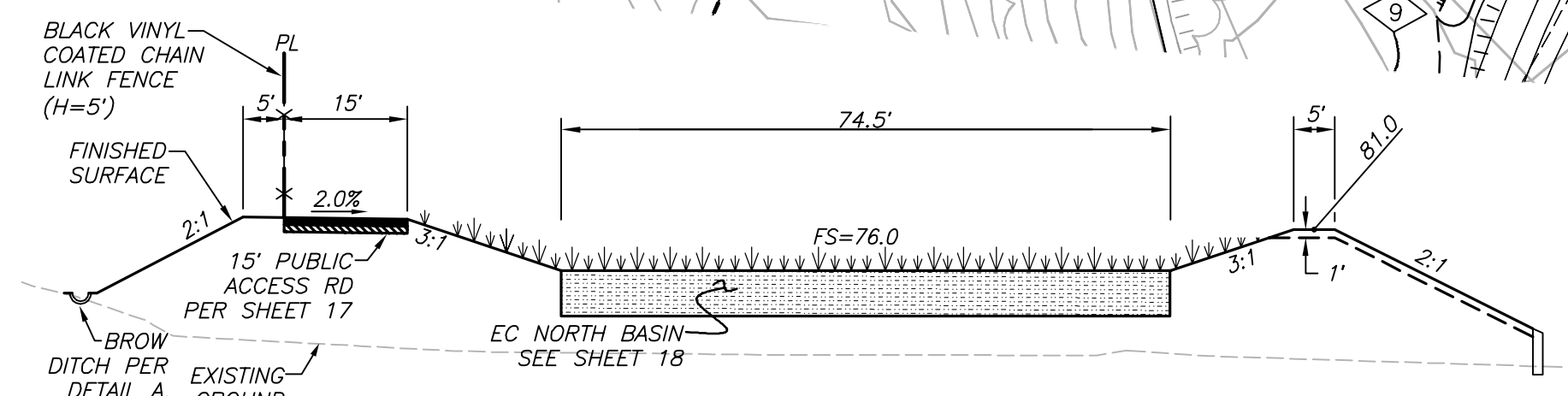


SEE SHEET 18 FOR EC NORTH BASIN & RIPRAP DETAILS

SEE UPDATED FOUNDATION REPORT FOR EARTHQUAKE DRAIN INSTALLATION OR OTHER MEASURES TO BE CONSTRUCTED FOR BRIDGE

SEE SHEET 18 FOR EC EAST BASIN & RIPRAP DETAILS

SEE SHEET 18 FOR EC SOUTH BASIN & RIPRAP DETAILS



CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL EXISTING STRUCTURES WITHIN LIMITS OF GRADING

- ◊ EXISTING EASEMENT DESIGNATOR, SEE SHEET 2
- ▲ PROPOSED EASEMENT DESIGNATOR, SEE SHEET 2

SEE SHEET NO. 25

SEE SHEET NO. 27

**HUNSAKER & ASSOCIATES**  
SAN DIEGO, INC.  
PLANNING 9707 Winkler Street  
ENGINEERING San Diego, CA 92121  
SURVEYING PH(619)584-4900 FAX(619)584-1414

TREATMENT CONTROL BMP TABLE		
DESCRIPTION	QUANTITY	MAINTENANCE
EC NORTH BIORETENTION	13,000 SF	PUBLIC
EC EAST BIORETENTION	5,834 SF	PUBLIC
EC SOUTH BIORETENTION	5,025 SF	PUBLIC

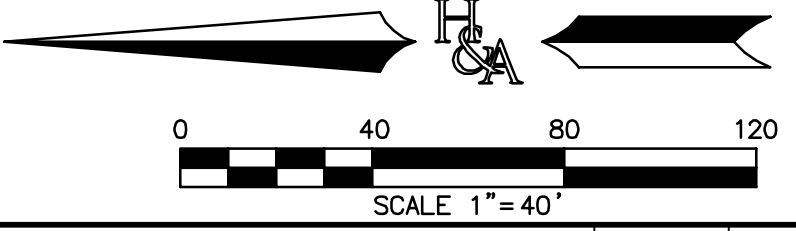
**ENGINEER OF WORK**  
RAYMOND L. MARTIN  
RCE NO 48670 EXP. 6/30/16



**BENCH MARK**  
DESCRIPTION: 2" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
ELEVATION: 246.43 NGVD 1929

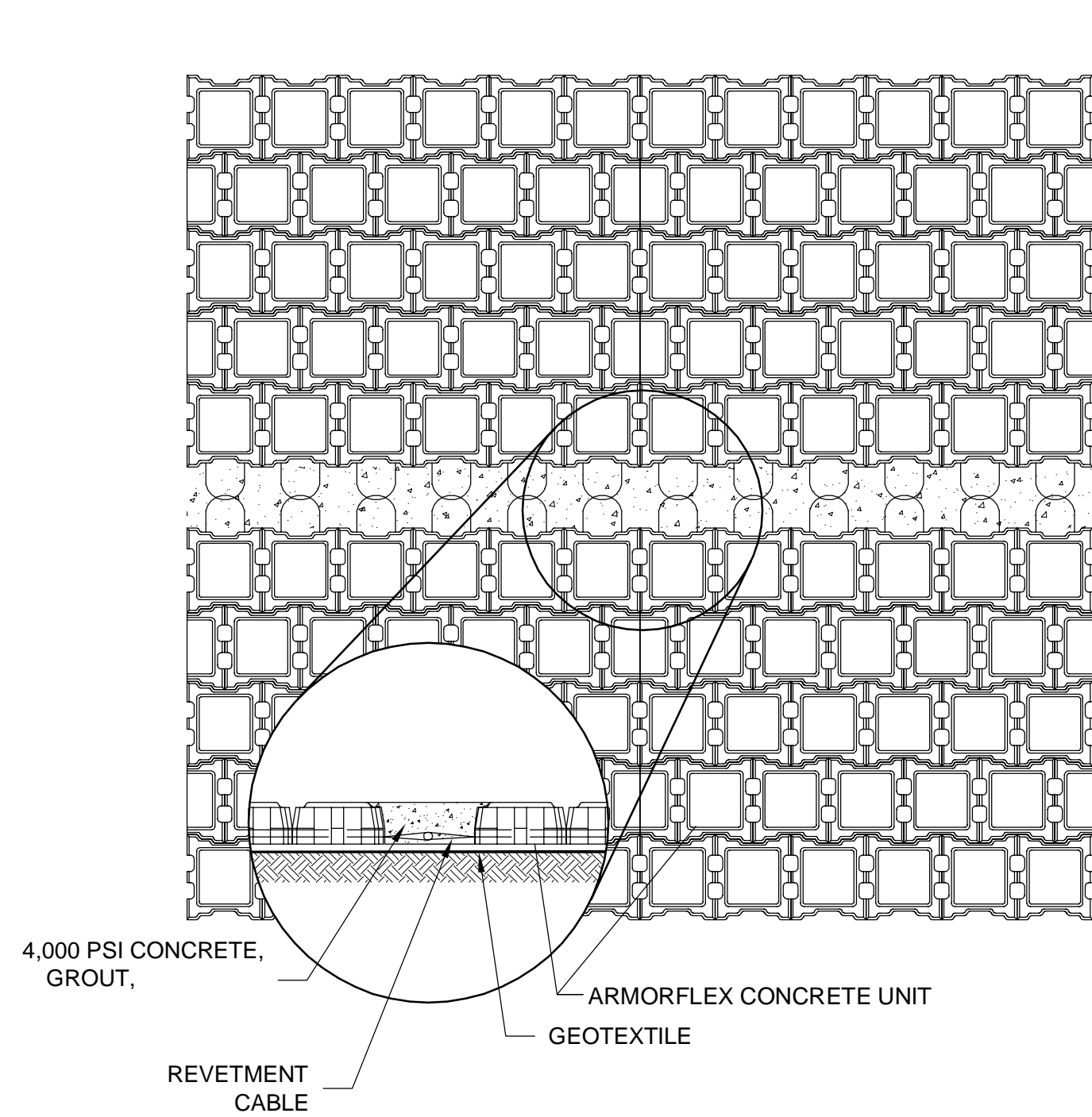
**"AS BUILT"**  
RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
REVIEWED BY: \_\_\_\_\_  
INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_

DATE	INITIAL	DATE	INITIAL

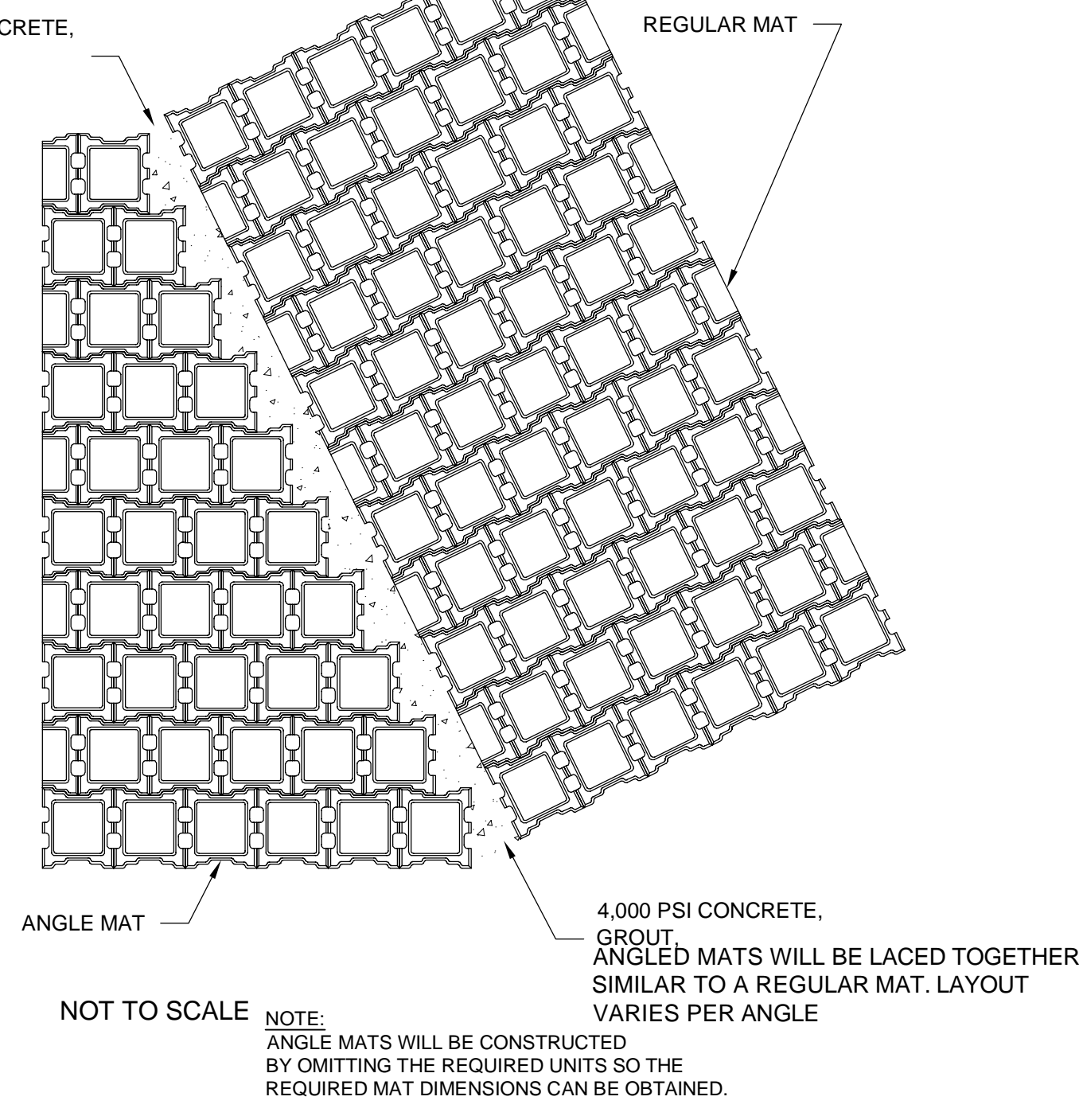


SHEET 26 CITY OF CARLSBAD SHEETS 73  
ENGINEERING DEPARTMENT  
ROUGH GRADING PLANS FOR:  
**COLLEGE BOULEVARD**  
APPROVED: JASON S. GELDERT  
CITY ENGINEER RCE\_63912 EXP. 09/30/16 DATE \_\_\_\_\_  
DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
CHKD BY: \_\_\_\_\_  
RVWD BY: \_\_\_\_\_

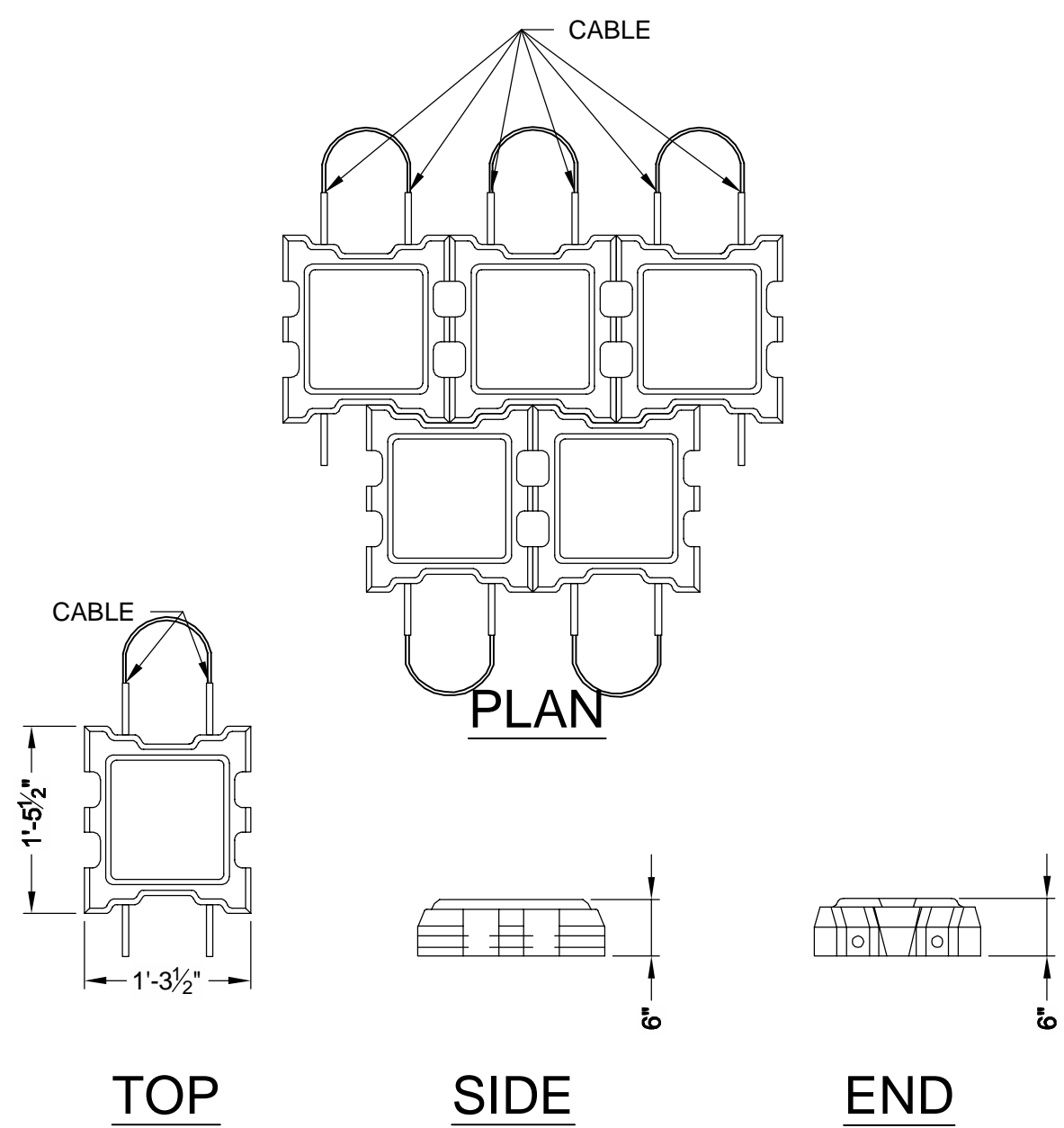




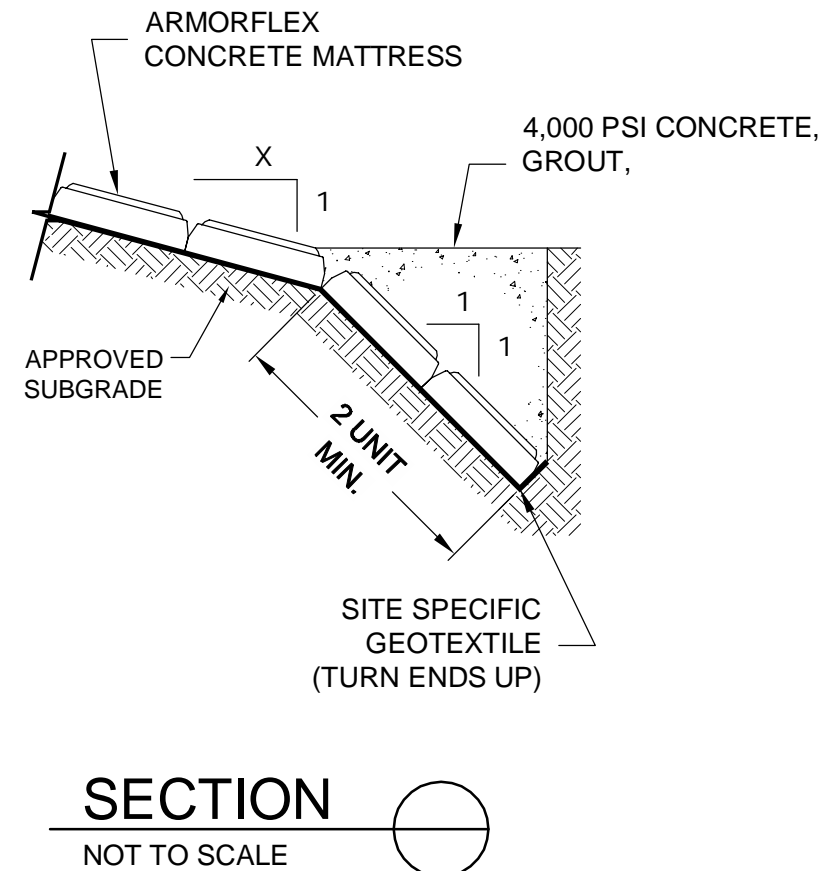
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NOT TO SCALE



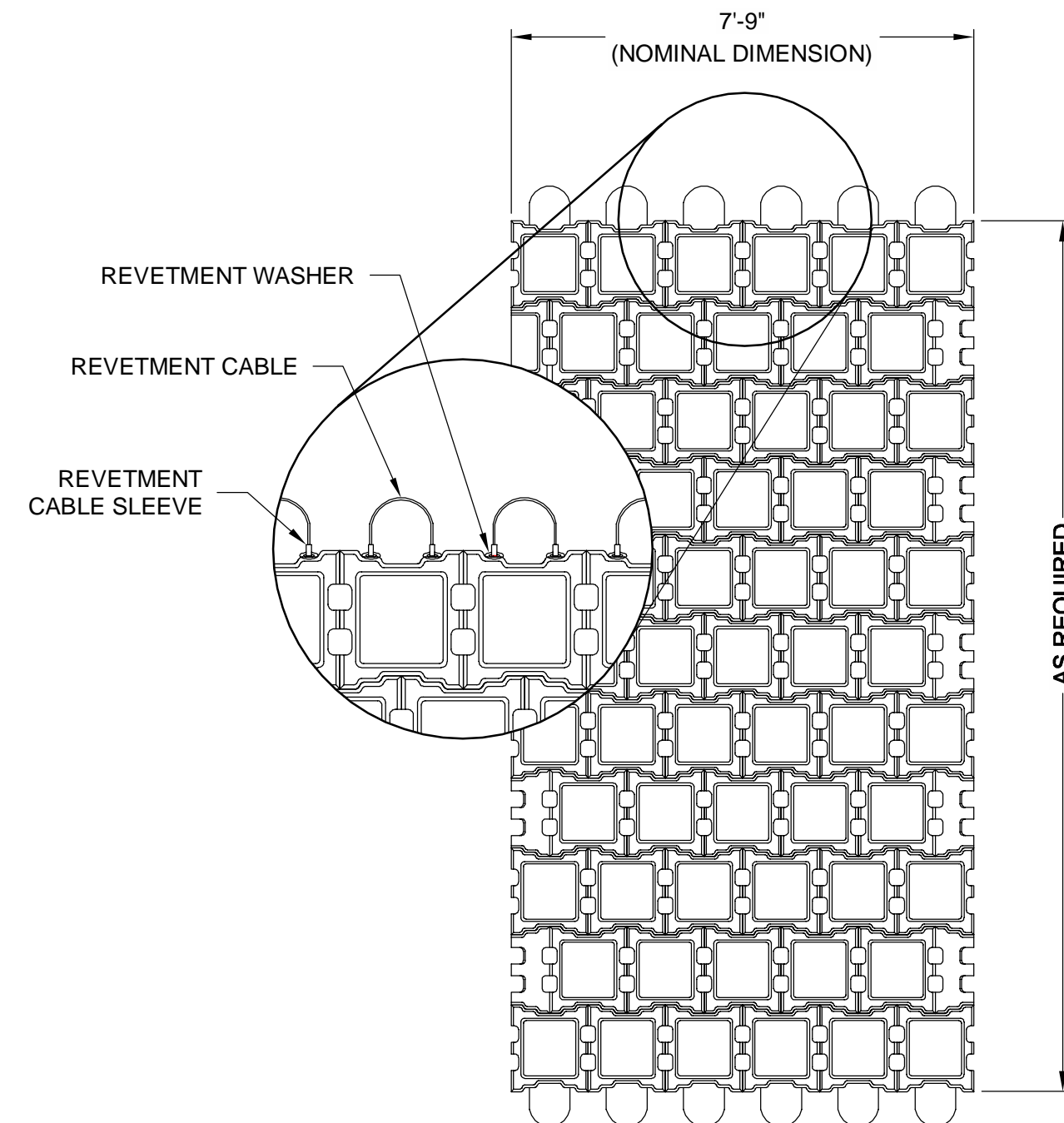
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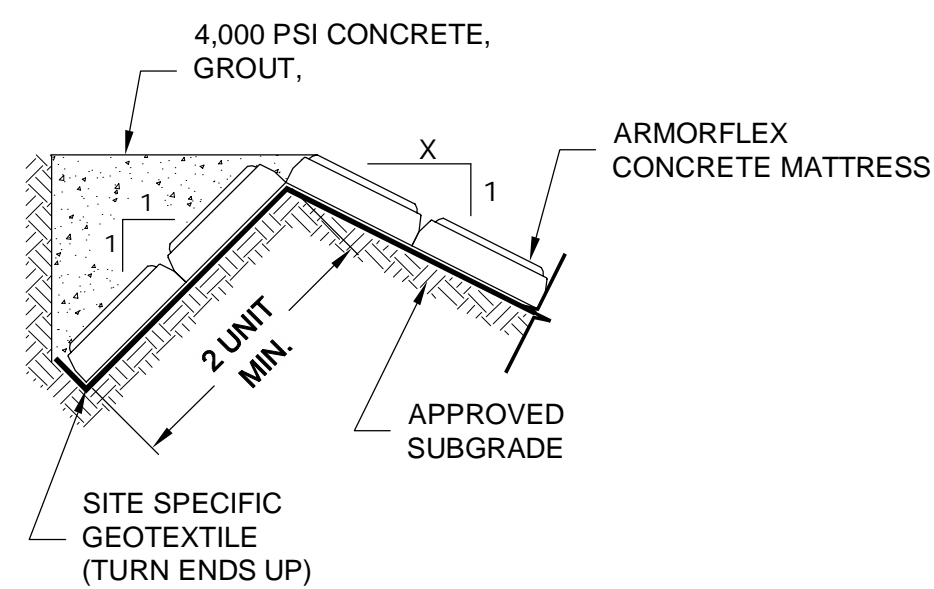
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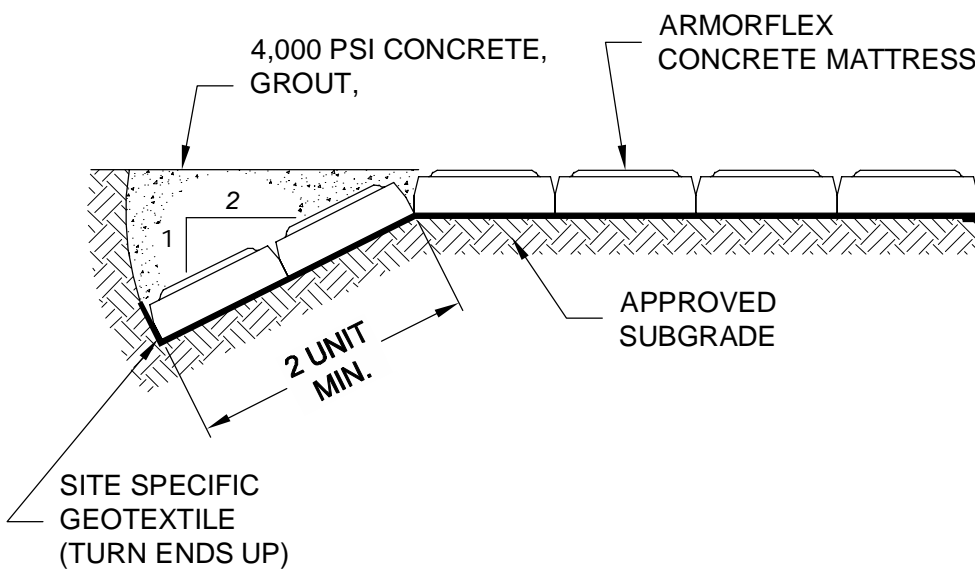
SECTION  
NOT TO SCALE



TYP. 55 MAT  
NOT TO SCALE



SECTION  
NOT TO SCALE



SECTION  
NOT TO SCALE

**EIR 02-02 (CANTARINI RANCH/HOLLY SPRINGS) MMRP CONDITION NOTES:**  
**BIO-C-6:** SEE MITIGATION MEASURE BIO-C-1 FOR MITIGATION OF UPLAND HABITAT IMPACTS, WHICH ADDRESS THE COASTAL SAGE SCRUB AND OTHER UPLAND HABITAT MITIGATION. IMPACTS TO ACTIVE COASTAL CALIFORNIA GNATCATCHER NESTS CAN BE AVOIDED BY REMOVING THE DIEGAN COASTAL SAGE SCRUB WITHIN THE PROJECT AREA OUTSIDE OF THE BREEDING SEASON (FEBRUARY 15 TO AUGUST 30). BIOLOGISTS WILL MONITOR ALL VEGETATION REMOVAL TO ENSURE NO DIRECT IMPACTS TO INDIVIDUAL BIRDS.

IF WORK WILL OCCUR DURING THE BREEDING SEASON, A PRE-CONSTRUCTION CLEARANCE SURVEY WILL BE CONDUCTED BY A QUALIFIED BIOLOGIST TO ENSURE THAT NO NESTS ARE LOCATED IN OR WITHIN A 200-FOOT BUFFER AROUND THE PROPOSED FOOTPRINT.

IF THE DRAFT HMP IS NOT APPROVED, THESE IMPACTS WILL REQUIRE EITHER A FEDERAL ENDANGERED SPECIES ACT SECTION 10(A)(1)(A) OR SECTION 7 APPROVAL FROM THE FEDERAL REGULATORY AGENCIES.

TEMPORARY FENCING SHALL BE REQUIRED IN ALL LOCATIONS OF THE PROJECT WHERE PROPOSED GRADING OR CLEARING IS WITHIN 100 FEET OF PROPOSED BIOLOGICAL OPEN SPACE. FENCING SHALL BE PLACED ON THE IMPACT SIDE AND SHALL RESULT IN NO VEGETATION LOSS WITHIN OPEN SPACE. ALL TEMPORARY FENCING SHALL BE REMOVED ONLY AFTER THE CONCLUSION OF ALL GRADING, CLEARING AND CONSTRUCTION.

**BIO-C-7:** TO AVOID POTENTIAL IMPACTS TO NESTING RAPTORS, TREES WILL BE REMOVED BETWEEN SEPTEMBER AND JANUARY, OUTSIDE OF THE BREEDING SEASON OF LOCAL RAPTOR SPECIES. IF TREES WILL BE REMOVED DURING THE BREEDING SEASON, A QUALIFIED BIOLOGIST WILL CONDUCT A RAPTOR NEST SURVEY PRIOR TO ANY REMOVALS TO DETERMINE IF RAPTOR NESTS ARE PRESENT. IF AN ACTIVE RAPTOR NEST IS DISCOVERED, A BUFFER (TYPICALLY 500 FEET) WILL BE ESTABLISHED AROUND THE TREE AND WORK POSTPONED WITHIN THAT AREA UNTIL THE YOUNG ARE INDEPENDENT OF THE NEST SITE.

**AQ-C-1:** THIS SECTION DESCRIBES THE MITIGATION MEASURES THAT ARE REQUIRED TO REDUCE AIR QUALITY EFFECTS TO BELOW THE LEVEL OF SIGNIFICANCE FOR THE CANTARINI PROJECT. ALL PROJECT CONSTRUCTION ACTIVITIES ARE SUBJECT TO THE CITY OF CARLSBAD GRADING ORDINANCE AND ARE REQUIRED TO IMPLEMENT BMP MEASURES TO REDUCE IMPACTS FROM FUGITIVE DUST AND CONSTRUCTION RELATED EMISSION. THE FOLLOWING MITIGATION MEASURES SHOULD BE INCLUDED AS CONDITIONS OF APPROVAL OF GRADING PERMITS AND BE THE RESPONSIBILITY OF THE APPLICANT OR CONTRACTOR:

**MITIGATION FOR GRADING AREA PARTICULATES (PM10) SOURCES**

- APPLY NON-TOXIC SOIL STABILIZERS ACCORDING TO MANUFACTURERS' SPECIFICATIONS TO ALL INACTIVE CONSTRUCTION AREAS (I.E., PREVIOUSLY GRADED AREAS INACTIVE FOR 10 DAYS OR MORE).
- IN DISTURBED AREAS, REPLACE GROUND COVER AS QUICKLY AS POSSIBLE.
- ENCLOSE, COVER, WATER TWICE DAILY, OR APPLY NON-TOXIC SOIL BINDERS ACCORDING TO MANUFACTURERS' SPECIFICATION TO EXPOSED PILES (I.E., GRAVEL, SAND, AND DIRT) WITH 5 PERCENT SILT CONTENT.
- WATER ACTIVE SITES TWICE DAILY.
- SUSPEND ALL EXCAVATING AND GRADING OPERATIONS WHEN WIND SPEEDS EXCEED 25 MILES PER HOUR (MPH).
- ALL TRUCKS HAULING DIRT, SAND, SOIL, OR OTHER LOOSE MATERIALS ARE TO BE COVERED OR SHOULD MAINTAIN AT LEAST 2 FEET OF FREEBOARD (I.E., MINIMUM VERTICAL DISTANCE BETWEEN TOP OF THE LOAD AND THE TOP OF THE TRAILER) IN ACCORDANCE WITH THE REQUIREMENTS OF CALIFORNIA VEHICLE CODE (CVC) SECTION 23114.

**MITIGATION FOR PAVED CONSTRUCTION ROAD PARTICULATES (PM10) SOURCES**

- SWEEP STREETS AT THE END OF THE DAY IF VISIBLE SOIL MATERIAL IS CARRIED ONTO ADJACENT PUBLIC PAVED ROADS (RECOMMENDED WATER SWEEPERS WITH RECLAIMED WATER).
- INSTALL WHEEL WASHERS WHERE VEHICLES ENTER AND EXIT UNPAVED ROADS ONTO PAVED ROADS, OR WASH OFF TRUCKS AND ANY EQUIPMENT LEAVING THE SITE.

**MITIGATION FOR UNPAVED CONSTRUCTION ROAD PARTICULATES (PM10) SOURCES**

- APPLY WATER THREE TIMES DAILY, NON-TOXIC SOIL STABILIZERS ACCORDING TO MANUFACTURERS' SPECIFICATION TO ALL UNPAVED ROADS, AND PARKING OR STAGING AREAS.
- TRAFFIC SPEEDS ON ALL PAVED ROADS TO BE REDUCED TO 15 MPH OR LESS.
- PAVE CONSTRUCTION ROADS THAT HAVE A TRAFFIC VOLUME OF MORE THAN 50 DAILY TRIPS BY CONSTRUCTION EQUIPMENT OR 150 TOTAL DAILY TRIPS FOR ALL VEHICLES.
- PAVE ALL CONSTRUCTION ACCESS ROADS AT LEAST 100 FEET ON TO THE SITE FROM THE MAIN ROAD.

**MITIGATION RECOMMENDED FOR RESIDENTIAL FIXED PARTICULATES (PM10) SOURCES**

THE FOLLOWING MITIGATION MEASURE SHALL BE RESPONSIBILITY OF THE CONTRACTOR AND IMPLEMENTED PRIOR TO INHABITANCE OF ANY OF THE PROPOSED UNITS.

- INSTALL GAS-BURNING DEVICES "FIREPLACES" WHICH WOULD NOT BE SUBJECT TO NSPS PARTICULATE EMISSION REQUIREMENTS.

**HAZ-C-1:** PRIOR TO THE COMMENCEMENT OF GRADING ON THE CANTARINI SITE, ALL TRASH, DEBRIS, AND WASTE MATERIALS DISCOVERED ON SITE SHALL BE DISPOSED OF OFF SITE, IN ACCORDANCE WITH CURRENT LOCAL, STATE, AND FEDERAL DISPOSAL REGULATIONS. ANY MATERIALS CONTAINING PETROLEUM RESIDUES ENCOUNTERED DURING PROPERTY IMPROVEMENTS SHOULD BE EVALUATED PRIOR TO REMOVAL AND DISPOSAL FOLLOWING PROPER PROCEDURES. ANY BURIED TRASH/DEBRIS ENCOUNTERED SHOULD BE

**EIR 02-02 MMRP CONDITION NOTES (CONTINUED):**  
**ARCH-C/HS-1:** AS A MEANS OF MITIGATING CULTURAL CONCERNS OF THE LUISENO PEOPLE, MONITORING OF GRADING IN THE ARCHAEOLOGICAL SITE LOCATIONS SHALL BE PERFORMED BY EITHER KNOWN/GEABLE LUISENOS OR ARCHAEOLOGISTS. THE FIELD MONITORS SHALL HAVE THE AUTHORITY TO TEMPORARILY HALT GRADING AND TO EXAMINE PREHISTORIC RESOURCES IF THEY ARE ENCOUNTERED. PRIOR TO THE COMMENCEMENT OF GRADING, THE CONSTRUCTION CONTRACTOR SHALL MEET WITH ARCHAEOLOGICAL MONITOR TO DETERMINE WHEN GRADING AND ARCHAEOLOGICAL MONITORING WOULD TAKE PLACE IN PROXIMITY TO THE ARCHAEOLOGICAL SITES.

PRIOR TO COMMENCEMENT OF GRADING THE DEVELOPER SHALL ENTER INTO A PRE-EXCAVATION AGREEMENT WITH A REPRESENTATIVE OF THE SAN LUIS REY BAND OF MISSION INDIANS. THE PURPOSE OF THE AGREEMENT WILL BE TO FORMALIZE PROCEDURES FOR THE TREATMENT OF NATIVE AMERICAN HUMAN REMAINS, BURIAL, CEREMONIAL OR CULTURAL SITES THAT MAY BE UNCOVERED DURING ANY GROUND DISTURBANCE ACTIVITY.

PRIOR TO COMMENCEMENT OF GRADING, A QUALIFIED ARCHAEOLOGIST SHALL PLACE TEMPORARY FENCING ALONG THE PERIMETER OF SITE HS-1. HAND CLEARING WITHIN THE FENCED PORTION OF HS-1 SHALL BE ALLOWED UNDER SUPERVISION BY A QUALIFIED ARCHAEOLOGIST OR LUISENOS.

IN THE EVENT ARCHAEOLOGICAL FEATURES ARE DISCOVERED, THE ARCHAEOLOGICAL MONITOR SHALL BE EMPOWERED TO SUSPEND WORK IN THE IMMEDIATE AREA OF THE DISCOVERY UNTIL SUCH TIME AS A DATA RECOVERY PLAN CAN BE DEVELOPED AND IMPLEMENTED. WORK OUTSIDE THE AREA OF THE FIND SHALL PROCEED ALONG WITH THE CONTINUATION OF ARCHAEOLOGICAL MONITORING.

**PALEO-C/HS-1:** THE FOLLOWING PALEONTOLOGICAL RESOURCES MONITORING PROGRAM SHALL BE IMPLEMENTED DURING CONSTRUCTION FOR THE CANTARINI AND HOLLY SPRINGS PROJECTS:

THE OWNER SHALL CONTRACT WITH A PALEONTOLOGIST TO BE ON SITE AT THE TIME OF EXCAVATION AND A REPORT OF THE FINDINGS SHALL BE SUBMITTED TO THE CITY FOLLOWING COMPLETION OF EXCAVATION.

PRIOR TO THE ISSUANCE OF THE GRADING PERMIT, THE APPLICANT SHALL PROVIDE A LETTER STATING THAT A QUALIFIED PALEONTOLOGIST HAS BEEN RETAINED TO IMPLEMENT THE MONITORING PROGRAM DESCRIBED IN THIS PLAN. A QUALIFIED PALEONTOLOGIST IS DEFINED AS ANY PERSON HOLDING AN ADVANCED DEGREE IN PALEONTOLOGY OR CLOSELY RELATED DISCIPLINE SUCH AS GEOLOGY OR PALEOBIOLOGY, AND ALSO HAVING AT LEAST FOUR YEARS OF EXPERIENCE WITH THE GEOLOGICAL FORMATIONS OF SAN DIEGO COUNTY. THE QUALIFIED PALEONTOLOGIST SHALL SUPERVISE PALEONTOLOGICAL FIELD MONITORS UTILIZED DURING THE PROJECT. MINIMUM QUALIFICATIONS FOR PALEONTOLOGICAL FIELD MONITORS SHALL BE A BACHELORS DEGREE IN PALEONTOLOGY OR CLOSELY RELATED DISCIPLINE SUCH AS GEOLOGY OR PALEOBIOLOGY PLUS ONE YEAR OF EXPERIENCE WITH THE GEOLOGICAL FORMATIONS OF SAN DIEGO COUNTY.

ALL PERSONS INVOLVED IN THE PALEONTOLOGICAL MONITORING OF THIS PROJECT SHALL BE APPROVED BY CITY STAFF PRIOR TO THE START OF ANY CONSTRUCTION EXCAVATION. THE APPLICANT SHALL NOTIFY CITY STAFF OF THE START AND END OF THE CONSTRUCTION.

THE QUALIFIED PALEONTOLOGIST SHALL ATTEND ANY PRECONSTRUCTION MEETINGS TO MAKE COMMENTS AND/OR SUGGESTIONS CONCERNING THE MONITORING PROGRAM AS IT SPECIFICALLY RELATES TO THE CONSTRUCTION PLANS AND SCHEDULE. ALL AREAS REQUIRING MONITORING SHALL BE NOTED ON THE GRADING PLANS OF THE JOB FOREMAN AND THE PALEONTOLOGICAL FIELD MONITOR. IT IS THE JOB FOREMAN'S RESPONSIBILITY TO NOTIFY QUALIFIED PALEONTOLOGIST 24 HOURS PRIOR TO GRADING AREAS WHERE MONITORING IS REQUIRED.

THE QUALIFIED PALEONTOLOGIST OR PALEONTOLOGICAL FIELD MONITOR SHALL BE PRESENT ON SITE FULL-TIME DURING EXCAVATIONS IN MODERATELY OR HIGHLY SENSITIVE GEOLOGICAL FORMATIONS. IN THE EVENT THAT FOSSILS ARE ENCOUNTERED, THE PALEONTOLOGICAL FIELD MONITOR SHALL NOTIFY THE JOB FOREMAN AND SHALL HAVE THE AUTHORITY TO DIVERT, RE-DIRECT, OR TEMPORARILY STOP GROUND DISTURBING ACTIVITIES IN THE AREA OF A DISCOVERY TO ALLOW AN INITIAL ASSESSMENT OF THE DEPOSIT AS WELL AS TO RECOVER SAMPLES. A FOSSIL DISCOVERY MAY BE OF A CALIBER THAT THE QUALIFIED PALEONTOLOGIST MUST EVALUATE ITS SIGNIFICANCE TO DETERMINE IF A LARGER SALVAGING PROGRAM IS REQUIRED TO MITIGATE ADVERSE IMPACTS. ALL DISCOVERED FOSSIL SITES SHALL BE RECORDED AT THE SAN DIEGO NATURAL HISTORY MUSEUM IN ACCORDANCE WITH THEIR STANDARD PROCEDURES.

ENGINEER OF WORK

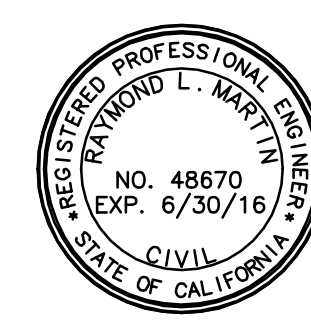
RAYMOND L. MARTIN  
RCE NO 48670 EXP. 6/30/16 DATE

BENCH MARK

DESCRIPTION: 2.5" DISC IN DRAINAGE BOX INLET (CITY OF CARLSBAD CONTROL PT. CLSB-108)  
 LOCATION: ON NORTH SIDE OF PALMER WAY, 100 FEET EASTERLY OF COUGAR DRIVE  
 RECORDED FROM: CITY OF CARLSBAD SURVEY CONTROL R.O.S. 17271  
 ELEVATION: 246.43 NGVD 1929

"AS BUILT"

RCE \_\_\_\_\_ EXP. \_\_\_\_\_ DATE \_\_\_\_\_  
 REVIEWED BY: \_\_\_\_\_  
 INSPECTOR \_\_\_\_\_ DATE \_\_\_\_\_



SHEET 28 CITY OF CARLSBAD SHEETS 73  
ENGINEERING DEPARTMENT

ARTICULATED CEMENT BLOCK DETAILS & CONDITION NOTES FOR: COLLEGE BOULEVARD

APPROVED: JASON S. GELDERT  
 CITY ENGINEER RCE 63912 EXP. 09/30/16 DATE

DWN BY: \_\_\_\_\_ PROJECT NO. CT 00-18 DRAWING NO. 456-3G  
 CHKD BY: \_\_\_\_\_  
 REVWD BY: \_\_\_\_\_

DATE	INITIAL	REVISION DESCRIPTION	DATE	INITIAL	DATE	INITIAL



PLANNING 9707 Waples Street  
 ENGINEERING San Diego, Ca 92121  
 SURVEYING PH(619)558-1500 FX(619)558-1414





## **ATTACHMENT 4**

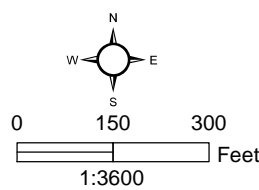
### **MITIGATION CREDIT INFORMATION**

1. Alden Environmental, Inc., Figure 3, Corps Jurisdictional Impacts College Boulevard – Reach A and Basin BJ Project Mitigation Plan.
2. Alden Environmental, Inc., Figure 5, CDFW Mitigation College Boulevard – Reach A and Basin BJ Project Mitigation Plan.
3. Alden Environmental, Inc., Figure 6, Corps Mitigation College Boulevard – Reach A and Basin BJ Project Mitigation Plan.





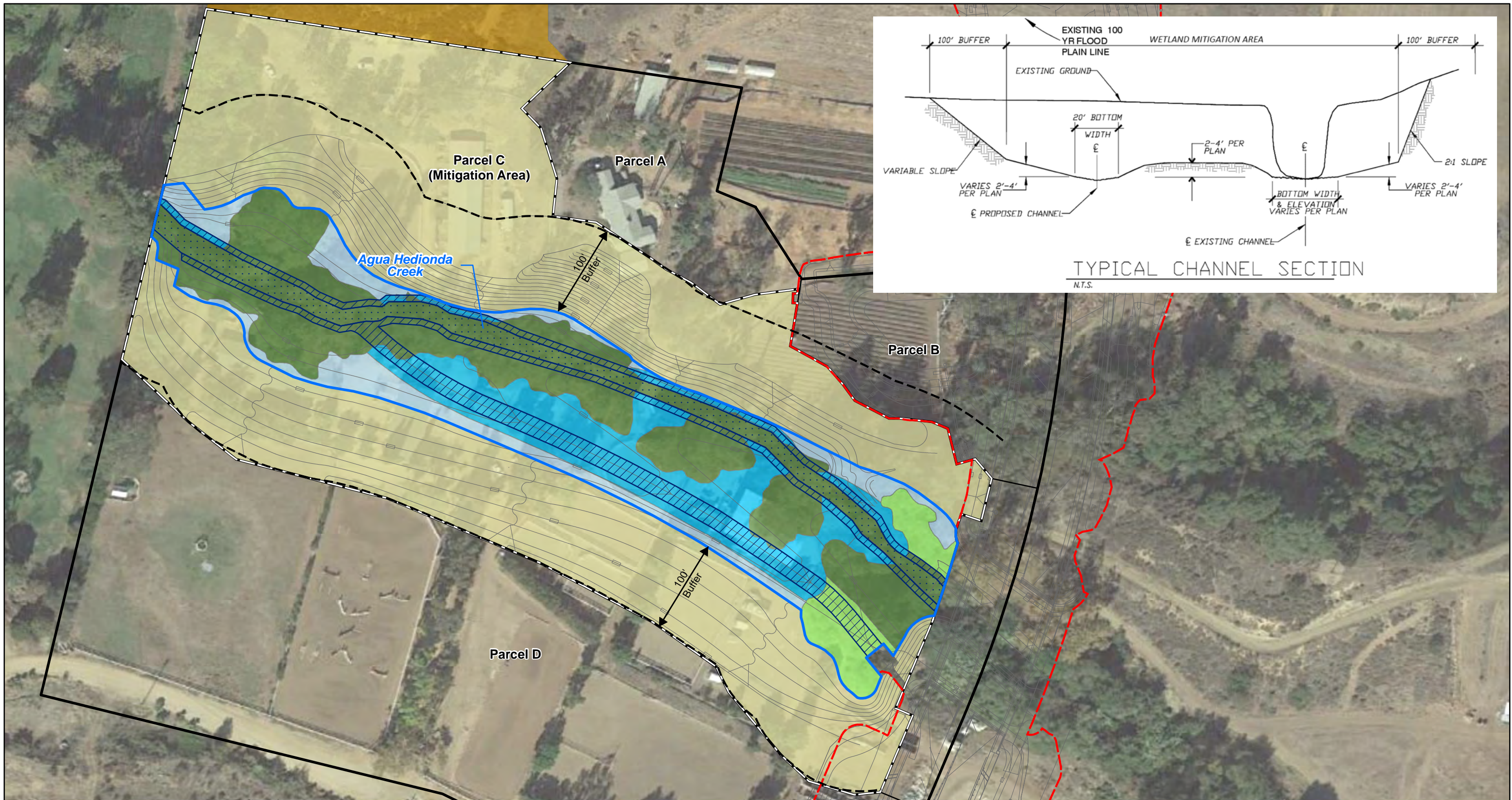
Source: Google 2013



**Figure 3**

**Corps Jurisdictional Impacts**

COLLEGE BOULEVARD - REACH A AND BASIN BJ PROJECT MITIGATION PLAN



<ul style="list-style-type: none"> <li> Equestrian Center North/South Parcels</li> <li> Overall Mitigation Area (Parcel C)</li> <li> College Boulevard - Reach A</li> <li> Upland Mitigation Area (5.6 acres)<sup>1</sup></li> <li> Wetland Mitigation Area (3.1 acres)</li> <li> 100-foot Wetland/Riparian Buffer</li> <li> Existing Channel</li> <li> Proposed Channel</li> </ul>	<p><b>CDFW Mitigation (2.4 acres Total)</b></p> <ul style="list-style-type: none"> <li> Re-establishment/Creation (0.84 acre)</li> <li> Enhancement<sup>2</sup> (1.56 acres)</li> </ul>	<p><b>Surplus Re-establishment/Creation/Enhancement (0.7 acre Total)</b></p> <ul style="list-style-type: none"> <li> Re-establishment/Creation (0.48 acre)</li> <li> Enhancement<sup>2</sup> (0.22 acre)</li> </ul>	<ul style="list-style-type: none"> <li> Dos Colinas Biological Conservation Easement</li> </ul>
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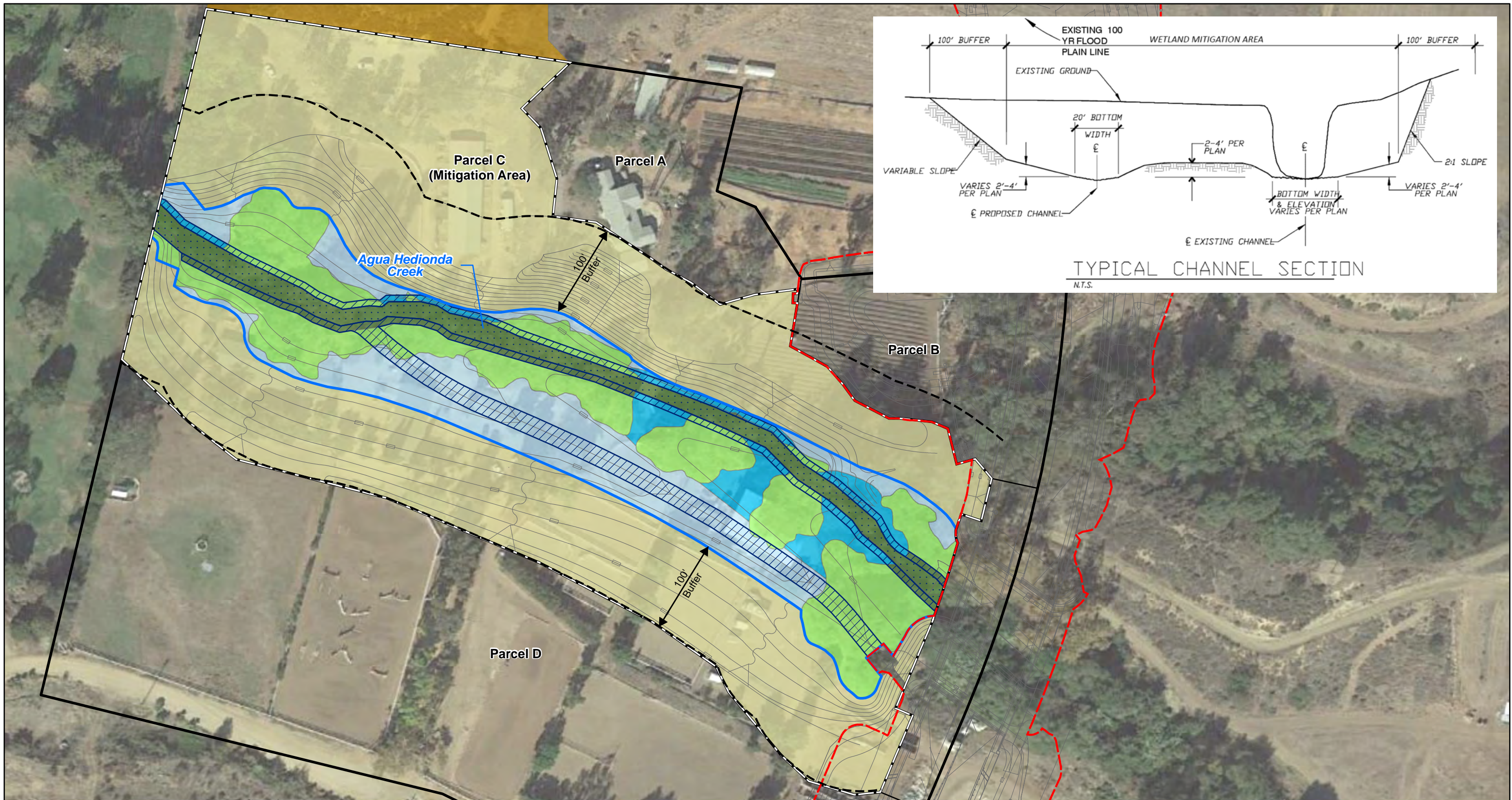
<sup>1</sup> Required upland mitigation is 5.22 acres, with 0.38 acre surplus.  
<sup>2</sup> Existing native riparian trees to be preserved to the extent practicable.

0 50 100 Feet

**Figure 5**

**CDFW Mitigation**

COLLEGE BOULEVARD - REACH A  
AND BASIN BJ PROJECT MITIGATION PLAN



<ul style="list-style-type: none"> <li> Equestrian Center North/South Parcels</li> <li> Overall Mitigation Area (Parcel C)</li> <li> College Boulevard - Reach A</li> <li> Upland Mitigation Area (5.6 acres)<sup>1</sup></li> <li> Wetland Mitigation Area (3.1 acres)</li> <li> 100-foot Wetland/Riparian Buffer</li> <li> Existing Channel</li> <li> Proposed Channel</li> </ul>	<p><b>Corps Mitigation (0.81 acre Total)</b></p> <ul style="list-style-type: none"> <li> Re-establishment/Creation (0.31 acre)</li> <li> Enhancement<sup>2</sup> (0.50 acre)</li> </ul>	<p><b>Surplus Re-establishment/Creation/Enhancement (2.29 acres Total)</b></p> <ul style="list-style-type: none"> <li> Re-establishment/Creation (1.00 acre)</li> <li> Enhancement<sup>2</sup> (1.29 acres)</li> </ul>	<ul style="list-style-type: none"> <li> Dos Colinas Biological Conservation Easement</li> </ul>
---	---	--	---

<sup>1</sup> Required upland mitigation is 5.22 acres, with 0.38 acre surplus.  
<sup>2</sup> Existing native riparian trees to be preserved to the extent practicable.

0 50 100 Feet

**Figure 6**

**Corps Mitigation**

COLLEGE BOULEVARD - REACH A  
AND BASIN BJ PROJECT MITIGATION PLAN

## **ATTACHMENT 5**

### **CEQA MITIGATION REQUIREMENTS**

1. Calavera Hills Master Plan Phase II, Bridge and Thoroughfare District No. 4 and Detention Basins, Appendix L, MMRP Table

**MITIGATION MONITORING PROGRAM FOR CALAVERA HILLS MASTER PLAN PHASE II AND  
BRIDGE AND THOROUGHFARE DISTRICT NO. 4 (or other financing mechanism) & DETENTION BASINS  
PROJECT ENVIRONMENTAL IMPACT REPORT  
(continued)**

Mit. Mon. No.	Mitigation Measure	Compliance Monitoring and Reporting Frequency		Schedule for Implementation	Monitoring Agency(ies)
		Monitor	Report		
<b>BIOLOGICAL RESOURCES</b>					
	<p>The following measures are required as a condition of approval for the master tentative map's (CT-00-02) Final Map or Grading Plan, whichever occurs first:</p> <p>Mitigation is required to reduce the significant project impacts to listed species, sensitive plant communities and habitats, and wetlands. In addition to the plant communities identified as sensitive under CEQA, the City of Carlsbad's draft HMP (City of Carlsbad 1999) has classified two non-sensitive plant communities as significant habitat resources for sensitive wildlife species: southern mixed and chamise chaparral and non-native grassland. The Draft HMP provides mitigation guidelines for impacts to these communities. These impacts are not considered significant under CEQA and if the Draft HMP is not approved or adopted by the City as currently published, these impacts would not require mitigation. Additionally, all projects would be required to obtain applicable permits for impacts to listed species as per Section 10(a) or Section 7 of the federal Endangered Species Act.</p>				

**MITIGATION MONITORING PROGRAM FOR CALAVERA HILLS MASTER PLAN PHASE II AND  
BRIDGE AND THOROUGHFARE DISTRICT NO. 4 (or other financing mechanism) & DETENTION BASINS  
PROJECT ENVIRONMENTAL IMPACT REPORT  
(continued)**

Mit. Mon. No.	Mitigation Measure	Compliance Monitoring and Reporting Frequency		Schedule for Implementation	Monitoring Agency(ies)
		Monitor	Report		
<b>BIOLOGICAL RESOURCES (cont.)</b>					
1	<p><b>Calavera Hills Master Plan Phase II</b> <i>Sensitive Plant Communities</i></p> <p><i>Diegan Coastal Sage Scrub:</i> The project applicant shall mitigate for impacts to 80.8 acres Diegan coastal sage scrub (DCSS) at a ratio of 2:1 through the on- and off-site site preservation of 161.6 acres of DCSS and restoration of 2.4 acres DCSS along manufactured slopes, for a total of 164 acres.</p> <p>Based on the Draft HMP “hard line” open space areas, a portion of the manufactured fill slope on the southern side of Village K (see EIR Figure 3G-4) would be located within the open space side of the “hard line” but would be required to be revegetated with coastal sage scrub.</p>	Part of grading permit and prior to construction	Once, on completion	As shown on approved grading permit which will not be issued until affected resource agencies have acted, 161.6 acres DCSS preserved and 2.4 acres DCSS along manufactured slopes restored.	City of Carlsbad Planning Department, City Engineer; wildlife agencies
2	<p><i>Diegan Coastal Sage Scrub:</i> The project applicant shall ensure that no part of any fire suppression zone shall be allowed within the Draft HMP “hard line” open space areas except at Village K and Village X. Mitigation for this impact will require a modified program for fire suppression (which reduces the fire suppression horizontal distances of the zones), a pullback of the structural development within these areas, and modification of the proposed “hard line” alignment through approval of the proposed “equivalency determination.”</p>	Prior to, throughout construction and during operations	Ongoing and on violation	Concurrence on a modified program for fire suppression and pullback in development to be agreed upon by the Planning Department, Fire Department, and wildlife agencies prior to the issuance of a grading permit for the master tentative map (CT-00-02). Must be shown on approved grading permit which will not be issued until affected resource agencies have acted.	City of Carlsbad Planning Department and Fire Department; wildlife agencies

**MITIGATION MONITORING PROGRAM FOR CALAVERA HILLS MASTER PLAN PHASE II AND  
BRIDGE AND THOROUGHFARE DISTRICT NO. 4 (or other financing mechanism) & DETENTION BASINS  
PROJECT ENVIRONMENTAL IMPACT REPORT  
(continued)**

Mit. Mon. No.	Mitigation Measure	Compliance Monitoring and Reporting Frequency		Schedule for Implementation	Monitoring Agency(ies)
		Monitor	Report		
<b>BIOLOGICAL RESOURCES (cont.)</b>					
3	<i>Southern Mixed and Chamise Chaparral:</i> Significant impacts to southern mixed and chamise chaparral shall be mitigated regardless of the approval status of the Draft HMP.  The project applicant shall mitigate for impacts to 27.5 acres of southern mixed and chamise chaparral at a ratio greater than the required 1:1 through preservation of 38.9 acres of like habitat.	Part of grading permit and prior to construction	Once, on completion	As a condition of approval for the master tentative map's (CT-00-02) Final Map or Grading Plan, whichever occurs first.	City of Carlsbad Planning Department; wildlife agencies
4	<i>Non-Native Grasslands:</i> Significant impacts to non-native grasslands shall be mitigated regardless of the status of the Draft HMP.  The project applicant shall mitigate for impacts to 2.0 acres of non-native grasslands on- or off-site at a 0.5:1 ratio for a total of 1.0 acre. In total, the proposed project retains 18.2 acres of non-native grasslands within the on-site open space preservation area.	Part of grading permit and prior to construction	Once, on completion	As a condition of approval for the master tentative map's (CT-00-02) Final Map or Grading Plan, whichever occurs first.	City of Carlsbad Planning Department; wildlife agencies
5	<i>Cismontane Alkali Marsh:</i> The project applicant shall mitigate for impacts to 0.1 acre of cismontane alkali marsh (seasonal) at a 3:1 ratio or 0.3 acre. This shall be accomplished through restoration of wetland habitat either on- or off-site at a location acceptable to the resource agencies and City of Carlsbad.	Part of grading permit and prior to construction	Once, on completion	As a condition of approval for the master tentative map's (CT-00-02) Final Map or Grading Plan, whichever occurs first.	Resource agencies (USFWS/CDFG) and City of Carlsbad Planning Department

**MITIGATION MONITORING PROGRAM FOR CALAVERA HILLS MASTER PLAN PHASE II AND  
BRIDGE AND THOROUGHFARE DISTRICT NO. 4 (or other financing mechanism) & DETENTION BASINS  
PROJECT ENVIRONMENTAL IMPACT REPORT  
(continued)**

Mit. Mon. No.	Mitigation Measure	Compliance Monitoring and Reporting Frequency		Schedule for Implementation	Monitoring Agency(ies)
		Monitor	Report		
<b>BIOLOGICAL RESOURCES (cont.)</b>					
6	<p><i>Eucalyptus Woodlands/Disturbed Lands.</i> Impacts to eucalyptus woodland (1 acre) and disturbed lands (13.7 acres) shall be mitigated only if the Draft HMP is approved. If the Draft HMP is not approved, impacts these lands would not be considered significant under CEQA and would not require mitigation.</p> <p>If the Draft HMP is approved and resources are determined to be subject to the City of Carlsbad "In-lieu Mitigation Fee," the project applicant shall pay for each acre of impact to eucalyptus woodland/disturbed lands at an amount to be determined by the City Council.</p>	Prior to construction	Once, on completion	If Draft HMP approved, payment made for each acre of impact to eucalyptus woodland/disturbed lands at amount determined by the City Council.	City of Carlsbad Planning Department
	<p><b>Bridge and Thoroughfare District/Retention Basins</b></p> <p><i>Sensitive Plant Communities</i></p> <p><i>Diegan Coastal Sage Scrub:</i> The project applicant shall mitigate for impacts to sensitive resources as follows:</p>				



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<b>BIOLOGICAL RESOURCES (cont.)</b>					
7	<p>College Boulevard (Reach A). Impacts to 1.6 acres DCSS shall be mitigated at a ratio of 2:1 through the preservation of 3.2 acres at a location acceptable to the City of Carlsbad and responsible agencies.</p> <p>College Boulevard (Reach B). Impacts to 3.1 acres DCSS shall be mitigated at a ratio of 2:1 through the preservation of 6.2 acres at a location acceptable to the City of Carlsbad and responsible agencies.</p> <p>College Boulevard (Reach C). Impacts to 5.7 acres DCSS have been previously mitigated as part of Calavera Hills Phase I Mitigation Program for the development of Villages Q and T.</p> <p>Cannon Road (Reach 4). Impacts to 16 acres DCSS at a ratio of 2:1 through the on-site preservation of 32 acres. Impacts shall be mitigated at a location acceptable to the City of Carlsbad and responsible agencies.</p>	Part of grading permit and prior to construction	Once, on completion	Prior to the issuance for a grading permit.	City of Carlsbad Planning Department; wildlife agencies
		Part of grading permit and prior to construction	Once, on completion	Already mitigated during implementation of Phase I. No additional mitigation required.	Not applicable
		Part of grading permit and prior to construction	Once, on completion	Prior to the issuance of a grading permit.	City of Carlsbad Planning Department; wildlife agencies
8	<p><i>Southern Mixed and Chamise Chaparral:</i> The project applicant shall mitigate for impacts to sensitive resources as follows:</p> <p>College Boulevard (Reach C). Impacts to 6.6 acres southern mixed and chamise chaparral have been previously mitigated as part of Calavera Hills Phase I Mitigation Program for the development of Villages Q and T.</p>	Part of grading permit and prior to construction	Once, on completion	Already mitigated during implementation of Phase I. No additional mitigation required.	Not applicable

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Mit. Mon. No.	Mitigation Measure	Compliance Monitoring and Reporting Frequency		Schedule for Implementation	Monitoring Agency(ies)
		Monitor	Report		
<b>BIOLOGICAL RESOURCES (cont.)</b>					
9	<p><i>Non-native Grasslands:</i> The project applicant shall mitigate for impacts as follows:</p> <p>College Boulevard (Reach A). Impacts to 1.0 acre of non-native grasslands at a 0.5:1 ratio for a total of 0.5 acre of like habitat. Impacts to non-native grasslands shall be mitigated off-site, at a location determined acceptable by the City of Carlsbad.</p> <p>Cannon Road (Reach 3). Impacts to 0.5 acre of non-native grasslands at a 0.5:1 ratio for a total of 0.25 acre of like habitat. Impacts to non-native grasslands shall be mitigated off-site, at a location determined acceptable by the City of Carlsbad.</p> <p>Cannon Road (Reach 4). Impacts to 0.4 acre of non-native grasslands at a 0.5:1 ratio for a total of 0.2 acre of like habitat. Impacts to non-native grasslands shall be mitigated off-site, at a location determined acceptable by the City of Carlsbad.</p>	Part of grading permit and prior to construction	Once, on completion	Prior to the issuance of a grading permit.	City of Carlsbad Planning Department
		Part of grading permit and prior to construction	Once, on completion	Prior to the issuance of a grading permit.	City of Carlsbad Planning Department

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		Monitor	Report		
<b>BIOLOGICAL RESOURCES (cont.)</b>					
10	<p><i>Cismontane Alkali Marsh:</i> The project applicant shall mitigate for impacts as follows:</p> <p>Cannon Road (Reach 3). Impacts to 0.6 acre of cismontane alkali marsh shall be mitigated at a 3:1 ratio for a total of 1.8 acres of like habitat. This shall be accomplished through restoration of wetland habitat either on- or off-site at a location acceptable to the resource agencies and City of Carlsbad.</p> <p>Cannon Road (Reach 4). Impacts to 0.1 acre of cismontane alkali marsh (seasonal) shall be mitigated at a 3:1 ratio for a total of 0.3 acre of like habitat. This shall be accomplished through restoration of wetland habitat either on- or off-site at a location acceptable to the resource agencies and City of Carlsbad.</p>	Part of grading permit and prior to construction	Report throughout creation/restoration of habitat and upon completion	Prior to the issuance of a grading permit.	City of Carlsbad Planning Department; wildlife agencies



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Mit. Mon. No.	Mitigation Measure	Compliance Monitoring and Reporting Frequency		Schedule for Implementation	Monitoring Agency(ies)
		Monitor	Report		
<b>BIOLOGICAL RESOURCES (cont.)</b>					
13	<i>Eucalyptus Woodland, Agricultural, Disturbed Lands:</i> The project applicant shall mitigate for impacts as follows:  College Boulevard/Cannon Road. If the draft HMP is adopted, the project applicant shall pay a per acre fee, at an amount to be determined by the City of Carlsbad City Council, to mitigate for impacts to eucalyptus woodlands (1.5 acres), agricultural lands (30 acres), and disturbed lands (3.3 acres).	Prior to construction	Once, on completion	Fees paid.	City of Carlsbad Planning Department
14	<b>Calavera Hills Phase II and Bridge and Thoroughfare District</b> <i>Sensitive Wildlife</i>  <i>Coastal California Gnatcatcher:</i> Construction impacts to active nests will be avoided by removing the DCSS within the project area outside of the breeding season (February 15 to August 30) unless a qualified biologist determines that there would be no impacts. A qualified biologist shall monitor all vegetation removal to ensure no direct impacts occur to individual birds or nests.	Part of grading permit, and prior to and throughout grading and construction	Once, on completion	Condition of grading permit.	City of Carlsbad Planning Department; wildlife agencies
<b>BIOLOGICAL RESOURCES (cont.)</b>					
15	<i>Raptors:</i> Construction impacts to nesting raptors will be avoided by removal of any tree in the project area between September and January, outside of the breeding season. If tree removal must be conducted during the breeding season, a raptor nest survey shall be conducted by a qualified biologist prior to any removal to determine if any raptor nests are present. If an active nest is discovered, a buffer shall be established around the tree until the young are independent of the nest site.	Part of grading permit, and prior to and throughout grading and construction	Once, on completion	Prior to the issuance of a grading permit.	City of Carlsbad Planning Department and wildlife agencies

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16	<i>Least Bell's Vireo</i> : All vegetation within the riparian scrub shall be removed outside of the breeding season (March 15 to September 15) to ensure that no direct impacts occur to these species. Additionally, a biologist shall monitor all vegetation removal to ensure no direct impacts occur to individual birds or nests.	Part of grading permit, and prior to and throughout grading and construction	Once, on completion	Prior to the issuance of a grading permit.	City of Carlsbad Planning Department and wildlife agencies

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<b>BIOLOGICAL RESOURCES (cont.)</b>					
17	<p><b>Calavera Hills Phase II and Bridge and Thoroughfare District</b></p> <p><i>Wetlands and Non-Wetland Jurisdictional Waters</i></p> <p>For all the project components, impacts to USACE wetlands and non-wetland jurisdictional waters of the U.S. and CDFG jurisdictional wetlands require a 404 permit from USACE, a 401 water quality certificate or waiver thereof from the Regional Water Quality Control Board, and a 1600 Streambed Alteration Agreement from CDFG. All project components shall be included in an individual 404 permit from USACE. The impacts to wetlands and non-wetland jurisdictional waters are described in detail in the Final EIR and total 3.6 acres. The habitats impacted include riparian scrub (0.6 acre), riparian woodland (1.9 acres), alkali marsh (0.8 acre), and non-wetland jurisdictional waters (0.3 acre).</p> <p>Pursuant to pending wildlife agency permits (USACE 404, RWQCB 401, and CDFG 1603), the wetland creation necessary to mitigate wetland impacts will occur at a ratio of 3:1 for wetland habitats and a ratio of 1:1 for non-wetland jurisdictional areas. The currently preferred locations are adjacent to Basin "BJ" in Little Encinas Creek (3.6 acres) and within Calavera Creek north of Basin "BJB" (7 acres). Approval of the wetland mitigation areas will be determined by the resource agencies as part of the 404 and 1600 permitting process.</p>	Part of grading permit, and prior to grading and construction	Once, on completion	All 404, 1600 permits and 401 Water Quality certification obtained as required for each project component are required prior to the issuance of any city grading permits.	City of Carlsbad and resource agencies (USACE, CDFG, and RWQCB)

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<b>BIOLOGICAL RESOURCES (cont.)</b>					
18	<p><b>Calavera Hills Master Plan Phase II</b> <i>Calavera Nature Preserve-Village Z</i></p> <p>To assure that funding is available for long-term maintenance of the Calavera Nature Preserve (Village Z of the Calavera Hills Master Plan), the following mitigation is required, and also included in the 1993 Mitigation Agreement (see Final EIR Appendix G).</p> <p>In order to provide for the cost of the long-term maintenance and biological monitoring program for the preserve, following the end of the initial five-year management period (November 1998 to November 2003), a long-term management program shall be defined and funded. The long-term management program shall be defined through a line item scope of work description and associated costs, to be prepared no earlier than the end of year two and no later than the end of year four, of the initial five-year management period. The property owner/on-site environmental manager will initially propose a scope of work for the long-term management program. The scope of work shall then be subject to peer review by the City. Based upon the scope of work and associated costs, agreed to by the developer or their successors and the City, a funding mechanism designed to finance preserve maintenance into perpetuity shall be provided by the developer or their successors. The funding for the long-term maintenance can be an annuity or other mechanism agreed to by the developer and the City. Managing the long-term maintenance program shall be a separate agreement between the City and The Environmental Trust.</p>	Ongoing	Annual	Scope of work and funding mechanism completed to finance long-term maintenance into perpetuity.	City of Carlsbad (Planning Director), The Environmental Trust, and Calavera Hills Master Plan (project applicant)



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<b>HYDROLOGY</b>					
1	<p><b>Calavera Hills Phase II, Bridge and Thoroughfare District, and Detention Basins</b></p> <p>All project components will be required to comply with the NPDES permit regulations as promulgated by the California Regional Water Quality Control Board for the San Diego region. Current regulations require the control of non-storm water discharges to the storm water conveyance system, development and implementation of a monitoring and reporting program to assess the storm water pollution prevention plan.</p> <p>The following mitigation measures consistent shall be required on the grading and improvement plans for College Boulevard and Cannon Road and the detention basins. In addition, the measures shall be made a condition of the master tentative map's (CT-00-02) Final Map or Grading Plan approval, whichever occurs first.</p> <p>All project components will be required to adhere to applicable RWQCB regulations and to control sedimentation and erosion, including installation of temporary detention basins or other means of stabilization or impoundment required by the State Water Resources Control Board. The following guidelines shall be used during design and implemented during construction to reduce runoff and minimize erosion:</p> <p>Comply with current drainage design policies set forth in the City of Carlsbad procedures.</p>	Prior to and during grading or construction	Ongoing	To be shown on all grading and landscaping exhibits. During grading and surface disturbing activities.	City of Carlsbad Public Works Director, Planning Director, and RWQCB

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<b>HYDROLOGY (cont.)</b>					
	<p>Create desiltation basins where necessary to minimize erosion and prevent sediment transport, until the storm drain system is in place and streets are paved.</p> <p>Landscape all exposed, manufactured slopes per City of Carlsbad erosion control standards.</p> <p>Phase grading operations and slope landscaping to reduce the susceptibility of slopes to erosion.</p> <p>Control sediment production from graded building pads with low perimeter berms, desiltation basins, jute matting, sandbags, bladed ditches, or other appropriate methods.</p>				
<b>AIR QUALITY</b>					
1	<p><b>Calavera Hills Phase II, Bridge and Thoroughfare District, and Detention Basins</b></p> <p>As conditions of the master tentative map's (CT-00-02) Final Map, Grading Plan, and the grading plans for College Boulevard and Cannon Road and detention basins, to be included as notes and exhibits on the grading plan and subsequent improvement plans, the following mitigation measures will be required.</p> <p>All unpaved construction areas shall be sprinkled with water or other dust control agents acceptable to the San Diego APCD during dust-generating activities to reduce dust emissions. Additional watering or acceptable APCD dust control agents shall be applied during dry weather or windy days until dust emissions are not visible.</p>	Throughout construction	Once, on completion	Dust emissions controlled through sprinkling and other similar measures acceptable to APCD and City.	APCD; City of Carlsbad City Public Works Director