Appendix A

Operations and Maintenance Manual

US Army Corps
of Engineers
Los Angeles District

OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION MANUAL

SANTA PAULA CREEK CHANNEL IMPROVEMENTS

Santa Clara River Drainage Area,
Ventura County, California

Draft
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OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION MANUAL

Santa Paula Creek Channel Improvements

I. INTRODUCTION

PURPOSE

This manual is intended as a guide to the operation and maintenance of Federally-constructed flood risk management facilities and provides information regarding the permits process. This manual has been prepared pursuant to the Code of Federal Regulations, Title 33, Article 208.10. The Code of Federal Regulations (Extract) is included in this manual as Appendix I

AUTHORIZATION

The project was authorized under the Amendment to Section 221 Agreement dated September 13, 1996, between USACE and the Ventura County Watershed Protection District (VCWPD), included as appendix V of this manual.

SUMMARY OF OMRR&R RESPONSIBILITIES

Responsible Agency - The principal local organization to which the responsibility for operation and maintenance of the Project has been delegated is the Ventura County Watershed Protection District (VCWPD). The VCWPD is required to set up an organizational structure capable of adequately operating and maintaining the project in accordance with the procedures and instructions contained in this manual. All operations and maintenance activities must also conform to the environmental requirements included in this manual as Appendix VI.

Appointed Official - VCWPD shall appoint an official (referred to as "Superintendent" in the basic regulations) who shall be responsible for the development and proper functioning of the operation and maintenance organization in accordance with the instructions provided in this manual.

Section 404 Permit Requirements and Exemptions - Title 33, parts 320-330, states that maintenance or other activities in which discharges of dredged or fill material (including excavation and substrate disturbance involving vegetation removal) into waters of the U.S., including but not limited to channels, floodways, and impoundments, require the responsible entity to apply for and obtain a Clean Water Act Section 404 permit from the USACE Los Angeles District Regulatory Division prior to commencement of such activities. The Santa Paula Creek is a water of the United States and subject to the Corps Clean Water Act permitting authority. Therefore any maintenance activities, proposed construction or utilities, or any other

activities that are within or partially within the Santa Paula Creek will require a 404 permit application to be completed by the agency planning the activity. Appendix III contains a sample 404 permit application. It is anticipated that routine maintenance activities conducted in accordance with this manual would be incorporated into VCWPD's Ongoing Routine Maintenance Program, which would be authorized under a Regional General Permit currently in development by the USACE Regulatory Division.

Some activities will be considered exempt. Appendix III contains copy of the Corps – EPA Joint Guidance on Clean Water Act Section 404(f)(1)(B) Exemption for Maintenance and Emergency Reconstruction of Currently Serviceable Structures, dated 4 Dec 1998 concerning the scope of the Clean Water Act Section 404(f)(1)(b). Exemption for Maintenance and Emergency Reconstruction of Currently Serviceable Structures. The Corps Regulatory Branch must be notified prior to initiation of activities in such instances to verify the work is within the scope of exempted activities.

Other Permits and Governing Agencies - The VCWPD shall be required to comply with all federal, state and local governing agency regulations. Governing agencies include, but are not limited to, the California Regional Water Quality Control Board, the State of California Department of Fish and Game, and the National Marine Fisheries Service. Appendix VI contains environmental guidance that summarizes many of the conditions already set forth. In addition, permits and agreements that were obtained for the Santa Paula project are listed in appendix VI of this manual. The VCWPD or any other applicant proposing work is responsible for complying with the environmental guidance within this manual, and for obtaining any necessary permits.

Manual Updates - In accordance with ER 1110-2-401, the Commander of the Los Angeles District U. S. Army Corps of Engineers (USACE) may update the manual to reflect changed conditions resulting from the actual inspections and maintenance and as suggested by the VCWPD in any manual update reports.

Other Uses - Other uses of the flood control project are permitted under special circumstances. The USACE District Engineer is responsible for evaluating a proposed use and determining whether or not a conflict or incompatibility exists. If the proposed alternate use requires work which involves discharges of dredged or fill material (including some methods of excavation) into waters of the United States, or involves work in or affecting navigable waters of the United States, the local sponsor or the proponent of the changed use may need a permit from the Regulatory Division. Such a use may not be implemented without approval of the USACE District Engineer.

Public Utilities - Encroachment of any new utilities or proposed construction along the project rights-of-way or any other uses is not allowed without proper permits and must not restrict the effective flood control protection provided by the project features nor interfere with the operation or maintenance functions.

Public utilities includes sewer, water, gas, oil, electricity, telephone or any other utility lines that cross any part of the project.

Continuing liaison with utility personnel will reduce maintenance problems by providing utility installation and construction crews with adequate information on design, construction, operations, and maintenance of flood control facilities.

II. PROJECT INFORMATION

LOCATION

The project is located in southern California, in Ventura County, near the eastern boundary of the City of Santa Paula. The City of Santa Paula is located on State Route 126, about 80 kilometers (50 miles) northwest of Los Angeles, California. See plate 1 in appendix IV.

CLIMATE

The climate of south-central Ventura County is wet and cool from November to April, when 90% of the annual precipitation occurs, and dry and warm from May to October. Extreme temperatures observed range from about 38 ^{0}C (100 ^{0}F) to about –4 ^{0}C (25 ^{0}F). Annual average temperatures range from 10 ^{0}C (50 ^{0}F) at the coast to 25 ^{0}C (77 ^{0}F) inland. For Ventura County, mean annual precipitation varies by year and with the terrain but averages approximately 35.6 cm (14 in).

PROJECT DESCRIPTION AND FEATURES

The Santa Paula Creek Improvements project replaced the former portion of concrete channel at the downstream end of the project with a wider and deeper trapezoidal earth bottomed channel with grouted stone side-slopes, starting at the confluence of the Santa Clara River and extending upstream approximately 3,100 meters (1.65 miles). The project is expected to convey a 28,000 cubic feet per second (cfs) event while allow for sediment to deposit along the entire length of the project area, providing improved flood risk management for the City of Santa Paula and the neighboring areas along the Santa Paula Creek.

Project features include: a grouted stone invert at the upstream end to address prior headcutting (upstream erosion) issues and allow for downstream storage of sediment within the project area; a fishway (fish ladder) placed within the grouted stone invert to facilitate fish migration; an earthen channel invert (natural channel bottom), from the base of the grouted stone inlet to the confluence with the Santa Clara River, with grouted stone invert stabilizers near the upper and lower boundaries of the earthen channel; a low flow channel extending immediately upstream of the grouted stone inlet and along the entire downstream length of the project, below the inlet, to assist in continued fish passage after O&M sediment removal; a pilot channel from station 10+00 to the confluence with the Santa Clara River; grouted stone trapezoidal channel side slopes from the grouted stone inlet to upstream of the railroad bridge, transitioning to a vertical-concrete

channel walls from the railroad bridge to Telegraph Road bridge, transitioning back to trapezoidal grouted stone channel slopes from downstream of Telegraph Road bridge to station 10+00; and, a bridge pier nose added to the railroad bridge. Other project features include service roads from upstream of the grouted stone inlet to Telegraph Road, and portions downstream to station 10+00, and landscaping adjacent to the service roads, side drains for interior drainage. These pertinent project features are described in appendix IV. Plates 1 through 7 in appendix IV show the location and layout of the project features.

This manual and as-builts drawings of the project are contained on the included CD. The drawings are in a raster format viewable directly from the CD using the viewer provided on the CD.

CONSTRUCTION HISTORY

Three contracts were associated with the construction of the Santa Paula Creek Improvements. The as-builts for each contract are provided on CD-ROM as part of this manual. See figure 1 at the end of this section for locations of each contract.

Reach 1	Specifications	DACW09-97-C-0038 Santa Paula Creek, Reach 1
	Contractor:	C. A. Rasmussen, Inc. 2360 Shasta Way Simi Valley CA 93065-1800
Reach 2	Specifications	DACW09-98-B-0020 Santa Paula Creek, Reach 2
	Contractor:	Ogden Engineering and Construction, Inc. 3211 Jermantown Rd, Suite 300 Fairfax, VA 22030
Reach 3	Specifications	DACW09-01-B-0004 Santa Paula Creek, Reach 3-Including Fish Ladder
	Contractor:	Reyes Construction, Inc. 1295 South East End Avenue Pomona, CA 91766

III – OPERATIONS, INSPECTIONS, MAINTENANCE AND REPORTS

GENERAL

Operations involve all activities required to keep the flood control system or any of its components operable for its authorized use, including appropriate maintenance of fish passage components.

Inspections and maintenance is defined as the detection and correction of any conditions within the flood risk management project that might adversely affect the project's authorized function, including consideration of fish passage. Inspections and maintenance shall be documented in reports by the VCWPD and provided, as appropriate, to regulatory agencies.

INSPECTIONS

The VCWPD shall inspect all Project features, listed in appendix IV, immediately prior to the beginning of the flood season, immediately following each major high water period, and otherwise at intervals not exceeding 90 days, and at such intermediate times as may be necessary to insure the best possible care of the protective works. Intermediate inspection times that may be necessary for the grouted stone invert and fish ladder features of the project are primarily based on flow events associated with the steelhead migration period. Refer to Appendix VI for the steelhead trout migration season.

Inspections of each project feature will be required by the VCWPD to determine if any deviations have occurred from the current 'as-built' condition and whether the deviations are substantial enough to require maintenance. Refer to the as-built drawings that are included as part of this manual on the enclosed CD to determine deviations from as-built conditions. The VCWPD inspector shall record all deviations in inspection logs indicating the feature and location, deviation from as-built condition, and cause of the deviation. The VCWPD superintendent shall review the inspection logs and determine the required maintenance.

Whenever a reporting feature cannot be directly inspected or the cause of a feature's deviation from as-built conditions is not immediately apparent, then an investigation and test program is required. The VCWPD superintendent shall propose and implement the investigation and test programs and determine the proposed maintenance for each deviation upon review of the test program results. The superintendent shall also determine which deviations are in immediate need of repair and set an aggressive schedule for the proposed maintenance to be accomplished as quickly as possible in accordance with the requirements of the environmental restrictions of appendix VI. Less serious deviations will be repaired prior to the fall semi-annual report or sooner depending on the need as determined by the superintendent.

FISH PASSAGE RELATED INSPECTIONS

Inspection of project features associated with fish passage shall be conducted periodically throughout each year to validate the projects ability to enable fish passage. There are two triggers for inspection of fish passage capabilities:

1. Post Storm Inspections (Storms producing flow of 500 cfs or more)
2. Low Flow Inspections (mid-April to mid-July)

For all fish passage related inspections, the qualified biologist shall make visual observations, necessary photo documentation, and record discharge measurements for the project area as well as document any steelhead observed during the inspection. Monitors shall document sediment and debris accumulation upstream, downstream, and between weirs of the inlet structure/fish way, and evaluate and document potential isolated pool formation or other factors that may inhibit steelhead migration through the remainder of the project area, including the low flow channel, approach channel, and pilot channel.

Any potential barriers to steelhead movement shall be documented via GPS location, photographs, and written notation to incorporate into the inspection report. Refer to Appendix IV for further details related to fish passage inspections.

REPORTS

All reports are to be submitted to the USACE District Engineer by the VCWPD superintendent as defined below, and further detailed in Appendix IV:

Semi-Annual Flood Risk Management Reports. The semi-annual reports are prepared in the spring and fall. The spring report should be submitted on June 1st and the fall report on December 1st.

The semi-annual spring report includes the required maintenance at the end of the flood season as determined by the VCWPD superintendent. The report shall include a summary of the deviations found during the inspections, inspection logs related to the feature that requires maintenance, any investigation and test programs that were completed or to be scheduled, and any maintenance that was completed or to be scheduled.

The semi-annual fall report includes any investigation and test programs and maintenance performed after the submittal of the spring report and the maintenance performed.

Information on cost of operation and maintenance is required as part of the semi-annual report. Estimates may be used for items where actual costs are not available. Operation and maintenance costs for any work performed or paid for by the operation and maintenance organization are to be shown irrespectively of the source of funds. Costs for work performed by other agencies, which are not reimbursed by the operation and maintenance organization, are not required. The reports

can be narrative letter reports as the sample provided in appendix II or summarized on a form designed by the VCWPD.

Storm Flow Operation Report. Storm Flow Operation Reports are submitted with the semi-annual spring report and contain pertinent information documenting all storm flow data and all activities related to any emergency operations procedures that are required as defined under section "IV- Emergency Operations" of this manual.

Special Reports. Special reports are prepared to describe any unusual occurrence that affects the flood control system such as earthquakes or other construction that impacts any of the flood control facility, or other unusual causes. A Special Report is to be transmitted to the District Engineer within one week of the occurrence. A copy is to accompany the next following semi-annual report.

Fish Passage Inspection Reports. The checklist provided in Appendix II shall be filled out during post storm and low flow inspections, and used to document any potential corrective actions. NMFS shall be contacted regarding proposed corrective actions and a summmary report shall be subsequently prepared that documents actions taken. Further details on fish passage inspection observation criteria that should be documented in each report are presented in Appendix IV.

Operations and Maintenance Manual Report Revisions. Revisions should include adaptive management comments, suggestions, and additional data from those directly concerned with operation and maintenance, as well as policy-making, administration, funding, and programming information. This manual will be periodically revised, as necessary, to correct observed discrepancies or inaccuracies and to address comments relative to the manual's effectiveness in fulfilling its intended function. This report will be submitted, as necessary, with the following semi-annual report.

IV - EMERGENCY OPERATIONS

GENERAL

Emergency flood operations consist of monitoring the project conditions during heavy storms and the mobilization actions required to prevent damage or failure of project features and to alert the public of possible flooding.

The emergency operation program consists of four phases: pre-stormflow, initial stormflow, final stormflow, and post-stormflow and is detailed in this section.

A copy of the Ventura County Watershed Protection District's Emergency Operation Plan is presented in Appendix VII that gives pertinent local procedures and contact information.

STORMFLOW OPERATION PHASES

Pre-Stormflow Operations. The pre-stormflow phase occurs whenever the flow in Santa Paula Creek is expected to equal or exceed 5,000 cfs based on National Weather Service rainfall forecasts and the results of the River Forecasting Model for the watershed.

(1) Superintendent shall activate appropriate VCWPD, Operation & Maintenance staff to patrol the project and determine readiness to accommodate flow.

(2) Patrol units shall become familiar with all roads leading to the access points and establish a route to efficiently patrol the entire project. Side drains should be cleaned and any accumulated debris should be removed.

(3) Communications capabilities, such as radios or cell phones, should be setup between the patrol and the superintendent and routinely checked for proper working order. No written reports are required for submittal to the District Engineer. However, internal documentation may be helpful if flow increases to the point where a stormflow report is required.

Initial Stormflow Operations. The initial stormflow phase begins when runoff starts to occur in the Creek.

(1) Superintendent shall alert all appropriate staff for potential full mobilization.

(2) Continuation of patrolling is required. All drainage features should be inspected for proper function.

(3) Communications capabilities should be routinely checked for proper working order. No written reports are required for submittal to the District Engineer.

However, documentation of any potential malfunctioning features or erosion should be noted and monitored closely.

Final Stormflow Operations. The final stormflow phase occurs when one-third of the creek's capacity has been reached (approximately 10,000 cfs).

(1) Full mobilization is required. A staffing plan for floodlighting with shifts established for 24-hour operation must be incorporated into the VCWPD's "Emergency Operation Plan." Staff must be either on duty or on-call.

(2) Patrolling units should continue to monitor and note potential problems with erosion or drainage that could result in failure of any project features. The responsibilities of the patrols include the following:

(i) Photographs should be taken at locations where stormflow damage is occurring or has occurred, where such damage has been repaired, where unusual conditions are noted, or where visual records may be useful in making maintenance determinations.

(ii) Side drains should be checked for any blockage due to obstructions or debris pile-up.

(iii) Any condition endangering any project structure should be immediately reported to the superintendent and corrective action taken.

(3) Communications capabilities should be routinely checked for proper working order. No written reports are required for submittal to the District Engineer. However, documentation of any potential malfunctioning features or erosion should be noted and monitored closely.

Post-Stormflow Operations. The post-stormflow phase occurs when the water surface elevation begins to recede below one-third of Santa Paula Creek's capacity and available meteorologic and hydrologic data indicate decreasing flow.

(1) The project should be rapidly but completely inspected. The responsibilities of the patrols include the following:

(i) All damaged Santa Paula Creek facilities should be located, reported, and photographed.

(ii) Side drains should be freed of debris and checked for any blockage.

(iii) The Santa Paula Creek channel should be checked to ascertain whether the accumulation of sediment and debris has reached the point where removal operations should be undertaken.

(iv) Appropriate temporary or permanent repairs of damaged flood control facilities should be initiated.

(v) Equipment and materials should be inventoried and made ready for subsequent stormflow.

(2) A stormflow report addressing each event that reaches the final stormflow phase is required.

COORDINATION WITH THE U.S. ARMY CORPS OF ENGINEERS

VCWPD is responsible for maintaining close liaison with the USACE Los Angeles District Emergency Operations Branch (phone #: 213-452-3444) during all four phases of flood operations. Exchange of hydrologic and hydraulic data, including precipitation and stormflow data, is useful in the operation procedures of both agencies. Pertinent information on liaison and coordination is given in the flood-emergency manual SPL OM 500-1-1, titled "Natural Disaster Activities," published annually by the District. In addition, VCWPD should contact the Regulatory Division (phone #: 805-585-2147) regarding the need for any emergency permit authorizations. The Corps has developed Regional General Permit (RGP) No. 63 authorizing Repair and Protection Activities in Emergency Situations. A copy of RGP 63 is attached in Appendix III.

APPENDIX I

CODE OF FEDERAL REGULATIONS (EXTRACT)

Title 33: Navigation and Navigable Waters

§ 208.10 Local flood protection works; maintenance and operation of structures and facilities.

(a) *General.* (1) The structures and facilities constructed by the United States for local flood protection shall be continuously maintained in such a manner and operated at such times and for such periods as may be necessary to obtain the maximum benefits.

(2) The State, political subdivision thereof, or other responsible local agency, which furnished assurance that it will maintain and operate flood control works in accordance with regulations prescribed by the Secretary of the Army, as required by law, shall appoint a permanent committee consisting of or headed by an official hereinafter called the "Superintendent," who shall be responsible for the development and maintenance of, and directly in charge of, an organization responsible for the efficient operation and maintenance of all of the structures and facilities during flood periods and for continuous inspection and maintenance of the project works during periods of low water, all without cost to the United States.

(3) A reserve supply of materials needed during a flood emergency shall be kept on hand at all times.

(4) No encroachment or trespass which will adversely affect the efficient operation or maintenance of the project works shall be permitted upon the rights-of-way for the protective facilities.

(5) No improvement shall be passed over, under, or through the walls, levees, improved channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any change be made in any feature of the works without prior determination by the District Engineer of the Department of the Army or his authorized representative that such improvement, excavation, construction, or alteration will not adversely affect the functioning of the protective facilities. Such improvements or alterations as may be found to be desirable and permissible under the above determination shall be constructed in accordance with standard engineering practice. Advice regarding the effect of proposed improvements or alterations on the functioning of the project and information concerning methods of construction acceptable under standard engineering practice shall be obtained from the District Engineer or, if otherwise obtained, shall be submitted for his approval. Drawings or prints showing such improvements or alterations as finally constructed shall be furnished the District Engineer after completion of the work.

(6) It shall be the duty of the superintendent to submit a semiannual report to the District Engineer covering inspection, maintenance, and operation of the protective works.

(7) The District Engineer or his authorized representatives shall have access at all times to all portions of the protective works.

(8) Maintenance measures or repairs which the District Engineer deems necessary shall be promptly taken or made.

(9) Appropriate measures shall be taken by local authorities to insure that the activities of all local organizations operating public or private facilities connected with the protective works are coordinated with those of the Superintendent's organization during flood periods.

(10) The Department of the Army will furnish local interests with an Operation and Maintenance Manual for each completed project, or separate useful part thereof, to assist them in carrying out their obligations under this part.

(b) *Levees*—(1) *Maintenance.* The Superintendent shall provide at all times such maintenance as may be required to insure serviceability of the structures in time of flood. Measures shall be taken to promote the growth of sod, exterminate burrowing animals, and to provide for routine mowing of the grass and weeds, removal of wild growth and drift deposits, and repair of damage caused by erosion or other forces. Where practicable, measures shall be taken to retard bank erosion by planting of willows or other suitable growth on areas riverward of the levees. Periodic inspections shall be made by the Superintendent to insure that the above maintenance measures are being effectively carried out and, further, to be certain that:

(i) No unusual settlement, sloughing, or material loss of grade or levee cross section has taken place;

(ii) No caving has occurred on either the land side or the river side of the levee which might affect the stability of the levee section;

(iii) No seepage, saturated areas, or sand boils are occurring;

(iv) Toe drainage systems and pressure relief wells are in good working condition, and that such facilities are not becoming clogged;

(v) Drains through the levees and gates on said drains are in good working condition;

(vi) No revetment work or riprap has been displaced, washed out, or removed;

(vii) No action is being taken, such as burning grass and weeds during inappropriate seasons, which will retard or destroy the growth of sod;

(viii) Access roads to and on the levee are being properly maintained;

(ix) Cattle guards and gates are in good condition;

(x) Crown of levee is shaped so as to drain readily, and roadway thereon, if any, is well shaped and maintained;

(xi) There is no unauthorized grazing or vehicular traffic on the levees;

(xii) Encroachments are not being made on the levee right-of-way which might endanger the structure or hinder its proper and efficient functioning during times of emergency.

Such inspections shall be made immediately prior to the beginning of the flood season; immediately following each major high water period, and otherwise at intervals not exceeding 90 days, and such intermediate times as may be necessary to insure the best possible care of the levee. Immediate steps will be taken to correct dangerous conditions disclosed by such

inspections. Regular maintenance repair measures shall be accomplished during the appropriate season as scheduled by the Superintendent.

(2) *Operation.* During flood periods the levee shall be patrolled continuously to locate possible sand boils or unusual wetness of the landward slope and to be certain that:

(i) There are no indications of slides or sloughs developing;

(ii) Wave wash or scouring action is not occurring;

(iii) No low reaches of leave exist which may be overtopped;

(iv) No other conditions exist which might endanger the structure.

Appropriate advance measures will be taken to insure the availability of adequate labor and materials to meet all contingencies. Immediate steps will be taken to control any condition which endangers the levee and to repair the damaged section.

(c) *Flood walls*—(1) *Maintenance.* Periodic inspections shall be made by the Superintendent to be certain that:

(i) No seepage, saturated areas, or sand boils are occurring;

(ii) No undue settlement has occurred which affects the stability of the wall or its water tightness;

(iii) No trees exist, the roots of which might extend under the wall and offer accelerated seepage paths;

(iv) The concrete has not undergone cracking, chipping, or breaking to an extent which might affect the stability of the wall or its water tightness;

(v) There are no encroachments upon the right-of-way which might endanger the structure or hinder its functioning in time of flood;

(vi) Care is being exercised to prevent accumulation of trash and debris adjacent to walls, and to insure that no fires are being built near them;

(vii) No bank caving conditions exist riverward of the wall which might endanger its stability;

(viii) Toe drainage systems and pressure relief wells are in good working condition, and that such facilities are not becoming clogged.

Such inspections shall be made immediately prior to the beginning of the flood season, immediately following each major high water period, and otherwise at intervals not exceeding 90 days. Measures to eliminate encroachments and effect repairs found necessary by such inspections shall be undertaken immediately. All repairs shall be accomplished by methods acceptable in standard engineering practice.

(2) *Operation.* Continuous patrol of the wall shall be maintained during flood periods to locate possible leakage at monolith joints or seepage underneath the wall. Floating plant or boats will not be allowed to lie against or tie up to the wall. Should it become necessary during a flood

emergency to pass anchor cables over the wall, adequate measures shall be taken to protect the concrete and construction joints. Immediate steps shall be taken to correct any condition which endangers the stability of the wall.

(d) *Drainage structures*—(1) *Maintenance.* Adequate measures shall be taken to insure that inlet and outlet channels are kept open and that trash, drift, or debris is not allowed to accumulate near drainage structures. Flap gates and manually operated gates and valves on drainage structures shall be examined, oiled, and trial operated at least once every 90 days. Where drainage structures are provided with stop log or other emergency closures, the condition of the equipment and its housing shall be inspected regularly and a trial installation of the emergency closure shall be made at least once each year. Periodic inspections shall be made by the Superintendent to be certain that:

(i) Pipes, gates, operating mechanism, riprap, and headwalls are in good condition;

(ii) Inlet and outlet channels are open;

(iii) Care is being exercised to prevent the accumulation of trash and debris near the structures and that no fires are being built near bituminous coated pipes;

(iv) Erosion is not occurring adjacent to the structure which might endanger its water tightness or stability.

Immediate steps will be taken to repair damage, replace missing or broken parts, or remedy adverse conditions disclosed by such inspections.

(2) *Operation.* Whenever high water conditions impend, all gates will be inspected a short time before water reaches the invert of the pipe and any object which might prevent closure of the gate shall be removed. Automatic gates shall be closely observed until it has been ascertained that they are securely closed. Manually operated gates and valves shall be closed as necessary to prevent inflow of flood water. All drainage structures in levees shall be inspected frequently during floods to ascertain whether seepage is taking place along the lines of their contact with the embankment. Immediate steps shall be taken to correct any adverse condition.

(e) *Closure structures*—(1) *Maintenance.* Closure structures for traffic openings shall be inspected by the Superintendent every 90 days to be certain that:

(i) No parts are missing;

(ii) Metal parts are adequately covered with paint;

(iii) All movable parts are in satisfactory working order;

(iv) Proper closure can be made promptly when necessary;

(v) Sufficient materials are on hand for the erection of sand bag closures and that the location of such materials will be readily accessible in times of emergency.

Tools and parts shall not be removed for other use. Trial erections of one or more closure structures shall be made once each year, alternating the structures chosen so that each gate will

be erected at least once in each 3-year period. Trial erection of all closure structures shall be made whenever a change is made in key operating personnel. Where railroad operation makes trial erection of a closure structure infeasible, rigorous inspection and drill of operating personnel may be substituted therefor. Trial erection of sand bag closures is not required. Closure materials will be carefully checked prior to and following flood periods, and damaged or missing parts shall be repaired or replaced immediately.

(2) *Operation.* Erection of each movable closure shall be started in sufficient time to permit completion before flood waters reach the top of the structure sill. Information regarding the proper method of erecting each individual closure structure, together with an estimate of the time required by an experienced crew to complete its erection will be given in the Operation and Maintenance Manual which will be furnished local interests upon completion of the project. Closure structures will be inspected frequently during flood periods to ascertain that no undue leakage is occurring and that drains provided to care for ordinary leakage are functioning properly. Boats or floating plant shall not be allowed to tie up to closure structures or to discharge passengers or cargo over them.

(f) *Pumping plants*—(1) *Maintenance.* Pumping plants shall be inspected by the Superintendent at intervals not to exceed 30 days during flood seasons and 90 days during off-flood seasons to insure that all equipment is in order for instant use. At regular intervals, proper measures shall be taken to provide for cleaning plant, buildings, and equipment, repainting as necessary, and lubricating all machinery. Adequate supplies of lubricants for all types of machines, fuel for gasoline or diesel powered equipment, and flash lights or lanterns for emergency lighting shall be kept on hand at all times. Telephone service shall be maintained at pumping plants. All equipment, including switch gear, transformers, motors, pumps, valves, and gates shall be trial operated and checked at least once every 90 days. Megger tests of all insulation shall be made whenever wiring has been subjected to undue dampness and otherwise at intervals not to exceed one year. A record shall be kept showing the results of such tests. Wiring disclosed to be in an unsatisfactory condition by such tests shall be brought to a satisfactory condition or shall be promptly replaced. Diesel and gasoline engines shall be started at such intervals and allowed to run for such length of time as may be necessary to insure their serviceability in times of emergency. Only skilled electricians and mechanics shall be employed on tests and repairs. Operating personnel for the plant shall be present during tests. Any equipment removed from the station for repair or replacement shall be returned or replaced as soon as practicable and shall be trial operated after reinstallation. Repairs requiring removal of equipment from the plant shall be made during off-flood seasons insofar as practicable.

(2) *Operation.* Competent operators shall be on duty at pumping plants whenever it appears that necessity for pump operation is imminent. The operator shall thoroughly inspect, trial operate, and place in readiness all plant equipment. The operator shall be familiar with the equipment manufacturers' instructions and drawings and with the “Operating Instructions” for each station. The equipment shall be operated in accordance with the above-mentioned “Operating Instructions” and care shall be exercised that proper lubrication is being supplied all equipment, and that no overheating, undue vibration or noise is occurring. Immediately upon final recession of flood waters, the pumping station shall be thoroughly cleaned, pump house sumps flushed, and equipment thoroughly inspected, oiled and greased. A record or log of pumping plant

operation shall be kept for each station, a copy of which shall be furnished the District Engineer following each flood.

(g) *Channels and floodways*—(1) *Maintenance.* Periodic inspections of improved channels and floodways shall be made by the Superintendent to be certain that:

(i) The channel or floodway is clear of debris, weeds, and wild growth;

(ii) The channel or floodway is not being restricted by the depositing of waste materials, building of unauthorized structures or other encroachments;

(iii) The capacity of the channel or floodway is not being reduced by the formation of shoals;

(iv) Banks are not being damaged by rain or wave wash, and that no sloughing of banks has occurred;

(v) Riprap sections and deflection dikes and walls are in good condition;

(vi) Approach and egress channels adjacent to the improved channel or floodway are sufficiently clear of obstructions and debris to permit proper functioning of the project works.

Such inspections shall be made prior to the beginning of the flood season and otherwise at intervals not to exceed 90 days. Immediate steps will be taken to remedy any adverse conditions disclosed by such inspections. Measures will be taken by the Superintendent to promote the growth of grass on bank slopes and earth deflection dikes. The Superintendent shall provide for periodic repair and cleaning of debris basins, check dams, and related structures as may be necessary.

(2) *Operation.* Both banks of the channel shall be patrolled during periods of high water, and measures shall be taken to protect those reaches being attacked by the current or by wave wash. Appropriate measures shall be taken to prevent the formation of jams of ice or debris. Large objects which become lodged against the bank shall be removed. The improved channel or floodway shall be thoroughly inspected immediately following each major high water period. As soon as practicable thereafter, all snags and other debris shall be removed and all damage to banks, riprap, deflection dikes and walls, drainage outlets, or other flood control structures repaired.

(h) *Miscellaneous facilities*—(1) *Maintenance.* Miscellaneous structures and facilities constructed as a part of the protective works and other structures and facilities which function as a part of, or affect the efficient functioning of the protective works, shall be periodically inspected by the Superintendent and appropriate maintenance measures taken. Damaged or unserviceable parts shall be repaired or replaced without delay. Areas used for ponding in connection with pumping plants or for temporary storage of interior run-off during flood periods shall not be allowed to become filled with silt, debris, or dumped material. The Superintendent shall take proper steps to prevent restriction of bridge openings and, where practicable, shall provide for temporary raising during floods of bridges which restrict channel capacities during high flows.

(2) *Operation.* Miscellaneous facilities shall be operated to prevent or reduce flooding during periods of high water. Those facilities constructed as a part of the protective works shall not be used for purposes other than flood protection without approval of the District Engineer unless designed therefor.

(Sec. 3, 49 Stat. 1571, as amended; 33 U.S.C. 701c)

[9 FR 9999, Aug. 17, 1944; 9 FR 10203, Aug. 22, 1944]

APPENDIX II

REPORTING FORMS

APPENDIX II
REPORTING FORMS (OPTIONAL)

INSTRUCTIONS FOR USE

GENERAL

1. The use of sample forms presented in this appendix is optional. Other means of reporting, such as other tabular presentations or the Corps forms, can be used providing that the same basic information, operation and maintenance criteria, and maintenance accomplishment are provided. Both the spring and fall semi-annual operation and maintenance reports submitted to the Corps of Engineers, Los Angeles District, are organized in basically the same way.

SEMI-ANNUAL LETTER REPORT

2. A sample semi-annual letter report is provided in this Appendix. In general, the samples are self- explanatory. The semi-annual report present a statement of

a. The physical condition of the protective works as summarized from the logs of inspection.

b. Performance of the protective works during floods and flood-fighting activities during the past.

c. Prosecutions for encroachment or trespass.

d. Permits issued for rights-of-entry or use of rights-of-way.

e. Permits issued for improvements or construction within the flood-control improvement rights-of-way.

f. Maintenance measures taken; nature, date of construction, date of removal of temporary repairs, and date of permanent repairs.

g. Fiscal statement of cost of maintenance and operation for the period.

SAMPLE SEMI-ANNUAL LETTER REPORT

Date:

District Engineer
U.S. Army Corps of Engineers
Los Angeles District
915 Wilshire Boulevard, 13th Floor
Los Angeles, California 90017-3401

Dear Sir:

The semi-annual report for the period *(October 15, 201_ to April 15, 201_) or (April 15, 201_ to October 15, 201_)* for the **Santa Paula Creek Improvements Project** is as follows:

a. The physical condition of the protective works is indicated by the inspection reports, copies of which are enclosed and may be summarized as follows:

(Superintendent's summary of conditions)

It is our intention to perform the following maintenance work in order to repair or correct the conditions indicated.

(Outline of anticipated maintenance operations for the following 6 months)

b. During this report period, major high water periods occurred on the following dates:

DATE	MAX. ELEVATION

c. The inspection has indicated *(no) or (the following)* encroachment or trespass upon the project rights-of-way.

Action or prosecution for abatement of these encroachments or trespasses is summarized as follows: *(or state none have been necessary)*

d. *(No) or (_____)* permits have been issued *(for the following improvements or construction within the project rights-of-way).*

Executed copies of the permit documents issued are enclosed for your files.

e. The status of maintenance measures indicated in the previous report as required or as suggested by the representatives of the Commander is as follows:

(Statement of maintenance operations, item by item with percent completion)

f. The fiscal statement of the gross operation and maintenance expenditures for the current report period is as follows:

Stormflow operations	$ _____
Inspection and reporting	_____
New permit inspection	_____
Maintenance and repairs	_____
Sediment Cleanout	_____
Fish Ladder Cleanout and Repairs	_____
TOTAL	$ _____

Comments on these expenditures are as follows:

(comments)

Sincerely,

(name), Superintendent of Works

Enclosures

SEMI-ANNUAL INSPECTION REPORT
(To be submitted on 1 June and 1 December)

Project: SANTA PAULA CREEK IMPROVEMENTS PROJECT

Inspector-in-charge: _____ Date:_____

Superintendent: _____ Date:_____

INSPECTION AND MAINTENANCE

FEATURE INSPECTED (Inspect all features as detailed in Appendix IV)

a. Condition of feature (State whether the feature is in good working condition or describe the noticeable deviations or deficiencies from design condition.) See appendix IV for inspection criteria)
b. Investigation and tests required? (Yes or No, if yes, clearly describe them and follow up with supplemental report)
c. Required Maintenance (descibe the results of any investigations and tests performed and describe the required maintenance to be performed for the feature)

FISH PASSAGE FIELD INSPECTION CHECKLIST
Inspection Type: Post-Storm, or Low Flow (*Circle One*)

Date:
Time Start:
Time Finish:
Inspector:
Flow Range (see USGS Gage #11113500):

FIELD INSPECTION CHECKLIST– The parameter descriptions in Table 1, *Fish Passage Parameters and Descriptions Checklist*, below, are intended to provide a quick reference guide for the inspector. At a minimum, each of the questions presented in the parameter descriptions column of Table 1 should be answered. Please use the the General Notes section of the checklist to document any other relevant observations. Please complete one form for each of the General Reaches noted below.

Note: General Reach options include **(1)** Approach Channel, **(2)** Fish Ladder-include pool or notch #, **(3)** Low Flow Channel [Fish Ladder to Railroad Bridge], **(4)** Low Flow Channel [Railroad Bridge to Telegraph Rd Bridge], **(5)** Low Flow Channel [Telegraph Rd Bridge to Highway 126 Bridge], **(6)** Low Flow Channel [Highway 126 Bridge to Pilot Channel], **(7)** Pilot Channel to Confluence with Santa Clara River.

Table 1 Fish Passage Parameters and Descriptions Checklist

Feature (General Reach)	Parameter	Parameter Descriptions	Parameter Description Answers (Y/N)	Comments
Approach Channel (1)	Drops	Are there any waterfalls of greater than 0.3 meters (1 foot)?		
Approach Channel (1)	Flow Continuity	Are flows being directed into the fish ladder?		
Approach Channel (1)	Ponding	Are there isolated pools forming that have the potential to strand fish?		
Fish Ladder (2)	Drop Between Pools	Is the drop between water surface levels greater than 0.3 meters (1 foot) from one pool to the next?		
Fish Ladder (2)	Sediment Accumulation	Has more than 1 meter (3.28 feet) of sediment accumulated across any pools?		

Fish Ladder (2)	Notch Blockage	Is debris blocking any notch and causing a drop of more than 0.3 meters (1 foot) between pools?		
Low Flow Channel (3-6)	Drops	Are there waterfalls of more than 0.3 meters (1 foot)?		
Low Flow Channel (3-6)	Channel Braiding	Is the channel braided, resulting in insufficient depth?		
Low Flow Channel (3-6)	Flow Continuity	Have flows gone subsurface?		
Low Flow Channel (3-6)	Ponding	Are isolated pools forming that have the potential to strand fish?		
Earth Channel Invert (3-6)	Energy Dissipation	Are there energy dissipation features present (i.e. boulders, etc.)?		
Pilot Channel (7)	Drops	Are there any waterfalls of more than 0.3 meters (1 foot)?		
Pilot Channel (7)	Flow Continuity	Is flow connecting with the Santa Clara River?		
Pilot Channel (7)	Ponding	Are isolated ponds forming that have the potential to strand fish?		

Steelhead Observations:

- **Steelhead Observation #1**
  - **General Reach:** _____
  - **GPS Point #:** _____
  - **Northing** _____ **Easting** _____
  - **Photograph #'s:**_____
  - **Describe Surrounding Habitat and Other Comments: -**
    _____
    _____
  - **Length:** _____
  - **Age Class:** _____
- **Steelhead Observation #2**
  - **General Reach:** _____
  - **GPS Point #:** _____
  - **Northing** _____ **Easting** _____
  - **Photograph #'s:**_____
  - **Describe Surrounding Habitat and Other Comments: -**
    _____
    _____
  - **Length:** _____
  - **Age Class:** _____
- **Steelhead Observation #3**
  - **General Reach:** _____
  - **GPS Point #:** _____
  - **Northing** _____ **Easting** _____
  - **Photograph #'s:**_____
  - **Describe Surrounding Habitat and Other Comments: -**
    _____
    _____
  - **Length:** _____
  - **Age Class:** _____

Barriers to Movement:

- **Barrier #1**
  - **General Reach:** _____
  - **GPS Point #:** _____
  - **Northing** _____ **Easting** _____
  - **Photograph #'s:**_____
  - **Describe Barrier: (**Blockage, Insufficient Depth/Subsurface Flows, Isolated Pool Formation, etc**)-**
    _____
    _____
    _____
- **Barrier #2**
  - **General Reach:** _____
  - **GPS Point #:** _____

- **Northing** _____ **Easting** _____
- **Photograph #'s:**_____
- **Describe Barrier: (**Blockage, Insufficient Depth/Subsurface Flows, Isolated Pool Formation, etc**)-**

  _____
  _____
  _____

- **Barrier #3**
  - **General Reach:** _____
  - **GPS Point #:** _____
  - **Northing** _____ **Easting** _____
  - **Photograph #'s:**_____
  - **Describe Barrier: (**Blockage, Insufficient Depth/Subsurface Flows, Isolated Pool Formation, etc**)-**

    _____
    _____
    _____

- **General Notes: Include GPS points and photos.-**

  _____
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APPENDIX III

DEPARTMENT OF ARMY PERMIT APPLICATION

SAMPLE PERMIT APPLICATION

The following pages provide detailed instructions for preparing the Department of Army Permit Application. If you have any questions, please call the Corps of Engineers, Regulatory Branch that has jurisdiction over your area.

Instructions for Preparing a
Department of the Army Permit Application

Blocks 1 through 4. To be completed by Corps of Engineers.

Block 5. Applicant's Name. Enter the name of the responsible party or parties. If the responsible party is an agency, company, corporation or other organization, indicate the responsible officer and title. If more than one party is associated with the application, please attach a sheet with the necessary information marked **Block 5.**

Block 6. Address of Applicant. Pleas provide the full address of the party or parties responsible for the application. If more space is needed, attach an extra sheet of paper marked **Block 6.**

Block 7. Applicant Telephone Number(s). Please provide the number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer or any other person or organization. *Note:* An agent is not required.

Block 9 and 10. Agent's Address and telephone number. Please provide the complete mailing address of the agent, along with the telephone number where he/she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by applicant if an agent is to be employed.

Block 12. Proposed Project Name or title. Please provide name identifying the proposed project (i.e., Landmark Plaza, Burned Hills Subdivision or Edsall Commercial Center).

Block 13. Name of Waterbody. Pleas provide the name of any stream, lake, marsh or other waterway to be directly impacted by the activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Project Street Address. If the purpose project is located at a site having a street address (not a box number), please enter here.

Block 15. Location of Proposed Project. Enter the county and state where the proposed **project is located**. If more space is required, please attach a sheet with the necessary information marked **Block 15.**

Block 16. Other Location Descriptions. If available, provide the Section, Township and Range of the site and/or the latitude and longitude. You may also provide description of the proposed project location, such as lot numbers, tract numbers or you may choose to locate the proposed project site from a known point (such as the tight descending bank of Smith Creek, one mile down form the Highway 14 bridge). If a large river or stream, include the river mile of the proposed project site if known.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as will as names. Also provide distances from known locations and any other information that would assist in locating the site.

Block 18. Nature of Activity. Describe the overall activity or project. Give appropriate dimensions of structures such as wingwalls, dikes (identify the materials to be used in construction, as well as the methods by which the work is to be done), or excavations (length, width, and height). Indicate whether discharge of dredged or fill material is involved. Also, identify any structure to be constructed on a fill, piles or float supported platforms.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked **Block 18.**

Block 19. Proposed Project Purpose. Describe the purpose and need for the proposed project. What will it be used for and why? Also, include a brief description of any related activities to be developed as the result of the proposed project. Give the approximate dates you plan to both begin and complete all work.

Block 20. Reason(s) for Discharge. If the activity involves the discharge of dredged and/or fill material into a wetland or other waterbody, including the temporary placement of material, explain the specific purpose of the placement of the material (such as erosion control).

Block 21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards. Describe the material to be discharged and amount of each material to be discharged within Corps jurisdiction. Please be sure this description will agree with your illustrations. Discharge material includes: rock, sand, clay, concrete, etc.

Block 22. Surface Areas of Wetlands or Other Waters Filled. Describe the area to be filled at each location. Specifically identify the surface areas, or part thereof, to be filled. Also include the means by which the discharge is to be done (backhoe, dragline, etc.). If dredged material is to be discharged on an upland site, identify the site and the steps to be taken (if necessary) to prevent runoff from the dredged material back into a waterbody. If more space is needed, attach an extra

sheet of paper marked **Block 22.**

Block 23. Is any portion of the Work Already Complete? Provide any background on any part of the proposed project already completed. Describe the area already developed, structures completed, any dredged or fill material already discharged, the type of material, volume in cubic yards, acres filled, if a wetland or other waterbody (in acres or square feet). If the work was done under an existing Corps permit, identify the authorization if possible.

Block 24. Names and Addresses of Adjoining Property Owners, Lessees, etc., Whose Property Adjoins the Project Site. List complete names and full mailing addresses of the adjacent property owners (public and private) lessees, etc., whose property adjoins the waterbody or aquatic site where the work is being proposed so that they may be notified of the proposed activity (usually by public notice). If more space is needed, attach an extra sheet of paper marked **Block 24.**

Information regarding adjacent landowners is usually available through the office of the tax assessor in the county of counties where the project is to be developed.

Block 25. Information about Approvals or Denials by Other Agencies. You may need the approval of other Federal, state or local agencies for your project. Identify any application you have submitted and the status, if any (approved or denied) of each application. You need not have obtained all other permits before applying for a Corps permit.

Block 26. Signature of Applicant or Agent. The application must be signed by the owner or other authorized party (agent). This signature shall be an affirmation that the party applying for the permit possesses the requisite property rights to undertake the activity applied for (including compliance with special conditions, mitigation, etc.).

DRAWINGS AND ILLUSTRATIONS

General Information

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a **Vicinity Map, a Plan View or a Typical Cross-section Map.** Identify each illustration with a figure or attachment number.

Please submit one original, or good quality copy, of all drawings on 8 ½x11 inch plain white paper (tracing paper or film may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations.

Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view or cross section). **While illustrations need not be professional (many small, private illustrations are prepared by hand), they should be clear, accurate and contain all necessary information.**

APPLICATION FOR DEPARTMENT OF THE ARMY PERMIT (33 CFR 325)	OMB APPROVAL NO. 0710-0003 Expires June 30, 2000

Public reporting burden for this collection of information is expected to average 10 hours per response, although the majority of applications should require 5 hours or less. This includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Service Directorate of Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302; and to the Office of Management and Budget, Paperwork Reduction Project (0710-0003), Washington, DC 20503. Please DO NOT RETURN your form to either of those addresses. Completed applications must be submitted to the District Engineer having jurisdiction over the location of the proposed activity.

PRIVACY ACT STATEMENT

Authority: 33 USC 401, Section 10; 1413, Section 404. Principal Purpose: These laws require permits authorizing activities in, or affecting, navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters. Routine Uses: Information provided on this form will be used in evaluating the application for a permit. Disclosure: Disclosure of requested information is voluntary. If information is not provided, however, the permit application cannot be processed nor can a permit be issued.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (see sample drawings and instructions) and be submitted to the District Engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETED

(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME	8. AUTHORIZED AGENT'S NAME AND TITLE *(an agent is not required)*
6. APPLICANT'S ADDRESS	9. AGENT'S ADDRESS
7. APPLICANT'S PHONE NOS. W/AREA CODE a. Residence ( ) b. Business ( )	10. AGENT'S PHONE NOS. W/AREA CODE a. Residence ( ) b. Business ( )

11. STATEMENT OF AUTHORIZATION

I hereby authorize, _____, to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

APPLICANT'S SIGNATURE _____ DATE _____

NAME, LOCATION AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME OR TITLE *(see instructions)*

13. NAME OF WATERBODY, IF KNOWN *(if applicable)*	14. PROJECT STREET ADDRESS *(if applicable)*
15. LOCATION OF PROJECT County _____ State _____	

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN, *(see instructions)*

17. DIRECTIONS TO THE SITE

18. Nature of Activity (Description of project, include all features)

19. Project Purpose (Describe the reason or purpose of the project, see instructions)

USE BLOCKS 20-22 IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED

20. Reason(s) for Discharge

21. Type(s) of Material Being Discharged and the Amount of Each Type in Cubic Yards

22. Surface Area in Acres of Wetlands or Other Waters Filled *(see instructions)*

23. Is Any Portion of the Work Already Complete? ☐ Yes ☐ No IF YES, DESCRIBE THE COMPLETED WORK

24. Addresses of Adjoining Property Owners, Lessees, Etc., Whose Property Adjoins the Waterbody (If more than can be entered here, please attach a supplemental list).

25. List of Other Certifications or Approvals/Denials Received from other Federal, State or Local Agencies for Work Described in This Application.

AGENCY	TYPE APPROVAL*	IDENTIFICATION NUMBER	DATE APPLIED	DATE APPROVED	DATE DENIED

*Would include but is not restricted to zoning, building and flood plain permits

26. Application is hereby made for a permit or permits to authorize the work described in this application. I certify that the information in this application is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE

The application must be signed by the person who desires to undertake the proposed activity (applicant) or it may be signed by a duly authorized agent if the statement in block 11 has been filled out and signed.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than $10,000 or imprisoned not more than five years or both.

APPENDIX IV

BASIS FOR ROUTINE MAINTENANCE AND REPAIRS

APPENDIX IV
BASIS FOR ROUTINE MAINTENANCE AND REPAIRS

GENERAL

This appendix describes the project features requiring inspection along with specific inspection criteria for detecting conditions that have deviated from the as-built conditions. The feature locations are shown on plates 3 through 7 at the end of this appendix.

For each project feature, the inspector shall document any deviated condition. All inspections findings, proposed maintenance, and repairs shall be included in the appropriate reports as defined in section III of this manual. Appendix II shows the report format for the semi-annual reports.

The inspection criteria described in the following paragraphs is meant to aid the inspector in determining if deviations from the design have occurred. Corrective solutions are not presented here as the superintendent shall be responsible for determining the appropriate maintenance action to restore the damaged feature or deviated condition back to operable conditions and for assuring that the corrective maintenance is carried out.

Fish Passage Related Inspections

Inspection of project features associated with fish passage shall be conducted periodically throughout each year, as defined below, to validate the project's ability to enable fish passage and meet fish passage guidelines. Further detail on fish passage guidelines and inspection criteria are presented in the descriptions for the fish ladder and approach channel, low flow channel, grouted stone invert stabilizers, and pilot channel later in this section and in Appendix VI. Standardized checklists for reference in the field are presented in Appendix II for fish passage related inspections. There are two triggers for inspection of fish passage capabilities:

1. Post-Storm Inspections (Storms producing flow of 500 cfs or more)
2. Low-Flow Inspection (mid-April to mid-July)

For all fish passage related inspections, a qualified biologist shall make visual observations, necessary photo documentation, and document any steelhead observed during the inspection. Monitors shall observe and document sediment and debris accumulation upstream, downstream, and between weirs of the inlet structure/fish ladder, and evaluate and document potential isolated pool formation or other factors that may inhibit steelhead migration through the pilot channel, low flow channel, fish ladder, and approach channel.

Any potential barriers to steelhead movement shall be documented via GPS location, photographs, and written notation to incorporate into the inspection report.

Post Storm Inspections

The VCWPD shall inspect the project area to see if project features are providing fish passage capabilities and meeting fish passage criteria as detailed in each of the project feature sections, below, after any storm event producing flows of 500 cfs or more at the USGS Santa Paula Creek stream gage. USGS gage number 11113500 can be viewed at the following web address: http://waterdata.usgs.gov/ca/nwis/uv?site_no=11113500. The initial inspection shall occur during the portion of the receding limb of the hydrograph where flows fall below 150 cfs.

Low Flow Inspections
Inspections for fish passage capability shall also be done during the time of the year when the creek is exhibiting typical low flow conditions (between mid-April and mid-July) to evaluate the ability of the project to meet fish passage requirements.

EARTH CHANNEL INVERT

The channel invert was cut from the natural streambed and consists of earth, cobblestones, and native vegetation. The invert varies in width and the length is approximately 2,800 meters (9,200 feet). It is expected that sediment removal will be required approximately every three years but will vary depending on the severity of the cumulative storm events each year. The depth of sediment deposition is expected to be the downstream at the upstream end of project. The variation in the allowable depth of sediment deposition along the length of the channel is indicated in Table IV-1 Allowable Sedimentation Accumulation Profile shown at the end of this appendix. When the depth of sediment exceeds the allowable at any location, sediment must be removed from the project to restore the invert to the Design Invert elevations.

Inspection Criteria:

Sediment Deposition - It is critical that inspection for sediment deposition and scour be done at the end of each season and immediately after any storm event that requires activation of Emergency Flood Operations. If a visual inspection indicates that cleanout or scour remediation actions are warranted, a survey of the invert elevations is required for comparison to the Design Invert elevations. Cross section invert elevations shall be surveyed and plotted at corresponding cross-sections, as identified in Table IV-1. At each cross section, the invert elevations shall be surveyed at the left and right toe of slope and at intervals not to exceed 3 meters (10 feet) and at any significant grade break. The cross sections shall be plotted to show the existing condition grade line and the as-built condition grade line, and the allowable invert based on table IV. Maintenance is required to remove sediment when any cross section shows the surveyed invert exceeds the allowable invert. Removal of the sediment will then be required to restore the entire channel invert to the as-built invert level. Failure to do so will jeopardize the ability of the channel to convey the 28,000 cfs storm flow. The maintenance to restore the invert to design conditions shall be done no later than the beginning of the following flood season.

Local Scour - All retaining walls, grouted stone toe of slope, and bridge structures should be visually examined for local scour and repaired immediately. The frequency of scour inspections shall be at each spring semi annual inspection and after any storm event that requires activation of Emergency Flood Operations. Each cross section generated from the sediment survey shall also be examined for

scour. Scour elevations indicated on the cross sections shall be examined to ensure that scour does not pose a threat of undermining any structures. Upstream of the railroad bridge, cross section invert elevations shall not exceed scour limits as shown in Table IV-2. In general, downstream of the railroad bridge, the elevation of the scoured invert shall not be allowed to encroach within 0.5 meter (1.64 feet) of any portion of the subsurface toe of grouted stone. Scour that has exceeded the encroachment limits shall be immediately repaired.

Vegetation – Vegetation that establishes in the invert that is less than 3 inches dbh (diameter breast height) does not need to be removed since periodic storm events are expected to uproot it and wash it away. Vegetation greater than 3 inches dbh shall be selectively cut within 1- to 2-feet above ground level, as needed, in order to maintain channel design capacity.

GROUTED STONE INVERT

At the upper limit of the project, the new channel connects to the existing creek bed with a steep grouted stone invert that contains an embedded concrete fish ladder to allow passage of the steel head trout.

Inspection Criteria:

Cracks – Cracks shall be inspected for seepage and repairs will be required to eliminate any seepage.

FISH LADDER AND APPROACH CHANNEL

The fish ladder is built within the grouted stone invert and allows for the steelhead trout to reach upstream spawning beds. The fish ladder is a stair-stepped pattern made up of a series of grouted stone pools, each stepped 0.3 meter (12 inches) below the next. This geometry forces water through the weir notches, allowing the low flow to cascade over the weirs and into each pool. The fish ladder has 17 concrete weirs, with rectangular resting pools sized at 3.08 m (10 feet - 2 inches) by 12.71 m (41feet - 8 inches) between each set of weirs.

Inspection Criteria:

For additional information and requirements for operational operations and maintenance criterion, refer to Appendix VI, Environmental Protection.

Sediment deposition – Pool volume must be restored when it is significantly reduced by the presence of sediment. This includes the formation of hardened or vegetated beds of sediment in the resting pools. Sediment deposition in the resting pools must be removed when the maximum depth of deposition across the pool exceeds 1 meter (3.3 feet), or when the drop between adjacent pools exceeds 0.3 meter (12 inches) between the invert of the upstream pool and the top of the water surface of the downstream pool. Large-sized boulders and other debris must be removed as soon as possibleif it obstructs the weir notches and creates drops of greater than 0.3 meters. See Appendix VI section 1.4.1.7 for more details. The upstream end of the fish ladder should be kept clear of

sediment as needed to make sure hydraulic connectivity is maintained from the approach channel into and through the fish ladder, and downstream through the remainder of the project area to the creek's confluence with the Santa Clara River. This may require regrading of the approach channel upstream of the fish ladder to ensure flows are directed into the fish ladder.

Concrete and steel weirs – Impact loading from debris or boulders will likely cause some cosmetic damage to the weirs along the top of the weirs. Repairs are not expected unless the weir is not functioning to pool water and pass the flows through the notch or there is sufficient evidence to show the plates may disconnect or the weir is damaged to where it may fail. Cosmetic repairs for cracking or chipping should only require repair if internal steel reinforcement is exposed.

LOW FLOW CHANNEL

The low flow channel runs the length of the project from the base of the fish ladder to the confluence with the Santa Clara River. The low flow channel conveys the base flow during the non-storm season. It is designed to reach a depth and velocity that allows migration of steelhead. The low flow channel should be kept operable at all times during the steelhead migration season.

Inspection Criteria:

For additional information and requirements, refer to Appendix VI, Environmental Protection.

Geometry – The low flow channel will likely migrate along the invert due to seasonal flow changes and dynamic sediment deposition and erosion patterns. Based on observations, the low flow channel will form naturally and therefore should not require maintenance unless it is being reestablished after sediment cleanout operations. The low flow channel shall be inspected following a storm event that exceeds 5,000 cfs, and subsequent drop in flows that range between 10-150 cfs. The low flow channel shall also be inspected during the spring and fall semi-annual inspections to ensure that a well-defined low flow path is free of obstructions throughout the project.

Channel elevations – The low flow channel shall not have any sharp or sudden drops that exceed 0.3 meter (12 inches). Areas shall be restored to design conditions where this condition is not met.

Connection to invert structures – The low flow channel connects to two invert stabilizers. One stabilizer is near the fish ladder as shown on plate 3 and the other is on plate 6. The path across these grouted stone stabilizers shall be restored as soon as possible to design conditions if scour has caused a drop of greater than 0.3 meter (12 inches).

GROUTED STONE INVERT STABILIZERS

A grouted stone invert stabilizer was constructed at station 10+00 and near station 35+00. These stabilizers provide a barrier to degradation of the earth channel invert.

Inspection Criteria:

Sediment deposition - The sediment deposition across these structures are not to exceed that shown in table IV-1 at the end of this appendix. Cleanout of these structures shall be performed in conjunction with the entire earth channel invert.

Scour – The scour level shall not encroach within 0.5 meter (1.64 feet) of the bottom of the subsurface grouted stone.

Low flow channel – the low flow through these structures must be maintained to ensure adequate depths of flow are provided for the steelhead trout migration and any sudden drops in the water surface of greater than 0.3 meter (12 inches) are to be repaired by restoring the invert and low flow channel.

GROUTED STONE CHANNEL SIDE-SLOPES

The channel is primarily trapezoidal with an earth invert and 2H:1V grouted stone side-slopes. The grouted stone side-slopes extend to a depth of 1.5 - 2.25 meters (4.9 – 7.4 feet) below the finished invert to prevent any scouring along the toe from undermining the side-slopes.

Inspection Criteria:

Scour – scour along the toe of the slope should be inspected to make sure the end of the subsurface toe is not exposed. All scour should be repaired that is within 0.5 meter (1.64 feet) of the top of the subsurface toe.

Cracks – The sideslopes shall be inspected for cracks and areas that show evidence of seepage shall be repaired.

Joints along structures – The grouted stone is adjacent to concrete walls and outlet pipes. All joints along these structures shall be inspected for separation, cracking, or settlement.

PILOT CHANNEL

A pilot channel connects the outflows from the invert stabilizer at station 10+00 to the Santa Clara River. It is an entrenched trapezoidal channel with earth bottom and earth side-slopes that functions to direct the flows from the invert stabilizer into the Santa Clara River under a controlled pathway.

Inspection Criteria:

Sediment deposition removal pilot channel – The pilot channel should be inspected at the spring semi-annual inspection. The pilot channel shall be restored to original design at any time when the sediment deposition removal takes place above station 10+00 based upon the inspection criteria for the earth channel invert. The excavation shall ensure that positive drainage is continuous to allow the low flows of Santa Paula Creek to reach the low flows of the Santa Clara River without ponding.

The Pilot channel shall also be restored at any time if the sedimentation causes flows to shift location to where they may cause property loss from erosion of flooding.

LEVEES

The channel sideslopes extend above the existing ground to form levees in some locations. During flood emergency events the levees are a critical area to monitor closely. Any overtopping of a levee or seepage through the levees could result in failure of the levee and the result would be substantial flooding.

Inspection Criteria:

Seepage - Inspected for evidence of piping or seepage through the levee. Animal burrows formed within the levee must be repaired.

Erosion - Grasses should be encouraged where erosion control is required but growth must be maintained to prevent objectionable weed growth. Vegetation which produces deep roots that may lead to seepage, saturation, or erosion problems if the roots are allowed to die and decay should be controlled. Approved chemical treatments may be used for control of growth.

CONCRETE CHANNEL WALLS, ABUTMENTS, AND PIERS

Widening of the channel at the existing Ventura County Transportation Commission (VCTC) railroad bridge required removal of the existing truss and abutments. The new bridge is constructed with two spans, one span 30 meters (98.4 feet) wide supported by the existing truss, and the other span 20 meters (65.6 feet) wide supported by a new steel girder bridge. The channel beneath the bridge is constructed as a composite section with partial vertical sides using the new abutments and the remainder as trapezoidal grouted stone section at 1V:2H side slopes.

Below Telegraph Road Bridge, the creek was widened with vertical channel walls and pier noses were added to the bridge piers.

The Santa Paula Creek channel under the Santa Paula Freeway (State Route 126) was constructed with a composite mix of grouted stone slopes and concrete retaining walls, and pier noses were added to the existing bridge piers.

Inspection Criteria:

Concrete Cracking - Minor shrinkage and temperature cracking occurs in most structures, but continued development of crack patterns and increases in size of cracks are evidence of stress and possible loss of integrity in the structure. Large cracks that will allow considerable water to penetrate retaining walls must be sealed to prevent migration of backflow material through the crack. Whenever a test program is recommended to determine the condition of cracks in reporting features, the test program will include measurements to determine if the crack is stable; or if not, the rate of

displacement and crack progression. If the test program indicates that the crack is stable, the appropriate repair is recommended in the semi-annual report. However, if the crack is found to be active, an investigation program is recommended to determine the cause of the crack and the necessary corrective action.

Joints - If joints show continued evidence of opening or closing other than as a result of temperature stresses, the cause must be determined. Joint openings that permit the earth to be carried away must be sealed. Spalling must be investigated and repaired to protect the reinforcement and to prevent further erosion resulting from abrasion during storm-flows. Vegetation must be controlled to prevent joint displacement or leakage resulting from root growth or decay.

Line and Grade - Concrete channel walls, abutments, and piers must be inspected for evidence of movement from line and grade.

Deflection - Concrete walls are designed for a stable deflection. Some deflection may be expected at the top of channel walls next to bridge abutments; however, such walls must be inspected to be certain that the deflection is not increasing.

Drainage - Grading behind channel walls must be maintained to drain the area properly. Earth around structures must be maintained at original grade to preserve design loading and must be kept tight against the structure. Any conditions that would permit saturation of earth adjacent to any concrete wall or structures must be corrected. Otherwise, the earth will become saturated, resulting in undue stress on the structure and seepage through the structure may carry earth material resulting in settlement around the structure. Typical conditions to look for during inspections that may require maintenance are local settlement, surface runoff forming ponds near the structure, erosion near the structure, rodent holes, separation of fill along any part of the structure.

Local scour - The footings for these structures are designed below the expected local scour depths. Inspections should be made to determine if the local scour is increasing or has stabilized. Areas that have scoured to within 0.5 meter of any footings will require repair to restore the invert to original design grades.

SIDE DRAINS

Side drain inlet structures and ditches were constructed in the channel banks at locations where concentrated storm flows occur from adjacent sites.

Inspection Criteria:

Debris – The inlets and side drain ditches shall be checked to ensure that debris is not blocking or obstructing the flows from entering the inlet or from entering the inlet's pipe. Obstructed flows may result in water entering and eroding the channel sideslopes or the service road.

Pipe joints – check to see that no gaps are present at the joint of the exterior of the pipe and the grouted stone and that no water is seeping through the joint. This would likely indicate that the pipes might have damaged joints that are leaking. Connections at the inlet must also be watertight.

FENCING

Fencing has been installed along the project to prevent trespassing or uses which might interfere with flood control and as a safety precaution to keep the general public out of areas that may be cause them harm.

Inspection criteria:

Condition - Broken or lost caps on posts must be replaced to prevent water from collecting in pipe base and rusting the metal. Holes in the fence mesh and leaning or damaged fences must be fixed.

Gates - Gates must be checked for ease of operation.

SERVICE ROADS

Service roads built of aggregate base course parallel the channel along the top of the channel side-slopes. It can be accessed from four (4) points where Telegraph Road crosses the channel. The road provides access to all areas of the project. Access to the site must be maintained and any change in public roadways that prevents access to a defined site entrance should be reported and access restored or relocated. The road has a 2% cross slope away from the channel. As part of the service road drainage plan, a V-ditch was installed parallel and contiguous to the service road along the landward side of the road. This ditch collects drainage from surface runoff of the adjacent sites and runoff from the service road, preventing flows from crossing and eroding the road. The ditch carries the storm runoff to concrete over-pours. The over-pours are located at various points on top of the road to allow the water to cross the road and into the channel without eroding the road.

Inspection criteria

Access - All access points to the service roadway are gated and kept locked in order to prevent unauthorized use of the flood control facilities. The gates must be maintained in workable condition for use by operation and maintenance personnel. Locks and gate mechanics shall be checked for ease of use and maintained or adjusted as needed.

Surface condition - Cracks, ruts, settlement, and erosion must be repaired and the cause determined and eliminated.

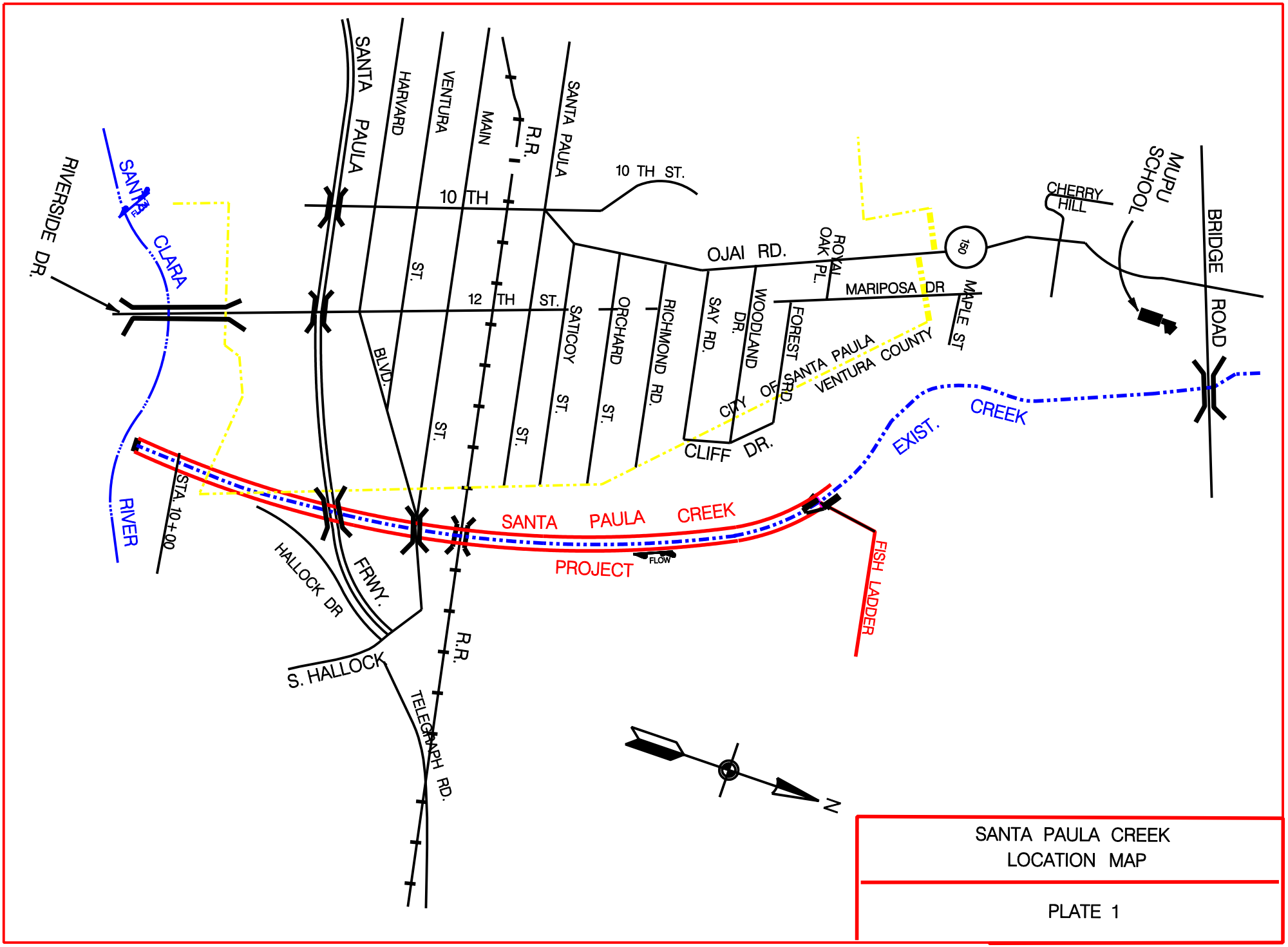
Drainage - The V-ditch must be maintained to keep sediment from collecting. Sediment will lower the capacity of the ditch may cause drainage to expand across the road and to enter the channel at unprotected points causing erosion to the channel side-slopes as well as the road. The source of any excessive sediment must be located and remedied.

LANDSCAPING

Landscaped stone and plantings are provided throughout the project. Maintenance requirements for landscaping are covered under Appendix VIII.

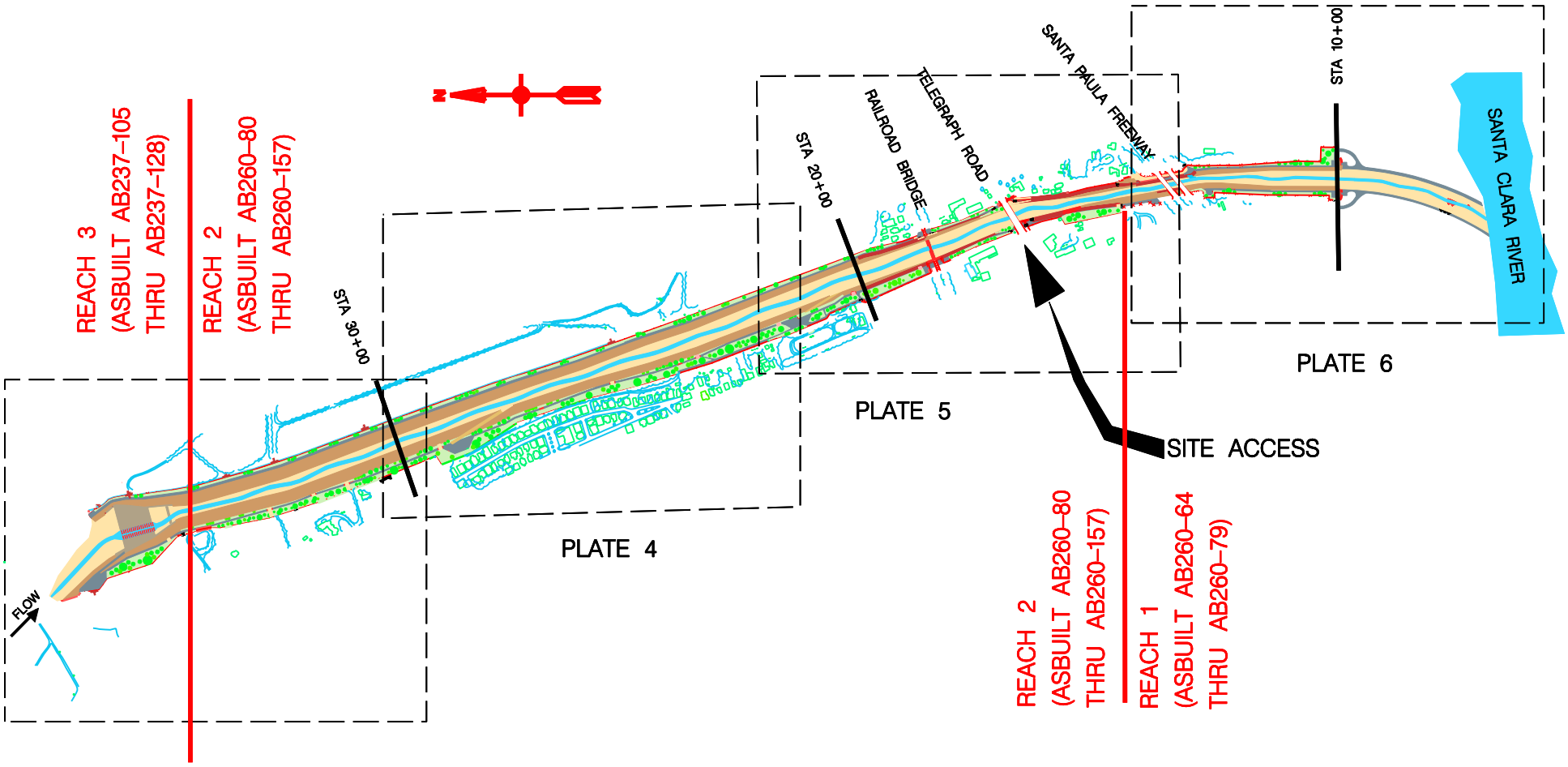
Table IV-1: Allowable Sediment deposition Accumulation Profile

Allowable Sediment Deposition, Scour and Design Invert Profiles Measurements in meters (feet)				
Station	Design Invert	Allowable Sediment Elevation	Allowable Deposition Above Design Invert	Allowable Scour Depth Below Design Invert
10+00	76.4	78.6	2.3 (7.5')	0.0 (0.0')
11+37	78.0	79.9	1.8 (6.0')	0.0 (0.0')
12+25	79.3	81.1	1.8 (5.9')	0.0 (0.0')
13+25	80.8	82.4	1.6 (5.2')	0.0 (0.0')
14+25	82.2	83.8	1.5 (4.9')	0.0 (0.0')
15+25	83.9	85.3	1.5 (4.9')	0.0 (0.0')
16+25	85.7	87.1	1.4 (4.6')	0.0 (0.0')
17+25	87.3	88.6	1.3 (4.4')	0.0 (0.0')
18+25	88.8	90.0	1.3 (4.2')	0.0 (0.0')
18+54	89.3	90.5	1.3 (4.1')	0.0 (0.0')
18+82	89.7	91.0	1.3 (4.2')	0.0 (0.0')
20+38	92.6	93.8	1.2 (4.0')	0.0 (0.0')
21+84	94.9	95.9	1.0 (3.4')	0.7 (2.3')
23+75	97.3	98.7	1.3 (4.3')	0.7 (2.3')
24+50	98.6	99.9	1.3 (4.2')	1.0 (3.2')
25+85	100.9	102.1	1.2 (4.0')	1.6 (5.3')
27+50	103.7	104.9	1.2 (4.0')	2.3 (7.5')
27+68	104.0	105.2	1.2 (4.0')	2.4 (7.7')
30+37	108.6	109.8	1.2 (4.0')	3.2 (10.6')
30+50	108.8	110.0	1.2 (4.0')	3.2 (10.5')
32+00	111.3	112.5	1.2 (3.9')	3.0 (9.9')
33+95	114.7	115.9	1.2 (4.0')	2.5 (8.2')
34+40	115.4	116.6	1.2 (3.9')	1.9 (6.4')
35+15	116.7	117.0	0.2 (0.8')	0.4 (1.3')
35+90	121.6	121.6	0.0 (0.0')	0.0 (0.0')
35+93	121.8	121.8	0.0 (0.0')	0.0 (0.0')



SANTA PAULA CREEK
LOCATION MAP

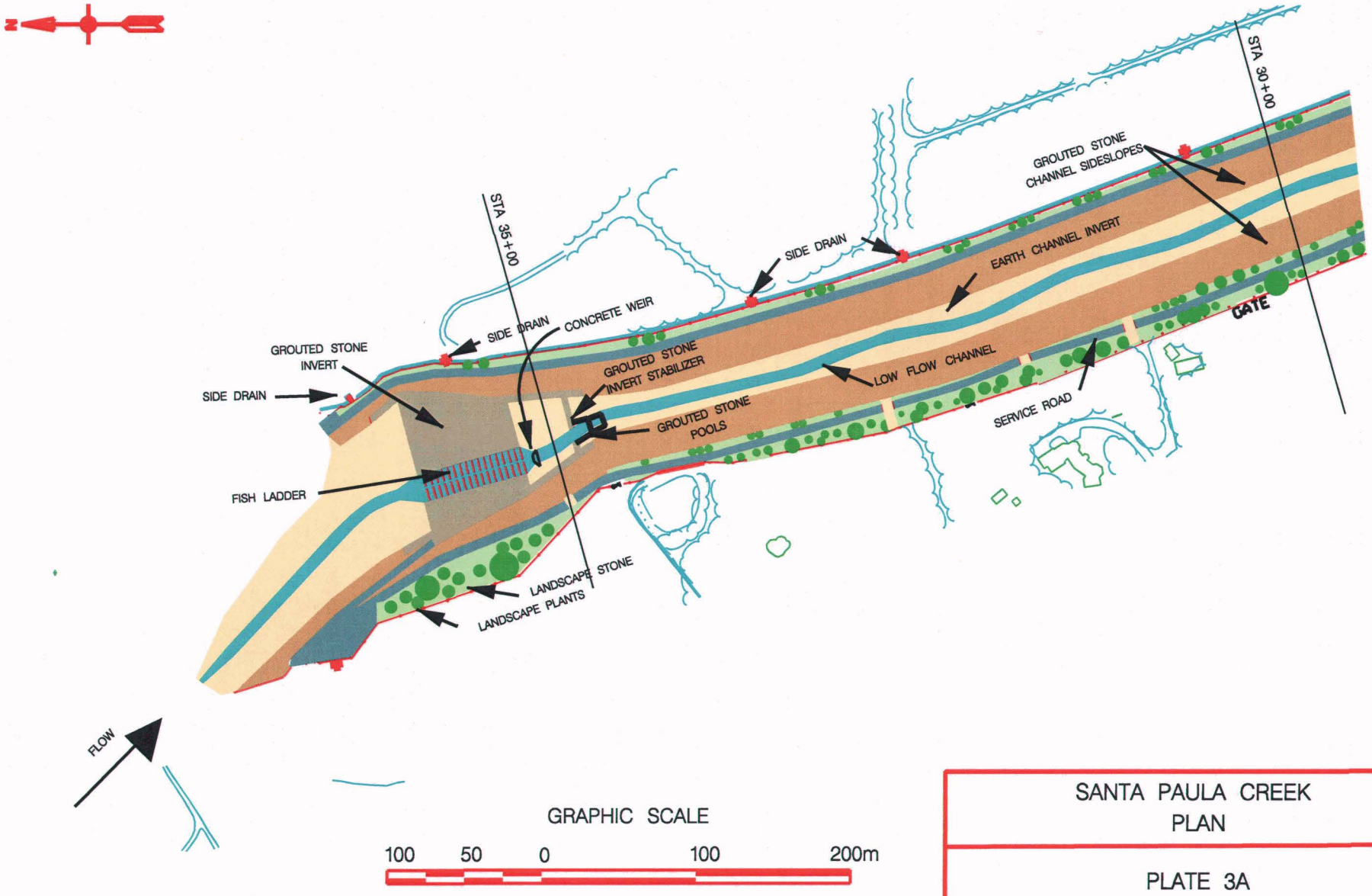
PLATE 1



SANTA PAULA CREEK
PLAN INDEX

PLATE 2

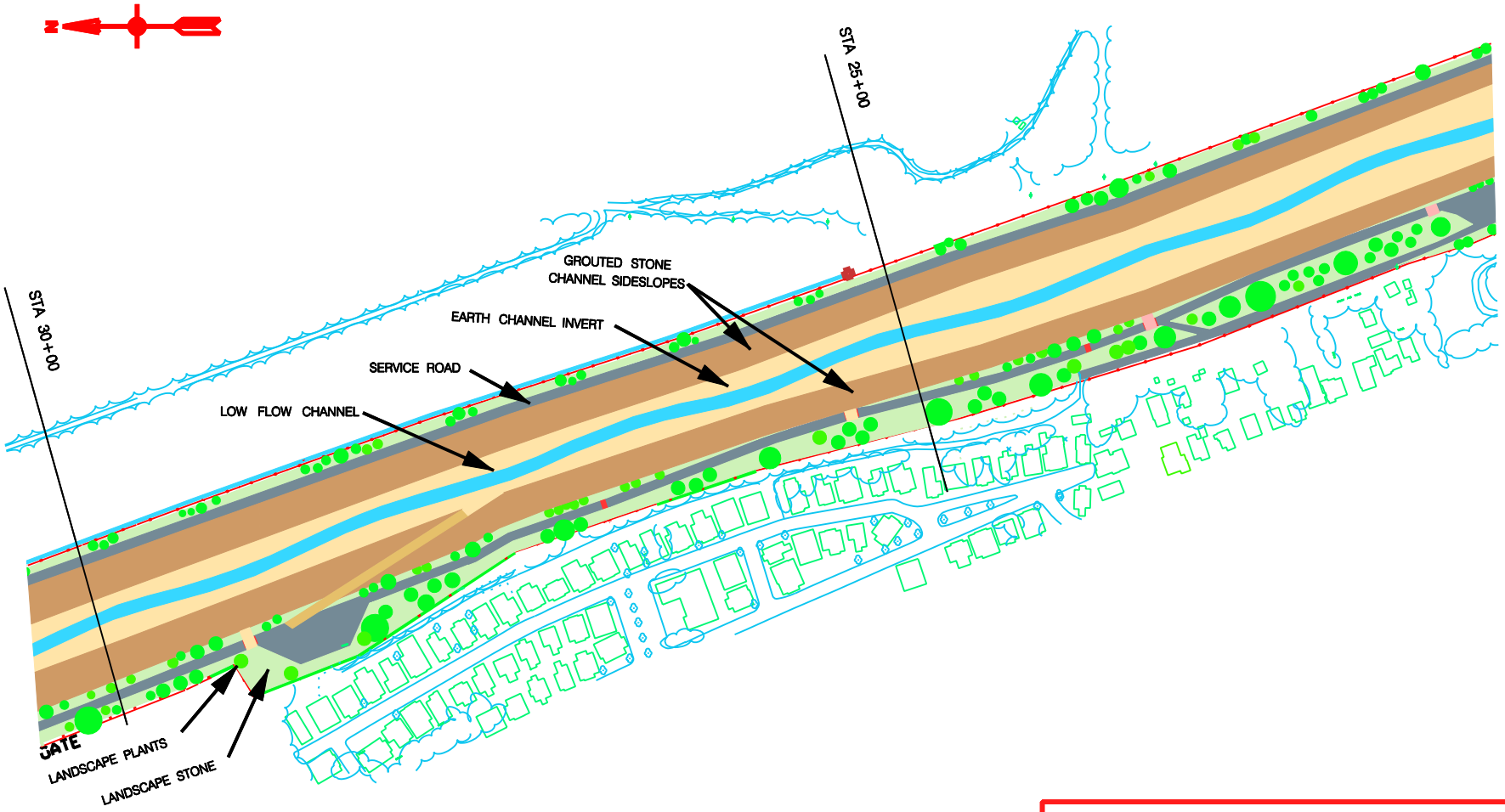
CUT LINE



SANTA PAULA CREEK
PLAN

PLATE 3A

CUT LINE



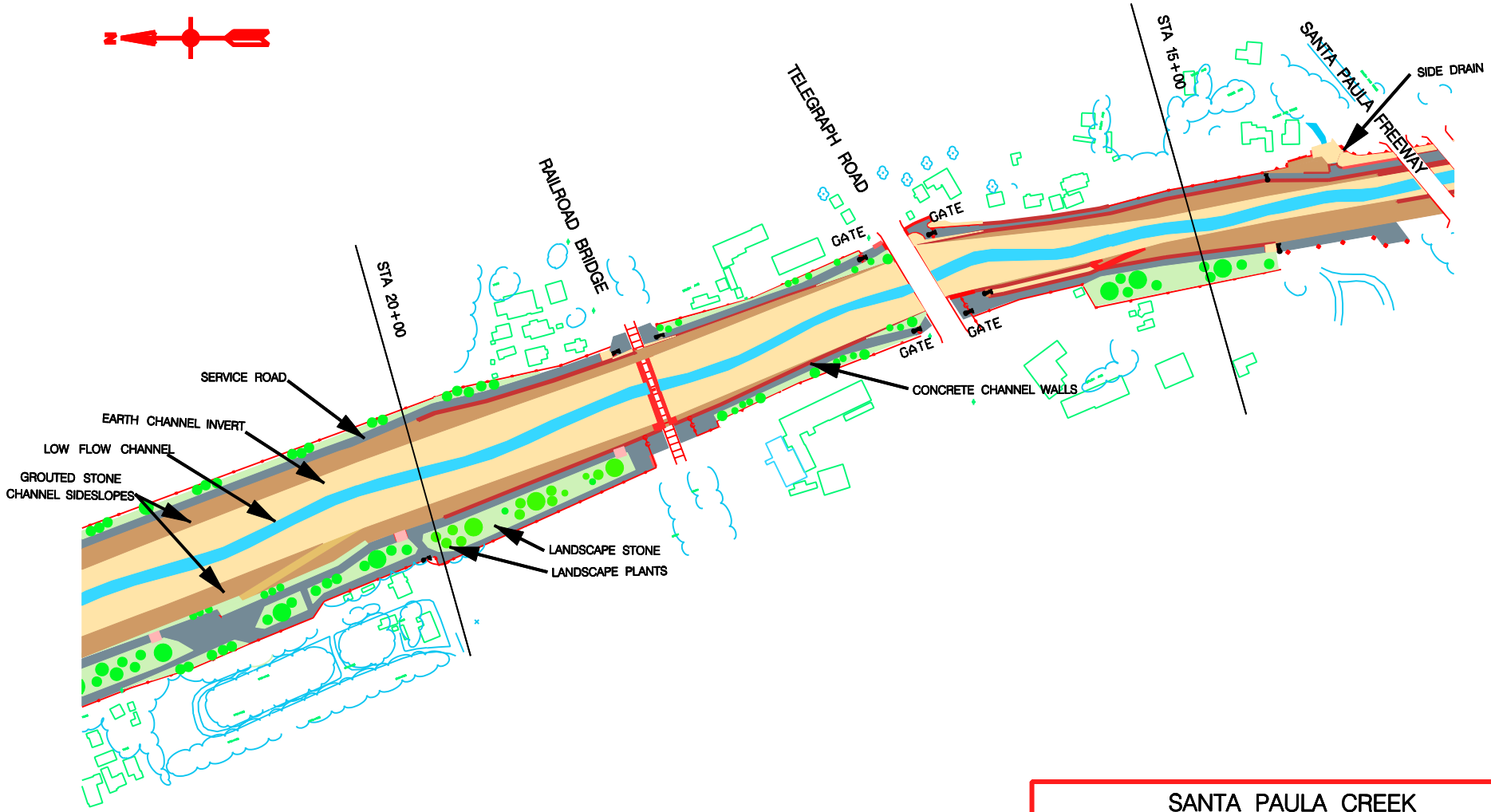
GRAPHIC SCALE

100 50 0 100 200m

SANTA PAULA CREEK
PLAN

PLATE 4

CUT LINE



GRAPHIC SCALE

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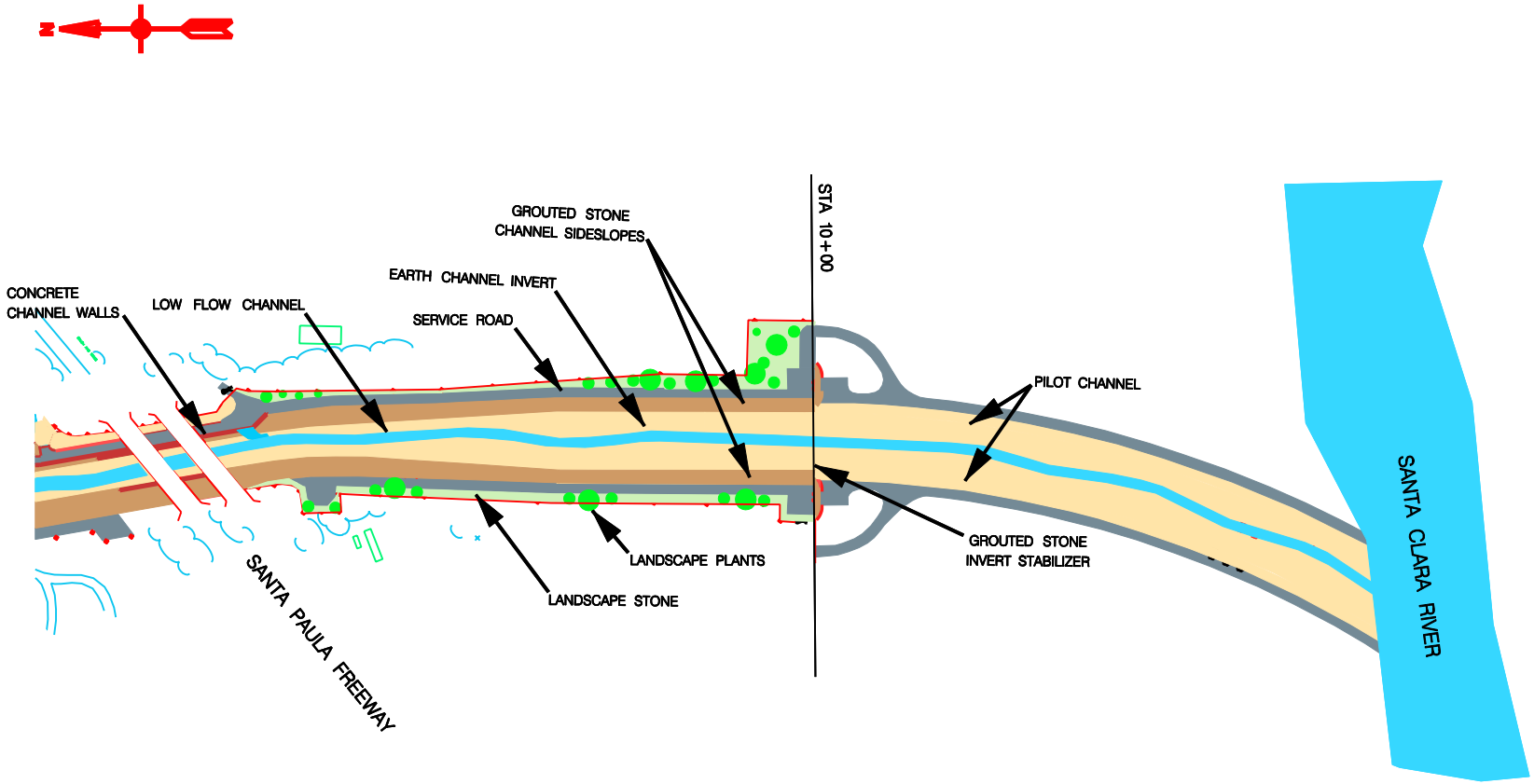
SANTA PAULA CREEK
PLAN

PLATE 5

CUT LINE



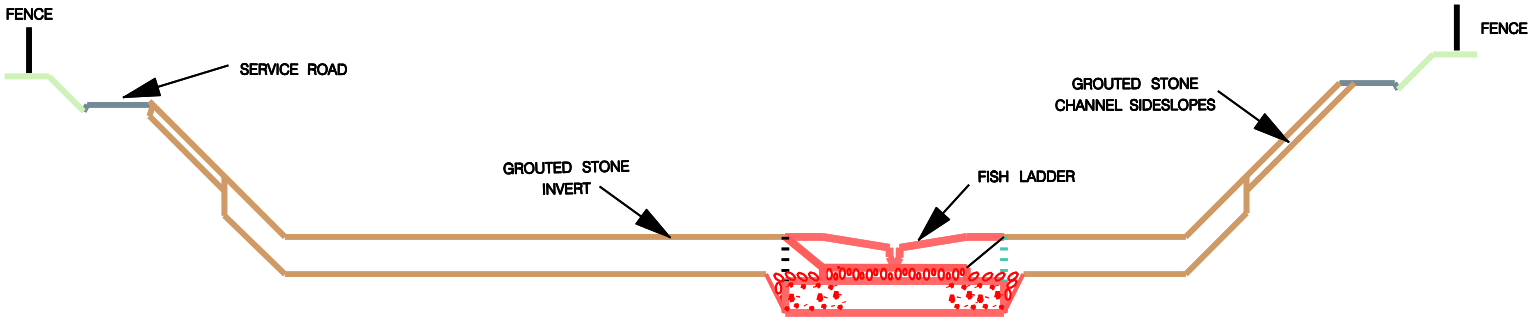
GRAPHIC SCALE

100 50 0 100 200m

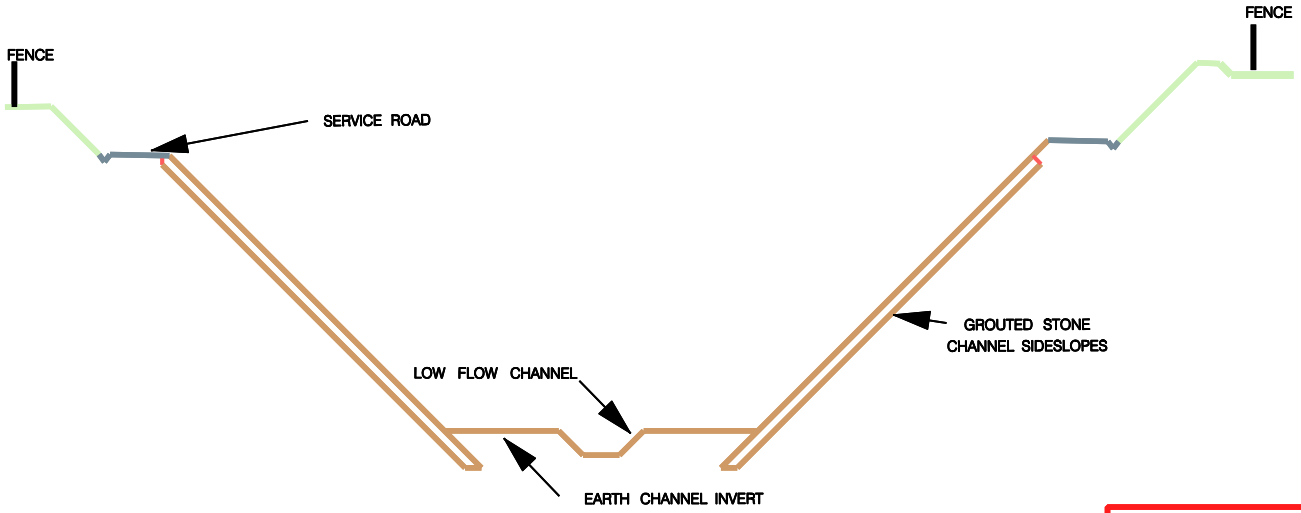
SANTA PAULA CREEK
PLAN

PLATE 6

CUT LINE



TYPICAL SECTION AT FISH LADDER



TYPICAL SECTION CHANNEL

SANTA PAULA CREEK
TYPICAL SECTIONS

PLATE 7

CUT LINE

APPENDIX V

AMENDMENT TO SECTION 221 AGREEMENT

AMENDMENT TO THE AGREEMENT
BETWEEN
THE UNITED STATES OF AMERICA
AND
VENTURA COUNTY FLOOD CONTROL DISTRICT
FOR LOCAL COOPERATION
FOR CONSTRUCTION OF THE
SANTA PAULA CREEK CHANNEL, SANTA CLARA RIVER, CALIFORNIA

THIS AMENDMENT is entered into this 13th day of September, 1996, by and between the DEPARTMENT OF THE ARMY (hereinafter the "Government"), represented by the Assistant Secretary of the Army (Civil Works), and VENTURA COUNTY FLOOD CONTROL DISTRICT (hereinafter the "Non-Federal Sponsor"), represented by the Engineer-Manager.

WITNESSETH, THAT:

WHEREAS, construction of the Santa Paula Creek Channel at Ventura County, California was authorized by Public Law 858 of the 80th Congress, approved June 30, 1948, and described in the post authorization change approved by the Chief of Engineers April 12, 1973, and General Reevaluation Report approved by the Assistant Secretary of the Army (Civil Works) on April 30, 1996 and Environmental Impact Statement approved by the Chief of Engineers May 3, 1996;

WHEREAS, by determination dated May 3, 1996, the Chief of Engineers exercised his discretionary authority under 33 U.S.C. §701p to include modification of the Ventura County Transportation Commission Railroad Bridge across Santa Paula Creek, California, at 100 percent Federal expense;

WHEREAS, Section 221 of the Flood Control Act of 1970, Public Law 91-611, as amended, provides that the Secretary of the Army shall not commence construction of any water resources project, or separable element thereof, until each non-Federal sponsor has entered into a written agreement to furnish its required cooperation for the project or separable element;

WHEREAS, the Government and the Non-Federal Sponsor entered into an agreement (hereinafter the "Section 221 Agreement for Flood Control") for local cooperation at Santa Paula Creek Channel, Santa Clara River, California, (hereinafter the "Project", as defined in Article I.A. of this Amendment) on July 18, 1973;

WHEREAS, the Government, by memorandum dated 13 December 1994, recognized that the existing Section 221 Agreement for Flood Control is still binding and that the cost sharing provisions of the Water Resources Development Act of 1986 do not apply to the project;

WHEREAS, the Government and the Non-Federal Sponsor desire to enter into an Amendment to the Section 221 Agreement for Flood Control for construction of the Project;

WHEREAS, the Government and Non-Federal Sponsor have the full authority and capability to perform as hereinafter set forth and intend to cooperate in the construction of the Project in accordance with the terms of the Section 221 Agreement for Flood Control and this Amendment.

NOW, THEREFORE, the Government and the Non-Federal Sponsor agree as follows:

ARTICLE I - DEFINITIONS AND GENERAL PROVISIONS

For purposes of this Amendment:

A. The term "Project" shall mean removal of the damaged Phase I concrete channel and replacement with a trapezoidal channel with an unlined channel bottom and grouted stone sideslopes, channel capacity improvements for approximately 1.65 miles through excavation and construction of a trapezoidal channel with an unlined channel bottom and grouted stone sideslopes, an inlet, a fish ladder adjacent to the inlet, modification to the existing Ventura County Transportation Commission Railroad Bridge across Santa Paula Creek, mitigation for alluvial, riparian and aquatic impacts, and esthetic treatment as generally described in the General Reevaluation Report with Engineering Appendix (hereinafter the "GRR") approved by Assistant Secretary of the Army (Civil Works) on April 3, 1996 and Environmental Impact Statement (hereinafter the EIS), dated June 1996 and approved by the Chief of Engineers on May 3, 1996.

B. The term "total project costs" shall mean all costs incurred by the Non-Federal Sponsor and the Government in accordance with the terms of this Amendment directly related to construction of the Project. Subject to the provisions of this Amendment, the term shall include, but is not necessarily limited to: continuing planning and engineering costs incurred after October 1, 1985; advanced engineering and design costs; preconstruction engineering and design costs; engineering and design costs during construction; the costs of investigations to identify the existence and extent of hazardous substances in accordance with Article XI.A. of this Amendment; costs of historic preservation activities in accordance with Article XIV.A. of this Amendment; actual construction costs, including the costs of alteration, lowering, raising, or replacement and attendant removal of existing railroad bridges and approaches thereto; supervision and administration costs; costs of debris removal or repair of damage incurred by the Government pursuant to Article II.I of this Amendment; costs of contract dispute settlements or awards; and the value of lands, easements, rights-of-way, relocations, and suitable borrow and dredged or excavated material disposal areas. The term does not include any costs for operation, maintenance, repair, replacement, or rehabilitation; any costs due to betterments; or any costs of dispute resolution under Article IV of this Amendment.

C. The term "period of construction" shall mean the time from the date of issuance of the solicitation for the first construction contract to the date that the U.S. Army Engineer for the Los Angeles District (hereinafter the "District Engineer") notifies the Non-Federal Sponsor in writing of the Government's determination that construction of the Project is complete.

D. The term "highway" shall mean any public highway, roadway, street, or way, including any bridge thereof.

E. The term "relocation" shall mean providing a functionally equivalent facility to the owner of an existing utility, cemetery, highway or other public facility, or railroad (excluding existing railroad bridges and approaches thereto) when such action is authorized in accordance with applicable legal principles of just compensation or as otherwise provided in the authorizing legislation for the Project or any report referenced therein. Providing a functionally equivalent facility may take the form of alteration, lowering, raising, or replacement and attendant removal of the affected facility or part thereof.

F. The term "fiscal year" shall mean one fiscal year of the Government. The Government fiscal year begins on October 1 and ends on September 30.

G. The term "functional portion of the Project" shall mean a portion of the Project that is suitable for tender to the Non-Federal Sponsor to operate and maintain in advance of completion of

the entire Project. For a portion of the Project to be suitable for tender, the District Engineer must notify the Non-Federal Sponsor in writing of the Government's determination that the portion of the Project is complete and can function independently and for a useful purpose, although the balance of the Project is not complete. Prior to notification, the District Engineer shall afford the Non-Federal Sponsor the opportunity to review the basis for the determination that the portion can function independently and for a useful purpose, and consider in good faith the comments of the Non-Federal Sponsor.

H. The term "betterment" shall mean a change in the design and construction of an element of the Project resulting from the application of standards that the Government determines exceed those that the Government would otherwise apply for accomplishing the design and construction of that element.

I. The term "debris that otherwise would not have occurred had the project been completed", as utilized in Articles II,I and VI.A. of this Amendment, shall mean sediment (as the term is used in the General Reevaluation Report) which is deposited in the functional portion of the project as a result of a storm or a consecutive series of storms at an elevation higher than three feet below the Design Sediment Deposition Profile depicted in the General Reevaluation Report..

ARTICLE II - OBLIGATIONS OF THE GOVERNMENT AND THE NON-FEDERAL SPONSOR

A. The Government, subject to receiving funds appropriated by the Congress of the United States (hereinafter, the "Congress") and using those funds, shall expeditiously construct the Project [(including alteration, lowering, raising, or replacement and attendant removal of existing railroad bridges and approaches thereto)], applying those procedures usually applied to Federal projects, pursuant to Federal laws, regulations, and policies.

1. The Government shall afford the Non-Federal Sponsor the opportunity to review and comment on the solicitations for all contracts, including relevant plans and specifications, prior to the Government's issuance of such solicitations. To the extent possible, the Government shall afford the Non-Federal Sponsor the opportunity to review and comment on all contract modifications, including change orders. The Government shall consider in good faith the comments of the Non-Federal Sponsor, but the contents of solicitations, award of contracts, execution of contract modifications, issuance of change orders, and performance of all work on the Project (whether the work is performed under contract or by Government personnel), shall be exclusively within the control of the Government.

2. Throughout the period of construction, the District Engineer shall furnish the Non-Federal Sponsor with a copy of the Government's Written Notice of Acceptance of Completed Work for each contract for the Project.

B. The Non-Federal Sponsor may request the Government to accomplish betterments. Such requests shall be in writing and shall describe the betterments requested to be accomplished. If the Government in its sole discretion elects to accomplish the requested betterments or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Amendment. In the event of conflict between such a writing and this Amendment, this Amendment shall control. The Non-Federal Sponsor shall be solely responsible for all costs due to the requested betterments and shall pay all such costs to the Government prior to advertising of any such contract in accordance with Article IV of this Amendment.

C. When the District Engineer determines that the entire Project is complete or that a portion of the Project has become a functional portion of the Project, the District Engineer shall so notify the

Non-Federal Sponsor in writing and furnish the Non-Federal Sponsor with an Operation, Maintenance, Repair, Replacement, and Rehabilitation Manual (hereinafter the "OMRR&R Manual") and with copies of all of the Government's Written Notices of Acceptance of Completed Work for all contracts for the Project or the functional portion of the Project that have not been provided previously. Upon such notification and except as otherwise agreed in Article II.I of this Amendment, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the entire Project or the functional portion of the Project in accordance with Article VI of this Amendment.

D. In accordance with Article III of this Amendment, the Non-Federal Sponsor shall provide all lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas that the Government determines the Non-Federal Sponsor must provide for the construction, operation, and maintenance of the Project, and shall perform or ensure performance of all relocations that the Government determines to be necessary for the construction, operation, and maintenance of the Project.

E. The Non-Federal Sponsor may request the Government to provide lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or perform relocations on behalf of the Non-Federal Sponsor. Such requests shall be in writing and shall describe the services requested to be performed. If in its sole discretion the Government elects to perform the requested services or any portion thereof, it shall so notify the Non-Federal Sponsor in a writing that sets forth any applicable terms and conditions, which must be consistent with this Amendment. In the event of conflict between such a writing and this Amendment, this Amendment shall control. The Non-Federal Sponsor shall be solely responsible for all costs of the requested services and shall pay all such costs to the Government prior to advertisement of the work in accordance with Article IV of this Amendment. Notwithstanding the provision of lands, easements, rights-of-way, and suitable borrow and dredged or excavated material disposal areas or performance of relocations by the Government, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of cleanup and response in accordance with Article XII.C. of this Amendment.

F. The Non-Federal Sponsor shall not use Federal funds to meet its obligations under this Amendment unless the Federal granting agency verifies in writing that the expenditure of such funds is expressly authorized by statute.

G. The Non-Federal Sponsor agrees to participate in and comply with applicable Federal floodplain management and flood insurance programs.

H. The Non-Federal Sponsor shall publicize flood plain information in the area concerned and shall provide this information to zoning and other regulatory agencies for their use in preventing unwise future development in the flood plain and in adopting such regulations as may be necessary to prevent unwise future development and to ensure compatibility with protection levels provided by the Project.

I. In the event that the Government has provided a notification that a portion of the Project is a functional portion of the Project in accordance with Article II.C. of this Amendment, and that, as determined by the Government, it becomes necessary to remove debris that otherwise would not have occurred had the Project been completed or repair damage to such functional portion of the Project caused by such debris prior to the completion of the Project, the Government, subject to the availability of funds, shall remove such debris or make such repairs. Upon the Government's notification to the Non-Federal Sponsor that the entire Project is complete in accordance with Article II. C.of this Amendment, the Government's responsibility under this paragraph shall cease and the Non-Federal Sponsor shall thereafter remove such debris that otherwise would not have occurred had the Project been completed and make such repairs as part of its obligation to operate, maintain, repair, replace, and rehabilitate the Project in accordance with Article VI of this Amendment.

ARTICLE III - LANDS, RELOCATIONS, DISPOSAL AREAS, AND PUBLIC LAW 91-646 COMPLIANCE

A. The Government, after consultation with the Non-Federal Sponsor, shall determine the lands, easements, and rights-of-way required for the construction, operation, and maintenance of the Project, including those required for relocations, borrow materials, and dredged or excavated material disposal. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of the lands, easements, and rights-of-way that the Government determines the Non-Federal Sponsor must provide, in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with acquisition of such lands, easements, and rights-of-way. Prior to the end of the period of construction, the Non-Federal Sponsor shall acquire all lands, easements, and rights-of-way set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each construction contract, the Non-Federal Sponsor shall provide the Government with authorization for entry to all lands, easements, and rights-of-way the Government determines the Non-Federal Sponsor must provide for that contract. For so long as the Project remains authorized, the Non-Federal Sponsor shall ensure that lands, easements, and rights-of-way that the Government determines to be required for the operation and maintenance of the Project and that were provided by the Non-Federal Sponsor are retained in public ownership for uses compatible with the authorized purposes of the Project.

B. The Government, after consultation with the Non-Federal Sponsor, shall determine the improvements required on lands, easements, and rights-of-way to enable the proper disposal of dredged or excavated material associated with the construction, operation, and maintenance of the Project. Such improvements may include, but are not necessarily limited to, retaining dikes, wasteweirs, bulkheads, embankments, monitoring features, stilling basins, and de-watering pumps and pipes. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions of such improvements in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with construction of such improvements. Prior to the end of the period of construction, the Non-Federal Sponsor shall provide all improvements set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the Non-Federal Sponsor shall prepare plans and specifications for all improvements the Government determines to be required for the proper disposal of dredged or excavated material under that contract, submit such plans and specifications to the Government for approval, and provide such improvements in accordance with the approved plans and specifications.

C. The Government, after consultation with the Non-Federal Sponsor, shall determine the relocations necessary for the construction, operation, and maintenance of the Project, including those necessary to enable the removal of borrow materials and the proper disposal of dredged or excavated material. The Government in a timely manner shall provide the Non-Federal Sponsor with general written descriptions, including maps as appropriate, of such relocations in detail sufficient to enable the Non-Federal Sponsor to fulfill its obligations under this paragraph, and shall provide the Non-Federal Sponsor with a written notice to proceed with such relocations. Prior to the end of the period of construction, the Non-Federal Sponsor shall perform or ensure the performance of all relocations as set forth in such descriptions. Furthermore, prior to issuance of the solicitation for each Government construction contract, the Non-Federal Sponsor shall prepare or ensure the preparation of plans and specifications for, and perform or ensure the performance of, all relocations the Government determines to be necessary for that contract.

D. The Non-Federal Sponsor shall comply with the applicable provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646, as amended by Title IV of the Surface Transportation and Uniform Relocation Assistance Act of 1987

(Public Law 100-17), and the Uniform Regulations contained in 49 C.F.R. Part 24, in acquiring lands, easements, and rights-of-way required for the construction, operation, and maintenance of the Project, including those necessary for relocations, borrow materials, and dredged or excavated material disposal, and shall inform all affected persons of applicable benefits, policies, and procedures in connection with said Act.

ARTICLE IV - METHOD OF PAYMENT

A. In advance of the Government incurring any financial obligation associated with additional work under Article II.B. or II.E. of this Agreement, the Non-Federal Sponsor shall provide the Government with the full amount of the funds required to pay for such additional work by delivering a check payable to "FAO, USAED, Los Angeles District" to the District Engineer. The Government shall draw from the funds provided by the Non-Federal Sponsor such sums as the Government deems necessary to cover the Government's financial obligations for such additional work as they are incurred. In the event the Government determines that the Non-Federal Sponsor must provide additional funds to meet its cash contribution, the Government shall notify the Non-Federal Sponsor in writing of the additional funds required. Within 30 calendar days thereafter, the Non-Federal Sponsor shall provide the Government with a check for the full amount of the additional required funds.

B. Upon completion of the Project or termination of this Agreement, and upon resolution of all relevant claims and appeals, the Government shall conduct a final accounting and furnish the Non-Federal Sponsor with the results of the final accounting. The accounting shall determine costs due to additional work under Article II.B. or II.E. of this Amendment.

1. In the event the Government determines that the total payments provided by the Non-Federal Sponsor for the additional work is less than the total costs therefor, the Non-Federal Sponsor shall, no later than 90 calendar days after receipt of written notice, make a cash payment to the Government of whatever sum is required to fully pay for such additional work.

2. In the event the Government determines that the total payments provided by the Non-Federal Sponsor exceeds the total costs therefor, the Government shall, subject to the availability of funds, refund the excess to the Non-Federal Sponsor no later than 90 calendar days after the accounting is completed.

ARTICLE V - DISPUTE RESOLUTION

As a condition precedent to a party bringing any suit for breach of this Amendment, that party must first notify the other party in writing of the nature of the purported breach and seek in good faith to resolve the dispute through negotiation. If the parties cannot resolve the dispute through negotiation, they may agree to a mutually acceptable method of non-binding alternative dispute resolution with a qualified third party acceptable to both parties. The parties shall each pay 50 percent of any costs for the services provided by such a third party as such costs are incurred. The existence of a dispute shall not excuse the parties from performance pursuant to this Amendment.

ARTICLE VI - OPERATION, MAINTENANCE, REPAIR, REPLACEMENT, AND REHABILITATION (OMRR&R)

A. Upon notification in accordance with Article II.C. of this Amendment and for so long as the Project remains authorized, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the entire Project or the functional portion of the Project except for removal of debris that otherwise would not have occurred had the Project been completed and repair to damage caused to the functional portion of the Project by such debris, at no cost to the Government, in a manner

compatible with the Project's authorized purposes and in accordance with applicable Federal and State laws as provided in Article VIII of this Amendment and specific directions prescribed by the Government in the OMRR&R Manual and any subsequent amendments thereto.

B. The Non-Federal Sponsor hereby gives the Government a right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor owns or controls for access to the Project for the purpose of inspection and, if necessary, for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the Project. If an inspection shows that the Non-Federal Sponsor for any reason is failing to perform its obligations under this Amendment, the Government shall send a written notice describing the non-performance to the Non-Federal Sponsor. If, after 30 calendar days from receipt of notice, the Non-Federal Sponsor continues to fail to perform, then the Government shall have the right to enter, at reasonable times and in a reasonable manner, upon property that the Non-Federal Sponsor owns or controls for access to the Project for the purpose of completing, operating, maintaining, repairing, replacing, or rehabilitating the Project. No completion, operation, maintenance, repair, replacement, or rehabilitation by the Government shall operate to relieve the Non-Federal Sponsor of responsibility to meet the Non-Federal Sponsor's obligations as set forth in this Amendment, or to preclude the Government from pursuing any other remedy at law or equity to ensure faithful performance pursuant to this Amendment.

ARTICLE VII - INDEMNIFICATION

The Non-Federal Sponsor shall hold and save the Government free from all damages arising from the construction, operation, maintenance, repair, replacement, and rehabilitation of the Project and any Project-related betterments, except for damages due to the fault or negligence of the Government or its contractors.

ARTICLE VIII - FEDERAL AND STATE LAWS

In the exercise of their respective rights and obligations under this Amendment, the Non-Federal Sponsor and the Government agree to comply with all applicable Federal and State laws and regulations, including, but not limited to, Section 601 of the Civil Rights Act of 1964, Public Law 88-352 (42 U.S.C. 2000d), and Department of Defense Directive 5500.11 issued pursuant thereto, as well as Army Regulations 600-7, entitled "Nondiscrimination on the Basis of Handicap in Programs and Activities Assisted or Conducted by the Department of the Army".

ARTICLE IX - RELATIONSHIP OF PARTIES

A. In the exercise of their respective rights and obligations under this Amendment, the Government and the Non-Federal Sponsor each act in an independent capacity, and neither is to be considered the officer, agent, or employee of the other.

B. In the exercise of its rights and obligations under this Amendment, neither party shall provide, without the consent of the other party, any contractor with a release that waives or purports to waive any rights such other party may have to seek relief or redress against such contractor either pursuant to any cause of action that such other party may have or for violation of any law.

ARTICLE X - OFFICIALS NOT TO BENEFIT

No member of or delegate to the Congress, nor any resident commissioner, shall be admitted to any share or part of this Amendment, or to any benefit that may arise therefrom.

ARTICLE XI - TERMINATION OR SUSPENSION

A. If at any time the Non-Federal Sponsor fails to fulfill its obligations under Article II.B., II.D., II.E., or IV of this Amendment, the Assistant Secretary of the Army (Civil Works) shall terminate this Amendment or suspend future performance under this Amendment unless he determines that continuation of work on the Project is in the interest of the United States or is necessary in order to satisfy agreements with any other non-Federal interests in connection with the Project.

B. If the Government fails to receive annual appropriations in amounts sufficient to meet Project expenditures for the then-current or upcoming fiscal year, the Government shall so notify the Non-Federal Sponsor in writing, and 60 calendar days thereafter either party may elect without penalty to terminate this Amendment or to suspend future performance under this Amendment. In the event that either party elects to suspend future performance under this Amendment pursuant to this paragraph, such suspension shall remain in effect until such time as the Government receives sufficient appropriations or until either the Government or the Non-Federal Sponsor elects to terminate this Amendment.

C. In the event that either party elects to terminate this Amendment pursuant to this Article or Article XII of this Amendment, both parties shall conclude their activities relating to the Project and the Government shall perform an accounting in accordance with Article IV of this Amendment.

D. Any termination of this Amendment or suspension of future performance under this Amendment in accordance with this Article or Article XII of this Amendment shall not relieve the parties of liability for any obligation previously incurred. Any delinquent payment shall be charged interest at a rate, to be determined by the Secretary of the Treasury, equal to 150 per centum of the average bond equivalent rate of the 13-week Treasury bills auctioned immediately prior to the date on which such payment became delinquent, or auctioned immediately prior to the beginning of each additional 3-month period if the period of delinquency exceeds 3 months.

ARTICLE XII - HAZARDOUS SUBSTANCES

A. After execution of this Amendment and upon direction by the District Engineer, the Non-Federal Sponsor shall perform, or cause to be performed, any investigations for hazardous substances that the Government or the Non-Federal Sponsor determines to be necessary to identify the existence and extent of any hazardous substances regulated under the Comprehensive Environmental Response, Compensation, and Liability Act (hereinafter "CERCLA"), 42 U.S.C. Sections 9601-9675, that may exist in, on, or under lands, easements, and rights-of-way that the Government determines, pursuant to Article III of this Amendment, to be required for the construction, operation, and maintenance of the Project. However, for lands that the Government determines to be subject to the navigation servitude, only the Government shall perform such investigations unless the District Engineer provides the Non-Federal Sponsor with prior specific written direction, in which case the Non-Federal Sponsor shall perform such investigations in accordance with such written direction.

B. In the event it is discovered through any investigation for hazardous substances or other means that hazardous substances regulated under CERCLA exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Amendment, to be required for the construction, operation, and maintenance of the Project, the Non-Federal Sponsor and the Government shall provide prompt written notice to each other, and the Non-Federal Sponsor shall not proceed with the acquisition of the real property interests until both parties agree that the Non-Federal Sponsor should proceed.

C. The Government and the Non-Federal Sponsor shall determine whether to initiate construction of the Project, or, if already in construction, whether to continue with work on the Project, suspend future performance under this Amendment, or terminate this Amendment for the convenience

of the Government, in any case where hazardous substances regulated under CERCLA are found to exist in, on, or under any lands, easements, or rights-of-way that the Government determines, pursuant to Article III of this Amendment, to be required for the construction, operation, and maintenance of the Project. Should the Government and the Non-Federal Sponsor determine to initiate or continue with construction after considering any liability that may arise under CERCLA, the Non-Federal Sponsor shall be responsible, as between the Government and the Non-Federal Sponsor, for the costs of clean-up and response, to include the costs of any studies and investigations necessary to determine an appropriate response to the contamination. In the event the Non-Federal Sponsor fails to provide any funds necessary to pay for clean up and response costs or to otherwise discharge the Non-Federal Sponsor's responsibilities under this paragraph upon direction by the Government, the Government may, in its sole discretion, either terminate this Amendment for the convenience of the Government, suspend future performance under this Amendment, or continue work on the Project.

D. The Non-Federal Sponsor and the Government shall consult with each other in an effort to ensure that responsible parties bear any necessary clean up and response costs as defined in CERCLA. Any decision made pursuant to paragraph C. of this Article shall not relieve any third party from any liability that may arise under CERCLA.

E. As between the Government and the Non-Federal Sponsor, the Non-Federal Sponsor shall be considered the operator of the Project for purposes of CERCLA liability. To the maximum extent practicable, the Non-Federal Sponsor shall operate, maintain, repair, replace, and rehabilitate the Project in a manner that will not cause liability to arise under CERCLA.

ARTICLE XIII - NOTICES

A. Any notice, request, demand, or other communication required or permitted to be given under this Amendment shall be deemed to have been duly given if in writing and either delivered personally or by telegram or mailed by first-class, registered, or certified mail, as follows:

If to the Non-Federal Sponsor:

Deputy Director of Public Works
Flood Control Department
County of Ventura
800 S. Victoria Ave.
Ventura, CA 93009-1600

If to the Government:

District Engineer,
U.S. Army Engineer District, Los Angeles
ATTN: CESPL-PM-C
P.O. Box 2711
Los Angeles, California 90053-2325

B. A party may change the address to which such communications are to be directed by giving written notice to the other party in the manner provided in this Article.

C. Any notice, request, demand, or other communication made pursuant to this Article shall be deemed to have been received by the addressee at the earlier of such time as it is actually received or seven calendar days after it is mailed.

ARTICLE XIV - CONFIDENTIALITY

To the extent permitted by the laws governing each party, the parties agree to maintain the confidentiality of exchanged information when requested to do so by the providing party.

ARTICLE XV - HISTORIC PRESERVATION

A. The costs of identification, survey and evaluation of historic properties shall be paid for by the Government.

B. As specified in Section 7(a) of Public Law 93-291 (16 U.S.C. Section 469c(a)), the costs of mitigation and data recovery activities associated with historic preservation shall be borne entirely by the Government up to the statutory limit of one percent of the total amount authorized to be appropriated for the Project.

C. The Government shall not incur costs for mitigation and data recovery that exceed the statutory one percent limit specified in paragraph B. of this Article unless and until the Assistant Secretary of the Army (Civil Works) has waived that limit in accordance with Section 208(3) of Public Law 96-515 (16 U.S.C. Section 469c-2(3)). Any costs of mitigation and data recovery that exceed the one percent limit shall be paid for by the Government.

ARTICLE XVI - SAVINGS CLAUSE

In the event of a conflict between this Amendment, including any documents incorporated by reference, and any provisions in the Section 221 Agreement executed by the Parties on July 18, 1973, this Amendment shall govern. All other terms and conditions contained in the Section 221 Agreement shall remain in effect.

IN WITNESS WHEREOF, the parties hereto have executed this Amendment, which shall become effective upon the date it is signed by the Assistant Secretary of the Army (Civil Works).

THE DEPARTMENT OF THE ARMY	THE VENTURA COUNTY FLOOD CONTROL DISTRICT
BY: H. Martin Lancaster	BY: Arthur E. Goulet
H. Martin Lancaster Assistant Secretary of the Army (Civil Works)	Arthur E. Goulet Engineer-Manager
DATE: 13 SEP 1996	DATE: 8/26/96

CERTIFICATE OF AUTHORITY

I, JAMES L. McBRIDE, do hereby certify that I am the principal legal officer of the Ventura County Flood Control District, that the Ventura County Flood Control District is a legally constituted public body with full authority and legal capability to perform the terms of the Amendment between the Department of the Army and the Ventura County Flood Control District in connection with the Ventura County Flood Control District, and to pay damages in accordance with the terms of this Amendment, if necessary, in the event of the failure to perform, as required by Section 221 of Public Law 91-611 (42 U.S.C. Section 1962d-5b), and that the persons who have executed this Amendment on behalf of the Ventura County Flood Control District have acted within their statutory authority.

IN WITNESS WHEREOF, I have made and executed this certification this 26th day of AUGUST 1996.

CERTIFICATION REGARDING LOBBYING

The undersigned certifies, to the best of his or her knowledge and belief that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by Section 1352, Title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than $10,000 and not more than $100,000 for each such failure.

Ventura County Flood Control District

Arthur E. Goulet
Engineer-Manager

DATE: 8/26/96

APPENDIX VI

ENVIRONMENTAL PROTECTION

APPENDIX VI

ENVIRONMENTAL PROTECTION

1.1 ENVIRONMENTAL PROTECTION REQUIREMENTS

Plan for and provide environmental protective measures to control pollution that develops during normal Operation and Maintenance (O&M) practice. Plan for and provide environmental protective measures required to correct conditions that develop during routine O&M activities associated with the project. Comply with Federal, State, and local regulations pertaining to the environment, including but not limited to water, air, and noise pollution.

1.1.2 Permit or License

The Ventura County Watershed Protection District (VCWPD) shall obtain all needed permits or licenses.

1.1.2.1 When applicable, the VCWPD shall prepare and submit a Notice of Intent and a Storm Water Pollution Prevention Plan to the California Water Resources Board (Sacramento Office) and provide a copy to the Regional Water Quality Control Board (Los Angeles) for O&M activities.

1.1.2.2 Waste Water Discharge Permit/ National Pollutant Discharge Elimination System (NPDES) Permit: This permit shall be obtained by the VCWPD and fees related to these permit should be paid by the VCWPD.

1.1.3 Emergency Response Plan: An emergency response plan shall be prepared for responding to hazardous materials spills at project construction site. The plan will identify actions to immediately control hazardous materials spills, and procedures to notify appropriate health officials.

1.2 PERMITS OBTAINED BY CORPS OF ENGINEERS AND VENTURA COUNTY WATERSHED PROTECTION DISTRICT

The Corps of Engineers obtained a Section 401 Water Quality Certification from the California Regional Water Quality Control Board (WQCB) and Ventura County Watershed Protection District (VCWPD) obtained a Section 1601 Stream Alteration permit from the State of California, Department of Fish and Game for this project. The agreement is for the entire Santa Paula Creek Flood Control Project. Also, the Biological Opinion of the National Marine Fisheries Service (NMFS) was obtained for the Project (as per requirements of the Federal Endangered Species Act) and is included in this appendix.

The VCWPD is responsible for implementing all conditions/measures identified in all permits or agreements issued by Federal, State or local resource agencies (specifically, the 401 Water Quality Certification, Streambed Alteration Agreement, and the Biological Opinion). In case of violation of any permit or agreement, the VCWPD is responsible to pay fines or penalties

imposed by a resource agency, and the VCWPD shall ensure compliance with the permits.

The Biological Opinion, Streambed Alteration Agreement, and Water Quality Certification are presented at the end of this appendix (Biological Opinion, Streambed Alteration Agreement, and Water Quality Certification), respectively. (To be Provided)

2.1 PROTECTION OF HISTORICAL, ARCHAEOLOGICAL AND CULTURAL RESOURCES

If during operations and maintenance activities items of apparent archaeological or historical interest are discovered, they shall be left undisturbed and the VCWPD shall report the find immediately to the State Historic Preservation Officer.

3.1 PROTECTION OF AIR RESOURCES

The VCWPD shall keep operation and maintenance activities under surveillance, management and control to minimize pollution of air resources. All activities, equipment, processes, and work operated or performed by the VCWPD in accomplishing the specified O&M activities shall be in strict accordance with the State of California, Ventura County Air Pollution Control District and all Federal emission and performance laws and standards. Special management techniques as set out below shall be implemented to control air pollution by the construction activities, which are included in the contract.

a. To reduce fugitive dust, the excavation site and the stockpile material shall be watered twice a day and the unpaved roads shall be watered three times a day.

b. When wind speeds exceed 20 miles per hour, all excavation and grading operations shall be suspended.

c. Truck speeds on unpaved roads shall not exceed 15 miles per hour.

d. Operation of heavy equipment shall be limited to the hours between 8:00 a.m. and 5:00 p.m. Truck transportation shall be permitted between 7:00 a.m. and 7:00 p.m., Monday through Saturday. No operation or transportation shall occur on Sundays.

e. Truck traffic shall be limited to the designated haul route; Harvard/Telegraph Road and Hallock Drive shall be used to access Highway 126.

3.1.1 Particulates

Dust particles, aerosols, and gaseous by products from all construction activities, processing and preparation of materials, such as from asphaltic batch plants, shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The VCWPD shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and all other work areas within or outside the project boundaries

free from particulates which would cause the air pollution standards mentioned in the paragraph: PROTECTION OF AIR RESOURCES to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated at such intervals as to keep the disturbed area damp at all times. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs.

3.1.2 Hydrocarbons and Carbon Monoxide

Hydrocarbons and carbon monoxide emissions from equipment shall be controlled to Federal and State allowable limits at all times.

3.1.3 Odors

Odors shall be controlled at all times for all construction activities, processing and preparation of materials.

4.1 REDUCTION OF NOISE POLLUTION

4.1.1 Construction Equipment and Vehicles

All noise producing construction equipment and vehicles using internal combustion engines shall be equipped with mufflers, and air inlet silencers where appropriate, in good operating condition that meet or exceed original factory specification. Mobile or fixed “package” equipment (e.g., are welder, air compressor) shall be equipped with shrouds and noise control features that are readily available for that type of equipment.

4.1.2 Mobile or Fixed Equipment

All mobile or fixed noise producing equipment used on the project, which is regulated for noise output by a local, state, or federal agency, shall comply with such regulation.

4.1.3 Electrically Powered Equipment

Electrically powered equipment instead of pneumatic or internal combustion powered equipment shall be used, where feasible.

4.1.4 Noise Producing O&M Activities

Noise producing O&M activities shall comply with local noise control regulations.

APPENDIX VII

VENTURA COUNTY WATERSHED PROTECTION DISTRICT EMERGENCY OPERATION PLAN
(To be Provided)

APPENDIX VIII

SUPPLEMENTAL MANUAL FOR HARDSCAPING AND ESTHETIC TREATMENT INSPECTION AND MAINTENANCE

HARDSCAPING AND AESTHETIC TREATMENT INSPECTION AND MAINTENANCE

Santa Paula Creek Channel Improvements

A. HARDSCAPING MAINTENANCE

1. Inspections. Hardscaping elements should be a part of inspection objectives during all other project inspections.

2. Landscape Stone Areas. Weed growth within landscape stone areas should not be allowed to reach a height of 18-inches before being totally removed, including root growth if removed by manual methods. Weed removal could also be by contact, post-emergent herbicide spraying, followed by cutting the weed growth down to the top of the stone layer, and removing the cut material from the project site. Stone should be straightened/replaced as necessary. Replacement stone should match the existing stone in color and quality, and should be a minimum of 12-inches in diameter in all dimensions.

3. Fencing and Gates. Replace in-kind, damaged, missing or rusting portions of fencing as necessary in a timely manner.

4. Service Road/Trail. Service Road/Trail conditions should be inspected at annually throughout the life of the project. Cracks should be sprayed with a pre-emergent herbicide or soil sterilant and then sealed. Potholes and depressions (including minor depressions that pond water) should be repaired and then repaved smooth. Vegetative growth should be kept at least 2-feet from the edge of the service road/trail. Trash, debris and stones should be removed from the trail. Seal-coat asphalt portions and sandblast concrete portions of trail vandalized by graffiti.

5. Grouted Stone. Maintenance of grouted stone located on the landward sides of channel levees should generally include repaving of damaged concrete (immediately if grouted stone is an integral component of channel structure integrity), sandblasting (preferred) or painting-over of graffiti, followed by re-staining if appropriate. Summer washdown utilizing irrigation system quick coupler valves is an available option for general cleanliness.

B. AESTHETIC PLANTINGS MAINTENANCE

1. Maintenance operations shall not compromise the structural integrity of flood control facilities.

2. Plantings should be trimmed back from all structures and the service road to provide for ease of inspections and to eliminate potential sites that would attract the homeless as a shelter or that would provide hidden areas for vandals.

3. Site Inspection. An annual inspection of all landscaped area should be undertaken near the

end of the growing season in April to determine if further landscape maintenance operations are necessary and to what extent.

4. Soil Tests. Soil testing, covering the entire project area, should occur where and whenever plant material show signs of stress indicating a possible soil contamination problem (i.e. saline soil, herbicide residual, etc.). Testing for soil contamination should include both plant suitability (soil chemical deficiencies) and plant growth tests. Prior to testing, eliminate the possibility of over or under watering as a problem cause.

5. Grass/Wildflower Areas

a. Weed Abatement Program. The grass/wildflower areas should be at a self-sustaining stage of development, capable of out-competing all but isolated areas or infrequent outbreaks of major weed infestations. Nevertheless, during the yearly April landscape area inspection, a decision should be made as to the need for and extent of that years weed abatement operations.

b. Reseeding. Determination of the need for reseeding effort should be made during the yearly April site inspection. If reseeding is necessary, grass/wildflower species not doing well should be eliminated in favor of more dominant site-adaptive species.

c. Fertilization. Maintenance fertilization of the grass/wildflower areas should occur in the early fall every 3 to 5-years utilizing a slow-release, high-nitrogen formula, complete fertilizer (or as required by soil tests) at rates recommended by the manufacturer.

6. Trees, Shrubs, Vines, Grasses

a. Inspections. Inspection of all planted material should occur during the yearly April site inspection for maintenance operations to determine if plant replacement is necessary.

b. Irrigation. Irrigation should no longer be necessary based on the construction objective of developing a self-sustaining, irrigation-free landscape. During the annual landscape inspection in April a decision should be made to determine if irrigation is required for summer supplemental watering and to what extent. Irrigation through the summer months should be kept at a survival level.

c. Plant Material Replacement. A plant can be considered unhealthy or dead if the main leader has died back, or if 25% of the crown is dead. Provide irrigation until the replacement plant is established. Replacement plantings should be of the same species as the replaced plant unless that particular species is adapting poorly to the site. Replacement species should be native if possible, with similar growth characteristics (i.e. water and soil requirements, sun exposure, size, color, texture, etc.) as the replaced plant material.

d. Pruning and Trimming. Pruning of native or other drought-tolerant trees and shrubs should be limited to removal of dead, damaged or diseased branches, to cross-branching (branches rubbing against one another), to overhanging growth hindering channel or trail operations, thinning in fire-prone areas, or for the general health of the plant or landscape.

Topping, or pruning for esthetics should not be undertaken. Cuts on branches over 2-inches in diameter should incorporate a tree wound dressing. Major pruning operations should be under the direction of a certified Arborist and should be performed only by experienced maintenance personnel trained in the basic principles/art of pruning. Trimming of vines and ornamental grass growth against parapet and retaining walls should occur whenever vines protrude/grow more than 12-inches and ornamental grass protrudes more than 18-inches into service roads or trail system space. Before vine trimming is undertaken, try tying protruding stems onto the wall. Deciduous plant material should be pruned during late winter before plants begin "leafing out". Pruning and trimming should not occur during the avian nesting season which is defined the the Streambed Alteration Agreement (CDFG 1602 Permit) as March 1 through September 1. Evergreen plant material should be pruned during early fall before major growth begins. Ornamental grass can be trimmed year-around. Trim all vegetation blocking signage and solar panels. The complete removal of a healthy plant should be limited to preserving the overall well being of the landscape such as to eliminate overcrowding. Root pruning should only be undertaken to protect paving systems, structures and underground irrigation piping. Root prune just prior to the growing season of the plant. Remove all cut material to a legal off-site landfill.

e. Weed Control. Weed growth (including grasses) at the base of trees and vine/ornamental grass pockets should not be allowed to reach a height of 4-inches before being totally removed (including root growth). Removal should be by herbicide application or other manual methods year-round. Original plantings should have plant watering basins removed to match the surrounding finished grade; maintain as part of grass wildflower areas

f. Fertilization. Maintenance fertilization for planted material should occur once a year during late fall/early winter. The formula and application rate should conform to the original specifications (IFB DACW09-01-B-0004) for "maintenance fertilizing" unless modified by soil tests.

g. Disease and Pest Control (including herbicides, insecticides, rodenticides and fungicides). When the use of a pesticide is necessary to remove a disease or pest, a state certified applicator should apply required pesticide in accordance with state EPA label restrictions and recommendations. Burrowing animals, generally rodents, should be eliminated from the project site, especially along channel slopes. Their burrows should then be filled-in to the extent possible and sealed. Inspect yearly for pests.

C. EROSION CONTROL

Erosion control (and associated slope protection) will be an important maintenance concern throughout the life of the flood control project especially on levee slopes. Erosion prevention measures, beginning with the hydromulch utilized in seed mixes and with jute mesh netting utilized within groundcover planting beds, will continue permanently through the establishment of the grass/wildflower groundcovering and through mature plantings, through the use of landscape stone, and to a lesser degree with the use of grouted stone and decomposed granite ground coverings. Repair of erosion damage should have priority over esthetic treatment maintenance/enhancement, and should permanently address the cause as well as the damage. Site inspections for erosion damage should be continual and a part of all other site inspections.

Repair of erosion damage should be immediate, either temporary or permanent, with permanent measures in place by the first rains of the fall season. Erosion control measures should include the use of temporary erosion control blankets/netting (based on severity of the problem) followed as soon as possible by reseeding/replanting, and/or by regrading, recompacting and repaving (esthetically utilizing ungrouted and grouted stone, decomposed granite, or concrete, etc.). Utilize sediment control devices (i.e. fencing, etc.) when appropriate. Rodent control/elimination should be included as part of erosion control inspections.

D. TRASH AND DEBRIS REMOVAL

Removal of trash and debris over the project site should occur periodically throughout the year. Removal of trash and debris, including eroded soil and any other obstruction to the safe utilization of the service road/trail should be continual and be undertaken as part of every site inspection/visit.