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SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01030

METRIC MEASUREMENTS

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SECTION 01030

METRIC MEASUREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM E 380	(1993) Practice for Use of the International System of Units (SI)
ASTM E 621	(1994; R 1999) Practice for Use of Metric (SI) Units in Building Design and Construction

1.2 GENERAL

This project includes metric units of measurements. The metric units used are the International System of Units (SI) developed and maintained by the General Conference on Weights and Measures (CGPM); the name International System of Units and the international abbreviation SI were adopted by the 11th CGPM in 1960. A number of circumstances require that both metric SI units and English inch-pound (I-P) units be included in a section of the specifications. When both metric and I-P measurements are included, the section may contain measurements for products that are manufactured to I-P dimensions and then expressed in mathematically converted metric value (soft metric) or, it may contain measurements for products that are manufactured to an industry recognized rounded metric (hard metric) dimensions but are allowed to be substituted by I-P products to comply with the law. Dual measurements are also included to indicate industry and/or Government standards, test values or other controlling factors, such as the code requirements where I-P values are needed for clarity or to trace back to the referenced standards, test values or codes.

1.3 USE OF MEASUREMENTS

Measurements shall be either in SI or I-P units as indicated, except for soft metric measurements or as otherwise authorized. When only SI or I-P measurements are specified for a product, the product shall be procured in the specified units (SI or I-P) unless otherwise authorized by the Contracting Officer. The Contractor shall be responsible for all associated labor and materials when authorized to substitute one system of units for another and for the final assembly and performance of the

specified work and/or products.

1.3.1 Hard Metric

A hard metric measurement is indicated by an SI value with no expressed correlation to an I-P value, i.e., where an SI value is not an exact mathematical conversion of an I-P value, such as the use of 100 mm in lieu of 4 inches. Hard metric measurements are often used for field data such as distance from one point to another or distance above the floor. Products are considered to be hard metric when they are manufactured to metric dimensions or have an industry recognized metric designation.

1.3.2 Soft Metric

A soft metric measurement is indicated by an SI value which is a mathematical conversion of the I-P value shown in parentheses (e.g. 38.1 mm (1-1/2 inches)). Soft metric measurements are used for measurements pertaining to products, test values, and other situations where the I-P units are the standard for manufacture, verification, or other controlling factor. The I-P value shall govern while the metric measurement is provided for information.

A soft metric measurement is also indicated for products that are manufactured in industry designated metric dimensions but are required by law to allow substitute I-P products. These measurements are indicated by a manufacturing hard metric product dimension followed by the substitute I-P equivalent value in parentheses (e.g., 190 x 190 x 390 mm (7-5/8 x 7-5/8 x 15-5/8 inches)).

1.3.3 Neutral

A neutral measurement is indicated by an identifier which has no expressed relation to either an SI or an I-P value (e.g. American Wire Gage (AWG) which indicates thickness but in itself is neither SI nor I-P).

1.4 COORDINATION

Discrepancies, such as mismatches or product unavailability, arising from use of both metric and non-metric measurements and discrepancies between the measurements in the specifications and the measurements in the drawings shall be brought to the attention of the Contracting Officer for resolution.

1.5 RELATIONSHIP TO SUBMITTALS

Submittals for Government approval or for information only shall cover the SI or I-P products actually being furnished for the project. The Contractor shall submit the required drawings and calculations in the same units used in the contract documents describing the product or requirement unless otherwise instructed or approved. The Contractor shall use ASTM E 380 and ASTM E 621 as the basis for establishing metric measurements required to be used in submittals.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

SECTION 01090

SOURCES FOR REFERENCE PUBLICATIONS

PART 1 GENERAL

1.1 REFERENCES

Various publications are referenced in other sections of the specifications to establish requirements for the work. These references are identified in each section by document number, date and title. The document number used in the citation is the number assigned by the sponsoring organization, e.g. ASTM B 564 Nickel Alloy Forgings. However, when the sponsoring organization has not assigned a number to a document, an identifying number has been assigned for reference purposes.

1.2 ORDERING INFORMATION

The addresses of the organizations whose publications are referenced in other sections of these specifications are listed below, and if the source of the publications is different from the address of the sponsoring organization, that information is also provided. Documents listed in the specifications with numbers which were not assigned by the sponsoring organization should be ordered from the source by title rather than by number.

ACI INTERNATIONAL (ACI)

P.O. Box 9094
Farmington Hills, MI 48333-9094
Ph: 248-848-3700
Fax: 248-848-3701
Internet: http://www.aci-int.org
AOK 6/00

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

444 N. Capital St., NW, Suite 249
Washington, DC 20001
Ph: 800-231-3475 202-624-5800
Fax: 800-525-5562 202-624-5806
Internet: www.aashto.org
AOK 6/00

NOTE: AASHTO documents with numbers beginning with M or T are available only in Standard Specifications for Transportation Materials and Methods of Sampling and Testing, 1998 @$289.00\X

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

100 Barr Harbor Drive
West Conshohocken, PA 19428-2959
Ph: 610-832-9585
Fax: 610-832-9555
Internet: www.astm.org
AOK 6/00

NOTE: The annual ASTM Book of Standards (66 Vol) is available for $3500.00. Prices of individual standards vary.

AMERICAN WELDING SOCIETY (AWS)

550 N.W. LeJeune Road
Miami, FL 33126
Ph: 800-443-9353 - 305-443-9353
Fax: 305-443-7559
Internet: http://www.amweld.org
AOK 6/00

ASME INTERNATIONAL (ASME)

Three Park Avenue
New York, NY 10016-5990
Ph: 212-591-7722
Fax: 212-591-7674
Internet: www.asme.org

CODE OF FEDERAL REGULATIONS (CFR)

Order from:
Government Printing Office
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-275-7703
Internet: http://www.pls.com:8001/his/cfr.html

COMMERCIAL ITEM DESCRIPTIONS (CID)

Order from:
General Services Administration
Federal Supply Service Bureau
470 E L'Enfant Plaza, S.W., Suite 8100
Washington, DC 20407
Ph: 202-619-8925
Internet: http://pub.fss.gsa.gov/h1-pub.html

CORPS OF ENGINEERS (COE)

Order from:
U.S. Army Engineer Waterways Experiment Station
ATTN: Technical Report Distribution Section, Services Branch, TIC
3909 Halls Ferry Rd.

Vicksburg, MS 39180-6199
Ph: 601-634-2571
Fax: 601-634-2506
NOTE: COE Handbook for Concrete and Cement (Documents w/prefix CRD-C) (1949-present; 2 Vol) free to Government offices; $10.00 plus $8.00 per yr for 4 qtrly supplements to others). Individual documents, single copies free. Order from address above.

DEPARTMENT OF COMMERCE (DOC)

Order From:
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Ph: 703-605-6000
Fax: 703-605-6900
Internet: http://www.ntis.gov

ENGINEERING MANUALS (EM)

USACE Publications Depot
Attn: CEIM-SP-D
2803 52nd Avenue
Hyattsville, MD 20781-1102
Ph: 301-394-0081

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

Department of Commerce
Gaithersburg, MD 20899-0001
Ph: 301-975-4025
Fax: 301-926-1630
Order Publications From:
Superintendent of Documents
U.S. Government Printing Office (GPO)
Washington, DC 20402
Ph: 202-512-1800
Fax: 202-512-2250
or
National Technical Information Services (NTIS)
5285 Port Royal Rd.
Springfield, VA 22161
Ph: 800-553-6847
Fax: 703-321-8547
Internet: http://ww.gov/ntis.gov

NATIONAL READY-MIXED CONCRETE ASSOCIATION (NRMCA)

900 Spring St.
Silver Spring, MD 20910
Ph: 301-587-1400
Fax: 301-585-4219

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SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01130

ENVIRONMENTAL PROTECTION

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SECTION 01130

ENVIRONMENTAL PROTECTION

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261	Identification and listing of Hazardous Waste

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

1.2 DEFINITIONS

Environmental pollution and damage is defined as the presence of chemical, physical, or biological elements or agents that adversely affect human health or welfare; unfavorably alter ecological balances of plant or animal communities; or degrade the environment from an aesthetic, cultural or historic perspective. Environmental protection is the prevention/control of pollution and habitat disruption that may occur during construction. The control of environmental pollution and damage requires consideration of air, water, land, biological and cultural resources; and includes management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive materials; and other pollutants.

1.3 SUBMITTALS

Government approval is required for all submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-08 Statements

Storm Water Pollution Prevention Plan; GA.
Environmental Protection Plan; GA.

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall comply with all applicable Federal, State, and local

laws and regulations. The Contractor shall provide environmental protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction.

1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS. The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall protect those environmental features, indicated specially on the drawings, in spite of interference which their preservation may cause to the Contractor's work under the contract.

1.4.2 Permits

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained environmental permits. The contractor shall comply with environmental commitments made by the Government. Also it is the Contractor's responsibility to prepare the Storm Water Pollution Prevention Plan and to send the notice of intent to EPA as outlined in Section 01200 PERMITS.

1.4.3 Special Environmental Requirements

The Contractor shall comply with the special environmental requirements listed in Table 01130-1 at the end of this section. These special environmental requirements are an outgrowth of environmental commitments made by the Government during the project development.

1.4.4 Environmental Assessment of Contract Deviations

The Contract specifications have been prepared to comply with the special conditions and mitigation measures of an environmental nature which were established during the planning and development of this project. The Contractor is advised that deviations from the drawings or specifications (e.g., proposed alternate borrow areas, disposal areas, staging areas, alternate access routes, etc.) could result in the requirement for the Government to reanalyze the project from an environmental standpoint. Deviations from the construction methods and procedures indicated by the plans and specifications which may have an environmental impact will require an extended review, processing, and approval time by the Government. The Contracting Officer reserves the right to disapprove alternate methods, even if they are more cost effective, if the Contracting Officer determines that the proposed alternate method will have an adverse environmental impact.

1.5 ENVIRONMENTAL PROTECTION PLAN

Within 20 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting

Officer. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of the Notice to Proceed. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. The plan shall detail the actions which the Contractor shall take to comply with all applicable Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. No physical work at the site shall begin prior to acceptance of the Contractor's Environmental Protection Plan or an interim plan covering the work to be performed. The Contractor's Environmental Protection Plan shall include, but not be limited to, the following:

1.5.1 List of Federal, State, and Local Laws and Regulations

The Contractor shall provide as part of the Environmental Protection Plan a list of all Federal, State, and local environmental laws and regulations which apply to the construction operations under the Contract.

1.5.2 Spill Control Plan

The Contractor shall include as part of the Environmental Protection Plan, a Spill Control Plan. The plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by the Emergency Response and Community Right-to-Know Act or regulated under State or local laws or regulations. The Spill Control Plan supplements the requirements of EM 385-1-1. This plan shall include as a minimum:

a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.

b. Training requirements for Contractor's personnel and methods of accomplishing the training.

c. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.

d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

e. The methods and procedures to be used for expeditious contaminant cleanup.

f. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in

addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

1.5.3 Recycling and Waste Minimization Plan

The Contractor shall submit a Recycling and Waste Minimization Plan as a part of the Environmental Protection Plan. The plan shall detail the Contractor's actions to comply with the following recycling and waste minimization requirements:

a. The Contractor shall participate in State and local government sponsored recycling programs to reduce the volume of solid waste materials at the source.

1.5.4 Contaminant Prevention Plan

As a part of the Environmental Protection Plan, the Contractor shall prepare a contaminant prevention statement identifying potentially hazardous substances to be used on the job site and intended actions to prevent accidental or intentional introduction of such materials into the air, water, or ground. The Contractor shall detail provisions to be taken to meet Federal, State, and local laws and regulations regarding the storage and handling of these materials.

1.5.5 Environmental Monitoring

The Contractor shall include in the plan the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 Threatened and Endangered Species Protection

If during construction activities any threatened or endangered species (particularly the Desert Tortoise) are observed in or near the construction area, such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination made as to what special disposition should be made. The Contractor shall strictly adhere to the relevant articles of Table 01130-1 at the end of this section. In no circumstance shall any employee directly handle any tortoise unless it is in imminent danger. The Contractor shall cease all activities that may result in an impact to or the destruction of these resources. The Contractor shall prevent his employees from trespassing on private property, removing, or otherwise disturbing any threatened or endangered species.

3.1.2 Protection of Biological Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize disturbance and damage of fish and wildlife and their habitat.

3.1.3 U.S. Department of Agriculture (USDA) Quarantined Considerations

The Contractor shall thoroughly clean all construction equipment at the prior job site in a manner that ensures all residual soil is removed and that egg deposits from plant pests are not present. The Contractor shall consult with the USDA Plant Protection and Quarantine (USDA - PPQ) jurisdictional office for additional cleaning requirements that may be necessary.

3.1.4 Disposal of Solid Wastes

Solid waste is rubbish, debris, waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in following paragraphs). Solid waste shall be placed in containers and disposed on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination. The Contractor shall comply with site procedures, Federal, State, and local laws and regulations.

3.1.5 Clearing Debris

Clearing debris is trees, tree stumps, tree trimmings, and shrubs, and leaves, vegetative matter, excavated natural materials (e.g., dirt, sand, and rock), and demolition products (e.g., brick, concrete, glass, and metals).

a. The Contractor shall collect trees, tree stumps, tree trimmings, shrubs, leaves, and other vegetative matter; and shall transport from project limits for proper disposal in compliance with Federal, State, and local requirements. The Contractor shall segregate the matter where appropriate for proper disposal. Untreated and unpainted scrap lumber may be disposed of with this debris where appropriate.

b. Trash, dumped debris and demolition products shall be transported from project limits for proper disposal in compliance with Federal, State, and local requirements.

c. Any materials encountered in work areas which are suspected of having characteristics of hazardous and/or toxic waste shall be handled in a manner conforming to the requirements of Federal, State and local transport and disposal regulations

3.1.6 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are hazardous substances as defined in 40 CFR 261, or as defined by applicable State and local regulations. Hazardous waste generated by construction activities shall be removed from the work area and be disposed in compliance with Federal, State, and local requirements. The Contractor shall segregate hazardous waste from other materials and

wastes, and shall protect it from the weather by placing it in a safe covered location; precautionary measures against accidental spillage such as berming or other appropriate measures shall be taken. Hazardous waste shall be removed from project limits within 60 days. Hazardous waste shall not be dumped onto the ground, into storm sewers or open water courses, or into the sanitary sewer system.

3.1.7 Fuels and Lubricants

Fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spills and evaporation. Lubricants and waste oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with Federal, State, and local laws and regulations.

3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.2.1 Discovered Historic, Archaeological, and Cultural Resources

If during construction activities, items are observed that may have historic or archaeological value (e.g., Native American human remains or associated objects are discovered), such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a determination made as to their significance and what, if any, special disposition of the finds should be made. The Contractor shall cease all activities that may result in impact to or the destruction of these resources. The Contractor shall prevent his employees from trespassing on, removing, or otherwise disturbing such resources.

3.3 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters.

3.3.1 Monitoring of Water Areas Affected by Construction Activities

The Contractor shall comply with the permit conditions which are referenced in Section 01200 GENERAL REQUIREMENTS (Paragraph 3.12.3).

3.4 PROTECTION OF AIR RESOURCES

Special management techniques as set out below shall be implemented to control air pollution by the construction activities. These techniques supplement the requirements of Federal, State, and local laws and regulations; and the safety requirements under this Contract. If any of the following techniques conflict with the requirements of Federal, State, or local laws or regulations, or safety requirements under this contract, then those requirements shall be followed in lieu of the following.

3.4.1 Particulates

Airborne particulates, including dust particles, from construction activities and processing and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in

progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, disposal sites, borrow areas, and all other work areas free from airborne dust which would cause a hazard or nuisance.

3.4.2 Engine Emissions

The Contractor shall maintain equipment to minimize the release of fuel combustion emissions. The Contractor shall comply with all air quality standards, including emissions, fuel use and fuel consumption.

3.5 INSPECTION

If the Contracting Officer notifies the Contractor in writing of any observed noncompliance with contract requirements or Federal, State, or local laws, regulations, or permits, the Contractor shall inform the Contracting Officer of proposed corrective action and take such action to correct the noncompliance. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action is taken. No time extensions will be granted or costs or damages allowed to the Contractor for any such suspension.

3.6 MAINTENANCE OF POLLUTION CONTROL FACILITIES

The Contractor shall maintain all constructed pollution control facilities and portable pollution control devices for the duration of the Contract or for the length of time construction activities create the particular pollutant.

3.7 TRAINING OF CONTRACTOR PERSONNEL

Contractor personnel shall be trained in environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel monthly. The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure adequate and continuous environmental protection/pollution control. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants, shall also be discussed. Other items to be discussed shall include recognition and protection of archaeologic sites and artifacts. Desert tortoise, and any other sensitive biological resources, shall also be discussed.

-- End of Section --

Table 01130-1

ENVIRONMENTAL COMMITMENTS

Significant Impact	EIS Ref.	Federal Enviro	Mitigation Commitment	Implementa
Impacts to desert tortoise	Para 2.03	NEPA, Endangered Species Act	Payment of a Compensation Fee of $550 per acre of permanent disturbance and $220 per acre of temporary disturbance (40 percent of the assessment for permanent disturbance). This assessment would result in a compensation of $401,340 for permanent disturbance and $47,214 for temporary disturbance for a total of $448,554.	Prior to the initiation of construction. Paid by Corps of Engineers.
Impacts to desert tortoise during pre construction and construction	Para 2.03	NEPA, Endangered Species Act	The Corps will designate an individual as a contact representative who will be responsible for overseeing compliance with protective stipulations for the desert tortoise and coordination with the FWS.	Concurrent with pre construction and construction activities
			Any biologist supervising pre-construction and construction activity and/or moving tortoises or their eggs shall be a qualified tortoise biologist trained in the handling procedures specified in the Appendix A to the Biological Opinion (BO) issued by the FWS (Appendix D).	Concurrent with pre construction and construction

			Prior to start of pre-construction and construction activities in any areas occupied by the desert tortoise, or in which tortoise habitat is found, all employees who will work in such areas will be informed, through an education program, developed by the Corps, of the occurrence of the desert tortoise in the project area, and of the Threatened status of the species. They will be advised of the definition of "take", of the potential for impacts to the tortoise, and of the potential penalties (up to $25,000 in fines and 6 months in prison) for taking a threatened species. They will also be informed of the mitigation measures to which the Corps has committed and the terms and conditions included in the Biological Opinion.	Concurrent with pre construction and construction activities causing impacts.
			The contents of the education program would be coordinated with the FWS prior to its implementation. The program will also be presented to all supervisory and maintenance personnel associated with activities in tortoise habitat, and private landowners, if any, who will be responsible for maintenance of facilities on their properties. All such persons will sign a statement indicating that they have completed the education program and understand fully its provisions and the specific measures, terms, and conditions included in the EIS and Biological Opinion.	Concurrent with pre construction and construction activities causing impacts.

			Within 60 days prior to initial brushing, grubbing, grading, or other construction activity, a thorough survey of the construction site, including areas outside the facility boundaries likely to be disturbed by construction activities, will be conducted by the qualified Biologist. All tortoises, including any eggs found, will be removed form the site no more than 60 days prior to the onset of construction. Alternatively, removal efforts may occur in concert with surveys of project areas if performed no more than 60 days prior to the onset of construction.	Concurrent with pre construction and construction activities causing impacts.
			Each burrow, whether showing evidence of activity of not, will be 1) either examined using a fiberoptiscope and, if a tortoise is present, excavated by hand to remove the tortoise, or (2 excavated by hand to remove any tortoise or eggs that may be present. Burrows or dens of other species that could be used by tortoises also will be treated in the same manner. Tortoises found in these areas shall be handled and moved out of the construction zone according to the protocol provided in Appendix A to the Biological Opinion. All burrows will be excavated under the supervision of the Biologist. Only the Biologist shall handle tortoises or tortoise eggs.	Concurrent with pre construction and construction activities causing impacts.
			Tortoises removed from the wild will be relocated as specified under the section on measures to minimize mortality of desert tortoises during transportation, handling, and care following removal from project sites, below.	Concurrent with construction activities causing

			The Construction right-of-way for all primary channels and the lateral collector channel system will be inspected for tortoises and their burrows not more than one working day prior to any surface disturbing activities. The inspection will be conducted by a qualified tortoise biologist and will provide 100 percent coverage of the right-of-way. The area will be surveyed three times unless no tortoises are found on the second pass.	Concurrent with construction activities causing impacts.
			Tortoises found on all channel and lateral collector sites will be moved off the construction site for a distance of 300 to 1,000 feet and placed in the shade of a shrub, in a natural unoccupied burrow similar to the hibernaculum in which it was found, or in an artificially constructed burrow following the protocol provided in Appendix A to the Biological Assessment. Tortoises will not be placed on land not under the ownership of the Bureau of Land Management or the Flood Control District without the written permission of the landowner. If such permission is not obtained, the tortoise would be handled under the procedures outlined above.	Concurrent with construction activities causing impacts.

			Tortoises showing symptoms of Upper Respiratory Tract Disease will be left in the wild. To minimize the risk of spreading the Upper Respiratory Tract Disease, each tortoise will be handled with a separate pair of disposable gloves. All materials used to handle or contain tortoises will be used once and then discarded or sterilized. Cardboard boxes used to hold tortoises will be purchased new, used once, and then discarded. Tortoises will be purposefully moved only by qualified tortoise biologists, solely for the purpose of moving them out of harm's way. If a suitable location is not found, tortoises will be disposed of as specified under the subparagraph on measures to minimize mortality of desert tortoises during transportation, handling, and care following removal from project sites, below.	Concurrent with construction activities causing impacts.
			All vehicle traffic during construction will be restricted to existing roadways and to areas that have been cleared of tortoises. Speed limits in undeveloped areas containing tortoise habitat will not exceed 10 miles per hour from March 1 to November 15 of any year, except in emergency situations involving human health and safety. Information will be provided to construction crews and other workers regarding areas where vehicular traffic is not allowed. The ground beneath any vehicle parked in areas occupied by the desert tortoise will be carefully searched for tortoises before the vehicle is moved. If a tortoise is found beneath a vehicle, then the Biologist will move it according to the protocol specified in Appendix A to the Biological Opinion.	Concurrent with construction activities causing impacts.

			The Corps or the local sponsor, as appropriate, will deliver all tortoises that are to be removed permanently from the wild to Dewey Animal Care, Inc., in Las Vegas, Nevada. The Corps or the local sponsor will bear the cost incurred by Dewey Animal Care, Inc., of caring for and marking the tortoises. The time and date of collection, Biological Opinion number, and collector's name will be marked by the Corps or the local sponsor on each individual box containing a desert tortoise. The Corps or local sponsor will contact the tortoise transfer facility in writing at least 10 days in advance that tortoises are to be collected and delivered to the facility. The Corps will notify the local sponsor of this requirement.	Concurrent with construction activities causing impacts.
			The Corps is responsible for ensuring that the following provisions are implemented: 1) All tortoises delivered from the transfer facility will be permaneltly and humanely marked as provided under the Short-term Habitat Conservaton Plan for the Desert Tortoise. 2) Handling of tortoises by Dewey Animal Care, Inc., will be consistent with conditions authorized under Fish and Wildlife 10(a)(1)(B) Permit #756260.	Concurrent with construction activities causing impacts.
			The Corps and/or its designee will implement a litter control program during construction that will include the use of covered, raven-proof trash receptacles, removal of trash from the construction site to the trash receptacles following the close of each work day, and proper disposal of trash in a designated solid waste disposal facility at the end of each work week.	Concurrent with construction activities causing impacts.

Impacts to desert tortoise during operation and mainatenance	Para 2.03	NEPA, Endan-gered Species Act	Prior to maintenance activities at any facility in tortoise habitat, a qualified Biologist will conduct a thorough survey of the facility not more than 1 day prior to initiation of the work and flag all tortoise burrows found within the area in which maintenance activities will take place. If the maintenance is to occur between November 1 and March 15, burrows shall either be completely avoided, or the burrows dug out and hibernating tortoises moved as specified in Appendix A of the Biological Opinion. If the maintenance is to occur between March 15 and November 1, a Biologist shall accompany the maintenance crew and move all tortoises to safety that would be affected by the activity as specified in Appendix A of the Biological Opinion.	Subsequent to project completion (operation and main-tenance).
			Herbicides shall not be used in or adjacent to any facilities located in areas occupied by the desert tortoise unless approved in writing by the FWS.	Subsequent to project completion (operation and main-
			Maintenance crews that locate a tortoise that is trapped in any flood control facility will im-mediately notify a person designated by the local sponsor to handle such situations. The tortoise will be moved by a person trained in tortoise handling procedures. If a live tortoise is in imminent danger of harm within a facility, a maintenance crew member may move the tortoise out of harms way using methods provided in the training program.	Subsequent to project completion (operation and main-tenance).

Temporary impacts to the desert tortoise and other vegetation and wildlife	Para 2.03	NEPA, Endangered Species Act	The Corps will develop and implement a revegetation program for temporarily disturbed sites west of Durango Road in areas adjacent to tortoise habitat. The Corps also will monitor the effects of revegetation for ten years after revegetation. Revegetation and monitoring plans will be developed by the Corps and coordinated with the FWS prior to initiation of construction.	Upon completion of construction.
Temporary construction impacts	Paras 4.07a, and 4.11	NEPA	Planting of native species in disturbed areas for erosion control.	Upon completion of construction.

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GENERAL REQUIREMENTS

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SECTION 01200

GENERAL REQUIREMENTS

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM F 547	(1977; R 1995) Definitions of Terms Relating to Nail For Use with Wood and Wood-Based Materials

ASME INTERNATIONAL (ASME)

ASME B18.2.1	(1996) Square and Hex Bolts and Screws (Inch Series)
ASME B18.2.2	(1987; R 1993) Square and Hex Nuts (Inch Series)

COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-2336	(Rev A) Primer Coating (Alkyd, Exterior Wood, White and Tints)
CID A-A-2962	(Rev A) Enamel, Alkyd (Metric)

DEPARTMENT OF COMMERCE (DOC)

DOC PS 1	(1996) Voluntary Product Standard - Construction and Industrial Plywood

ENGINEERING MANUALS (EM)

EM 385-1-1	(1996) U.S. Army Corps of Engineers Safety and Health Requirements Manual

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

NIST PS 20	(1994; Addenda Jan. 1997) American Softwood Lumber Standards

1.2 SUBMITTALS

Government approval is required for submittals with a "GA" designation; submittals having an "FIO" designation are for information only. The

following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-09 Reports

Insurance Policies; FIO.

Copy of all policies in force.

Utilities to be Relocated or Protected; FIO.

Submit notification not less than 14 days prior to starting work on any utility.

Bench Marks and R/W Markers; FIO.

Submit notification not less than 7 calendar days prior to removal.

Clearing and Grubbing; FIO.

Submit notification not less than 7 calendar days prior to start of clearing and grubbing activities.

Spill Reporting; FIO.

Submit notification of spills immediately after spillage.

Record of construction as installed and completed within 14 calendar days of acceptance of the project by the Government.

Traffic Control Plan; FIO.

Submit approved plan prior to construction.

Accident Reporting; FIO.

Submit summary of worker's compensation claims.

Air Pollution Permit; FIO.

Submit copy of permit.

National Pollutant Discharge Elimination System; FIO.

Submit copy of plan and NOI.

Temporary Fencing Plans; GA.

Submit plans not less 30 calendar days after notice to proceed.

SD-04 Drawings

As-Built Drawings; GA.

Submit in accordance with paragraph: AS-BUILT DRAWINGS.

1.3 PROJECT FACILITIES

The Contractor shall construct and/or erect the following project facilities:

1.3.1 Construction Signs

The signs shall be erected as soon as possible and within 15 calendar days after commencement of the work under this contract.

a. Project Signs: One Project Sign at location designated by the Contracting Officer.

b. Warning Signs: Facing approaching traffic on all haul roads crossing under overhead power transmission lines.

c. Hard Hat Signs: Four hard hat signs at locations directed.

1.3.2 Bulletin Board

Immediately upon beginning work at the site, the Contractor shall provide a weatherproof glass-covered bulletin board, not less than 36 by 30 inches in size, with hinged glass door, adjacent to, or mounted on, the Contractor's project office. If adjacent to the office, the bulletin board shall be securely mounted on no less than 2 posts. Bulletin board and posts shall be painted or have other approved factory finish. The bulletin board shall be easily accessible at all times and shall contain wage rates, equal opportunity notice, and such other items required to be posted.

1.3.3 Sanitary Facilities

Suitable sanitary facilities shall be provided and maintained by the Contractor.

1.3.4 Temporary Construction Fencing

Temporary construction fencing 1.5 meters high shall be erected in the locations indicated on the drawings.

PART 2 PRODUCTS

2.1 CONSTRUCTION SIGNS

2.1.1 Materials

2.1.1.1 Lumber

Lumber shall conform to NIST PS 20, and shall be seasoned Douglas Fir, S4S, Grade D or better except that posts, braces and spacers shall be construction Grade (WCLB).

2.1.1.2 Plywood

Plywood shall conform to DOC PS 1, grade A-C, Group 1, exterior type.

2.1.1.3 Bolts, Nuts and Nails

Bolts shall conform to ASME B18.2.1, nuts shall conform to ASME B18.2.2, and nails shall conform to ASTM F 547.

2.1.1.4 Paints and Oils

Paints shall conform to CID A-A-2336 for primer and CID A-A-2962 for finish paint and lettering.

2.2 TEMPORARY CONSTRUCTION FENCING

Fencing material shall be chain link fabric with steel posts, of new or salvaged materials suitable for the intended purpose.

PART 3 EXECUTION

3.1 CONSTRUCTION OF SIGNS

3.1.1 Project and Hard Hat Signs

Project, hard hat, and safety signs shall be constructed as detailed on Figures 1, 2, and 3 attached at the end of this section. Decals will be furnished by the Contracting Officer.

3.1.2 Warning Signs

Warning signs shall be constructed of plywood not less than 1/2 inch thick and shall be securely bolted to the supports with the bottom of the sign face 1 m above the ground. The sign face shall be 0.60 m x 1.20 m, all letters shall be 100 mm in height, and the wording shall be: "WARNING: OVERHEAD TRANSMISSION LINES."

3.2 PAINTING SIGNS

All exposed surfaces and edges of plywood shall be given one coat of linseed oil and be wiped prior to applying primer. All exposed surfaces of signs and supports shall be given one coat of primer and 2 finish coats of white paint. Except as otherwise indicated, lettering on all signs shall be black and sized as indicated.

3.3 PROJECT ENGINEER'S OFFICE EQUIPMENT

Contractor shall provide computer software (3.5" floppy disc size) to the Contracting Officer for the type of scheduling system to be used and quantity/fill programs for tracking or estimating bid quantities during construction. Scheduling software must be capable of downloading completely to the COE Standard Data Exchange Format. The Contractor shall utilize a hand held radio system for communication between the Contractor's quality control representative and the Government's quality assurance representative. Radio equipment for the Government's use shall include a

hand held radio, two batteries and one charger. The Contractor shall provide Government personnel with the following equipment for the duration of the contract: 1 Cellular telephone with voice mail, 2 nickel cadmium batteries, 1 desk top charger, 1 travel charger, and 400 minutes of air time per month or portion thereof.

3.4 TEMPORARY CONSTRUCTION FENCING

Temporary construction fencing shall be carefully erected, in a neat and workmanlike manner. Posts shall be plumb and in alignment. The fabric shall be installed and pulled taut to provide a smooth and uniform appearance.

3.5 MAINTENANCE AND DISPOSAL OF PROJECT FACILITIES

The Contractor shall maintain the project facilities in good condition throughout the life of the project. Upon completion of work under this contract, the facilities covered under this section will remain the property of the Contractor and shall be removed from the site at his expense.

3.6 SCRAP MATERIAL

Materials indicated to be removed and not indicated to be salvaged, stored or reinstalled are designated as scrap and shall become the property of the Contractor and be removed from the site of work. The Contractor by signing this contract hereby acknowledges that he made due allowance for value, if any, of such scrap in the contract price.

3.7 ARCHAEOLOGICAL FINDINGS DURING CONSTRUCTION

Should the Contractor or any of his employees in the performance of this contract find or uncover any archaeological remains, he shall notify the Project Engineer immediately. Such notifications will be a brief statement in writing giving the location and nature of the findings. Should the discovery site require archaeological studies resulting in delays and/or additional work, the Contractor will be compensated by an equitable adjustment under the CONTRACT CLAUSES of the contract.

3.8 PROTECTION OF EXISTING WORK

Before beginning any cutting or removal work, the Contractor shall carefully survey the existing work and examine the drawings and specifications to determine the extent of the work. The Contractor shall take all necessary precautions to insure against damage to such work to remain in place, to be reused, or to remain the property of the Government, and any damage to such work shall be repaired or replaced as approved by the Contracting Officer at no additional cost to the Government. The Contractor shall carefully coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports, as required. The Contractor shall insure that structural elements are not overloaded and be responsible for increasing structural supports or adding new supports as may be required as a result of any cutting, removal, or demolition work performed under any part of this contract.

3.9 PUBLIC UTILITIES, NOTICES, AND RESTRICTIONS

3.9.1 General

The approximate location of all railroads, pipelines, power and communication lines, and other utilities known to exist within the limits of the work are indicated on the drawings. The sizes, locations, and names of owners of such utilities are given from available information, but their accuracy is not guaranteed. Except as otherwise indicated on the drawings, all existing utilities will be left in place and the Contractor shall conduct his operations in such a manner that the utilities will be protected from damage at all times, or arrangements shall be made by the Contractor for their relocation at the Contractor's own expense. The Contractor shall be responsible for any damage to utilities known to exist and shall reimburse the owners for such damage caused by his operations.

3.9.2 Relocation or Removal

Utilities to be relocated or removed not as part of this contract are designated "To be Relocated by Others" or "To be Removed by Others", respectively. Utilities shown on the plans and not so designated will be left in place and be subject to the provisions of the CONTRACT CLAUSE: PROTECTION OF EXISTING VEGETATION, STRUCTURES, UTILITIES, AND IMPROVEMENTS. The Contractor may make arrangements with the owner for the temporary relocation and restoration of utilities not designated to be relocated, or for additional work in excess of the work needed to relocate utilities designated for relocation at no additional cost to the Government.

3.9.3 Utilities Not Shown

If the Contractor encounters, within the construction limits of the entire project, utilities not shown on the plans and not visible as of the date of this contract and if such utilities will interfere with construction operations, he shall immediately notify the Contracting Officer in writing to enable a determination by the Contracting Officer as to the necessity for removal or relocation. If such utilities are left in place, removed or relocated, as directed by the Contracting Officer, the Contractor shall be entitled to an equitable adjustment for any additional work or delay.

3.9.4 Coordination

The Contractor shall consult and cooperate with the owner of utilities that are to be relocated or removed by others to establish a mutual performance schedule and to enable coordination of such work with the construction work. These consultations shall be held as soon as possible after award of the contract or sufficiently in advance of anticipated interference with construction operations to provide required time for the removal or relocation of affected utilities.

3.9.5 Notices

3.9.5.1 Utilities To be Relocated or Protected

Unless otherwise specified, the Contractor shall notify the Contracting Officer, in writing, 14 calendar days prior to starting work on any utility to be relocated or protected. On each relocation, notification shall include dates on which the Contractor plans excavation, by-pass work, removal work and/or installation work, as applicable. The Contractor shall also notify the following representatives of utility owners not less than 7 days prior to the start of work in the vicinity of their respective utilities.

Mr. Bucky Faulkner
Clark County Sanitation District
5857 E. Flamingo road
Las Vegas, NV
Telephone: (702)434-6601

Mr. Tom Carden
Southwest Gas Corporation
4300 W. Tropicana Avenue
Las Vegas Nevada
(702)365-2180
Underground Service Alert
(800)227-2600

Kimberly Granath-Musil
Cox Communications
121 S. Martin L. King Blvd.
Las Vegas, NV 89106
(702)384-8084, ext 356

Mr. Dean Whitman
US Sprint
3300 S. Valley View Boulevard
Las Vegas, NV 89152
(702)244-7808

Ms. Tina Kelling
Nevada Power Company
6770 W. Flamingo Road
Las Vegas, NV 89151
(702)252-4815

3.9.5.2 Bench Marks and R/W Markers

The Contractor shall notify the Contracting Officer, in writing, 7 days in advance of the time he proposes to remove any existing bench mark or right-of-way marker.

3.9.5.3 Clearing and Grubbing

In order to satisfy the Environmental Assessment for this project, the Contracting Officer is required to have a qualified biologist on site at all times while clearing and grubbing operations are in progress. The Contractor shall notify the Contracting Officer 14 calendar days prior to the start of clearing and grubbing activities so that a biological monitor

can walk immediately in front of the Contractors' clearing and grubbing equipment to survey for the threatened desert tortoise. For scheduling purposes, the Contractor shall coordinate and complete all clearing and grubbing activities within one workday period.

3.9.5.4 Spill Reporting

The Contractor shall notify the Contracting Officer immediately after any spill, regardless of quantity, including all personnel exposures. The Contractor shall submit a written notification not later than 7 calendar days after the initial notification. The written notification shall include the following:

a. Item spilled, leaked or releases in an unauthorized manner (Identification, Quantity and Manifest Numbers).

b. Whether the amount spilled, leaked or released in an unauthorized manner is EPA reportable and, if reported, a copy of the report.

c. Exact location of the spill, leak or unauthorized release.

d. Nature of exposure to personnel.

e. Containment procedures initiated.

f. Anticipated cleanup and disposal procedure.

g. Disposal location of spill, leak or unauthorized release residue.

3.9.6 Restrictions

3.9.6.1 Other Agency Representatives

Personnel representing owners and other agencies may be present for various portions of the work. However, the Contractor will be responsible only to the Contracting Officer.

3.9.6.2 Traffic Control Plan

The Contractor shall develop a Traffic Control Plan and obtain an approval from the Clark County Department of Public Works prior to construction. The plan shall include vehicular detour plans, details of truck haul routes, details of restripping and signage for vehicular circulation, and parking details.

Charleston Boulevard. The Contractor shall also develop a traffic control plan for work performed in the Charleston Boulevard (Highway 159) right-of-way as required by the State of Nevada Department of Transportation permit.

3.9.6.3 Existing Roads

The work shall be planned in such a manner that regular traffic on the existing roads outside actual construction areas shall be maintained at all

times. The work area shall be examined carefully relative to the order and scope of work to be performed, with respect to the limiting provisions of the plans and specifications. The construction schedule shall be prepared giving full consideration to not impacting maintaining regular traffic on existing roads outside the construction limits. Additional work on the existing roads may be performed by others during the life of this contract.

3.9.6.4 Access and Haul Roads

All haul and access roads, within the construction area, including the borrow areas, shall be maintained to provide vehicular access for the Government's vehicles as well as Contractor's vehicles. Haul roads shall be proposed so that use of existing residential streets are minimized.

3.9.6.5 Public and Private Roads

When it is necessary to operate on existing roads outside the construction area, all necessary permits shall be obtained from the appropriate private or public authority. Work shall be conducted in such manner so as to obstruct and inconvenience traffic on existing roads outside the construction limits as little as possible. Spillage of earth, dusty materials, boulders, and mud on project roads or other road will not be permitted. If spillage cannot be prevented, the spillage shall be immediately removed and such areas shall be kept clear throughout the workday. At the conclusion of each workday, such traveled areas shall be cleared of spillage, boulders, and mud.

3.9.6.6 Maintenance of Roads

All haul and access roads, within the construction area, including the borrow areas, shall be maintained to provide vehicular access for the Government's vehicles and the Contractor's vehicles and equipment. Road maintenance shall include rock/mud slides, washouts, and any incident which would restrict vehicular/equipment access. Prior to any alterations of any road alignment, the Contractor shall receive an approval from the Contracting Officer. Road maintenance and alterations shall be performed by the Contractor at no additional cost to the Government.

3.9.6.7 Traffic Safety

In accordance with CONTRACT CLAUSE: ACCIDENT PREVENTION, signs, barricades, and warning devices shall be provided, installed, and maintained as are required for protection of vehicular traffic at any location where operations interfere with public roads. Signs, barricades, lights, and signals, shall be in conformance with Part VI of the U.S. Department of Transportation Manual on Uniform Traffic Control Devices for Streets and Highways.

3.9.6.8 Rock and Gravel

Rock and gravel for use on haul roads and other facilities may be obtained from any source within the excavation limits, borrow area, or stockpiles, that are within the project boundaries and are not designated for other use. The use of any such source shall be subject to approval by the

Contracting Officer.

3.9.6.9 Cooperation with Others

The Contractor shall coordinate his activities and cooperate with other contractors as to not delay or interfere with their work.

3.9.6.10 Roller Compacted Concrete Inflow Structure

The contractor shall complete construction of the roller compacted concrete (RCC) inflow structure, wall structure, apron, and roadside channel by 1 June, 2001. All items required to be constructed prior to RCC placement between inflow structure Sta. 18+00 (+/-) and Sta. 21+68 (+/-), and roadside channel Sta. 10+88 (+/-) and Sta. 17+30 (+/-) shall be in place so RCC placement can be accomplished. These items shall include but not be limited to excavation and recompaction and compacted fill.

3.9.7 Working Hours

The Contractor shall restrict all construction activities to the following schedule:

Monday thru Friday	6:30 a.m. to 7 p.m.
Saturday	8:00 a.m. to 7 p.m.

No work will be permitted on Sundays or Federal Holidays without the prior written approval from the Contracting Officer.

Disposal area(s) and haul route(s) utilized by the Contractor may require restricted hauling hours. The Contractor is notified that hauling or disposal activities may be restricted to normal business hours (7 a.m. to 4 p.m.) in the event that such operations are considered to be disruptive to existing neighborhood safety and noise conditions. In the event that such a situation develops, the Contracting Officer shall notify the Contractor of restrictive hauling and/or disposal times. The Contractor shall develop their schedule for construction so that restrictive hauling times can be absorbed without extending the overall contract completion period.

3.9.8 Construction Water

There are no known developed sources for water at or in the immediate vicinity of the project site. The Contractor shall be responsible for obtaining water for construction purposes at no additional cost to the Government.

3.9.9 Identification of Vehicles

All the Contractor's vehicles shall display suitable permanent identification.

3.9.10 Construction Method Observation

Any construction method, plant, or piece of equipment used on this contract shall not be considered proprietary, and can be inspected or photographed

at any time by the Government, regulatory agencies, or any group approved by the Government.

3.9.11 Contractor's Equipment

The planned method of transportation and operation of cranes and other heavy equipment to be used in the performance of this contract shall be submitted for approval by the Contracting Officer. The plan shall include the type, size, loadings of equipment, the proposed transportation routes, and work areas to be used on the project.

3.10 PUBLIC SAFETY

Attention is directed to the CONTRACT CLAUSE: PERMITS AND RESPONSIBILITIES. The Contractor shall provide temporary fencing, barricades, and/or guards, as required, to provide protection in the interest of public safety. Whenever the Contractor's operations create a condition hazardous to the public, he shall furnish at his own expense and without cost to the Government, such flagmen and guards as are necessary to give adequate warning to the public of any dangerous conditions to be encountered and he shall furnish, erect, or maintain such fences, barricades, lights, signs and other devices as are necessary to prevent accidents and avoid damage or injury to the public. Flagmen and guards, while on duty and assigned to give warning and safety devices shall conform to applicable city, county, and state requirements. Should the Contractor appear to be neglectful or negligent in furnishing adequate warning and protection measures, the Contracting Officer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed by the Contractor without additional cost to the Government. Should the Contracting Officer point out the inadequacy of warning and protective measures, such action of the Contracting Officer shall not relieve the Contractor from any responsibility for public safety or abrogate his obligation to furnish and pay for those devices. The installation of any general illumination shall not relieve the Contractor of his responsibility for furnishing and maintaining any protective facility.

3.11 OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA) STANDARDS

The OCCUPATIONAL SAFETY and HEALTH ACT (OSHA) STANDARDS for CONSTRUCTION (Title 29, Code of Federal Regulations Part 1926 as revised from time to time) and the Corps of Engineers General Safety and Health Requirements Manual, EM 385-1-1, are both applicable to this contract. The most stringent requirement of the two standards will be applicable.

3.11.1 Accident Reporting

In accordance with EM 385-1-1, the Contractor shall submit a written summary of worker's compensation claims which have been filled by worker's in connection with work on the project. The summary shall be submitted at the time when the work is approximately 50 percent complete and at project completion. The summary shall include all subcontractors. The Contractor's and subcontractor's compensation insurance carrier shall certify that the summaries are "correct and true".

3.12 PERMITS

3.12.1 General

Reference is made to the article of the contract entitled "Permits and Responsibilities", which obligates the Contractor to obtain all required licenses and permits.

3.12.2 Air Pollution Permit (APP)

The Contractor shall obtain an APP from the Clark County Health Department. A copy of the permit shall be submitted to the Contracting Officer. For further information, contact Ms. Cynthia Mikes at telephone number (702) 383-1276.

3.12.3 National Pollutant Discharge Elimination System (NPDES) Permit

The Contractor shall obtain a NPDES permit from the United States Environmental Protection Agency (USEPA) under the Nation Wide Permit (NWP) program, which requires that a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and maintained on-site throughout the construction period. A copy of the plan shall be submitted to the Contracting Officer. In accordance with the NWP, a minimum of two (2) days prior to the start of construction activities, the Contractor shall submit a Notice of Intent (NOI) with fees to the Nevada Division of USEPA. The NOI shall be submitted on the standard EPA Form 3510-6 (8-92), and copies shall be provided to the Contracting Officer. For further information, contact Mr. Robb Saunders at telephone number (775) 687-4670.

3.12.4 NDOT Occupancy Permit

The Contractor shall comply with all terms and conditions of the NDOT occupancy permit which provides restrictions concerning construction activities within NDOT Rights-of-Way and hauling materials to the Gun Club adjacent to State Highway 159.

3.13 NOTICE OF PARTNERSHIP

The Government intends to encourage the foundation of a cohesive partnership with the Contractor and its subcontractors. This partnership will be structured to draw on the strengths of each organization to identify and achieve reciprocal goals. The objectives are effective and efficient contract performance and intended to achieve completion within budget, on schedule, and in accordance with plans and specifications. This partnership would be bilateral in makeup, and participation will be totally voluntary. Any cost associated with effectuating this partnership will be agreed to by both parties and will be shared equally with no change in contract price. To implement this partnership initiative it is anticipated that within 60 days of Notice to Proceed the Contractor's on-site project manager and the Government's Resident Engineer would attend a two day partnership development seminar/team building workshop together with the Contractor's key on-site staff and key Government personnel. Follow-up workshop of 1 to 2 days duration would be held periodically throughout the

duration of the contract as agreed to by the Contractor and Government.

3.14 AS-BUILT DRAWINGS

3.14.1 General

The Contractor shall prepare as-built drawings for the government. The as-built drawings shall be a record of the construction as installed and completed by the Contractor. They shall include all the information shown on the contract set of drawings and a record of all deviations, modifications, or changes from those drawings, however minor, which were incorporated in the work, all additional work not appearing on the contract drawings, and all changes which are made after final inspection of the contract work. In the event that the Contractor accomplishes additional work which changes the as-built conditions of the facility after submission of the as-built drawings, the Contractor shall furnish revised and/or additional drawings as required to depict as-built conditions. The requirements for these additional drawings will be the same as for the as-built drawings included in the original submission. The prints shall show the following information, but not be limited thereto:

a. The location and description of any utility lines or other installations of any kind or description known to exist within the construction area. The location includes dimensions to permanent features.

b. The location and dimensions of any changes within the structures.

c. Correct grade or alignment of roads, structures, or utilities if any changes were made from contract plans.

d. Correct elevations if changes were made in site grading.

e. Changes in details of design or additional information obtained from working drawings specified to be prepared and/or furnished by the Contractor including but not limited to fabrication, erection, installation plans and placing details, pipe sizes, insulation material, etc.

f. The topography and grades of all drainage installed or affected as a part of the project construction.

g. All changes or modifications that result from the final inspection.

3.14.2 Options

Where contract drawings or specifications allow options, only the option selected for construction shall be shown on the as-built drawings.

3.14.3 Preliminary As-built Drawings

The Contractor shall maintain two (2) sets of full size blueline prints marked-up in red, one for use by the Contractor and one for use by the Government, to show the as-built conditions. The sets of as-built prints

shall be kept current and available at the job site at all times. Information to be included on these preliminary drawings shall conform to the requirements as stated above. Prior to submission of each monthly pay estimate, the Contracting Officer and the Contractor will jointly inspect the marked-up as-built prints. Failure to keep the as-built field data current shall be sufficient justification to withold a percentage from the monthly pay estimate.

3.14.4 Submittal to Contracting Officer For Review and Approval

The Government will furnish the Contractor with compact disk(s) (CD-R) containing electronic copies of the contract construction drawing files. The electronic files will be in Microstation format (Microstation Computer-Aided Design and Drafting Program, Microstation SE). The Contractor shall give the Government two weeks notice prior to his need for the electronic drawing files. The Contractor shall use the electronic files to generate as-built drawings for the project. Not later than two weeks after acceptance of the project by the Government, the Contractor shall deliver to the Contracting Officer one (1) set of marked-up preliminary as-built drawings, two (2) full size sets of blueline prints and one (1) set of paper or mylar reproducible prints of the as-built drawings. The Contractor shall also submit compact disk(s) containing electronic copies of the as-built drawing files in the same Microstation format as the files furnished. If upon review, the drawings are found to contain errors and/or omissions, the Contractor will be notified and the electronic as-built drawing files will be returned to the Contractor for corrections. The Contractor shall complete the corrections and return two (2) sets of corrected as-built electronic drawing files on compact disk(s), and one (1) full size blueline print of the as-built drawings to the Contracting Officer within ten (10) calendar days.

3.15 TIME EXTENSIONS FOR UNUSUALLY SEVERE WEATHER (ER 415-1-15, 31 OCT 89)

a. This provision specifies the procedure for determination of time extensions for unusually severe weather in accordance with the CONTRACT CLAUSE: DEFAULT (FIXED PRICE CONSTRUCTION). In order for the Contracting Officer to award a time extension under this clause, the following conditions must be satisfied:

(1) The weather experienced at the project site during the contract period must be found to be unusually severe, that is, more severe than the adverse weather anticipated for the project location during any given month.

(2) The unusually severe weather must actually cause a delay to the completion of the project. The delay must be beyond the control and without the fault or negligence of the Contractor.

b. The following schedule of monthly anticipated adverse weather delays is based on National Oceanic and Atmospheric Administration (NOAA) or similar data for the project location and will constitute the base line for monthly weather time evaluations. The Contractor's progress schedule must reflect these anticipated adverse weather delays in all weather dependent activities.

MONTHLY ANTICIPATED ADVERSE WEATHER DAYS
Work Days Based on five (5) Day Work Week

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
6	2	2	1	1	0	2	2	1	1	1	3

c. Upon acknowledgment of the Notice to Proceed (NTP) and continuing throughout the contract, the Contractor will record on the daily CQC report, the occurrence of adverse weather and resultant impact to normally scheduled work. Actual adverse weather delay days must prevent work on critical activities for 50 percent or more of the Contractor's scheduled work day. The number of actual adverse weather days shall include days impacted by actual adverse weather (even if adverse weather occurred in previous month), be calculated chronologically from the first to the last day of each month, and be recorded as full days. If the number of actual adverse weather delay days exceeds the number of days anticipated in subparagraph b, the Contracting Officer will convert any qualifying delays to calendar days, giving full consideration for equivalent fair weather work days, and issue a modification in accordance with the CONTRACT CLAUSE: DEFAULT (FIXED PRICE CONSTRUCTION).

3.16 REQUIRED INSURANCE

The Contractor shall procure and obtain during the entire period of his performance under this contract the following minimum insurance:

a. General Public Liability insurance for bodily injury and property damage with minimum limits of $1,000,000 combined single limit per occurrence and $1,000,000 annual aggregate for bodily injury to or death, personal injury and property damage.

b. Automobile Liability insurance for bodily injury and property damage with minimum limits of $1,000,000 combined single limit for each occurrence and $1,000,000 annual aggregate.

c. Either Workman's Compensation or Employer's Liability insurance with a minimum limit of $1,000,000.

In every case the insurance coverage shall amount to at least the limits stated above. However, where the Financial Responsibility Compulsory Insurance Law of the State in which the installation is located requires higher limits, the Automobile Liability Insurance Policy should provide coverage of at least those limits. County of Clark, a political subdivision of the state of Nevada, Clark County Regional Flood Control District, and Montgomery Watson shall be named as additional insured parties and all policies issued in performance of work under this contract.

The Contractor does hereby agree to indemnify, defend, and save harmless Clark County, Clark County Regional Flood Control District, U.S. Army Corps of Engineers and Montgomery Watson from loss, damage, liability, costs, or expense to the proportionate extent caused by the Contractor, his

employees, agents, or consultants and/or consultants arising out of its performance of this contract, including, but not limited to the negligent acts, errors, omissions, or intentional misconduct of the Contractor, its employees, agents or consultants and/or subconsultants in connection with this contract.

Contractor further does hereby agree, as a precaution to the performance of any work under this contract and as a precaution to any obligation of Clark County to make any payment under this contract, to provide Clark County with a certificate and/or a certificate issued by the State Industrial Insurance System (SIIS) in accordance with Nevada Revised Statute 616.280.

Contractor agrees to maintain required workers compensation throughout the entire term of the contract. If Contractor does not maintain coverage throughout the entire term of the contract, Contractor agrees that Owner may, at any time the coverage is not maintained by Contractor, order the Contractor to stop work, assess liquidated damages as defined herein, suspend the contract, or terminate the contract. For each six month period this contract is in effect, Contractor agrees, prior to the expiration of the six month period, make another written request to SIIS for the provisions of a certificate and notice of lapse in or nonpayment of coverage. If Contractor does not make the request or does not provide the certificate before the expiration of the six month period, Contractor agrees that owner may order the Contractor to stop work, suspend the contract or terminate the contract.

3.17 BLM RIGHT-OF-WAY GRANT STIPULATIONS

3.17.1 Desert Varnish Coloring

Following completion of construction downstream of the existing embankment, disturbed lands, filled areas, and structures shall blend into the natural color of the surrounding lands through the surface application of a desert varnish coloring material. The desert varnish shall be an artificially accelerated, single-step oxidation process to simulate natural desert colors or similar process as approved by the Contracting Officer. Material shall be an aqueous solution containing salts of iron, manganese, and other trace elements. Material shall be diluted with water to achieve a color that matches the existing natural desert color. A test section shall be processed on site by the Contractor for approval by the Contracting Officer.

3.17.2 Surface Disturbances

No surfce disturbance shall be permitted further than 6.1 meters (twenty feet) from the access roadways, approved haul routes, fill areas within the wash, the waste pile area, and the headwall and apron. Ground disturbance including use by construction equipment shall be limited to a maximum of 6.1 meters (twenty feet) outside these structures. This boundary shall be marked by the installation of temporary fencing to prevent entry into the closed area. The temporary fencing plans shall be submitted to the Contracting Officer for approval.

3.18 SPECIAL CONSTRUCTION REQUIREMENTS

The Contractor shall restrict his operation and adapt his construction schedule to accommodate the following:

3.18.1 Project Limits

The Contractor's work, employee parking, operations, staging, equipment assembly and maintenance, and other on-site activities shall be restricted to actual areas of construction within the Project Limits. The Project Limits of the Red Rock Outlet Channel are indicated on the drawings, and constitute the maximum limits of the construction area available for Contractor's operations. The Project Limits are generally defined by the Right-of-Way (R/W) and adjoining Temporary Construction Easements (TCE) as shown on the plans, unless designated otherwise (either in the plans, in these Specifications or by the Contracting Officer).

The Contractor shall be solely responsible for obtaining agreements with and acquisition from adjacent land owners, when additional land or access points are required to supplement the Contractor's operations or staging needs. No appurtenances or other public access facilities (either temporary or permanent) shall be constructed beyond the Project Limits.

3.18.2 Existing Roads

3.18.2.1 Country Cove Court

The Contractor shall maintain public access along Country Cove Court at all times during this contract. Signs and reflective barriers are to be used as required to allow safe passage. The Contractor shall not use Country Cove Court as an entrance or exist to the project site.

3.18.2.2 Green Mountain Court

The Contractor shall maintain public access along Green Mountain Court at all times during this contract. Signs and reflective barriers are to be used as required to allow safe passage.

3.18.3 Coordination with Other Contractors

3.18.3.1 Red Rock Country Club at Summerlin

The Contractor is advised that Red Rock Country Club at Summerlin is currently under construction. Construction is ongoing for a period of five years based on new home sales. Work to be performed under that contract consists of construction of Red Rock Homes Subdivision. Additional information may be obtained on this subdivision development contract from the Land Development Manager, David Firestone at telephone (702) 360-0468.

3.18.4 Diversion and Control of Water

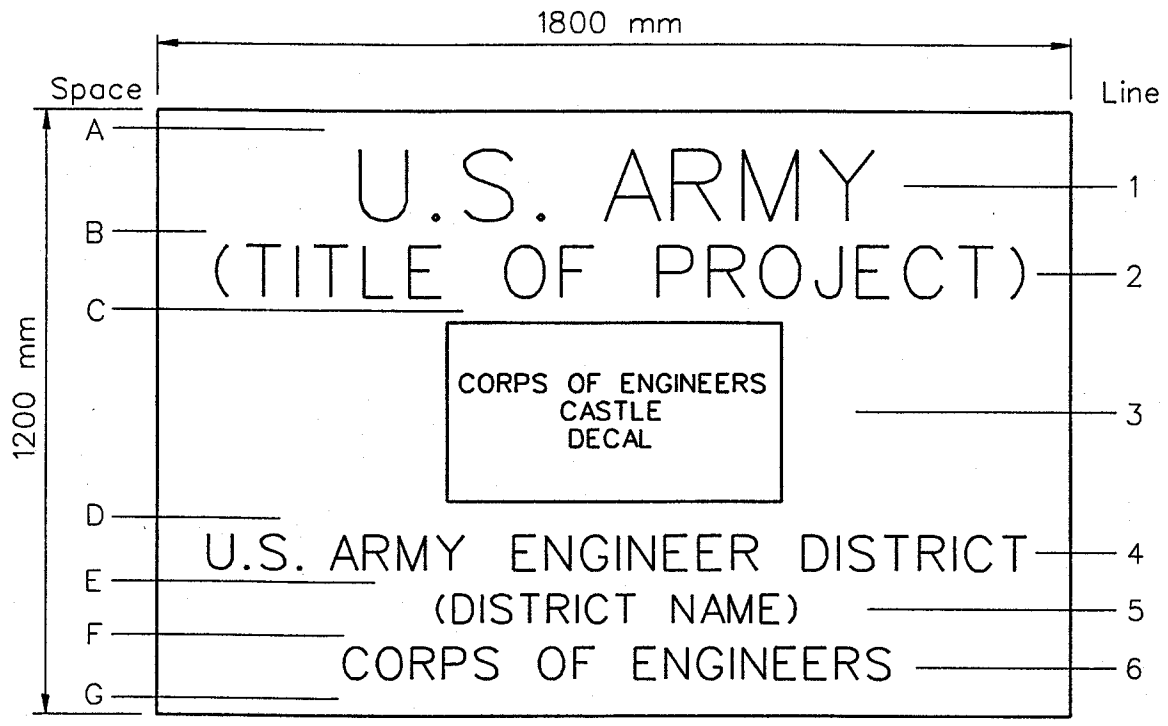
The Contractor is responsible for control of storm flows during construction. The estimated 100-year discharge from the detention basin to the Red Rock Outlet Channel is 5.1 cubic meters per second. In addition to flow released from the detention basin, the surrounding area contributes runoff that increases the 100-year flow in the project area to 13.0 cubic

meters per second. The Contractor shall describe the method of control for these flows in the diversion and control of water plan required as part of Section 02100 DIVERSION AND CONTROL OF WATER.

3.18.5 Minimize Existing Facility Exposure

The contractor shall minimize existing facility exposure by replacement work immediately following demolition work. For example, the demolition of the existing headwall shall be followed by the construction of the new pipe connection to the existing pipe and the laying of new pipe, in a continuos operation.

-- End of Section --



Space	Height	Line	Description	Letter Height	Stroke
A	75				
		1	U.S. ARMY	140	22
B	50				
		2	PROJECT NOMENCLATURE	100	16
C	50				
		3	CORPS OF ENGINEERS CASTLE (DECAL)	345	
D	70				
		4	U.S. ARMY ENGINEER DISTRICT	70	9
E	50				
		5	DISTRICT NAME	60	6
F	50				
		6	CORPS OF ENGINEERS	65	9
G	75				

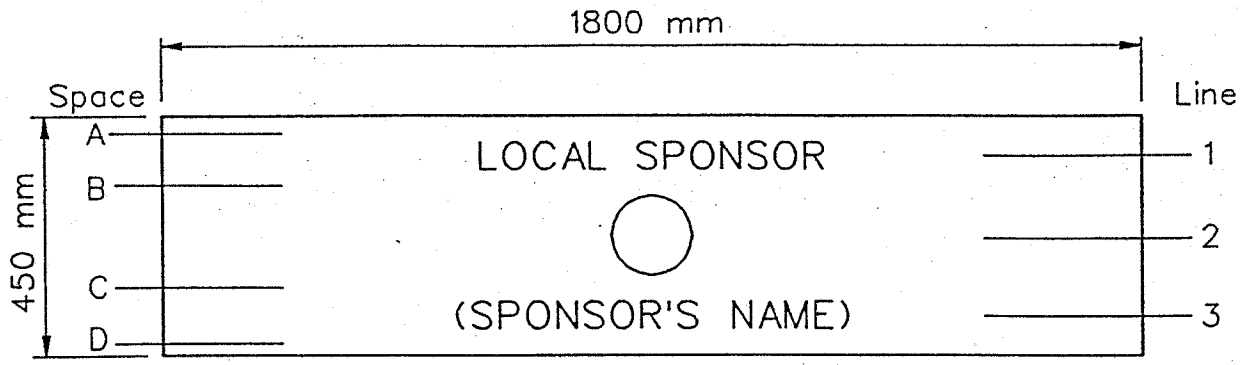
Letter Color -- Black

PROJECT SIGN
(Army-Civil Works)

Figure 1
October 1996

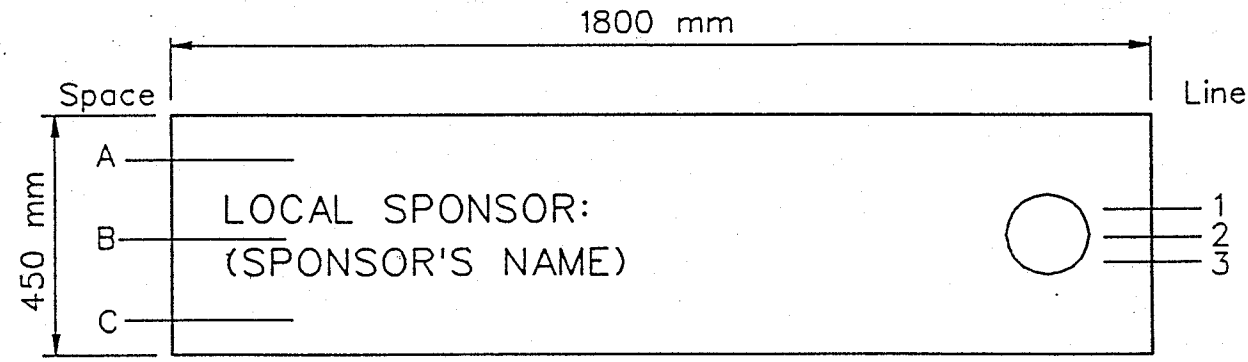
All units are in millimeters.

...\dredging\dgn\1999\sign.dgn Mar. 07, 2000 12:42:03



Space	Height	Line	Description	Letter Height	Stroke
A	50				
		1	LOCAL SPONSOR	50	9
B	50				
		2	SPONSOR'S EMBLEM (DECAL)		
C	50				
		3	(SPONSOR'S NAME)	50	9
D	50				

- OR -

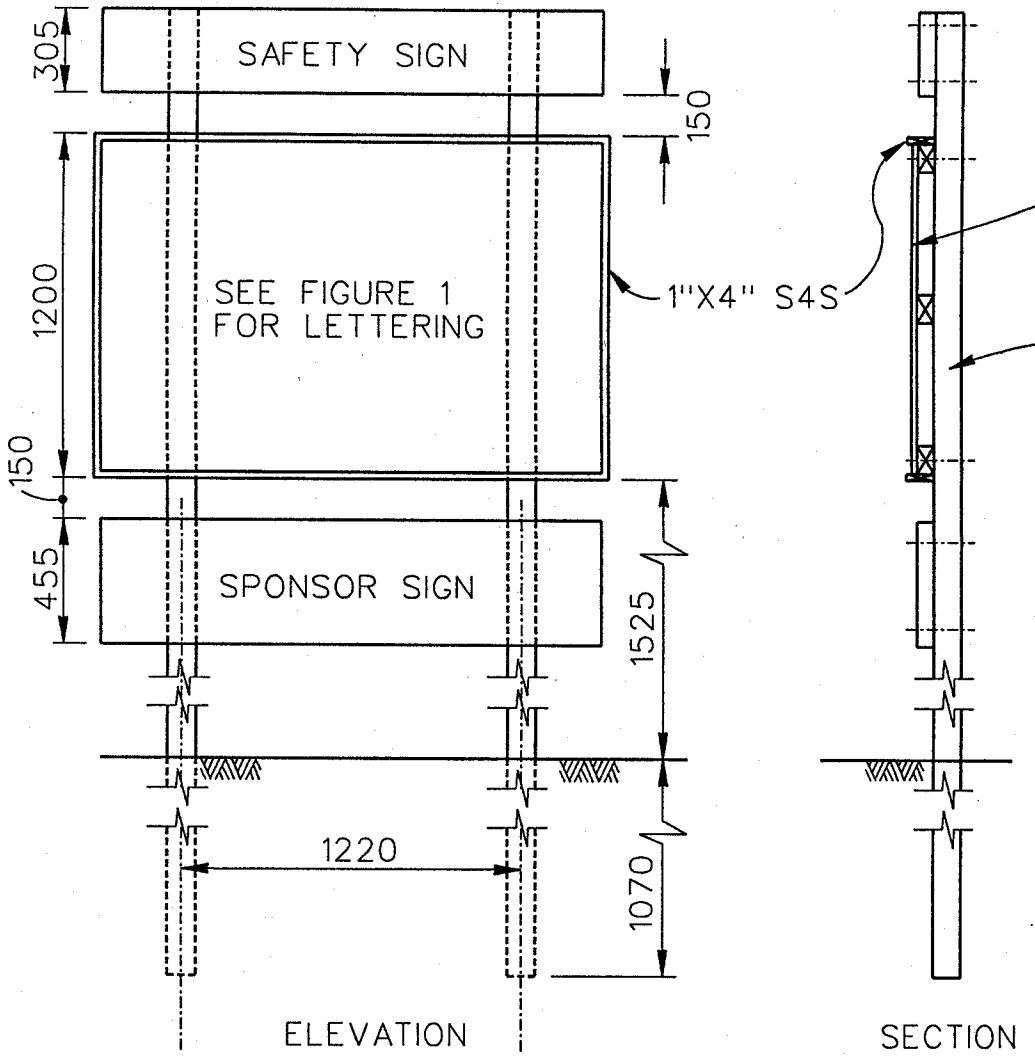


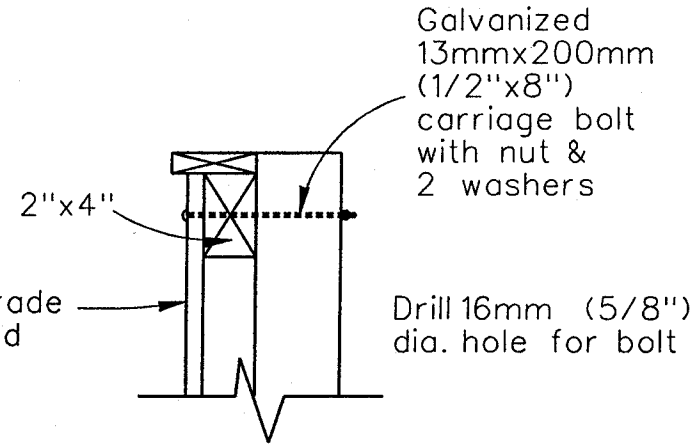
Space	Height	Line	Description	Letter Height	Stroke
A	150				
		1	LOCAL SPONSOR	50	9
B	50	2	SPONSOR'S EMBLEM (DECAL)		
		3	(SPONSOR'S NAME)	50	9
C	150				

Lettering Color -- Black

All units are in millimeters.

Figure 1A
October 1997





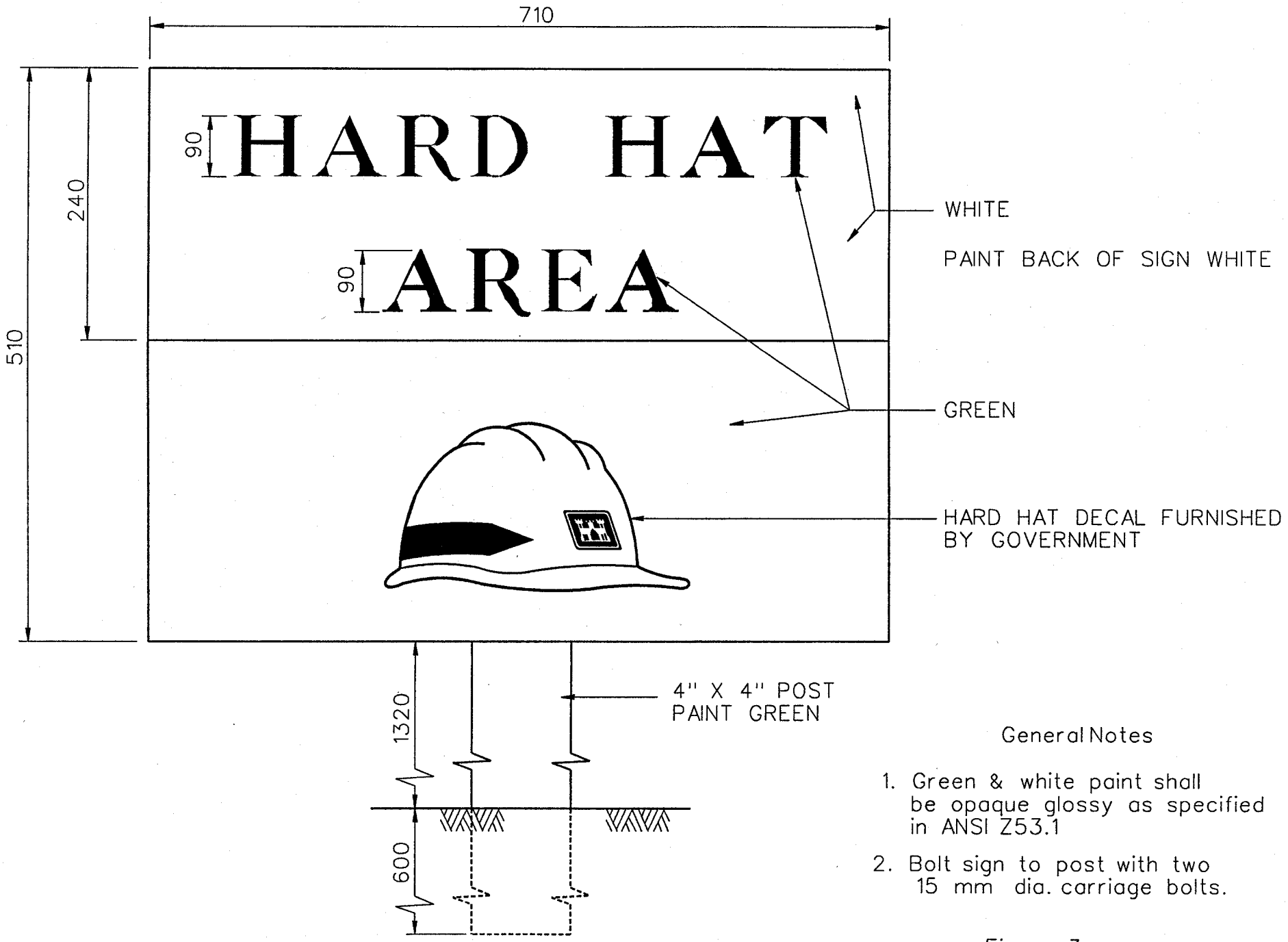
General Notes

1. Lumber to be cut & formed accurately.
2. Secure 1"x4" & plywood with 6d finish nails at not less than 305mm(12") O.C.
3. All exposed nails to be set & holes filled with putty.
4. Sign to be set in good solid ground & backfill carefully tamped into place.
5. Where necessary, posts shall be braced to provide a solid installation.

SIGN DETAILS

Figure 2
October 1996

All units are in millimeters unless otherwise indicated.



General Notes

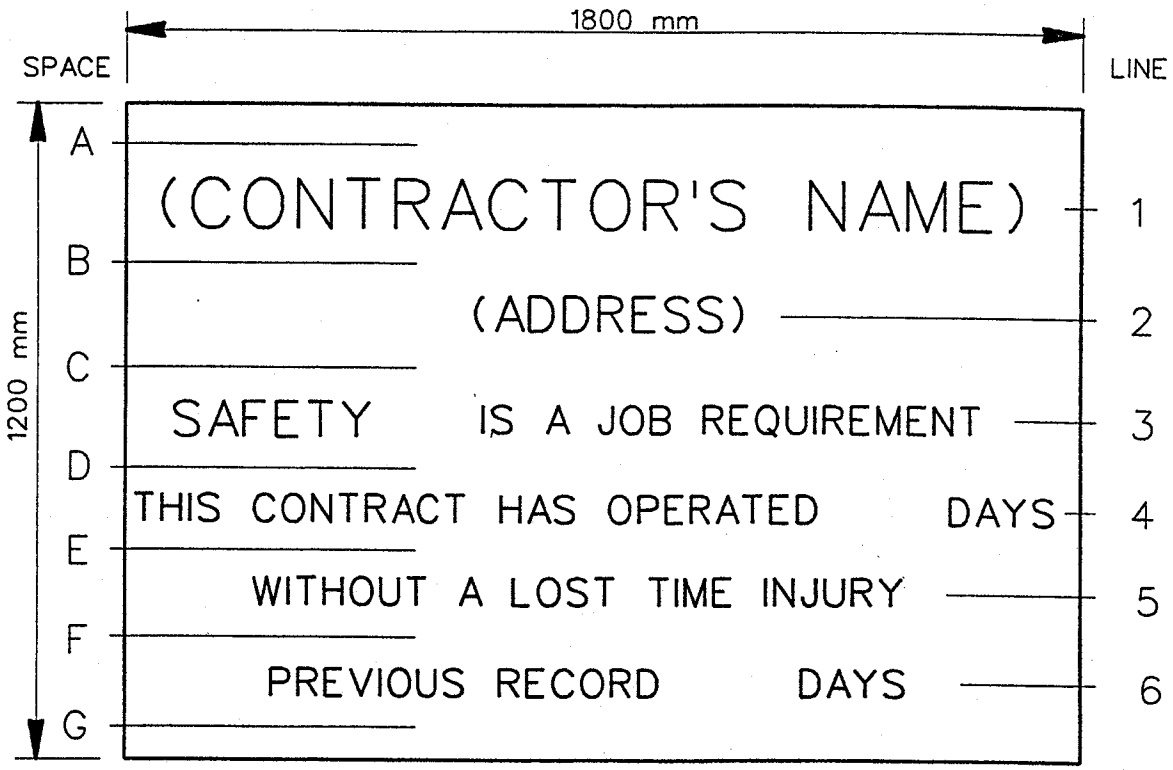
1. Green & white paint shall be opaque glossy as specified in ANSI Z53.1
2. Bolt sign to post with two 15 mm dia. carriage bolts.

All units are in millimeters unless otherwise indicated.

Figure 3
October 1996

CORPS OF ENGINEERS

U.S. ARMY



SPACE	HEIGHT	LINE	DESCRIPTION	LETTER HEIGHT
A	125			
		1	CONTRATOR'S NAME	125
B	75			
		2	ADDRESS	75
C	150			
		3	SAFETY IS A JOB REQUIREMENT	115 & 75
D	75			
		4	ALL LETTERING	75
E	75			
		5	ALL LETTERING	75
F	75			
		6	ALL LETTERING	75
G	125			

Notes

Lettering shall be black No. 27038 standard 595.
Sign shall be installed in the same manner as the Project Sign.

All units are in millimeters.

SAFETY SIGN
STANDARD DETAIL

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01250

MEASUREMENT AND PAYMENT (SCOUR PROTECTION)

SECTION 01250

MEASUREMENT AND PAYMENT (SCOUR PROTECTION)

PART 1 GENERAL

1.1 GENERAL

The contract price and payment shall constitute full compensation as stated in the Contract Clause, CONTRACT PRICES - BIDDING SCHEDULES, for completion of the work. No separate payment will be made for any material or work necessary to complete the work that is not specifically mentioned, such materials and work shall be considered incidental to all bid items. As stated in Contract Clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, the word "provided" shall be understood to mean "furnished and installed" when used in this section or elsewhere in the technical sections.

1.2 DIVERSION AND CONTROL OF WATER

Payment for Diversion and Control of Water will be made at the applicable contract price, which payment shall constitute full compensation for control of storm water runoff to prevent adverse impacts to the project or downstream properties and maintenance of the work area in a dry condition.

1.3 CLEAR SITE AND REMOVE OBSTRUCTIONS

Payment shall include all costs for clearing, removal, replacement, and restoration work (except work by others) including all existing obstructions within the construction work area. Except as otherwise specified, payment for clearing and removal work includes applicable earthwork; grubbing; filling holes; removal of materials for salvage; removal of existing surface trash and debris and removal of trees and vegetation from within areas to be excavated and areas to receive fills, structures and stockpiles; protection, replacement or restoration of existing structures and features indicated and disposal of all materials.

This payment item shall include all work necessary to remove the existing temporary stone slope protection and heavy riprap. The approximate limits of temporary stone slope protection is indicated on the drawings and the Contractor shall satisfy for their self the quantity and effort required to clear, remove, and salvage the existing temporary stone slope protection and heavy riprap.

Payment for Clear Site and Remove Obstructions will be made at the applicable contract price, which payment shall constitute full compensation for clearing, obstruction removal, and protection work, complete.

1.4 EXCAVATION

1.4.1 Measurement

A survey of the site shall be made prior to commencement of work, and all

measurements will be based on this survey without regard to any changes in the site that may be made between the excavation lines and grades indicated on the drawings or staked in the field and the ground surfaces as indicated by the above mentioned survey. The actual slopes as excavated may be greater or less than those indicated or staked, depending on the materials excavated and methods used in performing the work, but such alterations shall not change the measurement for payment from the original lines as specified herein. The quantity of directed excavation necessary for the removal of unsuitable foundation material as specified shall be included in the measurement of the excavation where the unsuitable soils are encountered. Quantities will be computed in cubic yards by the average end area method and the planimeter will be considered a precise instrument for measurement of plotted cross sections. The Contractor has the option of using computer methods for quantity estimations, but all computer methods of quantity estimations shall be approved by the Contracting Officer. All excavation outside of excavation lines shown on the drawings will be considered as being for convenience of the Contractor.

1.4.2 Payment

Payment for Excavation will be made at the applicable contract price, which payment shall constitute full compensation for excavation for the inflow channel and structure, the roadside channel, basin and other areas as indicated on the drawings including the provision of construction water, cemented alluvium excavation; shaping and trimming of areas to receive riprap, filter material, and roller compacted concrete; loading, stockpiling, crushing, processing, hauling, and dumping suitable materials for fills for the inflow channel and structure, the roadside channel; loading, stockpiling, hauling, placing and grading excess satisfactory excavated materials in the graded basin area as shown on the drawings or as directed; and any costs associated with offsite disposal of unsatisfactory excavated materials, complete. Payment shall be full compensation to the Contractor for the cost to haul and place excess excavated materials (other than unsatisfactory material which shall belong to the Contractor)at the designated disposal site shown on the plans. Payment will not be included for excavation (including shoring) outside the excavation limits indicated on the drawings or staked in the field, and other earthwork requirements for which separate payments are provided.

1.4.2.1 Subgrade Preparation

No separate payment will be made for subgrade preparation and all costs in connection therewith shall be included in the contract prices for the items to which the work applies.

1.4.2.2 Unsatisfactory Soils

No separate payment will be made for the excavation, hauling, and disposal of unsatisfactory soils. When such excavation is directed, payment therefore will be included in the applicable contract price for the items of work under which the unsatisfactory soils are encountered. When there is no applicable contract item an adjustment will be made. Refer to Section 02200 EXCAVATION for definition of unsatisfactory soils.

1.4.2.3 Excavation for Structures

No separate payment will be made for excavation, overexcavation or recompaction of the subgrade base and backfill for structures. The limits of excavation and recompaction for structures are shown on the plans and details and specified herein. All costs therefore shall be included in the applicable contract item to which the work applies.

1.4.2.4 Shoring

When shoring is indicated or directed for items for which separate payment is made, payment will be included in the applicable contract price for the items of work under which the shoring is placed.

1.5 COMPACTED FILL

1.5.1 Measurement

Measurement for compacted fill will be made between the excavation and structure lines and the fill limit lines, or between the ground lines and fill lines, as indicated or staked in the field. Quantities will be computed in cubic yards by the average end area method and the planimeter will be considered a precise instrument for measuring plotted cross sections. The Contractor has the option of using computer methods of quantity estimation, but all computer methods of quantity estimation shall be approved by the Contracting Officer.

1.5.2 Payment

1.5.2.1 Compacted Fill

Payment for Compacted Fill will be made at the applicable contract price, which payment shall constitute full compensation for watering, shaping, grading, and compacting the fills complete.

1.5.2.2 Subgrade Preparation

No separate payment will be made for subgrade preparation and all costs in connection therewith shall be included in the contract prices for items to which the work applies.

1.6 FILTER MATERIAL

1.6.1 Measurement

Measurement of Filter Material will be by the cubic yard of filter material placed within the lines and grades indicated on the drawings or as directed.

1.6.2 Payment

Payment for Filter Material will be made at the applicable contract price which payment shall constitute full compensation for furnishing and placing the filter material, complete including subgrade preparation.

1.7 RIPRAP AND STONE PROTECTION

1.7.1 Measurement

The quantity of Riprap and Stone Protection to be paid for will be the number of tons (2,000 pounds), determined by scale weights, acceptably placed within the lines and grades shown on the drawings or directed by the Contracting Officer.

1.7.2 Payment

Payment for Riprap and Stone Protection, of the various types will be made at the applicable contract unit prices, per ton (2,000 lbs), which payment shall constitute full compensation for furnishing and placing the riprap and stone protection, complete.

1.8 ROLLER-COMPACTED CONCRETE

1.8.1 Measurement

Measurement of Roller-Compacted Concrete will be made on the basis of actual cubic yards of Roller-Compacted Concrete placed within the lines and grades indicated on the drawings.

1.8.2 Payment

Payment for Roller-Compacted Concrete will be at the applicable contract price, which payment shall constitute full compensation for the Roller Compacted Concrete including all materials (except Portland cement and pozzolan for which separate payments is provided), formwork, batching, hauling, placing, compacting, finishing, curing and all equipment and tools to complete the roller compacted concrete in place. Embedded items shall be included in the cost of the roller-compacted concrete except when other payment is specifically provided.

1.9 PORTLAND CEMENT

1.9.1 Measurement

Quantity of Portland Cement to be paid for will be the number of tons (2,000 pounds) of Portland cement used for roller compacted concrete unless specifically excepted, wasted or used for the convenience of the contractor. The quantity to be paid for will be determined by multiplying the approved weight of Portland cement in pounds per cubic yard of roller compacted concrete by the number of accepted cubic yards of roller compacted concrete placed within the lines and grades indicated on the drawings and dividing by 2,000.

1.9.2 Payment

Payments for Portland Cement for Roller Compacted Concrete will be made at the applicable contract price, which payment shall constitute full compensation for furnishing the Portland cement ready for use in the work, complete. No payment will be made for Portland cement used for structures

for which separate payment is provided.

1.10 POZZOLAN

1.10.1 Measurement

Quantity of Pozzolan to be paid for will be the number of tons (2,000 pounds) of pozzolan used for Roller Compacted Concrete. The quantity to be paid for will be determined by multiplying the approved weight of pozzolan in pounds per cubic yard of roller compacted concrete by the number of accepted cubic yards of roller compacted concrete placed within the lines and grades indicated on the drawings and dividing by 2,000.

1.10.2 Payment

Payments for Pozzolan for Roller Compacted Concrete will be made at the applicable contact price, which payment shall constitute full compensation for furnishing the pozzolan, complete. No payment will be made for pozzolan used for structures for which separate payment is provided.

1.11 AGGREGATE BASE COURSE

1.11.1 Measurement

Measurement of Aggregate Base Course will be by the ton of aggregate base course placed within the lines and grades indicated on the drawings.

1.11.2 Payment

Payment for Aggregate Base Course will be made at the applicable contract price which payment shall constitute full compensation for furnishing and placing aggregate base course, complete including subgrade preparation.

1.12 ACCESS GATES

Payment for Access Gates will be made at the applicable contract price, per each, which payment shall constitute full compensation for fabricating and installing the gates, complete, including applicable earthwork and concrete as indicated on the drawings.

1.13 TEMPORARY TORTOISE FENCING

1.13.1 Measurement

Measurement of Temporary Tortoise Fencing will be by the linear feet of temporary tortoise fencing constructed as shown on the drawings or as directed by the Contracting Officer.

1.13.2 Payment

Payment for Temporary Tortoise Fencing will be made at the applicable contract price, which payment shall constitute full compensation for temporary tortoise fencing, including applicable earthwork, posts, steel mesh fabric, tension wire, tie wire, fabrication and installation of

tortoise proof gates, concrete, and all incidentals, complete. Payment for Temporary Tortoise Fencing will also include compensation for maintaining and repairing the tortoise fencing during construction and the removal and disposal of the temporary tortoise fencing and gates at the end of construction of the Red Rock Detention Basin.

1.14 PIPE SAFETY RAILING

1.14.1 Measurement

Measurement of Pipe Safety Railing will be by the linear feet of pipe safety railing constructed as indicated on the drawings or as directed.

1.14.2 Payment

Payment for Pipe Safety Railing will be made at the applicable contract price, which payment shall constitute full compensation for fabricating and installing pipe safety railing, including pipe railing, expansion joint, and post, grout or dry pack, and all incidentals, complete

1.15 PIPE BOLLARDS

Payment for Pipe Bollards will be made at the applicable contract price, per each, which payment shall constitute full compensation for fabricating and installing pipe bollards, complete, including coring of the roller compacted concrete and concrete as indicated on the drawings.

1.16 SOIL STABILIZATION

1.16.1 Measurement

Measurement of Soil Stabilization will be made on the basis of the actual area treated in disturbed areas, except areas covered by riprap, RCC, or aggregate base course, complete.

1.16.2 Payment

Payment for Soil Stabilization will be at the applicable contract price, which payment shall constitute full compensation for application of the soil stabilizer including furnishing materials, processing, hauling, and placing, complete in place.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01251

MEASUREMENT AND PAYMENT (OUTLET CHANNEL)

-- End of Section Table of Contents --

SECTION 01251

MEASUREMENT AND PAYMENT (OUTLET CHANNEL)

PART 1 GENERAL

1.1 GENERAL

The contract price and payment shall constitute full compensation as stated in the Contract Clause, CONTRACT PRICES - BIDDING SCHEDULES, for completion of the work. No separate payment will be made for any material or work covered in this specification, but not specifically mentioned as part of a bid items, and all costs into which the work pertains or considered incidental to all bid items. As stated in Contract Clause, SPECIFICATIONS AND DRAWINGS FOR CONSTRUCTION, the word "provided" shall be understood to mean "furnished and installed" when used in this section or elsewhere in the technical sections.

1.2 TRAFFIC CONTROL

Payment for Traffic Control will be made at the applicable contract price, which payment shall constitute full compensation for traffic control including but not limited to earthwork and grading for construction and removal of temporary roadways; providing safety barriers; providing traffic warning and control signs and flagmen as required.

1.3 DIVERSION AND CONTROL OF WATER

Payment for Diversion and Control of Water will be made at the applicable contract price, which payment shall constitute full compensation for control of storm water runoff to prevent adverse impacts to the project or downstream properties and maintenance of the work area in a dry condition.

1.4 CLEAR SITE AND REMOVE OBSTRUCTIONS

Payment for Clear Site and Remove Obstructions will be made at the applicable contract price, which payment shall constitute full compensation for clearing and grubbing areas of excavation, fill, or other approved areas necessary for the Contractor's operations within the limits of the designated temporary construction easement, the removal of debris, the removal of approximately 73 meters of existing fencing where indicated on the drawings, the protection of existing facilities to remain in place, and any necessary restoration. Unnecessary clearing will not be permitted. Organic materials resulting from the clearing and grubbing operations shall be hauled away from the project site. This works shall also include disposal off-site of all existing debris such as old pavement, tree trimmings, trash, etc. Surface soils stripped during clearing operations, and removed of organic material to the satisfaction of the Contracting Officer, shall remain on site and shall be used in areas of miscellaneous fill. This work shall also include the protection in place, or restoration,

of existing facilities that are to remain in place. Removal and salvage of riprap, and removal of existing pipe and existing trash rack, shall not be included in this item, but shall be included under items for demolition.

1.5 EXCAVATION

1.5.1 Measurement

A survey of the site shall be made prior to commencement of the work with cross-sections at a maximum spacing of 30 meters and at abrupt changes in existing grade. Measurements will be based on this survey and the lines and grades shown on the plans. If the survey does not vary from the topographic information shown on the plans, that would effect a change in quantities greater than 10%, the quantities included in the bid schedule, plus or minus any authorized changes shall be the quantities used for payment. Such quantities are based on differences between the original plan contours and finished grades as determined by digital terrain modeling software with a grid size of 0.5 meters. The actual slopes as excavated may be greater than those indicated or staked, depending on the materials excavated and methods used in performing the work, but such alterations shall not change the measurement for payment.

Where the unsatisfactory soils are encountered, the quantity of directed excavation necessary for the removal of unsatisfactory foundation material shall be included in the measurement for excavation.

Adjustments in quantities will be computed in cubic meters by the average end area method. All excavation outside of excavation lines shown on the drawings, or as directed, will be considered as being for convenience of the Contractor.

1.5.2 Payment

Payment for excavation will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for excavating the Red Rock Outlet Channel, and other areas as indicated on the drawings, except trench excavation for installation of pipe and removal of debris pile. Payment for pipe trench excavation shall be included in the unit prices for reinforced concrete pipe. Debris Pile Disposal is a separate bid item. Payment shall include rock removal, and cemented alluvium excavation; shaping and trimming, subgrade preparation for channel, loading, hauling, stockpiling, crushing or otherwise processing suitable materials for all fills; and any costs associated with disposal of excess excavated materials in areas other than those shown on the drawings, complete. Payment will not be included for excavation outside the excavation limits indicated on the drawings or staked in the field, and other excavation requirements for which separate payments are provided.

1.5.2.1 Subgrade Preparation

No separate payment will be made for subgrade preparation and all costs in connection therewith shall be included in the contract prices for excavation or the items to which the work applies.

1.5.2.2 Unsatisfactory Soils

No separate payment will be made for the excavation and disposal of unsatisfactory soils. When such excavation is directed, payment will be made based on the contract unit prices for excavation and fills.

1.5.2.3 Excavation for Structures

No separate payment will be made for excavation for structures such as manholes and headwalls. All costs therefore shall be included in the applicable contract item to which the work applies.

1.5.2.4 Trenches

No separate payment will be made for excavation of pipe trenches. All costs therefore shall be included in the applicable contract prices for the items to which the work applies.

1.5.2.5 Shoring

No separate payment shall be made for shoring. The Contractor shall be responsible for method of construction and the use of shoring, stable slope cuts, or other trench safety requirements.

1.6 DEMOLITION

1.6.1 Measurement

1.6.1.1 Demolition - Existing Riprap

Removal of the existing riprap, grouted riprap, and any filter or bedding material will be as shown on the drawings. The estimated quantity shown on the plans shall be the basis for payment. The work shall include excavating, loading, hauling, any temporary stockpiling, and properly placing of existing riprap in miscellaneous fill areas.

1.6.1.2 Demolition - Existing 2.438 m Cast-in-Place Concrete Pipe

Demolition of the existing 2.438 m CIP shall be at the location shown on the drawings. The Work shall include removal, hauling, and disposal of the trash rack, concrete headwall and slab, and the existing 2.438 m CIP where shown on the drawings. The existing pipe shall be saw cut with a wet saw at the proper location. Proper care shall be taken not to disturb the subgrade or pipe, that is to remain.

1.6.2 Payment

1.6.2.1 Demolition - Existing Riprap

Payment for removal of riprap will be made at the applicable contract price, which payment shall constitute full compensation for removing riprap, grouted riprap, and any filter or bedding material within the areas shown on the drawings. Payment will include excavating, loading, hauling, stockpiling, and properly placing of materials in miscellaneous fill

areas, as necessary to complete the work. Payment will not be included for demolition outside the limits indicated on the drawings or staked in the field, and other demolition requirements for which separate payments are provided. Separate payment will be made for placement of salvaged suitable riprap for channel lining.

1.6.2.2 Demolition - Existing 2.438 m Cast-in-Place Concrete Pipe

Payment for the demolition of the 2.438 m CIP will be made at the applicable contract price, which payment shall constitute full compensation for the demolition of the structure as shown on the drawings, including removal, loading, hauling and disposal of the trash rack, concrete headwall and base slab and footings, and the existing 2.438 m CIP where shown on the plans. Payment will not be included for demolition outside the limits indicated on the drawings or staked in the field, and other demolition requirements for which separate payments are provided.

1.7 FILLS

1.7.1 Measurement

A survey of the site shall be made prior to commencement of the work, with cross-sections at a maximum spacing of 30 meters and at abrupt changes in grade. Measurements will be based on this survey and the finished lines and grades shown on the plans. If the survey does not vary from the topographic information shown on the plans, that would effect a change in quantities greater than 10%, the quantities included in the bid schedule, plus or minus any authorized changes shall be the quantities used for payment. Such quantities are based on differences between the original plan contours and finished grades as determined by digital terrain modeling software with a grid size of 0.5 meters. Adjustments in quantities will be computed in cubic meters by the average end area method.

1.7.2 Payment

1.7.2.1 Backfill About Structures

No separate payment will be made for backfill about structures. All such costs shall be included in the applicable contract prices for items to which the work applies.

1.7.2.2 Miscellaneous Fill

Payment for Miscellaneous Fill, will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for shaping, grading, and compacting the fill, complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

1.7.2.3 Compacted Fill, Channel

Payment for Compacted Fill, Channel, will be made at the applicable contract unit price per cubic meter, which payment shall constitute full

compensation for shaping, grading, and compacting the fill, complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

1.7.2.4 Compacted Fill, Pipe

Compacted Fill, Pipe, is based on the quantity of fill over the pipe, after initial bedding and backfilling to a level 610 millimeters above the top of the pipe, and to the finished grades shown on the plans. The initial bedding and backfilling is not included under this item but shall be included in the bid item for pipe. Payment for compacted Fill, Pipe, will be at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for shaping, grading and compacting fill complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

1.7.2.5 Compacted Fill, Road

Payment for Compacted Fill, Road, will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for shaping, grading, and compacting the fill, complete. Payment will not be included for fills outside the fill limits indicated on the drawings or staked in the field, and other fill requirements for which separate payments are provided.

1.7.2.6 Trenches

No separate payment will be made for backfilling up to a level of 610 millimeters above the top of pipe. All costs in connection therewith shall be included in the contract prices for items to which the work applies.

1.7.2.7 Subgrade Preparation

No separate payment will be made for subgrade preparation for areas of fill, and all costs in connection therewith shall be included in the contract prices.

1.8 REINFORCED CONCRETE PIPE

1.8.1 Measurement

Provide RCP piping as shown on the drawings. The Work shall consist of a complete installation. All excavation, bedding material, initial backfill material up to a level of 610 millimeters above the top of pipe, compaction of bedding and initial backfill, and all other trenching related work shall be included. Any trench excavation greater than 1.524 meters deep (vertical wall) shall be braced in accordance with Section 02200, 1.4. The pipe shall be measured along the flow line. Laying the pipe to line and grade, grouting in the joints and all other piping installation work shall also be included. All labor, equipment, and materials costs shall be included in the price per meter for each size and class of RCP pipe.

1.8.2 Payment

1.8.2.1 2.438 m Dia. RCP

Payment for reinforced concrete pipe will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for the installation of 2.438 m RCP, involving excavation, bedding and backfill materials and placement, laying the pipe, mortaring the joints, compaction of bedding and backfill materials under, around, and over the pipe to an elevation 610 millimeters above the top of pipe, complete and in place.

1.8.2.2 1.829 m Dia. RCP

Payment for reinforced concrete pipe will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for the installation of 1.829 m RCP, involving excavation, bedding and backfill materials and placement, laying the pipe, mortaring the joints, compaction of bedding and backfill materials under, around, and over the pipe to an elevation 610 millimeters above the top of pipe, complete and in place.

1.8.2.3 1.524 m Dia. RCP

Payment for reinforced concrete pipe will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for the installation of 1.524 m RCP, involving excavation, bedding and backfill materials and placement, laying the pipe, mortaring the joints, compaction of bedding and backfill materials under, around, and over the pipe to an elevation 610 millimeters above the top of pipe, complete and in place.

1.8.2.4 0.457 m Dia. RCP

Payment for reinforced concrete pipe will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for the installation of 0.457 m RCP, involving excavation, bedding and backfill materials and placement, laying the pipe, mortaring the joints, compaction of bedding and backfill materials under, around, and over the pipe to an elevation 610 millimeters above the top of pipe, and plugging playing ends of pipe as shown on the plans complete and in place.

1.9 CAST-IN-PLACE STRUCTURAL CONCRETE

1.9.1 Measurement

The quantity of concrete shall not be measured for payment.

1.9.2 Payment

No separate payment shall be made for concrete. Payment shall be made on a lump sum basis for each structure.

1.10 REINFORCING STEEL

1.10.1 Measurement

The quantity of reinforcing steel shall not be measured for payment.

1.10.2 Payment

No separate payment will be made for steel reinforcement placed in structures for which payment is made on a lump sum basis.

1.11 AGGREGATE BASE COURSE

1.11.1 Measurement

Measurement of aggregate base course will be by the metric ton (1,000 kilograms) of aggregate base course placed within the lines and grades indicated on the drawings.

1.11.2 Payment

Payment for aggregate base course will be made at the applicable contract unit price per metric ton, which payment shall constitute full compensation for work required for installation of aggregate base course, furnishing and placing the aggregate base course, complete, including subgrade preparation.

1.12 TEMPORARY CONSTRUCTION FENCING

1.12.1 Measurement

Measurement for Temporary Construction Fencing will be by the lineal meters of temporary construction fencing installed as indicated on the drawings.

1.12.2 Payment

Payment for Temporary Construction Fencing will be made at the applicable contract price, which payment shall constitute full compensation for temporary chain link fencing complete, including installing posts and chain link fabric, maintaining the fencing during the life of the project, and removing and disposing of the fencing at the completion of the project.

1.13 CHAIN LINK FENCING

1.13.1 Measurement

Measurement of chain link fencing that is provided will be by the linear meters of chain link fencing constructed as shown on the drawings.

1.13.2 Payment

Payment for chain link fencing will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for chain link fencing, including posts with caps, rail, chain link fabric, stretcher bars, tension bands, wire ties, truss wire, sleeves, grout, and all incidentals, complete as shown on the drawings.

1.14 DOUBLE SWING GATE

1.14.1 Measurement

Measurement of double swing gate will be the number of double swing gates acceptably installed.

1.14.2 Payment

Payment for double swing gate will be made at the applicable contract price, which payment shall constitute full compensation for fabricating and installing the double swing gate, complete, including posts with caps, chain link fabric, frame members, tension bands, truss rods, stretcher bars, wire ties, truss wire, sleeves, hinges, grout, and all incidentals, complete, as show on the drawings.

1.15 PIPE SAFETY RAILING

1.15.1 Measurement

Measurement of Pipe Safety Railing that is provided will be by the linear meters of pipe safety railing constructed as shown on the drawings.

1.15.2 Payment

Payment for Pipe Safety Railing will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for Pipe Safety Railing, including pipe railing and posts, sleeves, including sleeves for safety rail, fabrication, grout or dry pack, and all incidentals, complete.

1.16 TRASH RACK

Payment for each trash rack that is provided will be made at the applicable contract price, which payment shall constitute full compensation for the trash rack, complete as shown on the drawings, including all incidentals, complete.

1.17 FILTER MATERIAL FOR RIPRAP CHANNEL

1.17.1 Measurement

Measurement for Filter Material for Riprap Channel will be by the metric ton (1,000 kilograms) of filter material placed to the lines and grades indicated on the drawings.

1.17.2 Payment

Payment for Filter Material for Riprap Channel will be made at the applicable contract unit price per metric ton, which payment shall constitute full compensation for work required for installation of filter material, furnishing and placing the filter material, complete.

1.18 RIPRAP PLACEMENT

1.18.1 Measurement

Measurement for Riprap Placement will be by the metric ton (1,000 kilograms) of riprap placed to the lines and grades indicated on the drawings.

1.18.2 Payment

Payment for Riprap will be made at the applicable contract unit price per metric ton, which payment shall constitute full compensation for work required for installation of riprap, furnishing and placing the riprap, complete.

1.19 MANHOLE, JUNCTION STRUCTURE

Payment for Manhole Junction Structure will be made at the applicable contract price, which payment shall constitute full compensation for the manhole structure, complete, including excavation and backfill about structure; furnishing, placing, finishing and curing concrete; installation of manhole cover and frame, grade ring, eccentric cone, risers, steps, grout, and dowels; and all incidentals, as shown on the drawings. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

1.20 PRECAST TEE AND CATCH BASIN

Payment for Precast Tee and Catch Basin will be made at the applicable contract price, which payment shall constitute full compensation for the manhole structure, complete, including excavation and backfill about structure; furnishing, placing, finishing and curing concrete; installation of manhole cover and frame, grade ring, eccentric cone, risers, steps, grout, and dowels; and all incidentals, as shown on the drawings. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

1.21 PRECAST TEE

Payment for Precast Tee will be made at the applicable contract price, which shall constitute full compensation for structure, complete, including excavation and backfill about structure; furnishing, placing, finishing and curing concrete; and all incidentals, as shown on the drawings. The earthwork included shall be only that earthwork which is located outside the limits of earthwork for which other payment is provided.

1.22 1.829 PIPE HEADWALL AND APRON

Payment for 1.829 Pipe Headwall and Apron will be made at the applicable contract price, which payment shall constitute full compensation for the headwall and apron, complete, including excavation and compacted backfill; furnishing and placing reinforcing steel; furnishing, placing, finishing, and curing concrete for footings, cutoffs, walls, slabs, and aprons as shown on the drawings; and all incidentals, except trash rack and pipe

safety rail that are paid separately.

1.23 1.524 PIPE HEADWALL AND APRON

Payment for 1.524 Pipe Headwall and Apron will be made at the applicable contract price, which payment shall constitute full compensation for the headwall and apron, complete, including excavation and compacted backfill; furnishing and placing reinforcing steel; furnishing, placing, finishing, and curing concrete for footings, cutoffs, walls, slabs, and aprons as shown on the drawings; and all incidentals, except trash rack and pipe safety rail that are paid separately.

1.24 STILLING BASIN

Payment for Stilling Basin will be made at the applicable contract price, which payment shall constitute full compensation for the stilling basin, complete, including excavation and compacted backfill; furnishing and placing reinforcing steel; connection to existing concrete, including sawcuts and dowels: furnishing, placing, finishing, and curing concrete for, cutoffs, walls, slabs, and sills as shown on the drawings; and all incidentals including all channel related construction upstream of Station 13+81.973, except the removal of grouted riprap that is paid separately under Item 0005.

1.25 SOIL STABILIZER

Payment for dust control soil stabilizer will be made at the applicable contract price, which payment shall constitute full compensation for the soil stabilizer, including furnishing the material, loading, hauling, placing and incidentals necessary for doing all the work involved in placing the stabilizer where specified or established by the Contracting Officer. The lump sum price shall be based on stabilizing all areas disturbed by construction that has an estimated quantity of 22,000 square meters.

1.26 BLM RIGHT-OF-WAY GRANT STIPULATIONS

Payment for BLM Right-of-Way Grant Stipulations will be made at the applicable contract price, which payment shall constitute full compensation for BLM Right-of-Way Grant Stipulations, complete, including desert varnish coloring of all disturbed surfaces and temporary fencing required in accordance with paragraph: BLM RIGHT-OF-WAY GRANT STIPULATIONS of Section 01200 GENERAL REQUIREMENTS, except items for which there is a separate payment such as Temporary Construction Fencing as shown on the plans and Waste Pile Disposal.

1.27 WASTE PILE DISPOSAL

Payment for Waste Pile Disposal will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for excavation, processing, loading, hauling, placing per requirements for miscellaneous fill and facing material at the designated areas and at the direction of the Contracting Officer, and other incidentals necessary for doing the work.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

-- End of Section --

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01330

SUBMITTAL PROCEDURES

-- End of Section Table of Contents --

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

1.1.1 Government Approved

Governmental approval is required for extensions of design, critical materials, deviations, equipment whose compatibility with the entire system must be checked, and other items as designated by the Contracting Officer. Within the terms of the Contract Clause entitled "Specifications and Drawings for Construction," they are considered to be "shop drawings."

1.1.2 Information Only

All submittals not requiring Government approval will be for information only. They are not considered to be "shop drawings" within the terms of the Contract Clause referred to above.

1.2 APPROVED SUBMITTALS

The Contracting Officer's approval of submittals shall not be construed as a complete check, but will indicate only that the general method of construction, materials, detailing and other information are satisfactory. Approval will not relieve the Contractor of the responsibility for any error which may exist, as the Contractor under the CQC requirements of this contract is responsible for dimensions, the design of adequate connections and details, and the satisfactory construction of all work. After submittals have been approved by the Contracting Officer, no resubmittal for the purpose of substituting materials or equipment will be considered unless accompanied by an explanation of why a substitution is necessary.

1.3 DISAPPROVED SUBMITTALS

The Contractor shall make all corrections required by the Contracting Officer and promptly furnish a corrected submittal in the form and number of copies specified for the initial submittal. If the Contractor considers any correction indicated on the submittals to constitute a change to the contract, a notice in accordance with the Contract Clause "Changes" shall be given promptly to the Contracting Officer.

1.4 WITHHOLDING OF PAYMENT

Payment for materials incorporated in the work will not be made if required approvals have not been obtained.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

The Contractor shall make submittals as required by the specifications. The Contracting Officer may request submittals in addition to those specified when deemed necessary to adequately describe the work covered in the respective sections. Units of weights and measures used on all submittals shall be the same as those used in the contract drawings. Each submittal shall be complete and in sufficient detail to allow ready determination of compliance with contract requirements. Prior to submittal, all items shall be checked and approved by the Contractor's Quality Control (CQC) Representative and each item shall be stamped, signed, and dated by the CQC Representative indicating action taken. Proposed deviations from the contract requirements shall be clearly identified. Submittals shall include items such as: Contractor's, manufacturer's, or fabricator's drawings; descriptive literature including (but not limited to) catalog cuts, diagrams, operating charts or curves; test reports; test cylinders; samples; O&M manuals (including parts list); certifications; warranties; and other such required submittals. Submittals requiring Government approval shall be scheduled and made prior to the acquisition of the material or equipment covered thereby. Samples remaining upon completion of the work shall be picked up and disposed of in accordance with manufacturer's Material Safety Data Sheets (MSDS) and in compliance with existing laws and regulations.

3.2 SUBMITTAL REGISTER (ENG FORM 4288)

At the end of this section is one set of ENG Form 4288 listing items of equipment and materials for which submittals are required by the specifications; this list may not be all inclusive and additional submittals may be required. The Contractor will also be given the submittal register as a diskette containing the computerized ENG Form 4288 and instructions on the use of the diskette. Columns "d" through "q" have been completed by the Government; the Contractor shall complete columns "a" and "r" through "t" and submit the forms (hard copy plus associated electronic file) to the Contracting Officer for approval within 2 calendar days after Notice to Proceed. The Contractor shall keep this diskette up-to-date and shall submit it to the Government together with the monthly payment request. The approved submittal register will become the scheduling document and will be used to control submittals throughout the life of the contract. The submittal register and the progress schedules shall be coordinated.

3.3 SCHEDULING

Submittals covering component items forming a system or items that are interrelated shall be scheduled to be coordinated and submitted concurrently. Certifications to be submitted with the pertinent drawings shall be so scheduled. Adequate time (a minimum of 30 calendar days exclusive of mailing time) shall be allowed and shown on the register for

review and approval. No delay damages or time extensions will be allowed for time lost in late submittals.

3.4 TRANSMITTAL FORM (ENG FORM 4025)

The sample transmittal form (ENG Form 4025) attached to this section shall be used for submitting both Government approved and information only submittals in accordance with the instructions on the reverse side of the form. These forms will be furnished to the Contractor. This form shall be properly completed by filling out all the heading blank spaces and identifying each item submitted. Special care shall be exercised to ensure proper listing of the specification paragraph and/or sheet number of the contract drawings pertinent to the data submitted for each item.

3.5 SUBMITTAL PROCEDURE

Submittals shall be made as follows:

3.5.1 Procedures

The Contractor shall complete ENG Form 4025, "Transmittal of Shop Drawings, Equipment Data, Material Samples, or Manufacturer's Certificate of Compliance" with each set of shop drawings, certificates, equipment data of samples submitted. A blank ENG Form 4025 will be furnished by the Contracting Officer on request. Six (6) copies of each submittal will be required.

3.5.2 Deviations

For submittals which include proposed deviations requested by the Contractor, the column "variation" of ENG Form 4025 shall be checked. The Contractor shall set forth in writing the reason for any deviations and annotate such deviations on the submittal. The Government reserves the right to rescind inadvertent approval of submittals containing unnoted deviations.

3.6 CONTROL OF SUBMITTALS

The Contractor shall carefully control his procurement operations to ensure that each individual submittal is made on or before the Contractor scheduled submittal date shown on the approved "Submittal Register."

3.7 GOVERNMENT APPROVED SUBMITTALS

Upon completion of review of submittals requiring Government approval, the submittals will be identified as having received approval by being so stamped and dated. Four copies of the submittal will be retained by the Contracting Officer and two copies of the submittal will be returned to the Contractor.

3.8 INFORMATION ONLY SUBMITTALS

Normally submittals for information only will not be returned. Approval of the Contracting Officer is not required on information only submittals.

The Government reserves the right to require the Contractor to resubmit any item found not to comply with the contract. This does not relieve the Contractor from the obligation to furnish material conforming to the plans and specifications; will not prevent the Contracting Officer from requiring removal and replacement of nonconforming material incorporated in the work; and does not relieve the Contractor of the requirement to furnish samples for testing by the Government laboratory or for check testing by the Government in those instances where the technical specifications so prescribe.

3.9 STAMPS

Stamps used by the Contractor on the submittal data to certify that the submittal meets contract requirements shall be similar to the following:

CONTRACTOR
(Firm Name)
_____ Approved
_____ Approved with corrections as noted on submittal data and/or attached sheets(s).
SIGNATURE: _____
TITLE: _____
DATE: _____

-- End of Section --

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection & Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
01130

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.4.2	Storm Water Pollution Prevention Plan					X							X										
			1.5	Environmental Protection Plan					X							X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection & Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
01200

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.2	Insurance Policies						X					X											
			3.9.5.1	Utilities to be Relocated or Protected						X					X											
			3.9.5.2	Bench Marks and R/W Markers						X					X											
			3.9.5.3	Clearing and Grubbing						X					X											
			3.9.5.4	Spill Reporting						X					X											
			3.9.6.2	Traffic Control Plan						X					X											
			3.11.1	Accident Reporting						X					X											
			3.12.2	Air Pollution Permit						X					X											
			3.12.3	National Pollutant Discharge						X					X											
				Elimination System																						
			3.17.2	Temporary Fencing Plans						X						X										
			3.14.1	As-Built Drawings		X										X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
02220

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STAMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.3	Work Plan					X							X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
02241

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	CERTIFICATES: REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.4	Coarse Aggregate									X			X										
			1.5	Waybills and Delivery Tickets									X			X										
			1.7.1	Plant, Equipment, Machines, and Tools	X										X											
			1.9.1	Sampling and Testing						X						X										
			3.5.1	Field Density						X						X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
02250

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.2	Testing of Compacted Fill Materials						X						X										
			3.2.1	Field Density Tests						X						X										
			3.2.3	Field Density Tests						X						X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
02400

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.2	Instructions																						
			1.2	Placing Pipe												X										
			1.2	Pipeline Testing							X					X										
			1.2	Pipe for Storm Water Conveyance								X				X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
02831

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.2	Chain Link Fence							X					X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
03307

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.3	Concrete Mixture Proportions						X					X											
			2.1.2	Aggregates						X					X											
			3.4.3.1	Aggregates						X					X											
			1.3	Cementitious Materials							X				X											
			2.1.3.1	Air-Entraining Admixture	X										X											
			2.1.3.2	Accelerating Admixtures	X										X											
			2.1.3.3	Water-Reducing or Retarding Admixture	X										X											
			2.1.5	Reinforcing Steel	X										X											
			2.1.10	Curing Materials	X										X											
			3.1.4.3	Batching and Mixing Equipment	X										X											
			3.2	Conveying and Placing Concrete	X										X											
			2.1.7	Formwork					X						X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Outlet Channel

CONTRACTOR

SPECIFICATION SECTION
05500

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.2	Miscellaneous Metal Items		X										X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
02100

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.1	Diversion and Control of Water		X										X										

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SPECSINTACT

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
02200

ACTIVITY NO	TRANSMITTAL NO.	ITEM NO	SPECIFICATION PARAGRAPH NUMBER	DESCRIPTION OF ITEM SUBMITTED	TYPE OF SUBMITTAL										CLASSIFICATION		REVIEWER	CONTRACTOR SCHEDULE DATES			CONTRACTOR ACTION		GOVERNMENT ACTION		
					DATA	DRAWINGS	INSTRUCTIONS	SCHEDULES	STATEMENTS	REPORTS	CERTIFICATES	SAMPLES	RECORDS	O&M MANUALS	INFORMATION ONLY	GOVERNMENT APPROVED		SUBMIT	APPROVAL NEEDED BY	MATERIAL NEEDED BY	CODE	DATE	SUBMIT TO GOVERNMENT	CODE	DATE	REMARKS
a.	b.	c.	d.	e.	f.	g.	h.	i.	j.	k.	l.	m.	n.	o.	p.	q.	r.	s.	t.	u.	v.	w.	x.	y.	z.	aa.
			1.2	Excavation Plan	X										X											
			1.2	Haul Route Plan	X											X										
			1.2	Shop Drawings		X										X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
02241

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR SCHEDULE DATES: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.7.1	Plant, Equipment, Machines, and	X										X											
				Tools																						
			1.9.1	Sampling and Testing						X					X											
			1.4	Field Density						X					X											
			1.5	Waybills and Delivery Tickets									X		X											
			1.4	Coarse Aggregate									X		X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
02250

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			1.2	Moisture-density relations	X											X										
			3.2.1	Field Density Tests						X					X											
			3.2.1.2	Field Density Tests						X					X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
02600

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	CERTIFICATES k.	SAMPLES l.	RECORDS m.	O&M MANUALS n.	CLASSIFICATION: INFORMATION ONLY o.	GOVERNMENT APPROVED p.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.2	Placing Method and Equipment	X										X										
			1.2	Gradation Sampling and Testing						X					X										
			1.2	Stone Quality							X				X										
			1.2	Waybills and Delivery Tickets								X		X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
02832

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.2	Steel mesh hardware cloth, post, and	X											X										
				accessories																						
			1.2	Tortoise fencing and layout		X										X										
			1.2	Steel mesh hardware cloth								X				X										

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
03307

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.3	Air-Entraining Admixture	X									X												
			1.3	Water-Reducing or Retarding	X									X												
				Admixture																						
			1.3	Curing Materials	X									X												
			1.3	Reinforcing Steel	X									X												
			1.3	Batching and Mixing Equipment	X									X												
			1.3	Conveying and Placing Concrete	X									X												
			1.3	Nonshrink Grout	X									X												
			1.3	Formwork					X					X												
			1.3	Aggregates						X				X												
			1.3	Concrete Mixture Proportions						X				X												
			1.3	Cementitious Materials							X			X												

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
03360

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CODE v.	CONTRACTOR ACTION: DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.6.2	Batch Plant	X											X										
			3.2.2.3	Batch Plant	X											X										
			3.2.2.4	Batch Plant	X											X										
			3.2.2.3	Mixers	X											X										
			3.2.3	Mixers	X											X										
			3.2.3.1	Mixers	X											X										
			3.2.3.2	Mixers	X											X										
			3.2.5	Transporting and Conveying	X										X											
				Equipment																						
			3.2.6	Spreading and Remixing Equipment	X										X											
			3.2.7	Compaction Equipment	X											X										
			3.6.1.2	Compaction Equipment	X											X										
			1.5	Aggregate and Concrete Production					X							X										
			1.5	Joint Cleanup and Waste Disposal					X						X											
			1.2.2	Curing					X							X										
			2.3	Curing					X							X										
			3.4.4	Curing					X							X										
			3.4.5.1	Curing					X							X										
			3.4.5.3	Curing					X							X										
			3.5.1	Curing					X							X										
			3.8.1	Curing					X							X										
			3.8.2	Curing					X							X										
			3.8.5	Curing					X							X										
			3.8.6	Curing					X							X										
			3.8.7	Curing					X							X										
			3.11.2.1	Curing					X							X										
			3.11.2.6	Curing					X							X										
			3.11.3.5	Curing					X							X										
			3.9	Vertical Facings					X						X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
03360

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STAMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	CLASSIFICATION: GOVERNMENT APPROVED q.	REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	CONTRACTOR SCHEDULE DATES: APPROVAL NEEDED BY t.	CONTRACTOR SCHEDULE DATES: MATERIAL NEEDED BY u.	CONTRACTOR SCHEDULE DATES: CODE v.	CONTRACTOR ACTION: DATE w.	CONTRACTOR ACTION: SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	GOVERNMENT ACTION: DATE z.	REMARKS aa.
			3.9.1	Vertical Facings					X						X											

SUBMITTAL REGISTER
(ER 415 1-10)

CONTRACT NO.

TITLE AND LOCATION
Red Rock Detention Basin Scour Protection

CONTRACTOR

SPECIFICATION SECTION
05500

ACTIVITY NO a.	TRANSMITTAL NO. b.	ITEM NO c.	SPECIFICATION PARAGRAPH NUMBER d.	DESCRIPTION OF ITEM SUBMITTED e.	TYPE OF SUBMITTAL: DATA f.	DRAWINGS g.	INSTRUCTIONS h.	SCHEDULES i.	STATEMENTS j.	REPORTS k.	CERTIFICATES l.	SAMPLES m.	RECORDS n.	O&M MANUALS o.	CLASSIFICATION: INFORMATION ONLY p.	GOVERNMENT REVIEWER r.	CONTRACTOR SCHEDULE DATES: SUBMIT s.	APPROVAL NEEDED BY t.	MATERIAL NEEDED BY u.	CONTRACTOR ACTION: CODE v.	DATE w.	SUBMIT TO GOVERNMENT x.	GOVERNMENT ACTION: CODE y.	DATE z.	REMARKS aa.
			1.2	Miscellaneous Metal Items		X									X										

TRANSMITTAL OF SHOP DRAWINGS, EQUIPMENT DATA, MATERIAL SAMPLES, OR MANUFACTURER'S CERTIFICATES OF COMPLIANCE *(Read instructions on the reverse side prior to initiating this form)*	DATE	TRANSMITTAL NO.

SECTION I - REQUEST FOR APPROVAL OF THE FOLLOWING ITEMS *(This section will be initiated by the contractor)*

TO:	FROM:	CONTRACT NO.	CHECK ONE: ☐ THIS IS A NEW TRANSMITTAL ☐ THIS IS A RESUBMITTAL OF TRANSMITTAL _____
SPECIFICATION SEC. NO. *(Cover only one section with each transmittal)*	PROJECT TITLE AND LOCATION		CHECK ONE: THIS TRANSMITTAL IS FOR ☐ FIO ☐ GOV'T. APPROVAL

ITEM NO. *a.*	DESCRIPTION OF ITEM SUBMITTED *(Type size, model number/etc.)*	MFG OR CONTR. CAT., CURVE DRAWING OR BROCHURE NO. *(See Instruction no. 8)* *c.*	NO. OF COPIES *d.*	CONTRACT REFERENCE DOCUMENT		FOR CONTRACTOR USE CODE *g.*	VARIATION *(See Instruction No. 6)* *h.*	FOR CE USE CODE *i.*
				SPEC. PARA. NO. *e.*	DRAWING SHEET NO. *f.*			

REMARKS

I certify that the above submitted items have been reviewed in detail and are correct and in strict conformance with the contract drawings and specifications except as other wise stated.

_____

NAME AND SIGNATURE OF CONTRACTOR

SECTION II - APPROVAL ACTION

ENCLOSURES RETURNED *(List by Item No.)*	NAME, TITLE AND SIGNATURE OF APPROVING AUTHORITY	DATE

INSTRUCTIONS

1. Section I will be initiated by the Contractor in the required number of copies.

2. Each transmittal shall be numbered consecutively in the space provided for "Transmittal No.". This number, in addition to the contract number, will form a serial number for identifying each submittal. For new submittals or resubmittals mark the appropriate box; on resubmittals, insert transmittal number of last submission as well as the new submittal number.

3. The "Item No." will be the same "Item No." as indicated on ENG FORM 4288-R for each entry on this form.

4. Submittals requiring expeditious handling will be submitted on a separate form.

5. Separate transmittal form will be used for submittals under separate sections of the specifications.

6. A check shall be placed in the "Variation" column when a submittal is not in accordance with the plans and specifications--also, a written statement to that effect shall be included in the space provided for "Remarks".

7. Form is self-transmittal, letter of transmittal is not required.

8. When a sample of material or Manufacturer's Certificate of Compliance is transmitted, indicate "Sample" or "Certificate" in column c, Section I.

9. U.S. Army Corps of Engineers approving authority will assign action codes as indicated below in space provided in Section I, column i to each item submitted. In addition they will ensure enclosures are indicated and attached to the form prior to return to the contractor. The Contractor will assign action codes as indicated below in Section I, column g, to each item submitted.

THE FOLLOWING ACTION CODES ARE GIVEN TO ITEMS SUBMITTED

A -- Approved as submitted.

B -- Approved, except as noted on drawings.

C -- Approved, except as noted on drawings. Refer to attached sheet resubmission required.

D -- Will be returned by separate correspondence.

E -- Disapproved (See attached).

F -- Receipt acknowledged.

FX -- Receipt acknowledged, does not comply as noted with contract requirements.

G -- Other *(Specify)*

10. Approval of items does not relieve the contractor from complying with all the requirements of the contract plans and specifications.

(Reverse of ENG Form 4025-R)

SECTION TABLE OF CONTENTS

DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01440

CONTRACTOR QUALITY CONTROL

-- End of Section Table of Contents --

SECTION 01440

CONTRACTOR QUALITY CONTROL

PART 1 GENERAL

1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 3740	(1999c) Minimum Requirements for Agencies Engaged in the Testing and/or Inspection of Soil and Rock as Used in Engineering Design and Construction
ASTM E 329	(1998a) Agencies Engaged in the Testing and/or Inspection of Materials Used in Construction

1.2 PAYMENT

Separate payment will not be made for providing and maintaining an effective Quality Control program, and all costs associated therewith shall be included in the applicable unit prices or lump-sum prices contained in the Bidding Schedule.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION

3.1 GENERAL

The Contractor is responsible for quality control and shall establish and maintain an effective quality control system in compliance with the Contract Clause entitled "Inspection of Construction." The quality control system shall consist of plans, procedures, and organization necessary to produce an end product which complies with the contract requirements. The system shall cover all construction operations, both onsite and offsite, and shall be keyed to the proposed construction sequence.

3.2 QUALITY CONTROL PLAN

3.2.1 General

The Contractor shall furnish for review by the Government, not later than 30 days after receipt of notice to proceed, the Contractor Quality Control (CQC) Plan proposed to implement the requirements of the Contract Clause entitled "Inspection of Construction." The plan shall identify personnel, procedures, control, instructions, test, records, and forms to be used. The Government will consider an interim plan for the first 15 days of operation. Construction will be permitted to begin only after acceptance of the CQC Plan or acceptance of an interim plan applicable to the particular feature of work to be started. Work outside of the features of work included in an accepted interim plan will not be permitted to begin until acceptance of a CQC Plan or another interim plan containing the additional features of work to be started.

3.2.2 Content of the CQC Plan

The CQC Plan shall include, as a minimum, the following to cover all construction operations, both onsite and offsite, including work by subcontractors, fabricators, suppliers, and purchasing agents:

a. A description of the quality control organization, including a chart showing lines of authority and acknowledgment that the CQC staff shall implement the three phase control system for all aspects of the work specified. The staff shall include a CQC System Manager who shall report to the project manager.

b. The name, qualifications (in resume format), duties, responsibilities, and authorities of each person assigned a CQC function.

c. A copy of the letter to the CQC System Manager signed by an authorized official of the firm which describes the responsibilities and delegates sufficient authorities to adequately perform the functions of the CQC System Manager, including authority to stop work which is not in compliance with the contract. The CQC System Manager shall issue letters of direction to all other various quality control representatives outlining duties, authorities, and responsibilities. Copies of these letters will also be furnished to the Government.

d. Procedures for scheduling, reviewing, certifying, and managing submittals, including those of subcontractors, offsite fabricators, suppliers, and purchasing agents. These procedures shall be in accordance with Section 01330 SUBMITTAL PROCEDURES.

e. Control, verification, and acceptance testing procedures for each specific test to include the test name, specification paragraph requiring test, feature of work to be tested, test frequency, and person responsible for each test. (Laboratory facilities will be approved by the Contracting Officer.)

f. Procedures for tracking preparatory, initial, and follow-up control phases and control, verification, and acceptance tests including documentation.

g. Procedures for tracking construction deficiencies from

identification through acceptable corrective action. These procedures will establish verification that identified deficiencies have been corrected.

h. Reporting procedures, including proposed reporting formats.

i. A list of the definable features of work. A definable feature of work is a task which is separate and distinct from other tasks and has separate control requirements. It could be identified by different trades or disciplines, or it could be work by the same trade in a different environment. Although each section of the specifications may generally be considered as a definable feature of work, there are frequently more than one definable feature under a particular section. This list will be agreed upon during the coordination meeting.

3.2.3 Acceptance of Plan

Acceptance of the Contractor's plan is required prior to the start of construction. Acceptance is conditional and will be predicated on satisfactory performance during the construction. The Government reserves the right to require the Contractor to make changes in his CQC Plan and operations including removal of personnel, as necessary, to obtain the quality specified.

3.2.4 Notification of Changes

After acceptance of the CQC Plan, the Contractor shall notify the Contracting Officer in writing of any proposed change. Proposed changes are subject to acceptance by the Contracting Officer.

3.3 COORDINATION MEETING

After the Preconstruction Conference, before start of construction, and prior to acceptance by the Government of the CQC Plan, the Contractor shall meet with the Contracting Officer or Authorized Representative and discuss the Contractor's quality control system. The CQC Plan shall be submitted for review a minimum of 10 calendar days prior to the Coordination Meeting. During the meeting, a mutual understanding of the system details shall be developed, including the forms for recording the CQC operations, control activities, testing, administration of the system for both onsite and offsite work, and the interrelationship of Contractor's Management and control with the Government's Quality Assurance. Minutes of the meeting shall be prepared by the Government and signed by both the Contractor and the Contracting Officer. The minutes shall become a part of the contract file. There may be occasions when subsequent conferences will be called by either party to reconfirm mutual understandings and/or address deficiencies in the CQC system or procedures which may require corrective action by the Contractor.

3.4 QUALITY CONTROL ORGANIZATION

3.4.1 General

The requirements for the CQC organization are a CQC System Manager and

sufficient number of additional qualified personnel to ensure contract compliance. The Contractor shall provide a CQC organization which shall be at the site at all times during progress of the work and with complete authority to take any action necessary to ensure compliance with the contract. All CQC staff members shall be subject to acceptance by the Contracting Officer.

3.4.2 CQC System Manager

The Contractor shall identify as CQC System Manager an individual within his organization at the site of the work who shall be responsible for overall management of CQC and have the authority to act in all CQC matters for the Contractor. The CQC System Manager shall be a graduate engineer, graduate architect, or a graduate of construction management, with a minimum of 3 years construction experience on construction similar to this contract. This CQC System Manager shall be on the site at all times during construction and will be employed by the prime Contractor. The CQC System Manager shall be separate from the Production Manager or supervisory staff. An alternate for the CQC System Manager shall be identified in the plan to serve in the event of the System Manager's absence. The requirements for the alternate shall be the same as for the designated CQC System Manager.

3.4.3 CQC Personnel

In addition to CQC personnel specified elsewhere in the contract, the Contractor shall provide as part of the CQC organization specialized personnel to assist the CQC System Manager for the following areas: civil, structural, environmental, materials technician. These individuals shall be directly employed by the prime Contractor; be responsible to the CQC System Manager; be physically present at the construction site during work on their areas of responsibility; have the necessary education and/or experience in accordance with the experience matrix listed herein. These individuals may perform other duties but must be allowed sufficient time to perform their assigned quality control duties as described in the Quality Control Plan.

Experience Matrix

Area Qualifications

a. Civil Graduate Civil Engineer with 2 years experience in the type of work being performed on this project or technician with 5 yrs related experience

b. Structural Graduate Structural Engineer with 2 yrs experience or person with 5 yrs related experience

c. Environmental Graduate Environmental Engineer with 3 yrs experience

d. Concrete, Pavements and Soils Materials Technician with 2 yrs experience for the appropriate area

3.4.4 Additional Requirement

In addition to the above experience and education requirements the CQC System Manager shall have completed the course entitled "Construction Quality Management For Contractors".

3.4.5 Organizational Changes

The Contractor shall maintain his CQC staff at full strength at all times. When it is necessary to make changes to the CQC staff the Contractor shall revise the CQC Plan to reflect the changes and submit the changes to the Contracting Officer for acceptance.

3.5 SUBMITTALS

Submittals shall be made as specified in Section 01330 SUBMITTAL PROCEDURES. The CQC organization shall be responsible for certifying that all submittals are in compliance with the contract requirements.

3.6 CONTROL

Contractor Quality Control is the means by which the Contractor ensures that the construction, to include that of subcontractors and suppliers, complies with the requirements of the contract. At least three phases of control shall be conducted by the CQC System Manager for each definable feature of work as follows:

3.6.1 Preparatory Phase

This phase shall be performed prior to beginning work on each definable feature of work, after all required plans/documents/materials are approved/accepted, and after copies are at the work site. This phase shall include:

a. A review of each paragraph of applicable specifications.

b. A review of the contract drawings.

c. A check to assure that all materials and/or equipment have been tested, submitted, and approved.

d. Review of provisions that have been made to provide required control inspection and testing.

e. Examination of the work area to assure that all required preliminary work has been completed and is in compliance with the contract.

f. A physical examination of required materials, equipment, and sample work to assure that they are on hand, conform to approved shop drawings or submitted data, and are properly stored.

g. A review of the appropriate activity hazard analysis to assure safety requirements are met.

h. Discussion of procedures for controlling quality of the work including repetitive deficiencies. Document construction tolerances and workmanship standards for that feature of work.

i. A check to ensure that the portion of the plan for the work to be performed has been accepted by the Contracting Officer.

j. Discussion of the initial control phase.

k. The Government shall be notified at least 72 hours in advance of beginning the preparatory control phase. This phase shall include a meeting conducted by the CQC System Manager and attended by the superintendent, other CQC personnel (as applicable), and the foreman responsible for the definable feature. The results of the preparatory phase actions shall be documented by separate minutes prepared by the CQC System Manager and attached to the daily CQC report. The Contractor shall instruct applicable workers as to the acceptable level of workmanship required in order to meet contract specifications.

3.6.2 Initial Phase

This phase shall be accomplished at the beginning of a definable feature of work. The following shall be accomplished:

a. A check of work to ensure that it is in full compliance with contract requirements. Review minutes of the preparatory meeting.

b. Verify adequacy of controls to ensure full contract compliance. Verify required control inspection and testing.

c. Establish level of workmanship and verify that it meets minimum acceptable workmanship standards. Compare with required sample panels as appropriate.

d. Resolve all differences.

e. Check safety to include compliance with and upgrading of the safety plan and activity hazard analysis. Review the activity analysis with each worker.

f. The Government shall be notified at least 24 hours in advance of beginning the initial phase. Separate minutes of this phase shall be prepared by the CQC System Manager and attached to the daily CQC report. Exact location of initial phase shall be indicated for future reference and comparison with follow-up phases.

g. The initial phase should be repeated for each new crew to work onsite, or any time acceptable specified quality standards are not being met.

3.6.3 Follow-up Phase

Daily checks shall be performed to assure control activities, including control testing, are providing continued compliance with contract

requirements, until completion of the particular feature of work. The checks shall be made a matter of record in the CQC documentation. Final follow-up checks shall be conducted and all deficiencies corrected prior to the start of additional features of work which may be affected by the deficient work. The Contractor shall not build upon or conceal non-conforming work.

3.6.4 Additional Preparatory and Initial Phases

Additional preparatory and initial phases shall be conducted on the same definable features of work if the quality of on-going work is unacceptable, if there are changes in the applicable CQC staff, onsite production supervision or work crew, if work on a definable feature is resumed after a substantial period of inactivity, or if other problems develop.

3.7 TESTS

3.7.1 Testing Procedure

The Contractor shall perform specified or required tests to verify that control measures are adequate to provide a product which conforms to contract requirements. Upon request, the Contractor shall furnish to the Government duplicate samples of test specimens for possible testing by the Government. Testing includes operation and/or acceptance tests when specified. The Contractor shall procure the services of a Corps of Engineers approved testing laboratory or establish an approved testing laboratory at the project site. The Contractor shall perform the following activities and record and provide the following data:

a. Verify that testing procedures comply with contract requirements.

b. Verify that facilities and testing equipment are available and comply with testing standards.

c. Check test instrument calibration data against certified standards.

d. Verify that recording forms and test identification control number system, including all of the test documentation requirements, have been prepared.

e. Results of all tests taken, both passing and failing tests, will be recorded on the CQC report for the date taken. Specification paragraph reference, location where tests were taken, and the sequential control number identifying the test will be given. If approved by the Contracting Officer, actual test reports may be submitted later with a reference to the test number and date taken. An information copy of tests performed by an offsite or commercial test facility will be provided directly to the Contracting Officer. Failure to submit timely test reports as stated may result in nonpayment for related work performed and disapproval of the test facility for this contract.

3.7.2 Testing Laboratories

3.7.2.1 Capability Check

The Government reserves the right to check laboratory equipment in the proposed laboratory for compliance with the standards set forth in the contract specifications and to check the laboratory technician's testing procedures and techniques. Laboratories utilized for testing soils, concrete, asphalt, and steel shall meet criteria detailed in ASTM D 3740 and ASTM E 329.

3.7.2.2 Capability Recheck

If the selected laboratory fails the capability check, the Contractor will be assessed a charge of $675.00 to reimburse the Government for each succeeding recheck of the laboratory or the checking of a subsequently selected laboratory. Such costs will be deducted from the contract amount due the Contractor.

3.7.3 Assurance Tests

The Government reserves the right to utilize the Contractor's control testing laboratory and equipment to make assurance tests and to check the Contractor's testing procedures, techniques, and test results at no additional cost to the Government.

3.7.4 Furnishing or Transportation of Samples for Testing

Costs incidental to the transportation of samples or materials will be borne by the Contractor. Unless specified otherwise, samples of materials for test verification and acceptance testing by the Government shall be delivered to Quality Assurance Laboratory, at an address to be determined. Coordination for each specific test, exact delivery location, and dates will be made through the Area Office.

3.8 COMPLETION INSPECTION

3.8.1 Punch-Out Inspection

Near the completion of all work or any increment thereof established by a completion time stated in the Special Clause entitled "Commencement, Prosecution, and Completion of Work," or stated elsewhere in the specifications, the CQC System Manager shall conduct an inspection of the work and develop a "punch list" of items which do not conform to the approved drawings and specifications. Such a list of deficiencies shall be included in the CQC documentation, as required by paragraph DOCUMENTATION below, and shall include the estimated date by which the deficiencies will be corrected. The CQC System Manager or staff shall make a second inspection to ascertain that all deficiencies have been corrected. Once this is accomplished the Contractor shall notify the Government that the facility is ready for the Government Pre-Final inspection.

3.8.2 Pre-Final Inspection

The Government will perform this inspection to verify that the facility is complete and ready to be occupied. A Government Pre-Final Punch List may

be developed as a result of this inspection. The Contractor's CQC System Manager shall ensure that all items on this list have been corrected and so notify the Government so that a Final inspection with the customer can be scheduled. Any items noted on the Pre-Final inspection shall be corrected in a timely manner. These inspections and any deficiency corrections required by this paragraph will be accomplished within the time slated for completion of the entire work or any particular increment thereof if the project is divided into increments by separate completion dates.

3.8.3 Final Acceptance Inspection

The Contractor's Quality Control Inspection personnel, plus the superintendent or other primary management person, and the Contracting Officer's representative shall be in attendance at this inspection. Additional Government personnel including, but not limited to, those from Base/Post Civil Facility Engineer user groups, and major commands may also be in attendance. The final acceptance inspection will be formally scheduled by the Contracting Officer based upon results of the Pre-Final inspection. Notice will be given to the Contracting Officer at least 14 days prior to the final acceptance inspection and must include the Contractor's assurance that all specific items previously identified to the Contractor as being unacceptable, along with all remaining work performed under the contract, will be complete and acceptable by the date scheduled for the final acceptance inspection. Failure of the Contractor to have all contract work acceptably complete for this inspection will be cause for the Contracting Officer to bill the Contractor for the Government's additional inspection cost in accordance with the contract clause entitled "Inspection of Construction".

3.9 DOCUMENTATION

The Contractor shall maintain current records providing factual evidence that required quality control activities and/or tests have been performed. These records shall include the work of subcontractors and suppliers and shall be on an acceptable form that includes, as a minimum, the following information:

a. Contractor/subcontractor and their area of responsibility.

b. Operating plant/equipment with hours worked, idle, or down for repair.

c. Work performed each day, giving location, description, and by whom. When Network Analysis (NAS) is used, identify each phase of work performed each day by NAS activity number.

d. Test and/or control activities performed with results and references to specifications/drawings requirements. The control phase should be identified (Preparatory, Initial, Follow-up). List deficiencies noted along with corrective action.

e. Quantity of materials received at the site with statement as to acceptability, storage, and reference to specifications/drawings requirements.

f. Submittals reviewed, with contract reference, by whom, and action taken.

g. Off-site surveillance activities, including actions taken.

h. Job safety evaluations stating what was checked, results, and instructions or corrective actions.

i. Instructions given/received and conflicts in plans and/or specifications.

j. Contractor's verification statement.

These records shall indicate a description of trades working on the project; the number of personnel working; weather conditions encountered; and any delays encountered. These records shall cover both conforming and deficient features and shall include a statement that equipment and materials incorporated in the work and workmanship comply with the contract. The original and one copy of these records in report form shall be furnished to the Government daily within 72 hours after the date(s) covered by the report, except that reports need not be submitted for days on which no work is performed. As a minimum, one report shall be prepared and submitted for every seven days of no work and on the last day of a no work period. All calendar days shall be accounted for throughout the life of the contract. The first report following a day of no work shall be for that day only. Reports shall be signed and dated by the CQC System Manager. The report from the CQC System Manager shall include copies of test reports and copies of reports prepared by all subordinate quality control personnel.

3.10 CONTRACTOR PROJECT MANAGEMENT SYSTEM

3.10.1 General

3.10.1.1 The Contractor project Management System is included to assure adequate planning and execution of the work, to assist the Contracting Officer on appraising the reasonableness of the schedule, to evaluate progress of the work, and make progress payments, and to make decisions relative to time and/or cost adjustments which may result from changes in the work.

3.10.1.2 The management system is to be based on a computerized Network Analysis (Critical Path Method) operated by on-site personnel at terminals located in the Contractors's on-site office. On-site management shall be capable of using the system to address all project activities and resources on a real time inactive basis and be capable of rapidly evaluating alternative scenarios which will optimize project management. Evidence of technical expertise of on-site personnel with the proposed computerized Network Analysis System shall be submitted for Contracting Officer's approval prior to on-site work. The Contractor's Scheduling system shall be capable of downloading fully and completely to the Corps of Engineers Standard Data Exchange Format.

3.10.1.3 The Contractor shall resource load all work activities. As a minimum, resource loading shall identify equipment, management, skilled and unskilled labor requirements. The Contractor may at his option decide on greater detail for his own purposes, but if this option is elected, the system must be able to consolidate resources into the above defined categories for use by the Contracting Officer.

3.10.1.4 The Contractor shall incorporate any and all milestone and contract required events which may be specified elsewhere within these specifications. Should milestone events be not specifically identified by the Government within these specifications, the Contractor shall identify at least five percent of the network activities and designate them as milestone activities.

3.10.1.5 The Contractor Project Management System is to be staffed and prepared pursuant of CONTRACT CLAUSE: SCHEDULE FOR CONSTRUCTION CONTRACTS, and CONTRACT CLAUSE: SUPERINTENDENT BY THE CONTRACTOR. In preparing this system the Contractor assume responsibility for conformance with contract requirements, planning, sequencing of work, and determining the construction means and methods.

3.10.2 Submission and Approval

Submission and approval of the system shall be as follows:

3.10.2.1 The complete network system consisting of the detailed network mathematical analysis (including on-site manpower loading schedule) and network logic diagrams shall be submitted for approval within thirty (30) calendar days after receipt of Notice to Proceed. This shall be submitted in assembled hardcopy paper format and software computer disk to allow restoring on Government Computers.

3.10.2.2 The Contractor shall participate in a review and evaluation of the proposed network logic diagrams and mathematical analysis by the Contracting Officer. Any revisions necessary as a result of this review shall be resubmitted for approval of the Contracting Officer within three (3) calendar days after the conference. The approved schedule shall be used by the Contractor for planning, organizing and directing the work, reporting progress, and requesting payment for work accomplished.

3.10.3 Network Modifications

3.10.3.1 In those cases where the contract performance is delayed due to causes beyond the control of the Contractor, and a time extension may be allowable under one or more of the CONTRACT CLAUSES: CHANGES, or DIFFERING SITE CONDITIONS, or DEFAULT (FIXED PRICE CONSTRUCTION), or SUSPENSION OF WORK, or other applicable clauses, as a proposal in such format as to identify the specific subnet diagram and activities affected.

3.10.3.2 Change order proposals shall include description or listing of all proposed changes to the network, by activity, and demonstrate the effect on the contract required completion date. A complete list of activities changed and subnet of activities affected by the change shall be submitted.

3.10.3.3 Float or slack is defined as the amount of time between the early start date and the late start date, or the early finish date and the late finish date, of any of the activities in the NAS schedule. Float or slack is not time for the exclusive use or benefit of either the Government or the Contractor. Extensions of time for performance may be granted to the extent that equitable time adjustment for the activities affected exceed the total float or where otherwise justified effect on contract completion can be shown. The contract completion date is fixed, and will be amended only for modifications which include time and are signed by the Contracting Officer.

3.10.3.4 Rapid resolution of change orders and the granting of other time extensions where authorized by the Contracting Officer is a critical part of the overall management system. Implementation of all justified activity and logic changes shall be made and reflected on the next monthly update after approval of the Contracting Officer.

3.10.3.5 If, in the opinion of the Contracting Officer, the current schedule no longer accurately reflects the Contractor's real plan for accomplishing the work, or no longer reflects a viable way of finishing the work on schedule, the Contractor shall be directed to revise the schedule and submit it for approval within seven (7) calendar days of direction.

3.10.4 Logic Diagrams and Reports

3.10.4.1 Logic diagrams

3.10.4.1.1 Logic diagrams shall show the order and interdependency of activities and sequence in which the work is to be accomplished as planned by the Contractor.

3.10.4.1.2 Detailed networks need not be timed scaled, but drafted to have a continuous flow from left to right, showing how the start of a given activity is dependent on the completion of preceding activities, and how its completion restricts the start of the following activities.

3.10.4.1.3 An assembled logic diagram of the complete project shall be submitted with the initial NAS, showing each activity identifying numbers, duration, description, with the critical path easily identified. Updated assembled diagrams will be provided as required by logic changes (but not more frequently than the monthly update). The logic diagram shall be plotted on architectural size E paper.

3.10.4.2 Reports

3.10.4.2.1 After the network approval, the Contractor shall review and evaluate the actual progress with the Contracting Officer's representative on a weekly basis, and submit any updated weekly reports three (3) workdays after the meeting.

3.10.4.2.2 Weekly reports must be flexible in format, allowing generation of reports relating specifically to critical work areas, or areas of particular interest. The Government will identify the subject of the

requested reports for the following week at a weekly review meeting.

3.10.4.2.3 Monthly update reports will be submitted at midmonth showing status and actual start and finish dates of project activities, and will be capable of comparing the current status with the approved base schedule. Each monthly update report shall be uniquely identified and shall be stored on the Contractor's computer until the final pay estimate is processed. The content of the monthly update shall be flexible to show items listed in the menu. The midmonth report shall be used for partial payments.

3.10.4.2.4 A meeting shall be held three (3) workdays before the delivery of the midmonth report to discuss all input data. If the Contractor desires to make changes in his method of operation and scheduling, he shall clearly present the proposed changes.

3.10.4.2.5 A narrative report shall be submitted with midmonth report indicating current and anticipated problems, delaying factors, and conditions that are impacting the Contractor's work effort. An analysis showing the reasons for the delay/gain and their impact upon the current schedule shall be included. If it becomes apparent the scheduled milestone(s) and completion date(s) will not be met, the Contractor shall propose specific methods he intends to implement to bring the project back on schedule at no cost to the Government. Such measures may include but are not limited to:

a. Increasing construction manpower in such quantities and crafts as will substantially eliminate the backlog of work effort.

b. Increasing the number of working hours per shift; shifts per workday; workdays per week; the amount of construction equipment; or any combination thereof.

c. Rescheduling of activities to achieve maximum practical concurrence of work shifts.

3.10.4.2.6 The Contractor shall implement such procedures as may be necessary for the active participation by his subcontractors in preparing and updating the schedule. Subcontractors shall be provided with schedules which identify the interfaces of their work with the work of others. At minimum, the Contractor shall provide bar graphs to each major subcontractor showing activity times with plots on an Early Start basis. Copies of these schedules shall also be provided to the Contracting Officer. The relationship between subcontractor and interdependency or work shall be managed by the Contractor. When these interdependencies are violated or impaired, the Contractor shall identify the problem, resolve it, and provide the information to the Contracting Officer as part of the monthly report.

3.10.5 Forecasting Expenditures

The Contracting Officer will provide a spreadsheet to the Contractor showing the different funding categories and their respective categories for each bid item for the total contract amount (see attached FIGURE 1). Each pay period the contractor shall forecast his expenditures for the

following 3 pay periods, indicating funding requirements for each category. The updated worksheet (see attached FIGURE 2) shall be submitted with each partial pay estimate (e.g. submittal for the period 15 DEC to 15 JAN will include a forecast of expenditures for the period 15 Jan to 15 Apr). Forecasting of expenditures is needed to assure sufficient funding for future progress payments.

3.10.6 Payment Requests

3.10.6.1 The monthly update report shall be used as a basis for the monthly partial pay estimate. The report will state the cost, actual percent complete, and current value of partially completed or completed work. Subtotals representing separate areas of construction will be given, along with a grand dollar value of work completed for the project.

3.10.6.2 The first payment shall not be made until the Network Analysis Schedule has been approved by the Contracting Officer. If, in the judgment of the Contracting Officer, The Contractor fails or refuses to provide an approved schedule and other progress or input data specified, the Contractor shall be deemed not to have provided the required information upon which progress payments may be made, and no payment request will be honored.

3.10.6.3 Activities submitted for payment shall be based on the approved network activities and monetary amount. No payment shall be made for activities conducted in deviation of the approved logic.

3.10.6.4 Payment for activities conducted when previously dependent activities have not been completed or accepted due to quality defects shall be restricted at the discretion of the Contracting Officer.

3.11 IMPLEMENTATION OF GOVERNMENT RESIDENT MANAGEMENT SYSTEM

The Contractor shall utilize a Government furnished CQC Programming Module (A computerized executable file which is DOS based and operates on a minimum of 80386 IBM compatible computers). The Module includes a Daily CQC Reporting System Form which must also be used. This form may be in addition to other Contractor desired reporting forms. However, all other such reporting forms shall be consolidated into this one Government specified Daily CQC Report Form. The Contractor will also be required to complete Government-furnished Module elements which include, but are not limited to, Prime Contractor staffing; letter codes; planned cumulative progress earnings; subcontractor information showing trade, name, address, point-of-contact, and insurance expiration dates; definable features of work; pay activity and activity information; required Quality Control tests tied to individual activities; planned User Schooling tied to specific specification paragraphs and contractor activities; Installed Property Listing, Transfer Property Listing and submittal information relating to specification section, description, activity number, review period and expected procurement period. The sum of all activity values shall equal the contract amount, and all Bid Items, Options and Additives shall be separately identified, in accordance with the "Bidding Schedule". Bid Items may include multiple Activities, but Activities may only be assigned to one such Bid Item. This Module shall be completed to the satisfaction

of the Contracting Officer prior to any contract payment (except for Bonds, Insurance and/or Mobilization, as approved by the Contraction Officer) and shall be updated as required.

3.12.1 During the course of the contract, the Contractor will receive various Quality Assurance comments from the Government that will reflect corrections needed to Contractor activities or reflect outstanding or future items needing the attention of the Contractor. The Contractor will acknowledge receipt of these comments by specific number reference on his Daily CQC Report and will also reflect on his Daily CQC Report when these items are specifically completed or corrected to permit Government verification.

3.12 NOTIFICATION OF NONCOMPLIANCE

The Contracting Officer will notify the Contractor of any detected noncompliance with the foregoing requirements. The Contractor shall take immediate corrective action after receipt of such notice. Such notice, when delivered to the Contractor at the worksite, shall be deemed sufficient for the purpose of notification. If the Contractor fails or refuses to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No part of the time lost due to such stop orders shall be made the subject of claim for extension of time or for excess costs or damages by the Contractor.

-- End of Section --

FIGURE 1
SAMPLE SPREADSHEET

SEVEN OAKS DAM, DAM AND APPURTENANCES
SAN BERNARDINO COUNTY, CALIFORNIA

ITEM #	DESCRIPTION	TOTALS AMOUNT	%	FED BE069	%	O.C. NON-FED FW090	%	S.B.C NON-FED FW093	%	R.C. NON-FED FW092
1.	MOB & DEMOB	$1,000,000.00	94,1797	$941,797.00	5.1044	$51,044.00	0.4092	$4,092.00	0.3067	$3.067.00
2.	DIV & CONTROL WA	$2,000,000.00	94,1797	$1,883,594.00	5.1044	$102,088.00	0.4092	$8,184.00	0.3067	$6,134.00
3.	CLEAR SITE	$1,000,000.00	94,1797	$941,797.00	5.1044	$51,044.00	0.4092	$4,092.00	0.3067	$3,067.00
4.	SCALING	$2,000,000.00	94,1797	$1,883,594.00	5.1044	$102,088.00	0.4092	$8,184.00	0.3067	$6,134.00
5.	EXC, FOUND ALLU	$5,000,000.00	94,1797	$4,708,985.00	5.1044	$255,220.00	0.4092	$20,460.00	0.3067	$15,335.00
6.	EXC, FOUND ROCK	$5,000,000.00	94,1797	$4,708,985.00	5.1044	$255,220.00	0.4092	$20,460.00	0.3067	$15,335.00
					%	NON-FED VW090	%	NON-FED VW093	%	NON-FED VW092
7.	PROTECT-IN-PLACE	$1,000,000.00			87.6999	$876,999.00	7.0306	$70,306.00	5.2695	$52,695.00
8.	RELOCATE NEWPO	$2,000,000.00			87.6999	$1,753,998.00	7.0306	$140,612.00	5.2695	$105,390.00

FIGURE 2
SAMPLE WORKSHEET

SEVEN OAKS DAM, DAM AND APPURTENANCES
SAN BERNARDINO COUNTY, CALIFORNIA

EXPENDITURES FORECAST

	JAN 15 - FEB 15	FEB 15 - MAR 15	MAR 15 - APR 15
BE069	$5,660,000.00	$7,540,000.00	$9,420,000.00
FW090	$310,000.00	$410,000.00	$520,000.00
FW093	$30,000.00	$40,000.00	$50,000.00
FW092	$20,000.00	$30,000.00	$40,000.00
VW090	$62,000.00	$53,000.00	$44,000.00
VW093	$5,000.00	$5,000.00	$4,000.00
VW092	$4,000.00	$4,000.00	$3,000.00