

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>			1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO. 0003	3. EFFECTIVE DATE 2002 April 10	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) DACW09-02-B-0002	
6. ISSUED BY U.S. ARMY ENGINEER DISTRICT, Los Angeles P.O. Box 532711 Los Angeles, California 90053-2325	CODE	7. ADMINISTERED BY (If other than Item 6)		CODE
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			( <input checked="" type="checkbox"/> )	9A. AMENDMENT OF SOLICITATION NO. DACW09-02-B-0002
			X	9B. DATED (SEE ITEM 11) 2002 April 23 (Bid Opening)
				10A. MODIFICATION OF CONTRACTS/ORDER NO.
				10B. DATED (SEE ITEM 13)
CODE	FACILITY CODE			

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

() A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).

C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

D. OTHER (Specify type of modification and authority)

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  
**F-1 CHANNEL, HUALAPAI WAY TO BELTWAY, LAS VEGAS WASH AND TRIBUTARIES (TROPICANA AND FLAMINGO WASHES), CLARK COUNTY, NEVADA**

**REPLACE the following Form with the enclosed for clarification purposes:**

**SF 1442 (Front)**  
 Amendment 0003 to the SF 1442 as follows:  
 A. Block 13 Paragraph A, revised Bid Opening  
     FROM: 18 APR 2002  
     TO: 23 APR 2002  
**CONTINUED ON NEXT SHEET**

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		BY _____ (Signature of Contracting Officer)	

F-1 CHANNEL, HUALAPAI WAY TO BELTWAY, LAS VEGAS WASH AND TRIBUTARIES (TROPICANA AND FLAMINGO WASHES), CLARK COUNTY, NEVADA (Continued)

**BLOCK 14 – Continued**

**REPLACE the following Specification Sections in the Original Solicitation with the enclosed Specification Sections for clarification purposes:**

- Section 00010
- Section 00850
- Section 01200
- Section 01270
- Section 01355
- Section 01702
- Section 02230
- Section 02300
- Section 02630
- Section 05500

**REPLACE the following Plans/Drawings in the Original Solicitation with the enclosed Plans/Drawings for clarification purposes:**

<u>File No.</u>	<u>Sheet No.</u>
196/802	T-2
196/804	R-1
196/809	C-1
196/810	C-2
196/811	C-3
196/812	C-4
196/813	C-5
196/814	C-6
196/815	C-7
196/816	C-8
196/817	C-9
196/818	C-10
196/822	C-14
196/823	C-15
196/824	C-16
196/825	C-17
196/826	C-18
196/827	C-19
196/831	S-1
196/832	S-2
196/833	S-3
196/834	S-4
196/836	S-6
196/837	S-7
196/838	S-8
196/839	S-9
196/840	S-10

**Standard Form 30 - Amendment of Solicitation**

Amendment 0003

2002 April 10

DACW09-02-B-0002

F-1 CHANNEL, HUALAPAI WAY TO BELTWAY, LAS VEGAS WASH AND TRIBUTARIES (TROPICANA AND FLAMINGO WASHES), CLARK COUNTY, NEVADA (Continued)

**BLOCK 14 – Continued**

**ADD the following enclosed Plans/Drawings for clarification purposes:**

<u>File No.</u>	<u>Sheet No.</u>	<u>Drawing Title</u>
196/856	D-1 of D-5	GRADING AND DRAINAGE STA. 23+00 TO STA. 26+00
196/857	D-2 of D-5	GRADING AND DRAINAGE STA. 26+00 TO STA. 28+50
196/858	D-3 of D-5	DRAINAGE PROFILE
196/859	D-4 of D-5	DRAINAGE PROFILE
196/860	D-5 of D-5	MISC. DETAILS
196/863	DS1	DISPOSAL SITE

**CORRECTIONS:** In AMENDMENT 2, The Standard Form 30, Block 11, should have had the block “is not extended” checked in lieu of the block “is extended”. However, this action has been superseded by this Amendment 3 of the solicitation.

**End Of Standard Form 30**

<b>SOLICITATION, OFFER, AND AWARD</b> <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NO. DACW09-02-B-0002	2. TYPE OF SOLICITATION <input checked="" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED 10 APR 2002	PAGE OF PAGES

**IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.**

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.
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7. ISSUED BY CONTRACTING DIVISION P.O. BOX 532711 LOS ANGELES, CALIFORNIA 90053-2325	CODE	8. ADDRESS OFFER TO SEE ITEM 7
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9. FOR INFORMATION CALL:	A. NAME DIANE WATKINS	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) (213) 452-3251
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**SOLICITATION**

**NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".**

10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS *(Title, identifying no., date):*

F-1 Channel, Hualapai Way to Beltway (South Bound Frontage Road) Las Vegas Wash and Tributaries (Tropicana and Flamingo Washes), Nevada. Work includes rectangular reinforced concrete flood control channel construction with associated reinforced concrete box road crossings, maintenance roads, confluences, inlets, railing and fencing.

This is an 8(a) competitive procurement. Completion is restricted to 8(a) firms services by the Nevada District of the SBA. To be eligible, the 8(a) firms must have North American Industry Classification System Code 23499 among their approved NAICS Codes.

The estimated cost range of this acquisition is over \$10,000,000.00.

Bidders please note: The project may be delayed, cancelled or revised at any time during the solicitation and/or final award process.

11. The Contractor shall begin performance within 1 calendar days and complete it within 300 calendar days after receiving  award,  notice to proceed. This performance period is  mandatory,  negotiable. (See SECTION 00800 .)

12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	12B. CALENDAR DAYS 10
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13. ADDITIONAL SOLICITATION REQUIREMENTS:

A. Sealed offers in original and 0 copies to perform the work required are due at the place specified in Item 8 by 1:00 PM (hour) local time 23 APR 2002 (date). If this is a sealed bid solicitation, offers will be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.

B. An offer guarantee  is,  is not required.

C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.

D. Offers providing less than 60 calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.

**OFFER (Must be fully completed by offeror)**

14. NAME AND ADDRESS OF OFFEROR (Include ZIP Code)	15. TELEPHONE NO. (Include area code)
	16. REMITTANCE ADDRESS (Include only if different than Item 14)
CODE	FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within \_\_\_\_\_ calendar days after the date offers are due. (Insert any number equal to or greater than the minimum requirement stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)

AMOUNTS

18. The offeror agrees to furnish any required performance and payment bonds.

**19. ACKNOWLEDGMENT OF AMENDMENTS**  
(The offeror acknowledges receipt of amendments to the solicitation - give number and date of each)

AMENDMENT NO.									
DATE									

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER <i>(Type or print)</i>	20B. SIGNATURE	20C. OFFER DATE
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**AWARD (To be completed by Government)**

21. ITEMS ACCEPTED:

22. AMOUNT	23. ACCOUNTING AND APPROPRIATION DATA
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24. SUBMIT INVOICES TO ADDRESS SHOWN IN <i>(4 Copies unless otherwise specified)</i>	ITEM	25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO <input type="checkbox"/> 10 U.S.C 2304(c) ( ) <input type="checkbox"/> 41 U.S.C 253(c) ( )
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26. ADMINISTERED BY	CODE	27. PAYMENT WILL BE MADE BY
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**CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE**

28. NEGOTIATED AGREEMENT *Contractor is required to sign this document and return \_\_\_\_\_ copies to issuing office(s). Contractor agrees to furnish and deliver all items or perform all work requirements identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications incorporated by reference in or attached to this contract.*

29. AWARD *(Contractor is not required to sign this document.)* Your offer on this solicitation is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN <i>(Type or print)</i>	31A. NAME OF CONTRACTING OFFICER <i>(Type or print)</i>		
30B. SIGNATURE	30C. DATE	31B. UNITED STATES OF AMERICA	31C. AWARD DATE
		BY	

DOCUMENT TABLE OF CONTENTS

DIVISION 00 - DOCUMENTS

SECTION 00010

BID SCHEDULE

PART 1 GENERAL

- 1.1 Base Bid
- 1.2 Optional Bid Items at Hualapai Way

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

-- End of Document Table of Contents --

SECTION 00010

BID SCHEDULE

PART 1 GENERAL

1.1 Base Bid

Item	Description	Quantity	Unit	Price	Amount
0001	Traffic Control	1	Job	LS _____	_____
0002	Diversion and Control of Water	1	Job	LS _____	_____
0003	Construction Water	1	Job	LS _____	_____
0004	Clear Site and Remove Obstructions	1	Job	LS _____	_____
0005	Ladder Systems	1	Job	LS _____	_____
0006	Channel Station Marking	1	Job	LS _____	_____
0007	Reinforced Concrete Confluence Structure #1	1	Job	LS _____	_____
0008	Reinforced Concrete Confluence Structure #2	1	Job	LS _____	_____
0009	Reinforced Concrete Access Ramp #1	1	Job	LS _____	_____
0010	Reinforced Concrete Access Ramp #2	1	Job	LS _____	_____
0011	RCB near Beltway (4.000 m x 3.660 m)	1	Job	LS _____	_____
0012	RCB Fort Apache Lateral (3.660 m x 2.440 m)	1	Job	LS _____	_____
0013	RCB at Fort Apache (5.000 m x 3.000 m)	1	Job	LS _____	_____
0014	RCB at Grand Canyon Drive (5.000 m x 3.000 m)	1	Job	LS _____	_____
0015	Side Drain Connection, Sta. 14+28.483	1	Job	LS _____	_____
0016	Side Drain Connection, Sta. 14+51.017	1	Job	LS _____	_____
0017	Side Drain Connection, Sta. 20+88.197	1	Job	LS _____	_____
0018	Side Drain Connection, Sta. 29+05.434 for Horizontal Elliptical Pipe 1.219 m high x 1.524 m wide	1	Job	LS _____	_____

Item	Description	Quantity	Unit		Amount
			Unit	Price	
0019	Side Drain Connection, Sta. 29+08.310	1	Job	LS	_____.
0020	Side Drain Connection, Sta. 29+11.185	1	Job	LS	_____.
0021	Weep Hole System	1	Job	LS	_____.
0022	Stilling Well	1	Job	LS	_____.
0023	As-Built Drawings	1	Job	LS	_____.
0024	Side Drain Connection, Sta. 27+23.000	1	Job	LS	_____.
0025	Side Drain Connection, Sta. 26+22.000	1	Job	LS	_____.
0026	Side Drain Connection, Sta. 25+41.500	1	Job	LS	_____.
0027	Side Drain Connection, Sta. 24+40.000	1	Job	LS	_____.
0028	Adjust Sewer Manhole Frames and Covers between Sta. 16+20 and Sta. 14+75	4	Ea	_____.	_____.
0029	Adjust Sewer Manhole Frames and Covers between Sta. 17+90 and Sta. 16+80	4	Ea	_____.	_____.
0030	Excavation, Channel	98,400	m <sup>3</sup>	_____.	_____.
0031	Compacted Fill, Channel	25,500	m <sup>3</sup>	_____.	_____.
0032	Compacted Fill, Roadway	6,540	m <sup>3</sup>	_____.	_____.
0033	Excess Material Disposal, Compacted, Russell Road Disposal Site	37,080	m <sup>3</sup>	_____.	_____.
0034	Excess Material Disposal, Stockpiled, Russell Road Disposal Site	26,050	m <sup>3</sup>	_____.	_____.
0035	Reinforced Concrete Pipe 0.450 m Dia. between Sta. 28+15.550 and Sta. 24+02.805	140.0	m	_____.	_____.
0036	Reinforced Concrete Pipe 0.914 m Dia.	92.0	m	_____.	_____.
0037	Horizontal Elliptical Reinforced Concrete Pipe 1.092 m high x 1.727 m wide	4.8	m	_____.	_____.
0038	Reinforced Concrete Pipe 1.372 m Dia.	19.6	m	_____.	_____.
0039	Aggregate Base Course	4,490	t	_____.	_____.
0040	Asphalt Concrete Pavement	1,105	t	_____.	_____.

Item	Description	Quantity	Unit	
			Unit Price	Amount
0041	Chain Link Fencing	4,212	m	____.____
0042	Swing Gate	11	Ea	____.____
0043	Post and Cable Railing	4,720	m	____.____
0044	Reinforced Concrete Channel Invert	4,882	m <sup>3</sup>	____.____
0045	Reinforced Concrete Channel Walls	4,992	m <sup>3</sup>	____.____
0046	Pre-Emergent Herbicide/Dust Pallative	2	HA	____.____
0047	Pre-Emergent Herbicide/Dust Pallative Russell Road Disposal Site	4.2	HA	____.____
0048	Remove and Dispose Debris Piles on the North side of the F-1 Channel in the Right-Of-Way between Sta. 28+15.550 and Sta. 24+02.805 as Scrap	5,183	m <sup>3</sup>	____.____
0049	Four (4) Concrete Swales between Sta. 28+15.550 and Sta. 24+02.805	41	m <sup>3</sup>	____.____
0050	Adjust Water Valves at Russell Road Disposal Site	2	Ea	____.____
<b>SUBTOTAL ESTIMATED AMOUNT OF BASE BID:</b>				\$_____.
<b>(Line Items 0001 through 0050)</b>				

1.2 Optional Bid Items at Hualapai Way

Item	Description	Quantity	Unit		Amount
			Unit	Price	
0051	F-1 RCB at Hualapai Way (4.000 m x 3.000 m)	1	Job	LS	_____.
0052	F-2 RCB at Hualapai Way (5.000m x 3.000 m)	1	Job	LS	_____.
0053	Temporary Support Gas Line	1	Job	LS	_____.
0054	Side Drain Connection, Sta. 37+13.926	1	Job	LS	_____.
0055	Reinforced Concrete Pipe 1.676 m Dia.	19.4	m		_____.
0056	Nevada Power Pole Wrap	1	Job	LS	_____.
0057	Compacted Fill, Roadway at Hualapai Way	3,230	m <sup>3</sup>		_____.

**SUBTOTAL ESTIMATED AMOUNT OF OPTIONAL BID ITEMS:** \$ \_\_\_\_\_.  
 (Line Items 0051 through 0057)

**TOTAL ESTIMATED AMOUNT:** \$ \_\_\_\_\_.  
 (Base Bid and Optional Bid Items)

Basis of Bid shall be the entire work complete in accordance with the drawings and specifications for Base Bid Items, and including the work indicated or specified to be provided under any Option Item.

Optional Bid Items may be exercised within 180 calendar days after award by the Contracting Officer. A firm fixed bid price is required for each optional bid item. No provision is made for economic price adjustment.

Abbreviations:

- m = meter
- m<sup>3</sup> = cubic meter
- t = metric ton (1000 kilograms)
- ea = each
- LS = lump sum
- HA = hectare

1. All extensions of the unit prices shown will be subject to verification by the Government. In case of variation between the unit price and the extension, the unit price will be considered to be the bid.
2. If a modification to a bid based on unit prices is submitted which provides for a lump sum adjustment to the total estimated amount, the application of the lump sum adjustment to each unit price in the Price Schedule must be stated. If it is not stated, the bidder agrees that the lump sum adjustment shall be applied on a pro rata basis to every unit price in the Price Schedule.
3. For the purpose of initial evaluation of bids, the following will be utilized in resolving arithmetic discrepancies found on the face of the Price Schedule as submitted by the bidder:
  - a. Obviously misplaced decimal points will be corrected;
  - b. In case of discrepancy between the unit price and the extended price, the unit price will govern;
  - c. Apparent errors in extensions of unit prices will be corrected;
  - d. Apparent errors in addition of lump sum and extended prices will be corrected.
4. For the purpose of bid evaluation, the Government will proceed on the assumption that the bidder intends the bid to be evaluated on the basis of unit prices the totals arrived at by the resolution of arithmetic discrepancies as provided above and the bid will be so reflected on the abstract of bids.
5. The lump sum "LS" line items in the Price Schedule are not "Estimated Quantity" line items and are not subject to the "Variation in Estimated Quantity" contract clause.
6. The Contract Clause 52.232-27, "Prompt Payment for Construction Contracts" requires that the name and address of the contractor official, to whom payment is to be sent, be the same as that in the contract or in a proper Notice of Assignment.
7. Principal Contracting Officer. The Contracting Officer who signs this contract will be the Principal Contracting Officer for this contract. However, any Contracting Officer assigned to the Los Angeles District, contracting within his authority, may take formal action on this contract when the Principal Contracting Officer is unavailable and the action needs to be taken.
8. Amounts and prices shall be indicated in either words or figures, NOT BOTH.
9. Payment of Electronic Funds Transfer (EFT) is the mandatory method of payment. The Contractors attention is directed to Contract Clause NO. 52.232-33 "Mandatory Information for Electronic Funds Transfer" located in Section 00800.
10. The bidder shall distribute his indirect costs (overhead, profit, bond, etc.,) over all items in the Price Schedule. The Government will review all submitted Price Schedules for any unbalancing of the items. Any submitted Price Schedule determined to be unbalanced may be considered non-responsive and cause the bidder to be ineligible for contract award.

11. The bidder shall furnish all plant, labor, material, equipment, etc., necessary to perform all work in strict accordance with the terms and conditions set forth in the contract in include all attachments thereto.

12. Some quantities are ESTIMATED, the bidders prices MUST BE FIRM.

13. Bidder is cautioned to check his Price Schedule carefully prior to submission. If the Price Schedule contains unit prices, they should be round off to the second decimal point only NOT EXTENDED FUTHER.

14. Contractor is required to fill in Cage code (Reference Section 00600, entitled "Required Central Contractor Registration" Mar 1998) and DUNS Number (Reference Section 00600, entitled, "Data Universal Numbering System (DUNS) Number" Jun1999) in Block No. 15 on Standard Form 1442, Name and Address Block (Cage Code under Code and DUNS No. under Facility Code respectively).

**CERTIFICATE OF CORPORATE PRINCIPAL**

**1) IF THE OFFEROR IS A JOINT VENTURE, COMPLETE THE FOLLOWING:**

\_\_\_\_\_  
(Company Name) (Signature) (Title)

\_\_\_\_\_  
(Company Name) (Signature) (Title)

\_\_\_\_\_  
(Company Name) (Signature) (Title)

**2) IF THE OFFEROR IS PARTNERSHIP, LIST FULL NAME OF ALL PARTNERS:**

\_\_\_\_\_  
(Company Name) (Signature) (Title)

\_\_\_\_\_  
(Company Name) (Signature) (Title)

\_\_\_\_\_  
(Company Name) (Signature) (Title)

**3) IF THE OFFEROR IS A CORPORATION, THE FOLLOWING CERTIFICATION SHOULD BE COMPLETED:**

**CERTIFICATION AS TO CORPORATE PRINCIPAL**

I, \_\_\_\_\_, certify that I am the Secretary of the corporation named as principal in the within contract; that \_\_\_\_\_, who signed the said contract on behalf of the principal, was the

\_\_\_\_\_ of the corporation; that I know his signature and that his signature is genuine; and that said contract was duly signed, sealed and attested for in behalf of said corporation by authority of its governing body.

CORPORATE SEAL

\_\_\_\_\_  
CORPORATE PRINCIPAL

\_\_\_\_\_  
SECRETARY

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

-- End of Section --

**General Decision Number NV020005**

General Decision Number **NV020005**  
 Superseded General Decision No. NV010005  
 State: Nevada  
 Construction Type:

HEAVY  
 HIGHWAY

County(ies):

CARSON CITY	EUREKA	NYE
CHURCHILL	HUMBOLDT	PERSHING
CLARK	LANDER	STOREY
DOUGLAS	LINCOLN	WASHOE
ELKO	LYON	WHITE PINE
ESMERALDA	MINERAL	

HEAVY AND HIGHWAY CONSTRUCTION PROJECTS (Except construction projects at the NEVADA TEST SITE and TONOPAH TEST RANGE) (and Excluding Water Well Drilling)

Modification Number	Publication Date
0	03/01/2002
1	03/22/2002
2	03/29/2002

COUNTY(ies):

CARSON CITY	EUREKA	NYE
CHURCHILL	HUMBOLDT	PERSHING
CLARK	LANDER	STOREY
DOUGLAS	LINCOLN	WASHOE
ELKO	LYON	WHITE PINE
ESMERALDA	MINERAL	

CARP0034L 07/01/1998

	Rates	Fringes
CARSON CITY, CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE AND WHITE PINE COUNTIES		
DIVER STANDBY	27.65	12.425
DIVER WET	38.90	12.425
DIVER TENDER	27.65	12.425
PILE DRIVERS: (Bridge, Warf & Dock Builders)	25.65	12.425

CARP0971E 07/01/2001

	Rates	Fringes
CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE, AND WHITE PINE.		
CARPENTERS	24.95	5.75

CARP1780A 07/01/1999

	Rates	Fringes
CLARK, ESMERALDA, LINCOLN AND NYE COUNTIES		
CARPENTERS:		
30 Mile radius around Las Vegas (Measured from the intersection of Maryland Parkway and Charleston Blvd.)	27.18	7.65
30 to 50 Mile radius around Las Vegas (same as above)	28.68	7.65

Over 50 mile Mile radius around Las Vegas (same as above)	30.43	7.65
Laughlin Area	29.18	7.65

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ELEC0357F 12/01/2001

	Rates	Fringes
CLARK, LINCOLN, AND NYE (South of the Mt. Diablo Base Line) COUNTIES		
ELECTRICIANS	28.55	10.21+3%

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ELEC0357G 07/01/1997

	Rates	Fringes
CLARK, LINCOLN, AND NYE COUNTIES LINE CONSTRUCTION WORKERS:		
Area bound by a 30 mile radius from the intersection of Main Street and Fremont Street in Las Vegas (Free Area)		
Groundman	17.98	5.95+3%
Line Equipment Operators	21.86	5.95+3%
Lineman	24.45	5.95+3%
Area between a 30 mile radius and 60 mile radius from Main and Fremont Streets		
Groundman	18.98	5.95+3%
Line Equipment Operators	22.86	5.95+3%
Lineman	25.45	5.95+3%
Area Over 60 mile radius from Main and Fremont Streets		
Groundman	20.98	5.95+3%
Line Equipment Operators	24.86	5.95+3%
Lineman	27.45	5.95+3%

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ELEC0401F 12/01/2001

	Rates	Fringes
CHURCHILL, DOUGLAS, ELKO, ESERALDA, EUREKA, HUMBOLDT, LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE, AND WHITE PINE COUNTYS.		
ELECTRICIANS:		
ELECTRICAINS	26.69	7.10+3%
CABLE SPLICER	29.36	7.10+3%

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ELEC0401G 02/01/1993

	Rates	Fringes
CHURCHILL, DOUGLAS, ELKO, ESERALDA, EUREKA, LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE, AND WHITE PINES COUNTYS.		
LINE CONSTRUCTION:		
Lineman	21.74	5.34+3-3/4%
Cable Splicer	23.91	5.34+3-3/4%
Equipment Operator	19.57	5.34+3-3/4%
Groundman	14.13	5.34+3-3/4%

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ENGI0012H 08/01/1999

	Rates	Fringes
HYDRAULIC SUCTION AND CLAMSHELL DREDGES		
Leverman	34.20	8.00
Deck Captain	31.30	8.00

Dozer	30.73	8.00
Watch Engineer, Welder and Deckmate	30.62	8.00
Winchman (Stern Winch) (on dredge)	30.07	8.00
Deckhand (can operate anchor scow under direction of mate), Bargeman	29.53	8.00
Barge mate	30.14	8.00

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ENGI0012J 07/01/2000

	Rates	Fringes
CLARK, ESMERALDA LINCOLN AND NYE COUNTIES		
POWER EQUIPMENT OPERATORS:		
Group 1	28.54	8.30
Group 2	29.49	8.30
Group 3	29.78	8.30
Group 4	30.67	8.30
Group 5	31.77	8.30
Group 6	30.89	8.30
Group 7	31.99	8.30
Group 8	31.00	8.30
Group 9	32.10	8.30
Group 10	31.12	8.30
Group 11	32.22	8.30
Group 12	31.29	8.30
Group 13	31.39	8.30
Group 14	31.42	8.30
Group 15	31.50	8.30
Group 16	31.62	8.30
Group 17	31.79	8.30
Group 18	31.89	8.30
Group 19	32.00	8.30
Group 20	32.12	8.30
Group 21	32.29	8.30
Group 22	32.39	8.30
Group 23	32.50	8.30
Group 24	32.62	8.30
CRANES, PILEDRIVING & HOISTING EQUIPMENT		
Group 1	29.29	8.30
Group 2	30.24	8.30
Group 3	30.53	8.30
Group 4	30.67	8.30
Group 5	30.89	8.30
Group 6	31.00	8.30
Group 7	31.12	8.30
Group 8	31.29	8.30
Group 9	31.46	8.30
Group 10	32.46	8.30
Group 11	33.96	8.30
Group 12	34.46	8.30
Group 13	35.46	8.30
TUNNEL GROUP:		
Group 1	30.74	8.30
Group 2	31.03	8.30
Group 3	31.17	8.30
Group 4	31.39	8.30

Group 5	31.50	8.30
Group 6	31.62	8.30
Group 7	31.79	8.30

From the City Hall of Las Vegas

20 Miles to 40 Miles - add \$1.50 per hour to wage rates

40 Miles to 60 Miles - add \$2.50 per hour to wage rates

Over 60 Miles - add \$3.00 per hour to wage rates

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1: Bargeman, brakeman, compressor operator (when more than five (5) 900 CFM or larger units, additional operator required), ditch witch, with seat or similar type equipment, elevator operator - inside, engineer oiler, generator operator, generator, pump or compressor plant operator, pump operator, signalman, switchman

GROUP 2: Asphalt - rubber plant operator, concrete mixer operator - skip type, conveyor operator, fireman, hydrostatic pump operator, oiler crusher (asphalt or concrete plant), skiploader (when wheel type up to 3/4 yd. without attachment), soils field technician, tar pot fireman, temporary heating plant operator, trenching machine oiler, nurse tank operator.

GROUP 3: Asphalt - rubber blend operator, equipment greaser (rack), ford ferguson (with dragtype attachments), helicopter radioman (ground), power concrete curing machine operator, power concrete saw operator, power - driven jumbo form setter operator, stationary pipe wrapping and cleaning machine operator

GROUP 4: Asphalt plant fireman, backhoe operator (mini-max or similar type), boring machine operator, boxman or mixerman (asphalt or concrete), chip spreading machine operator, concrete pump operator (small portable), drilling machine operator, small auger types (Texoma super economic or similar types - Hughes 100 or 200 or similar types - drilling depth of 30' maximum), equipment greaser (grease truck), guard rail post driver operator, highline cableway signalman, hydra-hammer-aero stomper, power sweeper operator, roller operator (compacting), screed operator (asphalt or concrete), trenching machine operator (up to 6ft.), concrete cleaning decontamination machine operator, power concrete curing machine operator,

GROUP 5: Equipment Greaser (Grease Truck)

GROUP 6: Asphalt plant engineer, batch plant operator, bit sharpener, concrete joint machine operator (canal and similar type), concrete planer operator, deck engine operator, derrickman (oilfield type), drilling machine operator, bucket or auger types (Caldwell 100 bucket or similar types - Watson 1000 auger or similar types - Texoma 330, 500 or 600 auger or similar types - drilling depth of 45' maximum), drilling machine operator, hydrographic seeder machine operator (straw, pump or seed), Jackson track maintainer, or similar type, Kalamazoo switch tamper, or similar type, machine tool operator, Maginnis internal full slab vibrator, mechanical berm, curb or gutter (concrete or asphalt), mechanical finisher operator (concrete, Clary-Johnson-Bidwell or similar type), pavement breaker operator (truck mounted), road oil mixing machine operator, roller operator (asphalt or finish), rubber - tired earth moving equipment (single engine, up to and including 25 yds. struck), self-propelled tar pipelining machine operator, skiploader operator (crawler and wheel type, over 3/4 yd. and up to and including 1-1/2 yds.), slip form pump operator (power driven

hydraulic lifting device for concrete forms), tractor operator - bulldozer, tamper-scraper (single engine, up to 100 h.p. flywheel and similar types, up to and including D-5 and similar types), tigger hoist operator

GROUP 7: Asphalt or concrete spreading operator (tamping or finishing), asphalt paving machine operator (Barber Greene or similar type - 1 screedman required), Asphalt -rubber distributor operator, backhoe operator (up to and including 3/4 yd.), small Ford, Case or similar, cast-in-place pipe laying machine operator, combination mixer and compressor operator (gunite work), compactor operator (self-propelled), concrete mixer operator (paving), crushing plant operator, drill doctor, drilling machine operator, bucket or auger types (Caldwell 150 bucket or similar types - Watson 1500, 2000 2500 auger or similar types - Texoma 700, 800 auger or similar types - drilling depth of 60' maximum), elevating grader operator, grade checker, gradall operator, grouting machine operator, heavy-duty repairman, kalamazoo ballast regulator or similar type, Kolman belt loader and similar type, Le Tourneau blob compactor or similar type, loader operator (Athey, Euclid, Sierra and similar types), pneumatic concrete placing machine operator (Hackley-Presswell or similar type), pumpcrete operator, rotary drill operator (excluding caisson type), rubber-tired earth-moving equipment operator (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. up to and including 50 cu. yds. struck), rubber-tired earth-moving equipment operator (multiple engine up to and including 25 yds. struck), rubber-tired scraper operator (self-loading paddle wheel type - John Deere, 1040 and similar single unit), self-propelled curb and gutter machine operator, skipload operator (crawler and wheel type over 1-1/2 yds. up to and including 6-1/2 yds.), surface heaters and planer operator, tractor compressor drill combination operator, tractor operator (any type larger than D-5 - 100 flywheel h.p. and over, or similar - bulldozer, tamper, scraper and push tractor single engine), tractor operator (boom attachments), traveling pipe wrapping, cleaning and bending machine operator, trenching machine operator (over 6 ft. depth capacity, oiler required)

GROUP 8: Heavy duty repairman

GROUP 9: Drilling machine operator, bucket or auger types (Caldwell 200 B bucket or similar types - Watson 3000 or 5000 auger or similar types - Texoma 900 auger or similar types - drilling depth of 105' maximum), dual drum mixer, monorail locomotive operator (diesel, gas or electric), motor patrol - blade operator (single engine), multiple engine tractor operator (Euclid and similar type - except Quad 9 cat.), rubber-tired earth-moving equipment operator (single engine, over 50 yds. struck), rubber-tired earth-moving equipment operator (multiple engine, Euclid, Caterpillar and similar over 25 yds. and up to 50 yds.), tower crane repair person, tractor loader operator (crawler and wheel type over 6-1/2 yds.), Woods mixer operator (and similar pugmill equipment)

GROUP 10: Dynamic compactor LDC350 (or similar types)

GROUP 11: Auto grader operator, automatic slip form operator, drilling machine operator, bucket or auger types (Caldwell, auger 20 CA or similar types - Watson auger 6000 or similar types - drilling depth of 175' maximum), hoe ram or similar with

- compressor, mass excavator operator, mechanical finishing machine operator, mobile form traveler operator, motor patrol operator (multi-engine), pipe mobile machine operator, rubber-tired earth-moving equipment operator (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck), rubber-tired self-loading scraper operator (paddle-wheel-auger type self-loading - two (2) or more units)
- GROUP 12: Rubber-tired earth-moving equipment operator operating equipment with push-pull system (single engine, up to and including 25 yds. struck)
- GROUP 13: Canal liner operator, canal trimmer operator, remote-control earth-moving equipment operator, wheel excavator operator
- GROUP 14: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck), rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine - up to and including 25 yds. struck)
- GROUP 15: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (single engine, over 50 yds. struck), rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)
- GROUP 16: Rubber-tired earth-moving equipment operator, operating equipment with push-pull system (multiple engine, Euclid, Caterpillar and similar, over 50 cu. yds. struck), tandem tractor operator (operating crawler type tractors in tandem - Quad 9 and similar type)
- GROUP 17: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, up to and including 25 yds. struck)
- GROUP 18: Rotex concrete belt operator (or similar types), rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, including compaction units - single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 cu. yds. struck), rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, up to and including 25 yds. struck),
- GROUP 19: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - single engine, over 50 yds. struck), rubber-tired earth moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, euclid, caterpillar and similar over 25 yds. and up to 50 yds. struck)
- GROUP 20: Rubber-tired earth-moving equipment operator, operating in tandem (scrapers, belly dumps and similar types in any combination, excluding compaction units - multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

GROUP 21: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, up to and including 25 yds. struck)

GROUP 22: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, Caterpillar, Euclid, Athey Wagon and similar types with any and all attachments over 25 yds. and up to and including 50 yds. struck), rubber-tired earth-moving equipment operator, operating with the tandem push-pull system (multiple engine, up to and including 25 yds. struck)

GROUP 23: Rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (single engine, over 50 yds. struck), rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar, over 25 yds. and up to 50 yds. struck)

GROUP 24: Concrete pump operator - truck mounted (oiler required when boom over 105' or 36 meters), rubber-tired earth-moving equipment operator, operating equipment with the tandem push-pull system (multiple engine, Euclid, Caterpillar and similar type, over 50 cu. yds. struck)

CRANES, PILEDIVING AND HOISTING EQUIPMENT CLASSIFICATIONS:

GROUP 1: Engineer oiler; Fork lift operator (under 5 tons capacity)

GROUP 2: Truck crane oiler

GROUP 3: A-frame or winch truck operator; Ross carrier operator (jobsite)

GROUP 4: Bridge-type unloader and turntable operator; Helicopter hoist operator

GROUP 5: Stinger crane (Austin-Western or similar type); Tugger hoist operator (1 drum)

GROUP 6: Bridge crane operator; Cretor crane operator; Fork lift operator (over 5 tons); Hoist operator (Chicago boom and similar type); Lift mobile operator; Lift slab machine operator (Vagtborg and similar types); Material hoist operator; Shovel, backhoe, dragline, clamshell operator (over 3/4 yd. and up to 5 cu. yds. mrc); Tugger hoist operator

GROUP 7: Pedestal crane operator; Shovel, backhoe, dragline, clamshell operator (over 5 cu. yds. mrc); Tower crane repair; Tugger hoist operator (3 drum)

GROUP 8: Crane operator (up to and including 25 ton capacity); Crawler transporter operator; Derrick barge operator (up to and including 25 ton capacity); Hoist operator, stiff legs, Guyderrick or similar type (up to and including 25 ton capacity); Shovel, backhoe, dragline, clamshell operator (over 7 cu. yds. mrc)

GROUP 9: Crane operator (over 25 tons and up to and including 50 tons mrc); Derrick barge operator (over 25 tons up to and including 50 tons mrc); Highline cableway operator; Hoist operator, stiff legs, Guy derrick or similar type (over 25 tons up to and including 50 tons mrc); K-crane operator; Polar crane operator; Tower crane operator

GROUP 10: Crane operator (over 50 tons and up to and including 100 tons mrc); Derrick barge operator (over 50 tons up to and including 100 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 50 tons up to and including 100 tons mrc)

GROUP 11: Crane operator (over 100 tons and up to and including 200 tons mrc); Derrick barge operator (over 100 tons up to and including 200 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 100 tons up to and including 200 tons mrc); Mobile tower crane operator (over 100 tons up to and including 200 tons mrc)

GROUP 12: Crane operator (over 200 tons up to and including 300 tons mrc); Derrick barge operator (over 200 tons up to and including 300 tons mrc); Hoist operator, stiff legs, Guy derrick or similar type (over 200 tons, up to and including 300 tons mrc); Mobile tower crane operator (over 200 tons, up to and including 300 tons mrc)

GROUP 13: Crane operator (over 300 tons); Derrick barge operator (over 300 tons); Helicopter pilot; Hoist operator, stiff legs, Guy derrick or similar type (over 300 tons); Mobile tower crane operator (over 300 tons)

TUNNEL CLASSIFICATIONS

GROUP 1: Skiploader (wheel type up to 3/4 yd. without attachment)

GROUP 2: Power-driven jumbo form setter operator

GROUP 3: Dinkey locomotive or motorman (up to and including 10 tons)

GROUP 4: Bit sharpener; Equipment greaser (grease truck); Slip form pump operator (power-driven hydraulic lifting device for concrete forms); Tugger hoist operator (1 drum); Tunnel locomotive operator (over 10 and up to and including 30 tons); Welder - general

GROUP 5: Backhoe operator (up to and including 3/4 yd.); Small Ford, Case or similar; Drill doctor; Grouting machine operator; Heading shield operator; Heavy-duty repairperson; Loader operator (Athey, Euclid, Sierra and similar types); Mucking machine operator (1/4 yd., rubber-tired, rail or track type); Pneumatic concrete placing machine operator (Hackley-Presswell or similar type); Pneumatic heading shield (tunnel); Pumpcrete gun operator; Tractor compressor drill combination operator; Tugger hoist operator (2 drum); Tunnel locomotive operator (over 30 tons)

GROUP 6: Heavy duty repairman - welder combination

GROUP 7: Tunnel mole boring machine operator

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 ENGI9993D 07/01/2000

CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON,  
 MINERAL, PERSHING, STOREY, WASHOE, WHITE PINE AND CARSON  
 CITY

POWER EQUIPMENT OPERATORS

(Except Piledriving and Steel Erection)

AREA 1:

	Rates	Fringes
Group 1a	25.33	8.21
Group 2	25.86	8.21
Group 3	26.13	8.21
Group 4	26.87	8.21
Group 5	27.17	8.21
Group 6	27.34	8.21
Group 7	27.59	8.21
Group 8	28.18	8.21
Group 9	28.50	8.21

Group 10	28.85	8.21
Group 10a	29.04	8.21
Group 11	29.28	8.21
Group 11a	30.92	8.21
Group 11b	31.73	8.21
PILED DRIVING		
AREA 1:		
Group 1	37.32	8.21
Group 1a	31.38	8.21
Group 1b	29.46	8.21
Group 2	35.80	8.21
Group 2a	31.17	8.21
Group 2b	29.26	8.21
Group 3	34.35	8.21
Group 3a	30.95	8.21
GROUP 3b	29.03	8.21
Group 4	32.84	8.21
Group 5	31.73	8.21
Group 6	30.62	8.21
Group 7	29.66	8.21
Group 8	27.80	8.21
STEEL ERECTION		
AREA 1:		
Group 1	37.87	8.21
Group 1a	31.70	8.21
Group 1b	29.74	8.21
Group 2	36.36	8.21
Group 2a	31.45	8.21
Group 2b	29.53	8.21
Group 3	35.12	8.21
Group 3a	31.23	8.21
Group 3b	29.31	8.21
Group 3c	34.76	8.21
Group 4	33.39	8.21
Group 5	32.29	8.21

## POWER EQUIPMENT OPERATOR CLASSIFICATIONS

CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON,  
MINERAL, PERSHING, STOREY, WASHOE, WHITE PINE, CARSON CITY  
(EXCLUDING PILED DRIVING AND STEEL ERECTION)

GROUP 1a: Oiler; Partsman (heavy duty repair shop partsroom when needed).

GROUP 2: Compressor; Material Loader and/or Conveyor (handling building materials); Pump Operator

GROUP 3: Bobcat or similar loader (1/4 cu. yd. or less); Concrete Curing Machines (streets, highways, airports, canals); Conveyor belt operator (tunnel); Forklift (under 20 ft.); Engineer Generating plant (500 K.W.); Mixer box operator (concrete plant); Motorman; Rotomist Operator; Screedman (except asphaltic or concrete paving); Oiler (truck crane)

GROUP 4: Concrete mixer, skip type; Dinky; Forklift (20' and over) or Lumber stacker; Ross Carrier; Skip Loader (under 1 cu. yd); Tie Spacer.

GROUP 5: Concrete mixer (over 1 cu. yd); concrete pumps or pumpcrete guns; Elevator and material Hoist (1 drum); Groundman for Asphalt Milling and similar.

GROUP 6: Auger type drilling equipment up to and including 30 ft. depth digging capacity m.r.c.; Boom Truck or Dual Purpose "A"

Frame Truck; B.L.H. Lima road pactor or similar; Chip box spreader (flaherty type or similar); Concrete batch plant (wet or dry); Concrete saws (highways, streets, airports, canals); Locomotive (over 30 tons); Lubrication and service engineer (mobile & grease rack); Maginnis international full slab vibrator (airports, highways, canals, warehouses); Mechanical finishers (concrete)(clary, Johnson, Bidwell Bridge Deck or similar types); Mechanical Burn, Curb and/or Curb and Gutter Machine (concrete or asphalt); Pavement breaker, truck mounted, with compressor combination; Pavement breaker or tamper (with or without compressor (combination); Power Jumbo (setting slip-forms, etc. in tunnels); Roller (except asphalt); Self-propelled tape machine; Self-propelled compactor (single engine); Self-propelled power sweeper; slip form pump (power-driven by hydraulic, electric, air, gas, etc. lifting device for concrete forms); Small Rubber-tired Tractors; Snooper Crane, Paxton-Mitchell or similar; Stationary Pipe Wrapping, Cleaning and Bending Machine Operator

GROUP 7: Auger type drilling equipment over 30 ft. depth digging capacity m.r.c.; Compressor (over 2); Concrete conveyor or concrete pump, truck equipment mounted (boom length to apply); Concrete conveyor, building site; Drilling and boring Machinery, vertical and horizontal (not to apply to waterliners, wagon drills or jackhammers); Crusher Plant Engineer; Generators; Kolman Loader; Material Hoist (2 or more drums); Mechanical finishers or spreader machine (asphalt, Barber-Greene and similar); (Screedman required); Mine or shaft hoist; Pipe bending machines (pipelines only); Pipe cleaning machines (tractor propelled and supported); Pipe wrapping machines (tractor propelled and supported); Portable crushing and screening plants; Post driller and/or driver; Pumps (over 2); Roller operator (asphalt); Screedman (except asphaltic or concrete paving; Screedman (Barber-Green and similar)(Asphaltic or concrete paving); Self-propelled boom-type lifting device (center amount) (on 10 ton capacity or less); Slusher; Soil tester (certified); Soils and material tester; Surface heater and planer; Trenching machine (maximum digging capacity 3 feet depth); Truck type loader; Welding machines (gasoline or diesel).

GROUP 8: Asphalt plant Engineer; Asphalt milling machine; Cast-in-place pipe laying machine; Combination slusher and motor op.; Concrete batch plant (multiple units); Dozer Operator; Drill doctor; Elevating grader; Gradesetter, Grade checker; Grooving and grinding machine (highway); Heavy duty repairman and/or welder; Ken-seal; Loader (up to and including 2 1/2 cu. yds.); Mechanical trench shield; Mixermobile; Push cats; Road oil mixing machine (wood-mixer and other similar pugmill equipment); Rubber-tired earth-moving equipment (up to and including 35 cu. yds."struck" M.R.C. Euclid, T-pulls, DW's 10, 20, 21, and similar); Self-propelled compactor with dozer; Hyster 450 or cat 825 or similar; Sheepfoot; Small tractor (with boom); Soil stabilizer (P & H or equal); Timber skidder (rubber-tired and/or similar equipment); Tractor-drawn scraper; Tractor; Tractor-mounted compressor drill combination; Trenching machine (over 3 feet depth); Tri-batch paver; Tunnel badger or tunnel boring machine; Tunnel mole boring machine; Vermeer T-600b rock cutter.

GROUP 9: Chicago boom; Combination backhoe and loader (up to and

including 3/8 yard); Combination mixer and compressor (gunite); Lull hi-lift (20 feet or over); Mucking machine; Sub-grader (gurries or other types); Tractor (with boom) (D6 or larger); Track-laying-type earthmoving machine (single engine with tandem scrapers).

GROUP 10: Boom-type backfilling machine; Bridge crane; Carylift or similar; Chemical grouting machine; Derricks (two (2) Group 10 operators required when swing engine remote from hoist); Derrick barges (except excavation work); Euclid loader and similar types; Heavy-Duty rotary drill rigs; Lift-slab (vagtborg and similar types); Loader (over 2 1/2 cu yds. up to and including 4 cu. yds); Locomotive (over 100 tons) (single or multiple units); Multiple-Engine earth-moving machines (euclid, dozers, etc.); Pre-stress wire-wrapping machine; Rubber-tyred scraper, self-loading; Single-engine scraper (over 35 cu. yds); Shuttle car (reclaim station); Train loading station; Trenching machine multi-engine with sloping attachment (jefco or similar); Vacuum cooling plant; Whirley crane (up to and including 25 tons).

GROUP 10a: Backhoe (up to and including 1 cu. yd hydraulic); Backhoe (up to and including 1 cu. yd. cable); CMI dual lane auto-grader SP30 or similar; Cranes (not over twenty five (25) tons (hammerhead and gantry); Finish Blade; Gradalls (up to and including 1 cu. yd); Motor patrol; Power shovels, Clamshells, Draglines, Cranes (up to and including 1 cu. yd.); Rubber-tyred scraper, self-loading (twin-engine); Self-propelled boom-type lifting device (center mount) (over 10 tons up to and including 25 tons).

GROUP 11: Automatic asphalt or concrete slip-form paver; Automatic railroad car dumper; Canal trimmer; Cary lift, campbell or similar; Cranes (over 25 tons); Euclid loader when controled from the pullcat; Highline cableway operator; Loader (over 4 cu yds. up to and including 12 cu. yds.); Multi-Engine earthmoving equipment (up to and including 75 cu. yds. "struck M.R.C"); Multiple Engine Scrapers (when used to push pull); Power shovels, Clamshells, Draglines, Backhoes, Gradealls (over 1 cu. yd. and up to and including 7 cu. yds. M.R.C.); Self-propelled Boom type lifting device (over 25 tons M.R.C.); Self-propelled Compactor (with multiplepropulsion power units); Single-engine rubber-tyred earthmoving machine (with tandem scraper); Slip-form paver (concrete or asphalt)(one (1) Operator and two (2) screedman); Tandem cats and scrapers; Tower crane mobile (including rail-mounted); Truck-mounted hydraulic crane when remote-control equipped (over 10 tons up to and including 25 tons); Universal Liebherr and tower cranes (and similar types)(in the erection, dismantling and moving of equipment there shall be an additional operating engineer at group 8 rates); Wheel excavator (up to and including 750 cu. yds. per hour); Whirley cranes (over 25 tons).

GROUP 11a: Band wagons (in conjunction with wheel excavators); Operator of helicopter (when used in construction work); Loaders (over 12 cu. yds.); Multi-engine earthmoving equipment (over 75 cu. yds. "struck" M.R.C.); Power shovels, Clamshells, Draglines, Backhoes and Gradalls (over 7 cu. yds. M.R.C.); Remote-controlled Earthmoving equipment; Wheel excavator (over 750 cu. yds. per hour)(two (2) Group 11A operators required).

GROUP 11b: Holland loader or similar or loader (over 18 cu. yds)

#### PILEDIVING CLASSIFICATIONS

GROUP 1: Derrick barge pedestal mounted over 100 tons; Clam-

shells over 7 cu. yds.; Self propelled boom type lifting device over 100 tons; Truck crane or crawler, land or barge mounted over 100 tons;

GROUP 1a: Truck crane oiler.

GROUP 1b: Oiler

GROUP 2: Derrick barge pedestal mounted 45 tons up to and including 100 tons; Clamshells up to and including 7 cu. yds; Self propelled boom type lifting device over 45 tons; Truck crane or crawler, land or barge mounted over 45 tons up to and including 100 tons.

GROUP 2a: Truck crane oiler.

GROUP 2b: Oiler

GROUP 3: Derrick barge pedestal mounted under 45 tons; self propelled boom type lifting device 45 tons and under; Skid/Scow Piledriver, any tonnage; (any assistance required shall be by an employee covered by this agreement); Truck crane or crawler, land or barge mounted 45 tons and under.

GROUP 3a: Truck Crane oiler

GROUP 3b: Oiler

GROUP 4: Forklift, 10 tons and over

GROUP 5: No current classification.

GROUP 6: Deck engineer

GROUP 7: No current classification

GROUP 8: Deckhand, Fireman

#### STEEL ERECTORS AND FABRICATORS

GROUP 1: Cranes, over 100 tons; Derrick over 100 tons, Self-propelled boom type lifting devices over 100 tons.

GROUP 1a: Truck crane oiler.

GROUP 1b: Oiler

GROUP 2: Cranes, over 45 tons up to and including 100 tons; Derrick 100 tons and under, Self-propelled boom type lifting device, over 45 tons; Tower Crane.

GROUP 2a: Truck crane oiler.

GROUP 2b: Oiler

GROUP 3: Cranes, 45 tons and under; Self propelled boom type lifting device, 45 tons and under

GROUP 3a: Truck crane oiler

GROUP 3b: Hydraulic

GROUP 3c: Oiler

GROUP 4: Chicago boom; Forklift, 10 tons and over; Heavy Duty Repairman/Welder.

GROUP 5: Boom cat

#### AREA DEFININITIONS AND PAY RATES

AREA 1:

ALL AREA FALLING WITHIN 50 ROAD MILES OF EITHER THE CARSON CITY COURTHOUSE OR THE WASHOE COUNTY COURTHOUSE SHALL BE CONSIDERED FREE AREA.

AREA 2:

ALL WORK FALLING BETWEEN 50 AND 150 ROAD MILES OF THE WASHOE COUNTY COURTHOUSE SHALL BE COMPUTED AT AN ADDITIONAL \$1.50 PER HOUR ABOVE THE BASE RATE.

AREA 3:

ALL WORK FALLING BETWEEN 150 AND 300 ROAD MILES OF THE WASHOE COUNTY COURTHOUSE SHALL BE COMPUTED AT AN ADDITIONAL \$2.00 PER HOUR ABOVE THE BASE RATE.

AREA 4:

ANY WORK PERFORMED IN EXCESS OF 300 ROAD MILES OF THE WASHOE

COURTHOUSE SHALL BE COMPUTED AT AN ADDITIONAL \$3.00 PER HOUR ABOVE THE BASE RATE.

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 ENGI9993K 07/01/1997

	Rates	Fringes
CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE, WHITE PINE AND CARSON CITY		
HYDRAULIC SUCTION & CLAMSHELL & DIPPER DREDGE		
GROUP 1:		
Area 1	31.04	11.89
Area 2	33.04	11.89
GROUP 2:		
Area 1	26.08	11.89
Area 2	28.08	11.89
GROUP 3:		
Area 1	24.96	11.89
Area 2	26.96	11.89

DREDGING CLASSIFICATIONS

- GROUP 1:  
Day Mate (Captain); Leverman/Operator
  - GROUP 2:  
Booster Pump Operator, Deck Engineer, Deck Mate, Dredge Dozer; Dredge Tender; Heavy Duty Repairman; Watch Engineer; Winchman
  - GROUP 3:  
Bargeman; Deckhand; Fireman; Leveehand; Oiler
- AREA DEFININITIONS

- AREA 1:  
ALL AREA FALLING WITHIN 50 ROAD MILES OF EITHER THE CARSON CITY COURTHOUSE OR THE WASHOE COUNTY COURTHOUSE SHALL BE CONSIDERED FREE AREA.
- AREA 2:  
ALL WORK FALLING BETWEEN 50 AND 150 ROAD MILES OF THE WASHOE COUNTY COURTHOUSE.
- AREA 3:  
ALL WORK FALLING BETWEEN 150 AND 300 ROAD MILES OF THE WASHOE COUNTY COURTHOUSE.
- AREA 4:  
ANY WORK PERFORMED IN EXCESS OF 300 ROAD MILES OF THE WASHOE COURTHOUSE.

-----  
 IRON0027J 07/01/2001

	Rates	Fringes
ELKO, EUREKA, AND WHITE PINE COUNTIES		
IRON WORKERS:		
Fence Erectors: Machinery Movers		
Ornamental: Reinforcing. Rigger		
Structural	25.19	14.575

-----  
 IRON0155B 07/01/2001

	Rates	Fringes
CHURCHILL, CLARK, DOUGLAS, ESMEALDA, HUMBOLDT, LANDER, LINCOLN, LYON, MINERAL, NYE, PERSHING, STOREY, WASHOE, AND WHITE PINE COUNTIES		
IRONWORKERS:		
STRUCTURAL, ORNAMENTAL AND REINFORCING	26.08	14.575

FENCE ERECTORS (Excluding Clark County)	25.19	14.575
--	-------	--------

-----  
LABO0169F 10/01/2001

	Rates	Fringes
CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE, WHITE PINE, CARSON CITY		
Group 1	19.15	5.12
Group 1-A	16.28	5.12
Group 2	19.25	5.12
Group 3	19.40	5.12
Group 4	19.65	5.12
Group 5	19.95	5.12
Group 6	19.95	5.12
Group 7	19.65	5.12
Group 8	19.30	5.12
Group 9	13.99	5.12

From the Washoe County Courthouse

50 Miles to 150 Miles - add \$1.50 per hour to wage rates

150 Miles to 300 Miles - \$2.00 per hour to wage rates

Over 300 Miles - add \$3.00 per hour to wage rates

CLASSIFICATIONS

GROUP 1: All cleanup work of debris, grounds and building including windows and tile; dump or spotter (other than asphalt); general laborers; limber, brushloader and piler

GROUP 1-A: Flagmen

GROUP 2: Choker setter or rigger (clearing work only); Pittsburgh chipper and similar type brush shredders; concrete worker (wet or dry) all concrete work not listed in Group 3; crusher or grizzle tender; Guinea chaser (stake); panel forms (wood or metal) handling, cleaning and stripping of; loading and unloading of all rods and materials for reinforcing concrete; railroad track (builders); sloper; semi-skilled wrecker (salvaging of building materials other than those listed in Group 3).

GROUP 3: Asphalt workers (ironers, shoveler, cutting machine); buggymobile; chainsaw, faller, logloader and buckler; compactor (all types); concrete mixer, under 1/2 yd.; concrete pan work (breadpan type) (handling, cleaning, stripping); concrete saw, chipping, grinding, sanding, vibrator; cribbing, shoring, lagging, trench jacking, hand-guided lagging hammer; curbing or divider machine; curb setter (precast or cut); Ditching machine (hand-guided); driller's tender, chuck tender; form raiser, slip forms; grouting of concrete walls, windows and door jams; headerboard; jackhammer, pavement breaker, air spade; mastic worker (wet or dry); pipe wrapper, kettle, pot, and workers applying asphalt, Creosote and similar type materials; all power tools (air, gas or electric); post driver; riprap stonepaver and rock slinger, including placing of sack concrete, wet or dry; roto tiller; rigging and signaling in connection with laborers work, sandblaster, pot men; vibrascreed; skilled wrecker (removing and salvaging of sash windows, doors, plumbing and electrical; fixtures)

GROUP 4: Burning and welding in connection with laborers' work; joy drill model TWM-2A, gardener denver model DN 143 and similar type drills; track drillers, diamond core drillers, wagon drillers, mechanical drillers on multiple units; high scalers;

concrete pump; heavy duty vibrator with stinger 5" diameter or over; pipelayer, caulker and bander; pipelayer - waterline, sewerline, gasline, conduit; asphalt rakers  
 GROUP 5: Blaster and powder, all work of loading, placing and blasting of all powder and explosive of any type, regardless of method used used for such loading and placing; asbestos removal; lead abatement, hazardous waste and material removal.  
 GROUP 6: Nozzlemen, Rodman  
 GROUP 7: Gunmen, Materialmen  
 GROUP 8: Reboundmen  
 GROUP 9: Landscaper

-----  
 LABO0872D 07/01/2001

	Rates	Fringes
CLARK, ESMERALDA, AND LINCOLN COUNTIES; NYE COUNTY (South half, including Highway #6)		
LABORERS:		
Group 1	21.58	7.46
Group 2	21.74	7.46
Group 3	21.84	7.46
Group 4	21.93	7.46
Group 5	22.02	7.46
Group 6	21.84	7.46
Group 7	18.53	7.46

30 - 50 Miles From City Hall, Las Vegas \$1.50 above the base rate.

1  
 2 50 - 70 Miles From City Hall, Las Vegas \$2.50 above the base rate.

4  
 5 Over 70 Miles From City Hall, Las Vegas \$3.00 above the base rate.

7  
 8 Laughlin Area \$2.25 above the base rate.

9  
 0                   LABORER CLASSIFICATIONS

1  
 2 Group 1: Dry Packing of concrete and filling of form-bolt holes;  
 3 fine grader, highway and street paving, airport runaways and  
 4 similar type heavy construction; gas and oil pipeline laborer;  
 5 guinea chaser; laborer, general; construction or demolition  
 6 laborer; packing rod steel and pans; laborers; temporary water  
 7 lines (portable type); landscape gardener and nursery worker  
 8 (must have knowledge of plant materials and how to plant them lay  
 9 out plant arrangements to-follow the landscape plan); tarman  
 0 and mortarman; kettleman; potman and worker applying asphalt  
 1 lay-kold creosote, lime and similar type materials ("applying"  
 2 means applying, dipping, brushing or handling of such materials  
 3  
 4 for pipe wrapping and waterproofing); underground laborer,  
 5 including caisson bellowers; window cleaner; scaffold erector -  
 6 (excludes tenders); fence erector - chain link; mortarless,  
 7 barrier wall and/or retaining walls; mechanical stabilized  
 8 earth wall; landscape decorative rock installer - ponds, water  
 9 fall etc.; material handler - (incidental to trade).

0  
 1 Group 2: Asphalt raker, ironer, spreader, Luteman, buggymobile

2 man; cement dumper (on 1 yard or larger mixers and handling bulk  
3 cement); cesspool digger and installer; chucktender (except  
4 tunnels); concrete core cutter; concrete curer, impervious  
5 membrane and oiler of all materials; concrete saw, excluding  
6 tractor type, cutting, scoring old or new concrete; gas and oil  
7 pipeline wrapper, pot tender and form; making and caulking of all  
8 non metallic pipe joints; operators and tenders of pneumatic and  
9 electric tools, vibrating machines, hand-propelled trenching  
0 machines, impact wrench, multiplate and similar mechanical tools  
1 not separately classified herein; operator of cement grinding  
2 machine; riprap stonepaver; roto-scraper; sandblaster (pot  
3 tender); scaler; septic tank digger and installer; tank  
4 scaler and cleaner; tree climber, faller, chain saw operator,  
5 pittsburgh chipper and similar type brush shredders

6  
7 Group 3: Cutting torch operator; gas and oil pipeline wrapper;  
8 gas and oil pipeline laborer, certified; jackhammer and/or  
9 pavement breaker, laying of all non-metallic pipe, including  
0 landscape sprinklers, sewerpipe, drain pipe, and underground  
1 tile; mudcutter; concrete vibrator, all sizes; rock slinger;  
2 scaler (using Bos'n chair or safety belt or power tools);  
3 forklift (incidental to trade) a journeyman shall hold OSHA  
4 certification at time of referral.

5 Group 4: Cribber or shorer, lagging, sheeting, trenching bracing  
6 hand guided lagging hammer; head rock slinger; powder - blaster,  
7 all work of loading holes, placing and blasting of all powder and  
8 explosives of whatever type, regardless of method used for such  
9 loading and placing; sandblaster (nozzle operator); steel  
0 headerboard

1  
2 Group 5: Driller (core, diamond or wagon); joy driller model TW-  
3 M-2a, Gardener-Denver Model DH 143 and similar type drills (in  
4 accordance with memorandum of understanding between laborers and  
5 operating engineers dated Miami, Florida, February 3, 1954); Gas  
6 and oil pipeline fusion; gas and oil pipeline wrappers, 6" pipe  
7 and over-

8  
9 Group 6: Environmental specialist (asbestos abatement, lead  
0 abatement, Hazardous waste abatement, petro-chemical abate  
1 ment, radiation remediation.

2  
3 Group 7: Flag and Signal Person

4 -----  
5  
6 LABO0872I 07/01/2001

7 Rates Fringes  
8 CLARK, ESMERALDA, AND LINCOLN COUNTIES; NYE COUNTY (South half,  
9 including Highway #6)

0  
1 LABORERS:

2  
3 MINER AND BULLGANG

4			
5	Group 1	24.04	9.18
6	Group 2	23.54	9.18
7	Group 3	23.29	9.18
8	Group 4	23.90	9.18

9 Group 5 23.54 9.18  
0  
1 30 - 50 Miles From City Hall, Las Vegas \$1.50 above the base  
2 rate.  
3  
4 50 - 70 Miles From City Hall, Las Vegas \$2.50 above the base  
5 rate.  
6  
7 Over 70 Miles From City Hall, Las Vegas \$3.00 above the base  
8 rate.  
9  
0 Laughlin Area \$2.25 above the base rate.

CLASSIFICATIONS

4 Group 1: Shaft, Raise, Stope Miner  
5  
6 Group 2: Miner - Tunnel (Hardrock)  
7  
8 Group 3: BullGang, Mucker, Trackman  
9  
0 Group 4: Miner - Welder  
1  
2 Group 5: Pipe Jacking, Micro-Tunneling, Tunnel Boring Machine  
3 -----

5 PAIN0159F 07/01/2001

	Rates	Fringes
7 CLARK, ESMERALDA, LINCOLN AND NYE COUNTIES		
9 PAINTERS:		
0 Brush, Roller, Paperhangers,		
1 Spray, Sandblasters, Pot		
2 Tender, Nozzleman, Tapers,		
3 Marbleizing, Metal Leafing		
4 Sign Painters, Acid Staining,		
5 Graining and Buffing	25.62	7.34
6 Structural Steel Paint and		
7 Sandblasting, Buffing Steel	26.02	7.34
8 Special Coating	25.62	7.34
9 Steeplejack	27.42	7.34

0 -----

2 PAIN0567E 10/01/2001

	Rates	Fringes
5 CARSON CITY, CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT,		
6 LANDER, LYON, MINERAL, PERSHING, STOREY, WASHOE AND WHITE		
7 PINE COUNTIES		
9 PAINTERS:		
0 Brush and Roller	20.53	5.06
1 Spray; Paperhangers; and		
2 Sandblaster; Special Coatings		
3 Application - Brush	21.03	5.06
4 Structural Steel (not to in-		
5 clude stairways, tube steel,		

6	Q-decks & trust joints worked		
7	off powered lift in enclosed		
8	building); Steeplejack Brush/		
9	Spray over 40 feet with open		
0	space below; Special Coatings		
1	Application - Spray	21.53	5.06
2	Special Coatings Application -		
3	Spray Steel	21.78	5.06
4	Drywall Taper	22.08	5.06
5	Steeplejack - Taper, over		
6	40 ft. with open space	23.58	5.06
7	-----		

9	PLAS0241G 10/01/2001		
0		Rates	Fringes
1	CHURCHILL, DOUGLAS, ELKO, ESMERALDA, EUREKA, HUMBOLDT, LANDER,		
2	LYON, MINERAL, PERSHING, STOREY, WASHOE, AND WHITE PINE COUNTIES		
3			
4	CEMENT MASONS		
5	Cement Masons	17.52	6.23
6			
7	Mastic. magesite and all		
8	composition masons	17.77	6.23
9	-----		

1	PLAS0797G 07/01/2001		
2		Rates	Fringes
3	CLARK, ESMERALDA, LINCOLN AND NYE COUNTIES		
4			
5	CEMENT MASONS:		
6			
7	0 to 30 Miles from City		
8	Hall in Las Vegas	25.88	6.95
9			
0	30 to 50 Miles from City		
1	Hall in Las Vegas	27.38	6.95
2			
3	50 to 70 Miles from City		
4	Hall in Las Vegas	28.38	6.95
5			
6	Over 70 Miles from City		
7	Hall in Las Vegas	29.38	6.95
8	-----		

0	PLUM0350G 08/01/2001		
1		Rates	Fringes
2	CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON,		
3	MINERAL, PERSHING, STOREY, WASHOE, WHITE PINE, CARSON CITY		
4	COUNTIES, and NYE COUNTY (North of Hwy. #6 including the City of		
5	Tonopah)		
6			
7	PLUMBERS & PIPEFITTERS	28.15	6.25
8	-----		

0	PLUM0525G 06/01/2001		
1		Rates	Fringes
2	CLARK, ESMERALDA AND LINCOLN, COUNTIES; NYE COUNTY (South of Hwy.		

3 #6 including the City of Tonopah)

4

5 PLUMBERS & PIPEFITTERS 30.01 10.61

6 -----

7

8 ROOF0162D 03/01/1999

9 Rates Fringes

0 ROOFERS 17.78 3.17

1 -----

2

3 SHEE0026C 07/01/2001

4 Rates Fringes

5 CHURCHILL, DOUGLAS, ELKO, EUREKA, HUMBOLDT, LANDER, LYON,

6 MINERAL, PERSHING, STOREY, WASHOE, CARSON CITY AND NYE COUNTY

7 (North of the First Standard Parallel Line north of the 38th

8 Parallel)

9

0 SHEET METAL WORKERS 25.83 8.77

1 -----

2

3 SHEE0088H 07/01/2001

4 Rates Fringes

5 CLARK, ESERALDA, AND LINCOLN COUNTIES; NYE COUNTY (South of the

6 First Standard Parallel Line north of the 38th Parallel); WHITE

7 PINE COUNTY

8

9 SHEET METAL WORKERS 32.22 8.58

0 -----

1

2 \* TEAM0533A 02/01/2002

3 Rates Fringes

4

5 REMAINING COUNTIES AND NYE COUNTY (North of and including

6 highway #6)

7

8 TRUCK DRIVERS

9

0 All dump trucks (Single or

1 multiple dump units including

2 Semi's and Double and Transfer

3 units:

4

5 Under 4 yards (water level) 19.97 7.50

6 4 yards and under 8 yards

7 (water level) 20.19 7.50

8 yards & under 18 yards

9 (water level) 20.40 7.50

0

1 3 yards & under 25 yards

2 (water level) 20.57 7.50

3

4 25 yards & under 60 yards

5 (water level) 20.99 7.50

6

7 60 yards & under 75 yards

8 (water level) 22.43 7.50

9

0	75 yards & under 100 yards		
1	(water level)	23.17	7.50
2			
3	100 yards & over (water		
4	level)	23.85	7.50
5			
6	150 yards & under 250 yards	25.85	7.50
7			
8	250 yards & under 350 yards	28.85	7.50
9			
0	Over 350 yards	30.35	7.50
1			
2	(Men regularly employed under-		
3	ground on tunnel work shall be		
4	paid forty-five (\$.60) cents per		
5	hour for such work, provided that		
6	such employment underground on		
7	tunnel work continues for one (1)		
8	or more hours)		
9			
0	Bulk cement spreader (with or with		
1	or without Auger) Use dump truck		
2	scales.		
3			
4	Bootman (a bootman when employed		
5	on such equipment shall receive		
6	the rate specified for the		
7	classification of road oil trucks		
8	or bootman).		
9			
0	Transit Mix, Manufactures Rating:		
1			
2	Under 8 yards	20.40	7.50
3	8 yards & including 12 yards	20.51	7.50
4	Over 12 yards	20.73	7.50
5			
6	Transit Mix with boom shall		
7	receive \$.16 cents per		
8	hour above the appropriate		
9	yardage classification rate		
0	of pay when such boom is used.		
1			
2	Water Trucks:		
3			
4	Up to 2,500 gallons	20.19	7.50
5			
6	2,500 gallons & over	20.40	7.50
7			
8	Jetting truck (use		
9	appropriate water truck rate.		
0			
1	DW20's and 21's and other		
2	similar cat type, Terra cobra,		
3	Le Tourneau pulls, Tournerocker,		
4	Euclid and similar type equip-		
5	ment when pulling Aqua/pak, Water		
6	tank trailers and fuel and/or		

7 Grease Tank trailer or other		
8 miscellaneous trailers (except		
9 as defined under dump trucks.	20.68	7.50
0		
1 Heavy Duty Transport (High bed)	20.57	7.50
2		
3 Heavy Duty Transport (Gooseneck		
4 Low Bed)	20.57	7.50
5		
6 Tiltbed or Flatbed Pull Trailers	20.57	7.50
7		
8 Bootman, combination bootman and		
9 road oiler	20.46	7.50
0		
1 Flat Rack (2 or 3 axle unit)	18.29	7.50
2		
3 Bus and Manhaul drivers:		
4		
5 Up to 18,000 lbs. (single		
6 unit)	20.02	7.50
7		
8 18,000 lbs & over (single		
9 unit)	20.13	7.50
0		
1 Helicopter Pilot (when trans-		
2 porting men or materials)	34.61	7.50
3		
4 Industrial Lift truck (use		
5 appropriate flat rack rate		
6 (mechanical tailgate)		
7		
8 Lift Jitneys & Fork Lift	20.24	7.50
9		
0 Winch Truck & "A" Frame Drivers:		
1 Under 18,000 lbs.	20.13	7.50
2 18,000 lbs. & over	20.24	7.50
3 Warehouse Spotters	20.08	7.50
4 Teamsters Warehouse Clerk	20.19	7.50
5 Tire Repairman	20.40	7.50
6		
7 Truck Repairman	20.73	7.50
8		
9 Pick-up Truck & Pilot Cars		
0 (Job Site)	18.09	7.50
1		
2 Pick-up Truck & Pilot Car		
3 (over the road)	20.08	7.50
4		
5 Truck Oil and Greaser	20.13	7.50
6		
7 Fuel Truck Driver	20.13	7.50
8		
9 Fuel Man & Fuel Island Man	20.13	7.50
0 Oil Tanker	20.57	7.50
1 Oil Tanker With Pup	20.99	7.50
2 When on grease and fuel truck,		
3 an Engineer Oil and Teamster		

4 Oil, work interchangeable  
5 servicing trucks and other  
6 equipment, The wage rate shall  
7 be identical.

8  
9 AREA 1: All that area falling within fifty (50) road miles of  
0 either the Carson City or Washoe County Courthouse shall be  
1 considerer a free area.

2  
3 AREA 2: All work falling between fifty (50) and (150) road miles  
4 of the Washoe County Courthouse shall be computed at and  
5 additional \$1.50 per hour.

6  
7 AREA 3: All work falling between one hundred and fifty (150)  
8 and three hundred (300) road miles of the Washoe County  
9 Courthouse shall be computed at additional \$2.00 per hour.

0  
1 AREA 4: Any work performed in excess of three hundred (300)  
2 road miles of the Washoe County Courthouse shall be computed  
3 at \$3.00 per hour.

4 -----

5  
6 TEAM0631A 07/01/1999

7 Rates Fringes  
8 CLARK, ESMERALDA, LINCOLN COUNTIES AND NYE COUNTY (South of and  
9 excluding Highway #6)

0  
1 TRUCK DRIVERS:

2			
3	GROUP 1:	21.35	7.12
4			
5	GROUP 2:	21.46	7.12
6			
7	GROUP 3:	21.67	7.12
8			
9	GROUP 4:	21.85	7.12
0			
1	GROUP 5:	22.00	7.12
2			
3	GROUP 6:	22.35	7.12
4			

5 30 - 50 Miles from City Hall, Las Vegas \$1.00 above the base  
6 rate.

7 50 - 70 Miles from City Hall, Las Vegas \$2.00 above the base  
8 rate.

9 70 - 80 Miles from City Hall, Las Vegas \$3.00 above the base  
0 rate.

1 Over 80 Miles from City Hall, Las Vegas \$3.50 above the base  
2 rate.

3 Laughlin and Mesquite Areas, \$3.00 above the base rate.

4  
5 Group 1: Dump trucks (less than 12 yards water level); trucks  
6 (legal payload capacity less than 15 tons); water and fuel  
7 trucks (under 2500 gallons); pickups; service; drivers of busses  
8 (on jobsite used for transportation of up to 25 passengers);  
9 teamster equipment (highest rate for dual craft operation);  
0 working flat rack driver.

1  
 2 Group 2: Dump trucks (12 yards but less than 16 yards water  
 3 level); trucks (legal payload capacity between 15 and 20 tons);  
 4 transit mix trucks (under 3 yds.; dumpcrete trucks (less than  
 5 6-1/2 yds. water level); gas and oil pipeline working truck  
 6 drivers; including winch truck and all sizes of trucks; water  
 7 and fuel truck drivers (2,500 gallon to 4,000 gallon); truck  
 8 greaser; drivers of busses (on jobsite used for transportation  
 9 of more than twenty-five (25) passengers); warehouse clerk.  
 0

1 Group 3: Dump trucks (16 yds. up to and including 22 yds. water  
 2 level); driver of trucks (legal payload cap. 20 tons but less  
 3 than 30 tons); dumpster trucks; drivers of transit-mix trucks  
 4 (3 yds. but less than 6 yds.); dumpcrete trucks (6-1/2 yds.  
 5 water level and over); fork lift driver; ross carrier driver;  
 6 highway water and fuel drivers (4,000 gallons but less than  
 7 6,000 gallons); stock room clerk; tireman.  
 8

9 Group 4: Transit-mix trucks (6 yds. or more); dump trucks  
 0 (over 22 yds. water level); trucks (legal payload capacity  
 1 30 tons and over); fuel and water trucks (6,000 gallons and  
 2 over).  
 3

4 Group 5: Drivers of trucks and trailers in combination  
 5 (seven axles or more).  
 6

7 Group 6: All offroad equipment; truck repairmen and drivers  
 8 of road oil spreader trucks; D.W. 10 and D.W. 20 euclid-type  
 9 equipment, letourneau pulls, terra cobras and similar types of  
 0 equipment; also PB and similar-type trucks when performing work  
 1 within Teamsters' jurisdiction, regardless of types of  
 2 attachment including power unit pulling off highway belly dumps  
 3 in tandem.  
 4 -----  
 5

6 WELDERS - Receive rate prescribed for craft performing operation  
 7 to which welding is incidental.  
 8 =====  
 9

0 Unlisted classifications needed for work not included within  
 1 the scope of the classifications listed may be added after  
 2 award only as provided in the labor standards contract clauses  
 3 (29 CFR 5.5(a)(1)(v)).  
 4 -----

5 In the listing above, the "SU" designation means that rates  
 6 listed under that identifier do not reflect collectively  
 7 bargained wage and fringe benefit rates. Other designations  
 8 indicate unions whose rates have been determined to be  
 9 prevailing.  
 0

1 WAGE DETERMINATION APPEALS PROCESS  
 2

3 1.) Has there been an initial decision in the matter? This can  
 4 be:

- 5
- 6 \* an existing published wage determination
- 7 \* a survey underlying a wage determination

8 \* a Wage and Hour Division letter setting forth a  
9 position on a wage determination matter  
0 \* a conformance (additional classification and rate)  
1 ruling

2

3 On survey related matters, initial contact, including requests  
4 for summaries of surveys, should be with the Wage and Hour  
5 Regional Office for the area in which the survey was conducted  
6 because those Regional Offices have responsibility for the  
7 Davis-Bacon survey program. If the response from this initial  
8 contact is not satisfactory, then the process described in 2.)  
9 and 3.) should be followed.

0

1 With regard to any other matter not yet ripe for the formal  
2 process described here, initial contact should be with the Branch  
3 of Construction Wage Determinations. Write to:

4

5 Branch of Construction Wage Determinations  
6 Wage and Hour Division  
7 U. S. Department of Labor  
8 200 Constitution Avenue, N. W.  
9 Washington, D. C. 20210

0

1 2.) If the answer to the question in 1.) is yes, then an  
2 interested party (those affected by the action) can request  
3 review and reconsideration from the Wage and Hour Administrator  
4 (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

5

6 Wage and Hour Administrator

7

8 U.S. Department of Labor  
9 200 Constitution Avenue, N. W.  
0 Washington, D. C. 20210

1

2 The request should be accompanied by a full statement of the  
3 interested party's position and by any information (wage payment  
4 data, project description, area practice material, etc.) that the  
5 requestor considers relevant to the issue.

6

7 3.) If the decision of the Administrator is not favorable, an  
8 interested party may appeal directly to the Administrative Review  
9 Board (formerly the Wage Appeals Board). Write to:

0

1 Administrative Review Board  
2 U. S. Department of Labor  
3 200 Constitution Avenue, N. W.  
4 Washington, D. C. 20210

5

6 4.) All decisions by the Administrative Review Board are final.

7

END OF GENERAL DECISION

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DIVISION 01 - GENERAL REQUIREMENTS

SECTION 01200

GENERAL REQUIREMENTS

PART 1 GENERAL

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  - 1.2.2 Bulletin Board
  - 1.2.3 Sanitary Facilities

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PART 3 EXECUTION

- 3.1 CONSTRUCTION OF SIGNS
  - 3.1.1 Project and Hard Hat Signs
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- 3.3 PROJECT ENGINEER'S OFFICE EQUIPMENT
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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.

## 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-2246 (Rev B) Paint, Latex

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

## DEPARTMENT OF COMMERCE (DOC)

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

## ENGINEERING MANUALS (EM)

COE EM 385-1-1 (1996) Safety and Health Requirements  
Manual

COE EM 1110-1-1003 (August 1996) Navstar Global Positioning  
System Survey Ref Title

COE EM 1110-1-1005 (1994) Topographic Surveying

## NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY (NIST)

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

## 1.2 PROJECT FACILITIES

The Contractor shall construct and/or erect the following project facilities as soon as possible and not less than 15 calendar days after notice to proceed.

## 1.2.1 Construction Signs

The signs shall include the following:

- 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: Ten hard hat signs at locations directed.

1.2.2 Bulletin Board

Bulletin board shall be erected at the Contractor's office.

1.2.3 Sanitary Facilities

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

PART 2 PRODUCTS

2.1 CONSTRUCTION SIGNS

2.1.1 Materials

2.1.1.1 Lumber

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

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 commercially available supplies.

2.1.1.4 Paints and Oils

Paints shall conform to CID A-A-2336 for primer and CID A-A-2246 for finish paint and lettering.

2.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Topographic Surveyor; G, RE.

The Topographic Surveyor firm selected by the Contractor must be approved by the Contracting Officer prior to performing surveys for this contract.

### PART 3 EXECUTION

#### 3.1 CONSTRUCTION OF SIGNS

##### 3.1.1 Project and Hard Hat Signs

Constructed as detailed in Figures 1,2,3 and Safety Signs. Decals signs will be furnished by the Contracting Officer.

##### 3.1.2 Warning Signs

Constructed of plywood not less than 13 mm 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 BULLETIN BOARD

A weatherproof bulletin board, approximately 915 mm wide and 760 mm high, with hinged glass door shall be provided 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.

#### 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 AND 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

Ms. 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 Furlong  
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 ENVIRONMENTAL ASSESSMENT REQUIREMENT

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 shall be required to walk immediately in front of the Contractors' clearing and grubbing equipment to survey for the threatened desert tortoise and state protected and BLM sensitive Gila monster. For scheduling purposes, the Contractor shall coordinate and complete all clearing and grubbing activities within one four-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 details of truck haul routes.

#### 3.9.6.3 Existing Roads

The construction schedule shall be prepared giving full consideration to maintaining traffic on existing roads. 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

Access and 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.

### 3.9.7 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 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

The Contractor shall be responsible for obtaining water for construction purposes. The Contractor shall be responsible for obtaining approvals from the Las Vegas Valley Water District (LVVWD) and for coordination with other projects in the area.

### 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 "Safety and Health Requirements Manual", COE 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 COE 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.

### 3.13 CONTRACTOR SAFETY PERSONNEL REQUIREMENT

#### 3.13.1 General

Full-time, on-site, safety coverage by Contractors shall be required at all times during this contract. The Contractor shall employ at the project site to cover all hours of work at least one Safety and Occupational Health Technician per shift, to manage the Contractor's accident prevention program. In addition, the Contractor shall have one Safety and Occupational Health Professional to manage the overall Safety program. The principal safety person (the Safety Professional) shall report to and work directly for the Contractors on-site top manager, higher level official, or corporate safety office. The Safety and Health staff shall have the authority to take immediate steps to correct unsafe or unhealthful conditions. The presence of a Safety and Health person will not abrogate safety responsibilities of other personnel. The Safety and Health person shall be assigned no other duties.

#### 3.13.2 Qualifications for Safety and Health Professional(s)

a. Shall have a degree in engineering or safety in at least a four year program from an accredited school and in addition, shall have been engaged in safety and occupational health for at least two (2) years, no time being credited to these two (2) years unless at least fifty (50) percent of the time each year was devoted to safety and occupational health; or

b. Shall have legal registration as a Professional Engineer, Certified Safety Professional, or a Certified Safety Manager, and, in addition, shall have been engaged in safety and occupational health for at least one (1) year, no time being credited to this one (1) year experience unless at least fifty (50) percent of the time was devoted to safety and occupational health; or

c. Shall have degree other than that specified in (a) above and in addition, shall have been engaged in safety and occupational health for at least three (3) years, no time being credited to these three (3) years unless at least fifth (5) percent of the time each year was devoted to safety and occupational health; or

d. In lieu of a degree, shall have been engaged in safety and occupational health for at least five (5) years, no time being credited to these five (5) years unless at least fifty (50) percent of the time each year was devoted to safety and occupational health.

e. First aid work is not creditable experience.

#### 3.13.3 Qualification for Safety and Health Technicians

- a. A bachelors degree in safety or an associated discipline and currently employed in a safety position; or
- b. An associate degree in Safety or an associated discipline and currently experience in Safety, and currently employed in a safety position; or
- c. Five years field experience in safety or an associated discipline and currently employed in a safety position.
- d. First Aid work is not creditable experience.

#### 3.13.4 Names and Duties

The name and qualifications of nominated safety persons shall be furnished to the Contracting Officer (in resume format) for acceptability. A functional description of duties shall be provided prior to the pre-work conference. In addition, a copy of a letter from an authorized official of the Contractor which describes the duties and authority of the safety professional, including delegating sufficient authority to stop work to immediately correct the unsafe or unhealthful conditions.

#### 3.14 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.

#### 3.15 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 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 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 SPECIAL CONSTRUCTION REQUIREMENTS

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

#### 3.17.1 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 F-1 Channel, Hualapai Way to Beltway, 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.

#### 3.17.2 Existing Roads

##### 3.17.2.1 Beltway (South Bound Frontage Road), Fort Apache, Grand Canyon Drive, Hualapai Way

The Contractor shall maintain public access along South Bound Frontage Road, Fort Apache, Grand Canyon Drive and Hualapai Way at all times during this contract. Signs and reflective barriers are to be used as required to allow safe passage.

### 3.17.3 Coordination with Other Contractors

#### 3.17.3.1 North and South of F-1 Channel, Hualapai Way to Beltway, and Sienna Community

The Contractor is advised that communities North and South of the F-1 Channel, Hualapai Way to Beltway and the Sienna Community are currently under construction. Work to be performed under that contract consists of construction of golf course, subdivision, related utilities and connector roads.

#### 3.17.4 Runoff F-1 Channel, Hualapai Way to Beltway

The work areas for both the channel and basin will occur in areas that are subject to flowing waters as a result of rainfall. In addition, the channel work area is subject to flowing waters as a result of irrigation runoff and other construction related activities (new development). The F-1 Channel, Hualapai Way to Beltway Contractor is advised that it is their responsibility to protect their work from these probable events. In addition to these and other coordination issues discussed herein, see also specification Section 02100 "Diversion and Control of Water". See also paragraph National Pollution Discharge Elimination System (NPDES) Permit.

##### 3.17.4.1 Runoff Side Drains

The F-1 Channel, Hualapai Way to Beltway Contractor shall anticipate storm (and nuisance) runoff coordination from side drains and at side drain locations along the F-1 Channel, Hualapai Way to Beltway. Some side drains and laterals are active while others will become active during the life of the F-1 Channel, Hualapai Way to Beltway project. The F-1 Channel, Hualapai Way to Beltway Contractor shall conduct construction activities with full coordination of these runoff waters and shall safely allow them to pass without inundating other areas of adjacent development. Drainage from side drains, laterals and all future side drain locations shall not be interrupted.

#### 3.17.5 Hualapai Way, Grand Canyon Drive and Fort Apache Road Construction Access for Others

The Hualapai Way, Grand Canyon Drive and Fort Apache Road Crossings are required to have continuous construction access for others across the F-1 Channel, Hualapai Way to Beltway Channel alignment. The F-1 Channel, Hualapai Way to Beltway Contractor shall be required to construct the Hualapai Way, Grand Canyon Drive and Fort Apache Road Reinforced Concrete Boxes in two phases and ensure that the access is reconfigured during both phases so that traffic activities other than the F-1 Channel, Hualapai Way to Beltway project are not interrupted. Improvements for the permanent Hualapai Way, Grand Canyon Drive and Fort Apache Roads perpendicular to the F-1 Channel, Hualapai Way to Beltway, are anticipated to commence (by others) during the life of this contract. Any detours utilized by the F-1 Channel, Hualapai Way to Beltway Contractor shall provide means of passage through the Channel work area that include equivalent road surface requirements (for instance asphalt paving if applicable).

#### 3.17.6 Excess Material

Excess material originating from the construction of the F-1 Channel, Hualapai Way to Beltway project shall be disposed as compacted fill or stockpiled fill in the Russell Road Disposal Site, also known as the

designated disposal site, in accordance with Section 02300 EARTHWORK, and with the Russell Road disposal site drawings. The F-1 Channel, Hualapai Way to Beltway Contractor is advised that Russell Road, the Beltway, and the roads next to the Russell Road disposal site are all currently active and open streets to the Public. Haul routes shall be coordinated through the development of traffic control plans submitted to and approved by Clark County Department of Public Works.

### 3.17.7 Existing Gas Lines

Existing natural gas lines owned by Southwest Gas Corporation located in Hualapai Way and Grand Canyon Drive are in conflict with the F-1 Channel alignment and are required to be relocated. The existing gas lines shall be relocated by Southwest Gas after the F-1 Channel Contractor has completed rough excavation at each area. The F-1 Channel Contractor shall temporarily support the existing gas lines during excavation and until Southwest gas has completed their relocation. In developing their construction schedule, the F-1 Channel Contractor shall allow Southwest Gas two weeks after completion of rough excavation to complete the required relocations. Advance notice of proposed scheduling for relocation work shall be provided by the F-1 Channel Contractor to Southwest Gas so that relocation activities may be completed within the desired time period.

#### 3.17.7.1 Existing Gas Lines Caution

The F-1 Channel Contractor shall exercise due caution while working with existing gas lines that are operating under all ranges of pressures.

#### 3.17.7.2 Existing Gas Lines, Gas Company Representative Presence On Site

At all times during work on the existing gas lines, or where a gas line is exposed through earthwork, or where heavy equipment is over an unencased unprotected gas line, including all earthwork and channel structure work directly over or within a gas line easement, the Representative of the Gas Company must be present on the site of this project. At all times where the F-1 Channel work involves a gas line, the F-1 Channel Contractor shall coordinate with the Gas Company prior to and during the work until the work is completed.

#### 3.17.7.3 Existing Gas Lines, Uncovering of, Temporary Support of, Protection of

Existing gas lines that are found to be sufficiently below the channel structure shall be protected in place and not excavated or uncovered or otherwise disturbed. The F-1 Contractor shall carefully excavate and uncover a existing gas line only as required for channel structure construction. Prior to, during and after excavation, and prior to, during and after channel structure construction, the F-1 Contractor shall support as necessary the uncovered/unexcavated gas line to prevent physical forms of failure (bending, kinking, rupture) to the pipeline until the pipeline is reinstalled over the new RCB's. Prior to, during and after excavation, and prior to, during and after channel structure construction, the F-1 Contractor shall support as necessary the uncovered/unexcavated gas line to prevent forms of failure from accidents (collision from moving objects, overloading from exterior loads, crushing, burial) or vandalism to the pipeline.

#### 3.17.7.4 Slurry Removal at Hualapai Way Gas Line

The relocations cited above are applicable to the smaller (102 mm) polyethylene gas lines. The existing steel gas (203 mm) line at Hualapai is not currently required to be relocated, however, the protective slurry cap on top of this line shall require partial removal by the F-1 Channel Contractor. Work on this slurry cap, including any removal of any portion thereof, shall be coordinated with Southwest Gas. The F-1 Channel Contractor shall scrape, shave and remove, as necessary, a sufficient portion of existing gas line slurry caps to allow installation of concrete structures and other features. Notification for planned slurry cap removal shall be provided to the Contracting Officer and Southwest gas at least seven calendar days in advance of proposed start.

### 3.17.8 Coordination for Utilities

During the life of the F-1 Channel contract, the F-1 Channel Contractor shall anticipate numerous coordination issues with utility owners at various locations along the F-1 Channel alignment. New utilities are required to support this rapidly developing area. Sprint, Nevada Power, Southwest Gas, Las Vegas Valley Water District, Cox Cable and the Clark County Sanitation District are among the utilities anticipated to be improved or added through this area. The F-1 Channel Contractor shall coordinate all F-1 Channel work with utility companies desiring access to the F-1 Channel ROW or TCE limits identified on the contract drawings. The F-1 Channel Contractor shall permit any utility or its delegated representative to enter into and use F-1 Channel ROW or TCE areas to complete utility work. The F-1 Channel ROW and TCE areas are not intended to be restricted for the sole use of the F-1 Channel Contractor.

#### 3.17.8.1 Fort Apache Road Road

The F-1 Channel Contractor shall anticipate other Contractors and Utility Company's performing work for and on utilities from time of Award until 15 July 2002 between Station 21+32 and Station 20+41 at Fort Apache Road and will coordinate the F-1 Channel RCB and Channel transition wall construction work at Fort Apache Road between Station 21+32 and Station 20+41 with these other Contractors and Utility Company's performing work for and on utilities. Utility coordination work shall also be applicable to the Lateral and Side Drain construction at this locations. Relocation of existing Sprint Telephone, Cox Cable and Nevada Power systems at this location may include coordination with the phased RCB/Lateral/Side Drains construction wherein cables and conduits are temporarily moved out of the way (by others) to facilitate the first half of RCB/Lateral/Side Drains Construction and then repositioned (by others) over the completed (first half) RCB/Lateral/Side Drain. These existing utility locations may dictate whether the F-1 Channel Contractor can construct the upstream or downstream half of the RCB/Lateral/Side Drain first. The F-1 Channel Contractor shall fully coordinate the construction of their RCBs/Lateral and Side Drains with affected utility companies and provide a minimum of seven work days notification of proposed start in each area. The F-1 Channel Contractor is advised that relocation of conduits and cables in conjunction with the phased RCB/Lateral/Side Drain construction will still be required after the 15 July 2002 completion time frame stated above.

#### 3.17.8.2 Grand Canyon Drive

The F-1 Channel Contractor shall anticipate other Contractors and Utility Company's performing work for and on utilities from time of Award until 02 October 2002 between Station 29+54 and Station 28+70 at Grand Canyon Drive and will coordinate the F-1 Channel RCB and Channel transition wall

construction work at Grand Canyon Drive between Station 29+54 and Station 28+70 with these other Contractors and Utility Company's performing work for and on utilities. Utility coordination work shall also be applicable to the Side Drain construction at this locations. Relocation of existing Sprint Telephone, Cox Cable and Nevada Power systems at this location may include coordination with the phased RCB/Side Drains construction wherein cables and conduits are temporarily moved out of the way (by others) to facilitate the first half of RCB/Side Drains Construction and then repositioned (by others) over the completed (first half) RCB/Side Drain. These existing utility locations may dictate whether the F-1 Channel Contractor can construct the upstream or downstream half of the RCB and Side Drain first. The F-1 Channel Contractor shall fully coordinate the construction of their RCBs and Side Drains with affected utility companies and provide a minimum of seven work days notification of proposed start in each area. The F-1 Channel Contractor is advised that relocation of conduits and cables in conjunction with the phased RCB/Side Drain construction will still be required after the 02 October 2002 completion time frame stated above.

### 3.17.8.3 Hualapai Way Sewer and Water along F-1 RCB and Channel

The 254 mm sewer and the 305 mm water crossings identified as existing in Hualapai Way are anticipated to be completed by 31 Jul 2002. Both the sewer and water lines will turn west and head away from Hualapai at which time construction will continue by others. The sewer line alignment follows the south side of the F-1 Channel and installation of same west of Hualapai shall be accompanied by blasting within the channel alignment as well as proposed Village 16 (west of Hualapai) by The Howard Hughes Corporation. The F-1 Channel Contractor shall anticipate blasting disruptions to their channel as a result of these utility and mass grading operations by others. The F-1 Channel Contractor shall ensure enough flexibility in their scheduling to absorb these anticipated delays.

### 3.17.9 Coordination with Planned Sewer Lines between Sta. 18+00 and Sta. 14+70

Two new sewer lines are planned along the F-1 Channel and installation is anticipated to commence by 01 April 2002. These sewer lines cross under and run parallel to the F-1 Channel in areas between Station 18+00 and Station 14+70. The F-1 Channel Contractor shall not commence work in the area between Station 18+00 and Station 14+70 prior to 01 July 2002. The F-1 Channel Contractor shall plan and coordinate their construction activities accordingly to allow the installation of these two separate lines by others. The F-1 Channel work shall not damage or interrupt service to these sewers once completed. Manholes installed for these sewers shall be adjusted in elevation by the F-1 Channel Contractor to match finish grade elevations to include new concrete collars per Standard Clark County Drawings.

### 3.17.10 Hualapai Way Road Development

Hualapai Way Improvements Civil Improvements are anticipated to be constructed during the late winter/spring of 2003. The improvement to include grading, storm drainage, curb/gutter/sidewalk and asphalt paving shall be performed by others. The F1 Channel Contractor shall coordinate the RCB construction for both the F-1 and F-2 Channel crossings at Hualapai Way with the Howard Hughes Corporation (or their construction designee) to ensure that the RCB construction is completed and backfilled in a time frame that is compatible with the Hualapai Way Improvements by others.

### 3.17.11 Survey Control Monuments

The F-1 Channel, Hualapai Way to Beltway Contractor shall use only COE Survey Control Monuments coordinates for the layout and construction of the F-1 Channel and F-2 Channel and appurtenances inclusive within this contract.

### 3.17.12 F-1/F-2 Channels and Debris Basins Project West of Hualapai Way

The F-1 Channel Contractor is notified that the connecting (upstream) portions of the F-1 and F-2 Channels are anticipated to be under construction by August 2002. The F-1 Channel Contractor shall coordinate construction activities between these two channel projects so that shared work areas (TCEs) are usable by both contracts at all times. As the upper portions of the F-1 and F-2 Channels are completed, the F-1 Channel Contractor should anticipate runoff flowing through these channels into their work area and shall plan and protect their work accordingly.

### 3.17.13 Nevada Power Pole at Hualapai Way

The portion of the existing metal power pole at Hualapai Way between the F-1 Channel RCB and the F-2 Channel RCB that will be partially covered as the Hualapai Way road grade is raised shall be wrapped with approved materials and methods prior to the performance of the earthwork adjacent to this Power Pole. Work on this power pole, including the wrapping and earthwork adjacent to this power pole shall be coordinated with Nevada Power. Notification for planned wrapping and earthwork shall be provided to the Contracting Officer and Nevada Power at least seven calendar days in advance of proposed start.

## 3.18 CONTRACTOR'S SURVEYS

### 3.18.1 Survey Data

Reference is made to SECTION 00800: SPECIAL CONTRACT REQUIREMENTS, QUANTITY SURVEYS, ALTERNATE I, FAR 52.236-16 which requires payments based on surveys. Progress payments will be based upon Contractor's surveys. The Contractor's survey shall provide full coverage of the entire area for which progress payment is being submitted.

It is further emphasized that survey data which does not meet all applicable requirements and quality assurance verifications will not constitute a valid request for payment.

Contractor's surveys shall be performed electronically (automated) and the data shall be provided and submitted to the Government on an electronic media (IBM compatible, ASCII format) in delimited files of easting, northing, and depth (x,y,z), where the depth is indicated as positive if recorded above mean sea level. The first lines of the data file will list the information as follows:

- \* Project Name: F-1 Channel, Russell Road Disposal Site, FY2002
- \* Surveyor's Name and Company Name
- \* Area Surveyed
- \* Type of Survey and Date of Survey (i.e. Pre-construction, MM/DD/YR)
- \* Vertical Datum
- \* Horizontal Datum

These first 6 lines will be preceded by an asterisk (\*), which indicates a comment line.

For both the pre-construction and post construction surveys, three (3) copies of the survey plotted on paper will accompany the x,y,z data (electronic file) and all data shall be collected and plotted in metric units (meters).

### 3.18.2 Survey Data Standards

The Contractor's surveys for progress payment shall meet or exceed the survey standards listed in COE EM 1110-1-1005, Topographic Surveying for topographic surveys. Surveys shall be in the State Plane Coordinate System of 1983 - meters (SPCS 83), State of Nevada, and be performed by an independent survey contractor with at least three (3) years of experience in topographic surveying of land features and have either a current Land Surveyor's or a Professional Engineer's license, authorized to certify surveys in the State of Nevada. The Topographic Surveyor firm selected by the Contractor must be approved by the Contracting Officer prior to performing surveys for this contract.

### 3.18.3 Positioning System

It is required that surveys shall be conducted using an RTK or similar modern electronic surveying equipment using Differential Global Positioning System (DGPS) with positional accuracy equal to or exceeding the survey standards listed in COE EM 1110-1-1003 and COE EM 1110-1-1005.

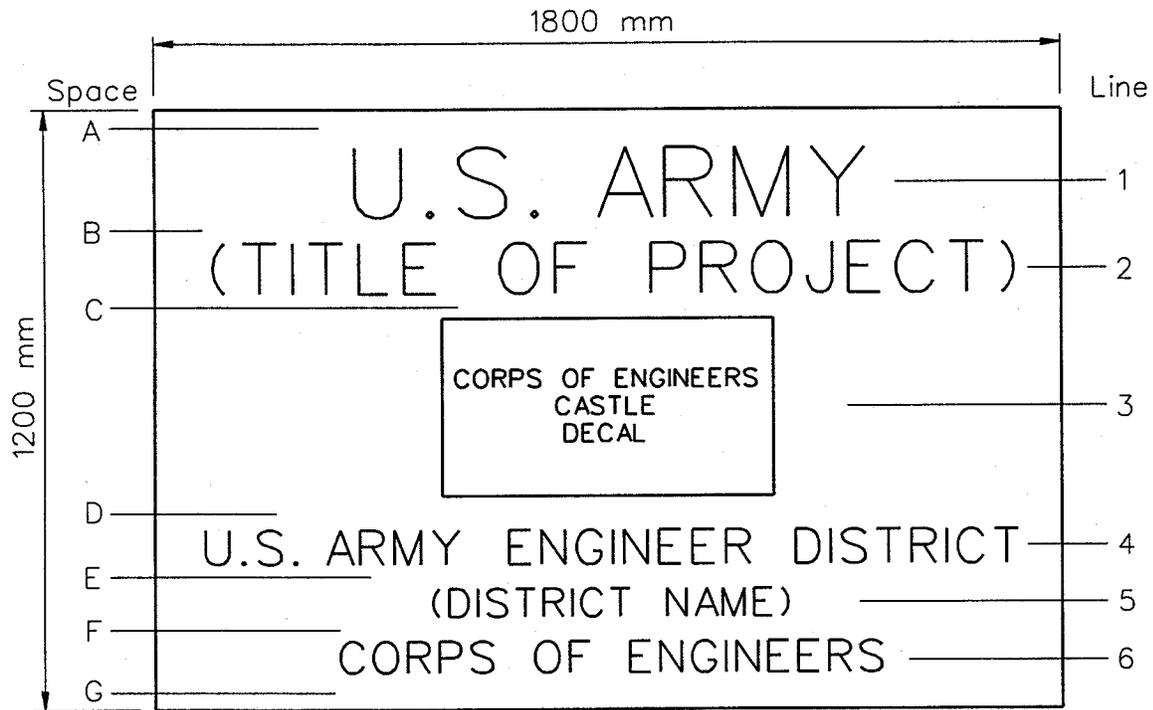
### 3.18.4 Survey Firm Acceptance

For the Contracting Officer to approve the selected survey firm, the Contractor must provide documentation indicating that modern electronic surveying equipment will be used for the surveys to be performed as well as documentation verifying the experience of the operators using the equipment. Typical information that will be required, as a minimum, includes the name, model, and year of manufacture of the electronic equipment, and the manufacturer's stated accuracies, and capability of the equipment proposed for usage. The Contractor shall submit credentials/qualifications as evidence that qualified, experienced staff are available and will be used for the operation of the electronic positioning and surveying equipment.

### 3.18.5 Data Processing

The Contractor shall use a Data Processing System to map the survey data and calculate quantities. Reduced survey data shall then be imported into the Data Processing System where cross-sections are compared to fill templates and volume quantities are calculated. The software shall be capable of digital terrain modeling and shall produce, as a minimum, topographic survey sheets, cross section profiles, 3-dimensional area profiles, and quantity volume calculations using the Triangulated Irregular Network (TIN) method.

-- End of Section --



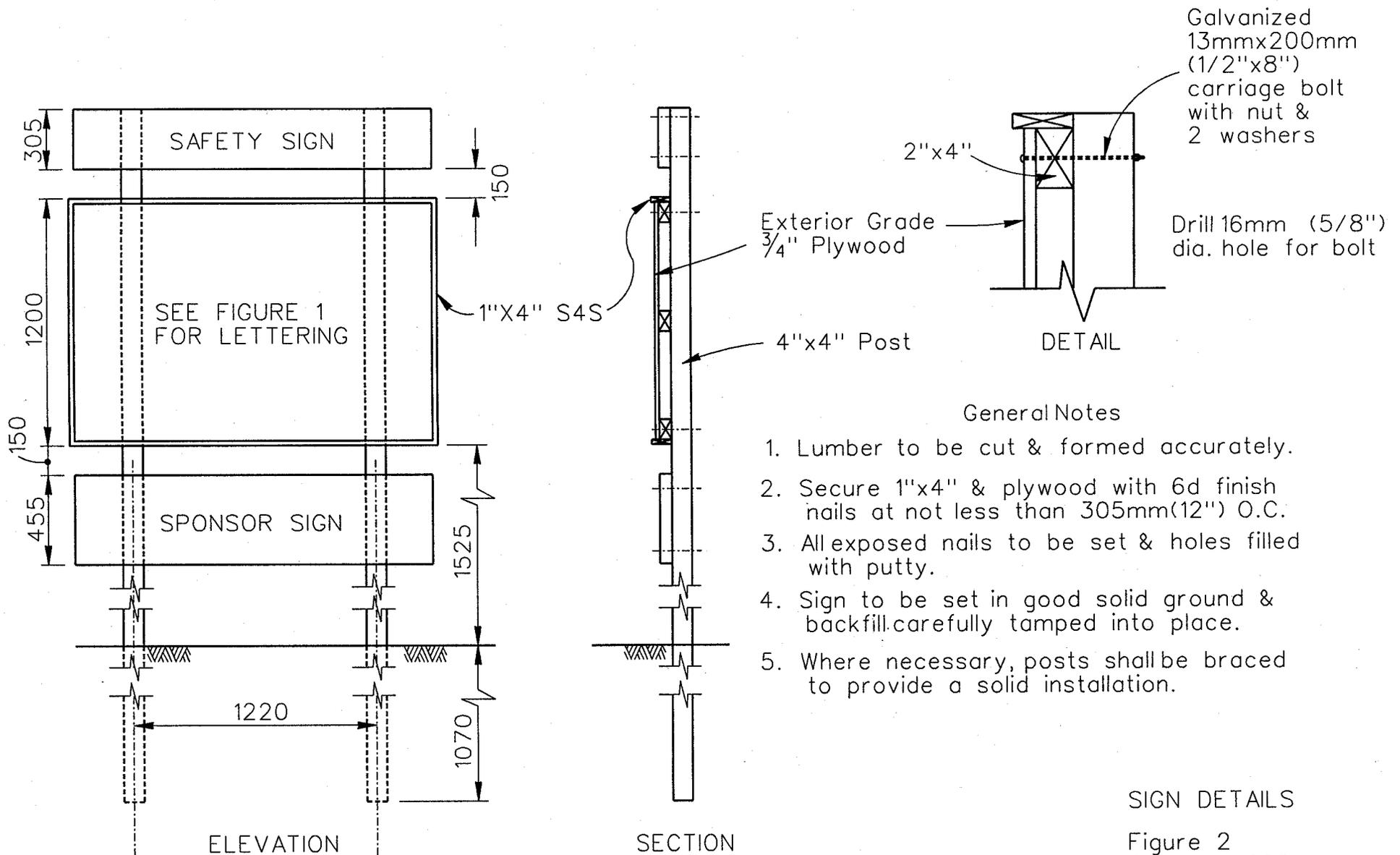
Space	Height	Line	Description	Letter Height	Stroke
A	75	1	U.S. ARMY	140	22
B	50	2	PROJECT NOMENCLATURE	100	16
C	50	3	CORPS OF ENGINEERS CASTLE (DECAL)	345	
D	70	4	U.S. ARMY ENGINEER DISTRICT	70	9
E	50	5	DISTRICT NAME	60	6
F	50	6	CORPS OF ENGINEERS	65	9
G	75				

Letter Color -- Black

PROJECT SIGN  
(Army-Civil Works)

Figure 1  
October 1996

All units are in millimeters.



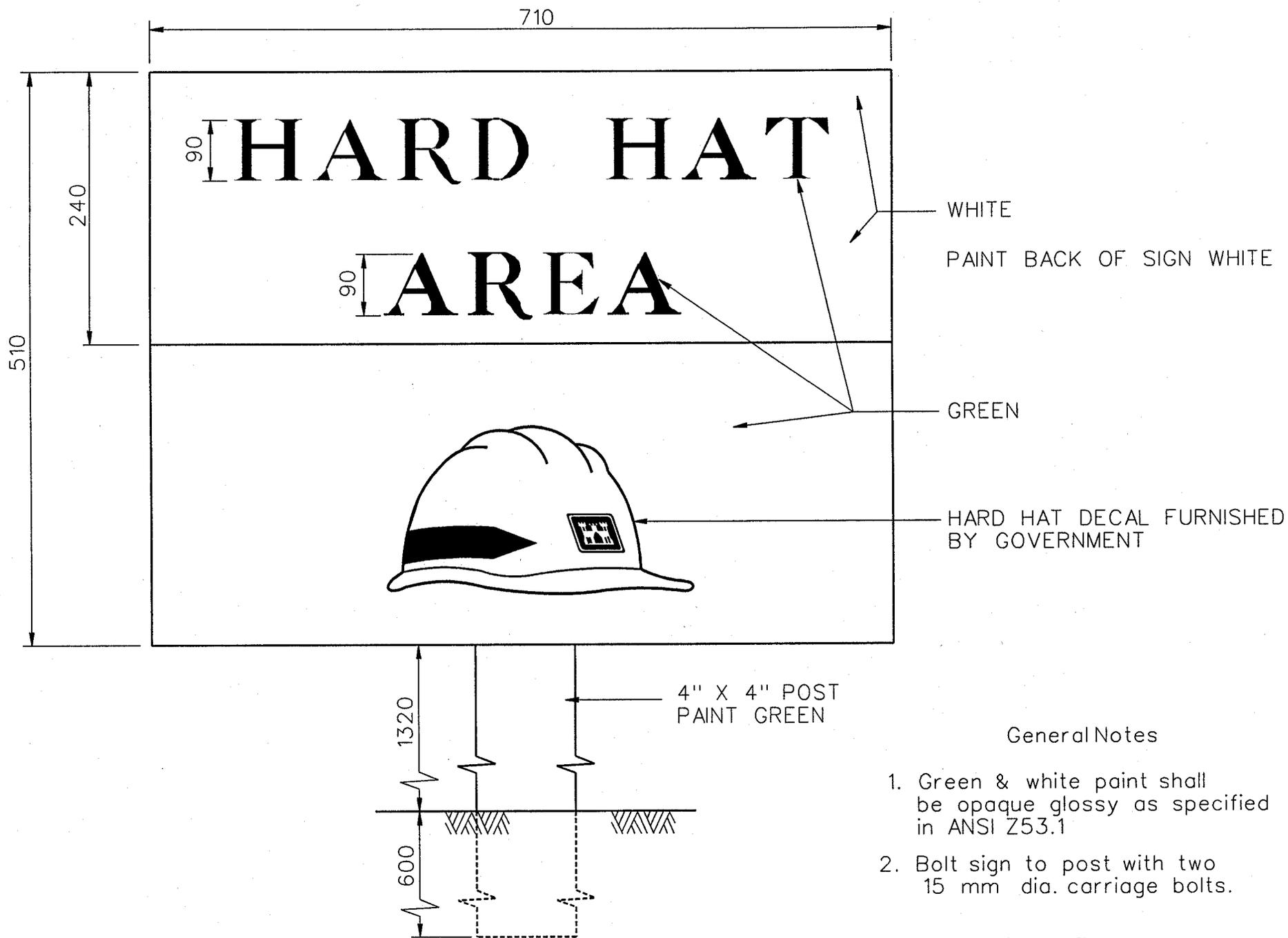
General Notes

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.

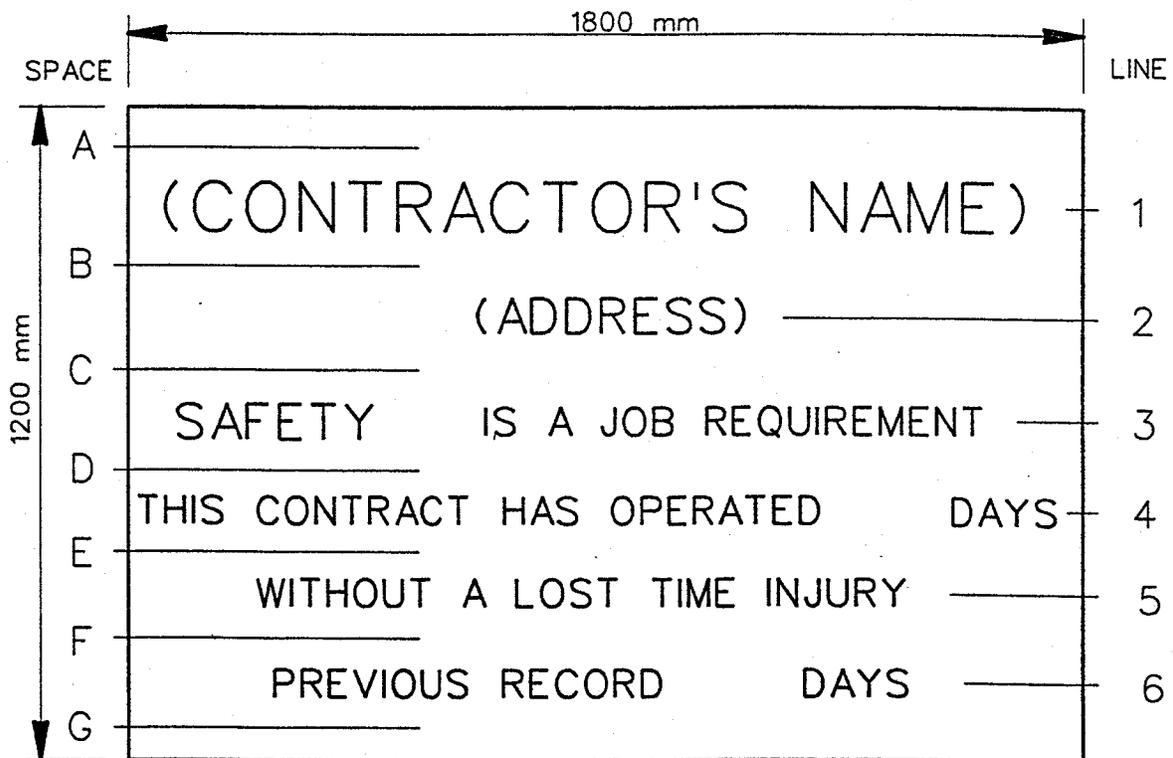


#### General Notes

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.

Figure 3  
October 1996

All units are in millimeters unless otherwise indicated.



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

**Notes**

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

SAFETY SIGN  
STANDARD DETAIL

All units are in millimeters.

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## SECTION 01270

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-- End of Section Table of Contents --

## SECTION 01270

## MEASUREMENT AND PAYMENT

## PART 1 GENERAL

## 1.1 REFERENCES - NOT USED

## 1.2 LUMP SUM PAYMENT ITEMS

Payment items for the work of this contract for which contract lump sum payments will be made are listed in the BIDDING SCHEDULE and described below. All costs for items of work, which are not specifically mentioned to be included in a particular lump sum or unit price payment item, shall be included in the listed lump sum item most closely associated with the work involved. The lump sum price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for which separate payment is not otherwise provided.

## 1.2.1 Traffic Control (Bid Item 0001)

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.

## 1.2.2 Diversion and Control of Water (Bid Item 0002)

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.

## 1.2.3 Construction Water (Bid Item 0003)

Payment for Construction Water will be made at the applicable contract price, which payment shall constitute full compensation for furnishing water for construction and dust control including cost of permits, cost of water taps or hydrants, applicable earthwork, design and installation of temporary water pipeline and storage tanks, maintaining and repairing the water supply system and all incidentals, complete.

## 1.2.4 Clear Site and Remove Obstructions (Bid Item 0004)

Payment for Clear Site and Remove Obstructions will be made at the applicable contract price, which payment shall constitute full compensation for clearing debris 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 protection of existing facilities to remain in place. This work shall include removal of designated riprap and fence, including the designated riprap between Station 28+15.550 and Station 24+02.805. This work shall not include

remove and dispose debris piles in the Right-Of-Way and TCE between Station 28+15.550 and Station 24+02.805, which is covered in Bid Item 0036. Unnecessary clearing will not be permitted. This work shall include disposal off-site of all existing debris such as old pavement, tree trimmings, trash, etc. This work shall also include the protection in place, or restoration, of existing facilities that are to remain in place.

#### 1.2.5 Ladder Systems (Bid Item 0005)

Payment for Ladder Systems will be made at the applicable contract lump sum price for installation of all channel access ladders. The contract price for ladder system shall be considered full payment for fabrication, assembly fittings, finishing, paint and marking, installation of ladder steps, and all equipment, labor and fittings.

#### 1.2.6 Channel Station Marking (Bid Item 0006)

Payment for Channel Station Marking will be made at the applicable contract lump sum price, which shall be considered full payment for preparation, paint and marking, equipment and labor.

#### 1.2.7 Reinforced Concrete Confluence Structures (Bid Item 0007 - 0008)

Payment for Confluence Structure #1 and Confluence Structure #2, including the confluence and transition structures, will be made at the applicable contract lump sum price, which payment shall constitute full compensation for each confluence and transition structure, for the reach of the channel and confluence structure specified, including furnishing and placing reinforcing steel; furnishing, placing and removing forms and formwork; furnishing, placing, finishing and curing concrete; excluding excavation and compacted fill that is included in separate bid items for Excavation, Channel, and Compacted Fill, Channel; complete as shown on the drawings. Confluence Structure #1 shall be from F-1 Channel Station 19+76.492 to Station 20+68.005 and will include the portion of the Fort Apache Lateral from Fort Apache Lateral Station 10+00.000 to Station 10+06.476. Confluence Structure #2 shall be from F-1 Channel Station 34+05.060 to Station 35+51.625 and will include the portion of the F-2 Channel from F-2 Channel Station 10+00.000 to Station 10+32.064.

#### 1.2.8 Reinforced Concrete Access Ramps (Bid Items 0009 - 0010)

Payment for each Access Ramp #1 and Access Ramp #2 will be made at the applicable contract lump sum price for the reach of channel and ramp specified, which payment shall constitute full compensation for each access ramp, including main channel at ramp, including furnishing and placing reinforcing steel; furnishing, placing and removing forms and formwork; furnishing, placing, finishing and curing concrete; excluding excavation and compacted fill that is included in separate bid items for Excavation, Channel, and Compacted Fill, Channel; complete as shown on the drawings. Access Ramp #1 shall be from Station 19+13.665 to Station 19+76.492 on the F-1 Channel. Access Ramp #2 shall be from Station 10+95.934 to Station 11+46.953 on the F-2 Channel.

#### 1.2.9 Reinforced Concrete Boxes (RCB) (Bid Items 0011 - 0014)

Payment for RCB will be made at the applicable contract lump sum price for the size and reach of box specified, which payment shall constitute full compensation for RCB and headwalls including earthwork, complete, including: furnishing and placing reinforcing steel; furnishing, placing

and removing forms and formwork; furnishing and placing, finishing and curing concrete, headwalls; and all incidentals, complete as shown on the drawings except for post and cable railing, chain link fencing, and gates. RCB near Beltway shall be 4.000 m x 3.660 m from Station 14+26.483 to Station 14+64.278. RCB Lateral at Fort Apache shall be 3.660 m x 2.440 m from Station 10+06.476 to Station 10+53.925. RCB at Fort Apache shall be 5.000 x 3.000 from Station 20+68.005 to Station 21+14.948. RCB at Grand Canyon shall be 5.000 x 3.000 from Station 28+95.660 to Station 29+36.200.

#### 1.2.10 Side Drain Connections (Bid Items 0015 - 0020, 0024 - 0027)

Payment for Side Drain Connections, including a side drain for horizontal elliptical reinforced concrete pipe, will be made at the applicable contract lump sum price for each structure and connection at the station specified and shown on the plans, which payment shall constitute full compensation for structure and RCP connection to the channel wall, complete, including: excavation and compacted fill and backfill; furnishing and placing reinforcing steel; furnishing, placing and removing forms and formwork; furnishing and placing, finishing and curing concrete, and all incidentals, complete as shown on the drawings, inclusive within the construction joints in the channel walls shown on the side drain details of the plans and drawings.

#### 1.2.11 Weepole System (Bid Item 0021)

Payment for the weepole system will be made at the applicable contract price, which payment shall constitute full compensation for materials, and installation of the weepole system, complete including applicable earthwork, drain aggregate material, geotextile, galvanized mesh screen, formed openings and appurtenances, complete.

#### 1.2.12 Stilling Well (Bid Item 0022)

Payment for Stilling Well will be made at the applicable contract price, which payment shall constitute full compensation for the stilling well, complete, including excavation and compacted backfill; furnishing and placing reinforcing steel; furnishing, placing and removing forms and formwork as necessary; staff gauges; manhole, access door, shelf, furnishing PVC coated-rigid steel inlet pipes with slurry backfill; connection to existing and/or new concrete channel walls, including sawcuts and dowels; furnishing, placing, finishing, and curing concrete for, cutoff, walls, slabs, and sills as shown on the drawings; and all incidentals including pipe bollards and paint.

#### 1.2.13 As-Built Drawings (Bid Item 0023)

##### 1.2.13.1 Measurement

Measurement shall be made on a lump sum basis.

##### 1.2.13.2 Payment

Payment shall be made at the applicable contract price and shall be compensation in full for furnishing all labor, material, and equipment complete in place for the complete set of as-built drawings, including electronic MicroStation SE or MicroStation J "DGN" file format on Compact Disk, indicating installation of work items not installed according to the contract drawings.

### 1.3 UNIT PRICE PAYMENT ITEMS

Payment items for the work of this contract on which the contract unit price payments will be made are listed in the BIDDING SCHEDULE and described below. The unit price and payment made for each item listed shall constitute full compensation for furnishing all plant, labor, materials, and equipment, and performing any associated Contractor quality control, environmental protection, meeting safety requirements, tests and reports, and for performing all work required for each of the unit price items.

#### 1.3.1 Adjust Sewer Manhole Frames and Covers (Bid Items 0028 - 0029)

Measurement and payment shall be made according to the contract unit price for each manhole acceptably adjusted to finished grade elevation. Existing covers, including frames, grates, or lids shall be adjusted to the required elevation by removing such existing covers and adjusting the top of the existing structures by removing or adding concrete, riser, cone, grade rings, or by using cast iron adaptor rings, as the case may be, reinstalling the fixtures by supporting them on a satisfactory collar of Class A concrete constructed as to hold them firmly in place.

#### 1.3.2 Excavation, Channel (Bid Item 0030)

##### 1.3.2.1 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. Measurement shall be based on difference between surveyed original grade and the grade and slope of the theoretical cross sections indicated on the drawings. 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 unsatisfactory foundation material as specified shall be included in the measurement of the excavation where the unsatisfactory soils are encountered. Quantities will be computed in cubic meters 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.

##### 1.3.2.2 Payment

Payment for Excavation, Channel will be made at the applicable contract price for excavation per cubic meter, which payment shall constitute full compensation for excavation for the channel, roads and other areas as indicated on the drawings including shoring, blasting, rock removal, and cemented alluvium excavation; shaping and trimming of areas to receive concrete; crushing or otherwise processing, loading, stockpiling, hauling, and placing suitable materials for compacted fill and backfill; loading, stockpiling, hauling, stockpiling of excess satisfactory excavated materials at the Russell Road Disposal Site indicated on the drawings; 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.

#### 1.3.2.3 Subgrade or Foundation Preparation

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

#### 1.3.2.4 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, Channel and Compacted Fill.

#### 1.3.2.5 Trenches

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

#### 1.3.2.6 Shoring

No separate payment will 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.

### 1.3.3 Fills (Bid Items 0031 - 0032)

#### 1.3.3.1 Measurement

Measurement for fills 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 meters 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.

#### 1.3.3.2 Payment for 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, including breakdown, crush or otherwise processing of stones, rocks and cemented soils to meet required material sizes and gradation. 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.

#### 1.3.3.3 Payment for Compacted Fill, Roadways

Payment for Compacted Fill, Roadways, 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, including breakdown, crush or otherwise processing of stones, rocks and cemented soils to meet required material sizes and gradation. 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.

#### 1.3.3.4 Trenches

No separate payment will be made for backfilling pipe including bedding material, selected granular material, or initial backfill material. All costs in connection therewith shall be included in the contract prices for items to which the work applies.

#### 1.3.3.5 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.

#### 1.3.3.6 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.

#### 1.3.4 Excess Material Disposal, Compacted, Russell Road Disposal Site (Bid Item 0033)

##### 1.3.4.1 Measurement

Measurement for Excess Material Disposal, Compacted, at Russell Road Disposal Site shall be determined as follows. A survey of the entire Russell Road disposal 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 fill lines and grades indicated on the drawings or staked in the field and the ground surfaces as indicated by the above mentioned survey. See Drawings for Russell Road disposal site. Measurement shall be based on difference between surveyed original grade and the surveyed final actual grade and slope of the accomplished compacted filled areas. The actual slopes as filled and graded may be greater or less than those indicated or staked, depending on the materials used for fill and methods used in performing the work, but such alterations shall not change the measurement for payment from the original lines as specified herein. Quantities will be computed in cubic meters 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 fill outside of fill lines shown on the Russell Road disposal site drawings will be considered as being for convenience of the Contractor. Satisfactory excavated materials shall be used, to the extent possible for construction of fills, road embankments, subgrades, shoulders, bedding, and similar purposes. Excess materials, not utilized as compacted fill in the channel and roadway construction, shall be disposed of in the Russell Road disposal site as indicated on the drawings.

##### 1.3.4.2 Payment

Payment for Excess Material Disposal, Compacted, Russell Road Disposal Site shall be at the contract unit price per cubic meter, which payment shall constitute full compensation for original Russell Road disposal site survey

information delivered to the Contracting Officer prior to commencement of work, processing of material at Russell Road disposal site to meet size requirement of excess satisfactory excavated materials having no particle larger than 0.2 meters in size at this disposal site, additional haul and handling of the material within the Russell Road disposal site, and placement, including grading and compaction, at the Russell Road disposal site as indicated on the drawings, and final excess material disposal, compacted, Russell Road disposal site survey information delivered to the Contracting Officer not later than 15 calendar days upon completion of the compacted fill work. 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..

#### 1.3.5 Excess Material Disposal, Stockpiled, Russell Road Disposal Site (Bid Item 0034)

##### 1.3.5.1 Measurement

Measurement for Excess Material Disposal, Stockpiled, at Russell Road Disposal Site shall be determined as follows. The surveys (initial and final) of the entire Russell Road disposal site done for the excess material disposal, compacted, Russell Road disposal site and the final survey of the entire excess material disposal, stockpiled, Russell Road disposal site, shall be used as necessary to establish the segregation between the compacted fill work and the stockpiled fill work, and all measurements for the stockpiled fill work will be based on these surveys without regard to any changes in the site that may be made between the fill lines and grades indicated on the drawings or staked in the field and the ground surfaces as indicated by the above mentioned survey. See Drawings for Russell Road disposal site. Measurement shall be based on difference between surveyed original grade of both the entire Russell Road disposal site and the final compacted fill area and the surveyed final actual grade and slope of the accomplished stockpiled filled areas. The actual slopes as filled and graded may be greater or less than those indicated or staked, depending on the materials used for fill and methods used in performing the work, but such alterations shall not change the measurement for payment from the original lines as specified herein. Quantities will be computed in cubic meters 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 fill outside of fill lines shown on the Russell Road disposal site drawings will be considered as being for convenience of the Contractor. Satisfactory excavated materials shall be used, to the extent possible for construction of fills, road embankments, subgrades, shoulders, bedding, and similar purposes. Excess materials, not utilized as compacted fill in the channel and roadway construction, shall be disposed of in the Russell Road disposal site as indicated on the drawings.

##### 1.3.5.2 Payment

Payment for Excess Material Disposal, Stockpiled, Russell Road Disposal Site shall be at the contract unit price per cubic meter, which payment shall constitute full compensation for processing of material at Russell Road disposal site to meet size requirement of excess satisfactory excavated materials having no particle larger than 0.2 meters in size at this disposal site, additional haul and handling of the material within the Russell Road disposal site, and placement, including grading, at the

Russell Road disposal site as indicated on the drawings, and final excess material disposal, stockpiled, Russell Road disposal site survey information delivered to the Contracting Officer not later than 15 calendar days upon completion of the stockpiled fill work. 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..

### 1.3.6 Reinforced Concrete Pipe (Bid Items 0035 - 0038)

#### 1.3.6.1 Measurement

Provide reinforced concrete piping, including horizontal elliptical reinforced concrete piping, as shown on the drawings. The work shall consist of a complete installation. All excavation, bedding material, backfill, compaction of bedding and backfill, caps and marker posts, and all other trenching related work shall be included. Any trench excavation greater than 1.524 meters (vertical wall) shall be braced in accordance with Section 02316. 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 except side drain connection paid under a separate bid item. All labor, equipment, and material costs shall be included in the price per meter for each size and class of RCP.

#### 1.3.6.2 Payment

Payment for Reinforced Concrete Pipe, including horizontal elliptical reinforced concrete piping, will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for the installation, including 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, caps and marker posts, complete and in place. Side drain connection is paid under a separate bid item.

### 1.3.7 Aggregate Base Course(Bid Item 0039)

#### 1.3.7.1 Measurement

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

#### 1.3.7.2 Payment

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

### 1.3.8 Asphalt Concrete Pavement (Bid Item 0040)

#### 1.3.8.1 Measurement

Measurement for Asphalt Concrete Pavement will be by the metric tonne (1,000 kilograms) of asphalt concrete pavement placed within the lines and grades as indicated on the drawings.

### 1.3.8.2 Payment

Payment for Asphalt Concrete Pavement will be made at the applicable contract price which payment shall constitute full compensation for asphalt concrete pavement in place, complete including tack coat, prime coat and appurtenant work except for aggregate base course. No payment will be made for excessive thickness.

### 1.3.9 Chain Link Fencing and Swing Gate(Bid Items 0041 - 0042)

#### 1.3.9.1 Measurement

Measurement of Chain Link Fencing that is provided will be by the linear meter of chain link fencing constructed as shown on the drawings. Gates shall be measured for each type and size acceptably installed.

#### 1.3.9.2 Payment for Chain Link Fencing

Payment for Chain Link Fencing will be made at the applicable contract unit price per linear meter of fabric specified, 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.

#### 1.3.9.3 Payment for Swing Gate

Payment for Swing Gate will be made at the applicable contract price, per each, for chain link double swing gates, which payment shall constitute full compensation for obtaining and installing gates complete, including appurtenances, and padlocks, as shown on the drawings.

### 1.3.10 Post and Cable Railing (Bid Item 0043)

#### 1.3.10.1 Measurement

Measurement of Post and Cable Railing will be by the linear meter, measured from end to end, of railing installed as shown on the drawings.

#### 1.3.10.2 Payment

Payment for Post and Cable Railing will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for railing, including posts, cable, safety chain gates, galvanized appurtenances, fabrication, post sleeves, grout or dry pack, and all incidentals, complete.

### 1.3.11 Reinforced Concrete (Bid Items 0044 - 0045, 0049)

#### 1.3.11.1 Measurement

Measurement of concrete will be made on the basis of the actual volume, in cubic meters, of concrete within the pay lines of the channel slab, and channel walls, and concrete swales as shown on the drawings. Measurement of concrete placed against the sides of any excavation without the use of intervening forms will be made only within the pay lines of the structures. No deductions will be made for rounded or beveled edges or space occupied by metalwork, nor voids or embedded items which are either less than 0.15 cubic meter in volume or one-tenth of square meter in cross section. Concrete wasted or used for the convenience of the Contractor will not be

included in measurement for payment.

#### 1.3.11.2 Reinforced Concrete Payment

Payment for the concrete items will be made at the applicable contract prices for the various items of the schedule, which payments shall constitute full compensation for labor, reinforcing steel, forming, finishing, curing, cutoff walls that are apart of channel construction, joint sealant complete, and for all equipment and tools to complete the concrete work. Embedded items shall be included in the cost of the concrete except when other payment is specifically provided. No payment will be made for concrete, as such, which is placed in structures for which payment is made on a lump sum basis.

#### 1.3.11.3 Channel, Invert

Payment for the Channel, Invert will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for all concrete (including all necessary items described in Paragraph: Reinforced Concrete Payment above) placed for the channel invert slab, keys, and starter walls, complete.

#### 1.3.11.4 Channel, Wall

Payment for the Channel, Wall will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for all concrete (including all necessary items described in Paragraph: Reinforced Concrete Payment above) placed above the starter walls in the vertical walls of the channel, and cast-in-place boxes, complete.

#### 1.3.11.5 Four (4) Concrete Swales between Sta. 28+15.550 and Sta. 24+02.805

Payment for the Four (4) Concrete Swales between Sta. 28+15.550 and Sta. 24+02.805 will be made at the applicable contract unit price per cubic meter, which payment shall constitute full compensation for all concrete (including all necessary items described in Paragraph Reinforced Concrete Payment above) placed, complete.

#### 1.3.12 Pre-Emergent Herbicide/Pigmented Dust Palliative/Soil Stabilizer (Bid Item 0046 - 0047)

##### 1.3.12.1 Measurement

Measurement of Pre-Emergent Herbicide/Dust Palliative/Soil Stabilizer will be made on the basis of the actual area in hectares surfaces treated with dust palliative or as directed.

##### 1.3.12.2 Payment

Payment for Pre-Emergent Herbicide/Dust Palliative/Soil Stabilizer will be at the applicable contract price, which payment shall constitute full compensation including grading, scarifying furnishing materials, processing, and application, complete in place.

#### 1.3.13 Remove and Dispose Debris Piles in the Right-Of-Way and TCE between Station 28+15.550 and Station 24+02.805 as Scrap (Bid Item 0048)

##### 1.3.13.1 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 dumped debris piles lines and grades staked or surveyed in the field and the ground surfaces and grades as indicated by the topography on the drawings. Measurement shall be based on the difference between surveyed and or staked dumped debris piles and the original grade in the topography indicated on the drawings. Measurement of the remove and dispose debris piles in the Right-Of-Way and TCE between Sta. 28+15.550 and Sta. 24+02.805 as scrap will be by the cubic meter for debris piles removed from the site as shown on the drawings and described herein.

#### 1.3.13.2 Payment

Payment for Remove and Dispose Debris Piles in the Right-Of-Way and TCE between Station 28+15.550 and Station 24+02.805 as Scrap will be made at the applicable contract price per cubic meter, which payment shall constitute full compensation for removal, loading, hauling, dump fees, and disposal off-site as scrap of all surface dumping including, but not limited to, dumped soils, dumped scalped soils (fines removed), dumped plastic items, dumped tires, dumped caliche (cemented materials), dumped large stones (up to 4 feet in size), dumped wood items, dumped reinforced concrete pipe, dumped large pieces of broken reinforced concrete and unreinforced concrete, dumped masonry block (broken and assembled multiple units), dumped debris piles, dumped trash, dumped furniture, dumped car and car parts, dumped metal parts, dumped organics (tree, grass and other trimmings and organics) and other dumped typical construction debris, as necessary for the Contractor's operations within the limits of the designated Right-Of-Way and temporary construction easement (TCE). This work shall not include any of excavation below the original grade indicated in the topography shown on the drawings nor the removal of the existing riprap for which payment is provided in other bid items. This work shall also include the protection in place, or restoration, of existing facilities that are to remain in place.

#### 1.3.14 Adjust Water Valves at Russell Road Disposal Site (Bid Item 0050)

Measurement and payment shall be made according to the contract unit price for each water valve acceptably adjusted to finished grade elevation. Existing covers, including frames, grates, or lids shall be adjusted to the required elevation by removing such existing covers and adjusting the top of the existing structures by removing or adding concrete, riser, cone, grade rings, or by using cast iron adaptor rings, as the case may be, reinstalling the fixtures by supporting them on a satisfactory collar of Class A concrete constructed as to hold them firmly in place.

#### 1.4 OPTIONAL BID ITEMS

Construction of reinforced concrete boxes for the F-1 and F-2 Hualapai Way roadway crossings and other facilities in Hualapai Way are optional construction that may or may not be awarded. Some of the optional bid items utilizes lump sum items. Some of the optional bid items utilizes unit price items. If required, see paragraph LUMP SUM PAYMENT ITEMS for definition of those items listed below with lump sum, and see paragraph UNIT PRICE PAYMENT ITEMS for definition of those items listed below with unit prices.

##### 1.4.1 Reinforced Concrete Boxs (RCBs) (Bid Items 0051 - 0052)

Payment for F-1 RCB and F-2 RCB at Hualapai Way will be made at the applicable contract lump sum price for the size and reach of box specified, which payment shall constitute full compensation for RCB and headwalls including earthwork, complete, including: furnishing and placing reinforcing steel; furnishing, and placing speed dowels in the upstream end of each RCB invert to facilitate structural continuity for the follow on construction; furnishing, placing and removing forms and formwork; furnishing and placing, finishing and curing concrete, including concrete for headwalls; and all incidentals, complete as shown on the drawings except for post and cable railing, chain link fencing, and gates. F-1 RCB at Hualapai Way shall be 4.000 m x 3.000 m from Station 36+83.723 to Station 37+47.674. F-2 RCB at Hualapai Way shall be 5.000 m x 3.000 m from Station 11+65.040 to Station 12+24.774.

#### 1.4.2 Temporary Support Gas Line (Bid Item 0053)

Measurement and payment shall be made according to the contract unit price for each gas line uncovered, supported, and protected during the earthwork and structural work; including coordination with Gas Company and Gas Company representative on project site as required for that gas line; including earthwork associated with re-installation of line once adjacent earth and/or structure work is completed.

#### 1.4.3 Side Drain Connection, Sta. 37+13.926 (Bid Item 0054)

Payment for Side Drain Connection, Sta. 37+13.926 will be made at the applicable contract lump sum price for the structure and connection at the station specified and shown on the plans, which payment shall constitute full compensation for structure and RCP connection to the channel wall, complete, including: furnishing and placing reinforcing steel; furnishing and placing, finishing and curing concrete, and all incidentals, complete as shown on the drawings, inclusive within the construction joints shown on the plans and drawings.

#### 1.4.4 Reinforced Concrete Pipe 1.676 m Dia. (Bid Item 0055)

##### 1.4.4.1 Measurement

Provide reinforced concrete piping as shown on the drawings. The Work shall consist of a complete installation. All excavation, bedding material, backfill, compaction of bedding and backfill, caps and marker posts, and all other trenching related work shall be included. Any trench excavation greater than 1.524 meters (vertical wall) shall be braced in accordance with Section 02316. 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 except side drain connection paid under a separate bid item. All labor, equipment, and material costs shall be included in the price per meter for each size and class of RCP.

##### 1.4.4.2 Payment

Payment for Reinforced Concrete Pipe 1.676 m Dia. will be made at the applicable contract unit price per linear meter, which payment shall constitute full compensation for the installation, including 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, caps and marker posts, complete and in place. Side drain connection paid under a separate bid item.

## 1.4.5 Nevada Power Pole Wrap (Bid Item 0056)

Measurement and payment shall be made according to the contract unit price for wrapping with standard and approved material and methods the Nevada Power Pole located between the F-1 Channel RCB and the F-2 Channel RCB at Hualapai Way prior to the performance of the earthwork adjacent to this Power Pole; including coordination with Nevada Power as required.

## 1.5 Compacted Fill, Roadway at Hualapai Way (Bid Item 0057)

## 1.5.1 Measurement

Measurement for fills 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 meters 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 for Compacted Fill, Roadways

Payment for Compacted Fill, Roadways, 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, including breakdown, crush or otherwise processing of stones, rocks and cemented soils to meet required material sizes and gradation. 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. 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.

PART 2 PRODUCTS (NOT APPLICABLE)

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-- End of Section --

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## SECTION 01330

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## SECTION 01330

## SUBMITTAL PROCEDURES

## PART 1 GENERAL

## 1.1 SUMMARY

## 1.1.1 Government-Furnished Information

Submittal register database and submittal management program will be delivered to the contractor, by contracting officer on 3 1/2 inch disk. Register will have the following fields completed, to the extent that will be required by the Government during subsequent usage.

Column (c): Lists specification section in which submittal is required.

Column (d): Lists each submittal description (SD No. and type, e.g. SD-04 Drawings) required in each specification section.

Column (e): Lists one principal paragraph in specification section where a material or product is specified. This listing is only to facilitate locating submitted requirements. Do not consider entries in column (e) as limiting project requirements.

Column (f): Indicate approving authority for each submittal. A "G" indicates approval by contracting officer; a blank indicates approval by QC manager.

The database and submittal management program will be extractable from the disk furnished to contractor, for operation on contractor's IBM compatible personal computer with 640kb RAM, a hard drive, and 3 1/2 inch high density floppy disk drive.

## 1.2 DEFINITIONS

## 1.2.1 Submittal

Shop drawings, product data, samples, and administrative submittals presented for review and approval. Contract Clauses "FAR 52.236-5, Material and Workmanship," paragraph (b) and "FAR 52.236-21, Specifications and Drawings for Construction," paragraphs (d), (e), and (f) apply to all "submittals."

## 1.2.2 Types of Submittals

All submittals are classified as indicated in paragraph "Submittal Descriptions (SD)". Submittals also are grouped as follows:

- a. Shop drawings: As used in this section, drawings, schedules, diagrams, and other data prepared specifically for this contract, by contractor or through contractor by way of subcontractor, manufacturer, supplier, distributor, or other lower tier contractor, to illustrate portion of work.

- b. Product data: Preprinted material such as illustrations, standard schedules, performance charts, instructions, brochures, diagrams, manufacturer's descriptive literature, catalog data, and other data to illustrate portion of work, but not prepared exclusively for this contract.
- c. Samples: Physical examples of products, materials, equipment, assemblies, or workmanship that are physically identical to portion of work, illustrating portion of work or establishing standards for evaluating appearance of finished work or both.
- d. Administrative submittals: Data presented for reviews and approval to ensure that administrative requirements of project are adequately met but not to ensure directly that work is in accordance with design concept and in compliance with contract documents.

### 1.3 SUBMITTAL IDENTIFICATION (SD)

Submittals required are identified by SD numbers and titles as follows:

#### SD-01 Preconstruction Submittals

Certificates of insurance.  
Surety bonds.  
List of proposed subcontractors.  
Proposed topographic surveyor.  
List of proposed products.  
Construction Progress Schedule.  
Submittal schedule.  
Schedule of values.  
Health and safety plan.  
Work plan.  
Quality control plan.  
Environmental protection plan.

#### SD-02 Shop Drawings

Drawings, diagrams and schedules specifically prepared to illustrate some portion of the work.

Surveys, pre-construction and post-construction.

Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the contractor for integrating the product or system into the project.

Drawings prepared by or for the contractor to show how multiple systems and interdisciplinary work will be coordinated.

#### SD-03 Product Data

Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance and other characteristics of materials or equipment for some portion of the work.

Samples of warranty language when the contract requires extended product warranties.

## SD-04 Samples

Physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged.

Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

Field samples and mock-ups constructed on the project site establish standards by which the ensuring work can be judged. Includes assemblies or portions of assemblies which are to be incorporated into the project and those which will be removed at conclusion of the work.

## SD-05 Design Data

Calculations, mix designs, analyses or other data pertaining to a part of work.

## SD-06 Test Reports

Report signed by authorized official of testing laboratory that a material, product or system identical to the material, product or system to be provided has been tested in accord with specified requirements. (Testing must have been within three years of date of contract award for the project.)

Report which includes findings of a test required to be performed by the contractor on an actual portion of the work or prototype prepared for the project before shipment to job site.

Report which includes finding of a test made at the job site or on sample taken from the job site, on portion of work during or after installation.

Investigation reports

Daily checklists

Final acceptance test and operational test procedure

## SD-07 Certificates

Statements signed by responsible officials of manufacturer of product, system or material attesting that product, system or material meets specification requirements. Must be dated after award of project contract and clearly name the project.

Document required of Contractor, or of a supplier, installer or subcontractor through Contractor, the purpose of which is to further quality of orderly progression of a portion of the work by documenting procedures, acceptability of methods or personnel qualifications.

Confined space entry permits.

## SD-08 Manufacturer's Instructions

Preprinted material describing installation of a product, system or

material, including special notices and Material Safety Data sheets concerning impedances, hazards and safety precautions.

SD-09 Manufacturer's Field Reports

Documentation of the testing and verification actions taken by manufacturer's representative to confirm compliance with manufacturer's standards or instructions.

Factory test reports.

SD-10 Operation and Maintenance Data

Data intended to be incorporated in operations and maintenance manuals.

SD-11 Closeout Submittals

Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.

As-built drawings.

Special warranties.

Posted operating instructions.

Training plan.

1.3.1 Approving Authority

Person authorized to approve submittal.

1.3.2 Work

As used in this section, on- and off-site construction required by contract documents, including labor necessary to produce construction and materials, products, equipment, and systems incorporated or to be incorporated in such construction.

1.4 SUBMITTALS

Submit the following in accordance with the requirements of this section.

SD-01 Preconstruction Submittals

Submittal register; G

1.5 USE OF SUBMITTAL REGISTER DATABASE

Prepare and maintain submittal register, as the work progresses. Use electronic submittal register program furnished by the Government or any other format. Do not change data which is output in columns (c), (d), (e), and (f) as delivered by government; retain data which is output in columns (a), (g), (h), and (i) as approved.

1.5.1 Submittal Register

Submit submittal register as an electronic database, using submittals management program furnished to contractor. Submit with quality control

plan and project schedule required by Section 01451, "CONTRACTOR QUALITY CONTROL" and Section 01321, "Network Analysis Schedules." Do not change data in columns (c), (d), (e), and (f) as delivered by the government. Verify that all submittals required for project are listed and add missing submittals. Complete the following on the register database:

Column (a) Activity Number: Activity number from the project schedule.

Column (g) Contractor Submit Date: Scheduled date for approving authority to receive submittals.

Column (h) Contractor Approval Date: Date contractor needs approval of submittal.

Column (i) Contractor Material: Date that contractor needs material delivered to contractor control.

#### 1.5.2 Contractor Use of Submittal Register

Update the following fields in the government-furnished submittal register program or equivalent fields in program utilized by contractor.

Column (b) Transmittal Number: Contractor assigned list of consecutive numbers.

Column (j) Action Code (k): Date of action used to record contractor's review when forwarding submittals to QC.

Column (l) List date of submittal transmission.

Column (q) List date approval received.

#### 1.5.3 Approving Authority Use of Submittal Register

Update the following fields in the government-furnished submittal register program or equivalent fields in program utilized by contractor.

Column (b).

Column (l) List date of submittal receipt.

Column (m) through (p).

Column (q) List date returned to contractor.

#### 1.5.4 Contractor Action Code and Action Code

Entries used will be as follows (others may be prescribed by Transmittal Form):

NR - Not Received

AN - Approved as noted

A - Approved

RR - Disapproved, Revise, and Resubmit

#### 1.5.5 Copies Delivered to the Government

Deliver one copy of submitted register updated by contractor to government with each invoice request. Deliver in electronic format, unless a paper copy is requested by contracting officer.

#### 1.6 PROCEDURES FOR SUBMITTALS

##### 1.6.1 Reviewing, Certifying, Approving Authority

QC organization shall be responsible for reviewing and certifying that submittals are in compliance with contract requirements. Approving authority on submittals is QC manager unless otherwise specified for specific submittal. At each "Submittal" paragraph in individual specification sections, a notation "G," following a submittal item, indicates contracting officer is approving authority for that submittal item.

##### 1.6.2 Constraints

- a. Submittals listed or specified in this contract shall conform to provisions of this section, unless explicitly stated otherwise.
- b. Submittals shall be complete for each definable feature of work; components of definable feature interrelated as a system shall be submitted at same time.
- c. When acceptability of a submittal is dependent on conditions, items, or materials included in separate subsequent submittals, submittal will be returned without review.
- d. Approval of a separate material, product, or component does not imply approval of assembly in which item functions.

##### 1.6.3 Scheduling

- a. Coordinate scheduling, sequencing, preparing and processing of submittals with performance of work so that work will not be delayed by submittal processing. Allow for potential requirements to resubmit.
- b. Except as specified otherwise, allow review period, beginning with receipt by approving authority, that includes at least 15 working days for submittals for QC manager approval and 20 working days for submittals for contracting officer approval. Period of review for submittals with contracting officer approval begins when Government receives submittal from QC organization. Period of review for each resubmittal is the same as for initial submittal.

##### 1.6.4 Variations

Variations from contract requirements require Government approval pursuant to contract Clause entitled "FAR 52.236-21, Specifications and Drawings for Construction" and will be considered where advantageous to government.

##### 1.6.4.1 Considering Variations

Discussion with contracting officer prior to submission, will help ensure functional and quality requirements are met and minimize rejections and resubmittals. When contemplating a variation which results in lower cost,

consider submission of the variation as a Value Engineering Change Proposal (VECP).

#### 1.6.4.2 Proposing Variations

When proposing variation, deliver written request to the contracting officer, with documentation of the nature and features of the variation and why the variation is desirable and beneficial to government. If lower cost is a benefit, also include an estimate of the cost saving. In addition to documentation required for variation, include the submittals required for the item. Clearly mark the proposed variation in all documentation.

#### 1.6.4.3 Warranting That Variations Are Compatible

When delivering a variation for approval, contractor warrants that this contract has been reviewed to establish that the variation, if incorporated, will be compatible with other elements of work.

#### 1.6.4.4 Review Schedule Is Modified

In addition to normal submittal review period, a period of 10 working days will be allowed for consideration by the Government of submittals with variations.

#### 1.6.5 Contractor's Responsibilities

- a. Determine and verify field measurements, materials, field construction criteria; review each submittal; and check and coordinate each submittal with requirements of the work and contract documents.
- b. Transmit submittals to QC organization in accordance with schedule on approved Submittal Register, and to prevent delays in the work, delays to government, or delays to separate contractors.
- c. Advise contracting officer of variation, as required by paragraph entitled "Variations."
- d. Correct and resubmit submittal as directed by approving authority. When resubmitting disapproved transmittals or transmittals noted for resubmittal, the contractor shall provide copy of that previously submitted transmittal including all reviewer comments for use by approving authority. Direct specific attention in writing or on resubmitted submittal, to revisions not requested by approving authority on previous submissions.
- e. Furnish additional copies of submittal when requested by contracting officer, to a limit of 20 copies per submittal.
- f. Complete work which must be accomplished as basis of a submittal in time to allow submittal to occur as scheduled.
- g. Ensure no work has begun until submittals for that work have been returned as "approved," or "approved as noted", except to the extent that a portion of work must be accomplished as basis of submittal.

#### 1.6.6 QC Organization Responsibilities

- a. Note date on which submittal was received from contractor on each submittal.
- b. Review each submittal; and check and coordinate each submittal with requirements of work and contract documents.
- c. Review submittals for conformance with project design concepts and compliance with contract documents.
- d. Act on submittals, determining appropriate action based on QC organization's review of submittal.

(1) When QC manager is approving authority, take appropriate action on submittal from the possible actions defined in paragraph entitled, "Actions Possible."

(2) When contracting officer is approving authority or when variation has been proposed, forward submittal to Government with certifying statement or return submittal marked "not reviewed" or "revise and resubmit" as appropriate. The QC organization's review of submittal determines appropriate action.

- e. Ensure that material is clearly legible.
- f. Stamp each sheet of each submittal with QC certifying statement or approving statement, except that data submitted in bound volume or on one sheet printed on two sides may be stamped on the front of the first sheet only.

(1) When approving authority is contracting officer, QC organization will certify submittals forwarded to contracting officer with the following certifying statement:

"I hereby certify that the (equipment) (material) (article) shown and marked in this submittal is that proposed to be incorporated with contract Number , is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is submitted for Government approval.

Certified by Submittal Reviewer \_\_\_\_\_, Date \_\_\_\_\_  
(Signature when applicable)

Certified by QC manager \_\_\_\_\_, Date \_\_\_\_\_"  
(Signature)

(2) When approving authority is QC manager, QC manager will use the following approval statement when returning submittals to contractor as "Approved" or "Approved as Noted."

"I hereby certify that the (material) (equipment) (article) shown and marked in this submittal and proposed to be incorporated with contract Number , is in compliance with the contract drawings and specification, can be installed in the allocated spaces, and is \_\_\_\_\_ approved for use.

Certified by Submittal Reviewer \_\_\_\_\_, Date \_\_\_\_\_  
(Signature when applicable)

Approved by QC manager \_\_\_\_\_, Date \_\_\_\_\_"

(Signature)

- g. Sign certifying statement or approval statement. The person signing certifying statements shall be QC organization member designated in the approved QC plan. The signatures shall be in original ink. Stamped signatures are not acceptable.
- h. Update submittal register database as submittal actions occur and maintain the submittal register at project site until final acceptance of all work by contracting officer.
- i. Retain a copy of approved submittals at project site, including contractor's copy of approved samples.

#### 1.6.7 Government's Responsibilities

When approving authority is contracting Officer, the Government will:

- a. Note date on which submittal was received from QC manager, on each submittal for which the contracting officer is approving authority.
- b. Review submittals for approval within scheduling period specified and only for conformance with project design concepts and compliance with contract documents.
- c. Identify returned submittals with one of the actions defined in paragraph entitled "Actions Possible" and with markings appropriate for action indicated.

#### 1.6.8 Actions Possible

Submittals will be returned with one of the following notations:

- a. Submittals marked "not reviewed" will indicate submittal has been previously reviewed and approved, is not required, does not have evidence of being reviewed and approved by contractor, or is not complete. A submittal marked "not reviewed" will be returned with an explanation of the reason it is not reviewed. Resubmit submittals returned for lack of review by contractor or for being incomplete, with appropriate action, coordination, or change.
- b. Submittals marked "approved" "approved as submitted" authorize contractor to proceed with work covered.
- c. Submittals marked "approved as noted" or "approval except as noted; resubmission not required" authorize contractor to proceed with work as noted provided contractor takes no exception to the notations.
- d. Submittals marked "revise and resubmit" or "disapproved" indicate submittal is incomplete or does not comply with design concept or requirements of the contract documents and shall be resubmitted with appropriate changes. No work shall proceed for this item until resubmittal is approved.

### 1.7 FORMAT OF SUBMITTALS

#### 1.7.1 Transmittal Form

Transmit each submittal, except sample installations and sample panels, to office of approving authority. Transmit submittals with transmittal form prescribed by contracting officer and standard for project. The transmittal form shall identify contractor, indicate date of submittal, and include information prescribed by transmittal form and required in paragraph entitled "Identifying Submittals." Process transmittal forms to record actions regarding sample panels and sample installations.

#### 1.7.2 Identifying Submittals

Identify submittals, except sample panel and sample installation, with the following information permanently adhered to or noted on each separate component of each submittal and noted on transmittal form. Mark each copy of each submittal identically, with the following:

- a. Project title and location.
- b. Construction contract number.
- c. Section number of the specification section by which submittal is required.
- d. Submittal description (SD) number of each component of submittal.
- e. When a resubmission, add alphabetic suffix on submittal description, for example, SD-10A, to indicate resubmission.
- f. Name, address, and telephone number of subcontractor, supplier, manufacturer and any other second tier contractor associated with submittal.
- g. Product identification and location in project.

#### 1.7.3 Format for Product Data

- a. Present product data submittals for each section as a complete, bound volume. Include table of contents, listing page and catalog item numbers for product data.
- b. Indicate, by prominent notation, each product which is being submitted; indicate specification section number and paragraph number to which it pertains.
- c. Supplement product data with material prepared for project to satisfy submittal requirements for which product data does not exist. Identify this material as developed specifically for project.
- d. Provide product data in metric dimensions. Where product data are included in preprinted catalogues with inch-pound units only, submit metric dimensions on separate sheet.

#### 1.7.4 Format for Shop Drawings

- a. Shop drawings shall not be less than A4 (297 by 210 mm) nor more than AO (1189 by 841 mm).
- b. Present A4 (297 by 210 mm) sized shop drawings as part of the bound volume for submittals required by section. Present larger

drawings in sets.

- c. Include on each drawing the drawing title, number, date, and revision numbers and dates, in addition to information required in paragraph entitled "Identifying Submittals."
- d. Dimension drawings, except diagrams and schematic drawings; prepare drawings demonstrating interface with other trades to scale. Shop drawing dimensions shall be the same unit of measure as indicated on the contract drawings. Identify materials and products for work shown.

#### 1.7.5 Format of Samples

- a. Furnish samples in sizes below, unless otherwise specified or unless the manufacturer has prepackaged samples of approximately same size as specified:
  - (1) Sample of Equipment or Device: Full size.
  - (2) Sample of Materials Less Than 50 by 75 mm: Built up to A4 (297 by 210 mm).
  - (3) Sample of Materials Exceeding A4 (297 by 210 mm): Cut down to A4 (297 by 210 mm) and adequate to indicate color, texture, and material variations.
  - (4) Sample of Linear Devices or Materials: 250 mm length or length to be supplied, if less than 250 mm. Examples of linear devices or materials are conduit and handrails.
  - (5) Sample of Non-Solid Materials: 750 ml. Examples of non-solid materials are sand and paint.
  - (6) Color Selection Samples: 50 by 100 mm.
  - (7) Sample Panel: 1200 by 1200 mm.
  - (8) Sample Installation: 10 square meters.
- b. Samples Showing Range of Variation: Where variations are unavoidable due to nature of the materials, submit sets of samples of not less than three units showing extremes and middle of range.
- c. Reusable Samples: Incorporate returned samples into work only if so specified or indicated. Incorporated samples shall be in undamaged condition at time of use.
- d. Recording of Sample Installation: Note and preserve the notation of area constituting sample installation but remove notation at final clean up of project.
- e. When color, texture or pattern is specified by naming a particular manufacturer and style, include one sample of that manufacturer and style, for comparison.

#### 1.7.6 Format of Administrative Submittals

- a. When submittal includes a document which is to be used in project

or become part of project record, other than as a submittal, do not apply contractor's approval stamp to document, but to a separate sheet accompanying document.

- b. Provide all dimensions in administrative submittals in metric. Where data are included in preprinted material with inch-pound units only, submit metric dimensions on separate sheet.

## 1.8 QUANTITY OF SUBMITTALS

### 1.8.1 Number of Copies of Product Data

- a. Submit six copies of submittals of product data requiring review and approval only by QC organization and seven copies of product data requiring review and approval by contracting officer.

### 1.8.2 Number of Copies of Shop Drawings

Submit shop drawings in compliance with quantity requirements specified for product data.

### 1.8.3 Number of Samples

- a. Submit two samples, or two sets of samples showing range of variation, of each required item. One approved sample or set of samples will be retained by approving authority and one will be returned to contractor.
- b. Submit one sample panel. Include components listed in technical section or as directed.
- c. Submit one sample installation, where directed.
- d. Submit one sample of non-solid materials.

### 1.8.4 Number of Copies of Administrative Submittals

- a. Unless otherwise specified, submit administrative submittals compliance with quantity requirements specified for product data.

## 1.9 FORWARDING SUBMITTALS

### 1.9.1 Samples Required of the Contractor

Submit samples to Contracting Officer.

### 1.9.2 Shop Drawings, Product Data, and O&M Data

As soon as practicable after award of contract, and before procurement of fabrication, submit, except as specified otherwise, to the Contracting Officer the shop drawings, product data and O&M Data required in the technical sections of this specification. The Architect-Engineer for this project will review and provide surveillance for the Contracting Officer to determine if Contractor-approved submittals comply with the contract requirements, and will review and approve for the Contracting Officer those submittals not permitted to be Contractor approved to determine if submittals comply with the contract requirements. One copy of the transmittal form for submittals shall be forwarded to the Resident Officer in Charge of Construction

## 1.10 SUBMITTAL CLASSIFICATION

Submittals are classified as follows:

### 1.10.1 Government Approved

Government 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."

### 1.10.2 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.

## 1.11 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 Contractor Quality Control (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.

## 1.12 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.

## 1.13 WITHHOLDING OF PAYMENT

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

## 1.14 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) System Manager and each item shall be stamped, signed, and dated by the CQC System Manager 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.

#### 1.15 SUBMITTAL REGISTER

At the end of this section is a submittal register showing 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 shall maintain a submittal register for the project.

#### 1.16 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.

#### 1.17 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 are included in the RMS-QC software that the Contractor is required to use for this contract. 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.

#### 1.18 SUBMITTAL PROCEDURES

Submittals shall be made as follows:

##### 1.18.1 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.

##### 1.18.2 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.

#### 1.19 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."

#### 1.20 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.

#### 1.21 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.

#### 1.22 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: _____

PART 2 PRODUCTS

Not used.

PART 3 EXECUTION

Not used.

-- End of Section --

**SUBMITTAL REGISTER**

CONTRACT NO.  
DACW09-02-B-0002

TITLE AND LOCATION						CONTRACTOR											
F-1 Channel, Hualapai Way to Beltway, Amend No. 3																	
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## SECTION 01355

## 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)

33 CFR 328	Definitions
40 CFR 68	Chemical Accident Prevention Provisions
40 CFR 261	Identification and Listing of Hazardous Waste
40 CFR 279	Standards for the Management of Used Oil
40 CFR 302	Designation, Reportable Quantities, and Notification
40 CFR 355	Emergency Planning and Notification
49 CFR 171 - 178	Hazardous Materials Regulations

## U.S. ARMY CORPS OF ENGINEERS (USACE)

COE EM 385-1-1	(1996) Safety and Health Requirements Manual
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## U.S. ARMY CORPS OF ENGINEERS TECHNICAL REPORT

WETLAND MANUAL	Corps of Engineers Wetlands Delineation Manual Technical Report Y-87-1
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## 1.2 DEFINITIONS

## 1.2.1 Environmental Pollution and Damage

Environmental pollution and damage is the presence of chemical, physical, or biological elements or agents which adversely affect human health or welfare; unfavorably alter ecological balances of importance to human life; affect other species of importance to humankind; or degrade the environment aesthetically, culturally and/or historically.

## 1.2.2 Environmental Protection

Environmental protection is the prevention/control of pollution and habitat disruption that may occur to the environment during construction. The control of environmental pollution and damage requires consideration of land, water, and air; biological and cultural resources; and includes

management of visual aesthetics; noise; solid, chemical, gaseous, and liquid waste; radiant energy and radioactive material as well as other pollutants.

#### 1.2.3 Contractor Generated Hazardous Waste

Contractor generated hazardous waste means materials that, if abandoned or disposed of, may meet the definition of a hazardous waste. These waste streams would typically consist of material brought on site by the Contractor to execute work, but are not fully consumed during the course of construction. Examples include, but are not limited to, excess paint thinners (i.e. methyl ethyl ketone, toluene etc.), waste thinners, excess paints, excess solvents, waste solvents, and excess pesticides, and contaminated pesticide equipment rinse water.

#### 1.2.4 Land Application for Discharge Water

The term "Land Application" for discharge water implies that the Contractor shall discharge water at a rate which allows the water to percolate into the soil. No sheeting action, soil erosion, discharge into storm sewers, discharge into defined drainage areas, or discharge into the "waters of the United States" shall occur. Land Application shall be in compliance with all applicable Federal, State, and local laws and regulations.

#### 1.2.5 Surface Discharge

The term "Surface Discharge" implies that the water is discharged with possible sheeting action and subsequent soil erosion may occur. Waters that are surface discharged may terminate in drainage ditches, storm sewers, creeks, and/or "waters of the United States" and would require a permit to discharge water from the governing agency.

#### 1.2.6 Waters of the United States

All waters which are under the jurisdiction of the Clean Water Act, as defined in 33 CFR 328.

#### 1.2.7 Wetlands

Wetlands means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, and bogs. Official determination of whether or not an area is classified as a wetland must be done in accordance with WETLAND MANUAL.

### 1.3 GENERAL REQUIREMENTS

The Contractor shall minimize environmental pollution and damage that may occur as the result of construction operations. The environmental resources within the project boundaries and those affected outside the limits of permanent work shall be protected during the entire duration of this contract. The Contractor shall comply with all applicable environmental Federal, State, and local laws and regulations. The Contractor shall be responsible for any delays resulting from failure to comply with environmental laws and regulations.

### 1.4 SUBCONTRACTORS

The Contractor shall ensure compliance with this section by subcontractors.

#### 1.5 PAYMENT

No separate payment will be made for work covered under this section. The Contractor shall be responsible for payment of fees associated with environmental permits, application, and/or notices obtained by the Contractor. All costs associated with this section shall be included in the contract price. The Contractor shall be responsible for payment of all fines/fees for violation or non-compliance with Federal, State, Regional and local laws and regulations.

#### 1.6 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The "RE" designates that the Resident Office will review the submittal for the Government. Submit the following in accordance with Section 01330, SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Environmental Protection Plan; G, RE.

#### 1.7 Environmental Protection Plan

Prior to commencing construction activities or delivery of materials to the site, the Contractor shall submit an Environmental Protection Plan for review and approval by the Contracting Officer. The purpose of the Environmental Protection Plan is to present a comprehensive overview of known or potential environmental issues which the Contractor must address during construction. Issues of concern shall be defined within the Environmental Protection Plan as outlined in this section. The Contractor shall address each topic at a level of detail commensurate with the environmental issue and required construction task(s). Topics or issues which are not identified in this section, but which the Contractor considers necessary, shall be identified and discussed after those items formally identified in this section. Prior to submittal of the Environmental Protection Plan, the Contractor shall meet with the Contracting Officer for the purpose of discussing the implementation of the initial Environmental Protection Plan; possible subsequent additions and revisions to the plan including any reporting requirements; and methods for administration of the Contractor's Environmental Plans. The Environmental Protection Plan shall be current and maintained onsite by the Contractor.

##### 1.7.1 Compliance

No requirement in this Section shall be construed as relieving the Contractor of any applicable Federal, State, and local environmental protection laws and regulations. During Construction, the Contractor shall be responsible for identifying, implementing, and submitting for approval any additional requirements to be included in the Environmental Protection Plan.

##### 1.7.2 Contents

The environmental protection plan shall include, but shall not be limited

to, the following:

- a. Name(s) of person(s) within the Contractor's organization who is(are) responsible for ensuring adherence to the Environmental Protection Plan.
- b. Name(s) and qualifications of person(s) responsible for manifesting hazardous waste to be removed from the site, if applicable.
- c. Name(s) and qualifications of person(s) responsible for training the Contractor's environmental protection personnel.
- d. Description of the Contractor's environmental protection personnel training program.
- e. An erosion and sediment control plan which identifies the type and location of the erosion and sediment controls to be provided. The plan shall include monitoring and reporting requirements to assure that the control measures are in compliance with the erosion and sediment control plan, Federal, State, and local laws and regulations. A Storm Water Pollution Prevention Plan (SWPPP) may be substituted for this plan.
- f. Drawings showing locations of proposed temporary excavations or embankments for haul roads, stream crossings, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials including methods to control runoff and to contain materials on the site.
- g. Traffic control plans including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather. Plan shall include measures to minimize the amount of mud transported onto paved public roads by vehicles or runoff.
- h. Work area plan showing the proposed activity in each portion of the area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas including methods for protection of features to be preserved within authorized work areas.
- i. Drawing showing the location of borrow areas.
- j. The Spill Control plan shall include the procedures, instructions, and reports to be used in the event of an unforeseen spill of a substance regulated by 40 CFR 68, 40 CFR 302, 40 CFR 355, and/or regulated under State or Local laws and regulations. The Spill Control Plan supplements the requirements of COE EM 385-1-1. This plan shall include as a minimum:
  1. 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 and the local Fire Department 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 is released to the environment. The plan shall contain a list of the required reporting channels and telephone numbers.

2. The name and qualifications of the individual who will be responsible for implementing and supervising the containment and cleanup.
  3. Training requirements for Contractor's personnel and methods of accomplishing the training.
  4. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
  5. 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.
  6. The methods and procedures to be used for expeditious contaminant cleanup.
- k. A non-hazardous solid waste disposal plan identifying methods and locations for solid waste disposal including clearing debris. The plan shall include schedules for disposal. The Contractor shall identify any subcontractors responsible for the transportation and disposal of solid waste. Licenses or permits shall be submitted for solid waste disposal sites that are not a commercial operating facility. Evidence of the disposal facility's acceptance of the solid waste shall be attached to this plan during the construction. The Contractor shall attach a copy of each of the Non-hazardous Solid Waste Diversion Reports to the disposal plan. The report shall be submitted on the first working day after the first quarter that non-hazardous solid waste has been disposed and/or diverted and shall be for the previous quarter (e.g. the first working day of January, April, July, and October). The report shall indicate the total amount of waste generated and total amount of waste diverted in cubic meters or tonnes along with the percent that was diverted.
- l. A recycling and solid waste minimization plan with a list of measures to reduce consumption of energy and natural resources. The plan shall detail the Contractor's actions to comply with and to participate in Federal, State, Regional, and local government sponsored recycling programs to reduce the volume of solid waste at the source.
- m. An air pollution control plan detailing provisions to assure that dust, debris, materials, trash, etc., do not become air borne and travel off the project site.
- n. A contaminant prevention plan that: identifies potentially hazardous substances to be used on the job site; identifies the intended actions to prevent introduction of such materials into the air, water, or ground; and details provisions for compliance with Federal, State, and local laws and regulations for storage and handling of these materials. In accordance with COE EM 385-1-1, a copy of the Material Safety Data Sheets (MSDS) and the maximum quantity of each hazardous material to be on site at any given time shall be included in the contaminant prevention plan. As new hazardous materials are brought on site or removed from the site,

the plan shall be updated.

- o. A waste water management plan that identifies the methods and procedures for management and/or discharge of waste waters which are directly derived from construction activities, such as concrete curing water, clean-up water, dewatering of ground water, disinfection water, hydrostatic test water, and water used in flushing of lines. If a settling/retention pond is required, the plan shall include the design of the pond including drawings, removal plan, and testing requirements for possible pollutants. If land application will be the method of disposal for the waste water, the plan shall include a sketch showing the location for land application along with a description of the pretreatment methods to be implemented. If surface discharge will be the method of disposal, a copy of the permit and associated documents shall be included as an attachment prior to discharging the waste water. If disposal is to a sanitary sewer, the plan shall include documentation that the Waste Water Treatment Plant Operator has approved the flow rate, volume, and type of discharge.
- p. A historical, archaeological, cultural resources biological resources and wetlands plan that defines procedures for identifying and protecting historical, archaeological, cultural resources, biological resources and wetlands known to be on the project site: and/or identifies procedures to be followed if historical archaeological, cultural resources, biological resources and wetlands not previously known to be onsite or in the area are discovered during construction. The plan shall include methods to assure the protection of known or discovered resources and shall identify lines of communication between Contractor personnel and the Contracting Officer.

### 1.7.3 Appendix

Copies of all environmental permits, permit application packages, approvals to construct, notifications, certifications, reports, and termination documents shall be attached, as an appendix, to the Environmental Protection Plan.

### 1.8 PROTECTION FEATURES

Prior to starting any onsite construction activities, the Contractor and the Contracting Officer shall make a joint survey after which the Contractor shall prepare a brief report indicating on a layout plan the areas where native plants will be salvaged. All plant materials to be salvaged shall be identified and clearly marked. Vegetation outside of the project area shall be identified for protection.

### 1.9 SPECIAL ENVIRONMENTAL REQUIREMENTS

The Contractor shall comply with the stipulation of the BLM right-of-way grant and the special environmental requirements included at the end of this section.

### 1.10 ENVIRONMENTAL ASSESSMENT OF CONTRACT DEVIATIONS

Any deviations, requested by the Contractor, from the drawings, plans and specifications which may have an environmental impact will be subject to approval by the Contracting Officer and may require an extended review,

processing, and approval time. 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.

#### 1.11 NOTIFICATION

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with Federal, State or local environmental laws or regulations, permits, and other elements of the Contractor's Environmental Protection plan. The Contractor shall, after receipt of such notice, inform the Contracting Officer of the proposed corrective action and take such action when approved by the Contracting Officer. The Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or equitable adjustments allowed to the Contractor for any such suspensions. This is in addition to any other actions the Contracting Officer may take under the contract, or in accordance with the Federal Acquisition Regulation or Federal Law.

#### PART 2 PRODUCTS (NOT USED)

#### PART 3 EXECUTION

##### 3.1 ENVIRONMENTAL PERMITS AND COMMITMENTS

This paragraph supplements the Contractor's responsibility under the contract clause "PERMITS AND RESPONSIBILITIES" to the extent that the Government has obtained environmental permits. The Contractor shall comply with the terms and conditions of the attached list of environmental commitments at the end of this section.

The Contractor shall be responsible for obtaining and complying with all environmental permits and commitments required by Federal, State, Regional, and local environmental laws and regulations.

##### 3.2 LAND RESOURCES

The Contractor shall confine all activities to areas defined by the drawings and specifications. Prior to the beginning of any construction, the Contractor shall identify any land resources to be preserved within the work area. Except in areas indicated on the drawings or specified to be cleared, the Contractor shall not remove, cut, deface, injure, or destroy land resources including trees, shrubs, vines, grasses, topsoil, and land forms without approval. No ropes, cables, or guys shall be fastened to or attached to any trees for anchorage unless specifically authorized. The Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, soil, or other materials displaced into uncleared areas shall be removed by the Contractor.

###### 3.2.1 Work Area Limits

Prior to commencing construction activities, the Contractor shall mark the areas that need not be disturbed under this contract. Cactus Yucca, shrubs, grasses, land forms and other landscape features outside the construction area shall be preserved. Isolated areas within the general work area which are not to be disturbed shall be marked or fenced. Monuments and markers shall be protected before construction operations

commence. Where construction operations are to be conducted during darkness, any markers shall be visible in the dark. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

### 3.2.2 Landscape

Trees, shrubs, vines, grasses, land forms and other landscape features indicated and defined on the drawings to be preserved shall be clearly identified by marking, fencing, or wrapping with boards, or any other approved techniques. The Contractor shall restore landscape features damaged or destroyed during construction operations outside the limits of the approved work area.

### 3.2.3 Erosion and Sediment Controls

The Contractor shall be responsible for providing erosion and sediment control measures in accordance with Federal, State, and local laws and regulations. The erosion and sediment controls selected and maintained by the Contractor shall be such that water quality standards are not violated as a result of the Contractor's construction activities. The area of bare soil exposed at any one time by construction operations should be kept to a minimum. The Contractor shall construct or install temporary and permanent erosion and sediment control best management practices (BMPs) as specified in Section 01356 STORM WATER POLLUTION PREVENTION MEASURES. BMPs may include, but not be limited to, vegetation cover, stream bank stabilization, slope stabilization, silt fences, construction of terraces, interceptor channels, sediment traps, inlet and outfall protection, diversion channels, and sedimentation basins. The Contractor's best management practices shall also be in accordance with the National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP) which may be reviewed at the Environmental Office. Any temporary measures shall be removed after the area has been stabilized.

### 3.2.4 Unprotected Erodible Soils

Earthwork brought to final grade shall be finished as indicated. Side slopes and back slopes shall be protected as soon as practicable upon completion of rough grading. All earthwork shall be planned and conducted to minimize the duration of exposure of unprotected soils. Except in cases where the constructed feature obscures borrow areas, quarries, and waste material areas, these areas shall not initially be totally cleared. Clearing of such areas shall progress in reasonably sized increments as needed to use the developed areas as approved by the Contracting Officer.

### 3.2.5 Disturbed Areas

The Contractor shall effectively prevent erosion and control sedimentation through approved methods including, but not limited to, the following:

- a. Retardation and control of runoff. Runoff from the construction site or from storms shall be controlled, retarded, and diverted to protected drainage courses by means of diversion ditches, benches, berms, and by any measures required by area wide plans under the Clean Water Act.

### 3.2.6 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, and

temporary buildings shall be placed in areas designated on the drawings or as directed by the Contracting Officer. Temporary movement or relocation of Contractor facilities shall be made only when approved. Erosion and sediment controls shall be provided for on-site borrow and spoil areas to prevent sediment from entering nearby waters. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas.

### 3.3 WATER RESOURCES

The Contractor shall monitor construction activities to prevent pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation unless otherwise indicated. All water areas affected by construction activities shall be monitored by the Contractor. For construction activities immediately adjacent to impaired surface waters, the Contractor shall be capable of quantifying sediment or pollutant loading to that surface water when required by State or Federally issued Clean Water Act permits.

### 3.4 AIR RESOURCES

Equipment operation and activities or processes performed by the Contractor in accomplishing the specified construction shall be in accordance with the State's rules and all Federal emission and performance laws and standards. The Contractor shall obtain and comply with Air Quality Permits. Ambient Air Quality Standards set by the Environmental Protection Agency shall be maintained. Monitoring of air quality shall be the Contractor's responsibility. All air areas affected by the construction activities shall be monitored by the Contractor. Monitoring results will be periodically reviewed by the Government to ensure compliance.

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

Dust particles; aerosols and gaseous by-products from construction activities; and processing and preparation of materials, such as from asphaltic batch plants; shall be controlled at all times, including weekends, holidays and hours when work is not in progress. The Contractor shall maintain excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, borrow areas, and other work areas within or outside the project boundaries free from particulates which would cause the Federal, State, and local air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated to keep the disturbed area damp at all times. The Contractor must have sufficient, competent equipment available to accomplish these tasks. Particulate control shall be performed as the work proceeds and whenever a particulate nuisance or hazard occurs. The Contractor shall comply with all State and local visibility regulations.

### 3.4.2 Odors

Odors from construction activities shall be controlled at all times. The odors shall not cause a health hazard and shall be in compliance with State regulations and/or local ordinances.

### 3.4.3 Sound Intrusions

The Contractor shall keep construction activities under surveillance and control to minimize environment damage by noise.

### 3.4.4 Burning

Burning shall be prohibited on the Government premises.

## 3.5 CHEMICAL MATERIALS MANAGEMENT AND WASTE DISPOSAL

Disposal of wastes shall be as directed below, unless otherwise specified in other sections and/or shown on the drawings.

### 3.5.1 Solid Wastes

Solid wastes (excluding clearing debris) shall be placed in containers which are emptied on a regular schedule. Handling, storage, and disposal shall be conducted to prevent contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport solid waste off site and dispose of it in compliance with Federal, State, and local requirements for solid waste disposal.

### 3.5.2 Chemicals and Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to the ground or water. Periodic inspections of dispensing areas to identify leakage and initiate corrective action shall be performed and documented. This documentation will be periodically reviewed by the Government. Chemical waste shall be collected in corrosion resistant, compatible containers. Collection drums shall be monitored and removed to a staging or storage area when contents are within 150 mm of the top. Wastes shall be classified, managed, stored, and disposed of in accordance with Federal, State, and local laws and regulations.

### 3.5.3 Hazardous and/or Toxic Wastes, and Contractor Generated Hazardous Wastes/Excess Hazardous Materials

Hazardous wastes are defined in 40 CFR 261, or are as defined by applicable State and local regulations. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing. The Contractor shall segregate hazardous and/or toxic waste from other materials and wastes, shall protect it from the weather by placing it in a safe covered location, and shall take precautionary measures such as berming or other appropriate measures against accidental spillage. The Contractor shall be responsible for storage, describing, packaging, labeling, marking, and placarding of hazardous waste and hazardous material in accordance with 49 CFR 171 - 178, State, and local laws and regulations.

The Contractor shall transport Contractor generated hazardous waste off Government property within 60 days in accordance with the Environmental Protection Agency and the Department of Transportation laws and regulations. The Contractor shall dispose of hazardous waste in compliance

with Federal, State and local laws and regulations. Spills of hazardous or toxic materials shall be immediately reported to the Contracting Officer. Cleanup and cleanup costs due to spills shall be the Contractor's responsibility.

#### 3.5.4 Fuel and Lubricants

Storage, fueling and lubrication of equipment and motor vehicles shall be conducted in a manner that affords the maximum protection against spill and evaporation. Fuel, lubricants and oil shall be managed and stored in accordance with all Federal, State, Regional, and local laws and regulations. Used lubricants and used oil to be discarded shall be stored in marked corrosion-resistant containers and recycled or disposed in accordance with 40 CFR 279, State, and local laws and regulations.

#### 3.5.5 Waste Water

Disposal of waste water shall be as specified below.

- a. Waste water from construction activities, such as onsite material processing, concrete curing, foundation and concrete clean-up, water used in concrete trucks, forms, etc. shall not be allowed to enter water ways or to be discharged prior to being treated to remove pollutants. The Contractor shall dispose of the construction related waste water in accordance with all Federal, State, Regional and Local laws and regulations.

#### 3.6 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

If during excavation or other construction activities any previously unidentified or unanticipated historical, archaeological, and cultural resources are discovered or found, all activities that may damage or alter such resources shall be temporarily suspended. Resources covered by this paragraph include but are not limited to: any human skeletal remains or burials; artifacts; shell, midden, bone, charcoal, or other deposits; rock or coral alignments, pavings, wall, or other constructed features; and any indication of agricultural or other human activities. Upon such discovery or find, the Contractor shall immediately notify 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 secure the area and prevent employees or other persons from trespassing on, removing, or otherwise disturbing such resources.

#### 3.7 BIOLOGICAL RESOURCES

##### 3.7.1 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 the following Table 01355-1 found at the end of this section. In no circumstances 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.

Based on the Nevada Division of Wildlife's (NDOW) February 23, 2001 comments on the January 2001 DSEA (Draft Supplemental Environment Assessment) for the R-4 Detention Basin and Haul Road Alignment, the Corps has agreed to incorporate protocols to protect the Gila monster into its program to protect the desert tortoise in future projects such as this F-1 Channel, Hualapai Way to Beltway. Separate surveys for the Gila monster are not required. The biological monitor (for the desert tortoise) shall also be trained to recognize the Gila monster and to handle this species according to NDOW protocol. The Gila monster is not federally listed as Threatened or Endangered, but it is classified as a State of Nevada Protected Reptile and a BLM Sensitive Species. If during the preconstruction biological surveys or construction monitoring (for desert tortoise), a Gila monster is discovered, the NDOW will be notified. If the NDOW is not available, the biologist shall photograph the Gila monster, document its location, capture, and release the Gila monster out of harm's way, using precautions to avoid being bitten.

### 3.7.2 Protection of Biological Resources

The Contractor shall keep construction activities under surveillance, management, and control to minimize interference with, disturbance to, and damage of, native vegetation, fish, and wildlife. The Contractor shall minimize interference with, disturbance to, and damage of wildlife. Species that require specific attention along with measures for their protection shall be listed by the Contractor prior to beginning of construction operations.

### 3.8 PREVIOUSLY USED EQUIPMENT

The Contractor shall clean all previously used construction equipment prior to bringing it onto the project site. The Contractor shall ensure that the equipment is free from soil residuals, egg deposits from plant pests, noxious weeds, and plant seeds. The Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

### 3.9 MAINTENANCE OF POLLUTION FACILITIES

The Contractor shall maintain permanent and temporary pollution control facilities and devices for the duration of the contract or for that length of time construction activities create the particular pollutant.

### 3.10 TRAINING OF CONTRACTOR PERSONNEL

The Contractor's personnel shall be trained in all phases of environmental protection and pollution control. The Contractor shall conduct environmental protection/pollution control meetings for all Contractor personnel prior to commencing construction activities. Additional meetings shall be conducted for new personnel and when site conditions change. The training and meeting agenda shall include: methods of detecting and avoiding pollution; familiarization with statutory and contractual pollution standards; installation and care of devices, vegetative covers, 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; recognition and protection of archaeological sites, artifacts, wetlands, and endangered species and their habitat that are known to be in the area.

3.11 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction in accordance with Contract Clause: "Cleaning Up". The Contractor shall, unless otherwise instructed in writing by the Contracting Officer, obliterate all signs of temporary construction facilities such as haul roads, work area, structures, foundations of temporary structures, stockpiles of excess or waste materials, and other vestiges of construction prior to final acceptance of the work. The disturbed area shall be graded, filled and the entire area seeded unless otherwise indicated.

-- End of Section --

Table 01355-1

ENVIRONMENTAL COMMITMENTS

Significant Impact	EIS Ref.	Federal Environmental	Mitigation Commitment	Implementation
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 causing
			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 activities

			<p>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.</p>	<p>Concurrent with pre construction and construction activities causing impacts.</p>
			<p>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.</p>	<p>Concurrent with pre construction and construction activities causing impacts.</p>

			<p>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 from 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.</p>	<p>Concurrent with pre construction and construction activities causing impacts.</p>
			<p>Each burrow, whether showing evidence of activity of not, will be 1) either examined using a fiberoptic scope 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.</p>	<p>Concurrent with pre construction and construction activities causing impacts.</p>
			<p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>

			<p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>
			<p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>

			<p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>
			<p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>

		<p>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.</p> <p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>
		<p>The Corps is responsible for ensuring that the following provisions are implemented:</p> <ol style="list-style-type: none"> <li>1) All tortoises delivered from the transfer facility will be permanently and humanely marked as provided under the Short-term Habitat Conservation Plan for the Desert Tortoise.</li> <li>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.</li> </ol>	<p>Concurrent with construction activities causing impacts.</p>
		<p>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.</p>	<p>Concurrent with construction activities causing impacts.</p>

Impacts to desert tortoise during operation and maintenance	Para 2.03	NEPA, Endangered Species Act	<p>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.</p>	Subsequent to project completion (operation and maintenance).
			<p>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.</p>	Subsequent to project completion (operation and maintenance).
			<p>Maintenance crews that locate a tortoise that is trapped in any flood control facility will immediately 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.</p>	Subsequent to project completion (operation and maintenance).

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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## SECTION 01702

## AS-BUILT DRAWINGS

## PART 1 GENERAL

## 1.1 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The "RE" designates that the Resident Office will review the submittal for the Government. Submit the following in accordance with Section 01330, SUBMITTAL PROCEDURES: Due dates shall be as indicated in applicable paragraphs and all submittals shall be completed before final payment will be made.

## SD-11 Closeout Submittals

As-built Drawings; G, RE.

Red marked up blue line drawings.

## PART 2 PRODUCTS (NOT APPLICABLE)

## PART 3 EXECUTION

## 3.1 AS-BUILT FIELD DATA

## 3.1.1 General

The Contractor shall prepare and furnish the as-built drawings for the project. 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 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 drawings 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 building or structures.

(c) Correct grade or alignment of roads, channels, 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, dimensions of equipment foundations, etc.

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

(g) All changes or modifications which result from the final inspection.

(h) Where contract drawings or specifications allow options, only the option actually used in the construction shall be shown on the as-built drawings. The option not used shall be deleted.

### 3.1.2 Preliminary As-Built Drawings

The Contractor shall maintain four (4) sets of full size, blue-line prints marked up in red 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. All changes from what is shown on the contract plans, whether it be from changes requested by the Contracting Officer or resulting from additional information which might be uncovered in the course of construction, shall be accurately and neatly recorded as they occur by means of details and notes. The marked-up as-built prints will be jointly inspected for accuracy and completeness by the Contracting Officer and Contractor prior to submission of each monthly pay estimate. Failure to keep the As-Built Field Data current shall be sufficient justification to withhold a retained percentage from the monthly pay estimate. Information to be included on these preliminary drawings shall conform to the requirements as stated above. Any and all as-built modifications shall be reflected on all sheets affected by the modifications.

#### 3.1.2.1 Submittal of the Preliminary As-Built Field Data

One (1) full size set of marked up drawings with the as-built field data shall be submitted to the Contracting Officer for review and approval a minimum of 20 calendar days prior to the date of final inspection. If review of the preliminary as-built drawings reveals errors and/or omissions, the drawings will be returned to the Contractor for corrections. The Contractor shall make all corrections and return the drawings to the Contracting Officer within 10 calendar days of receipt.

#### 3.1.2.2 FINAL AS-BUILT DRAWINGS HARDCOPYS

The final as-built record drawings hardcopies shall be completed and returned together with the approved preliminary as-built drawings to the Contracting Officer within 30 calendar days of final acceptance. The Contracting Officer will review all final as-built record drawings for accuracy and conformance to the drafting standards and other requirements contained in DIVISION 1 GENERAL REQUIREMENTS. The drawings shall be returned to the Contractor if corrections are necessary. The Contractor shall make all corrections and shall return the drawings to the Contracting Officer within 5 calendar days of receipt. All project files, whether

revised or not, shall be provided to the Contracting Officer.

### 3.2 AS-BUILT ELECTRONIC FILE DRAWINGS

#### 3.2.1 General

No later than 30 days after final acceptance a complete set of as-built drawings shall be submitted in Intergraph MicroStation electronic file format. The as-built drawings shall be done in a quality equal to that of the originals. Line work, line weights, and lettering, and use of symbols shall be the same as the original line work, line weights, and lettering, and symbols. If additional drawings are required they shall be prepared in electronic file format under the same guidance. When final revisions have been completed, each drawings shall be identified with the words "ASBUILT" in blockletters at least 3/8-inch high placed above the title block if space permits, or if not, below the title block between the border and the trim line. The date of completion and the words "REVISED AS-BUILT" shall be placed in the revision block above the latest revision notation.

#### 3.2.2 Original Files

Upon Contractor's request the Government will provide the Contractor one set of Bentley MicroStation electronic file format (DGN Files) contract drawings, to be used for as-built drawings. The Contractor shall allow the Government 90 calendar days to provide the Bentley Microstation file format contract drawings. The electronic file drawings will be available on CD-ROM media.

#### 3.2.3 Electronic File Submittal Requirements

##### 3.2.3.1 File Submittals

The MicroStation electronic file(s) deliverable shall be in MicroStation version SE or J 'DGN' binary format. All support files required to display or plot the file(s) in the same manner as they were developed shall be delivered along with the files. These files include but are not limited to Font Libraries, Pen Tables, and Referenced files.

##### 3.2.3.2 Drawing Format

Layering shall be performed in accordance with EM Standards Manual for U.S. Army Corps of Engineers Computer-Aided Design and Drafting (CADD) Systems. An explanatory list of which layer is used at which drawing and an explanatory list of all layers which do not conform to the guidelines shall be provided with each submittal.

##### 3.2.3.3 Electronic File Deliverable Media

All electronic files shall be submitted on CD-ROM media. Two complete sets of disks shall be submitted along with one complete set of prints taken from the disks. Each disk shall be clearly marked with type written self adhesive disk labels which shall contain the following information: Contractor's firm name, project name and location, submittal type (ASBUILT), the name of each file contained within the disk or archive file, the format and version/release number of each file, a disk number indicating the numeric sequence of the disk in the submittal along with the total number of disks in the submittal, and date the disk was made. Due to the limited ability to mark on CD-ROM media, only the Contractor's firm name, project name and location, submittal type (AS-BUILT) and date will be

required. Each submittal shall be accompanied by a hard copy transmittal sheet that contains the above information along with a description of each file provided in the submittal.

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## SECTION 02230

## CLEAR SITE AND REMOVE OBSTRUCTIONS

## PART 1 GENERAL

## 1.1 DEFINITIONS

## 1.1.1 Clearing

Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush, and rubbish occurring in the areas to be cleared.

## 1.1.2 Grubbing

Grubbing shall consist of the removal and disposal of stumps, roots larger than 75 mm in diameter, and matted roots from the designated grubbing areas.

## 1.2 SUBMITTALS (NOT APPLICABLE)

## 1.3 ENVIRONMENTAL PROTECTION

All work and Contractor operations shall comply with the requirements of Section 01355 ENVIRONMENTAL PROTECTION and Section 02300 EARTHWORK.

## 1.4 BURNING

The use of burning at the project site for the disposal of refuse and debris will not be permitted.

## PART 2 PRODUCTS (Not Applicable)

## PART 3 EXECUTION

## 3.1 REQUIREMENTS

## 3.1.1 General

Except as otherwise specified, and/or indicated, areas to be cleared will be limited to actual excavation areas, and areas on which fills and/or structures are to be placed. The removal of trees, shrubs, turf, and other vegetation outside of these areas shall be held to a minimum and care shall be exercised not to damage any trees, shrubs, turf, or vegetation which can be left in place.

## 3.1.2 Existing Structures and Obstructions

The Contractor shall clear and grub areas of fill and excavation, and remove and dispose of existing structures and obstructions necessary for project construction, except for those structures which are identified to be protected in place as shown on the drawings.

### 3.2 CLEARING

All rubbish, waste dumps, and debris areas shall be cleared. Vegetation including grasses, shrubs and weeds shall be removed by grading the existing ground surface to a depth of 0.15 meters, except such vegetation as may be indicated or directed to be left standing. Vegetation to be left standing shall be protected from damage incident to clearing, grubbing, and construction operations by the erection of barriers or by such other means as the circumstances require. Clearing shall also include the removal and disposal of structures that obtrude, encroach upon, or otherwise obstruct the work.

### 3.3 GRUBBING

Grubbing shall consist of removing non-salvaged roots larger than 75 mm in diameter, matted roots, and other objectionable vegetable matter in the required fill areas, foundation areas, and all excavation areas. In grubbing roots, 610 mm roots shall be removed to below the depth of the required excavation or existing ground level, whichever is lower. Depressions made by grubbing shall be filled with suitable material and compacted to make the surface conform with the original adjacent surface of the ground.

### 3.4 Trash and Construction Debris

Surface trash and construction debris may be present at the project site. Surface trash and construction debris shall be removed from within the limits of the right-of-way and temporary construction easements.

### 3.5 Environmental Assessment Requirement

The Contractor shall notify the Contracting Officer 14 calendar days prior to the start of clearing and grubbing activities in accordance with Section 01200 GENERAL REQUIREMENTS, Paragraph ENVIRONMENTAL ASSESSMENT REQUIREMENT.

### 3.6 DISPOSAL OF GRUBBED AND REMOVED MATERIAL

Trash, construction debris, and material from grubbing, that is designated as scrap, shall become the property of the Contractor, and shall be removed from the site. Scrap and unsatisfactory soils and materials and unstable soils and materials and hazardous and/or toxic waste materials as described in Section 02300 EARTHWORK, paragraph DISPOSITION AND DISPOSAL OF EXCAVATED MATERIALS, shall become the property of the Contractor, and shall be removed from the site. Disposal shall be in accordance with the requirements of SECTION 01355 ENVIRONMENTAL PROTECTION.

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## SECTION 02300

## EARTHWORK

## 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.

## U.S. ARMY CORPS OF ENGINEERS (USACE)

COE EM 385-1-1 (1996) Safety and Health Requirements Manual

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 422 (1963; R 1998) Particle-Size Analysis of Soils

ASTM D 1556 (2000) Density and Unit Weight of Soil in Place by the Sand-Cone Method

ASTM D 1557 (2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu. m.))

ASTM D 2216 (1998) Laboratory Determination of Water (Moisture) Content of Soil and Rock

ASTM D 2487 (2000) Classification of Soils for Engineering Purposes (Unified Soil Classification System)

ASTM D 2922 (1996e1) Density of Soil and Soil-Aggregate in Place by Nuclear Methods (Shallow Depth)

ASTM D 4914 (1994) Density of Soil and Rock in Place by the Sand Replacement Method in a Test Pit.

ASTM D 5030 (1994) Density of Soil and Rock in Place by the Water Replacement Method in a Test Pit.

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The following shall be

submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-01 Preconstruction Submittals

Excavation Plan; G, RE.

The Contractor shall submit his excavation plan to the Contracting Officer in conformance with paragraph EXCAVATION PLAN

Haul Route Plan; G, RE.

The Contractor shall submit a haul route plan for removal of required excavated materials and for placing required fill materials.

SD-02 Shop Drawings

Shop Drawings; G, RE.

The contractor shall submit for approval shop drawings showing the proposed method of bracing which he intends to use to protect existing property.

Explosive Storage Locations; G, RE.

The contractor shall submit to the Contracting Officer drawings showing the location, access to and type of construction of the proposed storage magazine for explosives, and cap house.

Pre-construction topographic survey of the disposal site

The contractor shall submit to the Contracting Officer pre-construction surveys of the disposal site shown on the drawings.

Post-construction topographic survey of the disposal site

The contractor shall submit to the Contracting Officer post-construction surveys of the disposal site for each of the compacted fill work and the stockpiled filled work shown on the drawings.

SD-05 Design Data

Blast Data.

The Contractor shall submit Pre- and Post-Blast Reports which shall contain all of the pertinent data on the location by station, ground surface elevation in the area of the blast; diameter, spacing, depth, over-depth, pattern and inclination of blast holes; the type, strength, amount, distribution and powder factor for the explosives to be used and actually used per hole and per blast; the sequence and pattern of delays, and description and purpose of special methods.

SD-06 Test Reports

Field Density Tests; G, RE.

Treating of Compacted Fill Materials; G, RE.

Copies of all laboratory and field test reports shall be submitted to the Contracting Officer within 24 hours of the completion of the tests.

### 1.3 DEGREE OF COMPACTION

Degree of compaction shall be expressed as a percentage of the maximum density obtained by the test procedure presented in ASTM D 1557.

### 1.4 DEFINITION OF UNSATISFACTORY AND/OR UNSTABLE SOILS AND/OR MATERIALS

Unsatisfactory and/or unstable soils and/or materials include but are not limited to those materials containing roots and other organic matter, trash, debris and materials classified in ASTM D 2487, as Pt, OH, OL, CH, MH, and materials too wet to support construction equipment.

## PART 2 PRODUCTS

### 2.1 PRE-EMERGENT HERBICIDE PRODUCT

Soil surfaces requiring treatment with pre-emergent herbicide shall be treated with a mixture of SURFLAN herbicide or approved equal applied at 0.16 liters per hectare and GALLERY herbicide or approved equal applied at 0.01 liters per hectare.

### 2.2 PIGMENTED DUST PALLIATIVE/SOIL STABILIZER PRODUCT

The dust palliative/soil stabilizer shall be a mixture of plaster and natural fiber mulch. The cellulose fiber mulch shall be produced from grinding clean whole wood chips, or fiber produced from ground newsprint with a labeled ash content not to exceed 7 percent. The plaster shall consist of naturally occurring high purity processed gypsum and additives. The gypsum shall be produced from a mined or quarried source. The gypsum shall be processed to be composed of crushed dry calcium sulfate hemihydrate having a purity of not less than 88 percent. The Contractor shall add a color pigment to the dust palliative/soil stabilizer slurry at the time of application. Apply color pigment to match existing soil color at the site, at the application rate recommended by the manufacturer. Color can be matched using the "Davis Colors" chart by Soil-Tech, Las, Vegas, Nevada, or equal. The gypsum and additives shall be furnished either in bags or bulk and be accompanied by bills of lading and shipping invoices. The shipping invoices for the gypsum shall state the gypsum's purity content, dry weight, and source of manufacture. Processed gypsum that has become partially air set, lumpy, or caked shall not be used. The plaster/cellulose fiber mulch shall be applied at a rate of 6.75 tonnes of plaster mixed with 2.242 tonnes of fiber per hectare.

## PART 3 EXECUTION

### 3.1 EXCAVATION, GENERAL

Excavation shall consist of the removal of every type of material encountered in the designated areas or from areas directed. The material to be removed may include but is not limited to hardpan, silt, sand, gravel, cobbles and boulders, cemented silt/sand/gravel/cobbles/boulders with various degrees of cementation, caliche, asphalt, vegetation, trash, and other debris. Slope lines indicated on the drawings for temporary cuts do not necessarily represent the actual slopes to which the excavation must be made to safely perform the work. Unforeseen conditions may dictate that the temporary cut slope shall be made to the actual slope to which the work can be safely performed. Measurement and payment for excavation will be made in accordance with Section 01270. Excavation for permanent cuts shall be made to the slope lines indicated. Excavation will likely require

ripping or other rock-excitation techniques, which may include blasting, and shall be performed in a manner which will not impair the subgrade. Use of heavy tractors equipped with a ripper tooth, hoe-rams, and hydraulic or pneumatic rock breaker could be necessary to excavate highly cemented soils. Rock or cemented material from required excavation to be used in compacted fills and backfills shall be crushed or otherwise reduced in size to meet gradation requirements prior to placement or stockpiling. Except as otherwise specified, the finish surface of subgrades shall be smooth and shall not vary more than 25 mm from indicated grade, except at areas to receive concrete where finished surfaces of subgrade shall not vary more than 12.5 mm from indicated grade. Prior to commencing excavation, the Contractor shall submit his Excavation Plan to the Contracting Officer. All subgrade excavations will be inspected by the Contracting Officer prior to placement of any fill materials.

### 3.1.1 Excavation Plan

Prior to commencing excavation, the Contractor shall submit his plan for excavation to the Contracting Officer for acceptance. The plan must show all proposed locations of excavation operations utilizing methods involving blasting, headache balling, hoe ramming, or other techniques as may be applicable. In addition, the plan must include the results of a pre-excavation survey, a detailed blasting plan (if applicable) performed by a certified blasting consultant, and a seismic monitoring plan. The excavation plan shall be updated and resubmitted to the Contracting Officer any time the Contractor proposes altering his methods. The Contractor's methods for excavation are solely his responsibility. Approval of the excavation plan by the Contracting Officer will in no way limit the Contractor's liability regarding property damaged by this operations, nor will it alter the Contractor's sole responsibility for the safety of his operations. The Contractor shall be responsible for all damage caused by his excavation operations and be responsible for answering all complaints. The Contractor shall provide the Contracting Officer with 30 days advance warning of the use of excavation techniques which may lead to property damage to allow for review of the proposed techniques, to confirm general compliance with these specifications, and to allow monitoring of the excavations methods.

## 3.2 EXCAVATION, BLASTING

Any method used to excavate the structure or channel using explosives shall be subject to the approval by the Contracting Officer.

### 3.2.1 General Requirements

The drilling and blasting program and methods shall be the minimum necessary to break up the rock and/or caliche/cemented alluvium into bulldozer-manageable sized pieces for removal. Only the minimum strength explosive that will accomplish the fracturing will be allowed. If multiple charges are deemed necessary, they will be sequenced to produce good breakage of the rock or caliche/cemented alluvium and reduce airblast (sonic impacts) and ground vibrations to minimal levels. In the design of the blasting pattern, no blastholes will be permitted within 60 meters of an active tortoise or Gila Monster burrow. A qualified desert tortoise ecologist is required to be present during all blasting operations to ensure that there are no occupied burrows and/or to remove tortoises or Gila Monsters from the surface or burrows within the 60 meter limit. The desert tortoise ecologist will provide a short report with field notes to the Contracting Officer. The desert tortoise ecologist will be provided by

the Contractor as his own expense. Additional restrictions may be imposed during the hibernation period (15 November through 15 March) to protect hibernating tortoises, if necessary and directed by the Contracting Officer. The Contractor shall strictly comply with all State and local regulations regarding construction blasting (e.g., Uniform Standard Specifications for Public Works Construction Off-Site Improvements, Clark County Area, Nevada, Third Edition, subsections 107.10, 203.03.03, and 208.03.01, and Engineer Manual (EM) 1110-2-3800, including all notice and reporting requirements). Under no circumstances shall blasting be performed within 30 meters of concrete that has been placed less than seven days. Blasting within 30 meters of concrete older than seven days will be permitted only if approved by the Contracting Officer.

### 3.2.2 Blasting

Prior to drilling for each blast, unless waived by the Contracting Officer, the Contractor shall submit a Pre-Blast plan on an approved form, which includes the pertinent data on the location by station, ground surface elevation in the area of the blast; diameter, spacing, depth, overdepth, pattern and inclination of blast holes; the type, strength, amount, distribution and powder factor for the explosives used per hole and per blast; the sequence and pattern of delays, and description and purpose of special methods. The loading of holes shall be done in the presence of a Government inspector. Acceptance by the Contracting Officer of the Pre-Blast plan will not relieve the Contractor of his sole responsibility to produce satisfactory results as set forth in these specifications. Drilling and blasting shall be done only to the depth, amount, and at such locations, with explosives of such quantity, distribution and density that will not produce unsafe or damaged rock and/or caliche/cemented alluvium surfaces or damage beyond the prescribed excavation limits. When a drilling and blasting program results in damage to the excavation, or to natural or man-made features, or is injurious to wildlife and habitat, the Contractor will be required to devise and employ methods which will prevent such damage. The revision may include special methods such as presplit and zone blasting, shallow lifts, reduction in size of individual blasts, small diameter blast holes, closely spaced blast holes, reduction of explosives, greater distribution of explosives by use of decking and primacord or variation in density of explosives.

#### 3.2.2.1 Blasting and Utility Lines

Blasting will not be permitted close to existing utility lines. Contractor shall use other rock excavation techniques, and deploy all means necessary to break-out and remove layers of highly cemented soils nearby the utility lines. Contractor shall coordinate with utility owners prior to excavation and blasting in the vicinity of utility lines.

#### 3.2.3 Overshooting

The Contractor shall use controlled blasting techniques so as not to overshoot. All possible care shall be exercised in drilling and blasting operations to prevent formation of discontinuities and to minimize over-break and blast damage of adjacent unexcavated ground and structures. Any material outside the authorized limits which may be shattered or loosened because of blasting shall be removed and/or re-compacted by the Contractor at his expense. Shattered or loosened material below the bottom limits of the required excavation shall be uniformly distributed and compacted or otherwise disposed of in a manner satisfactory to the Contracting Officer. The Contractor shall discontinue any method of

blasting which leads to overshooting or is dangerous to the public, destructive of natural or man-made features, or is injurious to wildlife and habitat.

#### 3.2.4 Pre-excavation Survey

The Contractor shall perform a pre-excavation survey which shall include as a minimum; detailed examination of adjacent structures, including video taping and installation of crack monitoring tape along existing structural cracks. Also included shall be a seismic survey performed by a certified seismic survey firm to determine limiting charge weights, distances to structures, ect. for all areas where blasting is proposed and limiting ball weights, height of drop, etc., for all areas where headache balls and/or hoe ram techniques are proposed.

##### 3.2.4.1 Vibration Monitoring

During construction, the Contractor shall hire a certified seismic survey firm to perform a seismic monitoring program to determine the effects of any blasting, headache ball or hoe ram use, or any other specialized excavation technique. Particle velocities measured at an existing structure or 300 meters, whichever is closest, shall not exceed statutory limits or 12.5 millimeters per second (whether the result of blasting or other excavation technique). In addition to these requirements, the Contractor shall provide suitable vibration monitoring equipment to measure and record ground motions at the 60 meter distance.

#### 3.2.5 Notifications

The Contractor shall notify each property owner and public utility company having structures or facilities in proximity to the site of the work of his intention to use explosives. Such notice shall be given sufficiently in advance to enable the companies to take such steps as they may deem necessary to protect their property from injury. Any blasting adjacent to or crossing existing utilities shall be fully coordinated with the owner of the effected utility to include hole spacing, loading and vibration.

#### 3.2.6 Qualifications

During blasting operations, the Contractor shall have on site, and in immediate charge of the blasting, a licensed blaster acceptable to the Contracting Officer who has had no less than 3 years of experience in controlled blasting and rock excavation operations. Powder handlers shall have had no less than one year continuous experience in preparation and loading of powder charges.

#### 3.2.7 Post-Blast Reports

In addition to the reporting requirements required above, a separate Post-Blast Report of each blast shall be prepared and furnished to the Contracting Officer on an approved form. The report shall indicate the location of the blast by specific stationing, ground surface elevation, depth of round, pounds of explosives used by type and grade, total number of loaded holes, total pounds per delay, quantity and kind of explosive in each hole, maximum measured blast vibration, and all other blast information directed by the Contracting Officer. Original or legible copies of the report shall be provided to the Contracting Officer within 24 hours of the blast event.

### 3.2.8 Explosives

#### 3.2.8.1 Safety

The contractor shall fully comply with Section 29, Blasting, COE EM 385-1-1 and any Local or State Laws and Regulations applicable to the proposed Blasting Plan.

#### 3.2.8.2 Storage

The Contractor shall submit to the Contracting Officer, for approval, drawings showing the location, access to and type of construction of the proposed storage magazine for explosives, and cap house. The explosives storage magazine and other facilities may be located on project lands if a satisfactory location can be found and is approved by the Contracting Officer. The Contractor shall maintain the explosive storage area at his own expense. The explosives storage magazine shall be securely locked when not in use.

### 3.3 PRESERVATION OF PROPERTY

All excavation operations shall be conducted in such a manner that concrete structures, embankments, utilities, or other facilities and improvements which are to remain in place permanently will not be subjected to settlement or horizontal movement. The Contractor shall furnish and install sheet piling, cribbing, bulkheads, shores, or whatever means may be necessary to adequately support material carrying such improvements or to support the improvements themselves and shall maintain such means in position until they are no longer needed. Temporary sheet piling, cribbing, bulkheads, shores or other protective means shall remain the property of the Contractor and when no longer needed shall be removed from the site. The Contractor shall submit for approval shop drawings showing proposed method of bracing which he intends to use. All shoring and bracing shall be designed so that it is effective to the bottom of the excavation, and shall be based upon calculation of pressures exerted by (and the condition and nature of) the materials to be retained, including surcharge imparted to the side of the trench by equipment and stored materials. Removal of shoring shall be performed in such manner as not to disturb or damage the finished concrete or other facility.

### 3.4 EXCAVATION FOR STRUCTURES

Excavation within the vicinity of existing structures, utilities, roads, and drainage pipes to remain in place shall be performed in a manner to prevent damage to the structure. Earth banks and facilities to remain in place shall be supported as necessary during excavation. Potential for damage resulting from severe vibration may limit the Contractor's operations or choice of equipment. In general, unless otherwise shown or specified, the actual side slopes shall be in accordance with COE EM 385-1-1.

### 3.5 EXCAVATION CHANNEL

Channel excavation consists of the removal of all materials within the lines and grades indicated.

### 3.6 REMOVAL OF UNSATISFACTORY AND/OR UNSTABLE SOILS AND/OR MATERIALS

The removal of unsatisfactory and/or unstable soils and/or materials which are unsatisfactory for the foundation of the channel, or other structures,

may be required in certain areas. For definition of unsatisfactory and/or unstable soils and/or materials see paragraph: DEFINITION OF UNSATISFACTORY AND/OR UNSTABLE SOILS AND/OR MATERIALS. Channel subgrade materials that cannot be brought to 95% compaction after scarification, shall be removed. The Contractor will be required to excavate any such areas to the depth directed and backfill the removal areas with compacted fill conforming to the requirements of Paragraph GENERAL REQUIREMENTS FOR COMPACTED FILLS AND COMPACTED BACKFILLS.

### 3.7 DISPOSITION AND DISPOSAL OF EXCAVATED MATERIALS

#### 3.7.1 Suitable Material Used In Channel and Channel Road Construction

Excavated materials suitable for required fills in channel construction and channel road construction shall be placed in temporary stockpiles or used directly in the work. Material for compacted fill behind concrete structures shall meet the properties in paragraph: FILL MATERIALS.

#### 3.7.2 Satisfactory Excess Excavation Material

Satisfactory excess excavated natural ground and surface material and soils (including rocks and cemented soils without hazardous and/or toxic characteristics), that are not utilized as part of the channel construction and channel road construction shall be hauled to and stockpiled at, processed as necessary, and graded and compacted or stockpiled and graded in the Russell Road disposal site as per the drawings and paragraph: RUSSELL ROAD DISPOSAL SITE. Materials and soils to be placed in the Russell Road disposal site shall meet the size in paragraph: FILL MATERIAL FROM EXCESS EXCAVATED MATERIAL, and shall be free from trash, dumped debris and demolition products, and shall consist of no materials and soils suspected of having characteristics of hazardous and/or toxic waste materials and/or characterized as unsatisfactory soil and material including trash, dumped debris and demolition products. Processing of the excess excavated material to meet the size in paragraph: FILL MATERIAL FROM EXCESS EXCAVATED MATERIAL, shall be accomplished after removal of the material from the F-1 Channel, Hualapai Way to Beltway, Right-Of-Ways (ROWS) and Temporary Construction Easements (TCEs), but prior to being utilized as compacted fill placement or stockpiled graded placement in the Russell Road disposal site as per paragraph: RUSSELL ROAD DISPOSAL SITE.

#### 3.7.3 Material and/or Soils With Hazardous and/or Toxic Waste Characteristics

Materials (including trash, dumped debris, demolition products and unstable soils) and/or soils (including rocks and cemented soils, and unsatisfactory soils) suspected of having characteristics of hazardous and/or toxic waste materials shall become the property of the Contractor and shall be removed from the project site in accordance with requirements Section 01355 ENVIRONMENTAL PROTECTION and Section 01200 GENERAL REQUIREMENTS.

#### 3.7.4 Unsatisfactory Soils and/or Material

Unsatisfactory and/or unstable soils and/or materials characterized as such and, and trash, dumped debris and demolition products shall become the property of the Contractor and shall be removed from the project site in accordance with requirements Section 01355 ENVIRONMENTAL PROTECTION and Section 01200 GENERAL REQUIREMENTS, paragraph SCRAP AND SCRAP MATERIALS. For definition of unsatisfactory soils and/or materials see paragraph: DEFINITION OF UNSATISFACTORY AND/OR UNSTABLE SOILS AND/OR MATERIALS.

### 3.7.5 Beyond Project Limits and Stockpile / Disposal Site

No excavated material or waste of any kind shall be removed beyond the project limits under this contract without the express written authority of the Contracting Officer. Prior to placing material, the approved stockpile area(s) and Russell Road disposal site shall be cleared of trash and vegetation. Vegetation shall be removed by grading the existing ground surface to a depth of 150 mm. Any stockpiles shall be placed in a manner to preclude ponding of water. The Russell Road disposal site shall be graded and filled as per the drawing. Natural ground and surface soils and materials thus excavated and removed will then be designated as either:

- i. Materials to be salvaged, or
- ii. Scrap and unsatisfactory materials and soils and unstable materials and soils to be treated as specified above and in Section 02230 CLEAR SITE AND REMOVE OBSTRUCTIONS.

### 3.7.6 Hauled Excavated Material

The Contractor shall have a haul route plan within the project limits, including removal of required excavated materials and placing fill materials and hauling of excess excavated materials. The haul route plan shall be submitted to the Contracting Officer for approval. Haul routes for transport of the excess excavated material shown on the drawing sheets are approximate. The Contractor will be responsible for obtaining all permits and licenses necessary to haul material off-site. The Contractor will provide to the Contracting Officer three copies of the proposed street haul route plan for transport of all excess excavated material.

### 3.8 OVERCUT

Except as otherwise specified or specifically ordered in writing, any overcut or excavation beyond the lines and grades indicated in the plans (or as directed) shall be backfilled with compacted fill conforming to the Paragraph GENERAL REQUIREMENTS FOR COMPACTED FILLS AND COMPACTED BACKFILLS, or concrete conforming to the Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE FOR CIVIL WORKS. The Contractor shall expect to overbuild and trim back the compacted fill required to backfill overcuts made at trapezoidal channel sections. All excavating, backfilling, compacting of backfill, and concreting occasioned thereby shall be by the Contractor at no additional cost to the Government. Any overcut under existing or newly constructed channels and structures shall be backfilled with concrete.

### 3.9 COMPACTION EQUIPMENT

Compaction shall be accomplished by tamping roller, rubber tired roller vibratory compactor or mechanical tampers. All equipment, tools, and machines shall be maintained in satisfactory working condition at all times. Compaction equipment shall be suitable for consistently producing uniform soil densities.

### 3.10 GENERAL REQUIREMENTS FOR COMPACTED FILLS AND COMPACTED BACKFILLS

#### 3.10.1 Control

Moisture-density relations shall be established by the Contractor. The soil used for each maximum density test shall be classified in accordance with ASTM D 2487 and shall include a particle size analysis in accordance

with ASTM D 422. At least one five point maximum density test shall be made for every 10 field density tests. Field density test shall be performed by the Contractor at the frequency established in paragraph Field Control, and in such locations to insure that the specified density is being obtained. Moisture-density relations and field densities shall be reported on approved forms. One copy of density data less dry weight determinations shall be provided on the day each test is taken. The completed test reports shall be provided with the Contractor Quality Control Report on the work day following the test.

#### 3.10.1.1 Laboratory Control

Moisture-density relations shall be established by the Contractor. One moisture-density relation shall be made for each classification, blend or change in classification of soil materials encountered. Approval of moisture-density relations shall be obtained prior to the compacting of any material in the work. The moisture-density relations shall be determined in a laboratory in accordance with ASTM D 1557.

- a. The desired amount of mixing water will be added for each compaction test specimen, mixed well, and the mixture will be placed in a container with an airtight cover and allowed to cure for 24 hours. A shorter curing time may be allowed where tests show that shortening the curing time will not affect the results.

#### 3.10.1.2 Field Control

Field in-place density shall be determined in accordance with ASTM D 1556. The field moisture content shall be determined in accordance with ASTM D 2216. Determination of in-place densities using the nuclear method ASTM D 2922 may be used to supplement the sand cone density tests ASTM D 1556. When ASTM D 2922 is used, the calibration curves shall be checked and adjusted using only the sand cone method as described in ASTM D 1556. When material contain considerable amount of rock or coarse gravel in-place density test method ASTM D 4914 or ASTM D 5030 shall be used. At least one adjacent sand cone test shall be performed for every five nuclear density tests performed. If field density tests determined by the nuclear method vary by more than 0.1 kilonewtons per cubic meter from comparison sand-cone tests, and are consistently high or low, adjustment of the calibration curve is necessary.

##### a. In-Place Densities

One test per 750 cubic meters, for the first 7,500 cubic meters of material and one test for each 1,500 cubic meters thereafter, or fraction thereof, shall be made of each lift of fill or backfill areas compacted by other than hand-operated machines. At least one test shall be made in each 600 mm layer of compacted fill or backfill processed as a unit and not less than one test shall be made in each area. One test per 300 cubic meters, or fraction thereof, shall be made of each lift of fill or backfill areas compacted by hand-operated machines. The contractor CQC shall maintain a log of all tests, which will, updated and submitted to the contracting officer on a weekly basis. The test log shall include: Test number (if retest shall include retest number), date, feature of work, station and offset, elevation, weight of wet soil, weight of dry soil, percent of compaction, optimum moisture content, maximum dry unit weight, soil classification, in-place density test methods either sand-cone or nuclear densimeter.

### 3.10.2 Settling of Fills or Backfills with Water

Settling of fills or backfills with water will not be permitted.

### 3.10.3 FILL MATERIAL

Fill material shall be obtained from the required excavation. Materials considered unsatisfactory and/or unstable for use as compacted fill include but are not limited to those materials containing roots and other organic matter, trash, debris, chunks or clumps of cemented material. Materials classified in ASTM D 2487 as MH, CH, Pt, OH, and OL are also considered unsatisfactory and/or unstable for use as compacted fill. Satisfactory fill material shall contain no stone whose greatest dimension is more than 3/4 the lift thickness. The Contractor shall expect to break-down, crush or otherwise process required excavation material for use as fill material due to the cementation of in-situ soils. Material for compacted fill behind concrete structures shall contain less than 30 percent by weight passing the .075 mm sieve and shall contain no particle larger than 76 mm. See paragraph RUSSELL ROAD DISPOSAL SITE for requirements of fill material from excess excavated materials.

### 3.10.4 Placement

Fill material shall not be placed against concrete which has not been in place at least 14 days or until the concrete has attained a strength of 17.2 megapascals when tested in accordance with the Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE FOR CIVIL WORKS. Fill shall not be placed over covered channels (roof decks) until the concrete has obtained 70% of the contract required design strength. Heavy equipment shall not be operated over pipes and buried structures until at least 600 mm of fill material have been placed and compacted over them. Material from the top of the pipe or buried structure to 600 mm above pipe or buried structure shall be compacted by mechanical tampers or other equipment approved by the Contracting Officer. Compacted fill shall be placed with suitable equipment in horizontal layers which before compaction, shall not exceed 300 mm in depth for rubber-tired or vibratory rollers, 200 mm in depth for tamping rollers, 100 mm in depth when mechanical tampers are used. The Contractor may vary the layer thickness within these limits for most efficient operations. Material containing stones shall be placed in a manner to prevent the stones from striking the concrete structures and to prevent the formation of voids. See paragraph RUSSELL ROAD DISPOSAL SITE for requirements of placement of excess excavated material.

### 3.10.5 Moisture Content

Material shall have a uniform moisture content while being placed and compacted. Water shall be added at the source, if required, or by sprinkling each layer of material during placement. Uniform distribution of moisture shall be obtained by disking, harrowing, or otherwise manipulating the soil during and after time water is added. Material containing an excess of moisture shall be manipulated with suitable implements to facilitate maximum aeration and shall be permitted to dry to the proper consistency before being compacted. Fill shall have a maximum moisture content of not more than 2 percent above optimum and a minimum moisture content of not less than 2 percent below optimum.

### 3.10.6 Compaction

No layer of fill shall be compacted before the practicable uniform moisture content has been obtained. Scarified areas shall be compacted as specified for the fill placed thereon. Rollers will not be permitted to operate within 300 mm of channel or structure walls or over buried structures until the compacted fill over the top of the structures has reached a depth of 600 mm. Compaction equipment shall be so operated that structures are not damaged nor overstressed during compaction operations. Mechanical tampers shall be used for compaction of fill material adjacent to structures where rolling equipment is impracticable for use in compaction.

### 3.11 COMPACTED FILL, CHANNEL

#### 3.11.1 Invert

##### 3.11.1.1 Preparation for Placing

The foundation for the compacted fill to be placed shall be cleared of all existing obstructions, vegetation and debris. Any trash or debris shall be removed in accordance with Section 02230 CLEAR SITE AND REMOVE OBSTRUCTIONS. Unsatisfactory or unstable (too wet) material and soils not meeting the requirements for fill material shall be removed where directed.

The existing surfaces for the compacted fill at the channel site shall be scarified to a depth of 150 mm and proofrolled by four passes of the compaction equipment. The subgrade for the channel shall be prepared in accordance with paragraph SUBGRADE PREPARATION.

##### 3.11.1.2 Compaction

Each layer of the material shall be compacted to not less than 95 percent of maximum density, per ASTM D 1557.

#### 3.11.2 Behind Channel Walls

##### 3.11.2.1 Limitations on Equipment

The gross weight of any piece of equipment, or the combined weight of any combinations of equipment coupled together, used to place, moisten and/or compact fill behind channel walls and up to 600 mm above the top of covered sections shall not exceed 16,000 kilograms, including dynamic forces produced by vibratory equipment. Equipment used to compact the fill behind the channel walls shall be of such size as to be capable of operating in the area between the cut slope and the channel wall. Compaction equipment will not be required to operate at elevations lower than 600 mm above the top of wall footings. This equipment shall be of such size as to be capable of operating in the area between the cut slope and the channel wall at any point 600 mm above the top of the heel of wall footings.

##### 3.11.2.2 Construction Balance

Fills behind wall on one side of the channel shall not exceed by more than 1.5 meters the height of the fill behind the opposite channel wall at any time during construction.

##### 3.11.2.3 Compaction

Each layer of fill behind channel walls, shall be compacted to not less than 90 percent of maximum density, per ASTM D 1557. The top 300 mm of the maintenance road fill adjacent to the channel wall shall be compacted to not less than 95 percent of maximum density per ASTM D 1557.

#### 3.11.2.4 Trimming

The top of fill adjacent to channel walls shall be trimmed to the lines indicated on the drawings with a tolerance of plus or minus 25 mm. Any material loosened by trimming shall be recompact and the area moistened and compacted with one pass of a smooth-wheeled roller. Tolerances shall apply after rolling. Fill slopes shall be trimmed to a uniform alignment at the top of the berm and reasonably uniform slope at or outside the lines shown on the drawings.

#### 3.11.2.5 Backfill Against Plywood at Ends of Pipe and Sewer Stubs

Plywood shall be braced or otherwise held flush against the end of the pipe during backfilling. The Contractor shall make sure the plywood is of sufficient size to adequately cover the pipe or sewer stub opening. The Contractor shall attach blocks or shims to roughly fit the inside diameter of the pipe to assure that the plywood is not displaced during backfilling.

#### 3.11.3 Compacted Fill Over Covered Channel

##### 3.11.3.1 General

No fill material shall be placed over the top of the covered channel until all voids at the sides of the covered channel have been filled as described below, and until all caved material has been compacted to the specified density to the top of the roof slab.

##### 3.11.3.2 Material

Materials for filling voids shall be clean sand, free of trash, organic materials, debris, and with 100 percent passing the 4.75 mm sieve and not more than 10 percent passing the 150 mm sieve.

##### 3.11.3.3 Placement

The first layer of fill over the concrete box section shall be 300 mm in thickness and shall be compacted with a rubber-tired or vibratory roller having a maximum weight of 9,000 kilograms. The remainder of the fill shall be deposited in 150 mm layers and compacted with rubber-tired or vibratory rollers, or other approved equipment with a maximum weight of 9,000 kilograms until the structure has a cover of at least 600 mm. The remainder of the compacted fill shall be placed as specified in paragraph COMPACTED FILL, CHANNEL of this section.

##### 3.11.3.4 Contractors Option

If the Contractor elects to leave the inside forms and shoring in place, permission will be granted to place fill material 48 hours after concrete has been placed.

##### 3.11.3.5 Compaction

Each layer of fill on top of the covered channel shall be compacted to not less than 95 percent of maximum density, per ASTM D 1557. Compacted Fill under streets and maintenance roads shall be compacted per paragraph COMPACTED FILL, ROADWAY.

#### 3.11.4 Compacted Fill, Roadway

#### 3.11.4.1 Compaction

Fill shall be compacted to not less than 95 percent of maximum density per ASTM D 1557 for the width of all traveled ways plus 1 meter on each side thereof.

#### 3.11.4.2 Trimming

All street and maintenance road shoulders and side slopes shall be trimmed to the lines indicated on the drawings with a tolerance of plus or minus 25 millimeters. Any material loosened by trimming shall be recompactd and the area moistened and compacted with one pass of a smooth-wheeled roller. Tolerances shall apply after rolling. Fill slopes shall be trimmed to a reasonably uniform slope at or outside the lines shown on the drawings.

### 3.12 RUSSELL ROAD DISPOSAL SITE

#### 3.12.1 General

Excess excavated material from the channel excavation shall be stockpiled, processed as necessary, graded and compacted to the grade and lines as shown on the Russell Road disposal site drawings. The material will be processed as necessary to meet the size requirements of paragraph: FILL MATERIAL FROM EXCESS EXCAVATED MATERIAL. Compacted fills in the Russell Road disposal site shall be placed and compacted in accordance with paragraph: PLACEMENT OF EXCESS EXCAVATED MATERIAL and paragraph: COMPACTION OF EXCESS EXCAVATED MATERIALS IN RUSSELL ROAD DISPOSAL SITE. Once the compacted fill portion of the Russell Road disposal site is completed, the excess excavated material from the channel excavation shall be stockpiled, processed as necessary, then stockpiled and graded to the grade and lines as shown on the Russell Road disposal site drawings. The material will be processed as necessary to meet the size requirements of paragraph: FILL MATERIAL FROM EXCESS EXCAVATED MATERIAL. Prior to hauling excess excavated material to the Russell Road disposal site, the Contractor shall submit a pre-construction topographic survey of the disposal site with 0.5 meter contour intervals. Upon completion of the compacted fill earthwork within the Russell Road disposal site, the Contractor shall submit a post-construction topographic survey of the disposal site with 0.5 meter contour intervals for the compacted fill work. Upon completion of the stockpiled fill earthwork within the Russell Road disposal site, the Contractor shall submit a post-construction topographic survey of the disposal site with 0.5 meter contour intervals for the stockpiled fill work. All surveys shall be in accordance with the requirements of Section 01200 GENERAL REQUIREMENTS, paragraph : CONTRACTOR'S SURVEYS.

#### 3.12.2 Preparation for Placing

The foundation for the compacted fill or the stockpiled fill to be placed shall be cleared of all existing obstructions, vegetation and debris. Any trash or debris shall be removed in accordance with Section 02230 CLEAR SITE AND REMOVE OBSTRUCTIONS. Unsatisfactory or unstable (too wet) material and soils not meeting the requirements for fill material shall be removed where directed. The existing surfaces for the compacted fill at the disposal site shall be scarified to a depth of 150 mm, moisture conditioned and proofrolled by four passes of the compaction equipment.

#### 3.12.3 FILL MATERIAL FROM EXCESS EXCAVATED MATERIAL

Excess excavation material including rocks and cemented soils shall be hauled to the disposal site, processed as necessary by breakdown, crushing or otherwise reduced in sizes not exceeding 200 mm or 3/4 of the lift thickness, whichever is the lesser, and then utilized as compacted fill and stockpiled fill in accordance with grading and compaction requirements of the drawing and paragraph: PLACEMENT OF EXCESS EXCAVATED MATERIAL, and with paragraph: COMPACTION OF EXCESS EXCAVATED MATERIALS IN RUSSELL ROAD DISPOSAL SITE.

#### 3.12.4 PLACEMENT OF EXCESS EXCAVATED MATERIAL

Excess excavated material placed as compacted fill in the disposal site shall be placed with suitable equipment in horizontal layers which before compaction, shall not exceed 300 mm in depth for rubber-tired or vibratory rollers, 200 mm in depth for tamping rollers, 100 mm in depth when mechanical tampers are used. The Contractor may vary the layer thickness within these limits for most efficient operations. Material containing stones shall be placed in a manner to prevent the stones from striking the concrete structures and to prevent the formation of voids. Excess excavated material placed as stockpiled fill in the disposal site shall be placed and graded with suitable equipment to the lines and grades shown on the drawing.

#### 3.12.5 COMPACTION OF EXCESS EXCAVATED MATERIALS IN RUSSELL ROAD DISPOSAL SITE.

Each layer of compacted fill in the Russell Road disposal site shall be compacted to not less than 90 percent of maximum density, per ASTM D 1557. The F-1 Channel Contractor shall perform additional compaction requirements such as control and moisture content of the excess excavated materials in accordance with the applicable portions of paragraph: GENERAL REQUIREMENTS FOR COMPACTED FILLS AND COMPACTED BACKFILLS.

#### 3.13 BACKFILL

##### 3.13.1 Structural Backfill

###### 3.13.1.1 Location

Backfill shall consist of all fill against and/or around structures.

###### 3.13.1.2 Material

Backfill material shall be obtained from the required excavation as approved by the Contracting Officer. In general, the best material available will be designated as backfill and fill about structures. Backfill may consist of sand, gravelly sand, and silty sands. Organic material, silt, clay, broken concrete or pavement, boulders and other unsatisfactory material shall not be used. Backfill for structures shall not contain any stones larger than 75 mm.

###### 3.13.1.3 Placing

Backfill material shall not be placed against concrete which has not been in place at least 14 days or until the concrete has attained a strength of 17.2 megapascals when tested in accordance with Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE FOR CIVIL WORKS.

###### 3.13.1.4 Compaction

Compaction shall be not less than 95 percent of maximum density, per ASTM D 1557 unless noted or shown otherwise.

### 3.14 SUBGRADE PREPARATION

#### 3.14.1 Subgrade for Channel

Subgrade preparation for channel shall include subgrade preparation for areas to receive concrete, aggregate base course and/or bituminous paving for streets, access roads, maintenance roads, turnarounds, and invert access ramps. All trash and debris shall be removed in accordance with Section 02230 CLEAR SITE AND REMOVE OBSTRUCTIONS. After the channel has been excavated to rough grade, the entire channel invert, invert access ramp, and other area indicated above shall be scarified to a depth of 0.15 meters, moisture conditioned and proofrolled by 4 passes of the compaction equipment and trimmed to a uniform grade and smoothed with a steel-wheeled roller to make the subgrade ready to receive concrete. If the subgrade is disturbed by the Contractor's operations or is overexcavated, or is soft or yielding, the subgrade shall be restored to grade and compacted to a density of 95 percent of maximum density, per ASTM D 1557. The finished surface of the subgrade shall not be more than 13 mm above the indicated grade at any point when tested with a 3 meters straightedge.

### 3.15 FINISHING

#### 3.15.1 EARTHWORK FINISHING

Prior to the application of the pre-emergent herbicide and dust palliative/soil stabilizer, all exposed earthen slopes and surfaces shall be finished to the grades shown on the drawings or as directed by the Engineer, including the removal of all existing vegetation and the filling and smoothing of erosional features and surface irregularities. The exposed finished surfaces shall then be scarified to a depth of 150 mm, compacted, and groomed to produce a smooth surface with all particles greater than 75 mm in diameter removed.

#### 3.15.2 PRE-EMERGENT HERBICIDE

All exposed and disturbed surface areas in the project area not covered by concrete or asphalt and prepared as described in paragraph EARTHWORK FINISHING shall be treated with a pre-emergent herbicide with the concentrations stated in paragraph PRE-EMERGENT HERBICIDE PRODUCT to discourage the growth of weeds and other vegetation. The pre-emergent herbicide shall be watered in per the manufacturer's recommendations and is to be applied prior to application of the pigmented dust palliative/soil stabilizer in paragraph PIGMENTED DUST PALLIATIVE/SOIL STABILIZER.

#### 3.15.3 PIGMENTED DUST PALLIATIVE/SOIL STABILIZER

All exposed excavation and fill surfaces and disturbed surface areas in the project area not covered by concrete or asphalt and treated as per paragraph PRE-EMERGENT HERBICIDE shall be treated with a pigmented dust palliative/soil stabilizer for soil stabilization and dust control with the concentrations stated in paragraph PIGMENTED DUST PALLIATIVE/SOIL STABILIZER PRODUCT after construction is completed. The pigmented dust palliative/soil stabilizer shall be watered in per the manufacturer's recommendations.

The plaster/cellulose fiber mulch stabilizer shall formulate a protective crust like barrier within 4 to 8 hours after application. Application of the plaster/cellulose fiber mulch stabilizer will not be permitted when weather conditions are unsuitable for concrete placement in accordance with Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE FOR CIVIL WORKS.

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## SECTION 02630

## STORM-DRAINAGE SYSTEM

## 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 ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS  
(AASHTO)

AASHTO M 198 (1994) Joints for Circular Concrete Sewer and Culvert Pipe Using Flexible Watertight Gaskets

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM C 76M (1997) Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe (Metric)

ASTM C 443 (1994) Joints for Circular Concrete Sewer and Culvert Pipe, Using Rubber Gaskets

ASTM C 655 (1995a) Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe

ASTM D 1557 (2000) Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/cu. ft. (2,700 kN-m/cu.m.))

## 1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The "RE" designates that the Resident Office will review the submittal for the Government. Submit the following in accordance with Section 01330, SUBMITTAL PROCEDURES:

SD-07 Certificates

Pipeline Testing; G, RE.

Hydrostatic Test on Watertight Joints; G, RE.

Certified copies of test reports demonstrating conformance to applicable pipe specifications, before pipe is installed.

SD-08 Manufacturer's Instructions

Placing Pipe; G, RE.

Printed copies of the manufacturer's recommendations for installation procedures of the material being placed, prior to installation.

### 1.3 DELIVERY, STORAGE, AND HANDLING

#### 1.3.1 Delivery and Storage

Materials delivered to site shall be inspected for damage, unloaded, and stored with a minimum of handling. Materials shall not be stored directly on the ground. The inside of pipes and fittings shall be kept free of dirt and debris.

#### 1.3.2 Handling

Materials shall be handled in a manner that ensures delivery to the trench in sound, undamaged condition. Pipe shall be carried to the trench, not dragged.

## PART 2 PRODUCTS

### 2.1 PIPE FOR CULVERTS AND STORM DRAINS

Pipe for culverts and storm drains shall be of the sizes indicated and shall conform to the requirements specified.

#### 2.1.1 Reinforced Concrete Pipe Laterals

ASTM C 76M, Class III, or ASTM C 655 with D-Load of 1,350 pounds per linear foot of pipe diameter to produce a 0.01 inch crack.

### 2.2 HYDROSTATIC TEST ON WATERTIGHT JOINTS

#### 2.2.1 Concrete

A hydrostatic test shall be made on the watertight joint types as proposed. Only one sample joint of each type needs testing; however, if the sample joint fails because of faulty design or workmanship, an additional sample joint may be tested. During the test period, gaskets or other jointing material shall be protected from extreme temperatures which might adversely affect the performance of such materials. Performance requirements for joints in reinforced and nonreinforced concrete pipe shall conform to AASHTO M 198 or ASTM C 443.

## PART 3 EXECUTION

### 3.1 EXCAVATION FOR PIPE AND DRAINAGE STRUCTURES

Excavation of trenches, and for appurtenances and backfilling for culverts and storm drains, shall be in accordance with the applicable portions of Section 02316 EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS and the requirements specified below.

#### 3.1.1 Trenching

The width of trenches at any point below the top of the pipe shall be not greater than required to permit satisfactory jointing and thorough tamping of the bedding material under and around the pipe.

### 3.1.2 Removal of Rock

Rock in either ledge or boulder formation shall be replaced with suitable materials to provide a compacted earth cushion having a thickness between unremoved rock and the pipe of at least 150 mm.

### 3.1.3 Removal of Unstable Material

Where wet or otherwise unstable soil incapable of properly supporting the pipe, as determined by the Contracting Officer, is unexpectedly encountered in the bottom of a trench, such material shall be removed to the depth required and replaced to the proper grade with select granular material, compacted as provided in paragraph BACKFILLING. When removal of unstable material is due to the fault or neglect of the Contractor in his performance of shoring and sheeting, water removal, or other specified requirements, such removal and replacement shall be performed at no additional cost to the government.

## 3.2 BEDDING

Bedding for all RCP pipe shall be a Type II aggregate base, meeting the requirements of Section 02722 AGGREGATE BASE COURSE. The bedding gradation shall be in accordance with Section 02722, paragraph GRADATION REQUIREMENTS. The bedding surface for the pipe shall be placed with a thickness of 150 mm below the pipe and extend up to the springline of the pipe.

The bedding shall be brought up evenly on both sides of pipe for the full length of pipe. The bedding shall be thoroughly compacted with mechanical tampers or rammers.

## 3.3 BACKFILLING

### 3.3.1 Backfilling Pipe in Trenches

After the pipe has been properly bedded, backfill shall be placed, including selected granular material, or initial backfill material in accordance with Section 02316 EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS.

### 3.3.2 Backfilling Pipe in Fill Sections

For pipe placed in fill sections, backfill material shall be uniformly spread in layers longitudinally on both sides of the pipe, not exceeding 150 mm in compacted depth, and shall be compacted by rolling parallel with pipe or by mechanical tamping or ramming. Prior to commencing normal filling operations, the crown width of the fill at a height of 610 mm above the top of the pipe shall extend a distance of not less than twice the outside pipe diameter on each side of the pipe or 4 m, whichever is less. After the backfill has reached at least 610 mm above the top of the pipe, the remainder of the compacted fill shall be placed and thoroughly compacted in layers not exceeding 300 mm to not less than 95 percent of maximum density, per ASTM D 1557.

## 3.4 PLACING REINFORCED CONCRETE PIPE

Each pipe section shall be thoroughly examined before being laid; defective or damaged pipe shall not be used. Pipelines shall be laid to the grades and alignment indicated. Proper facilities shall be provided for lowering

sections of pipe into trenches. Pipe shall not be laid in water, and pipe shall not be laid when trench conditions or weather are unsuitable for such work. Diversions of drainage or dewatering of trenches during construction shall be provided as necessary.

The Contractor shall determine his source of supply of sand for use in mortar a sufficient time in advance of pipe laying operations to permit sampling and testing before use, and no mortar shall be used until the sand has been approved by the Engineer. Pipe sections shall be checked for alignment and grade at the time of joining the sections. If an adjustment in alignment or grade is necessary after making the joint, additional mortar shall be firmly pressed into the joint.

The interior of the pipe shall be kept free of dirt, excess mortar, and other foreign material as the pipe laying progresses, and left clean at the completion of the work. Any pipe which is not in true alignment or which shows any undue settlement after laying, or is damaged, shall be taken up and relaid at the Contractor's expense. The first section of pipe to be laid shall be firmly placed to the designated line and grade with the groove upstream. Laying shall proceed upgrade with tongue ends of tongue-and-groove pipe pointing in the direction of the flow. Abutting ends of the sections of pipe to be jointed shall then be cleared and wetted, after which joining mortar shall be firmly placed into the lower half of the groove end of the previously laid section. Joining mortar shall be firmly placed on the top half of the tongue end of the section to be jointed which shall then be inserted truly and snugly into the groove end of the section previously laid so as to completely fill the joint. The interior joint shall then be either brushed or pointed and all surplus mortar removed from the pipe. The external space between the ends of the jointed pipe shall be firmly filled from the outside with laying mortar. When pipe with self-centering joints and without an inside pointing recess is furnished, the inside shoulder of the groove end of section shall first be lightly plastered or buttered with joining mortar after which the pipe ends shall be firmly fitted together in such a way that the tongue end of each section fits snugly into the groove end of the preceding section in order to center the joint and form a true flow line. The inside joints shall be troweled or brushed smooth and excess mortar removed from the pipe. The outside joint recesses shall then be filled with mortar, after which backfilling shall be performed as specified. When pipe is furnished with self-centering joints with both inside and outside pointing recesses, the pipe shall be firmly fitted together in such a way that the tongue end of each section fits snugly into the groove end of each preceding section in order to center the joint and to form a true flow line, after which the inside joint recess shall be firmly filled with pointing mortar and then troweled or brushed smooth and excess mortar removed from the pipe, after which backfilling shall be performed as specified. Backfill of the pipe trench may be completed while the joint mortar is still plastic. Should the joint mortar become set before the backfill is placed, backfilling of the trench shall be commenced within sixteen (16) hours of joining the pipe sections. When the pipe is not backfilled while the mortar is plastic, the mortar shall be cured in accordance with the water, curing compound, form, or waterproof membrane method. Free water shall not be allowed to come in contact with the pipeline until the mortar in the joints has set at least twenty-four (24) hours.

Storm drain stubouts shall be capped and location identified with a marker post as shown on the plans.

### 3.5 TESTING REQUIREMENTS (BACKFILLING)

All testing requirements shall be in accordance with Section 02316  
EXCAVATION, TRENCHING, AND BACKFILLING FOR UTILITIES SYSTEMS.

3.6 MOVEMENT OF CONSTRUCTION MACHINERY

When compacting by rolling or operating heavy equipment parallel with the pipe, displacement of or injury to the pipe shall be avoided. Movement of construction machinery over a storm drain at any stage of construction shall be at the Contractor's risk. Any damaged pipe shall be repaired or replaced.

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## SECTION 05500

## MISCELLANEOUS METAL

## 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 A 36/A 36M	(2000) Carbon Structural Steel
ASTM A 48	(1994ael) Gray Iron Castings
ASTM A 53/A 53M	(1999b) Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
ASTM A 123/A 123M	(2000) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 320/A 320M	(2000) Alloy Steel Bolting Materials for Low Temperature Service
ASTM A 467/A 467M	(1998) Machine and Coil Chain
ASTM B 32	(1996) Solder Metal
ASTM B 221	(2000) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes
ASTM B 221M	(2000) Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes (Metric)
ASTM C 478	(1997) Precast Reinforced Concrete Manhole Sections
ASTM C 497	(1997) Concrete Pipe, Manhole Sections, or Tile
ASTM F 593	(1998) Stainless Steel Bolts, Hex Cap Screws, and Studs
ASTM F 594	(1998) Stainless Steel Nuts

## AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

ASME B16.3	(1998) Malleable Iron Threaded Fittings
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)

AMERICAN WELDING SOCIETY (AWS)

AWS D1.1 (2000) Structural Welding Code - Steel

U.S. GENERAL SERVICES ADMINISTRATION (GSA)

CID A-A-1923 (Rev A) Shield, Expansion (Lag, Machine and Externally Threaded Wedge Bolt Anchors)

CID A-A-60005 Frames, Covers, Gratings, Steps, Sump and Catch Basin, Manhole

DEPARTMENT OF PUBLIC WORKS, CLARK COUNTY, NEVADA

UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA

STATE OF NEVADA DEPARTMENT OF TRANSPORTATION (NDOT)

STATE OF NEVADA DEPARTMENT OF TRANSPORTATION (NDOT) STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION

1.2 SUBMITTALS

Government approval is required for submittals with a "G" designation; submittals not having a "G" designation are for information only. When used, a designation following the "G" designation identifies the office that will review the submittal for the Government. The "RE" designates that the Resident Office will review the submittal for the Government. The following shall be submitted in accordance with Section 01330 SUBMITTAL PROCEDURES:

SD-02 Shop Drawings

Miscellaneous Metal Items; G, RE.

Detail drawings indicating material thickness, type, grade, and class; dimensions; and construction details. Drawings shall include catalog cuts, erection details, manufacturer's descriptive data and installation instructions, and templates. Detail drawings for the stilling well access door, plates and appurtenances.

1.3 GENERAL REQUIREMENTS

The Contractor shall verify all measurements and shall take all field measurements necessary before fabrication. Welding to or on structural steel shall be in accordance with AWS D1.1. Items specified to be galvanized, when practicable and not indicated otherwise, shall be hot-dip galvanized after fabrication. Galvanizing shall be in accordance with ASTM A 123/A 123M, as applicable. Exposed fastenings shall be compatible materials, shall generally match in color and finish, and shall harmonize with the material to which fastenings are applied. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Thickness of metal and details of

assembly and supports shall provide strength and stiffness. Joints exposed to the weather shall be formed to exclude water.

#### 1.4 WORKMANSHIP

Miscellaneous metalwork shall be well formed to shape and size, with sharp lines and angles and true curves. Drilling and punching shall produce clean true lines and surfaces. Welding shall be continuous along the entire area of contact except where tack welding is permitted. Exposed connections of work in place shall not be tack welded. Exposed welds shall be ground smooth. Exposed surfaces of work in place shall have a smooth finish, and unless otherwise approved, exposed riveting shall be flush. Where tight fits are required, joints shall be milled. Corner joints shall be coped or mitered, well formed, and in true alignment. Work shall be accurately set to established lines and elevations and securely fastened in place. Installation shall be in accordance with manufacturer's installation instructions and approved drawings, cuts, and details.

#### 1.5 ANCHORAGE

Anchorage shall be provided where necessary for fastening miscellaneous metal items securely in place. Anchorage not otherwise specified or indicated shall include slotted inserts made to engage with the anchors, expansion shields, and power-driven fasteners when approved for concrete; toggle bolts and through bolts for masonry; machine and carriage bolts for steel; and lag bolts and screws for wood.

#### 1.6 SHOP PAINTING

Surfaces of ferrous metal except galvanized surfaces, shall be cleaned and shop coated with the manufacturer's standard protective coating unless otherwise specified. Surfaces of items to be embedded in concrete shall not be painted. Items to be finish painted shall be prepared according to manufacturer's recommendations or as specified.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

##### 2.1.1 General

Materials indicated on the drawings or required in the work and not covered elsewhere by detailed requirements shall conform to the requirements of this section. In all cases not specifically covered in these specifications, the Contractor shall furnish approved highest grade commercial materials or products which are suitable for the intended use of the item.

##### 2.1.2 Structural Shapes and Plates

Steel bars, shapes and plates shall conform to ASTM A 36/A 36M. Galvanized coatings where required, shall conform to ASTM A 123/A 123M.

##### 2.1.3 Wall Ladders Rungs (Galvanized)

Manhole steps shall conform to ASTM C 478 and ASTM C 497. Aluminum steps shall be solid made from material in conformance with ASTM B 221 (Alloy 6005-TS) and with ASTM B 221M. Reinforced plastic steps may only be used in manholes or other locations not exposed to sunlight and shall be

polypropylene plastic coated 10 mm deformed steel rod per ASTM A 36/A 36M. All steps shall be epoxied in place during the installation process.

#### 2.1.4 Corrosion-Resisting Steel Bolts and Anchor Bolts

Corrosion-resisting steel bolts and anchor bolts shall conform to ASTM F 593, or the applicable requirements of ASTM A 320/A 320M, Grade B8.

#### 2.1.5 Bolts

Bolts shall conform to ASME B18.2.1, or the applicable requirements of ASTM A 320/A 320M, Grade B8. The turned eye bolt shall have a 19 mm eye size, leg length of 100 mm and at least 3 mm thick.

#### 2.1.6 Nuts

Nuts shall conform to ASME B18.2.2. Nuts shall be galvanized. Stainless Steel nuts shall conform to ASTM F 594

#### 2.1.7 Expansion Anchors

Expansion anchors shall conform to the applicable requirements of CID A-A-1923. Anchors shall be multiple unit with inside thread.

#### 2.1.8 Concrete, Mortar and Grout

Cast-In-Place Structural Concrete, mortar and grout shall conform to the requirements of Section 03301 CAST-IN-PLACE STRUCTURAL CONCRETE.

#### 2.1.9 Steel Pipes

Steel pipe shall conform to ASTM A 53/A 53M, Type E or S, Grade A, galvanized nominal size and weight unless noted otherwise.

#### 2.1.10 Pipe Caps

Pipe caps shall conform to ASME B16.3.

#### 2.1.11 Cover Plate

Cover plates shall conform to CID A-A-60005 or commercially available items meeting Contracting Officer approval. Sharp edges and burrs shall be removed from plates.

#### 2.1.12 Manhole Frames and Covers

Frames and covers are to be Gray Iron Castings, Type A-1497 as manufactured by Alhambra Foundry Co. Ltd. or approved equal. Castings for manhole frames and covers shall conform to ASTM A 48, Class 30. Frame and cover shall be machined to fit. Lids shall be imprinted with the words "Clark County Public Works Storm Drain".

#### 2.1.13 Steel Chain Gate

Chain safety gate shall be manufactured from 6 mm diameter carbon steel coil in accordance with ASTM A 467/A 467M.

### PART 3 EXECUTION

### 3.1 GENERAL INSTALLATION REQUIREMENTS

All items shall be installed at the locations shown and according to the manufacturer's recommendations. Items listed below require additional procedures as specified.

### 3.2 FINISHING

In general, tolerances for machine-finished surfaces designated by nondeciaml dimensions shall be within 0.4 mm. Sufficient machining stock shall be allowed on placing pads to insure true surfaces of solid material. Finished contacts of bearing surfaces shall be true and exact to secure full contact. All drilled holes for bolts shall be accurately located and drilled from templates.

### 3.3 ZINC COATING (GALVANIZING)

Zinc coatings shall be applied in a manner and of a thickness and quality conforming to ASTM A 123/A 123M. All exposed ferrous metalwork, except cast-iron and corrosion resistant steel and items to be completely embedded in concrete, shall be galvanized unless other protective coatings are specified. Metalwork shall be galvanized after fabrication. In the event that any portion of galvanized metalwork is abraded or otherwise damaged to the extent that the base metal is exposed, such damaged or abraded portions shall be neatly covered with Grade 50B solder conforming to the requirements of ASTM B 32.

### 3.4 WELDING

Welding shall conform to the provisions of AWS D1.1. Welders who have not been certified within two years of the date of commencement of work under this contract will not be allowed to perform the work.

### 3.5 BOLTED CONNECTIONS

Bolt holes shall be reamed normal to the member and shall be truly cylindrical throughout. Unless otherwise specified, holes for bolts shall not be more than 1.60 mm larger than the diameter of the bolt. Cutting bolt holes with a torch will not be permitted without the prior written approval of the Contracting Officer. Materials and parts necessary to complete each item, even though such work is not definitely shown or specified, shall be included. Poor matching of holes for fasteners shall be cause for rejection. Fastenings shall be concealed where practicable.

### 3.6 EXCAVATION

Excavation for concrete-embedded items shall be of the dimensions indicated on the drawings. Holes shall be cleared of loose materials prior to placement of concrete.

### 3.7 PIPE BOLLARDS

Pipe bollards shall be fabricated with heavy duty steel pipe conforming to ASTM A 53/A 53M, Type E or S, weight STD, galvanized after fabrication as shown on the drawings. Pipe bollards shall be set vertically in concrete encasements. Concrete for encasements and pipe fill where indicated shall be as specified in SECTION 03301 CAST-IN-PLACE STRUCTURAL CONCRETE having a compressive strength of 21 MPa.

3.8 PAINTING

Painting of pipe bollards shall be in accordance with the requirements of the UNIFORM STANDARD DRAWINGS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA, SECTIONS 614 AND SECTION 714.

3.9 STILLING WELLS

3.9.1 Steel Cover Plates and Frames

Steel cover plates and frames shall be of the type and size specified or shown on the drawings and shall be fabricated to accurately fit the supporting member. Openings shall be provided as shown on the drawings or as required. Steel cover plates and frames shall be galvanized after fabrication.

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