

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO. 0002	3. EFFECTIVE DATE 27 July 01	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable) DACW09-01-B-0007	
6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than Item 6)		CODE
U. S. ARMY ENGINEER DISTRICT, Los Angeles P.O. Box 532711 Los Angeles, California 90053-2325				
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)			(√)	9A. AMENDMENT OF SOLICITATION NO. DACW09-01-B-0007
			X	9B. DATED (SEE ITEM 11) 31 July 2001 (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.)

R-4 DETENTION BASIN AND CHANNEL, LAS VEGAS WASH AND TRIBUTARIES (TROPICANA AND FLAMINGO WASHES), CLARK COUNTY, NEVADA

Amendment is issued to correct Solicitation Number on Standard Form 1442 "Solicitation, Offer and Award", Block No. 1 to read as follows:

FROM: DACW09-01-B-0011

TO: DACW09-01-B-0007

- CONTINUED ON BACK OF 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)	

R-4 DETENTION BASIN AND CHANNEL, LAS VEGAS WASH AND TRIBUTARIES
(TROPICANA AND FLAMINGO WASHES), CLARK COUNTY, NEVADA (Continued)

REPLACE the following Forms and Sections with the enclosed for clarification purposes:

SF1442 (Front and Back)

Section 00010

Section 01354

Section 05500

ADD the following enclosed Table for clarification purposes:

Table 01354-1

REPLACE the following Plan/Drawing Sheets with the enclosed for clarification purposes:

<u>File No.</u>	<u>Drawing Title</u>
196/671 REV 'A'	PROJECT LOCATION MAP, VICINITY MAP
196/672 REV 'A'	INDEX TO CONTRACT DRAWINGS AND ABBREVIATIONS AND SYMBOLS
196/673 REV 'A'	R-4 DETENTION BASIN AND CHANNEL-BASIN RIGHT-OF-WAY AND SURVEY CONTROL
196/675 REV 'A'	R-4 CHANNEL-RIGHT-OF-WAY I
196/676 REV 'A'	R-4 CHANNEL-RIGHT-OF-WAY II
196/677 REV 'A'	R-4 CHANNEL-RIGHT-OF-WAY III
196/678 REV 'A'	R-4 CHANNEL-RIGHT-OF-WAY IV
196/698 REV 'A'	R-4 DETENTION BASIN-CROSS SECTIONS, STA 15+50.000 TO STA 16+00.000
196/699 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, STA 36+09.145 TO STA 34+00.000
196/700 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, STA 34+00.000 TO STA 30+50.000
196/702 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, STA 28+00.000 TO STA 25+00.000
196/703 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, STA 25+00.000 TO STA 22+00.000
196/705 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, STA 19+00.000 TO STA 16+00.000
196/707 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, STA 13+00.000 TO STA 10+82.238
196/708 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, FLAMINGO ROAD LATERAL
196/709 REV 'A'	R-4 CHANNEL-PLAN AND PROFILE, MAINTENANCE ROAD AT WEST LOOP ROAD
196/712 REV 'A'	R-4 CHANNEL-TYPICAL CHANNEL SECTIONS
196/713 REV 'A'	R-4 CHANNEL-CHANNEL CROSS SECTIONS, STA 11+00.000 TO STA 18+50.000
196/715 REV 'A'	R-4 CHANNEL-CHANNEL CROSS SECTIONS, STA 32+00.000 TO STA 36+00.000
196/716 REV 'A'	R-4 CHANNEL-UTILITIES
196/723 REV 'A'	R-4 CHANNEL-CIVIL DETAILS - V
196/724 REV 'A'	R-4 DETENTION BASIN AND CHANNEL - GENERAL STRUCTURAL NOTES AND DETAILS
196/725 REV 'A'	R-4 CHANNEL-RCB AND RECTANGULAR CHANNEL REINFORCEMENT SCHEDULES
196/741 REV 'A'	R-4 DETENTION BASIN-PLANTING AREA PLAN

SOLICITATION, OFFER, AND AWARD <i>(Construction, Alteration, or Repair)</i>	1. SOLICITATION NO.	2. TYPE OF SOLICITATION	3. DATE ISSUED	PAGE OF PAGES
	DACW09-01-B-0007	<input checked="" type="checkbox"/> SEALED BID (IFB) <input type="checkbox"/> NEGOTIATED (RFP)	29 JUN 2001	

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

4. CONTRACT NO.	5. REQUISITION/PURCHASE REQUEST NO.	6. PROJECT NO.
7. ISSUED BY Contracting Division P.O. Box 532711 Los Angeles, California 90053-2325	8. ADDRESS OFFER TO SEE ITEM 7	
9. FOR INFORMATION CALL:	A. NAME DIANE WATKINS	B. TELEPHONE NO. (Include area code) (NO COLLECT CALLS) (213) 452-3251

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):
 Construction of the R-4 Detention Basin, R-4 Chanel and portions of Red Rock Channel. Work includes embankment construction, reinforced concrete flood control channel construction, salvaged plant and aesthetic landscaping treatments.

This is an 8(a) competitive procurement. Competition is restricted to 8(a) firms serviced by the Southern California District of Los Angeles, Santa Ana and San Diego as well as the Arizona and the Nevada Districts 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 <u>1</u> calendar days and complete it within <u>450</u> calendar days after receiving <input type="checkbox"/> award, <input checked="" type="checkbox"/> notice to proceed. This performance period is <input checked="" type="checkbox"/> mandatory, <input type="checkbox"/> negotiable. (See Section 00800 .)	12B. CALENDAR DAYS 10
12A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? (If "YES," indicate within how many calendar days after award in Item 12B.) <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	

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 31 July 2001 (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.)

SEE PRICING SCHEDULE, DACW09-01-B-0007

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
(Type or print)

20B. SIGNATURE

20C. OFFER DATE

AWARD (To be completed by Government)

21. ITEMS ACCEPTED:

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN
(4 Copies unless otherwise specified)

ITEM 

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO

10 U.S.C 2304(c) () 41 U.S.C 253(c) ()

26. ADMINISTERED BY

CODE

27. PAYMENT WILL BE MADE BY

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.) 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 (Type or print)

31A. NAME OF CONTRACTING OFFICER (Type or print)

30B. SIGNATURE

30C. DATE

31B. UNITED STATES OF AMERICA

31C. AWARD DATE

BY

SECTION 00010

SUPPLIES OR SERVICES AND PRICES/COSTS

PART 1 GENERAL

1.1 Base Bid

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
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	STRIP AND STOCKPILE TOP SOIL	31,600	m ³	_____._____.	_____.
0006	EXCAVATION, DETENTION BASIN	158,710	m ³	_____._____.	_____.
0007	EXCAVATION, CHANNEL	69,700	m ³	_____._____.	_____.
0008	COMPACTED FILL, DAM EMBANKMENT	126,620	m ³	_____._____.	_____.
0009	COMPACTED FILL, CHANNEL	18,000	m ³	_____._____.	_____.
0010	COMPACTED FILL, ROADWAYS	2,850	m ³	_____._____.	_____.
0011	MISCELLANEOUS FILL	32,000	m ³	_____._____.	_____.
0012	FILTER MATERIAL	1,270	m ³	_____._____.	_____.
0013	DRAIN MATERIAL	3,240	m ³	_____._____.	_____.
0014	DETENTION BASIN DUST PALLIATIVE	5.9	HA	_____._____.	_____.
0015	RIPRAP PLACEMENT FOR SPILLWAY TOE	4,600	t	_____._____.	_____.
0016	REINFORCED CONCRETE PIPE - 1.372 m DIA.	5	m	_____._____.	_____.
0017	REINFORCED CONCRETE PIPE - 1.067 m DIA.	20	m	_____._____.	_____.
0018	REINFORCED CONCRETE PIPE - 0.914 m DIA.	21	m	_____._____.	_____.
0019	REINFORCED CONCRETE PIPE - 0.762 m DIA.	25	m	_____._____.	_____.
0020	REINFORCED CONCRETE PIPE - 0.610 m DIA.	42	m	_____._____.	_____.

0021	REINFORCED CONCRETE PIPE - 0.457 m DIA.	34	m	____.____.____.
0022	STEEL SLEEVE, 457 mm DIA	23	m	____.____.____.
0023	STEEL SLEEVE, 610 mm DIA	63	m	____.____.____.
0024	STEEL SLEEVE, 1.067 m DIA	77	m	____.____.____.
0025	CONCRETE ENCASED DUCT BANK, FLAMINGO ROAD	21	m	____.____.____.
0026	CONCRETE ENCASED DUCT BANK, LOOP ROADS	46	m	____.____.____.
0027	203 mm PVC SCH. 40 SLEEVE	67	m	____.____.____.
0028	610 mm PVC SLEEVE	15	m	____.____.____.
0029	ADJUST MANHOLE FRAME AND COVER	6	ea	____.____.____.
0030	CONCRETE ENCASED 203 mm SEWER	32	m	____.____.____.
0031	203 mm PVC SEWER	620	m	____.____.____.
0032	102 mm PVC SDR 35 SEWER	24	m	____.____.____.
0033	SANITARY SEWER MANHOLE	10	ea	____.____.____.
0034	305 mm WATER	248	m	____.____.____.
0035	CONCRETE ENCASE 305 mm WATER	16	m	____.____.____.
0036	AGGREGATE BASE COURSE	7,750	t	____.____.____.
0037	ASPHALT CONCRETE PAVEMENT	3,448	t	____.____.____.
0038	TYPE "A" GLUE DOWN CURB	67	m	____.____.____.
0039	CHAIN LINK FENCING(9 gage fabric)	1,750	m	____.____.____.
0040	CHAIN LINK FENCING (11 gage fabric)	3,290	m	____.____.____.
0041	TEMPORARY CHAIN LINK FENCING WITH (11 gage fabric) BARBED WIRE	383	m	____.____.____.
0042	4 m CHAIN LINK DOUBLE SWING GATE	8	ea	____.____.____.
0043	4 m TEMPORARY CHAIN LINK DOUBLE SWING GATE W/ 3 STRAND BARBED WIRE	2	ea	____.____.____.
0044	1.118 m CHAIN LINK SINGLE SWING GATE	6	ea	____.____.____.
0045	1.5 m CHAIN LINK SINGLE SWING GATE	6	ea	____.____.____.
0046	3.048 m CHAIN LINK SINGLE SWING GATE	6	ea	____.____.____.

0047	TEMPORARY POLYETHYLENE FENCING	1,754	m	____.____.____.
0048	102 mm BOLLARD	28	ea	____.____.____.
0049	PIPE ACCESS GATE	4	ea	____.____.____.
0050	LADDER SYSTEMS	1	Job LS	____.____.
0051	PIPE SAFETY RAILING	4,670	m	____.____.____.
0052	REINFORCED CONCRETE CHANNEL SLAB	3,273	m³	____.____.____.
0053	REINFORCED CONCRETE CHANNEL WALLS	3,951	m ³	____.____.____.
0054	REINFORCED CONCRETE TOP SLAB	233	m ³	____.____.____.
0055	CONCRETE REINFORCEMENT, CHANNEL	765	t	____.____.____.
0056	REINFORCED CONCRETE CONFLUENCE STRUCTURE #1 STATION 16+49.629 TO STATION 17+19.000	1	Job LS	____.____.
0057	REINFORCED CONCRETE CONFLUENCE STRUCTURE #2 STATION 33+04.394 TO STATION 33+19.936	1	Job LS	____.____.
0058	REINFORCED CONCRETE ACCESS RAMP #1 STATION 17+29.111 TO STATION 17+83.254	1	Job LS	____.____.
0059	REINFORCED CONCRETE ACCESS RAMP #2 STATION 30+66.624 TO STATION 31+25.208	1	Job LS	____.____.
0060	OUTLET STRUCTURE	1	Job LS	____.____.
0061	REINFORCED CONCRETE SLOTTED CHAMBER 0.610 RCP	1	ea	____.____.____.
0062	REINFORCED CONCRETE SLOTTED CHAMBER 0.762 RCP	2	ea	____.____.____.
0063	REINFORCED CONCRETE SLOTTED CHAMBER 0.914 RCP	2	ea	____.____.____.
0064	REINFORCED CONCRETE SLOTTED CHAMBER 1.372 RCP	1	ea	____.____.____.
0065	STORM DRAIN MANHOLE	1	ea	____.____.____.
0066	ROLLER COMPACTED CONCRETE (RCC) FOR SPILLWAY AND INFLOW STRUCTURE	18,100	m ³	____.____.____.
0067	PORTLAND CEMENT FOR RCC FOR SPILLWAY AND INFLOW STRUCTURE	3,190	t	____.____.____.

0068	POZZOLAN FOR RCC FOR SPILLWAY AND INFLOW STRUCTURE	800	t	_____.	_____.	_____.
0069	DETENTION BASIN STILLING WELL	1	Job	LS	_____.	_____.
0070	CHANNEL STILLING WELL	1	Job	LS	_____.	_____.
0071	WEEPHOLE SYSTEM	1	Job	LS	_____.	_____.
0072	SEDIMENT STAFF GAGE	3	ea	_____.	_____.	_____.
0073	BASIN DEPTH GAGE	1	Job	LS	_____.	_____.
0074	MULTI-USE TRAIL PRE-EMERGENT HERBICIDE/DUST PALLIATIVE	5.1	HA	_____.	_____.	_____.
0075	SALVAGE, STORE, MAINTAIN, AND PLACE HEDGEHOG CACTUS AT R-4	158	ea	_____.	_____.	_____.
0076	SALVAGE, STORE, MAINTAIN, AND PLACE BARREL CACTUS AT R-4	22	ea	_____.	_____.	_____.
0077	SALVAGE, STORE, MAINTAIN, AND PLACE JOSHUA TREE AT R-4	53	ea	_____.	_____.	_____.
0078	SALVAGE, STORE, MAINTAIN, AND PLACE MOHAVE YUCCA AT R-4 SITE	417	ea	_____.	_____.	_____.
0079	SALVAGE, STORE, MAINTAIN, AND PLACE WHITE BURSAGE AT R-4	2,770	ea	_____.	_____.	_____.
0080	SALVAGE, STORE, MAINTAIN, AND PLACE CREOSOTE BUSH AT R-4	1,385	ea	_____.	_____.	_____.
0081	SALVAGE AND TRANSPORT FOR BLM HEDGEHOG CACTUS	33	ea	_____.	_____.	_____.
0082	SALVAGE AND TRANSPORT FOR BLM BARREL CACTUS	20	ea	_____.	_____.	_____.
0083	SALVAGE AND TRANSPORT FOR BLM JOSHUA TREE	3	ea	_____.	_____.	_____.
0084	SALVAGE AND TRANSPORT FOR BLM MOHAVE YUCCA	88	ea	_____.	_____.	_____.
0085	SALVAGE HEDGEHOG CACTUS AT R-4, TRANSPORT AND PLANT AT RED ROCK OUTLET CHANNEL	103	ea	_____.	_____.	_____.
0086	SALVAGE JOSHUA TREE AT R-4, TRANSPORT AND PLANT AT RED ROCK OUTLET CHANNEL	24	ea	_____.	_____.	_____.
0087	SALVAGE MOJAVE YUCCA AT R-4, TRANSPORT AND PLANT AT RED ROCK OUTLET CHANNEL	270	ea	_____.	_____.	_____.

0088	SALVAGE WHITE BURSAGE AT R-4, TRANSPORT AND PLANT AT RED ROCK OUTLET CHANNEL	1,800	ea	_____	_____	_____
0089	SALVAGE CREOSOTE BUSH AT R-4, TRANSPORT AND PLANT AT RED ROCK OUTLET CHANNEL	900	ea	_____	_____	_____
0090	PROVIDE BROWSE PROTECTION AT RED ROCK OUTLET CHANNEL	2,700	ea	_____	_____	_____
0091	LARGE BENCH SLOPE TREATMENT	0.21	HA	_____	_____	_____
0092	PLACE TOPSOIL TO FINISH GRADE	5,657	m ³	_____	_____	_____
0093	SEEDING AND FERTILIZATION	2.77	HA	_____	_____	_____
0094	PROVIDE AND PLACE BOULDER GROUPS (3 PER GROUP) AT R-4	243	ea	_____	_____	_____
0095	PROVIDE PLANT STORAGE IRRIGATION DURING CONSTRUCTION	1	Job	LS	_____	_____
0096	PROVIDE IRRIGATION FOR 1 YEAR AFTER CONSTRUCTION	1	Job	LS	_____	_____
0097	PROVIDE BROWSE PROTECTION AT R-4 SITE	4,322	ea	_____	_____	_____
0098	SIMULATED DESERT VARNISH ROCK COLOR MITIGATION	0.81	HA	_____	_____	_____
0099	CONCRETE CHANNEL STAIN/SEALER	12,700	m ²	_____	_____	_____
0100	SOIL STABILIZER	2.77	HA	_____	_____	_____
0101	PREPARE AS-BUILT DRAWINGS	1	Job	_____	_____	_____
0102	CONCRETE FOR TEST SECTIONS	382	m ³	_____	_____	_____
0103	PORTLAND CEMENT FOR TEST SECTIONS	166	t	_____	_____	_____
0104	POZZOLAN FOR TEST SECTIONS	25	t	_____	_____	_____
0105	WATER-REDUCING ADMIXTURE FOR TEST SECTIONS	444	L	_____	_____	_____
0106	LITHIUM BASED ADMIXTURE FOR TEST SECTIONS	1,685	L	_____	_____	_____

SUBTOTAL ESTIMATED AMOUNT OF BASE BID \$ _____
 (Line Items 0001-0106)

1.2 Alternate Bid Items

1.2.1 Alternative 1 Riprap Upstream Slope Protection

0107	RIPRAP FILTER MATERIAL	1,700	m ³	____.____.____
0108	RIPRAP REPLACEMENT	9,700	t	____.____.____
SUBTOTAL ESTIMATED AMOUNT OF ALTERNATIVE 1 (Line Items 0107-0108)		\$_____.		

1.2.2 Alternative 2 RCC or SC Upstream Slope Protection

0109	ADDITIONAL COMPACTED FILL, DAM EMBANKMENT	2,860	m ³	____.____.____
0110	RCC OR SC UPSTREAM SLOPE PROTECTION	4,580	m ³	____.____.____
0111	CEMENT FOR RCC OR SC UPSTREAM SLOPE PROTECTION	565	t	____.____.____
0112	POZZOLAN FOR RCC OR SC UPSTREAM SLOPE PROTECTION	140	t	____.____.____
SUBTOTAL ESTIMATED AMOUNT OF ALTERNATIVE 2 (Line Items 0109-0112)		\$_____.		

NOTE: Prices must be submitted on all individual items of the Base Bid (Line Items 0001-0106), otherwise the bid will be considered non-responsive and will be rejected and on either Alternative 1 (Line Items 0107-0108) or Alternative 2 (Line Items 0109-0112) NOT BOTH. Any bidder who submits a bid for Both Alternative 1 and Alternative 2 will be considered non-responsive and will be rejected.

Abbreviations:

- m = meter
- m² = square meter
- m³ = cubic meter
- t = metric ton (1000 kilograms)
- ea = each
- LS = lump sum
- HA = hectare
- L = liter

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

-- End of Section --

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. At the formal bid opening for this solicitation, all hand carried bids submitted prior to 12:45 p.m. on the bid opening date will be accepted in [Room 1035](#) by available personnel. For the time period 12:45p.m. to 1:00 p.m., bids must be submitted to Room 1035(bid opening room), to the bid-opening officer only. Bids will not be accepted by any other personnel or at any other location. No bid will be accepted after 1:00 p.m. The official bid opening time will be called by the Bid Opening Officer.

15. 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).

16. Bidders are to submit prices on all line items in the Base Bid (Line Items 0001 through 0106), otherwise the bid will be considered non-responsive and will be rejected. In addition, bidders must submit prices on either Alternative 1 (Line Items 0107 through 0108) or Alternative 2 (Line Items 0109 through 0112) NOT BOTH. The Government contemplates award of one contract to the responsive, responsible bidder who submits the lowest bid for the Base Bid and Alternative 1; or the lowest bid for the Base Bid and Alternative 2. Any bidder who submits a bid for both Alternative 1 and Alternative 2 will be deemed non-responsive and their bid will be rejected.

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 PRINCIPAL

CORPORATE SEAL

SECRETARY

SECTION 01354

ENVIRONMENTAL PROTECTION FOR CIVIL WORKS

PART 1 GENERAL

1.1 REFERENCES

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

CODE OF FEDERAL REGULATIONS (CFR)

40 CFR 261 Identification and Listing of Hazardous Waste

ENGINEERING MANUALS (EM)

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

1.2 DEFINITIONS

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

1.3 SUBMITTALS

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

SD-08 Statements

Environmental Protection Plan; GA.

1.4 ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor shall perform the work minimizing environmental pollution and damage as the result of construction operations.

The Contractor shall comply with all applicable Federal, State, and local laws and regulations. The Contractor shall provide environmental

protective measures and procedures to prevent and control pollution, limit habitat disruption, and correct environmental damage that occurs during construction.

1.4.1 Protection of Features

This section supplements the Contract Clause PROTECTION OF EXISTING VEGETATION, STRUCTURES, EQUIPMENT, UTILITIES, AND IMPROVEMENTS (APR 1984). The Contractor shall prepare a list of features requiring protection under the provisions of the contract clause which are not specially identified on the drawings as environmental features requiring protection. The Contractor shall protect those environmental features, indicated specially on the drawings, in spite of interference which their preservation may cause to the Contractor's work under the contract.

1.4.2 Permits

This section supplements the Contractor's responsibility under the contract clause PERMITS AND RESPONSIBILITIES to the extent that the Government has already obtained environmental permits. The contractor shall comply with environmental commitments made by the Government. The Contractor shall obtain all needed permits or licenses. The Government will not obtain any permits for this project; see Contract Clause PERMITS AND RESPONSIBILITIES. The Nevada Division of Environmental Protection, through the national pollutant discharge elimination system (NPDES), requires the Contractor to obtain general permits, **and it is the Contractor's responsibility to prepare the Notice of Intent, and the Notice of Discontinuation and/or the Notice of Completion, as required.** The Contractor shall prepare a Storm Water Pollution Protection Plan (SWPPP). The Contractor is also responsible for obtaining Air Quality permits from Clark County. The Contractor shall be responsible for implementing the terms and requirements of the appropriate permits as needed and for payment of all fees.

1.4.3 Special Environmental Requirements

The Contractor shall comply with the special environmental requirements, and the stipulations of the BLM Right-of-Way Grant, included at the end of this section. These special environmental requirements are an outgrowth of environmental commitments made by the Government during the project development.

1.4.4 Environmental Assessment of Contract Deviations

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

environmental impact.

1.4.5 Subcontractors

The Contractor shall ensure compliance with this section by subcontractors.

1.4.6 Preconstruction Survey

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.

1.4.7 Meetings

The Contractor shall meet with representatives of the Contracting Officer to alter the environmental protection plan as needed for compliance with the environmental pollution control program.

1.4.8 Notification

The Contracting Officer will notify the Contractor in writing of any observed noncompliance with the previously mentioned Federal, State or local 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 proposed corrective action and take such action when approved. If the Contractor fails to comply promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. No time extensions shall be granted or costs or damages allowed to the Contractor for any such suspensions.

1.4.9 Litigation

If work is suspended, delayed, or interrupted due to a court order of competent jurisdiction, the Contracting Officer will determine whether the order is due in any part to the acts or omissions of the Contractor, or subcontractors at any tier, not required by the terms of the contract. If it is determined that the order is not due to Contractor's failing, such suspension, delay, or interruption shall be considered as ordered by the Contracting Officer in the administration of the contract under the contract clause SUSPENSION OF WORK.

1.4.10 Previously Used Equipment

The Contractor shall thoroughly clean all construction equipment previously used at other sites before it is brought into the work areas, ensuring that soil residuals are removed and that egg deposits from plant pests are not present; the Contractor shall consult with the USDA jurisdictional office for additional cleaning requirements.

1.4.11 Payment

No separate payment will be made for work covered under this section; all costs associated with this section shall be included in the contract unit

and/or lump sum prices in the Bidding Schedule.

1.5 ENVIRONMENTAL PROTECTION PLAN

Within 20 calendar days of Notice of Award, the Contractor shall submit an Environmental Protection Plan for review and acceptance by the Contracting Officer. The Environmental Protection Plan shall be reviewed by the Corps Environmental Resources Branch. Approval of the Contractor's plan will not relieve the Contractor of responsibility for adequate and continuing control of pollutants and other environmental protection measures. The Government will consider an interim plan for the first 30 days of operations. However, the Contractor shall furnish an acceptable final plan not later than 30 calendar days after receipt of the Notice to Proceed. Acceptance is conditional and is predicated upon satisfactory performance during construction. The Government reserves the right to require the Contractor to make changes in the Environmental Protection Plan or operations if the Contracting Officer determines that environmental protection requirements are not being met. The plan shall detail the actions which the Contractor shall take to comply with all applicable Federal, State, and local laws and regulations concerning environmental protection and pollution control and abatement, as well as the additional specific requirements of this contract. No physical work at the site shall begin prior to acceptance of the Contractor's Environmental Protection Plan or an interim plan covering the work to be performed. The Environmental Protection Plan shall include, but not be limited to, the following:

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

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

1.5.2 Spill Control Plan

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

- a. The name of the individual who will be responsible for implementing and supervising the containment and cleanup.
- b. Training requirements for Contractor's personnel and methods of accomplishing the training.
- c. A list of materials and equipment to be immediately available at the job site, tailored to cleanup work of the potential hazard(s) identified.
- d. The names and locations of suppliers of containment materials and locations of additional fuel oil recovery, cleanup, restoration, and material-placement equipment available in case of an unforeseen spill emergency.

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

f. The name of the individual who will report any spills or hazardous substance releases and who will follow up with complete documentation. This individual shall immediately notify the Contracting Officer in addition to the legally required Federal, State, and local reporting channels (including the National Response Center 1-800-424-8802) if a reportable quantity spill occurs. The plan shall contain a list of the required reporting channels and telephone numbers.

1.5.3 Recycling and Waste Minimization Plan

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

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

1.5.4 Contaminant Prevention Plan

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

1.5.5 Environmental Monitoring

The Contractor shall include in the plan the details of environmental monitoring requirements under the laws and regulations and a description of how this monitoring will be accomplished. Includes biological, land, water, air, and noise monitoring.

1.5.6 Protection of Features

The Contractor shall include in the Environmental Protection Plan methods for protection of features to be preserved within authorized work areas such as trees, shrubs, grasses, cacti, and air and water quality, wildlife, soil, historical, archaeological, and cultural resources.

1.5.7 Procedures

The Contractor shall include in the Environmental Protection Plan procedures to be implemented to provide the required environmental protection, to comply with the applicable laws and regulations, and to correct pollution or other environmental damage due to accident, natural causes, or failure to follow the procedures of the environmental protection plan.

1.5.8 Plant Disposal Area

The Contractor shall include in the Environmental Protection Plan the location of disposal area for plant materials not used on the project and not salvaged for the BLM. It shall include the plant salvage operation including the interim storage on the site in accordance with Section 02910 NATIVE PLANT EXTRACTION, SALVAGE AND STORAGE.

1.5.9 Temporary Excavations or Embankments

The Contractor shall include in the Environmental Protection Plan drawings showing locations of any proposed temporary excavations or embankments for haul roads, material storage areas, structures, sanitary facilities, and stockpiles of excess or spoil materials.

1.5.10 Traffic Control Plan

The Contractor shall include in the Environmental Protection Plan a traffic control plan including measures to reduce erosion of temporary roadbeds by construction traffic, especially during wet weather, and the amount of mud transported onto paved public roads by vehicles or runoff.

1.5.11 Surface and Groundwater Protection

The Contractor shall include in the Environmental Protection Plan methods of protecting surface and ground water during construction activities.

1.5.12 Work Area Activity

The Contractor shall include in the Environmental Protection Plan a plan showing the proposed activity in each portion of the work area and identifying the areas of limited use or nonuse. Plan should include measures for marking the limits of use areas.

1.5.13 Borrow Area

The Contractor shall include in the Environmental Protection Plan a drawing of the borrow area locations. Protection measures required at the work site shall apply to the borrow areas including final restoration for subsequent beneficial use of the land.

1.5.14 Contractor Training

The Contractor shall include in the Environmental Protection Plan an outline of the Environmental Protection and Pollution Control Training Program for Contractor's personnel during the construction period.

PART 2 PRODUCTS (Not Applicable)

PART 3 EXECUTION

3.1 SPECIAL ENVIRONMENTAL PROTECTION REQUIREMENTS

3.1.1 Threatened and Endangered Species Protection

If during construction activities any threatened or endangered species (particularly the Desert Tortoise) are observed in or near the construction area, such observations shall be reported immediately to the Contracting Officer so that the appropriate authorities may be notified and a

determination made as to what special disposition should be made. The Contractor shall strictly adhere to the relevant articles of the following Table 01354-1 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 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. 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.

3.1.2 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 perform all work for native plant extraction, salvage, and temporary plant storage in accordance with Section 02910. 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.

3.1.3 Tree Protection

No ropes, cables, or guys shall be fastened to or attached to any tree(s) for anchorage unless specifically authorized by the Contracting Officer. Where such special use is permitted, the Contractor shall provide effective protection to prevent damage to the tree and other land and vegetative resources. Unless specifically authorized by the Contracting Officer, no construction equipment or materials shall be placed or used within the drip line of trees shown on the drawings to be saved. No excavation or fill shall be permitted within the drip line of trees to be saved except as shown on the drawings.

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

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

3.1.5 Commercial Borrow

Prior to bringing commercially obtained borrow material onsite, the Contractor shall provide the Contracting Officer with the location of the pit or pits, the names of the owners and operators, and the types and estimated quantities of materials to be obtained from each source.

3.1.6 Soil Disposal Areas on Government Property

Soil disposal on Government property shall be made only in those areas designated on the contract drawings. Hazardous, toxic, and radiological wastes (HTRW) shall not be disposed of on Government property. Disposal operations shall be managed and controlled to prevent erosion of soil or sediment from entering nearby waters or wetlands. Disposal operations shall be developed and managed in accordance with the grading plan shown on the drawings or as approved by the Contracting Officer.

3.1.7 Disposal of Solid Wastes

Solid waste is rubbish, debris, waste materials, garbage, and other discarded solid materials (excluding clearing debris and hazardous waste as defined in following paragraphs). Solid waste shall be placed in containers and disposed on a regular schedule. All handling and disposal shall be conducted in such a way as to prevent spillage and contamination. Segregation measures shall be employed so that no hazardous or toxic waste will become co-mingled with solid waste. The Contractor shall transport all solid waste off Government property and dispose in compliance with Federal, State, and local requirements.

3.1.8 Clearing Debris

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

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

b. Excavated natural materials shall be placed in the designated area on the drawings.

c. Demolition products shall be transported from Government property for proper disposal in compliance with Federal, State, and local requirements.

3.1.9 Disposal of Contractor Generated Hazardous Wastes

Hazardous wastes are wastes as defined in 40 CFR 261, and as defined by applicable State and local regulations. The Contractor shall take sufficient measures to prevent spillage of hazardous and toxic materials during dispensing and shall collect waste in suitable containers observing compatibility. Hazardous waste generated by construction activities shall be removed from the work area and be disposed in compliance with Federal, State, and local requirements. The Contractor shall segregate hazardous

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

3.1.10 Fuels and Lubricants

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

3.1.11 Chemical Wastes

Chemicals shall be dispensed ensuring no spillage to 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 6 inches of the top. Wastes shall be disposed of in accordance with Federal and local laws and regulations.

3.2 HISTORICAL, ARCHAEOLOGICAL, AND CULTURAL RESOURCES

3.2.1 Known Historic, Archaeological, and Cultural Resources

Known historic, archaeological, and cultural resources within the Contractor's work area are marked on the contract drawings. The Contractor shall install protection for these resources as shown on the drawings and shall be responsible for their preservation during the contract.

3.2.2 Discovered Historic, Archaeological, and Cultural Resources

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

3.3 PROTECTION OF WATER RESOURCES

The Contractor shall keep construction activities under surveillance, management, and control to avoid pollution of surface and ground waters. Toxic or hazardous chemicals shall not be applied to soil or vegetation when such application may cause contamination of the fresh water reserve. Monitoring of water areas affected by construction shall be the Contractor's responsibility. All water areas affected by construction activities shall be monitored by the Contractor.

3.3.1 Washing and Curing Water

Waste waters directly derived from construction activities shall not be allowed to enter water areas. Waste waters shall be collected and placed in retention ponds where suspended material can be settled out or the water evaporates to separate pollutants from the water. Analysis shall be performed and results reviewed and approved before water in retention ponds is discharged.

3.3.2 Monitoring of Water Areas Affected by Construction Activities

The Contractor shall perform discharge monitoring, inspections, stormwater sampling and testing, reporting, and record keeping as set forth in the SWPPP.

3.4 PROTECTION OF 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

Airborne particulates, including dust particles, aerosols and gaseous by-products from construction activities and processing and preparation of materials shall be controlled at all times, including weekends, holidays, and hours when work is not in progress. The Contractor shall maintain all excavations, stockpiles, haul roads, permanent and temporary access roads, plant sites, spoil areas, disposal sites, borrow areas, and all other work areas within or outside the project boundaries free from airborne dust which would cause the air pollution standards to be exceeded or which would cause a hazard or a nuisance. Sprinkling, chemical treatment of an approved type, light bituminous treatment, baghouse, scrubbers, electrostatic precipitators or other methods will be permitted to control particulates in the work area. Sprinkling, to be efficient, must be repeated 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.

3.4.2 Hydrocarbons and Carbon Monoxide

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

3.4.3 Odors

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

3.4.4 Sound Intrusions

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

3.5 PROTECTION OF 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 the 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, cacti, grasses, topsoil, and land forms without permission. Where such emergency use is permitted, the Contractor shall provide effective protection for land and vegetation resources at all times as defined in the following subparagraphs. Stone, earth or other material displaced into uncleared areas shall be removed.

3.5.1 Work Area Limits

Prior to any construction, the Contractor shall mark the areas that need not be disturbed under this contract. Isolated areas within the general work area which are to be saved and protected shall also be marked or fenced. Monuments and markers shall be protected before construction operations commence. Where construction operations are to be conducted during darkness, the markers shall be visible. The Contractor's personnel shall be knowledgeable of the purpose for marking and/or protecting particular objects.

3.5.2 Landscape

Cactus, yucca, shrubs, grasses, land forms and other landscape features outside of the construction area shall be preserved.

3.5.3 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.

3.5.4 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.

3.5.5 Contractor Facilities and Work Areas

The Contractor's field offices, staging areas, stockpile storage, temporary plant storage area 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. Borrow areas shall be managed to minimize erosion, weeds and to prevent sediment from entering nearby waters. Spoil areas shall be managed and controlled to limit spoil intrusion into areas designated on the drawings and to prevent erosion of soil or sediment from entering nearby waters. Spoil areas shall be developed in accordance with the grading plan indicated on the drawings. Temporary excavation and embankments for plant and/or work areas shall be controlled to protect adjacent areas from despoilment.

3.6 INSPECTION

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

3.7 MAINTENANCE OF POLLUTION CONTROL FACILITIES

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

3.8 TRAINING OF CONTRACTOR PERSONNEL

Contractor 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 commencement of construction and monthly thereafter. The training and meeting agenda shall include methods of detecting and avoiding pollution, familiarization with pollution standards, both statutory and contractual, installation and care of facilities (vegetative covers, etc.), and instruments required for monitoring purposes to ensure

adequate and continuous environmental protection/pollution control. Anticipated hazardous or toxic chemicals or wastes, and other regulated contaminants, shall also be discussed. Other items to be discussed shall include recognition and protection of archaeologic sites and artifacts and recognition and protection of threatened and endangered or protected species, particularly the desert tortoise and the Gila monster. Training shall also include precautions to be taken to avoid being bitten in the event that a Gila monster is encountered.

3.9 POST CONSTRUCTION CLEANUP

The Contractor shall clean up all areas used for construction.

3.10 RESTORATION OF LANDSCAPE DAMAGE

The Contractor shall restore the natural landscape damaged or destroyed during construction operations outside the limits of the approved work areas.

-- End of Section --

Table 01354-1

ENVIRONMENTAL COMMITMENTS

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

<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>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 or 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 construction activities causing</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>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"> 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. 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. 	<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>

<p>Impacts to desert tortoise during operation and maintenance</p>	<p>Para 2.03</p>	<p>NEPA, Endangered Species Act</p>	<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>	<p>Subsequent to project completion (operation and maintenance).</p>
			<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>	<p>Subsequent to project completion (operation and maintenance).</p>
			<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>	<p>Subsequent to project completion (operation and maintenance).</p>

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.

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	(1997ael) 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	(1997ael) Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
ASTM A 320/A 320M	(1999) 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	(1996) Aluminum and Aluminum-Alloy Bar, Rod, and Wire
ASTM C 478	(1997) Precast Reinforced Concrete Manhole Sections
ASTM C 497	(1998) Test Methods for Concrete Pipe, Manhole Sections, or Title

AMERICAN WELDING SOCIETY (AWS)

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

COMMERCIAL ITEM DESCRIPTIONS (CID)

CID A-A-1923

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

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

NEVADA DEPARTMENT OF TRANSPORTATION STANDARD PLANS FOR ROAD AND BRIDGE
CONSTRUCTION

1.2 SUBMITTALS

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

SD-04 Drawings

Miscellaneous Metal Items; GA.

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 following items: trash rack structure, stilling well safety cage, stilling well access door, plates, and appurtenances, access gates, and staff gages.

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.

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). 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 the applicable requirements of ASTM A 320/A 320M, Grade B8.

2.1.5 Bolts

Bolts shall conform to ASME B18.2.1 and to 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.

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 FOR CIVIL WORKS.

2.1.9 Pipe Safety Railing

Safety railing and anchors shall be fabricated as shown on the drawings. Anchors, nuts and washers shall be galvanized.

2.1.10 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.

2.1.11 Pipe Caps

Pipe caps shall conform to ASME B16.3.

2.1.12 Trash Rack Gratings

Trash rack gratings shall be fabricated of steel conforming to ASTM A 36/A 36M and steel pipe conforming to ASTM A 53/A 53M standard weight.

2.1.13 Cover Plate

Cover plates shall conform to plans. Sharp edges and burrs shall be removed from plates.

2.1.14 Manhole Frames and Covers

Locking manhole frames and covers shall be ductile iron Pont-A-Mousson Paris S or approved equal. Wrench for lock nut shall be provided to the Contracting Officer by the Contractor. Other 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".

2.1.15 Inlets and Frames

Square beehive drainage inlets and frames are to be Gray Iron Castings, Type R-4346 as manufactured by Neenah Foundry Company or approved equal. Castings for inlets and frames shall conform to ASTM A 48, Class 30.

2.1.16 Steel Chain Gate

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

2.1.17 Stilling Well Ladder and Safety Cage

Ladder and cage shall be detailed and submitted for approval prior to fabrication. Full dimensions, wall and floor attachments, materials, construction and finish must be shown. All edges shall be clean, smooth, burr-free and rounded.

a. Rungs shall be no less than 31.7 mm in section and 466.7 mm long, formed from tubular aluminum extrusions, alloy 6063-T6 or 6005-T5, shall be squared and deeply serrated on all sides, and shall be at 305 mm intervals. Rungs shall be able to withstand a 450 kg load without failure.

b. Side rails shall be aluminum channel no less than 3.2 mm wall thickness by 76.2 mm wide.

c. Safety cage shall be fabricated for 4.8 mm by 50.8 mm aluminum bar, alloy 6063-T5 or 6005-T5. Cage hoops shall have 342.9 minimum radius. Safety cage shall end a minimum of 2.13 and a maximum of 2.44 meters above the bottom of the ladder.

d. Platform shall be provided at maximum interval of 9.144 meters with deck of serrated aluminum treads.

e. Wall mounting brackets shall be aluminum no less than 50.8 mm by 4.76 mm.

f. Floor mounting brackets shall be aluminum, angle no less than 101.6 by 50.8 mm by 4.76 mm.

2.1.18 Steel Sleeves

Steel sleeves for future utilities shall be steel pipe conforming to ASTM A 53/A 53M, Class B. Diameters shall be as shown on the plans. The minimum thickness shall be 6 mm.

PART 3 EXECUTION

3.1 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. Steel with welds will not be accepted, except where welding is definitely specified or called for on the drawings. All bolts, nuts, and screws shall be tight. Work shall be accurately set to established lines and elevations and securely fastened in place. Anchorage shall be provided where necessary for fastening miscellaneous metal and wood 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; machine and carriage bolts for steel; and lag bolts and screws for wood.

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 SAFETY RAILING

Pipe Safety Railing shall be fabricated with steel pipe and shall be fabricated in the shop. Care shall be taken to deform pipe without "breaking" the steel. Any pipe deformations that demonstrate visible cracking or weakening may be cause for rejection. The completed Pipe Safety Railing assembly shall be galvanized after shop fabrication. The pipe gate components shall be galvanized. **All hand rail posts shall be true vertical and not normal to the top of the channel walls.** Welded, cut, damaged, and deformed areas of galvanizing metal shall be neatly coated with Grade 50B solder conforming to ASTM B 32. The Contractor shall grease pipe slip joint thoroughly with grease immediately after installation of chains at each gate opening. The Contractor shall examine and certify the operation of all safety pipe railing not sooner than 30 days after installation.

3.7.1 Attachment of Safety Railing

Splices, where required, shall be made at expansion joints. Removable sections shall be installed as indicated.

3.7.2 Installation of Pipe Safety Railing

Installation shall be as shown on the drawings.

3.8 ACCESS GATE

Access gates shall be installed at the locations indicated on the drawings. Access gates shall be fabricated in the shop from standard weight steel pipe conforming to ASTM A 53/A 53M. All access gate components shall be galvanized after fabrication. Welded, cut, damaged, and deformed areas of galvanizing metal shall be neatly coated with Grade 50B solder conforming to ASTM B 32. The gates shall be installed in such a fashion that they work freely. The Contractor shall examine the operation of all pipe gates not sooner than 30 days after installation for ease of operation. Any gates that cannot be operated by one person will be repaired (including any required structural modifications) by the Contractor at no additional cost to the Government, and requirements for repair shall conform to the requirement for installation above.

3.9 TRASH RACK

Trash rack gratings shall be of the type and size specified or shown on the

drawings and shall be fabricated to accurately fit the supporting member. Opening shall be provided as shown on the drawing or as required. Trash rack grating and connections shall be galvanized after fabrication.

3.10 SEDIMENT STAFF GAGES AND PIPE BOLLARDS

Sediment staff gages and 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. Sediment staff gages and 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 FOR CIVIL WORKS having a compressive strength of 21 MPa.

3.11 PAINTING

Painting of sediment staff gages, basin depth gage, and pipe bollards shall be in accordance with the requirements of the UNIFORM STANDARD SPECIFICATIONS FOR PUBLIC WORKS' CONSTRUCTION OFF-SITE IMPROVEMENTS, CLARK COUNTY AREA NEVADA, SECTIONS 614 AND SECTION 714.

3.12 STILLING WELLS

3.12.1 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.

3.12.2 Ladder and Safety Cage

Ladder and safety cage shall be installed per manufacturer's recommendations.

3.13 Steel Sleeves

Steel sleeves shall be placed to the alignment and grades indicated and in accordance with SECTION 02316 EXCAVATION, TRENCHING AND BACKFILLING FOR UTILITIES SYSTEMS.

-- End of Section --