



RFQ No. W912DW-04-Q-0128

**US Army Corps
of Engineers®**
Seattle District

Project: ADDITIONAL WATER STORAGE,
HOWARD A. HANSON DAM

Location: Enumclaw, WA

SERVICE SOLICITATION

Closing Date: 23 July 2004

Closing Time: 11:00 A.M.

REMARKS: Quotes may be faxed to (206) 764-6817, Attention: Vincent Daniels, or mailed to US Army, Corps of Engineers, Seattle District, Attention: Vincent Daniels, P.O. Box 3755, Seattle, WA 98124-3755.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE	PAGE OF PAGES
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 20-Jul-2004	4. REQUISITION/PURCHASE REQ. NO. W68MD9-4181-6457	1 8
6. ISSUED BY USA ENGINEER DISTRICT, SEATTLE ATTN: CENWS-CT 4735 EAST MARGINAL WAY SOUTH SEATTLE WA 98134-2329		CODE W912DW	7. ADMINISTERED BY (If other than item 6) USA ENGINEER DISTRICT, SEATTLE VINCENT DANIELS PH:206-764-3572 FAX: 206-764-6817 VINCENT.E.DANIELS@US.ARMY.MIL SEATTLE WA	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)			X	9A. AMENDMENT OF SOLICITATION NO. W912DW-04-Q-0128
			X	9B. DATED (SEE ITEM 11) 16-Jul-2004
				10A. MOD. OF CONTRACT/ORDER NO.
				10B. DATED (SEE ITEM 13)
CODE	FACILITY CODE			
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS				
<input checked="" type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input checked="" type="checkbox"/> is extended, <input type="checkbox"/> is not extended.				
Offer 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 <input type="checkbox"/> is not, <input type="checkbox"/> 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.) Title: Borehole Geophysical Surveys and Imaging of In-Situ Rock for Proposed Cofferdam and Juvenile Fish Passage Facility, Howard A. Hanson Dam, Green River, WA				
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) VINCENT E DANIELS / ADDED BY SUMI TEL: 206-764-3572 EMAIL: vincent.e.daniels@nws02.usace.army.mil		
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 20-Jul-2004	

EXCEPTION TO SF 30
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)
Prescribed by GSA
FAR (48 CFR) 53.243

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

The following items are applicable to this modification:CONTINUATION

A. The purpose of this amendment one (0001), dated 20 July 2004, is to incorporate the following revisions as follows:

1. The solicitation title is revised to read as follows:
BOREHOLE GEOPHYSICAL SURVEYS AND IMAGING OF IN-SITU ROCK FOR
PROPOSED COFFERDAM AND JUVENILE FISH PASSAGE FACILITY, HOWARD
HANSON DAM
GREEN RIVER, WASHINGTON
2. The statement of work dated 2 July 2004 is replaced in its entirety with the statement of work and (2) specification drawings dated 23 June 2004.
3. THE CLOSING DATE AND TIME ARE CHANGED FROM 22 July 2004, 11:00 AM LOCAL TIME TO 23 JULY 2004, 11:00 AM LOCAL TIME.

B. Offerors must acknowledge this amendment by date and number.

SCOPE OF WORK
BOREHOLE GEOPHYSICAL SURVEYS AND IMAGING OF IN-SITU ROCK
FOR PROPOSED COFFERDAM AND JUVENILE FISH PASSAGE FACILITY
HOWARD HANSON DAM, GREEN RIVER, WASHINGTON
23 June 2004

1. General. This Scope of Work (SOW) describes the contractual work required to perform borehole geophysical surveys at Howard Hanson Dam (HHD) located on the Green River in western Washington (see Figure 1). The geophysical surveys will supplement evaluation of in-situ rock properties and conditions relating to engineering design of a juvenile fish passage facility (JFPF) at Howard Hanson Dam. Howard Hanson Dam is located approximately 50 miles southeast of downtown Seattle.

Design for the excavation of the JFPF will include an attraction water conduit (AWC). The AWC will transport water from the JFPF to the existing outlet tunnel approximately 180 feet downstream of the outlet tower gates. The construction of the AWC will include tunneling, portal strengthening at the exiting tunnel/AWC junction, and rock bolting of the pillar of rock separating the two tunnels. To support the design of this work, exploratory core holes will be drilled by another contractor from inside the existing outlet tunnel into the rock mass where the AWC will be constructed.

2. Site Conditions and Restrictions. Howard Hanson Dam is located approximately 4.5 miles upstream of the City of Tacoma Headworks along a 1.5 lane gravel road. Access beyond the headworks gate is restricted, and all personal and company vehicles must be registered with the City of Tacoma. Drivers will be required to show vehicle registration, proof of insurance, and a valid driver's license to gain access to the site. The City of Tacoma will provide a vehicle pass upon receipt of this information. All vehicles driving the access road to the site beyond the headworks gate must have a CB radio tuned to Channel 10 and announce their position relative to mileage posts and direction of travel when traveling on the access road. The Green River is a source of drinking water for the City of Tacoma. The geophysical contractor shall take all necessary precautions to prevent foreign materials of any kind (e.g., oils, lubricants, human waste, etc.) from entering the reservoir. The geophysical contractor shall travel within the watershed only where necessary to complete the work specified in this contract. The telephone number of the Tacoma control station is (360) 886-1601. The telephone number of the Howard Hanson Dam Corps Project Office is (360) 886-2911. Access shall be coordinated with Tom Danielson (206-764-3526) or Richard Smith (206-764-3309). Contractor may arrange with the Corps project office to meet at the control station and be escorted the 4-1/2 miles to the dam during their normal business hours.

Access to the outlet tunnel will be available at the downstream portal of the outlet tunnel reached via a gravel road at approximately mile 3.5 from the headworks gate. A ladder and platform will be in place for contractor use as installed by another contractor who will be installing rock bolts in the tunnel ceiling upstream of the work covered in this contract. The Contracting Officer may have other contractors in the same area in which the work is being performed. These contractors may or may not be involved with the exploration program. The Contractor, in the best interest of the Government, shall provide all necessary cooperation so that the concurrent work of other

contractors is not unduly disrupted by the geophysical work of this contract. The Contracting Officer's Representative (COR) shall be the sole judge concerning satisfactory cooperation among contractors and as such the decision of the COR shall prevail. There may be drill cuttings and standing water in the region where the geophysical contractor will be working. The rock bolt contractor may have a small dam and pumps to catch cutting and drill water to prevent drilling fluids from entering the river at the downstream terminus of the tunnel.

A tunnel cross section is provided in Figure 2. Borehole imaging will be accomplished to provide complete fracture characterization and delineation of joints, faults, and shear zones.

3. Personnel Requirements. Borehole geophysical surveys and on-site analysis shall be conducted by a Geophysicist with a minimum of 5 years experience on similar projects.

4. Background Information. Prior to work in this contract three core borings will be drilled using an HQ-3 wireline core bit (Table 1). The HQ-3 bit drills a boring approximately 3.8 inches in diameter. There will be 4 vertical borings and 4 angle borings at 3 degrees off vertical. Bedrock varies from moderately hard volcanic rock to soft pyroclastics and tuff. Fault zones, weathered rock, and flowing artesian water were encountered during previous drilling. However, because cores are oriented near horizontal, they will not be full of water and likely will flow only small quantities of water. Rock core will be available on-site for previewing. Field boring logs and hydraulic pressure data will be available upon request.

Table 1. Location, orientation, and length for each boring.

Borehole ID	Station (OWT)	Orientation [†]	Length	Incline [‡]	Tip Elevation
04-DD-244	16+43	28° downstream	30 feet	+ 7.76°	1031.75' amsl
04-DD-245	16+60	26° downstream	22 feet	+ 8.81°	1030.75' amsl
04-DD-246	16+95	68° upstream	80 feet	+ 5.11°	1033.50' amsl

[†] degrees from normal

[‡] degrees above horizontal; based on a borehole entry height of four feet above ground surface

5. Summary of Work.

The work consists of furnishing all equipment, plant, labor, materials, supplies, and accessories required to accomplish the borehole geophysical investigations in accordance with these specifications. Access to the outlet tunnel is typically allowed from mid-July through approximately mid-September each year. A schedule for the drilling work has not yet been set. The geophysical Contractor shall be available to perform the work during August and/or September 2004 as needed. Work will be to perform borehole imaging services within the Table 1 core drilled holes. All fieldwork shall be completed by 15 September 2004. Contractor shall accomplish data acquisition, reduction and interpretation of data, and present findings in a report for the borehole imaging.

Borehole imaging shall be accomplished in all borings listed in Table 1 using a borehole caliper logger and a combination of acoustic televiewer (ATV) and optical televiewer loggers to provide complete fracture characterization, and delineation of faults and shear planes. Borehole deviation shall also be recorded. Both types of televiewer logs will be created for each boring to help overcome equivalence problems involving acoustically imaged borehole features.

Characterization shall include fracture orientation, dip angle, aperture width, and frequency with depth and fracture plane populations. Photographs of rock core and copies of the field boring logs shall be provided to the contractor, and the contractor shall use this information to cross check the interpretation obtained from the acoustic and optical televiwers. Depths in Table 1 will be measured down the borehole in lineal feet from top of the collar casing.

6. General Requirements.

a. Project Manager. Promptly following award of the contract, Contractor shall designate a representative responsible for prosecution of project and who shall be point of contact with the Contracting Officer's Representative, Lawrence V. Mann at (206) 764-3711. The Contracting Officer's Representative's designated point of contact is Richard Smith at (206) 764-3309.

b. Health and Safety. It shall be the responsibility of the Contractor to ensure that all work carried out is performed in a manner that is safe and protective of human health and the environment in accordance with these specifications and the U.S. Army Corps of Engineers Safety and Health Requirements Manual (EM 385-1-1). Section 01.A.10 and Figure 1 of EM 385-1-1 provides guidance for preparation of the required Activity Hazard Analysis (AHA). The Contractor shall not commence on-site work until such time as the Contracting Officer's Representative has approved the AHA. The Contractor shall be held responsible for ensuring that operations under its control do not jeopardize the health and safety of public or private sector workers, members of the public at large, or the environment.

6. Data Reduction, Interpretation, and Report. Contractor is responsible for complete and correlated work. Two reports shall be submitted to the Contracting Officer's Representative (COR): a draft field report no later than 30 days after completion of fieldwork and a final report within 90 days of completion of the fieldwork. The field report shall consist of test data or reproductions thereof, data analyses with backup data and calculations, and results. Five (5) hard copies of the field report shall be submitted to the Contracting Officer's Representative. A PDF version of the field report shall be emailed to Richard Smith upon completion at richard.e.smith@nws02.usace.army.mil

The draft and final reports shall consist of a narrative briefly describing the field and interpretive methods employed, test data or reproductions thereof, data analyses with backup data and calculations, and results. It is the Government's intent that the final report contains all data collected during the geophysical investigation arranged in tables and appendices so that the Government can use the information to perform its design analyses. The report shall be written in readily understandable language and presented in a clear concise and logical format that addresses each aspect of the work accomplished. Results of all office and fieldwork shall fully support and justify the conclusions and recommendations of the report. The Government acknowledges that data acquired during subsurface geophysical investigations may be influenced by geologic structure and other variables and that the interpretations made represent the best judgment of the technical expert(s). The report shall be written using MS Word, version 6.0 or newer. Five (5) hard copies and one electronic copy in native format and PDF format on CD of the final report shall be submitted to the Contracting Officer's Representative.

7. Additional Work. The Contractor shall not perform any services under this contract required by the Government, orally or in writing, which are considered by the Contractor to be a change in the work or services required by this contract necessitating an adjustment in the price and/or schedule without the written consent of the Contracting Officer. Only the Contracting Officer has the authority to modify the contract. No work beyond the agreed upon scope shall be done by the Contractor without written direction from the Contracting Officer.

8. Use of Information. The information developed, gathered assembled, and reproduced by the Contractor or their associates in fulfillment of this contract will become the complete property of the Government. Reports and information generated under this contract become the property of the Government and distribution by the Contractor to any source, for any purpose at any time, without the written consent of the Contracting Officer is prohibited.

9. Contractor's Release of Claims. The Contractor shall submit a written "Release of Claims," signed by the firm's president with the final invoice for services rendered under the terms of this Purchase Order Contract.

END OF SECTION

AWARD SHALL BE ISSUED PURSUANT TO THE SMALL BUSINESS COMPETITIVENESS DEMONSTRATION PROGRAM BOREHOLE GEOPHYSICAL SURVEYS AND IMAGING OF IN-SITU ROCK FOR PROPOSED COFFERDAM AND JUVENILE FISH PASSAGE FACILITY HOWARD HANSON DAM, GREEN RIVER, WASHINGTON in accordance with the Scope of Work and all provisions herein.

<u>ITEM</u>	<u>SCHEDULE OF SUPPLIES/SERVICE</u>	<u>QTY</u>	<u>U/I</u>	<u>UNIT PRICE</u>	<u>AMOUNT</u>
0001	Mobilization and Demobilization	1	JOB	Lump Sum	\$_____
0002	All Work for Borehole Imaging, Surveys Data Reduction, Interpretation, and Report	1	JOB	Lump Sum	\$_____
0003	Standby Time	10	HR	\$_____	\$_____
TOTAL					\$_____

NOTE: Bidders shall offer a price for all quantities of all line items. Failure to include pricing for all quantities of all line items will result in rejection of the bid as nonresponsive.

MEASUREMENT AND PAYMENT

1. **GENERAL.** The contract price for each item shall constitute full compensation for furnishing all plant, labor, materials, and incidentals, and performing all operations necessary to complete the items in accordance with the specifications. Payment for each item shall be considered as full compensation, notwithstanding that minor features may not be specifically mentioned herein. When submitting invoice for payment, all fractional quantities shall be rounded to the nearest whole unit. The Contractor shall not be compensated for loss of time or equipment due to breakdown of equipment, lack of proper equipment as determined by the Contracting Officer's Representative, labor shortages or disputes, delay in obtaining materials, or for any other reason not directly the fault of the Government. Items for which no separate payment is provided shall be considered as incidental to the performance of the work with which it is mentioned. The Government will not be liable for probe and cable loss. Contractor's bid should include insurance for such losses.

2. **MEASUREMENT.** Measurement of the units of work shall be made as hereinafter specified.

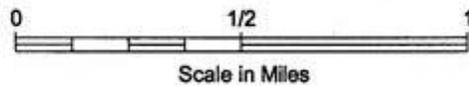
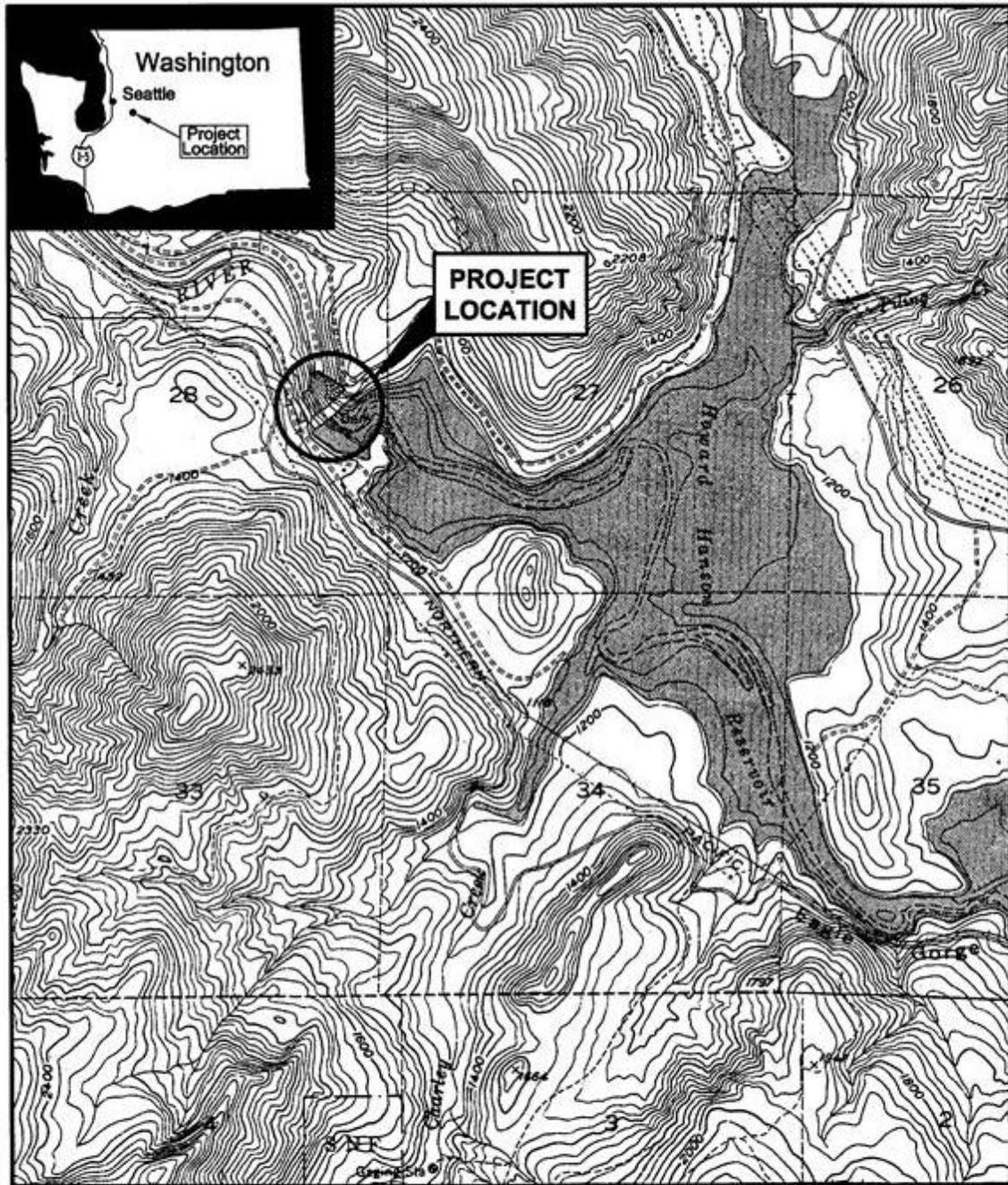
2.1 **Items Measured by Unit Hour.** Measurement of standby time shall be to the nearest hour (HR). Standby time will be measured by the number of hours that crew and/or equipment are specifically directed by the Contracting Officer's Representative to standby until notified to begin or resume work. No more than 10 hours of standby time will be paid during a calendar day (0001 to 2400 hours local time). Standby time will not be measured for payment during periods when the equipment would have otherwise been in idle status.

3. **PAYMENT.**

3.1 **Item No. 0001, Mobilization and Demobilization,** payment of which shall constitute full compensation for transportation of all labor, plant, material, equipment, and supplies to and from the work site, per diem, and mileage and setup on the 8 boring sites. The preparation, submittal, and revisions for the required Activity Hazard Analysis will be incidental to this item of work.

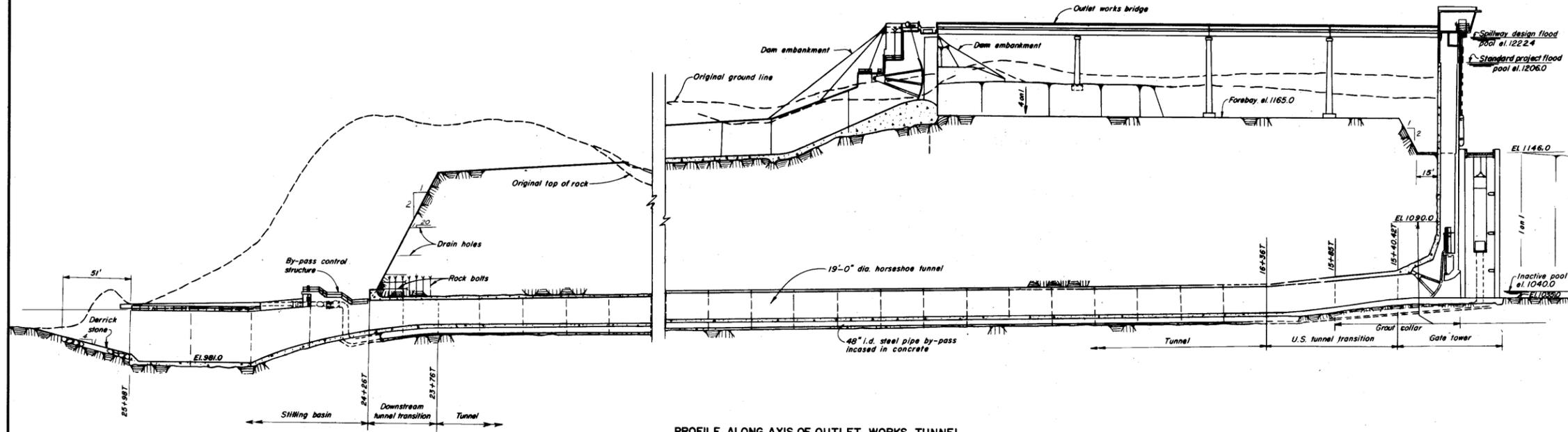
3.2 **Item No. 0002, All Work for Caliper and Deviation Surveys, Borehole Imaging, Data Reduction, Interpretation, and Reports,** payment of which shall be full compensation for Item No. 0002, complete. Work includes, but is not limited to performing hole caliper surveys, and acoustic televiewer imaging, and optical televiewer imaging, reduction and interpretation of data as specified, and presentation of findings in a report.

3.3 **Item No. 0003, Standby Time.** Payment will be made at the applicable contract unit price for Item No. 0003, payment of which shall constitute full compensation for the standing by of equipment and crew only when the Contracting Officer's Representative requests that the Contractor stop during work due to the Government's need to make decisions.

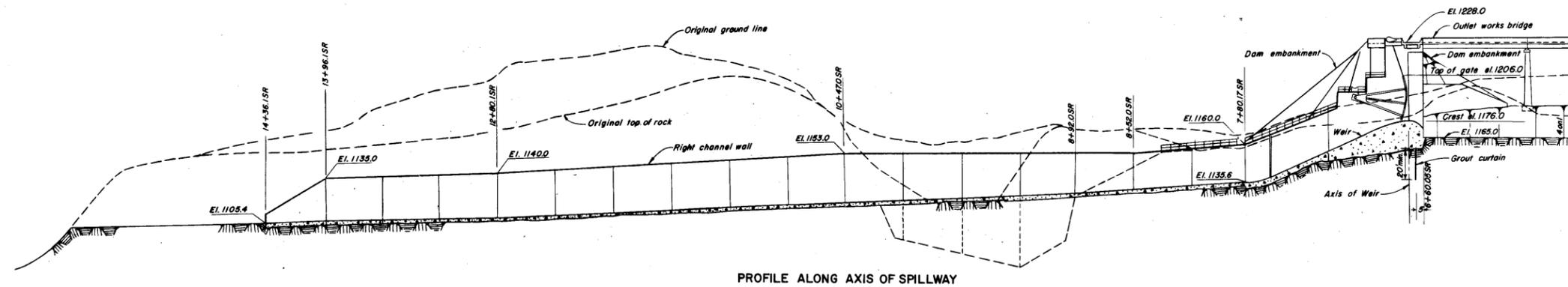


Map adapted from 1:24,000 USGS topographic map of Eagle Gorge, WA Quadrangle, 1953.

U.S. ARMY ENGINEER DISTRICT, SEATTLE	
CORPS OF ENGINEERS	
SEATTLE, WASHINGTON	
FIGURE 1	
LOCATION MAP	
Howard Hanson Dam	
EAGLE GORGE	WASHINGTON
DATE 8 JULY 2002	CHECKED BY HESS



PROFILE ALONG AXIS OF OUTLET WORKS TUNNEL



PROFILE ALONG AXIS OF SPILLWAY



GREEN RIVER, WASHINGTON
HOWARD A. HANSON DAM
SPILLWAY AND OUTLET
WORKS PROFILES

Sheet of

PLATE 3

Figure 2

THIS DWG. BASED ON DWG. NO. E 56-11-351 SHT 1 OF 50 & E 56-11-31 SHT 1 OF 23