ATTACHMENT J-1800000-01
DEFINITIONS AND ACRONYMS

DEFINITION/ACRONYM	DESCRIPTION
Environmental Permits	The facility environmental permits and EPA ID numbers shall be obtained and held by Marine Corps Base, Camp Lejeune, North Carolina.
Hazardous Material (HM)	Any material designated by the Department of Transportation (DOT) as posing a potential threat while being transported. Hazardous materials are listed in 49 CFR Part 172.
Hazardous Waste (HW)	Any discarded solid waste (liquid, semi-solid, solid, or gaseous) that meets the definition of a hazardous waste by USEPA, state authorities, or the Navy. In accordance with RCRA, a solid waste is a listed hazardous waste if it is specifically listed, or it is a characteristic hazardous waste if it exhibits the characteristics of ignitability, corrosively, reactivity, or toxicity. Discarded HM/HWORW in this contract is all waste that may be turned in to the Environmental Services contractor, including RCRA hazardous waste, state regulated waste, Universal Waste; Toxic Substance Control Act (TSCA) regulated waste, and non-hazardous waste.
Hazardous Waste Management Plan	In accordance with OPNAVINST 5090.1C, every Navy shore activity that generates HW shall develop and use a HW Management Plan or a HW management component in its P2 Plan and EMS. A HW Management Plan shall: – Identify applicable federal, state, and local regulations pertaining to the generation and management of HW. – Identify training requirements and describe procedures for obtaining training and maintaining training records. – Assign responsibilities for the generation, designation, handling, storage, treatment, disposal, and all documentation. – Describe all HW generation and management procedures. – Include or reference the HW minimization plan and goals. – Include or reference contingency plans and emergency response procedures. The plan shall be kept up to date to include changes in HW generation and management procedures, as well as changes in applicable federal, state, and local HW regulations. The plan shall include or reference minimization procedures sufficient to achieve DOD minimization goals. Tenant activities may be covered by the host CO's HW Management Plan.
HW Manifest	A HW manifest as defined in 40 CFR 260 is required for the transport of hazardous waste. The installation commanding officer (ICO) or the ICO's designated representative shall retain signature authority for HW manifests.
Installation Environmental Program Manager (IEPM)	The Government function on the Installation that has the authority to implement the Navy's environmental policies and decision-making regarding environmental compliance issues as well as environmental operational issues. The IEPM is the primary liaison for all federal, state, and local regulatory agencies and government officials, and the point of contact for all inquiries from outside the installation (e.g., public or news media inquiries) unless otherwise specified in writing.
Less-than-90-day Accumulation Areas or Storage Facilities	Accumulation areas that are not RCRA permitted hazardous waste storage facilities but can serve as temporary accumulation areas for hazardous waste subject to a 90-day time limit in accordance with 40 CFR 262 or state equivalent regulations.
Memorandums of Agreement/Understanding	The installation commanding officer or his designated representative shall retain signature authority for all MOAs and MOUs.
Other Regulated Waste (ORW)	Wastes that are not hazardous under federal RCRA regulations, but may be regulated by other federal programs (e.g., TSCA, OSHA, CERCLA, DOT) or state agency.
Sampling Plan	Plan and procedures to conduct sampling, field testing and laboratory analysis for a defined testing objective.

ATTACHMENT J-1800000-01
DEFINITIONS AND ACRONYMS

DEFINITION/ACRONYM	DESCRIPTION
Satellite Accumulation Areas	Temporary hazardous waste accumulation areas that have a maximum capacity limit of 55 gallons per area in accordance with 40 CFR 262 or state equivalent regulations.
Spill Prevention Control and Countermeasure (SPCC) Plan	Plan and procedures for the installation to exercise oil spill prevention measures and to provide effective countermeasures in the event of oil spill ashore. This may include field testing and inspection services to maintain compliance.
Treatment, Storage and Disposal Facility (TSDF)	Facilities that are permitted by RCRA regulations to provide treatment, storage and disposal services for hazardous wastes.
BUMEDINST	Bureau of Medicine and Surgery Instruction
CFR	Code of Federal Regulations
DRMO	Defense Reutilization and Marketing Office
EPA	Environmental Protection Agency
FISC	Fleet Industrial Supply Center
HAZMART	A centralized repository for the control of all hazardous materials that will order, receive, distribute, store, dispose of and track all hazardous materials used in Installation operations.
HMTID	Hazardous Material Turned in for Disposal
HMTIS	Hazardous Material Turned in for Storage
NAVSEA	Naval Sea Systems Command
NELAP	National Environmental Laboratory Accreditation Program
NEPA	National Environmental Policy Act
NON	Notices of Noncompliance
NOV	Notices of Violation
OHS	Oil and Hazardous Substances
OPNAVINST	Chief of Naval Operations Instruction
P2ADS	Pollution Prevention Annual Disposal Summary
POC	Point of Contact
QA/QC	Quality Assurance and Quality Control
RCRA	Resource Conservation and Recovery Act
SPCC	Spill Prevention Control and Countermeasures
TSDF	Treatment Storage and Disposal Facilities

ATTACHMENT J-1800000-02
REFERENCES AND TECHNICAL DOCUMENTS

References	Titles
OPNAVINST 5090.1	Environmental and Natural Resources Program Manual
NAVSEA T0300-AZ-PRO-010	Navy Environmental Compliance Sampling & Field Testing Procedures Manual
EPA 833-B-92-001	NPDESW Storm water Sampling Guidance
EPA PB83-124503	Handbook for Sampling and Sample Preservation of Water and Wastewater.
EPA/600/4-85/013	Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms
http://www.lejeune.marines.mil/	Environmental permits - Environmental Management Division (EMD)
http://www.lejeune.marines.mil/	Site Specific Plan – EMD (ie SPCC, STMP)
SESDPROC-301-R1	SESD Operating Procedures for Groundwater Sampling
40 CFR 261	Regulations Identifying Hazardous Waste
49 CFR 178	Regulations for Shipping Container Specifications
COE EM-358-1-1	Safety and Health Requirements Manual
29 CFR 1910	OSHA Safety & Health Standards
Public Law 91-90	National Environmental Policy Act (NEPA)

ATTACHMENT J-1800000-03
SAMPLING PLAN FOR FIRM FIXED PRICE SAMPLING AND ANALYSIS

During the month of **February or March, and August or September**, the Contractor shall schedule and perform the following: Sample and analyze the **55** water supply wells and four (4) water treatment plants drinking water **Attachment J-1800000-08.**

Sampling shall be in accordance with SESD Operating Procedure guidance, SESDPROC-301-R1 Groundwater Sampling **Attachment J-1800000-05.** Any changes in the initial schedule shall be coordinated at a minimum of 48 hours in advance to ensure that the well can be turned on and run prior to the sampling. If well is off-line, information shall be captured in the summary section of each report
.
The following information shall be collected at each wellhead and water treatment plant site during the sampling collection:

(1) Well identification number and water treatment plant location
(2) Number of samples taken
(3) Date and time of samples taken
(4) PH of sample taken

During each sampling event, sample each drinking water well and water treatment plant as identified in attachment J-1800000-08 Well Inventory, and analyze it for VOCs, SOCs, Chlorides, Munitions Constituents, and Perchlorate.

VOC, SOC and Chloride laboratory analyses shall be performed by a laboratory that is certified in the State of North Carolina in accordance with EPA Method 524.2, "Measurement of Purgeable Organic Compounds in Water by Capillary Column Gas Chromatography/Mass Spectrometry" and CCPCUA Water Use Permit #CU3080. The Contractor shall submit laboratory certification for all tests required by this contract. **The Contractor shall order third-party performance standards from Supelco for SW – 846 Method 8330 (Nitroaromatics and Nitramines) and EPA Method 314.0 for perchlorate. The standards will be directly forwarded from Supelco to a State certified laboratory to be analyzed <u>at the same time as</u> the well samples.** The preparation of standards by Supelco and the analyses by the designated certified lab will be provided at the normal turnaround times. The list of compounds that are to be included in this testing is in **Attachment J-1800000-07**.

The following Quality Control procedures shall be used with the sampling:

(1) Trip blank - one per cooler per shipping day.
(2) Equipment reinstate every day.
(3) Field blank – one per day
(4) Field blank – one for every 10 wells. The duplicate must be taken from the sample which will become the laboratory matrix spike/spike matrix duplicate.

The results must be measured to the limits of Method 524.2's MDLs. Any method blank contamination shall be run again.

Within 45 days of the completion of each sampling event, the Contractor shall submit a final report in accordance with Attachment **J-1800000-06**. Contractor shall notify the Government of any problems immediately after sampling.

Laboratory analyses shall be performed by a laboratory that is certified in the State of North Carolina in accordance with EPA Method 524.2. The Contractor shall submit laboratory certification for all tests required by this contract.

Vicinity maps are included in Attachment **J-1800000-09**.

ATTACHMENT J-1800000-04

RESERVE

ATTACHMENT J-1800000-05

Region 4, U.S. Environmental Protection Agency
Science and Ecosystem Support Division (SESD)
Athens, Georgia

Revision History

This table shows changes to this controlled document over time. The most recent version is presented in the top row of the table. Previous versions of the document are maintained by the SESD Field Quality Manager.

History Effective Date
SESDPROC-301-R1, *Groundwater Sampling*, replaces SESDPROC-301-R0.

General
Corrected any typographical, grammatical and/or editorial errors.

Title Page
Changed title for Antonio Quinones from Environmental Investigations Branch to Enforcement and Investigations Branch

Section 1.3
Updated information to reflect that the procedure is located on the H:drive of the LAN. Clarified Field Quality Manager (FQM) responsibilities.

Section 1.4
Updated referenced operating procedures due to changes in title names. Alphabetized and revised the referencing style for consistency.

Section 1.5.1
Corrected the title of the Safety, Health, and Environmental Management Program Procedures and Policy Manual.

Section 1.5.2, 4th bullet
Added references to the CFR and IATA's Dangerous Goods Regulations.

Section 2.5
Updated referenced operating procedures due to changes in title names.

TABLE OF CONTENTS

1 General Information

1.1 Purpose

This document describes general and specific procedures, methods and considerations to be used and observed when collecting groundwater samples for field screening or laboratory analysis.

1.2 Scope/Application

The procedures contained in this document are to be used by field personnel when collecting and handling groundwater samples in the field. On the occasion that SESD field personnel determine that any of the procedures described in this section are either inappropriate, inadequate or impractical and that another procedure must be used to obtain a groundwater sample, the variant procedure will be documented in the field log book, along with a description of the circumstances requiring its use.

1.3 Documentation/Verification

This procedure was prepared by persons deemed technically competent by SESD management, based on their knowledge, skills and abilities and have been tested in practice and reviewed in print by a subject matter expert. The official copy of this procedure resides on the H: drive of the SESD local area network. The Field Quality Manager (FQM) is responsible for ensuring the most recent version of the procedure is placed on the H: drive and for maintaining records of review conducted prior to its issuance.

1.4 References

International Air Transport Authority (IATA). Dangerous Goods Regulations, Most Recent Version
Puls, Robert W., and Michael J. Barcelona. 1989. Filtration of Ground Water Samples for Metals Analysis. Hazardous Waste and Hazardous Materials 6(4), pp.385-393.
Puls, Robert W., Don A. Clark, and Bert Bledsoe. 1992. Metals in Ground Water: Sampling Artifacts and Reproducibility. Hazardous Waste and Hazardous Materials 9(2), pp. 149-162.
SESD Guidance Document, Design and Installation of Monitoring Wells, SESDGUID- 001, Most Recent Version
SESD Operating Procedure for Control of Records, SESDPROC-002, Most Recent Version
SESD Operating Procedure for Sample and Evidence Management, SESDPROC-005, Most Recent Version
SESD Operating Procedure for Logbooks, SESDPROC-010, Most Recent Version
SESD Operating Procedure for Field Sampling Quality Control, SESDPROC-011, Most Recent Version
SESD Operating Procedure for Field pH Measurement, SESDPROC-100, Most Recent Version
SESD Operating Procedure for Field Specific Conductance Measurement, SESDPROC- 101, Most Recent Version
SESD Operating Procedure for Field Temperature Measurement, SESDPROC-102, Most Recent Version
SESD Operating Procedure for Field Turbidity Measurement, SESDPROC-103, Most Recent Version
SESD Operating Procedure for Groundwater Level and Well Depth Measurement, SESDPROC-105, Most Recent Version
SESD Operating Procedure for Management of Investigation Derived Waste, SESDROC- 202, Most Recent Version
SESD Operating Procedure for Pump Operation, SESDPROC-203, Most Recent Version
SESD Operating Procedure for Field Equipment Cleaning and Decontamination, SESDPROC-205, Most Recent Version
SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC, SESDPROC-206, Most Recent Version
SESD Operating Procedure for Potable Water Supply Sampling, SESDPROC-305, Most Recent Version
United States Environmental Protection Agency (US EPA). 1975. Handbook for Evaluating Water Bacteriological Laboratories. Office of Research and Development (ORD), Municipal Environmental Research Laboratory, Cincinnati, Ohio.
US EPA. 1977. Sampling for Organic Chemicals and Microorganisms in the Subsurface. EPA-600/2-77/176.
US EPA. 1978. Microbiological Methods for Monitoring the Environment, Water and Wastes. ORD, Municipal Environmental Research Laboratory, Cincinnati, Ohio.
US EPA. 1981. "Final Regulation Package for Compliance with DOT Regulations in the Shipment of Environmental Laboratory Samples," Memo from David Weitzman, Work Group Chairman, Office of Occupational Health and Safety (PM-273), April 13, 1981.

US EPA. 1995. Ground Water Sampling - A Workshop Summary. Proceedings from the Dallas, Texas November 30 – December 2, 1993 Workshop. ORD, Robert S. Kerr Environmental Research Laboratory. EPA/600/R-94/205, January 1995.
US EPA. 2001. Environmental Investigations Standard Operating Procedures and Quality Assurance Manual. Region 4 Science and Ecosystem Support Division (SESD), Athens, GA
US EPA. Analytical Support Branch Laboratory Operations and Quality Assurance Manual. Region 4 SESD, Athens, GA, Most Recent Version
US EPA. Safety, Health and Environmental Management Program Procedures and Policy Manual. Region 4 SESD, Athens, GA, Most Recent Version

1.5 General Precautions

1.5.1 Safety

Proper safety precautions must be observed when collecting groundwater samples. Refer to the SESD Safety, Health and Environmental Management Program (SHEMP) Procedures and Policy Manual and any pertinent site-specific Health and Safety Plans (HASP) for guidelines on safety precautions. These guidelines should be used to complement the judgment of an experienced professional. Address chemicals that pose specific toxicity or safety concerns and follow any other relevant requirements, as appropriate.

1.5.2 Procedural Precautions

The following precautions should be considered when collecting groundwater samples.
• Special care must be taken not to contaminate samples. This includes storing samples in a secure location to preclude conditions which could alter the properties of the sample. Samples shall be custody sealed during long-term storage or shipment.
• Always sample from the anticipated cleanest, i.e., least contaminated location, to the most contaminated location. This minimizes the opportunity for cross-contamination to occur during sampling.

• Collected samples must remain in the custody of the sampler or sample custodian until the samples are relinquished to another party.
• If samples are transported by the sampler, they will remain under his/her custody or be secured until they are relinquished.
• Shipped samples shall conform to all U.S. Department of Transportation (DOT) rules of shipment found in Title 49 of the Code of Federal Regulations (49 CFR parts 171 to 179), and/or International Air Transportation Association (IATA) hazardous materials shipping requirements found in the current edition of IATA's Dangerous Goods Regulations.
• Documentation of field sampling is done in a bound logbook.
• Chain-of-custody documents shall be filled out and remain with the samples until custody is relinquished.
• All shipping documents, such as air bills, bills of lading, etc., shall be retained by the project leader and placed in the project files.

2 Special Sampling Considerations

2.1 Volatile Organic Compounds (VOC) Analysis

Groundwater samples for VOC analysis must be collected in 40 ml glass vials with Teflon® septa. The vial may be either preserved with concentrated hydrochloric acid or they may be unpreserved. Preserved samples have a two week holding time, whereas unpreserved samples have only a seven day holding time. In the great majority of cases, the preserved vials are used to take advantage of the extended holding time. In some situations, however, it may be necessary to use the unpreserved vials. For example, if the groundwater has a high amount of dissolved limestone, i.e., is highly calcareous, there will most likely be an effervescent reaction between the hydrochloric acid and the water, producing large numbers of fine bubbles. This will render the sample unacceptable. In this case, unpreserved vials should be used and arrangements must be confirmed with the laboratory to ensure that they can accept the unpreserved vials and meet the shorter sample holding times. The samples should be collected with as little agitation or disturbance as possible. The vial should be filled so that there is a meniscus at the top of the vial and absolutely no bubbles or headspace should be present in the vial after it is capped. After the cap is securely

tightened, the vial should be inverted and tapped on the palm of one hand to see if any undetected bubbles are dislodged. If a bubble or bubbles are present, the vial should be topped off using a minimal amount of sample to re-establish the meniscus. Care should be taken not to flush any preservative out of the vial during topping off. If, after topping off and capping the vial, bubbles are still present, a new vial should be obtained and the sample recollected. Samples for VOC analysis must be collected using either stainless steel or Teflon® equipment, such as:
• Bailers must be constructed of stainless steel or Teflon®
• RediFlo2® submersible pumps used for sampling should be equipped with Teflon® sample delivery tubing
• Peristaltic pump/vacuum jug assemblies should be outfitted with Teflon® tubing from the water column to the transfer cap, which should also be constructed of Teflon®

2.2 Special Precautions for Trace Contaminant Groundwater Sampling
• A clean pair of new, non-powdered, disposable gloves will be worn each time a different location is sampled and the gloves should be donned immediately prior to sampling. The gloves should not come in contact with the media being sampled and should be changed any time during sample collection when their cleanliness is compromised.
• Sample containers for samples suspected of containing high concentrations of contaminants shall be stored separately.
• Sample collection activities shall proceed progressively from the least suspected contaminated area to the most suspected contaminated area if sampling devices are to be reused. Samples of waste or highly contaminated media must not be placed in the same ice chest as environmental (i.e., containing low contaminant levels) or background samples.
• If possible, one member of the field sampling team should take all the notes and photographs, fill out tags, etc., while the other members collect the samples.
• Clean plastic sheeting will be placed on the ground at each sample location to prevent or minimize contaminating sampling equipment by accidental contact with the ground surface.
• Samplers must use new, verified certified-clean disposable or nondisposable equipment cleaned according to procedures contained in SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205) or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206) for collection of samples for trace metals or organic compound analyses.

2.3 Sample Handling and Preservation Requirements
1. Groundwater samples will typically be collected from the discharge line of a pump or from a bailer, either from the pour stream of an up-turned bailer or from the stream from a bottom-emptying device. Efforts should be made to reduce the flow from either the pump discharge line or the bailer during sample collection to minimize sample agitation.
2. During sample collection, make sure that the pump discharge line or the bailer does not contact the sample container.
3. Place the sample into appropriate, labeled containers. Samples collected for VOC analysis must not have any headspace (see Section 2.1, Volatile Organic Compound Analysis). All other sample containers must be filled with an allowance for ullage.
4. All samples requiring preservation must be preserved as soon as practically possible, ideally immediately at the time of sample collection. If preserved VOC vials are used, these will be preserved with concentrated hydrochloric acid by ASB personnel prior to departure for the field investigation. All other chemical preservatives required for the remaining suite of analytes will be supplied by ASB personnel and will be added to the samples by SESD field personnel or other authorized persons. The adequacy of sample preservation will be checked after the addition of the preservative for all samples except for the samples collected for VOC analysis. Additional preservative should be added to achieve adequate preservation. Preservation requirements for groundwater samples are found in the USEPA Region 4 Analytical Support Branch Laboratory Operations and Quality Assurance Manual (ASBLOQAM), Most Recent Version.

2.4 Quality Control
If possible, a control sample should be collected from location not affected by the possible contaminants of concern and submitted with the other samples. This control sample should be collected as close to the sampled area as possible and from the same water-bearing formation. Equipment blanks should be collected if equipment is field cleaned and re-used on-site or if necessary to document that low-level contaminants were not introduced by pumps, bailers or other sampling equipment.

2.5 Records

Information generated or obtained by SESD personnel will be organized and accounted for in accordance with SESD records management procedures found in SESD Operating Procedure for Control of Records, SESDPROC-002. Field notes, recorded in a bound field logbook, will be generated, as well as chain-of-custody documentation in accordance with SESD Operating Procedure for Logbooks, SESDPROC-010 and SESD Procedure for Sample and Evidence Management, SESDPROC-005.

3 Groundwater Sampling Methods – Purging

3.1 General

3.1.1 Purging and Purge Adequacy

Purging is the process of removing stagnant water from a well, immediately prior to sampling, causing its replacement by ground water from the adjacent formation that is representative of actual aquifer conditions. In order to determine when a well has been adequately purged, field investigators should monitor the pH, specific conductance, temperature, and turbidity of the ground water removed during purging and, in the case of permanent monitoring wells, observe and record the volume of water removed.

Prior to initiating the purge, the amount of water standing in the water column (water inside the well riser and screen) should be determined, if possible. To do this, the diameter of the well should be determined and the water level and total depth of the well should be measured and recorded. Specific methodology for obtaining these measurements is found in SESD Operating Procedure for Groundwater Level and Well Depth Measurement (SESDPROC-105). Once this

information is obtained, the volume of water to be purged can be determined using one of several methods. One is the equation:

$V = 0.041\ d2h$

Where: h = depth of water in feet

d = diameter of well in inches

V = volume of water in gallons

Alternatively, the volume may be determined using a casing volume per foot factor for the appropriate diameter well, similar to that in Table 3.1.1. The water level is subtracted from the total depth, providing the length of the water column. This length is multiplied by the factor in the Table 3.1.1 which corresponds to the appropriate well diameter, providing the amount of water, in gallons, contained in the well, i.e., one well or water column volume. Other acceptable methods include the use of nomographs or other equations or formulae. With respect to volume, an adequate purge is normally achieved when three to five well volumes have been removed. The field notes should reflect the single well volume calculations or determinations, according to one of the above methods, and a reference to the appropriate multiplication of that volume, i.e., a minimum three well volumes, clearly identified as a purge volume goal. With respect to the ground water chemistry, an adequate purge is achieved when the pH, specific conductance, and temperature of the ground water have stabilized and the turbidity has either stabilized or is below 10 Nephelometric Turbidity Units (NTUs) (twice the Primary Drinking Water Standard of 5 NTUs). Although 10 NTUs is normally considered the minimum goal for most ground water sampling objectives, lower turbidity has been shown to be easily achievable in most situations and reasonable attempts should be made to achieve these lower levels. Stabilization occurs when, for at least three consecutive measurements, the pH remains constant within 0.1 Standard Unit (SU), specific conductance varies no more than approximately 10 percent, and the temperature is constant. There are no set criteria for establishing how many total sets of measurements are adequate to document stability of parameters. If the calculated purge volume is small, the measurements should be taken frequently enough to provide a sufficient number of measurements to evaluate stability. If the purge volume is large, measurements taken every 15 minutes, for example, may be sufficient. See the SESD Operating Procedure for Field pH Measurement (SESDPROC-100), SESD Operating Procedure for Field Specific Conductance Measurement (SESDPROC-101), SESD Operating Procedure for Field Temperature Measurement (SESDPROC-102) and SESD Operating Procedure for Field Turbidity Measurement (SESDPROC-103) for procedures for conducting these purge adequacy measurements.

TABLE 3.1.1

WELL CASING DIAMETER vs. VOLUME

WELL CASING DIAMETER (INCHES) vs. VOLUME (GALS.)/FEET of WATER

CASING	GALLONS/FT
1	0.041
2	0.163
3	0.367
4	0.653
5	1.02
6	1.469
7	1.999
8	2.611
9	3.305
10	4.08
11	4.934
12	5.875

If, after three well volumes have been removed, the chemical parameters have not stabilized according to the above criteria, additional well volumes (up to five well volumes), should be removed. If the parameters have not stabilized within five volumes, it is at the discretion of the project leader whether or not to collect a sample or to continue purging. If, after five well volumes, pH and conductivity have stabilized and the turbidity is still decreasing and approaching an acceptable level, additional purging should be considered to obtain the best sample possible, with respect to turbidity. The conditions of sampling should be noted in the field log. In some situations, even with slow purge rates, a well may be pumped or bailed dry (evacuated). In these situations, this generally constitutes an adequate purge and the well can be sampled following sufficient recovery (enough volume to allow filling of all sample containers). ***It is not necessary that the well be evacuated three times before it is sampled***. The pH, specific conductance, temperature, and turbidity should be measured and recorded, during collection of the sample from the recovered volume, as the measurements of record for the sampling event. For wells with slow recovery, attempts should be made to avoid purging them to dryness. This can be accomplished, for example, by slowing the purge rate. If a well is purged to dryness, it may result in the sample being comprised partially of water contained in the sand pack, which may be reflective, at least in part, of initial, stagnant conditions. Additionally, as water enters a well that has been purged to dryness, it may cascade down the sand pack and/or the well screen, stripping volatile organic constituents that may be present and/or introducing soil fines into the water column. ***It is particularly important that wells be sampled as soon as possible after purging.*** If adequate volume is available immediately upon completion of purging, the well must be sampled immediately. If not, sampling should occur as soon as adequate volume has recovered. Sampling of wells which have a slow recovery should be scheduled so that they can be purged and sampled in the same day, after adequate volume has recovered. Wells of this type should not be purged at the end of one day and sampled the following day.

3.1.2 Equipment Considerations for Purging

Monitoring well purging is preferably accomplished by using in-place plumbing and dedicated pumps or by using portable pumps/equipment when dedicated systems are not present. The equipment utilized by Branch personnel will usually consist of peristaltic pumps and variable speed electric submersible pumps, but may also include bladder pumps or inertial pumps. The pump of choice is usually a function of the well diameter, the depth to water, the depth of the well and the amount of water that is to be removed during purging. Whenever the head difference between the sampling location and the water level is less than the limit of suction and the volume to be removed is reasonably small, a peristaltic pump should be used for purging. For wells where the water level is below the limit of suction and/or there is a large volume of water to be purged, the variable speed electric submersible pump would be the pump of choice. SESD Operating
Procedure for Pump Operation (SESDPROC-203) contains the use and operating instructions for all pumps commonly used during SESD ground water investigations. Bailers may also be used for purging in appropriate

situations however, their use is discouraged. Bailers tend to disturb any sediment that may be present in the well, creating or increasing sample turbidity. If a bailer is used, it should be a closed-top Teflon® bailer.

3.2 Wells Without Plumbing or In-Place Pumps

For permanent monitoring wells, the depth to water (water level) and depth of the well (total depth) should be determined before purging. Caution should be exercised during this procedure to prevent cross-contamination between wells. This is a critical concern when samples for trace organic compounds or metals analyses are collected. See SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205**)** for cleaning procedures for well sounders. After cleaning, the well sounding device should be protected to keep it clean until its next use.

3.2.1 Purging with Pumps

3.2.1.1 Peristaltic Pumps

The following step-by-step procedures describe the process of purging with a peristaltic pump:

1. Cut a length of standard-cleaned (SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206) Teflon® tubing, equal to the well depth plus an additional five to ten feet. Enough tubing is needed to run from the ground surface up to the top of the well casing and back down to the bottom of the well. This will allow for operation of the pump at all possible water level conditions in the well.
2. Place one end of the tubing into the vacuum side of the peristaltic pump head. Proper sizing of the Teflon® and Silastic® or Tygon® tubing should allow for a snug fit of the Teflon® tubing inside the flexible tubing mounted in the pump head.
3. Run a short section of tubing (does not have to be Teflon®) from the discharge side of the pump head to a graduated bucket.
4. Place the free end of the Teflon® tubing into the well until the end of the tubing is just below the surface of the water column.
5. Secure the Teflon® tubing to the well casing or other secure object using electrician's tape or other suitable means. This will prevent the tubing from being lost in the well should the tubing detach from the pump head.
6. Turn on the pump to produce a vacuum on the well side of the pump head and begin the purge. Observe pump direction to ensure that a vacuum is being applied to the purge line. If the purge line is being pressurized, either switch the tubing at the pump head or reverse the polarity of the cables on the pump or on the battery.
7. If the pumping rate exceeds the recovery rate of the well, continue to lower the tubing into the well, as needed, until the drawdown stabilizes or the well is evacuated to dryness. If the pump is a variable speed peristaltic pump, and the water level in the well is being drawn down, reduce the speed of the pump in an attempt to stabilize the drawdown. If the well can be purged without evacuating the well to dryness, a sample with greater integrity can be obtained.
8. For wells which are not evacuated to dryness, particularly those with recovery rates equal to or very nearly equal to the purge rate, there may not be a complete exchange and removal of stagnant water in that portion of the water column above the tubing intake. For this reason,

it is important that the tubing intake be placed in the very uppermost portion of the water column while purging. Standard field measurements should frequently be taken during this process to verify adequacy of the purge and readiness for sampling, as described in Section 3.

3.2.1.2 Submersible Pumps

When a submersible pump is used for well purging, the pump itself is lowered into the water column. The pump must be cleaned as specified in SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205). The pump/hose assembly used in purging should be lowered into the top of the standing water column and not deep into the column. This is done so that the purging will "pull" water from the formation into the screened area of the well and up through the casing so that the entire static volume can be removed. If the pump is placed deep into the water column, the water above the pump may not be removed, and the subsequent samples, particularly if collected with a bailer, may not be representative of the aquifer conditions. It is recommended that no more than three to five feet of hose be lowered into the water column. If the recovery rate of the well is faster than the pump rate and no observable draw down occurs, the pump should be raised until the intake is within one foot of the top of the water column for the duration of purging. If the pump rate exceeds the recovery rate of the well, the pump will have to be lowered, as needed, to accommodate the drawdown. After the pump is removed from the well,

the hose and the pump should be cleaned as outlined in SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205).

3.2.2 Purging With Bailers

Standard-cleaned (SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205) or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206) closed top Teflon® bailers with Teflon® coated stainless steel leaders and new nylon rope are lowered into the top of the water column, allowed to fill, and removed. It is critical that bailers be slowly and gently immersed into the top of the water column, particularly during final stages of purging, to minimize turbidity and disturbance of volatile organic constituents. The use of bailers for purging and sampling is discouraged because the correct technique is highly operator dependent and improper use may result in an unrepresentative sample.

3.2.3 Field Care of Purging Equipment

New plastic sheeting should be placed on the ground surface around the well casing to prevent contamination of the pumps, hoses, ropes, etc., in the event they accidentally come into contact with the ground surface or, for some reason, they need to be placed on the ground during the purging event. It is preferable that hoses used in purging that come into contact with the ground water be kept on a spool or contained in a large wash tub lined with plastic sheeting, both during transportation and during field use, to further minimize contamination by the transporting vehicle or the ground surface. Careful consideration shall be given to using submersible pumps to purge wells which are excessively contaminated with oily compounds, because it may be difficult to adequately decontaminate severely contaminated pumps under field conditions. When wells of this type are encountered, alternative purging methods, such as bailers, should be considered.

3.2.4 General Low Flow/Low Stress Method Preference

The device with the lowest pump or water removal rate and the least tendency to stress the well during purging should be selected for use. For example, if a bailer and a peristaltic pump both work in a given situation, the pump should be selected because it will greatly minimize turbidity, providing a higher quality sample (Sec. 3.4.2, Purging When Water Level Is Within Limit of Suction**,** contains a description of low flow purging and sampling with a peristaltic pump used in a temporary well).

3.2.5 Low Flow/Low Volume Purging Techniques/Procedures

An alternative to the low flow/low stress purging method is the low flow/low volume method, commonly referred to as the "micro-purge" method. The low flow/low volume purging method is a procedure developed and used to minimize purge water volumes. The pump intake is placed within the screened interval at the zone of sampling, preferably, the zone with the highest flow rate. Low flow rate purging is conducted after hydraulic conditions within the well have restabilized, usually within 24 to 48 hours. Flow rates should not exceed the recharge rate of the aquifer. This is monitored by measuring the top of the water column with a properly cleaned water level indicator or similar device while pumping. This method is not considered to be a standard method by the Branch and is only acceptable under certain hydraulic conditions. It's use must be evaluated on a case-by-case basis.

3.3 Wells With In-Place Plumbing

Wells with in-place plumbing are commonly found at municipal water treatment plants, industrial water supplies, private residences, etc. Many permanent monitoring wells at active facilities are also equipped with dedicated, in-place pumps. The objective of purging wells with in-place pumps is the same as with monitoring wells without in-place pumps, i.e., to ultimately collect a ground water sample representative of aquifer conditions. Among the types of wells identified in this section, two different approaches are necessary. A permanent monitoring well with an in-place pump should, in all respects, be treated like a monitoring well without a pump. One limitation is that in most cases the in-place pump is "hard" mounted, that is, the pump is suspended in the well at a pre-selected depth and cannot be moved up or down during purging and sampling. In these cases, well volumes are calculated, parameters are measured and the well is sampled from the pump discharge, after volume removal and parameter conditions have been met. In the case of the other types of wells, i.e., municipal, industrial and residential supply wells, however, not enough is generally known about the construction aspects of the wells to apply the same criteria as used for monitoring wells, i.e., 3 to 5 well volumes. The volume to be purged in these situations, therefore, depends on several factors: whether the pumps are running continuously or intermittently and whether or not any

storage/pressure tanks are located between the sampling point and the pump. The following considerations and procedures should be followed when purging wells with in place plumbing under the conditions described.

3.3.1 Continuously Running Pumps

If the pump runs more or less continuously, no purge (other than opening a valve and allowing it to flush for a few minutes) is necessary. If a storage tank is present, a spigot, valve or other sampling point should be located between the pump and the storage tank. If not, locate the valve closest to the tank. Measurements of pH, specific conductance, temperature, and turbidity are recorded at the time of sampling.

3.3.2 Intermittently or Infrequently Running Pumps

If the pump runs intermittently or infrequently, best judgment should be utilized to remove enough water from the plumbing to flush standing water from the piping and any storage tanks that might be present. Generally, under these conditions, 15 to 30 minutes will be adequate. Measurements of pH, specific conductance, temperature and turbidity should be made and recorded at intervals during the purge and the final measurements made at the time of sampling should be considered the measurements of record for the event.

3.4 Temporary Monitoring Wells

3.4.1 General Considerations

Procedures used to purge temporary ground water monitoring wells differ from permanent wells because temporary wells are installed for immediate sample acquisition. Wells of this type may include standard well screen and riser placed in boreholes created by hand augering, power augering, or by drilling. They may also consist of a rigid rod and screen that is pushed, driven, or hammered into place to the desired sampling interval, such as a direct push Wellpoint®, a Geoprobe® Screen Point 15 sampler or a Hydropunch® sampler. As such, the efforts to remove several volumes of water to replace stagnant water do not necessarily apply because stagnant water is not present. It is important to note, however, that the longer a temporary well is in place and not sampled, the more stagnant the water column becomes and the more appropriate it becomes to apply, to the extent possible, standard permanent monitoring well purging criteria to it to re-achieve aquifer conditions. In cases where the temporary well is to be sampled immediately after installation, purging is conducted primarily to mitigate the impacts of installation. In most cases, temporary well installation procedures disturb the existing aquifer conditions, resulting primarily in increased turbidity. Therefore, the goal of purging is to reduce the turbidity and remove the volume of water in the area directly impacted by the installation procedure. Low turbidity conditions in these types of wells that are completed within the limit of suction are typically and routinely achieved by the use of low-flow/low stress purging techniques using variable speed peristaltic pumps.

3.4.2 Purging When Water Level Is Within Limit of Suction

In situations where the elevation of the top of the water column is within the limit of suction (no greater than about 25 feet head difference between the pump and the water level), a variable speed peristaltic pump may be used to purge temporary wells. Enough tubing is deployed to reach the bottom of the temporary well screen. At the onset of purging, the tubing is slowly lowered to the bottom of the screen and is used to remove any formation material which may have entered the well screen during installation. This is critical to ensuring rapid achievement of low turbidity conditions. After the formation material is removed from the bottom of the screen, the tubing is slowly raised through the water column to near the top of the column. The tubing can be held at this level to determine if the pump rate is drawing down the water level in the well. If the water level remains the same, secure the tubing at the surface to maintain this pumping level. If drawdown is observed on initiation of pumping, reduce the pump speed and attempt to match the drawdown of the well. Sustained pumping at these slow rates will usually result in a relatively clear, low turbidity sample. If the drawdown stabilizes, maintain that level, however, if it continues to lower, "chase" the water column until the well is evacuated. In this case, the recovered water column may be relatively free of turbidity and can be sampled. It may take several episodes of recovery to provide enough volume for a complete sample.

3.4.3 Purging When Water Level Is Greater Than Limit of Suction

In situations where the elevation of the water table is greater than the limit of suction, peristaltic pumps cannot be used to purge temporary wells. If the temporary well is a ScreenPoint15® sampler with small diameter probe rod riser, the only practical choices for water removal are a small diameter bailer, a small diameter bladder pump or an

inertial pump. If the well is to be used strictly for VOC screening, it may be acceptable to use the bailer to bail as much sediment from the well as possible prior to sampling. If metals are the analytes of concern, the bladder pump is the best choice for lowering the turbidity of the water column prior to sampling, followed next by the inertial pump. For larger diameter temporary wells, two-inch diameter or greater, bailers and the Grundfos® RediFlo2 may be used although excessive silt or other "fines" may present problems with the operation of the pump.

3.4.4 Considerations for Direct Push Groundwater Sampling

With many of the direct push sampling techniques, purging is either not practical or possible, therefore, no purging is conducted. The sampling device is simply pushed or driven to the desired depth and opened and the sample is collected and retrieved. As a result, some samples collected in this way may not be satisfactory or acceptable for certain analyses, i.e., the subject procedure may yield a turbid sample that is not appropriate for metals analyses.

3.5 Investigation Derived Waste

Purging generates quantities of purge water or investigation derived waste (IDW), the disposition of which must be considered. See SESD Operating Procedure for Management of Investigation Derived Waste (SESDPROC-202) for guidance on management or disposal of this waste.

4 Groundwater Sampling Methods – Sampling

4.1 General

Sampling is the process of obtaining, containerizing, and preserving (if required) a ground water sample after the purging process is complete. Non-dedicated pumps for sample collection generally should not be used. Many pumps are made of materials such as brass, plastic, rubber, or other elastomer products which may cause chemical interferences with the sample. Their principle of operation may also render them unacceptable as a sample collection device. It is recognized that there are situations, such as industrial or municipal supply wells or private residential wells, where a well may be equipped with a dedicated pump from which a sample would not normally be collected. Discretion should always be used in obtaining a sample.

4.2 Sampling Wells With In-Place Plumbing

Samples should be collected following purging from a valve or cold water tap as near to the well as possible, preferably prior to any storage/pressure tanks or physical/chemical treatment system that might be present. Remove any hose that may be present before sample collection and reduce the flow to a low level to minimize sample disturbance, particularly with respect to volatile organic constituents. Samples should be collected directly into the appropriate containers as specified in the ASBLOQAM. It may be necessary to use a secondary container, such as a clean 8 oz. or similar size sample jar or a stainless steel scoop, to obtain and transfer samples from spigots with low ground clearance. Also, refer to the discussion in the SESD Operating Procedure for Potable Water Supply Sampling (SESDPROC-305), Sec. 4.2, Potable Water Samples Collected from Wells with In-Place Plumbing**.** Potable well measurements for pH, specific conductance, temperature, and turbidity should be recorded at the time of sample collection.

4.3 Sampling Wells without Plumbing, Within the Limit of Suction

4.3.1 Equipment Available

The pump of choice for sampling ground water within the limit of suction is the variable-speed peristaltic pump. Its use is described in the following sections. Other acceptable alternatives that may be used under these conditions are the RediFlo2® electric submersible pump (with Teflon® tubing) and a closed-top Teflon® bailer.

4.3.1.1 Peristaltic Pump, Direct from Pump Head Tubing

Samples for some constituents, primarily inorganic analytes such as metals and cyanide, may be collected directly from the pump head tubing. This method is acceptable under the following conditions:

• The pump head tubing must be changed between sampling locations;

• The pump head tubing must be either be certified clean according to SESD's internal quality control program described in Section 3.2 of the SESD Operating Procedure for Field Sampling Quality Control (SESDPROC-011) or

• An equipment rinsate blank is collected by pumping de-ionized water through a piece of the tubing.

4.3.1.2 Peristaltic pump/vacuum jug

It is not acceptable to collect samples for organic compounds analyses through the flexible tubing used in the pump head. When collecting samples for organic compound analyses it is necessary to use a vacuum container, placed between the pump and the well for sample collection. The following step-by-step procedures describe the process of sampling with a peristaltic pump and vacuum jug (see note following these procedures for collection of VOC samples):

1. Disconnect the purge tubing from the pump. Make sure the tubing is securely attached to the protective casing or other secure object.
2. Insert the tubing into one of the ferrule nut fittings of a Teflon® vacuum container transfer cap assembly.
3. Place a suitable length of Teflon® tubing between the remaining transfer cap assembly ferrule nut fitting and the vacuum side of the flexible tubing in the peristaltic pump head. Securely hand-tighten both fittings.
4. Turn the pump on. Water should begin to collect in the transfer container (typically a 1-liter sample container) within a few minutes. If water does not begin to flow into the container within several minutes, check the transfer cap fittings and make sure the assembly is tightly attached to the container. It may be necessary to tighten the ferrule nuts with a wrench or pliers to achieve a vacuum in the system, particularly when approaching the maximum head difference between the pump and water table (limit of suction).
5. When the transfer container is nearly full, turn off the pump, remove the transfer cap assembly, and pour the sample into the appropriate containers. Because the 1-liter containers used by the Branch are rinsed with nitric acid during cleaning, they cannot be used for collecting samples to be analyzed for nitrogen sensitive parameters.
6. If additional sample volume is needed, replace the transfer cap assembly, turn the pump on, and collect additional volume. The use of Teflon® valves or ball check devices to retain the water column in the sample delivery tubing during the transfer phase, when large volumes of sample are required, is acceptable. These devices, however, must be constructed so that they may be completely disassembled and cleaned according to the procedures in SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205).
7. When sampling is completed, all Teflon® tubing should be discarded.

NOTE: Samples for volatile organic compound analyses cannot be collected using this method. If samples for VOC analyses are required, they must be collected with a Teflon® or stainless steel bailer or by other approved methods, such as the "soda straw" method. The "soda straw" method involves allowing the tubing to fill, by either lowering it into the water column (A) or by filling it via suction applied by the pump head (B). If method (A) is used, the tubing is removed from the well after filling and the captured sample is allowed to drain into the sample vial. If method (B) is used, after running the pump and filling the tubing with sample, the pump speed is reduced and the direction reversed to push the sample out of the tubing into the vials. Avoid completely emptying the tubing when filling the sample vials when using method (B) to prevent introducing water that was in contact with the flexible pump head tubing. Either method is repeated, as necessary, until all vials are filled.

4.3.1.3 RediFlo2® Electric Submersible Pump (with Teflon® tubing)

After purging has been accomplished with RediFlo2® electric submersible pump, the sample may be obtained directly from the pump discharge, provided that Teflon® tubing was used for the sample delivery line. The discharge rate of the pump should be reduced during volatile organic compound sample collection to minimize sample disturbance. Note, if the RediFlo2® electric submersible pump is used for sampling, the water in the cooling chamber must be replaced with organic-free water between each well and the pump must undergo a full external and internal cleaning. In addition, pump rinsate blanks must be collected, at the appropriate frequency, to demonstrate that the pump has been adequately cleaned between wells.

4.3.1.4 Bailers

New bailer rope should be attached to the bailer via a Teflon® coated stainless steel wire. (If a bailer was used to purge the well, it may also be used to sample the well and new bailer rope is not required between purging and sampling). The bailer should be gently immersed in the top of the water column until just filled. At this point, the bailer should be slowly removed and the contents emptied into the appropriate sample containers.

4.4 Sampling Wells without Plumbing, Exceeding the Limit of Suction

All methods described previously in Section 4.3.2.1.3, RediFlo2® Electric Submersible Pumps, and Section 4.3.2.1.4, Bailers, are suitable sample methods where the water table is too deep to consider the use of a peristaltic pump for sampling.

4.5 Sample Preservation

After sample collection, all samples requiring preservation must be preserved as soon as practical. Consult the ASBLOQAM for the correct preservative for the particular analytes of interest. All samples preserved using a pH adjustment (except VOCs) must be checked, using pH strips, to ensure that they were adequately preserved. This is done by pouring a small volume of sample over the strip. Do not place the strip in the sample. Samples requiring reduced temperature storage should be placed on ice immediately.

4.6 Special Sample Collection Procedures

4.6.1 Trace Organic Compounds and Metals

Special sample handling procedures should be instituted when trace contaminant samples are being collected. All sampling equipment, including pumps, bailers, water level measurement equipment, etc., which comes into contact with the water in the well must be cleaned in accordance with the cleaning procedures described in the SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205 or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206). Pumps should not be used for sampling unless the interior and exterior portions of the pump and the discharge hoses are thoroughly cleaned. Blank samples should be collected to determine the adequacy of cleaning prior to collection of any sample using a pump other than a peristaltic pump.

4.6.2 Order of Sampling with Respect to Analytes

In many situations when sampling permanent or temporary monitoring wells, an adequate purge, with respect to turbidity, is often difficult to achieve. Removal and insertion of equipment after the purge and prior to actual sampling may negate the low turbidities achieved during purging and elevate turbidity back to unacceptable levels. For this reason, it is important that special efforts be used to minimize any disturbance of the water column after purging and to collect the aliquot for metals first. Therefore, the preferred order of sampling is metals first, followed by other inorganic analytes, extractable organic compounds and volatile organic compounds.

4.6.3 Filtering

As a standard practice, ground water samples will not be filtered for routine analysis. Filtering will usually only be performed to determine the fraction of major ions and trace metals passing the filter and used for flow system analysis and for the purpose of geochemical speciation modeling. Filtration is not allowed to correct for improperly designed or constructed monitoring wells, inappropriate sampling methods, or poor sampling technique. When samples are collected for routine analyses and are filtered, both filtered and non-filtered samples will be submitted for analyses. Samples for organic compounds analysis should not be filtered. Prior to filtration of the ground water sample for any reason other than geochemical speciation modeling, the following criteria must be demonstrated to justify the use of filtered samples for inorganic analysis:

1. The monitoring wells, whether temporary or permanent, have been constructed and developed in accordance with the SESD Guidance Document, Design and Installation of Monitoring Wells (SESDGUID-001).
2. The ground water samples were collected using sampling techniques in accordance with this section, and the ground water samples were analyzed in accordance with USEPA approved methods.
3. Efforts have been undertaken to minimize any persistent sample turbidity problems. These efforts may consist of the following:
• Redevelopment or re-installation of permanent ground water monitoring wells.
• Implementation of low flow/low stress purging and sampling techniques.
4. Turbidity measurements should be taken during purging and sampling to demonstrate stabilization or lack thereof. These measurements should be documented in the field notes. If the ground water sample appears to have either a chemically-induced elevated turbidity, such as would occur with precipitate formation, or a naturally elevated colloid or fine, particulate-related turbidity, filtration will not be allowed. If filtration is necessary for purposes of geochemical modeling or other **preapproved** cases, the following procedures are suggested:
1. Accomplish in-line filtration through the use of disposable, high capacity filter cartridges (barrel-type) or membrane filters in an in-line filter apparatus. The high capacity, barrel-type filter is preferred due to the higher surface area associated with this configuration. If a membrane filter is utilized, a minimum diameter of 142 mm is suggested.

2. Use a 5 μm pore-size filter for the purpose of determining the colloidal constituent concentrations. A 0.1 μm pore-size filter should be used to remove most non-dissolved particles.
3. Rinse the cartridge or barrel-type filter with 500 milliliters of the solute (ground water to be sampled) prior to collection of sample. If a membrane filter is used, rinse with 100 milliliters of solute prior to sample collection. Potential differences could result from variations in filtration procedures used to process water samples for the determination of trace element concentrations. A number of factors associated with filtration can substantially alter "dissolved" trace element concentrations; these include filter pore size, filter type, filter diameter, filtration method, volume of sample processed, suspended sediment concentration, suspended sediment grain-size distribution, concentration of colloids and colloidally-associated trace elements, and concentration of organic matter. Therefore, consistency is critical in the comparison of short-term and long-term results. Further guidance on filtration may be obtained from the following:
1) Metals in Ground Water: Sampling Artifacts and Reproducibility;
2) Filtration of Ground Water Samples for Metals Analysis; and
3) Ground Water Sampling - A Workshop Summary. See Section 1.4, References, for complete citation for these documents. Bacterial Sampling Whenever wells (normally potable wells) are sampled for bacteriological parameters, care must be taken to ensure the sterility of all sampling equipment and all other equipment entering the well. Further information regarding bacteriological sampling is available in the following:
1) Sampling for Organic Chemicals and Microorganisms in the Subsurface; 2) Handbook for Evaluating Water Bacteriological Laboratories; and 3) Microbiological Methods for Monitoring the Environment, Water and Wastes. See Section 1.4, References, for complete citation for these documents.

4.7 Specific Sampling Equipment Quality Assurance Techniques

All equipment used to collect ground water samples shall be cleaned as outlined in the SESD Operating Procedure for Field Equipment Cleaning and Decontamination (SESDPROC-205) or SESD Operating Procedure for Field Equipment Cleaning and Decontamination at the FEC (SESDPROC-206) and repaired, if necessary, before being stored at the conclusion of field studies. Cleaning procedures utilized in the field or field repairs shall be thoroughly documented in field records.

4.8 Auxiliary Data Collection

During ground water sample collection, it is important to record a variety of ground water related data. Included in the category of auxiliary data are water levels measured according to the SESD Operating Procedure for Groundwater Level and Well Depth Measurement (SESDPROC-105), well volume determinations (Section 3.1.1, Purging and Purge Adequacy), pumping rates during purging (see below), and occasionally, drillers or boring logs. This information should be documented in the field records.

4.8.1 Well Pumping Rate - Bucket/Stop Watch Method

The pumping rate for a pump can be determined by collecting the discharge from the pump in a bucket of known volume and timing how long it takes to fill the bucket. The pumping rate should be in gallons per minute. This method shall be used primarily with pumps with a constant pump rate, such as gasoline-powered or electric submersible pumps. Care should be taken when using this method with some battery-powered pumps. As the batteries' charge decreases, the pump rate also decreases so that pumping rate calculations using initial, high pump rates may be erroneously high. If this method is used with battery-powered pumps, the rate should be re-checked frequently to ensure accuracy of the pumping rate calculations.

ATTACHMENT J-1800000-06
FINAL REPORTING REQUIREMENTS

The final report shall consist of three sections:

(1) Section 1 – A summary including the inclusive dates in which the water supply wells were sampled; a description of the sampling, handling and collection procedures; and a discussion of any wells for which the analyzed results for any compound exceeded the Groundwater Classification and Standards set forth in the North Carolina Administrative Code (15A NCAC 02L).

(2) Section 2 – All data gathered by well number. This section shall include the information obtained when the well was sampled, and the tabulated results of the laboratory analysis of all the compounds listed in **Attachment J-1800000-07** for each well. The results included shall be in PPB, and any analysis exceeding the North Carolina Groundwater Standards shall be identified.

(3) Section 3 – This section shall contain the original laboratory analysis, the chain of custody forms, and the work logs used during the sampling event.

The Contractor shall provide three CDs and three printed copies of the report. Any maps, drawings, figures, sketches, spreadsheets, or text files prepared for this contract shall be provided in both hard copy and digital form. All files submitted by the Contractor shall be compatible with Microsoft Office applications.

The Contractor shall develop a database in Microsoft Access. Prior to database development, the Contractor shall submit a Technical Approach Document for approval that describes the Contractor's technical approach to designing and developing the database. All database files shall be delivered on compact disk read-only memory (CD-ROM) with ISO-9660 format.

ATTACHMENT J-1800000-07
LIST OF COMPOUNDS

Complete Volatile Organic Chemical (VOC) List

Contaminant
Benzene
Bromobenzene
Bromochloromethane
Bromodichloromethane
Bromoform
Bromomethane
n-Butylbenzene
sec-Butylbenzene
tert-Butylbenzene
Carbon tetrachloride
Chlorobenzene
Chloroethane
Choroform
Chloromethane
2-Chlorotoluene
4-Chlorotoluene
Dibromochloromethane
1,2-Dibromo-3-chloropropane
1,2-Dibromoethane
Dibromomethane
1,2-Dichlorobenzene
1,3-Dichlorobenzene
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,1-Dichloroethane
1,2-Dichloroethane
1,3-Dichloroethane
cis-1,2-Dichloroethene
trans-1,3-Dichloroethene
1,1- Dichloroethylene
trans 1,2 Dichloroethylene

Contaminant
1,2-Dichloropropane
1,3-Dichloropropane
2,2-Dichloropropane
1,1-Dichloropropene
cis-1,3-Dichloropropene
trans-1,3-Dichloropropene
Ethylbenzyne
Hexachlorobutadiene
Isopropyltoluene
p-Isopropyltoluene
Methylene Chloride
Naphthalene
Propylbenzene
Styrene
1,1,1,2-Tetrachloroethane
1,1,2,2-Tetrochloroethane
Tetrachloroethene
Toluene
1,2,3-Trichlorobenzene
1,2,4-Trimethylbenzene
1,1,1-Trichloroethane
1,1,2-Trichloroethane
Trichloroethene
Trichlorofluoromethane
1,2,3-Trichloropropane
1,2,4-Trimethylbenzene
1,3,5-trimethylbenzene
Vinyl Chloride
Xylenes (total)
Methyl-tert-butylether (MTBE)

ATTACHMENT J-1800000-07
LIST OF COMPOUNDS

Complete Synthetic Organic Chemical (SOC) List

Contaminant
Endrin
Lindane
Methoxychlor
Toxaphene
Carbaryl
Methomyl
Dalapon
Di(2-ethylhexyl)adipate
Oxamyl (vydate)
Simazine
Picloram
Dinoseb
Hexachlorocyclopentadiene
Aldicarb Sulfoxide
Aldicarb Sulfone
Metolachlor
Carbofuran
Aldicarb
Atrazine
Alachlor

Contaminant
Heptachlor
3-Hydroxycarbofuran
Heptachlor Epoxide
Dieldrin
Butachlor
Propachlor
2,4-D
2,4,5-TP (Silvex)
Hexachlorobenzene
Di(2- ethyhexyl) phathalate
Benzo(a)pyrene
Pentachlorophenol
Aldrin
PCB's
Dicamba
Metrabuzin
DBCP
Ethylene Dibromide (EDB)
Chlordane

Complete Munitions Constituent List

Contaminant
Nitroglycerin
PETN
HMX
RDX
1,3,5-Trinitrobenzene
1,3-Dinitrobenzene
Tetryl
Nitrobenzene
2,4,6-Trinitrotoluene

Contaminant
4-Amino-2,6-Dinitrotoluene
2-Amino-4,6-Dinitrotoluene
2,6-Dinitrotoluene
2,4-Dinitrotoluene
2-Nitrotoluene
4-Nitrotoluene
3-Nitrotoluene
Perchlorate

ATTACHMENT J-1800000-07
LIST OF COMPOUNDS

Metals Constituent List

Contaminant
Antimony
Arsenic
Barium
Beryllium
Cadmium
Calcium
Chromium
Chromium -6 (EPA Method 218.7)
Cobalt
Copper
Iron
Lead
Magnesium
Manganese
Mercury
Nickel
Potassium
Selenium
Sodium
Strontium
Thallium
Vanadium
Zinc

Inorganic

Contaminant
Chlorate
Chloride (once per year in Sep.)

SITE LOCATIONS				
WELLS INVENTORY LIST				
Number		**Well House**	**TEST DATE**	**Location**
1	HB	557		HWY 24
2	HB	558		HWY 24
3	HB	584		HWY 24
4	HP	585		SNEADS FERRY RD
5	HP	595		SNEADS FERRY RD
6	HP	596		SNEADS FERRY RD
7	HP	606		SNEADS FERRY RD
8	HP	607		BERKELEY MANOR, MARYLAND AVE.
9	HP	611		LYMAN RD
10	HP	612		LYMAN RD
11	HP	614		HWY 24
12	HB	617		HWY 24
13	HB	618		HWY 24
14	HB	619		HWY 24
15	HP	621		SAWMILL RD OFF H. BLVD
16	HP	622		STONE ST
17	HP	627		SAWMILL RD OFF H. BLVD
18	HP	632		SNEADS FERRY RD
19	HP	640		SNEADS FERRY RD
20	HP	641		SAWMILL RD OFF H. BLVD
21	HB	646		BESIDE MAIN PLANT BLDG 620
22	HB	647		DIRT ROAD BESIDE MAIN PLANT BLDG 620
23	HB	648		HWY 24
24	HB	650		HWY 24
25	HP	652		LYMAN RD
26	HP	661		SNEADS FERRY RD
27	HP	662		SNEADS FERRY RD
28	HP	663		OLD AMMO AREA, DIRT ROAD OFF PINEY GREEN RD
29	HP	684		Marine Road
30	HP	685		Marine Road
31	HP	686		Marine Road
32	HP	688		Marine Road
33	HB	698		BREWSTER BLVD
34	HB	699		BREWSTER BLVD
35	HB	701		CHARLES ST
36	HB	703		DIRT RD OFF BREWSTER TO OLD HEAVY EQUIP.
37	HB	704		DIRT RD OFF BREWSTER TO OLD HEAVY EQUIP.
38	HB	705		DIRT ROAD BESIDE MAIN PLANT BLDG 620
39	HB	708		HWY 24
40	HP	709		OLD AMMO AREA, DIRT ROAD OFF PINEY GREEN RD
41	HP	710		OLD AMMO AREA, DIRT ROAD OFF PINEY GREEN RD
42	HP	711		OLD AMMO AREA, DIRT ROAD OFF PINEY GREEN RD
43	HP	5186		BERKLEY MANOR, ALABAMA ST

44	LCH	4009		HWY 24
45	OB	BA145		MOCKUP ROAD OFF HWY172
46	OB	BA164		MOCKUP ROAD OFF HWY172
47	OB	BA190		MOCKUP ROAD OFF HWY172
48	MCAS	VL101		CAMP DEVIL DOG AREA
49	MCAS	VL102		CAMP DEVIL DOG AREA
50	MCAS	VL103		CAMP DEVIL DOG AREA
51	MCAS	VL104		CAMP DEVIL DOG AREA
52	MCAS	VL105		CAMP DEVIL DOG AREA
53	MCAS	VL106		CAMP DEVIL DOG AREA
54	MCAS	VL107		CAMP DEVIL DOG AREA
55	MCAS	VL109		CAMP DEVIL DOG AREA
WATER TREATMENT PLANTS INVENTORY LIST				
		Wtr Plt	**TEST DATE**	
1	MCAS	AS-85		MCAS AIR STATION-NEW RIVER
2	OB	BA-138		ONSLOW BEACH
3	HP	BLDG 670		HADNOT POINT (HOLCOMB BLVD)
4	HP	BLDG 20		HADNOT POINT (MAIN-SIDE)

All sampling & analysis of drinking water wells and water treatment plants water supply will be sampled twice per year for:

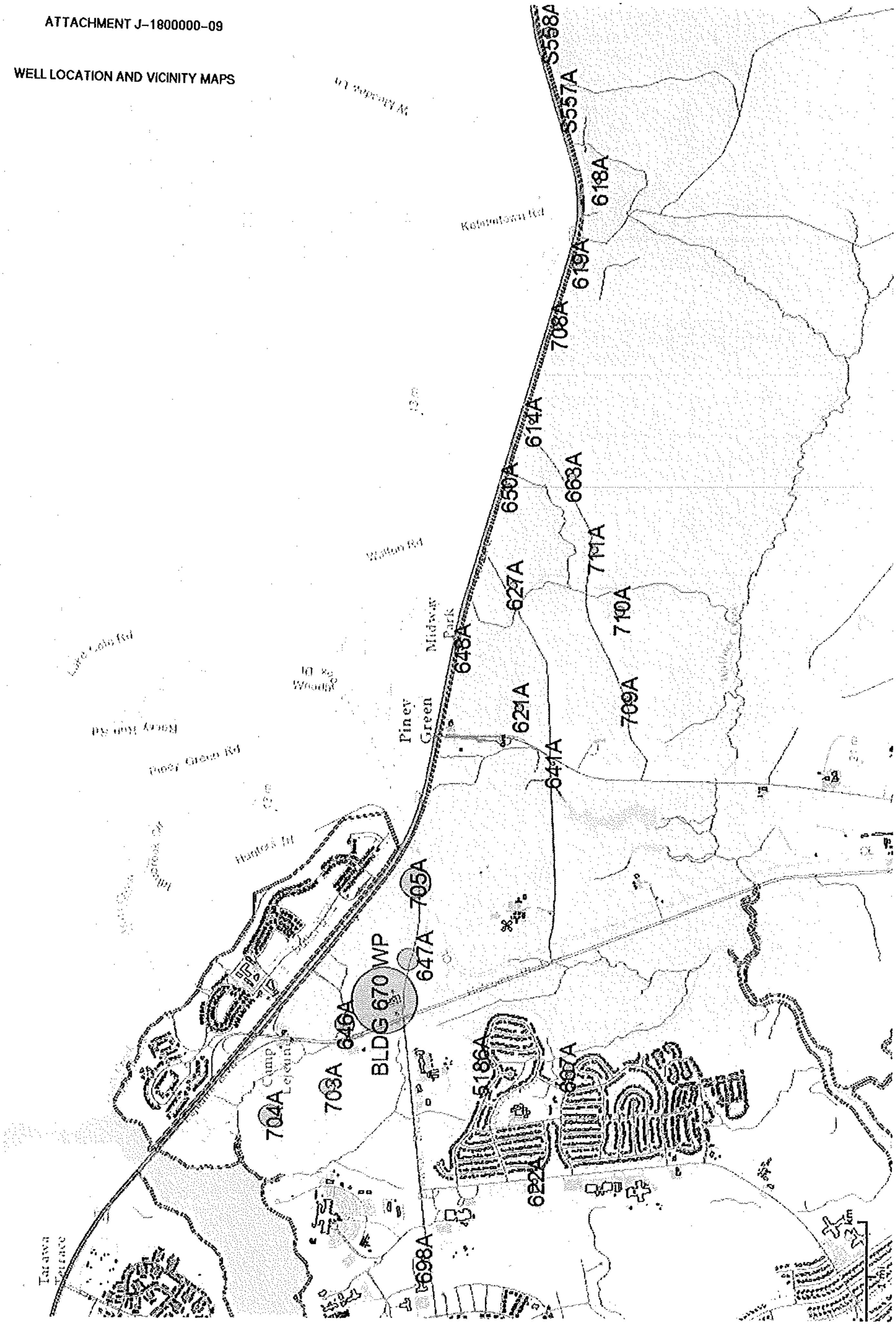
(a) VOC's
(Complete List)
(b) SOC's
(Complete List)
(c) Munition Constituents and Perchlorate
(d) Metals
(Metals List)

All sampling & analysis of drinking water wells and water treatment plants water supply will be sampled once per year for:

(a) Chloride (during second sampling event) - This sampling event **MUST** take place in September each year.

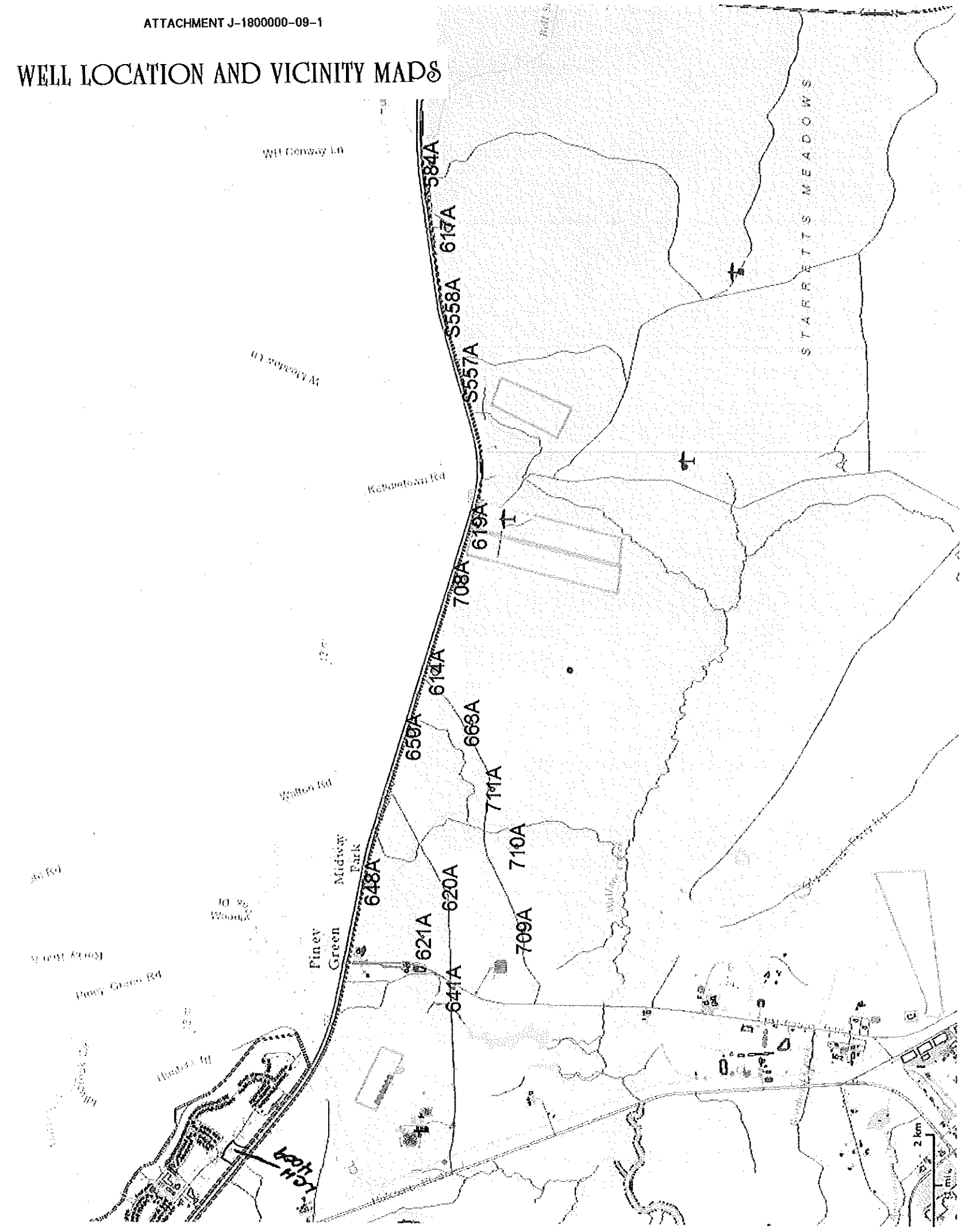
ATTACHMENT J-1800000-09

WELL LOCATION AND VICINITY MAPS



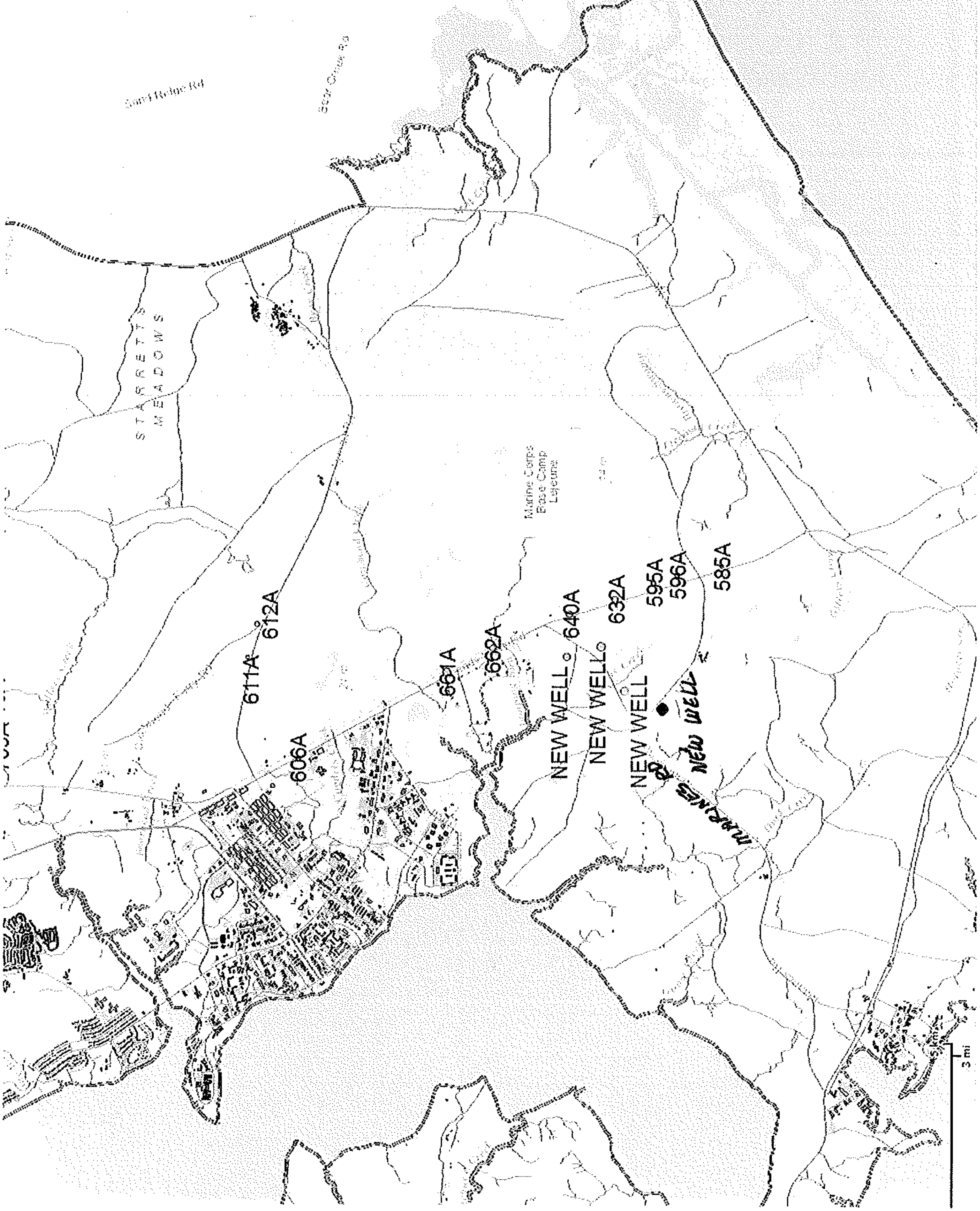
ATTACHMENT J-1800000-09-1

WELL LOCATION AND VICINITY MAPS

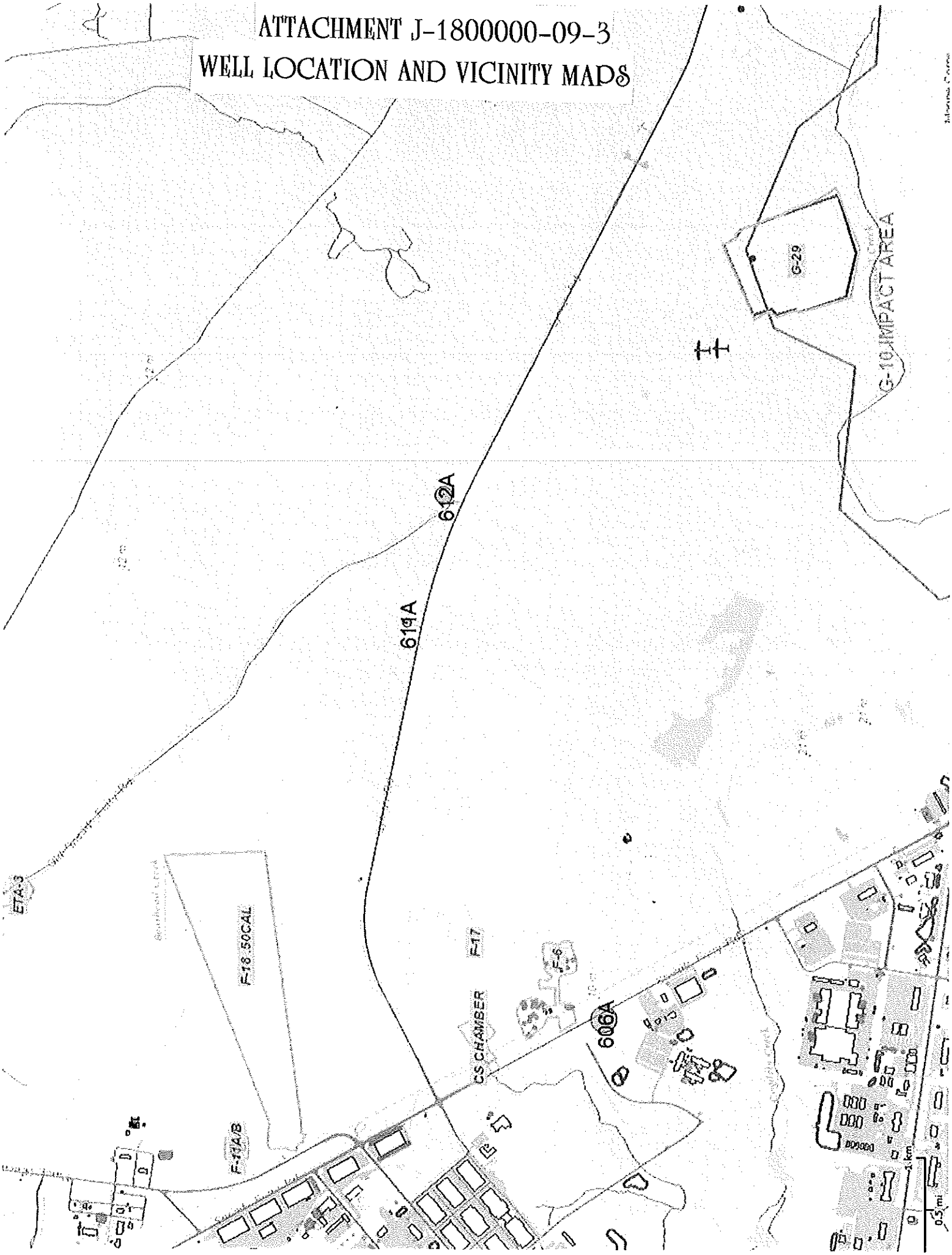


ATTACHMENT J-1800000-09-2

WELL LOCATION AND VICINITY MAPS

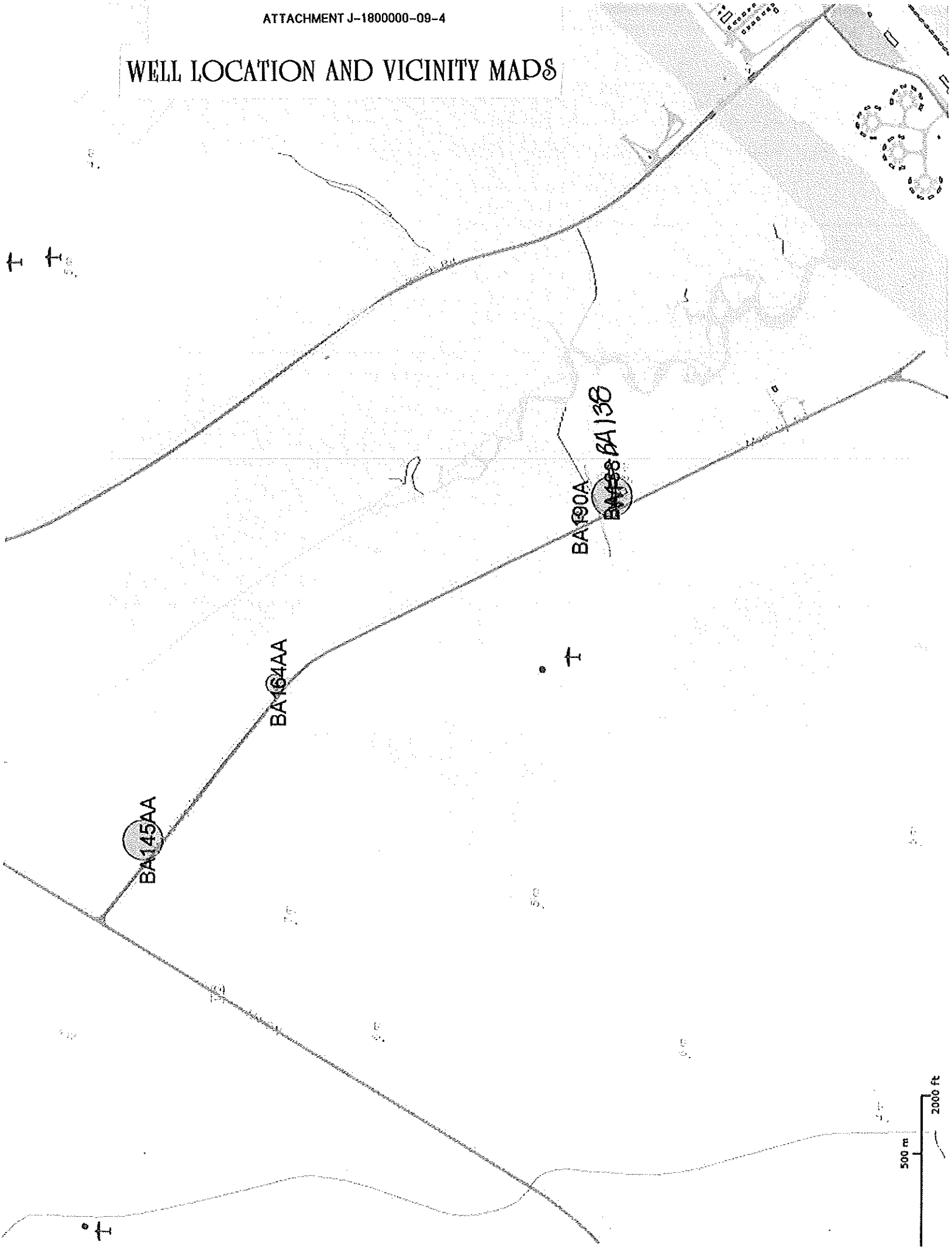


ATTACHMENT J-1800000-09-3
WELL LOCATION AND VICINITY MAPS

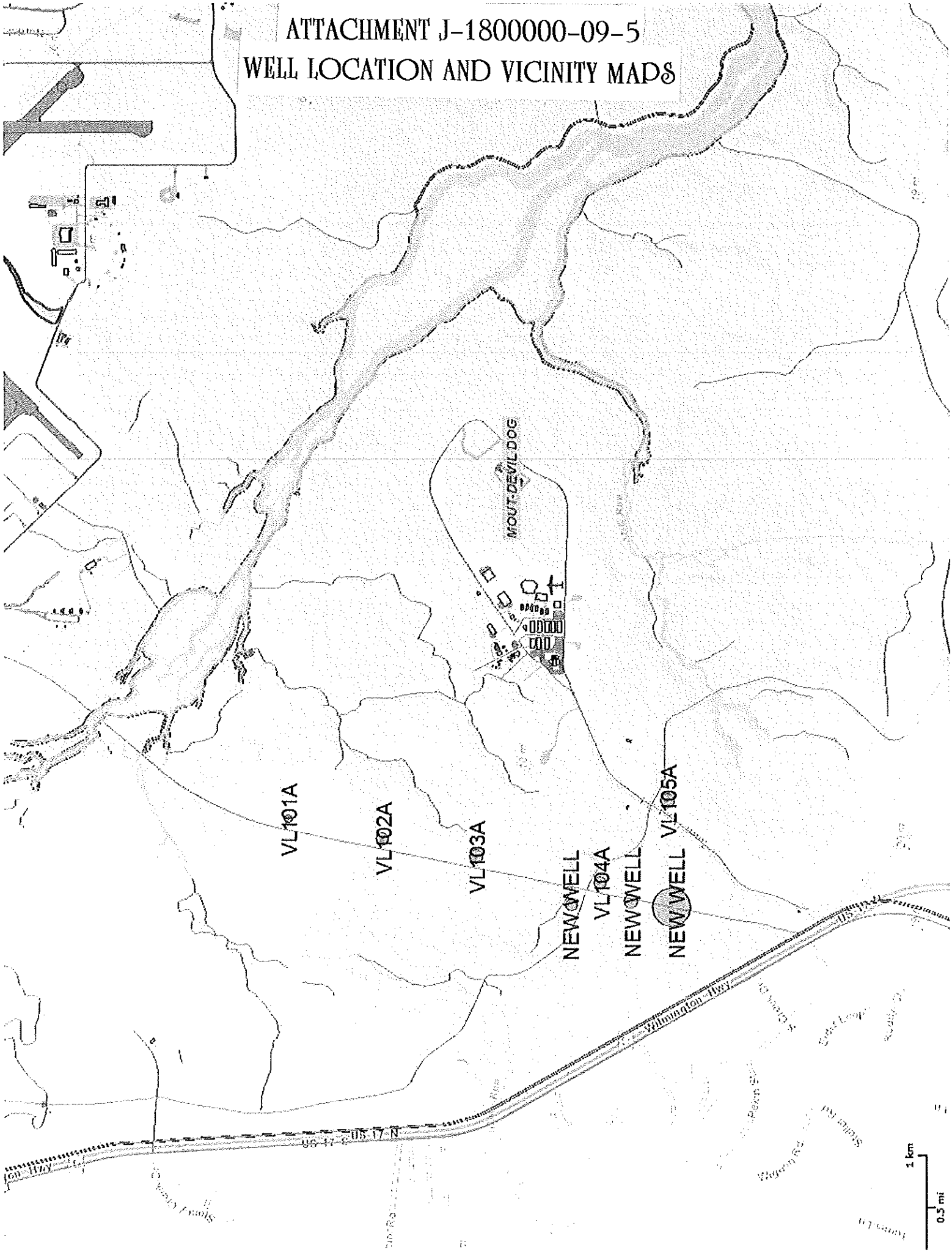


ATTACHMENT J-1800000-09-4

WELL LOCATION AND VICINITY MAPS

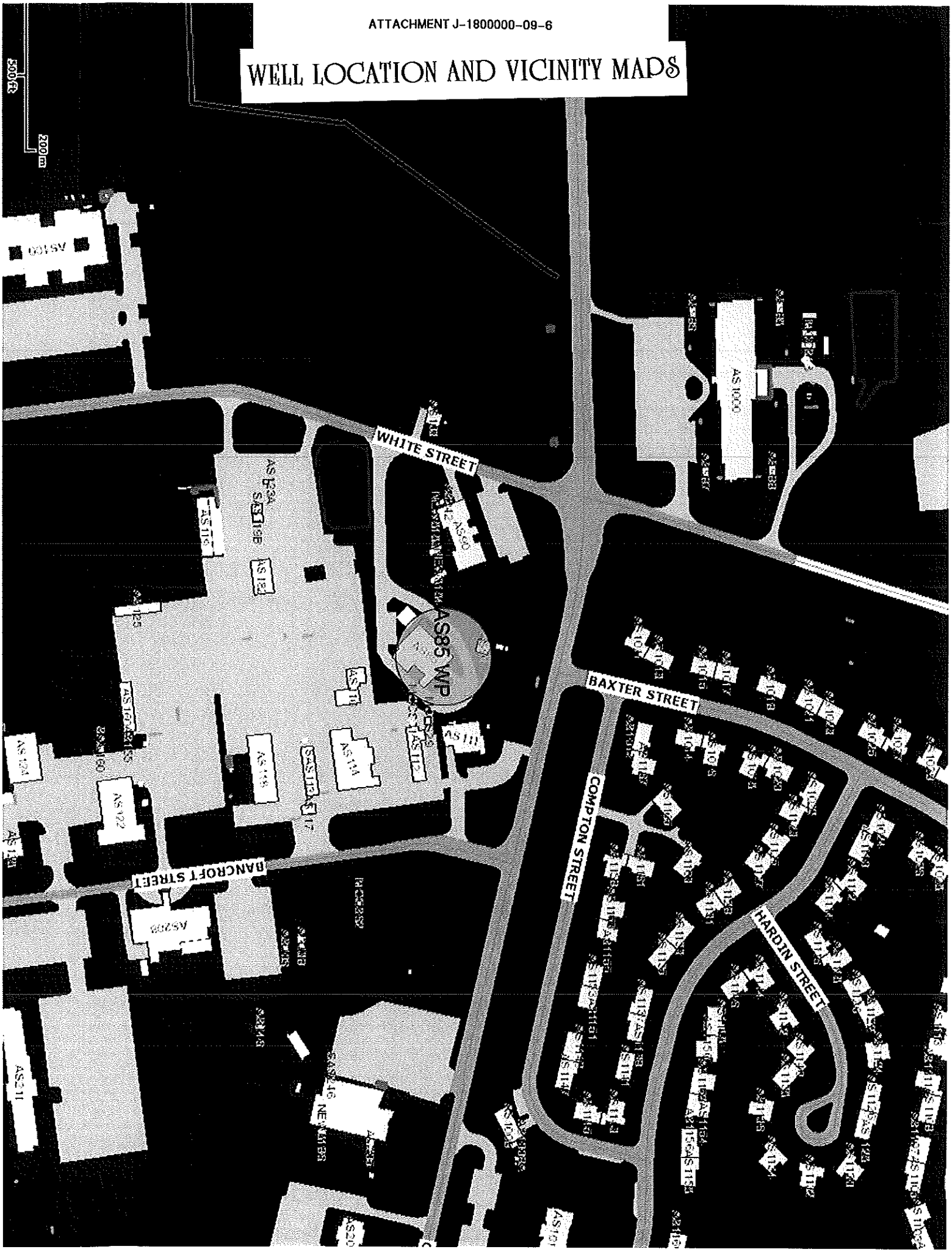


ATTACHMENT J-1800000-09-5
WELL LOCATION AND VICINITY MAPS



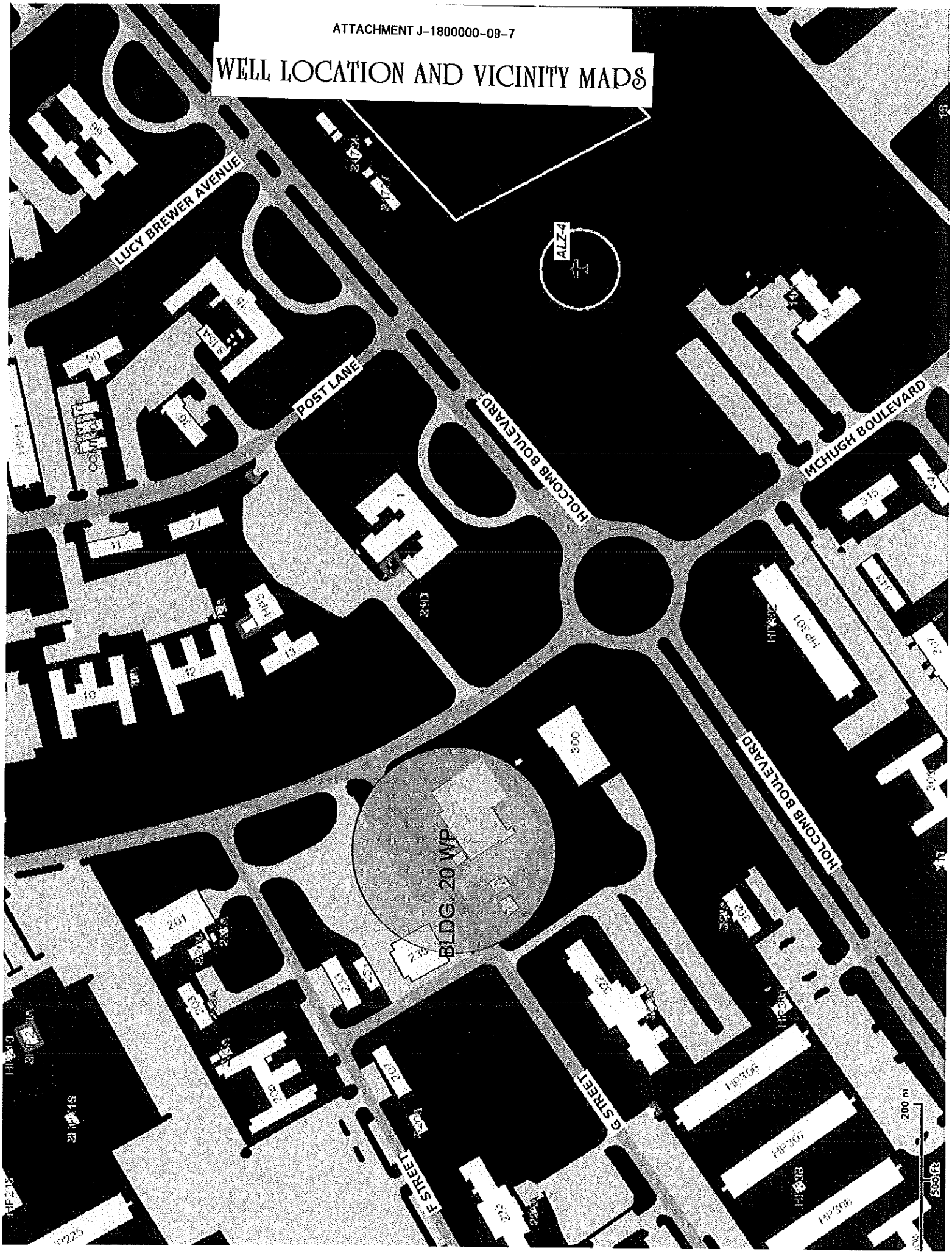
ATTACHMENT J-1800000-09-6

WELL LOCATION AND VICINITY MAPS



ATTACHMENT J-1800000-09-7

WELL LOCATION AND VICINITY MAPS



PERFORMANCE ASSESSMENT PLAN

N40085-16-R-6307
Sampling Analysis of Drinking Wells

Marine Corps Base
Camp Lejeune, NC

PREPARED BY:

Facilities Support Contracts (FSC)

20 December 2015

Version 2.1

Updated 21MAY14

Performance Assessment Plan Contents

List of Attachments

Performance Assessment Plan

1. Introduction

1.1 Purpose

The Performance Assessment Plan (PAP) establishes Performance Assessment (PA) provisions for Contract **N40085-16-R-6307**, Sampling Analysis of Drinking Wells.

The PAP describes the methodology for assessing the Contractor's performance that will be used to provide Contractor feedback, update Contractor Performance Assessment Rating System (CPARS). The PAP includes the Functional Assessment Plan (FAP), Attachment A, and standard Performance Assessment Worksheets (PAW), Attachment B, to document and report Government observations of Contractor performance. The Government's role is to assess Contractor's work against measurable performance standards, and per the principles of Performance Based Services Acquisition (PBSA), the Contractor's role is to ensure its quality through successful implementation of its Quality Management System (QMS). Per FAR Subpart 46.4, Government PA "shall be performed at such times and places as may be necessary to determine that the supplies or services conform to contract requirements" in order to ensure payments are made only for services that meet performance standards specified in the contract.

1.2 Partnering

Effective partnering and establishing a positive relationship between the Government and the Contractor is essential in fulfilling a performance-based requirement. The Government's relationship with the Contractor should be one that promotes a strong and positive business alliance to achieve mutually beneficial goals, such as timely delivery and acceptance of high-quality services through the use of efficient business practices. Business relationships should seek to create a cooperative environment to ensure effective communication between the parties. Teamwork, cooperation, and good-faith performance are important for meeting mission objectives and resolving conflicts and problems. Each party should clearly understand the goals, objectives, and needs of the other. It is essential that the Government and the Contractor work together as a team to communicate expectations, agree on common goals, develop a common understanding of measurable standards, and identify and address problems early in the contract to achieve desirable outcomes.

2. Roles and Responsibilities

The Government's key roles and responsibilities for performance assessment are as follows:

FSC Management and Facility Services (FMFS) Branch Head. The FMFS Branch Head provides direct supervision of SPARs, PARs, Spec Writers, etc assigned to the FMFS Branch. The FMFS branch head is responsible for ensuring adequate funding and staffing to support the specification development, contract management, and performance assessment function of the branch as well as all personnel management responsibilities. The COR and PAR are assigned for this contract.

Facilities Support Contract Manager (FSCM). The FSCM is the overall technical lead for the management of Facility Support Contract requirements from cradle to grave.

Contracting Officer (KO). The ACO and/or PCO assigned to the contract. The KO has final responsibility for Contractor PA per FAR Part 42—Contract Administration and Audit Services, non-conformance modifications, and unilateral determination of incentives.

Contracting Officer's Representative (COR). The COR is responsible for monitoring the Contractor's technical compliance and progress based on the contract requirements specified in the PWS and in accordance with the PAP. The COR performs a variety of contract administration duties that includes oversight of PA, documenting and rating Contractor performance, reviewing invoices, and acceptance of work.

Senior PAR (SPAR). The SPAR is responsible for coordinating efforts of multiple PARs assigned to this contract. The SPAR reviews PA schedules and PA documentation for sufficiency and consistency of oversight.

Performance Assessment Representative (PAR). The PAR is assigned as a Technical Point of Contact (TPOC) / Subject Matter Expert (SME) to the COR to perform duties as the on-site representative who assesses Contractor performance. The PAR periodically observes Contractor performance, reviews delivered services, reviews quality management corrective actions, periodically assesses and documents Contractor performance on Performance Assessment Worksheets (PAWs) and the Monthly Performance Assessment Summary (MPAS), and communicates findings as necessary with the Contractor, Senior PAR (SPAR), and Contracting Officer Representative (COR).

Note: Throughout NAVFAC policy, processes, and training, the term Performance Assessment Representative (PAR) refers to anyone responsible for conducting assessments of a NAVFAC administered Facility Support Contract. The term PAR will be used in reference to any individual assigned as a TPOC/SME to provide support to the COR, including as a collateral duty of other PWD or customer personnel, regardless of billet. All personnel assigned these duties must follow the guidance and direction provided to PARs.

Performance Assessment Board (PAB). The PAB is comprised of key technical and administrative personnel appointed in writing by the KO. The PAB will convene on a regular basis to review Contractor performance documentation for the prior evaluation period, and prepare and forward a summary report of findings and recommendations to the KO. The PAB makes recommendations for CPARS and provides input for the determination of contract incentives, if applicable. Details of PAB membership and the process for convening the PAB are provided in paragraph 11.4 below.

3. Training

To effectively implement the PA Program, individuals who monitor the Contractor's performance should be experienced in the annex/sub-annex areas for which they are assigned and adequately trained. Mandatory training standards for all personnel performing PA of NAVFAC contracts are specified in BMS B-14.3, Performance Assessment. Additionally, safety training requirements are detailed in BMS B-14.18, FSC Safety and training for those assigned as CORs is promulgated by NFAS 1.602 and detailed in NAVFAC Instruction 4200.1.

CORs assigned to provide oversight of this contract must meet the applicable training requirements and must be appointed in writing by the KO per BMS S-18.3.6. PARs providing support as TPOC/SME for the COR must meet the applicable training requirements and must be assigned in writing by per BMS S-18.3.6 and B-14.3.

4. Safety

Proper oversight of Contractor safety is an integral part of effective performance assessment. The PAR must ensure that the Contractor is in compliance with safety requirements specified in Spec Item 2.9 of the contract. The PAR should be present during any local Safety briefings. If the PAR observes a violation of any safety requirements by the Contractor, the PAR should:

- Report the safety hazard resulting from unsafe acts or conditions, defective tools, materials, or equipment used by the Contractor to the COR.
- When imminent danger is apparent (where, if the hazard is not immediately corrected, there is a high probability that a serious accident will occur, life will be in danger or there will be extensive property damage), immediately inform the Contractor and request immediate action is taken to correct the hazard. If the Contractor does not voluntarily take corrective action, require the Contractor to stop work and immediately notify the COR.

Further detail of safety assessment procedures is provided in paragraph 10.4.3 below.

5. Security

The PAR should become familiar with all security requirements specified in Spec Item 2.8.7 of the contract and report any observed violations to the KO.

6. Submittals

The PAR should review reports and other submittals identified in Section F to ensure they comply with applicable requirements and specifications.

6.1 Quality Management Plan Submittal

The Quality Management System Pre-Performance Review Checklist, Attachment C, should be used for the review of the Contractor's QM Plan submittal and as a guideline for discussion of the Contractor's QMS during the post-award kickoff/pre-performance conference. The PAR, SPAR, Contractor Quality Manager and Project Manager, and any applicable subcontractor quality representatives should sign off on the QMS review checklist.

6.2 Accident Prevention Plan Submittal

Per BMS B-14.18, FSC Safety, the FMFS Pre-Performance Safety Checklist should be used for the review of the Contractor's Accident Prevention Plan submittal (including Activity Hazard Analyses (AHAs) and Occupational Risk and Compliance Plans and Programs) and as a guideline for discussion of the Contractor's Safety Program during the post-award kickoff/pre-performance conference. The PAR should coordinate with the local command Safety Representative for assistance in review of Contractor's APP. The PAR, SPAR, Contractor Site Safety and Health Officer (SSHO) and Project Manager, and any applicable subcontractor safety representatives should

sign off on the Safety review checklist. The Contractor must submit and have an approved APP before any work may begin on site. Additionally, new or revised AHAs must be submitted and reviewed at the beginning of each work phase, when new hazards are identified, or when a new work crew is brought on site.

7. Meetings

The PAR should attend and be prepared for required meetings, including partnering sessions. The PAR should be familiar with the Spec Items in Annex 2 titled "Required Conferences and Meetings" and "Partnering." The FSC Partnering process is addressed in BMS B-14.16.

8. Methods of Assessment (MOA)

The PAR will periodically assess services for conformance to contract performance objectives and standards using the following MOAs:

- Periodic Sampling (PS) – requires a pre-determined plan for assessing a portion of the work, using sample size and frequency at the applicable assessment level.
- Validated Customer Comments (VCC) – consists of customers observing the performance of services they have received and using a pre-determined procedure to provide feedback and/or report observations to the PAR for validation.
- Unscheduled Visits (UV) – impromptu assessments of performance standards and objectives whenever practical.
- Customer's Evaluation (CE) – consists of collected survey data of Contractor performance from the customer's perspective through the use of a feedback form.

The MOAs used for assessment of each performance objective and standard are identified within the FAP included in Attachment A.

9. Quality Management System (QMS)

When the Government's assessment of the Contractor's performance reveals that the quality management efforts are not effective in ensuring performance objectives and standards are achieved, further action is required. The PAR will conduct a review of the Contractor's QMS processes and quality inspection and surveillance records for the work item(s) where deficiencies are noted to validate the accuracy and effectiveness of the Contractor's QMS.

For QMS to be considered acceptable, the Contractor must demonstrate to the Government through quality management and QC corrective and preventive actions that the risk of failure to meet performance standards has been satisfactorily mitigated.

Further detail of the QMS review process is provided within the assessment procedures in paragraph 10.4 below.

10. Performance Assessment Process

10.1 Post-Award Planning

Performance Assessment personnel should review and understand the final contract requirements, including any amendments made during the solicitation period, paying particular attention to performance objectives and standards and any changes in the scope of work. Performance Assessment personnel should also review the Contractor's technical proposal received in response to the solicitation and initial submittals, such as the QMS program (including Quality Management Plan), Accident Prevention Plan (including Activity Hazard Analyses (AHAs) and Occupational Risk and Compliance Plans and Programs), list of key personnel and employee listing.

Performance Assessment personnel should also meet with customer representatives to review details of the contract and discuss the process for reporting and handling of customer comments and review the contract requirements for partnering and the process described in BMS B-14.16, FSC Partnering, to be prepared for these meetings.

10.2 Scheduling Assessments

Performance Assessment personnel should develop a planned assessment schedule based upon factors such as selected MOAs, Contractor's recurring performance schedule, population of work, and local priorities and conditions. Certain work requirements may necessitate increased assessment based on performance risk considerations, e.g., services that are mission critical or have life safety impacts. Increased assessment may be conducted by adding AL2 or AL3 assessments or by targeting specific samples during routine AL1 assessment. Risk is measured based on two things: the likelihood (or probability) and event will occur and the consequence (or impact) if the event does occur.

The FAP, Attachment A, along with the starting point for assessments based on risk determination should be compared against the Contractor's work schedules as applicable to develop the initial assessment schedule. This schedule may be adjusted when required based on Contractor performance as detailed within the assessment procedures in paragraph 10.4 below.

10.3 Non-recurring Task Orders

Non-recurring Task Orders (TO) require 100% assessment. This means that all TOs must be verified as satisfactorily complete prior to payment. For EMALL Task Orders, verification is performed by the customer through the validation of the credit card payment and acceptance in EMALL. EMALL orders that involve high-risk evolutions will be indicated as "HIGH RISK" in the EMALL short description. The customer must notify the COR by email or phone immediately upon ordering a high-risk Non-recurring TO. The COR will schedule appropriate safety oversight for these evolutions. For all other Non-recurring TOs, validation is the responsibility of PA personnel. Scheduling of assessments must be planned based on the nature of the work (i.e. simple, short duration tasks performed at a single location vs. complex work performed over a longer period at multiple locations) and added to the assessment schedule after TO award.

10.4 Assessment Procedures

Every assessment must be documented on a Performance Assessment Worksheet (PAW) using the form provided in Attachment B. The assessment procedures based on the scheduled level of assessment performed are detailed below.

10.4.1 AL1 Assessments

The flowchart in Figure 1 below and corresponding descriptions shown below detail the performance assessment process used by the PAR to observe, assess, and document Contractor's performance for 2-digit Spec Items (AL1).

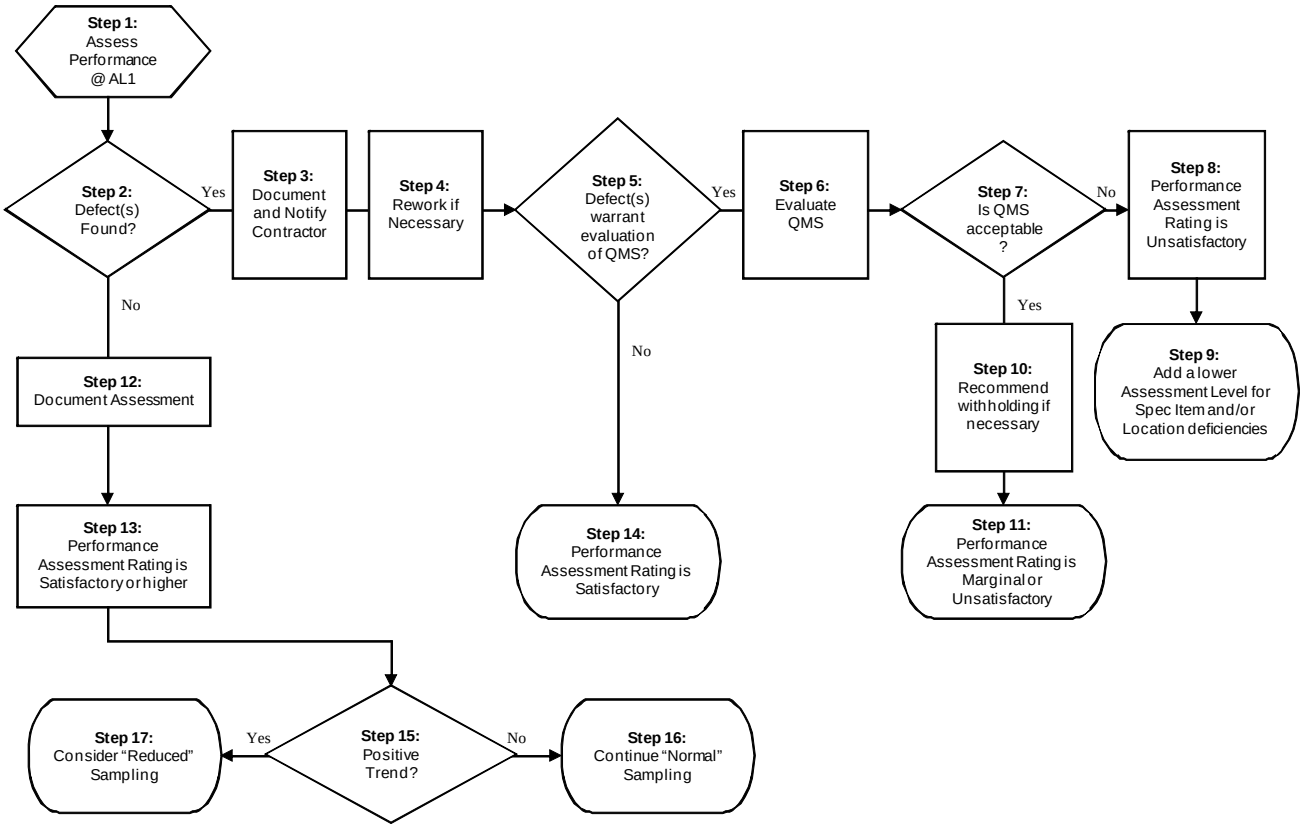


Figure 1. Performance Assessment Process for Assessment Level 1 (AL1)

Step 1: Assess Performance at AL1 – This is the typical starting point of assessment. Assess the Contractor's performance using the MOA, frequencies, and sample sizes indicated at AL1 of the FAP. The starting point may include additional PA at lower assessment levels for mission critical, safety, or environmental related services as determined based on the risk assessment performed during post-award planning. A Performance Assessment Worksheet (PAW) must be used for each assessment indicating this is an AL1 assessment. A PAW is the form used to document and report Government observations and rate Contractor performance.

Step 2: Defect(s) Found – The PAR should evaluate the Contractor's performance of work looking for both failures to comply with performance objectives and standards as well as instances of value-added services or work that exceeds performance standards. Any observation of work that fails to meet any of the specified performance standards will be documented as a defect. Instances of non-conforming work discovered during unscheduled visits (UV) should also be documented as defects. Where customer comments are received (VCC), all alleged defects must be evaluated within a reasonable time to validate that the performance standards were not met. Documentation will be completed using the Customer Comment Record, Attachment D. Documentation of UVs will be completed on a PAW. DECISION: If a defect is found, continue. If not, jump to Step 12.

Step 3: Document and Notify Contractor – Document any observed negative performance that fails to meet contract performance standards with supporting narrative on the Performance Assessment Worksheet (PAW). If defects are found, the PAR will forward a copy of the PAW to the Contractor. The Contractor shall sign and return the PAW within the specified timeframe to acknowledge receipt of the document. The Contractor's signature does not constitute agreement with the Government's assessment, it merely acknowledges that the Contractor has been notified of a Government observed defect. Should the Contractor disagree with the Government's observations, discussions should be conducted to reach a common understanding of performance objectives and standards.

Step 4: Rework if Necessary – In the case of unsatisfactory or non-performed work, the Government may, at its option, allow the Contractor an opportunity to correct by reperformance at no additional cost to the Government. Rework shall be completed within the timeframe specified in Section E, Consequences of Contractor's Failure to Perform Required Services clause of the contract.

Step 5: Defect(s) Warrant Evaluation of QMS? – Defects warrant evaluation of QMS if: 1) they are "Significant", 2) a "Trend" has been established, or 3) the work is not considered "Substantially Complete". Significant defects include the Contractor's failure to meet performance objectives and standards that result in damage to the Government, or incomplete major or critical work items. Significant defects are subjective and should be discussed in initial partnering sessions with the Contractor. Trends are defects that may be considered minor but are recurring and have not been corrected through the Contractors QMS. Trends are typically defects found in the same or similar work requirements repeated consistently over several periods of the assessment frequency. Substantially complete means that the performance standard is fully met except for minor or trivial non-conformances per FAR 46.407. A service will be judged to be fully conforming to the contract performance standards if the nonconformance is minor or trivial and there is no omission of essential work, and approximately 95% of the total work (population) assessed meets the performance standard. Substantial completion can be measured based on the total work requirement being assessed or based on any one element of work performance. DECISION: If QMS evaluation is warranted, continue. If not, jump to Step 14.

Step 6: Evaluate QMS – The PAR should evaluate the Contractor's QMS to verify proper controls are in place to ensure the delivery of quality services. The PAR should follow the QMS In-Process Review Checklist, Attachment E, and document findings on this form. This review should begin with a focus on the Spec Items and/or location where defects have been found as opposed to a complete audit of the Contractor's QMS (use Parts A & B of the checklist). The evaluation should identify corrective actions the Contractor is taking for specific discrepancies and identify any QMS

changes the Contractor is implementing to preclude systemic problems, avoid repeat discrepancies, and regain Quality Control (QC). If the initial evaluation identifies deficiencies in the Contractor's QMS with insufficient planned corrective actions or QMS changes, or, if corrective actions and QMS changes planned during previous QMS reviews have been ineffective, then broaden the evaluation to a more comprehensive review of the Contractor's QMS program (use Parts C through F of the checklist).

Step 7: Is QMS Acceptable? – The Contractor must demonstrate to the Government that they have taken corrective actions and identified QMS changes to preclude systemic problems, avoid repeat discrepancies, and regain QC. QMS is considered "Acceptable" if the Contractor's actions will satisfactorily reduce the risk of continued failure to meet performance standards. DECISION: If QMS is unacceptable, continue. If QMS is acceptable, jump to Step 10.

Step 8: Performance Assessment Rating is Unsatisfactory – If the Contractor's QMS is unacceptable, then the PAR should document all findings, including a summary of the findings associated with the Contractor's QMS, on the PAW. The PAR should rate the Contractor Unsatisfactory in accordance with the evaluation ratings definitions included in the PAB Rating Summary. The PAR should also document recommendations for withholding of payment on the PAW for non-conforming services when defects cannot be corrected by reperformance.

Step 9: Add a lower Assessment Level for Spec Item and/or Location deficiencies – When the Contractor's performance is Unsatisfactory at AL1 and QMS is Unacceptable, additional PA at Assessment Level 2 or 3 (AL2 or AL3) should be conducted for the Spec Item and/or location deficiencies as shown in Figure 3. [End of this assessment]

Step 10: Recommend withholding if necessary – Even if the QMS is acceptable and the Contractor has implemented or planned appropriate corrective actions, withholdings may still be warranted. The PAR should document recommendations for withholding of payment on the PAW for non-conforming services when defects cannot be corrected by reperformance.

Step 11: Performance Assessment Rating is Marginal or Unsatisfactory – The PAR shall document all findings, including a summary of the findings associated with the Contractor's QMS evaluation, on the PAW. The PAR should rate the Contractor Marginal or Unsatisfactory in accordance with the evaluation ratings definitions included in the PAB Rating Summary. The PAR should continue sampling the size identified as "Normal" in the FAP at AL1. [End of this assessment]

Step 12: Document Assessment – Document results of assessment particularly noting how it was validated that performance complied with contract requirements and detailing any instances of value-added services or work that exceeds contract performance standards, with supporting narrative on the PAW.

Step 13: Performance Assessment Rating is Satisfactory or Higher – If the Contractor has performed all work in accordance with the performance objectives and standards, then a performance rating of Satisfactory or higher should be assigned. The PAR should rate the Contractor Satisfactory, Very Good, or Exceptional in accordance with the evaluation ratings definitions included in the PAB Rating Summary. Jump to Step 15.

Step 14: Performance Assessment Rating is Satisfactory – The PAR shall document all findings, including details of the failures to comply with performance objectives and standards on the PAW. Per the evaluation ratings definitions included in the PAB Rating Summary, Satisfactory is defined

as "contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory." Therefore, the PAR should rate the Contractor Satisfactory and continue sampling the size identified as “Normal” in the FAP at AL1. [End of this assessment]

Step 15: Positive Trend Established? – If the Contractor has established a trend of Satisfactory, Very Good or Exceptional performance, repeated consistently over several periods of the assessment frequency, the PAR should consider sampling at the reduced level (Jump to Step 17). If a trend has not yet been established the PAR should continue normal sampling.

Step 16: Continue “Normal” Sampling – The PAR should continue sampling the size identified as “Normal” in the FAP at AL1. [End of this assessment]

Step 17: Consider “Reduced” Sampling – The PAR should adjust sampling to the size identified as “Reduced” in the FAP at AL1. [End of this assessment]

10.4.2 AL2/3 Assessments

The flowchart in Figure 2 below and corresponding descriptions shown below detail the performance assessment process used by the PAR to observe, assess, and document Contractor’s performance for 3-digit and 4-digit Spec Items (AL2/3).

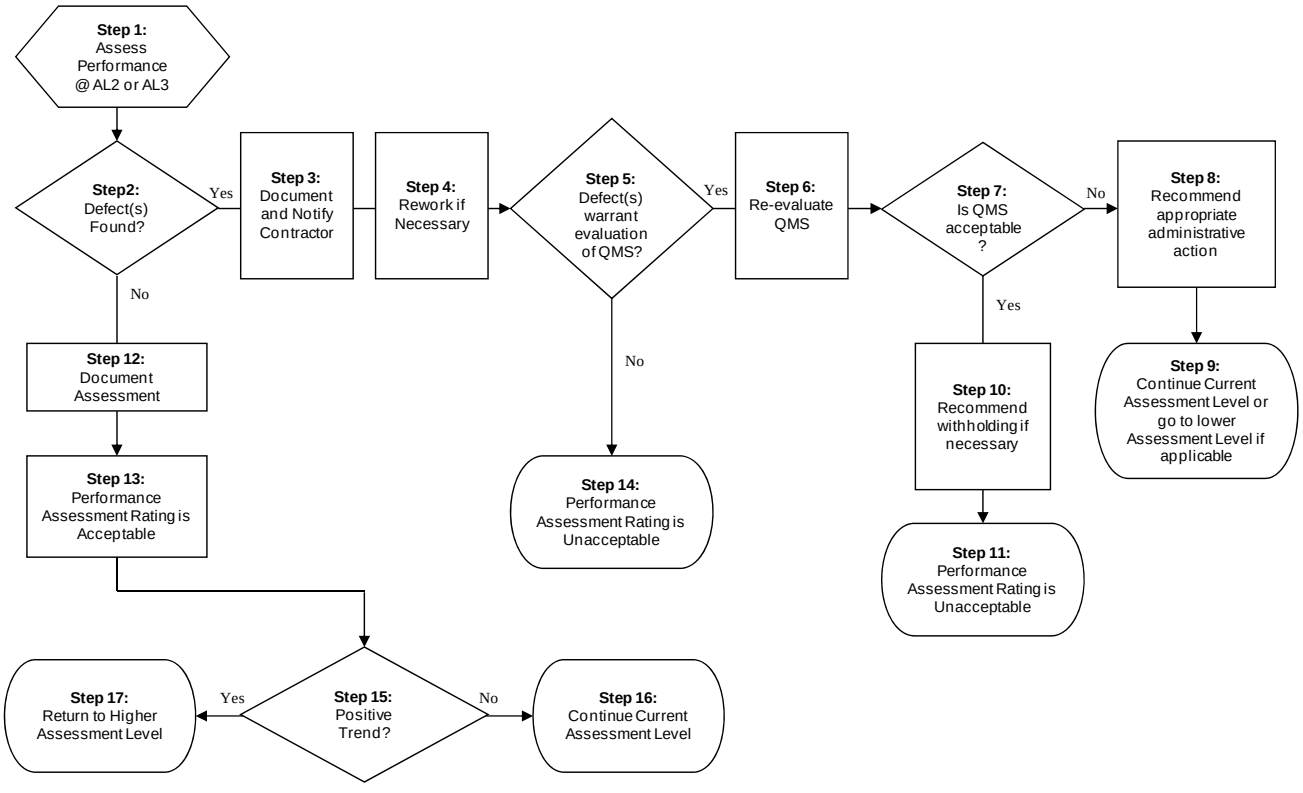


Figure 2. Performance Assessment Process for Assessment Level 2 or 3 (AL2 or AL3)

Step 1: Assess Performance at AL2 or AL3 – Start additional assessment(s) at a lower level if the rating on PAW 1 was Unsatisfactory and QMS was unacceptable. Certain work requirements may necessitate normal assessment at AL2 or AL3 based on performance risk considerations, e.g., services that are mission critical or have life safety impacts. Assess the Contractor's performance using the MOA, frequencies, and sample sizes indicated at the appropriate assessment level, e.g., AL2 or AL3 of the FAP.

Step 2: Defect(s) Found – If the Contractor has performed all work in accordance with the performance objectives and standards, then a performance rating of Acceptable should be assigned. The PAR will document any instances of value-added services or work that exceeds performance standards with supporting narrative on the Performance Assessment Worksheet (PAW). When the assessed work fails to comply with performance objectives and standards, the PAR will document the defect on the PAW and notify the Contractor. Instances of non-conforming work discovered during unscheduled visits (UV) should also be documented as defects. Where customer comments (VCC) are received, all alleged defects must be evaluated within a reasonable time to validate that the performance standards were not met. Documentation will be completed using the Customer Comment Record, Attachment D. Documentation of UV will be completed on a PAW. DECISION: If defect is found, continue. If not, jump to Step 12.

Step 3: Document and Notify Contractor – Document instances of value-added performance that exceeds contract performance standards, and negative performance that fails to meet contract performance standards, with supporting narrative on the PAW. If defects are found the PAR will forward a copy of the PAW to the Contractor. The Contractor shall sign and return the PAW within the specified timeframe to acknowledge receipt of the document. The Contractor's signature does not constitute agreement with the Government's assessment, it merely acknowledges that the Contractor has been notified of a Government observed defect. Should the Contractor disagree with the Government's observations, discussions should be conducted to reach a common understanding of performance objectives and standards.

Step 4: Rework if Necessary – In the case of unsatisfactory or non-performed work, the Government may, at its option, allow the Contractor an opportunity to correct by re-performance at no additional cost to the Government. Rework shall be completed within the timeframe specified in Section E, Consequences of Contractor's Failure to Perform Required Services clause of the contract.

Step 5: Defect(s) Warrant Evaluation of QMS? – Defects warrant evaluation of QMS if 1) they are "Significant", 2) a "Trend" has been established, or 3) the work is not considered "Substantially Complete". Significant defects include the Contractor's failure to meet performance objectives and standards that result in damage to the Government, or incomplete major or critical work items. Significant defects are subjective and should be discussed in initial partnering sessions with the Contractor. Trends are defects that may be considered minor but are recurring and have not been corrected through the Contractors QMS. Substantially complete means that the performance standard is fully met except for minor or trivial non-conformances per FAR 46.407. A service will be judged to be fully conforming to the contract performance standards if the nonconformance is minor or trivial and there is no omission of essential work, and approximately 95% of the total work (population) assessed meets the performance standard. DECISION: If QMS evaluation is warranted, continue. If not, jump to Step 14.

Step 6: Re-evaluate QMS – The PAR should reevaluate the Contractors QMS to verify proper controls are in place to ensure the delivery of quality services. This review should be limited to the Spec Items and/or location where defects have been found as opposed to a complete audit of the Contractor's QMS. The evaluation should identify corrective actions the Contractor is taking for specific discrepancies, and identify any QMS changes the Contractor is implementing to preclude systemic problems, avoid repeat discrepancies, and regain Quality Control (QC).

Step 7: Is QMS Acceptable? – The Contractor must demonstrate to the Government that they have taken corrective actions and identified QMS changes to preclude systemic problems, avoid repeat discrepancies, and regain QC. QMS is considered "Acceptable" if the Contractor's actions will satisfactorily reduce the risk of continued failure to meet performance standards. DECISION: If QMS is unacceptable, continue. If QMS is acceptable, jump to Step 10.

Step 8: Recommend appropriate administrative action – The PAR should make recommendations to the Contracting Officer via the SPAR/COR/FSCM for appropriate administrative actions. Administrative actions may include additional performance review meetings, issuance of a Contract Discrepancy Report (CDR), Attachment F, withholding of payment including liquidated damages, or interim CPARS rating. The PAR should also document recommendations for withholding of payment on the PAW for non-conforming services when defects cannot be corrected by reperformance.

Step 9: Continue Current Assessment Level or go to lower Assessment Level if applicable – The PAR shall continue sampling at the size and frequency identified in the FAP at the appropriate assessment level or can move to a lower level of assessment if applicable. Additionally, if there is a negative trend in Contractor performance, the PAR should consider modification of the MOAs, sample sizes, and frequencies included in the FAP.

Step 10: Recommend withholding if necessary – If the Contractor's QMS is acceptable, then the PAR may still consider recommending withholding of payment for non-conforming services when defects cannot be corrected by re-performance by documenting on the PAW.

Step 11: Document Performance Assessment Rating as Unacceptable – The PAR shall document all findings, including findings associated with the Contractor's QMS, which justify rating the Contractor's performance as Unacceptable. The PAR shall continue sampling the size identified in the FAP at the current assessment level. [End of this assessment]

Step 12: Document Assessment – Document results of assessment with supporting narrative on the PAW, particularly noting how it was validated that performance complied with contract requirements.

Step 13: Document Performance Assessment Rating as Acceptable at appropriate assessment level – The PAR shall document all findings which justify rating the Contractor's performance as Acceptable. Jump to Step 15.

Step 14: Document Performance Assessment Rating as Unacceptable – The PAR shall document all findings which justify rating the Contractor's performance as Unacceptable. The PAR shall continue sampling the size identified in the FAP at the current assessment level. [End of this assessment]

Step 15: Positive Trend Established? – If the Contractor has established a trend of acceptable performance over a period of time, e.g., three months, the PAR should return to a higher assessment

level (Jump to Step 17). If a positive trend has not yet been established the PAR should continue at the current assessment level.

Step 16: Continue Current Assessment Level – The PAR should continue sampling at the size and frequency identified in the FAP at the appropriate assessment level. [End of this assessment]

Step 17: Return to Higher Assessment Level – The PAR should discontinue the additional lower level assessment and move to a higher assessment level or reduce to normal AL1 assessment. [End of this assessment]

10.4.3 Safety Assessment

As detailed in BMS B-14.18, FSC Safety, proper oversight of Contractor safety is an integral part of effective performance assessment. There are two preferred methods for assessing a Contractor's safety performance: 1) Assessing safety while conducting regular periodic sampling; and 2) Documenting "unscheduled visits" to specifically assess safety anytime the performance of work can be observed.

> Note: Anytime a safety issue is observed, the PAR should take appropriate immediate action to stop work as necessary until the unsafe practices are properly corrected.

The PAR shall record all safety assessments on the PAW including a supporting narrative regarding the safety issues observed in the comments block. The FSC Safety Assessment Checklist, Attachment G, should be used to identify the specific areas where safety issues were noted and attached to the PAW. Similar to the assessment process detailed above, the PAR should consider the significance of safety issues and any trends observed in evaluating the need for further review of the Contractor's safety program and the addition of more scheduled assessments.

If a detailed review of the Contractor's safety program is deemed necessary, the PAR should evaluate the Contractor's Accident Prevention Plan (APP)/Activity Hazard Analysis (AHA) to verify proper safety controls are in place to ensure their employees are performing work in accordance with EM 385-1-1. This review shall ensure the APP/AHA is site specific and relevant to the service process. The safety program review should identify discrepancies between the Contractor's APP/AHA with the EM 385-1-1 and identify any corrective actions the Contractor is implementing to preclude systemic problems and avoid repeat safety issues. The PAR should coordinate with the local command Safety Representative for assistance in review of Contractor's APP.

The PAR must also be familiar with other safety responsibilities detailed in BMS B-14.18, including assisting with Occupational Safety and Health Administration (OSHA) inspections and ensuring Contractors follow the proper procedure for mishap notification.

10.4.4 Management and Administration Assessment –

Contractor compliance with contract requirements, including those specified in Annex 0200000 or Spec Item 2 of the functional annex, can generally be evaluated through the assessment of work performed. For example, the Contractor must provide properly trained and qualified personnel to perform work in order to meet the standards specified in the contract. However, there remain certain overall management and administration requirements that cannot be effectively assessed through PA scheduled per the FAPs Contract Discrepancy Reports

Contract Discrepancy Reports (CDRs) are a formal administrative action intended to document and track Contractor corrective actions for resolution of continued unsatisfactory performance. CDRs will be issued for repeated failures where the Contractor has an unacceptable QMS that has not been effectively corrected. That is, the following conditions have occurred:

1) Defects at AL1 led to a QMS evaluation,
2) The Contractor's QMS was found to be unacceptable and additional assessments were scheduled for the AL2/3 level,
3) AL2/3 assessments revealed further defects and the QMS evaluation was again unacceptable.

Issuance of a CDR requires the Contractor to evaluate the noted discrepancy, determine root cause of the failure to perform, and develop a plan to ensure contract requirements are met. CDRs require Contractor response and Government acceptance of the Contractor's corrective action. CDRs must be tracked until officially closed out by the Government. The Contract Discrepancy Report format is included in Attachment F.

11. Assessment Summary and Evaluation

11.1 Monthly Performance Assessment Summary (MPAS)

The PAR and SPAR will collect, review, and evaluate the results of all performance assessments including PAW documentation, safety assessments, validated customer comments, customer evaluations, trend data, and Contractor QMS corrective and preventive actions. The PAR summarizes PA information and completes the comments block on the MPAS for each annex/sub-annex. The MPAS for each annex/sub-annex is included with the applicable FAP, Attachment A. The SPAR reviews completed annex/sub-annex MPAS, provides recommended actions as applicable, assigns an overall technical rating for the function, and validates the MPAS by signing it.

11.2 Invoice Validation and Withholdings

Results of performance assessments and other PA information should also be used as part of the validation of the Contractor's monthly invoice amount. The COR will make a determination for the value of the estimated damages to the Government for non-conforming or non-performed work and recommend to the KO the appropriate withholding including liquidated damages (LDs). Documentation must be provided to support the reduced value of services and/or the estimated cost and related profit to correct deficiencies and complete unfinished work.

The COR is designated as a Departmental Accountable Official (DAO) due to the duties for invoice verification and the responsibility to ensure that payment recommendations are made only for services received that meet the performance standards of the contract. The COR must review the submitted invoices for accuracy and completion of required supporting documentation. The COR should reference MPASs with associated PAWs and other assessment documentation to verify completion of required services and determine if any withholdings or deductions are warranted.

For invoices submitted though Wide Area Work Flow (WAWF), the COR performs the inspector role as detailed in BMS S-17.4.14.2 Process Wide Area Work Flow (WAWF) Invoices. For non-WAWF invoices, follow local process for documenting invoice reviews.

11.2 COR Activity File

In order to provide an auditable trail of documentation supporting the assessment of Contractor performance, the COR is required to maintain a file for each contract/order assigned. A list of items that must be included (at a minimum) in a COR file can be found in NAVFAC Instruction 4200.1, Contracting Officer's Representative. The COR File will be maintained until the end of contract performance, when it is then turned over to the Contracting Officer for inclusion as part of the official contract file.

Hardcopy files are maintained by the COR in a folder(s) annotated with the contract number and period of performance for the included documentation. Supporting documentation (e.g. PAWs) for the current period of performance may be located in individual files retained by each PAR. All content in electronic format is located on a secure shared drive at the following path:

X://PWD Anywhere/FEAD/FMFS/Contract N40085-14-R-7732.

11.3 Performance Assessment Board (PAB)

The Performance Assessment Board membership consists of the following:

PAB Chairperson – COR

PAB Member – SPAR

PAB Member – KO

The PAB will convene on an as needed basis to review and evaluate Contractor performance. The date, time, and location of PAB meetings will be established by the PAB Chairperson and communicated to all PAB members.

Additional participants may include the Site Safety Manager. The personnel may participate in the discussion of Contractor performance, but will have no vote on consensus ratings.

The COR (with support as required from PARs/SPARs) should be prepared to brief the PAB on the monthly summary information and trend data and offer a recommended consensus rating to the PAB based on assessment results. Each PAB member should consider the information presented and individually document ratings with supporting comments for each area defined in CPARS on the PAB Rating Summary form, Attachment J. The PAB Chairperson should develop a consensus rating for each factor and document comments relevant to each rating factor from the PAB review. At, or near, the end of each performance period, the PAB should review previous PAB Rating Summaries in addition to performance during the most recent evaluation period to develop overall

input for official CPARS ratings and relevant comments. This final PAB report should be used by the Assessing Official Representative (AOR) for entry into CPARS for the performance period. Additionally, this PAB should make final recommendations for assessing contract incentives in accordance with the Award Fee or Award Option Plan.

Specific details of the PAB process are provided in BMS B-14.26, Performance Assessment Board.

12. Summary

The PAP is based on the premise that the Contractor is responsible for managing and ensuring that quality controls meet the terms of the contract. The PAP facilitates consistent and effective tiered PA to verify the accuracy and completeness of the Contractor's QMS and to assess overall compliance with performance objectives and standards. The Government will evaluate Contractor performance through appropriate assessment methods to ensure payments are made only for services that comply with contract requirements. This PAP is a "living" document that will be revised or modified as circumstances warrant.

Attachment A: Functional Assessment Plan (FAP)

Included only in Government copy

PERFORMANCE ASSESSMENT WORKSHEET

ANNEX/SUB-ANNEX: _____

Attachment B: Performance Assessment Worksheet

PAW (Indicate Level)	☐ 1	☐ 2	☐ 3	☐ Non-recurring
CONTRACT NO:		PAR NAME:		
SAMPLE ID:		DATE:		
SAMPLE LOCATION:				
SPEC ITEM / TO #:	TITLE:			
SAFETY ASSESSMENT: Issues found? ☐ No ☐ Yes (document details below)				
COMMENTS: (Document findings/observations of how performance complies with contract requirements and detail any value-added or negative performance, and trends)				
RATING: **(For AL-2/3)**	☐ Acceptable	☐ Unacceptable		
PAR (signature): _____ DATE: _____				
CONTRACTOR (signature): _____ DATE: _____				
REWORK:	☐ Acceptable	☐ Unacceptable	☐ N/A	
QMS EVALUATION: (Document effectiveness of contractor's QMS to detect/correct negative performance and reverse trends. Attach QMS review checklist.)				
QMS RATING:	☐ Acceptable	☐ Unacceptable	☐ N/A	
PERFORMANCE ASSESSMENT RATING: (FOR AL-1 or Non-recurring)				
☐ Exceptional	☐ Very Good	☐ Satisfactory	☐ Marginal	☐ Unsatisfactory

QUALITY MANAGEMENT SYSTEM
PRE-PERFORMANCE REVIEW CHECKLIST

Attachment C: QMS Pre-performance Review Checklist

GENERAL INFORMATION			
	NAME	**PHONE**	**EMAIL**
CONTRACTOR Project Manager			
CONTRACTOR Quality Manager			
SUB-CONTRACTOR QC			
SUB-CONTRACTOR QC			
PERFORMANCE ASSESSMENT REPRESENTATIVE (PAR)			
SUPERVISORY PAR / COR			

CONTRACT INFORMATION		
TITLE:		
Contract #:	TO#	LOCATION:
START:	END:	CONTRACT PRICE:

ACCEPTANCE OF CONTRACTOR'S QUALITY APPROACH DOES NOT LIMIT CONTRACTING OFFICER FROM REQUIRING ADDITIONAL MEASURES IF PERFORMANCE IS UNACCEPTABLE.

QUALITY MANAGEMENT BRIEFING CHECKLIST		
CHECKPOINT (Y/N)		**COMMENTS**
QUALITY ORGANIZATION:		
	Is the QM plan submitted in accordance with Annex 0200000 and Section F requirements?	
	Is the Quality organization clearly identified (e.g., org chart) and a list of all Quality personnel provided?	
	Are the responsibilities of Quality personnel detailed and lines of authority explained (e.g., Quality staff and Quality Manager reports directly to Prime Contractor management)?	
	Are the training and qualification requirements for Quality staff specified and does the Contractor's staff meet these requirements?	
	Does the Quality organization show relationship between the Prime Contractor's Quality staff and Subcontractor's management or Quality?	

QUALITY MANAGEMENT SYSTEM
PRE-PERFORMANCE REVIEW CHECKLIST

QUALITY APPROACH:		
	Is the QM plan current and specifically tailored for this contract?	
	Does the Contractor's Quality Management System and management approach indicate a clear understanding of the contract requirements?	
METHODS AND PROCEDURES FOR PERFORMANCE OF WORK:		
	Does the Contractor provide detail of their work planning and control to ensure first time quality? This could include:	
	a. Proper selection and training of personnel	
	b. Tracking and verification of training and certification requirements	
	c. Work center supervisor/lead personnel oversight of work performance	
	d. Detailed SOPs and procedures for work requirements	
	e. Routine training and meetings	
	f. Selection procedures for subcontractors	
	g. Management control of subcontracted work	
SURVEILANCE AND INSPECTION PROCEDURES:		
	Does the Contractor provide detailed procedure for the selection of samples (e.g., percentage of work inspected, process for selection of samples, in-process vs. completed work.)?	
	Does the QM plan detail procedures for the collection, recording, and analysis of inspection and surveillance results?	
	Does the QM plan include processes for utilization analysis of inspection and surveillance results to determine cause and implement corrective actions?	
	Does the QM plan provide a process for preventing recurrence of quality issues and continuous improvement of work performance?	
	Does the QM plan detail specific procedures for the oversight of subcontracted work or the review and analysis of subcontractor quality?	

QUALITY MANAGEMENT SYSTEM
PRE-PERFORMANCE REVIEW CHECKLIST

DOCUMENTATION AND RECORDS MANAGEMENT:		
	Does the Contractor have a process for the control and retention of Quality documentation and records?	
	Does the Contractor provide the controls in place to ensure all Quality records are documented, maintained reviewed and properly filed?	
	Does the QM plan have a process for the review of documentation for completeness, accuracy, and consistency? (This may include management reviews or internal audit plan.)	
	Does the QM Plan provide a process for tracking and ensuring all submittal requirements are met?	
COMMUNICATION WITH GOVERNMENT:		
	Does the QM plan address the level, format, and frequency of communications with the government? This could include:	
	a. Routine, yet informal communications between contractor, quality staff, and Government PARs	
	b. Established meeting requirements between Contractor Quality and/or management staff with Government PA and/or contracting personnel.	
	c. Progressive reporting and communication based on the frequency or severity of the issue being addressed (e.g., Quality staff to PAR, Quality Manager to SPAR/FSCM, Project Manager to PWO	
	d. Details of protocol for attendance at meetings required by contract, including partnering sessions.	

REVIEW SIGNATURES	
PAR:	DATE:
SPAR/COR:	DATE:
CONTRACTOR QUALITY MANAGER:	DATE:
CONTRACTOR PROJECT MANAGER:	DATE:
SUBCONTRACTOR:	DATE:
SUBCONTRACTOR:	DATE:

CUSTOMER COMMENT RECORD

ANNEX/SUB-ANNEX: _____

Attachment D: Customer Comment Record

CONTRACT NO:		DATE/TIME RECEIVED: RECEIVED BY:	
SOURCE OF COMMENT ORGANIZATION:_____ INDIVIDUAL:_____ PHONE:_____			
LOCATION:			
SPEC ITEM:	TITLE:		
DETAILS OF OBSERVATION: (Provide specific details of the requirement observed.)			
Comment Validation:	☐ Valid	☐ Non-valid	
COMMENTS:			
PAR (signature): _____ DATE: _____			
CONTRACTOR (signature): _____ DATE: _____			
REWORK:	☐ Acceptable	☐ Unacceptable	☐ N/A
PAR (signature): _____ DATE: _____			

QMS IN-PROCESS REVIEW CHECKLIST

Attachment E: QMS In-process Review Checklist

CONTRACT #:	TITLE:
PAR NAME:	DATE:
ANNEX/SUB-ANNEX:	
SPEC ITEM:	TITLE:

QMS REVIEW CHECKLIST		
If observed defects warrant evaluation of QMS, the initial review should be limited to the Spec Items and/or location where defects have been found. This process begins with Part A & B below.		
CHECKPOINT (Y/N)		**COMMENTS**
A.	**QUALITY SURVEILLANCE AND INSPECTION SCHEDULES**	
	1. Is there a quality surveillance and inspection schedule? Does it include:	
	a. Surveillance and inspections to be performed?	
	b. Frequency of surveillance and inspections?	
	2. Is there a current schedule?	
	3. Does the schedule reflect all contractual requirements?	
	4. Are the number and frequency of surveillance and inspections sufficient?	
	5. Do the schedules match the QM plan?	
	6. Is the schedule being followed?	
B.	**DOCUMENTATION AND ANALYSIS OF QUALITY DATA**	
	1. Are the results of all surveillance and inspections properly documented?	
	2. Are quality deficiencies properly resolved and tracked?	
	3. Is quality documentation of deficiencies analyzed for trends and root cause?	
	4. Is appropriate action taken or planned to prevent recurrence of quality issues?	
	5. Is there verification process to ensure corrective and preventative actions are effective?	
	6. Are appropriate continuous improvement plans in place and communicated to workforce?	

QMS IN-PROCESS REVIEW CHECKLIST

Comments: (Document corrective actions taken or QMS changes being implemented. If QMS is unsatisfactory, document findings and rationale for additional review conducted below.)

If review conducted above identifies deficiencies in the Contractor's QMS with insufficient planned corrective actions or QMS changes, or, if corrective actions and QMS changes planned during previous QMS reviews have been ineffective, then continue review with Parts C through F below.

	CHECKPOINT (Y/N)	COMMENTS
C.	**QUALITY MANAGEMENT PLAN**	
	1. Is the written QM plan available on site?	
	2. Is the QM Plan current?	
	3. Does the QM staff meet the requirements designated in QM plan (in terms of staff provided and qualifications and training)?	
D.	**WORK PROCESSES AND PROCEDURES**	
	1. Are work instructions, processes and procedures documented?	
	2. Are work instructions, processes and procedures available and used by affected personnel?	
	3. Is there a process to communicate work instructions, processes and procedures throughout the project and organization?	
	4. Are training records properly maintained for employees who are performing the work?	
E.	**SURVEILLANCE AND INSPECTION PROCESS**	
	1. Does the documented surveillance and inspection system match the requirements of the QM plan?	
	2. Are surveillance and inspection forms used systematically that document both conformances and non-conformances?	
	3. Are the surveillance and inspection criteria linked to the performance objectives and standards of the contract?	
	4. Does the communication and follow-up on deficiencies follow the process detailed in the QM plan?	
	5. Is analysis performed on surveillance and inspection data to identify trends and opportunities for improvement?	
	6. Are there examples of process improvements based on surveillance and inspection data?	

QMS IN-PROCESS REVIEW CHECKLIST

CHECKPOINT (Y/N)		COMMENTS
F.	**CUSTOMER COMMUNICATION**	
	1. Are required meetings being held and attended as scheduled?	
	2. Is there documentation of the meetings and associated follow-up activities, i.e. action registers, meeting minutes, agendas?	
	3. Is there proper response and tracking of issues identified by Government personnel?	
	4. Is there a written documentation of issues, e.g., complaint/compliments logs, registers, records?	
	5. Is there a system for correction of defects/problems to satisfy customers?	
	6. Is there an escalation procedure if defects/problems are not addressed satisfactorily?	

Comments: (Document corrective actions taken or QMS changes being implemented. If QMS is unsatisfactory, document recommendation to move to a lower assessment level or take appropriate administrative action.)

QMS RATING:	□ Acceptable	□ Unacceptable	□ N/A

REVIEW SIGNATURES	
PAR:	DATE:
CONTRACTOR QUALITY REPRESENTATIVE:	DATE:

Attachment F: Contract Discrepancy Report (CDR)

CONTRACT DISCREPANCY REPORT	1. CONTRACT NUMBER
GOVERNMENT ACTION	
2. TO (Contractor and Manager Name)	3. FROM (Name of Government Representative)
4. DISCREPANCY OR PROBLEM	
5. CONTRACTOR NOTIFIED (Date, Time, Contact Name)	
6. SIGNATURE OF CONTRACTING OFFICER	7. DATE
CONTRACTOR ACTION	
8. TO (Contracting Officer)	9. FROM (Contractor)
10. CONTRACTOR RESPONSE (Cause, corrective actions to prevent recurrence. Attach continuation sheet if necessary.)	
11. SIGNATURE OF CONTRACTOR REPRESENTATIVE	12. DATE
GOVERNMENT CLOSE OUT	
13. GOVERNMENT EVALUATION (Acceptance, partial acceptance. Attach continuation sheet if necessary.)	
14. GOVERNMENT ACTIONS (Payment deduction, cure notice, show cause, other.)	
15. SIGNATURE OF CONTRACTING OFFICER	16. DATE
17. SIGNATURE OF REVIEWING OFFICIAL	18. DATE

FSC SAFETY ASSESSMENT CHECKLIST

ANNEX/SUB-ANNEX: _____

Attachment G: FSC Safety Assessment Checklist

CONTRACT NO:	PAR NAME:
SAMPLE ID:	DATE:
SAMPLE LOCATION:	
SPEC ITEM / TO #:	TITLE:

SAFETY ASSESSMENT: Issues found? ☐ No ☐ Yes (indicate area of safety deficiency below)

Administrative	**Issue**	**No Issue**	**N/A**
Is the Contractor staff knowledgeable of Activity Hazard Analyses (AHAs) and Occupational Risk and Compliance Plans and Programs related to the work performed?			
Is the Contractor Site Safety Plan (AHA) on site?			
Have all potential hazards been identified and appropriate controls implemented?			
Are there Emergency Planning/Communication procedures in place?			
Are there First Aid and CPR Trained personnel on site as required?			

Safety Hazards	**Issue**	**No Issue**	**N/A**	**Safety Hazards**	**Issue**	**No Issue**	**N/A**
Chemical hazards/MSDS				Accident Prevention (signs, tags, barricades, covers, etc)			
Site Cleanliness (floor care, signage removal, etc)				Hot Work (Welding/Grinding)			
Environmental Conditions (Heat/Cold stress, weather)				Fall Protection/Working at Heights (Ladder Safety, Scaffolding/Staging, Aerial Lifts, etc)			
Lead Paint/Asbestos				Slips, Trips, and Falls			
Biological Hazards (Animals, insects, etc)				Personal Protective Equipment (PPE)			
Soil Disturbance				Respirator Protection			
Underground Utilities/Utility Clearance				Confined and Enclosed Space			
Vehicle Operation and Condition				Trenching/Excavations			
Weight Handling Equipment Safety				Electrical Safety			
Crane Safety				Lockout/Tagout (Control of Hazardous Energy)			
Traffic Control				Ergonomics and Musculoskeletal Hazards			
Equipment Use and Condition				Fire Safety			
Material Handling				Compressed Gas			

Note: Include detailed comments related to Safety assessment on the PAW

Attachment H: Annex 2 – Management and Administration Evaluation Checklist

See checklist that begins on next page.

ANNEX 2 – MANAGEMENT AND ADMINISTRATION EVALUATION CHECKLIST

Contract #: NXXXXX-YY-Z-1234 **Title:** _____ **Period Assessed:** _____

Quality of Product or Service					
Spec Item	**Title**	**Requirement**	**YES**	**NO**	**N/A**
2.5	Contractor-Furnished Items	Does the Contractor provide all equipment, materials, parts, supplies, components and facilities to perform the requirements of this contract?			
2.5	Contractor-Furnished Items	Are inadequate or unsafe items removed and replaced by the Contractor at no cost to the Government?			
2.5	Contractor-Furnished Items	Are materials asbestos, lead, and polychlorinated biphenyls (PCBs) free?			
2.5	Contractor-Furnished Items	Are energy efficient tools and equipment used when available?			
2.5	Contractor-Furnished Items	Are samples, Material Safety Data Sheets (MSDS) or Manufacturer's Data Cut Sheets of Materials provided upon request?			
2.6	Management				
2.6.4	Deliverables	Are records and reports accurate, complete and submitted within the times specified as per Section F?			
2.6.6	Government's Computerized Maintenance Management Systems (CMMS)	Are the records stored in the Government's Computerized Maintenance Management Systems (CMMS) maintained accurate and complete?			
2.6.7	Quality Management System (QMS)	Is the Contractor's Quality Management System (QMS) an effective and efficient means of identifying and correcting problems throughout the entire scope of operations?			
2.6.9	System and Equipment Replacement	Are replacement components the same model/style or equivalent as the component being replaced?			
2.6.9	System and Equipment Replacement	Are all substitute replacement components accepted by the KO prior to use?			
2.12	Technical Library	Does the Contractor continually update library material to ensure all data is current, complete, accurate and suitable for intended use?			
2.12	Technical Library	Does the Contractor monitor the use of the libraries to ensure materials are returned and data integrity is not compromised?			
2.13	Warranty Management	Is the Contractor aware of which equipment and components are covered by the original warranty and the warranty duration?			
2.13	Warranty Management	Does the Contractor report any defect in workmanship, material, or parts, and any improper installation of equipment and components that are covered by a warranty?			

COMMENTS: (Document findings of how performance complies with contract requirements and detail any value-added or negative performance, and trends)

☐ **Exceptional**	☐ **Very Good**	☐ **Satisfactory**	☐ **Marginal**	☐ **Unsatisfactory**

ANNEX 2 – MANAGEMENT AND ADMINISTRATION EVALUATION CHECKLIST

Contract #: NXXXXX-YY-Z-1234 **Title:** _____ **Period Assessed:** _____

Schedule					
Spec Item	**Title**	**Requirement**	**YES**	**NO**	**N/A**
2.6	Management				
2.6.1	Work Reception	Does the Contractor receive, prioritize, correspond, and respond to trouble/service calls and task orders during Government regular working hours and provide a point of contact at a local or toll free number who can perform the above function during other than Government regular working hours?			
2.6.2	Work Control	Has the Contractor implemented all necessary work control procedures to ensure timely accomplishment of work requirements, as well as to permit tracking and reporting of work in progress.			
2.6.2	Work Control	Does the Contractor plan and schedule work to assure material, labor, and equipment are available to complete work requirements within the specified time limits and in conformance with the quality standards?			
2.6.2	Work Control	Are status updates provided within the times specified?			
2.6.3	Work Schedule	Does the Contractor work interfere with normal Government business?			
2.6.3	Work Schedule	In those cases where some interference is unavoidable, does the Contractor minimize the impact and effects of the interference?			
2.6.3	Work Schedule	Does the Contractor provide advance access to all of their work schedules and notify the KO of any difficulty in scheduling work due to Government controls?			
2.6.6	Government's Computerized Maintenance Management Systems (CMMS)	Are the records stored in the Government's Computerized Maintenance Management Systems (CMMS) updated within the times specified?			
2.14	Recurring Work Procedures	Does the Contractor take full responsibility for work up to the Recurring limits that are specified in subsequent annexes or sub-annexes			
2.15	Non-recurring Work	Does the contractor submit proposals for task orders on time?			
2.15	Non-recurring Work	Does the contractor provide reasonable price proposals for task orders?			

COMMENTS: (Document findings of how performance complies with contract requirements and detail any value-added or negative performance, and trends)

☐ **Exceptional**	☐ **Very Good**	☐ **Satisfactory**	☐ **Marginal**	☐ **Unsatisfactory**

ANNEX 2 – MANAGEMENT AND ADMINISTRATION EVALUATION CHECKLIST

Contract #: NXXXXX-YY-Z-1234 **Title:** _____ **Period Assessed:** _____

Business Relations					
Spec Item	**Title**	**Requirement**	**YES**	**NO**	**N/A**
2.3	General Administrative Requirements				
2.3.1	Required Conferences and Meetings	Does the Contractor attend all required conferences and meetings?			
2.3.2	Training for Maintenance and Operation of New and Replacement Systems and Equipment	Does the Contractor attend Government provided training for maintenance and operation of new and replacement systems and equipment?			
2.3.3	Partnering	Do key members of the prime contractor and subcontractors teams (including senior management) participate?			
2.3.3	Partnering	Did partnering demonstrate cohesiveness between the Government and Contractor?			
2.3.4	Permits and Licenses	Has the Contractor obtained and submitted to the KO within the time specified all required permits, licenses, and authorizations to perform work under this contract and comply with all the applicable Federal, state and local laws and regulations?			
2.3.6	Protection of Government Property	Does the Contractor protect Government property and return areas damaged as a result of negligence under this contract to their original condition?			
2.4	Government-Furnished Property, Materials and Services	Does the Contractor maintain Government-Furnished Property in accordance with FAR 52.245, GOVERNMENT PROPERTY and NAVFAC Clause 5252.245-9300, GOVERNMENT-FURNISHED PROPERTY, MATERIALS AND SERVICES?			
2.6.8	Property Management Plan	Has the Property Management Plan shall be submitted per Section F?			
2.6.8	Property Management Plan	Does the contractor's Property Management Plan identify the Contractor's policies, procedures, and practices in receiving and performing physical inventories, repairing and maintaining, preserving and protecting, and reporting the disposition of accepted government property in its possession?			
2.11	Disaster Preparedness	Does the Contractor comply with the installation's Contingency Instruction and support the installation Contingency Response Plan, as directed by the KO?			

COMMENTS: (Document findings of how performance complies with contract requirements and detail any value-added or negative performance, and trends)

☐ **Exceptional**	☐ **Very Good**	☐ **Satisfactory**	☐ **Marginal**	☐ **Unsatisfactory**

ANNEX 2 – MANAGEMENT AND ADMINISTRATION EVALUATION CHECKLIST

Contract #: NXXXXX-YY-Z-1234 **Title:** _____ **Period Assessed:** _____

Management of Key Personnel					
Spec Item	**Title**	**Requirement**	**YES**	**NO**	**N/A**
2.7	Personnel Requirements				
2.7.1	Key Personnel	Has the Contractor submitted a List of Key Personnel, Qualifications and an Organizational Chart that includes the names of personnel and their position title?			
2.7.1	Key Personnel	Does the contractor meet the qualifications of the key position, as described in the contract, with who filled the key position?			
2.7.2	Employee Requirements	Do the Contractor key personnel manage their employees to ensure personnel are fully knowledgeable of all safety, environmental, and energy requirements associated with the work they perform?			
2.7.2	Employee Requirements	Do the key personnel ensure that all personnel are legal residents, speak, read, and comprehend English to the extent that they can perform the contract requirements and comply with installation emergency procedures?			
2.8	Security Requirements	Do the Contractor key personnel ensure that employees are in compliance with all Federal, state, and local security statutes, regulations, requirements, and ensure that all security/entrance clearances are obtained?			

COMMENTS: (Document findings of how performance complies with contract requirements and detail any value-added or negative performance, and trends)

☐ **Exceptional**	☐ **Very Good**	☐ **Satisfactory**	☐ **Marginal**	☐ **Unsatisfactory**

ANNEX 2 – MANAGEMENT AND ADMINISTRATION EVALUATION CHECKLIST

Contract #: NXXXXX-YY-Z-1234 **Title:** _____ **Period Assessed:** _____

Safety					
Spec Item	**Title**	**Requirement**	**YES**		**NO**
2.9	Contractor Safety Program	Is the Contractor's safety program in compliance with all safety standards identified in the U.S. Army Corps of Engineers Safety and Health Requirements Manual, EM 385-1-1 and Public Law 91-596, Occupational Safety and Health Act?			
2.9	Contractor Safety Program	Has the Contractor develop and implement an APP (which includes the AHA and the Occupational Risk and Compliance Plans) in accordance with the requirements in Annex 2.			

COMMENTS:

☐ Exceptional	☐ Very Good	☐ Satisfactory	☐ Marginal	☐ Unsatisfactory

COR (signature): _____ **DATE:** _____

COR (printed name): _____

MONTHLY PERFORMANCE ASSESSMENT SUMMARY COVERSHEET

Contract #: NXXXXX-YY-Z-1234 **Month/Year: _____**

Attachment I: MPAS Coversheet

Not used for this Contract

PERFORMANCE ASSESSMENT BOARD RATING SUMMARY

Contract #: NXXXXX-YY-Z-1234 **Period of Rating:** _____

Attachment J: PAB Rating Summary

Block 18a - Quality of Product or Service.

Assess the contractor's conformance to contract requirements, specifications and standards of good workmanship (e.g., commonly accepted technical, professional, environmental, or safety and health standards). List and assess any sub-elements to indicate different efforts where appropriate. Include, as applicable, information on the following:

- Are reports/data accurate?
- Does the product or service provided meet the specifications of the contract?
- Does the contractor's work measure up to commonly accepted technical or professional standards?
- What degree of Government technical direction was required to solve problems that arise during performance?

	Exceptional	Very Good	Satisfactory	Marginal	Unsatisfactory
Rating (place an X in the appropriate box)					

Comments:

Block 18b - Schedule.

Assess the timeliness of the contractor against the completion of the contract, task orders, milestones, delivery schedules, and administrative requirements (e.g., efforts that contribute to or affect the schedule variance).

This assessment of the contractor's adherence to the required delivery schedule should include the contractor's efforts during the assessment period that contributes to or affect the schedule variance. This element applies to contract closeout activities as well as contract performance. Instances of adverse actions such as the assessment of liquidated damages or issuance of Cure Notices, Show Cause Notices, and Delinquency Notices are indicators of problems which may have resulted in variance to the contract schedule and should, therefore, be noted in the evaluation.

	Exceptional	Very Good	Satisfactory	Marginal	Unsatisfactory
Rating (place an X in the appropriate box)					

Comments:

PERFORMANCE ASSESSMENT BOARD RATING SUMMARY

Contract #: NXXXXX-YY-Z-1234 **Period of Rating:** _____

Block 18c - Cost Control. (N/A).

Block 18d - Business Relations.

Assess the integration and coordination of all activity needed to execute the contract, specifically the timeliness, completeness and quality of problem identification, corrective action plans, proposal submittals, the contractor's history of reasonable and cooperative behavior (to include timely identification of issues in controversy), customer satisfaction, timely award and management of subcontracts. Include, as applicable, information on the following:

• Is the contractor oriented toward the customer?

• Is interaction between the contractor and the government satisfactory or does it need improvement?

• Include the adequacy of the contractor's accounting, billing, and estimating systems and the contractor's management of Government Property (GFP) if a substantial amount of GFP has been provided to the contractor under the contract.

• Address the timeliness of awards to subcontractors and management of subcontractors, including subcontract costs. Consider efforts taken to ensure early identification of subcontract problems and the timely application of corporate resources to preclude subcontract problems from impacting overall prime contractor performance.

• Assess the prime contractor's effort devoted to managing subcontracts and whether subcontractors were an integral part of the contractor's team.

	Exceptional	Very Good	Satisfactory	Marginal	Unsatisfactory
Rating (place an X in the appropriate box)					

Comments:

Block 18e - Management of Key Personnel (For Services and Information Technology Business Sectors only - Not Applicable to Operations Support).

Assess the contractor's performance in selecting, retaining, supporting, and replacing, when necessary, key personnel. For example:

• How well did the contractor match the qualifications of the key position, as described in the contract, with the person who filled the key position?

• Did the contractor support key personnel so they were able to work effectively?

• If a key person did not perform well, what action was taken by the contractor to correct this?

• If a replacement of a key person was necessary, did the replacement meet or exceed the qualifications of the position as described in the contract schedule?

	Exceptional	Very Good	Satisfactory	Marginal	Unsatisfactory
Rating (place an X in the appropriate box)					

Comments:

PERFORMANCE ASSESSMENT BOARD RATING SUMMARY

Contract #: NXXXXX-YY-Z-1234 **Period of Rating:** _____

Block 18f – Utilization of Small Business.

FAR Subpart 19.7 and 15 U.S.C. 637 contains statutory requirements for complying with the Small Business Subcontracting Program. Assess whether the contractor provided maximum practicable opportunity for Small Business (including Alaska Native Corporations (ANCs) and Indian Tribes) (including Small Disadvantaged Businesses (which also includes ANCs and Indian Tribes), Women Owned Small Businesses, HUBZone, Veteran Owned, Service Disabled Veteran Owned Small Business, Historically Black Colleges and Minority Institutions and ANCs and Indian Tribes that are not Small Disadvantaged Businesses or Small Businesses) to participate in contract performance consistent with efficient performance of the contract.

A4.27.1 Assess compliance with all terms and conditions in the contract relating to Small Business participation (including FAR 52.219-8, Utilization of Small Businesses and FAR 52.219-9, Small Business Subcontracting Plan (when required). Assess any small business participation goals which are stated separately in the contract. Assess achievement on each individual goal stated within the contract or subcontracting plan including good faith effort if the goal was not achieved.

A4.27.2 It may be necessary to seek input from the Small Business specialist, ACO or PCO in regards to the contractor's compliance with these criteria. For DoD in cases where the contractor has a comprehensive subcontracting plan, request DCMA Comprehensive Subcontracting Plan Manager to provide input including any program specific performance information.

A4.27.3 For contracts subject to a commercial subcontracting plan, the Utilization of Small Business factor should be rated "satisfactory" as long as an approved plan remains in place, unless liquidated damages have been assessed by the contracting officer who approved the commercial plan (see FAR 19.705-7(h)). In such case, the Utilization of Small Business area must be rated "unsatisfactory".

A4.27.4 This area must be rated for all contracts and task orders that contain a small business subcontracting goal.

	Exceptional	Very Good	Satisfactory	Marginal	Unsatisfactory
Rating (place an X in the appropriate box)					

Comments:

Block 18g - Other Areas. (Safety)

Assess the contractor's conformance to safety requirements, specifications, and adherence to their safety program (including APP, AHAs, and Occupational Risk and Compliance Plans). List and assess any sub-elements to indicate different efforts where appropriate. Include, as applicable, information on the following:

- Has the Contractor consistently demonstrated a commitment to safety and properly managed and implemented safety procedures for itself and its subcontractors?
- Do the documented safety issues, near misses, and recordable safety incidents indicate the Contractor has followed safe work practices taking into account any upward or downward trends and extenuating circumstances?
- Has the Contractor reported safety incidents in a proper and timely manner and taken appropriate corrective actions?
- What degree of Government direction was required to solve problems that arise during performance?

	Exceptional	Very Good	Satisfactory	Marginal	Unsatisfactory
Rating (place an X in the appropriate box)					

Comments:

PERFORMANCE ASSESSMENT BOARD RATING SUMMARY

Contract #: NXXXXX-YY-Z-1234 **Period of Rating:** _____

Evaluation Ratings Definitions (Excluding Utilization of Small Business)		
Rating	Definition	Note
Exceptional	Performance meets contractual requirements and exceeds many to the Government's benefit. The contractual performance of the element or sub-element being assessed was accomplished with few minor problems for which corrective actions taken by the contractor was highly effective.	To justify an Exceptional rating, identify multiple significant events and state how they were of benefit to the Government. A singular benefit, however, could be of such magnitude that it alone constitutes an Exceptional rating. Also, there should have been NO significant weaknesses identified.
Very Good	Performance meets contractual requirements and exceeds some to the Government's benefit. The contractual performance of the element or sub-element being assessed was accomplished with some minor problems for which corrective actions taken by the contractor was effective.	To justify a Very Good rating, identify a significant event and state how it was a benefit to the Government. There should have been no significant weaknesses identified.
Satisfactory	Performance meets contractual requirements. The contractual performance of the element or sub-element contains some minor problems for which corrective actions taken by the contractor appear or were satisfactory.	To justify a Satisfactory rating, there should have been only minor problems, or major problems the contractor recovered from without impact to the contract. There should have been NO significant weaknesses identified. A fundamental principle of assigning ratings is that contractors will not be assessed a rating lower than Satisfactory solely for not performing beyond the requirements of the contract.
Marginal	Performance does not meet some contractual requirements. The contractual performance of the element or sub-element being assessed reflects a serious problem for which the contractor has not yet identified corrective actions. The contractor's proposed actions appear only marginally effective or were not fully implemented.	To justify Marginal performance, identify a significant event in each category that the contractor had trouble overcoming and state how it impacted the Government. A Marginal rating should be supported by referencing the management tool that notified the contractor of the contractual deficiency (e.g., management, quality, safety, or environmental deficiency report or letter).
Unsatisfactory	Performance does not meet most contractual requirements and recovery is not likely in a timely manner. The contractual performance of the element or sub-element contains a serious problem(s) for which the contractor's corrective actions appear or were ineffective.	To justify an Unsatisfactory rating, identify multiple significant events in each category that the contractor had trouble overcoming and state how it impacted the Government. A singular problem, however, could be of such serious magnitude that it alone constitutes an unsatisfactory rating. An Unsatisfactory rating should be supported by referencing the management tools used to notify the contractor of the contractual deficiencies (e.g., management, quality, safety, or environmental deficiency reports, or letters).