ENVIRONMENTAL SERVICE SYSTEMS, 01.0100.00	
STANDARD 1.0 – USE ANALYSIS PROCEDURES TO PLAN AND EVALUATE ENVIRONMENTAL SERVICE IMPACTS	
1.1	Operate basic laboratory equipment and environment monitoring instruments (e.g., pHmeter/ISE meter, compound microscope/dissecting microscope, sound level measuring devices, turbid meter, conductivity meter, chlorine meter OVA, HNMU)
1.2	Perform chemical laboratory sample preparation
1.3	Perform analytical separation techniques
1.4	Use computers to interface with chemical analytical instruments
1.5	Perform instrumental analysis (e.g., mass spectrometers, chromatographs, electron microscopes)
STANDARD 2.0 – CALIBRATE AND SERVICE INSTRUMENTS ON A TIMELY SCHEDULE TO MAINTAIN ENVIRONMENTAL INSTRUMENTATION	
2.1	Maintain instruments using gas systems
2.2	Calibrate chemical analytical instruments
2.3	Operate and maintain flow instrument systems
2.4	Operate and maintain pressure test instruments (e.g., manometers, vacuum pumps, pressure, and vacuum gages)
2.5	Service thermal measuring instruments
2.6	Service physical property (e.g., sample control) measuring instruments
STANDARD 3.0 – APPLY STATISTICS, CHARTS, AND SCATTER GRAMS TO MEASURE AND MONITOR OPERATIONS	
3.1	Apply basic statistics concepts
3.2	Interpret scatter grams
3.3	Analyze probability theories
3.4	Determine control limits
3.5	Determine process capability
3.6	Prepare and evaluate charts
3.7	Conduct process improvement studies
3.8	Interpret quantitative and graphic output from chemical analysis instruments
STANDARD 4.0 – UTILIZE A GLOBAL POSITIONING SYSTEM (GPS) UNIT	

4.1	Identify the latitude and longitude of a given set of points
4.2	Detect boundaries of a given area
4.3	Calculate land area and linear feet of boundaries
4.4	Layout location of fence line, pond, drainage structure, or other related facility
4.5	Mark a location of a path or road through a given area
4.6	Determine slope of land area for installation of drainage, etc.
STANDARD 5 .0 – CONSULT RELIABLE RESOURCES OR TRAINING TO IDENTIFY THE MAJOR LAWS IMPACTING ENVIRONMENTAL SERVICES	
5.1	Identify key components of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
5.2	Identify requirements of Superfund Amendment Reauthorization Act (SARA)
5.3	Identify requirements of waste and material transportation
5.4	Describe job-related activities subject to the Occupational Safety and Health Administration (OSHA)
5.5	Describe requirements of Resource Conservation and Recovery Act (RCRA)
5.6	Explain requirements of Clean Water Act
5.7	Explain requirements of Safe Drinking Water Act (SDWA)
5.8	Explain requirements of Clean Air Act
5.9	Identify requirements of the Nuclear Waste Policy Act
5.10	Identify key components of ISO 14000
STANDARD 6 .0 – APPLY METEOROLOGICAL KNOWLEDGE TO RECOGNIZE WEATHER SYSTEMS AND WEATHER PATTERNS	
6.1	Identify the components of the earth's atmosphere
6.2	Explain basic meteorology principles
STANDARD 7.0 – DESCRIBE SOIL COMPOSITIONS AND PROPERTIES TO DEMONSTRATE KNOWLEDGE OF SOIL SCIENCE	
7.1	Describe soil geology
7.2	Describe composition of soil
7.3	Describe the biological properties of soil
7.4	Identify the physical properties of soil

7.5	Describe the chemical properties of soil
7.6	Test soil samples to determine characteristics
7.7	Explain classification of soil water
7.8	Explain the relationship between soil classifications and land use
STANDARD 8 .0 – EXPLAIN WELL DESIGN AND GROUNDWATER SUPPLIES TO DEMONSTRATE KNOWLEDGE OF HYDROLOGY	
8.1	Explain hydrology
8.2	Explain geological and meteorological principles affecting groundwater supply
8.3	Identify basic criteria for water well design
8.4	Identify environmental hazards associated with groundwater supplies
STANDARD 9.0 – DISCUSS PROPERTIES, CLASSIFICATIONS, AND FUNCTIONS IN ORDER TO UNDERSTAND WETLAND PRINCIPLES	
9.1	Explain wetlands classification
9.2	Explain the function of wetlands
9.3	Describe the living components of wetland habitats
9.4	Delineate wetlands
9.5	Identify techniques used in wetland management, enhancement, and restoration programs
9.6	Identify principles used in wetland mitigation and restoration
STANDARD 10 .0 – DISCUSS PROPERTIES, CLASSIFICATIONS, AND FUNCTIONS IN ORDER TO UNDERSTAND WATERSHED PRINCIPLES	
10.1	Identify properties of watersheds
10.2	Explain watershed management
10.3	Delineate watersheds
10.4	Assess source water
STANDARD 11.0 – USE CHEMICAL ANALYSIS TO CONDUCT TESTS	
11.1	Explain basic chemistry principles (e.g., elements, compounds)
11.2	Apply chemical laboratory skills
STANDARD 12.0 – INVESTIGATE LIVING ORGANISMS AND THEIR INTERACTIONS WITH THE ENVIRONMENT	

12.1	Identify native and invasive organisms within a given area
12.2	Inventory resources that resident species depend on for survival
12.3	Define relationships among plants and animal species
12.4	Recognize causes of changes in ecological succession patterns
12.5	Determine if a healthy balance exists between the environment and the native species
12.6	Suggest remediation practices
12.7	Perform common microbiology procedures to examine cell types and conduct tests
12.8	Identify groups of microorganisms
12.9	Analyze factors affecting microbial growth
STANDARD 13.0 – APPLY SAMPLING TECHNIQUES AND OTHER ASSESSMENTS TO DEMONSTRATE BACKGROUND KNOWLEDGE OF MICROBIOLOGY	
13.1	Apply microbiological principles and procedures
13.2	Explain immunological procedures
13.3	Describe roles of microorganisms in the environment
13.4	Explain microbial growth
13.5	Describe influence of environmental factors on microbes
STANDARD 14 .0 – USE POLLUTION CONTROL MEASURES TO MAINTAIN A SAFE FACILITY ENVIRONMENT	
14.1	Identify types of pollution (e.g., ground, surface water, air, noise, radioactive contamination)
14.2	Identify presence of pollution
14.3	Describe environmental impact from industrial and nonindustrial processes
14.4	Quantify extent of pollution
14.5	Locate sources of pollution
14.6	Establish pollution management and prevention program
STANDARD 15 .0 – APPLY PRINCIPLES OF SOLID WASTE MANAGEMENT (LANDFILL) TO MANAGE SAFE DISPOSAL OF ALL CATEGORIES OF WASTE	
15.1	Identify characteristics of solid waste treatment
15.2	Identify the risks associated with solid waste accumulation and disposal

15.3	Describe methods of site identification and acceptance
15.4	Explain sanitary landfill operating procedures
15.5	Describe methods to operate a composting facility
15.6	Describe methods to incinerate solid waste
15.7	Describe recycling methods
STANDARD 16 .0 – APPLY WATER TREATMENT OPERATIONS PRINCIPLES TO ASSURE SAFE WATER AT A FACILITY	
16.1	Identify characteristics of drinking water treatment
16.2	Explain the aeration process in water treatment
16.3	Describe taste and odor control in water treatment
16.4	Identify facility operational problems in water treatment
16.5	Identify methods for backflow prevention
STANDARD 17 .0 – APPLY WASTEWATER TREATMENT OPERATIONS PRINCIPLES TO MANAGE WASTEWATER DISPOSAL IN KEEPING WITH RULES AND REGULATIONS	
17.1	Identify characteristics of wastewater treatment
17.2	Sample wastewater
17.3	Describe wastewater collection systems
17.4	Analyze the constituents of wastewater entering wastewater treatment facility
17.5	Describe the mixing, coagulation, and flocculation in processes in wastewater treatment
17.6	Describe the disinfection process in wastewater treatment
17.7	Describe the treatment train, effluent disposal, and biosolids management in wastewater
17.8	Analyze process optimization for the treatment train, effluent disposal, and biosolids management in wastewater treatment
17.9	Analyze treatment process control for the treatment train, effluent disposal and biosolids management in wastewater
17.10	Describe common facility operational problems
17.11	Identify methods for cross-connection and backflow prevention
STANDARD 18.0 – APPLY HAZARDOUS MATERIALS MANAGEMENT PRINCIPLES TO ASSURE A SAFE FACILITY AND TO COMPLY WITH APPLICABLE REGULATIONS	
18.1	Describe risks related to hazardous materials

18.2	Describe risks related to hazardous materials
18.3	Demonstrate appropriate responses for major types of hazardous materials disasters (e.g., chemical, fire and explosion, general safety hazards; FRA, FRO, HMT, HMS)
18.4	Describe appropriate use of Personal Protective Equipment (PPE)
18.5	Explain hazardous substance regulations
18.6	Demonstrate ability to obtain and use information addressing hazardous substance release
18.7	Demonstrate safe handling procedures for hazardous materials and hazardous waste
18.8	Evaluate laboratory results
18.9	Demonstrate methods for identify hazardous material
18.10	Retrieve and evaluate hazardous materials and hazardous waste sample data
18.11	Respond to mock hazardous materials emergency situations
18.12	Describe use of equipment related to hazardous materials and hazardous waste operations
18.13	Prepare hazardous materials for transportation and storage in accordance with regulations
18.14	Demonstrate ability to operate treatment and disposal systems for hazardous materials and hazardous waste
STANDARD 19 .0 – EXPLORE CONVENTIONAL AND ALTERNATIVE SUPPLIES TO DEFINE ENERGY SOURCES	
19.1	Identify conventional energy sources and their environmental impact
19.2	Identify alternate energy sources and their environmental impact
STANDARD 20 .0 – USE TECHNOLOGICAL TOOLS TO MAP LAND, FACILITIES, AND INFRASTRUCTURE	
20.1	Apply surveying and mapping principles to make site measurements and map facility accesses and infrastructure
20.2	Apply basic drafting skills to create working drawings
20.3	Use CADD fundamentals to create specialized documents
20.4	Apply cartographic skills
20.5	Apply surveying skills
20.6	Use geospatial analysis processes for an environmental services application