

General Services Administration (GSA)

Federal Supply Service

Authorized Federal Supply Schedule Price List

Price list current as of Modification #PS-0038, effective February 27, 2020

GSA Advantage!®

On-line access to contract ordering information, terms and conditions, up-to-date pricing, and the option to create an electronic delivery order are available through **GSA Advantage!®**, a menu-driven database system. The INTERNET address for **GSA Advantage!®** is:
<http://www.GSAAdvantage.gov>.

Contract Information

Multiple Award Schedule

Federal Supply Schedule Industrial Group: MAS

Class: F999

Contract Number: GS-10F-0099W

For more information on ordering from Federal Supply Schedules click on the FSS Schedules button at <http://www.gsa.gov/schedules-ordering>.

Contract Period: January 29, 2010 through January 28, 2025

Contractor: Sanborn Map Company, Inc., The
1935 Jamboree Drive, Suite 100
Colorado Springs, CO 80920-5358

Telephone: (719) 593-0093 (or) (866) 726-2676; **FAX Number:** (719) 528-5093

Web Site: <http://www.sanborn.com>

E-mail: akappel@sanborn.com

Contract Administration: Amy E. Kappel

Business Size: Large Business (other than small)

Prices Shown Herein are Net (discount deducted)

Customer Information

1.
 - a. **Table of Awarded Special Item Number(s) with appropriate cross-reference to item descriptions and awarded price(s):**

SIN	SIN Description
541370GIS	Geographic Information Systems (GIS) Services
541370GISRC	Geographic Information Systems (GIS) Services Recovery
OLM	Order-Level Materials (OLM)
 - b. **Identification of the lowest priced model number and lowest unit price for that model for each special item number awarded in the contract. This price is the Government price based on a unit of one, exclusive of any quantity/dollar volume, prompt payment, or any other concession affecting price. Those contracts that have unit prices based on the geographic location of the customer, should show the range of the lowest price, and cite the areas to which the prices apply.**
 - c. **If the Contractor is proposing hourly rates, a description of all corresponding commercial job titles, experience, functional responsibility and education for those types of employees or subcontractors who will perform services shall be provided. If hourly rates are not applicable, indicate "Not applicable" for this item.**
2. **Maximum Order:** \$1,000,000.00
3. **Minimum Order:** \$100.00
4. **Geographic Coverage (delivery Area):** The geographic location for all labor categories is domestic delivery that includes 50 states, Washington D.C., and Puerto Rico only
5. **Point(s) of production (city, county, and state or foreign country):** Same as company address; and/or City of Charlotte, Mecklenburg County, North Carolina, and/or Town of Pelham, Westchester County, New York
6. **Discount from list prices or statement of net price:** Prices Shown Herein are Net (discount deducted)
7. **Quantity discounts:** Yes

Tier	Threshold Amount	Additional Discount
1	\$500,000 - \$2,499,999	2%
2	\$2,500,000 and above	4%
8. **Prompt payment terms:** Net 30 days. **Information for Ordering Offices: Prompt payment terms cannot be negotiated out of the contractual agreement in exchange for other concessions.**
9.
 - a. **Notification that Government purchase cards are accepted at or below the micro-purchase threshold:** Yes

- b. **Notification whether Government purchase cards are accepted or not accepted above the micro-purchase threshold:** Will accept
- 10. **Foreign items (list items by country of origin):** None
- 11.
 - a. **Time of Delivery (Contractor insert number of days):** Specified on the Task Order
 - b. **Expedited Delivery. The Contractor will insert the sentence “Items available for expedited delivery are noted in this price list.” under this heading. The Contractor may use a symbol of its choosing to highlight items in its price list that have expedited delivery:** Contact Contractor
 - c. **Overnight and 2-day delivery. The Contractor will indicate whether overnight and 2-day delivery are available. Also, the Contractor will indicate that the schedule customer may contact the Contractor for rates for overnight and 2-day delivery:** Contact Contractor
 - d. **Urgent Requirements. The Contractor will note in its price list the “Urgent Requirements” clause of its contract and advise agencies that they can also contact the Contractor’s representative to effect a faster delivery:** Contact Contractor
- 12. **F.O.B. Point(s):** Destination
- 13.
 - a. **Ordering Address(es):** Same as Contractor
 - b. **Ordering procedures:** For supplies and services, the ordering procedures, and information on Blanket Purchase Agreements (BPA’s) are found in Federal Acquisition Regulation (FAR) 8.405-3.
- 14. **Payment address(es):** Same as company address
- 15. **Warranty provision:** Contractor’s standard commercial warranty.
- 16. **Export Packing Charges (if applicable):** N/A
- 17. **Terms and conditions of Government purchase card acceptance (any thresholds above the micro-purchase level):** Contact Contractor
- 18. **Terms and conditions of rental, maintenance, and repair (if applicable):** N/A
- 19. **Terms and conditions of installation (if applicable):** N/A
- 20. **Terms and conditions of repair parts indicating date of parts price lists and any discounts from list prices (if applicable):** N/A
 - a. **Terms and conditions for any other services (if applicable):** N/A
- 21. **List of service and distribution points (if applicable):** N/A
- 22. **List of participating dealers (if applicable):** N/A
- 23. **Preventive maintenance (if applicable):** N/A

- 24.
- a. **Special attributes such as environmental attributes (e.g., recycled content, energy efficiency, and/or reduced pollutants):** N/A
 - b. **If applicable, indicate that Section 508 compliance information is available on Electronic and Information Technology (EIT) supplies and services and show where full details can be found (e.g., contractor’s website or other location). The EIT standards can be found at:** <http://www.Section508.gov/>.
25. **Data Universal Numbering System (DUNS) number:** 06-433-2356
26. **Notification regarding registration in the System for Award Management (SAM) database:** Registered

GSA Contract Prices (Inclusive of 0.75% IFF)

The labor categories and hourly pricing, including IFF, under SINs 541370GIS and 541370GISRC (Geographic Information Systems (GIS) Services) are identified in the table below.

Labor Category Title	Price
Contractor Site	
Acquisition Manager	\$189.13
Pilot	\$139.76
Geodetic Specialist	\$137.55
Geodetic Technician	\$93.02
Registered Land Surveyor	\$99.03
Data Acquisition Technician	\$77.83
Operations Director-Remote Sensing	\$236.80
Operations Manager-Remote Sensing	\$153.72
Operations Coordinator	\$134.95
Imagery Analyst	\$117.05
Senior Imagery Technician	\$92.84
Imagery Technician	\$69.02
Senior GIS Analyst, Vector	\$138.26
Senior Stereo Compiler	\$104.77
Senior CADD/GIS Technician - Vector	\$95.10
CADD/GIS Technician - Vector	\$79.34
Senior LiDAR Analyst	\$164.71
LiDAR Analyst	\$159.69
LiDAR Technician	\$79.89
Business Manager	\$221.99
Senior Remote Sensing/GIS Analyst	\$122.89

Remote Sensing/GIS Analyst	\$102.93
Senior Remote Sensing/GIS Technician	\$83.60
Senior Program Manager	\$288.29
Program Manager	\$225.50
Offsite Program Manager	\$253.43
Project Manager-Remote Sensing	\$165.97
Project Manager	\$205.78
Associate Project Manager-Remote Sensing	\$118.33
Customer Site	
Program Manager	\$230.00
Deputy Program Manager	\$200.09
Project Analyst	\$74.83
Project Manager	\$74.83
Library Manager	\$65.14
Geospatial Team Lead	\$69.14
Data Collection Team Lead	\$69.14
Senior Data Collector**	\$36.54
Data Collector**	\$33.13
Data Collector in Training II**	\$29.18
Data Collector in Training I**	\$26.35
NRI Materials Lead**	\$43.85
Library Technician II**	\$29.18
Library Technician I**	\$26.35
Project Management Specialist	\$77.44
Remote Sensing Analyst II	\$56.47
Remote Sensing Analyst I	\$47.24
GIS Analyst IV	\$77.44
GIS Analyst III	\$64.53
GIS Analyst II	\$56.47
GIS Analyst I	\$47.24
Cartographer/GIS Analyst (Senior)	\$91.47
Cartographer/GIS Analyst (Intermediate)	\$72.50
Cartographer/GIS Analyst (Associate)	\$62.85
Remote Sensing/GIS Analyst (Senior)	\$92.19
Remote Sensing/GIS Analyst (Intermediate)	\$73.92

Remote Sensing/GIS Analyst (Associate)	\$60.24
Natural Resources GIS Analyst/Programmer (Senior)	\$96.49
Natural Resources GIS Analyst/Programmer (Intermediate)	\$80.12
Natural Resources GIS Analyst/Programmer (Associate)	\$62.44
GIS Mapping Technician (Senior)	\$68.64
GIS Mapping Technician (Intermediate)	\$58.67
GIS Mapping Technician (Associate)	\$50.62

Service Contract Labor Standards (SCLS) Matrix and Narrative

SCA Eligible Labor Category**	SCA Equivalent Code Title	Wage Determination No.
Senior Data Collector	30081 – Engineering Technician I	2015-4381
Data Collector	30081 – Engineering Technician I	2015-4381
Data Collector In Training II	01052 – Data Entry Operator II	2015-4381
Data Collector In Training I	01051 – Data Entry Operator I	2015-4381
NRI Materials Lead	30081 – Engineering Technician I	2015-4381
Library Technician II	01052 – Data Entry Operator II	2015-4381
Library Technician I	01051 – Data Entry Operator I	2015-4381

The Service Contract Labor Standards, formerly the Service Contract Act (SCA), apply to this contract and it includes SCLS applicable labor categories. Labor categories and fixed price services marked with a (**) in this pricelist are based on the U.S. Department of Labor Wage Determination Number(s) identified in the SCLS/SCA matrix. The prices awarded are in line with the geographic scope of the contract (i.e., nationwide).

Labor Category Descriptions

I. GEOGRAPHIC INFORMATION SYSTEMS (GIS) SERVICES PROVIDED AT CONTRACTOR'S FACILITY

Acquisition Manager

The Acquisition Manager provides management services in oversight and support of flight operations, acquisition resources and staff, and provides oversight and coordination of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Acquisition Manager manages the logistics for data acquisition, overseeing flight and field operations. Responsibilities include overall mission planning and organization. Flight planning, managing pilots and field crew, scheduling aircraft and crew, arranging aircraft maintenance, planning safety programs, preparing and monitoring budgets, and complying with FAA regulations are the primary duties of this position.

Minimum Experience/Training

- Five (5) years of experience in aviation management.
- Seven (7) years of experience working in a data acquisition environment.
- Knowledge of foreign and domestic government air carrier operations.
- Knowledge of FAA and aviation insurance regulations.
- Experience managing, overseeing, or coordinating employees.

Minimum Education/Certifications

- Bachelor's Degree or higher in relevant field, such as engineering, aviation or business management or equivalent experience.

Pilot

Duties/Responsibilities

The Pilot operates aircraft to fly aerial photo missions in support of mapping and data acquisition projects. As Pilot in Command of the aircraft, the pilot directs onboard crew to ensure safe and efficient acquisition missions. Responsibilities include performing flight operations within schedule and budget; coordinating with authorities to obtain flight permission/clearance within restricted or Class B airspace; maintaining flight records; and advising acquisition manager of any equipment maintenance requirements or safety concerns. The Pilot will support and train other acquisition pilots in approved type rated aircraft.

Minimum Experience/Training

- Minimum of 600 hours total flying time; (1 Year).
- 300 hours as pilot in command in aircraft type.
- Proficiency with computers and software.
- Annual ground and flight training required in make and model of designated aircraft.

Minimum Education/Certifications

- High School Diploma.
- Associates of Science Degree in Aviation preferred.
- Active commercial pilot's license and FAA medical certification.
- IFR Rating.

Geodetic Specialist

Duties/Responsibilities

The Geodetic Specialist acts as a technical expert, providing technical direction to survey operations. Responsibilities include managing/planning, operating sensors, troubleshooting technical survey issues, performing photography and LIDAR data collection and processing, conducting quality control of photography and LiDAR data. Also responsible for all GPS survey and ground control for all survey mapping and GPS survey projects.

Minimum Experience/Training

- Three (3) years geodetic engineering experience to include GPS and RTK survey, least squares adjustments, GPS data processing, map datum and projections.

Minimum Education/Certifications

- Associate's Degree or higher in a relevant field such as geomatics engineering or equivalent experience.

Geodetic Technician

Duties/Responsibilities

The Geodetic Technician assists in surveying the earth's surface to determine precise location and measurements of points, elevations, lines, areas, and contours for construction, mapmaking, land division, titles, mining or other purposes.

Minimum Experience/Training

- Experience using any laser or LIDAR instrument or GPS equipment.

Minimum Education/Certifications

- High School Diploma.
- Associate's Degree or GIS certification preferred.

Registered Land Surveyor

Duties/Responsibilities

The Registered Land Surveyor is responsible for surveying and mapping in GPS and conventional surveying methods using Laser scanning, GPS Control, Topographic, GIS, and CAD/Microstation/Geopak. Survey projects may include Global Positioning Satellite and geodetic/cadastral surveys, ground-based LiDAR, mobile ground-based LiDAR, traditional surveying, mapping, mining, and civil engineering.

Minimum Experience/Training

- Five (5) years' surveying field experience in appropriate surveying applications.
- Proficiency in GIS and surveying software.

Minimum Education/Certifications

- Professional Licensed Surveyor (PLS) or Professional Surveyor and Mapper (PSM).
- Bachelor's Degree in a relevant field or equivalent experience. Experience may be substituted for education under state licensure requirements.

Data Acquisition Technician

Duties/Responsibilities

The Data Acquisition Technician assists with data acquisition by operating aerial camera and sensor systems in aerial photo and LiDAR missions and performing basic surveying duties such as centering a tripod, measuring distances using a tape or surveyor's chain, measuring compass bearings, clearing vegetation from sight lines, and placing stakes and markers. This role may set base stations for the flight crew; and process GPS after the mission is complete to insure no data gaps. Helps train Data Acquisition Technicians and provides guidance in the field.

Minimum Experience/Training

- Proficiency in software applications used for processing survey data.
- Experience operating an aerial sensor or LiDAR system.

Minimum Education/Certifications

- High School Diploma.
- Associate's Degree or GIS Certificate preferred.

Operations Director – Remote Sensing

The Operations Director – Remote Sensing provides direction and oversight in support of remote sensing operations management programs, resources and staff, and provides similar applicable oversight of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Operations Director - Remote Sensing supervises the operations management team within the division, strategically directing and monitoring budget, schedule, staffing, training and long-

term planning. This position acts as the main liaison between the General Manager and operations staff.

Minimum Experience/Training

- Ten (10) plus years of production operations experience.
- Technical expertise in multiple GIS-related disciplines.
- Five (5) plus years' experience managing employees.
- Extensive experience with financial analysis.

Minimum Education/Certifications

- Bachelor's Degree in relevant course of study and equivalent work experience.
- Master's Degree preferred.

Operations Manager – Remote Sensing

The Operations Manager – Remote Sensing provides management services in oversight and support of remote sensing operations, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Operations Manager - Remote Sensing oversees the activities in an identified production area, usually engaged in tasks related to a specific technical discipline. This position is responsible for managing the technicians and analysts and the daily activities of the department; troubleshoots technical issues; provides training; and monitors project schedules and financials.

Minimum Experience/Training

- Seven (7) plus years of production operations experience.
- Technical expertise in the relevant production discipline.
- Experience managing, overseeing, or coordinating employees.
- Exposure to financial analysis.

Minimum Education/Certifications

- Bachelor's Degree in a relevant field or equivalent experience.

Operations Coordinator

The Operations Coordinator assists management with coordination of operations photogrammetric and LiDAR programs, resources and staff, and provides similar applicable coordination of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Operations Coordinator assists Operations Managers with operations planning. Responsibilities include coordinating and supervising departmental staff (deployment, procedures, etc.); tracking progress of imagery collection on all jobs; generating and/or reviewing flight plans, ensuring flight logs and other records are accurate and complete; providing sensor operation training to new employees; communicating with FAA and military for airspace access; troubleshooting and maintenance of sensors; and creating maps and flight lines for project managers. This position performs field data processing for quality assessment and supervises deployment of GPS equipment.

Minimum Experience/Training

- Three (3) years' extensive experience operating a variety of sensors or cameras used for mapping and remote sensing applications.

- Knowledge of surveying techniques.
- Experience with flight planning.
- Proficiency with digital remote sensing equipment, GPS, camera system and computer software.

Minimum Education/Certifications

- Associate's Degree in relevant field, such as engineering or business management, or equivalent experience.

Imagery Analyst

The Imagery Analyst provides technical expertise and analytical services to support operations orthophoto programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Imagery Analyst provides technical expertise in orthophoto production, troubleshooting and solving complex orthophoto issues and developing production tools for data conversion and image processing. Develops and implements target GIS software platform QA/QC tools and performs QA/QC. Designs and provides training to more junior staff members.

Minimum Experience/Training

- Five (5) years of experience producing and editing orthophotos.
- Advanced technical expertise in orthophoto mapping.

Minimum Education/Certifications

- Associate's Degree or certificate in relevant course of study or equivalent experience.
- Bachelor's Degree preferred.

Senior Imagery Technician

The Senior Imagery Technician provides technical expertise to support operations orthophoto, programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior Imagery Technician acts as a technical expert, answering questions, resolving problems and instructing less experienced technicians. Reviews technicians' work for compliance with specifications and quality standards, and provides training/assistance to them in performing tasks as needed. Creates and maintains procedural documentation for projects. Performs project coordination duties as assigned (coordination of project schedules; compliance with quality specifications for multiple imaging projects; final review of image products prior to delivery).

Minimum Experience/Training

- Three (3) years' demonstrated experience, technical expertise and competence in related technical job functions.

Minimum Education/Certifications

- Associate's Degree or GIS Certificate or equivalent experience.
- Bachelor's Degree preferred.

Imagery Technician

Duties/Responsibilities

The Imagery Technician performs digital ortho photography processing, graphics, and quality control. Prepares orthophoto images from aerial photographs, survey data, and compilation data.
Minimum Experience/Training

- Proficiency in use of GIS software tools.

Minimum Education/Certifications

- High school diploma.
- Associate's Degree or GIS Certificate preferred.

Senior GIS Analyst – Vector

The Senior GIS Analyst - Vector provides technical expertise and analytical services to support operations orthophoto, imagery and GIS programs resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior GIS analyst - Vector collects, organizes, edits, performs image interpretation and performs data vectorization tasks to produce finished products that meet internal and/or external client requirements. This position also provides technical expertise in GIS and vector map production, troubleshooting and solving complex technical issues and develops production processes for data conversion and data processing. Responsibilities also include project coordination tasks, providing guidance to team members, and supporting the team lead as required.

Minimum Experience/Training

- Six (6) years of experience performing vector tasks.

Minimum Education/Certifications

- Bachelor's Degree in relevant course of study such as geomatics, engineering or geography or equivalent experience.
- Master's Degree preferred.

Senior Stereo Compiler

The Senior Stereo Compiler provides technical expertise to support operations geospatial programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior Stereo Compiler interprets and compiles data using softcopy photogrammetric workstation using photographic stereo pairs or synthesized LiDAR stereo pairs. Compiled data includes planimetric and topographic terrain/elevation data. The senior Stereo Compiler also provides technical expertise in image interpretation and vector map production, troubleshooting and solving complex technical issues. Responsibilities also include QA/QC functions and assigned project coordination tasks, providing guidance to team members, and supporting the team lead when as required.

Minimum Experience/Training

- Three (3) years' experience in photogrammetry, image interpretation, CADD and ESRI.
- Proficiency in image interpretation.

Minimum Education/Certifications

- Associate's Degree in a relevant field or equivalent experience.

Senior CADD/ GIS Technician – Vector

The Senior CADD/GIS Technician-Vector provides technical expertise to support operations orthophoto, GIS, and photogrammetric programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior CADD/GIS Technician – Vector works in the areas of editing, photo interpretation, and vectorization to produce a variety of products to meet internal and/or external client requirements and assists with training and problem solving. Possesses a thorough understanding of the technical side of GIS and photogrammetric mapping.

Minimum Experience/Training

- Three (3) years' experience.
- Demonstrated technical expertise and competence in related technical job functions.
- Proficiency in GIS software tools.

Minimum Education/Certifications

- Associate's Degree or GIS Certificate or equivalent experience.
- Bachelor's Degree preferred.

CADD/GIS Technician - Vector

Duties/Responsibilities

The CADD/GIS Technician – Vector works in the areas of editing, photo interpretation, and vectorization to produce a variety of products to meet internal and/or external client requirements.

Minimum Experience/Training

- Proficiency in GIS software tools.

Minimum Education/Certifications

- High School Diploma.
- Associate's Degree or GIS Certificate preferred.

Senior LiDAR Analyst

The Senior LiDAR Analyst provides technical expertise and analytical services to support operations LiDAR programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior LiDAR Analyst provides technical expertise in LiDAR data processing and production, troubleshooting and solving complex issues. Accountable for internal coordination of all technical aspect of LiDAR projects, including compliance with quality/specifications. Coordinates work efforts of staff assigned to the project. Generates LiDAR tile layout, project area, project requirements and develop LiDAR Filters. Completes data processing and translations as necessary, and perform the final review of LiDAR files as needed prior to shipment. Complex Development of software for LiDAR processing and value added services. A complete understanding of LiDAR principles and additional complex understanding of all geospatial and remote sensing disciplines is required. This position is responsible for LiDAR team operations and performs administrative functions; assigns work; monitors schedule and budget; coordinates and communicates with other departments; and assures quality.

Minimum Experience/Training

- Six (6) years of experience processing LiDAR data.

- Advanced technical expertise in all phases of LiDAR and Remote Sensing.

Minimum Education/Certifications

- Bachelor's Degree in relevant field of study such as geomatics, engineering or geography or equivalent work experience.
- Master's Degree preferred.

LiDAR Analyst

The LiDAR Analyst provides technical expertise and analytical services to support operations orthophoto programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The LiDAR Analyst provides technical expertise in LiDAR data processing and production, troubleshooting and solving complex issues. Accountable for internal coordination of all technical aspect of LiDAR projects, including compliance with quality/specifications. Coordinates work efforts of staff assigned to the project. Generates LiDAR tile layout, project area, project requirements and develop LiDAR Filters. Completes data processing and translations as necessary, and perform the final review of LiDAR files as needed prior to shipment. Development of software for LiDAR processing is required.

Minimum Experience/Training

- Five (5) years of experience processing LiDAR data.
- Advanced technical expertise in LiDAR processing.

Minimum Education/Certifications

- Associate's Degree in a relevant field of study such as geomatics, engineering or geography or equivalent experience.
- Bachelor's Degree preferred.

LiDAR Technician

Duties/Responsibilities

The LiDAR Technician processes LiDAR data. Responsibilities include performing manual edit QC and LiDAR filtering and titling, processing GPS and IMU data, and creating Metadata.

Minimum Experience/Training

- Experience with proficiency in GIS software tools.

Minimum Education/Certifications

- High School Diploma.
- Associate's Degree or GIS Certificate preferred.

Business Manager

The Business Manager provides management services in oversight and support of company and departmental programs, resources and staff, and provides oversight and coordination of similar applicable internal and external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Business Manager supervises employees and consults with clients to provide guidance to help solve complex technical and business problems; provides collaboration and oversight when required with program management and works in conjunction with internal and external stakeholders to ensure project objectives and timelines are being met; and helps ensure project and company quality standards are met.

Minimum Experience/Training

- Seven (7) years of management experience combined with subject matter expertise in an area relevant to Sanborn's business.
- Experience in a leadership capacity.
- Experience managing, overseeing, or coordinating employees.

Minimum Education/Certifications

- Bachelor's Degree in relevant course of study such as engineering, geospatial, or business management or equivalent experience.
- Master's Degree preferred.

Senior Remote Sensing/GIS Analyst

The Senior Remote Sensing/GIS Analyst provides technical expertise and analytical services to support operations remote sensing GIS programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior Remote Sensing/GIS Analyst manages projects and project teams. They lead development of new remote sensing approaches and methodologies. Responsibilities include deriving information products using image processing methods and tools using remotely sensed data (satellite imagery, aerial photography, LiDAR) and geographic information systems; acting as a technical resource for clients; training and assisting junior-level staff, managing project budgets and developing new products; and processing multispectral imagery, LiDAR and hyperspectral imagery. This position is expected to write proposal materials, cost projects and make presentations at professional conferences.

Minimum Experience/Training

- A minimum of six (6) years' experience in remote sensing and related disciplines.
- Background in GIS or imagery classification and analysis using commercial software such as ERDAS Imagine, ENVI, eCognition, and ESRI Software.
- Understanding of statistics.
- Project coordination/management background.

Minimum Education/Certifications

- Bachelor's Degree in relevant course of study or equivalent experience.
- Master's Degree preferred.

Remote Sensing/GIS Analyst

The Remote Sensing/GIS Analyst provides technical expertise and analytical services to support operations remote sensing GIS programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Remote Sensing/GIS Analyst leads development of remote sensing projects and methodologies. Responsibilities include deriving information products using image processing methods and tools using remotely sensed data (satellite imagery, aerial photography, LiDAR) and geographic information systems; acting as a technical resource for clients; training and assisting junior-level staff, managing project budgets and developing new products; and processing multispectral imagery, LiDAR and hyperspectral imagery.

Minimum Experience/Training

- A minimum of five (5) years' experience in remote sensing and related disciplines.
- Background in GIS or imagery classification and analysis using commercial software such as ERDAS Imagine, ENVI, eCognition, and ESRI software.
- Understanding of statistics.
- Project coordination/management background.

Minimum Education/Certifications

- Associate's Degree or higher in GIS, remote sensing or related field or equivalent experience.
- Bachelor's Degree preferred.

Senior Remote Sensing/GIS Technician

The Senior Remote Sensing / GIS Technician provides technical expertise to support operations remote sensing GIS programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Senior Remote Sensing/GIS Technician assists in the development of new production processes for the integration of new satellite and aerial remote sensing products/services. Duties include image processing and classification of a variety of sensors including SPOT, Landsat, IKONOS, QuickBird and other multi/hyperspectral sensors. Helps train technicians in the application of remote sensing techniques and production processes.

Minimum Experience/Training

- A minimum of three (3) years' experience in remote sensing and related disciplines.
- Background in imagery classification and analysis using commercial software such as ERDAS Imagine, ENVI, eCognition, and Feature Analyst extension for ESRI.
- Demonstrated technical expertise and competence in related technical job functions.

Minimum Education/Certifications

- Associate's Degree or higher in GIS, remote sensing or related field or equivalent experience.

Senior Program Manager

The Senior Program Manager provides expertise in program management services in oversight and support of programs, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Senior Program Manager has extensive experience managing diverse, large scale, multimillion dollar projects for a variety of clients. Responsibilities include proposal development, financial planning, contract review, subcontract coordination, budget and schedule control, and client coordination.

Minimum Experience/Training

- Twelve (12) years of program management experience.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree in relevant course of study and equivalent work experience.
- Master's Degree preferred.

- Project Manager Professional (PMP) Certification or other relevant certification/licensure.

Program Manager

The Program Manager provides program management services in oversight and support of programs, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Program Manager has experience managing diverse, large scale, multi-million dollar projects for a variety of clients. Responsibilities include proposal development, financial planning, contract review, subcontract coordination, budget and schedule control, and client coordination.

Minimum Experience/Training

- Ten (10) plus years of program management experience.
- Program management experience, from inception to completion.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree or higher in a relevant field or equivalent experience.
- Master's Degree preferred.
- Project Manager Professional (PMP) Certification or other relevant certification/licensure.

Offsite Program Manager

The Offsite Program Manager provides program management services in oversight and support of programs, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Offsite Program Manager has experience managing diverse, large scale, multimillion dollar on-site projects for a variety of clients. Responsibilities include proposal development, financial planning, contract review, subcontract coordination, budget and schedule control, and client coordination.

Minimum Experience/Training

- Ten (10) years of program management experience.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree or higher in a relevant field or equivalent work experience.
- Master's Degree preferred.
- Project Manager Professional (PMP) Certification or other relevant certification/licensure.

Project Manager – Remote Sensing

The Project Manager – Remote Sensing provides management services in oversight and support of remote sensing projects, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Project Manager – Remote Sensing contributes to proposals as assigned, oversees project timelines and budgets and works directly with clients to ensure project success. Responsibilities include developing project budgets and schedules, managing contract and subcontract issues,

troubleshooting operational issues that impact projects. The position provides leadership, direction, and oversight to assigned projects. The position includes assigned responsibilities to throughout the project management lifecycle including proposal writing; project scheduling; project deliverables; production and QC; project budgeting and controlling all aspects of projects in accordance with contract documents.

Minimum Experience/Training

- Seven (7) years of project coordination/management experience.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree or higher in a relevant field or equivalent experience.
- Master's Degree preferred.
- Project Manager Professional (PMP) Certification or other relevant certification/licensure.

Project Manager

The Project Manager provides management services in oversight and support of photogrammetric services, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Project Manager contributes to proposals as assigned, oversees project timelines and budgets and works directly with clients to ensure project success. Responsibilities include developing project budgets and schedules, managing contract and subcontract issues, troubleshooting operational issues that impact projects. The position provides leadership, direction, and oversight to assigned projects. The position includes assigned responsibilities to throughout the project management lifecycle including proposal writing; project scheduling; project deliverables; production and QC; project budgeting and controlling all aspects of projects in accordance with contract documents.

Minimum Experience/Training

- Seven (7) years of project coordination/management experience.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree or higher in a relevant field or equivalent experience.
- Master's Degree preferred.
- Project Manager Professional (PMP) Certification or other relevant certification/licensure.

Associate Project Manager – Remote Sensing

The Associate Project Manager – Remote Sensing provides essential project management services in oversight and support of remote sensing projects, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Associate Project Manager – Remote Sensing contributes to proposals as assigned, oversees project timelines and budgets and works directly with clients to ensure project success. Responsibilities include assisting in developing project budgets and schedules, managing contract and subcontract issues, troubleshooting operational issues that impact projects.

Minimum Experience/Training

- Five (5) years of remote sensing project coordination/management experience.

- Technical expertise in GIS-related disciplines.
- Minimum Education/Certifications
- Associate's Degree or higher in a relevant field or equivalent experience.
 - Bachelor's Degree preferred.
 - Project Manager Professional (PMP) Certification or other relevant certification/licensure preferred.

II. GEOGRAPHIC INFORMATION SYSTEMS (GIS) SERVICES PROVIDED AT ORDERING ACTIVITY'S LOCATION

Program Manager

The Program Manager provides program management services in oversight and support of programs, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Program Manager has extensive experience managing diverse, large scale, multi-million dollar projects for a variety of clients. Responsibilities include proposal development, financial planning, contract review, subcontract coordination, budget and schedule control, and client coordination.

Minimum Experience/Training

- Ten (10+) plus years of program management experience.
- Program management experience, from inception to completion.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree or higher in a relevant field.
- Project Manager Professional (PMP) Certification or other relevant certification/licensure.

Deputy Program Manager

The Deputy Program Manager provides essential program management services in oversight and support of programs, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Deputy Program Manager assists the program manager with management of large scale programs, monitoring project timelines and working with the client on routine communications.

Minimum Experience/Training

- Five (5) years of project management exposure.
- Technical expertise in GIS-related disciplines.

Minimum Education/Certifications

- Bachelor's Degree or higher in a relevant field.

Project Analyst

The Project Analyst provides technical expertise and analytical services to support operations project management programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Project Analyst is responsible for maintaining and tracking program-wide workload statistics and distribution across three separate offices, as well as reporting status of individual projects in concert with client objectives. Responsibilities include maintaining and tracking project workload statistics and workload distribution for program-level evaluation, monitoring project schedules, collecting detailed project status and generating status reports for each project, assisting the creation of business cases, and understanding major systems functions and impacts of customer requests, and effectively communicating the impact/implications.

Minimum Experience/Training

- Two (2) years professional experience.
- Ability to use email and calendaring tools (e.g., Microsoft Outlook), computer-based spreadsheets and word processing is required.
- Advanced experience with Microsoft® Excel and working knowledge of Microsoft Project is required.

Minimum Education/Certifications

- Bachelor's Degree from an accredited college or university in a relevant field.
- Exposure to technology courses of study a plus.

Project Manager

The Project Manager provides management services in oversight and support of projects, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Project Manager position requires experience bringing together teams and successfully managing projects. The position works closely with clients; executes the quality control plan, manages production schedules to meet delivery expectations, and provides regular progress reports. Responsibilities include overseeing all aspects of production, maintaining staffing levels, providing leadership by developing a management team and providing each staff member with a growth path, ensuring fair compensation, assisting with benefit programs, and motivating staff with an overall view of progress. Other responsibilities include creating reports, managing assigned budget, participating in strategic planning sessions and attending meetings.

Minimum Experience/Training

- Demonstrated success as project manager, overseeing work assignments and serving as the primary point of contact with the client.

Minimum Education/Certifications

- Bachelor's Degree in business or related field.
- Master's Degree preferred. The equivalent combination of related education and experience will be considered.

Library Manager

The Library Manager provides management services in oversight and support of data management programs, resources and staff, and provides oversight and coordination of similar applicable external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Library Manager assists the Project Manager in leading the decision-support team and library functions in support of the client mission requiring advanced applications of library sciences.

The position is responsible for the quality of all products and services performed by the library team, managing production schedules to meet client delivery expectations, and providing weekly progress reports. Other duties including coordinating with staff to ensure consistent quality control and training plans between multiple client installations, leading and conducting team-area quality control activities and documents findings, and providing recommendations as to staffing and promotion. When applicable, this role recommends process improvements and leads the conversion of analog library into a digital library using state-of-the-art library science ensuring appropriate handling, filing, distribution, and safe-guarding of all library source materials, including inventorying of materials.

Minimum Experience/Training

- Three (3) years or more of professional experience managing analog and/or digital records and materials. Specific experience in records management, library/information science and/or archival science is required.
- Demonstrated success in managing the overall coordination of work assignments for employees and/or teams.
- Experience with analog and digital filing systems (e.g. medical, legal, business) and radiofrequency identification (RFID) applications in records and materials management is preferred.

Minimum Education/Certifications

- A minimum of a Bachelor's Degree.
- Master's Degree in Library Science (MLS) is preferred.

Geospatial Team Lead

The Geospatial Team Lead provides technical expertise and supervision to support operations geospatial programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Geospatial Team Lead provides functional leadership in geospatial processing and training and assists in managing onsite personnel and subcontractor staff. The position coordinates and executes the quality control plan and manages production schedules to meet client delivery expectations; oversees geospatial production; provides mid-level supervisory responsibility by assisting in staff management; develops and maintains geospatial training plans, course materials, and schedules; maintains employee training records; collaborates with other staff to identify and correct geospatial/image problems or issues and provides leadership in remote sensing, by sharing technical expertise and educating production staff in the concepts of remote sensing, image processing, and other geospatial technologies.

Minimum Experience/Training

- Five (5) years of professional experience.
- Experience working in organizations providing photo interpretation, remote sensing, natural resource data collection, mapping, geospatial services, and GIS technologies.
- Demonstrated success in managing the overall coordination of work assignments for employees and/or teams.
- Prior exposure to geospatial application approaches.

Minimum Education/Certifications

- Bachelor's Degree is required in a natural or physical science, or geography discipline or relevant field.

- A graduate Degree in a natural or physical science or geography discipline with GIS certification is preferred.

Data Collection Team Lead

The Data Collection Team Lead provides technical expertise and supervision to support operations data acquisition programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Data Collection Team Lead provides functional leadership in data collection and location certification processing and training, as well as assisting in managing onsite personnel and subcontractor staff. Responsibilities include coordinating and executing the quality control plan; managing production schedules; developing and maintaining data collection and location certification training plans, course materials, and schedules; implementing nationally consistent data collection and location certification training and quality control plans; and working with Senior Data Collectors to manage the oversight of production.

Minimum Experience/Training

- Five (5) years of professional experience.
- Experience working in organizations providing photo interpretation, remote sensing, natural resource data collection, mapping, geospatial services, and GIS technologies.
- Demonstrated success in managing the overall coordination of work assignments for employees and/or teams.

Minimum Education/Certifications

- A minimum of a bachelor's Degree is required in a natural or physical science, or geography discipline.
- A graduate Degree in a natural or physical science, or geography discipline with GIS certification is preferred.

Senior Data Collector

Duties/Responsibilities

The Senior Data Collector manipulates geospatial information to produce mapping products using a graphics workstation, trace digitizing, and/or construction digitizing. The primary responsibility of the position is to conduct quality control functions in accordance with client procedures and protocols. As well, this position serves as a geospatial or data collection group leader of four to six staff members, providing technical guidance and work direction. Other duties include conducting advanced-level aerial and image interpretations of landscape features, and the identification of landscape change (supporting data collection functions). The position exhibits technical leadership, works independently with little supervision, and is able to develop technical solutions to non-standard situations.

Minimum Experience/Training

- Demonstrated proficiency and experience working in a GIS environment, conducting advanced aerial photo and image interpretation of landscape features/data collection.
- Background in map layout design and GIS data formats.
- Prior exposure to geospatial application approaches.

Minimum Education/Certifications

- High School diploma and appropriate college level courses or training in geographic sciences.

- An associate's Degree or certification in GIS or a related field preferred; experience and specialized training may be substituted for education.

Data Collector

Duties/Responsibilities

The Data Collector has demonstrated proficiency in tasks of a Data Collector in Training II. Responsibilities include conducting intermediate and advanced aerial and image interpretations, image registration and supporting data collection functions in accordance with client procedures and protocols, maintaining records and reports, and performing image-to-image registration.

Minimum Experience/Training

- Demonstrated proficiency in Data Collector in Training II tasks.
- Experience with photo interpretation and/or data collection.
- Knowledge in map layout design and understanding of GIS data formats.
- Awareness of GIS application approaches.
- Specialized training (e.g. ESRI training courses) a plus.

Minimum Education/Certifications

- High School diploma and appropriate college level courses or training in geographic sciences.
- An associate's Degree or certification in GIS or a related field preferred; experience and specialized training may be substituted for education.

Data Collector in Training II

Duties/Responsibilities

The Data Collector in Training II has demonstrated proficiency in the tasks of a Data Collector in Training I. Responsibilities includes conducting basic and intermediate aerial and image interpretations, image registration and supporting data collection functions in accordance with client procedures and protocols, maintaining records and reports, and performing image-to-image registration. Technician II employees are able to work independently on most standard cases and with supervision on non-standard cases.

Minimum Experience/Training

- Demonstrated proficiency in Data Collector in Training I tasks.
- Experience with photo interpretation and/or data collection.
- Knowledge in map layout design and understanding of GIS data formats.
- Awareness of GIS application approaches.
- Specialized training (e.g. ESRI training courses) a plus.

Minimum Education/Certifications

- High School diploma and appropriate college level courses or training in geographic sciences.
- An associate's Degree or certification in GIS or a related field preferred; experience and specialized training may be substituted for education.

Data Collector in Training I

Duties/Responsibilities

The Data Collector in Training I is in training to learn how to manipulate a geographic information system (GIS) to produce a mapping product using a graphics workstation, trace digitizing, and/or construction digitizing. Responsibilities includes conducting basic aerial and

image interpretations, image registration and supporting data collection functions in accordance with client procedures and protocols, maintaining records and reports, and performing image-to-image registration.

Minimum Experience/Training

- Specialized training (e.g. ESRI training courses) a plus.
- Experience with photo interpretation and/or data collection.
- Knowledge in map layout design and understanding of GIS data formats.
- Awareness of GIS application approaches.

Minimum Education/Certifications

- High School diploma and appropriate college level courses or training in geographic sciences.
- An associate's Degree or certification in GIS or a related field preferred; experience and specialized training may be substituted for education.

Natural Resource Inventory Materials Lead

The Natural Resources Inventory Materials Lead provides technical expertise and supervision to support operations inventory and data management programs, resources and staff, and provides similar technical expertise in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The NRI Materials Lead assists the Library Manager in managing onsite personnel and subcontractor staff, executing the quality control plan, managing production schedules to meet client delivery expectations, and providing weekly progress reports. Responsibilities include overseeing client projects and materials handling to ensure schedule compliance, quality control, and client satisfaction. The position will oversee, as assigned, training for employees performing library activities, provide technical support to library team, and serve as the first line of technical assistance before a concern is elevated. Other duties include weekly and daily reporting and assisting management in conducting hiring, performance reviews, and promotions.

Minimum Experience/Training

- Demonstrated proficiency in managing the overall coordination of work assignments for employees, subcontractors and/or teams.

Minimum Education/Certifications

- Bachelor's Degree in related field.
- The equivalent combination of related education and experience will be considered.

Library Technician II

The Library Technician II provides technical knowledge to support operations data management programs, resources and staff, and provides similar technical knowledge in support of external resources within the scope of Environmental Consulting and Geographic Information systems services.

Duties/Responsibilities

The Library Technician II manages client source materials, in adherence to client established procedures and protocols. This position carries out functions and activities in support of various tasks. Responsibilities include documenting quality control findings; making and/or directing appropriate corrections, and making recommendations for additional corrective and/or preventative measures. The position also arranges for and provides for safe storage of records and documents, assists in the management of tracking systems, and independently uses spreadsheets and/or client systems to enter, access, or retrieve data, designs library forms and

spreadsheets to enhance and streamline library processes and purges materials from client files in accordance with established protocols, policies and procedures.

Minimum Experience/Training

- Demonstrated proficiency accomplishing the tasks of Library Tech I.
- Demonstrated proficiency using computer and software packages, such as Microsoft Office products.

Minimum Education/Certifications

- High school diploma or higher.

Library Technician I

Duties/Responsibilities

The Library Technician I manages client source materials, in adherence to established procedures and protocols, in support of the client mission. Responsibilities include inventorying segment folders and file materials, identifying, documenting, correcting and reporting filing errors, conducting scanning of imagery and ancillary materials, maintaining records and reports, and independently programming and placing tracking tags into folders.

Minimum Experience/Training

- Proficiency using computer and software packages, such as Microsoft Office products.

Minimum Education/Certifications

- High school diploma or higher.

Project Management Specialist

The Project Management Specialist provides technical expertise, analytical services, and collaboration skills to support project management programs, resources and staff, and provides similar technical expertise and collaboration skills in support of external resources within the scope of Environmental Consulting and Geographic Information systems services

Duties/Responsibilities

The Project Management Specialist works with Program Managers to develop detailed project plans, timelines, and milestones. Report documents will range from Gantt charts, PERT analysis, to annual published work plans and project management websites.

Minimum Experience/Training

- Two (2+) plus years of experience in the design, development and maintenance of technical project plans.
- Proficiency in Microsoft Project Professional Edition and Server.

Minimum Education/Certifications

- Associate Degree in appropriate field of study; may be substituted for one and one half (1 ½) years of general experience.
- A Bachelor's Degree in appropriate field of study will be considered as the equivalent to three (3) years of general experience.
- Microsoft Project certification is recommended though not required.

Remote Sensing Analyst II

Duties/Responsibilities

The Remote Sensing Analyst II works independently or with very general technical direction on complex resource assessment issues and problems, performs all phases of image analysis work including conceptualization of problems to be solved, analysis of alternative solutions, geospatial data base construction and verification, integration of remotely sensed data, automation of

processes, data analysis, and preparation of products. The position is called upon to write papers for grey literature or peer reviewed literature journals, develop procedure documentation and develop presentation materials and present project results to small and large groups. Other duties include providing training in the use and application of Remote Sensing and GPS for real world applications and occasionally working with sensors such as multi-spectral scanners, hyperspectral imagers, and other electronic mechanisms for collecting natural resource data.

Minimum Experience/Training

- Five (5) years of specialized experience in the application of Remote Sensing to the analysis of natural resources issues or emphasizing the integration of remote sensing data into GIS.

Minimum Education/Certifications

- BS/BA Degree in Natural Resources, Geography, Landscape Architecture, or similar relevant field.

Remote Sensing Analyst I

Duties/Responsibilities

The Remote Sensing Analyst I works independently or with very general technical direction on complex resource assessment issues and problems, performs all phases of image analysis work including conceptualization of problems to be solved, analysis of alternative solutions, geospatial data base construction and verification, integration of remotely sensed data, automation of processes, data analysis, and preparation of products. The position will be called upon to develop presentation materials and present project results to small and large groups. This role provides training in the use and application of Remote Sensing and GPS for real world applications and occasionally works with sensors such as multi-spectral scanners, hyperspectral imagers, and other electronic mechanisms for collecting natural resource data.

Minimum Experience/Training

- Two (2) years of specialized experience in the application of Remote Sensing to the analysis of natural resources issues or emphasizing the integration of remote sensing data into GIS.

Minimum Education/Certifications

- BS/BA Degree in Natural Resources, Geography, Landscape Architecture, or similar relevant field.

GIS Analyst Level IV

Duties/Responsibilities

The GIS Analyst Level IV works independently and provide technical assistance and guidance on GIS issues and statistical techniques, solve and provide assistance to others on GIS task oriented problems with only a general description of the desired end product, be responsible for all database requirement models, and details within development task, conduct technical reviews of other GIS analyst work when necessary to solve problems or improve functionality, write papers, develop procedure documentation, develop presentation materials, present projects results to small and large groups, and provide training to others in the use and application of GIS for real world applications. The position will be required to have advanced knowledge of GIS, raster, vector and statistical techniques for analyses, demonstrated ability to solve natural resource related problems with ESRI ARC software products, SDE and/or ArcServer, and will also have knowledge and use of statistical software packages such as S-Plus, R, and ArcGIS Spatial AML, Python, and GDAL.

Minimum Experience/Training

- Three (3) years' experience in the application of GIS and statistical techniques to the analysis of natural resource issues.

Minimum Education/Certifications

- Bachelor's Degree.
- A Master's Degree or PhD in Natural Resources, Natural Sciences, Landscape Architecture, GIS or related field preferred.

GIS Analyst Level III

Duties/Responsibilities

The GIS Analyst Level III develops plans for and create applications and other assigned GIS tasks, will be responsible for all database requirements and details within development tasks, write papers, develop procedure documentation, develop presentation materials and present projects to small and large groups. The position also provides training to others in the use and applications of GIS for real world applications and will have advanced GIS, raster and vector analysis knowledge, experience with data development, SDE and ArcServer, and demonstrated ability to solve natural resource related problems and database development with ERSI ARC software products.

Minimum Experience/Training

- Three (3) years' experience in the application of GIS techniques to the analysis of natural resource issues.

Minimum Education/Certifications

- A Bachelor's Degree in Natural Resources, Natural Sciences, Landscape Architecture or related field.
- A Master's Degree in Natural Resources, Natural Sciences, Landscape Architecture, GIS or related field preferred.

GIS Analyst Level II

Duties/Responsibilities

The GIS Analyst Level II has technical competency in cartographic productions, GIS data development and QA/QC of spatial data, requires little assistance accomplishing assigned tasks according to plans, write papers, develop procedure documentation and develop presentation materials, presents project results to small and large groups, provides training in the use and application of GIS for real world applications. The position will be competent in producing maps, using raster data, and integration and/or analyzing remotely sensed data in a GIS, will have knowledge of ESRI ARC software products, and will continue to integrate new technology and techniques in the use of application of GIS data.

Minimum Experience/Training

- Three (3) years of experience in the application of GIS techniques to the natural resource issues.

Minimum Education/Certifications

- BS/BA Degree in Natural Resources, Natural Sciences, Landscape Architecture or related field.

GIS Analyst Level I

Duties/Responsibilities

The GIS Analyst Level I has proficient and technical competency in GIS data development, and will attain, prepare and document GIS data, digitize and manipulate map projections, have knowledge of ESRI ARC software products, and continue to integrate new technology and techniques in the use of application of GIS data.

Minimum Experience/Training

- One (1) year of experience in the application of GIS techniques in natural resource management.

Minimum Education/Certifications

- Bachelor's Degree in Natural Resources, Natural Sciences, or Landscape Architecture or related field is a plus.

Cartographer/GIS Analyst (Senior)

The Senior Cartographer/GIS Analyst provides expert level functional skills in digital cartographic and GIS mapping project tasks which require thorough knowledge of cartographic mapping, cartographic software and hardware, map lithography and GIS technical subject matter. Has expert knowledge and skill in the use of Adobe Creative Suite software and advanced knowledge and skill in the use of ESRI ArcGIS (including ArcGIS Online) and related software.

Duties/Responsibilities

The Senior Cartographer/GIS Analyst plans, designs, and prepares simple to complex cartographic compilations by integrating the most recent digital cartographic, map publishing, and GIS mapping technologies with basic cartographic and map production principals. This includes using corporate data, analog maps and tabular/narrative data as necessary.

The Senior Cartographer/GIS Analyst provides technical direction, map design, resolution of non-routine cartographic problems, implementation and documentation of map production and design, and integration of the final publication or product design. Verifies products are compatible with multiple distribution channels including print, digital, & web publishing.

Minimum Education/Certifications

- Bachelor's degree in Cartography, Geography or Earth Sciences.

Minimum Experience/Training

- Ten (10) years of intensive and progressive experience with digital cartography, GIS technology and map making.

Or

Alternate Requirements

- Twenty (20) years of intensive and progressive experience with digital cartography, GIS technology and map making accompanied by a High School degree or equivalent.

Cartographer/GIS Analyst (Intermediate)

The Intermediate Cartographer/GIS Analyst provides high level functional skills in digital cartographic and GIS mapping project tasks which require a working knowledge of cartographic mapping, cartographic software and hardware, map lithography, and GIS technical subject matter. Has advanced knowledge and skill in the use of Adobe Creative Suite, ESRI ArcGIS (including ArcGIS Online) and related software.

Duties/Responsibilities

The Intermediate Cartographer/GIS Analyst plans, designs, and prepares simple to complex cartographic compilations by integrating the most recent digital cartographic, map publishing and GIS mapping technologies with basic cartographic and map production principals. This includes using corporate data, analog maps and tabular/narrative data as necessary.

The Intermediate Cartographer/GIS Analyst assists with implementation and documentation of map publication, resolution of non-routine cartographic problems and design and integration of the final publication or product design. Converts final products for multiple distribution channels including print, digital, & web publishing.

Minimum Education/Certifications

- Bachelor's degree in Cartography, Geography or Earth Sciences.

Minimum Experience/Training

- Four (4) years of intensive and progressive experience with digital cartographic and GIS technology, and map making.

Or

Alternate Requirements

- Fourteen (14) years of intensive and progressive experience with digital cartographic and GIS technology, and map making accompanied by a High School degree or equivalent.

Cartographer/GIS Analyst (Associate)

The Associate Cartographer/GIS Analyst provides skills in digital cartographic and GIS mapping project tasks, which requires a basic knowledge of cartographic mapping, cartographic software and hardware, map lithography, and GIS technical subject matter. Has basic knowledge and novice skill in the use of Adobe Creative Suite, ESRI ArcGIS (including ArcGIS Online) and related software.

Duties/Responsibilities

The Associate Cartographer/GIS Analyst assists in planning, design, and preparation of simple to moderate level cartographic compilations by integrating the most recent digital cartographic, map publishing, and GIS mapping technologies with basic cartographic and map production principals. This includes using corporate data, analog maps and tabular/narrative data as necessary.

The Associate Cartographer/GIS Analyst assists with implementation and documentation in map production and design and integration of the final publication or product design. Resolves routine cartographic problems. Converts final products for multiple distribution channels including print, digital, & web publishing.

Minimum Education/Certifications

- Bachelor's degree in Cartography, Geography or Earth Sciences with some coursework in cartography.

Minimum Experience/Training

- None required but some experience with digital cartographic and GIS technology, and map making is desirable.

Or

Alternate Requirements

- Ten (10) years of intensive and progressive experience with digital cartographic and GIS technology, and map making accompanied by a High School degree or equivalent.

Remote Sensing/GIS Analyst (Senior)

Duties/Responsibilities

The Senior Remote Sensing/GIS Analyst's responsibilities may include: the coordination and oversight of GIS and Remote Sensing based data capture and analysis projects. Expert knowledge of and demonstrated skill in the use of the following software: ArcGIS (ESRI), Imagine (ERDAS), GRASS, GDAL, eCognition (Trimble), ENVI/IDL (Harris), Geomatica (PCI), R, MATLAB (Mathworks), as well as other scientific programming languages. Tasks may include: predictive spatial modeling, algorithm development for spatio-temporal analyses, digital image pre-processing including geo-registration, orthorectification, and atmospheric/radiometric correction, image analysis and classification, advanced multivariate statistical analysis for modeling and image processing, and advanced knowledge of radiative transfer models.

Additional responsibilities may include: database management and report preparation for various end-users, review and integration of ancillary GIS data from outside sources, correlation of

reference field data to GIS layers for model development and accuracy assessment, testing of new remote sensing data sources and image processing software to determine applicability to project objectives, and internal/external technical transfer of analysis systems and processes. Interface with the data management team, understand end user needs and objectives, optimize workflow, research and keep abreast of all available and applicable data, technology and standards for GIS output, as well as, integrating internal and external resources (staff hardware/software support services) necessary to meet project objectives. Import and export any spatial and/or tabular data with the GIS and remote sensing software. Manipulate and edit in GIS/RS software. Perform advanced programming in scientific languages, such as R, MATLAB and IDL, to automate complex image processing and spatio-temporal analytical tasks. Create and maintain code, using a subversion client, to automate complex or repetitive tasks, as needed. Helps coordinate field collection data for calibration/validation, assess hardware/software needs (i.e. GPS, specialized equipment, field computers, etc.) and the data flow processes involved. Development of pattern recognition, anomaly detection and multi-temporal data analysis algorithms for analyzing multispectral, hyperspectral and LiDAR datasets. Demonstrated previous success in developing remote sensing algorithms for multispectral, hyperspectral, or LiDAR datasets.

Minimum Education/Certifications

- Master's degree from an accredited research institution in Forestry, Ecology, Soils, Geology, Hydrology, Geography, Computer Science, Mathematics or Earth Science.
- A PhD and strong publication record in peer-reviewed scientific literature is highly desired for the senior-level position.

Minimum Experience/Training

- Ten (10) years of intensive and progressive experience in a field requiring extensive use of GIS and remote sensing related tools.

Remote Sensing/GIS Analyst (Intermediate)

Duties/Responsibilities

The Intermediate Remote Sensing/GIS Analyst's responsibilities may include: the coordination and oversight of GIS and Remote Sensing based data capture and analysis projects. Advanced knowledge of and demonstrated skill in the use of the following software: ArcGIS (ESRI), Imagine (ERDAS), GRASS, GDAL, eCognition (Trimble), ENVI/IDL (Harris), Geomatica (PCI), R, MATLAB (Mathworks), as well as other scientific programming languages. Tasks may include: predictive spatial modeling, algorithm development for spatio-temporal analyses, digital image pre-processing including geo-registration, orthorectification, and atmospheric/radiometric correction, image analysis and classification, advanced multivariate statistical analysis for modeling and image processing, and advanced knowledge of radiative transfer models. Additional responsibilities may include: database management and report preparation for various end-users, review and integration of ancillary GIS data from outside sources, correlation of reference field data to GIS layers for model development and accuracy assessment, testing of new remote sensing data sources and image processing software to determine applicability to project objectives, and internal/external technical transfer of analysis systems and processes. As directed, the Intermediate Remote Sensing/GIS Analyst will: provide requested data to end users via a GIS database or hard copy products; take queries from team members; create projects and print maps and reports; perform a vast array of spatial and tabular queries using the available tools in the GIS and remote sensing software; import and export any spatial and/or tabular data with the GIS and remote sensing software; manipulate and edit scripts for GIS/RS software in various languages, such as Python, EML, EASI, IDL VB.Net, C/C++, C#, Java to automate tasks. Assist field data integration, accuracy assessment, hardware/software (GPS, field

computers, etc.) and the data flow processes involved. Modify code in scientific languages, such as R, MATLAB and IDL, to automate complex image processing and spatio-temporal analytical tasks. Create and maintain code using a subversion client to automate complex or repetitive tasks, as needed. Helps coordinate field collection data for calibration/validation, assess hardware/software needs (i.e. GPS, specialized equipment, field computers, etc.) and the data flow processes involved. Development of pattern recognition, anomaly detection and multi-temporal data analysis algorithms for analyzing multispectral, hyperspectral and LiDAR datasets. Demonstrated previous success in developing remote sensing algorithms for multispectral, hyperspectral, or LiDAR datasets.

Minimum Education/Certifications

- Bachelor's degree in Forestry, Ecology, Soils, Geology, Hydrology, Geography, Computer Science, Mathematics or Earth Science.
- A Master's degree in same is highly desirable for the intermediate-level position.

Minimum Experience/Training

- Five (5) years of intensive and progressive experience in a field requiring extensive use of remote sensing and GIS related tools.

Or

Alternate Requirements

- Fifteen (15) years of intensive and progressive experience in a field requiring extensive use of remote sensing and GIS related tools accompanied by a High School degree or equivalent.

Remote Sensing/GIS Analyst (Associate)

Duties/Responsibilities

The Associate Remote Sensing/GIS Analyst's responsibilities may include assisting with GIS and remote sensing based data capture and analysis projects. Experience and demonstrated skill in the use of the following software: ArcGIS (ESRI), Imagine (ERDAS), GRASS, GDAL, eCognition (Trimble), ENVI/IDL (Harris), Geomatica (PCI), R, MATLAB (Mathworks), as well as numerous other programs running on a client's Intra/Extranet servers. Tasks may include: topographic analysis, surface modeling, digital image pre-processing including geo-registration, orthorectification and atmospheric/radiometric correction, image analysis and classification, database population and auditing, cartography, training, and creation of FGDC compliant metadata.

Additional responsibilities may include: providing assistance with database management and report preparation for various customers, review and integration of ancillary GIS data from outside sources, correlation of reference field data to GIS layers for model development and accuracy assessment, and testing of new remote sensing data and software to determine applicability to project objectives.

As directed, the Associate Remote Sensing/GIS Analyst will provide requested data to end users via a database "front end" or hardcopy products. Take queries from team members; create projects and print maps and reports. Perform a vast array of spatial and tabular queries using the available tools in the GIS and remote sensing software. Import and export any spatial and/or tabular data with the GIS and remote sensing software.

The Associate Remote Sensing/GIS Analyst manipulates and edits in GIS and remote sensing mapping software. Performs basic programming in appropriate languages, such as Python, EML, VB.Net, C/C++, C#, Java or EASI to automate GIS/remote sensing tasks. Assists in field data integration, accuracy assessment, hardware/software maintenance (GPS, field computers, etc.) and the data flow processes.

Minimum Education/Certifications

- Bachelor's degree in Forestry, Ecology, Soils, Geology, Hydrology, Geography, Computer Science, Mathematics or Earth Science.

- A Master's degree in any of the same disciplines accounts for one year experience.

Minimum Experience/Training

- One (1) year of intensive and progressive experience in a field requiring extensive use of remote sensing and GIS related tools.

Or

Alternate Requirements

- Eleven (11) years of intensive and progressive experience in a field requiring extensive use of remote sensing and GIS related tools accompanied by a High School degree or equivalent.

Natural Resources GIS Analyst/Programmer (Senior)

Duties/Responsibilities

The Senior Natural Resources GIS Analyst/Programmer's responsibilities may include: the coordination of geographic information systems (GIS) projects, building and maintaining a GIS system, and the building and maintaining of a corporate-wide Intranet site to disseminate geospatial maps and other GIS data. Expert knowledge of and demonstrated skill in the use of the following software: ESRI GIS products including ArcGIS desktop, ArcSDE for Oracle, ArcGIS Pro, ArcGIS Online (AGOL) and associated extensions. ArcGIS Server, Collector, Navigator and Explorer for ArcGIS, PL/SQL Developer, and Microsoft Access databases including numerous other related programs running on a client's Intra/Extranet servers. Tasks may include spatial modeling/analysis, slope, volume, area, and hillshade/viewshed analysis, raster rectification, 3D animations and surface modeling, image analysis, cartography, demographic modeling, linear referencing and dynamic segmentation, route analysis, and creation of FGDC compliant metadata. Provide adhoc training, documentation review and prepare video training modules.

Additional responsibilities may include: providing any combination of GIS, GPS/Mobile services to create original mapping, format conversion, infrastructure analysis and facilities management services, database management and report preparation for various customers. Projects require a multitude of applications for a variety of disciplines including, forestry, wildlife, fire, pest management, inventory and modeling, land cover land use analysis, hydrographic and hydrologic profiling, digital orthophoto imagery preparation, planimetric mapping services, demographics, and associated training.

The Senior Natural Resources GIS Analyst/Programmer will interface with technical and program managers to better understand end user needs, requirements and objectives, optimize workflows, research and keep abreast of all available and applicable data, technology and standards for GIS output, as well as, integrating internal and external resources (staff, hardware/software, support services) necessary to meet project objectives/deliverables. If appropriate, provide requested data to end users via a database "front end", Internet GIS or other end user interface for GIS applications. Using existing queries from team members to create projects and print maps and reports. Perform a vast array of spatial and tabular queries using the available tools in GIS software, including integration with relational databases. Import and export any spatial and/or tabular data with GIS software. Identify, categorize, maintain and update major GIS feature classes.

The Senior Natural Resources GIS Analyst/Programmer manipulates and edits geospatial data using GIS Mapping software. Creates or enhances existing code using advanced scripting/programming languages such as Modelbuilder, Python, SQL, VB.Net, C++, C#, Java to automate GIS tasks and provide custom tools for others. Converts legacy routines to run on the latest GIS and relational database systems. Coordinates with database administrator and team

lead to integrate collected data (tabular, spatial and otherwise) into a comprehensive database. Helps coordinate field data collection, hardware/software (GPS, field computers, etc.) and the data flow processes involved.

Minimum Education/Certifications

- Bachelor's degree in Forestry, Ecology, Wildlife Biology, Soils, Geology, Hydrology, Geography or Earth Science.
- Master's degree from an accredited college or university in GIS is highly desired.

Minimum Experience/Training

- Ten (10) years of intensive and progressive experience in a field requiring extensive use of GIS and related tools.

Or

Alternate Requirements

- Twenty (20) years of intensive and progressive experience in a field requiring extensive use of GIS and related tools accompanied by a High School degree or equivalent.

Natural Resources GIS Analyst/Programmer (Intermediate)

Duties/Responsibilities

The Intermediate Natural Resources GIS Analyst/Programmer's responsibilities may include: building and maintaining a GIS system, and the building and maintaining of a corporate-wide Intranet site to disseminate geospatial maps and other GIS data. Knowledge of and demonstrated skill in the use of the following software: ESRI GIS products including ArcGIS desktop, ArcSDE for Oracle, ArcGIS Pro, AGOL and associated extensions. ArcGIS Server, Collector, Navigator and Explorer for ArcGIS, PL/SQL Developer, and Microsoft Access databases including numerous other related programs running on a client's Intra/Extranet servers. Tasks may include spatial modeling/analysis, slope, volume, area, and hillshade/viewshed analysis, raster rectification, 3D animations and surface modeling, image analysis, cartography, demographic modeling, linear referencing and dynamic segmentation, route analysis, and creation of FGDC compliant metadata. Provide adhoc training, documentation review and prepare video training modules.

Additional responsibilities may include: providing any combination of GIS, GPS/Mobile services to create original mapping, format conversion, infrastructure analysis and facilities management services, database management and report preparation for various customers. Projects require a multitude of applications for a variety of disciplines including, forestry, wildlife, fire, pest management, inventory and modeling, land cover land use analysis, hydrographic and hydrologic profiling, digital orthophoto imagery preparation, planimetric mapping services, demographics, and associated training.

As directed, the Intermediate Natural Resources GIS Analyst/Programmer will perform a vast array of spatial and tabular queries using the available tools in GIS software, including integration with relational databases. Import and export any spatial and/or tabular data with GIS software. Maintain and update major GIS feature classes.

The Intermediate Natural Resources GIS Analyst/Programmer manipulates and edits geospatial data using GIS Mapping software. Creates or enhances existing code using advanced scripting/programming languages such as Modelbuilder, Python, SQL, VB.Net, C++, C#, Java to automate GIS tasks and provide custom tools for others. Converts legacy routines to run on the latest GIS and relational database systems. Coordinates with database administrator and team lead to integrate collected data (tabular, spatial and otherwise) into a comprehensive database. Helps coordinate field data collection, hardware/software (GPS, field computers, etc.) and the data flow processes involved.

Minimum Education/Certifications

- Bachelor's degree in Forestry, Ecology, Wildlife Biology, Soils, Geology, Hydrology, Geography or Earth Science.

- Master's degree from an accredited college or university in GIS is highly desired.

Minimum Experience/Training

- Five (5) years of intensive and progressive experience in a field requiring extensive use of GIS and related tools.

Or

Alternate Requirements

- Fifteen (15) years of intensive and progressive experience in a field requiring extensive use of GIS and related tools accompanied by a High School degree or equivalent.

Natural Resources GIS Analyst/Programmer (Associate)

Duties/Responsibilities

The Associate Natural Resources GIS Analyst/Programmer's responsibilities may include: assisting with the building and maintaining a GIS system, and the building and maintaining of a corporate-wide Intranet site to disseminate geospatial maps and other GIS data. Knowledge of the use of the following software: ESRI GIS products including ArcGIS desktop, ArcSDE for Oracle, ArcGIS Pro, AGOL and associated extensions. ArcGIS Server, Collector, Navigator and Explorer for ArcGIS, and Microsoft Access databases including numerous other related programs running on a client's Intra/Extranet servers. Tasks may include assisting in modeling/analysis, slope, volume, area, and hillshade/viewshed analysis. Assist with cartography, linear referencing and dynamic segmentation, route analysis, and creation of FGDC compliant metadata. Assist with adhoc training and documentation writing modules.

Additional responsibilities may include: providing assistance with any combination of GIS, GPS/Mobile services to create original mapping, format conversion, infrastructure analysis and facilities management services, database management and report preparation for various customers. Projects require a multitude of applications for a variety of disciplines including, forestry, wildlife, fire, pest management, inventory and modeling, land cover land use analysis, hydrographic and hydrologic profiling, digital orthophoto imagery preparation, planimetric mapping services, demographics, and associated training.

As directed, the Associate Natural Resources GIS Analyst/Programmer assists in a vast array of spatial and tabular queries using the available tools in the GIS software. Import and export any spatial and/or tabular data with the GIS software.

The Associate Natural Resources GIS Analyst/Programmer manipulates and edits using GIS Map software. Assists with simple programming code using scripting/programming languages such as Modelbuilder, Python, and SQL to automate GIS tasks and tools for others. Assists in the conversion of outdated routines to run on the latest GIS and relational database systems.

Minimum Education/Certifications

- Bachelor's degree in Forestry, Ecology, Wildlife biology, Soils, Geology, Hydrology, Geography or Earth Science.

- Master's degree from an accredited college or university in GIS is highly desired.

Minimum Experience/Training

- One (1) year of intensive and progressive experience in a field requiring extensive use of GIS and related tools.

- Master's degree in GIS accounts for one (1) year experience.

Or

Alternate Requirements

- Eleven (11) years of intensive and progressive experience in a field requiring extensive use of GIS and related tools accompanied by a High School degree or equivalent.

GIS Mapping Technician (Senior)

The Senior GIS Mapping Technician provides high-level functional and analysis skills in Geographic Information Systems (GIS) integration, documentation and implementation; assists with problem solving, which requires a thorough knowledge of GIS technical subject matter. Applies principles and methods of the functional area to difficult problems in technical areas to arrive at automated solutions.

Duties/Responsibilities

The Senior GIS Mapping Technician plans, designs, and prepares technical reports and related documentation. Plans, designs, and accomplishes work related to data capture, scanning, digitizing, controlled aerial photo-to-map data transfer, map attributing, editing, plotting and reporting. Completes simple to highly complex GIS tasks for database queries, feature class edge-matching, overlaying, updating, appending, map design, map edit, and data conversion.

Minimum Education/Certifications

- High School graduate or equivalent.

Minimum Experience/Training

- Ten (10) years of intensive and progressive experience in GIS technology, database and analysis of subject matter closely related to the work to be accomplished.

GIS Mapping Technician (Intermediate)

The Intermediate GIS Mapping Technician provides mid-level functional and analysis skills in Geographic Information Systems (GIS) integration, documentation, and implementation, assists with problem solving, which requires a thorough knowledge of GIS technical subject matter. Applies principles and methods of the functional area to difficult problems in technical areas to arrive at automated solutions.

Duties/Responsibilities

The Intermediate GIS Mapping Technician designs and prepares technical reports and related documentation. Performs routine data capture, scanning, digitizing, controlled aerial photo-to-map data transfer, map attributing, editing, plotting and reporting. Completes simple to moderately complex GIS tasks for database queries, feature class edge-matching, overlaying, updating, appending, map design, map edit and data conversion.

Minimum Education/Certifications

- High School graduate or equivalent.

Minimum Experience/Training

- Five (5) years of intensive and progressive experience in GIS technology, database and analysis of subject matter closely related to the work to be accomplished.
- A GIS Technical Certificate may substitute for one (1) year experience.

GIS Mapping Technician (Associate)

The Associate GIS Mapping Technician provides basic-level skills in Geographic Information Systems (GIS) integration, documentation, and implementation. Assists with problem solving, which requires a thorough knowledge of GIS technical subject matter.

Duties/Responsibilities

The Associate GIS Mapping Technician designs and prepares technical reports and related documentation. Performs routine data capture, scanning, digitizing, controlled aerial photo-to-map data transfer, map attributing, editing, plotting and reporting. Completes simple GIS tasks,

including database queries, feature class edge-matching, overlaying, updating, appending, map design, map edit and data conversion.

Minimum Education/Certifications

- High School graduate or equivalent.

Minimum Experience/Training

- One (1) year of intensive and progressive experience in GIS technology, database and analysis of subject matter closely related to the work to be accomplished.
- A GIS Technical Certificate may substitute for one (1) year experience.