



## Essential Duties, Training and Experience, Knowledge and Skills

**Job Posting: GIS Database Administrator**

**Classification Specification: Technical Analyst**

**Department: Public Works**

### Essential Duties:

The GIS Database Administrator performs a variety of advanced, complex GIS related database design, analysis, testing, and program support duties in administering GIS databases; produces applications as needed; integrates local and regional databases management systems, and supports citywide database administration needs; provides lead for assigned staff. Performs related duties as assigned.

The Technical Analyst is a broad classification that encompasses incumbents engaged in a wide range of professional and technical engineering, environmental, information technology, and construction management duties in support of the City's Public Works and Information Technology departments. Responsibilities will vary in accordance with assigned area of responsibility, but will could include; conducting special studies, analyses and evaluation of issues; reviewing plans and permit issues; designing and implementing networking solutions; inspecting and implementing special projects, etc.

Following are descriptions of the competency levels:

**Contributing** –Knows fundamental concepts, practices and procedures of assigned field; work is routine and instructions are usually detailed; little evaluation, originality or ingenuity is required.

**Journey Level** –Knows and applies fundamental concepts, practices and procedures of a particular field of specialization; performs work that is varied and may be somewhat difficult in nature; moderate levels of evaluation, originality or ingenuity is required; may assist with evaluating progress and recommending major changes in procedures.

**Advanced/Lead Level** –Possesses and applies a broad knowledge of principles, practices and procedures of a particular field to the completion of difficult assignments; and may provide supervision to lower level staff; assignments are broad in nature, generally requiring a high level of ingenuity and originality; has appreciable latitude for un-reviewed actions and/or decisions; evaluates progress and results and recommends major changes in procedures.

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## **Distinguishing Characteristics:**

- This is the second level in the technical series.
- This is a professional level classification.
- Technical Analysts make process decisions and decide how to best achieve the objectives, standards or guidelines established at higher levels.
- May include lead responsibilities for lower level staff.

## **Essential Characteristics:**

- Proficiency with GIS/mapping and graphic design tools/software.

## **Essential Duties:**

*(The duties listed below are a typical sample; position assignments may vary)*

- Performs analysis and evaluation pertinent to issues relevant to area of responsibility, which includes: researching; reviewing plans, permits, other specifications; data development and integration; determining and raising pertinent issues; designing and implementing solutions; summarizing findings.
- Designs and/or manages special studies and projects, which includes: publicizing projects; monitoring budget; establishing and monitoring timelines; ensuring compliance with applicable regulations, specifications, and/or requirements; preparing related reports; and performing other related duties.
- Maintains necessary records; reporting requirements; and/or systems.
- Prepares a variety of reports summarizing project, study, and program data; analyzes related data and makes recommendations based on findings.
- Leads development and integration efforts; designs and implements relevant solutions.
- Designs, implements, and maintains the performance of assigned databases.
- Ensures compliance with applicable Federal, State, and Local laws, rules, regulations, and policies.
- May provide lead direction in the form of technical and functional supervision for lower level staff.
- Actively supports an inclusive and respectful work environment.
- Performs other duties of a similar nature or level.

## **Training and Experience:**

Bachelors Degree in a related field; and sufficient experience as necessitated by the competency level of the position.

- In the field of geography, planning, earth related science, or computer science with experience that includes software development using structured methods and programming techniques to include data and systems analysis, data conversion, data management, corrections and testing,

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## **Training and Experience continued:**

- maintenance and design of GIS systems, spatial database administration.
- Contributing Level: 0-2 years of professional experience related to area of assignment.
- Journey Level: 2-5 years of progressively responsible professional experience related to area of assignment.
- Advanced/Lead Level: 5-8 years of progressively responsible professional experience related to area of assignment.
- Specialized knowledge specific to area of assignment may be required.

## **Knowledge:**

- Principles, methods, practices and techniques of spatial and non-spatial relational database management systems administration;
- Methods, practices and techniques of spatial relational database modeling; spatial analysis concepts and methods;
- System maintenance and security; applicable data integrity control;
- Computer programming using a variety of languages;
- Infrastructure inventory management; land information systems and tax lot mapping applications;
- CAD and GIS with an emphasis on public works applications;
- Interpret and implement methods, practices, policies and procedures relevant to assigned area;
- Computer applications and other systems related to assigned area;
- Resource allocation principles;
- Public relations principles;
- Modern office methods and practices;
- Project management principles;
- Research; data gathering and report writing techniques;
- Practical application of science and technology to area of responsibility;
- Principles, techniques, procedures, and equipment relevant to technical area;
- Applicable Federal, State, and local laws, rules, regulations, codes, and/or statutes;
- Inclusive and respectful work place practices.

## **Skills:**

- Accommodating engineering grade geometries such as special techniques used to create complex geometries and special data structures needed to store complex geometries;
- Performing computer programming using a variety of languages and methods;
- Working effectively within industry standard structured application development process;
- Determining appropriate programming language or technology to use to meet various needs;
- Utilizing advanced spatial technologies in a production environment with an emphasis on facilities management applications;
- Developing and maintaining respectful and inclusive work relationships;

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## **Skills continued:**

- Performing assigned duties in a safe manner;
- Managing projects; assigning and monitoring the work of others, as required;
- Conducting research; preparing reports;
- Use of mathematics and applicable scientific rules and methods to solve problems;
- Analyzing and identification of complex problems or needs; reviewing related information to develop and implement necessary systems, equipment, or other solutions;
- Interpreting and applying applicable laws, rules, regulations, standards, and guidelines;
- Demonstrating use of discretion and independent judgment;
- Using computers, databases, and related hardware and software applications to perform duties of position;
- Communication, interpersonal skills as applied to interaction with coworkers, management, the general public, etc. sufficient to exchange or convey information and to receive work direction; and to coordinate services with other agencies and departments;
- Working effectively with clients, co-workers, employees and supervisors from diverse backgrounds.

## **Licensing and/or Certification Requirements:**

- Based upon assignment, specified licenses and/or certifications may be required.
- Working effectively with clients, co-workers, employees and supervisors from diverse backgrounds.

## **Physical Requirements:**

Position may be sedentary or light work depending on assignment.

**Sedentary Work:** Exerting up to 10 pounds of force occasionally and/or a negligible amount of force frequently or constantly to lift, carry, push, pull or otherwise move objects, including the human body. Sedentary work involves sitting most of the time. Jobs are sedentary if walking and standing are required only occasionally and all other sedentary criteria are met.

**Light Work:** Exerting up to 20 pounds of force occasionally, and/or up to 10 pounds of force frequently, and/or negligible amount of force constantly to move objects. If the use of arm and/or leg controls requires exertion of forces greater than that for Sedentary Work and the worker sits most of the time, the job is rated for Light Work.

Incumbents may be subject to travel.

Further definition of the physical requirements of the position can be found in a job task analysis.

## **Note:**

*This job description does not list every duty for a given position; specific position assignments will vary depending on business needs.*