



**GIS TECHNICIAN
GEOGRAPHIC INFORMATION SYSTEM**

DEPARTMENT: James City Service Authority (JCSA)

NATURE OF WORK:

Assists in performing technical work maintaining and updating complex and multilevel maps of the JCSA's sanitary sewer and water systems both manually and with the use of computer Geographic Information Systems (GIS) technology.

Involves routine manual and digital geographic information processing and analysis. Work is performed under general supervision of the Chief Engineer Wastewater.

ESSENTIAL FUNCTIONS OF THE JOB:

Assists in preparing, revising, and maintaining a wide variety of computer-generated maps and cartographic products; assists with research and data collection necessary to compile, draft, digitize, code, query, edit, and prepare computer-generated maps for dissemination to members of the County staff, the public, and private industry.

Creates, edits, and maintains data files for JCSA's geographic information system.

Researches and interprets plans necessary to digitize, attribute, query, edit, and prepare cartographic products and analyses.

Differentially corrects and processes GPS data in Trimble Pathfinder office software. Imports GPS data into GIS.

Maintains the New Development GIS file.

Researches deeds and plats for correct boundaries, including easements, right-of-way, structures, etc.

Performs field verification of GIS/GPS data as needed.

Provides map data to and assists consultants and contractors hired by the JCSA.

Practices continuous learning through individual study, classroom training, seminars, and conferences.

Performs work safely in accordance with department safety procedures and the County Safety Program. Operates equipment safely and reports any unsafe work condition or practice to Supervisor.

May be required to report to work to serve customers during emergency conditions. May be assigned to report at a different time and location and to perform different duties as necessary.

Performs related work as required.

JOB LOCATION AND EQUIPMENT OPERATED:

Duties are performed primarily in an office setting. Operates standard office equipment, including computer keyboard, telephone, fax, copy and postage machines, and calculator. Requires some walking; occasional lifting of supplies; bending and stooping to lift supplies overhead.

REQUIRED KNOWLEDGE, ABILITIES, AND SKILLS

Basic knowledge of the methods and techniques of drafting and graphic representation.

Basic knowledge of the methods and techniques of map research, compilation, digitizing, editing, and production.

Basic knowledge of computers, plotters, other associated hardware, computerized databases and data files.

Ability to conduct research and field work pertaining to mapping and geographic information projects.

Ability to organize materials, to maintain maps and other information accurately and systematically, and to retrieve and use information.

Ability to work with initiative and creativity and with a minimum of direct supervision.

Ability to work effectively with co-workers and the general public.

Ability to communicate effectively orally and in writing.

Ability to assist in the maintenance of GIS equipment, files, and supplies.

MINIMUM QUALIFICATIONS

Associates degree in Geography, Cartography, GIS Studies, or related field, and some related work experience in one or more of these fields; or any equivalent combination of training and experience which provides the knowledge, abilities and skills listed above.

NECESSARY SPECIAL QUALIFICATIONS:

Requires a post-offer credential check.

Requires a post-offer criminal history and sex offender record check.

Requires the ability to travel among various work sites.

Date: October 2008

GISTch.GIS_508_102_01

IDENTIFICATION OF GENERAL APTITUDES AND PHYSICAL REQUIREMENTS

Position Title: GIS Technician Position Number: 508
Department: James City Service Authority Division: _____

The Americans with Disabilities Act requires that we identify the general aptitudes and physical requirements needed to perform the job listed above. Individuals who have the position must be able to perform all essential job functions unaided or with reasonable accommodation.

I. Mental Abilities: General learning ability. The ability to “catch on” or understand instructions and underlying principles.

- Ability to understand and follow oral instruction
- Ability to understand and follow written instruction
- Ability to guide and/or give instructions
- Ability to make decisions in accordance with established procedures and policies
- Not essential to job function

II. Verbal Abilities: Ability to understand meanings of words and ideas associated with them and to use them effectively. To comprehend language, to understand relationships between words, and to understand meanings of whole sentences and paragraphs. To present information or ideas clearly.

1. Speaking/Talking:

- Answer telephone, radio or switchboard
- Communicating with County officials
- Communicating with general public
- Communicating with vendors
- Communicating with supervisors and/or with other employees
- Communicating with other _____
- Not essential to job functions

2. Hearing/Listening:

- For communication with County officials, public, vendors, supervisors and/or other employees
- Not essential to job function.

3. Reading: (ability to read and understand text)

- Essential to job function
- Not essential to job function

III. Numerical: Ability to perform arithmetic operations quickly and accurately.

- Ability to mentally perform accurate two digit calculations
- Ability to perform accurate calculations aided by a calculator, adding machine or measurement device
- Not essential to job function

IV. Spatial Abilities: Ability to comprehend forms in space and understand relationships of plane and solid objects. May be used in such tasks as blue print reading and in solving geometry problems. Frequently described as the ability to “visualize” objects of two or three dimensions, or to think visually of geometric forms.

- Essential function
- Not essential function

V. Motor Coordination: Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and quickly.

1. Manual Dexterity: Ability to move the hands easily and skillfully. To work with the hands in placing and turning motions.

- | | |
|--|--|
| <input checked="" type="checkbox"/> Use telephone | <input checked="" type="checkbox"/> Manipulate computer keyboard and mouse |
| <input type="checkbox"/> Use switchboard | <input type="checkbox"/> Use postage machine |
| <input type="checkbox"/> Use radio/console | <input type="checkbox"/> Use hand tools |
| <input checked="" type="checkbox"/> Use a calculator | <input type="checkbox"/> Use power tools |
| <input checked="" type="checkbox"/> Use a copy machine | <input checked="" type="checkbox"/> Other: <u>Digitizer, plotter</u> |
| <input checked="" type="checkbox"/> Use a fax machine | <input type="checkbox"/> Not essential to job function |

2. Finger Dexterity: Ability to move the fingers and manipulate small objects with the fingers rapidly or accurately. For example: electrical wiring.

- Essential to job function
- Not essential to job function

Explain: _____

VI. Physical Demands:

1. **Strength:** The quality, state or property of being strong. The power to withstand strain, force, or stress.

Please check (✓) in appropriate boxes below.

Ability to manipulate materials and/or equipment (lbs)	Frequency of Manipulation								
	5-	5-10	10-15	15-25	25-50	50+	Occasionally	Frequently	Continuously
Lift			✓				✓		
Push/Pull									
Hold/Carry			✓				✓		

Manipulation done from: ground to waist waist level waist to shoulder above shoulder
(Check all that apply)

Not essential to job function: Lift Push/Pull Hold/Carry (Check all that apply)

2. **Climbing:** To move up or mount by using the hands or feet.

Ladders

Stairways

Steps

- Step stool
- 8' to 10' step ladder
- Extension ladder
- Other: _____
- Not essential to job function

- 1 flight
- 2 flights
- 3 or more flights
- Other: _____
- Not essential to job function

- 1-2
- 2-3
- 3-4
- Other: _____
- Not essential to job function

3. **Ability to Stand, Sit, Walk, and Run:**

Please check (✓) in appropriate boxes below.

	Duration (hours/day)						Occasionally	Frequently	Continuously
	0-1	1-3	3-5	5-7	7-9	9+			
Stand		✓						✓	
Sit		✓						✓	
Walk	✓						✓		
Run									

If walking or running, over what type of terrain? flat rough both

Not essential to job function: Stand Sit Walk Run (Check all that apply)

4. Stooping, Kneeling, Crouching, and /or Crawling:

To bend forward or down from the middle of the waist or the middle of the back, to bend downwards, to lower oneself and/or to move freely on hands and knees.

Daily Amounts

- 0-5x
 5-20x
 20-50x
 50+x
 Other: _____
 Not essential to job function

5. Reaching, Handling, Fingering, and/or Feeling:

To stretch out, extend, or put forth a bodily part. To touch or grasp something, by extending or stretching. To touch, lift, hold or operate with the hands.

Daily Amounts

- 0-5x
 5-20x
 20-50x
 50+x
 Other: _____
 Not essential to job function

6. Seeing: To perceive or comprehend by the sense of sight.

Essential to job function: These characteristics are necessary (Check all that apply)

- Peripheral vision
- Night vision
- Focus (distinctness or clarity)
- Color perception (discriminate between colors)
- Depth perception (determine distance relationship between objects)

VII. Driving: The ability to transfer or convey in a vehicle.

Transmission	Standard	Automatic	Multi-Gears
Car	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Van	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Small Truck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medium Truck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Large Truck	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Truck w/Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heavy Bus Equipment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not essential to job function	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: _____			

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