

Saint Paul Public Works
Civil Engineer Job Family Competency Matrix – May 8, 2006

(Each competency builds upon the other as the class series progresses.)

Effective Date: October 8, 2008

Classification Titles	Civil Engineer I Occupation Code: 105 E.G. 06, Grade 011: Salary Info	Civil Engineer II Occupation Code: 106 E.G. 06, Grade 015: Salary Info	Civil Engineer III Occupation Code: 107 E.G. 06, Grade 020: Salary Info	Civil Engineer IV Occupation Code: 406 E.G. 09, Grade 025: Salary Info	Assistant City Engineer Occupation Code: 143A E.G. 09, Grade 030: Salary Info
General Duty Statement	Performs entry-level professional engineering in the investigation, design, inspection, operation, construction or maintenance of streets, alleys, sewers, bridges, and other Public Works projects. Assists with research work, contract administration, and preparation of reports and maintenance records. Performs related work as assigned.	Performs intermediate-level professional engineering in the investigation, design, inspection, operation or construction of streets, alleys, sewers, bridges, and other Public Works projects. Prepares contracts and reports. Performs related work as assigned.	Performs full-performance professional engineering in the design, operation and construction of streets, alleys, sewers, bridges, and other public works projects. Participates with higher-level engineers in the planning of municipal improvements. Acts as a chief inspector on large and complex projects. Prepares contracts and reports. Gathers required information for budget development. Represents the department at public meetings. Performs related work as assigned.	Performs expert-level professional engineering on Public Works projects. Acts as an assistant to a major division head in the Public Works Department. Serves as a technical consultant to the City Engineer on complex engineering projects. Projects future engineering needs of the City and conducts long-range planning. Oversees the preparation of designs, plans, specifications, and estimates of costs. Develops and implements budgets. Represents the department at meetings with the public and elected officials. Performs related work as assigned.	Performs expert-level professional engineering management work in planning, directing, and evaluating the activities of a division or unit engaged in the design, construction and/or operation of a public works system. Develops long-range and short-range plans. Evaluates effectiveness of division performance in relation to its goals and good management practices. Makes feasibility studies of new methods and materials and implements changes to improve operations. Directs others in budget development, implementation, and fund management. Represents the department at the highest level. Performs related work as assigned.
Supervision Received	Works under the technical supervision of a unit supervisor.	Works under the technical supervision of a unit supervisor.	Works under the technical, general, and/or administrative supervision of a unit or division manager.	Works under the general supervision of a unit, division, or department director.	Works under the general supervision of a unit, division or department director.
Supervision Exercised	May guide or orient lower-level support, technical, or professional staff	May exercise technical supervision over lower-level support, technical, or professional staff.	Exercises technical supervision over lower-level support, technical, or professional staff.	Exercises technical, general, and/or administrative supervision over assigned staff.	Exercises general and/or technical supervision through lower-level supervisors, professional, technical, and administrative support employees.

Civil Engineer Job Family Competency Matrix – May 8, 2006

(Each competency builds upon the other as the class series progresses.)

Effective Date: October 8, 2008

Shared Competencies	Civil Engineer I	Civil Engineer II	Civil Engineer III	Civil Engineer IV	Assistant City Engineer
<p>Technical Expertise <i>Civil Engineering Practice</i></p>	<p>Demonstrates an understanding of the common principles, terms, procedures, and practices of civil engineering including familiarity with soil properties, structural mechanics, behavior of materials, surveying, drainage and flow characteristics, engineering and mechanical equipment, mathematics and related engineering formulas and other common technical terms, procedures and principles of engineering practice. Demonstrates the ability to identify and resolve normal problems associated with the work.</p>	<p>Demonstrates an understanding of the common principles, terms, procedures, and practices of civil engineering. Demonstrates familiarity with soil properties, structural mechanics, behavior of materials, surveying, drainage and flow characteristics, engineering and mechanical equipment, mathematics and related engineering formulas and other common technical terms, procedures and principles of engineering practice. Demonstrates the ability to identify and resolve normal problems associated with the work.</p>	<p>Demonstrates an understanding of the full range of principles, terms, procedures, and practices of civil engineering. Demonstrates the ability to identify and resolve a full range of problems associated with the work.</p>	<p>Demonstrates on a divisional basis an understanding of the full range of principles, terms, procedures, and practices of municipal civil engineering. Demonstrates the ability to identify and resolve the most difficult and complex problems associated with the work.</p>	<p>Demonstrates on a divisional basis an understanding of the full range of principles, terms, procedures, and practices of municipal civil engineering. Demonstrates the ability to identify and resolve the most difficult and complex problems associated with the work.</p>
<p>Technical Expertise: <i>Risk Management</i></p>	<p>Demonstrates an ability to identify the common risks and liability implications involved in Public Works maintenance and construction activities. Demonstrates an ability to apply C.E. expertise in minimizing associated risks and liabilities. Demonstrates an ability to refer common legal problems to supervisory authority.</p>	<p>Demonstrates an ability to identify the common risks and liability implications involved in Public Works maintenance and construction activities. Demonstrates an ability to apply C.E. expertise in minimizing associated risks and liabilities. Demonstrates an ability to refer common legal problems to counsel.</p>	<p>Demonstrates an ability to identify the full range of risks and liability implications involved in Public Works maintenance and construction activities. Demonstrates an ability to apply C.E. expertise in minimizing associated risks and liabilities. Demonstrates an ability to confer with counsel in addressing legal problems.</p>	<p>Demonstrates on a divisional basis an ability to identify the full range of risks and liability implications involved in Public Works maintenance and construction activities. Demonstrates an ability to apply C.E. expertise in minimizing associated risks and liabilities. Demonstrates an ability to confer with counsel in addressing legal problems.</p>	<p>Demonstrates an ability to identify the most complex risks and liability implications involved in Public Works maintenance and construction activities. Demonstrates an ability to apply C.E. expertise in contract administration and in minimizing complex risks and liabilities. Demonstrates an ability to determine the methods and resources needed to address risks, liabilities, and legal implications.</p>

Saint Paul Public Works
Civil Engineer Job Family Competency Matrix – May 8, 2006

(Each competency builds upon the other as the class series progresses.)

Effective Date: October 8, 2008

Shared Competencies	Civil Engineer I	Civil Engineer II	Civil Engineer III	Civil Engineer IV	Assistant City Engineer
Technical Expertise: <i>Technology</i>	Demonstrates an understanding of current civil engineering related software applications, other advances in technological tools and work methods. Demonstrates an ability to apply such advances to normally assigned work activities.	Demonstrates an understanding of current civil engineering related software applications, other advances in technological tools and work methods. Demonstrates an ability to apply such advances to normally assigned work activities.	Demonstrates an understanding of how to apply such technological advances to more complex work applications.	Demonstrates on a divisional basis an ability to evaluate technological needs and select appropriate technological tools, applications, and advances in work methods to meet those needs. Demonstrates an ability to manage and lead technical staff involved in applying same.	Demonstrates on a divisional basis an ability to evaluate technological needs and select appropriate technological tools, applications, and advances in work methods to meet those needs. Demonstrates an ability to manage and lead technical staff involved in applying same.
Project and Program Management, Prioritization, Planning, and Finances	Demonstrates an ability to assist with the planning, coordination, and monitoring of work on basic design or construction projects or programs. Demonstrates an ability to appropriately prioritize own work and meet deadlines.	Demonstrates an ability to plan and manage major portions of public works projects or programs including design, contract administration, and the inspection, approval, and evaluation. Demonstrates an ability to define and measure results, and appropriately prioritize work, set and meet deadlines for own work, and prioritize and set deadlines for other=s work.	Demonstrates an ability to plan, and manage complex public works projects or programs including design, contract administration, inspection, approval, and evaluation. Demonstrates an ability to meet deadlines, define, measure, and evaluate results, and appropriately prioritize and set deadlines for other=s work. Demonstrates an ability to gather information needed for budget development purposes.	Demonstrates on a divisional basis an ability to expertly plan, manage, and simultaneously coordinate the different aspects of multiple public works projects or programs including design, contract administration, inspection, approval, and evaluation. Demonstrates an ability to keep such projects within negotiated deadlines and evaluate the project results. Demonstrates an ability to develop, and implement budgets to include budget hearing presentation.	Demonstrates an ability to expertly plan and manage, simultaneously, multiple public works projects or programs that have the highest level of impact upon the community, within negotiated deadlines. Demonstrates an ability to direct the development and implementation of budgets and the management of funds.
Communication	Demonstrates an ability to effectively listen, speak, write, and interact within a work group.	Demonstrates a verbal and written ability to respond to citizen complaints and requests for information.	Demonstrates an ability to speak and make presentations to the public. Demonstrates an ability to produce technical reports and other correspondence that can be easily understood by the reader.	Demonstrates an ability to know when to listen and an ability to speak and write in a persuasive manner that can be understood by diverse groups both within and outside the City, including elected officials.	Demonstrates an ability to know when to listen and an ability to speak and write at the highest level of effectiveness with elected officials, representatives of public and private organizations, and the general public.

Civil Engineer Job Family Competency Matrix – May 8, 2006

(Each competency builds upon the other as the class series progresses.)

Effective Date: October 8, 2008

Shared Competencies	Civil Engineer I	Civil Engineer II	Civil Engineer III	Civil Engineer IV	Assistant City Engineer
<p>Teamwork, Leadership and Management</p>	<p>Demonstrates effective membership in a departmental work group by being self-directed, accepting of new and challenging assignments, and by completing assignments and meeting deadlines. Demonstrates an ability to lead a group of entry-level technicians</p>	<p>Demonstrates effective departmental work-group leadership by encouraging individual participation and creativity. Demonstrates supportiveness of others and the group decision-making process. Demonstrates an ability to effectively manage conflict.</p>	<p>Demonstrates effective leadership of intra- and interdepartmental work groups by positively influencing employees and the work environment. Demonstrates an ability to be considerate, tactful, supportive and impartial. Demonstrates an ability to coach employees and manage their performance and development. Demonstrates an ability to be creative in problem solving.</p>	<p>Demonstrates highly effective leadership of supervisors and employees by supporting the mission and vision of the organization, recognizing and defining issues, and moving issues forward within an interjurisdictional environment. Demonstrates an ability to facilitate the group problem-solving process. Demonstrates an ability to direct others in promoting desired behaviors inside and outside the organization.</p>	<p>Demonstrates an ability to transfer expert knowledge to others and positively influence managers, supervisors, and employees. Demonstrates an ability to recognize, define, and move forward the most complex issues within a multi jurisdictional environment. Demonstrates an ability to establish a mission and vision for the organization and facilitate complex problem solving activities. Demonstrates an ability to provide for and encourage the creation of a positive working environment for staff in departmental and interjurisdictional work situations.</p>
<p>CUSTOMER SERVICE</p>	<p>Demonstrates a commitment to the continuous improvement of services and an ability to assist in identifying the needs of the customer (coworkers, employees of other jurisdictions, the public, or anybody who is affected or benefited by the work).</p>	<p>Demonstrates an ability to identify customer needs.</p>	<p>Demonstrates an ability to develop customer service standards and influence others in continuously improving customer service.</p>	<p>Demonstrates an ability to direct others in conducting customer service needs analysis in a functional area and develop customer service standards.</p>	<p>Demonstrates an ability to direct planning activities for a Citywide functional service area.</p>

Civil Engineer Job Family Competency Matrix – May 8, 2006

(Each competency builds upon the other as the class series progresses.)

Effective Date: October 8, 2008

Requirements					
	Civil Engineer I	Civil Engineer II	Civil Engineer III	Civil Engineer IV	Assistant City Engineer
Education, Certification, and Registration	A Bachelor's Degree in Civil Engineering from a university or college accredited by the Accreditation Board of Engineering and Technology (ABET).	A Bachelor's Degree in Civil Engineering and a Fundamentals of Engineering Certification. No substitution for education.	A Bachelor's Degree in Civil Engineering and current registration as a Professional Engineer by the State of Minnesota. No substitution for education.	A Bachelor's Degree in Civil Engineering and four years of professional engineering experience. Must be registered as a Professional Engineer in the State of Minnesota. No substitution for education.	A Bachelor's Degree in Engineering and eight years of professional engineering experience, at least three years of which must have been as a Civil Engineer III or equivalent in engineering fields utilized in the Public Works Department. Must be registered as a professional engineer in the State of Minnesota. No substitution for education.