

Job Evaluation Report

City Service Commission Meeting: March 9, 2021

Department of Public Works

Current	Recommendation
Commissioner-Public Works (One Position) PR 1PX (\$117,980 - \$165,166)	Commissioner-Public Works (One Position) PR 1PX (\$117,980 - \$165,166) FN: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee
City Engineer (One Position) Water Works Superintendent (One Position) * PR 1OX (\$110,689 - \$154,961) FN*: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee	City Engineer (One Position) Water Works Superintendent (One Position) PR 1OX (\$110,689 - \$154,961) FN: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee
Infrastructure Administration Manager (One Position) Water Works Administration Manager (One Position) PR 1MX (\$97,420 - \$136,395)	Infrastructure Administration Manager (One Position) Water Works Administration Manager (One Position) PR 1MX (\$97,420 - \$136,395) FN: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee
Engineer in Charge (Four Positions, Two Auxiliary) Public Works Coordination Manager (One Position) PR 1KX (\$85,757 - \$120,064)	Engineer in Charge (Four Positions, Two Auxiliary) Public Works Coordination Manager (One Position) PR 1KX (\$85,757 - \$120,064) FN: Recruitment is at \$90,399 and may be at any point in range with the approval of DER and Chair of the Committee on Finance and Personnel.
Civil Engineer V (Three Positions) PR 1JX (\$80,442 - \$112,627)	Civil Engineer V (Three Positions) PR 1JX (\$80,442 - \$112,627) FN: Recruitment is at \$90,399 and may be at any point in range with the approval of DER and Chair of the Committee on Finance and Personnel.
Architectural Project Manager (One Position) Construction Management Engineer (Four Positions) Electrical Engineer – Senior (One Position)* Management Civil Engineer – Senior (Eight positions) Management Engineer (Three Positions) Mechanical Engineer IV (One Position) Structural Design Manager (One Position) Traffic Engineer – Senior (One Position)* Transportation Engineering Planner (One Position)* PR 1IX (\$75,478 - \$105,669) FN*: Recruitment at \$85,000	Architectural Project Manager (One Position) Construction Management Engineer (Four Positions) Electrical Engineer – Senior (One Position) Management Civil Engineer – Senior (Eight positions) Management Engineer (Three Positions) Mechanical Engineer IV (One Position) Structural Design Manager (One Position) Traffic Engineer - Senior (One Position) Transportation Engineering Planner (One Position) PR 1IX (\$75,478 - \$105,669) FN: Recruitment is at \$90,399 and may be at any point in range with the approval of DER and Chair of the Committee on Finance and Personnel.
Civil Engineer IV (One Position) PR 2KX (\$66,435 - \$93,010) FN: Recruitment is at \$75,408	Civil Engineer IV (One Position) PR 2KX (\$66,435 - \$93,010) FN: Recruitment is at \$78,455 and may be at any point in the range with DER approval. FN: Additional 3% for holding a Professional Engineer license.

<p>Architect III (Two Positions)* Bicycle and Pedestrian Coordinator (One Position)* Civil Engineer III (30 Positions)** Electrical Engineer III (Three Positions)* Facilities Project Coordinator (One Position)* Mechanical Engineer III (Three Positions)* PR 2IN (\$58,462 – \$81,844) FN*: Recruitment is at \$66,324 FN**: Recruitment is at \$66,324 and may be up to \$74,620 with approval from DER and Chair of the Committee on Finance and Personnel.</p>	<p>Architect III (Two Positions) Bicycle and Pedestrian Coordinator (One Position) Civil Engineer III (30 Positions) Electrical Engineer III (Three Positions) Facilities Project Coordinator (One Position) Mechanical Engineer III (Three Positions) PR 2IN (\$58,462 – \$81,844) FN: Recruitment is at \$71,323 and may be at any point in the range with DER approval FN for Engineers: Additional 3% for holding a Professional Engineer license.</p>
<p>Facilities Maintenance Coordinator (One Position) Facilities Construction Project Coordinator (One Position) PR 2HN (\$54,865 - \$76,806) FN: Recruitment is at \$63,575</p>	<p>Facilities Maintenance Coordinator (One Position) Facilities Construction Project Coordinator (One Position) PR 2HN (\$54,865 - \$76,806) FN: Recruitment is at \$65,482 and may be at any point in the range with DER approval FN for Engineers: Additional 3% for holding a Professional Engineer license.</p>
<p>Architectural Designer II (Two Positions) Civil Engineer II (43 Positions) Electrical Engineer II (Three Positions) Mechanical Engineer II (Underfill Title) PR 2GN (\$51,469 - \$72,063) FN: Recruitment is at \$58,373</p>	<p>Architectural Designer II (Two Positions) Civil Engineer II (43 Positions) Electrical Engineer II (Three Positions) Mechanical Engineer II (Underfill Title) PR 2GN (\$51,469 - \$72,063) FN: Recruitment is at \$64,839 and may be at any point in the range with DER approval FN for Engineers: Additional 3% for holding a Professional Engineer license.</p>
<p>Architectural Designer I (Underfill Title) Civil Engineer I (Underfill Title) Electrical Engineer I (Underfill Title) Mechanical Engineer I (Underfill Title) PR 2EN (\$45,306 - \$63,426) FN: Recruitment is at \$51,358 and may be up to \$58,373</p>	<p>Architectural Designer I (Underfill Title) Civil Engineer I (Underfill Title) Electrical Engineer I (Underfill Title) Mechanical Engineer I (Underfill Title) PR 2EN (\$45,306 - \$63,426) FN: Recruitment is at \$58,944 and may be at any point in the range with DER approval FN for Engineers: Additional 3% for holding a Professional Engineer license.</p>

Note: Residents receive a rate that is 3% higher.

Background

The Department of Public Works has requested a study of the rates of pay for Civil Engineers, Architects, Mechanical Engineers and Electrical Engineers as well as related titles due to difficulties in recruiting and retaining these employees. Job descriptions were analyzed and discussions were held with Infrastructure Administration Manager Timothy Thur, Water Works Administration Manager Patrick Pauly, Infrastructure Services Personnel Officer Lindsey O'Connor, and Water Works Personnel Officer Amy Hefter. New rates of pay for these positions are based on an assessment of the cost of labor for these positions within southeastern Wisconsin.

Duties and Responsibilities for Staff Engineers and ArchitectsDPW - Infrastructure – Buildings and Bridges - Structures

Civil Engineer I & II

- Bridges, buildings and other structures planning, analysis and preparation of contract documents.
- Inspection and preparation of reports for bridges and other structure for repair and safety inspection.
- Review shop drawings, contract modifications, RFIs, payments, etc. during project construction phase.
- Prepare special studies, engineering reports and investigations.
- Review contract documents, correspondence and reports from consultants and outside agencies.
- Coordination with other governmental agencies, consultants and private parties for assigned projects.

Civil Engineer III

- Project Engineer for bridges, buildings, and other structures planning, design, analysis and preparation of complete contract documents.
- Inspection and supervision of construction projects including shop drawing review, RFIs, payment review and contract changes.
- Inspection and preparation of reports for bridges and other structures for repair and safety inspection.
- Prepare of preliminary plans for projects prior to releasing the project for plan preparation by other engineers.
- Cost estimating for bridges and other structures.
- Preparation of engineering reports and investigations.
- Review contract documents, correspondence and reports prepared by DPW staff or consultants.
- Coordinate design and construction plans with other governmental agencies and private parties for assigned projects.

DPW - Infrastructure - Environmental – Stormwater

Civil Engineer I & II

- Research, design and prepare plans and specifications for projects related to I/I reduction, water quality improvement and rehabilitation of bypass pump and lift stations.
- Review of Stormwater Management Plans in accordance with city and MMSD regulations.
- Review and prepare comments regarding street and alley vacations.
- Work on downspout disconnection program.
- Review and prepare comments for building permits, CSMs and ERU reviews.
- Review and prepare legal documents such as easements, agreements and quit claim deeds.
- Review of erosion control plans.
- Assist in the preparation of regulatory sanitary and storm Annual Reports.
- Assist in the preparation of grant application as related to the city's pollution abatement program.
- Investigate drainage and flooding complaints in the field and recommended solutions.

Civil Engineer III

- Review, prepare, and perform the following engineering designs of various projects related to the Sanitary and Stormwater permits including but not limited to: pump maintenance and design including SCADA monitoring, the preparation of SSO reports, review and analyze sanitary flow monitoring data, Stormwater best management practices including green infrastructure design, I/I studies, regulatory annual reports and Stormwater Management Plans.
- Research and prepare Section's comments for street and alley vacations, review plats, CSMs and building permits.
- Prepare applications for various grant programs regarding pollution abatement.
- Assist in administering the Capital Improvement Program, including sewer program preparation and funding.
- Prepare legal documents such as Common Council Resolutions, easements, quit claim deeds and agreements.

- Assign and review work performed by Civil Engineer II's and Engineering Technician IV's and II's.
- Under direction of the Civil Engineer IV, perform supervisory duties of the above.

DPW - Infrastructure - Environmental - Design

Civil Engineer I & II

- Prepare hydraulic designs computations of sewers, drainage structures and appurtenances.
- Layout detailed hydraulic designs of storm, sanitary and combined sewers on sewer construction plans.
- Prepare sewer system plans for storm, sanitary and combined sewers as per design.
- Check completed construction plans for correctness.
- Review videotapes of sewer examinations to determine structural condition of sewers.
- Prepare hydraulic studies of existing sewer systems as related to backwater, urban renewal and other special needs.
- Review plats, certified surveys, proposed development and building permit applications to determine their compatibility with or impact upon the city sewer system.
- Investigate drainage and flooding complaints in the field and recommend solutions.
- Review and coordinate MMDS sewer projects as they affect City of Milwaukee facilities.

Civil Engineer III

- Review hydraulic studies of existing sewer systems relative to backwater, surface flooding, and pollution abatement.
- Check correctness of completed sewer system plans, check hydraulic computations and structural designs prior to submittals to MMSD, WDNR and SEWRPC for approval; review and assist staff engineers to prepare special provisions for sewer construction plans.
- Supervise, direct and train design staff engineers in the section.
- Assist in administering the Capital Improvement Program including sewer program preparation, funding and cash flow.
- Review plats, certified surveys, proposed developments and building permit applications to determine their compatibility with or impact upon the city sewer system.
- Review plan and specifications prepared by MMSD in connect with its Capital Program and preparation of responses to MMSD and/or its consultants.
- Attend meetings, prepare minutes, and keep the managers informed.

DPW - Infrastructure – Transportation - Infrastructure - Construction Management

Civil Engineer I & II

- Act as project engineer on the large more complicated sewer, water and paving projects.
- Supervise the work of Civil Engineer I and/or inspectors.
- Inspect all phase of the contractor's operations.
- Keep daily progress record of work completed as well as running totals on contracts.
- Coordinate all underground activities on the project after construction commences.
- Schedule the contractor's activities to provide ingress and egress where necessary and to expedite the work.
- Conduct engineering studies and write engineering reports.

Civil Engineer III - Utility

- Review paving, sewer, water and private utility work plans to identify utility work required for successful completion of the projects. Prepare and review utility special provisions prior to contract bidding. Coordinate and keep on schedule all public and private utility work related to public and private infrastructure projects before, during, and after construction. Coordination including relaying and/or relocating facilities in need of upgrade or that are in conflict with the proposed work, repairing and adjusting manholes, protecting and adjusting existing utility facilities, building temporary and/or permanent street lighting facilities, building temporary and/or permanent

traffic control lights and devices. Identify and take inventory on the condition of all sewer, communication, forestry, and water department facilities within the projects before and after construction.

- Respond to and coordinate all work related to Aldermanic Service Requests (ASR's) and correspondence received through the city's call center and e-mail request for services systems. Prepare the construction start list on a bi-weekly basis. The construction start list identifies all construction projects in the city that are starting soon and is distributed to all city officials, department heads and utility representatives in the entire city to identify projects and warn them of the impending work.
- Act as the city's representative and attend all weekly meetings to coordinate all city utility work for major construction projects including all WISDOT, Milwaukee County, bridge, and large private building construction projects. Arrange and host meetings with private utilities such as We-energies, Time-Warner Cable, AT&T...etc. to coordinate all of their proposed work with the city's proposed public infrastructure projects.
- Coordinate all of the work related to the guarantee period of all new pavements, sidewalks, and utility trenches. Work with utilities, private contractors and city forces to repair and/or replace all defective pavements and to monitor the condition of them. Prepare and produce the city's annual pavement guarantee book that gets distributed to all city officials, departments and private utilities. Review and sign off on permits to ensure that utility work gets done prior to roadway construction and that no work gets done in guaranteed roads.

Civil Engineer III – Office

- Coordinate completion of job activities, i.e. disseminate notices regarding bid dates, contracts and plans to field supervisors and coordinators. Prepare information on new projects and construction contract specifications; keep on-going records relating to street, sewer and other miscellaneous construction activities and contracts. Prepares office and field contract folders for inspectors. Checks inspector reports, keep an up-to-date record of the contractor's progress on each contract, and prepare final and monthly partial payments.
- Administer the city's materials contract with its consultant and serve as staff materials engineer. This would include materials research studies, analyzing materials data, and researching new materials products. Coordinate material testing and reporting on WISDOT paving and bridge contracts.
- Furnish information to Alderpersons, various city divisions, sections, utilities and other agencies as requested. Order materials and equipment needed for office and inspection personnel. Prepare newspaper ads for paving contracts and prepare annual report. In the absence of supervisors, answer calls from inspectors in the field relating to interpretation of plans and specifications on sewer, water and paving work, practices and policies of the Construction Section or WISDOT, and all other related miscellaneous information. Answer all questions pertaining to roadlife data.
- Discuss with citizens, Alderpersons, and other city employees any complaints regarding construction work, the paving program and related problems.
- Administer the city's walk repair program regarding budgeting, contract development, construction policies and decisions, and payments to contractors.
- Monitor, check and log all correspondence relating to paving letting documents and for in-progress sewer, water, paving and bridge contracts.

DPW - Infrastructure – Transportation – Infrastructure - Major Projects

Civil Engineer I & II

- Prepare studies, reports, environmental investigations, plans, and estimates for Federal and/or State aided transportation improvement projects using the Facility Development Manual (FDM).
- Participate in transportation studies, investigations and make recommendations regarding project design, and traffic analysis.
- Assist in coordination of the design and construction of major bridge and paving projects.
- Make necessary investigations relative to the construction, reconstruction of bridges and roadways.
- Make field analysis and investigations relative to roadway design.
- Work with property owners and community groups to provide information on projects and to coordinate access issues.

Civil Engineer III

- Supervise and prepare studies, reports, environmental investigations, plans, specifications, estimates and other submittals for Federal and/or State aided transportation improvement projects including; securing necessary permits, agency coordination and setting up agreements with Milwaukee County and other local communities and professional service contracts with private consultants.
- Monitor and prepare project status reports, monitor funding, update schedules and review project billings.
- Coordinate utility reviews and comments for county and state Truck Highway Projects.
- Supervise review of various transit and transportation proposals and projects, undertake investigations and make recommendations on project design and concepts.
- Update project information on City Oracle database.

DPW - Infrastructure – Transportation - Operations - Multi Modal

Civil Engineer I & II

- Prepare studies, reports, investigations, plans and estimates for federal and/or state aided transportation improvement projects using the Facility Development Manual (FDM).
- Participate in transportation studies, investigations and make recommendations regarding project design, and traffic analysis.
- Assist in coordination of the design and construction of paving projects.
- Make necessary investigations relative to the construction and reconstruction of roadways.
- Make field analysis and investigations relative to roadway design.
- Work with property owners and community groups to provide information on projects and to coordinate access issues.

Civil Engineer III

- Design and prepare studies, reports, environmental investigations, plans, specifications and estimates, and other contract documents for federal/state aid projects, including working with federal/state/county and other local community staffs and private consultants.
- Oversee the Neighborhood Transportation Management Program (NTMP), including handling requests, communicating with the public and elected officials, and attending meetings.
- Grant preparation for non-traditional state/federal aid projects including creating engineering sketches and developing preliminary construction and design estimates.
- Compile monthly reports summarizing traffic fatalities reported by the Milwaukee Police Department.

DPW - Infrastructure – Administration

Civil Engineer III

- Project Engineer for unique or specialized infrastructure development projects, including the preparation of preliminary plans, coordinating the design and construction plans and specifications, preparing cost estimates, and preparing/reviewing bid documents and contract documents.
- Develop and/or oversee preparation of grant applications under a variety of programs including various federal and state transportation related grants, economic development grants, etc.
- Perform and/or participate in a variety of local and state/federal aid professional service procurements, including drafting RFQ/P's, establishing evaluation criteria, coordinating consultant evaluation, participating in consultant evaluation committees, drafting professional services contracts, etc.
- Review and assist the City Engineer in the development of local, regional, and state multimodal transportation planning initiatives, including drafting correspondence and position/policy statements on transportation planning initiatives.
- Represent the City Engineer at multi-jurisdictional transportation planning committees

DPW - Milwaukee Water Works - Water Engineering

Civil Engineer I & II

- Perform engineering design work to State of Wisconsin DNR, MWW and American Water Works Association (AWWA) standards using customary engineering principles for the installation of new and replacement water mains and modifications to existing MWW building facilities to include, but not limited to, roofs, windows, pumps, valves, roadways and structures. Prepare and review engineering project cost estimates for MWW Capital Improvement Projects such as those mentioned above. Develop contract documents and request for proposals for the purpose of advertising and bidding these projects. Responsible for the preparation of all documents including electronic versions required to advertise, bid and award these projects. Oversee the construction management of these water and main plant related projects. Inspect water main and water plant-related projects. Prepare closeout documents of water main and water plant-related projects.
- Review various water main and water plant-related project submittals for accordance with current MWW Engineering construction and material specifications. Review water main and water plant-related project specifications for accuracy. Review planned projects from outside of the MWW for impacts on MWW facilities such as state, county and local paving projects affecting water main replacement, hydrant location, or cuts to street grade, which would minimize the amount of cover on water mains and services, sewer projects for conflict with water mains, hydrants, and concrete buttresses. Review private utility plans that may be in conflict MWW facilities.
- Prepare appropriate legal documents, such as but not limited to, water easements, Common Council Resolutions, state utility agreements, inter-municipal agreements, intergovernmental agreements, and official letters on behalf of the MWW associate with maintaining MWW facilities or develop of new MWW facilities.
- Provide engineering assistance to the MWW Distribution and Plants staff related to repair methods and procedures, maintenance methods and procedures, emergency repairs, water quality issues, long-range planning of water usage and capabilities of MWW to meet those needs.
- Review specifications, existing methods, and procedures related to maintenance of MWW facilities.

Civil Engineer III

- Perform engineering design work to State of Wisconsin DNR, MWW and American Water Works Association (AWWA) standards using customary engineering principles for the installation of new and replacement water mains and modifications to existing MWW building facilities to include, but not limited to, roofs, windows, pumps, valves, roadways and structures. Develop requests for proposals and project scope of works. Prepare and review engineering project cost estimates for MWW Capital Improvement Projects such as those mentioned above. Oversee the construction management of water main and water plant-related projects. Inspect water main and water-plant related projects. Prepare payment and closeout documents of water main and water plant-related projects.
- Review various water main and water plant-related project submittals for accordance with current MWW Engineering construction and material specifications. Review water main and water plant-related project specifications for accuracy. Review planned projects from outside of the MWW for impacts on MWW facilities such as state, county and local paving projects affecting water main replacement, hydrant location, or cuts to street grade, which would minimize the amount of cover on water mains and services, sewer projects for conflict with water mains, hydrants, and concrete buttresses. Review private utility plans that may be in conflict MWW facilities.
- Research and analyze the treatment process and the system, including but not limited to, pressure and flow, asset management, plant capacity, pump capacity, energy consumption, non-revenue water, and capital planning. Prepare studies, reports and planning documents using research and analysis information.
- Prepare appropriate legal documents such as, but not limited to, water easements, Common Council resolutions, state utility agreements, inter-municipal agreements, intergovernmental agreements, PSC authorization requests, and official letters on behalf the MWW associated with maintain MWW facilities or development of new MWW facilities.
- Provide engineering assistance to MWW Distribution and Plant staff related to repair methods and procedures, maintenance methods and procedures, emergency repairs, water quality issues, long-range planning of water usage and capabilities of MWW to meet those needs.

DPW - Administrative Services

Civil Engineer I & II

- Prepare and review plans and specifications related to small cell collocations.
- Review, coordinate, and inspect small cell installations, including supervising pole foundations, underground conduit, pole installation and equipment installation. Coordination of street lighting or signals installation on pole with Electrical Services division.
- Conduct field investigations to determine small cell feasibility for collation of city owned infrastructure
- Review supplemental agreements related to small cell collocations and maintain database of approved locations.
- Review permits applications related to small cell collocations, including utility excavation. Coordinate with other divisions on utility placement and conflicts.
- Review plans for underground power and private utility locations to city poles related to placement of small cells.

Civil Engineer III

- Design and coordinate special assigned paving projects with DPW departments and/or consultants.
- Review and direct consultant work for telecommunication utilities infrastructure installations in the public right of way. Perform field reviews of proposed telecommunication installations. Review and administer telecommunication companies' access to city infrastructure facilities for small cell antenna systems under the Milwaukee Civil Partnership Initiative (MCPI).
- Perform Hollow walk (vaulting) evaluations in coordination with Department of Neighborhood Services (DNS) - Commercial Inspection. Prepare and review DPW permit plans for the repair, replacement and/or abandonment of hollow vaulted areas in the public right of ways. Coordinate and review plans and permitting for reconstruction of WE Energies electrical vaults in the right of way.
- Serve as liaison for various DPW departments involved in developer projects.
- Coordinate and prepare DPW development impact reports for Department of City Development (DCD) developer project submissions.
- Review and respond to developer payment requests for projects involving DCD tax incremental funding.
- Review and provide guidance on railroad issues. Review permits and coordinate railroad company grade crossing and bridgework in the public right of way. Perform corresponding field investigations. Investigate and respond to railroad complaints and requests made by Alderman and private citizens.
- Coordination with other governmental agencies, consultants, and private parties for assigned projects.
- Review permits for work in the public right of way for utilities, developers and general public use.
- Review shop drawings.

DPW - Infrastructure - Transportation - Operations

Civil Engineer I & II (formerly Traffic Control Engineer I & II)

- Design the timing of traffic signals and offset relationships in signal systems.
- Prepare grant applications for non-traditional projects funded through various Federal Transportation Programs.
- Prepare federal/Wisconsin Department of Transportation documents, and compile supporting information for federally funded projects.
- Analyze crash data, develop accident countermeasures, and prepare reports on crash mitigation strategies.
- Perform roadway geometric design associated with Federal Grant-in-Aid projects and the city's Capital Improvement Program.
- Investigate and respond to complaints and requests made by Aldermen and private citizens concerning traffic signal operation and traffic safety.
- Prepare specifications and assist in the purchase of traffic control equipment and materials. Review permit applications for work by private contractors.
- Prepare project estimates, plan & specifications and project schedules.
- Signal design preliminary engineering and as-builts review.

Civil Engineer III (formerly Traffic Control Engineer III)

- Direct the timing of traffic signals and offset relationships in signal systems, as well as the layout and design of traffic signal equipment.
- Prepare grant applications for non-traditional projects funded through various Federal Transportation Programs.
- Prepare federal/Wisconsin Department of Transportation contract documents, compile supporting information for all traffic control grant projects, and coordinate the design, installation and operation of all traffic control facilities included in these grants. Monitor project progress and budgets related to these grant projects.
- Analyze crash data, develop accident countermeasures, and prepare reports on crash mitigation strategies.
- Perform or oversee roadway geometric design associated with Federal Grant- in-Aid projects and the city's Capital Improvement Program.
- Serve as project liaison and coordinate work on city traffic control facilities for projects being developed and completed by other jurisdictions, including the development of traffic mitigation strategies, and establish and monitor funding for this work.
- Investigate and respond to complaints and requests made by Aldermen and private citizens concerning traffic signal operation and traffic safety.
- Prepare specifications and assist in the purchase of traffic control equipment and materials.
- Prepare consultant and construction contracts and monitor project performance for work on city projects.

DPW – Infrastructure & Water Works

Electrical Engineer II

- Planning and design of street lighting facilities, including electrical circuit design, lighting unit selection and location, cable size and routing pipe and conduit installation, preliminary field investigation and final site layout.
- Preparation of street lighting plans, cost estimates and preparation of work orders in conjunction with lighting system design related to area lighting projects, paving projects, facility improvements, and specialty lighting projects.
- Coordinate street lighting construction activity with city and other public and private agencies and other utilities.
- Investigate requests for new or additional street lighting facilities.
- Compile and provide information to contractors, architects, public utilities, and city, county and state governmental agencies on current street lighting facilities, policies and practices.
- Coordinate the protection, adjustment or relocation of street lighting facilities in conjunction with other city projects, or to accommodate other public and private construction projects.
- Performs tests and prepares reports on various types of street lighting materials, including recommendations and development of specifications for purchase.

DPW – Infrastructure – Buildings and Bridges

Architectural Designer II

- Prepare architectural designs and construction documents for building construction/restoration and alteration/remodeling work and coordinate with other design disciplines (consultants and/or city staff) on their portions of projects
- Provide construction administration services for building construction/restoration and alteration/remodeling projects.
- Coordinate and monitor consultants' construction administration services for building construction/restoration and alteration/remodeling projects.
- Prepare and/or review consultants' project cost estimates and time schedules and monitor project costs, schedules, and quality control

Architect III

- Be responsible for the preparation of project design services, including preliminary designs, design development, contract documents and cost estimating.

- Be responsible for the direction and oversight of outside contracted design firms for project design services including preliminary designs, design development, contract documents and cost estimating.
- Coordinate section staff, sub-consultants, and/or other city agencies and writing RFPs as assigned.
- Be responsible for construction administration services including attending project meetings, reviewing, approving and/or preparing change orders, and working with Construction Manager. Attending project development/construction meetings as assigned or required.
- Prepare and/or review studies, reports, budget estimates, etc., as directed.
- Prepare and monitor individual project schedules
- Review shop drawings.
- Make field inspections, during construction, to assure compliance with contract documents.

DPW – Infrastructure & Water Works

Mechanical Engineer III

- Administer the work of consultants to design and prepare plans, specification and cost estimates for mechanical heating, ventilating, air conditioning, plumbing and electrical projects.
- Design and prepare plans, specification and cost estimates for mechanical heating, ventilating, air conditioning, plumbing and electrical projects.
- Administer construction of mechanical heating, ventilating, air conditioning, plumbing and electrical projects.
- Prepare plans, specifications and estimates for asbestos abatement and underground storage tank installations.
- Inspect installation of mechanical, heating, ventilating, air conditioning, plumbing, asbestos abatement, underground storage tank, and electrical projects.
- Review shop drawings.

DPW – Infrastructure – Buildings and Bridges

Mechanical Engineer IV

- Supervise, assign work, outline methods, review and approve the design of and preparation of contract documents for all mechanical, plumbing and electrical systems required for the division and other agency projects.
- Supervise and assign work of the field inspection staff, monitor and coordinate construction projects.
- Supervise and coordinate the removal, installation, upgrade and testing of underground storage tanks. Monitor consultants and oversee record keeping to comply with all state and federal regulations.
- Supervise and coordinate asbestos and lead (Pb) abatement projects for city facilities.
- Review the need for and make recommendations of design consultants for mechanical, plumbing and electrical design. Monitor consultant performance.
- Prepare and review Capital Improvements Program budgets for mechanical projects including mandated programs such as the Asbestos and Underground Storage Tank programs.
- Apply for and monitor rebate programs related to energy savings for gas and electricity.
- Assist Engineer in Charge, as may be necessary, in the general administration of the division and perform other related duties as assigned.
- Coordinate and be the responsible party for the record keeping and reporting of hazardous materials and landfills.
- Assist on a 6 week rotating basis as the snow administrator with snow and ice control operations

Supervisory and Management Titles

This report makes recommendations on the rates of pay for Engineers, Architects, and related positions in the Department of Public Works. Because of the potential for pay compression, recommendations include higher minimum recruitment rates for some supervisory titles. Further, to assist the department in recruiting the most qualified candidates, recommendations include recruitment flexibility. Management and supervisory classifications studied include the following:

Title	Pay Range
Commissioner-Public Works	1PX (\$117,980 - \$165,166)
City Engineer Water Works Superintendent	10X (\$110,689 - \$154,961)
Infrastructure Administration Manager Water Works Administration Manager	1MX (\$97,420 - \$136,395)
Engineer in Charge Public Works Coordination Manager	PR 1KX (\$85,757 - \$120,064)
Civil Engineer V	1JX (\$80,442 - \$112,627)
Architectural Project Manager Construction Management Engineer Electrical Engineer – Senior Management Civil Engineer – Senior Management Engineer Mechanical Engineer IV Structural Design Manager Traffic Engineer - Senior Transportation Engineering Planner	PR 1IX (\$75,478 - \$105,669)

Market Rates of Pay

In conducting a cost of labor analysis for these titles, staff conducted an analysis of market rates of pay from the Economic Research Institute (ERI), and MRA, salary survey services to which the Department of Employee Relations subscribes.

Civil Engineer, ERI February 2021

Years of Experience	10th Percentile	25th Percentile	Mean	75th Percentile	90th Percentile
7	\$ 76,448	\$ 83,273	\$ 92,180	\$ 101,067	\$ 109,940
6	\$ 73,853	\$ 80,446	\$ 89,059	\$ 97,636	\$ 106,208
5	\$ 71,086	\$ 77,432	\$ 85,731	\$ 93,978	\$ 102,228
4	\$ 68,172	\$ 74,258	\$ 82,228	\$ 90,126	\$ 98,038
3	\$ 65,143	\$ 70,958	\$ 78,585	\$ 86,121	\$ 93,681
2	\$ 62,035	\$ 67,573	\$ 74,848	\$ 82,012	\$ 89,212
1	\$ 58,888	\$ 64,145	\$ 71,063	\$ 77,851	\$ 84,686

Source: ERI. Data as of January 2021

ERI defines a Civil Engineer as a position that coordinates and aids in the design, evaluation, planning, integration, testing, and completion activities in engineering projects; Identifies, analyzes, and resolves program support; Gathers and correlates engineering data deficiencies; and Performs various tests and documents results.

MRA, Civil Engineer

Title	WTD AVE	25TH %	MEDIAN	75TH %
Civil Engineer 1	\$ 63,066	\$57,500	\$63,000	\$ 68,000
Civil Engineer 2	\$ 65,945	\$56,912	\$64,788	\$ 73,538
Civil Engineer 3	\$ 88,512	\$68,430	\$90,504	\$105,450

Source: MRA. 2019 National Council of Examiners for Engineering and Surveying

MRA defines Civil Engineer as a position that performs engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, water and sewage systems, and waste disposal units. Include architectural, structural, traffic, ocean, and geo-technical engineers.

Architect, ERI February 2021

Years of Experience	10th Percentile	25th Percentile	Mean	75th Percentile	90th Percentile
7	\$ 71,982	\$ 78,496	\$ 86,999	\$ 95,429	\$ 103,826
6	\$ 69,496	\$ 75,790	\$ 84,018	\$ 92,161	\$ 100,286
5	\$ 66,949	\$ 73,014	\$ 80,957	\$ 88,806	\$ 96,649
4	\$ 64,354	\$ 70,183	\$ 77,835	\$ 85,380	\$ 92,934
3	\$ 61,726	\$ 67,313	\$ 74,667	\$ 81,903	\$ 89,161
2	\$ 59,082	\$ 64,423	\$ 71,472	\$ 78,394	\$ 85,352
1	\$ 56,439	\$ 61,528	\$ 68,268	\$ 74,873	\$ 81,527

Source: ERI. Data as of January 2021

ERI defines an Architect as a position that researches, plans, designs, and supervises construction of building projects for clients, according to their desires, needs, and financial resources, applying knowledge of design, construction procedures, zoning and building codes, and building materials; Consults with clients to determine functional and spatial requirements of new structure or renovation; and prepares information regarding design, specifications, materials, color, equipment, estimated costs, and construction time.

Electrical Engineer, ERI February 2021

Years of Experience	10th Percentile	25th Percentile	Mean	75th Percentile	90th Percentile
7	\$ 91,466	\$ 99,551	\$ 110,003	\$ 120,501	\$ 130,869
6	\$ 88,044	\$ 95,845	\$ 105,929	\$ 116,035	\$ 126,047
5	\$ 84,476	\$ 91,982	\$ 101,688	\$ 111,384	\$ 121,012
4	\$ 80,783	\$ 87,987	\$ 97,306	\$ 106,583	\$ 115,803
3	\$ 76,989	\$ 83,885	\$ 92,810	\$ 101,664	\$ 110,465
2	\$ 73,119	\$ 79,702	\$ 88,231	\$ 96,659	\$ 105,038
1	\$ 69,204	\$ 75,470	\$ 83,600	\$ 91,601	\$ 99,562

Source: ERI. Data as of January 2021

ERI defines an Electrical Engineer as a position that researches, develops, designs, tests, and evaluates electrical components, equipment, and systems, applying principles and techniques of electrical engineering; Designs electrical equipment, facilities, components, products, and systems for commercial, industrial, and domestic purposes; Designs, and may direct engineering personnel in, fabrication of test control apparatus and equipment, and determines methods, procedures, and conditions for testing products.

HVAC Engineer, ERI February 2021

Years of Experience	10th Percentile	25th Percentile	Mean	75th Percentile	90th Percentile
7	\$ 61,431	\$ 67,029	\$ 74,370	\$ 81,541	\$ 88,692
6	\$ 59,369	\$ 64,777	\$ 71,894	\$ 78,842	\$ 85,777
5	\$ 57,204	\$ 62,408	\$ 69,282	\$ 75,993	\$ 82,701
4	\$ 54,959	\$ 59,944	\$ 66,558	\$ 73,014	\$ 79,487
3	\$ 52,660	\$ 57,411	\$ 63,749	\$ 69,934	\$ 76,161
2	\$ 50,338	\$ 54,838	\$ 60,885	\$ 66,784	\$ 72,752
1	\$ 48,030	\$ 52,260	\$ 58,000	\$ 63,602	\$ 69,298

Source: ERI. Data as of January 2021

ERI defines HVAC Engineer as a position that oversees the design, installation, and commissioning of HVAC systems, equipment, and associated control systems; Develops and optimizes operation and maintenance procedures for all HVAC equipment and associated control systems; Troubleshoots and corrects problems with existing HVAC equipment and associated control systems.

Analysis and Recommendation

DPW has indicated that it has become increasingly difficult to recruit and retain Civil Engineers, Architects, Mechanical Engineers, Electrical Engineers, and related titles. Both the Infrastructure Services Division and the Milwaukee Water Works have been impacted by the vacancy rate leading to difficulty in completing various infrastructure projects in a timely manner. Due to vacancies and turnover within these titles, the department has had to outsource projects to consultants to meet deadlines. Other projects are facing longer completion times as are projects that are being completed in collaboration/conjunction with other governmental agencies. Vacancies in these titles have also impacted service response times for service requested by residents of the City of Milwaukee and Common Council members.

Additionally, there is time required to train and develop incumbents at the I, II, and III levels to have them acquire the requisite skill sets necessary to fill higher levels in departments. As more of the existing management staff reaches the age of retirement, the lack of available staff prepared to transition into these positions will have a long term negative effect on the departments. Supervisory and management positions in DPW have also been included in this market study to prevent pay compression between direct reports and managers, as well as to allow recruitment flexibility within these titles for recruitment and retention efforts.

In addition to recruitment flexibility, this report further recommends a three percent pay incentive for staff engineers that hold a Professional Engineering license (PE). A Professional Engineering license can be earned by engineers that have completed a four-year college degree. It is a credential that demonstrates heightened leadership and management skills, and allows engineers to take on higher levels of responsibility. A PE is also a minimum requirement for some higher level engineering positions within DPW. To earn a PE license, one must complete four years of training under a Professional Engineer, as an Engineer in Training (EIT). Upon completion of training, the incumbent must complete and successfully pass two extensive examinations. Additionally, PE license holders must maintain their license by meeting continued education requirements.

Based on the above analysis the Department of Employee Relations recommends the following:

Title	Current	Recommendation
Commissioner-Public Works	PR 1PX (\$117,980 - \$165,166)	PR 1PX (\$117,980 - \$165,166) FN: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee
City Engineer Water Works Superintendent *	PR 1OX (\$110,689 - \$154,961) FN*: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee	PR 1OX (\$110,689 - \$154,961) FN: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee
Infrastructure Administration Manager Water Works Administration Manager	PR 1MX (\$97,420 - \$136,395)	PR 1MX (\$97,420 - \$136,395) FN: Recruitment may be at any rate with the approval of DER and the Chair of the Finance and Personnel Committee
Engineer in Charge Public Works Coordination Manager	PR 1KX (\$85,757 - \$120,064)	PR 1KX (\$85,757 - \$120,064) FN: Recruitment is at \$90,399 and may be at any point in range with the approval of DER and Chair of the Committee on Finance and Personnel.
Civil Engineer V	PR 1JX (\$80,442 - \$112,627)	PR 1JX (\$80,442 - \$112,627) FN: Recruitment is at \$90,399 and may be at any point in range with the approval of DER and Chair of the Committee on Finance and Personnel.
Architectural Project Manager Construction Management Engineer Electrical Engineer – Senior * Management Civil Engineer–Senior Management Engineer Mechanical Engineer IV Structural Design Manager Traffic Engineer – Senior * Transportation Engineering Planner *	PR 1IX (\$75,478 - \$105,669) FN*: Recruitment is at \$85,000	PR 1IX (\$75,478 - \$105,669) FN: Recruitment is at \$90,399 and may be at any point in range with the approval of DER and Chair of the Committee on Finance and Personnel.
Civil Engineer IV	PR 2KX (\$66,435 - \$93,010) FN: Recruitment is at \$75,408	PR 2KX (\$66,435 - \$93,010) FN: Recruitment is at \$78,455 and may be at any point in the range with DER approval. FN: Additional 3% for holding a Professional Engineer license
Architect III * Bicycle and Pedestrian Coordinator * Civil Engineer III ** Electrical Engineer III * Facilities Project Coordinator * Mechanical Engineer III *	PR 2IN (\$58,462 – \$81,844) FN*: Recruitment is at \$66,324 FN**: Recruitment is at \$66,324 and may be up to \$74,620 with approval from DER and Chair of the Committee on Finance and Personnel.	PR 2IN (\$58,462 – \$81,844) FN: Recruitment is at \$71,323 and may be at any point in the range with DER approval. FN for Engineers: Additional 3% for holding a Professional Engineer license.
Facilities Maintenance Coordinator Facilities Construction Project Coordinator	PR 2HN (\$54,865 - \$76,806) FN: Recruitment is at \$63,575	PR 2HN (\$54,865 - \$76,806) FN: Recruitment is at \$65,482 and may be at any point in the range with DER approval

Architectural Designer II Civil Engineer II Electrical Engineer II Mechanical Engineer II	PR 2GN (\$51,469 - \$72,063) FN: Recruitment is at \$58,373	PR 2GN (\$51,469 - \$72,063) FN: Recruitment is at \$64,839 and may be at any point in the range with DER approval FN for Engineers: Additional 3% for holding a Professional Engineer license.
Architectural Designer I Civil Engineer I Electrical Engineer I Mechanical Engineer I	PR 2EN (\$45,306 - \$63,426) FN: Recruitment is at \$51,358 and may be up to \$58,373	PR 2EN (\$45,306 - \$63,426) FN: Recruitment is at \$58,944 and may be at any point in the range with DER approval FN for Engineers: Additional 3% for holding a Professional Engineer license.

Action Required – Effective Pay Period 7, 2021 (March 21, 2021)

In the Salary Ordinance

Under Pay Range 1PX

Create footnote (1) and (2) and add to the title ‘Commissioner – Public Works’.

- (1) Recruitment may be at any rate in the range with the approval of DER and the Chair of the Committee on Finance and Personnel.
- (2) Recruitment may be at any rate in the range with the approval of DER and the Chair of the Committee on Finance and Personnel.

Under Pay Range 10X

Add footnotes (1) and (2) to the title ‘City Engineer’.

Under Pay Range 1MX

Add footnotes (3) and (7) to the titles ‘Infrastructure Administration Manager’ and ‘Water Works Administration Manager’.

Under Pay Range 1KX

Create footnotes (3) and (6) and add to the titles ‘Engineer in Charge’ and ‘Public Works Coordination Manager’.

- (3) Recruitment is at the following rate and may be at any point in the range with the approval of DER and the Chair of the Committee on Finance and Personnel.

Biweekly	3,479.88
Annual	90,398.88

- (6) Recruitment is at the following rate and may be at any point in the range with the approval of DER and the Chair of the Committee on Finance and Personnel.

Biweekly	3,581.18
Annual	93,110.68

Under Pay Range 1JX

Add footnotes (3) and (6) to the title ‘Civil Engineer V’

Under Pay Range 1IX

Delete and replace footnotes (5) and (13) and add to the titles ‘Architectural Project Manager’, ‘Construction Management Engineer’, ‘Electrical Engineer-Senior’, ‘Management Civil Engineer-Senior’, ‘Management Engineer’, ‘Mechanical Engineer IV’, ‘Structural Design Manager’, ‘Traffic Engineer-Senior’, and ‘Transportation Engineering Planner’.

- (5) Recruitment is at the following rate and may be at any point in the range with the approval of DER and the Chair of the Committee on Finance and Personnel.

Biweekly	3,479.88
Annual	90,398.88

- (13) Recruitment is at the following rate and may be at any point in the range with the approval of DER and the Chair of the Committee on Finance and Personnel.

Biweekly	3,581.18
Annual	93,110.68

Under Pay Range 2KX

Delete the title 'Architect IV (1) (2) (8) (9)'

Delete and replace footnotes (1) and (8) for the title 'Civil Engineer IV'.

- (1) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	3,017.50
Annual	78,455.00

- (8) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	3,108.03
Annual	80,808.65

Under Pay Range PR 2IN

Create new footnotes (3) and (7) and add to the titles 'Architect III', 'Bicycle and Pedestrian Coordinator', 'Civil Engineer III', 'Electrical Engineer III', 'Facilities Project Coordinator', and 'Mechanical Engineer III'.

- (3) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	3,017.50
Annual	71,322.94

- (7) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,825.49
Annual	73,462.63

Under Pay Range 2HN

Delete and replace footnotes (8) and (21) for the titles 'Facilities Maintenance Coordinator' and 'Facilities Construction Project Coordinator'.

- (8) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,518.54
Annual	65,482.04

- (21) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,594.10
Annual	67,446.60

Under Pay Range 2GN

Delete and replace footnotes (4) and (16) for the titles 'Architectural Designer II', 'Civil Engineer II', 'Electrical Engineer II', and 'Mechanical Engineer II'.

- (4) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,493.81
Annual	64,839.06

- (16) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,568.62
Annual	66,784.12

Under Pay Range 2EN

Delete and replace footnotes (1) and (17) for the titles 'Architectural Designer I', 'Civil Engineer I', 'Electrical Engineer I', and 'Mechanical Engineer I'.

- (1) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,267.08
Annual	58,944.08

- (17) Recruitment is at the following rate and may be at any point in the range with the approval of DER. An employee possessing a Professional Engineer license to be paid an additional 3%.

Biweekly	2,335.09
Annual	60,712.34

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