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**STATE OF WISCONSIN**
**CLASSIFICATION SPECIFICATION**

# TRANSPORTATION SPECIALIST CLASSIFICATION SERIES

## I. INTRODUCTION

### A. Purpose of This Classification Specification

This classification specification is the basic authority under ER 2.04, Wis. Adm. Code, for making classification decisions relative to positions responsible for providing professional engineering transportation expertise for the Department of Transportation multi-modal transportation systems. This classification specification is not intended to identify every duty that may be assigned to the position, but is intended to serve as a framework for classification decision-making in this occupational area.

Classification decisions must be based on the "best fit" of the duties within the existing classification structure. The "best fit" is determined by the majority (i.e., more than 50%) of the work assigned to and performed by the position when compared to the class concepts and definition of this specification or through other methods of position analysis. Position analysis defines the nature and character of the work through the use of any or all of the following: definition statements; listing of areas of specialization; representative examples of work performed; allocation patterns of representative positions; job evaluation guide charts, standards or factors; statements of inclusion and exclusion; licensure or certification requirements; and other such information necessary to facilitate the assignment of positions to the appropriate classification.

### B. Inclusions

This series encompasses professional engineering positions at the Department of Transportation that devote the majority of their time and are responsible for duties related to the engineering support functions to the multi-modal transportation systems. Positions included in this series must meet the Qualifications prescribed under Section III.

### C. Exclusions

Excluded from this classification series are the following types of positions:

1. Positions that require a Bachelor of Science degree in engineering or equivalent and require a professional engineer responsibility and are more appropriately classified as Civil Engineers.

2. Positions that are not located within the Department of Transportation.

3. Positions that do not spend the majority of their time performing professional engineering work (as interpreted by the Wisconsin Employment Relations Commission) in the multi-modal transportation systems in such areas as design, construction, maintenance, materials, planning, traffic and related programs identified herein and are more appropriately classified as Transportation Technicians.

4. All other positions that are more appropriately identified by other classification series.

D. Entrance Into and Progression Through This Series

Entrance into this classification is by competition.

Movement to the senior level may be by reclassification. Movement to advanced or leadworker level positions at the Advanced level will occur through some form of competition.

Progression to objective level Advanced positions, for specifically identified allocations, will occur through reclassification as the employee satisfactorily attains the specified training, education, and experience and performs the full scope of duties identified at the Advanced level.

E. Definitions

1. Leadworker: An employee whose permanently assigned duties include training, assisting, guiding, instructing, assigning and reviewing the work of two or more permanent full-time equivalent classified employees in the Leadworker's work unit as assigned and documented on the work unit's organization chart. Leadworkers do not have supervisory authority as defined under s. 111.81(19), Wis. Stats.

2. Program Leader: An employee who is the technical expert for a specific area(s) and who may have some program oversight to assure uniformity within a specific engineering area(s).

3. Project: A well-defined sequence of activities that, when completed, result in a tangible product. Tangible products can include: development of a bridge or road design or construction of a road or bridge project.

4. Project Manager: The person having primary responsibility over the scope, schedule, budget, resources, and overall project quality. The project manager will consider advice and alternative solutions from team members, functional managers, and central office support units to meet the project objectives. Generally oversees a group of projects. May have one or more project leaders reporting to them.

5. Project Leader: The person having responsibility for coordinating and performing day to day project activities under the direction of a Project Manager.

6. Project Team: An interdisciplinary team made up of staff from departmental functional areas as well as external stakeholders as appropriate to the scope of the project. The Project Team is lead by the Project Manager and works together to create and carry out the project plan. Individual team members may be active or inactive as the project progresses through different phases.

## II. DEFINITIONS

### TRANSPORTATION SPECIALIST

This is an entry level for positions that work under close progressing to limited supervision. At this level employees have an educational or experience based foundation of engineering practices and principles. With thorough training and practical application at this level employees will obtain the professional engineering knowledge to perform senior level work in their area of specialization. Allocations of work are found at the senior level.

### TRANSPORTATION SPECIALIST - SENIOR

This is an objective level for positions that work under general supervision in the Division of Transportation System Development Regional Offices and the developmental level for the Division of Transportation System Development Statewide Bureaus and the Division of Transportation Investment Management. At this level the employee has developed an understanding of the engineering program (and related policies and procedures) and developed the necessary skills to function at the full performance professional level. The work assignments include the full range and scope of the employee's specific engineering program duties and require a high degree of interpretation. Positions at this level have extensive authority and independence in carrying out their assigned responsibilities and make decisions independent of supervisory oversight, with the work being reviewed after the decisions have been made.

**This level may also be used for positions downgraded for training purposes that have an objective level of Advanced.**

**Representative Positions:**

Access Management Specialist: Positions participate in scoping and conduct reviews of improvement projects to analyze access management and corridor preservation. Positions assist with various engineering planning and design functions including but not limited to traffic analysis investigation, cost estimates, land divisions and local land use, traffic engineering and traffic forecasts, and functional and jurisdictional studies.

Bridge Inspector: Positions are responsible for the inspection and maintenance of all bridges located within the region. Positions at this level conduct bridge inspections; prepare the annual bridge maintenance budget; direct bridge repairs and/or maintenance completed by county staff; estimate bridge damage resulting from accidents or natural disasters; determine needed repairs, and prepare sketches to illustrate the extent of damages; administer the repair and/or painting contract assignments completed by county staffs and consultants; and conduct final acceptance inspections with ACS and project engineers. To be at this level positions require extensive bridge inspection experience using NBIS standards and certification to perform this work.

Geodetic Specialist: Positions support the activities of an Advanced Geodetic Specialist or are a project leader. Positions are responsible for any of the following: (1) development and provision of technical support, training, and counseling of the various aspects of physical and space geodesy to the Department; local, state, and federal agencies; committees; private entities; consultants, and academia; (2) development, publication, and revision of standards, specifications, and policies related to the Department's physical and space geodesy programs; (3) development and maintenance of the vertical, horizontal, and gravitational geodetic control network in support of the statewide Spatial Reference

Network; or (4) perform field and office activities in support of research objectives in physical and space geodesy, and photogrammetry relating to innovative positioning hardware, software, standards, specifications, procedures, policies, and applications.

Independent Assurance Program Specialist/Quality Management Program Specialist: Positions participate in the Region's Quality Management Program (QMP) or Independent Assurance Program (IAP) greater than 50% of the time. These positions are responsible to provide guidance and professional engineering advice to the project managers; monitor and approve contractor's QMP by reviewing testing procedures, control charts, record keeping, and documentation during asphalt production; and review and evaluate contractor's submitted asphalt mix design for compliance of contract specification. Positions provide professional engineering expertise for project personnel in asphalt plant calibration and operation; approve asphaltic mix adjustments during production; perform and direct assurance testing to verify and compare with the contractor's test data; and investigate and resolve testing differences between WisDOT and the contractor. Positions may also be responsible for providing independent verification of the state's sampling and testing procedures for quality control of materials used in Federal and State funded highway projects; performing independent quality assurance inspection of concrete operations; reviewing project test reports and material certifications; providing specialized material inspections and testing; and training personnel in the proper methods of sampling and testing of materials incorporated in the construction of highways.

Project Development Specialist: Positions serve as project leaders for small, medium and large design or construction projects and may also assist on large complex projects. Work is reviewed after implementation and may include construction and/or design duties. Construction duties include, but are not limited to projects relating to: reconditioning of roadways with substantial grading of the existing roadway or new roadways that include retaining walls, bridges and different types of pavement. Duties include traffic control and/or detours, public involvement, environmental, right of way, and erosion control issues or concerns. Design duties include, but are not limited to completion of studies, reports, required documentation, and plans, specifications and estimates necessary for the planning, location, design, and construction of highway improvement projects. Positions are responsible for the development of all design alternatives, computations, and final plans, specifications, and estimates. Projects at this level include: change to a current location, right of way, traffic control, and/or utility issues: public involvement; environment issues; different types of pavement; and retaining walls and/or bridges. Positions may also review and coordinate consultant prepared plans or outside agency plans for projects of comparable size.

Signing and/or Marking Specialist: Positions perform traffic signing and/or marking engineering reviews and provide guidance to regional offices in traffic engineering such as design, installation, use and maintenance of traffic control devices, traffic regulations, operational geometric design, and identification and alleviation of high accident and hazardous highway configurations. Positions provide advance plan review and technical guidance of location and traffic controls for detours and construction operations. Positions prepare, develop and complete plans, specifications and estimate documents related to signing and/or marking elements of projects within the region to ensure compliance with current standards. Positions oversee and administer let county signing and marking contracts. Positions review and approve signing and/or marking plans completed by consultants or others to ensure compliance with current standards.

Stereo Compilation Specialist: Positions operate softcopy workstations for extraction of terrain information from aerial photography. Positions must set up the project for compilation readiness and perform compilation on a variety of planimetric/topographic maps and Digital Terrain Models utilizing

DAT/EM Systems International DGN Capture mapping software and Microstation on complex projects using photogrammetric engineering background.

Utility Specialist: Positions coordinate the relocation of public and private utility facilities that interfere with the highway engineering improvement projects. Positions process and review reimbursable utility parcels including recommending reimbursable amounts by reviewing plans and plats, gathering information and working directly with design engineers. Work to resolve design conflicts and ensure compatibility with highway facilities. Instruct and assist utility companies in preparation of estimates for reimbursable work. Positions may process permits to work in right of way but this function is less than 50% of the work assigned.

**TRANSPORTATION SPECIALIST - ADVANCED**

This is a sole coordinator and/or leadworker level for positions that work under general supervision in the Division of Transportation System Development – Regional Offices. These positions function as the sole coordinator in their assigned program or geographic area or serve as a leadworker over transportation technicians or other transportation specialists. These positions must be filled through competition not the reclassification process unless they were specifically downgraded for training purposes and the objective level was identified as Advanced at the time of the competition for the lower level.

This is an objective level for specified positions that work under general supervision in the Division of Transportation System Development – Statewide Bureaus and the Division of Transportation Investment Management. Positions at this level provide advanced level expertise, function as the primary contact for their specific program area or project, and perform the most complex, difficult, and advanced work that may cross program lines. Employees at this level have responsibilities that may require high level contacts with the public. Work assignments are broad in scope and require the incumbent to use independent judgment in decision-making. Work is performed in response to program needs as interpreted by the employee with little or no review of the work. Positions in the statewide bureaus and investment management may be downgraded for training purposes to the transportation specialist or senior level.

**Representative Positions:**

Access Management Coordinator: Positions are responsible for the coordination, management, and implementation of the region's state highway access control and management program involving detailed understanding, interpretation, application and enforcement of rules, local codes, and a variety of state statutes and administrative rules. Positions oversee public and private sector development proposals, including subdivision plat reviews, to ensure proposed access to the state trunk highway system conform to all applicable engineering standards, statutory requirements, and restrictions. Positions have the authority to approve and deny such proposals.

Airport Development Specialist: Positions assigned to independently manage airport development projects of high complexity at utility airports, of average complexity at transport/corporate airports and assisting advance level civil engineers on large, complex air carrier airport development projects. Positions are responsible for all aspects of airport development process including planning, design, construction and financial management at assigned airports; conducting meetings with airport administrators to develop improvement programs and initiate projects requesting state or federal funding; formulating scope of consulting services and negotiating contracts for planning, design and construction engineering services; directing consultants' work to ensure conformance with contract provisions; reviewing plans, specifications, and bid documents; conducting pre-bid and pre-construction conferences;

conducting periodic inspections; reviewing and approving periodic cost estimates and invoices; reviewing and recommending approval for change orders, time extensions and amendments; conducting or assisting in final inspections; reviewing and approving record drawings; and preparing project close-out documents.

Area/Roadway Maintenance Coordinator: Positions serve as the primary representative of DOT maintenance within an assigned area working directly with the commissioner, the superintendent and their staff with respect to on-going maintenance activities. The main focus of this position is to develop and coordinate Regional Maintenance Program which includes the Routine Highway Maintenance (RMA) Program, Discretionary Maintenance (DMA) Program, Local Force Accounts (FLA), Performance Based Maintenance (PbM), and equivalent maintenance programs, and to oversee conduct of maintenance operations; provide technical expertise toward resolution of facility maintenance problems; and resolve conflicts impeding on-going maintenance within assigned area of responsibility. Positions have authority to accomplish all aspects of the Regional Maintenance Program in assigned area including setting priorities, monitoring work performed, reviewing/authorizing payments, and suspending work to stay within overall budget constraints. Position is the primary contact and source of information regarding roadway maintenance within assigned area, including dealing directly with issues of a complex nature or emergency situations with other sections, the public, the media, elected officials, and other government officials.

Bridge Inspection and Rehabilitation Specialist: Positions function under the direction of a Civil Engineer or as the sole Transportation Specialist of a Region's bridge inspection and rehabilitation program. Positions are responsible for ensuring the development of plans and specifications for bridge rehabilitation projects and emergency repair projects and coordinating the inspection and bridge maintenance and repair program for the counties within the Region. Positions conduct major bridge and structure inspections and schedule/conduct repairs of bridges and perform design squad leader functions on bridge rehabilitation projects including overseeing the work of consultants. Positions at this level have had all the required training and certification per NBIS standards

Central Laboratory Specialist: Positions direct a portion of the statewide assurance and acceptance testing of materials intended for use on WisDOT construction projects. Positions provide technical guidance and expertise for the materials used statewide. Position are responsible for the overall scheduling of the testing and other sub-units' activities to ensure that the customers' expectations are being met; provide training to WisDOT, industry, and consultant personnel as needed to ensure proper testing procedures are in use; verify data that is produced within the testing sub-unit and the operation, maintenance, and calibration of testing equipment; and analyze data and prepare reports for special projects undertaken by the unit. Positions may direct or perform the required testing according to AASHTO, ASTM, or WisDOT test procedures to ensure the materials conformance to WisDOT specifications. These positions work with WisDOT, industry, FHWA, and others in the development of new specifications.

Central Office Access Management and Utility Projects Coordinator: Position is responsible for the statewide operations of controlling and managing access to the state trunk highway system and for developing utility projects and agreements required to allow highway improvement projects to proceed; defining procedures required to comply with state and federal laws; providing technical expertise and guidance to all regions in the acquisition or revision of access restrictions including formulating recordable instruments for documenting property rights and in identifying, estimating, and preparing contract documents for work to be performed by utility companies in relocating their facilities; evaluating, recommending and processing access acquisition and modification documents and utility agreements for approval by central office and/or the Federal Highway Administration; and evaluating

and recommending whether utility arrangements are adequate to allow highway improvement projects to be bid. Positions typically meet with other agencies, outside organizations and elected officials to explain WisDOT positions and procedures as well as requirements imposed by federal and state law.

Transportation Planning Specialist: Positions are responsible for providing advanced and high level expertise in highway systems management, multi-modal planning, transportation corridor studies, transportation data and analysis, and transportation programming. Positions coordinate the regions multi-modal transportation planning activities by providing information, guidance and understanding to other agencies and units of local government; participate in local and regional multi-modal transportation planning efforts; analyze existing highway related data for use in the development of corridor studies and in the development of preliminary highway design; direct the preparation of exhibits for hearings, public meetings, and reports; interpret program guidelines to determine their compatibility with the Region's current program; explain to interested parties the reasons of project approval/disapproval within the Six Year Program, local program, safety programs, TEA, SMIP (State Multi-Modal Improvement Program), and/or other programs; manage and provide program, scheduling, and cost information to internal DOT staff, local units of government, elected officials, and the public; and provide high level guidance to local units of government to facilitate their participation in the Department's TEA, Safety, Local, and SMIP programs.

Erosion Control Specialist: Positions that serve as the sole coordinator of an Erosion Control Program in a region or as the central office expert on erosion control applications and strategies; provide engineering guidance and expertise to staff, consultants, counties and municipalities on project-level erosion control applications and techniques requiring independent judgment and decision-making; facilitate and coordinate WisDOT/WisDNR Cooperative agreement; investigate, develop, and disseminate procedures; review erosion control plans and work to streamline regional erosion control processes to coincide with environmental compliance requirements; and provide region-wide expertise and direction on agricultural issues, highway landscaping, and aesthetics. In the central office, positions provide research, analysis, consultation and coordination services on proposed environmental laws and regulations and track state and federal laws, regulations and trends.

Geodetic Specialist: Positions are responsible for any of the following: (1) development, coordination, and provision of technical support, training, and counseling of the various aspects of physical and space geodesy to the Department; local, state, and federal agencies; committees; private entities; consultant and academia; (2) development, investigation, publication, implementation, and revision of standards, specifications, and policies related to the Department's physical and space geodesy programs; (3) development, coordination, and maintenance of the vertical, horizontal, and gravitational geodetic control network in support of the statewide Spatial Reference Network; (4) coordination and maintenance of the Department's Global Positioning System (GPS) satellite surveying program and geodetic reference systems which are the foundation of engineering related projects; and (5) investigation and analysis of research objectives in physical and space geodesy relating to innovative positioning hardware, software, standards, specifications, procedures, policies, and applications.

GeoLog Leadworker: Position serves as leadworker for GeoLog/data collection system, coordinating and directing activities of staff; leads section's GIS application development; performs project research; develops and maintains distribution of the GeoVue/GIS application; coordinates production and distribution of linear logmile control; develops high and low level language software programs; provides technical support in all aspects of GeoLog operations, GIS optical laser disc computer systems, GIS software applications, data collection, data acquisition, image and data storage, and retrieval and integration; instructs others on use of software for systematic analysis of GeoLog data and GIS applications; schedules and oversees production of Digital image transfer to optical laser disc and

delivers laser disc image medial; installs, repairs, maintains electronic equipment, microprocessors, image collection devices, gyros, Global Position Systems (GPS) and power supplies in GeoLog vehicle environment; configures PC workstations, hardware and software; utilizes software languages, PC's and mainframe computer programming, coordinates and schedules integration of GeoLog (Photolog) operations with Department's Statewide Telemetry Data reporting system; and cross trains technicians in the installation, calibration, repair, maintenance and modification of complex electronic and traffic counting equipment while operating Photolog system in the field.

Geophysical/Geological Specialist: Positions develop and implement geophysical investigations for the design of transportation facilities utilizing geophysical field methods such as seismic refraction, electrical resistivity, and ground penetration radar; analyze data and develop conclusions and design recommendations; develop and implement geologic investigation for the design of transportation facilities including the determination of pertinent geologic features and properties such as formation identification, stratigraphy, weathering potential, rock face stability, mineralogy, and strength; use such information to recommend features for project design; develop and coordinate corrosion investigative programs to determine site-related corrosion potential of buried metallic components; develop methods and guidelines for the selection of appropriate corrosion resistant materials for such installations; develop and implement vibration monitoring programs to estimate the potential for vibration damage to adjacent structures; develop and present methods and procedures to limit or prevent damage; develop and coordinate geotechnical investigations for foundation designs including field investigation program layout; develop and report foundation recommendations; provide technical expertise on geology, geophysics, and engineering geology to all other Sections of the Department; and develop and conduct training on geology, geophysics, and engineering geology.

Independent Assurance Program Specialist/Quality Management Program Specialist: Positions are the recognized primary expert responsible for carrying out the federally mandated program for their region requiring independent verification of the state's sampling and testing procedures for quality control of materials used in Federal and State funded highway projects; performing independent quality assurance inspection of concrete operations; reviewing project test reports and material certifications; providing specialized material inspections and testing; and training personnel in the proper methods of sampling and testing of materials incorporated in the construction of highways. **OR** Positions are responsible for coordination of the Regional Quality Management Program. Positions provide guidance and professional engineering advice to the project managers; monitoring and approve contractor's QMP by reviewing testing procedures, control charts, record keeping, and documentation during asphalt production; and review and evaluate contractor's submitted asphalt mix design for compliance of contract specification. These positions also provide professional engineering expertise for project personnel in asphalt plant calibration and operation; approve asphaltic mix adjustments during production; perform and direct assurance testing to verify and compare with the contractor's test data; and investigate and resolve testing differences between WisDOT and the contractor.

In-Depth Bridge Inspection Specialist: Positions develop and direct the performance of statewide in-depth inspections to existing. major, complex, non-redundant, fracture critical steel highway/railroad structures; locate, evaluate and develop recommendations for the repair of defects in materials, design, and construction details of existing highway structures; develop and administer training programs for bridge inspectors in non-destructive testing methods; evaluate and recommend inspection procedures for existing major highway structures whose inspections are performed by others; evaluate and recommend the use of new inspection equipment; develop, evaluate and disseminate in-depth inspection reports; and approve changes or modifications to in-depth inspection methods and procedures on existing highway structures as a licensed evaluator.

Materials Lab/Plant Coordinator: Positions support the region's improvement program by coordinating the certification of commercial plant operations for the production of portland cement concrete and bituminous concrete; coordinating the quality control/assurance at commercial and portable batch plants for the production of portland cement concrete, bituminous concrete and pre-stressed concrete structural members; and providing technical assistance in the design of new/first time use and recycled bituminous concrete mixes. Positions also provide professional engineering guidance and direct the inspection of all pre-stress concrete members, metal and concrete pipe, bar steel fabrication, and other commercially produced products used in the construction of transportation facilities. Positions coordinate the activities and training of staff in the inspection of products; prepare and review inspection reports and documents; recommend changes in the inspection procedures; and/or assist in the Regional Quality Assurance Program.

Methods Development Specialist: Positions identify, recommend and direct development of new design applications of engineering technology in the regional offices and central office; research, develop and recommend final departmental Plan, Specifications and Estimate (PS&E) output standards related to the use of engineering technologies; serve as a technical contact for regional offices, central office and outside agency questions related to the design application of engineering technologies; represent the department at user groups; and identify, develop, recommend and conduct design methods training.

Nuclear Testing Specialist: Positions develop and implement WisDOT nuclear testing program for highway construction; train regional field operators in use of nuclear meters, radiation safety, and record keeping for both engineering results and radiation precautions; provide technical expertise on radiation theory, set operating, and testing procedures; prepare specifications, schedule purchases within replacement schedules, and evaluate new equipment. Positions are responsible for required licensing, record keeping, and ancillary monitoring necessary to meet Federal Nuclear Regulatory Commission and state radiology safety requirements; obtaining radiation monitoring badges for meter operators, issuing a yearly report on dosage levels, and maintaining permanent records; review consultant nuclear operations to determine compliance with WisDOT policies and procedures; and expand use of nuclear meters to monitor roof conditions, determine plastic concrete density, and delineate bridge deck deterioration. The position must meet NRC requirements to be Radiation Safety Officer and Radiation Training Officer.

Pavement Evaluation Specialist: Positions are responsible for highly complex assignments including collecting, analyzing, and reporting pavement condition data for the State Trunk Network (STN) of roadways for surface distress, ride, rut, friction or layer strengths of the various elements of pavement structure; coordinating and scheduling daily and annual work activities with WisDOT staff and outside agencies to accomplish pavement management and research projects; selecting and modifying equipment; providing Quality Control/Quality Assurance (QC/QA) for data collected; and providing analysis and special reports of the data collected to construction, design, maintenance, and planning/programming functions. Positions work with County Highway Commissioners to explain road conditions, distresses observed, recommendations for improvement, reports, etc.; tests conditions to ensure warranty specifications, document findings and explain discrepancies/warranty defects; and works closely with regional management, state construction engineers, and paving industry.

Aerial Imaging Specialist: Positions are responsible for the coordination, collection and analysis of aerial imaging for photogrammetric engineering applications and for being proficient in all aspects of stereo photogrammetry. Positions provide expertise in aerial imaging, performs research and development of new technological applications for aerial photogrammetry and new applications, and develops standards and specifications for these applications. Positions are also responsible for the design of target documents used by the regions for field placement of ground control targets and the evaluation and approval of all aerial imagery used in aerial triangulation and stereo photogrammetric process. This

allocation may perform leadworker functions such as training, scheduling work and guiding the activities of lower level unit specialists.

Plans and Contracts Examiner: Positions are responsible for review and complete examination of the most complex highway and structure plans prior to bidding by private contractors; verifies the completeness and accuracy of the final plans requiring a complete working knowledge of plan preparation; and ensures that the final plan meets the Department's standards and requirements.

Project Development Specialist: Positions at this level function as a project leaders on highly complex projects. The complexity of the projects include assignments which have numerous and varied steps, methods, and procedures. The assignments are complicated and may be evolving as the project progresses. Construction duties include, but are not limited to: working on projects that may be staged, involve numerous bid items, large dollar values, complex layout, utility conflicts, numerous subcontractors, adversely affected businesses, and sensitive environmental issues. The projects may also include various types of grading, drainage, addition, and removal of structures and varying levels of base course. Design duties include, but are not limited to: ensuring the intent of the design investigation is followed and that the design standards are met when completing complex studies, reports, plans, specifications, and estimates for projects. Positions at this level may be involved with several large projects simultaneously. Assignments may involve high levels of public involvement, policy, standards, procedure development, program evaluation, budget, and program administration. Specific levels of projects may be described at the Senior level, but the incumbent may exercise a greater degree of independence and are involved with assignments that have a greater consequence of error. Positions may also review and coordinate consultant prepared plans or outside agency plans of comparable size.

Railroad Project and Rail Safety Coordinator: Positions are responsible for development, implementation and management of a region's railroad related activities by providing expertise to planners, design engineers, construction engineers, real estate staff, and maintenance and traffic personnel. Positions ensure coordination of highway railroad activities on engineering projects that involve grade crossings, signals, grade separations, encroachments and land interests on railroad property. Positions manage rail safety programs, manage annual railroad pavement marking program, coordinate municipal agreements, review rail abandonment issues, prepare railroad crossing reports, conduct inventory and other railroad engineering related functions.

Roadway Development Specialist: Positions are responsible for creating, distributing and maintaining standard Detailed Drawings, special Construction Details, Standard Plan Sheet Vehicles, and figures for the Facilities Development Manual of a great variety of very complex highway engineering features which are used in all highway improvement projects constructed in the state. Positions are responsible for the accuracy and completeness of common highway engineering feature drawings that are used at the state, county and municipal levels and for the creation and distribution of the Official State Trunk Highway System Map Book.

Signing and/or Marking Coordinator: Positions serve as leadworker and/or coordinator of activities in the Signing and/or Marking program for a Region. Positions are responsible to organize, instruct, schedule, direct, and review the activities of the Signing and/or Marking program; prepare program budgets; coordinate and/or provide training on program responsibilities; schedule the work of other lower level Signing and Marking Specialists and Technicians; develop agreements and contracts for signing and marking; direct the preparation and review of complex detour and signing plans, and pavement marking plans; and inspect and check existing pavement marking and signing installations for compliance with current standards. Positions serve as project managers for let traffic signing and/or marking projects. These positions also provide expertise on all types of permanent highway signing, detour route signing,

and pavement marking and may provide high level on-site guidance to unique signing and/or pavement marking activities.

Stereo Compilation Specialist: Positions are responsible for and proficient in all aspects of stereo photogrammetry: preparing softcopy workstations and analytical stereo plotter for compilation readiness; interpreting aerial photography and compiling volumes of a variety of planimetric, topographic and Digital Terrain Models (DTM's) on complex projects; and operating softcopy workstations and analytical stereo plotters using numerous mapping software programs. Additionally, these positions perform one or more of the following: research and development of new technological applications for photogrammetry; editing photogrammetically compiled planimetric/topographic maps and DTM files; coordinating and assigning work of unit; performing orientation, correlation, and operation of computer assisted interactive analytical triangulation system; performing calibration of analytical stereo plotters using AP32 software; or generating digital orthophotography from scanned aerial imagery.

Structural Plan Examiner: Positions are responsible for the complete professional examination of all types of preliminary and final structure plans for the most complex projects. The difficulty of work involves complex structure plans production for both new and rehabilitation type work, including long span, curved, and high skew bridges, railroad, moveable span, sign and pedestrian bridges, noise barriers, foundations and retaining structures, structural repairs, and bridge rehabilitation. Positions are accountable for the completeness and accuracy of all quantities and drafted materials on the structure plans used by private contractors in competitive bidding and construction; performing consultation functions and hydraulic analysis; and examining bridge plans prepared by designers to assure completeness and accuracy for construction purposes in accordance with the Facilities Development Manual, Bridge Design Manual, and Standard Specification for Highways and Structures. Position must effectively communicate with statewide designers, contractors and consultants in final plan production and construction of highway structures.

Structural Plan Development Specialist: Positions are responsible for the complete production of a comprehensive and concise set of final structural plans for the use in competitive bidding and subsequent construction and for the production of structural plans up to and including those for the most complex structures which include long span, curved, and high skew bridges, railroad, moveable spans, rigid frames, and pedestrian bridges, noise barriers, structural repair and bridge rehabilitation, culverts, retaining walls, sign bridges, and scale pits.

Structures Research Specialist: Positions have statewide responsibility to structure designers, engineers, contractors, state, county and municipal governments, and consultants for development and production of structural plans, standards and insert sheets for very complex structures including long span, curved, and high skew bridges, railroad, moveable spans, rigid frames, pedestrian bridges, noise barriers, structural repair and bridge rehabilitation, culverts, retaining walls, sign bridges, and scale pits. Positions ensure compliance with applicable state and federal laws, regulations, and design standards; effectively communicate statewide with Engineers, contractors and consultants to maintain plan production schedules and avoid costly delays; ensure that final structural plans, standards and insert sheets contain complete, accurate, and comprehensive details as required by the Department's standards as well as contractor's and fabricator's requirements; provide training to lower level personnel or directly aid engineers in organizing very complex geometric bridge layouts to enhance their productivity statewide; and act as a liaison between Central Office and other offices.

Survey Data Coordinator: Positions are responsible for reviewing and/or processing and archiving the Regional Office's field survey measurements and descriptions for both in-house and consultant surveys to help ensure the highest level of quality for all survey data and information. Positions provide direction

for corrective actions that need to be taken in conjunction with Survey Coordinators. Positions provide properly reduced and formatted control and design survey data to Project Development design and CADDS drafting staff; and for plat development coordination. Positions provide technical support to the region by providing advice and guidance to construction and design staff related to Civil-3D, AutoCAD, digital terrain models and GPS machine controlled project grading. Positions work closely with the Survey Coordinator and perform back up duties when necessary.

Traffic Electrical Systems Specialist: Positions function as the regional coordinator or Bureau of Traffic Operations specialist performing analysis of electronic traffic equipment and operations including any combination of the following; maintenance, repair, calibration and modification of complex electronic systems; evaluate field operations and determine timing adjustments; coordinate lighting systems design and installations; management of intelligent transportation system (ITS) equipment and associated communication networks; test and troubleshoot electrical components; assist traffic engineers with standards and specifications.

Analytical Triangulation Specialist: Positions are responsible for detailed geometric design, collection, instrumentation and interpretation of precise geometric point data for Analytical Triangulation strip adjustment input and output for all classes of project configurations and scales; planning and performing geometric layout of all photo control points used for stereo compilation; assisting in the design of target documents used by Regions for field placement of ground control targets; and reviewing target placement on post flight photography.

Utility Coordinator: Positions serve as the sole utility coordinator and provide utility permit and coordination support to the region or may lead lower level utility technicians in a team environment; serve as technical consultant to supervisors and managers on utility issues; coordinate adjustment or relocation of public and/or private utility facilities to accommodate highway improvement projects and related right of way requirements; review transportation improvement plans and contract documents including special provisions related to utility involvement; coordinate and review the development of the utility company's adjustment or relocation plan of existing facilities; and develop utility agreements for reimbursable facility adjustments for relocation. In some regions, this position may also perform secondary duties less than 50% of the time to coordinate, develop and/or review plans and documents for various other design and construction related programs.

## III. QUALIFICATIONS

Specific qualifications for a position will be determined at the time of recruitment. Related education, training, and/or licensures may be required upon entrance into this series. The amount and type of knowledge, skills, education, work experience, and licensure requirements will be based on a thorough analysis of the goals and worker activities of each position to determine the specific requirements for positions in this series. Positions will commonly have an associate’s degree in civil engineering technology or a bachelors degree in a related scientific field, or comparable work experience such that it is determined that the training and experience meets the intent of the statutory definition of professional employee.

## IV. ADMINISTRATIVE INFORMATION

This classification was created effective October 12, 1997 and announced in Bulletin CC/SC-74 to describe positions that perform engineering specialist work at the Department of Transportation. This specification was modified effective July 13, 2003 and announced in Bulletin MRS-SC-164 as a result of a Wisconsin Employment Relations Commission decision.

This specification was again modified effective October 15, 2006 and announced in bulletin OSER-0143-MRS/SC to remove the Advanced 1 level and to reflect a change from districts to regions.

This specification was modified effective April 12, 2009 and announced in bulletin OSER-0238-CLR/SC to update the definitions to include positions that perform a combination of duties in the allocations listed.

This specification was again modified effective June 28, 2015 and announced in bulletin OSER-0396-CC/SC to add the Engineering Specialist Transportation level to meet the needs of the Department of Transportation for recruitment and training and to update allocations to reflect current work being performed by the Department.

This classification was modified to update the entrance to and progression language, make minor updates throughout the definition section, and retitled effective April 1, 2018, and announced in bulletin DPM-0465-CC/SC to retitle the classification series following the passage of Wisconsin 2017 Act 111 which restricted the use of "engineer" in classified titles.

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