

STATE OF OHIO (DAS)CLASSIFICATION
SPECIFICATION**CLASSIFICATION SERIES:**

Transportation Engineer

SERIES NO.:

8564

MAJOR AGENCIES:

Department of Transportation only

EFFECTIVE DATE:

01/21/2007

SERIES PURPOSE:

The purpose of the transportation engineer occupation is to provide professional engineering services in areas of roadway construction, planning, design, maintenance or testing. Must have authority to approve use of contingencies (i.e., quantity & plan design) in order to be properly classified at any level in this series.

At the three lowest levels, employees specialize in roadway construction, planning, design, maintenance or testing functions, with assignments increasing in the degree of complexity & independence as employees move through the series.

At the middle two levels, employees act as first, second or third line supervisors or staff specialists.

At the highest level, employees serve as administrator for an Office in Central Office or as District Construction Engineer or as a staff specialist who provides advice to director, assistant director or deputy director.

Note: The classification series is reserved for persons who have an engineering degree and have been accepted for the Basic Fundamentals of Engineering Examination (i.e., EIT exam), hold a valid certificate as Engineer-In-Training or hold licensure as registered professional engineer by Ohio State Board of Registration for Professional Engineers & Surveyors.

Glossary: The terms listed below are to be interpreted to mean the following whenever they appear in the classification specification.

Chief Engineer: Refers to the Assistant Director for Field Operations (i.e., oversees operations of all district offices).

Complex Plans/Projects: Characterized by planning & conducting technical work requiring judgment in the independent evaluation, selection, adaptation & modification of standard techniques, procedures & criteria. Employees devise new approaches to problems encountered. The following are complex plans/projects by assigned specialty: in Construction - new location, new alignment, multi-lane &/or bi-directional reconstruction & major structures; in Planning & Design - new location, new alignment, multi-lane &/or bi-directional reconstruction, major structures; in Operations - multi-phase traffic signal design, major structure rehabilitation, ditch relocation, traffic control standards & guidelines, multi-lane resurfacing & lane additions & widening.

Division: Only the following are the recognized divisions in the Ohio Department of Transportation: Engineering Policy; Multi-Modal Planning & Programming; Project Management; Transportation Assistance.

Major Structures: Complex hydraulic analysis (flood plain study utilizing HEC-2 or WSPRO analysis); steel girder bridges; multi-span steel beam bridges, with overall length equal to or greater than 500 feet; pre-stressed concrete I-Girder bridges; railroad bridges; lift bridges; steel truss bridges; bridges with friction drilled shaft foundations; bridges with foundation conditions requiring stability &/or settlement analysis; bridges with counter fort abutments; bridges with complicated geometrics, requiring unusual framing or curved stringers; bridges with exotic components (e.g., pot bearings, spherical bearings, modular expansion joint seals); rehabilitation projects for major structures; rehabilitation projects for minor structures requiring in-depth computations for construction (removal & repair) loads.

Minor Structures: Non-complex hydraulic analysis (flood hazard analysis); single span concrete slab (SB-2-73); continuous concrete slab (CS-2-73); single or multi-span non-composite Pre-stress Concrete Box Beam (PSBD-1-81) (for multi-span), overall length less than 300 feet; single span steel beam bridges; multi-span steel beam bridges with integral or stub type abutments (overall length less than 500 feet); culverts; super spans; retaining wall (RW-1-63); rehabilitation projects.

Office: An organizational area within the Ohio Department of Transportation reporting to a division deputy director, assistant director or chief engineer. The following is a complete list of the areas in Central Office, of the Ohio Department of Transportation, to be considered an "office": Aerial Engineering, Estimating, Equipment & Support Services, Highway Management, Planning, Production, Project Coordination, Public Transportation, Structural Engineering, Technical Services, and Traffic Engineering.

Office Administrator: Directs engineering staff in development of engineering specifications, policies, procedures & standards having statewide impact for entire engineering program function, establishes work priorities, directs development & implementation of polices & procedures, evaluates program effectiveness, develops & administers budget

to include federal dollars where appropriate & evaluates need & coordinates training for Office personnel.

Program Function: All activities pertaining to roadway construction, planning design, maintenance or materials control & testing.

Section: Comprised of a minimum of two work units. Each Transportation Engineer 4, 85644 has a minimum of two work units reporting.

Simple Plans/Projects: Designed to develop technical skills, knowledge & abilities requiring application of standard techniques, procedures & criteria in carrying out a sequence of engineering related tasks. Limited exercise of judgment is required on details of work & in making preliminary selections & adaptations of technical alternatives. The following are simple plans/projects by assigned specialty: in Construction - guardrail, two-lane resurfacing, striping, ditch lay-overs; in Planning & Design - guardrail, two-lane resurfacing, striping, ditch lay-overs & minor structures, in Operations -traffic signs & signals, raised pavement markers, striping, ditch lay-overs, bridge painting & waterproofing & annual mandated inspection of bridges to determine structural adequacy & condition.

Staff Specialist: There are three levels of staff specialist which carry out the following:

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Employee develops & evaluates plans & criteria for variety of projects & activities to be carried out by others & assesses feasibility & soundness of proposed engineering designs, evaluation tests, products or equipment when necessary data is insufficient or confirmation by testing is advisable regarding one technical specialty, or type of facility or equipment or program function. Employees located in the Central Office also conduct quality assurance reviews of engineering related operations/ projects that will vary by assigned area of expertise. An employee may also supervise other employees but such is not mandatory.

Transportation Engineer 4, 85644

Employee develops engineering policies & plans projects concerned with unique or controversial problems which have significant impact on major organizational programs, keeps abreast of new scientific methods & developments affecting department & recommends changes in emphasis of programs or new programs warranted, implements departmental policies & programs in administration of contracts involving multiple complex projects, programs & directives & develops &/or revises policies & directives based on field observation & testing. Employees located in Central Office also develop statewide quality assurance programs to review engineering related operations/projects that will vary by assigned area of expertise. An employee may also supervise other employees, but such is not mandatory.

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Central Office - Employee conducts investigations into specialized field of engineering (i.e., analyzes novel engineering concepts, procedures or material applications; conceives & plans investigations of broad or highly specialized areas for which engineering procedures are lacking; determines changes to standards, specifications, policies & procedures having statewide impact on basis of analysis), serves as consultant to division deputy director & acts in absence of division deputy director.

District Office - Employee coordinates activities of district office location on behalf of district deputy director, acts in absence of district deputy director & serves as consultant to district deputy director.

Standard Plans/Projects: Assignments require evaluation, selection & application of standard techniques using judgment to make minor adaptations & modifications. Assignments have clear & specified objectives & require the investigation of a limited number of variables. The following are examples of standard plans/projects by assigned specialty: in Construction - bridge overlays, culvert replacements & minor structures; in Planning & Design -detailed drawings of roadways, culvert replacements, minor structures, signing, roadway illumination & right of way; in Operations - maintenance of existing minor structures, roadways & updating specifications & plans for minor structure rehabilitation, two-lane re-surfacing, roadway illumination projects, roadway signing & two phase traffic signals.

Support Personnel: Technical & paraprofessional level employees. Does not include clerical, secretarial & like personnel.

Work Unit: Has two or more employees assigned who perform related functions. A work unit does not have to be headed by a supervisor.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
Transportation Engineer Intern	85640	31	04/04/1993

CLASS CONCEPT:

The first developmental level class works under immediate supervision & requires working knowledge of engineering & application of standard practices & techniques in order to inspect existing simple projects to ensure contractor compliance to plans, notes & guidelines & approve use of contingencies (i.e., quantity & plan design) as assistant project engineer, or to review & design simple plans for proposed highway construction projects/ improvements, or to assist in planning simple improvement & reconstruction projects to upgrade roads, structures & landscapes, or work as participant in department sponsored Engineer-In-Training program.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
Transportation Engineer 1	85641	32	04/04/1993

CLASS CONCEPT:

The second developmental class works under general supervision & requires considerable knowledge of civil engineering & evaluation, selection & application of standard techniques in order to inspect standard projects, approve use of contingencies (i.e., quantity & plan design) as stipulated by contract & has authority to stop work by contractor, or to generate standard detailed drawings used in construction, maintenance & planning of transportation projects & assist in review of highway & bridge plans, contracts & cost estimates for technical accuracy, or to assist in standard maintenance projects by performing calculations for hydraulics, signals, signing, pavement, fence & bridge design & to update specifications & plans for standard projects.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
Transportation Engineer 2	85642	33	04/04/1993

CLASS CONCEPT:

The full performance level class works under general supervision & requires considerable knowledge of civil engineering & independent evaluation, selection, adaptation & modification of standard techniques, procedures & criteria in order to manage multiple complex construction projects, review design of all necessary changes to project(s), ensure construction methods for all aspects of project(s) will achieve plan & specification intent & act as lead worker over lower-level transportation engineers, transportation technicians &/or other support personnel, or independently manage complex projects by generating detailed drawings utilizing engineering principles (e.g., structural steel design, structural concrete design, hydraulic design, geometric design, statistical analysis & cost analysis) in development of construction project plans, or to independently manage complex projects in field & from design development standpoint for maintenance of existing structures &/or roadway conditions (i.e., determine work required, develop & generate rehabilitation plans using CADD & drafting equipment for structures, develop rehabilitation layouts & analyze conditions & determine project scope).

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
Transportation Engineer 3	85643	14	01/21/2007

CLASS CONCEPT:

The advanced or first supervisory level class works under general direction & requires considerable knowledge of civil engineering in order to act as first line supervisor over lower-level transportation engineers, transportation technicians &/or other support personnel &/or act as staff specialist in District or Central Office;

In addition to one of preceding options, sign plans &/or other engineering documents as registered professional engineer & employees in Central Office conduct quality assurance reviews.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
Transportation Engineer 4	85644	15	01/21/2007

CLASS CONCEPT:

The expert or second supervisory level class works under general direction & requires thorough knowledge of civil engineering in order to supervise personnel assigned to minimum of two work units, with each unit assigned different functions;

In Construction only, supervises a minimum of 2 employees which must include at least one Transportation Engineer 3;

Or

In production only, supervise two or more teams/squads (i.e., minimum of two lower-level transportation engineers or transportation technicians &/or other support personnel per team/squad);

Or

Act as staff specialist in District or Central Office.

In addition to one of preceding options, sign plans &/or other engineering documents as registered professional engineer & employees in Central Office conduct quality assurance reviews.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>PAY RANGE</u>	<u>EFFECTIVE</u>
Transportation Engineer 5	85645	16	03/30/1997

CLASS CONCEPT:

The third expert or supervisory level class works under general direction & requires extensive knowledge of civil engineering in order to act as engineer in charge of all district construction activities (i.e., one position per district) & supervise assigned personnel, or act as staff specialist by serving as assistant to district deputy director to include acting in absence thereof in district office location (i.e., one position per district), or in Central Office location, serve as Office administrator & supervise assigned staff, or act as staff specialist by serving as assistant to division deputy director to include acting in absence thereof on matters related to assigned area of expertise, & in addition to one of preceding options, sign plans &/or other engineering documents as registered professional engineer.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Transportation Engineer Intern	85640	13	04/04/1993	31

JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

In Construction, inspects simple projects to ensure contractor compliance to plans, notes & guidelines (e.g., examines plans; verifies calculations; checks quantities; conducts tests to ensure compliance of materials to plan requirements; estimates costs) & approves use of contingencies (i.e., quantity & plan design); or in Planning & Design, reviews & designs simple plans for proposed highway construction projects/improvements & receives training in standard plans or projects; or in Operations, assists in planning simple improvement & reconstruction projects using CADD & drafting equipment to upgrade roads, structures & landscapes; or works as participant in department sponsored Engineer-In-Training program.

Records project information in construction diary & on various construction reports; coordinates raw field data & researches existing records to provide detailed information to higher-level engineers for further analysis; conducts traffic studies & researches specific locations (e.g., high accident areas); identifies capabilities of machinery to be purchased; performs administrative, fiscal & computer tasks to gain exposure to all aspects of department if participating in Engineer-In-Training program.

MAJOR WORKER CHARACTERISTICS:

Knowledge of engineering technology; OSHA safety practices*. Skill in use of computer, CADD & drafting equipment. Ability to understand civil engineering technology; use statistical analysis; comprehend & interpret plans & specifications to conduct simple inspections or design simple plans; cooperate with co-workers on assigned planning & design functions or projects.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Bachelor's degree in engineering; Accepted for Basic Fundamentals of Engineering Examination (EIT exam) by Ohio Board of Registration for Professional Engineers & Surveyors.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:

Not applicable.

UNUSUAL WORKING CONDITIONS:

May require travel where employee must provide own transportation; may be exposed to unsafe conditions during inspections of projects; may work varying hours.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Transportation Engineer 1	85641	13	04/04/1993	32

JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

In Construction, inspects standard projects to ensure contractor compliance, approves use of contingencies (i.e., quantity & plan design) stipulated by contract & has authority to stop work by contractor; or in Planning & Design, generates standard detailed drawings for specific portions of construction, maintenance & planning of transportation projects (e.g., applies knowledge of soils, slope of land & availability of existing drainage & structural design to establish precedents to meet estimated load requirements, improve efficiency, safety, economy & environmental compatibility) & assists in review of highway & bridge plans, contracts & cost estimates for technical accuracy; or in Operations, assists in standard maintenance projects by performing calculations for hydraulics, signals, signing, pavement, fence & bridge design & updates specifications & plans for standard projects.

Approves & signs documentation (e.g., approves use of contingencies, construction diaries, TE-30 material reports & construction estimates); assists in reviewing environmental documents (e.g., air & water reports; engineering source documents) in preliminary development stage for accuracy & compliance to specifications; participates in survey, layout & preparation of traffic signal installations; reviews routine traffic engineering studies & summarizes for engineer; generates reports & cost estimates.

Meets with public, government officials & property owners to provide information regarding projects; confers with higher-level engineer or transportation technician to gain assistance to resolve unusual problems.

MAJOR WORKER CHARACTERISTICS:

Knowledge of civil engineering technology; OSHA safety practices*; public relations*. Skill in use of computer, CADD & drafting equipment. Ability to understand civil engineering technology; use statistical analysis; comprehend & interpret plans & specifications to conduct standard inspections or design standard plans; cooperate with co-workers on group projects; handle routine & sensitive contacts with public government officials & property owners concerning assigned projects/plans.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Valid certificate as Engineer-In-Training issued or accepted as equivalent by Ohio Board of Registration of Professional Engineers & Surveyors; 12 mos. exp. as Transportation Engineer Intern, 85640.

-Or valid certificate as Engineer-In-Training issued or accepted as equivalent by Ohio Board of Registration for Professional Engineers & Surveyors; 12 mos. engineering related experience.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:

Not applicable.

UNUSUAL WORKING CONDITIONS:

May require travel where employee must provide own transportation; may be exposed to unsafe conditions during inspections of projects; may work varying hours.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Transportation Engineer 2	85642	13	04/04/1993	33

JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

In Construction, manages multiple complex construction projects, reviews design of all necessary changes to project(s) & ensures construction methods for all aspects of project(s) will achieve plan & specification intent by acting as lead worker (i.e., provides work direction & training) & routinely reviewing construction diaries, inspection reports &/or material test reports completed by lower-level transportation technicians &/or transportation engineers &/or other support personnel; or in Planning & Design, independently manages complex projects by generating &/or reviewing detailed drawings using CADD or drafting equipment & engineering principles; or in Operations, independently manages complex project in field & from design development standpoint for maintenance of existing structures &/or roadway conditions (i.e., determines work required, develops & generates rehabilitation plans using CADD & drafting equipment for structures, develops rehabilitation layouts, analyzes conditions & determines project scope).

Prepares required reports relative to assigned projects/plans; prepares cost estimates; confers with supervisor or higher-level engineer regarding unusual or complex problems or to obtain approval on plans.

MAJOR WORKER CHARACTERISTICS:

Knowledge of civil engineering technology; OSHA safety practices*; public relations*. Skill in use of computer, CADD & drafting equipment. Ability to understand civil engineering technology; use statistical analysis; comprehend & interpret plans & specifications to conduct complex inspections or design complex plans; cooperate with co-workers on assigned planning & design functions or projects.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Valid certificate as Engineer-In-Training issued or accepted as equivalent by Ohio Board of Registration for Professional Engineers & Surveyors; 12 mos. exp. as Transportation Engineer 1, 85641.

-Or Bachelor's degree in engineering; valid certificate as Engineer-In-Training issued or accepted as equivalent by Ohio Board of Registration for Professional Engineers & Surveyors; 2 yrs. engineering related experience.

-Or equivalent of Minimum Class Qualifications For Employment noted above may be substituted for the experience required, but not for the mandated registration.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:

Not applicable.

UNUSUAL WORKING CONDITIONS:

May require travel where employee must provide own transportation; may be exposed to unsafe conditions during inspections of projects; may work varying hours.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Transportation Engineer 3	85643	EX	01/21/2007	14

JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

In District or Central Office, acts as staff specialist (i.e., develops & evaluates plans & criteria for variety of projects & activities to be carried out by others; assesses feasibility & soundness of proposed engineering designs, evaluation tests, products or equipment when necessary data is insufficient or confirmation by testing is advisable regarding one technical specialty, or type of facility, or equipment or program function, represents organization at conferences to resolve questions, directs engineering/technical activities on behalf of supervisor & to plan & coordinate work, assists in development of section policy, budget preparation &/or long range planning & advises offices, consulting firms, Federal Highway Administration, local public agencies & others with projects/problems in assigned area of expertise) in addition, employees in Central Office conduct quality assurance reviews;

&/or

Acts as first line supervisor over lower-level transportation engineers, transportation technicians &/or other support personnel

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in addition to one of preceding options, signs plans &/or other engineering documents as registered professional engineer, documents as registered professional engineer, manages multiple complex construction projects, reviews design of all necessary changes to project(s) & ensures construction methods for all aspects of project(s) will achieve plan & specification intent & routinely reviewing construction diaries, inspection reports &/or material test reports completed by transportation technicians &/or transportation engineers &/or other support personnel, interprets complex plans to provide for effective implementation & minimize chance of accident, conflict & delay, conducts field reviews of project implementation &/or reviews site of proposed project to ensure project adaptability & prepares design changes to final plans (i.e., plans let for construction) to solve plan implementation problems (i.e., changes to structural design including camber of beam, pavement design, geometric design & hydraulics), prepares plans & designs revisions for construction of roadways (i.e., shoulder widening, ditch lay-overs, drainage design, structural repair & rehabilitation) using Computer Aided Drafting & Design (i.e., CADD) & drafting equipment, recommends & designs change orders, reviews complex engineering reports & analyzes bids & recommends awards, prepares or reviews complex plans & designs for major four-lane rehabilitation, new construction, bridge replacement, roadway relocation by incorporating geometric, hydraulic & structural design techniques in plan preparation using CADD or drafting tools to draw plans & instructs & trains employees in CADD techniques; as assigned, operates state vehicle to travel to & inspect project sites.

MAJOR WORKER CHARACTERISTICS:

Knowledge of civil engineering; public relations*; OSHA safety practices; employee training & development; supervisory principles & techniques*. Skill in use of computer, CADD & drafting equipment. Ability to comprehend & interpret variety of civil engineering principles, techniques, procedures, criteria, plans & specifications & related data; define problems, collect data, establish facts & draw valid engineering/technical conclusions; use statistical analysis; calculate fractions, decimals & percentages; cooperate with co-workers on group projects &/or establish friendly atmosphere as supervisor; handle routine & sensitive contacts with government officials, consulting firms/contractors & general public.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Licensed as registered professional engineer by Ohio State Board of Registration for Professional Engineers & Surveyors; 12 mos. exp. as Transportation Engineer 2, 85642; if assigned to operate a state vehicle to travel to & inspect project sites, must possess valid driver's license.

-Or licensed as registered professional engineer by Ohio State Board of Registration for Professional Engineers & Surveyors; 12 mos. exp. as group or project leader providing work direction & training to engineering technicians &/or lower-level engineers or 12 mos. exp. in conducting engineering related research (i.e., conducting engineering related research only applies to staff specialist positions); if assigned to operate a state vehicle to travel to & inspect project sites, must possess valid driver's license.

-Or equivalent of Minimum Class Qualifications For Employment noted above may be substituted for the experience required, but not for the mandated registration.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:

Renewal of licensure as registered professional engineer as prescribed by law.

UNUSUAL WORKING CONDITIONS:

May require travel where employee must provide own transportation; may be exposed to unsafe conditions when conducting inspections; may work varying hours.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Transportation Engineer 4	85644	EX	01/21/2007	15

JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

Supervises personnel assigned to minimum of two work units, with each unit assigned different functions;

Or

In Construction only, supervises a minimum of 2 employees which must include at least one Transportation Engineer 3;

Or

In production only, supervise two or more teams/squads (i.e., minimum of two lower-level transportation engineers or transportation technicians &/or other support personnel per team/squad),

Or

In District or Central Office, acts as staff specialist (i.e., develops engineering policies & plans projects concerned with unique or controversial problems which have significant impact on major organizational programs; keeps abreast of new scientific methods & developments affecting department & recommends changes in emphasis of programs, represents administrator in administration of contracts involving multiple complex projects, programs & directives & develops &/or revises policies & directives based on field observation & testing & if assigned, supervises employees)

In addition to one of preceding options, sign plans &/or other engineering documents as registered professional engineer & employees in Central Office conduct quality assurance reviews.

Provides budgetary information to supervisor, researches & makes recommendations to assist with long range planning for section, evaluates section's engineering policies & recommends revisions & approves & implements section policies; evaluates impact of changes to engineering policies, procedures & standards having statewide implications & makes recommendations to supervisor, integrates changes in existing programs & directs research & evaluation efforts (i.e., in Central Office location); determines testing procedures to evaluate changes, implements test studies & recommends adoption of new procedures, policies & equipment purchases (i.e., staff specialists).

Independently generates & signs name to external correspondence (e.g., inquiries, investigations, acknowledgments) to consultants, governmental units, private industries & general public on matters related to section's activities; conducts field inspections; meets with officials from district &/or external officials (e.g., consultants, Federal Highway Administration, local authorities county officials) to present department's position & offer recommendations of acceptable alternatives where established policy does not apply; serves on various internal &/or external committees; originates reports; as assigned, operates state vehicle to travel to & inspect project sites.

MAJOR WORKER CHARACTERISTICS:

Knowledge of civil engineering; public relations*; OSHA safety practices; employee training & development; supervisory principles & techniques*. Skill in use of computer, CADD & drafting equipment. Ability to comprehend & interpret variety of civil engineering principles, techniques, procedures, criteria, plans & specifications & related data; define problems, collect data, establish facts & draw valid engineering/technical conclusions; use statistical analysis; calculate fractions, decimals & percentages; cooperate with co-workers on group projects &/or establish friendly atmosphere as supervisor; handle routine & sensitive contacts with government officials, consulting firms/contractors & general public; plan & develop engineering projects with unique or controversial problems &/or novel engineering related concepts & approaches.

(*)Developed after employment.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Licensed as registered professional engineer by Ohio State Board of Registration for Professional Engineers & Surveyors; 12 mos. exp. as Transportation Engineer 3, 85643; if assigned to operate a state vehicle to travel to & inspect project sites, must possess valid driver's license.

-Or licensed as registered professional engineer by Ohio State Board of Registration for Professional Engineers & Surveyors; 2 yrs. exp. as group or project leader or supervisor providing work direction & training to employees engaged

in engineering projects or 2 yrs. exp. in managing engineering research projects (i.e., managing research projects applies only to staff specialist positions); if assigned to operate a state vehicle to travel to & inspect project sites, must possess valid driver's license.

-Or equivalent of Minimum Class Qualifications For Employment noted above may be substituted for the experience required, but not for the mandated registration.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:

Renewal of licensure as registered professional engineer as prescribed by law.

UNUSUAL WORKING CONDITIONS:

May require travel where employee must provide own transportation; may be exposed to unsafe conditions when conducting inspections; may work varying hours.

<u>CLASS TITLE</u>	<u>CLASS NUMBER</u>	<u>B. U.</u>	<u>EFFECTIVE</u>	<u>PAY RANGE</u>
Transportation Engineer 5	85645	EX	03/30/1997	16

JOB DUTIES IN ORDER OF IMPORTANCE: (These duties are illustrative only. Incumbents may perform some or all of these duties or other job-related duties as assigned.)

In Central Office location only, serves as Office administrator (i.e., directs engineering staff in development of engineering specifications, policies, procedures & standards having statewide impact for entire engineering program function; establishes work priorities; directs development & implementation of policies & procedures; evaluates program effectiveness; develops & administers budget to include federal dollars where appropriate; evaluates need & coordinates training for Office personnel) & supervises assigned staff,

OR

In Central Office location only, conducts investigations into specialized field of engineering on behalf of Central Office division deputy director as staff specialist (i.e., analyzes novel engineering concepts, procedures or materials applications; conceives & plans investigations of broad or highly specialized areas for which engineering procedures are lacking; determines changes to standards, specifications, policies & procedures having statewide impact on basis of analysis), serves as consultant to division deputy director, acts in absence of division deputy director regarding matters related to assigned area of expertise, evaluates & recommends changes to specifications, acts as liaison between district deputy director, Central Office, consultants, contractors & federal, state, local & county governmental officials, serves on various committees as expert in field, meets with authorities of all levels to coordinate work & plan program, participates as needed in public hearings, assists Office of Attorney General on legal matters & responds to inquiries & complaints,

OR

In District Office location only, directs & administers all district construction activities (i.e., only one position per district), supervises transportation engineer 4s assigned to construction function, establishes priorities & objectives & ensures completion thereof, approves & directs implementation of all policies & procedures & develops & administers construction budget, or coordinates activities of District Office location on behalf of district deputy director & serves as consultant to district deputy director (i.e., one position per district),

AND

In addition to one of preceding options, directs preparation of highly technical engineering reports (e.g., program manuals within Office specialty; design manuals; exceptions to existing national specifications/standards as guides on technical matters) & develops long range plans to address issues having future impact on department.

Represents department on various external committees; serves on internal task forces to provide expertise in area of specialization; meets with consultants, contractors & government officials to explain programs & coordinate projects; responds to inquiries from various public & private organizations; testifies as expert witness as needed before committees, government entities & in court.

MAJOR WORKER CHARACTERISTICS:

Knowledge of civil engineering; public relations; OSHA safety practices; employee training & development; supervisory principles & techniques. Skill in use of computer, CADD & drafting equipment. Ability to comprehend & interpret variety of civil engineering principles, techniques, procedures, criteria, plans & specifications & related data; exercise independent judgment to anticipate & solve unprecedented engineering problems, determine program objectives & requirements, organize projects & develop policy, standards & guidelines for diverse engineering activities.

MINIMUM CLASS QUALIFICATIONS FOR EMPLOYMENT:

Licensed as registered professional engineer by Ohio State Board of Registration for Professional Engineers & Surveyors; 12 mos. exp. as Transportation Engineer 4, 85644.

-Or licensed as registered professional engineer by Ohio Board of Registered Professional Engineers & Surveyors; 3 yrs. exp. in supervisory engineering position or 3 yrs. exp. performing duties of exempt staff specialist for Ohio Department of Transportation (i.e., exp. as exempt staff specialist only applies to staff specialist positions).

-Or equivalent of Minimum Class Qualifications For Employment noted above may be substituted for the experience

required, but not for the mandated registration.

TRAINING AND DEVELOPMENT REQUIRED TO REMAIN IN THE CLASSIFICATION AFTER EMPLOYMENT:

Renewal of licensure as registered professional engineer as prescribed by law.

UNUSUAL WORKING CONDITIONS:

May require travel where employee must provide own transportation; may work varying hours.