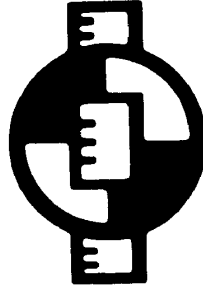


CHAPTER 28



ENGINEERING AIDE (EA)

NAVPERS 18068F-28H
Change 100

Updated: October 2024

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ENGINEERING AIDE (EA)**

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NAVY ENLISTED OCCUPATIONAL STANDARD

FOR
ENGINEERING AIDE (EA)



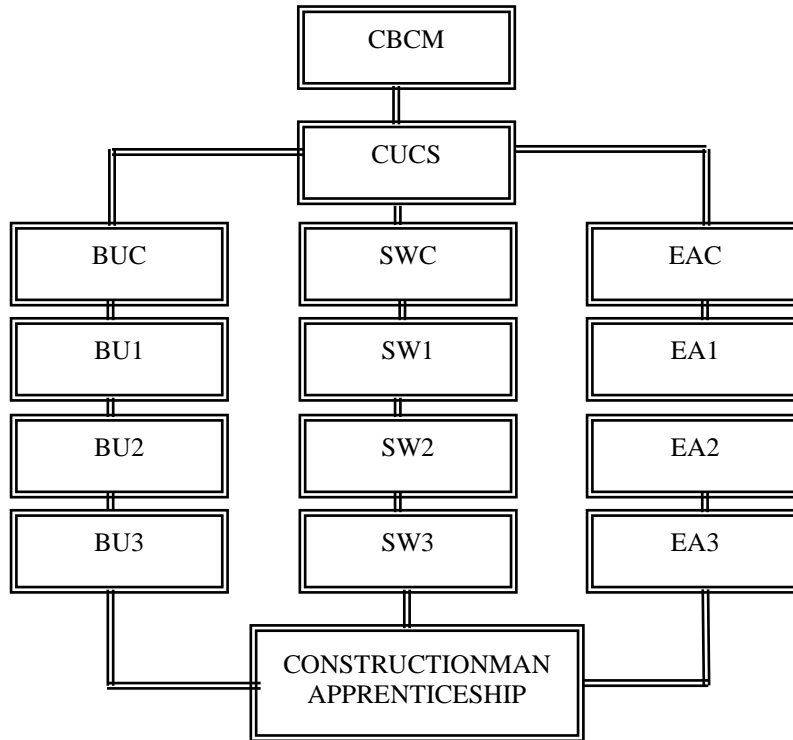
SCOPE OF RATING

Engineering Aides (EA) plan, supervise, and perform tasks required in construction design preparation, surveying, drafting, materials testing, and construction management; establish control survey points, run and close traverses, run level circuits, create topographic maps, stake out construction projects, employing conventional and Global Navigation Survey Systems (GNSS); prepare, edit, and reproduce construction drawings; establish and operate systems for testing soils, concrete and other construction materials, design aggregate mixes for soil-cement, concrete, and bituminous applications; prepare timekeeping records, construction schedules, planning and estimating, quality control, and progress reports; provide facilities support; maintain individual combat readiness; and perform tasks required in combat, Defense Support of Civil Authorities (DSCA), and Humanitarian Assistance/Disaster Recovery (HA/DR) operations.

This Occupational Standard is to be incorporated in Volume I, Part B, of the Manual of Navy Enlisted Manpower and Personnel Classifications and Occupational Standards (NAVPERS 18068F) as Chapter 28.

GENERAL INFORMATION

CAREER PATTERN



Normal path of advancement to Chief Warrant Officer and Limited Duty Officer categories can be found in OPNAVINST 1420.1.

For rating entry requirements, refer to MILPERSMAN 1306-618.

SAFETY

The observance of Operational Risk Management (ORM) and proper safety precautions in all areas is an integral part of each billet and the responsibility of every Sailor; therefore, it is a universal requirement for all ratings.

*Career path updated to reflect rating name change to Seabee Master Chief (CBCM) – NAVADMIN 054/21 refers

Job Title
Engineering Aide

Job Code
001160

Job Family
 Architecture and Engineering

NOC
 TBD

Short Title (30 Characters)
 ENGINEERING AIDE

Short Title (14 Characters)
 ENGINEER AIDE

Pay Plan
 Enlisted

Career Field
 EA

Other Relationships and Rules
 NEC BXXX series and other NECs as assigned

Job Description

Engineering Aides plan, supervise, and perform tasks required in construction design preparation, surveying, drafting, materials testing, and construction management; establish control survey points, run and close traverses, and run level circuits; create topographic maps; stake out construction projects; employing conventional and Global Navigation Survey Systems (GNSS) and mobile mappings; prepare, edit, and reproduce construction drawings; establish and operate systems for testing soils, concrete and other construction materials; design aggregate mixes for soil stabilization, concrete, and bituminous applications; prepare construction schedules; prepare planning and estimating, quality control, and progress reports; plan, staff, direct, and control construction projects through problem solving, planning, estimating, scheduling, cost control, and management of personnel in order to ensure compliance with specifications, code requirements, plans, and contracts; and lead as project supervisors and trainers for junior personnel.

DoD Relationship

Group Title
 Construction, General

DoD Code
 171000

O*NET Relationship

Occupation Title
 Civil Engineering Technologists and Technicians

SOC Code
 17-3022.00

Job Family
 Architecture and Engineering

Skills

Complex Problem Solving

Operations Analysis

Operation and Control

Quality Control Analysis

Management of Personnel Resources

Judgment and Decision Making

Management of Material Resources

Monitoring

Mathematics

Systems Analysis

Abilities

Deductive Reasoning

Information Ordering

Inductive Reasoning

Mathematical Reasoning

Oral Expression

Problem Sensitivity

Written Expression

Written Comprehension

Speed of Closure

Category Flexibility

CONSTRUCTION DESIGN

Paygrade	Task Type	Task Statements
E5	CORE	Calculate engineering and construction design requirements
E5	CORE	Develop architectural designs using Computer-Aided Design (CAD)
E5	CORE	Develop civil engineering designs using Computer-Aided Design (CAD)
E5	NON-CORE	Develop cold-formed steel facility designs using detailer software
E5	CORE	Develop electrical designs using Computer-Aided Design (CAD)
E5	CORE	Develop heavy construction designs using Computer-Aided Design (CAD)
E5	CORE	Develop mechanical designs using Computer-Aided Design (CAD)
E6	CORE	Develop specialty designs based on Unified Facilities Criteria (UFC) using Computer-Aided Design (CAD) (e.g., airfield, wharf, pier, port, heliport, power station, moles, breakwater, etc.)
E5	CORE	Develop structural designs using Computer-Aided Design (CAD)
E5	CORE	Develop survey designs using post processing software

CONSTRUCTION MANAGEMENT

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Conduct construction project turnovers
E6	CORE	Conduct Three-Phase Quality Control inspections
E4	CORE	Develop construction activity summary sheets
E4	CORE	Develop construction estimates
E5	CORE	Develop construction project packages
E4	CORE	Develop construction project sketches and diagrams
E5	NON-CORE	Develop construction safety plans
E5	NON-CORE	Develop environmental protection plans
E5	CORE	Develop master activities listing
E5	CORE	Develop project Three-Phase Quality Control plans
E4	CORE	Establish construction site layouts
E5	CORE	Input project data into construction management software and tools
E5	CORE	Inspect construction materials
E5	CORE	Interpret construction project drawings and specifications
E4	CORE	Inventory project tools and materials
E5	CORE	Lead construction project crews
E6	CORE	Manage construction project resources
E7	CORE	Manage construction projects
E7	NON-CORE	Manage construction safety plans
E6	CORE	Manage job site construction operations (e.g. Quality Control (QC) and safety plan implementation, job site information board, level III chart, etc.)
E6	CORE	Manage project Quality Control (QC) plans
E7	CORE	Manage Three-Phase Quality Control program
E6	NON-CORE	Supervise batch plant operations
E6	CORE	Supervise construction project crews
E5	NON-CORE	Supervise construction project safety operations
E6	CORE	Supervise construction project turnovers
E6	NON-CORE	Supervise environmental protection plans
E6	CORE	Supervise planning and estimating operations
E6	CORE	Supervise project Three-Phase Quality Control process
E6	CORE	Validate construction project packages
E5	CORE	Validate project surveys and elevation data
E6	CORE	Verify construction project contract requirements

DRAFTING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Analyze construction drawings
E5	CORE	Develop construction plans using Computer-Aided Design (CAD)
E4	CORE	Draft architectural drawings using Computer-Aided Design (CAD)

DRAFTING (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Draft civil drawings using Computer-Aided Design (CAD) (e.g., drainage, road, site plans, etc.)
E4	NON-CORE	Draft cold-formed steel framing installation plans
E4	CORE	Draft electrical drawings using Computer-Aided Design (CAD)
E4	CORE	Draft heavy construction designs using Computer-Aided Design (CAD)
E4	CORE	Draft mechanical drawings using Computer-Aided Design (CAD)
E5	CORE	Draft specialty designs based on Unified Facilities Criteria (UFC) using Computer-Aided Design (CAD) (i.e., airfield, wharf, pier, port, heliport, power station, moles, breakwater, etc.)
E4	CORE	Draft structural drawings using Computer-Aided Design (CAD)
E5	CORE	Supervise drafting operations
E6	CORE	Validate construction drawings

ENGINEERING TECHNICAL SUPPORT

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Consolidate construction project specifications and standards
E4	CORE	Maintain engineering technical libraries
E4	CORE	Maintain engineering tool kits
E4	CORE	Maintain technical plan files and records
E7	CORE	Manage engineering support operations
E4	CORE	Provide construction drawings
E6	CORE	Supervise engineering support operations

FACILITIES SUPPORT

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E6	NON-CORE	Administer facilities maintenance contracts
E5	NON-CORE	Administer facilities maintenance programs
E5	NON-CORE	Conduct building inspections
E4	NON-CORE	Coordinate facilities maintenance program requests
E7	NON-CORE	Manage facilities contract administration programs
E7	NON-CORE	Manage facilities maintenance programs

MATERIALS TESTING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	CORE	Develop materials testing reports
E5	CORE	Perform bituminous mix designs
E5	CORE	Perform concrete mix designs
E5	CORE	Perform soil stabilization mix designs
E5	NON-CORE	Supervise batch plant Quality Control (QC) requirements
E5	CORE	Supervise materials testing operations
E5	CORE	Test bituminous materials

MATERIALS TESTING (CONT'D)

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E4	CORE	Test concrete materials
E4	CORE	Test soil materials
E5	CORE	Test soil stabilization materials
E6	CORE	Validate material testing reports

SURVEYING

<u>Paygrade</u>	<u>Task Type</u>	<u>Task Statements</u>
E5	NON-CORE	Assess airfield damages
E5	NON-CORE	Assess pier damages
E4	NON-CORE	Conduct battle damage surveys
E4	CORE	Conduct construction surveys
E4	CORE	Conduct engineering surveys
E5	CORE	Conduct Global Navigation Survey System (GNSS) surveys
E4	NON-CORE	Conduct mobile mapping surveys (e.g., Light Detection and Ranging (LIDAR), geospatial 3-D scanning, photogrammetry, etc.)
E5	CORE	Convert file for upload to heavy equipment for Global Navigation Survey System (GNSS)
E4	CORE	Interpret survey data
E4	NON-CORE	Post-process mobile mapping surveys data (e.g., Light Detection and Ranging (LIDAR), geospatial 3-D scanning, photogrammetry, etc.)
E4	CORE	Process survey data
E5	CORE	Supervise surveying operations
E5	CORE	Upload file designs to heavy equipment Global Navigation Survey System (GNSS)
E6	CORE	Validate survey data