

# CHAPTER 16

## EXAMPLE COST CODES FOR CONSTRUCTION PROJECTS

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### 1. INTRODUCTION

This chapter provides an example outline of cost items and their corresponding cost codes that may be used for construction projects. These cost items are divided into 11 general groups (A-K) known as Level 1 cost items with their respective Level 1 cost codes. Each cost item is broken into specific items known as Level 2 cost items and has a Level 2 cost code associated with it. Following each outline of cost items, Level 1 and 2, is their description.

### 2. OUTLINE OF THE LEVEL 1 COST CODES FOR CONSTRUCTION PROJECTS

An outline and brief explanation of the Level 1 cost codes in the common cost code of accounts are as follows:

<u>Level 1 Cost Item</u>	<u>Level 1 Cost Code</u>
Land and Land Rights	400
Improvements to Land	460
Buildings	501
Other Structures	550
Utilities	600
Special Equipment/Process Systems	700
Improvements for Others	800
Demolition	810
Tunneling	820
Drilling	830
Standard Equipment	860

#### A. Land and Land Rights (400)

This cost code includes the purchase price, other acquisition costs, and removal costs less salvage realized in disposing of any facilities acquired with the land. Some specific items are as follows.

- the costs of rights, interests, and privileges relating to land, such as leaseholds, easements, rights-of-way, water and waterpower rights, diversion rights, and submersion rights;
- the cost and appraised value of timber and pulpwood; cost of reforestation program for the purpose of dust and soil erosion control, retention of water tables, etc.; cost of development and improvement of timber stand; and other forestry management costs; and
- the cost of mineral rights and land containing mineral deposits owned by the Government.

**B. Improvements to Land (460)**

This cost code includes the cost of general site clearing, grading, drainage, and facilities common to the project as a whole (such as roads, walks, paved areas, fences, guard towers, railroads, port facilities, etc.), but excludes individual buildings, other structures, utilities, special equipment/process systems, and demolition, tunneling and drilling when they are a significant intermediate or end product of the project.

**C. Buildings (501)**

This cost code includes the installed cost of buildings and permanently attached appurtenances, such as fire protection, lighting, plumbing, heating, ventilation, and built-in air conditioning systems (excluding window or console air conditioning units that require no ductwork or cooling towers), and the cost of piping, conduit, and cable permanently attached to and made a part of the building. The division between building costs and the costs of utility systems is generally made at a point nominally 5 feet outside the building wall.

**D. Other Structures (550)**

This cost code includes the installed cost of such structures as dams, retention basins, reservoirs, swimming pools, pits, platforms, underground oil storage reservoirs, and stacks (when not a part of a building), and installed cost of structures and frames used to support such items as heat exchangers, vessels, etc., or special structures, such as towers, utility doors, etc., whether inside or outside a building.

**E. Utilities (600)**

This cost code includes the installed cost of systems that service the project as a whole and generally extend between individual buildings or process units. Examples include communications systems, electric transmission and distribution systems, alarm systems, gas transmission and distribution systems, irrigation

systems, sewerage systems, steam generation and distribution systems, water supply, pumping, treatment and distribution systems, and oil piping and distribution systems.

**F. Special Equipment/Process Systems (700)**

This cost code includes the installed cost of large items of special equipment and process systems, such as vessels (e.g., towers, reactors, storage tanks), heat transfer systems (e.g., heat exchangers, stacks, cooling towers, desuperheaters, etc.), package units (e.g., waste treatment packages, clarifier packages, sulfurization, demineralization, etc.), and process piping systems.

**G. Improvements for Others (800)**

This cost code includes the cost of improvements made by DOE to land, buildings, structures, building services, and utility systems not owned by DOE. Plants, laboratories, and similar facilities constructed by DOE on land owned by others are not to be classified in this category.

**H. Demolition (810)**

This cost code includes the cost of wrecking, dismantling, cutting, drilling, and removing existing structures, equipment, and materials, as well as any excavation required to facilitate demolition and the cleaning, stacking, loading, hauling, and unloading of material for salvage and/or disposal when such activity represents a major activity in accomplishment of the project. Minor, routine demolition will be listed under improvements to land.

**I. Tunneling (820)**

This cost code includes the complete costs of constructing a tunnel consisting of excavation, drilling, blasting, mucking, shoring, timbering, bolting, mechanical utilities (air, water, and vent lines), surface construction installation (shaft collars, portal facings, retaining walls, rock, bolts, fences, gates, hatches, doors, muck dumping facilities, anchors, guys, deadmen, buildings, foundations, docks, etc.), and associated mobilization and demobilization.

**J. Drilling (830)**

This cost code includes the complete cost of drilling consisting of purchase or lease of the drilling rig and associated material mandrels, jet subs, drill collars, drill pipe, kellys, goosenecks, casing, detergent, mud additives and other chemicals, tool repair, installing casing (double jointing, lugging, cutting lifting eyes, belling, and installing guidelines), installing the drilling rig, correcting problems (plugback to

correct well bore deviations), cleaning out and conditioning the hole, coring, sidewall, sampling, dewatering, fishing, laboratory support, building support structures, and safety fences.

#### **K. Standard Equipment (860)**

This level includes items of equipment in which only a minimum of design work is required, such as “off-the-shelf” items. Examples of standard equipment include office furniture, laboratory equipment, heavy mobile equipment, etc. Items of standard equipment that are incorporated into Second Level code systems will be included with that system and not under standard equipment.

### **3. OUTLINE OF LEVEL 1 AND LEVEL 2 COST CODES**

Below is an outline of the Cost Codes of a general construction project:

<u>Level 1</u>	<u>Level 2</u>	<u>Cost Items</u>
400		<u>Land and Land Rights</u>
	4010	Land
	4020	Land Rights
	4030	Minerals
	4040	Timber
460		<u>Improvements to Land</u>
	4601	Site Preparation
	4602	Drainage
	4603	Landscaping
	4605	Railroads
	4606	Port Facilities
	4700	Roads, Walks and Paved Areas
	4800	Fences and Guard Towers
	4900	Other Improvements to Land
501		<u>Buildings</u>
	5011	Excavation and Backfill
	5012	Concrete
	5013	Masonry
	5014	Metals
	5015	Wood and Plastic
	5016	Finishes
	5017	Special Construction
	5018	Mechanical

	5019	Electrical
550		<u>Other Structures</u>
	5501	Excavation and Backfill
	5502	Concrete
	5503	Masonry
	5504	Metals
	5505	Wood and Plastic
	5506	Thermal and Moisture Protection
	5507	Special Construction
	5508	Mechanical
	5509	Electrical
600		<u>Utilities</u>
	6100	Communications Systems
	6150	Electric Transmission and Distribution Systems
	6210	Alarm Systems
	6250	Gas Transmission and Distribution Systems
	6300	Irrigation Systems
	6400	Sewerage Systems
	6450	Steam Generation and Distribution Systems
	6500	Water Supply, Pumping, Treatment and Distribution Systems
	6600	Oil Piping and Distribution Systems
	6900	Other Utilities
700		<u>Special Equipment/Process Systems</u>
	7010	Vessels
	7020	Heat Transfer
	7030	Mechanical Equipment
	7040	Package Units
	7050	Process Piping
	7060	Electrical
	7065	Instrumentation
	7070	Protective Cover
	7080	Reactor Components

800		<u>Improvements for Others</u>
810		<u>Demolition</u>
820		<u>Tunneling</u>
830		<u>Drilling</u>
860		<u>Standard Equipment</u>
	8610	Heavy Mobile Equipment
	8615	Hospital and Medical Equipment
	8620	Laboratory Equipment
	8625	Motor Vehicles and Aircraft
	8630	Office Furniture and Equipment
	8635	Process Equipment (for Mfgr.)
	8640	Railroad Rolling Stock
	8645	Reactors and Accelerators
	8650	Portable Security and Protection Equipment
	8655	Shop Equipment
	8660	Reserve Construction Equipment Pool
	8670	ADP Equipment
	8699	Miscellaneous Equipment

#### 4. DESCRIPTION OF LEVEL 2 COST CODES

##### A. 400 Land and Land Rights

##### 1. 4010 Land

This includes the purchase price, other acquisition costs, and removal costs less salvage realized in disposing of any facilities acquired with the land. Some specific items are as follows.

- a. Cost of Land: This includes costs incurred in acquiring land, such as purchase price, amounts paid other Federal agencies, and other acquisition costs.
- b. Removal of Existing Structures: This includes the cost of labor and materials for demolition and removal of buildings and other structures, acquired with the purchase or acquisition of the site, that are not usable.

- c. Cost Recoveries: This includes the amounts received from cash sale of net transfer values of buildings and other structures, acquired with the purchase or acquisition of the site, on which disposal is made.
- d. Relocating Highways and Highway Bridges: This includes all costs required in relocation of highways made necessary by construction of the project.
- e. Relocation of Railroads and Railroad Bridges: This includes relocation of railroads made necessary by construction of the project.
- f. Relocation of Public Utilities: This includes relocation and protection of public utility properties, such as electrical, communications, water, etc.
- g. Cemeteries: This includes disinterment, transportation, and reinterment of remains.
- h. Families: This includes relocation of displaced families.
- i. Municipal Facilities: This includes relocation and protection of sewage systems, water systems, streets, and other municipal facilities.
- j. Industrial: This includes relocation and protection of industrial facilities.
- k. Other Structures and Improvements: This includes relocation and protection of buildings and improvements not elsewhere provided for in the cost codes.

## **2. 4020 Land Rights**

This includes the costs of rights, interests, and privileges relating to land, such as leaseholds, easements, rights-of-way, water and waterpower rights, diversion rights, and submersion rights.

## **3. 4030 Minerals**

This includes the cost of mineral rights and land containing mineral deposits owned by the Government.

## **4. 4040 Timber**

This includes the cost and appraised value of timber and pulpwood, cost of reforestation program for the purpose of dust and soil erosion control,

retention of water tables, etc., cost of development and improvement of timber stand, and other forestry management costs.

## **B. 460 Improvements to Land**

### **1. 4601 Site Preparation**

- a. This includes labor and material required for surveying and mapping, subsurface investigating, clearing, excavating, and backfilling to bring area to a general grade. This cost code includes digging test trenches required during construction, demolition, disposing of surplus materials, maintaining spoil areas, and related work.
- b. This excludes specific grading and base materials for roads, walks, drives, and parking areas; grading for culverts and culvert headwalls; final grading (see Landscaping); grading for railroads; and marginal and drainage ditches that are included in other accounts.
- c. Some specific examples of items included in this account are as follows.
  1. Clearing, Grading, and Backfill: This includes the cost for clearing, digging test trenches, and grubbing required during construction; machine and hand excavation; backfilling and compacting of earth and stone either by hand or by mechanical and pneumatic equipment; disposing of surplus materials; maintaining spoil areas; and related work. This cost code does not include specific grading or base materials for roads, drainage ditches, etc. (See second level cost code description.)
  2. Pumping and Dewatering: This includes the cost for handling, installation, operation, and removal of pumps and appurtenances required for dewatering of areas.
  3. Subsurface Investigation: This includes labor and material costs associated with subsurface investigations to include borings, core drilling, standard penetration tests, seismic explorations, testing, analysis, laboratory reports, etc.
  4. Surveys and Mapping: This includes all costs incurred in connection with locating, marking, or otherwise identifying areas within or about the construction site.



5. Demolition: This includes the cost for demolition of existing on-site facilities to facilitate clearing of the site.
6. Bore Holes: This includes labor and material required to physically locate, identify, backfill, plug, compact, fine grade, landscape, and test any existing bore holes.

## 2. 4602 Drainage

- a. This includes labor and material required for the installation of all storm sewers and drains for the area between points 5 feet outside the building lines. This cost code includes all work for storm sewer manholes, headwalls, precast concrete, concrete slabs, cast-in-place concrete, street storm water receivers and outfall drainage ditches, and all drainage in the switchyard.
- b. This excludes culverts and marginal ditches along roads, paved areas, railroads, and cooling ponds or sewage lagoons.
- c. Specific elements of this account are the following.
  1. Installed Equipment: This includes the cost of labor, material, and installed equipment that is applicable to the work described in the second number account. Cost of equipment includes invoice price and transportation when charged directly. Costs for each size and type of equipment included in this cost code should be readily identifiable in the cost code or supporting records.
  2. Excavation and Backfill: This includes the cost required for excavation shoring, backfilling, and removal of surplus material for subsurface piping, manholes, ditches, and catch basins, from a point 5 feet outside the building line. It excludes culverts and marginal ditches along roads, paved areas, and railroads (see second level cost code description). It includes all rip-rap work for storm ditches.
  3. Catch Basins and Manholes: This includes the cost required for forming, hauling, reinforcing, placing, curing, protecting, and finishing concrete for manholes, catch basins, headwalls, and drainage ditch slabs. It includes all rip-rap work for storm ditches.
  4. Piping: This includes the cost required for installation of cast iron pipe, corrugated metal pipe, and concrete pipe for the storm sewer system, from a point 5 feet outside the building line.

### 3. 4603 Landscaping

This includes labor and material for final grading and landscaping the area. This cost code includes applying or planting such items as topsoil, fertilizer, seeds, seedlings, sod, and shrubs.

- a. Final Grading: This includes the cost for bringing the area surface to its final elevation.
- b. Landscaping: This includes the cost for applying or planting topsoil, fertilizer, seeds, seedlings, sod, shrubs, and other similar items,

### 4. 4605 Railroads

- a. This includes labor and material required for installing railroad trackage outside of building limits. This cost code includes excavation, backfill, compacting, fine grading, setting of ties and rails, hauling and spreading of ballasts, construction-related culverts, bridges, and headwalls, and installing warning systems and guard gates.
- b. It excludes railroad cars, engines, and other railroad equipment that will operate on the track.
- c. Some specific examples of items included in this account are as follows.
  1. Installed Equipment: This includes the cost of labor and materials and installed equipment that is applicable to the work described in this cost code. Cost of equipment includes invoice price and transportation when charged direct. Costs for each size and type of equipment included in this cost code should be readily identifiable in the cost code or supporting records.
  2. Excavation: This includes the cost for preparing roadbed for trackage. It includes excavating, backfilling, compacting, fine grading, and marginal ditches.
  3. Track Laying and Surfacing: This includes the cost for hauling and placing ties, rails, ballasts, and other track materials, such as angle bars, frogs, guardrails, track bolts and nuts, rail joints, switches, spikes, and related work.

4. Special Drainage Structures: This includes the cost for excavating, hauling, and placing drain pipe. It includes forming, reinforcing steel and concrete required for culverts, bridges, and headwalls.
5. Warning Systems and Gates: This includes the cost for the complete installation of railroad warning systems and gates.

**5. 4606 Port Facilities**

- a. This includes labor and material required for constructing a port facility. This cost code includes excavation, backfill, compacting, and construction involved in building docks, piers, levies, jetties, anchorages, and other parts of a port facility.
- b. Some specific examples of items included in this account are as follows.
  1. Installed Equipment. This includes the cost of labor, materials, and installed equipment that is applicable to the work described in this cost code. Cost of equipment includes invoice price and transportation charge when direct.
  2. Erosion Control: This includes the cost of preparing retaining walls, levies, jetties, etc. This includes excavating, backfilling, compacting, and construction materials (including forms and rockfill).
  3. Piers: This includes the installed cost of concrete or timber piers, including any track or road surface that runs along its length.
  4. Buoys and Warning Systems: This includes the installed cost of channel buoys, warning buoys, warning lights, horns, whistles, and other safety devices or systems.

**6. 4700 Roads, Walks, and Paved Areas**

- a. This includes labor and material required for the stripping, grading, backfilling, compacting, and application of base and surface materials for permanent roads, walks, and paved areas. It includes bridges, culverts, and culvert headwalls over drainage areas, grading of road and marginal ditches, construction and painting of curbs and fabricating or installing guardrails, traffic barriers, and incidental appurtenances and stripping.

- b. This excludes any work for railroad track and grade crossings (see Railroads).
- c. Elements to be included are the following.
  - 1. Excavation, Grading, and Backfill: This includes the cost for machine and hand excavation, stripping, grading, backfill, and disposal of surplus materials.
  - 2. Surfacing: This includes the cost for hauling, placing, treating, compacting macadam, asphalt, concrete, and other wearing surfaces, and stripping.
  - 3. Drainage Structures and Bridges: This includes the cost for installing drains, culverts, and bridges over drainage areas and grade crossings. It includes all concrete and related items.
  - 4. Guard Rails, Posts, and Traffic Barriers: This includes the cost for all work to fabricate and install protective barriers and necessary stripping.
  - 5. Curbs: This includes the cost of installing curbs and painting.

## **7. 4800 Fences and Guard Towers**

- a. This includes labor and material required for security fences and gates for the area and all work for erecting guard towers and gatehouses, complete with interior electrical work.
- b. This excludes floodlights and exterior electrical work (see Utilities).
- c. Elements to be included are the following.
  - 1. Security Fences: This includes the cost for handling, hauling, excavating, erecting, aligning, and other work to install fence posts, fabric, and all necessary gates, including grounding and electric gate operators.
  - 2. Gatehouses and Guard Towers: This includes the cost for complete installation of foundations and superstructures. It excludes exterior electrical work and floodlights (see Utilities).

## **8. 4900 Other Improvements to Land**

This includes the installed cost of any improvement to land not included in codes 4601 through 4800, except demolition, tunneling, and drilling, which are listed under accounts 810, 820, and 830, respectively. Improvement to land belonging to others will be included under account 800.

## **C. 501 Buildings**

### **1. 5011 Excavation and Backfill**

- a. This includes labor and material required for building foundations, including excavation, disposal, and backfill for footings, grade beams, pads, pits, manholes, and other subsurface structures. It also includes pumping, dewatering, compacting, fine grading, and selected materials for fills.
- b. Specific elements of this account are the following.
  1. Excavation: This includes the cost for machine and hand excavation and disposal of surplus material.
  2. Backfill: This includes the cost for backfill and compacting of earth, stone, or other selected materials, either by hand or by mechanical and pneumatic equipment.
  3. Pumping and Dewatering: This includes the cost for handling, installation, operations, and removal of pumps and appurtenances required for dewatering excavated areas.
  4. Fine Grading: This includes the cost for fine grade work preparatory to ground floor slab construction, including borrow and backfill of fine grade selected materials.
  5. Rock Removal: This includes the cost of removing rock during excavation, including drilling, blasting, breaking, loading, hauling, and disposing of surplus materials.

### **2. 5012 Concrete**

- a. This includes all building concrete, including concrete on or below grade, major concrete slabs, floors above grade, equipment foundations, and miscellaneous concrete (such as thresholds, stairs, lintels, curbs, walks, etc.). Specifically, it covers labor and material required for forming, placing, and waterproofing of concrete for building foundations, piers,

grade beams, walls, columns, and slabs. It includes all work in connection with related reinforcing steel, concrete encasement of structural steel columns, and any precast concrete. It includes labor and materials required for forming, placing of major concrete slabs or floors above grade, including integral beam construction and all work in connection with related reinforcing steel mesh. It covers labor and material required for forming and placing of foundations for building equipment, including all work in connection with related reinforcing steel, and covers labor and material required for forming and placing of concrete for items not otherwise covered above, including all work in connection with related reinforcing steel, as well as thresholds, stairways, landings, penthouse floor slabs, lintels, curbs, walks, and minor floor slabs.

- b. This cost code excludes all work in connection with the construction of instrument tunnels, foundations for process equipment, and piping (except the embedded structure support).
- c. Specific elements of this account are the following.
  - 1. Forms and Screeds: This includes the cost for hauling, fabricating, erecting, stripping, cleaning, and disposing of form work and screeds.
  - 2. Concrete: This includes the cost for hauling, placing, curing, finishing, protecting, and repairing of concrete.
  - 3. Form Ties, Keyways, Inserts, and Joints: This includes the cost for hauling, fabricating, and inserting of form ties, keyways, inserts, and premoulded expansion material.
  - 4. Precast Concrete: This includes the cost for hauling, handling, and placing all precast concrete items.
  - 5. Waterproofing: This includes the cost in connection with waterproofing required for concrete ground floor slab.
  - 6. Reinforcing Steel and Mesh: This includes the cost of labor for handling, hauling, bending, fabricating, placing, tying, and cleaning of reinforcing steel and mesh.
  - 7. Floor Hardener: This includes the cost of labor for cleaning of concrete slabs, preparing, and applying floor hardener.

8. Foundation Drains: This includes the cost of labor for installing building foundation drain piping.
9. Anchor Bolts and Sleeves: This includes the cost for handling, fabricating, aligning, and setting of anchor bolts for building superstructure and sleeves. This cost code excludes grouting and setting of base plates and miscellaneous structural steel and iron (see second level cost code description).

### 3. **5013 Masonry**

- a. This includes labor and material used in masonry building construction. Account includes the hauling, rehauling, handling, erecting, and setting of brick, adobe, structural glazed tile, masonry, concrete unit masonry, high-lift grouted masonry, tile, terra cotta veneer, glass unit masonry, stone, simulated masonry, and refractories (such as flue liners, combustion chambers, firebrick, and castable refractory materials). This includes the cost of mortar, aggregate anchor irons, angle iron, filler, fireproofing, furring, lintel, and the costs of hauling sand, aggregate and mortar, mixing, and carrying it to the work site, scaffolding, and other devices required for masonry construction. Chemicals added to the mortar, including coloring and antifreeze, will also be included, as well as cleanup and conditioning of the job site.
- b. Specific examples are the following.
  1. Masonry: This includes the cost for hauling, handling, placing, and construction of masonry and concrete block unit walls and partitions, and related scaffolding, bracing, repairing, waterproofing, and finishing. This cost code excludes painting.
  2. Face Tile: This includes the cost for hauling, handling, and installation of face tile, and related scaffolding, bracing, and cleaning and washing of face tile after installation.

### 4. **5014 Metals**

- a. This includes labor and material required for building superstructure steel, including crane rail and all members framed directly into the superstructure and purchased with the structural steel. The account includes fabrication, handling, hauling, erecting, and setting of base plates required to completely install the structural steel. This cost code will be used for procurement and erection of prefabricated, pre-

engineered structures. It includes labor and material required for process pipe structural steel supports and hangers, related base plates, stair and platform stringers, gratings, handrails, valve operating platforms, ladders, structural steel door subbucks, filter and louver structural steel frames, trapeze hangers serving more than one item, railroad track in truck alley to the 5-foot line of building, interior and exterior metal door frames, toeplates, hatch frames, wire partitions, thresholds, door and window lintels, metal sleeves in the building structure, miscellaneous iron embedded in concrete, equipment support structure at the time of placing, and other miscellaneous structural steel and iron.

- b. This cost code excludes anchor bolts for building superstructures and base plates included with process equipment.
- c. Some specific elements are the following.
  1. Base Plates: This includes the cost for handling, hauling, setting, and grouting of base plates required to completely install the structural steel. This account excludes base plates for process gas piping and those included with process equipment (see second level cost code description).
  2. Steel Handling and Erection: This includes the cost for handling, hauling, reloading, rehauling, shaking out, erecting, plumbing, and riveting or welding of structural steel for building superstructure.
  3. Hangers and Supports: This includes the cost for fabricating, handling, hauling, and installing trapeze-type hangers and supports.
  4. Railroad Track in Truck Alley: This includes the cost for installing rail and related items, such as metal ties, tie plates, and bumper blocks.
  5. Structural Steel: This includes the cost for handling, hauling, erecting, plumbing and bolting, and riveting or welding of miscellaneous structural steel.
  6. Embedded Steel and Iron: This includes the cost for fabricating, handling, hauling, setting, and grouting of anchor bolts and base plates required for miscellaneous structural steel and iron, including related caulking.



7. Equipment Support Structure: This includes the cost of labor for fabricating, handling, hauling, and installing the equipment support structures.
8. Pre-Engineered Structures: This includes all costs necessary for procurement of the pre-engineered, prefabricated structures.

## **5. 5015 Wood and Plastic**

- a. This includes labor and material required for building structural frames made of wood or plastic construction. The account includes framing and sheathing, wood decking, fiber underlayerment, timber trusses, pole construction, trestles, wood treatment, and associated hardware items, such as nails, screws, bolts, glue, and other fasteners. It includes wood stairs and railings and any wood used to secure, protect, or in any way provide safety at the building site, including safety rails, safety fences, temporary ladders, temporary overhangs, or ceilings. It includes all plastic used to wrap or protect the materials exposed to the elements at the building site.
- b. This excludes wood or plastic used for earthwork and concrete forms.
- c. Some specific examples are the following.
  1. Framing and Erection: This includes the cost for handling, hauling, reloading, erecting, and fastening of structural wood for the building superstructure.
  2. Decking: This includes the cost of fabricating, handling, hauling, and installing decking.
  3. Temporary Safety Structures: This includes the cost of fabricating, handling, hauling, and installing temporary structures made of wood that are used to protect the work site, including the digging, emplacement, and fastening of posts and poles.

## **6. 5016 Finishes**

- a. This includes accounts that generally fall under the broad categories of thermal and moisture protection, doors and windows, finishes and specialties. This account covers labor and material required for construction and revision of built-up roofing, including flashing, caulking, scuppers, gutters, sheet metal conductors, hatch covers, and

insulation and repair of damaged roofs and roofing items. It also includes metal, precast or poured roof decks, other-than-reinforced concrete slabs, and special expansion joints and cap flashings.

- b. This excludes roofing items included with pre-engineered structures.
- c. Specifically included are the following.
  - 1. Roof Construction: This includes the cost for hauling, handling, and installation of roofing, including revisions, and roof insulation.
  - 2. Roof Repairs: This includes the cost for repairing completed or partially completed roofs that have been damaged by construction operations, high winds, or weather damage.
  - 3. Roof Decks: This includes the cost for installing metal, precast or poured decks, other-than-reinforced concrete slabs, and installation of hatch covers.
  - 4. Expansion Joints, Flashings, and Conductors: This includes the cost for hauling, fabrication, erection, and installation of special expansion joints and cap flashings for building roofs, scuppers, gutters, gravel stops, sheet metal conductors, and similar items.
  - 5. Roof Accessories: This includes the cost for hauling, fabrication, erection, and installation of skylights, roof hatches, and gravity ventilators.
- d. This includes labor and material required for the installation of building siding, insulation, flashing, caulking, special expansion joints, and minor repairs. This cost code excludes siding items for pre-engineered structures.
  - 1. Siding: This includes the cost for hauling, handling, and installation of building siding, insulation, and minor repairs.
  - 2. Expansion Joints and Flashing: This includes the cost for hauling, fabrication, erection, and installation of special expansion joints for flashing of building siding, including caulking.
  - 3. Insulation: This includes the cost for purchasing, hauling, and installation of building insulation and fireproofing.

- e. This includes labor and material required for construction of interior masonry walls and partitions, toilet partitions, interior plaster walls, metal-stud tile-faced partitions, and acoustical hard plaster or metal ceilings. Specifically included are the following.
1. Interior Walls and Partitions: This includes the cost for hauling, handling, placing, and constructing interior walls and partitions, including related scaffolding, bracing, repairing, waterproofing, fireproofing, and finishing.
  2. Ceilings: This includes the cost for hauling, handling, and installation of plaster walls and plaster, metal, or other ceilings. It also includes erection of bar joists, channels, metal lathe, application of hard plaster, acoustical plaster, and metal or fibre acoustical ceiling units, installation of insulation, special moulding, and related scaffolding, patching, and repairing.
  3. Special Flooring: This includes the cost for flooring other than concrete, such as asphalt, rubber, koroseal, quarry tile or wood, including hauling, handling, placing, and finishing of flooring and related cove base and shoe moulds.
  4. Millwork and Trim: This includes the cost for hauling, handling, fabricating, and installing all millwork and wood trim. This includes studs and plates for all wood partitions.
  5. Metal Doors: This includes the cost for hauling, handling, erecting, and other work to install metal and metal clad doors, complete with frames, hardware, and operating devices.
  6. Wood Doors: This includes the cost for hauling, handling, erecting, and other work to install wood doors, complete with hardware.
  7. Windows: This includes the cost for complete installation of steel or aluminum window frames and sash, complete with hardware and mechanical operating devices.
  8. Caulking: This includes the cost for all caulking required for door and window installation.
  9. Partitions: This includes the cost required for complete installation of partitions and all miscellaneous items, such as towel racks, mirrors, soap dispensers, urinal screens, hand dryers, etc.

10. Metal: This includes the cost for hauling, handling, and installation of stud for tile-faced partitions.
  
- f. This includes labor and materials required for all field painting, such as structural steel, miscellaneous iron, doors, walls, ceilings, equipment and piping, special codes and identification, hauling and handling of materials, cleaning prior to painting, application of primer and paint, necessary scaffolding and cleanup after painting, and the furnishing of all glass, glazing, and incidental work. Specifically included are the following.
  1. Structural Steel and Iron: This includes the cost for all painting and related work, or structural steel for building superstructure and miscellaneous structural steel and iron, such as walkways, stairs, windows, doors, handrails, thresholds, and similar items.
  2. Equipment, Piping, and Supports: This includes the cost for all painting and related work, of equipment that is not furnished with a factory finish, pipe hangers and supports, piping, and code coloring of piping.
  3. Code and Identification: This includes the cost for all painting, and related work of lettering and code identification, and permanent sign painting.
  4. Other Painting: This includes the cost for all other painting, and related work, such as masonry walls, millwork, plaster walls, plaster and metal ceilings, and concrete equipment foundations.

## 7. **5017 Special Construction**

- a. This includes labor and material costs that are not addressed by other subaccounts under the 501 account, such as the labor and material required for installation of bridge and gantry cranes, monorails, conveyors, and pipe handling trolley assemblies, including related electrical feed rails, crane rails, internal wiring, erection, and rigging. Also included are the labor and material required for installation of miscellaneous building equipment attached to and part of the building, such as elevators, dumbwaiters, lunchroom equipment, and metal lockers, etc.
- b. This cost code excludes process equipment and equipment includable in building systems, such as monorails, bridge cranes, gantry cranes, pipe

handling trolley assemblies, shop equipment, and installation of temporary construction overhead cranes.

- c. Specific elements to be included are the following.
  - 1. Installed Equipment: This includes the cost of labor, material, and installed equipment applicable to the above described work. Cost of equipment includes invoice price and transportation when charged directly. Costs for each size and type of equipment included in this cost code should be readily identifiable in the cost code or supporting records.
  - 2. Conduit: This includes the cost for hauling, handling, fabricating, and installing all conduit for the equipment, with related hangers, supports, junction boxes, and receptacles.
  - 3. Wire: This includes the cost for installing wiring for the equipment.

## 8. 5018 Mechanical

- a. This includes the installed cost of building mechanical systems, such as refrigeration systems, heating systems, ventilation systems, fire protection systems, plumbing systems and all associated piping, valves, controls, and instruments. Specifically, it covers labor and materials required for the installation of any heating, ventilation, and air conditioning system. Included components are grills, louvers, ductwork, duct insulation, roof ventilators, dampers, unit heaters, related hangers, and supports and self-contained and central distribution units. This cost code also covers labor and material required for the installation of any filter system in connection with an environmental control system. This includes cyclone dust collectors, bag-type filters, electrostatic precipitators, roughing filters, and finishing filters. Labor and material required for the complete installation of piping and equipment, for a piping system, including piping, tubing, valves, fittings, hangers, mechanical equipment, and insulation, are also included in this account. Piping and equipment used in utility or process systems should be costed with the appropriate system.
- b. Examples of specific elements to be included in this account are as follows.
  - 1. Installed Equipment: This includes the cost of labor, material, and installed equipment that is applicable to the described work. The cost of equipment includes invoice price and transportation when

charged directly. The costs for each size and type of equipment included in this cost code should be readily identifiable in the cost code or supporting records.

2. Ductwork: This includes the cost for hauling, handling, fabricating, erecting, and installing duct materials, manually operated dampers, and duct specialties. It also includes ductwork for air conditioning systems.
3. Louvers, Grills, Diffusers, and Registers: This includes the cost for the complete installation of louvers, grills, diffusers, and registers.
4. Roof Ventilators: This includes the cost for hauling, handling, and installing roof ventilators.
5. Dampers - Mechanically Operated: This includes the cost for hauling, handling, and installing mechanically operated dampers. This also includes fire dampers.
6. Testing and Balancing: This includes the cost for testing, balancing, incidental repairs, and modifications required for the proper operation of the heating and ventilation system.
7. Insulation: This includes the cost for labor and material to install insulation on environmental control equipment and distribution systems.
8. Controls: This includes the cost for labor and materials to install all components of the control system, whether pneumatic or electric. This cost code includes all control devices, such as thermostats, relays, valves, valve operator dampers, damper operators, local and remote indicators, and recorders. It also includes any other devices used to monitor, record, control, or enunciate conditions and nodes of the equipment or the supply, return, or exhaust systems.
9. Roughing Filters: This includes the cost for shipping, hauling, handling, and installing roughing or prefilters complete with frames, filter media, retaining clips, bolts, nuts, etc., required to complete the installation.
10. Finishing Filters: This includes the cost for shipping, hauling, handling, installing, finishing, or polishing filters complete with frames, filter media, retaining devices, and supports.

11. Piping: This includes the cost for hauling, handling, cutting, fabricating, placing, and erecting piping for the system together with related valves, fittings, hangers, expansion joints, and other piping specialties.
12. Insulation: This includes the cost for handling, hauling, cutting, and installing insulation for piping.
13. Testing: This includes the cost for preliminary testing of the system, such as pneumatic or hydraulic pressure testing.
14. Identification: This includes labor and material to label, color code, tag, or otherwise properly identify the piping system according to specifications. Painting of pipe and equipment is excluded from this cost code (see Painting and Glazing).
15. Cleaning: This includes all costs required to clean, condition, and sterilize the piping system.
16. Underground Protective Coatings: This includes all costs required to apply protective coatings as specified.
17. Excavation and Backfill: This includes all costs of labor and materials to excavate, shore, pump, or dewater ditches; form, reinforce, and pour concrete thrust blocks; backfill with any specified material; compaction of backfill; and repairs to damaged concrete or asphalt surfaces as required for the installation of a mechanical system.

## **9. 5019 Electrical**

- a. This account includes the installed cost of building electrical systems, such as electrical lighting systems, electric power systems, emergency light and power systems, building instrumentation systems, building communication systems, and building alarm systems. Each of these systems can be further defined as follows. Building electrical lighting system covers labor and material required for the installation of the electric lighting system for the building or other structure from the low-voltage side of the unit substation or at the service entrance to the building or other structure. It includes lighting transformers, panels, circuits, fixtures, conduit, wire, and the complete installation of the emergency lighting system. An electric power system covers labor and material required for the installation of the electric power system from the

building wall through the primary building substation. It also includes switchgear, transformers, potheads, etc. All distribution circuitry and panels required for building items are included in this account. Emergency power and lighting system includes all labor and materials required to procure, fabricate, and install the complete functional emergency power and lighting system. Building instrumentation covers labor and material required for installation of instruments and instrument lines in the building from the point of connection to the equipment within the building up to and including the building control room or equivalent. It includes tubing, conduit, wiring, and control panels. This cost code excludes instrument lines from the building control room or equivalent to the central control building (provided in 600 Utilities). A building communication system is defined as all labor and material for the installation of communication systems. This cost code includes conduit, pull wire, outlet boxes, speaker enclosures, mounting panel, and other related equipment. Building alarm systems include the installed cost of fire, smoke, seismic intrusion, and radiological alarm systems to include conduit, instruments, control panels, and detectors.

- b. Specific elements to be included in the costs of electrical are as follows.
1. Installed Equipment: This includes the cost of labor, material, and installed equipment that is applicable to the work described in the second level cost code. The cost of equipment includes invoice price and transportation when charged directly. Costs for each size and type of equipment included in this cost code should be readily identifiable in the cost code or supporting records.
  2. Excavation and Backfill: This includes the costs required for excavation, shoring, backfill, and removal of surplus materials for outside, underground communication duct lines and manholes.
  3. Concrete: This includes the cost required for hauling, placing, finishing, and waterproofing concrete in underground communication duct lines and manholes.
  4. Reinforcing and Miscellaneous Steel and Iron: This includes the cost required for hauling, handling, bending, fabricating, placing, tying, and cleaning of reinforcing steel used in underground communication duct lines and manholes.



5. Conduit: This includes the cost for hauling, handling, fabricating, and installing all conduit for the communication systems with related hangers, supports, junction boxes, and receptacles.
6. Poles and Fixtures: This includes the cost for hauling, handling, and complete installation of poles and fixtures. It includes all work required for the erection of poles, complete with hardware, used exclusively for the system.
7. Miscellaneous Iron: This includes the cost for installing miscellaneous iron and anchor bolts for electrical power systems that may be required in addition to those covered under Metal.
8. Substations: This includes the cost for installing unit substations in the electric power system for process equipment.
9. Auxiliary Structures: This includes all costs of labor and material required to assemble, erect, and install a building to house the emergency power and lighting system equipment or motor generator sets.
10. Instruments and Panels: This includes the cost for installing all instruments and panels and the instrumentation connections, together with related preliminary testing.
11. Switch Panel: This includes the cost for complete installation of disconnect and switching panels, complete with overload protection devices, interconnecting busses, etc.
12. Controls: This includes all costs of labor and materials for the complete installation of all required controls, transfer switches, protective devices, and similar items.
13. Emergency Lights: This includes the costs for procuring, fabricating, assembling, testing, handling, and installing, in strategic locations, battery-operated lights. (Use second level cost code 3205 when motor generators, etc., are required.)
14. Wire: This includes the cost for installing wire for electric lighting systems. It also includes wiring for the emergency system to the lighting panel.

15. Fixtures: This includes the cost for hauling, handling, and complete installation of all lighting fixtures and related wall switches and receptacles.
16. Instrument Vacuum Pumps: This includes the cost for installing instrument vacuum pumps and the instrumentation connections.
17. Insulation: This includes the cost for installing instrumentation insulation.
18. Tubing: This includes the cost for installing and testing all tubing for instrumentation.
19. Grounding: This includes the cost for all ground wire, connectors, grids, etc.
20. Smoke Detectors: This includes the cost for installation of smoke detection systems, with related wiring, panels, instruments, and similar items.
21. Alarms: This includes the cost for installation of fire, intrusion, and radiological alarm systems, with related wiring, panels, instruments, and similar items.
22. Monitoring: This includes the costs for installation of seismic monitoring systems, with related strain gages, wiring panels, instruments, and similar items.

#### **D. 550 Other Structures**

##### **1. 5501 Excavation and Backfill**

This code is identical to account 5011 except that it applies to structures other than buildings.

##### **2. 5502 Concrete**

This code is identical to account 5012 except that it applies to structures other than buildings.

##### **3. 5503 Masonry**

This code is identical to account 5013 except that it applies to structures other than buildings.

**4. 5504 Metals**

This code is identical to account 5014 except that it applies to structures other than buildings.

**5. 5505 Wood and Plastic**

This code is identical to account 5015 except that it applies to structures other than buildings.

**6. 5506 Thermal and Moisture Protection**

- a. This includes the labor and material required for waterproofing, dampproofing, insulating, fireproofing, joint sealing, and traffic topping structures other than buildings. Waterproofing is defined as impervious membranes or coatings applied to walls, slabs, decks, or other surfaces subject to continuous or intermittent hydrostatic head or water immersion. It includes membranes that are bituminous, cementitious, elastomeric (liquid-applied or sheet material), sheet metal, bentonite and similar materials, and metal oxide coatings. It includes boards or coatings required for protection of waterproofing. Dampproofing includes materials installed to provide resistance to moisture penetration through surfaces subject to high humidity, dampness, or direct water contact, but not subject to hydrostatic pressures. It includes bituminous, cementitious, or similar coatings applied to exterior walls below grade, or applied as a protective damp course. It includes silicone, acrylic, or other water repellent coatings applied to exposed surfaces of concrete, masonry, stone, cement, metal, plaster, or similar material. It also includes bituminous, laminated, or plastic vapor barriers. Insulation is defined as thermal insulation for resistance of heat transfer at exterior of structure and at enclosures of high temperature or low temperature spaces. It includes organic or inorganic insulation in the form of granules, pellets, rigid boards, fibrous batts, blankets or rolls, and spray or foam applied to walls, roofs, decks, and similar surfaces. It includes insulation applied to the perimeter of foundations and under concrete slabs on grade. Vapor barriers integral with insulation are also included. Fireproofing includes special coatings, mineral fiber, and cementitious coverings to provide fire resistance. Joint sealants include elastomeric and nonelastomeric sealants, nonshrinking mastic sealants, bituminous sealants, oil-based caulking compounds, compression gaskets, joint fillers, and related

products. It includes primers, backer rods, and bond breaker tape applied to exterior and interior moving and nonmoving joints to prevent penetration of moisture, air, and sound. Traffic topping is defined as surface-applied, waterproof, elastomeric, or composition-type membrane exposed to weather and suitable for normal or light duty traffic (foot or automobile), but not intended for heavy industrial use.

- b. Some specific examples are as follows.
  1. Materials: This includes the cost for materials used for thermal and moisture protection.
  2. Structural Steel and Iron: This includes the cost for all painting, insulating, and related work for superstructure and miscellaneous structural steel and iron items.
  3. Code Identification: This includes the cost for all painting and related work of lettering and code identification and permanent sign painting.
  4. Insulation: This includes the cost of hauling, handling, fabricating, applying, and cleanup associated with the application of insulation.
  5. Scaffolding: This includes the cost of hauling, handling, constructing, dismantling, and cleanup of scaffolding required in thermal and moisture protection.
  6. Protective Covering: This includes the cost of procuring, hauling, handling, fabricating, erecting, and dismantling protective coverings used during the application of thermal and moisture protection materials.

## **7. 5507 Special Construction**

- a. This includes labor and material costs that are not addressed by other subaccounts under the 550 account, such as labor and materials required for installation of bridge and gantry cranes, monorails, conveyors, pipe handling trolley assemblies, including related electrical feed rails, crane rails, internal wiring, erection, and rigging. Also included are the labor and materials required for installation of miscellaneous equipment that is attached to the structure.

- b. This excludes process equipment, equipment includable in building systems, and standard equipment in the 700 series.
- c. Specific elements to be included are the following.
  - 1. Installed Equipment: This includes the cost of labor, material, and equipment applicable to this account. Equipment cost includes invoice price and transportation when charged directly.
  - 2. Conduit and Wire: This includes costs for hauling, handling, fabricating, and installing all conduit for the equipment, with related hangers, supports, junction boxes, and receptacles.

**8. 5508 Mechanical**

This code is identical to account 5018 except that it applies to structures other than buildings.

**9. 5509 Electrical**

This code is identical to account 5019 except that it applies to structures other than buildings.

**E. 600 Utilities**

**1. 6100 Communications Systems**

This includes the installed cost of telephone, intercommunication and teletype equipment, telephone instruments and protective devices, lines, poles, cables, and conduits, and stationary and associated portable radio transmitting and receiving equipment.

**2. 6150 Electric Transmission and Distribution Systems**

This includes the installed cost of all transmission and distribution lines, poles, towers, grounding systems, substations, transformers, controls, cables, conduits, services, meters and protective devices, and lighting fixtures, wire, poles, standards, and related accessories supplying electric service.

**3. 6210 Alarm Systems**

This includes the installed cost of equipment necessary for receiving and transmitting alarms, including control wiring (both cable and open), and other

associated overhead and underground equipment that provides fire, security, radiological or environmental protection or warning.

**4. 6250 Gas Transmission and Distribution Systems**

This includes the installed cost of equipment involved in the storage, transmission, and distribution of natural and artificial gas, including pipelines, services, and associated regulating and metering equipment of buildings served.

**5. 6300 Irrigation Systems**

This includes the installed cost of canals, ditches, waterways, flumes, pipelines, and equipment used for irrigation purposes.

**6. 6400 Sewerage Systems**

This includes the installed cost of sewerage treatment and disposal facilities, including manholes, mains and lateral lines to the point of tie-in with buildings served, and any septic tanks.

**7. 6450 Steam Generation and Distribution Systems**

This includes the installed cost of all equipment used for the generation and distribution of steam to the point of tie-in to buildings where such steam is utilized primarily for heating and for furnishing power to equipment.

**8. 6500 Water Supply, Pumping, Treatment, and Distribution Systems**

This includes the installed cost of wells, pumping, water treatments, and distribution facilities to the point of tie-in with buildings served.

**9. 6600 Oil Piping and Distribution System**

This includes the installed cost of pipelines, pipe racks, raceways, valves, pumps, metering devices, and bulk storage tanks between the oil transporting vehicle (truck, barge, tanker, or pipeline) and bulk storage tanks of other piping systems.

**10. 6900 Other Utilities**

This includes the installed cost of utility systems not specifically included under the 600 account, such as a compressed air system or an anhydrous hydrogen fluoride gas system.

## **F. 700 Special Equipment/Process Systems**

### **1. 7010 Vessels**

This includes the installed cost of towers, reactors, drums, trays, storage tanks (not associated with site utilities), cyclones, etc., less the cost of supports or supporting structures (see 5600).

### **2. 7020 Heat Transfer**

This includes the installed cost of heat exchangers, heaters, stacks, steam boilers, furnace cooling towers, ejectors, brazed core exchangers, desuperheaters and coolers, and refrigeration equipment.

### **3. 7030 Mechanical Equipment**

This includes the installed cost of pumps, drivers, compressors, blowers, actuators, electrical generators, filters, valves, separators, solids handling equipment, scrubbers, mixers, meters, agitators, silencers, and other items of mechanical equipment.

### **4. 7040 Package Units**

This includes the installed cost of off-the-shelf units that are used in a process (e.g., gas waste treatment package, clarifier package, desulfurization package, demineralization, deaerator, incinerator, flare, and odorization package).

### **5. 7050 Process Piping**

This includes the installed cost of process piping to include pipe, pipe racks, raceways, etc.

### **6. 7060 Electrical**

This includes the installed cost of all process electrical transmission and distribution equipment not considered a utility system. Costs include wire, cable, poles, insulators, towers, grounding systems, substations, transformers, controls, meters, lighting, conduit, piping, distribution fumes, and control panels.

**7. 7065 Instrumentation**

This includes the installed cost of all process instrumentation whether electrical or nonelectrical, such as pneumatic and pressure instruments. The cost includes all associated wire, cable, tubes, pipes, grounding equipment, poles, raceways, meters, and control panels.

**8. 7070 Protective Cover**

This includes the installed cost of process insulation, painting, fireproofing, refractory lining, waterproofing, and dampproofing.

**9. 7080 Reactor Components**

This includes the installed cost of reactor support, reactor structure, reactor internals, reactor control devices, instrumentation and control devices, monitoring system, leak detection equipment, cooling equipment, makeup water system, inert gas system, fuel handling tools and equipment, service platforms, etc.

**G. 800 Improvements for Others**

This includes the cost of improvements made by DOE to land, buildings, structures, building services, and utility systems not owned by DOE. Plants, laboratories, and similar facilities constructed by DOE on land owned by others are not to be classified in this category.

**H. 810 Demolition**

This includes the cost of wrecking, dismantling, cutting, drilling, and removing existing structures, equipment, and materials, as well as any excavation required to facilitate demolition and the cleaning, stacking, loading, hauling, and unloading of material for salvage and/or disposal when such activity represents a major activity in accomplishment of the project. Minor, routine demolition will be listed under improvements to land.

**I. 820 Tunneling**

This includes the complete cost of constructing a tunnel, including excavation, drilling, blasting, mucking, shoring, timbering, bolting, mechanical utilities (air, water, and vent lines), surface construction, installation (shaft collars, portal facings, retaining walls, rock, bolts, fences, gates, hatches, doors, muck dumping



facilities, anchors, guys, deadmen, buildings, foundations, docks, etc.), and associated mobilization and demobilization.

**J. 830 Drilling**

This includes the complete cost of drilling, including purchase or lease of the drilling rig-associated material mandrels, jet subs, drill collars, drill pipe, kellys, goosenecks, casing, detergent, mud additives and other chemicals, tool repair, installing casing (double jointing, lugging, cutting lifting eyes, bellings, and installing guidelines), installing the drilling rig, correcting problems (plugback to correct well bore deviations), cleaning out and conditioning the hole, coring, side-wall, sampling, dewatering, fishing, laboratory support, building support structures, and safety fences.

**K. 860 Standard Equipment**

**1. 8610 Heavy, Mobile Equipment**

This includes the cost of heavy, mobile equipment (other than motor vehicles), such as concrete mixers, power shovels, cranes, compressors, rollers, road graders, tractors, farm implements, boats, and barges. The cost of trucks is included in Code 725.

**2. 8615 Hospital and Medical Equipment**

This includes the cost of hospital, clinical, and dental equipment, such as hospital beds, dentist chairs, instruments, sterilizers, and other scientific equipment used by dentists and doctors.

**3. 8620 Laboratory Equipment**

This includes the installed cost of laboratory equipment, such as microscopes, analytical balances, electroanalyzers, oscillographs, refractometers, light sources, vibrometers, and other scientific equipment usually associated with laboratories. The costs of furniture, fixtures, and shop equipment are included in Codes 730 and 755.

**4. 8625 Motor Vehicles and Aircraft**

This includes the cost of passenger cars, trucks, buses, jeeps, trailers, airplanes, and fire trucks.

**5. 8630 Office Furniture and Equipment**

This includes the installed cost of office furniture and equipment, such as machines, desks, drafting sets, safes, photographic equipment, copy-making equipment, printing equipment, and other office equipment regardless of where located. The cost of automatic data processing equipment is included in Code 770.

**6. 8635 Process Equipment (for Mfgr.)**

This includes the installed cost of equipment used specifically in product manufacturing and processing, including associated measurement and control instruments.

**7. 8640 Railroad Rolling Stock**

This includes the installed cost of railroad rolling stock, such as locomotives and cars.

**8. 8645 Reactors and Accelerators**

This includes the installed cost of reactors, proton synchrotrons, electron synchrotrons, cyclotrons, linear accelerators, Van De Graff generators, and accessory equipment, including associated measurement and control instruments.

**9. 8650 Portable Security and Protection Equipment**

This includes the installed cost of man and vehicular portable equipment used for police, security, and fire protection purposes. The cost of vehicles is in Code 725, and the cost of installed alarm systems is in Code 621.

**10. 8655 Shop Equipment**

This includes the installed cost of shop equipment, such as lathes, drilling machines, rolling mills, hoists, grinders, forges, pipecutting machines, presses, saws, shapers, and other equipment usually associated with shops, garages, and service stations. Similar equipment used in laboratories and other areas for research purposes should also be identified by this code.

**11. 8660 Reserve Construction Equipment Pool**

This includes the installed costs of construction and automotive equipment held for the purpose of maintaining a reserve pool for use in emergencies as

part of the DOE Mobilization Program, or for secondary use in future construction programs.

## **12. 8670 Automatic Data Processing (ADP) Equipment**

This includes the installed cost of all equipment used in ADP, such as:

- a. tape equipment, whether used alone or in conjunction with electronic computers;
- b. electronic computers and all peripheral or auxiliary equipment;
- c. data transmission systems employing devices communicating or transmitting data from place to place for processing in an ADP system;
- d. all other equipment that is used in conjunction with ADP or electronic computers; and
- e. the initial package of software that is required to make the system operational.

Equipment such as flexowriters, typewriters, equipment reading the results of experiments, etc., shall be classified as ADP equipment when used primarily in conjunction with an ADP system. It excludes the cost of equipment such as analog computers, tape file cabinets, and air conditioning for the processing room. Also, it excludes the cost of automatic data recording or electronic control systems used to furnish operating guidance for control of machine tools, equipment used in process operations, reactors, accelerators, etc.

## **13. 8699 Miscellaneous Equipment**

This includes the installed cost of furniture and fixtures for hotels, dormitories, and apartments; laundry equipment; restaurant, cafeteria, and canteen equipment; and other miscellaneous equipment not includable in other codes.

# **5. INDIRECT CONSTRUCTION COSTS**

## **A. Engineering, Design, and Inspection**

### **1. Surveys, Geological Studies, and Tests**

This includes the cost of topographical and other field surveys, soil tests, load tests, geological studies, test borings, or other subsurface investigations.

**2. Preliminary Work**

This includes the cost of preliminary studies, sketches, cost estimates, layout plans, and reports.

**3. Design**

This includes the cost of design services consisting of the preparation of working drawings, specifications, cost estimates based on working drawings, evaluation of bids, and the checking of shop drawings.

**4. Consulting Services**

This includes the cost of expert technical or professional assistance to the extent authorized by the contract.

**5. Design of Specialized Equipment**

This includes the cost of design of specialized equipment by the A/E contractor or subcontractor as approved by the contracting officer.

**6. Expediting or Procurement**

This includes the cost of expediting or procurement of materials and equipment for the construction project.

**7. Inspection**

This includes the cost of inspection of construction work to secure compliance with plans and specifications, field or laboratory tests of workmanship and materials, providing lines and levels to which construction may be referred, preparation of progress reports or estimates of construction performed for payments or other purposes, and the preparation of record drawings.

**8. Miscellaneous**

This includes the cost of items allowable under the contract or amendments thereto that are not susceptible to classification in any one of the above accounts. Such items include bonds and insurance, materials, and supplies for the Architect/Engineer (A/E) contractors' use; patents; purchase designs and royalty payments; structures and facilities of a temporary nature used by the A/E contractor; taxes, fees, and charges levied by public agencies on personnel; the transportation of personal household goods and effects; losses

not compensated for by insurance; litigation; A/E contractor's fees; and other costs specifically certified in writing by the contracting officer according to the terms of the contract.

## **B. General and Administrative**

### **1. Administration**

This includes salaries, travel, and other expenses for the overall administration of the project.

### **2. Superintendence**

This includes salaries, travel, and other expenses of those supervising construction, including construction superintendents, assistants, and their secretaries and stenographers. Only general superintendents are included here. Superintendents assigned to specific portions of the project are charged directly to the cost accounts of the specific portions.

### **3. Construction Contractor's Engineering**

This includes salaries, travel, and other expenses of engineering personnel, including engineers, assistants, and their secretaries and stenographers responsible for plan files; plan detailing; plan distribution; line and grades estimating; material take-offs; and design of contemporary construction facilities. When regular A/E work is performed by a construction contractor, such costs are chargeable to the applicable subdivisions of engineering, design, and inspection (ED&I).

### **4. Accounting**

This includes salaries, travel, and other expenses for accounting staff, including accountants, timekeepers, clerks, and their secretaries and stenographers.

### **5. Procurement**

This includes salaries, travel, and other expenses of personnel responsible for purchasing and expediting materials, supplies, and equipment except if chargeable to ED&I.

### **6. Personnel**

This includes salaries, travel, and other expenses of personnel for recruitment, employment, and employee relations activities.

**7. Legal**

This includes salaries, travel, other expenses, and legal fees.

**8. Security**

This includes salaries, travel, and other expenses of personnel for security protection.

**9. Office Supplies and Expenses**

This includes the cost of miscellaneous expenses of administrative offices, including stationery, forms, blueprints, maps, plans, documents reproduced by blueprinting and other processes, work photographs, telephone and telegraph (including operators), janitor expense, heating, lighting, water, depreciation of office buildings and equipment, repairs and maintenance of office buildings and equipment, messengers, clerks, and other office employees not chargeable to other accounts.

**C. Other Indirect**

**1. Payroll Insurance**

This includes the cost of workmen's compensation insurance not charged elsewhere.

**2. Insurance**

This includes the cost of insurance, other than payroll, carried by the contractor in connection with the construction work and not charged elsewhere.

**3. Damages not Covered by Insurance**

This includes the cost of damage settlements not covered by insurance and not chargeable elsewhere.

**4. Payroll Taxes**

This includes the cost of contractors' contributions for social security not charged elsewhere.

**5. Taxes Other Than Payroll**

This includes the cost of business and property taxes incurred during the construction period.

**6. Holiday and Vacation Pay**

This includes the cost of holiday and vacation pay not charged elsewhere.

**7. Signup and Termination Pay**

This includes the cost of signup and termination pay not charged elsewhere.

**8. Retroactive Pay**

This includes the cost of retroactive pay adjustments. This account is to be used only when actual distribution of retroactive pay adjustments would be burdensome or the specific projects affected are closed.

**9. Reporting Time**

This includes the cost of time given employees who report for work when no work is available because of weather or other conditions.

**10. Welding Tests**

This includes the cost of conducting welding tests at the job site or elsewhere.

**11. Contribution to Welfare Plans**

This includes the cost of contributions to labor union welfare plans not charged elsewhere.

**12. Transportation of Workers**

This includes the cost of transporting employees engaged in the construction work to and from site locations not charged elsewhere.

**13. Motor Pool Operations**

This includes the cost of operating a pool of motor vehicles for general, administrative services. Costs of operating automobiles specifically assigned to other services are not to be included.

**14. Aircraft Operation**

This includes the cost of aircraft operation chargeable to construction projects, generally distributed to this account from equipment clearing accounts.

**15. Medical and First Aid**

This includes the cost of medical, first aid, and hospital services.

**16. Safety**

This includes the cost of all safety programs carried on during the course of the construction contract. Costs of glasses for welding operations, gloves for linemen, scaffold railing for bricklayers, etc., are trade safety measures and, as such, are charged to the appropriate cost accounts rather than to this account.

**17. Fire Protection**

This includes the cost of providing fire protection.

**18. Maintenance of General Construction Plant**

This includes the cost of maintaining and operating general construction plant facilities not chargeable to other accounts. It includes depreciation on general Site Improvement, Temporary Land Improvements, General Plant, and Miscellaneous Equipment.

**19. Small Tools**

This includes the cost of small hand tools and of operating the toolroom. Included are costs of tool boxes, tool shanties, wages of toolroom employees, and costs of rehandling and sharpening tools. Costs of boots, raincoats, and other protective clothing issued to workers are included. It does not include hand tools used in shops. The costs of pneumatic and electric tools larger than handtools are chargeable to Miscellaneous Equipment.

**20. Drinking Water and Sanitation**

This includes the cost of supplying drinking water and toilet facilities.



**21. Light and Power**

This includes the cost of light and power that is not chargeable to other accounts.

**22. Heat**

This includes the cost of heat that is not chargeable to other accounts.

**23. Compressed Air**

This includes the cost of operating the compressed air system that is not chargeable to other accounts.

**24. Water**

This includes the cost of water that is not chargeable to other accounts.

**25. General Cleanup**

This includes the cost of general cleanup or yard janitor service that is not chargeable to other accounts.

**26. Camp Operation**

This includes the cost of and revenues from the operation of construction camp facilities.

**27. Camp Operation Costs**

This includes the cost of operation and maintenance, including depreciation on construction camp plant. This account should be subdivided to the extent necessary to account for and control these costs.

**28. Camp Revenues**

This includes the cost of revenues derived from operating construction camp facilities. This account should be subdivided to the extent necessary to account for and control these revenues.

**29. Recovery of Indirect Costs**

This includes all credits for indirect costs included in billings to others.

**30. Contract Fee**

This includes all charges for the fee earned by the contractor in accordance with the terms of the contract.