



CostFormat

DEED Standard Construction Cost Estimate Format

CONTRIBUTORS

Tim Mearig
Facilities Manager
Alaska Department of Education & Early Development
Juneau, Alaska

Facilities Staff
Facilities Staff (current)
Alaska Department of Education & Early Development

ACKNOWLEDGEMENTS

1. Essential work on the first edition (2000) was provided by Nathan Coffee, Architect Assistant 1999 – 2004
2. The second edition was prepared under the leadership of Sam Kito, Facilities Manager 2006-2012.
3. Staff at HMS, Inc. also collaborated on the first and second editions. Their cooperation, flexibility, and professional advice was essential.
4. Staff at both Estimations, Inc., and HMS, Inc. provided helpful input to this 3rd Edition.

This publication may not be reproduced for sale by individuals or entities other than the following:

State of Alaska
Department of Education & Early Development
Juneau, Alaska

Table of Contents

Legend	ii
Introduction.....	1
CostFormat Component Levels	1
01 Site Work	1
01 Site & Infrastructure (AC).....	1
02-05 Building Shell	4
02 Substructure (FPA)	4
03 Superstructure (SF)	5
04 Exterior Closure (SF).....	6
05 Roof Systems (FPA)	8
06-07 Interior Construction.....	9
06 Interiors (GSF)	9
07 Conveyors (GSF).....	11
08-09 Mechanical & Electrical	12
08 Mechanical (GSF)	12
09 Electrical (GSF)	14
10-11 Support Elements	16
10 Equipment & Furnishings (GSF)	16
11 Special Conditions (GSF)	17
12-13 Building Overhead Support	19
12 General Conditions (MO)	19
13 Contingencies (%)	22
Sample Estimate Summary	23

Legend

Units used in the CostFormat.

Unit	Definition
%	Percent
AC	Acreage
AMP	Ampere
CY	Cubic Yard
EA	Each
FLT	Number of Stair Flights
FPA	Footprint Area; Foundation Area
FXT	Fixture
GAL	Gallons
GSF	Gross Floor Area; Gross Square Foot
HRS	Hours
KVA	Kilo-volt-Ampere
LEAF	Individual Door Leaf
LF	Linear Foot
LS	Lump Sum (Cost)
DAY	Day
MO	Month
MSF	Thousand Square Feet
RT	Roundtrip Travel
SF	Square Foot
STOP	Number of Elevator Stops
TON	Total Material Shipping Weight

Additional units used by DEED when databasing project costs.

Unit	Definition
ACRE	Total Site Acreage
CEA	Number of Conveyors
CFM	Air Handling Equipment Cubic Feet per Minute
CMLF	Length of Civil/Mechanical Piping in Linear Feet
DAYS	Per Diem Days
DC\$	Direct Construction Cost
EAMP	Ampers of Emergency Power System
EASF	Area of Exterior Accessories in Square Feet
ECSF	Area of Exterior Closure in Square Feet
EDLF	Number of Door Leafs & Special Doors
EFEA	Pieces of Equipment & Furnishings
EGSF	Area of Glazing in Square Feet
EQEA	Pieces of Equipment
ESC%	Construction Escalation Contingency Percentage
EST%	Construction Estimating Contingency Percentage

Unit	Definition
EWCY	Cubic Yards of Earthwork Moved
EWSF	Area of Exterior Wall Surface in Square Feet
FLT	Number of Stair Flights
FPSF	Area of Fire Protection in Square Feet
FRSF	Area of Flat Roof in Square Feet
FASF	Building Footprint Area of Standard Foundation in Square Feet
FSSF	Area of Floor Structure in Square Feet
FUEA	Number of Furnishing Items
IAEA	Number of Integrated Automation Devices
IOEA	Number of Interior Openings (Door Leafs, Special Doors, Windows)
IFSF	Area of Interior Finishes in Square Feet
LFXT	Number of Lighting Fixtures
MHEA	Number of Material Handling Systems
MOS	Months (of Project Duration)
MPLF	Length of Mechanical Piping in Linear Feet
MU%	Mark-up Percentage (of Direct Construction)
OWLS	Offsite Work Lump Sum
PDEA	Number of Devices and Connections
PFXT	Number of Plumbing Fixtures
PRSF	Area of Pitched Roof in Square Feet
PSF	Area of Standard & Special Partitions in Square Feet
PSSF	Area of Standard Partitions in Square Feet
RASF	Area of Roof Accessories in Square Feet
RFSF	Area of Special Floor in Square Feet
RSF	Area of Pitched and Flat Roofs in Square Feet
RSSF	Area of Roof Structure in Square Feet
SAMP	Amperes of Electrical Service
SCA	Area of Special Construction & Demolition in Square Feet
SCSF	Area of Special Construction in Square Feet
SDSF	Area of Building Demolition in Square Feet
SELF	Linear Feet of Electrical Wire
SEPT	Number of Special Electrical System Points
SFSF	Building Footprint Area of Special Foundation in Square Feet
SGSF	Specialties Gross Floor Area in Square Feet
SISF	Area of Site Improved in Square Feet
SLSF	Building Footprint Area of Slab on Grade
SMPT	Number of Special Mechanical System Points (Connections)
SPSF	Area of Special Partitions in Square Feet
SSF	Area of Floor and Roof Structure in Square Feet
SSSF	Area of Site Requiring Special Preparation in Square Feet
STOP	Number of Elevator Stops
STSF	Area of Site Structures in Square Feet
TAMP	Total Amperes of Service & Emergency Power

Legend

Unit	Definition
TC\$	Total Construction Cost
TC%	Total Construction Contingency
TFSF	Total Area of Foundation Systems (FPA) in Square Feet
TON	Total Material Shipping Weight

Introduction

This CostFormat was developed by the Department of Education and Early Development (DEED) to ensure consistent cost estimate formats for school construction projects submitted to the department. All cost estimates submitted to DEED as part of a grant or debt reimbursement project under AS 14.11 must conform to this standard.

CostFormat Component Levels

The CostFormat is considered an Elemental Costs structure. Elemental Costs structures are organized around building systems where Work Breakdown Cost structures are organized around building trades and materials. To allow a variety of analyses, the structure is organized by levels with each level offering additional specificity regarding subsystems and components. The CostFormat includes 13 elements at Level 1. At its most detailed level, Level 4, 183 elements are defined. The following layout is used to describe the CostFormat levels:

Level 1 Code and Description

Level 2 Code and Description (Unit)

Level 3 Code and Description

Unit; Unit Description

Level 4 Code and Description

Unit; Unit Description

Component element list

01 Site Work

01 Site & Infrastructure (AC)

011 (Reserved)

012 (Reserved)

013 Site Improvements

Unit: SF Unit Description: SF Area of Site Improved

0131 Vehicular Surfaces

Unit: SF Unit Description: Vehicular Circulation SF

Components: Basecourse, Geotextile, Paving, Surfacing, Curbs/gutters, Signage

0132 Pedestrian Surfaces

Unit: SF Unit Description: At-grade Surfaces SF

Components: Basecourse, Geotextile, Paving/surfacing, Boardwalks, Edging

0133 Elevated Decks, Stairs, & Ramps

Unit: SF Unit Description: Elevated Circulation SF

Components: Foundations, Structure, Decking, Railings

0134 Site Walls

Unit: SF Unit Description: Vertical Wall Surface SF

Components: Foundations, Wall system, Excavation, Backfill, Drainage

0135 Landscaping & Irrigation

Unit: MSF Unit Description: Landscaped Surface MSF

Components: Trenching, Topsoil, Plantings, Mulch, Boulders, Irrigation and controls

0136 Fencing and Gates

Unit: SF Unit Description: All Fencing SF

Components: Foundations, Posts, Fencing, Gates, Vehicle gates, Bollards/staples

0137 Site Furnishing & Equipment

Unit: EA Unit Description: Feature EA

Components: Benches, Tables, Signs, Flagpoles, Planters, Waste receptacle, Bike racks

0138 Playgrounds & Playfields

Unit: SF Unit Description: Play Area SF

Components: Base prep, Drainage, Play structures, Surfacing/seeding, Markings/signs

0139 Other Site Improvements

Unit: SF Unit Description: Improvement SF

Components: Sledding hills, Ice rinks, Snowmelt systems, Water features, Etc.

014 Site Structures

Unit: SF Unit Description: SF Area of Structures

0141 Freestanding Shelters

Unit: SF Unit Description: Sheltered SF

Components: Foundation, Superstructure, Enclosure, Electrical [Exclude surfacing]

0142 Attached Shelters

Unit: SF Unit Description: Sheltered SF

Components: Foundation, Superstructure, Enclosure, Electrical [Exclude surfacing]

0143 Support Buildings

Unit: SF Unit Description: Building SF

Components: Foundation, Superstructure, Enclosure, Mechanical, Electrical
[See 111 Special Construction for certain exclusions]

015 Civil/Mechanical Utilities

Unit: SF Unit Description: SF Area of Site Improved

0151 Water System

Unit: LF Unit Description: Water pipe LF

Components: Excavation/backfill, Wells, Tanks, Piping, Valves, Pumps,
Treatment System

0152 Sanitary Sewer

Unit: LF Unit Description: Water Pipe LF

Components: Excavation/backfill, Tanks, Lift Stations/pumps, Piping, Valves,
Treatment System

0153 Storm Water

Unit: SF Unit Description: Improved Site SF

Components: Excavation/backfill, Piping, Culverts, Swales, Catchments, Fencing,
Treatment System

0154 Fuel Systems

Unit: GAL Unit Description: Tank Capacity GAL

Components: Excavation/backfill, Foundation, Tanks, Piping, Valves,
Containment, Fencing

0155 Heating/Cooling Piping & Utilidors

Unit: LF Unit Description: Total pipe LF

Components: Excavation/backfill, Piping, Valves, Insulation, Utilidors, Vaults,
Appurtenances

016 Site Electrical

Unit: SF Unit Description: SF Area of Site Improved

0161 Electrical Service & Distribution

Unit: LF Unit Description: Conduit LF

Components: Trenching, Poles, Transformers, Switchgear, Conduit, Feeders

0162 Data/Comm Service & Distribution

Unit: LF Unit Description: Conduit LF

Components: Trenching, Conduit, Cable, Satellite dishes, Foundation, Equipment

0163 Lighting & Equipment

Unit: EA Unit Description: Total fixtures EA

Components: Trenching, Poles, Fixtures, Devices, Panels, Conduit, Feeders

0164 Security Systems

Unit: EA Unit Description: Total sensors EA

Components: Trenching, Poles, Devices, Conduit, Cable

017 Offsite Work

Unit: LS Unit Description: Lump Sum

0171 Offsite Improvements

Unit: SF Unit Description: Improved SF

Components: Any 013 Site Improvements beyond property lines

0172 Offsite Utilities

Unit: LF Unit Description: Utility LF

Components: Extension and connections of utilities to the site

0173 Other Offsite Work

Unit: LS Unit Description: Work LS

Components: Structures, Etc.

02-05 Building Shell

02 Substructure (FPA)**021 Standard Foundations & Basements**

Unit: SF Unit Description: SF Building Footprint Area of Standard Foundation

0211 Continuous & Column Footings

Unit: CY Unit Description: Concrete CY

Components: Excavation/backfill, Base, Forms, Reinforcement, Concrete, Insulation

0212 Foundation Walls & Treatment

Unit: SF Unit Description: Wall SF

Components: Excavation/backfill, Forms, Reinforcement, Concrete, Dampproofing, Insulation

0213 Foundation Drainage

Unit: LF Unit Description: Foundation drain LF

Components: Excavation/backfill, Pipe, Geotextile

022 Slab on Grade

Unit: SF Unit Description: SF Building Footprint Area of Slab On Grade

0221 Structural & Nonstructural Slab

Unit: SF Unit Description: Slab SF

Components: Base, Vapor barrier, Forms, Reinforcement, Concrete, Joints, Finish

0222 Trench, Pit, and Pad

Unit: SF Unit Description: Exposed SF

Components: Base, Vapor barrier, Forms, Reinforcement, Concrete, Embedments

0223 Underslab Elements

Unit: SF Unit Description: Slab SF

Components: Ex/backfill, Vapor barrier, Insulation, Pipe, Geotextile

023 (Reserved)**024 Special Foundations**

Unit: SF Unit Description: SF Building Footprint Area of Special Foundation

0241 Piling & Pile Cap

Unit: LF Unit Description: Piling LF

Components: Drilling/backfill, Driving, Pile, Thermopile, Pile caps, Layout, Etc.

0242 Caissons

Unit: LF Unit Description: Piling LF

Components: Drilling/backfill, Driving/drilling, Piers, Pile caps, Layout, Etc.

0243 Grade Beams

Unit: CY Unit Description: Concrete CY

Components: Ex/backfill, Base, Forms, Reinforcement, Concrete, Insulation.

0244 Arctic Foundation Systems

Unit: SF Unit Description: Foundation system SF

Components: Trenching/backfill, Thermosyphons, Refrigeration, Insulation

0245 Other Special Foundations

Unit: SF Unit Description: Foundation System SF

Components: Underpinning, Vibro-replacement, Etc.

03 Superstructure (SF)**031 Floor Structure**

Unit: SF Unit Description: SF Area of Floor Structure

0311 Lower & Main Floors

Unit: SF Unit Description: Lower & Main Floor SF

Components: Beams, Joists, Decking, Topping, Soffit, Insulation, Coatings

0312 Upper Floors

Unit: SF Unit Description: Upper Floor SF

Components: Columns, Beams, Joists, Decking, Topping, Coatings

0313 Ramps

Unit: SF Unit Description: Ramp SF

Components: Columns, Beams, Joists, Decking, Topping, Coatings

032 Roof Structure (SF)

Unit: SF Unit Description: SF Area of Roof Structure

0321 Pitched Roofs

Unit: SF Unit Description: Pitched Roof SF

Components: Columns, Beams, Rafters, Trusses, Decking, Bracing

0322 Flat Roofs

Unit: SF Unit Description: Flat Roof SF

Components: Columns, Beams, Rafters, Trusses, Decking, Bracing

0323 Special Roofs

Unit: SF Unit Description: Special Roof SF

Components: Pneumatic structures, Domes, Etc.

033 Stairs

Unit: FLT Unit Description: Number of Stair Flights

0331 Stair Structure

Unit: FLT Unit Description: Stair FLT

Components: Columns, Landings, Stringers, Treads, Risers, Toppings

0332 Stair Railings

Unit: LF Unit Description: Railing LF

Components: Guardrail, Railing, Balusters, Supports, Coatings

0333 Ladders & Steps

Unit: EA Unit Description: Ladders/Steps EA

Components: Ladders, Steps, Coatings

04 Exterior Closure (SF)**041 Exterior Walls & Soffits**

Unit: SF Unit Description: SF Area of Exterior Wall Surface

0411 Exterior Walls

Unit: SF Unit Description: Exterior Wall SF

Components: Framing, Sheathing, Insulation, Siding, Vapor/Air barriers, Interior.
substrate

0412 Fascias & Soffits

Unit: SF Unit Description: Fascia and Soffit SF

Components: Framing, Sheathing, Insulation, Siding, Vapor/Air barriers, Vents

0413 Curtainwalls & Non-bearing Walls

Unit: SF Unit Description: Curtainwall SF

Components: Framing, Mullions/Rails, Connectors, Insulation, Siding, Barriers,
Interior substrate

042 Exterior Glazing

Unit: SF Unit Description: SF Area of Glazing

0421 Windows

Unit: SF Unit Description: Window SF

Components: Frames, Glazing, Exterior sills, Flashings, Coatings/sealants,
Vandal-proofing

0422 Storefronts

Unit: SF Unit Description: Storefront SF

Components: Framing, Glazing, Flashings, Closures/sealants

0423 Structural Window Walls

Unit: SF Unit Description: Window Wall SF

Components: Columns, Frames, Glazing, Exterior sills, Flashings,
Closures/sealants

0424 Translucent Panels

Unit: SF Unit Description: Translucent Panel SF

Components: Panel assembly, Exterior Sills, Flashings

043 Exterior Doors

Unit: EA Unit Description: Total Number of Door LEAF & Special Doors

0431 Personnel Doors

Unit: EA Unit Description: Door LEAF

Components: Frames, Doors, Lites, Latch assembly, Openers, Thresholds,
Flashing, Finish

0432 Special Doors

Unit: EA Unit Description: Special Door EA

Components: Frames, Doors, Openers, Lock assembly, Flashing, Finish
[Overhead doors, etc.]

044 Exterior Accessories

Unit: SF Unit Description: SF Area of Exterior Closure

0441 Louvers, Screens& Shading Devices

Unit: SF Unit Description: Louver and Screen SF

Components: Louvers, Screens, Trellis, Shades/shelves, Etc.

0442 Balcony Elements

Unit: SF Unit Description: Balcony SF

Components: Walls, Grills, Guardrails, Handrails, Etc. [Excludes floor framing,
decking (0312) and waterproofing (0521)]

0443 Other Exterior Accessories

Unit: SF Unit Description: Exterior Closure SF
Components: Signage, Decorations, Etc.

05 Roof Systems (FPA)**051 Pitched Roofing**

Unit: SF Unit Description: SF Area of Pitched Roof

0511 Pitched Roofing

Unit: SF Unit Description: Pitched Roof SF
Components: Underlayment/barriers, Roofing, Flashing, Vent-through-roof (VTRs) assembly, Insulation, Fascia

0512 Gutters & Downspouts

Unit: LF Unit Description: Gutter and Downspout LF
Components: Gutters, Membranes, Downspouts, Hangers, Etc.

052 Flat Roof

Unit: SF Unit Description: SF Area of Flat Roof

0521 Flat Roofing

Unit: SF Unit Description: Flat Roof SF
Components: Underlayment/barriers, Roofing, Flashing, Vent-through-roof (VTR) assembly, Insulation, Copings

0522 Roof Drains & Piping

Unit: EA Unit Description: Roof Drains EA
Components: Drains, Scuppers, Leaders, Insulation, Etc.

053 Roof Accessories

Unit: SF Unit Description: SF Area of Roof Accessories

0531 Skylights

Unit: SF Unit Description: Skylight SF
Components: Fixed/operable Skylights, Curbs, Flashing, Hardware

0532 Roof Hatches

Unit: EA Unit Description: Roof Hatches EA
Components: Hatches, Curbs, Flashing, Hardware

0533 Roof Decks, Walls, & Railing

Unit: SF Unit Description: Roof Deck SF
Components: Decking/paving, Protection, Supports, Walls, Railings, Etc.

0534 Other Roof Accessories

Unit: SF Unit Description: Impacted Roof SF
Components: Snow guards, Tie-offs, Pipe supports, Etc.

06-07 Interior Construction

06 Interiors (GSF)**061 Partitions/Soffits**

Unit: SF Unit Description: SF Area of Standard Partitions

0611 Fixed Partitions

Unit: SF Unit Description: Partition SF

Components: Framing, Substrates/sheathing, Blocking, Insulation

0612 Soffits & Ceilings

Unit: SF Unit Description: Soffit SF

Components: Framing, Substrates/sheathing, Blocking, Insulation

062 Special Partitions

Unit: SF Unit Description: SF Area of Special Partitions

0621 Operable Partitions

Unit: SF Unit Description: Operable Partition SF

Components: Partition, Support Structure, Factory Finishes

0622 Demountable Partitions

Unit: SF Unit Description: Demountable Partition SF

Components: Partition, Support Structure, Factory Finishes

0623 Glazed Partitions

Unit: SF Unit Description: Glazing SF

Components: Frames, Glazing, Glass Block, Trims

0624 Railing & Screens

Unit: SF Unit Description: Railing and screen SF

Components: Railing assemblies, Visual screens, Etc.

063 Interior Openings

Unit: EA Unit Description: Total Number of Door LEAF & Special Doors

0631 Personnel Doors

Unit: EA Unit Description: Door LEAF

Components: Frames, Doors, Integral Lites, Hardware, Trims, Finish

0632 Special Doors

Unit: EA Unit Description: Special Door EA

Components: Frames, Doors, Hardware, Finish [Overhead doors, grills, fire doors, etc.]

0633 Windows & Sidelites

Unit: SF Unit Description: Window/Sidelite SF
Components: Frame, Glazing, Stops, Etc.

064 Special Floors

Unit: SF Unit Description: SF Area of Special Floors

0631 Access Floors

Unit: SF Unit Description: Access Floor SF
Components: Framing/stands, Floor panels, Factory finishes

0632 Platforms & Stages

Unit: SF Unit Description: Platform/stage SF
Components: Framing, Sheathing/panels, Accessories

065 Interior Finishes

Unit: GSF Unit Description: Gross SF Floor Area

0641 Floor Finishes

Unit: SF Unit Description: Floor Finish SF
Components: Prep, Finish Material, Trims, Wall base, Transitions

0642 Wall Finishes

Unit: SF Unit Description: Wall Finish SF
Components: Prep, Finish Material, Trims

0643 Ceiling Finishes

Unit: SF Unit Description: Ceiling Finish SF
Components: Prep, Framing/Supports, Finish Material, Trims

0644 Other Finishes

Unit: SF Unit Description: Other Finish SF
Components: Prep, Finish Material, Transitions [Primarily misc. protective coatings]

066 Specialties

Unit: GSF Unit Description: Gross SF Floor Area

0651 Interior Specialties

Unit: GSF Unit Description: Specialties by GSF
Components: Toilet partitions/accessories, Lockers, Boards, Protective Guards, Signage, Etc.

0652 Casework/Millwork

Unit: LF Unit Description: Casework/Millwork LF
Components: Cabinets, Cubbies, Wardrobes, Counters, Display Case, Trim, Etc.

0653 Seating

Unit: EA Unit Description: Seating Units EA

Components: Framing, Finish, Accessories [Fixed seating and benches]

0654 Window Coverings

Unit: SF Unit Description: Coverings SF

Components: Drapes, Blinds, Blackout Shades, Etc.

07 Conveyors (GSF)**071 Passenger Conveyors**

Unit: EA Unit Description: Number of Conveyors EA

0711 Passenger Elevators

Unit: STOP Unit Description: Elevator STOP

Components: Cab, Rails, Machinery, Appurtenances

0712 Lifts & Other Conveyors

Unit: EA Unit Description: Lifts/conveyors EA

Components: Cab/enclosure, Rails, Machinery, Appurtenances

072 Material Handling Systems

Unit: EA Unit Description: Number of Systems EA

0721 Elevators & Lifts

Unit: STOP Unit Description: Lifts STOP

Components: Cab/enclosure, Rails, Machinery, Appurtenances

0722 Hoists & Cranes

Unit: TON Unit Description: Hoist/crane TON

Components: Structure/rails, Hoist/crane, Appurtenances

0725 Other Systems

Unit: EA Unit Description: Number of Other System EA

Components: Structure/rails, Enclosure, Appurtenances [Files storage, etc.]

08-09 Mechanical & Electrical
--

08 Mechanical (GSF)**081 Plumbing**

Unit: FXT Unit Description: Total Plumbing Fixture Quantity

0811 Plumbing Fixtures

Unit: EA Unit Description: Fixtures EA

Components: Fixture, Rough-in, Valves/stops, Mounts, Trims [Roof drains at 0522]

0812 Plumbing Piping

Unit: LF Unit Description: Piping LF

Components: Pipe, Fittings, Hangers, Insulation

0813 Plumbing Equipment

Unit: EA Unit Description: Equipment EA

Components: Pumps, Tanks, Traps, Hot water generator, Treatment

0814 Waste & Vent Piping

Unit: LF Unit Description: Piping LF

Components: Pipe, Fittings, Cleanouts, Supports, Insulation

0815 Special Systems

Unit: EA Unit Description: Special System EA

Components: Equipment, Piping, Fittings. [Stormwater, graywater, compressed air, etc.]

082 HVAC

Unit: GSF Unit Description: Gross SF Floor Area

0821 Heating Equipment

Unit: GSF Unit Description: Equipment per GSF

Components: Boilers, Furnace, Burners, Flue, Expansion Tank, Media

0822 Heating Distribution Systems

Unit: LF Unit Description: Pipe LF

Components: Pipe, Fittings, Valves, Pumps, Insulation, Strainers, Etc.

0823 Ventilation Equipment

Unit: GSF Unit Description: Equipment per GSF

Components: Air handling units (AHU), Supply/Return Fans, Exhaust Fans, Coils, VAVs, Terminals, Etc.

0824 Ventilation Distribution Systems

Unit: GSF Unit Description: System per GSF

Components: Ducting, Insulation, Diffusers, Dampers/Silencers [Louvers at 0441]

0825 Cooling Equipment

Unit: GSF Unit Description: Equipment per GSF

Components: Air conditioning unit (ACU), Make-up, Coils, Refrigerant

0826 Cooling Distribution Systems

Unit: LF Unit Description: Pipe LF

Components: Pipe, Fittings, Valves, Gauges, Insulation, Etc.

0827 Heat Recovery System

Unit: EA Unit Description: Number of Systems EA

Components: Heat recovery units (HRU), Fans, Etc.

083 Integrated Automation

Unit: GSF Unit Description: Gross SF Floor Area

0831 Control Systems

Unit: EA Unit Description: Control Points EA

Components: Head End, Direct digital control (DDC) points, Wiring, Sensors, Gauges

0832 Other Automation

Unit: EA Unit Description: Control Points EA

Components: Thermostats, Wiring, Sensors, Gauges [Stand-alone, wireless, etc.]

084 Fire Protection

Unit: GSF Unit Description: Gross Floor Area

0841 Riser & Equipment

Unit: EA Unit Description: Equipment EA

Components: Riser, Backflow Device, Headers, Valves, Etc.

0842 Sprinklers & Piping

Unit: SF Unit Description: Sprinkled SF

Components: Pipe, Fittings, Heads, Hangars/bracing, Etc.

0843 Special Suppression Systems

Unit: EA Unit Description: Number of Systems EA

Components: Tanks, Valves, Piping, Controls

085 Special Mechanical Systems

Unit: GSF Unit Description: Gross SF Floor Area

0851 Fuel Supply (Gas & Oil)

Unit: LF Unit Description: Pipe LF

Components: Pipe, Fittings, Tanks, Pumps, Valves, Etc.

0852 Dust Collection Systems

Unit: EA Unit Description: Connections EA

Components: Tank, Stand, Fans, Ducting, Controls, Etc.

0853 Compressed Air & Vacuum Systems

Unit: EA Unit Description: Outlets EA

Components: Tank, Mounts, Fans, Ducting, Controls, Outlets, Etc.

0854 Other Special Mechanical Systems

Unit: EA Unit Description: Number of Systems EA

Components: Equipment [humidifier, special exhaust, etc.], Piping\ducting, Grills

09 Electrical (GSF)**091 Service & Distribution**

Unit: AMP Unit Description: Total amperes of electrical system

0911 Main Distribution Panels & Switchgear

Unit: AMP Unit Description: System AMP

Components: Main distribution panel (MDP) Enclosure, Disconnect, CT
Enclosure, Bus, Fuses, Etc.

0912 Panels & Motor Control Centers

Unit: AMP Unit Description: System AMP

Components: Switchboards, Panelboards, Motor-control Centers

0913 Transformers

Unit: KVA Unit Description: Transformers KVA

Components: Transformers [commonly Utility-provided]

0914 Conduit & Feeders

Unit: LF Unit Description: Conduit LF

Components: Conduit, Hangers/supports, Fittings, Wires

092 Lighting

Unit: FXT Unit Description: Total lighting fixture quantity

0921 Light Fixtures

Unit: FXT Unit Description: Fixtures EA

Components: Interior Fixtures, Building Mounted Fixtures, Exit/emergency,
Trims, Etc.

0922 Lighting Controls

Unit: EA Unit Description: Devices EA

Components: Control panel, Switches, Occupancy Sensors, Etc.

0923 Conduit & Wiring

Unit: LF Unit Description: Conduit LF

Components: Conduit, Fittings, Wiring

093 Power

Unit: EA Unit Description: Total Devices and Connections Quantity

0931 Devices & Connections

Unit: EA Unit Description: Controls EA

Components: Outlets, Disconnects, Sensors/timers, Motor connections, Etc.

0932 Conduit & Wiring

Unit: LF Unit Description: Conduit LF

Components: Conduit, Fittings, Wiring

094 Special Systems

Unit: GSF Unit Description: Gross SF Floor Area

0941 Fire Alarm

Unit: EA Unit Description: Devices EA

Components: Devices, Panels, Conduit, Wiring

0942 Data & Communications

Unit: EA Unit Description: Outlets EA

Components: Equipment, Devices\connections, Conduit/tray, Wiring

0943 Security Systems

Unit: EA Unit Description: Grounding System EA

Components: Headend, Detectors, Closed-circuit television (CCTV), Access control, Conduit/tray, Wiring

0944 Clock Systems

Unit: EA Unit Description: Clocks EA

Components: Clocks, Controls, Conduit/tray, Wiring

0945 Intercom Systems

Unit: EA Unit Description: Speakers EA

Components: Headend, Interties, Speakers, Wiring

0946 Other Special Systems

Unit: EA Unit Description: Grounding System EA

Components: Equipment, Devices, Conduit/tray, Wiring [other low voltage systems]

095 Other Electrical Systems

Unit: GSF Unit Description: Gross SF Floor Area

0951 Power Generation & Distribution

Unit: KVA Unit Description: Generation KVA

Components: Generators, Switchgear, Panels, Conduit, Feeders

0952 Electrical Heating Systems

Unit: SF Unit Description: Area Served SF

Components: Baseboards, Unit Heaters, Radiator, Radiant Heat, Controls

0953 Grounding Systems

Unit: EA Unit Description: Grounding System EA

Components: Grounding, Lightning Protection, Etc.

10-11 Support Elements

10 Equipment & Furnishings (GSF)**101 Equipment**

Unit: GSF Unit Description: Gross SF Floor Area

1011 Food Service and Kitchen Equipment

Unit: SF Unit Description: Kitchen SF

Components: Cooking Equipment, Refer/Freezer, Tables/counters, Etc.
[Hoods/Sinks at 08]

1012 Athletic Equipment

Unit: SF Unit Description: Athletic SF

Components: Basketball Goals, Inserts, Ropes, Bars, Mat hoists, Etc.

1013 Career & Technology Equipment

Unit: SF Unit Description: Technology SF

Components: Woodworking, Metal/welding, Small engine, Robotics, Etc.

1014 Science Equipment

Unit: SF Unit Description: Science SF

Components: Casework, Equipment, Etc.

1015 Library Equipment

Unit: SF Unit Description: Library SF

Components: Stacks, Shelves, Desks, Etc.

1016 Theater Equipment

Unit: SF Unit Description: Theater SF

Components: Lighting, Rigging, Sound, Curtains, Etc.

1017 Art Equipment

Unit: SF Unit Description: Art SF

Components: Kilns, Sinks, Etc.

1018 Loading Dock Equipment

Unit: SF Unit Description: Loading Dock SF

Components: Bumpers, Levelers, Etc.

1019 Other Equipment

Unit: SF Unit Description: Other SF

Components: Fixed Occupational Therapy/Physical Therapy, Etc.

102 Furnishings

Unit: GSF Unit Description: Gross SF Floor Area

1021 Fixed Furnishings

Unit: EA Unit Description: Furnishings EA

Components: Classroom, Administration, Workrooms, Assembly, Etc.

1022 Mats

Unit: SF Unit Description: Mats SF

Components: Mats, Grates

1024 Other Furnishings

Unit: EA Unit Description: Furnishings EA

Components: Window Shades, Etc.

11 Special Conditions (GSF)**111 Special Construction**

Unit: GSF Unit Description: SF Area of Special Construction

1111 Packaged Utility Modules

Unit: SF Unit Description: Module SF

Components: Foundation, Superstructure, Enclosure, Mechanical, Electrical
[Utility treatment, Mechanical, Generator, other modules]

1112 Swimming Pool

Unit: SF Unit Description: Pool Tank SF

Components: Foundation, Superstructure, Enclosure, Mechanical, Electrical
[Tank, gutters, piping, pumps, treatment, etc.]

1113 Greenhouse

Unit: SF Unit Description: Greenhouse SF

Components: Foundation, Framing, Panels, Mechanical, Electrical

112 Special Demolition

Unit: SF Unit Description: Site area requiring special preparation

1121 Structural Demolition

Unit: SF Unit Description: Demolition SF

Components: Demolition, Equipment, Transport, Disposal, Restoration

1122 Building Selective Demolition

Unit: SF Unit Description: Selective Demolition SF

Components: Protection, Demolition, Equipment, Transport, Disposal, Cleanup

1123 Site and Utility Demolition

Unit: SF Unit Description: Site & Utility SF

Components: Excavation/Backfill, Demolition, Equipment, Transport, Disposal, Restoration

1124 Hazardous Material Removal

Unit: SF Unit Description: Remediation SF

Components: Protection, Demolition, Equipment, Transport, Disposal, Cleanup

1125 Building Relocation

Unit: SF Unit Description: Relocated Structures SF

Components: Disconnect/Reconnect, Equipment, Transport, Restoration

113 Special Site Conditions

Unit: CY Unit Description: Total CY moved

1131 Site Shoring & Dewatering

Unit: SF Unit Description: Shoring & Dewatering SF

Components: Barriers/structure, Equipment, Etc.

1132 Site Earthwork

Unit: CY Unit Description: Earthwork CY

Components: Excavation/backfill, Geotextile, Etc.

1133 Site Remediation

Unit: CY Unit Description: Earthwork CY

Components: Excavation, Transport, Disposal/treatment, Backfill

12-13 Building Overhead Support

12 General Conditions (MO)

Unit: MO Unit Description: Project Duration MO

121 Mobilization and Demobilization

Unit: LS Unit Description: Lump Sum

1211 Freight Material

Unit: TON Unit Description: Material TON

Components: Freight cost of materials to job site (air, barge, truck, etc.).

1212 Freight Construction Equipment

Unit TON Unit Description: Equipment TON

Components: Freight cost of construction equipment to and from job site.

1213 Labor Travel

Unit: RT Unit Description: Travel RT

Components: Cost of travel for construction personnel to and from job site.

122 Site Staff

Unit: MO Unit Description: Project duration MO

1221 Supervision

Unit: MO Unit Description: Supervision MO

Components: Project Manager, Superintendent, Foreman.

1222 Engineering

Unit: MO Unit Description: Engineering MO

Components: Engineering Personnel.

1223 Quality Control

Unit: MO Unit Description: QC Personnel MO

Components: Quality Control Personnel.

1224 Scheduling/Estimating

Unit: MO Unit Description: Sched/Estimating MO

Components: Estimating Personnel.

1225 Surveying

Unit: MO Description: Surveying MO

Components: Crew to set out features of project.

1226 Expediting

Unit: MO Unit Description: Expediting MO

Components: Persons arranging deliveries.

1227 Clerical

Unit: MO Unit Description: Clerical MO
Components: Payroll, Invoices, etc.

1228 Other

Unit: MO Unit Description: Other MO
Components: All other site staff costs

123 Temporary Construction

Unit: MO Unit Description: Project Duration MO

1231 Temporary Facilities

Unit: MO Unit Description: Project Duration MO
Components: Offices, Storage, Signs, Staging, Partitions/protection,
Installation/use.

1232 Fences & Barriers

Unit: LF Unit Description: Fencing LF
Components: Perimeter Fence, Security.

1233 Scaffolding

Unit: MO Unit Description: Scaffold Rental MO
Components: Installation and rental.

1234 Utilities

Unit: MO Unit Description: Project Duration MO
Components: Water, Sewer, Electrical, Gas, Oil, Installation and use.

1235 Communications

Unit: MO Unit Description: Project Duration MO
Components: Telephone, Fax, E-mail, Installation and use.

124 Equipment and Tools

Unit: MO Unit Description: Project Duration MO

1241 Equipment

Unit: MO Unit Description: Project Duration MO
Components: Vertical and horizontal transportation, pumps, etc.

1242 Tools

Unit: MO Unit Description: Project Duration MO
Components: Hand Tools, Manlifts, Ladders, etc.

1243 Consumables

Unit: MO Unit Description: Project Duration MO
Components: Fuel, Cleaning Products, Safety Needs

125 Miscellaneous

Unit: MO Unit Description: Project Duration MO

1251 Submittals/As-Builts

Unit: LS Unit Description: Total LS

Components: Project records/printing costs/manuals.

1252 Testing

Unit: LS Unit Description: Total LS

Components: Material tests.

1253 Cleaning

Unit: MO Unit Description: Project Duration MO

Components: Includes snow removal and final clean-up.

1254 Security

Unit: MO Unit Description: Project Duration MO

Components: Badges, Security Service, Night Watchman.

1255 Permits

Unit: LS Unit Description: Total LS

Components: Local Building Permits, Street-use Permits, etc.

126 Labor Employment Costs

Unit: MO Unit Description: Project Duration MO

1261 Camp (MO)

Unit: MO Unit Description: Camp Operations MO

Components: Mancamp, Lodging/dining.

1262 Per-Diem (DAY)

Unit: DAY Unit Description: Personnel DAY

Components: Remote site needs imported labor.

1263 Premium Time (HRS)

Unit: HRS Unit Description: Overtime HRS

Components: Payment for overtime.

127 Mark-Ups

Unit: % Unit Description: Percentage of Direct Construction Cost

1271 Home Office Overhead

Unit: % Unit Description: Direct Const. Cost Percentage

Components: Headquarters costs.

1272 Profit

Unit: % Unit Description: Direct Const. Cost Percentage

Components: Mark-up for investment and risk and market conditions.

Unit: % Unit Description: Direct Const. Cost Percentage
Components: Performance, Pay and Bid Bonds.

Unit: % Unit Description: Direct const. cost percentage
Components: General liability.

13 Contingencies (%)

Unit: % Unit Description: Percentage of Total Construction Cost

131 Estimate Contingency

1311 Estimator's

Unit: % Unit Description: Total Project Cost Percentage
Components: Allowance for unknown aspects of the project that may become necessary.

132 Escalation Contingency

1321 Escalation

Unit: % Unit Description: Total Project Cost Percentage
Components: Allowance for changes in costs of labor and materials from the date of the estimate to date of construction project.

Sample Estimate Summary

School District: Mid-Alaska
 Project Name: ABC K-12 School
 Design Phase: 100% Construction Document
 DEED Project #: 00-014
 Project GSF: 39,807 SF

Code	Building System	Quantity	Unit	Labor	Material	Total	\$/Unit	\$/GSF	%
01	SITE	7	ACRE	\$0	\$0	\$1,896,870	\$270,209	\$47.65	11.58%
013	Site Improvements	38,823	SISF	\$0	\$0	\$640,846	\$16.51	\$16.10	3.91%
014	Site Structures	2,464	STSF	\$0	\$0	\$94,427	\$38.32	\$2.37	0.58%
015	Civil/Mechanical Utilities	4,903	CMLF	\$0	\$0	\$460,761	\$93.98	\$11.57	2.81%
016	Site Electrical	15,200	SELF	\$0	\$0	\$133,332	\$8.77	\$3.35	0.81%
017	Offsite Work	0	OWLS	\$0	\$0	\$0			
02	SUBSTRUCTURE	38,059	TFSF	\$0	\$0	\$662,055	\$17.40	\$16.63	4.04%
021	Standard Foundations & Basements		FASF	\$0	\$0	\$0			
022	Slab on Grade		SLSF	\$0	\$0	\$0			
024	Special Foundations	38,059	SFSF	\$0	\$0	\$662,055	\$17.40	\$16.63	4.04%
03	SUPERSTRUCTURE	79,053	SSF	\$0	\$0	\$1,288,489	\$16.30	\$32.37	7.86%
031	Floor Structure	39,807	FSSF	\$0	\$0	\$479,305	\$12.04	\$12.04	2.93%
032	Roof Structure	39,246	RSSF	\$0	\$0	\$798,890	\$20.36	\$20.07	4.88%
033	Stairs	2	FLT	\$0	\$0	\$10,294	\$5,147	\$0.26	0.06%
04	EXTERIOR CLOSURE	33,352	ECSF	\$0	\$0	\$1,012,681	\$30.36	\$25.44	6.18%
041	Exterior Walls & Soffits	31,585	EWSF	\$0	\$0	\$909,376	\$28.79	\$22.84	5.55%
042	Exterior Glazing	1,473	EGSF	\$0	\$0	\$78,129	\$53.04	\$1.96	0.48%
043	Exterior Doors	14	EDLF	\$0	\$0	\$25,176	\$1,798	\$0.63	0.15%
044	Exterior Accessories	0	EASF	\$0	\$0	\$0			

Sample Estimate Summary

Code	Building System	Quantity	Unit	Labor	Material	Total	\$/Unit	\$/GSF	%
05	ROOF SYSTEMS	39,246	RSF	\$0	\$0	\$136,748	\$3.48	\$3.44	0.83%
051	Pitched Roof	39,246	PRSF	\$0	\$0	\$136,748	\$3.48	\$3.44	0.83%
052	Flat Roof	0	FRSF	\$0	\$0	\$0			
053	Roof Accessories	0	RASF	\$0	\$0	\$0			
06	INTERIORS	52,614	PSF	\$0	\$0	\$1,353,017	\$25.72	\$33.99	8.26%
061	Partitions/Soffits	52,171	PSSF	\$0	\$0	\$389,872	\$7.47	\$9.79	2.38%
062	Special Partitions	443	SPSF	\$0	\$0	\$14,301	\$32.28	\$0.36	0.09%
063	Interior Openings	93	IOEA	\$0	\$0	\$141,686	\$1,524	\$3.56	0.86%
064	Special Floors	0	RFSF	\$0	\$0	\$0			
065	Interior Finishes	161,611	IFSF	\$0	\$0	\$488,131	\$3.02	\$12.26	2.98%
066	Specialties	39,807	SGSF	\$0	\$0	\$319,027	\$8.01	\$8.01	1.95%
07	CONVEYORS	0	CEA	\$0	\$0	\$0			
071	Passenger Conveyors	0	STOP	\$0	\$0	\$0			
072	Material Handling Systems	0	MHEA	\$0	\$0	\$0			
08	MECHANICAL	12,830	MPLF	\$0	\$0	\$1,506,251	\$117.40	\$37.84	9.19%
081	Plumbing	92	PFXT	\$0	\$0	\$326,714	\$3,551	\$8.21	1.99%
082	HVAC	55,595	CFM	\$0	\$0	\$959,554	\$17.26	\$24.11	5.86%
083	Integrated Automation	27	IAEA	\$0	\$0	\$2,908	\$107.70	\$0.07	0.02%
084	Fire Protection	39,267	FPSF	\$0	\$0	\$206,705	\$5.26	\$5.19	1.26%
085	Special Mechanical Systems	5	SMPT	\$0	\$0	\$10,370	\$2,074.00	\$0.26	0.06%
09	ELECTRICAL	950	TAMP	\$0	\$0	\$884,671	\$931.23	\$22.22	5.40%
091	Service and Distribution	800	SAMP	\$0	\$0	\$169,364	\$212	\$4.25	1.03%
092	Lighting	602	LFXT	\$0	\$0	\$241,718	\$402	\$6.07	1.48%
093	Power	778	PDEA	\$0	\$0	\$186,035	\$239.12	\$4.67	1.14%
094	Special Systems	450	SEPT	\$0	\$0	\$205,067	\$455.70	\$5.15	1.25%
095	Other Electrical Systems	150	EAMP	\$0	\$0	\$82,487	\$549.91	\$2.07	0.50%
10	EQUIPMENT & FURNISHINGS	684	EFEA	\$0	\$0	\$230,285	\$336.67	\$5.79	1.41%

Sample Estimate Summary

Code	Building System	Quantity	Unit	Labor	Material	Total	\$/Unit	\$/GSF	%
101	Equipment	350	EQEA	\$0	\$0	\$221,384	\$632.53	\$5.56	1.35%
102	Furnishings	334	FUEA	\$0	\$0	\$8,901	\$26.65	\$0.22	0.05%
11	SPECIAL CONDITIONS	3,850	SSF	\$0	\$0	\$567,504	\$147.40	\$14.26	3.46%
111	Special Construction	0	SCSF	\$0	\$0	\$0			
112	Special Demolition	3,850	SCSF	\$0	\$0	\$23,210	\$6.03	\$0.58	0.14%
113	Special Site Conditions	3,350	EWCY	\$0	\$0	\$567,504	\$169.40	\$14.26	3.46%
SUBTOTAL DIRECT CONST. COST		39,807	GSF	\$0	\$0	\$9,550,176	\$239.91	\$239.91	58.28%
12	GENERAL CONDITIONS	21	MO	\$0	\$0	\$6,538,932	\$311,378	\$164.27	39.91%
121	Mobilization and Demobilization	3,255	TONS	\$0	\$0	\$2,410,305	\$740	\$60.55	14.71%
122	Site Staff	21	MO	\$0	\$0	\$527,000	\$25,095	\$13.24	3.22%
123	Temporary Construction	21	MO	\$0	\$0	\$156,900	\$7,471	\$3.94	0.96%
124	Equipment and Tools	21	MO	\$0	\$0	\$166,350	\$7,921	\$4.18	1.02%
125	Miscellaneous	21	MO	\$0	\$0	\$47,605	\$2,267	\$1.20	0.29%
126	Labor Employment Costs	8,175	DAYS	\$0	\$0	\$1,408,420	\$172	\$35.38	8.60%
127	Mark-Ups	19.08	MU%	\$0	\$0	\$1,822,352	\$95,511	\$45.78	11.12%
SUBTOTAL PROJECT COSTS		21	MO	\$0	\$0	\$6,538,932	\$311,378	\$164.27	39.91%
13	CONTINGENCIES	\$16,089,108	TC%	\$0	\$0	\$296,366	1.84%	\$7.45	1.81%
131	Estimate Contingency	\$16,089,108	EST%	\$0	\$0	\$100,000	0.62%	\$2.51	0.61%
132	Escalation Continency	\$16,089,108	ESC%	\$0	\$0	\$196,366	1.22%	\$4.93	1.20%
TOTAL CONSTRUCTION COST		39,807	GSF	\$0	\$0	\$16,385,474	\$411.62	\$411.62	100.00%