

Part I and II (Building and Support Facilities)

This Newsletter Supersedes the Army Facilities Pricing Guide, PAX Newsletter No. 3.2.2, revision dated 24 Jul 2014, and updates Primary & Support Facilities Unit Cost Tables, Tri-Service Military Construction Program (MCP) Index, and Table-1, Size Adjustment Factors. These costs will be used as a guide for preparation and/or review of Budget Submission of the FY17 Army Military Construction (MCA) and Army Family Housing (AFH) projects' parametric cost estimates, ENG3086, etc, unless otherwise noted. These facility unit costs may not be directly applicable for those facilities that consist of unique requirements. This Newsletter is published and maintained on the web page at: <http://www.usace.army.mil/CostEngineering/ProgrammingAdministrationandExecutionSystemNe.aspx>

A. PART-I – PRIMARY FACILITIES UNIT COSTS, dated 30 Sep 2015

A.1. The Unit Costs in Part-1 Table represent the dollar per square foot cost as of 1 October 2017 for various CONUS Army facility types (to include projects from Alaska and Hawaii) that were awarded between FY 2012-14 and at least 3 projects per building type were entered into the Historic Analysis Generator (Hii) database by 1 Dec 2014. When at least three (3) recent projects were not awarded or entered into the Hii database between 2012-2014 for a specific facility type (Catcode), last 4-years (2011-2014) projects' data were considered. Only new construction projects in the Continental United States (CONUS), to include projects in Hawaii and Alaska, were utilized to develop facility specific unit costs, except for the Family Housing and DoD Schools where OCONUS projects were also considered. Renovation and addition-alteration projects, less than 25% of the Reference Size, were not included in the database.

A.2. Methodology and Escalation Factor: Facility-specific bid data were normalized to the average number of bidders for that specific facility type, Area Cost Factor of 1.0, Reference size for that facility type, and 1 Oct 2014 price level using the actual construction inflation index. Unit Costs in the PAX Newsletter Table are escalated to 1 Oct 2017, the assumed mid-point of construction for a typical FY 2017 MILCON project using Appendix-C, Military Construction Program (MCP) Index. Appendix-C, MCP Index should be used for determining Cost Escalation Factor when a project's mid-point of construction is different than 1 Oct 2017, as follows:

Anticipated Midpoint of Construction for a given project = 1 April 2018

MCP Indexes for 1 Oct 2017 and 1 Apr 2018 from Appendix-C, are 2878 and 2907 respectively

Cost Escalation Factor = MCP Index, 1 Apr 18 / MCP Index, 1 Oct 17 = 2907/2878 = 1.010076

A.3. Facilities with PAX Newsletter guidance unit costs are assumed to include the costs of the following features/requirements. Therefore NO Separate Line Item shall be added for the following features:

- a. Minimum antiterrorism design features inside the building, when minimum set back/stand-off distance is achieved,
- b. Progressive Collapse premiums for specific facility types that are normally designed with 3 or more stories, such as Inpatient Hospitals/Medical Centers, Primary Care Clinic (attached), Major Command Headquarters, Barracks/Trainee Barracks, etc.

- c. Building Information Systems (e.g. conduits, racks, trays, telecommunication rooms) for facilities without any Special Communications Requirements,
- d. Energy Management Control System (EMCS) Connection,
- e. Intrusion Detection System (IDS) infrastructure, to include conduits, racks and trays,
- f. Sustainable Design and Development features for criteria in effect from September 2007 thru September 2012 (e.g. LEED Silver Rating, Energy Policy Act of 2005, etc),
- g. Built-in Equipment and furnishings normally funded by MILCON funds,
- h. Standard uncomplicated foundation systems, e.g. Strip/Spread-footings, thickened edge slab for slab on grade, etc. Any Special Foundations, such as Pile Foundations and Structural Fill cost should be listed separately,
- i. Contractor's mark-ups for overhead, and profit
- j. An average sales tax on building materials.

A.4. PAX Guidance Unit costs do NOT generally include the following feature/requirement costs. Therefore, these costs are to be added as a Separate Line Item(s) in the budget estimate:

- a. Inside the building AT-FP features when minimum stand-off distance cannot be achieved or when enhanced AT-FP features are required due to the height of the building, such as for 3 or more storied buildings when the past designs did not require Progressive Collapse measures. Progressive Collapse premium for 3 or higher storied Standard Designs that have been previously built, e.g., barracks/dormitories, are assumed to be built-into the award data.
- b. Specialized/Secured Building Information System costs
- c. Sustainable Design and Development features for criteria mandated since September 2012,
- d. Inside the building or Built-in Renewable and alternative Energy features (e.g. roof mounted Solar Panels)
- e. Special Foundation cost, e.g. cost of pre-stressed concrete Pile foundation or caissons,
- f. Special Architectural features to comply with the Historic Preservation Guidelines
- g. Equipment acquired with non-MILCON fund sources, e.g., intrusion detection systems, pre-wired workstations, etc.
- h. Construction Contingency and Supervision, Inspection, and Overhead (SIOH) allowances,
- i. Design-Build Contract Design Cost,
- j. State imposed Gross Receipt Taxes (also referred to as General Exercise Tax),
- k. Construction Cost Growth resulting from Unforeseen Site Conditions, Change Orders, Contract document Errors and/or omissions, or Unusual Market Conditions, such as extreme material or labor shortages at the project location.

A.5. User Generated Unit Costs (UGUC): User Generated Unit costs may be used when PAX UC is not available or when it is not completely applicable for the project. UGUC requires an explanation of how the unit cost was derived. When UGUC is used, NO adjustments for ACF, size adjustment, and escalation shall be made for all line items in the cost estimate that are based on UGUC. The ACF and Size Adjustment Factor shall set as 1 in PC-Cost/ENG3086 software.

A. 6. Reference Size shown in Part-I, Table may or may not be identical to the size/sizes listed in the Center of Standardization (COS) websites, since, the average size of projects entered in Hii is listed as the Reference size. Table-1, Size Adjustment Factor, which shows correlation between project size and construction cost, should be used to determine the appropriate project cost.

B. PART-II – SUPPORT FACILITIES UNIT COSTS, dated 30 Sep 2015

B.1. Support Facilities unit costs are based upon National Average Davis Bacon wages and material pricing. The Area Cost Factor (ACF) for this database is 1.0. Support Facility unit costs should be adjusted for the project location only when guidance unit costs are used; when local cost data (user generated cost data) is used, no ACF adjustments should be made.

B.2. All pricing includes the installing contractor's Overhead and Profit (O&P). General Contractor's mark-up is not included. The installing contractor's O&P includes the following factors:

- a. Employees wage rate and fringe benefits
- b. Workmen's compensation insurance
- c. Social Security and Federal and State Unemployment taxes
- d. Contractor's Overhead (11%) and Profit (10%)
- e. Data incorporates an average 6% Sales Tax.

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Unit Costs for the ARMY Facilities - Military Construction Program (MILCON)
PAX Newsletter 3.2.2, 30 Sep 2015

PRIMARY FACILITIES UNIT COST (UC) TABLE - PART - I, Buildings)					
Facility Unit Costs (UC) are average unit costs based on the most Recent 3-Year (2012-14) project awards per building type, when at least 3 Projects were entered into the HII database by 15 Dec 2014. All UC's are the average unit costs for new construction, escalated to 1 Oct 2017, the assumed Mid-point of Construction for a typical FY2017 MILCON project, using the Inflation Guidance - FY2016 President's Budget, 5 Dec 2014 and Normalized to an Area Cost Factor of 1. Please refer to the "Notes" in the Legend at the Table for explanation.					
<u>CAT CODE</u>		<u>Avg size of Database (or Std Size)</u>	<u>Unit Of Measure (UOM)</u>	<u>Unit Cost \$/UOM for 2017</u>	<u>Remarks</u>
13115	Information Systems Facility	XX	SF		See Note-1 above
	Houses majority of Garrison level Info Management & Info Tech services plus associated admin Support & shop spaces				
13120	Communications Center	14,000		376.00	Used UC from DOD Communications Fac escalated to Oct 2017
	Hub facility for Internal and External Communications, commercial telephone feeds, and environmental control requirements; DSN switching equipment.				
	No shielding included.				
13120	Remote Switching Unit (RSU)	2,800	SF	318.00	UC and ref size are based on 2 projects. Incl costs of Commo feeds & Switching equip
13131	Information Processing Center	19,000	SF	246.00	Used UC from DOD Data Processing Ctr escalated to Oct 2017
	Also called Data processing Ctr. Houses personnel and equipment for data-processing; special temperature, humidity, environmental control requirements, raised flooring and security measures				
13181	Satellite Terminal Communications Facility	26,000	SF	369.00	Used UC from DOD Satellite Commo Ctr escalated to Oct 2017
13310	Air Traffic/ Flight Control Tower	7,600	SF	756.00	Based on DoD Unit Cost Data; 2 projects
14110	Airfield Operations (Ops) Building	XX		NA	See Note-1 above
	Houses flight operations and Airfield HQ functions with or w/o Flight Control Tower.				
14112	Aviation Unit Ops Bldg at Airfield	16,000	SF	267.00	Ref size Based on the Average size of Army projects in Hii for OSD code 2A
	Houses Aviation Unit HQ admin, training, and storage area				
14113	Access Control Facility - Mission Trng Complex	XX	SF		
14113	Access Control Facility (ACF) Complex (Reference Sizes are the Average size of reported projects in each catcode)				
	Visitors Control Center	2,900	SF	352.00	
	Search Office/ Sentry Building	520	SF	551.00	
	Gatehouse	525	SF	1,020.00	
	Guard booth (Also called Guardhouse)	120	SF	923.00	
	Search Area Canopy - Truck	XX	SF		See Note-1 above
14114	CIDC Field Operations Bldg	XX	SF		See Note-1 above
14126	Kennel Facilities	5,800	SF	353.00	Ref Size based on the average size of reported projects
14129	Training Aid Spt Ctr for Range Complex	varies	SF	See Range	See Unit Cost for CC 14129 under Range Complex, below
14132	Ready Building-Airfield Arrival/Depart Control Fac	XX	SF		See Note-1 above
14161	Emergency Operations Ctr (EOC)	XX	SF	N/A	See Note-1 above
14162	Sensitive Compartmented Info Fac	3,250	SF	424.00	This UC does not include full costs for ODNI-705 countermeasures criteria
14165	Vehicle Maintenance Wash Facility: Consists of Wash Bays, Prewash Control, Pump House, Grit & Oil Chambers,				
	Control Bld for Vehicle Wash Rack	XX	SF		See Note-1 above
	Pump Bld for Vehicle Wash Rack	XX	SF		See Note-1 above
	Gravity Oil & Grease Separator	XX	KGD		See Note-1 above

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	Water & Grit Separator	XX	KGD		See Note-1 above
14179	Overhead Protection/Canopy - General	XX	SF		see CC 14179 for Covered Hardstand (Canopy) under COF below
14182	Brigade (BDE) Headquarters Bldg	46,000	SF	243.00	Ref Size based on the Average size of reported projects
	Use Size Adj Table-1, Part-1 to determine unit cost for other sizes (Small , Medium and X-Large) BDE HQs. UC does Not include new SCIF reqm cost				
14183	Battalion (BN) HQ Bldg w/Classrooms	20,500	SF	261.00	Ref Size based on the average size of reported projects
	Use Size Adj Table-1, Part-1 to determine unit cost for other sizes (Small, Large and X-Large BN HQs				
14184	BN HQ - Transient Training (ORTC)	11,350	SF	232.00	Based on 2 records only
14185	COMPANY OPERATIONS FACILITY (COF)	varies	SF		COF Ref Size varies based on AM & RM configuration
	Admin & Readiness Modules are usually combined for small 1-Company (150 soldiers) or 2-CO (300 soldiers @ 150 PN/Company Units. For larger COFs, i.e., 3 or more companies, Admin (AM) and Readiness Modules (RM) are normally detached. RM storage space is fully conditioned and sprinklered for TA-50 Lockers and Arms Vault. The cost of contractor furnished and installed TA 50 Lockers are included in the UC. Admin and Readiness Modules may be programmed separately in DD1391/ENG3086				
	Admin/Readiness-Integrated Module	XX	SF	N/A	See Note-1 above
	Admin Module (AM)	16,560	SF	237.00	Ref size Based on the Average size of reported detached AM
	Readiness Module (RM) - Detached	30,000	SF	189.00	Ref size based on the Average size of reported Detached RM
14179	Canopy for Covered Hardstand, Large >6000+ SF	6,100	SF	53.50	Hardstand cover (canopies) for 3-CO COF canopies between 6000-12500 SF
	Canopy for Covered Hardstand, small <6000 SF	XX	SF	XXX	Use Size Adj Table for this facility using Covered Hardstand over 6,000 SF UC
	Includes the cost of Canopy, supporting posts and their foundation; excludes Hardstand (8" pavement) cost.				
85210	8"Conc. Pavement w/ 8"base - COF	varies	SY		Programmed under the Support Facilities; Reported Parking pavement size 10K-52K SY
	COF Overhead Protection is a Pre-engineered Canopy w/lighting, power, and lightning protection over the equipment layout area.				
14190	Command & Control Fac (C2F)	122,000	SF	312.00	Formerly CC 61050; Does not incorporate the cost for new SCIF criteria
	Division and Corps Level Command & Control Bld for a all service components. C2F Bld contains 3 distinct functional elements, Admin, Emergency Network Operation, and SCIF spaces (does Not include new SCIF reqm cost) The costs of raised flooring, redundant electrical/mechanical systems, and secured access system are included. C2F Bldg above Corps level is a non-standard facility.				
14190	Army Command (ACOM) Headquarters	varies	SF		See Note-1 above
14955	WASH PLATFORM/RACK - for Army Reserve Center	1	EA		Based on all Army Reserve Center projects, most records show Lump Sum cost
	Wash Rack/Platform	1	EA	116,256.00	Use this UC for 1001-1600 SF Wash Racks
14960	Grease Rack - Low Pressure w/Wash Water Treatment	1	EA	N/A	See Note-1 above
14962	Central Wash Facility, 16 Stations	1	EA	N/A	See Note-1 above. When programmed, Collocate CC-83180, Oil & Grease Separator
14970	Bi -Level Loading Ramp, Army Reserve Centers	1	EA	78,117.00	For Army Reserve Centers
14970	Ammo Loading Dock for Range	1	EA	See Range	See CC 14970 under Range Complex, below
14970	Vehicle Instrumentation Dock, 900 SF	1	EA	N/A	See Note-1 above
17120	General Instruction Bldg (GIB) - Not for Range	64300	SF	199.00	Ref size Based on the Average size of projects in Hii for Non-range GIBs.

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Various	<u>RANGE FACILITIES COMPLEX</u>				
	A typical Range Complex consists of Target Emplacements/Firing Points, Range Ops and Control Area, and a number of vertical structures, such as, Control Tower, Range Ops & Storage Bld, Range Classroom Bld, Ammo Breakdown Bld, Field Latrines plus other covered (but not enclosed) structures, e.g. Covered Bleachers, Covered Mess, etc.				
14113	Access Control Fac - Mission Trng Complex	315	SF	400.00	Formerly, Battle Control Trng Ctr. Ref size is based on the average size of projects
14129	Training Aid/Support Center (TSC)	42,000	SF	159.00	Ref size based on the average size of Training Aid/Support Ctr projects in Hii
	Training Aid/Support Center (TSC)	75,000	SF	XXX	Use Size Adj Table using 42,00 SF TSC as the Ref Size
14970	Ammunition Loading Dock	1	EA	61,932.00	Loading dock avg size 58,400 SF, programmed as 1 Ea
14970	Loading Dock - Bi-Level for Army Reserve Centers	1	EA	78,117.00	Not Covered. Loading dock avg size 74,700 SF, programmed as 1 Ea
17120	General Instruction Bldg (GIB) -Not for Range	XX	SF	See GIB	See CC 17120, GIB - Not for Range above
	GIB for Range, also called Range Classroom Bld			XXX	For Range Classroom Bld, see CC 17123 under Range Complex below
17121	Indoor Firing Range	24,600	SF	280.00	Ref size based on the Average size of projects in Hii
17122	Ammunition Breakdown Bldg	190	SF	524.00	Ref size based on the average size of projects in Hii for Ammo Breakdown Bldg
17122	Operations/Storage Bld - Small	800	SF	294.00	Ref size based on the average size of projects in Hii for Ops/Storage Bldg, small
17122	Operations/Storage Bld - Large	1800	SF	XXX	Use Size Adjustment Table for this UC using 800 SF Ops/Storage bld as the Ref Size
17123	Range Classroom Building	800	SF	320.00	Also referred to as a Gen Instruction Bldg for Range
17123	After Action Review (AAR) Bld - Small	1,018	SF	300.00	Use Size Adj Table for 3024 SF AAR & 4176 SF ROC/AAR
17123	After Action Review (AAR) Bld - Large	3,024	SF	XXX	Use Size Adj Table to determine this UC using 1064 SF AAR blg as the Ref Size
17123	Combined ROC/AAR-Digital Range	4,176	SF	XXX	Use Size Adj Table to determine this UC using 1064 SF AAR blg as the Ref Size
17139	Covered Mess - Range	800	SF	150.00	Includes hardstand cost below canopy
17139	Covered Mess - Service Schools	1413	SF	XXX	Use Size Adj Table to determine the UC using 800 SF Covered Range as the Ref Size
17213	Mission Command Trng Center (formerly BCTC)	42,740	SF	402.00	Ref size based on the average size of projects in Hii, 60,000 SF and under
17801	Basic 10-25m Firing Range (Zero)	FP	EA	Site Specific	Requires 32 Firing Points (FP)
17805	Automated Record Fire Range	FP	EA	Site Specific	Requires 16 FPs
17806	Modified Record Fire Range	FP	EA	Site Specific	Requires 16 FPs
17821	Combat Pistol/MP Firearms Qualifications	FP	EA	Site Specific	Requires 15 FPs
17878	Urban Assault Course	FP	EA	Site Specific	Requires 5 Stations. Each station represents one FP
17879	Live Fire Exercise Shoot house	FP	EA	Site Specific	Requires 10 FPs, each room and Corridor equals 1 FP
	<u>Range Control Towers (RCT)</u>				

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	Open Observation decks, stairs, and walkways are calculated as half areas. Foundation cost is included in the Unit Cost.				
17971	Control Tower - open observation deck	1	EA	301,762.00	
73075	Field Latrine -Dry Type, Aerated Vault	330	SF	674.00	Ref size based on the median size of Field Latrine projects in Hii
73075	Field Latrine-Wet Closet	550	SF	452.00	Ref size based on the average size of Field Latrine (Wet) projects in Hii
75061	Covered Bleacher (Bleacher Enclosure)	1	EA	126,693.00	Standard Size 726 SF
75061	Covered Bleacher for Svc Schools	1	EA	N/A	See Note-1 Above.
17133	Vehicle Maint. Instructional Bldg	XX	SF	N/A	See Note-1 above
17134	Aircraft Maint Instructional Bldg	XX	SF	N/A	See Note-1 above
17135	Laboratory Instructions Bldg	XX	SF	N/A	See Note-1 above
17136	Automation Aided Instruction Bldg	XX	SF	N/A	See Note-1 above
17137	Material Handling Instructional Bldg	XX	SF	N/A	See Note-1 above
17139	Covered Mess	800	SF	See Range	See CC 17139, Covered Mess under Range Complex above
17140	Training Bldg- Army Reserve (Army Res Ctr Bldg)	33,500	SF	223.00	Ref size bases on the average size of Army Reserve Bldg in Hii
17141	Armed Forces Reserve Center Bldg	XX	SF		See CC17140, Army Reserve Center above
17142	National Guard/Reserve Ctr Bldg	XX	SF	N/A	See Note-1 above
17180	Army National Guard Readiness Ctr	XX	SF	N/A	See Note-1 above
17210	Flight Simulator Building	XX	SF	N/A	See Note-1 above
17971	Control/Observation Tower	XXX	XX	See Range	See CC 17971 under Range Complex above
	<u>AIRCRAFT (AC) MAINT HANGARS - DOD, reference only</u>				
21110	Hangar - General Purpose, upto 40' high	64,000	SF	276.00	Ref Size & UC based on DOD Guidance cost For FY17 MILCON
21110	Hangar - High Bay, >40' high	72,000	SF	252.00	Ref Size & UC based on DOD Guidance cost For FY17 MILCON
	<u>ARMY HANGAR STANDARDS- Rotary Wing AC Maint Hangars</u>				
	Standard Army Hangars contain a High Bay Maintenance area and, typically a two Storied space at the rear of the maintenance area containing Shop space at the lower level and Administrative spaces above.				
21110	Attack-Assault-Cavalry(AAC) BN, Hi-Bay	85,000	SF	251.00	Ref Size based on the average size of Hi-Bay Maintenance Hgr projects in Hii
21110	Aviation Support Battalion (ASB), 45-55' high	XX	SF	N/A	See Note-1 above.
21110	Gen Spt Aviation Battalion (GSAB), min. eave ht 55'	110,700	SF	199.00	Ref size bases on the average size of Army GSAB projects in Hii
21115	Unmanned Aerial Vehicle (UAV) Maint Hangar	131,450	SF	158.00	Ref Size & UC based on the average of 2- UAV Maintenance Hgr projects

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21117	Aircraft Electronic-Avionics Maint Shop	XX	SF	N/A	See Note-1 above
21120	Aircraft Component Repair Shop (Machine Shop)	XX	SF	N/A	See Note-1 above
21130	Aircraft Paint/Corrosion Control Shop	XX	SF	N/A	See Note-1 above
21140	Aircraft Engine Test facility	XX	SF	N/A	See Note-1 above
Varies	TACTICAL EQUIPMENT MAINT FACILITY (TEMF) COMPLEX For Track & Wheeled Vehicles				
	TEMF Complex includes Admin space, Repair & Maintenance shops and work-bays w/ overhead crane, arms/COMSEC vault, Storage areas, Deployment Storage bldg, POL Storage bldg, Tactical Vehicle Parking Apron, Hazard Waste Storage area,				
	ORGANIZATIONAL MAINT SHOP - ARMY RESERVE				
21409	Organizational Maint Shop, Small <10,000 SF	8,700	SF	273.00	Ref Size is the avg size of the CC21409 & 21410 projects in Hii
21409	Organizational Maint Shop, Medium 10,000-40,000 SF	27,900	SF	249.00	Ref size based on the avg size of the Army Reserve projects >17,000 SF in Hii
	Organizational Maint Shop, Large, >40,000 SF	XX	SF	XXX	Use Size Adj Table for this facility using the medium TEMF UC
	ORGANIZATIONAL MAINT SHOP - REGULAR ARMY				
21410	Small TEMF - Army, Regular	18,250	SF	284.00	Ref Size based on the Avg size of the small TEMF projects in Hii
21410	Medium TEMF - Army, Regular	35,300	SF	227.00	Ref Size based on the Avg size of the medium TEMF projects in Hii
21410	Large TEMF - Army, Regular	57,300	SF	XXX	Use Size Adj Table for this facility using the 35,400 SF medium TEMF UC
21410	Extra Large TEMF - Army, Regular, >60,000 SF	74,700	SF	N/A	See Note-1 above
21412	Unmanned Aerial Vehicle (UAV) Storage Bld, 18' high	1,800	SF	181.00	Includes wet-pipe sprinklers, Formerly CC 21115
21470	POL Storage Bldg - TEMF	620	SF	193.00	Not routinely occupied by personnel. No HVAC system
21470	Hazardous Waste Storage Bldg - TEMF	650	SF	181.00	Ref size based on the average of HAZMAT Waste Storage projects in Hii
44135	Hazardous Material Storage Bldg TEMF	500	SF	XXX	Use the same UC as CC21470
44220	Storage Bldg - Small, Unheated - Army Reserve	3,900	SF	103.00	Ref size based on the average size of the small Unheated Storage projects in Hii
44222	Storage Shed (Covered, not Enclosed), ORTC	2,800	SF	123.00	Ref size based on the average of the Storage Sheds in Hii
44224	Organizational Storage Bldg- TEMF	7,690	SF	126.00	Use this UC for CC44224, Organizational Equip Storage Bldg
	Includes Loading Dock, Secured Storage area and Wet-pipe Sprinklers				
85210	Organizational (tactical) Veh Parking for TEMF	varies	SY	See COF pvmt	9" Conc. w/ 8" base; use CC85210 UC under COF or local data if available
21610	Ammunition Renovation Shop	XX	SF	N/A	See Note-1 above
21612	Ammunition Surveillance Shop	XX	SF	N/A	See Note-1 above
21630	Ammunition Demilitarization Fac	XX	SF	N/A	See Note-1 above
21710	Electronics Maint Shop - Depot Level	XX	SF	N/A	See Note-1 above
21740	Aircraft Avionics Maint Shop	XX	SF	N/A	See Avionics Maint Shop, Catcode 21117 Remarks above
21850	Battery Shop	XX	SF	N/A	See Note-1 above
21881	Parachute Repair Shop	XX	SF	N/A	See Note-1 above

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<u>CAT CODE</u>		<u>Avg size of Database (or Std Size)</u>	<u>Unit Of Measure (UOM)</u>	<u>Unit Cost \$/UOM for 2017</u>	<u>Remarks</u> Note-1: No data/Not enough useable Army Bid Data since 2010 to Forecast UC Note-2: Last year's UC escalated. Not enough projects awarded to forecast UC.
21885	General Purpose Maint Shop	31,000	SF	N/A	See Eng/Housing Maint Shop, Catcode 21910 UC below
21910	Engineering/Housing Maint Shop	XX	SF	N/A	See Note-1 above
31010	Chemistry Lab	XX	SF	N/A	See Note-1 above
31410	Ground Transportation Equip Bldg	XX	SF	N/A	See Note-1 above
42120	Hi Explosive Magazine w/Crane	800	SF	345.00	UC & Ref Size based on DOD Guidance Unit Cost
42180	Igloo Storage, Depot Level	XX	SF		Use same UC as in CC42120 above
42183	Gen. Purpose Magazine w/o Crane	2,400	SF	225.00	UC & Ref Size based on only 2 Army projects in Hii
42280	Igloo Storage, Installation	XX	SF	XXX	Use same UC as in CC42120
42283	Gen Purpose Magazine w/o Crane - Installation	XX	SF	XXX	Use same UC as in CC42183
43211	Cold Storage Bld w/Processing	XX	SF	N/A	See Note-1 above
43211	Cold Storage Bld w/o/o Processing	6,000	SF	N/A	See Note-1 above
44110	General Purpose (GP) Warehouse, Depot				See CC44220 below
44130	Controlled Humidity Warehouse	XX	SF	N/A	See Note-1 above
44135	Hazardous Material Storage, Depot	XX	SF	N/A	See Note-1 above
44150	Flammable Material Storage, Depot	XX	SF	N/A	See Note-1 above
44181	Covered Vehicle Storage, Depot	XX	SF	N/A	See Note-1 above
44182	Vehicle Storage Building, Depot	XX	SF	N/A	See Note-1 above
44210	Aircraft Parts Storage Fac, Installation	XX	SF	N/A	See Note-1 above
44220	Gen Purpose (GP) Warehouse, Installation				
	Lo-Bay, upto 16' Clear Stack height, >15000 SF	37,000	SF	141.00	UC & Ref Size based on DOD Guidance Unit Cost
	Hi-Bay, upto 26' Clear Stack height	XX	SF	XXX	See Note-1 above
44220	Lawn Equipment Bldg for AIT/BT barracks	XX	SF	N/A	See Note-1 above
44220	Unheated Storage Bldg - Army Reserve	XX		XXX	See CC 44220, Storage Bldg, Reserve under TEMF Complex above
44222	Storage Shed (Covered, not Enclosed) - Small	XX	SF	XXX	See CC 44222, Storage Shed, under TEMF Complex above
44224	Organizational Equipment Storage Bldg	XX	SF	XXX	See Org Storage Bld (CC44224) under TEMF Complex above
	For COF Equip. Storage UC, see Readiness Module- CC14185				
44224	Org. Storage Bld for Army Reserve	XX	SF	XXX	See Org Storage Bld (CC44224) under TEMF Complex above
44224	Lawn Mower Storage Bldg for AIT/BT barracks	545	SF	N/A	See Note-1 above
44228	HAZMAT Storage- Installation	500	SF	See CC21470	Use the same UC as CC21470
45210	Open Storage Area, Installation	XXX	SY	XXX	Use Catcode 851XX, Pavements, from Part-II, PAX
varies	<u>MEDICAL FACILITIES</u>				Unit Price & Ref Size from DoD Pricing Guide for FY15
51010	Inpatient Hospital/Medical Center	Varies	SF	N/A	See Note-1 above
51010	Medical Clinic attached to Hospital	130,000	SF	395.00	Typically excludes boilers & chillers (cost), which are located in a Central Utility Plant

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53040	Veterinary Clinic	5,900	SF	477.00	
55010	Small Medical Clinic <60,000 SF, Free Standing	36,000	SF	300.00	Includes boilers & chillers cost
55010	Large Medical Clinic >60,000 SF, Free Standing	160,000	SF	326.00	>60,000 SF size. Excl. boiler & chillers, which are located in a Central Utility Plant
55010	Mental/Behavioral Health Clinic	XX	SF	N/A	See Note-1 above
54010	Dental Clinic	17,000	SF	484.00	Includes boilers & chillers cost
53025	Satellite Pharmacy	2,200	SF	409.00	Includes boilers & chillers cost
53060	Medical Warehouse	XX	SF	N/A	See Note-1 above
53071	Ambulance Garage	480	SF	N/A	See Note-1 above
61001	Military Entrance Processing Stn	XX	SF	N/A	See Note-1 above
61050	Administrative Fac, General Purpose	50,000	SF	262.00	Prewired work station @ \$4500/Stn - installed, NOT incl.
	This multipurpose building provided office space, visitors area, auditorium, cafeteria, storage space, etc for administrative personnel				
61050	Command Headquarters Bldg	Varies	SF	N/A	New Catcode 14190, see CC14190 for UC
62010	Underground Administrative Facility	XX	SF	N/A	See Note-1 above
<u>FAMILY HOUSING DWELLINGS - CONUS & OCONUS</u>					
	Show "Families (FA)" as the UOM in the in the Primary Line item by category code. Use SF per Family as the UOM in Subline item. Don't need to size adjust the UC per SF (using the Size Adj Table-1, Part -I) as the adjusted unit cost per FA by catcode, grade, and number of bedroom/per dwelling is already provided in the UC column below.				
	Use Size Adj Table-1, Part - II only for project size adj. Normally 2-car garage (400 SF) are provided with each dwelling. GSF of garage is not included in the dwelling GSF, but cost of garage is considered included in the AFH unit cost as a norm. (i) Add up to 300 SF/FA for harsh climates, defined as having more than 7,500 Heating Degree Days (HDD) annually, or 5,500 Cooling Degree Days (CHD), annually. (ii) Gross SF may be increased by 10% FA for housing units for an officer holding a special 10% FA for housing units for an officer holding a special command position for the commanding officer of a military installation, and for the senior non-commissioned officer of a military installation.				
Varies	<u>FAMILY HOUSING DWELLINGS</u>	No. of Bedroom	Family Unit & SF		
71111	General Officer, Grade O10	4 Bedrms	4,000 SF/FA	163.00/ 185.00	
71111	General Officer, Grade O9	4 Bedrms	4,000 SF/FA	163.00/ 185.00	
71111	General Officer, Grade O8	4 Bedrms	3,330 SF/FA	165.00/ 187.00	
71111	General Officer, Grade O7	4 Bedrms	3,330 SF/FA	165.00/ 187.00	
71112	Colonel, Grade O6	4 Bedrms	2,520 SF/FA	162.00/ 179.00	
71113	Warrant Officer, Grade W4&5	3 Bedrms	2,010 SF/FA	160.00/ 182.50	
71113	Warrant Officer, Grade W4&5	4 Bedrms	2,310 SF/EA	159.00/ 181.50	

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71113	LT. Colonel & Major, Grade O4&5	3 Bedrms	2,020 SF/FA	160.00/ 182.50	
71113	LT. Colonel & Major, Grade O4&5	4 Bedrms	2,310 SF/FA		
71114	CO Grade Officer, O1-3	3 Bedrms	1,860 SF/FA	146.00/ 167.50	Use this for Warrant Officer, W1-3, too
71114	CO Grade Officer, O1-3	4 Bedrms	2,150 SF/FA	143.50/ 167.50	Use this for Warrant Officer, W1-3, too
71114	CO Grade Officer, O1-3	5 Bedrms	2,510 SF/FA	141.00/ 163.00	Use this for Warrant Officer, W1-3, too
71115	Senior NCO, E-9	3 Bedrms	2,020 SF/FA	161.00/ 182.50	
71115	Senior NCO, E-9	4 Bedrms	2,310 SF/FA	160.00/ 181.50	
71115	Senior NCO, E-7&8	3 Bedrms	1,860 SF/FA	146.00/ 167.50	
71115	Senior NCO, E-7&8	4 Bedrms	2,150 SF/FA	143.50/ 165.00	
71115	Senior NCO, E-7&8	5 Bedrms	2,510 SF/FA	141.00/ 163.50	
71116	Junior NCO/Enlisted, E-1 thru 6	3 Bedrms	1,630 SF/FA	149.00/ 171.00	
71116	Junior NCO/Enlisted, E-1 thru 6	4 Bedrms	1,950 SF/FA	147.00/ 168.50	
71116	Junior NCO/Enlisted, E-1 thru 6	5 Bedrms	2,300 SF/FA	144.50/ 166.00	
	<u>GARAGE & CARPORTS</u>				
71410	Detached Garage, Masonry, 2-Car	XX	SF	N/A	See Note-1 above
71410	Detached Garage, Wood, 2-Car	XX	SF	N/A	See Note-1 above
71411	Carport - 2 Cars	XX	SF	N/A	See Note-1 above
85218	Parking Garage, Multistoried	230,000	SF	See CC 85218	UC provided under CC 85218 below
72010	Temporary Lodging	30,000	SF	See CC72412	See Catcode 72412 also called Transient Housing
72111	BARRACKS - Permanent Party (UEPH)	150-199	Person	197.00	Use Table-1, Part-II, Project Size Adj. Table; Avg size of Brks projects in Hii is 125,250
	Unit cost does not include the cost for free standing equipment. All finished of unfinished areas with an average height of 6'-11" (2100 mm), measured from the underside of the structural system, and areas with perimeter walls measuring 4'-11" (155 mm) or more shall be counted as full scope				
Various	<u>WARRIORS IN TRANSITION (WT) BARRACKS COMPLEX</u>				
72112	WT Barracks, 56 Person Module	XX	SF	N/A	See Note-1 above
14188	WT Unit Admin Fac, Large	XX	SF	N/A	See Note-1 above
	WT Unit Admin Fac, Small	XX	SF	N/A	See Note-1 above
14188	WT Company (CO) Admin Fac	XX	SF	N/A	See Note-1 above
14184	WT Jt BN-CO Admin/Ops Fac	XX	SF	N/A	See Note-1 above
72210	WT Dining Fac-Seating 251-500 Pers	see below	SF		See Catcode 72210, Dining Fac (DFAC), below for UC
74033	WT Soldiers and Family Assist. Ctr (SFSC)	varies	SF		

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	WT SFSC - Small	XX	SF	N/A	See Note-1 above
	WT SFSC - Large	XX	SF	N/A	See Note-1 above
Various	<u>OPERATIONAL READINESS TRAINING COMPLEX (ORTC)/ TRANSIENT TRAINING COMPLEX</u>				
	The ORTC Std design is based on a battalion sized ORTC to include Transient Barracks, Battalion HQ, Company HQ, Vehicle Maintenance, Dining, Officer Quarters, etc for transient trainees. These are more austere than permanent party facilities. No Cat Code exists for the Complex, utilize the catcode for the largest facility				
72114	ORTC Transient Training Barracks	51,300	SF	199.00	Ref size based on the average size of ORTC Barracks in Hii
72412	Sn. Enlisted Officers Qtrs, Transient	XX	SF	N/A	See Note-1 above
14184	Battalion HQ Bldg, Transient Trng	XX	SF	N/A	See Note-1 above
14186	COF/Company HQ, Transient Trng	XX	SF	N/A	See Note-1 above
14187	Brigade HQ Bldg, Transient Trng	XX	SF	N/A	See Note-1 above
14179	Hardstand Cover (Canopy) - Transient Trng	XX	SF	N/A	See CC 14179 under COF Complex above; incl Canopy column cost, no Hardstand cost
21406	Vehicle Maint Shop, Transient Trng	XX	SF	XXX	See CC21409 under the Army Reserve Organizational Maint Shop
72212	Dining Fac, 720 PN-Transient Trng	See DFAC SF	SF	XXX	See CC 72212 under Dining Facilities below
72212	Dining Fac, 1428 PN-Transient Trng	See DFAC SF	SF	XXX	See CC 72212 under Dining Facilities below
85210	Veh. Maint Shop (Motor Pool) Hardstand	varies	SY	See COF pvmt	See CC85210 under COF Pavement
44222	Covered Storage Sheds	2,800	SF	See TEMF	See CC 44222, Storage Shed, under TEMF Complex above
Various	<u>ADVANCE INDIVIDUAL TRAINING (AIT) COMPLEX</u>				
	A Standard AIT Barracks Complex consists of Brigade HQ, Battalion HQ, Barracks/COF Buildings for upto 4-300 person companies per BN, Dining Facility, and other required buildings and site facilities.				
72121	AIT Barracks w/CO Ops (COF) Space	187,900	SF	195.00	Ref size based on the average size of the AIT Barracks/COF buildings in Hii
	AIT Barracks w/COF Space - Army Reserve	86,000	SF	206.00	Ref size based on the average size of the Reserve AIT Barracks/COF buildings in Hii
14182	AIT Brigade HQS, if needed	9,100	SF	XXX	See CC 14182, Brigade HQ provided earlier
14183	AIT Battalion HQS w/ Classrooms	12,300	SF	XXX	See CC 14183, Battalion HQ provided earlier
72210	Dining Fac, AIT, 1300 PN, 544 seats	See DFAC SF	SF	XXX	See CC 72210, Small Basic and AIT Dining under Dining Facilities below
72210	Dining Fac, AIT, 2600 BN, 1088 seats	See DFAC SF	SF	XXX	See CC 72210, Large Basic & AIT Complex under DFAC below.
Varies	<u>BASIC TRAINING (BT/IET) and ONE STATION UNIT TRAINING (OUST) BARRACKS COMPLEX</u>				
	A Standard BT/OUST Complex includes upto 5-64,700 SF each Barracks/Company Ops Bldgs for 1200 soldiers, a Battalion HQ Bld/ classroom, a Dining Facility, and Lawn equipment Storage (2000 SF) building, a 1/4 mile 8-lane running track and training pits.				
72181	BT/OUST Brks w/COF Space	58,400	SF	175.00	Ref size based on the average size of the BT/OUST Barracks/COF buildings in Hii
	Calculate average individual Barrack/COF Bldg size, then use Size Adj. Factor Table-1, Part-I Table to determine BT Barracks/COF Bld UC using PAX Unit Cost.				
	BT/OUST Barracks Complex may contain 1,2,3, 4 or 5 Brks/COF Bldgs. Scope of Covered Training Area under Barracks w/CO Ops Space is included in each Bldg GSF				

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72181	Battalion (BN) HQS W/ Classrooms	XX	SF	N/A	See Note-1 above
72210	Dining Fac for 1 BN, 1300 (PN) trainees, 544 seats	See DFAC SF	SF	XXX	See CC 72210, Small Basic and AIT Dining under DFAC below
72210	Dining Fac for 2 BN, 2600 (PN) trainees, 1088 seats	See DFAC SF	SF	XXX	Use Size Adj Table using 1300 trainee UC above for this facility
Covered Queuing Area is included in the Dining Facility area calculation. Standard Reference Size for the BT/OUST Training Dining Facility is 30,500 SF.					
Varies	DINING FACILITIES (DFAC)	Varies	SF		
Cost includes MCA Funded Kitchen equipment & installation. DFACs are categorized and, then unit cost for each size is developed separately.					
72210	DFAC - Small, Permanent Party, 400 - 600 PN	18,890	SF	392.00	Includes Tri-Service projects
	DFAC, Permanent Party - Medium, 661-1056 PN	20,290	SF	XXX	Use Size Adjustment Table. Not enough data
	DFAC, Permanent Party - Large, 1057-1716 PN	24,600	SF	391.00	Ref size based on the average size of Hii data
72210	Small, Basic & AIT Complex, 1300 PN, 544 Seats	31,660	SF	362.00	Ref size based on the average size of Hii data. Covered Queuing area included.
72210	DFAC- Large, Basic & AIT Complex, 2600 PN, 1088 seats	57,800	SF	XXX	Use Size Adj Table; Not enough data for this size category
72212	Dining Facility - ORTC, 720 PN	18,700	SF	377.00	Ref size is the average size of DFAC projects in Hii
	Dining Facility - ORTC, 1428 PN	21,300	SF		Use Size Adjustment Table
72410	Unaccompanied Officers Quarters	XX	SF	N/A	See Note-1 above
72412	Transient Training Officers Quarters	XX	SF	N/A	See Note-1 above
73010	STAND ALONE FIRE STATIONS (FS) - FS & Air Rescue Fire Fighting Fire Stations (ARFF)				
These are stand alone Fire Stations. Their sizes are determined by the authorized number of Apparatus Bays which house Vehicles, number of Dorm Emergency rooms, and whether they are HQs or Satellite Stations. A standard Apparatus Bay shall be 62' x 91' for a 2- or 3-CO Station; for a Air Rescue Fire Fighting (ARFF) is 70' x 91'					
73010	Fire Station	16,000	SF	354.00	Ref Size is the average of Hii projects. Use Size Adj Table-1, Part-1 for UCs of other sizes
73010	Airfield Fire/Crash Rescue Station	14,000	SF	319.00	To be used for USAF projects only, UC and size based on DoD guidance UC
CONSOLIDATED FIRE, SAFETY & SECURITY Facilities (FSS)/DEPT of EMERGENCY SERVICES (DES) Facilities					
Combined Military Police, Safety, Fire & Emergency Svc. Also called Directorate of Emergency Services (DES) Facility					
73010	Consolidated FSS Fac - Medium	XX	SF	N/A	See Note-1 above
73016	Police/Law Enforcement (MP) Station	XX	SF	N/A	See Note-1 above
73017	Chapel - includes Pew seating.	21,500	SF	297.00	Ref size is the average of Hii data. Use Size Adj Table for other chapel sizes.
73017	Chapel for Initial Entry Trainees (IET)	XX	SF	N/A	See Note-1 above
73018	Religious Education Facility - Medium	XX	SF	N/A	See Note 1 above
For upto 10 small groups of 55-70 PN. A dedicated space for Religious Education and Religious Activities. Should be reported separately from the worship space if collocated					

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	in a Chapel, catcode 73017. Use Size Adjustment Factor Table-1, for other UC of other sizes.				
73019	Chapel Family Life Ctr (300-450 PN)	XX	SF	XXX	See Note-1 above
73046	DEPENDENT SCHOOLS	Varies			
	Elementary -CONUS	125,000	SF	244.00	UC based on 2015 DOD Facilities Pricing Guide, escalated to 1 Oct 2017
	Elementary School - OCONUS, for Japan Elementary School Only	120,000	SF	276.00	Used UC and Reference Size from 2015 DoD Unit Cost escalated to Oct 2017. UC is normalized for ACF=1, appropriate ACF adjustments for Japan locations will apply
	Elementary School - OCONUS, Other Than Japan locations	XX	SF	XXX	use CONUS Unit Cost w/ appropriate Size and ACF adjustments.
	Junior High	XX	SF	XXX	See Note-1 above
	High	XX	SF	XXX	See Note-1 above
74010	Auditorium, General Purpose	4,000	SF	XXX	See Note-1 above
74011	Bowling Center	7,800	SF	XXX	See Note-1 above
74012	Cafeteria	5,000	SF	XXX	See Note-1 above
74014	Child Development Center (CDC)	XXXX	SF	No longer used	CDC CC74014 is replaced by 2 new catcodes below
74016	CDC-School Age, >6 years of age	20,500	SF	254.00	Ref size is the average of Hii data. Program CDC Playground, CC75018, separately
	Use Size Adj. Table-1, Part-1 for other CDC sizes				
74017	CDC-Preschool, 232 children, 0-6 yrs	30,000	SF	242.00	UC and Size based on 2015 DOD Facilities Pricing Guide, escalated to 1 Oct 2017
	Use this Medium size Pre-School CDC as the Reference size and the Size Adjust. Factor Table-1, Part-1 for other CDC costs				
74021	Commissary	XX	SF	N/A	See Note-1 above
74022	Skill Development Center	XX	SF	N/A	See Note-1 above
74023	Credit Union	XX	SF	N/A	See Note-1 above
74024	Skill Development Ctr - automotive	XX	SF	N/A	See Note-1 above
74025	Education Center for 10,000-15,000 PN	XX	SF	N/A	See Note-1 above
74028	Physical Fitness Facility	62,000	SF	244.00	Includes 3 lane Jogging Track. Cost Based on DOD UC escalated to 2017
	Program Indoor Swimming Pool (CC74042) separately				
74030	Sports Pro Shop	XX	SF	XXX	See Note-1 above
74033	Soldier Family Support Ctr (SFSC)	Varies	SF	XXX	See CC 74033 under WT Complex above
74041	Main Library	XX	SF	XXX	See Note-1 above
74047	Service Club	XX	SF	XXX	See Note-1 above
74048	Officer Open Dining Facility	XX	SF	XXX	See Note-1 above
74053	Main Exchange	XX	SF	XXX	See Note-1 above
74056	Exchange Service Outlet	XX	SF	XXX	See Note-1 above
74066	Youth Center, medium (105-135 PN)	XX	SF	XXX	See Note-1 above

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74068	Recreation Center	XX	SF	XXX	See Note-1 above
74070	Indoor Roller Skating Rink	XX	SF	XXX	See Note-1 above
74072	25 meter Indoor Swimming Pool	XX	SF	XXX	See Note-1 above, (6200 SF water area w/ancillary areas)
74075	Recreational Support Building	XX	SF	XXX	See Note-1 above
	PLAYGROUND for PPRESCHOOL CHILDREN, UNDER 6 YEARS of AGE				
75018	Small (126 children)	16,667	SF	19.50	Note-2
75018	Medium (232 Children)	23,870	SF	15.25	Note-2
75018	Large (338 Children)	38,310	SF	13.00	Note-2
	PLAYGROUND for SCHOOL AGE CHILDREN, 6 TO 10 YEARS				
75018	Small (105-135 children)	47,605	SF	11.00	Note-2
75018	Medium/Large (150-225 Children)	52,105	SF	11.00	Note-2
75018	Play Ground for Youth Center	113,400	SF	8.20	Note-2; Original Information Provided by the Youth Center COS
75022	Multipurpose Athletics Field (360' x 160')	1	EACH	XXX	See Note-1 above.
75030	Outdoor Swimming Pool	XX	SF	XXX	See Note-1 above
75061	Bleacher, Covered	XXXX	1 EA	XXX	See CC 75061 under Range Complex above for UC
85210	Organizational Vehicle Parking	Varies	SY	XXX	See CC 85210, pavement under COF Complex
85218	Parking Garage, Multistoried	230,000	SF	44.50	UC based on 2015 DOD Facilities Pricing Guide, escalated to 1 Oct 2017
	Assumes 425-450 SF/vehicle with turning radii and ramps.				
89120	Plant /Utilities Building	XX	SF	XXX	See Note-1 above
	SPECIAL FOUNDATIONS				
	Piling, Treated Wood, 50' long, 12" butt		LF	38.00	Note-2
	Piling, Concrete, 14" square		LF	58.00	Note-2
	Piling, Concrete, 16" square		LF	60.50	Note-2
	Piling, Concrete, 18" diameter		LF	68.50	Note-2
	Piling, Steel H, 50' Long, HP 12x53		LF	47.00	Note-2
	Piling, Steel Pipe, 12" D, Conc. Filled		LF	57.00	Note-2
Legend:	Note-1: No data or Not enough Usable Award Data since 2011 to forecast UC				
	Note-2: Last year's UC escalated with new Inflation Rate. Not enough Usable Award Data since 2011 to forecast UC				

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CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
11110 & X20	AIRFIELD RUNWAY (RW) - SLIP FORM CONC PVMT , Airports, UNREINFORCED, 5000 PSI, 12' PASS, Incl JOINTS, FINISHING & CURING			
11110 & x20	8" THICK (TH) PAVEMENT	1	SY	\$40.00
	10" THICK PAVEMENT	1	SY	\$49.00
	12" THICK PAVEMENT	1	SY	\$56.00
	16" THICK PAVEMENT	1	SY	\$74.00
11110 & x20	AIRFIELD RUNWAY - FIXED FORM PLAIN CEMENT CONC PVMT , Airports, UNREINFORCED, 4500 PSI, 12' PASS, INCLUDES JOINT, FINISHING, & CURING			
11110 & x20	12" THICK PAVEMENT, Note: ADD \$14.45/SY For REINF STEEL BAR, 18 LBS/SY (A185)	1	SY	\$56.00
	14" THICK PAVEMENT, Note: ADD \$14.45 /SY For REINF STEEL BAR, 18 LBS/SY (A185)	1	SY	\$67.00
	16" THICK PAVEMENT, Note: ADD \$14.45/SY For REINF STEEL BAR, 18 LBS/SY (A185)	1	SY	\$74.00
11110 & x20	ASHPHALT PAVING- PLANT MIX For HIGHWAYS & LARGE PAVED AREAS, WEARING COURSE			
	3" THICK PVMT	1	SY	\$17.00
11110 & x20	AIRFIELD RUNWAY LIGHTING , BI-DIRECTIONAL W/ SHALLOW INSERT BASE			
	RW CENTER LINE LIGHT, SEMI FLUSH, 200 W	1	EA	\$2,193.00
	RW CENTER LINE LIGHT, FLUSH, 200 W	1	EA	\$2,193.00
	RW EDGE & THRESHOLD LIGHT, 200 W, BI-DIRECTIONAL for Base Housing	1	EA	\$1,454.00
	RW EDGE & THRESHOLD LIGHT, 2-115 W, Bi-DIRECTIONAL for Base Housing	1	EA	\$1,938.00
	TOUCHDOWN ZONE LIGHT, 200 W, UNIDIRECTIONAL for Base Housing	1	EA	\$1,862.00
	THRESHOLD & APPROACH LIGHT, 200 W, UNIDIRECTIONAL for Base Housing	1	EA	\$964.00
11110	AIRFIELD PVMT MARKINGS			
	THERMOPLASTIC PVMT MARKINGS, RUNWAY w/24 LB GLASS BEADS Per 100 SF	1	SF	\$3.90
	PVMT MARKINGS, TAXIWAY, PAINTING WHITE OR YELLOW STRIPES	1	SF	\$1.30
13510	COMMUNICATIONS (COMM) DISTRIBUTION CABLE, CABLE SPLICING & TERMINATION - UNDERGROUND RESIDENTIAL DISTRIBUTION (URD) or SIMILAR			
	CABLE SPLICING, 5 kV, #6 STRANDED to #1 STRANDED, URD or SIMILAR	1	EA	\$321.00
13510	CABLE SPLICING, 15 kV, #6 STRANDED to #1 STRANDED, URD or SIMILAR	1	EA	\$388.00

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	CABLE SPLICING, 25 kV, #6 STRANDED to #1 STRANDED, URD or SIMILAR	1	EA	\$418.00
13510	CABLE SPLICING, 5 kV, #1 STRANDED to #4/0 STRANDED, URD or SIMILAR	1	EA	\$357.00
	CABLE SPLICING, 15 kV, #1 STRANDED to #4/0 STRANDED, URD or SIMILAR	1	EA	\$434.00
	CABLE SPLICING, 25 kV, #1 STRANDED to #4/0 STRANDED, URD or SIMILAR	1	EA	\$449.00
13510	CABLE SPLICING, 5 kV, #4/0 STRANDED to 500 kcmil STRANDED, URD or SIMILAR	1	EA	\$378.00
	CABLE SPLICING, 15 kV, #4/0 STRANDED to 500 kcmil STRANDED, URD or SIMILAR	1	EA	\$525.00
	CABLE SPLICING, 25 kV, #4/0 STRANDED to 500 kcmil STRANDED, URD or SIMILAR	1	EA	\$632.00
13510	CABLE SPLICING, 5 kV, 500 kcmil STRANDED, URD or SIMILAR	1	EA	\$485.00
	CABLE SPLICING, 15 kV, 500 kcmil STRANDED, URD or SIMILAR	1	EA	\$607.00
	CABLE SPLICING, 25 kV, 500 kcmil STRANDED, URD or SIMILAR	1	EA	\$663.00
	CABLE SPLICING, 5 kV, 600 kcmil STRANDED, URD or SIMILAR	1	EA	\$505.00
	CABLE SPLICING, 15 kV, 600 kcmil STRANDED, URD or SIMILAR	1	EA	\$650.00
	CABLE SPLICING, 25 kV, 600 kcmil STRANDED, URD or SIMILAR	1	EA	\$710.00
13510	CABLE SPLICING, 5 kV, 750 kcmil STRANDED, URD or SIMILAR	1	EA	\$536.00
	CABLE SPLICING, 15 kV, 750 kcmil STRANDED, URD or SIMILAR	1	EA	\$678.00
	CABLE SPLICING, 25 kV, 750 kcmil STRANDED, URD or SIMILAR	1	EA	\$724.00
	CABLE SPLICING, 5 kV, 1000 kcmil STRANDED, URD or SIMILAR	1	EA	\$571.00
	CABLE SPLICING, 15 kV, 1000 kcmil STRANDED, URD or SIMILAR	1	EA	\$755.00
	CABLE SPLICING, 25 kV, 1000 kcmil STRANDED, URD or SIMILAR	1	EA	\$903.00
	<u>TERMINALE LUGS, SOLDERLESS</u>			
13510	TERMINAL LUGS, #16 to #10, SOLDERLESS	1	EA	\$15.00
	TERMINAL LUGS, #8 to #4, SOLDERLESS	1	EA	\$26.00
	TERMINAL LUGS, #2 to #1, SOLDERLESS	1	EA	\$34.00
13510	TERMINAL LUGS, 1/0 to 2/0, SOLDERLESS	1	EA	\$47.00

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	TERMINAL LUGS, 3/0, SOLDERLESS	1	EA	\$62.00
	TERMINAL LUGS, 4/0, SOLDERLESS	1	EA	\$68.00
	TERMINAL LUGS, 250 kcmil, SOLDERLESS	1	EA	\$84.00
	TERMINAL LUGS, 500 kcmil, SOLDERLESS	1	EA	\$129.00
	TERMINAL LUGS, 750 kcmil, SOLDERLESS	1	EA	\$150.00
13510	FIBER OPTIC CABLE, SPLICER BOX & TERMINATION BOX			
	12 STRAND FIBER OPTIC CABLE w/ 1" PVC INNER DUCT RUN IN DUCTBANK	1	LF	\$2.25
	24 STRAND FIBER OPTIC CABLE w/ 1" PVC INNER DUCT RUN IN DUCTBANK	1	LF	\$2.50
	36 STRAND FIBER OPTIC CABLE w/ 1" PVC INNER DUCT RUN IN DUCTBANK	1	LF	\$2.80
	6 STRAND FIBER OPTIC SPLICE BOX, INCL BOX & 6 CABLE SPLICES	1	EA	\$427.00
	12 STRAND FIBER OPTIC SPLICE BOX, INCL BOX & 12 CABLE SPLICES	1	EA	\$515.00
	24 STRAND FIBER OPTIC SPLICE BOX, INCL BOX & 24 CABLE SPLICES	1	EA	\$697.00
	36 STRAND FIBER OPTIC SPLICE BOX, INCL BOX & 36 CABLE SPLICES	1	EA	\$884.00
	6 STRAND FIBER OPTIC TERMINATION BOX, INCL BOX & 6 CABLE CONNECTIONS	1	EA	\$546.00
	12 STRAND FIBER OPTIC TERMINATION BOX, INCL BOX & 12 CABLE CONNECTIONS	1	EA	\$624.00
	24 STRAND FIBER OPTIC TERMINATION BOX, INCL BOX W/ 2 SPLICE TRAYS & 24 CABLE CONNECTIONS	1	EA	\$837.00
	36 STRAND FIBER OPTIC TERMINATION BOX, INCL BOX & w/ 3 SPLICE TRAYS & 36 CABLE CONNECTIONS	1	EA	\$1,040.00
81160	STANDBY GENERATOR, DIESEL (SDG) , 3 PHASE 4 WIRE, 277/480 VOLTS, INCL. BATTERY, CHARGER, FUEL TANK, MUFFLER & AUTO TXFR SWITCH (ATS), EXCL. CONDUIT, WIRING & CONC PAD	75 kW	EA	\$36,720.00
		125 kW	EA	\$43,146.00
		200 kW	EA	\$54,000.00
		300 kW	EA	\$68,850.00
		400 kW	EA	\$93,350.00
		500 kW	EA	\$115,770.00
		750 kW	EA	\$180,030.00
		1000 kW	EA	\$226,440.00
81230	<u>SITE LIGHTING, UNDERGROUND DISTRIBUTION</u>, EXCL. POLES & LIGHT FIXTURE COSTS			
81230	1" PVC CONDUIT, # 10- 3 STRAND COPPER WIRE, 150 LF DIRECT BURIAL, INCL EXCAVATION & BACKFILL	150	LF	\$2,193.00

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CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
81230	SITE LIGHTING W/ LIGHT POLE & LIGHT FIXTURE ASSEMBLY , EXCL UNDERGROUND DISTRIBUTION, WIRING, EXCAVATION & BACKFILL			
	20' ALUMINUM POLE, 400 WATT HIGH PRESSURE SODIUM (HPS)	1	EA	\$3,520.00
	40' ALUMINUM POLE, 1000 WATT HIGH PRESSURE SODIUM (HPS)	1	EA	\$6,120.00
	40' HIGH FIBERGLASS POLE, 1000 WATT HIGH PRESSURE SODIUM (HPS)	1	EA	\$5,025.00
	20' ALUMINUM POLE, 400 WATT METAL HALIDE (MH)	1	EA	\$3,470.00
	40' ALUMINUM POLE, 1000 WATT METAL HALIDE (MH)	1	EA	\$6,070.00
	40' HIGH FIBERGLASS POLE, 1000 WATT METAL HALIDE (MH)	1	EA	\$4,950.00
81241	OVERHEAD (OH) ELECTRIC LINES - INCL. COST OF WOOD POLES @ 250' SPACING, 3 PHASE 4 Wire ALUMINUM CONDUCTOR STEEL REINF			
	H-FRAME DISTRIBUTION LINES, 15-69 kV SHORT LINES w/ CROSS ARM & INSUL	1,000	LF	\$45,700.00
	OVERHEAD LINES BELOW 15 kV w/ CROSS ARMS & INSULATORS	1,000	LF	\$42,940.00
81242	UNDERGROUND ELECTRIC LINES (DIRECT BURIAL (DB)) - INCL. Cost of COPPER Service Entrance CABLE (SEU) CONDUCTOR, CHAIN EXCAVATOR to 3" and BACKFILL			
	# 1/0 -3/C, 600 Volt DB, SEU COPPER CONDUCTOR, EXCAV & BACKFILL	1	LF	\$19.00
	# 4/0 - 3/C, 600 Volt DB, SEU COPPER CONDUCTOR, EXCAV & BACKFILL	1	LF	\$28.00
81242	CABLE TERMINATORS - OUT DOOR SYSTEMS			
	CABLE TERMINATION, 15 kV, #1 SOLID to 4/0 STRANDED	1	EA	\$352.00
	CABLE TERMINATION, 15 kV, #2/0 SOLID to 350 KCMIL STRANDED	1	EA	\$383.00
	CABLE TERMINATION, 15 kV, 400 KCMIL to 750 KCMIL STRANDED	1	EA	\$438.00
81242	CABLE SPLICING , 15 kV, UNDERGROUND RESIDENTIAL DISTRIBUTION (URD) CABLE or SIMILAR			
	CABLE SPLICING, URD or SIMILAR, #1 STRANDED to 4/0 STRANDED,	1	EA	\$434.00
	CABLE SPLICING, URD or SIMILAR, 4/0 STRANDED to 500 KCMIL STRANDED	1	EA	\$525.00
81242	UNDERGROUND (UGND) ELECTRIC DUCTBANKS - INCL Cost of EXCAVATION (EXCAV), CAST IN PLACE (CIP) CONC & BACKFILL to 3' DEEP			
	1-WAY-4" Diameter (DIA) PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$19.00
	2-WAY-4" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$33.00
	4-WAY-4" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$57.00
	6-WAY-6" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$132.00
81242	1-WAY-2" DIA RIGID GALVANIZED STEEL (RGS) ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$25.50

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	1-WAY-3" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$46.00
	1-WAY-4" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$58.50
	1-WAY-5" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$81.00
	1-WAY-6" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$101.00
81242	2-WAY-2" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$39.50
	2 WAY-3" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$68.00
	2-WAY-4" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$92.00
	2-WAY-5" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$152.00
	2-WAY-6" DIA RGS, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$212.00
81242	3-WAY-2" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$57.00
	3-WAY-3" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$95.00
	3-WAY-4" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$132.00
	3-WAY-5" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$218.00
	3-WAY-6" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$306.00
81242	4-WAY-2" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$75.00
	4-WAY-3" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$121.00
	4-WAY-4" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$170.00
	4-WAY-5" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$285.00
	4-WAY-6" DIA RGS, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$403.00
81242	1-WAY-2" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$16.00
	1-WAY-3" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$18.50
	1-WAY-4" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$22.00
	1-WAY-5" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$25.50
	1-WAY-6" DIA PVC, ENCASED BURIAL, INCL EXCAV,CIP CONC & BACKFILL	1	LF	\$31.00
81242	2-WAY-2" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$24.50
	2-WAY-3" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$29.00

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	2-WAY-4" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$35.00
	2-WAY-5" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$42.50
	2-WAY-6" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$53.00
81242	4-WAY-2" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$38.50
	4-WAY-3" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$46.00
	4-WAY-4" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$56.00
	4-WAY-5" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$67.00
	4-WAY-6" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$86.00
81242	6-WAY-4" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$84.00
	6-WAY-5" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$101.00
	6-WAY-6" DIA PVC, ENCASED BURIAL, INCL EXCAV, CIP CONC & BACKFILL	1	LF	\$137.00
81242	<u>ELECTRICAL (ELECT) UNDERGROUND (UGND) MANHOLES (MH)</u> , EXCL COST OF EXCAVATION, CIP CONC & BACKFILL			
81242	UGND HAND HOLES, 4' x 4' x 4' DEEP, PRECAST CONC w/ COVER, EXCL EXCAV, CIP CONC & BACKFILL	1	EA	\$2,800.00
81242	ELECT UGND MH, 6' x 10' x 7' DEEP, PRECAST w/ IRON RACKS & PULLING IRONS, C.I. FRAME & COVER	1	EA	\$11,830.00
	ELECT UGND MH, 6' x 8' x 7' DEEP, PRECAST w/ IRON RACKS & PULLING IRONS, C.I. FRAME & COVER	1	EA	\$10,600.00
81320	SUBSTATION, LOAD INTERRUPTER SWITCH, 600 AMP , 2 POSITION, 3 kVA & BELOW W/ CLF FUSES, 4.8 kV, 6000 AMP, NEMA 1 & GROUNDING LOOP		kVA	\$31,000.00
81360	<u>TRANSFORMERS</u> (XFMR) - INCL COST of PAD MOUNTING w/ BOLLARDS AND GROUNDING LOOP			
	XFMR 150 kVA, OIL FILLED, 5 kV or 15 kV w/ TAPS, 277/480 V SECONDARY 3 PHASE	1	EA	\$19,480.00
	XFMR 225 kVA, OIL FILLED, 15 kV w/TAPS, 480 V SECONDARY 3 PHASE	1	EA	\$21,520.00
	XFMR 500 kVA, OIL FILLED, 15 kV W/ TAPS, 480 V SECONDARY 3 PHASE	1	EA	\$25,400.00
	XFMR 1,000 kVA, OIL FILLED, 15 kV W/ TAPS, 480 V SECONDARY 3 PHASE	1	EA	\$46,100.00
	XFMR 2,000 KVA, OILL FILLED, 15 kV W/ TAPS, 480 V SECONDARY 3 PHASE	1	EA	\$64,770.00

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81360	XFMR 15 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$8,570.00
	XFMR 25 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$9,460.00
	XFMR 37.5 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$10,500.00
	XFMR 50 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$11,425.00
	XFMR 75 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$12,750.00
	XFMR 100 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$14,280.00
	XFMR 167 kVA, DRY TYPE, SINGLE PHASE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$18,770.00
81360	XFMR, 75 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$10,200.00
	XFMR, 112.5 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$11,200.00
	XFMR, 150 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$12,350.00
	XFMR, 225 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$14,690.00
	XFMR, 500 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$22,750.00
	XFMR, 750 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$33,660.00
	XFMR, 1000 kVA, DRY TYPE - VENTILATED, 3 PHASE 480 V PRIMARY 120/208 V SECONDARY	1	EA	\$37,525.00
81360	XFMR, 10 kVA, DRY TYPE On 36' POLE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$4,560.00
	XFMR, 15 kVA, DRY TYPE On 36' POLE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$5,100.00
	XFMR, 25 kVA, DRY TYPE On 36' POLE, 240/480 V PRIMARY 120/240 V SECONDARY	1	EA	\$5,990.00
81360	<u>MAIN POWER (PWR) TRANSFORMER (XFMR)</u> - INCL COST OF PAD MOUNTING (MTD) W/BOLLARDS & GROUNDING LOOP (GL)			
	MAIN PWR XFMR 46 kV, PAD MTD, w/ BOLLARDS & GL (1 MVA = 1,000 kVA)	1	MVA	\$33,900.00
	MAIN PWR XFMR 110 kV, PAD MTD, w/ BOLLARDS & GL (1 MVA = 1,000 kVA)	1	MVA	\$29,000.00
	MAIN PWR XFMR 161 kV, PAD MTD, W/ BOLLARDS & GL (1 MVA = 1,000 kVA)	1	MVA	\$27,000.00
	MAIN PWR XFMR 500 kV, PAD MTD, W/ BOLLARDS & GL (1 MVA = 1,000 kVA)	1	VA (=1000 kV)	\$26,400.00
81360	<u>TRANSFORMERS (XFMR)</u> - INCL COST OF PAD MOUNTING (MTD) W/BOLLARDS AND GROUNDING LOOP (GL)			
	112.5 kVA XFMR, PAD MTD, 13,800 VOLTS TO 480/277 VOLTS W/ BOLLARDS & GL	1	EA	\$50,700.00
	150 kVA XFMR, PAD MTD, 13,800 VOLTS TO 480/277 VOLTS W/ BOLLARDS & GL	1	EA	\$51,500.00

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APPENDIX A, SUPPORT FACILITIES UNIT COST TABLE (PART - II, Support Facilities).				
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CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
	225 kVA XFMR, PAD MTD, 13,800 VOLTS TO 480/277 VOLTS W/ BOLLARD & GL	1	EA	\$58,650.00
	500 kVA XFMR, PAD MTD, , 13,800 VOLTS TO 480/277 VOLTS	1	EA	\$66,800.00
82210	<u>STEAM (ST) CONDENSATE LINES, UNDERGROUND (UGND) - FROM CENTRAL PLANT TO BUILDING</u>			
	<u>COMMON CONDUIT, UGND - COMBINED STEAM (ST) SUPPLY & CONDENSATE (CNDS) RETURN (RTN) PIPES, INCL FITTINGS, TESTING & STEAM MANHOLES @ 250' O.C., 3' DEEP EXCAV & BACKFILL</u>			
82210	2" ST & 1-1/4" CNDS RTN PIPE, PREFAB BLACK STEEL in 12-3/4" INSL CASE W/ MH @ 250' O.C.	1	LF	\$515.00
	1-1/2" ST & 1-1/2" CNDS RTN PIPE, PREFAB BLACK STEEL in 10-3/4" INSUL CASE W/ MH @ 250' O.C.	1	LF	\$510.00
	1-1/4" ST & 1-1/2" CNDS RTN PIPE, PREFAB BLACK STEEL in 10-3/4" INSUL CASE W/ MH @ 250' O.C.	1	LF	\$510.00
	1" ST & 1" CNDS RTN PIPE, PREFAB BLACK STEEL in 10-3/4" INSUL CASE W/ MH @ 250' O.C.	1	LF	\$510.00
82210	<u>SINGLE CONDUIT - STEAM OR HIGH PRESSURE WATER PIPE, w/ INSULATED CASE ON SUPPORTS, INCL FITTINGS (FTG) & TESTING (TST)</u>			
82210	1-1/4" ST PIPE, PREFAB BLACK STEEL in 12-3/4" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$316.00
	1-1/2" ST PIPE, PREFAB BLACK STEEL in 12-3/4" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$316.00
	2" ST PIPE, PREFAB BLACK STEEL in 12-3/4" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$332.00
	2-1/2" ST PIPE, PREFAB BLACK STEEL in 12-3/4" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$352.00
82210	3" ST PIPE, PREFAB BLACK STEEL in 14" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$352.00
	4" ST PIPE, PREFAB BLACK STEEL in 14" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$383.00
	6" ST PIPE, PREFAB BLACK STEEL in 18" INSUL CASE ON SUPPORTS, INCL FTG & TST	1	LF	\$475.00
82210	<u>CONCRETE TRENCH W/ COVER for STEAM AND HOT WATER PIPING</u>			
	18" DEEP x 24" WIDE x 6" THICK WALL w/ CONC COVER	1	LF	\$146.00
82220	<u>HOT WATER LINES, UNDERGROUND</u>			
82220	<u>COMMON CONDUIT - COMBINED HOT WATER (HW) SUPPLY & RETURN (RTN) PIPES, PREFABRICATED BLACK STEEL, INSULATED CASE, INCL FITTINGS (FTG), TESTING TST), EXCAVATION & BACKFILL</u>			
	1" HW & 1" RET PIPE in 10-3/4" PREFAB BLACK STEEL INSUL CASE, INCL EXCAV, BKFL, FTG & TST	1	LF	\$377.00
	1-1/2" HW & 1-1/2" RET PIPE in 10-3/4" PREFAB BLACK STEEL INSUL CASE, INCL EXCAV, BKFL, FTG & TST	1	LF	\$377.00
	2" HW & 2" RET PIPE in 10-3/4" PREFAB BLACK STEEL INSUL CASE, INCL EXCAV, BKFL, FTG & TST	1	LF	\$383.00
	3" HW & 3" RET PIPE in 16" PREFAB BLACK STEEL INSUL CASE, INCL EXCAV, BKFL, FTG & TST	1	LF	\$434.00

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<u>CAT CODE</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST (\$/UNIT)</u>
	4" HW & 4" RET PIPE in 10" PREFAB BLACK STEEL INSUL CASE, INCL EXCAV, BKFL, FTG & TST	1	LF	\$571.00
82220	STEAM DISTRIBUTION MANHOLE (MH) , PREFAB STEEL, 8' X 6' HT, INCL MH VENT, PIPING, CONDUIT & LADDER	1	EA	\$17,340.00
82410	<u>GAS PIPELINES for PLAIN & NATURAL GAS PIPING (PNG) - PLAIN END, TAR COATED (CTD) & WRAPPED, INCL EXCAVATION & BACKFILL</u>			
	1" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$23.00
	2" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$27.50
	3" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$35.00
	4" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$47.00
	6" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$72.00
	8" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$102.00
	12" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$226.00
	18" DIA. STEEL PIPE, SCHEDULE 40, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$321.00
	24" DIA. STEEL PIPE SCHEDULE 40, PLAIN END, TAR CTS, INCL EXCAV & BKFL	1	LF	\$530.00
	4" DIA. STEEL PIPE, SCHEDULE 80, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$88.00
	6" DIA. STEEL PIPE, SCHEDULE 80, PLAIN END, TAR CTD, INCL EXCAV & BKFL	1	LF	\$151.00
83150	<u>SEWAGE LIFT STATION, PACKAGED (PCKG) SEWAGE LIFT STN, EXCL FENCING, EXTERNAL (EXT) PIPING (PNG) OR LIFT EQUIP BLDG</u>			
	200,000 GPD, PCKG SEWAGE LIFT STN, EXCL FENCING OR EXT PNG	1	EA	\$314,700.00
	100 GPM, PCKG SEWAGE LIFT STN, EXCL FENCING OR EXT PNG	1	EA	\$268,800.00
	200 GPM, PCKG SEWAGE LIFT STN, EXCL FENCING OR EXT PNG	1	EA	\$351,900.00
83150	<u>SEWERAGE EJECTOR PUMP - DUPLEX SYSTEM, W/ FIBERGLASS TANK, 135 GALLONS, OPERATING & LEVEL CONTROLS</u>			
	174 GPM PUMP, 0.7 HP, 15' HEAD, 2" DISCHARGE, INCL FIBERGLASS TANK, CNTRLS, & TANK COVER	1	EA	\$4,050.00
83210	<u>SANITARY SEWER - STORM DRAINAGE (SD) MANHOLES (MH), CONCRETE CAST IN PLACE (CIP), INCL FRAMES & COVERS</u>			
	4' x 4', 8" THICK SD MH, 4' DEEP CIP CONC, INCL FRAMES & COVERS, EXCL FTG, EXCAV, BKFL	1	EA	\$4,230.00
	4' x 4', 8" THICK SD MH, 6' DEEP CIP CONC, INCL FRAMES & COVERS, EXCL FTG, EXCAV, BKFL	1	EA	\$5,790.00

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<u>CAT CODE</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST (\$/UNIT)</u>
	4' DIA, 8" THICK SD MH, 8' DEEP CIP CONC, INCL FRAMES & COVERS, INCL BASE EXCAV & BKFL	1	EA	\$9,385.00
83210	4' DIA, 8" THICK SD MH, > 8' DEEP CIP CONC, INCL FRAMES & COVERS, INCL BASE EXCAV & BKFL	1	VLF	\$1,015.00
	4' DIA, TO 8' DEEP PRECAST CONC SD MH, INCL FRAMES & COVERS, INCL BASE EXCAV & BKFL	1	VLF	\$735.00
	4' DIA, > 8' DEEP PRECAST CONC SD MH, INCL FRAMES & COVERS, INCL BASE EXCAV & BKFL	1	VLF	\$770.00
83210	<u>CATCH BASIN</u> (CB) - CONCRETE PRECAST, INCLUDE MANHOLE, FRAMES, & COVER, BASE EXCAV & BKFL			
	5' INTERNAL DIA, 4' DEEP PRECAST CONC CB, INCL BASE EXCAV & BKFL	1	EA	\$4,335.00
	5' INTERNAL DIA, 6' DEEP PRECAST CONC CB, INCL BASE EXCAV & BKFL	1	EA	\$4,770.00
83210	<u>CURB INLET/ GUTTERMOUTH</u> - INCL CURB INLET FRAME, GRATE & CURB BOX; EXCL FOOTING, CB EXCAV & BKFL & PIPING OF DRAIN			
	24" x 36" LARGE, HEAVY DUTY CURB INLET, INCL FRAME, GRATE & CURB BOX, EXCL CB	1	EA	\$1,500.00
83210	<u>STORMWATER DRAINAGE (SD) PONDS</u> - INCLUDES FENCE, SEEDING SLOPES, PARTIAL LINER & EXCAVATION			
	1/8 ACRES, 5' DEEP SD POND, INCL SEEDING SLOPES, PARTIAL LINER & EXCAV	1	EA	\$22,500.00
	1/4 ACRES, 5' DEEP SD POND, INCL SEEDING SLOPES, PARTIAL LINER & EXCAV	1	EA	\$45,100.00
	3/8 ACRES, 5' DEEP SD POND, INCL SEEDING SLOPES, PARTIAL LINER & EXCAV	1	EA	\$67,800.00
	1/2 ACRES, 5' DEEP SD POND, INCL SEEDING SLOPES, PARTIAL LINER & EXCAV	1	EA	\$90,270.00
84210	<u>WATER DISTRIBUTION LINES</u> - CEMENT LINED DUCTILE IRON PIPE (DI), INCL MECHANICAL JOINT (MJ), EXCAVATION & BACKFILL, EXCL FITTINGS (FTGS)			
	4" DIA. 18' LENGTHS, CLASS 50 DI PIPE CEMENT LINED, INCL MJ, EXCAV, BKFL, EXCL FTGS	1	LF	\$45.00
	6" DIA. 18' LENGTHS, CLASS 50 DI PIPE CEMENT LINED, INCL MJ, EXCAV, BKFL, EXCL FTGS	1	LF	\$53.00
	10" DIA. 18' LENGTHS, CLASS 50 DI PIPE CEMENT LINED, INCL MJ, EXCAV, BKFL, EXCL FTGS	1	LF	\$84.00
	12" DIA. 18' LENGTHS, CLASS 50 DI PIPE CEMENT LINED, INCL MJ, EXCAV, BKFL, EXCL FTGS	1	LF	\$97.00
	18" DIA. 18' LENGTHS, CLASS 50 DI PIPE CEMENT LINED, INCL MJ, EXCAV, BKFL, EXCL FTGS	1	LF	\$156.00
	24" DIA. 18' LENGTHS, CLASS 50 DI PIPE CEMENT LINED, INCL MJ, EXCAV, BKFL, EXCL FTGS	1	LF	\$225.00
84210	<u>WATER DISTRIBUTION LINES</u> - FIBERGLASS (FBGLS) PLASTIC PIPE, FILAMENT WOUND (FW), GENERAL SVC, INCL. EXCAVATION & BACKFILL			
	2" DIA FBGLS PLASTIC PIPE, FILAMENT WOUND, GENERAL SVC, INCL EXCAV & BKFL	1	LF	\$42.50

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<u>CAT CODE</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST (\$/UNIT)</u>
	3" DIA FBGLS PLASTIC PIPE, FILAMENT WOUND, GENERAL SVC, INCL EXCAV & BKFL	1	LF	\$50.50
	4" DIA FBGLS PLASTIC PIPE, FILAMENT WOUND, GENERAL SVC, INCL EXCAV & BKFL	1	LF	\$59.00
	6" DIA FBGLS PLASTIC PIPE, FILAMENT WOUND, GENERAL SVC, INCL EXCAV & BKFL	1	LF	\$85.00
	10" DIA FBGLS PLASTIC PIPE, FILAMENT WOUND, GENERAL SVC, INCL EXCAV & BKFL	1	LF	\$158.00
	12" DIA FBGLS PLASTIC PIPE, FILAMENT WOUND, GENERAL SVC, INCL EXCAV & BKFL	1	LF	\$194.00
84210	WATER DISTRIBUTION LINES - PLASTIC PIPE, PVC, INCL EXCAVATION & BACKFILL			
	1" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$28.00
	2" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$37.00
	3" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$46.50
	4" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$53.50
	6" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$80.00
	10" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$160.00
	12" DIA PVC PIPE, SCHEDULE 40, INCL EXCAV & BKFL	1	LF	\$188.00
84210	WATER DISTRIBUTION LINES - PLASTIC PIPE, PVC; INCL EXCAVATION & BACKFILL			
	1" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$30.00
	2" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$41.00
	3" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$52.00
	4" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$60.00
	1" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$97.00
	1" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$183.00
	1" DIA PVC PIPE, SCHEDULE 80, INCL EXCAV & BKFL	1	LF	\$216.00
84210	WATER DISTRBN LINE - PLASTIC PIPE, HIGH DENSITY POLYETHYLENE (HDPE), SINGLE (SGL) WALL, STRAIGHT (STR), WELDED, INCL EXCAV & BKFL			
	1" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$7.50
	2" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$9.00
	3" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$9.50
	4" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$11.50
	6" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$20.00

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CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
	10" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$36.00
	12" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$48.50
	18" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$87.00
	24" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$94.00
	36" DIA HPDE PIPE, DR 11, SGL WALL, STR, BASED ON 40' LENGTH & 1 WELD/JOINT, INCL EXCAV & BKFL	1	LF	\$113.00
84472	WATER PUMP, NONPOTABLE - FIRE PUMP, DIESEL (DSL), INCL. PUMP, CONTROLLER, FITTINGS (FTGS) & RELIEF VALVE (PRV), NO BLD			
	500 GPM - 4" DSL PUMP, 125 PSI, 78 HP, INCL CONTROLLER, FTGS, & PRV, NO PUMP STN BLD	1	EA	\$54,100.00
	1000 GPM - 4" DSL PUMP, 100 PSI, 89 HP, INCL CONTROLLER, FTGS, & PRV, NO PUMP STN BLD	1	EA	\$53,550.00
	2000 GPM - 6" DSL PUMP, 100 PSI, 167 HP, INCL CONTROLLER, FTGS, & PRV, NO PUMP STN BLD	1	EA	\$70,400.00
	2500 GPM - 8" DSL PUMP, 150 PSI, 365 HP, INCL CONTROLLER, FTGS, & PRV, NO PUMP STN BLD	1	EA	\$96,400.00
84472	1000 GPM- 5" ELECT PUMP, 100 PSI, 86 HP, 3500 RPM, INCL CONTRLR, FTGS, & PRV, NO PUMP STN BLD	1	EA	\$34,100.00
	2000 GPM- 6" ELECT PUMP, 100 PSI, 167 HP, 1770 RPM, INCL CONTRLR, FTGS, & PRV, NO PUMP STN BLD	1	EA	\$44,575.00
84610	WATER STORAGE TANK - ABOVEGROUND (AG) ELEVATED (ELEV) STEEL STORAGE (STOR) TANK, 100' HIGH TOWER, INCL SPREAD (SPRD) FOUNDATION (FDN), PAINTING (PNT), EXCL PIPES & PUMPS			
	50,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$265,700.00
	100,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$400,860.00
	150,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$600,780.00
	250,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$1,077,100.00
	500,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$1,915,560.00
	750,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$2,324,070.00
	1,000,000 GA, ELEV STEEL STOR TANK, 100' HIGH TOWER, INCL SPRD FDN, PNT, EXCL PIPES & PUMPS	1	EA	\$3,330,300.00
84610	GROUND STORAGE TANK (WATER) - ABOVEGROUND (AG) PRE-STRESSED CONCRETE TANK; INCL INTEGRAL FOUNDATION (FDN), EXCL PIPES AND PUMPS			
	100,000 GA, AG PRE-STRESSED CONC WATER TANK, INCL INTEGRAL FDN, EXCL PIPES & PUMPS	1	EA	\$222,360.00
	250,000 GA, AG PRE-STRESSED CONC WATER TANK, INCL INTEGRAL FDN, EXCL PIPES & PUMPS	1	EA	\$429,400.00
	500,000 GA, AG PRE-STRESSED CONC WATER TANK, INCL INTEGRAL FDN, EXCL PIPES & PUMPS	1	EA	\$698,200.00

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	1,000,000 GA, AG PRE-STRESSED CONC WATER TANK, INCL INTEGRAL FDN, EXCL PIPES & PUMPS	1	EA	\$1,052,100.00
	2,000,000 GA, AG PRE-STRESSED CONC WATER TANK, INCL INTEGRAL FDN, EXCL PIPES & PUMPS	1	EA	\$1,536,100.00
	4,000,000 GA, AG PRE-STRESSED CONC WATER TANK, INCL INTEGRAL FDN, EXCL PIPES & PUMPS	1	EA	\$2,445,450.00
84620	RESERVOIR (RSVR), POTABLE WATER - GROUND LEVEL (GL) STEEL STORAGE (STOR) TANK, INCL 1' x 3' RING WALL FOUNDATION (FDN), EXCL PIPES & PUMPS			
	250,000 GA, STEEL STOR TANK, GL, INCL 1' x 3' RING WALL FDN, EXCL PIPES & PUMPS	1	EA	\$424,500.00
	500,000 GA, STEEL STOR TANK, GL, INCL 1' x 3' RING WALL FDN, EXCL PIPES & PUMPS	1	EA	\$600,500.00
	1,000,000 GA, STEEL STOR TANK, GL, INCL 1' x 3' RING WALL FDN, EXCL PIPES & PUMPS	1	EA	\$950,500.00
84620	2,000,000 GA, STEEL STOR TANK, GL, INCL 1' x 3' RING WALL FDN, EXCL PIPES & PUMPS	1	EA	\$1,504,000.00
	4,000,000 GA, STEEL STOR TANK, GL, INCL 1' x 3' RING WALL FDN, EXCL PIPES & PUMPS	1	EA	\$3,056,500.00
84620	UNDERGROUND (UGND) STORAGE (STOR) TANK - FIBERGLASS (FBGLS), DOUBLE (DBL) WALL, U.L. LISTED, INCLUDES MANWAYS, SLAB, & HOLD-DOWN STRAPS			
	600 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$12,250.00
	1,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$16,800.00
	2,500 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$26,900.00
	4,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$33,150.00
	6,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$44,780.00
	8,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$52,500.00
	10,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$61,700.00
	12,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$74,450.00
	15,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$93,300.00
	20,000 GA, FBGLS DBL WALL STOR TANK, UGND, U.L. LISTED, INCL MANWAYS, SLAB & HOLD-DN STRPS	1	EA	\$114,250.00
84620	ABOVE GROUND (AG) FUEL STORAGE (STOR) TANK - CONCRETE; INCLUDES PAD			
	500 GA, CONCRETE STOR TANK, ABOVE GROUND, INCL PAD	1	EA	\$14,280.00
	1,000 GA, CONCRETE STOR TANK, ABOVE GROUND, INCL PAD	1	EA	\$19,200.00
	2,000 GA, CONCRETE STOR TANK, ABOVE GROUND, INCL PAD	1	EA	\$25,580.00
	4,000 GA, CONCRETE STOR TANK, ABOVE GROUND, INCL PAD	1	EA	\$30,700.00
	8,000 GA, CONCRETE STOR TANK, ABOVE GROUND, INCL PAD	1	EA	\$46,600.00

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	12,000 GA, CONCRETE STOR TANK, ABOVE GROUND, INCL PAD	1	EA	\$61,700.00
85110	ROADS/ LARGE PAVEMENTS - PLANT MIX <u>ASPHALT CONCRETE (AC) SURFACE</u>; EXCL EARTHWORK (CUT & FILL, CC 93410)			
	1-1/2" THICK PLANT MIX AC PAVING, WEARING COURSE, EXCL EARTHWORK (CUT & FILL, CC 93410)	1	SY	\$9.00
	2" THICK PLANT MIX AC PAVING, WEARING COURSE, EXCL EARTHWORK (CUT & FILL, CC 93410)	1	SY	\$12.00
	3" THICK PLANT MIX AC PAVING, WEARING COURSE, EXCL EARTHWORK (CUT & FILL, CC 93410)	1	SY	\$17.00
85110	RECYCLED PLANT MIX BITUMINOUS CONCRETE (BIT CONC) PAVEMENT (PVMT)			
	PLANT MIXED BIT CONC, RECLAIMED PVMT IN STOCKPILE, 145 LB/CF	1	TON	\$63.00
	PLANT MIXED BIT CONC, RECYCLED PVMT OLD/NEW RATIO 70:30	1	TON	\$69.50
85110	CONC PAVEMENTS (PVMT), FIXED FORM, 12' PASS, INCL JOINTS (JT), FINISHINGS (FIN), & CURING (CUR), EXCL. EARTHWORK (ERTHWRK)			
	UNREINFORCED (UNREINF) CONCRETE			
	6" THICK, UNREINF PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$29.50
	8" THICK, UNREINF PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$40.00
	10" THICK, UNREINF PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$49.50
	12" THICK, UNREINF PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$56.00
	16" THICK, UNREINF PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$75.00
85110	REINFORCED (REINF) CONCRETE (CONC)			
	6" THK, REINF CONC PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$44.50
	8" THK, REINF CONC PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$54.00
	10" THK, REINF CONC PVMT, 4500 PSI, FIXED FORM, 12' PASS, INCL JOINTS, FIN & CUR, EXCL ERTHWRK	1	SY	\$64.50
85110	CAST IN PLACE (CIP) CONCRETE <u>CURB & GUTTER (C&G)</u>, STRAIGHT, WOOD FORM, NO EARTHWORK INCLUDED			
	6" HI CURB, 6" THK GUTTER, 24" WIDE, CIP CONC, STR WOOD FORMS, 0.055 C.Y. / LF, EXCL ERTHWRK	1	LF	\$28.50
	6" HI CURB, 6" THK GUTTER, 30" WIDE, CIP CONC, STR WOOD FORMS, 0.066 C.Y. / LF, EXCL ERTHWRK	1	LF	\$31.10
	PRECAST CONC CURBS 6" HI x 18" WIDE, NO ERTHWRK INCLUDED	1	LF	\$19.20
85110	<u>BASE COURSE DRAINAGE LAYERS</u> for ROADWAYS & LARGE PAVED AREAS - COMPACTED, EXCL EARTHWORK (ERTHWRK)			
85110	1-1/2" CRUSHED STONE BASE, COMPACTED, INCL TRANSPORTATION (TRANS) & EQUIPMENT (EQPT); EXCL ERTHWRK			
	1-1/2" CRUSHED STONE BASE TO 4" DEEP, COMPACTED, INCL TRANS & EQPT, EXCL ERTHWRK	1	SY	\$6.50

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	1-1/2" CRUSHED STONE BASE TO 6" DEEP, COMPACTED, INCL MATERIAL & TRANS, EXCL ERTHWRK	1	SY	\$9.00
	1-1/2" CRUSHED STONE BASE TO 8" DEEP, COMPACTED, INCL MATERIAL & TRANS, EXCL ERTHWRK	1	SY	\$12.00
	1-1/2" CRUSHED STONE BASE TO 12" DEEP, COMPACTED, INCL MATERIAL & TRANS, EXCL ERTHWRK	1	SY	\$17.00
85110	BANK RUN GRAVEL BASE COURSE, SPREAD & COMPACTED, INCL TRANS & EQPT, EXCL ERTHWRK			
	BANK RUN GRAVEL BASE, 6" DEEP, SPREAD & COMPACTED, INCL TRANS & EQPT, EXCL ERTHWRK	1	SY	\$6.10
	BANK RUN GRAVEL BASE, 9" DEEP, SPREAD & COMPACTED, INCL TRANS & EQPT, EXCL ERTHWRK	1	SY	\$9.00
	BANK RUN GRAVEL BASE, 12" DEEP, SPREAD & COMPACTED, INCL TRANS & EQPT, EXCL ERTHWRK	1	SY	\$11.75
85110	PLANT MIXED BITUMINOUS CONCRETE BASE COURSE, EXCL EARTHWORK			
	PLANT MIXED BITUMINOUS CONC BASE, 4" THICK, EXCL ERTHWRK	1	SY	\$21.00
	PLANT MIXED BITUMINOUS CONC BASE, 6" THICK, EXCL ERTHWRK	1	SY	\$30.10
	PLANT MIXED BITUMINOUS CONC BASE, 8" THICK, EXCL ERTHWRK	1	SY	\$40.30
	PLANT MIXED BITUMINOUS CONC BASE, 10" THICK, EXCL ERTHWRK	1	SY	\$49.50
85110	SURFACE TREATMENTS			
	TACK COAT, ELMUSION, 15 GALLONS/SY	1	SY	\$2.00
	SLURRY SEAL, TYPE II, 12 lb AGGREGATE/SY	1	SY	\$5.50
	PAVEMENT MARKINGS, ACRYLLIC WATERBORNE, 4" WIDE WHITE OR YELLOW, < 3000 LF	1	LF	\$0.45
85220	SIDEWALKS & WALKWAYS - PEDESTRIAN SIDEWALKS & WALKWAYS, WITH BASE COURSE. SEE CC 85110 FOR DRIVEWAYS & ROADS			
	4" THICK CAST IN PLACE (CIP) CONC, 6' x 6' -W 1.4 x W1.4 MESH, 3000 PSI, BROMMED FINISH, W/ BASE	1	SY	\$57.70
	2-1/2" ASPHALT CONCRETE W/ BASE	1	SY	\$19.20
86010	RAILROAD (RR) TRACKS W/TIES AND BALLAST FOR STANDARD GAUGE. TRACK IS DEFINED AS A SINGLE PAIR OF RAILS,			
	RR TRACKS, 100 LB Rail, LEVEL GRADE, W/ WOOD TIES, INCL BALLASTS, CLIPS, ANGLE BARS & BOLTS.	1	LF	\$262.00
87110	STORM WATER DRAINAGE SEWER/PIPING - INCL EXCAV & BKFL. TYPICALLY STORM WATER DRAINAGE SYSTEM WILL CONSISTS OF DRAINAGE INLET, RETENTION BASINS, PIPELINES, ACCESS MANHOLES, & OTHER COMPONENTS			
87110	<u>CORRUGATED METAL PIPE (CMP)</u> , 16 GA, GALVANIZED (GALV) & BITUMINOUS (BITUMN) COATED (CTD)			

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CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
	8" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$25.00
	10" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$29.60
	12" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$35.00
	15" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$39.00
	18" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$44.00
	24" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$53.50
	30" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$79.00
	36" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$89.00
	60" DIA CMP PIPE, GALV & BITUMN CTD, 16 GA, w/ PAVED INVERT, 20' LONG, INCL EXCAV & BKFL	1	LF	\$180.00
87110	<u>NON-REINFORCED (NR) CONCRETE PIPE, EXTRA STRENGTH, INCL EXCAV & BKFL</u>			
	6" DIA NR CONC PIPE, EXTRA STRENGHT, B&S OR T&G JOINTS, INCL EXCAV & BKFL			\$36.00
	10" DIA NR CONC PIPE, EXTRA STRENGHT, B&S OR T&G JOINTS, INCL EXCAV & BKFL			\$38.00
	12" DIA NR CONC PIPE, EXTRA STRENGHT, B&S OR T&G JOINTS, INCL EXCAV & BKFL			\$42.50
	18" DIA NR CONC PIPE, EXTRA STRENGHT, B&S OR T&G JOINTS, INCL EXCAV & BKFL			\$57.00
	24" DIA NR CONC PIPE, EXTRA STRENGHT, B&S OR T&G JOINTS, INCL EXCAV & BKFL			\$82.00
	36" DIA NR CONC PIPE, EXTRA STRENGHT, B&S OR T&G JOINTS, INCL EXCAV & BKFL			\$158.00
87110	<u>REINFORCED CONCRETE PIPE (RCP), CLASS 3, INCL EXCAV, BKFL & GASKETS</u>			
	12" DIA RCP, 6' LENGHTS, CLASS-3, INCL EXCAV, BKFL & GASKETS	1	LF	\$50.00
	18" DIA RCP, 6' LENGHTS, CLASS-3, INCL EXCAV, BKFL & GASKETS	1	LF	\$64.00
	24" DIA RCP, 8' LENGHTS, CLASS-3, INCL EXCAV, BKFL & GASKETS	1	LF	\$86.00
	36" DIA RCP, 8' LENGHTS, CLASS-3, INCL EXCAV, BKFL & GASKETS	1	LF	\$157.00
	60" DIA RCP, 8' LENGHTS, CLASS-3, INCL EXCAV, BKFL & GASKETS	1	LF	\$311.00
87110	<u>SELECTIVE DEMOLITION (DEMO) OF WATER & SEWER PIPINGS & FITTINGS (FTG), EXCL EXCAV</u>			
	DEMO CONC PIPE, 42"- 48" DIA & FTG, EXCL EXCAV	1	LF	53.00
	DEMO CONC PIPE, 60"- 84" DIA & FTG, EXCL EXCAV	1	LF	64.00
	DEMO DUCTILE IRON PIPE, 6"- 12" DIA, EXCL EXCAV	1	LF	19.75
	DEMO DUCTILE IRON PIPE, 14"- 24" DIA, EXCL EXCAV	1	LF	29.00

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CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
	DEMO COPPER PIPE, 3/4" - 2" DIA, EXCL EXCAV	1	LF	1.75
	DEMO COPPER PIPE, 2 1/2" - 3" DIA, EXCL EXCAV	1	LF	4.55
87210	INDUSTRIAL CHAIN LINK FENCING & WALLS			
87210	<u>GALVANIZED (GALV) STEEL FENCE, SCHEDULE (SCH) 40, INCL EXCAV & CONCRETE (CONC)</u>			
	4' HI, 9 GA GALV STEEL 3-STRANDS BARB WIRE, SCH 40, W/ 2" POSTS @ 10' OC, INCL EXCAV & CONC	1	LF	\$22.00
	6' HI, 9 GA GALV STEEL 3-STRANDS BARB WIRE, SCH 40, W/ 2" POSTS @ 10' OC, INCL EXCAV & CONC	1	LF	\$31.00
	8' HI, 9 GA GALV STEEL 3-STRANDS BARB WIRE, SCH 40, W/ 2" POSTS @ 10' OC, INCL EXCAV & CONC	1	LF	\$40.00
	10' HI, 9 GA GALV STEEL 3-STRANDS BARB WIRE, SCH 40, W/ 2" POSTS @ 10' OC, INCL EXCAV & CONC	1	LF	\$47.00
	<u>FENCE TOPPING</u>			
87210	FENCE TOPPING, STAINLESS STEEL, HELICAL RAZOR TAPE, 18" DIA x 18" SPACING	100	LF	\$206.00
87250	ENTRANCE GATES, CHAIN LINK (CL) FENCE GATE, INDUSTRIAL			
	CL FENCE GATE 4' WIDE, 6' HIGH, 9 GA WIRE, SCH-20, W/ 2" POSTS, INCL EXCAV & CONC	1	EA	\$403.00
	CL FENCE GATE 12' OPENING, SINGLE (SGL) SWING, 6' HIGH, MANUAL OPRN, INCL EXCAV & CONC,	1	EA	\$882.00
	MOTOR OPERATOR FOR 12' OPENING, 6' HIGH, SGL SWING CL GATE	1	EA	\$4,463.00
	CL FENCE GATE 24' OPNG, PAIR, DOUBLE (DBL) SWING, 6' HIGH, MANUAL OPRN, INCL EXCAV & CONC,	1	EA	\$1,734.00
	MOTOR OPERATOR FOR 24' OPENING, PAIR, 6' HIGH, DBL SWING CL GATE	1	EA	\$4,463.00
	CL FENCE GATE 36' OPENING, PAIR, DBL SLIDING, 6' HIGH, MANUAL OPRN, INCL EXCAV & CONC,	1	EA	\$2,168.00
	MOTOR OPERATOR FOR 36' OPENING, PAIR, 6' HIGH, DBL SLIDING GATE	1	EA	\$6,018.00
87250	CHAIN LING (CL) FENCE GATE, INDUSTRIAL, INCL EXCAV & CONC			
	4' HIGH FENCE, 1-5/8" FRAME, GATE 3' WIDE, 6' HIGH, GALV STEEL, INCL EXCAV, IN CONC	1	EA	\$287.00
	6' HIGH FENCE, 1-5/8" FRAME, GATE 3' WIDE, 6' HIGH, GALV STEEL, INCL EXCAV, IN CONC	1	EA	\$410.00
	8' HIGH FENCE, 1-5/8" FRAME, GATE 3' WIDE, 6' HIGH, GALV STEEL, INCL EXCAV, IN CONC	1	EA	\$545.00
	GATE 10' OPENING, DOUBLE SWING GATE, 8' HIGH, INCL EXCAV, POSTS & HARDWARE IN CONC	1	EA	\$1,750.00
	GATE 24' WIDE, 8' HIGH, OVERHEAD SLIDE, CANTILEVER TYPE, INCL EXCAV, IN CONC	1	EA	\$9,050.00
87250	SELECTIVE DEMOLITION - CHAIN LINK FENCE & GATES			
	DEMO 3' - 4' HIGH FENCE	1	LF	\$2.10

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	DEMO 5' HIGH FENCE	1	LF	\$2.35
	DEMO 12' HIGH FENCE	1	LF	\$5.20
	DEMO 3' - 4' WIDE GATE	1	LF	\$69.50
88040	AT/FP VEHICULAR BARRIER - SEE AT THE END			
89240	FIRE HYDRANTS (FH), 2-WAY, 4-1/2" CUTOFF VALVE, INCL MECHANICAL (MECH) JOINTS, EXCAV & BKFL			
	FIRE HYDRANT 4-6" DEPTH, 2-WAY, 4-1/2" CUT-OFF VALVE, INCL MECH JOINTS, EXCAV & BKFL	1	EA	\$5,253.00
	FIRE HYDRANT 6' DEPTH, 2-WAY, 4-1/2" CUT-OFF VALVE, INCL MECH JOINTS, EXCAV & BKFL	1	EA	\$5,483.00
	FIRE HYDRANT 8' DEPTH, 2-WAY, 4-1/2" CUT-OFF VALVE, INCL MECH JOINTS, EXCAV & BKFL	1	EA	\$5,738.00
93210	SITE CLEARING & GRADING - CLEARING & GRUBBING			
	BRUSH AND STUMP, SURFACE ITEM CLEARING	1	SY	\$1.65
	CLEAR & GRUB, LIGHT TREES TO 6" DIA - CUT, CHIP & HAUL	1	ACRE	\$5,253.00
	CLEAR & GRUB, MEDIUM TREES TO 12" DIA, CUT, CHIP & HAUL	1	ACRE	\$7,522.00
	CLEAR & GRUB, HEAVY TREES TO 24" DIA, CUT, CHIP & HAUL	1	ACRE	\$17,646.00
	GRUB STUMPS & REMOVE, TREES TO 12" DIA	1	ACRE	\$5,790.00
93210	SITE CLEARING & GRADING - GRADING			
	ROUGH GRADING, DUMPED MATERIAL SPREAD BY DOZER, NO COMPACTION	1	LINEAR CY	\$2.55
	FINE GRADING, GRANULER BUBBASE FOR PAVING, +/- 1" COMPACTION, 3 PASSES W/ DOZER, 6" LIFTS	1	SY	\$2.16
93210	SITE CLEARING & GRADING - BORROW, INCL LOAD AT PIT & HAUL, 2 MILES ROUNFD TRIP, NO COMPACTION (CMPCT)			
	FLY ASH, SPREAD w/ 200 HP DOZER, INCL LOAD AT PIT & HAUL 2 MI ROUND TRIP, NO CMPCT	1	CY	\$32.50
	BANK RUN GRAVEL, SPREAD w/ 200 HP DOZER, INCL LOAD AT PIT & HAUL 2 MI ROUND TRIP, NO CMPCT	1	CY	\$41.50
	SAND, SPREAD w/ 200 HP DOZER, INCL LOAD AT PIT & HAUL 2 MI ROUND TRIP, NO CMPCT	1	CY	\$59.00
	GRAVEL, SPREAD w/ 200 HP DOZER, INCL LOAD AT PIT & HAUL 2 MI ROUND TRIP, NO CMPCT	1	CY	\$35.00
	COMMON FILL, SPREAD w/ 200 HP DOZER, INCL LOAD AT PIT & HAUL 2 MI ROUND TRIP, NO CMPCT	1	CY	\$29.50
	SILT CLAY, SPREAD w/ 200 HP DOZER, INCL LOAD AT PIT & HAUL 2 MI ROUND TRIP, NO CMPCT	1	CY	\$16.90

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	LANDSCAPE AND PLANTING			
93220	SOIL PREPARATION - TOP SOIL			
	MIX & SPREAD CONDITIONED SOIL, SPREAD 4" DEEP BY HAND	1	SY	\$9.30
	SPREAD FERTILIZER, 0.2#/SY BY TRACTOR SPREADER	1,000	SF	\$9.50
	HAUL & SPREAD TOP SOIL, TRUCK DUMPED, INCL MATERIAL, TRANSPORT & PLACEMENT	1	CY	\$7.15
	STRIP TOPSOIL & STOCKPILE ON SITE, 6" DEEP BY 200 HP DOZER, 200' HAUL	1	SY	\$0.55
93220	SOIL PREPARATION - <u>MULCHING</u>			
	HAY, 1" DEEP, POWER MULCHER, LARGE AREA	1,000	SY	\$68.00
	PEAT MOSS, 1" DEEP, TRACTOR SPREADER	1,000	SY	\$357.00
	WOOD CHIPS, 2" DEEP, SKID STEER LOADER	1,000	SY	\$342.00
	WOOD CHIPS, 2" DEEP, HAND SPREAD, SMALL AREA	1	SY	\$4.10
93220	LANDSCAPE & PLANTING - <u>GRASS</u>			
	SEEDING - TALL FESCUE, 5.5 LB/1000 SF, TRACTOR SPREADER	1,000	SF	\$31.00
	SEEDING - BLUE GRASS, 4LB/1000 SF, HYDRO OR AIR SEEDING W/ FERTILIZER	1,000	SF	\$59.50
	SODDING - 1" DEEP BLUEGRASS SOD ON LEVEL GROUND	1,000	SF	\$555.00
93220	LANDSCAPE & PLANTING - <u>PLANTING BED PREPARATION</u>			
	EXCAVATE PLANTING PIT, SANDY SOIL, 1/2 CY, BACKHOE	1	CY	\$10.75
	MIX PLANTING SOIL, INCLUDES LOAM, SKID STEER LOADER	1	CY	\$65.50
	REMOVE SOD, ARTICULATED LOADER	1	SY	\$0.75
93220	LANDSCAPE & PLANTING - <u>GROUND COVER</u>			
	PLANTAIN LILY (Hemerocallis Hybrids), ZONE 4, CONTAINER, 1 QUART	1	EA	\$30.50
	MOSS OR CREEPING PHLOX (Phlox Subulata), ZONE 4, CONTAINER, 1 GALLON	1	EA	\$30.50
	STONECROP (Sedum), ZONE 4, CONTAINER, 1 GALLON	1	EA	\$17.20
93220	LANDSCAPE & PLANTING - <u>SHRUBS, BALLED & BURLAPED (B&B)</u>			
	AZALEA EVERGREEN HYBRIDS, ZONE 6, CONTAINER BALLED & BURLAPED, 3 GALLON	1	EA	\$21.00

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	COMMON BOXWOOD (Buxus Sempervirens), ZONE 5, CONTAINER BALLED & BURLAPED, 18" TO 24"	1	EA	\$55.00
	WINGED BURNING BUSH (Eunymus Alatus), ZONE 4, CONTAINER BALLED & BURLAPED, 18" - 24"	1	EA	\$28.50
	BLUE HOLLY (Ilex Meserve Blue Holly Hybr), ZONE 5, CONTAINER BALLED & BURLAPED, 18" - 24"	1	EA	\$29.00
	PJM RHODODENDRON, ZONE 4, CONTAINER BALLED & BURLAPED, 18" - 24"	1	EA	\$48.00
93220	LANDSCAPE & PLANTING - <u>DECIDUOUS TREES</u>			
	RED MAPLE (Acer Rubrum), ZONE 4, CONTAINER BALLED & BURLAPED, 1-1/2" To 2" CALIPER	1	EA	\$245.00
	AMERICAN BEECH (Fagus Grandiflora), ZONE 3, CONTAINER B&B, 1-1/2" To 1-3/4" CALIPER	1	EA	\$306.00
	LOMBARDY POPLAR (Populus Nigra Italica), ZONE 4, CONTAINER BALLED & BURLAPED, 5 GALLON	1	EA	\$29.00
	RED OAK (Quercus Rubra), ZONE 4, CONTAINER BALLED & BURLAPED, 5 GALLON	1	EA	\$34.00
93220	LANDSCAPE - <u>SUBSURFACE DRIP IRRIGATION (SDI)</u>			
	SDI , LOOPED GRID, REGULAR AREA, LARGE LINE, HAND BURY, PRESSURE COMP PREINSERTED EMITTER	1	LF	\$0.95
	SDI - IRREGULAR IRRIGATED AREA, HAND BURY, PRESSURE COMP PREINSERTED EMITTER IN TRENCH	1	LF	\$0.55
	UNDERGROUND SPRINKLERS IRRIGATION FOR GOLF COURSE w/ FULLY AUTOMATIC SYS	9	HOLES	\$254,000.00
	UNDERGROUND SPRINKLERS IRRIGATION, RESIDENTIAL SYSTEM FOR LAWNS, 1-1/2" SUPPLY	1	SF	\$1.55
93310	DEMOLITION W/ DISPOSAL, BUILDING - INCL 20 MILE HAUL, EXCL FOUNDATION DEMO, HAZARDOUS MATERIAL DEMO, SALVAGE/RECYCLE & DUMP FEES. VOLUME (CF) IS THE VOLUME OF THE ENTIRE BUILDING			
	DEMO CONCRETE STRUCTURE (LARGE URBAN PROJECT); CF IS THE VOLUME OF THE ENTIRE BLDG	1	CF	\$0.60
	DEMO STEEL FRAME BUILDING - SMALL OR SINGLE BLDG; CF IS THE VOLUME OF THE ENTIRE BLDG	1	CF	\$0.50
	MASONRY OR WOOD FRAME - SMALL OR SINGLE; CF IS THE VOLUME OF THE ENTIRE BLDG	1	CF	\$0.50
93310	SELECTIVE DEMOLITION - BUILDING. EXCL DISPOSAL COST, RUBBISH HANDLING COSTS, SALVAGE & DUMP FEES			
	DEMO CONC FLOOR SLAB ON GRADE, PLAIN CONC, TO 6" THK, EXCL DISP, SALVAGE & DUMP COSTS	1	SF	\$7.60
	GUTTING COMMERCIAL BLDG. INTERIOR, NO HAZARDOUS MATERIAL DEMO OR DUMPSTER FEES	1	SF	\$11.50
	LEAD BASED PAINT (LBP) REMOVAL BY CHEMICALS & DISPOSAL, CABINETS & WALLS SIMPLE DESIGN		SF	\$18.00
	NOTE: LBP IS NOT REQUIRED TO BE ABATED PRIOR TO OR AS A PART OF THE BLDG DEMOLITION, UNLESS SPECIFICALLY REQUIRED IN COMPLIANCE WITH EM 385-1-1. UNLESS OTHERWISE RESTRICTED, MATERIALS COATED W/ LBP MAY BE PLACES IN THE LANDFILL.			
93310	RUBBISH HANDLING- DISPOSAL COST,			

UNIT COSTS For SUPPORT FACILITIES
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APPENDIX A, SUPPORT FACILITIES UNIT COST TABLE (PART - II, Support Facilities).				
NOTE: The Support Fac Unit Costs are for guidance only. Adjustment to these UCs are allowed when local cost data are allowed when local cost data are available with back-ups				
<u>CAT CODE</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST (\$/UNIT)</u>
	DUMPSTER FEE, AVERAGE OF ALL SIZES (Note: TO BE ADD TO DEMO COST)	1	TON	\$108.00
	RUBBISH HANDLING, 50' HAUL, INCL LOADING, HAUL TO CHUTE & DUMPING TO CHUTE	1	CY	\$42.00
93310	SELECTIVE BUILDING MATERIAL RECYCLE, INCL SALVAGE LABOR			
	SALVAGE WOOD FLOOR, INCL SALVAGE LABOR FOR DENAILING & PACKAGING	1	SF	\$5.60
	SALVAGE CARPET, INCL SALVAGE LABOR	1	SF	\$0.50
93310	<u>DEMOLITION - PAVEMENTS. REMOVE PAVEMENT & CURB, EXCL HAULING & DISPOSAL FEES</u>			
	DEMO & REMOVE CONC PVMT & CURB, TO 6" THK, MESH REINF, EXCL HAULING & DISPOSAL FEE	1	SY	\$17.25
	DEMO & REMOVE W/ BACKHOE PLAIN CONC, 7" To 24" THK, EXCL HAULING & DISPOSAL FEE	1	CY	\$133.00
	DEMO & REMOVE ROD REINF CONC, 7" To 24", EXCL HAULING & DISPOSAL FEE	1	CY	\$183.50
	DEMO & REMOVE BITUMINOUS PVMT, TO 3" THK, EXCL HAULING & DISPOSAL FEE	1	SY	\$6.50
	REMOVE PLAIN CONC CURBS, EXCL HAULING & DISPOSAL FEE	1	LF	\$6.00
	DEMO & REMOVE BITUMINOUS SIDEWALK, 2-1/2" THK, EXCL HAULING & DISPOSAL FEE	1	SY	\$6.50
93310	MINOR SITE DEMO, EXCL HAULING & DISPOSAL FEE			
	DEMO & REMOVE PLAIN CONC SLAB ON GRADE, EXCL HAULING & DISPOSAL FEE	1	SY	\$17.50
	DEMO & REMOVE ROD REINF CONC SLAB ON GRADE, 8" THK, EXCL HAULING & DISPOSAL FEE	1	CY	\$225.50
	DEMO & REMOVE PLAIN CONC, 4" THK, EXCL HAULING & DISPOSAL FEE	1	SY	\$13.00
	CUT AND FILL BCY = BANKED CUBIC YARDS, ECY = EMBANKMENT CY, LCY = LOOSE CY			
	GRADING			
93410	FINE GRADING FOR SMALL IRREGULAR AREAS, TO 15,000 SY	1	SY	3.15
	FINE GRADING FOR ROADWAYS, BASE OR LEVELLING COURSE, LARGE AREA 6,000 SY OR MORE	1	SY	1.05
	SPREAD FILL FILL FROM STOCKPILE W/ FRONT LOADER, 200 H.P DOZER, TO 300' HAUL, NO COMPACTION	1	LCY	6.10
93410	<u>CUT AND FILL: BCY = BANKED CUBIC YARDS, ECY = EMBANKMENT CY, LCY = LOOSE CY</u>			
	<u>EXCAVATION, COMMON EARTH:</u>			
	EXCAVATION W/ 105 H.P. BULK DOZER, OPEN SITE 150' HAUL	1	BCY	\$6.10
	EXCAVATION W/ 300 H.P. BULK DOZER, OPEN SITE 150' HAUL	1	BCY	\$3.95

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APPENDIX A, SUPPORT FACILITIES UNIT COST TABLE (PART - II, Support Facilities).				
NOTE: The Support Fac Unit Costs are for guidance only. Adjustment to these UCs are allowed when local cost data are allowed when local cost data are available with back-ups				
CAT CODE	ITEM	QUANTITY	UNIT	UNIT COST (\$/UNIT)
	EXCAVATION W/ 700 H.P. BULK DOZER, OPEN SITE 150' HAUL	1	BCY	\$2.10
	EXCAVATION TRENCH, 18" WIDE, 6' DEEP, OPEN SITE, BY CHAIN TRENCHER, 12 HP	1	BCY	\$1.45
	EXCAVATION TRENCH BY HAND W/ PICK & SHOVEL, 2' TO 6' DEEP, HEAVY SOIL, NO DEWATERING	1	BCY	\$125.50
93410	HAUL BY 8 CY TRUCK, CYCLE 6 MILES AT 30 MPH, 10 MIN WAIT-LOAD-UNLOAD, NO LOADING EQUIP	1	LCY	\$5.80
	HAUL BY 8 CY TRUCK, CYCLE 4 MILES AT 30 MPH, 10 MIN WAIT-LOAD-UNLOAD, NO LOADING EQUIP	1	LCY	\$4.75
	HAUL BY 8 CY TRUCK, CYCLE 4 MILES AT 30 MPH, 15 MIN WAIT-LOAD-UNLOAD, NO LOADING EQUIP	1	LCY	\$6.05
	HAUL BY 12 CY TRUCK, CYCLE 10 MILES AT 30 MPH, 25 MIN WAIT-LOAD-UNLOAD, NO LOADING EQUIP	1	LCY	\$11.30
	HAUL BY 16.5 CY TRUCK, CYCLE 10 MILES AT 30 MPH, 30 MIN WAIT-LOAD-UNLOAD, NO LOADING EQUIP	1	LCY	\$9.55
	HAUL BY 20 CY TRUCK, CYCLE 8 MILES AT 30 MPH, 30 MIN WAIT-LOAD-UNLOAD, NO LOADING EQUIP	1	LCY	\$7.20
	HAUL BY 12 CY TRUCK, EXCAVATED OR BORROW MATERIAL, 2 MILE ROUND-TRIP, 2.2 LOADS/HR	1	LCY	\$9.50
93410	BACKFILL & COMPACTION, TRENCH 6" TO 12" LIFTS, DOZER BKFL, CMPCT W/ SHEEPSFOOT ROLLER	1	ECY	\$4.75
	BACKFILL & COMPACTION, DOZER BKFL, ROLLER CMPCT IN 12" LAYERS	1	ECY	\$7.60
	BACKFILL & COMPACTION, DOZER BKFL, CMPCT W/ VIBRATING ROLLER	1	ECY	\$4.35
	BACKFILL & COMPACTION, BY HAND, HEAVY SOIL	1	LCY	\$53.60
93410	DRILLING & BLASTING, HARD ROCK, UPTO 1500 CY, MACHINE DRILL, DEEP HOLE METHOD	1	BCY	\$77.00
	RIP SHALE- MEDIUM HARD, BY 180 H.P REAR RIPPER & LOAD	1	BCY	\$60.70
88040	<u>AT/FP VEHICULAR BARRICADES</u>			
	Barrier Standards			
	SD-STD-02.01 specifies perpendicular barrier impact by a 15,000 lb. (6810 kg) vehicle			
	K12 = 50 mph (88 kph);			
	L3 = 3'-			
	Note: Electrical connection costs are only included up to five feet from the unit. Additional electrical power requirements to be added separately. All active fixed barriers with a remote control panel include costs for barrier installation, safety loop, traffic arm, & traffic lights. Costs for CCTV, Cameras, Alarms, ETC not included.			
88040	CONCRETE PLANTER - VEHICLE BARRIER, STOPS 4,000 LB VEHICLES AT 40 MPH (K-8 BARRIER)			
	CONC PLANTER, ROUND, EXPOSED AGGR FINISH, 36" DIA x 30" HIGH, NO FILL MATERIAL	1	EA	\$870.00
	CONC PLANTER, RECTANGULAR, EXPOSED AGGR FINISH, 96" L x 24" W x 36" H, NO FILL MATERIAL	1	EA	\$1,150.00

UNIT COSTS For SUPPORT FACILITIES
PAX Newsletter 3.2.2, Part-2 dated 30 Sep 2015

APPENDIX A, SUPPORT FACILITIES UNIT COST TABLE (PART - II, Support Facilities).				
NOTE: The Support Fac Unit Costs are for guidance only. Adjustment to these UCs are allowed when local cost data are allowed when local cost data are available with back-ups				
<u>CAT CODE</u>	<u>ITEM</u>	<u>QUANTITY</u>	<u>UNIT</u>	<u>UNIT COST (\$/UNIT)</u>
	CONC PLANTER, ROUND, EXPOSED AGGR FINISH, 84" DIA x 36" HIGH, NO FILL MATERIAL	1	EA	\$1,735.00
	CONC BARRIER, DECORATIVE GEOMETRIC DESIGN, 96" L x 24" W x 36" H, NO FILL MATERIAL	1	EA	\$1,800.00
88040	GLASS FIBER REINFORCED CONCRETE SECURITY BARRIERS (GFRC) , STOPS 4,000 LB VEHICLE AT 40 MPH			
	CONC FILLED GFRC, DECORATIVE IMPALER, 10' SECTION, INCL SITE PREPRATION ON BARE GROUND	1	EA	\$3,240.00
	CONC FILLED GFRC, DECORATIVE IMPALER, 12' SECTION, INCL SITE PREPRATION ON BARE GROUND	1	EA	\$3,775.00
	GFRC DECORATIVE JERSEY BARRIER COVER, 12' SECTION, EXCL FILLING MATERIALS (SOIL)	1	EA	\$1,630.00
	CONC FILLED PAINTED PIPE BOLLARD, 8' L x 4' D HOLE, 8" DIAMETER	1	EA	\$1,225.00
88040	CRASH BARRIERS, STOPS 15000 LB VEHICLE @ 50 MPH, INCL ALL LABOR, MATERIAL & EQUIP (LME) FOR COMPLETE INSTALLATION			
	20' WIDE DROP ARM CRASH BARRIER, INCL ALL LME FOR COMPL INSTALLATION	1	EA	\$79,000.00
	24' WIDE DROP ARM CRASH BARRIER, INCL ALL LME FOR COMPL INSTALLATION	1	EA	\$105,600.00
	12' WIDE PORTABLE WEDGE CRASH BARRIER, INCL ALL LME FOR COMPL INSTALLATION	1	EA	\$132,600.00
	20' WIDE SLIDING ROLLER CRASH BARRIER, INCL ALL LME FOR COMPL INSTALLATION	1	EA	\$242,250.00
	20' WIDE SLIDING CANTILEVER CRASH BARRIER, INCL ALL LME FOR COMPL INSTALLATION	1	EA	\$242,250.00
	RAISED BOLLARD CRASH BARRIER, INCL ALL LABOR, MATERIAL & EQUIP (LME) FOR COMPLETE INSTALLATION			
88040	10' WIDE, RAISED BOLLARD CRASH BARRIER, STANDARD POWER, INCL ALL LME FOR COMPL INSTAL	1	EA	\$47,750.00
	12' WIDE, RAISED BOLLARD CRASH BARRIER, STANDARD POWER, INCL ALL LME FOR COMPL INSTAL	1	EA	\$54,550.00
	10' WIDE, RAISED BOLLARD CRASH BARRIER, SOLAR POWER, INCL ALL LME FOR COMPL INSTAL	1	EA	\$58,150.00
	12' WIDE, RAISED BOLLARD CRASH BARRIER, SOLAR POWER, INCL ALL LME FOR COMPL INSTAL	1	EA	\$64,750.00
88040	INGROUND TIRE SHREDDER, 15' WIDE, INCL ALL LME FOR COMPL INSTALLATION	1	EA	\$50,900.00

CHART C, METRIC/ENGLISH SYSTEMS

<u>QUANTITY</u>	<u>FROM</u>			<u>TO OBTAIN</u>	
LENGTH	inch		25.400000	millimeter	
	foot		0.304800	meter	
	yard		0.914400	meter	
	mile (U.S. Status)		1.609344	kilometer	
	millimeter		0.039370	inch	
	meter		3.280840	foot	
	meter		1.093613	yard	
	kilometer		0.621370	mile	
AREA	square inch		645.160300	square millimeter	
	square foot		0.092903	square meter	
	square yard		0.836127	square meter	
	square mile		2.589998	square kilometer	
	acre		4046.873000	square meter	
	acre		0.404687	hectare	
	square millimeter		0.001550	square inch	
	square meter		10.763910	square foot	
	square meter		1.195990	square yard	
	square kilometer		0.386101	square mile	
	square meter		0.000247	acre	
	hectare		2.471044	acre	
	VOLUME	cubic inch		16387.060000	cubic millimeter
	cubic foot		0.028316	cubic meter	
	cubic yard		0.764555	cubic meter	
	gallon (U.S. liquid)		3.785412	liter	
	quart (U.S. liquid)		0.946353	liter	
	cubic millimeter		0.000061	cubic inch	
	cubic meter		35.314662	cubic foot	
	cubic meter		1.307951	cubic yard	
	liter		0.264172	gallon	
	liter		1.056688	quart	
	MASS	ounce (avoirdupois)		28.349520	gram
		pound (avoirdupois)		0.453592	kilogram
short ton			907.185000	kilogram	
gram			0.035273	ounce	
kilogram			2.204622	pound	
kilogram			0.001102	short ton	
ENERGY -					
HEAT &	kilowatthour		3.600000	megajoule	
WORK	btu		1.055056	kilojoule	
	horsepower hour		2.684520	megajoule	
	megajoule		0.277780	kilowatthour	
	kilojoule		0.947817	btu	
	megajoule		0.372506	horsepower hour	
	POWER	ton (refrigeration)		3.517000	kw
	btu/s		1.055056	kw	
	hp (electric)		745.700000	w	
	btu/h		0.293071	w	
	kw		0.284333	ton (refrigeration)	
	kw		0.947817	btu/s	
	w		0.001341	hp (electric)	
	w		3.412141	btu/h	

APPENDIX C (UFC 3-700- 01, Table 4-2), PAX Newsletter 3.2.2, dated 30 Sep 2015
TRI-SERVICE MILITARY CONSTRUCTION PROGRAM (MCP) INDEX FOR FY 2017-20 PROGRAMS
Based on Interim Inflation Guidance Published by OUSD (Comptroller), dated 5 December 2014

<u>FISCAL YEAR (FY)</u>	<u>DATES</u>	<u>INDEX</u>	<u>ESCALATION PERCENTAGE FOR FISCAL YEAR</u>
FY 2014	1-Oct- 2013 -----	2667	-----FY14
	1-Jan- 2014 -----	2679	
	1-Apr- 2014 -----	2691	
	1-Jul- 2014 -----	2703	
FY 2015	1-Oct- 2014 -----	2715	-----FY15 (1.8%)
	1-Jan- 2015 -----	2728	
	1-Apr- 2015 -----	2741	
	1-Jul- 2015 -----	2754	
FY 2016	1-Oct- 2015 -----	2767	-----FY16 (2.0%)
	1-Jan- 2016 -----	2781	
	1-Apr- 2016 -----	2795	
	1-Jul- 2016 -----	2809	
FY 2017	1-Oct- 2016 -----	2822	-----FY17 (2.0%)
	1-Jan- 2017 -----	2836	
	1-Apr- 2017 -----	2850	
	1-Jul- 2017 -----	2864	
FY 2018	1-Oct- 2017 -----	2878	-----FY18 (2.0%)
	1-Jan- 2018 -----	2893	
	1-Apr- 2018 -----	2907	
	1-Jul- 2018 -----	2922	
FY 2019	1-Oct- 2018 -----	2936	-----FY19 (2.0%)
	1-Jan- 2019 -----	2951	
	1-Apr- 2019 -----	2966	
	1-Jul- 2019 -----	2981	
FY 2020	1-Oct- 2019 -----	2995	-----FY20 (2.0%)
	1-Jan- 2020 -----	3010	
	1-Apr- 2020 -----	3025	
	1-Jul- 2020 -----	3040	
FY 2021	1-Oct- 2020 -----	3055	-----FY21 (2.0%)
	1-Jan- 2021 -----		

Notes

1. Use **2.0%** per fiscal year for projection beyond FY **2021**
2. Tri - Service MCP Index (1,000) = 1 October 1979 ENR Historical Building Cost Index (1,900)
3. The MCP indexes after 1 Oct 2013 were derived using the Price Escalation Indices (Annual Rates in Percentages) for Budget Authority published in the 5 Dec 2014 Interim Inflation Guidance - Fiscal Year (FY) 2016 President's Budget.
4. This revised index table supersedes the MCP index table published as Appendix-C to PAX Newsletter 3.2.2, dated **24 July 2014**

TABLE I - SIZE ADJUSTMENT FACTORS

PART I - BUILDING (OTHER THAN BARRACKS & FAMILY HOUSING)

<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>	<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>	<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>	<u>SIZE RATIO</u>	<u>ADJUST FACTOR</u>
< 0.05	1.2750	0.9000	1.0110	1.8000	0.9490	2.7000	0.9250
0.0500	1.2750	0.9500	1.0050	1.8500	0.9470	2.7500	0.9240
0.1000	1.2690	1.0000	1.0000	1.9000	0.9450	2.8000	0.9240
0.1500	1.2320	1.0500	0.9950	1.9500	0.9430	2.8500	0.9230
0.2000	1.2020	1.1000	0.9900	2.0000	0.9420	2.9000	0.9220
0.2500	1.1750	1.1500	0.9860	2.0500	0.9400	2.9500	0.9210
0.3000	1.1520	1.2000	0.9820	2.1000	0.9390	3.0000	0.9210
0.3500	1.1320	1.2500	0.9780	2.1500	0.9370	3.0500	0.9200
0.4000	1.1140	1.3000	0.9740	2.2000	0.9360	>3.05	0.9200
0.4500	1.0980	1.3500	0.9710	2.2500	0.9350		
0.5000	1.0840	1.4000	0.9680	2.3000	0.9330		
0.5500	1.0720	1.4500	0.9650	2.3500	0.9320		
0.6000	1.0600	1.5000	0.9620	2.4000	0.9310		
0.6500	1.0500	1.5500	0.9600	2.4500	0.9300		
0.7000	1.0410	1.6000	0.9570	2.5000	0.9290		
0.7500	1.0330	1.6500	0.9550	2.5500	0.9280		
0.8000	1.0250	1.7000	0.9530	2.6000	0.9270		
0.8500	1.0180	1.7500	0.9510	2.6500	0.9260		

NOTE: Size ratio is determined by dividing the proposed building size by the average size shown in Part I of Appendix A. To determine the size adjustment factor, use the closest size ratio from above table.

PART II - PROJECT SIZE ADJUSTMENTS FOR BARRACKS/FAMILY HOUSING

MILITARY FAMILY HOUSING PROJECT SIZE ADJUSTMENT FACTORS		BARRACKS/ DORMITORIES PROJECT SIZE ADJUSTMENT FACTORS	
NUMBER OF UNITS in the project	PROJECT SIZE FACTOR	NUMBER OF ROOMS in the project	PROJECT SIZE FACTOR
1-9	1.25	1-99	1.07
10-19	1.15	100-149	1.03
20-49	1.10	150-199	1.00
50-99	1.04	200-299	0.97
100-199	1.00	300+	0.95
200-299	0.93		
300+	0.90		