UNIT COSTS for The ARMY FACILITIES - MILITARY CONSTRUCTION PROGRAM PAX NEWSLETTER 3.2.2, Dated 11 Feb 2008

APPENDIX - A, PART - I & II (Buildings and Support Facilities)

This updated newsletter supersedes the PAX Newsletter No. 3.2.2, **15 May 2007**, and updates the Appendix A, Facility Unit Cost Table, Appendix C, Tri-Service Military Construction Program (MCP) Index, and Table 1, Size Adjustment Factors, contained in TM 5-800-4, Programming Cost Estimates for Military Construction, dated May 1994. It may be used as a guide for preparation and/or review of the Army military construction cost estimates for programming and budgeting purposes for FY **2010/2011** and beyond unless otherwise noted. This newsletter is also published and maintained on the web page at http://www.hg.usace.army.mil/cemp/e/ec/ec new.htm

1. APPENDIX A - FACILITY UNIT COST TABLE (FOR FY10 and later MILCON, BRAC, GTF (Grow The Force) Projects)

- a. Most unit costs are based on historic construction award data from FY2005 to 2007 projects, with a few exceptions. If we did not have at least three recently (during FY 2005-07) awarded projects for a facility-type, we sought out FY 2004 awards. All bid data were normalized for 3 (instead of 7 bidder traditionally used) bidders reflecting in the current bidding climate, incorporated actual construction inflation rate (from Engineering News Record Building Cost Index) thru 30 Sep 2007, and escalated from 1 Oct 2007 to the assumed mid-point of construction of October 2010 using the recent OSD escalation rates, in Appendix -C. The unit cost database include only new construction projects, and does not include data from renovation or addition/alteration projects. The unit cost and the reference building size for the same facility type are identical in both the PAX Newsletter and DoD Pricing Guide, UFC 3-701-08, unless the Army facility-type is modified under Military Transformation.
- b. The tabulation is arranged numerically by category codes. Category code series descriptions are contained in DA Pamphlet 415-28, Guide to Army Real Property Category Codes, dated 11 Apr 2006. The five (5) digit category code is designated by adding XX behind the three (3) digit main category code for this group where unit costs span a group of subcategories or cat code is still not officially established. For example, 851XX and 852XX are designated for roads, streets, parking, apron and sidewalks pavements.
- c. Escalation Unit costs are escalated to 1 October 2010, the assumed midpoint of construction for FY10 projects, with an area cost factor (ACF) of 1.00. The MCP inflation indices shown in Appendix C should be used to escalate the FY10 unit costs beyond 1 Oct 10. These unit costs include installed (built-in) building equipment and furnishings normally funded by the MILCON funds as described in AR 420-1 (Army Facilities Management Regulation), contractor's markup cost for overhead & profit, but do not include allowances for construction contingencies and supervision, inspection, and overhead (SIOH), or construction cost growth resulting from user changes, unforeseen site conditions, or contract document errors and omissions. Unit costs for DoD medical facilities include category A and B equipment, but do not include category E and F equipment costs.
- d. The unit costs for Primary Facilities (buildings) in Appendix A, Part I, are for the primary facilities gross areas only, and do not include costs for support facilities, equipment acquired with other fund (non-MILCON) sources, anti-terrorism/force protection, sustainable construction features, or construction cost growth resulting from unforeseen site conditions or user requested change orders. For medical facilities, the building costs include Categories A and B equipment, but exclude Categories E and F equipment.
- e. Unit costs should be adjusted by the appropriate area cost factor, cost escalation factor as described in Appendix C, size adjustment factor in Table I, and other adjustment factors as described in the TM 5-800-4, when applicable. The ACF list is contained in Appendix B, Location Adjustment Factors in the TM 5-800-4, and updated by the latest PAX Newsletter No. 3.2.1, Area Cost Factors Indexes, which is also available on the web page as addressed above.

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- f. Size Adjustment Tables, Table -1: Building size identified in Part I of Appendix A is a reference size, and may not represent the standard size shown in the Army Standard Facilities design criteria. Table I, Size Adjustment Factors, shows a correlation between project size and construction cost, and is used to determine an appropriate size adjustment factor for the proposed facility.
- g. Chart A in Appendix A contains unit costs for Sitework Utility Piping. Chart C in Appendix A contains information for unit of measurement conversion factors between Metric and English Systems.

2. APPENDIX C - TRI-SERVICE MILITARY CONSTRUCTION PROGRAM (MCP) INDEX

Unit costs are escalated to 1 Oct 2010, the assumed midpoint of construction for a typical FY09 MCA project at a location with an Area Cost Factor of 1. The Military Construction Program (MCP) cost index for 1 October 2010 is 2553. For a project with an anticipated midpoint of construction date other than 1 October 2010 a cost escalation factor can be determined from this appendix as follows:

Project Anticipated Midpoint Date - 1 Apr 2011 (MCP Index = 2579)

Cost Escalation Factor = MCP Index 1 Apr 2011 / MCP Index 1 Oct 2010 = 2579/2553 = 1.0101

3. The Point of Contacts for this Newsletter letter at HQUSACE can be reached at (202) 761-7503, DSN-763-7503, or (202) 761-5887, DSN 763-5887.

CATEGORY CODE	FACILITY TYPE	REFERENCE SIZE	<u>UNIT</u>	UNIT COST(U/C) \$/Unit	REMARK
111XX	AIRFIELD RUNWAYS				SEE CATCODE 851XX
112XX	AIRFIELD TAXIWAYS				SEE CATCODE 851XX
113XX	AIRFIELD APRONS				SEE CATCODE 851XX
116XX	AIRFIELD AFRONS AIRFIELD MISC. PAVING				SEE CATCODE 851XX
110//	AIRI ILLU MIGC. FAVING	1,000	GA	¢= =0	SEE CATCODE 831XX
		5,000	GA	\$5.50	
40.004	FUEL OTOPAGE (OPERATING)	·	GA	\$5.30	UNDERGROUND STORAGE - INCLUDES EXCAVATION, BACKFILL &
124XX	FUEL STORAGE (OPERATING)	10,000	GA	\$5.00	MANHOLE, EXCLUDES EXTERIOR PIPING & PUMPING
		20,000	GA	\$4.90	
		30,000	SF	\$4.65	
13115	INFORMATION SYSTEMS FACILITY (INFO SYS FAC)	58,000	SF		SEE CATCODE 13131 BELOW. HOUSES MAJORITY OF GARRISON LEVEL INFO MGMT & INFO TECH SERVICES, ASSOCIATED ADMIN SUPPORTS & SHOP SPACE
13120	COMMUNICATIONS CENTER (COMMO CTR)	6,000	SF	\$276.00	HUB FACILITY FOR INTERNAL & EXTERNAL COMMO SYSTEMS AND EQUIPMENT. NO SHIELDING
FAC 1312	SATELLITE COMMUNICATIONS CENTER	6,000	SF	\$712.00	W/ SHIELDING & GENERATOR
13131	INFORMATION PROCESSING CTR (Also referred to as DATA PROCESSING CTR)	21,000	SF	\$256.00	AUTOMATIC COMPUTER EQUIPMENT & DATA PROCESSING FACILITY W/ RAISED FLOOR, SPECIAL TEMPERATURE, HUMIDITY & OTHER ENVIRONMENTAL CONTROL REQMS.
40040		4.500	05	# 000 00	OTAND ALONE
13310	FLIGHT CONTROL TOWER	4,500	SF	\$903.00	STAND ALONE
14110 14112	AIRFIELD OPERATIONS BLDG AVIATION UNIT OPS BLDG	10,000 12,000	SF SF	\$287.00 \$194.00	FLIGHT OPERATIONS, AIRFIELD HQ FUNCTIONS W/O TOWER AVN UNIT HQ (ADMINISTRATIVE) & SUPPLY STORAGE
14113	ACCESS CONTROL FAC	280	SF	\$362.00	SENTRY STATION (THIS CATCODE INDICATES A BUILDING, AND
14114	CIDC FIELD OPERATIONS BLDG	9,400	SF	\$187.00	NOT JUST AN OPEN SIDED SHELTER)
14114	TRAINING AIDS CENTER	800	SF	\$157.00 \$154.00	
14132	READY BUILDING/ADACG FAC	20,000	SF	\$215.00	ARRIVAL & DEPARTURE AIRFIELD CONTROL GROUP FACILITIES
14162	SCIF FACILITY	25,000	SF	\$253.00	LIQUIDED DUMBING EQUIDMENT, ADD DUMBO, ADD OTODAGE TANKS (OFF
14165	FUELING/POL SUPPORT BLDG	195	SF	\$271.00	HOUSES PUMPING EQUIPMENT. ADD PUMPS, ADD STORAGE TANKS (SEE CATCODE 124XX) AND PAVING (SEE CATCODE 851XX)
141XX	COMMAND & CONTROL FACILITY (C2F)	143.000	SF	\$246.00	
141700	ADMINISTRATIVE AREAS	110,110	SF		THIS IS A DIVISION/CORPS LEVEL COMMAND BLDG. NEW CAT CODE FOR THE C2F STANDARD HAS NOT BEEN APPROVED AS OF THE PUBLICATION
				\$237.00	DATE. COST OF RAISED FLOORING, REDUNDANT ELECT/MECH SYSTEM, AND SECURITY ACCESS SYSTEM IS INCLUDED IN THE U/C. THE
	NETWORK/EMERGENCY OPERATIONS CTR	17,160	SF	\$283.00	COMPOSITE COST, \$246/SF, OF MULTIFUNCTIONAL C2F IS MADE UP OF
	SCIF AREAS	15,730	SF	\$266.00	ROUGHLY 77% ADMIN, 12% EOC & 11% SCIF AREAS
14179	OVERHEAD PROTECTION FOR COMPANY OPS FACILITY	8,000	SF	\$50.00	PRE-ENGINEER CANOPY W/ LIGHTING, POWER & LIGHTNING PROTECTION FOR A TYPICAL CO OPS FACILITY (CAT CODE 14185) EQUIPMENT LAYOUT AREA. THE COST OF HARDSTAND IS NOT INCLUDED IN THE U/C, AND SHOULD BE PRICED IN THE SUPPORT FACILITIES PAVEMENTS.
14182	BRIGADE HQS BLD (NEW STD DES)	40,100	SF	\$205.00	
14183	BATTALION HQS BLDG W/ CLASSROOMS	18,100	SF	\$198.00	
	COMPANY OPERATIONS FACILITY (COF)	VARIES			AREA FOR THE ADMIN & READINESS MODULES WILL BE LISTED & ESTIMATED SEPARATELY IN DD1391 AND ENG3086. THE U/C FOR ADMIN & READINESS MODULES WILL NOT EXCEED THE AMOUNTS SHOWN BELOW. FOR COVERED OVERHEAD PROTECTION, SEE CAT CODE 14179 ABOVE.
•	ADMINISTRATIVE MODULE	16,000	SF	\$198.00	
14185	READINESS MODULE (RM) - STORAGE BLDG	32,000	SF	\$132.00	15,000 SF REFERENCE SIZE REFLECTS THE AREA OF A TYPICAL 4-COMPANY (CO) ADMIN MODULE. 42,000 SF REPRESENTS THE AREA OF A TYPICAL 4-CO (2 SM CO @ 150/CO SOLDIERS & 2-MED CO @ 200/CO SOLDIERS) READINESS MODULE (RM). RM AREA PROVIDES FULLY CONDITIONED & SPRINKLED STORAGE SPACE FOR TA-50 LOCKERS AS WELL AS ARMS VAULT. THE COST FOR CONTRACTOR FURNISHED & INSTALLED LOCKERS IS INCLUDED IN THE U/C.
14955	WASH PLATFORM, ORG	1	EA	\$82,244.00	2 VEHICLES - LOW PRESSURE W/ WASHWATER TREATMENT
14960	GREASE RACK	1	EA	\$64,089.00	2 VEHICLES
14962	CENTRALIZED WASH FAC	1	EA	\$8,003,173.00	16 STATIONS WITH WASHWATER RECYCLING
17110		20.000	er.	. , ,	CAN BE STAND ALONE OR LOCATED WITHIN BATTALION HQS BLD,
17119	ORGANIZATIONAL CLASSROOM	32,000	SF	\$164.00	TRAINEE BARRACKS, ETC.

CODE	FACILITY TYPE	REFERENCE	<u>UNIT</u>	UNIT COST(U/C)	<u>REMARK</u>
CODE		SIZE		<u>\$/Unit</u>	
17120	GENERAL INSTRUCTION BLDG (GEN INST BLDG)	25,000	SF	\$226.00	DISTINCT FROM ORGANIZATIONAL CLASSROOMS (Cat Code 1711 MAY INCLUDE AUDITORIUM, LEARNING RESOURCE CTRS, LIBRARY & ADMIN SUPPORT SPACES
171XX	GENERAL INSTRUCTION BLDG - RANGE	0	SF	\$202.00	A NEW CAT CODE PENDING
17121	INDOOR FIRING RANGE	23,000	SF	\$315.00	
17122	RANGE OPERATIONS & STORAGE BLDG	8,000	SF	\$164.00	
17123	RANGE SUPPORT BLDG - AAR BLDG	2,600	SF	\$198.00	
	FIELD RANGE LATRINES	200	SF	\$321.00	USE CAT CODE 73075 FOR THIS FACILITY
17131	COMPACT ITEM REPAIR INST BLDG	6,000	SF	\$156.00	
17132	GEN ITEM REPAIR INST BLDG	25,000	SF	\$146.00	
17133	VEHICLE MAINTENANCE INST BLDG	30,000	SF	\$226.00	
17134	AIRCRAFT MAINTENANCE INST BLDG	35,000	SF	\$260.00	HIGH BAY BUILDING
17135	LABORATORY INST BLDG	9,000	SF	\$247.00	
17136	AUTO-AIDED INSTRUCTION BLDG	25,000	SF	\$260.00	
17137	MATERIAL HANDLING INST BLDG	40,000	SF	\$119.00	
17139	COVERED MESS	8,000	SF	\$81.00	
17140	ARMY RESERVE CENTER BLD	20,000	SF	\$192.00	FOR OTHER RESERVE FACILITIES USE UNIT COST FROM
17141	ARMED FORCES RESERVE CENTER BLD	20,000	SF	\$192.00	APPROPRIATE FACILITY TYPE NEW CAT CODE FOR RESERVE CTR
17142	ARMY NATIONAL GUARD/ARMORY	20,000	SF	φ192.00	THIS CAT CODE IS NO LONGER USED, WILL BE DELETED FROM
17180	ARMY NATIONAL GUARD READINESS CTR	20,000	SF	\$192.00	PAM 428-15 NEW CAT CODE FOR NG READINESS CTR
17100	SIMULATOR BUILDING (MOTION-BASED)	32,000	SF	\$192.00	BUILDING ONLY
17210	OBSERVATION TOWER/BUNKER	800	SF	\$231.00	COST EXCLUDES EQUIPMENT
17971	OBSERVATION TOWER/BUNKER	800	SF	\$231.00	COST EXCLUDES EQUIPMENT
	AIRCRAFT MAINTENANCE. HANGARS				
	MAINTENANCE GEN PURPOSE	23,000	SF	\$239.00	
	HIGH BAY MAINTENANCE	35,000	SF	\$273.00	
	CORROSION CONTROL	35,000	SF	\$275.00	
21110	PROPOSED NEW ARMY HANGAR STANDARDS				FOLLOWING STANDARDS ARE NOT APPROVED AS OF THE PUBLICATIO DATE, UNIT COSTS BEEN NOT BEEN VALIDATED
	AAC MAINTENANCE HANGAR	147,470	SF	\$245.00	Rotary Wing - Attack-Assault-Cavalry
	ASB MAINTENANCE HANGAR	157,500	SF	\$270.00	Rotary Wing - Aviation Support Battalion
	GSAB MAINTENANCE HANGAR	157,500	SF	\$275.00	Rotary Wing - Ground Support Aviation Battalion
	UAS MAINTENANCE HANGAR	134,400	SF	\$275.00	UAV MAINTENANCE HANGAR (UAVHGR)
21120	AIRCRAFT COMPONENT MAINTENANCE SHOP	20,000	SF	\$235.00	
21120	AIRCRAFT PAINT SHOP	70,000	SF	\$304.00	
21140	AIRCRAFT ENGINE TEST CELL FAC	13,000	SF	\$304.00 \$187.00	
21210	GUIDED MISSILE MAINTENANCE FAC	10,300	SF	\$208.00	
		10,000		Ψ200.00	
21410	VEHICLE MAINTENANCE SHOP - WHEELED	30,000	SF	\$208.00	
	VEHICLE MAINTENANCE SHOP - TRACK	25,000	SF	\$221.00	
	VEHICLE MAINT SHOP - NEW MT STANDARD	35,300	SF	\$208.00	COMBINED TRACKED & WHEELED FACILITY
21470	OIL STORAGE BLDG	700	SF	\$94.00	
21610	AMMO RENOVATION SHOP	6,500	SF	\$170.00	
21612	AMMUNITION SURVEILLANCE	13,000	SF	\$193.00	
21630	AMMUNITION DEMIL. FACILITY	82,500	SF	\$1,064.00	CHEMICAL DEMILITARIZATION FAC
21710	ELECTRONICS MAINTENANCE. SHOP	5,500	SF	\$146.00	
21740	AIRCRAFT AVIONICS MAINTENANCE SHOP	23,000	SF	\$219.00	
21850	BATTERY SHOP	5,000	SF	\$147.00	
21881	ABN EQUIP/PARACHUTE REPAIR	8,000	SF	\$235.00	
21885	INST MAINTENANCE SHOP, GEN PURPOSE	31,000	SF	\$141.00	
21910	ENG/HOUSING MAINTENANCE SHOP	31,000	SF	\$141.00	
21310		9,000	SF	\$247.00	
31010	CHEMISTRY LAB	9,000	OI.		
	CHEMISTRY LAB GROUND TRANS EQUIPMENT BLDG	31,000	SF	\$190.00	

CATEGORY CODE	FACILITY TYPE	REFERENCE SIZE	<u>UNIT</u>	UNIT COST(U/C) \$/Unit	REMARK
Ī		2,500	BL	\$93.00	
		5,000	BL	\$61.00	
		10,000	BL	\$45.00	ABOVE GROUND STEEL TANK INCLUDES FOUNDATION DIKE ANI
	LIQUID FUEL STORAGE - BULK	25,000	BL	\$34.00	EXTERIOR COATINGS (42 US GALS/BBL)
		50,000	BL	\$24.00	,
		100,000	BL	\$17.00	
411XX		250,000	BL	\$15.00	
		2,500	BL	\$93.00	
		5,000	BL	\$61.00	
		10,000	BL	\$50.00	ABOVE GROUND STEEL TANK W/ FLOAT PANS INCLUDES
	LIQUID FUEL STORAGE - BULK	25,000	BL	\$39.00	FOUNDATION DIKE AND INTERIOR EPOXY LINING & INTERIOR COATING
		50,000	BL	\$31.00	COATING
		100,000	BL	\$23.00	
		250,000	BL	\$19.00	
42180	IGLOO STORAGE W/ CRANE, DEPOT	5,000	SF	\$266.00	HIGH EXPLOSIVE MAGAZINE, WITH EARTH MOUNDING
42183	IGLOO STORAGE W/O CRANE, DEPOT	10,000	SF	\$200.00	GEN PURPOSE MAGAZINE
42183	IGLOO STORAGE W/O CRANE, DEPOT	10,000	OI.	φ∠00.00	SEE CATCODE 42180
42283	GEN PURPOSE MAGAZINE, INSTALLATION				SEE CATCODE 42183
	COLD STORAGE WAREHOUSE W/PROCESSING	11,000	SF	\$175.00	
43211	COLD STORAGE WAREHOUSE W/PROCESSING COLD STORAGE WAREHOUSE W/O PROCESSING	6,000	SF	\$235.00	
	GENERAL PURPOSE (G.P.) WAREHOUSE	-,,,,,		\$200.00	
44110	LOW BAY	40,000	SF	\$104.00	16 FT STACK HEIGHT
44110	HIGH BAY	100,000	SF	\$119.00	UP TO 26 FT STACK HEIGHT
	HIGH BAT	,	-	\$1.10.00	
44130	CONTROLLED HUMIDITY WHSE, DEPOT	40,000	SF	\$109.00	
44135	HAZARDOUS MATERIAL STORAGE	21,000	SF	\$157.00	
44150	FLAMMABLE MATERIAL STORAGE	8,200	SF	\$151.00	
44100	TE WIND BEE WITTERWE OF OUT OF	16,000	SF	\$54.00	OPEN SIDES
44181	VEHICLE STORAGE FACILITY	16,000	SF	\$74.00	ENCLOSED
44210	AC PARTS STORAGE BLDG	16,000	SF	\$92.00	
44220	G P STORAGE FACILITY, INST				SEE CATCODE 44110
44222	STORAGE SHED, COVERED	24,000	SF	\$37.00	OPEN SIDES
44224	DEPLOYMENT EQUIP STORAGE BLDG	3,400	SF	\$99.00	
44230	CONTROLLED HUMIDITY WHSE, INST			V	SEE CATCODE 44130
44240	FLAMMABLE MATERIAL STORAGE, INST				SEE CATCODE 44150
45110	OPEN STORAGE AREA, DEPOT				SEE CATCODE 851XX (PART -II)
45210	OPEN STORAGE AREA, INST				SEE CATCODE 851XX (PART -II)
F404C	MEDICAL CENTER/HOCKETAL		SF	\$493.00	
51010	MEDICAL CENTER/HOSPITAL		SF	\$532.00	REGIONAL MEDICAL CTR
53060	MEDICAL WAREHOUSE	44,000	SF	\$109.00	
53071	AMBULANCE GARAGE	480	SF	\$86.00	
54010	DENTAL CLINIC	20,000	SF	\$398.00	
55010	MEDICAL CLINIC	50,000	SF	\$334.00	ALSO REFERRED AS HEALTH CLINIC
	AMBULATORY CLINIC	100,000	SF	\$413.00	
61001	MILITARY ENTRANCE PROCESSING STATION (MEPS)	26,810	SF	\$237.00	
61050	ADMIN FACILITY GENERAL PURPOSE	25,000	SF	\$209.00	INCLUDES ADP CTR, AUDITORIUM, CAFETERIA, SECURITY. PRI WIRED WORK STATION COST NOT INCLUDED
	PRE-WIRED WORK STATION		EA	\$6,341.00	INCLUDES INSTALLATION COST
62010	UNDERGROUND ADMIN FAC	6,000	SF	\$235.00	HARDENED FACILITY
	FAMILY HOUSING W/SPRINKLERS OR FIRE RATED CONSTRUCTION	N/A	SF	\$115.00	CONUS \$/GROSS SF INCLUDES POST AWARD DESIGN COST
711XX	FAMILY HOUSING W/SPRINKLERS OR FIRE RATED				OCONUS \$/GROSS SF

OATECOR		DEFERENCE	l	LINUT OCCUTAVIO	
CATEGORY CODE	FACILITY TYPE	REFERENCE SIZE	<u>UNIT</u>	UNIT COST(U/C) \$/Unit	REMARK
71410	DETACHED GARAGES	240	SF	\$54.00	SINGLE CAR/MASONRY
				\$44.00	SINGLE CAR/WOOD
71411	CARPORT	240	SF	\$35.00	OPEN SIDES
72111	BARRACKS (UNACCOMPANIED PERSONNEL HOUSING, ENLISTED) - 192 PERSON PERMANENT PARTY	99,500	SF	\$199.00	DOES NOT INCLUDE FREE STANDING EQUIPMENT. NOTE: ALL UNFINISHED OR FINISHED ATTIC AREAS WITH AN AVERAGE HEIGHT OF 6' 11' (2100 MM) MEASURED FROM THE UNDERSIDE OF THE STRUCTURAL SYSTEM AND AREAS WITH PERIMETER WALLS, MEASURING A MINIMUM HEIGHT OF 4'-11" (1500 MM), MUST BE COUNTED AS FULL SCOPE.
	SOLDIER COMMUNITY BLDG				NO LONGER PROGRAMMED
721XX	WARRIORS IN TRANSITION COMPLEX (WT)				CATCODE FOR THE WT COMPLEX NOT CONFIRMED. UNIT COSTS FOR W COMPLEX ARE ASSUMED TO 17% HIGHER THAN THE PERMANENT PARTY
	BARRACKS BLDG, 192 PERSON	134,400	SF	\$233.00	FACILITIES DUE TO CONFORMANCE WITH THE UNIFORM FED ACCESSIBILITY SECTION (UFAS) AND THE AMERICAN W/ DISABILITY ACT
	14188 - BATTALION HQS w/o CLASSROOMS	8,100	SF	\$208.00	ACCESSIBILITY GUIDELINES (ADAAG). THE SIZE ADJUSTMENT TABLE
	14188 - COMPANY HQ BLDG	10,300	SF	\$204.00	(Table -A) WILL BE USED TO DETERMINE UNIT COSTS FOR OTHER SIZES OF BARRACKS, BATTALION HQ AND COMPANY HQ BLDGS.
	74033 - SOLDIER FAMILY ASSISTANCE CTR, LGE	15,000	SF	\$208.00	O. S. M. O.O.O., DAT TALLOR TICK THAN COUNT AIRT TICK DEDUCE.
72121	ADVANCED INDIVIDUAL TRAINING COMPLEX (AIT)				A TYPICAL AIT COMPLEX HOUSES APPROX. 1,200 TRAINEES, 300 EA, IN 4 BARRACK/CO OPS BLDS. @92,800 SF/BLD, BN HQS, AND A 1-BN DINING FACILITY. THE AREA FOR EACH FACILITY WITHIN THE COMPLEX WILL BE LISTED SEPARATELY IN DD1391 AND ENG3086. THE NORMALIZED U/C FOI EACH FACILITY TYPES WILL NOT BE EXCEED.
	72121 - BARRACKS/ COMPANY (CO) OPS BLD	371,220	SF	\$192.00	
	14183 - BATTALION (BN) HQS W/CLASSRMS	13,285	SF	\$198.00	
	14182 - BRIGADE HEADQUARTERS, IF NEEDED	9,650	SF	\$205.00	
	72110 - DINING FACILITY - 1 BN, 1300 PN, 544-SEAT	33,760	SF	\$293.00	DINING FACILITY INCLUDES COVERED QUEUING AREA AT FULL SCOPE.
	72110 - DINING FACILITY- 2 BN, 2600 PN, 1088-SEAT	62,390	SF	\$280.00	PN = PERSON
	BASIC TRAINEE (BT) & ONE STATION UNIT TRAINING (BT/OSUT) COMPLEX				A TYPICAL BT/OSUT COMPLEX HOUSES APPROX. 1,200 TRAINEES (240 EA IN 5 OPEN BAY BARRACK/CO OPS BLDS. @64,680 SF/ BLD), BN HQS, AND 1-BN DINING FACILITY. LAWN EQUIPMENT STORAGE (2,000 SF), 1/4 MILE ATHLETIC TRACK (8 LANES), AND CENTRAL ENERGY PLANT, IF NEEDED, SHOULD ALSO BE PROGRAMMED FOR THE COMPLEX.
72181	BARRACKS BLDG (W/ CO OPS SPACE)	323,400	SF	\$184.00	FULL SCOPED COVERED TRAINING AREAS UNDER BARRACK BUILDINGS
	BATTALION (BN) HQS W/CLASSROOMS	23,335	SF	\$189.00	ARE INCLUDED IN THE GSF. DINING FACILITY INCLUDES COVERED QUEUING AREA AT FULL SCOPE. THE AREA FOR EACH FACILITY WITHIN
	DINING FACILITY- 1 BN, 1300 PN, 544 SEATS	33,760	SF	\$293.00	THE COMPLEX WILL BE LISTED SEPARATELY IN DD1391 AND ENG3086.
	DINING FACILITY - 2 BN, 2600 PN, 1088 SEATS	62,390	SF	\$280.00	THE NORMALIZED U/C FOR EACH FACILITY TYPES WILL NOT BE EXCEED. PN = PERSON
	OPERATIONAL READINESS TRAINING COMPLEX (OF	RTC)			NO NEW CAT CODE ASSIGNED
	14184 - BATTALION HQ, TRANSIENT	11,235	SF	\$150.00	
	14186 - COMPANY OPS FAC, TRANSIENT	19,580	SF	\$161.00	GROSS AREA IS BASED ON THE 6-COMPANY OPTION
	14187 - BRIGADE HQ, TRANSIENT	10,240	SF	\$168.00	
	21406 - VEHICLE MAINTENANCE SHOP, ORTC	11,855	SF	\$145.00	
	72212 - DINING FACILITY, 720 PERSON, ORTC	16,960	SF	\$315.00	
	72212 - DINING FACILITY, 1428 PERSON, ORTC	20,990	SF	\$308.00	
	72114 - ENLISTED BARRACKS, ORTC	30,560	SF	\$148.00	
	72412 - SN. ENLISTED OFFICERS QTRS, ORTC 44222 - COMPANY SHEDS	22,560	SF	\$181.00	
	44222 - COIVIFAINT STIEUS	800	SF	\$77.00	
72210	DINING FACILITY - FOR PERMANENT PARTY, 1300 PERSON, 544 SEATING	26,500	SF	\$300.00	INCLUDES MCA FUNDED KITCHEN EQUIPMENT & INSTALLATION COSTS. THE SIZE ADJUSTMENT TABLE (Table -A) WILL BE USED TO DETERMINE UNIT COSTS FOR 500-PERSON (18,000 SF) & 800-PERSON (19,500 SF) DINING FACILITY
72410	UNACCOMPANIED OFFICERS QUARTERS	44,000	SF	\$238.00	DOES NOT INCLUDE FREE-STANDING KITCHENETTE EQUIPMENT
72412	UNACCOMP. OFFICERS QTRS - TRANSIENT	44,000	SF	\$238.00	
73010	FIRE STATION, COMMUNITY	8,000	SF	\$252.00	
73016	POLICE/LAW ENFORCEMENT STATION	4,200	SF	\$263.00	

CATEGORY CODE	FACILITY TYPE	REFERENCE SIZE	<u>UNIT</u>	UNIT COST(U/C) \$/Unit	<u>REMARK</u>
73017	CHAPEL	15,000	SF	\$307.00	USE THIS UNIT COST (\$307/SF) FOR THE ARMY STANDARD CHAPEL SIZE 17,900 SF WITH SEATING FOR 202 PN. USE THE SIZE ADJUSTMENT TABLE FOR THE OTHER TWO STD. CHAPEL SIZES - CHAPEL CENTER, 22,600 SF FOR 400 PN SEATING AND CHAPEL COMPLEX, 32,900 SF FOR 600 PN SEATING
73018	RELIGIOUS EDUCATION FAC	15,000	SF	\$182.00	PRICE THIS SPACE SEPARATELY FROM THE WORSHIP SPACES IF COLLOCATED WITH A CHAPEL BUILDING
73019	CHAPEL FAMILY LIFE CENTER	15,000	SF	\$182.00	SPACE FOR FAMILY COUNSELING, PASTORAL EDUCATION, COMMUNITY BASED ACTIVITIES IN SUPPORT OF THE COMMAND RELIGIOUS PROGRAM STANDARD SIZES: 11,770 SF (200-300 PN) AND 16,970 (300-450 PN)
73046	DEPENDENT SCHOOLS				
	ELEMENTARY		SF	\$206.00	
	JUNIOR HIGH SCHOOL		SF	\$206.00	
	HIGH SCHOOL		SF	\$217.00	
74010	AUDITORIUM, GEN PURPOSE	4,000	SF	\$172.00	
74011	BOWLING CENTER	7,800	SF	\$237.00	W/ EQUIP - 8 LANES (PIN SPOTTING EQUIP & AUTO. SCORING DEVICE)
74012	CAFETERIA	5,000	SF	\$212.00	
74014	CHILD DEVELOPMENT CENTER	25,000	SF		THIS CAT CODE IS NO LONGER USED, WILL BE DELETED FROM DA PAM 415-28
74016	CHILD DEVELOPMENT CTR-SCHOOL AGE	25,000	SF	\$225.00	NEW CAT CODE, DOES NOT INCLUDE PLAYGROUND
74017	CHILD DEVELOPMENT CTR - UNDER 6 YEAR AGE	25,000	SF	\$231.00	DOES NOT INCLUDE FREE-STANDING FOOD SERVICE EQUIPMENT OR
74021	COMMISSARY W/ OPERATIONAL EQUIPMENT	85,000	SF	\$199.00	
74022	SKILL DEVELOPMENT CENTER	22,000	SF	\$148.00	NON-AUTOMOTIVE CRAFTS/GENERAL SKILL
74023	CREDIT UNION	3,000	SF	\$168.00	
74024	SKILL DEVELOPMENT CENTER	15,000	SF	\$141.00	AUTOMOTIVE CRAFTS
74025	EDUCATION CENTER	30,000	SF	\$243.00	ARMY CONTINUING EDUCATION SYSTEM FACILITY
74028	PHYSICAL FITNESS CENTER	30,000	SF	\$192.00	EXCLUDES INDOOR SWIMMING POOL (74042)
74030	SPORT PRO SHOP	28,000	SF	\$173.00	INCLUDES SNACK BAR, PRO SHOP SALES AREAS
74032	GUEST HOUSE	30,000	SF	\$205.00	TEMPORARY LODGING FACILITIES
74033	COMMUNITY SERVICE CENTER	5,000	SF	\$225.00	ALSO REFERRED TO AS FAMILY SERVICE CENTER
74041	MAIN LIBRARY	12,000	SF	\$238.00	
74047	NCO OPEN DINING / SERVICE CLUB	22,500	SF	\$323.00	ALSO REFERRED TO AS CONSOLIDATED OPEN DINING FAC
74048	OFFICER OPEN DINING	22,500	SF		SEE CATCODE 74047
74053	MAIN EXCHANGE	80,000	SF	\$164.00	W/ MALL SERVICE SHOPS
74056	EXCHANGE SERVICE OUTLET				SEE CATCODE 74053
74066	YOUTH CENTER	25,000	SF	\$235.00	
74068	RECREATION CENTER	20,000	SF	\$235.00	
74070	INDOOR ROLLER SKATING RINK	20,000	SF	\$132.00	
74072	INDOOR SWIMMING POOL	6,000	SF		25 METER NATATORIUM
74075	RECREATIONAL SUPPORT BUILDING	5,000	SF	\$92.00	ALSO RECREATIONAL EQUIP CHECKOUT
75018	PLAYGROUND, GEN PURPOSE				
73010	CHILD DEVELOPMENT CTR OUTDOOR PLAY AREA:				
	60 CHILD CAPACITY	0.000	05	£40.00	
	99 CHILD CAPACITY	6,000	SF	\$40.00	
	122 CHILD CAPACITY	9,900	SF SF	\$32.00 \$28.00	
	145 CHILD CAPACITY	12,200	SF	\$28.00	COST OF PLAY AREA INCLUDES FENCE, EQUIPMENT, AND SHED
	198 CHILD CAPACITY	14,500 19,800	SF	\$23.00	SOUT OF FLAT ANEA INCLUDES FENCE, EQUIFMENT, AND SHED
	244 CHILD CAPACITY		SF	\$18.00	
	303 CHILD CAPACITY	24,400 30,300	SF	\$16.00 \$16.00	
	<u> </u>	30,300	51	ψ10.00	
75022	MULTI-PURPOSE ATHLETICS FIELD	1	EA	\$196.544 00	TURFED AREA EXCLUDES SITE PREP & ELECTRICAL LIGHTING
	OUTDOOR SWIMMING POOL		SF	\$111.00	
75030					
75030 891XX	PLANT/UTILITIES BLDG	13,000			
		13,000	SF	\$170.00	

CATEGORY CODE	FACILITY TYPE	REFERENCE SIZE	<u>UNIT</u>	UNIT COST(U/C) \$/Unit	<u>REMARK</u>
	NO CATEGORY CODE IS AVAILABLE FOR FOLLOWING	G ITEMS:			
	FOUNDATIONS, UNUSUAL				
	PILING, TREATED WOOD, 50' L, 12" BUTT		LF	\$33.00	
	PILING, CONCRETE 14" SQUARE		LF	\$50.00	
	PILING, CONCRETE 16" SQUARE		LF	\$53.00	
	PILING, CONCRETE 18" DIAMETER		LF	\$60.00	
	PILING, STEEL H, 50' LONG, HP12X53		LF	\$41.00	
	PILING, STEEL PIPE 12"D, CONC. FILLED		LF	\$50.00	

CATEGORY		OLIANITITY/	LINIT	UNIT COST	DEMARK
CODE	<u>ITEM</u>	QUANTITY	<u>UNIT</u>	<u>\$/UNIT</u>	<u>REMARK</u>
81150	UNINTERRUPTIBLE POWER SUPPLY (UPS)		KW	\$4,893.00	UTILITY SYSTEM TO ENSURE CONTINUOUS ELECTRIC PWR SUPPLY DURING OUTAGES AND
					INCLUDES ELECTRIC SYSTEM COMPONENTS (RECTIFIER, CHARGER, BATTERY, INVERTER, ETC)
81160	STANDBY GENERATOR	75	KW	\$533.00	UTILITY SYSTEM TO ENSURE CONTINUOUS ELECTRIC PWR
		125	KW	\$383.00	SUPPLY DURING OUTAGES. COST INCLUDES ELECTRIC
		200	KW	\$305.00	SYSTEM COMPONENTS SUCH AS RECTIFIER, CHARGER, BATTERY, INVERTER, TRANSFER SWITCH ETC)
		300	KW	\$260.00	
89111	POWER PLANT BUILDING		SF	\$170.00	STAND ALONE BUILDING TO HOUSE EQUIPMENT AND STATIC SWITCHGEAR NECESSARY TO GENERATE ELECTRIC POWER
81230	EXTERIOR LIGHTING w/ UNDER GROUND DISTRIBUTION		LF	\$33.00	BASED ON WOOD POLE, 1" PVC DIRECT BURIAL CONDUIT, WITH 3' DEEP EXCAVATION, #10 WIRE AND 500 WATT MV LAMINAR FIXTURE
81241	OVERHEAD ELECTRIC LINES				
	MEDIUM TO HEAVY DISTRIBUTION LINES		MI	\$112,000.00	BASED ON WOOD POLES 15 KV TO 69 KV SHORT LINES, WOOD POLE, 3 PH, 4 WIRE
	OVERHEAD W/ WOOD POLES		LF	\$26 - 31.00	BASED ON POLE SPACING 250', WITH 15 KV MAX, 3 PHASE, 4 WIRE
81242	UNDERGRD ELECTRIC LINES				
01212	DIRECT BURIAL:				COSTS INCL TRENCH, SAND BASE, BACKFILL AND MARKER
	# 1/0		LF	\$18.00	3/C - 600V DB
	# 4/0		LF	\$30.00	3/C - 600V DB
	UG DUCTS:				
	1-WAY-4"		LF	\$23.00	
	2-WAY-4"		LF	\$28.00	TYPE EB, PVC, CONCRETE ENCASED 3" EACH WAY, INCLUDES EXCAVATION AND BACKFILL TO 3
	4-WAY-4"		LF	\$35.00	FEET DEEP
	6-WAY-6"		LF	\$52.00	
81320	SUBSTATION, LOAD UNINTER. SWITCH 600 AMP		KVA	\$75.00	300 KVA & BELOW W/CLF FUSES. DOES NOT INCL BUILDING (89113)
01000	TRANSFORMERS				PRIMARY RELITA OR VIOTE 1100 VIOTE ON PARVI
81360	TRANSFORMERS 150 KVA		- A	#40.040.00	PRIMARY DELTA OR Y,277/480 V SECONDARY
	500 KVA		EA EA	\$12,610.00	
	1,000 KVA		EA	\$18,860.00 \$34,060.00	OIL-FILLED, PAD MOUNTED, 3-PHASE
	2,000 KVA		EA	\$54,060.00 \$50,110.00	
	2,000 KV/K		LA	ψ30,110.00	
82110	HEAT PLANT COAL-FIRED				
	STEAM:				
	50 MBTU/H (MILLION BTU/H)		EA	\$4,118,660.00	
	100 MBTU/H		EA	\$7,552,710.00	UTILITY SYSTEM THAT GENERATE HEAT FROM COAL AND INCLUDES FURNACE, BOILERS, WATER
	150 MBTU/H		EA	\$10,762,950.00	SUPPLY, PUMPS, PIPELINES, & FUEL & ASH
	200 MBTU/H		EA	\$13,788,950.00	HANDLING FACILITIES.
	HITEMP WATER:				
	50 MBTU/H		EA	\$3,927,100.00	INCLUDES FURNACE, BOILERS, WATER SUPPLY,
	100 MBTU/H		EA	\$6,305,460.00	PUMPS, PIPELINES, & FUEL & ASH HANDLING
	150 MBTU/H		EA	\$8,408,020.00	FACILITIES
	200 MBTU/H		EA	\$10,762,950.00	
82120	HEAT PLANT OIL-FIRED				
	STEAM:				
	10 MBTU/H		EA	\$743,660.00	
	50 MBTU/H		EA	\$2,554,790.00	
	100 MBTU/H		EA	\$4,892,960.00	INCLUDES PLANT EQUIP & OIL HANDLING FACILITY

CATEGORY		OLIANITITY	LINUT	UNIT COST	DEMARK
CODE	<u>ITEM</u>	QUANTITY	UNIT	\$/UNIT	<u>REMARK</u>
	150 MBTU/H		EA	\$7,098,260.00	
	200 MBTU/H		EA	\$8,597,860.00	
	HITEMP WATER:				
	10 MBTU/H		EA	\$672,190.00	
	50 MBTU/H		EA	\$2,372,800.00	
	100 MBTU/H		EA	\$4,427,350.00	INCLUDES PLANT EQUIP & OIL HANDLING FACILITY
	150 MBTU/H		EA	\$6,305,460.00	
	200 MBTU/H		EA	\$8,200,340.00	
82210	STEAM CONDENSATE LINES - UNDERGROUND				STEAM SUPPLY & RETURN LINES, COST INCLUDES INSULATION, FITTINGS, ACCESSORIES, 3 FEET EXCAVATION, BACKFILL AND TESTING
	COMMON CONDUIT:				
	11-1/4"		LF	\$218.00	STM: 2", RET: 1-1/2"
	10"		LF	\$199.00	STM: 1-1/2", RET: 1-1/2"
	10"		LF	\$189.00	STM: 1-1/4", RET: 1"
	10"		LF	\$187.00	STM: 1", RET: 1"
	SINGLE CONDUIT:				STEAM OR HITEMP WATER, COST INCLUDES FITTINGS, ACCESSORIES, 3 FT EXCAVATION, BACKFILL AND TESTING
	6"		LF	\$119.00	1-1/4" PIPE
	8"		LF	\$129.00	1-1/2" PIPE
	8"		LF	\$131.00	2" PIPE
	10"		LF	\$157.00	2-1/2" PIPE
	10"		LF	\$168.00	3" PIPE
	11-1/8"		LF	\$203.00	4" PIPE
	15"		LF	\$233.00	6" PIPE
82220	HOT WATER LINES - HIGH TEMPERATURE COMMON CONDUIT - UNDERGROUND				HOT WATER SUPPLY & RETURN LINES INCLUDES FITTINGS, ACCESSORIES, 3 FT
	COMMON CONDON CINDERCINO				EXCAVATION, BACKFILL & TESTING
	12"		LF	\$170.00	HW: 1", RET: 1"
	12-7/8"		LF	\$208.00	HW: 1-1/2", RET: 1-1/2"
	15"		LF	\$256.00	HW: 2", RET: 2"
	18"		LF	\$281.00	HW: 3", RET: 3"
	21"		LF	\$326.00	HW 4:, RET: 4"
82220	STEAM DISTRIBUTION MANHOLE, PREFAB STEEL, 8' X 6' HT		EA	\$17,200.00	VENT, MH VENT, NORMAL PIPING & INSTALLATION CONDUIT, INCL LADDER
82410	GAS PIPE LINES - HEATING GAS TRANSMISSIO	N			SEE CHART A
82610	AIR CONDITIONING/REFRIG PLANT	1			DOES NOT INCLUDE AIR-CONDITIONING/
020.0	NEW BLDG EXISTING BLDG		TON TON	\$3,384.00 \$4,734.00	REFRIGERATION PLANT, COST INCLUDES
024.42	INDUCTRIAL WACTE TREATMENT DI ANT		F.*	Φ4 004 540 00	
83140	INDUSTRIAL WASTE TREATMENT PLANT		EA	\$1,824,540.00	500,000 GPD , TREATMENT EQUIPMENT ONLY, DOES NOT INCLUDE A BUILDING TO HOUSE THE EQUIPMENT
83150	SEWAGE LIFT STATION		EA	\$210,170.00	1,000 GPM; EQUIPMENT ONLY, DOES NOT INCLUDE A BUILDING TO HOUSE THE EQUIPMENT
83210	SANITARY SEWER				SEE CHART A
50210	CAUTANT GENTLIN				SEE STRICT A

CATEGORY				UNIT COST	
CODE	<u>ITEM</u>	QUANTITY	<u>UNIT</u>	\$/UNIT	REMARK
83210	SANITARY SEWER MANHOLES:			<u>ψ/ ΟΙΝΙ Ι</u>	MANHOLE, 4 FT ID, INCLUDES FOOTING, EXCAVATION & BACKFILL, 24" DIA COVER & FRAME
	CONCRETE, CAST-IN-PLACE				
	UP TO 8' DEEP		VLF	\$569.00	
	OVER 8' DEEP		VLF	\$609.00	
	CONCRETE, PRECAST:		\	# 000 00	
	UP TO 8' DEEP		VLF	\$393.00	
	OVER 8' DEEP		VLF	\$431.00	
832XX	MISC:				
002701	CATCH BASINS		EA	\$2.616.00	4 FT DEEP
	CATCH BASINS		EA	\$3,036.00	6 FT DEEP
	CURB INLETS		EA	\$617.00	GUTTERMOUTH
83310	INCINERATOR		EA	\$49,890.00	200 LB PER HR PER UNIT (EQUIPMENT ONLY, BUILDING NOT INCLUDED)
84210	WATER DISTRIBUTION LINES				SEE CHART A
84472	WATER PUMP STATION, NONPOTABLE				
	500 GPM		EA	\$76,480.00	
	1,000 GPM		EA	\$101,520.00	EQUIPMENT ONLY, INCLUDES PUMPS, VALVES, AUTO CONTROLS, FILLINGS & ACCESSORIES,
	2,000 GPM		EA	\$114,160.00	COMPLETE W/ INSTALLATION COSTS, DOES NOT
	2,500 GPM		EA	\$117,530.00	INCLUDE A BUILDING TO HOUSE THE EQUIPMENT
84610	WATER STORAGE TANK				
	ELEVATED WATER STG TANK			*********	
	50,000 GA		EA	\$381,270.00	
	100,000 GA		EA	\$478,280.00	INCLUDES STEEL STORAGE TANK STANDBURE
	150,000 GA		EA	\$573,040.00	INCLUDES STEEL STORAGE TANK STANDPIIPE, 125 FEET HIGH TOWER, VALVES AND STD
	250,000 GA		EA EA	\$659,890.00	FOUNDATIONS, BUT DOES NOT INCLUDE
	500,000 GA 750,000 GA		EA	\$1,061,460.00 \$1,466,310.00	PUMPHOUSE BUILDING
	1,000,000 GA		EA	\$1,863,580.00	
	1,000,000 GA		EA	\$1,063,360.00	
	GROUND STG TANK (WATER)				
	100,000 GA		EA	\$263,990.00	
	250,000 GA		EA	\$437,670.00	
	500,000 GA		EA	\$539,160.00	INCLUDES CONCRETE TANK AND STD
	1,000,000 GA		EA	\$724,170.00	FOUNDATIONS, BUT DOES NOT INCLUDE EXTERNAL PIPING AND PUMPING
	2,000,000 GA		EA	\$1,043,390.00	EXTERNAL FIFING AND POMPING
	4,000,000 GA		EA	\$1,650,430.00	
84620	RESERVOIR, POTABLE				
	250,000 GA		EA	\$426,360.00	INCLUDES 6" CONCRETE FLOOR SLAB, ORDINARY
	500,000 GA		EA	\$568,560.00	EXCAVATION AND PUMPING WITHIN
	1,000,000 GA		EA	\$785,060.00	
	2,000,000 GA		EA	\$1,206,760.00	
	4,000,000 GA		EA	\$1,983,180.00	
851XX	ROADS/ PAVEMENTS				INCLUDE DRIVEWAYS, EXCLUDES VEHICLE PARKING, EARTHWORK (CUT & FILL, CATCODE 93410, COST NOT INCLUDED)

CATEGORY	ITEM	QUANTITY	UNIT	UNIT COST	DEWVDR.
CODE	<u>ITEM</u>	QUANTITY	UNIT	\$/UNIT	<u>REMARK</u>
	ASPHALT CONCRETE SURFACE				
	1-1/2"		SY	\$5.20	FOR DAVIENENT ONLY A/O OUDEAGE LIDDAN
	2"		SY	\$6.80	FOR PAVEMENT ONLY, A/C SURFACE, URBAN AREA
	3"		SY	\$9.90	MILM
	CONCRETE SURFACE - NON REINFORCED				
	6"		SY	\$32.00	
	8"		SY	\$44.00	12 FEET PASS FIXED FORM, JOINTS, FINISHING,
	10"		SY	\$51.00	
	12"		SY	\$59.00	
	BASE COURSE (CRUSHED STONES), THICKNE	SS:			
	4"		SY	\$7.10	
	6"		SY	\$10.00	
	8"		SY	\$13.00	INCLUDES MATERIAL, EQUIPMENT & COMPACTION
	12"		SY	\$20.00	
	BASE COURSE (BANK RUN GRAVEL), THICKN	ESS:			INCLUDES MATERIAL, TRANSPORT & PLACEMENT
	6"		SY	\$5.50	,
	9"		SY	\$8.20	
	12"		SY	\$11.00	
	BASE COURSE (BITUM. CONCRETE) THICKNE	SS·		*******	
	4"		SY	\$12.00	
	6"		SY	\$18.00	
	8"		SY	\$23.00	
	10"		SY	\$30.00	
	10		31	φ30.00	
	6" x 8" CURB/GUTTER (CONCRETE)		LF	\$17.00	INCLUDES CURB & GUTTER AND STEEL FORMS
852XX	SIDEWALK & OTHER PAVEMENTS				INCLUDES VEHICLE PARKING AREAS, PEDESTRIAN WALKWAYS, ETC. SEE CATCODE 851XX FOR DRIVEWAYS & ROADS
85220	SIDEWALKS & WALKWAYS				
85220			C.E.	¢4.50	
	4" CONCRETE CAST IN PLACE, NO BASE		SF	\$4.50	INCLUDES GRADING & FORMING
	2-1/2" ASPHALT CONCRETE		SF	\$2.10	
86010	RAILROAD TRACKS W/TIES AND BALLAST		LF	\$322.10	STANDARD GAUGE RAILROAD, STEEL TIES IN CONC W 100# RAIL, FASTNERS & PLATES COMPLETE. PARALLEI TRACKS COUNTED SEPARATELY
07440	OTODM OF WED		_		OFF OHADT A
87110	STORM SEWER		LF		SEE CHART A
87210	FENCING & WALLS				
	CHAIN LINK:				9 GAUGE GALVANIZED STEEL
	6 FT HIGH		LF	\$20.00	TYPE A (9 GA) INCLUDES 3 STRAND BARBED WIRE
	8 FT HIGH		LF	\$24.00	
	10 FT HIGH		LF	\$29.00	
87250	ENTRANCE GATES				
	4' WIDE, SINGLE SWING, 6' HIGH W/ GATE POST	rs	EA	\$327.00	
	12' WIDE, SINGLE SWING, 6' HIGH W/ GATE POS	STS	EA	\$901.00	FOR MOTOR OPERATED (SWING) ADD \$2,000
	24' WIDE, SWING GATE - DOUBLE, 6' HIGH		EA	\$1,574.00	FOR MOTOR OPERATED (SWING) ADD \$3,150
	36' WIDE, SLIDING GATE - DOUBLE, 8' HIGH		EA	\$2,166.00	* * * * * * * * * * * * * * * * * * * *
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88110	AUTOMATIC WATER SPRINKLER SYSTEMS (2,000 SF, PROTECTED AREA ONLY, INCL GATE VALVE)				

CATEGORY				UNIT COST	
CODE	<u>ITEM</u>	QUANTITY	<u>UNIT</u>	\$/UNIT	<u>REMARK</u>
<u> </u>	WET PIPE		SF	\$4.30	PROTECTED AREA ONLY
	DRY PIPE		SF	\$4.80	
	DELUGE		SF	\$6.40	PROTECTED AREA ONLY, EXCLUDES DELUGE VALVE, PUMPING ELEVATED WATER STG, & EXTERIOR PIPING
89240	FIRE HYDRANTS, STANDARD 6' DEPTH		EA	\$3,227.00	INCL EXCAVATION & BACKFILL, 4-1/2" CUTOFF VALVE, PIPING & CONNECTION TO MAIN LINE
93210	SITE CLEARING & GRADING				
	SITE CLEARING & GRUBBING		AC	\$4,193.00	CLEAR & GRUB MEDIUM WOODED AREA, GRUB & REMOVE STUMPS & HAUL
	SITE CLEARING, MEDIUM		SY	\$0.60	SUNDRY SURFACE ITEM CLEARING EXCL. WOODS & PAVING
	GRADING:				
	ROUGH - LARGE OPEN AREA		SY	\$2.70	AVG 2' C/F, SPREAD DUMP FILL, NO COMPACTION
	FINE		SY	\$1.30	3 PASSES WITH DOZER, COMPACTION
	BORROW, UNCLASSIFIED MATERIAL		CY	\$18.00	BUY, LOAD AT PIT, UPTO 5-MILE RT HAUL, & SPREAD W/ DOZER
93220	LANDSCAPE AND PLANTING				
	TOPSOIL:				
	HAUL & SPREAD		CY	\$21.00	INCLUDES MATERIAL, TRANSPORT & PLACEMENT
	STRIP/STOCKPILE		SY	\$1.60	6" DEEP
	MULCHING:				
	WOOD CHIPS		SY	\$2.70	2" DEEP
	GRASS:				
	SEEDING		SY	\$0.80	
	SODDING		SY	\$6.90	1" DEEP BLUE GRASS
93310	DEMOLITION W/ DISPOSAL				
33010	BUILDING: 10,000 SF, 10' EAVE HEIGHT, 25 MILES HAUL, NO DISPOSAL (DUMP) FEE INCLUDED. RECYCLE WILL REDUCE DISPOSAL COST:	WORK ITE	EM SHOU		DSAL NOT INCLUDED. COST ESTIMATE FOR THIS SITE SURVEY/EVALUATION AND LOCAL ENTIFIED.
	CONCRETE STRUCTURE		PER BLDG SF	\$5.60	FOUNDATION REMOVAL OR VALUE OF RECOVERED CONCRETE AGGREEGATE FOR USE AS ENGINEERED BACKFILL NOT INCLUDED
	STEEL FRAME BUILDING		PER BLDG SF	\$4.30	FOUNDATION REMOVAL OR SALVAGE VALUE CREDIT FOR STEEL MEMBERS AND STEEL SCRAP NOT INCLUDED
	MASONRY BLDG		PER BLDG SF	\$4.80	FOR SIMPLE CONCRETE BLOCK CONSTRUCTION, NO FOUNDATION
	WOOD FRAME		PER BLDG SF	\$3.60	FOR POST AND BEAM OR STUD WALL
	CONCRETE SLAB 6" THICK (IF SEPARATE FROM BLDG)		SF	\$2.30	6 INCH THICK WITH TURNED DOWN FOOTING
	BUILDING INTERIOR		SF	\$0.00	NOT REQUIRED FOR CONVENTIONAL DEMOLITION
	LEAD BASED PAINT (LPB) REMOVAL/DISPOSAL		N/A	\$0.00	
	NOTE: LPB IS NOT REQUIRED TO BE ABATED IN COMPLIANCE WITH EM 385-1-1. UNLESS CINSTALLATION LANDFILL.				G DEMOLITION, UNLESS SPECIFICALLY REQUIRED COATED W/ LBP MAY BE PLACES IN THE
	CONCRETE PAVEMENT, UPTO 4" THICK		SY	\$16.00	1.32/SF, INCLUDES 2" GRAVEL
	BITUMINOUS PAVEMENT, 2" THICK		SY	15.00	\$1.25/SF, INCLUDES 2" GRAVEL
93410	CUT AND FILL				
	EARTH:				
	CUT & FILL, 200 HP DOZER, 300 FT HAUL		CY	\$8.20	COMMON EARTH FILL & SPREAD

CODE CODE	<u>ITEM</u>	QUANTITY	<u>UNIT</u>	UNIT COST	REMARK
CODE	EXCAVATION, BULK DOZER		CY	<u>\$/UNIT</u> \$8.80	COMMON EARTH, HAULING 2 MILE ROUND TRIP
	EXCAVATION, TRENCH-MACHINE		CY	\$6.00	4 FT DEEP, 2 FT WIDE, MEDIUM SOIL
	EXCAVATION TRENCH-HAND		CY	\$46.00	2 TO 6 FT DEEP, MEDIUM SOIL
	BACKFILL-MACHINE		CY	\$7.00	INCLUDES COMPACTION
	BACKFILL-HAND		CY	\$34.00	INCLUDES COMPACTION
	Broth ILL 11/00			ψο 1.00	INCLUDED COMM NOTION
	ROCK:				
	EXCAVATION ROCK, HARD		CY	\$89.00	DRILL BLAST BY MACHINE
	EXCAVATION SHALE, MEDIUM		CY	\$48.00	RIPPER DOZER AND LOAD
	EXCAVATION ROCK TRENCH-HAND		CY	\$149.00	BY HAND /AIR TOOL
88040	AT/FP VEHICULAR BARRICADES				
	Barrier Standards				
	SD-STD-02.01 specifies perpendicular b	arrier impact h	v a 15 00	0 lb (6810 kg)	vehicle
	"K" indicates the Dept of State certified				
	"L" indicates the test vehicle's distance				raing
					10 0 % (045)
	K12 = 50 mph (880 kph) K8 = 40 mph (65 kph)				L3 = 3 ft. (915 mm) L2 = 3 ft. to 20 ft. (915 mm to 6.1 m)
	K4 = 30 mph (48 kph)				L1 = 20 ft. to 50 ft. (6.1 m to 15.3 m)
	PORTABLE BEAM BARRICADE		EA	\$26,020.00	RATED K4/L2, NO FDN REQUIRED, MOVE WITH FORKLIFT, STOPS 15,000 LB VEHICLE AT 30 MPH
	PORTABLE HYDRAULIC BARRICADE		EA	\$36,420.00	TRANSPORTABLE RISING ROAD PLATE BARRICADE, SET UP WITH FORKLIFT, STOPS 15,000 LB VEHICLE AT 30 MPH
	PORTABLE HEDGEHOG BARRICADE		EA	\$3,122.00	BARRICADE MADE OF PAINTED STRUCTURAL STEEL, REMOVABLE PNEUMATIC TIRES AND TOV BAR, 12' LONG
	WEDGE BARRICADE WEDGE BARRICADE		EA EA	\$55,740.00	24" HIGH, 9' LONG, REMOTE CONTROL PANEL
	WEDGE BARRICADE		EA	\$62,440.00	K4/L2 RATED, 30" HIGH, 9' LONG, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT MPH
	HYDRAULIC RISING ROAD PLATE		EA	\$57,230.00	PLATE RISES TO 18" HIGH, SURFACE MOUNTED,
	HYDRAULIC WEDGE		EA		12' LENGTH, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 63 MPH
			LA	\$72,850.00	
	HYDRAULIC RISING ROAD PLATE		EA	\$72,850.00 \$41,630.00	15,000 LB VEHICLE AT 63 MPH K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION PLATE RISES TO 18" HIGH, SURFACE MOUNTED,
	HYDRAULIC RISING ROAD PLATE HYDRAULIC RISING ROAD PLATE			. ,	15,000 LB VEHICLE AT 63 MPH K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 10' LENGTH, 1' THICK STEEL PLATE, STOPS 6,000 LB VEHICLE AT 40 MPH K12/L2 RATED, PLATE RISES TO 39" HIGH,
			EA	\$41,630.00	15,000 LB VEHICLE AT 63 MPH K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 10' LENGTH, 1' THICK STEEL PLATE, STOPS 6,000 LB VEHICLE AT 40 MPH K12/L2 RATED, PLATE RISES TO 39" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL STOPS 15,000 LB VEHICLE AT 70 MPH K12/L2 RATED, PLATE RISES TO 18" HIGH,
	HYDRAULIC RISING ROAD PLATE		EA EA	\$41,630.00 \$62,440.00	15,000 LB VEHICLE AT 63 MPH K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 10' LENGTH, 1' THICK STEEL PLATE, STOPS 6,000 LB VEHICLE AT 40 MPH K12/L2 RATED, PLATE RISES TO 39" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL STOPS 15,000 LB VEHICLE AT 70 MPH K12/L2 RATED, PLATE RISES TO 18" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL
	HYDRAULIC RISING ROAD PLATE RISING ROAD PLATE		EA EA	\$41,630.00 \$62,440.00 \$57,230.00	15,000 LB VEHICLE AT 63 MPH K12/L2 RATED, 9' WIDE X 3'-2" HIGH, STOPS VEHICLE AT 50 MPH, ZERO PENETRATION PLATE RISES TO 18" HIGH, SURFACE MOUNTED, 10' LENGTH, 1' THICK STEEL PLATE, STOPS 6,000 LB VEHICLE AT 40 MPH K12/L2 RATED, PLATE RISES TO 39" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL STOPS 15,000 LB VEHICLE AT 70 MPH K12/L2 RATED, PLATE RISES TO 18" HIGH, SURFACE MOUNTED, REMOTE CONTROL PANEL STOPS 15,000 LB VEHICLE AT 63 MPH K12/L2 RATED, PLATE RISES TO 39" HIGH, SHALLOW FOUNDATION TO 18" DEPTH, 9'

CATEGORY	ITEM.			UNIT COST	DEMAN
CODE	<u>ITEM</u>	QUANTITY	<u>UNIT</u>	\$/UNIT	REMARK
	POP-UP BOLLARD SYSTEM		EA	\$52,170.00	HYDRAULIC, SET OF THREE BOLLARDS, 8.63" DIA, 24" HIGH, REMOTE CONTROL PANEL, ADD \$5,000 FOR EACH ADDL BOLLARD UP TO SEVEN ADDL
	POP-UP BOLLARD SYSTEM		EA	\$67,810.00	K4/L2 RATED, HYDRAULIC, SET OF THREE BOLLARDS, 13.25" DIA, 35" HIGH, REMOTE CONTROL PANEL, STOP-GO SIGNAL ARMS AND LIGHTS, SUMP PUMPS, STOPS 15,000 LB VEHICLE AT 30 MPH
	POP-UP BOLLARD SYSTEM		EA	\$62,610.00	K8/L2 RATED, HYDRAULIC, SET OF THREE BOLLARDS, 12.25" DIA, 35" HIGH, REMOTE CONTROL PANEL, STOP-GO SIGNAL ARMS AND LIGHTS, SUMP PUMPS, STOPS 15,000 LB VEHICLE AT 40 MPH
	MANUAL POP-UP BOLLARD SYSTEM		EA	\$5,217.00	K4/L2 RATED, COUNTER BALANCED MANUAL LIFT, 10.75" DIA, 30" HIGH
	MANUAL POP-UP BOLLARD SYSTEM		EA	\$4,173.00	24" HIGH, STOPS 10,000 LB VEHICLE AT 48 MPH AND STOPS 13,200 LB VEHICLE AT 38 MPH
	CRASH BEAM BARRICADE		EA	\$46,950.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, REMOTE CONTROL PANEL, STOPS 15,000 LB VEHICLE AT 30 MPH
	CRASH CABLE BEAM BARRICADE SWING GATE, MANUALLY OPERATED		EA	\$12,520.00	K4/L2 RATED, MANUAL HORIZONTAL SWING CRASH BEAM BARRIER, CONCRETE BOLLARD MOUNTED, STOPS 10,000 LB VEHICLE AT 15 MPH
	CABLE BEAM BARRICADE, HYDRAULIC		EA	\$41,730.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, STOPS 10,000 LB VEHICLE AT 15 MPH
	CRASH BEAM BARRICADE, HYDRAULIC		EA	\$52,170.00	K4/L2 RATED, HYDRAULIC, CONCRETE BOLLARD MOUNTED, STOPS 15,000 LB VEHICLE AT 30 MPH
	SLIDING LINEAR CRASH GATE		EA	\$64,690.00	K4/L2 RATED, 9' HIGH x 12' WIDE CLEAR OPENING GATE WITH GROUND TRACK, LINEAR GATE OPERATOR, REMOTE CONTROL PANEL, STOP-GO SIGNAL LIGHTS, STOPS 15,000 LB VEHICLE AT 50 M\PH
	MANUAL CRASH SWING GATE		EA	\$15,650.00	9' HIGH x 12' WIDE CLEAR OPENING GATE
	HYDRAULIC ROLLING CRASH GATE		EA	\$50,080.00	9' HIGH x 12' WIDE CLEAR OPENING GATE, GATE LEAF LINEAR SLIDE ASSEMBLY, DRIVE SIDE GATE LEAF SUPPORTS AND GUIDES, LINEAR GATE OPERATOR, HYDRUALIC PUMP DRIVEN RACK AND PINION OPERATOR, REMOTE CONTROL PANEL, STOP-GO SIGNAL LIGHTS
	SLIDING CANTILEVER CRASH GATE		EA	\$55,290.00	9' HIGH x 12' WIDE CLEAR OPENING GATE, GATE LEAF LINEAR SLIDE ASSEMBLY, DRIVE SIDE GATE LEAF SUPPORTS AND GUIDES, LINEAR GATE OPERATOR, HYDRUALIC PUMP DRIVEN RACK AND PINION OPERATOR, REMOTE CONTROL PANEL, STOP-GO SIGNAL LIGHTS. THIS GATE DOES NOT NEED TRACKS, WHEELS, OR ROLLER PATH
	PASSIVE VEHICLE BARRIER, SURFACE MOUNTED SABRE TOOTH CONTROLLER		EA	\$626.00	SURFACE MOUNTED TIRE SPIKES, 3' WIDE, MANUALLY OPERATED

\$12.50 \$18.10 \$22.40 \$27.60 \$27.60 \$34.00 \$74.10 \$105.90 \$139.70 \$237.60 \$11.40 \$17.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$22.70 \$22.70 \$23.70 \$23.70 \$23.70 \$23.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$21.10 \$22.70 \$24.50 \$24.50 \$24.50 \$24.50 \$25.50 \$24.5		PVC U/C 2008	UNIT	SIZE in	Notes	BLACK STEEL U/C	UNIT	SIZE in
\$18.10 \$22.40 \$27.60 \$34.00 \$74.10 \$105.90 \$139.70 \$237.60 \$139.70 \$237.60 \$11.40 \$17.70 \$21.10 \$29.70 \$49.50 \$81.80 \$207.10 \$21.00 \$23.90 \$349.50 \$31.80 \$21.00 \$21.00 \$23.90 \$31.80 \$21.00 \$21.00 \$22.30 \$31.80 \$21.00 \$22.30 \$31.80 \$21.00 \$22.30 \$31.80 \$22.70 \$22.10 \$22.10 \$22.10 \$22.10 \$22.10 \$22.10 \$22.10 \$22.10 \$22.10 \$22.20 \$24 LF \$32.20 \$24.20 \$32.20 \$33.20 \$32.20 \$33.20 \$32.20 \$33.20 \$32.20 \$33.20 \$3			0.4.11	INCHES		DEMOREO DE DIO	01111	INCHES
\$18.10 \$22.40 \$27.60 \$34.00 \$74.10 \$105.90 \$139.70 \$237.60 \$139.70 \$237.60 \$11.40 \$17.70 \$21.10 \$29.70 \$49.50 \$81.80 \$207.10 \$21.10 \$22.00 \$21.00 \$23.90 \$4.00 \$23.90 \$4.00 \$53.50 \$93.90 \$126.40 \$10.80		\$6.60	LF	1		\$12.50	LF	1
\$27.60 \$34.00 \$74.10 \$105.90 \$139.70 \$237.60 CORRUGATED METAL U/C 2008 \$11.40 \$17.70 \$21.10 \$229.70 \$49.50 \$818.80 \$207.10 CORRUGATED METAL PIPING \$21.00 \$23.90 \$23.90 \$42.00 \$33.90 \$126.40 S126.40 S127.60 S128 in UNIT HDPE U/C 2008 4 LF \$8.20 4 LF \$8.20 4 LF \$8.20 4 LF \$8.20 51.40 521.00 523.70 METAL PIPING S128 in UNIT CONCRETE S129 in UNIT CONCRETE S128 in UNIT CONCRETE S129 in UNIT CONCRETE S120 in UNIT CONCRETE S120 in UNIT S13.00 S120 in UNIT UNIT UNIT UNIT UNIT UNIT UNIT UNIT		\$9.90					LF	2
\$34.00					DI 401/07551		LF	3
\$74.10 \$10.590 \$139.70 \$237.60 \$\$139.70 \$\$237.60 \$\$\$ SIZE in INCHES UNIT HDPE U/C 2008							LF	4
\$105.90 \$139.70 \$237.60 \$237.60 SIZE in INCHES UNIT HDPE U/C 2008 4							LF LF	6 10
\$139.70 \$237.60 \$CORRUGATED METAL U/C 2008 \$11.40 \$11.40 \$17.70 \$21.10 \$22.00 \$49.50 \$81.80 \$207.10 \$21.00 \$23.90 \$49.50 \$32.90 \$42.00 \$323.90 \$42.00 \$353.50 \$93.90 \$126.40 \$12.00 \$12.00 \$12.00 \$12.00 \$12.00 \$12.00 \$12.00 \$13.00 \$12.00 \$13.00 \$12.00 \$13.00 \$12.00 \$13.00 \$12.00 \$13.00		φ32.10	LF	10	WEEDED		LF	12
SIZE in INCHES UNIT HDPE U/C 2008							LF	18
STATE STANDARD STRENGTH S						\$237.60	LF	24
STATE STANDARD STRENGTH S								
\$11.40 \$17.70 \$21.10 \$29.70 \$49.50 \$81.80 \$207.10 SIZE in INCHES UNIT CONCRETE PLAIN REINF \$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$126.40 REINFORCED PLASTIC U/C \$11.40 \$10		HDPE U/C 2008	UNIT			CORRUGATED METAL U/C 2008	UNIT	SIZE in INCHES
\$17.70 \$21.10 \$29.70 \$49.50 \$81.80 \$207.10 UCTILE IRON U/C \$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$126.40 \$12		\$8.20		4				
\$21.10 \$29.70 \$49.50 \$81.80 \$207.10 UCTILE IRON U/C \$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$126.40 \$12							LF	6
\$29.70 \$49.50 \$81.80 \$207.10 UCTILE IRON U/C UCTILE IRON U/C \$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$126.40 \$12							LF	10
\$49.50 \$31.80 \$207.10 UCTILE IRON U/C SIZE in INCHES UNIT CONCRETE PLAIN REINF \$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$12. UF \$18.30 \$12. UF \$18.30 \$12. UF \$20.30 \$23.90 \$12. UF \$20.30 \$20.30 \$18. UF \$33.20 \$37.20 \$48.20 \$36. UF \$37.20 \$48.20 \$36. UF \$37.20 \$48.20 \$37.20 \$48.20 \$36. UF \$37.20 \$48.20 \$37.20 \$48.20 \$36. UF \$37.20 \$48.20 \$37.20 \$48.20 \$37.20 \$48.20 \$37.20 \$48.20 \$37.20 \$48.20 \$37.20 \$48.20 \$37.20 \$48.20 \$51.2					CORRUGATED		LF	12
\$81.80 \$207.10 UCTILE IRON U/C SIZE in INCHES UNIT CONCRETE PLAIN REINF \$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$10 LF \$18.30 \$126.40 12 LF \$20.30 \$23.90 18 LF \$32.20 \$37.20 24 LF \$37.20 \$48.20 36 LF \$112.60 SIZE in INCHES UNIT SIZE in INCHES UNIT STANDARD STD STRENGTH ST					METAL PIPING		LF LF	18 24
\$207.10 UCTILE IRON U/C SIZE in INCHES UNIT CONCRETE PLAIN REINF \$21.00 \$23.90 \$42.00 \$53.50 \$42.00 \$53.50 \$10 LF \$118.30 \$126.40 12 LF \$20.30 \$24.30 18 LF \$32.20 \$37.20 24 LF \$37.20 \$48.20 36 LF \$112.60 SIZE in INCHES UNIT SIZE in INCHES UNIT STANDARD STD STRENGTH S		\$62.40	LF	24			LF	36
NCHES UNIT CONCRETE							LF	60
\$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$126.40 10	=TF	CONCR	LINIT			DUCTILE IRON U/C	UNIT	SIZE in
\$21.00 \$23.90 \$42.00 \$53.50 \$93.90 \$12 LF \$18.30 \$126.40 12 LF \$20.30 \$26.30 18 LF \$32.20 \$37.20 24 LF \$33.20 \$48.20 36 LF \$122.60 60 LF \$191.20 SIZE in INCHES UNIT STANDARD STD STRENGTH OF STRENG		_	ONIT	INCHES			OIVII	INCHES
\$23.90 \$42.00 \$53.50 \$93.90 \$126.40 10	KLIIII	LAIN						
\$42.00 \$53.50 \$93.90 \$126.40 \$12							LF	4
\$53.50 \$93.90 10 LF \$18.30 \$126.40 12 LF \$20.30 \$26.30 18 LF \$332.20 \$37.20 24 LF \$337.20 \$48.20 36 LF \$122.60 60 LF \$191.20 SIZE in INCHES UNIT STRENGTH STRENGTH 01 \$10.80 \$19.50							LF	6
\$93.90 \$126.40 \$12		045.70		0			LF	10
\$126.40 12							LF LF	12 18
18	\$26.3						LF	24
24						Ψ120.40		
SIZE IN UNIT STANDARD STD STRENGTH			LF					
REINFORCED PLASTIC U/C \$10.80 \$19.50				36				
REINFORCED PLASTIC U/C \$10.80 \$19.50	\$191.2		LF	60				
REINFORCED PLASTIC U/C \$10.80 \$19.50	N AV	VITRIEIED						
\$10.80 \$19.50			LINIT			REINFORCED	UNIT	SIZE in
\$19.50			0	INCHES			OIIII	INCHES
\$19.50								
\$19.50						\$10.80	LF	3
\$23.80 4 15 \$7.90 \$0.00						\$19.50	LF	4
	\$9.0	\$7.80	LF	4		\$23.80	LF	6
\$54.10 6 LF \$10.90 \$12.00							LF	10
\$66.30 10 LF \$19.20 \$22.30	\$22.3					\$66.30	LF	12
	***	\$22.90				ļ		
18 LF \$49.90 \$60.80 24 LF \$101.70 \$121.20	\$25.3	0.000						
36 LF \$207.40 \$231.00	\$60.8	\$49.90 \$101.70	LF	18				

CHART A To Appendix A, Part II PIPING - SITEWORK UTILITIES

NOTES:

- 1. Black Steel, schedule 40, welded.
- 2. Corrugated metal piping, galvanized 16 gage up to 18", 14 gage for 24", 12 gage up to 60".
- 3. Ductile iron, cement lined, class 50 water pipe, 18' in length, and mechanical joint.
- 4. Reinforced Plastic, fiberglass reinforced, plain end pipe.
- 5. PVC, schedule 40, Class 150 pipe.
- 6. Cost includes furnishing and installing pipe only. Trenching, bedding, backfill and compaction must be added to these costs.
- 7. For cathodic protection (if required), add 14% of total piping cost.

UNIT COSTS for ARMY FACILITIES PAX Newsletter 3.2.2, Dated 11 Feb 2008

CHART B

SOLAR ENERGY SYSTEM COST ESTIMATING*

BUIL	LDING AREA ** (SQ. FT.)	SOLAR SYSTEM COST (\$)
UP TO	15000.00	\$4.79 per sq. ft. *** plus \$36,000.00
15001	50000.00	\$3.37 per sq. ft. *** plus \$52,000.00
50001	AND LARGER	\$1.73 per sq. ft. *** plus \$143,000.00

^{*} Include solar collection panels, water supply, pumps, pipelines and expansion tank

^{**} Include only heated and/or cooled portions of facilities.

^{***}Resulting dollar figure rounded up to next thousand dollar figure.

UNIT COSTS for ARMY FACILITIES PAX Newsletter 3.2.2, Dated 11 Feb 2008

CHART C, METRIC/ENGLISH SYSTEMS

QUANTITY	FROM	MULTIPLY BY	TO OBTAIN
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
ADEA	anuara in ab	C4F 4C0200	a su a sa sa illise ata s
AREA	square inch	645.160300	square millimeter
	square yord	0.092903 0.836127	square meter
	square mile	2.589998	square hilemeter
	square mile		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	0.00061	cubic inch
	cubic meter	35.314662	cubic foot
	cubic meter	1.307951	cubic yard
	liter liter	0.264172 1.056688	gallon
	iitei	1.030000	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
		3.332	
ENERGY, H		2 22222	
AND WORK	kilowatthour	3.600000	megajoule
	btu harranawar hawr	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
IOWER	btu/s	1.055056	kw
	hp (electric)	745.700000	W
	btu/h	0.293071	W
	lau	0.004000	ton (refrigeration)
	kw	0.284333	ton (refrigeration)
	kw	0.947817	btu/s
	W	0.001341	hp (electric)
	W	3.412141	btu/h

PAX NEWSLETTER 3.2.2, Dated 11 Feb 2008

APPENDIX C To TM 5-800-4 TRI-SERVICE MILITARY CONSTRUCTION PROGRAM (MCP) INDEX F0R FY 2009 THRU FY 2014 PROGRAMS

FISCAL YEAR (FY)	<u>DATES</u>	INDEX	ESCALATION PERSENTAGE FOR FISCAL YEAR
FY 2007	1-Oct- 2006	 2354	
	1-Jan- 2007	 2367	EV 07
	1-Apr- 2007	 2380	FY 07
	1-Jul- 2007	 2393	2.2%
FY 2008	1-Oct- 2007	 2406	
	1-Jan- 2008	 2419	EV 00
	1-Apr- 2008	 2430	FY 08
	1-Jul- 2008	 2442	2.0%
FY 2009	1-Oct- 2008	 2454	
	1-Jan- 2009	 2467	EV 00
	1-Apr- 2009	 2479	FY 09
	1-Jul- 2009	 2491	2.0%
FY 2010	1-Oct- 2009	 2503	
	1-Jan- 2010	 2516	EV 40
	1-Apr- 2010	 2528	FY 10
	1-Jul- 2010	 2541	2.0%
FY 2011	1-Oct- 2010	 2553	
	1-Jan- 2011	 2566	FV 44
	1-Apr- 2011	 2579	FY 11
	1-Jul- 2011	 2592	2.0%
FY 2012	1-Oct- 2011	 2604	
	1-Jan- 2012	 2617	EV 40
	1-Apr- 2012	 2630	FY 12
	1-Jul- 2012	 2643	2.0%
FY 2013	1-Oct- 2012	 2656	
	1-Jan- 2013	 2670	FV 42
	1-Apr- 2013	 2683	FY 13
	1-Jul- 2013	 2696	2.0%
FY 2014	1-Oct- 2013	 2709	

Notes

- 1. Use 2.0% per fiscal year for projection beyond FY 2014
- 2. Tri Service MCP Index (1,000) = 1 October 1979 ENR Historical Building Cost Index (1,900)
- 3. The MCP indexes after 1 Oct 2007 were derived based on the Price Escalation Indices (Annual Rates in Percentages) for Budget Authority published in the Memorandum, dated 23 January 2008, from the Under Secretary of Defense (Comptroller), Subject: Inflation Guidance Fiscal Year (FY) 2009 -10 President's Budget.
- 4. This revised index table supersedes the index table published on 15 March 2007

UNIT COSTS for ARMY FACILITIES PAX Newsletter 3.2.2, Dated 11 Feb 2008

TABLE I - SIZE ADJUSTMENT FACTORS

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

SIZE	ADJUST	SIZE	ADJUST		SIZE	ADJUST		SIZE	ADJUST
RATIO	FACTOR	RATIO	FACTOR		RATIO	FACTOR	-	RATIO	FACTOR
< 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			
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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 HOUS PROJEC ADJUST FACT	SING CT SIZE CMENT	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				