

APPENDIX A-2

TECHNICAL REFERENCES

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1.0 GENERAL

Refer to Section 01015 TECHNICAL REFERENCES for application of codes and technical criteria included below. This list is not exhaustive and is not necessarily complete. The publications to be taken into consideration shall be those of the most recent editions. Additional references are listed in the Appendix A-1 SPECIFICATIONS.

2.0 LIST OF CODES AND TECHNICAL CRITERIA

2.1 STANDARDS

A/E/C CAD Standards, V4.0 (or newer) available online at:

<https://cadbim.usace.army.mil/default.aspx?p=s&t=13&i=4>

2.2 GENERAL CONSTRUCTION

ACI 318	Building Code Requirements for Structural Concrete (latest edition), American Concrete Institute
ACI 530/ASCE 5/TMS 402	Building Code Requirements for Masonry Structures (latest edition)
AISC 360	Specification for Structural Steel Buildings (latest edition), American Institute of Steel Construction
ASHRAE	American Society of Heating, Refrigeration and Air-Conditioning Engineers
ASCE 7	Minimum Design Loads for Buildings and Other Structures (latest edition)
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ASTM-D-1586	Standard Test Method for Standard Penetration Test
ASTM-D-5299	Standard Guide for Decommissioning Ground Water Wells
AWS D1.1	Structural Welding Code – Steel (latest edition), American Welding Society
CMAA 70	Specification for Top Running Bridge and Gantry Type Multiple Girder Electric Overhead Traveling Cranes (Crane Manufacturer's Association of America)
CMAA 74	Specification for Top Running Bridge and Under Running Single Girder Electric Overhead Traveling Cranes Utilizing Under Running Trolley Hoist (Crane Manufacturer's Association of America)

EIA ANSI/TIA/EIA-607	(1994) Commercial Building Grounding/Bonding Requirement Standard
Factory Mutual (FM)	Approval Guide-Fire Protection, latest edition
IBC (and its referenced codes including those inset below)	International Building Codes, 2009 edition
IEEE C2	National Electrical Safety Code (NESC), latest edition
IFGC	International Fuel Gas Code, latest edition
IMC	International Mechanical Code, latest edition
IPC	International Plumbing Code, latest edition
Lighting Handbook	IESNA, latest edition
International Mine Action Standards see http://www.mineactionstandards.org for copy of standards	latest edition
TM 5-802-1	Economic Studies
TM 5-805-4	Noise and Vibration
TM 5-811-1	Electrical Power Supply and Distribution

2.3 FIRE PROTECTION AND LIFE SAFETY

NFPA 1	General Fire Protection, latest edition
NFPA 10	Portable Fire Extinguishers, latest edition
NFPA 70	National Electrical Code, latest edition
NFPA 72	National Fire Alarm Code, latest edition
NFPA 75	Standard for the Protection of Information Technology Equipment
NFPA 80	Fire Rated Doors and Windows, latest edition
NFPA 101	Life Safety Code, latest edition
NFPA 110	Standard for Emergency and Standby Power Systems, latest edition
Underwriters' Laboratories (UL) UL Standards	Fire Protection Equipment Directory (2010) (as applicable)

2.4 UNIFIED FACILITIES CRITERIA

Unified Facility Criteria (UFC) is available online at:

http://www.wbdg.org/ccb/browse_cat.php?o=29&c=4

UFC 1-200-01	Design: General Building Requirements
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UFC 1-300-07A	Design Build Technical Requirements
UFC 1-300-09N	Design Procedures
UFC 3-230-06a	Subsurface Drainage, 16 Jan 2004
UFC 3-240-03N	Operation and Maintenance: Wastewater Treatment System Augmenting Handbook, 16 Jan 2004
UFC 3-240-04a	Wastewater Collection, 16 Jan 2004
UFC 3-240-09fa	Domestic Wastewater Treatment 16 Jan 2004
UFC 3-240-07fa	Gravity Sewers 16 Jan 2004
UFC 3-240-04A	Wastewater Collection 16 Jan 2004
UFC 3-310-01	Structural Load Data
UFC 3-310-02A	Structural Design Criteria for Buildings
UFC 3-410-01FA	Heating, Ventilating and Air Conditioning
UFC 3-420-01	Plumbing Systems Design
UFC 3-460-01	Petroleum Fuel Facilities
UFC 3-501-01	Electrical Engineering, 3 Feb 2010
UFC 3-520-01	Interior Electrical Systems, 3 Feb 2010
UFC 3-530-01AN	Design: Interior and Exterior Lighting and Controls, 22 Aug 2006
UFC 3-540-04N	Design: Diesel Electric Generating Plants, 16 Jan 2004
UFC 3-550-03	Design: Electrical Power Supply and Distribution Systems, 3 Feb 2010
UFC 4-229-01N	Design: General Maintenance Facilities, 16 Jan 2004

2.5 USACE-AED DESIGN REQUIREMENTS

In addition, technical criteria provided in USACE-AED Design Requirements (most recent version) shall be required for use in design and construction specifications as indicated in the following documents. The following design criteria shall be used:

AED Design Requirements	Voltage Drop Calculations Process, latest version
	Breaker and Conductor Sizing, latest edition
	Site Layout Guidance, latest version
	Water Tanks and System Distribution, latest version
	Booster Pumps, latest version
	Chlorinators, latest version
	Jockey Pumps, latest version
	Hydrology, latest version
	Culvert and Causeways, latest version
	Sanitary Sewer and Septic System, latest version
	Vertical Curve Design, latest version

CERP Road – Geometric Requirements and Flexible
Pavement Section Design

Geotechnical Investigations, latest version

CADD Design Guide

Mechanical & Plumbing Guide, latest version

2.6 COMMUNICATION SYSTEMS DESIGN

The communications system for this project is to be designed and constructed by the Contractor. The design and construction of the systems shall be in accordance with the references and the requirements contained herein.

2.6.1 APPLICABLE SPECIFICATIONS

The Publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by designation only.

UFC 1-200-01	Design: General Building Requirements
United States Department of Agriculture Rural Utilities Service	
RUS Bulletin 1751F-643	Underground Plant Design, (latest edition)
RUS Bulletin 1751F-644	Underground Plant Construction, (latest edition)
RUS Bulletin 1753F-151	Construction of Underground Plant, Parts II & III (latest edition)
RUS Bulletin 1753F-201	Acceptance Test and Measurements Of Telecommunications Plant, (latest edition)
RUS Bulletin 1753E-001	RUS General Specification for Digital, Stored Program, Controlled, Central Office Equipment; RUS Form 522 (latest edition)
RUS Publication IP 344-2	List of Materials Acceptable For Use on Telecommunications Systems of RUS Borrowers, (latest edition)
RUS Bulletin 345-65	Shield Bonding Connectors (PE-33), (latest edition)
RUS Bulletin 345-83	REA Specification for Gas Tube Surge Arrestors (PE-80), (latest edition)
RUS Bulletin 1753E-001	RUS General Specification for Digital Stored Program Controlled Central, (latest edition)
Office Equipment	Form 522
American National Standards Institute/Telecommunications Industry Association/Electronics Industry Association	
ANSI TIA/EIA 606-A	Administration Standard for The Telecommunications Infrastructure
ANSI TIA/EIA 607-A	Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, (latest edition)

ANSI TIA/EIA 607-A	Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications, (latest edition)
ANSI TIA/EIA 568	Commercial Building Telecommunications Cabling Standard, (latest edition)
ANSI TIA/EIA 569-B	Commercial Building Standard for Telecommunications Pathways and Spaces, (latest edition)
ANSI TIA/EIA 758-A	Customer-owned Outside Plant Telecommunications Infrastructure Standard, (latest edition)

2.7 ELECTRICAL STANDARDS

ANSI / IEEE C57.12.22	Institute of Electrical and Electronics Engineers, Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers With High-Voltage Bushings
ANSI / IEEE C57.12.28	Institute of Electrical and Electronics Engineers, Standard for Pad Mounted Equipment
ANSI / IEEE C57.12.34	Institute of Electrical and Electronics Engineers, Standard Requirements for Pad-Mounted, Compartmental-Type, Self-Cooled, Three-Phase Distribution Transformers
ANSI / IEEE C57.12.80	Institute of Electrical and Electronics Engineers, Standard Terminology for Power and Distribution Transformers
ANSI / IEEE 115	Institute of Electrical and Electronics Engineers, Test Procedures for Synchronous Machines
ANSI TIA/EIA 758-A	Customer-owned Outside Plant Telecommunications Infrastructure Standard, (latest edition)
BS 5000	British Standards, Specifications for Rotating Electrical Machines (latest edition)
BS EN 60947	British Standards, Low Voltage Switchgear and Control Gear
C22.2 No. 100-04, Class 4215-01	Canadian Standards Association (CSA)
European Conformity (CE Marked)	Directive 93 / 68 / EEC
ETL 1110-3-412	Engineering Technical Letter, USACE, Transformer Application Guidance
ISO 3046	International Organization for Standardization, Reciprocating Internal Combustion Engines, Performance (latest edition)
ISO 8528	International Organization for Standardization, Reciprocating Internal Combustion Engine Driven AC Generating Sets (latest edition)
IEC 60034	International Electric Commission, Rotating Electrical Machines (latest edition)

IEC 60076	International Electric Commission, Power Transformers (latest edition)
NEC	National Electric Code
NEMA MG-1	National Electrical Manufactuerers Association, Motors and Generators (latest edition)
NEMA ICS 6	National Electrical Manufactuerers Association , Industrial Control and Systems Enclosures
NEMA C 50 10	National Electrical Manufactuerers Association , Motors and Generators
NESC	National Eelectical Safety Code
TM 5-684	Technical Manual, Facilities Engineering Electrical Exterior Facilities
VDE 05 30	Rotating Electrical Machines; Design and Operating Performance
UL – 489	Circuit Breakers
UL - 2200	Stationary Engine Generator Assemblies (latest edition)

2.8 OTHER STANDARDS

Standards other than those mentioned above may be accepted if the standards chosen are internationally recognized and meet the minimum requirements of the specified standards. The Contractor shall be prepared to submit proof of this if requested by the Contracting Officer.

3.0 NOT USED

-END OF SECTION-