PROVIDE AND INSTALL ADDITIONAL POWER OUTLETS,
B4223, EAD MCAS CHERRY POINT, NORTH CAROLINA
28533-0006

WORK ORDER #7396223

1.1 GENERAL INTENTION

The work includes installing electrical panels, circuits, and outlets and incidental related work.

1.2 LOCATION

The work is located at MCAS Cherry Point approximately as indicated. The exact location will be shown by the Contracting Officer.

1.3 DETAILED REQUIREMENTS.

Demo existing electrical Panel A and existing electrical panel Load Center A. Provide and install new electrical MCB panel and Load Center panel, electrical circuits, surface mounted dedicated duplex receptacles, and floor mounted dedicated duplex receptacles. Refer to NAVFAC Drawings 12926298-12926300 and specifications attached to this scope of work.

1.4 SPECIAL SCHEDULING REQUIREMENTS

Have materials, equipment, and personnel required to perform the work at the site prior to the commencement of the work.

The building will remain in operation during the entire construction period. The Contractor must conduct his operations so as to cause the least possible interference with normal operations of the activity.

Permission to interrupt any activity roads, railroads, or utility service must be requested in writing a minimum of 15 calendar days prior to the desired date of interruption and in accordance with section 1.10.

1.5 CONTRACTOR ACCESS AND USE OF PREMISES

DBIDS has gone live at MCAS Cherry Point. In order to reduce wait time when exchanging your RapidGate credential, it is highly recommended each applicant pre-register at https://dbids-global.dmdc.mil/enroll#!/

Non-DoD cardholding visitors to Marine Corps Installations with

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a driver's license or ID issued by a state that is not compliant with the Real ID Act of 2005 will now need to provide an alternate form of acceptable identification to gain entry, or be escorted by an authorized patron of the air station.

North Carolina now issues REAL ID compliant driver's licenses, but many drivers have yet to be issued the new license. Drivers may get a North Carolina REAL ID driver's license at any NCDMV driver's license office.

The Act established minimum security standards for license issuance and production and prohibits Federal agencies from accepting driver's licenses and identification cards from states not meeting the Act's minimum standards.

In absence of a compliant state issued driver's license or ID, one of the following federally approved forms of identification must also be provided in addition to the non-compliant driver's license or ID:

1. U.S. Passport
2. U.S. Passport Card
3. U.S. Coast Guard Merchant Mariner Card
4. Personal Identity Verification (PIV) Card
5. Personal Identity Verification - Interoperable (PIV-I)
6. U.S. State Department Driver's License
7. Veteran's Health Identification Card (Issued by the U.S. Department of Veterans Affairs)
8. U.S. Permanent Resident Card (Form I-551)
9. U.S. Certificate of Naturalization or Certificate of Citizenship (Form N-550)
10. Department of Homeland Security Employment Authorization Document (Form I-766)

1.5.1 ACTIVITY REGULATIONS

Ensure that Contractor personnel employed on the Activity become familiar with and obey Activity regulations including safety, fire, traffic and security regulations. Keep within the limits of the work and avenues of ingress and egress. Wear hard hats in designated areas. Do not enter any restricted areas unless required to do so and until cleared for such entry. Mark Contractor equipment for identification.

1.5.1.1 SUBCONTRACTORS AND PERSONNEL CONTACTS

Provide a list of contact personnel of the Contractor and subcontractors including addresses and telephone numbers for use in the event of an emergency. As changes occur and additional information becomes available, correct and change the information contained in previous lists.

1.5.1.2 INSTALLATION ACCESS

Obtain access to Navy and Marine Corps installations through participation in the Defense Biometrics Identification System (DBIDS). Requirements for Contractor employee registration, and transition for employees currently under Navy Commercial Access Control System (NCACS), are available at https://www.cnic.navy.mil/om/dbids.html. No fees are associated with obtaining a DBIDS credential.

Participation in the DBIDS is not mandatory, and Contractor personnel may apply for One-Day Passes at the Base Visitor Control Office to access an installation.

1.5.1.2.1 REGISTRATION FOR DBIDS

Registration for DBIDS is available at https://www.cnic.navy.mil/om/dbids.html. Procedure includes:

a. Present a letter or official award document (i.e. DD Form 1155 or SF 1442) from the Contracting Officer that provides the purpose for access to the Base Visitor Control Center representative.

b. Present valid identification, such as a passport or Real ID Act-compliant state driver's license.

c. Provide completed SECNAV FORM 5512/1 to the Base Visitor Control Center representative to obtain a background check. This form is available for download at https://www.cnic.navy.mil/om/dbids.html.

d. Upon successful completion of the background check, the Government will complete the DBIDS enrollment process, which includes Contractor employee photo, finger prints, base restriction and several other assessments.

e. Upon successful completion of the enrollment process, the Contractor employee will be issued a DBIDS credential, and will be allowed to proceed to worksite.

1.5.1.2.2 DBIDS ELIGIBILITY REQUIREMENTS

Throughout the length of the contract, the Contractor employee must continue to meet background screen standards. Periodic background screenings are conducted to verify continued DBIDS

participation and installation access privileges. DBIDS access privileges will be immediately suspended or revoked if at any time a Contractor employee becomes ineligible.

An adjudication process may be initiated when a background screen failure results in disqualification from participation in the DBIDS, and Contractor employee does not agree with the reason for disqualification. The Government is the final authority.

1.5.1.2.3 DBIDS NOTIFICATION REQUIREMENTS

Immediately report instances of lost or stolen badges to the Contracting Officer.

Immediately collect DBIDS credentials and notify the Contracting Officer in writing under the following circumstances:

1) An employee has departed the company without having properly returned or surrendered their DBIDS credentials.

2) There is a reasonable basis to conclude that an employee, or former employee, might pose a risk, compromise, or threat to the safety or security of the Installation or anyone therein.

1.5.1.2.4 ONE-DAY PASSES

Personnel applying for One-Day passes at the Base Visitor Control Office are subject to daily mandatory vehicle inspection, and will have limited access to the installation. The Government is not responsible for any cost or lost time associated with obtaining daily passes or added vehicle inspections incurred by non-participants in the DBIDS.

1.5.1.3 NO SMOKING POLICY

Smoking is prohibited within and outside of all buildings on installation, except in designated smoking areas. This applies to existing buildings, buildings under construction and buildings under renovation. Discarding tobacco materials other than into designated tobacco receptacles is considered littering and is subject to fines. The Contracting Officer will identify designated smoking areas.

1.5.2 WORKING HOURS

Regular working hours shall consist of an 8 1/2 hour period normally between the hours of 7:00 am to 3:30 pm, Monday through Friday, excluding Government holidays.

1.5.3 WORK OUTSIDE REGULAR HOURS

Work outside regular working hours requires Contracting Officer approval. Make application 15 calendar days prior to such work to allow arrangements to be made by the Government for inspecting the work in progress, giving the specific dates, hours, location, type of work to be performed, contract number and project title. Based on the justification provided, the Contracting Officer may approve work outside regular hours. During periods of darkness, the different parts of the work must be lighted in a manner approved by the Contracting Officer. Make utility cutovers after normal working hours or on Saturdays, Sundays, and Government holidays unless directed otherwise.

1.5.4 OCCUPIED BUILDING

The Contractor shall be working in an existing building which is occupied. Do not enter the building without prior approval of the Contracting Officer.

The existing buildings and their contents must be kept secure at all times. Provide temporary closures as required to maintain security as directed by the Contracting Officer.

Relocate movable furniture away as required to perform the work, protect the furniture, and replace the furniture in its original location upon completion of the work. Leave attached equipment in place, and protect it against damage, or temporarily disconnect, relocate, protect, and reinstall it at the completion of the work.

The Government will remove and relocate other Government property in the areas of the building scheduled to receive work.

1.5.5 UTILITY CUTOVERS AND INTERRUPTIONS

Make utility cutovers and interruptions after normal working hours or on Saturdays, Sundays, and Government holidays. Conform to procedures required in the paragraph "Work Outside Regular Hours."

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Ensure that new utility lines are complete, except for the connection, before interrupting existing service.

Interruption to water, sanitary sewer, storm sewer, telephone service, electric service, air conditioning, heating, fire alarm, and compressed air are considered utility cutovers pursuant to the paragraph entitled "Work Outside Regular Hours."

Operation of Station Utilities: The Contractor must not operate nor disturb the setting of control devices in the station utilities system, including water, sewer, electrical, and steam services. The Government will operate the control devices as required for normal conduct of the work. The Contractor must notify the Contracting Officer giving reasonable advance notice when such operation is required.

1.6 SECURITY REQUIREMENTS

1.6.1 STATION REGULATIONS

No employee or representative of the contractor will be admitted to the work site without an Identification Badge or is specifically authorized admittance to the work site by the FEAD, Facilities Engineering & Acquisition Division.

IMPORTANT NOTE: FEAD personnel (Construction Managers, Engineers/Architects, Engineering Technicians, Contract Specialists, or Contract Surveillance Representatives) will not receive, process, re-transmit or otherwise handle IN ANY WAY Personally Identifiable

1.6.2 CONTRACTOR ACCESS TO MCAS CHERRY POINT AND OUTLYING AREAS

Documentation requirements for granting access to MCAS Cherry Point for commercial and contract employers and employees. This document is an aid in meeting ASO 5560.6A requirements and is not a substitute for the order.

The Pass & Identification Office at Building 251 will issue credentials to authorized contractors. Sub-Contractors and suppliers must coordinate through the Prime-Contractor:

Criminal Activity. In accordance with ASO 5560.6A, the below list of criminal activities within an applicant's record are considered not in the best interest of the Marine Corps and

will be grounds for automatic denial of access aboard the Installation:

a. Conviction of any felony offense.

b. Conviction of any misdemeanor offense, which was the result of a plea bargain of a felony offense.

c. Conviction of any offense involving a weapon.

d. Conviction of any drug offense involving manufacturing or trafficking.

e. More than one misdemeanor conviction of drug related offenses over the applicant's lifetime or one misdemeanor drug related offense within the last five years.

f. Conviction of any assault charge.

g. Conviction of any offense involving theft or larceny.

h. Conviction of any offense of domestic violence.

i. Conviction of any offense related to the abuse/neglect of a child.

j. Conviction of any sexual in nature related offense or registration as a sex offender.

k. Commission of any grievous criminal offense/misconduct while aboard any Federal installation, including blatant disregard for rules and regulations of the Installation, but excluding minor traffic offenses.

l. Other than Honorable, Bad Conduct, and Dishonorable discharges from the U.S. Military.

m. Those identified as undocumented citizens.

n. Those on the National Terrorist Watch List.

o. Any individual who attempts to hide or purposely fails to disclose all past criminal history during the vetting process.

p. Any individual that the Provost Marshal's Office determines to present a risk to the security and safety

of the Installation and whose access is deemed not in the best interest of the Marine Corps.

q. Any individual who has been debarred from the Installation by the Installation Commander or is currently listed as debarred from any other Federal installation.

r. Any individual with an outstanding warrant for their arrest or apprehension.

s. Any individual with a pending criminal court case that, if convicted, would result in access denial in accordance with the criteria listed above.

1.6.3 STAGING AREA

The contractor staging area will be (PM to coordinate). Amount of material on site shall be kept to a minimum and shall only be material that is pertinent to the work currently being performed. All stockpiling of equipment and materials shall be closely coordinated with the Government and shall not disrupt activities at the site.

1.7 MINIMUM INSURANCE REQUIREMENTS

Provide the minimum insurance coverage required by FAR 28.307-2 Liability, during the entire period of performance under this contract. Provide other insurance coverage as required by North Carolina Law.

1.8 SUPERVISION

The complexity of this project will require one person to fill the roles of the Superintendent, Quality Control Manager, and Site Safety and Health Officer.

1.9 SUBMITTALS

Reference Specification Section 26 20 00 subpart 1.3 SUBMITTALS for items requiring submittals delivered to the COR for approval by the government prior to the commencement of site work.

1.10 PLANNED OUTAGES AND SERVICE DISRUPTIONS

Planned outages and service disruptions are requested by the contractor for approval by the Government when necessary to facilitate and/or accomplish contract work. Affected services include utilities (steam, water, waste water, and electrical service), communications (telephone, network, industrial control systems, and fire/security alarm systems, fire protection equipment, infrastructure, and road closures. Disruption of these services cannot be allowed without written approval of the government.

The contractor is required to 1) request the outage in writing and 2) demonstrate sufficient contingency preparedness in the event that service cannot be restored due to a failure in accomplishment of contract work.

All outages require Contractor's written request fifteen (15) days prior to commencement of such work. The request shall be submitted to the COR with the date, time, duration, and scope of the outage.

As supporting documentation for the request, the contractor is require to submit a contingency plan for all reasonably foreseen risks related to the contractor's performance of the work that would impact disrupted services in excess of the approved outage. This plan must demonstrate the following at a minimum.

1. Understanding of key personnel and communications methods to include phone numbers.
2. Analysis of reasonable risks during the contract work that would impact disrupted services in excess of the approved outage.
3. An effective recovery plan to restore minimum essential services in the event of these risks materializing.
4. Requested government support.

The government will similarly produce risk-based contingency plans for restoration of essential services caused by reasonably foreseen factors that are not related to the performance of the contract. In these cases, the government may request the contractor make additional preparations to support essential and high risk services. Such requests are considered within the scope of this contract but will be priced and negotiated via modification as conditions warrant.

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Approvals will be issued by the Public Works Officer or his/her designee and transmitted via the COR.

1.11 GOVERNMENTAL SAFETY REQUIREMENTS

Personal protective equipment (PPE) is governed in all areas by the nature of the work the employee is performing. Use personal hearing protection at all times in designated noise hazardous locations or when performing noise hazardous tasks. Safety glasses must be worn or carried/available on each person. Mandatory PPE includes: hard hats, long pants, appropriate safety shoes, and appropriate class reflective vest.

Comply with the Safety and Health Requirements Manual (EM 385-1-1), NFPA 70, NFPA 70E, NFPA 241, the Accident Prevention Plan (APP), the Activity Hazard Analysis (AHA), Federal and State OSHA regulations, and other related submittals and activity fire and safety regulations. The most stringent standard prevails. Contractor shall use the latest version of EM 385.

An APP in accordance with EM 385-1-1, Appendix A, is required.

An AHA in accordance with EM 385-1-1, Section 1, is required for each activity or task.

The contractor is responsible for any required permits.

1.12 EXECUTION

If during the course of the work, conditions are encountered which are not covered in the contract or are different from conditions that would be reasonably anticipated, the contractor shall immediately notify the Contracting Officer. If such conditions are hazardous or the continuation of work would cause a hazardous condition to develop, the contractor shall stop work and proceed as directed by the Contracting Officer as directed by provisions contained in other sections of this specification. This may include modifications to, or the development of a new, Health and Safety Plan for this project, and alternate or additional appropriate abatement procedures.

1.13 CLOSEOUT SUBMITTALS

1.13.1 SPARE PARTS DATA

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Submit two copies of the Spare Parts Data list. Indicate manufacturer's name, part number, nomenclature, and stock level required for maintenance and repair. List those items that may be standard to the normal maintenance of the system.

1.13.2 WARRANTY MANAGEMENT PLAN

Develop a warranty management plan which contains information relevant to FAR 52.246-21 Warranty of Construction. Submit two sets of the warranty management plan. Include within the warranty management plan all required actions and documents to assure that the Government receives all warranties to which it is entitled. The plan narrative must contain sufficient detail to render it suitable for use by future maintenance and repair personnel, whether tradesmen, or of engineering background, not necessarily familiar with this contract. The term "status" as indicated below must include due date and whether item has been submitted or was accomplished. Assemble approved information in a binder and turn over to the Government upon acceptance of the work. The construction warranty period must begin on the date of project acceptance and continue for the full product warranty period. The warranty management plan must include, but is not limited to, the following:

a. Roles and responsibilities of personnel associated with the warranty process, including points of contact and telephone numbers within the organizations of the Contractors, subcontractors, manufacturers or suppliers involved.

b. For each warranty, the name, address, telephone number, and email of each of the guarantor's representatives nearest to the project location.

c. A list and status of delivery of Certificates of Warranty for extended warranty items, including roofs, HVAC balancing, pumps, motors, transformers, and for commissioned systems, such as fire protection and alarm systems, sprinkler systems, and lightning protection systems.

d. As-Built Record of Equipment and Materials list for each warranted equipment, item, feature of construction or system indicating:

(1) Name of item.
(2) Model and serial numbers.
(3) Location where installed.
(4) Name and phone numbers of manufacturers or suppliers.

(5) Names, addresses and telephone numbers of sources of spare parts.
(6) Warranties and terms of warranty. Include one-year overall warranty of construction, including the starting date of warranty of construction. Items which have extended warranties must be indicated with separate warranty expiration dates.
(7) Cross-reference to warranty certificates as applicable.
(8) Starting point and duration of warranty period.
(9) Summary of maintenance procedures required to continue the warranty in force.
(10) Cross-reference to specific pertinent Operation and Maintenance manuals.
(11) Organization, names and phone numbers of persons to call for warranty service.
(12) Typical response time and repair time expected for various warranted equipment.

e. Procedure and status of tagging of equipment covered by extended warranties.

f. Copies of instructions to be posted near selected pieces of equipment where operation is critical for warranty or safety reasons.

1.13.3 OPERATION & MAINTENANCE MANUALS

Provide four electronic copies of the Operation and Maintenance Manual files. Submit to the Contracting Officer for approval 30 days before the Beneficial Occupancy Date (BOD). Update and resubmit files for final approval at BOD.

SECTION 26 20 00

INTERIOR DISTRIBUTION SYSTEM
08/19, CHG 2: 05/21

PART 1 GENERAL

1.1 REFERENCES

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

ASTM INTERNATIONAL (ASTM)

ASTM D709	(2017) Standard Specification for Laminated Thermosetting Materials

INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE)

IEEE 100	(2000; Archived) The Authoritative Dictionary of IEEE Standards Terms

NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION (NECA)

NECA NEIS 1	(2015) Standard for Good Workmanship in Electrical Construction

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

ANSI C80.1	(2005) American National Standard for Electrical Rigid Steel Conduit (ERSC)
ANSI C80.3	(2015) American National Standard for Electrical Metallic Tubing (EMT)
NEMA ICS 1	(2000; R 2015) Standard for Industrial Control and Systems: General Requirements
NEMA ICS 6	(1993; R 2016) Industrial Control and Systems: Enclosures
NEMA KS 1	(2013) Enclosed and Miscellaneous Distribution Equipment Switches (600 V Maximum)
NEMA WD 1	(1999; R 2015) Standard for General Color Requirements for Wiring Devices
NEMA WD 6	(2016) Wiring Devices Dimensions Specifications
NEMA Z535.4	(2011; R 2017) Product Safety Signs and Labels

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

NFPA 70	(2020; ERTA 20-1 2020; ERTA 20-2 2020; TIA

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	20-1; TIA 20-2; TIA 20-3; TIA 20-4) National Electrical Code
NFPA 70E	(2021) Standard for Electrical Safety in the Workplace

TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA)

TIA-607	(2015c; Addendum 1 2017) Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910.147	The Control of Hazardous Energy (Lock Out/Tag Out)
29 CFR 1910.303	Electrical, General

UNDERWRITERS LABORATORIES (UL)

UL 1	(2005; Reprint Jan 2020) UL Standard for Safety Flexible Metal Conduit
UL 6	(2007; Reprint Sep 2019) UL Standard for Safety Electrical Rigid Metal Conduit-Steel
UL 50	(2015) UL Standard for Safety Enclosures for Electrical Equipment, Non-Environmental Considerations
UL 67	(2018; Reprint Jul 2020) UL Standard for Safety Panelboards
UL 83	(2017; Reprint Mar 2020) UL Standard for Safety Thermoplastic-Insulated Wires and Cables
UL 360	(2013; Reprint Oct 2020) UL Standard for Safety Liquid-Tight Flexible Metal Conduit
UL 467	(2013; Reprint Jun 2017) UL Standard for Safety Grounding and Bonding Equipment
UL 486A-486B	(2018) UL Standard for Safety Wire Connectors
UL 486C	(2019) UL Standard for Safety Splicing Wire Connectors
UL 489	(2016) UL Standard for Safety Molded-Case Circuit Breakers, Molded-Case Switches and Circuit-Breaker Enclosures
UL 498	(2017; Reprint Feb 2021) UL Standard for Safety Attachment Plugs and Receptacles
UL 510	(2020) UL Standard for Safety Polyvinyl Chloride, Polyethylene and Rubber

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	Insulating Tape
UL 514B	(2012; Reprint May 2020) Conduit, Tubing and Cable Fittings
UL 797	(2007; Reprint Mar 2017) UL Standard for Safety Electrical Metallic Tubing -- Steel
UL 869A	(2006; Reprint Jun 2020) Reference Standard for Service Equipment
UL 943	(2016; Reprint Feb 2018) UL Standard for Safety Ground-Fault Circuit-Interrupters
UL 1242	(2006; Reprint Aug 2020) Standard for Electrical Intermediate Metal Conduit -- Steel

1.2 DEFINITIONS

Unless otherwise specified or indicated, electrical and electronics terms used in these specifications, and on the drawings, as defined in IEEE 100.

1.3 SUBMITTALS

Government approval is required for submittals:

SD-02 Shop Drawings

Panelboards
Marking Strips Drawings

SD-03 Product Data

Circuit Breakers

Switches

SD-06 Test Reports

600-volt Wiring Test

1.4 QUALITY ASSURANCE

1.4.1 Fuses

Submit coordination data as specified in paragraph, FUSES of this section.

1.4.2 Regulatory Requirements

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "must" had been substituted for "should" wherever it appears. Interpret references in these publications to the "authority having jurisdiction," or words of similar meaning, to mean the Contracting Officer. Provide equipment, materials, installation, and workmanship in accordance with NFPA 70 unless more stringent requirements are specified or indicated. NECA NEIS 1 shall

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be considered the minimum standard for workmanship.

1.4.3 Standard Products

Provide materials and equipment that are products of manufacturers regularly engaged in the production of such products which are of equal material, design and workmanship and:

a. Have been in satisfactory commercial or industrial use for 2 years prior to bid opening including applications of equipment and materials under similar circumstances and of similar size.

b. Have been on sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.

c. Where two or more items of the same class of equipment are required, provide products of a single manufacturer; however, the component parts of the item need not be the products of the same manufacturer unless stated in this section.

1.4.3.1 Alternative Qualifications

Products having less than a 2-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturers' factory or laboratory tests, is furnished.

1.4.3.2 Material and Equipment Manufacturing Date

Products manufactured more than 3 years prior to date of delivery to site are not acceptable.

1.5 MAINTENANCE

1.5.1 Electrical Systems

Submit operation and maintenance manuals for electrical systems that provide basic data relating to the design, operation, and maintenance of the electrical distribution system for the building. Include the following:

a. Single line diagram of the "as-built" building electrical system.

b. Schematic diagram of electrical control system (other than HVAC, covered elsewhere).

c. Manufacturers' operating and maintenance manuals on active electrical equipment.

1.6 WARRANTY

Provide equipment items supported by service organizations that are reasonably convenient to the equipment installation in order to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

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PART 2 PRODUCTS

2.1 MATERIALS AND EQUIPMENT

As a minimum, meet requirements of UL, where UL standards are established for those items, and requirements of NFPA 70 for all materials, equipment, and devices.

2.2 CONDUIT AND FITTINGS

Conform to the following:

2.2.1 Rigid Metallic Conduit

2.2.1.1 Rigid, Threaded Zinc-Coated Steel Conduit

ANSI C80.1, UL 6.

2.2.2 Intermediate Metal Conduit (IMC)

UL 1242, zinc-coated steel only.

2.2.3 Electrical, Zinc-Coated Steel Metallic Tubing (EMT)

UL 797, ANSI C80.3.

2.2.4 Flexible Metal Conduit

UL 1, limited to 6 feet.

2.2.4.1 Liquid-Tight Flexible Metal Conduit, Steel

UL 360, limited to 6 feet.

2.2.5 Fittings for Metal Conduit, EMT, and Flexible Metal Conduit

UL 514B. Ferrous fittings: cadmium- or zinc-coated in accordance with UL 514B.

2.2.5.1 Fittings for Rigid Metal Conduit and IMC

Threaded-type. Split couplings unacceptable.

2.2.5.2 Fittings for EMT

Steel compression type.

2.3 OUTLET BOXES AND COVERS

2.4 CABINETS, JUNCTION BOXES, AND PULL BOXES

UL 50; volume greater than 100 cubic inches, NEMA Type 1 enclosure; sheet steel, hot-dip, zinc-coated. Where exposed to wet, damp, or corrosive environments, NEMA Type 4Xas indicated.

2.5 WIRES AND CABLES

Provide wires and cables in accordance applicable requirements of NFPA 70 and UL for type of insulation, jacket, and conductor specified or

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indicated. Do not use wires and cables manufactured more than 12 months prior to date of delivery to site.

2.5.1 Conductors

Provide the following:

a. Conductor sizes and capacities shown are based on copper, unless indicated otherwise.

b. Conductors No. 8 AWG and larger diameter: stranded.

c. Conductors No. 10 AWG and smaller diameter: solid.

d. Conductors for remote control, alarm, and signal circuits, classes 1, 2, and 3: stranded unless specifically indicated otherwise.

e. All conductors: copper.Conductors indicated to be No. 6 AWG or smaller diameter: copper. Conductors indicated to be No. 4 AWG and larger diameter: copper , unless type of conductor material is specifically indicated, or specified, or required by equipment manufacturer.

2.5.1.1 Equipment Manufacturer Requirements

When manufacturer's equipment requires copper conductors at the terminations or requires copper conductors to be provided between components of equipment, provide copper conductors or splices, splice boxes, and other work required to satisfy manufacturer's requirements.

2.5.1.2 Minimum Conductor Sizes

Provide minimum conductor size in accordance with the following:

a. Branch circuits: No. 12 AWG.

b. Class 1 remote-control and signal circuits: No. 14 AWG.

c. Class 2 low-energy, remote-control and signal circuits: No. 16 AWG.

d. Class 3 low-energy, remote-control, alarm and signal circuits: No. 22 AWG.

2.5.2 Color Coding

Provide color coding for service, feeder, branch, control, and signaling circuit conductors.

2.5.2.1 Ground and Neutral Conductors

Provide color coding of ground and neutral conductors as follows:

a. Grounding conductors: Green.

b. Neutral conductors: White.

c. Exception, where neutrals of more than one system are installed in same raceway or box, other neutrals color coding: white with a different colored (not green) stripe for each.

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2.5.3 Insulation

Unless specified or indicated otherwise or required by NFPA 70, provide power and lighting wires rated for 600-volts, Type THWN/THHN conforming to UL 83, except that grounding wire may be type TW conforming to UL 83; remote-control and signal circuits: Type TW or TF, conforming to UL 83.

2.6 SPLICES AND TERMINATION COMPONENTS

UL 486A-486B for wire connectors and UL 510 for insulating tapes. Connectors for No. 10 AWG and smaller diameter wires: insulated, pressure-type in accordance with UL 486A-486B or UL 486C (twist-on splicing connector). Provide solderless terminal lugs on stranded conductors.

2.7 SWITCHES

2.7.1 Disconnect Switches

NEMA KS 1. Provide heavy duty-type switches where indicated, where switches are rated higher than 240 volts, and for double-throw switches. Utilize Class R fuseholders and fuses for fused switches, unless indicated otherwise. Provide horsepower rated for switches serving as the motor-disconnect means. Provide switches in NEMA 1, and NEMA 4X enclosure as indicated per NEMA ICS 6.

2.8 RECEPTACLES

Provide the following:

a. UL 498, general purpose specification grade, grounding-type. Residential grade receptacles are not acceptable.

b. Ratings and configurations: as indicated.

c. Bodies: ivory as per NEMA WD 1.

d. Face and body: thermoplastic supported on a metal mounting strap.

e. Dimensional requirements: per NEMA WD 6.

f. Screw-type, side-wired wiring terminals or of the solderless pressure type having suitable conductor-release arrangement.

g. Grounding pole connected to mounting strap.

h. The receptacle: containing triple-wipe power contacts and double or triple-wipe ground contacts.

2.8.1 Weatherproof Receptacles

Provide receptacles, UL listed for use in "wet locations" with integral GFCI protection. Include cast metal box with gasketed, hinged, lockable and weatherproof while-in-use, polycarbonate, UV resistant/stabilized cover plate.

2.8.2 Special Purpose Receptacles

Receptacles serving charging station are special purpose. Provide in

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ratings indicated. NEMA 4X configuration, rated 60A amperes, 208 volts. Furnish one matching plug with each receptacle.

2.9 PANELBOARDS

Provide panelboards in accordance with the following:

a. UL 67 and UL 50 having a short-circuit current rating as indicated.

b. Panelboards for use as service disconnecting means: additionally conform to UL 869A.

c. Panelboards: circuit breaker-equipped.

d. Designed such that individual breakers can be removed without disturbing adjacent units or without loosening or removing supplemental insulation supplied as means of obtaining clearances as required by UL.

e. "Specific breaker placement" is required in panelboards to match the breaker placement indicated in the panelboard schedule on the design drawings. If it is not possible to match "specific breaker placement" during construction, obtain Government approval prior to device installation.

f. Use of "Subfeed Breakers" is not acceptable.

g. Main breaker: "separately" mounted "above" or "below" branch breakers.

h. Where "space only" is indicated, make provisions for future installation of breakers.

i. Directories: indicate load served by each circuit in panelboard.

j. Directories: indicate source of service to panelboard (e.g., Panel PA served from Panel MDP).

2.9.1 Enclosure

Provide panelboard enclosure in accordance with the following:

a. UL 50.

b. Cabinets mounted outdoors or flush-mounted: hot-dipped galvanized after fabrication.

c. Cabinets: painted in accordance with paragraph PAINTING.

d. Outdoor cabinets: NEMA 4X with a removable steel plate 1/4 inch thick in the bottom for field drilling for conduit connections.

e. Front edges of cabinets: form-flanged or fitted with structural shapes welded or riveted to the sheet steel, for supporting the panelboard front.

f. All cabinets: fabricated such that no part of any surface on the finished cabinet deviates from a true plane by more than 1/8 inch.

g. Holes: provided in the back of indoor surface-mounted cabinets, with

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outside spacers and inside stiffeners, for mounting the cabinets with a 1/2 inch clear space between the back of the cabinet and the wall surface.

h. Flush doors: mounted on hinges that expose only the hinge roll to view when the door is closed.

i. Each door: fitted with a combined catch and lock latch.

j. Keys: two provided with each lock, with all locks keyed alike.

k. Finished-head cap screws: provided for mounting the panelboard fronts on the cabinets.

2.9.2 Panelboard Buses

Support bus bars on bases independent of circuit breakers. Design main buses and back pans so that breakers may be changed without machining, drilling, or tapping. Provide isolated neutral bus in each panel for connection of circuit neutral conductors. Provide separate ground bus identified as equipment grounding bus per UL 67 for connecting grounding conductors; bond to steel cabinet. In addition to equipment grounding bus, provide second "isolated" ground bus, where indicated.

2.9.3 Circuit Breakers

UL 489, solid state-type having a minimum short-circuit current rating equal to the short-circuit current rating of the panelboard in which the circuit breaker will be mounted. Breaker terminals: UL listed as suitable for type of conductor provided. Where indicated on the drawings, provide circuit breakers with shunt trip devices. Series rated circuit breakers and plug-in circuit breakers are unacceptable.

2.9.3.1 Multipole Breakers

Provide common trip-type with single operating handle. Design breaker such that overload in one pole automatically causes all poles to open. Maintain phase sequence throughout each panel so that any three adjacent breaker poles are connected to Phases A, B, and C, respectively.

2.9.3.2 Circuit Breaker With Ground-Fault Circuit Interrupter

UL 943 and NFPA 70. Provide with auto-monitoring (self-test) and lockout features, "push-to-test" button, visible indication of tripped condition, and ability to detect and trip when current imbalance is 6 milliamperes or higher per requirements of UL 943 for Class A ground-fault circuit interrupter devices.

2.10 LOCKOUT REQUIREMENTS

Provide circuit breakers, disconnecting means, and other devices that are electrical energy-isolating capable of being locked out for machines and other equipment to prevent unexpected startup or release of stored energy in accordance with 29 CFR 1910.147, NFPA 70E and 29 CFR 1910.303. Comply with requirements of Division 23, "Mechanical" for mechanical isolation of machines and other equipment.

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2.11 GROUNDING AND BONDING EQUIPMENT

2.11.1 Ground Rods

UL 467. Ground rods: cone pointed copper-clad steel ,solid copper or stainless steel, with minimum diameter of 3/4 inch and minimum length 10 feet. Sectional type rods may be used for rods 20 feet or longer.

2.11.2 Ground Bus

Copper ground bus: provided in the electrical equipment rooms as indicated.

2.11.3 Secondary Bonding Busbar

Provide corrosion-resistant grounding busbar suitable for indoor or outdoor installation in accordance with TIA-607. Busbars: plated for reduced contact resistance. If not plated, clean the busbar prior to fastening the conductors to the busbar and apply an anti-oxidant to the contact area to control corrosion and reduce contact resistance. Provide a Primary bonding busbar (PBB) in the telecommunications entrance facility and a Secondary bonding busbar (SBB) in all other telecommunications rooms and equipment rooms. The Primary bonding busbar (PBB) and the Secondary bonding busbar (SBB): sized in accordance with the immediate application requirements and with consideration of future growth. Provide Secondary bonding busbars with the following:

a. Predrilled copper busbar provided with holes for use with standard sized lugs,

b. Minimum dimensions of 0.25 in thick by 4 in wide for the PBB and 2 in wide for SBBs with length as indicated;

c. Listed by a nationally recognized testing laboratory.

2.12 MANUFACTURER'S NAMEPLATE

Provide on each item of equipment a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

2.13 FIELD FABRICATED NAMEPLATES

Provide field fabricated nameplates in accordance with the following:

a. ASTM D709.

b. Provide laminated plastic nameplates for each equipment enclosure, relay, switch, and device; as specified or as indicated on the drawings.

c. Each nameplate inscription: identify the function and, when applicable, the position.

d. Nameplates: melamine plastic, 0.125 inch thick, white with black center core.

e. Surface: matte finish. Corners: square. Accurately align lettering

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and engrave into the core.

f. Minimum size of nameplates: one by 2.5 inches.

g. Lettering size and style: a minimum of 0.25 inch high normal block style.

2.14 WARNING SIGNS

Provide warning signs for flash protection in accordance with NFPA 70E and NEMA Z535.4 for switchboards, panelboards, industrial control panels, and motor control centers that are in other than dwelling occupancies and are likely to require examination, adjustment, servicing, or maintenance while energized. Provide field installed signs to warn qualified persons of potential electric arc flash hazards when warning signs are not provided by the manufacturer. Provide marking that is clearly visible to qualified persons before examination, adjustment, servicing, or maintenance of the equipment.

PART 3 EXECUTION

3.1 INSTALLATION

3.1.1 Underground Service

Underground service conductors and associated conduit: continuous from service entrance equipment to outdoor power system connection.

3.1.2 Wiring Methods

Provide insulated conductors installed in rigid steel conduit, IMC, rigid nonmetallic conduit, or EMT, except where specifically indicated or specified otherwise or required by NFPA 70 to be installed otherwise. Grounding conductor: separate from electrical system neutral conductor. Provide insulated green equipment grounding conductor for circuit(s) installed in conduit and raceways. Shared neutral, or multi-wire branch circuits, are not permitted with arc-fault circuit interrupters. Minimum conduit size: 1/2 inch in diameter for low voltage lighting and power circuits. Vertical distribution in multiple story buildings: made with metal conduit in fire-rated shafts, with metal conduit extending through shafts for minimum distance of 6 inches.

3.1.2.1 Pull Wire

Install pull wires in empty conduits. Pull wire: plastic having minimum 200-pound force tensile strength. Leave minimum 36 inches of slack at each end of pull wire.

3.1.3 Conduit Installation

Unless indicated otherwise, conceal conduit under floor slabs and within finished walls, ceilings, and floors. Keep conduit minimum 6 inches away from parallel runs of flues and steam or hot water pipes. Install conduit parallel with or at right angles to ceilings, walls, and structural members where located above accessible ceilings and where conduit will be visible after completion of project.

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3.1.3.1 Restrictions Applicable to Nonmetallic Conduit

a. PVC Schedule 40.

(1) Do not use where subject to physical damage, including but not limited to, mechanical equipment rooms, electrical equipment rooms, fire pump rooms, and where restrictions are applying to both PVC Schedule 40 and PVC Schedule 80.

(2) Do not use above grade, except where allowed in this section for rising through floor slab or indicated otherwise.

b. PVC Schedule 40 and Schedule 80.

(1) Do not use where subject to physical damage, including but not limited to, hospitals, power plant, missile magazines, and other such areas.

(2) Do not use in hazardous (classified) areas.

(3) Do not use in penetrating fire-rated walls or partitions, or fire-rated floors.

-

3.1.3.2 Restrictions Applicable to Flexible Conduit

Use only as specified in paragraph FLEXIBLE CONNECTIONS. Do not use when the enclosed conductors must be shielded from the effects of High-altitude Electromagnetic Pulse (HEMP).

3.1.3.3 Conduit Support

Support conduit by pipe straps, wall brackets, threaded rod conduit hangers, or ceiling trapeze. Plastic cable ties are not acceptable. Fasten by wood screws to wood; by toggle bolts on hollow masonry units; by concrete inserts or expansion bolts on concrete or brick; and by machine screws, welded threaded studs, or spring-tension clamps on steel work. Threaded C-clamps may be used on rigid steel conduit only. Do not weld conduits or pipe straps to steel structures. Do not exceed one-fourth proof test load for load applied to fasteners. Provide vibration resistant and shock-resistant fasteners attached to concrete ceiling. Do not cut main reinforcing bars for any holes cut to depth of more than 1 1/2 inches in reinforced concrete beams or to depth of more than 3/4 inch in concrete joints. Fill unused holes. In partitions of light steel construction, use sheet metal screws. For conduits greater than 2 1/2 inches inside diameter, provide supports to resist forces of 0.5 times the equipment weight in any direction and 1.5 times the equipment weight in the downward direction.

3.1.3.4 Directional Changes in Conduit Runs

Make changes in direction of runs with symmetrical bends or cast-metal fittings. Make field-made bends and offsets with hickey or conduit-bending machine. Do not install crushed or deformed conduits. Avoid trapped conduits. Prevent plaster, dirt, or trash from lodging in conduits, boxes, fittings, and equipment during construction. Free clogged conduits of obstructions.

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3.1.3.5 Locknuts and Bushings

Fasten conduits to sheet metal boxes and cabinets with two locknuts where required by NFPA 70, where insulated bushings are used, and where bushings cannot be brought into firm contact with the box; otherwise, use at least minimum single locknut and bushing. Provide locknuts with sharp edges for digging into wall of metal enclosures. Install bushings on ends of conduits, and provide insulating type where required by NFPA 70.

3.1.3.6 Flexible Connections

Provide flexible steel conduit between 3 and 6 feet in length for recessed and semirecessed lighting fixtures; for equipment subject to vibration, noise transmission, or movement; and for motors. Install flexible conduit to allow 20 percent slack. Minimum flexible steel conduit size: 1/2 inch diameter. Provide liquid tight flexible nonmetallic conduit in wet and damp locations for equipment subject to vibration, noise transmission, movement or motors. Provide separate ground conductor across flexible connections. Plastic cable ties are not acceptable as a support method.

3.1.4 Boxes, Outlets, and Supports

Provide boxes in wiring and raceway systems wherever required for pulling of wires, making connections, and mounting of devices or fixtures. Boxes for metallic raceways: cast-metal, hub-type when located in wet locations, when surface mounted on outside of exterior surfaces, when surface mounted on interior walls exposed up to 7 feet above floors and walkways, or when installed in hazardous areas and when specifically indicated. Provide each box with volume required by NFPA 70 for number of conductors enclosed in box. Boxes for mounting lighting fixtures: minimum 4 inches square, or octagonal, except that smaller boxes may be installed as required by fixture configurations, as approved. Boxes for use in masonry-block or tile walls: square-cornered, tile-type, or standard boxes having square-cornered, tile-type covers. Provide gaskets for cast-metal boxes installed in wet locations and boxes installed flush with outside of exterior surfaces. Provide separate boxes for flush or recessed fixtures when required by fixture terminal operating temperature; provide readily removable fixtures for access to boxes unless ceiling access panels are provided. Support boxes and pendants for surface-mounted fixtures on suspended ceilings independently of ceiling supports. Fasten boxes and supports with wood screws on wood, with bolts and expansion shields on concrete or brick, with toggle bolts on hollow masonry units, and with machine screws or welded studs on steel. Threaded studs driven in by powder charge and provided with lock washers and nuts or nail-type nylon anchors may be used in lieu of wood screws, expansion shields, or machine screws. In open overhead spaces, cast boxes threaded to raceways need not be separately supported except where used for fixture support; support sheet metal boxes directly from building structure or by bar hangers. Where bar hangers are used, attach bar to raceways on opposite sides of box, and support raceway with approved-type fastener maximum 24 inches from box. When penetrating reinforced concrete members, avoid cutting reinforcing steel.

3.1.4.1 Boxes

Boxes for use with raceway systems: minimum 1 1/2 inches deep, except where shallower boxes required by structural conditions are approved. Boxes for other than lighting fixture outlets: minimum 4 inches square, except that 4 by 2 inch boxes may be used where only one raceway enters

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outlet.

3.1.5 Mounting Heights

Mount disconnecting switches so height of center of grip of the operating handle of the switch or circuit breaker at its highest position is maximum 79 inches above floor or working platform or as allowed in Section 404.8 per NFPA 70.

3.1.6 Conductor Identification

Provide conductor identification within each enclosure where tap, splice, or termination is made. For conductors No. 6 AWG and smaller diameter, provide color coding by factory-applied, color-impregnated insulation. For conductors No. 4 AWG and larger diameter, provide color coding by plastic-coated, self-sticking markers; colored nylon cable ties and plates; or heat shrink-type sleeves.

3.1.6.1 Marking Strips

Provide marking strips for identification of power distribution, control, data, and communications cables in accordance with the following:

a. Provide white or other light-colored plastic marking strips, fastened by screws to each terminal block, for wire designations.

b. Use permanent ink for the wire numbers

c. Provide reversible marking strips to permit marking both sides, or provide two marking strips with each block.

d. Size marking strips to accommodate the two sets of wire numbers.

e. Assign a device designation in accordance with NEMA ICS 1 to each device to which a connection is made. Mark each device terminal to which a connection is made with a distinct terminal marking corresponding to the wire designation used on the Contractor's schematic and connection diagrams.

f. The wire (terminal point) designations used on the Contractor's wiring diagrams and printed on terminal block marking strips may be according to the Contractor's standard practice; however, provide additional wire and cable designations for identification of remote (external) circuits for the Government's wire designations.

g. Prints of the marking strips drawings submitted for approval will be so marked and returned to the Contractor for addition of the designations to the terminal strips and tracings, along with any rearrangement of points required.

3.1.7 Splices

Make splices in accessible locations. Make splices in conductors No. 10 AWG and smaller diameter with insulated, pressure-type connector. Make splices in conductors No. 8 AWG and larger diameter with solderless connector, and cover with insulation material equivalent to conductor insulation.

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3.1.8 Electrical Penetrations

Seal openings around electrical penetrations through fire resistance-rated walls, partitions, floors, or ceilings.

3.1.9 Grounding and Bonding

Provide in accordance with NFPA 70. Ground exposed, non-current-carrying metallic parts of electrical equipment, metallic raceway systems, grounding conductor in metallic and nonmetallic raceways,and neutral conductor of wiring systems. Make ground connection at main service equipment, and extend grounding conductor to point of entrance of metallic water service. Make connection to water pipe by suitable ground clamp or lug connection to plugged tee.

3.1.10 Equipment Connections

Provide power wiring for the connection of motors and control equipment under this section of the specification. Except as otherwise specifically noted or specified, automatic control wiring, control devices, and protective devices within the control circuitry are not included in this section of the specifications and are provided under the section specifying the associated equipment.

3.1.11 Government-Furnished Equipment

Contractor rough-in for Government-furnished equipment make connections to Government-furnished equipment to make equipment operate as intended, including providing miscellaneous items such as plugs, receptacles, wire, cable, conduit, flexible conduit, and outlet boxes or fittings.

3.1.12 Repair of Existing Work

Perform repair of existing work, demolition, and modification of existing electrical distribution systems as follows:

3.1.12.1 Workmanship

Lay out work in advance. Exercise care where cutting, channeling, chasing, or drilling of floors, walls, partitions, ceilings, or other surfaces is necessary for proper installation, support, or anchorage of conduit, raceways, or other electrical work. Repair damage to buildings, piping, and equipment using skilled craftsmen of trades involved.

3.1.12.2 Existing Concealed Wiring to be Removed

Disconnect existing concealed wiring to be removed from its source. Remove conductors; cut conduit flush with floor, underside of floor, and through walls; and seal openings.

3.1.12.3 Removal of Existing Electrical Distribution System

Removal of existing electrical distribution system equipment includes equipment's associated wiring, including conductors, cables, exposed conduit, surface metal raceways, boxes, and fittings, back to equipment's power source as indicated.

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3.2 FIELD FABRICATED NAMEPLATE MOUNTING

Provide number, location, and letter designation of nameplates as indicated. Fasten nameplates to the device with a minimum of two sheet-metal screws or two rivets.

3.3 WARNING SIGN MOUNTING

Provide the number of signs required to be readable from each accessible side. Space the signs in accordance with NFPA 70E.

3.4 FIELD APPLIED PAINTING

Paint electrical equipment as required to match finish of adjacent surfaces or to meet the indicated or specified safety criteria. Where field painting of enclosures for panelboards, load centers or the like is specified to match adjacent surfaces, to correct damage to the manufacturer's factory applied coatings, or to meet the indicated or specified safety criteria, provide manufacturer's recommended coatings and apply in accordance to manufacturer's instructions.

3.5 FIELD QUALITY CONTROL

Furnish test equipment and personnel and submit written copies of test results. Give Contracting Officer 5 working days notice prior to test.

3.5.1 Devices Subject to Manual Operation

Operate each device subject to manual operation at least five times, demonstrating satisfactory operation each time.

3.5.2 600-Volt Wiring Test

Test wiring rated 600 volt and less to verify that no short circuits or accidental grounds exist. Perform insulation resistance tests on wiring No. 6 AWG and larger diameter using instrument which applies voltage of 1,000 volts DC for 600 volt rated wiring to provide direct reading of resistance. All existing wiring to be reused must also be tested.

-- End of Section --

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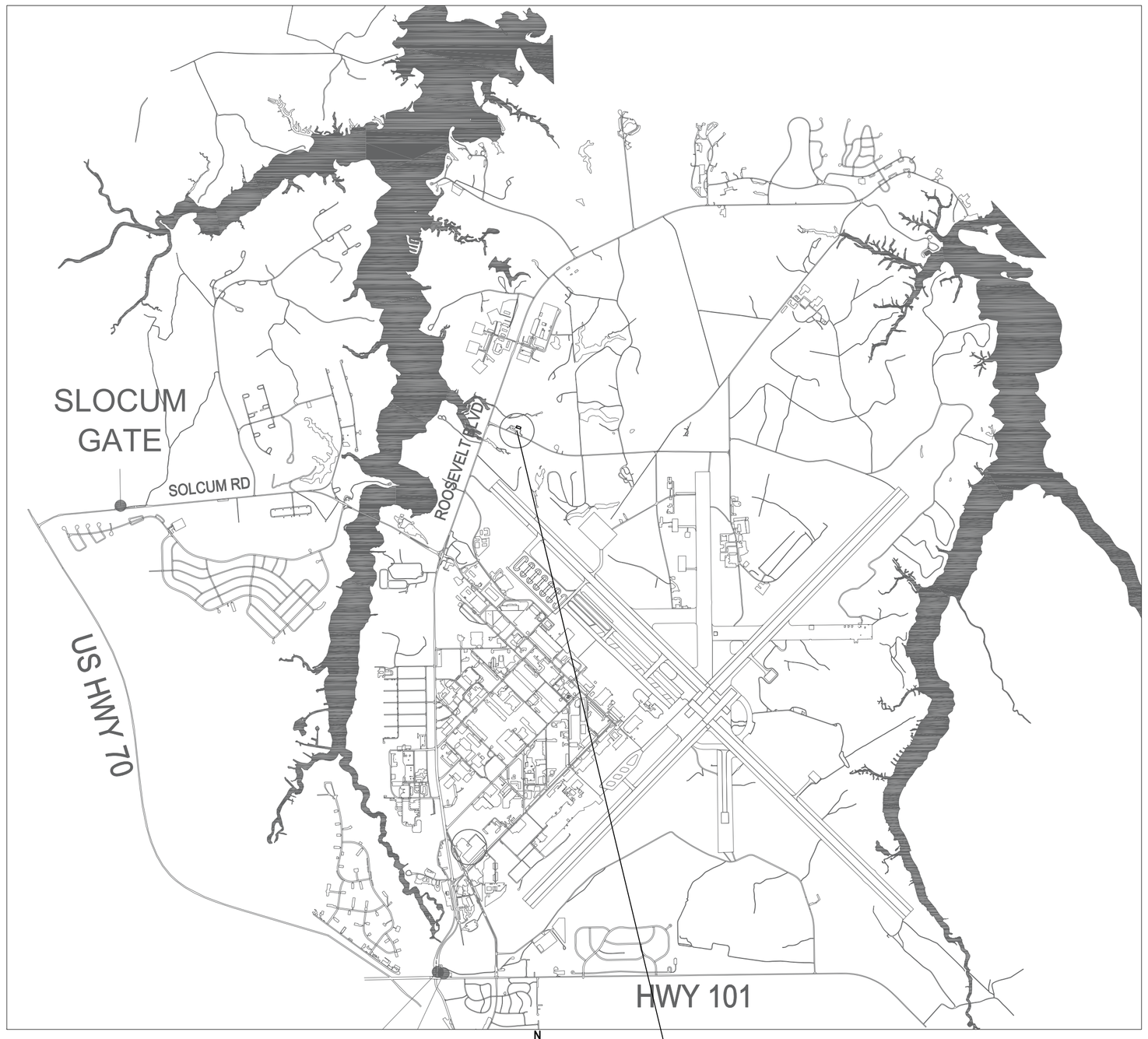
PROVIDE AND INSTALL ADDITIONAL POWER OUTLETS, B4223, EAD

MARINE CORPS AIR STATION
CHERRY POINT, NORTH CAROLINA
PW WO.# 7396223

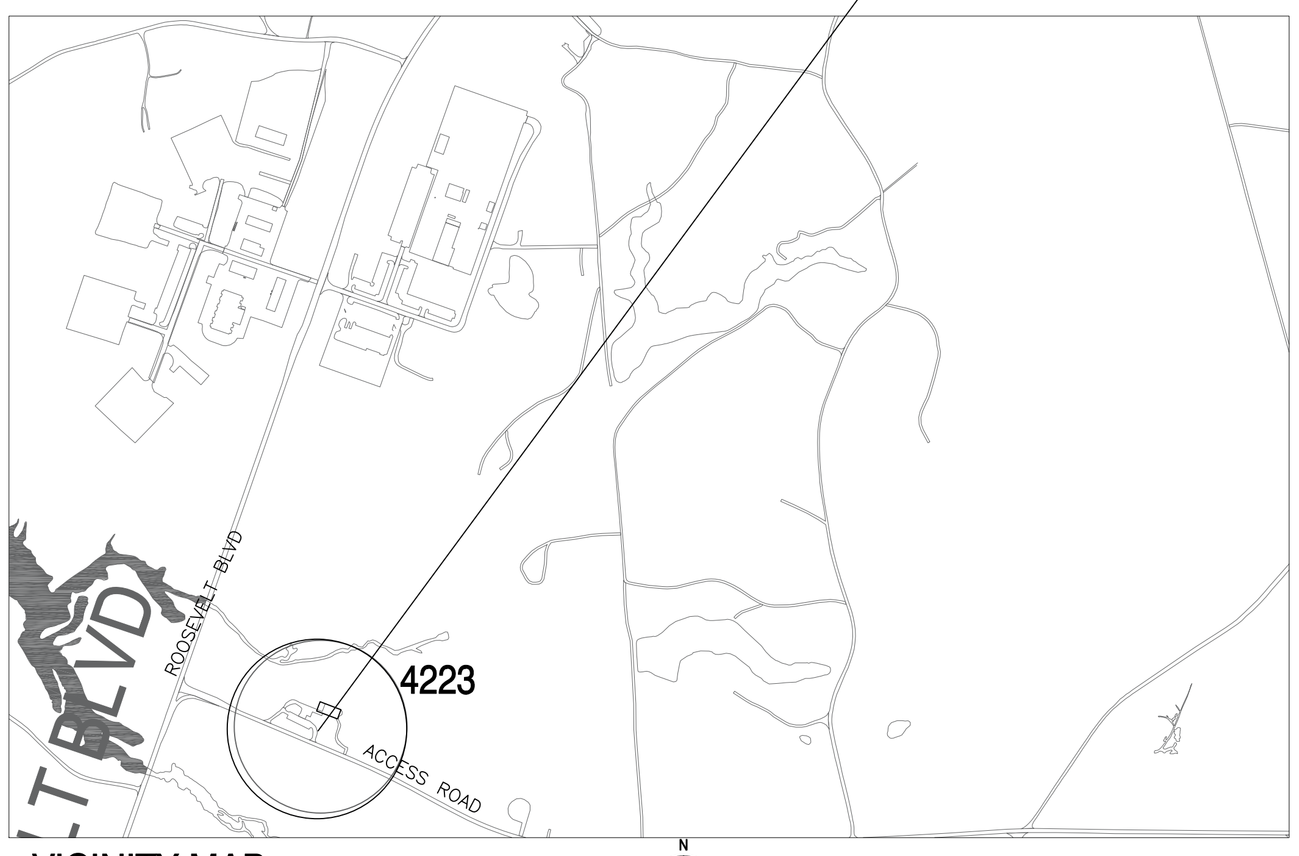
INDEX OF DRAWINGS

NAVFAC NO.	SHEET NO.	TITLE
12926298	G–001	TITLE SHEET
12926299	EP101	B4223 – OFFICE SPACE NEW WORK POWER PLAN
12926300	E601	PANEL SCHEDULES & DETAILS



CHERRY POINT AIR STATION MAP
NOT TO SCALE

AREA OF WORK
BUILDING 4223



VICINITY MAP
NOT TO SCALE

APPR | DATE | DESCRIPTION | SYM

DESIGNED & ENGINEERED BY:
FACILITIES ENGINEERING

FINAL

03.11.2026

SEAL

APPROVED

ACTIVITY – SATISFACTORY TO

DATE

APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E	EFD
DESIGN	CRL
DRAWN	CRL
REVIEW	RCM
QC	
CHIEF ARCH./ ENGR.	
PROJECT MANAGER	CRL
FIRE PROTECTION	XXX
BRANCH MANAGER	LPF
DESIGN DIRECTOR	LPF

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
MCAS CHERRY POINT
CHERRY POINT, NC

PROVIDE AND INSTALL ADDITIONAL POWER OUTLETS, B4223, EAD

TITLE SHEET

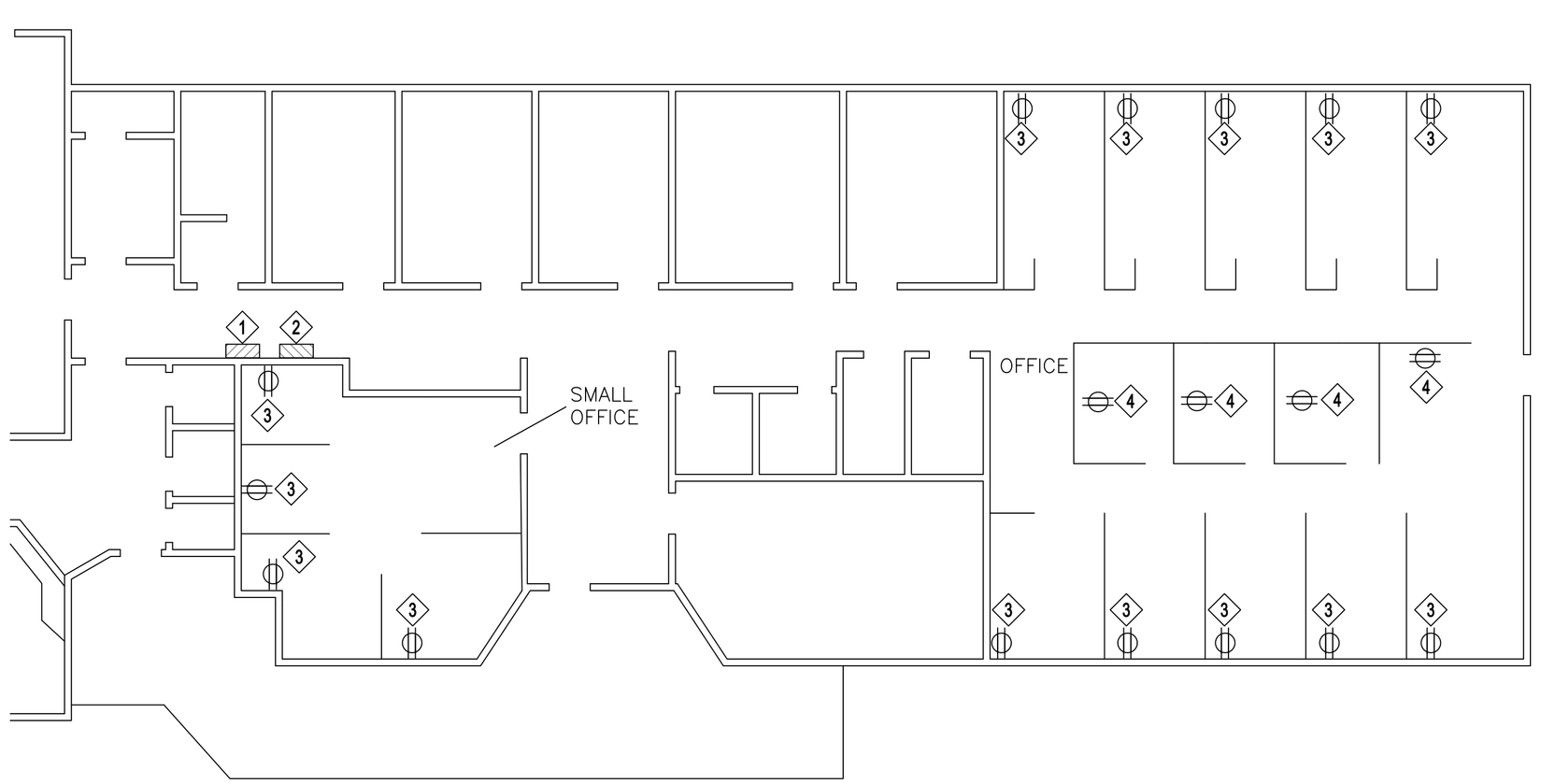
CODE ID. NO. 80091 SIZE D
SCALE: AS NOTED
FED NO.
STA. PROJ. NO. 7396223
SPEC. NO.
CONSTR. CONTR. NO.

NAVFAC DRAWING NO.
12926298

SHEET 1 OF 3

G-001

DRAWFORM REVISION: 07 AUG 2018



C1 **B4223 - OFFICE SPACE NEW WORK POWER PLAN**
SCALE: 1/8"=1'-0"

GENERAL NOTES

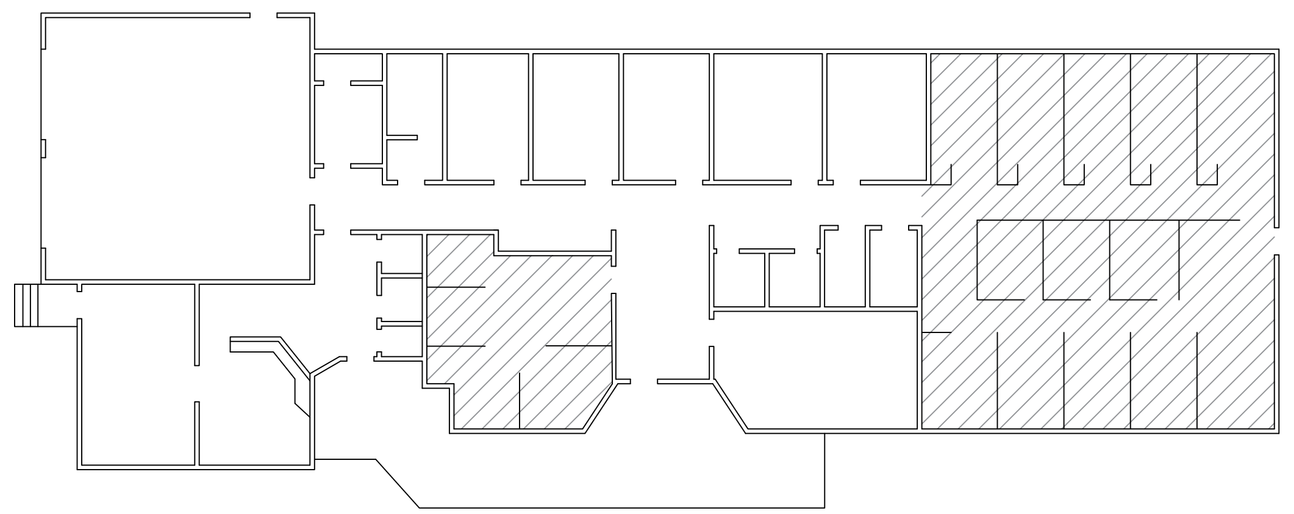
1. ALL MATERIALS ARE TO BE CONSIDERED NEW UNLESS SPECIFICALLY REFERRED TO AS "EXISTING".
2. ALL OUTLETS BOXES MUST BE LABELED TO CORRESPONDING CIRCUIT BREAKER IN PANEL USED.

DEMO/NEW WORK NOTES:

1. PROVIDE 120/240V SINGLE PHASE 42 SLOT 225A MCB PANEL TO REPLACE EXISTING PANEL A, REUSE EXISTING WIRING AND CONDUIT. PROVIDE (22) 1P20A CIRCUIT BREAKER, (3) 2P30A, (2) 2P40A, (2) 2P60A, (1) 2P90A, (1) 2P100A IN PANEL A. PROVIDE (2) THHN #3, #3 N AND #8 G FROM 2P100A CIRCUIT BRAKER IN PANEL A TO LOAD CENTER A. SEE E601 FOR PANEL SCHEDULE.
2. PROVIDE 120/240V SINGLE PHASE 30 SLOT 100A PANEL TO REPLACE EXISTING LOAD CENTER A, REUSE EXISTING WIRING AND CONDUIT. PROVIDE (29) 1P20A CIRCUIT BREAKER IN LOAD CENTER A SEE E601.
3. PROVIDE THHN #12, #12 N AND #12 G FROM LOAD CENTER A TO SURFACE MOUNTED DEDICATED DUPLEX RECEPTACLE. SEE E601 FOR PANEL SCHEDULE.
4. PROVIDE THHN #12, #12 N AND #12 G FROM LOAD CENTER A TO FLOOR MOUNTED DEDICATED DUPLEX RECEPTACLE. SEE E601 FOR PANEL SCHEDULE.

LEGEND

- 120V DUPLEX RECEPTACLE
- LOAD CENTER A 120/240V 100A
- PANEL A 120/240V 225A



KEY WORK AREA PLAN
NOT TO SCALE

1/8" = 1'-0" 0 5' 10' 20'

APPR	DATE	DESCRIPTION	SYM

DESIGNED & ENGINEERED BY:
FACILITIES ENGINEERING

FINAL

03.11.2026

SEAL

APPROVED

ACTIVITY – SATISFACTORY TO

DATE

APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E	EFD
DESIGN	CRL
DRAWN	CRL
REVIEW	RCM
QC	
CHIEF ARCH./ ENGR.	
PROJECT MANAGER	CRL
FIRE PROTECTION	XXX
BRANCH MANAGER	LPF
DESIGN DIRECTOR	LPF

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
MCAS CHERRY POINT
CHERRY POINT, NC

PROVIDE AND INSTALL ADDITIONAL POWER OUTLETS, B4223, EAD

B4223 – OFFICE SPACE NEW WORK POWER PLAN

CODE ID. NO. 80091	SIZE D
SCALE:	AS NOTED
FED NO.	
STA. PROJ. NO.	7396223
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12926299
SHEET	2 OF 3

EP101

DRAWFORM REVISION: 07 AUG 2018

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BLDG. 4223 PANELBOARD SCHEDULE

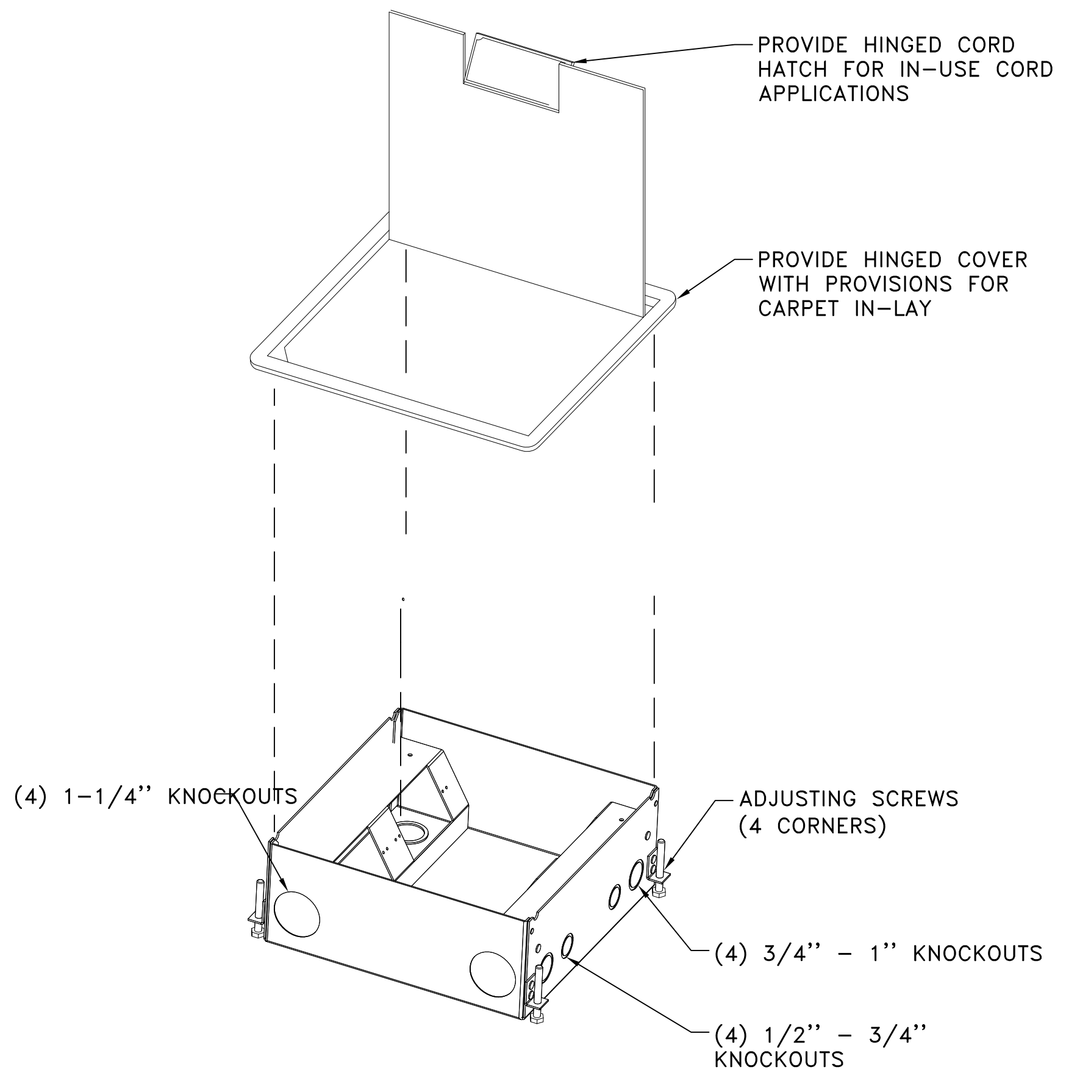
PANEL: A 120/240V, 1PHASE, 4WIRE MCB 225A

LOAD SERVED	LOAD (A) A	LOAD (A) B	BKR. TRIP	WIRE SIZE	CKT. NO.		CKT. NO.	WIRE SIZE	BKR. TRIP	LOAD (A) A	LOAD (A) B	LOAD SERVED
CORRI. & GAMEWARDEN LTS			20	12	1		2	12	20			WLD LIFE LAB LTS
BATH LTS & EXHAUST FAN			20	12	3		4	12	20			CONF. RM LTS AND RECEPT.
GARAGE LIGHTS			20	12	5		6	12	20			GARAGE LIGHTS
EMERGENCY LIGHTS			20	12	7		8	12	20			WATER COOLER RECEPT.
GARAGE RECEPTACLE			20	12	9		10	12	20			RECEPTION& CONF. RM RECPT.
LAB& WILD LIFE RECEPTACLE			20	12	11		12	12	20			ENVIRON. & WILD RECEPT
WILD LIFE& LAB RECEPTACLE			20	12	13		14	12	20			WARDEN & RECEPTION RECPT
CONF. RM RECEPTACLE			20	12	15		16	10	30			UNKNOWN
A/C INDOOR UNIT			90	4	17		18					
					19		20	10	30			UNKNOWN
A/C OUTDOOR UNIT			60	6	21		22					
					23		24	8	40			UNKNOWN
CONF. ROOM LTS			20	12	25		26					
GARAGE EX. FAN			20	12	27		28	10	30			UNKNOWN
BATH, CORRI.& GAME RECPT.			20	12	29		30					
INSTANT WH			60	6	31		32	8	40			UNKNOWN
					33		34					
SPACE					35		36	3	100			LOAD CENTER A
UNKNOWN			20	12	37		38					
UNKNOWN			20	12	39		40					SPACE
UNKNOWN			20	12	41		42	12	20			UNKNOWN

BLDG. 4223 PANELBOARD SCHEDULE

LOAD CENTER: A 120/240V, 1PHASE, 4WIRE 100A

LOAD SERVED	LOAD (A) A	LOAD (A) B	BKR. TRIP	WIRE SIZE	CKT. NO.		CKT. NO.	WIRE SIZE	BKR. TRIP	LOAD (A) A	LOAD (A) B	LOAD SERVED
RECEPTACLES			20	12	1		2	12	20			RECEPTACLES
RECEPTACLES			20	12	3		4	12	20			LIGHTING
RECEPTACLES			20	12	5		6	12	20			LIGHTING
LIGHTING			20	12	7		8	12	20			LIGHTING
RECEPTACLES			20	12	9		10	12	20			RECEPTACLES
SMALL OFFICE RECEPTACLES			20	12	11		12	12	20			SMALL OFFICE RECEPTACLES
SMALL OFFICE RECEPTACLES			20	12	13		14	12	20			SMALL OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	15		16	12	20			OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	17		18	12	20			OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	19		20	12	20			OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	21		22	12	20			OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	23		24	12	20			OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	25		26	12	20			OFFICE RECEPTACLES
OFFICE RECEPTACLES			20	12	27		28	12	20			OFFICE RECEPTACLES
SPACE					29		30					SPACE
SPACE					31		32					SPACE



A4 GENERIC FLOOR BOX DETAIL
SCALE: NTS

FLOOR BOX NOTES:

1. PROVIDE DUPLEX RECEPTACLE OUTLETS AND CONNECT AS INDICATED ON PLANS. SEE LEGEND FOR MORE INFORMATION.
2. QUANTITY AND SIZES OF CONDUITS SHALL BE PROVIDED AS INDICATED ON PLANS. SEE LEGEND FOR MORE INFORMATION.

APPR	DATE	DESCRIPTION	SYM

DESIGNED & ENGINEERED BY:
FACILITIES ENGINEERING

FINAL

03.11.2026

SEAL

APPROVED

ACTIVITY – SATISFACTORY TO

DATE

APPROVED

FOR EFD FOR COMMANDER NAVFAC

DATE

A/E	EFD
DESIGN	CRL
DRAWN	CRL
REVIEW	RCM
QC	
CHIEF ARCH./ ENGR.	
PROJECT MANAGER	CRL
FIRE PROTECTION	XXX
BRANCH MANAGER	LPF
DESIGN DIRECTOR	LPF

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
MARINE CORPS AIR STATION, CHERRY POINT, N.C.
MCAS CHERRY POINT
CHERRY POINT, NC

PROVIDE AND INSTALL ADDITIONAL POWER OUTLETS, B4223, EAD

PANEL SCHEDULE & DETAILS

CODE ID. NO. 80091	SIZE D
SCALE:	AS NOTED
FED NO.	
STA. PROJ. NO.	7396223
SPEC. NO.	
CONSTR. CONTR. NO.	
NAVFAC DRAWING NO.	12926300
SHEET	3 OF 3

E601

DRAWFORM REVISION: 07 AUG 2018